

Chemical Analysis Report

SW-DIST-2019-04-17-01

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

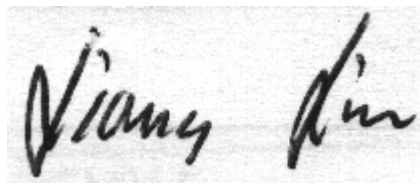
Event Description: **Mullet Tidal**
Request ID: **RQ-2019-04-15-05**
Customer: **SW-DIST**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 06-MAY-2019 13:30

A handwritten signature in black ink, appearing to read "Liang Lin", 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: 04/16/2019 12:00

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078542	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P362372	
	EPA 300.0	Bromide	40		mg Br/L	P362586	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P362720	
	SM 2540 D-97	TSS	20		mg/L	P362917	
	SM 4500 F-C-97	Fluoride	0.85		mg F/L	P362722	
2078543	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P362715	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P362697	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P362647	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P362605	
	SM 5310 B-00	Organic Carbon	6.7		mg C/L	P362487	
2078544	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P362367	
2078559	EPA 8321B	Aldicarb	0.020	U	ug/L	P362343	
		Aldicarb Sulfone	0.0020	U	ug/L	P362343	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P362343	
		Carbaryl	0.0020	U	ug/L	P362343	
		Carbofuran	0.0020	U	ug/L	P362343	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P362343	
		Methiocarb	0.0020	U	ug/L	P362343	
		Methomyl	0.0020	U	ug/L	P362343	
		Oxamyl	0.0020	U	ug/L	P362343	
		Propoxur	0.0020	U	ug/L	P362343	
		2,4-D	0.0068	I	ug/L	P362252	
		Acesulfame K**	0.10	UJ	ug/L	P362469	SUR
		AMPA**	1.0	U	ug/L	P362469	
2078560		Sucralose**	1.1		ug/L	P362469	
		Acetaminophen**	0.0080	U	ug/L	P362252	
		Endothall**	0.25	UJ	ug/L	P362469	SUR
		Glufosinate**	1.0	U	ug/L	P362469	
		Glyphosate**	1.0	U	ug/L	P362469	
		Bentazon	0.018		ug/L	P362252	
		Carbamazepine**	0.0024	I	ug/L	P362252	
		Diuron	0.0022	I	ug/L	P362252	
		Fenuron	0.016	U	ug/L	P362252	
		Fluridone**	0.038		ug/L	P362252	MS
		Imazapyr**	0.041		ug/L	P362252	
		Hydrocodone**	0.0020	U	ug/L	P362252	
		Ibuprofen**	0.020	U	ug/L	P362252	
		Imidacloprid	0.0028	I	ug/L	P362252	MS
		Linuron	0.0040	U	ug/L	P362252	
		MCPP	0.0020	U	ug/L	P362252	
		Naproxen**	0.0080	U	ug/L	P362252	
		Primidone**	0.0056	I	ug/L	P362252	
		Pyraclostrobin**	0.0020	U	ug/L	P362252	

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078560	EPA 8321B	Triclopyr**	0.0040	U	ug/L	P362252	
2078572	EPA 8270D	Aldrin	4.0	U	ng/L	P362502	
		Alpha-BHC	2.0	U	ng/L	P362502	
		Alpha-Chlordane	1.0	U	ng/L	P362502	
		Beta-BHC	10	U	ng/L	P362502	
		Bifenthrin**	4.0	U	ng/L	P362502	
		Delta-BHC	10	U	ng/L	P362502	
		Gamma-BHC	10	U	ng/L	P362502	MS
		Carbophenothion	12	U	ng/L	P362502	
		Chlorothalonil	2.0	U	ng/L	P362502	
		Cis-Nonachlor**	1.0	U	ng/L	P362502	
		Cypermethrin	20	U	ng/L	P362502	
		DDD-p,p'	8.0	U	ng/L	P362502	MS
		DDE-p,p'	8.0	U	ng/L	P362502	
		DDT-p,p'	10	U	ng/L	P362502	
		Dicofol	30	U	ng/L	P362502	
		Dieldrin	4.0	U	ng/L	P362502	
		Endosulfan I	4.0	U	ng/L	P362502	
		Endosulfan II	4.0	U	ng/L	P362502	MS
		Endosulfan Sulfate	2.0	U	ng/L	P362502	
		Endrin	2.0	U	ng/L	P362502	
		Endrin Aldehyde	2.0	U	ng/L	P362502	
		Endrin Ketone	2.0	U	ng/L	P362502	MS
		Ethalfuralin**	3.0	U	ng/L	P362502	
		Gamma-Chlordane	1.0	U	ng/L	P362502	
		Heptachlor	1.5	U	ng/L	P362502	
		Heptachlor Epoxide	2.0	U	ng/L	P362502	
		Hexachlorobenzene**	2.0	U	ng/L	P362502	
		Methoxychlor	4.0	U	ng/L	P362502	
		Mirex	2.0	U	ng/L	P362502	
		Permethrin	10	U	ng/L	P362502	
		Trans-Nonachlor**	1.0	U	ng/L	P362502	
		Trifluralin	2.5	U	ng/L	P362502	
	EPA 8276	Chlordane	5.3	U	ng/L	P362502	
		Toxaphene	32	U	ng/L	P362502	
2078573	EPA 8270D	Acetochlor	0.25	U	ng/L	P362397	
		Alachlor	0.25	U	ng/L	P362397	
		Ametryn	2.0	IJ	ng/L	P362397	RPD
		Atrazine	46		ng/L	P362397	
		Atrazine Desethyl	5.7	I	ng/L	P362397	
		Azinphos Methyl	5.1	U	ng/L	P362397	
		Bromacil	0.97	IJ	ng/L	P362397	RPD
		Butylate	0.40	U	ng/L	P362397	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P362397	
		Chlorpyrifos Methyl	0.10	U	ng/L	P362397	

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078573	EPA 8270D	Cyanazine	3.3	U	ng/L	P362397	
		Demeton	7.1	U	ng/L	P362397	
		Diazinon	0.13	U	ng/L	P362397	
		Dimethenamid**	0.10	U	ng/L	P362397	
		Disulfoton	0.51	U	ng/L	P362397	
		Dithiopyr**	0.10	U	ng/L	P362397	
		EPTC	1.3	U	ng/L	P362397	
		Ethion	0.15	U	ng/L	P362397	
		Ethoprop	0.10	U	ng/L	P362397	
		Fenamiphos	0.51	UJ	ng/L	P362397	LCS, RPD
		Fipronil	0.25	U	ng/L	P362397	
		Fipronil Desulfinyl**	0.40	I	ng/L	P362397	
		Fipronil Sulfide	0.15	U	ng/L	P362397	
		Fipronil Sulfone	0.41	I	ng/L	P362397	
		Fonofos	0.20	U	ng/L	P362397	
		Hexazinone	2.2	J	ng/L	P362397	LCS, MS, RPD
		Malathion	2.0		ng/L	P362397	
		Metalaxyl	0.59	IJ	ng/L	P362397	LCS, RPD
		Metolachlor	0.51	U	ng/L	P362397	
		Metribuzin	0.76	UJ	ng/L	P362397	CCV
		Mevinphos	0.51	UJ	ng/L	P362397	LCS, RPD
		Molinate	0.30	U	ng/L	P362397	
		Norflurazon	0.51	U	ng/L	P362397	
		Oxadiazon**	0.55		ng/L	P362397	
		Parathion Ethyl	0.25	U	ng/L	P362397	
		Parathion Methyl	0.56	U	ng/L	P362397	
		Pendimethalin	1.0	U	ng/L	P362397	
		Phorate	0.25	U	ng/L	P362397	
		Prodiamine**	0.18	U	ng/L	P362397	
		Prometon	0.91	UJ	ng/L	P362397	LCS
		Prometryn	0.20	UJ	ng/L	P362397	LCS, RPD
		Simazine	2.6		ng/L	P362397	
		Tebuconazole**	2.1	J	ng/L	P362397	LCS, RPD
		Terbufos	0.10	U	ng/L	P362397	
		Terbuthylazine	0.43	U	ng/L	P362397	
2078574	EPA 200.7 Rev. 4.4	Barium	16		ug/L	P362362	
		Calcium	240		mg/L	P362362	
		Iron	390		ug/L	P362362	
		Manganese	9.0	I	ug/L	P362362	
		Potassium	230		mg/L	P362362	
		Sodium	5.82E+03		mg/L	P362362	
		Zinc	15	U	ug/L	P362362	
	EPA 200.8 Rev. 5.4	Aluminum	658		ug/L	P362362	
		Antimony	0.27	I	ug/L	P362362	

