

Chemical Analysis Report

SW-DIST-2019-05-01-02

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

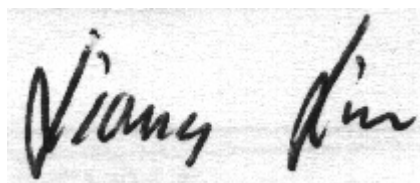
Event Description: **SMP - Run 11; Gily, Owen Cr, Myakka**
Request ID: **RQ-2019-04-15-07**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 21-MAY-2019 14:52

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: 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: OWEN CREEK

Collection Date/Time: 04/30/2019 10:45

Field ID: G3SW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2082139	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P363182	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P363438	
		Sulfate	150		mg SO4/L	P363559	
	SM 2120 B	Color (true)	42		PCU	P363213	
	SM 2320 B-97	Total Alkalinity	34		mg CaCO3/L	P363868	
	SM 2540 C-97	TDS	329		mg/L	P363820	
	SM 2540 D-97	TSS	2	I	mg/L	P363831	
2082140	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P363761	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P363627	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P363401	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P363308	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P363277	
2082141	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P363352	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P363193	
2082153	EPA 8321B	2,4-D	0.0039	I	ug/L	P363161	
		Acesulfame K**	0.10	U	ug/L	P363198	
		AMPA**	0.40		ug/L	P363198	
		Sucralose**	0.010	U	ug/L	P363198	
		Acetaminophen**	0.0080	U	ug/L	P363161	
		Endothall**	0.25	U	ug/L	P363198	
		Glufosinate**	0.10	U	ug/L	P363198	
		Bentazon	0.0054		ug/L	P363161	
		Glyphosate**	0.25	I	ug/L	P363198	
		Carbamazepine**	8.0E-04	U	ug/L	P363161	
		Diuron	0.0020	U	ug/L	P363161	
		Fenuron	0.016	U	ug/L	P363161	
		Fluridone**	8.0E-04	U	ug/L	P363161	
		Imazapyr**	0.0040	U	ug/L	P363161	
		Hydrocodone**	0.0020	U	ug/L	P363161	
		Ibuprofen**	0.020	U	ug/L	P363161	
		Imidacloprid	0.22		ug/L	P363161	MS
		Linuron	0.0040	U	ug/L	P363161	
		MCP	0.0020	U	ug/L	P363161	
		Naproxen**	0.0080	U	ug/L	P363161	
		Primidone**	0.0040	U	ug/L	P363161	
		Pyraclostrobin**	0.0020	U	ug/L	P363161	
		Triclopyr**	0.0040	U	ug/L	P363161	

Ref. Method and Comment:

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

Sample Location: GILLEY CRK @ STRICKLANDS

Collection Date/Time: 04/30/2019 10:00

Field ID: G2SW0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2082142	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P363182	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P363438	
		Sulfate	30		mg SO4/L	P363440	
	SM 2120 B	Color (true)	62		PCU	P363213	
	SM 2320 B-97	Total Alkalinity	30		mg CaCO3/L	P363868	
	SM 2540 C-97	TDS	135	A	mg/L	P363821	
	SM 2540 D-97	TSS	2	IA	mg/L	P363832	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P363761	
2082143	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P363627	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P363401	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P363308	
	EPA 365.1 Rev. 2.0	Total-P	0.45		mg P/L	P363348	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P363352	
2082144	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.34		mg P/L	P363193	
2082151	EPA 8321B	Aldicarb	0.020	U	ug/L	P363186	
		Aldicarb Sulfone	0.0020	U	ug/L	P363186	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P363186	
		Carbaryl	0.0020	U	ug/L	P363186	
		Carbofuran	0.0020	U	ug/L	P363186	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P363186	
		Methiocarb	0.0020	U	ug/L	P363186	
		Methomyl	0.0020	U	ug/L	P363186	
		Oxamyl	0.0020	U	ug/L	P363186	
		Propoxur	0.0020	U	ug/L	P363186	
2082152		2,4-D	0.0020	U	ug/L	P363161	
		Acesulfame K**	0.10	U	ug/L	P363198	
		AMPA**	1.1		ug/L	P363198	
		Sucralose**	0.010	U	ug/L	P363198	
		Acetaminophen**	0.0080	U	ug/L	P363161	
		Endothall**	0.25	U	ug/L	P363198	
		Glufosinate**	0.10	U	ug/L	P363198	
		Bentazon	0.0015	I	ug/L	P363161	
		Glyphosate**	0.52		ug/L	P363198	
		Carbamazepine**	8.0E-04	U	ug/L	P363161	
		Diuron	0.013		ug/L	P363161	
		Fenuron	0.016	U	ug/L	P363161	
		Fluridone**	8.0E-04	U	ug/L	P363161	
		Imazapyr**	0.073		ug/L	P363161	
		Hydrocodone**	0.0020	U	ug/L	P363161	
		Ibuprofen**	0.020	U	ug/L	P363161	
		Imidacloprid	0.0065	I	ug/L	P363161	MS
		Linuron	0.0040	U	ug/L	P363161	
		MCP	0.0020	U	ug/L	P363161	