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2078574	EPA 200.8 Rev. 5.4	Arsenic	3.16		ug/L	P362362	
		Cadmium	0.080	U	ug/L	P362362	
		Chromium	4.0	U	ug/L	P362362	
		Copper	1.6	U	ug/L	P362362	
		Lead	0.87	I	ug/L	P362362	
		Nickel	2.0	U	ug/L	P362362	
		Selenium	0.80	U	ug/L	P362362	
		Silver	0.040	U	ug/L	P362362	
		Thallium	0.40	U	ug/L	P362362	

Ref. Method and Comment:
 EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference.
 EPA 8270D: MS accuracies for atrazine, simazine, metribuzin, 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 calcium, 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: P362372

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362362

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: P362362

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	0.40	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: P362586

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362715

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362697

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362647

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362647

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362605

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362367

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

Reference Method: EPA 8270D
Batch ID: P362397

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 8270D
Batch ID: P362397

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 8270D
Batch ID: P362502

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	12	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	8.0	U	ng/L
DDE-p,p'	8.0	U	ng/L
DDT-p,p'	10	U	ng/L
Delta-BHC	10	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	10	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: P362502

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

Reference Method: EPA 8321B
Batch ID: P362252

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	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
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P362343

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P362469

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P362720

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

Reference Method: SM 2540 D-97
Batch ID: P362917

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P362722

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P362487

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: P362362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	97.8		P	85 - 115
Calcium	99.8		P	85 - 115
Iron	106		P	85 - 115
Manganese	102		P	85 - 115
Potassium	102		P	85 - 115
Sodium	101		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P362362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.4		P	85 - 115
Antimony	99.0		P	85 - 115
Arsenic	102		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	92.3		P	85 - 115
Copper	98.9		P	85 - 115
Lead	92.5		P	85 - 115
Nickel	100		P	85 - 115
Selenium	100		P	85 - 115
Silver	96.8		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P362586

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	107		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362697

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362647

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P362605

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P362367

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

Reference Method: EPA 8270D
 Batch ID: P362397

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	104	101	P/P	71 - 121
Alachlor	102	99.7	P/P	72 - 119
Ametryn	47.4	75.9	P/P	47 - 144
Atrazine	96.6	97.2	P/P	75 - 123
Atrazine Desethyl	52.1	49.3	P/P	45 - 133
Azinphos Methyl	101	96.4	P/P	66 - 165
Bromacil	62.2	43.8	P/P	43 - 123
Butylate	58.1	58.5	P/P	27 - 83.0
Chlorpyrifos Ethyl	98.7	97.0	P/P	70 - 117
Chlorpyrifos Methyl	90.9	84.9	P/P	71 - 120
Cyanazine	72.2	70.5	P/P	34 - 264
Demeton	61.0	65.0	P/P	41 - 122
Diazinon	98.2	94.8	P/P	70 - 127
Dimethenamid	103	99.2	P/P	66 - 123
Disulfoton	84.5	81.5	P/P	56 - 127
Dithiopyr	107	104	P/P	67 - 125
EPTC	61.0	58.3	P/P	24 - 84.0
Ethion	103	104	P/P	53 - 132
Ethoprop	88.1	84.3	P/P	57 - 117
Fenamiphos	32.9	15.2	F/F	55 - 136
Fipronil	103	91.4	P/P	64 - 126
Fipronil Desulfinyl	101	94.3	P/P	47 - 114
Fipronil Sulfide	102	96.2	P/P	57 - 120
Fipronil Sulfone	97.7	86.9	P/P	52 - 115
Fonofos	82.4	82.7	P/P	61 - 121
Hexazinone	48.4	16.9	F/F	62 - 131
Malathion	101	97.5	P/P	67 - 126
Metaxyl	13.7	9.41	F/F	54 - 128
Metolachlor	104	100	P/P	71 - 118
Metribuzin	73.1	72.4	P/P	42 - 221
Mevinphos	51.2	26.7	P/F	45 - 114
Molinate	67.5	70.4	P/P	33 - 91.0
Norflurazon	92.6	81.4	P/P	60 - 123
Oxadiazon	110	109	P/P	66 - 121
Parathion Ethyl	90.2	89.3	P/P	73 - 111
Parathion Methyl	91.2	89.4	P/P	74 - 126
Pendimethalin	103	109	P/P	63 - 131
Phorate	73.7	72.0	P/P	54 - 115
Prodiamine	115	114	P/P	38 - 140
Prometon	22.6	27.6	F/F	61 - 120

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P362397

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometryn	59.8	88.9	F/P	62 - 126
Simazine	101	92.6	P/P	75 - 126
Tebuconazole	56.4	14.6	P/F	21 - 115
Terbufos	85.6	83.3	P/P	65 - 116
Terbutylazine	100	97.6	P/P	73 - 117

Reference Method: EPA 8270D
Batch ID: P362502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	56.3	47.3	P/P	20 - 93.0
Alpha-BHC	105	91.5	P/P	57 - 119
Alpha-Chlordane	78.7	82.3	P/P	58 - 112
Beta-BHC	116	114	P/P	56 - 149
Bifenthrin	92.4	101	P/P	50 - 130
Carbophenothion	72.5	77.4	P/P	26 - 147
Chlorothalonil	154	120	P/P	20 - 155
Cis-Nonachlor	72.8	83.2	P/P	50 - 130
Cypermethrin	91.6	105	P/P	40 - 137
DDD-p,p'	89.9	97.6	P/P	65 - 129
DDE-p,p'	108	112	P/P	57 - 116
DDT-p,p'	91.9	97.0	P/P	53 - 133
Delta-BHC	122	122	P/P	59 - 163
Dicofol	96.8	94.9	P/P	24 - 138
Dieldrin	81.7	88.1	P/P	60 - 120
Endosulfan I	81.7	85.0	P/P	64 - 118
Endosulfan II	93.7	87.1	P/P	58 - 142
Endosulfan Sulfate	111	113	P/P	60 - 127
Endrin	86.0	89.3	P/P	59 - 122
Endrin Aldehyde	106	121	P/P	49 - 132
Endrin Ketone	109	110	P/P	64 - 121
Ethalfuralin	92.5	86.3	P/P	50 - 130
Gamma-BHC	118	110	P/P	56 - 141
Gamma-Chlordane	106	109	P/P	56 - 110
Heptachlor	80.8	73.0	P/P	46 - 96.0
Heptachlor Epoxide	109	110	P/P	61 - 112
Hexachlorobenzene	70.8	54.8	P/P	50 - 130
Methoxychlor	116	122	P/P	63 - 134
Mirex	62.9	67.2	P/P	45 - 100
Permethrin	77.4	84.9	P/P	53 - 115
Trans-Nonachlor	106	106	P/P	50 - 130
Trifluralin	87.9	85.1	P/P	39 - 142

Reference Method: EPA 8276
Batch ID: P362502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	78.8	72.4	P/P	43 - 128
Toxaphene	83.2	76.7	P/P	38 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P362252

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	66.6		P	40 - 150
Acetaminophen	88.0		P	30 - 150
Bentazon	99.8		P	30 - 150
Carbamazepine	81.6		P	40 - 150
Diuron	79.2		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	110		P	40 - 150
Hydrocodone	74.3		P	40 - 150
Ibuprofen	79.5		P	40 - 150
Imazapyr	78.4		P	40 - 150
Imidacloprid	89.3		P	40 - 150
Linuron	79.3		P	40 - 150
MCPP	80.4		P	40 - 150
Naproxen	52.3		P	40 - 150
Primidone	81.1		P	40 - 150
Pyraclostrobin	90.5		P	40 - 150
Triclopyr	56.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P362343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	78.6		P	40 - 150
Aldicarb	76.9		P	30 - 150
Aldicarb Sulfone	96.8		P	40 - 150
Aldicarb Sulfoxide	103		P	40 - 150
Carbaryl	77.9		P	40 - 150
Carbofuran	76.8		P	40 - 150
Methiocarb	70.2		P	40 - 150
Methomyl	93.2		P	40 - 150
Oxamyl	75.6		P	40 - 150
Propoxur	77.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P362469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	116		P	40 - 150
Endothall	114		P	40 - 150
Glufosinate	119		P	40 - 150
Glyphosate	118		P	40 - 140
Sucralose	107		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P362720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P362722

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P362487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2077433	Barium	92.9	92.8	P/P	70 - 130
2077433	Iron	100	101	P/P	70 - 130
2077433	Manganese	97.9	97.6	P/P	70 - 130
2077433	Zinc	101	100	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P362362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2077433	Aluminum	97.0	95.4	P/P	70 - 130
2077433	Antimony	101	97.6	P/P	70 - 130
2077433	Arsenic	109	105	P/P	70 - 130
2077433	Cadmium	97.6	92.9	P/P	70 - 130
2077433	Chromium	89.3	87.7	P/P	70 - 130
2077433	Copper	95.3	93.5	P/P	70 - 130
2077433	Lead	96.6	93.5	P/P	70 - 130
2077433	Nickel	99.4	96.4	P/P	70 - 130
2077433	Selenium	99.3	99.0	P/P	70 - 130
2077433	Silver	89.7	89.5	P/P	70 - 130
2077433	Thallium	106	103	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P362586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076447	Bromide	102	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078380	Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362697

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078377	Kjeldahl Nitrogen	102	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078376	NO2NO3-N	99.8	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078600	Total-P	90.9	93.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078781	O-Phosphate-P	97.6	99.2	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P362397

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078905	Acetochlor	93.2	94.2	P/P	63 - 129
2078905	Alachlor	89.9	89.6	P/P	65 - 127
2078905	Ametryn	92.4	94.3	P/P	40 - 164
2078905	Atrazine Desethyl	63.2	58.8	P/P	14 - 157
2078905	Azinphos Methyl	94.5	90.1	P/P	49 - 180
2078905	Butylate	46.5	47.6	P/P	10 - 94.0
2078905	Chlorpyrifos Ethyl	97.4	98.2	P/P	58 - 123
2078905	Chlorpyrifos Methyl	92.9	91.1	P/P	58 - 125
2078905	Cyanazine	108	97.0	P/P	24 - 253
2078905	Demeton	85.6	82.4	P/P	25 - 149
2078905	Diazinon	98.9	98.1	P/P	59 - 144
2078905	Dimethenamid	93.0	91.7	P/P	46 - 139
2078905	Disulfoton	90.9	84.6	P/P	54 - 132
2078905	Dithiopyr	95.9	96.5	P/P	64 - 130
2078905	EPTC	48.7	51.9	P/P	10 - 92.0
2078905	Ethion	101	98.2	P/P	30 - 148
2078905	Ethoprop	91.4	90.1	P/P	50 - 130
2078905	Fenamiphos	89.0	92.4	P/P	49 - 142
2078905	Fipronil	80.1	75.2	P/P	46 - 140
2078905	Fipronil Desulfinyl	68.7	66.3	P/P	30 - 121
2078905	Fipronil Sulfide	71.4	65.1	P/P	31 - 136
2078905	Fipronil Sulfone	52.7	45.4	P/P	16 - 136
2078905	Fonofos	93.1	91.2	P/P	55 - 129
2078905	Hexazinone	100	172	P/F	56 - 141
2078905	Malathion	95.6	92.3	P/P	56 - 135
2078905	Metalaxyl	90.4	82.6	P/P	54 - 135
2078905	Metolachlor	90.3	92.5	P/P	51 - 140
2078905	Mevinphos	77.1	83.1	P/P	33 - 131
2078905	Molinate	65.9	66.6	P/P	14 - 98.0
2078905	Norflurazon	77.6	72.3	P/P	34 - 136
2078905	Oxadiazon	94.8	94.8	P/P	67 - 116
2078905	Parathion Ethyl	95.5	92.5	P/P	66 - 118
2078905	Parathion Methyl	99.7	96.5	P/P	64 - 136
2078905	Pendimethalin	120	119	P/P	59 - 144
2078905	Phorate	82.3	79.2	P/P	42 - 130
2078905	Prodiamine	124	123	P/P	42 - 148
2078905	Prometon	93.7	121	P/P	59 - 134
2078905	Prometryn	95.0	92.9	P/P	54 - 135
2078905	Tebuconazole	78.9	75.2	P/P	10 - 131
2078905	Terbufos	99.5	92.6	P/P	57 - 131
2078905	Terbutylazine	96.7	94.8	P/P	68 - 125

Reference Method: EPA 8270D
Batch ID: P362502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
---------------	-----------	---------	---------	-----------	----------------

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P362502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078861	Aldrin	68.6	66.2	P/P	25 - 92.0
2078861	Alpha-BHC	106	110	P/P	49 - 130
2078861	Alpha-Chlordane	98.9	94.3	P/P	50 - 115
2078861	Beta-BHC	104	108	P/P	43 - 157
2078861	Bifenthrin	101	97.8	P/P	50 - 130
2078861	Carbophenothion	125	123	P/P	27 - 180
2078861	Chlorothalonil	157	149	P/P	10 - 216
2078861	Cis-Nonachlor	110	101	P/P	50 - 130
2078861	Cypermethrin	118	113	P/P	40 - 153
2078861	DDD-p,p'	131	110	F/P	53 - 128
2078861	DDE-p,p'	89.7	83.0	P/P	48 - 116
2078861	DDT-p,p'	92.1	88.7	P/P	47 - 128
2078861	Delta-BHC	146	139	P/P	51 - 196
2078861	Dicofol	98.8	92.4	P/P	10 - 147
2078861	Dieldrin	102	98.3	P/P	48 - 128
2078861	Endosulfan I	113	114	P/P	58 - 126
2078861	Endosulfan II	339	337	F/F	50 - 150
2078861	Endosulfan Sulfate	112	116	P/P	56 - 130
2078861	Endrin	109	103	P/P	50 - 126
2078861	Endrin Aldehyde	135	112	P/P	12 - 145
2078861	Endrin Ketone	125	133	P/F	59 - 132
2078861	Ethalfuralin	94.3	89.9	P/P	50 - 130
2078861	Gamma-BHC	204	193	F/F	50 - 155
2078861	Gamma-Chlordane	93.6	88.9	P/P	50 - 112
2078861	Heptachlor	88.8	86.7	P/P	41 - 98.0
2078861	Heptachlor Epoxide	102	102	P/P	55 - 117
2078861	Hexachlorobenzene	74.4	64.8	P/P	50 - 130
2078861	Methoxychlor	133	116	P/P	55 - 133
2078861	Mirex	67.5	66.5	P/P	44 - 101
2078861	Permethrin	78.5	77.0	P/P	52 - 124
2078861	Trans-Nonachlor	87.1	80.9	P/P	50 - 130
2078861	Trifluralin	87.9	86.4	P/P	10 - 201