Field ID: G2SW0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2082152	EPA 8321B	Naproxen**	0.0080	U	ug/L	P363161		
		Primidone**	0.0040	U	ug/L	P363161		
		Pyraclostrobin**	0.0020	U	ug/L	P363161		
		Triclopyr**	0.0040	U	ug/L	P363161		
2082154	EPA 8270D	Aldrin	4.1	U	ng/L	P363430		
		Alpha-BHC	2.1	U	ng/L	P363430		
		Alpha-Chlordane	1.0	U	ng/L	P363430		
		Beta-BHC	10	UJ	ng/L	P363430	CCV	
		Bifenthrin**	4.1	U	ng/L	P363430		
		Delta-BHC	10	UJ	ng/L	P363430	CCV	
		Gamma-BHC	10	UJ	ng/L	P363430	CCV	
		Carbophenothion	12	U	ng/L	P363430		
		Chlorothalonil	2.1	UJ	ng/L	P363430	CCV	
		Cis-Nonachlor**	1.0	U	ng/L	P363430		
		Cypermethrin	21	U	ng/L	P363430		
		DDD-p,p'	8.3	U	ng/L	P363430		
		DDE-p,p'	8.3	U	ng/L	P363430		
		DDT-p,p'	10	U	ng/L	P363430		
		Dicofol	31	U	ng/L	P363430		
		Dieldrin	4.1	U	ng/L	P363430		
		Endosulfan I	4.1	U	ng/L	P363430		
		Endosulfan II	4.1	U	ng/L	P363430		
		Endosulfan Sulfate	2.1	U	ng/L	P363430		
		Endrin	2.1	U	ng/L	P363430		
		Endrin Aldehyde	2.1	U	ng/L	P363430		
		Endrin Ketone	2.1	U	ng/L	P363430		
		Ethalfuralin**	3.1	U	ng/L	P363430		
		Gamma-Chlordane	1.0	U	ng/L	P363430		
		Heptachlor	1.5	U	ng/L	P363430		
		Heptachlor Epoxide	2.1	U	ng/L	P363430		
		Hexachlorobenzene**	2.1	U	ng/L	P363430	MS	
		Methoxychlor	4.1	U	ng/L	P363430		
		Mirex	2.1	U	ng/L	P363430		
		Permethrin	10	U	ng/L	P363430		
		Trans-Nonachlor**	1.0	U	ng/L	P363430		
		Trifluralin	2.6	U	ng/L	P363430		
		EPA 8276	Chlordane	5.2	U	ng/L	P363430	
			Toxaphene	31	U	ng/L	P363430	
2082155	EPA 8270E	Acetochlor	0.26	U	ng/L	P363224		
		Alachlor	0.26	U	ng/L	P363224		
		Ametryn	0.62	U	ng/L	P363224		
		Atrazine	0.26	U	ng/L	P363224		
		Atrazine Desethyl	1.5	UJ	ng/L	P363224	LCS, RPD	
		Azinphos Methyl	5.1	U	ng/L	P363224		
		Bromacil	31	J	ng/L	P363224	LCS, RPD	