Reference Method: EPA 8276
 Batch ID: P362502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2079240	Chlordane	93.6	76.7	P/P	34 - 136
2079240	Toxaphene	81.4	83.0	P/P	22 - 152

Reference Method: EPA 8321B
 Batch ID: P362252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078237	2,4-D	86.5	87.4	P/P	40 - 150
2078237	Acetaminophen	77.5	83.3	P/P	30 - 150
2078237	Bentazon	67.3	66.2	P/P	30 - 150
2078237	Carbamazepine	86.6	94.4	P/P	40 - 150
2078237	Diuron	72.2	70.7	P/P	40 - 150
2078237	Fenuron	96.8	109	P/P	40 - 150
2078237	Fluridone	176	72.4	F/P	40 - 150
2078237	Hydrocodone	93.7	94.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P362252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078237	Ibuprofen	65.0	61.0	P/P	40 - 150
2078237	Imazapyr	97.0	55.2	P/P	40 - 150
2078237	Imidacloprid	159	170	F/F	40 - 150
2078237	Linuron	70.9	72.5	P/P	40 - 150
2078237	MCP	101	105	P/P	40 - 150
2078237	Naproxen	69.9	56.9	P/P	40 - 150
2078237	Primidone	67.6	64.2	P/P	40 - 150
2078237	Pyraclostrobin	74.6	80.8	P/P	40 - 150
2078237	Triclopyr	61.2	56.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P362343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2079440	3-Hydroxycarbofuran	85.8	95.0	P/P	40 - 150
2079440	Aldicarb	84.0	86.1	P/P	30 - 150
2079440	Aldicarb Sulfone	92.1	86.9	P/P	40 - 150
2079440	Aldicarb Sulfoxide	50.3	57.3	P/P	40 - 150
2079440	Carbaryl	75.0	78.1	P/P	40 - 150
2079440	Carbofuran	74.4	75.7	P/P	40 - 150
2079440	Methiocarb	68.0	65.4	P/P	40 - 150
2079440	Methomyl	81.0	92.0	P/P	40 - 150
2079440	Oxamyl	92.3	94.3	P/P	40 - 150
2079440	Propoxur	77.1	74.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P362469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078457	Acesulfame K	102	86.1	P/P	40 - 150
2078457	AMPA	147	145	P/P	40 - 150
2078457	Endothall	103	105	P/P	40 - 150
2078457	Glufosinate	112	123	P/P	40 - 150
2078457	Glyphosate	113	114	P/P	40 - 140
2078457	Sucralose	76.2	93.8	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P362722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074740	Fluoride	97.8	97.8	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P362487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2078600	Organic Carbon	96.7	97.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P362372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078542	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P362362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2077433	Barium	0.00754	Spike	P	0 - 20
2077433	Calcium	0.612	Spike	P	0 - 20
2077433	Iron	0.563	Spike	P	0 - 20
2077433	Manganese	0.209	Spike	P	0 - 20
2077433	Potassium	1.18	Spike	P	0 - 20
2077433	Sodium	0.949	Spike	P	0 - 20
2077433	Zinc	0.343	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P362362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2077433	Aluminum	1.59	Spike	P	0 - 20
2077433	Antimony	3.22	Spike	P	0 - 20
2077433	Arsenic	3.49	Spike	P	0 - 20
2077433	Cadmium	4.90	Spike	P	0 - 20
2077433	Chromium	1.84	Spike	P	0 - 20
2077433	Copper	1.74	Spike	P	0 - 20
2077433	Lead	3.35	Spike	P	0 - 20
2077433	Nickel	3.09	Spike	P	0 - 20
2077433	Selenium	0.248	Spike	P	0 - 20
2077433	Silver	0.268	Spike	P	0 - 20
2077433	Thallium	2.91	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P362586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076447	Bromide	1.41	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P362715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078380	Ammonia-N	0.0398	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
--------------------------	-----------	-----------	-------------------	-----------	----------------

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P362697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078377	Kjeldahl Nitrogen	2.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P362647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078376	NO2NO3-N	0.976	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P362605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078600	Total-P	2.56	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P362367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078781	O-Phosphate-P	1.11	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P362397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078905	Acetochlor	1.11	Spike	P	0 - 30
2078905	Alachlor	0.334	Spike	P	0 - 30
2078905	Ametryn	1.55	Spike	P	0 - 30
2078905	Atrazine	1.89	Spike	P	0 - 30
2078905	Atrazine Desethyl	5.13	Spike	P	0 - 30
2078905	Azinphos Methyl	4.78	Spike	P	0 - 30
2078905	Bromacil	4.83	Spike	P	0 - 30
2078905	Butylate	2.38	Spike	P	0 - 30
2078905	Chlorpyrifos Ethyl	0.884	Spike	P	0 - 30
2078905	Chlorpyrifos Methyl	1.94	Spike	P	0 - 30
2078905	Cyanazine	10.9	Spike	P	0 - 30
2078905	Demeton	3.78	Spike	P	0 - 30
2078905	Diazinon	0.864	Spike	P	0 - 30
2078905	Dimethenamid	1.46	Spike	P	0 - 30
2078905	Disulfoton	7.18	Spike	P	0 - 30
2078905	Dithiopyr	0.549	Spike	P	0 - 30
2078905	EPTC	6.41	Spike	P	0 - 30
2078905	Ethion	2.36	Spike	P	0 - 30
2078905	Ethoprop	1.10	Spike	P	0 - 30
2078905	Fenamiphos	3.79	Spike	P	0 - 30
2078905	Fipronil	5.70	Spike	P	0 - 30
2078905	Fipronil Desulfinyl	2.99	Spike	P	0 - 30
2078905	Fipronil Sulfide	7.15	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P362397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078905	Fipronil Sulfone	8.46	Spike	P	0 - 30
2078905	Fonofos	2.08	Spike	P	0 - 30
2078905	Hexazinone	46.0	Spike	F	0 - 30
2078905	Malathion	3.47	Spike	P	0 - 30
2078905	Metalaxyl	8.69	Spike	P	0 - 30
2078905	Metolachlor	1.40	Spike	P	0 - 30
2078905	Metribuzin	7.82	Spike	P	0 - 30
2078905	Mevinphos	7.50	Spike	P	0 - 30
2078905	Molinate	1.09	Spike	P	0 - 30
2078905	Norflurazon	7.07	Spike	P	0 - 30
2078905	Oxadiazon	0.00932	Spike	P	0 - 30
2078905	Parathion Ethyl	3.23	Spike	P	0 - 30
2078905	Parathion Methyl	3.21	Spike	P	0 - 30
2078905	Pendimethalin	1.32	Spike	P	0 - 30
2078905	Phorate	3.83	Spike	P	0 - 30
2078905	Prodiamine	0.994	Spike	P	0 - 30
2078905	Prometon	25.4	Spike	P	0 - 30
2078905	Prometryn	2.21	Spike	P	0 - 30
2078905	Simazine	0.137	Spike	P	0 - 30
2078905	Tebuconazole	4.00	Spike	P	0 - 30
2078905	Terbufos	7.11	Spike	P	0 - 30
2078905	Terbuthylazine	2.03	Spike	P	0 - 30
LFB	Acetochlor	3.46	LCS	P	0 - 30
LFB	Alachlor	2.74	LCS	P	0 - 30
LFB	Ametryn	46.1	LCS	F	0 - 30
LFB	Atrazine	0.615	LCS	P	0 - 30
LFB	Atrazine Desethyl	5.45	LCS	P	0 - 30
LFB	Azinphos Methyl	4.94	LCS	P	0 - 30
LFB	Bromacil	34.7	LCS	F	0 - 30
LFB	Butylate	0.548	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	1.69	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	6.83	LCS	P	0 - 30
LFB	Cyanazine	2.41	LCS	P	0 - 30
LFB	Demeton	6.40	LCS	P	0 - 30
LFB	Diazinon	3.46	LCS	P	0 - 30
LFB	Dimethenamid	3.42	LCS	P	0 - 30
LFB	Disulfoton	3.61	LCS	P	0 - 30
LFB	Dithiopyr	2.59	LCS	P	0 - 30
LFB	EPTC	4.42	LCS	P	0 - 30
LFB	Ethion	1.22	LCS	P	0 - 30
LFB	Ethoprop	4.42	LCS	P	0 - 30
LFB	Fenamiphos	74.0	LCS	F	0 - 30
LFB	Fipronil	12.0	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	6.75	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.39	LCS	P	0 - 30
LFB	Fipronil Sulfone	11.8	LCS	P	0 - 30
LFB	Fonofos	0.370	LCS	P	0 - 30
LFB	Hexazinone	96.3	LCS	F	0 - 30
LFB	Malathion	3.35	LCS	P	0 - 30
LFB	Metalaxyl	37.0	LCS	F	0 - 30
LFB	Metolachlor	3.58	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P362397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Metribuzin	0.906	LCS	P	0 - 30
LFB	Mevinphos	63.1	LCS	F	0 - 30
LFB	Molinate	4.11	LCS	P	0 - 30
LFB	Norflurazon	12.9	LCS	P	0 - 30
LFB	Oxadiazon	1.35	LCS	P	0 - 30
LFB	Parathion Ethyl	1.04	LCS	P	0 - 30
LFB	Parathion Methyl	2.08	LCS	P	0 - 30
LFB	Pendimethalin	6.04	LCS	P	0 - 30
LFB	Phorate	2.36	LCS	P	0 - 30
LFB	Prodiamine	0.668	LCS	P	0 - 30
LFB	Prometon	20.0	LCS	P	0 - 30
LFB	Prometryn	39.2	LCS	F	0 - 30
LFB	Simazine	8.61	LCS	P	0 - 30
LFB	Tebuconazole	118	LCS	F	0 - 30
LFB	Terbufos	2.69	LCS	P	0 - 30
LFB	Terbutylazine	2.59	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P362502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078861	Aldrin	3.53	Spike	P	0 - 30
2078861	Alpha-BHC	3.90	Spike	P	0 - 30
2078861	Alpha-Chlordane	4.77	Spike	P	0 - 30
2078861	Beta-BHC	4.03	Spike	P	0 - 30
2078861	Bifenthrin	2.86	Spike	P	0 - 30
2078861	Carbophenothion	1.71	Spike	P	0 - 30
2078861	Chlorothalonil	4.84	Spike	P	0 - 30
2078861	Cis-Nonachlor	9.26	Spike	P	0 - 30
2078861	Cypermethrin	4.01	Spike	P	0 - 30
2078861	DDD-p,p'	17.7	Spike	P	0 - 30
2078861	DDE-p,p'	7.76	Spike	P	0 - 30
2078861	DDT-p,p'	3.81	Spike	P	0 - 30
2078861	Delta-BHC	4.94	Spike	P	0 - 30
2078861	Dicofol	6.69	Spike	P	0 - 30
2078861	Dieldrin	3.98	Spike	P	0 - 30
2078861	Endosulfan I	1.30	Spike	P	0 - 30
2078861	Endosulfan II	0.680	Spike	P	0 - 30
2078861	Endosulfan Sulfate	3.52	Spike	P	0 - 30
2078861	Endrin	5.86	Spike	P	0 - 30
2078861	Endrin Aldehyde	17.9	Spike	P	0 - 30
2078861	Endrin Ketone	6.07	Spike	P	0 - 30
2078861	Ethalfuralin	4.83	Spike	P	0 - 30
2078861	Gamma-BHC	5.89	Spike	P	0 - 30
2078861	Gamma-Chlordane	5.20	Spike	P	0 - 30
2078861	Heptachlor	2.40	Spike	P	0 - 30
2078861	Heptachlor Epoxide	0.573	Spike	P	0 - 30
2078861	Hexachlorobenzene	13.8	Spike	P	0 - 30
2078861	Methoxychlor	13.2	Spike	P	0 - 30
2078861	Mirex	1.45	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P362502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078861	Permethrin	1.91	Spike	P	0 - 30
2078861	Trans-Nonachlor	7.45	Spike	P	0 - 30
2078861	Trifluralin	1.65	Spike	P	0 - 30
LFB	Aldrin	17.4	LCS	P	0 - 30
LFB	Alpha-BHC	13.8	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.47	LCS	P	0 - 30
LFB	Beta-BHC	2.02	LCS	P	0 - 30
LFB	Bifenthrin	8.92	LCS	P	0 - 30
LFB	Carbophenothion	6.60	LCS	P	0 - 30
LFB	Chlorothalonil	24.7	LCS	P	0 - 30
LFB	Cis-Nonachlor	13.3	LCS	P	0 - 30
LFB	Cypermethrin	14.1	LCS	P	0 - 30
LFB	DDD-p,p'	8.22	LCS	P	0 - 30
LFB	DDE-p,p'	3.34	LCS	P	0 - 30
LFB	DDT-p,p'	5.40	LCS	P	0 - 30
LFB	Delta-BHC	0.0336	LCS	P	0 - 30
LFB	Dicofol	1.99	LCS	P	0 - 30
LFB	Dieldrin	7.54	LCS	P	0 - 30
LFB	Endosulfan I	3.97	LCS	P	0 - 30
LFB	Endosulfan II	7.27	LCS	P	0 - 30
LFB	Endosulfan Sulfate	1.93	LCS	P	0 - 30
LFB	Endrin	3.77	LCS	P	0 - 30
LFB	Endrin Aldehyde	13.4	LCS	P	0 - 30
LFB	Endrin Ketone	1.05	LCS	P	0 - 30
LFB	Ethalfuralin	6.96	LCS	P	0 - 30
LFB	Gamma-BHC	6.75	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.77	LCS	P	0 - 30
LFB	Heptachlor	10.1	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.550	LCS	P	0 - 30
LFB	Hexachlorobenzene	25.5	LCS	P	0 - 30
LFB	Methoxychlor	4.82	LCS	P	0 - 30
LFB	Mirex	6.54	LCS	P	0 - 30
LFB	Permethrin	9.25	LCS	P	0 - 30
LFB	Trans-Nonachlor	0.0148	LCS	P	0 - 30
LFB	Trifluralin	3.20	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P362502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2079240	Chlordane	19.9	Spike	P	0 - 30
2079240	Toxaphene	1.98	Spike	P	0 - 30
LFB	Chlordane	8.34	LCS	P	0 - 30
LFB	Toxaphene	8.15	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P362252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
--------------------------	-----------	-----------	-------------------	-----------	----------------

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P362252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078237	2,4-D	0.554	Spike	P	0 - 30
2078237	Acetaminophen	7.21	Spike	P	0 - 30
2078237	Bentazon	0.814	Spike	P	0 - 30
2078237	Carbamazepine	8.15	Spike	P	0 - 30
2078237	Diuron	2.18	Spike	P	0 - 30
2078237	Fenuron	12.0	Spike	P	0 - 30
2078237	Fluridone	20.4	Spike	P	0 - 30
2078237	Hydrocodone	1.28	Spike	P	0 - 30
2078237	Ibuprofen	6.24	Spike	P	0 - 30
2078237	Imazapyr	24.0	Spike	P	0 - 30
2078237	Imidacloprid	6.54	Spike	P	0 - 30
2078237	Linuron	2.32	Spike	P	0 - 30
2078237	MCPP	4.19	Spike	P	0 - 30
2078237	Naproxen	20.6	Spike	P	0 - 30
2078237	Primidone	4.56	Spike	P	0 - 30
2078237	Pyraclostrobin	8.08	Spike	P	0 - 30
2078237	Triclopyr	8.83	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P362343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2079440	3-Hydroxycarbofuran	10.2	Spike	P	0 - 30
2079440	Aldicarb	2.51	Spike	P	0 - 30
2079440	Aldicarb Sulfone	5.81	Spike	P	0 - 30
2079440	Aldicarb Sulfoxide	13.2	Spike	P	0 - 30
2079440	Carbaryl	3.93	Spike	P	0 - 30
2079440	Carbofuran	1.68	Spike	P	0 - 30
2079440	Methiocarb	3.97	Spike	P	0 - 30
2079440	Methomyl	12.8	Spike	P	0 - 30
2079440	Oxamyl	2.14	Spike	P	0 - 30
2079440	Propoxur	3.79	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P362469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078457	Acesulfame K	16.8	Spike	P	0 - 30
2078457	AMPA	1.17	Spike	P	0 - 30
2078457	Endothall	1.13	Spike	P	0 - 30
2078457	Glufosinate	9.39	Spike	P	0 - 30
2078457	Glyphosate	1.08	Spike	P	0 - 30
2078457	Sucralose	20.7	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P362720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
--------------------------	-----------	-----------	-------------------	-----------	----------------

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P362720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078625	Total Alkalinity	0.551	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P362722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074740	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P362487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2078600	Organic Carbon	0.438	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: 2078559
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	75.4	P	30 - 160

Lab Sample ID: 2078560
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	66.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.2	P	30 - 160
EPA 8321B	Diuron-d6	81.2	P	30 - 160
EPA 8321B	Endothall-d6	643	F	30 - 160
EPA 8321B	Endothall-d6	643	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	91.5	P	30 - 160
EPA 8321B	Primidone-d5	78.1	P	30 - 160
EPA 8321B	Sucralose-d6	86.6	P	30 - 160
EPA 8321B	Sucralose-d6	86.6	P	30 - 160

Lab Sample ID: 2078572
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	81.4	P	39 - 109
EPA 8270D	Tetrachloro-m-xylene	71.0	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	51.2	P	30 - 103
EPA 8276	PCNB	110	P	37 - 143

Lab Sample ID: 2078573
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	102	P	68 - 130
EPA 8270D	Terbufos-d10	91.3	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A90794

Included Lab Sample IDs: 2078544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A90795

Included Lab Sample IDs: 2078542

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

Reference Method: EPA 300.0

Run ID: A90809

Included Lab Sample IDs: 2078542

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

Reference Method: SM 5310 B-00

Run ID: A90843

Included Lab Sample IDs: 2078543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90848

Included Lab Sample IDs: 2078560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.3	89.9	P/P	50 - 150
Acetaminophen	99.9	84.5	P/P	60 - 160
Bentazon	114	113	P/P	50 - 160
Carbamazepine	99.0	103	P/P	60 - 150
Diuron	102	100	P/P	60 - 150
Fenuron	99.0	100	P/P	60 - 150
Fluridone	63.3	62.6	P/P	60 - 160
Hydrocodone	97.8	91.3	P/P	60 - 150
Ibuprofen	111	111	P/P	50 - 160
Imazapyr	95.4	102	P/P	50 - 150
Imidacloprid	93.9	87.8	P/P	60 - 150
Linuron	96.8	93.3	P/P	60 - 150
MCPP	90.3	92.7	P/P	50 - 150
Naproxen	69.0	82.0	P/P	50 - 160
Primidone	88.5	89.2	P/P	60 - 150
Pyraclostrobin	101	136	P/P	60 - 150
Triclopyr	101	101	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A90878

Included Lab Sample IDs: 2078560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A90878

Included Lab Sample IDs: 2078560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	136	118	P/P	60 - 160
Endothall	98.7	107	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90906

Included Lab Sample IDs: 2078574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.0	98.6	P/P	90 - 110
Calcium	99.1	99.5	P/P	90 - 110
Iron	99.6	101	P/P	90 - 110
Manganese	102	102	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Zinc	99.3	98.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90917

Included Lab Sample IDs: 2078560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	119	128	P/P	60 - 160
Glufosinate	122	117	P/P	60 - 160
Glyphosate	118	115	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90918

Included Lab Sample IDs: 2078543

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90927

Included Lab Sample IDs: 2078543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A90946

Included Lab Sample IDs: 2078543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90947

Included Lab Sample IDs: 2078574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A90948
Included Lab Sample IDs: 2078542

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

Reference Method: SM 4500 F-C-97
Run ID: A90948
Included Lab Sample IDs: 2078542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A90953
Included Lab Sample IDs: 2078559

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	90.4	110	P/P	60 - 150
Aldicarb	102	117	P/P	60 - 150
Aldicarb Sulfone	101	96.2	P/P	50 - 150
Aldicarb Sulfoxide	103	101	P/P	50 - 150
Carbaryl	101	104	P/P	60 - 150
Carbofuran	99.3	105	P/P	50 - 150
Methiocarb	101	97.2	P/P	50 - 150
Methomyl	95.4	99.9	P/P	50 - 150
Oxamyl	102	97.9	P/P	50 - 150
Propoxur	104	102	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A90990
Included Lab Sample IDs: 2078560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	98.4	96.5	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A90992
Included Lab Sample IDs: 2078543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.4	98.4	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A91002
Included Lab Sample IDs: 2078572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.8		P	80 - 120
Toxaphene	103		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A91019

Included Lab Sample IDs: 2078574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.4	94.7	P/P	90 - 110
Antimony	99.2	98.6	P/P	90 - 110
Arsenic	100	100	P/P	90 - 110
Cadmium	97.1	96.7	P/P	90 - 110
Copper	99.0	100	P/P	90 - 110
Lead	91.5	91.6	P/P	90 - 110
Nickel	99.3	99.5	P/P	90 - 110
Selenium	100	98.8	P/P	90 - 110
Silver	95.9	95.7	P/P	90 - 110
Thallium	97.7	98.0	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A91053

Included Lab Sample IDs: 2078573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	105		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine	99.3		P	80 - 120
Atrazine Desethyl	86.9		P	80 - 120
Azinphos Methyl	96.9		P	80 - 120
Bromacil	101		P	80 - 120
Butylate	97.0		P	80 - 120
Chlorpyrifos Ethyl	99.0		P	80 - 120
Chlorpyrifos Methyl	97.9		P	80 - 120
Cyanazine	86.5		P	80 - 120
Demeton	80.2		P	80 - 120
Diazinon	101		P	80 - 120
Dimethenamid	103		P	80 - 120
Disulfoton	96.7		P	80 - 120
Dithiopyr	104		P	80 - 120
EPTC	101		P	80 - 120
Ethion	95.9		P	80 - 120
Ethoprop	97.8		P	80 - 120
Fenamiphos	95.6		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	96.6		P	80 - 120
Fipronil Sulfone	96.4		P	80 - 120
Fonofos	101		P	80 - 120
Hexazinone	99.1		P	80 - 120
Malathion	96.5		P	80 - 120
Metalaxyl	107		P	80 - 120
Metolachlor	107		P	80 - 120
Metribuzin	73.0*		F	80 - 120
Mevinphos	98.2		P	80 - 120
Molinate	94.9		P	80 - 120
Norflurazon	103		P	80 - 120
Oxadiazon	106		P	80 - 120
Parathion Ethyl	95.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A91053
Included Lab Sample IDs: 2078573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Parathion Methyl	96.2		P	80 - 120
Pendimethalin	97.0		P	80 - 120
Phorate	95.6		P	80 - 120
Prodiamine	99.7		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	105		P	80 - 120
Simazine	99.9		P	80 - 120
Tebuconazole	103		P	80 - 120
Terbufos	94.7		P	80 - 120
Terbutylazine	96.2		P	80 - 120

Reference Method: EPA 8270D
Run ID: A91082
Included Lab Sample IDs: 2078572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	92.6		P	80 - 120
Alpha-BHC	96.9		P	80 - 120
Alpha-Chlordane	96.6		P	80 - 120
Beta-BHC	103		P	80 - 120
Bifenthrin	94.0		P	80 - 120
Carbophenothion	82.3		P	80 - 120
Chlorothalonil	85.2		P	80 - 120
Cis-Nonachlor	91.0		P	80 - 120
Cypermethrin	88.0		P	80 - 120
DDD-p,p'	91.8		P	80 - 120
DDE-p,p'	91.8		P	80 - 120
DDT-p,p'	97.7		P	80 - 120
Delta-BHC	98.6		P	80 - 120
Dicofol	97.4		P	80 - 120
Dieldrin	91.9		P	80 - 120
Endosulfan I	94.9		P	80 - 120
Endosulfan II	88.1		P	80 - 120
Endosulfan Sulfate	88.0		P	80 - 120
Endrin	91.5		P	80 - 120
Endrin Aldehyde	82.3		P	80 - 120
Endrin Ketone	94.0		P	80 - 120
Ethalfuralin	95.3		P	80 - 120
Gamma-BHC	103		P	80 - 120
Gamma-Chlordane	98.8		P	80 - 120
Heptachlor	90.3		P	80 - 120
Heptachlor Epoxide	93.7		P	80 - 120
Hexachlorobenzene	95.2		P	80 - 120
Methoxychlor	102		P	80 - 120
Mirex	96.1		P	80 - 120
Permethrin	95.1		P	80 - 120
Trans-Nonachlor	94.4		P	80 - 120
Trifluralin	94.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A91145

Included Lab Sample IDs: 2078574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	95.1	93.2	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						0.0	
EPA 200.7 Rev. 4.4	Barium	97.8		92.9	92.8			0.0075
	Calcium	99.8						0.612
	Iron	106		100	101			0.563
	Manganese	102		97.9	97.6			0.209
	Potassium	102						1.18
	Sodium	101						0.949
	Zinc	100		101	100			0.343
EPA 200.8 Rev. 5.4	Aluminum	96.4		97.0	95.4			1.59
	Antimony	99.0		101	97.6			3.22
	Arsenic	102		109	105			3.49
	Cadmium	101		97.6	92.9			4.90
	Chromium	92.3		89.3	87.7			1.84
	Copper	98.9		95.3	93.5			1.74
	Lead	92.5		96.6	93.5			3.35
	Nickel	100		99.4	96.4			3.09
	Selenium	100		99.3	99.0			0.248
	Silver	96.8		89.7	89.5			0.268
	Thallium	103		106	103			2.91
EPA 300.0	Bromide	103		102	100			1.41
EPA 350.1 Rev. 2.0	Ammonia-N	107		107	107			0.0398
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		102	99.5			2.64
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		99.8	98.8			0.976
EPA 365.1 Rev. 2.0	Total-P	101		90.9	93.4			2.56
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		97.6	99.2			1.11
EPA 8270D	Acetochlor	101	104	93.2	94.2	3.46		1.11
	Alachlor	102	99.7	89.9	89.6	2.74		0.334
	Aldrin	56.3	47.3	68.6	66.2	17.4		3.53
	Alpha-BHC	105	91.5	106	110	13.8		3.90
	Alpha-Chlordane	78.7	82.3	98.9	94.3	4.47		4.77
	Ametryn	47.4	75.9	92.4	94.3	46.1		1.55
	Atrazine	96.6	97.2			0.615		1.89
	Atrazine Desethyl	52.1	49.3	63.2	58.8	5.45		5.13
	Azinphos Methyl	101	96.4	94.5	90.1	4.94		4.78
	Beta-BHC	116	114	104	108	2.02		4.03
	Bifenthrin	92.4	101	101	97.8	8.92		2.86
	Bromacil	62.2	43.8			34.7		4.83
	Butylate	58.1	58.5	46.5	47.6	0.548		2.38
	Carbophenothion	72.5	77.4	125	123	6.60		1.71
	Chlorothalonil	154	120	157	149	24.7		4.84
	Chlorpyrifos Ethyl	98.7	97.0	97.4	98.2	1.69		0.884
	Chlorpyrifos Methyl	90.9	84.9	92.9	91.1	6.83		1.94
	Cis-Nonachlor	72.8	83.2	110	101	13.3		9.26
	Cyanazine	72.2	70.5	108	97.0	2.41		10.9
	Cypermethrin	91.6	105	118	113	14.1		4.01
	DDD-p,p'	89.9	97.6	131	110	8.22		17.7
	DDE-p,p'	108	112	89.7	83.0	3.34		7.76
	DDT-p,p'	91.9	97.0	92.1	88.7	5.40		3.81
	Delta-BHC	122	122	146	139	0.0336		4.94
	Demeton	61.0	65.0	85.6	82.4	6.40		3.78
	Diazinon	98.2	94.8	98.9	98.1	3.46		0.864
	Dicofol	96.8	94.9	98.8	92.4	1.99		6.69
	Dieldrin	81.7	88.1	102	98.3	7.54		3.98
	Dimethenamid	103	99.2	93.0	91.7	3.42		1.46

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Disulfoton	84.5	81.5	90.9	84.6	3.61	7.18
	Dithiopyr	107	104	95.9	96.5	2.59	0.549
	Endosulfan I	81.7	85.0	113	114	3.97	1.30
	Endosulfan II	93.7	87.1	339	337	7.27	0.680
	Endosulfan Sulfate	111	113	112	116	1.93	3.52
	Endrin	86.0	89.3	109	103	3.77	5.86
	Endrin Aldehyde	106	121	135	112	13.4	17.9
	Endrin Ketone	109	110	125	133	1.05	6.07
	EPTC	61.0	58.3	48.7	51.9	4.42	6.41
	Ethalfuralin	92.5	86.3	94.3	89.9	6.96	4.83
	Ethion	103	104	101	98.2	1.22	2.36
	Ethoprop	88.1	84.3	91.4	90.1	4.42	1.10
	Fenamiphos	32.9	15.2	89.0	92.4	74.0	3.79
	Fipronil	103	91.4	80.1	75.2	12.0	5.70
	Fipronil Desulfinyl	101	94.3	68.7	66.3	6.75	2.99
	Fipronil Sulfide	102	96.2	71.4	65.1	5.39	7.15
	Fipronil Sulfone	97.7	86.9	52.7	45.4	11.8	8.46
	Fonofos	82.4	82.7	93.1	91.2	0.370	2.08
	Gamma-BHC	118	110	204	193	6.75	5.89
	Gamma-Chlordane	106	109	93.6	88.9	2.77	5.20
	Heptachlor	80.8	73.0	88.8	86.7	10.1	2.40
	Heptachlor Epoxide	109	110	102	102	0.550	0.573
	Hexachlorobenzene	70.8	54.8	74.4	64.8	25.5	13.8
	Hexazinone	48.4	16.9	100	172	96.3	46.0
	Malathion	101	97.5	95.6	92.3	3.35	3.47
	Metalaxyl	13.7	9.41	90.4	82.6	37.0	8.69
	Methoxychlor	116	122	133	116	4.82	13.2
	Metolachlor	104	100	90.3	92.5	3.58	1.40
	Metribuzin	73.1	72.4			0.906	7.82
	Mevinphos	51.2	26.7	77.1	83.1	63.1	7.50
	Mirex	62.9	67.2	67.5	66.5	6.54	1.45
	Molinate	67.5	70.4	65.9	66.6	4.11	1.09
	Norflurazon	92.6	81.4	77.6	72.3	12.9	7.07
	Oxadiazon	110	109	94.8	94.8	1.35	0.0093
	Parathion Ethyl	90.2	89.3	95.5	92.5	1.04	3.23
	Parathion Methyl	91.2	89.4	99.7	96.5	2.08	3.21
	Pendimethalin	103	109	120	119	6.04	1.32
	Permethrin	77.4	84.9	78.5	77.0	9.25	1.91
	Phorate	73.7	72.0	82.3	79.2	2.36	3.83
	Prodiamine	115	114	124	123	0.668	0.994
	Prometon	22.6	27.6	93.7	121	20.0	25.4
	Prometryn	59.8	88.9	95.0	92.9	39.2	2.21
	Simazine	101	92.6			8.61	0.137
	Tebuconazole	56.4	14.6	78.9	75.2	118	4.00
	Terbufos	85.6	83.3	99.5	92.6	2.69	7.11
	Terbuthylazine	100	97.6	96.7	94.8	2.59	2.03
	Trans-Nonachlor	106	106	87.1	80.9	0.0148	7.45
	Trifluralin	87.9	85.1	87.9	86.4	3.20	1.65
EPA 8276	Chlordane	78.8	72.4	93.6	76.7	8.34	19.9
	Toxaphene	83.2	76.7	81.4	83.0	8.15	1.98
EPA 8321B	2,4-D	66.6		86.5	87.4		0.554
	3-Hydroxycarbofuran	78.6		85.8	95.0		10.2
	Acesulfame K	106		102	86.1		16.8
	Acetaminophen	88.0		77.5	83.3		7.21

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Aldicarb	76.9	84.0	86.1			2.51
	Aldicarb Sulfone	96.8	92.1	86.9			5.81
	Aldicarb Sulfoxide	103	50.3	57.3			13.2
	AMPA	116	145	147			1.17
	Bentazon	99.8	67.3	66.2			0.814
	Carbamazepine	81.6	86.6	94.4			8.15
	Carbaryl	77.9	75.0	78.1			3.93
	Carbofuran	76.8	74.4	75.7			1.68
	Diuron	79.2	72.2	70.7			2.18
	Endothall	114	103	105			1.13
	Fenuron	103	96.8	109			12.0
	Fluridone	110	176	72.4			20.4
	Glufosinate	119	123	112			9.39
	Glyphosate	118	114	113			1.08
	Hydrocodone	74.3	93.7	94.9			1.28
	Ibuprofen	79.5	65.0	61.0			6.24
	Imazapyr	78.4	97.0	55.2			24.0
	Imidacloprid	89.3	159	170			6.54
	Linuron	79.3	70.9	72.5			2.32
	MCPP	80.4	101	105			4.19
	Methiocarb	70.2	68.0	65.4			3.97
	Methomyl	93.2	81.0	92.0			12.8
	Naproxen	52.3	69.9	56.9			20.6
	Oxamyl	75.6	92.3	94.3			2.14
	Primidone	81.1	67.6	64.2			4.56
	Propoxur	77.3	77.1	74.2			3.79
	Pyraclostrobin	90.5	74.6	80.8			8.08
	Sucralose	107	76.2	93.8			20.7
	Triclopyr	56.2	61.2	56.0			8.83
SM 2320 B-97	Total Alkalinity	100				0.551	
SM 4500 F-C-97	Fluoride	97.2	97.8	97.8			0.0
SM 5310 B-00	Organic Carbon	98.8	96.7	97.2			0.438

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2078542
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2078574
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2078574
EPA 300.0 / E31780	Bromide in aqueous matrices	2078542
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2078543
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2078543
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2078543
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2078543
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2078544
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2078572
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2078573

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2078572
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2078559
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2078560
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2078560
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2078542
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2078542
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2078542
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2078543

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	04/17/2019			04/17/2019 17:22	Adrian Shelby	2078542
EPA 200.7 Rev. 4.4	04/17/2019	04/17/2019 16:40	Elliott D. Healy	04/22/2019 19:55	Betina Topolski	2078574
	04/17/2019	04/17/2019 16:40	Elliott D. Healy	04/22/2019 20:00	Betina Topolski	2078574
	04/17/2019	04/17/2019 16:40	Elliott D. Healy	04/23/2019 15:53	Betina Topolski	2078574
EPA 200.8 Rev. 5.4	04/17/2019	04/17/2019 16:40	Elliott D. Healy	04/25/2019 22:00	Martin Acosta	2078574
	04/17/2019	04/17/2019 16:40	Elliott D. Healy	05/01/2019 16:34	Martin Acosta	2078574
EPA 300.0	04/17/2019			04/18/2019 19:30	Lipi Saha	2078542
EPA 350.1 Rev. 2.0	04/17/2019			04/22/2019 13:00	Ping Hua	2078543
EPA 351.2 Rev. 2.0	04/17/2019	04/23/2019 12:00	Adrian Shelby	04/25/2019 10:00	Joseph Suarez	2078543
EPA 353.2 Rev. 2.0	04/17/2019			04/23/2019 10:42	Beverly Y. Sanders	2078543
EPA 365.1 Rev. 2.0	04/17/2019	04/22/2019 15:10	Sima Feizi	04/23/2019 11:40	Rosalyn Ballman	2078543
EPA 365.1 Rev. 2.0 dissolved	04/17/2019			04/17/2019 16:25	Jhamieka S. Greenwood	2078544
EPA 8270D	04/17/2019	04/19/2019 08:30	Rasheda Ghaffari	04/29/2019 21:40	Arthur Maknenko	2078572
	04/17/2019	04/19/2019 09:00	Fe-Val Siddell	04/23/2019 15:11	Vandana T. Nagar	2078573
EPA 8276	04/17/2019	04/19/2019 08:30	Rasheda Ghaffari	04/24/2019 00:52	Dinesh Mishra	2078572
EPA 8321B	04/17/2019	04/18/2019 12:00	Hoor Shaik	04/22/2019 01:00	Juyoung Kim	2078560
	04/17/2019	04/19/2019 10:15	Rebecca Ware	04/19/2019 12:39	Rebecca Ware	2078560
	04/17/2019	04/19/2019 10:15	Rebecca Ware	04/22/2019 14:02	Rebecca Ware	2078560
	04/17/2019	04/19/2019 10:15	Rebecca Ware	04/24/2019 17:09	Rebecca Ware	2078560
	04/17/2019	04/22/2019 14:00	Hoor Shaik	04/23/2019 22:36	Juyoung Kim	2078559
SM 2320 B-97	04/17/2019			04/24/2019 01:03	Dale L. Simmons	2078542
SM 2540 D-97	04/17/2019			04/22/2019 15:58	Yijie Li	2078542
SM 4500 F-C-97	04/17/2019			04/23/2019 23:11	Dale L. Simmons	2078542
SM 5310 B-00	04/17/2019			04/19/2019 04:08	Julia Storbeck	2078543