Field ID: G2SW0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2082155	EPA 8270E	Butylate	0.41	UJ	ng/L	P363224	LCS
		Chlorpyrifos Ethyl	0.26	UJ	ng/L	P363224	LCS
		Chlorpyrifos Methyl	0.10	U	ng/L	P363224	
		Cyanazine	3.3	UJ	ng/L	P363224	RPD
		Demeton	7.2	U	ng/L	P363224	
		Diazinon	0.13	U	ng/L	P363224	
		Dimethenamid**	0.10	U	ng/L	P363224	
		Disulfoton	0.51	U	ng/L	P363224	
		Dithiopyr**	0.10	U	ng/L	P363224	
		EPTC	1.3	UJ	ng/L	P363224	LCS
		Ethion	0.15	U	ng/L	P363224	
		Ethoprop	0.10	U	ng/L	P363224	
		Fenamiphos	0.51	UJ	ng/L	P363224	LCS, RPD
		Fipronil	0.26	U	ng/L	P363224	
		Fipronil Desulfinyl**	0.13	U	ng/L	P363224	
		Fipronil Sulfide	0.15	U	ng/L	P363224	
		Fipronil Sulfone	0.15	U	ng/L	P363224	
		Fonofos	0.21	U	ng/L	P363224	
		Hexazinone	0.51	UJ	ng/L	P363224	LCS, RPD
		Malathion	0.36	U	ng/L	P363224	
		Metalaxyl	0.32	IJ	ng/L	P363224	LCS, RPD
		Metolachlor	0.51	UJ	ng/L	P363224	LCS
		Metribuzin	0.77	UJ	ng/L	P363224	CCV
		Mevinphos	0.51	UJ	ng/L	P363224	RPD
		Molinate	0.31	UJ	ng/L	P363224	LCS
		Norflurazon	490	J	ng/L	P363224	LCS, RPD
		Oxadiazon**	0.10	UJ	ng/L	P363224	LCS
		Parathion Ethyl	0.26	U	ng/L	P363224	
		Parathion Methyl	0.57	U	ng/L	P363224	
		Pendimethalin	1.0	U	ng/L	P363224	
		Phorate	0.26	U	ng/L	P363224	
		Prodiamine**	0.18	U	ng/L	P363224	
		Prometon	0.93	UJ	ng/L	P363224	RPD
		Prometryn	0.21	U	ng/L	P363224	
		Simazine	0.54	I	ng/L	P363224	
		Tebuconazole**	0.51	UJ	ng/L	P363224	RPD
		Terbufos	0.10	U	ng/L	P363224	
		Terbuthylazine	0.44	U	ng/L	P363224	

Ref. Method and Comment:

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

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

EPA 8270E: MS accuracy for norflurazon 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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P363182

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363438

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363440

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363559

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363627

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363401

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363308

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363277

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363348

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363193

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

Reference Method: EPA 8270D
Batch ID: P363430

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

Reference Method: EPA 8270E
Batch ID: P363224

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
 Batch ID: P363224

Component	Result	Code	Units
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
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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276
 Batch ID: P363430

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

Reference Method: EPA 8321B
 Batch ID: P363161

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P363161

Component	Result	Code	Units
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: P363186

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: P363198

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

Reference Method: SM 2120 B
Batch ID: P363213

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P363868

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P363820

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P363821

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P363831

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P363832

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P363761

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P363352

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363438

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363440

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363559

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363627

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363277

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363348

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363193

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P363430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	38.3	38.2	P/P	20 - 93.0
Alpha-BHC	116	110	P/P	57 - 119
Alpha-Chlordane	76.2	72.9	P/P	58 - 112
Beta-BHC	130	106	P/P	56 - 149
Bifenthrin	56.8	57.9	P/P	50 - 130
Carbophenothion	67.9	65.2	P/P	26 - 147
Chlorothalonil	123	135	P/P	20 - 155
Cis-Nonachlor	80.1	75.8	P/P	50 - 130
Cypermethrin	53.2	61.1	P/P	40 - 137
DDD-p,p'	94.4	84.6	P/P	65 - 129
DDE-p,p'	74.1	68.8	P/P	57 - 116
DDT-p,p'	87.3	82.8	P/P	53 - 133
Delta-BHC	111	99.1	P/P	59 - 163
Dicofol	92.5	108	P/P	24 - 138
Dieldrin	86.2	78.0	P/P	60 - 120
Endosulfan I	91.5	91.9	P/P	64 - 118
Endosulfan II	108	106	P/P	58 - 142
Endosulfan Sulfate	101	102	P/P	60 - 127
Endrin	91.1	87.8	P/P	59 - 122
Endrin Aldehyde	96.3	80.5	P/P	49 - 132
Endrin Ketone	99.5	99.9	P/P	64 - 121
Ethalfuralin	79.8	80.8	P/P	50 - 130
Gamma-BHC	99.3	111	P/P	56 - 141
Gamma-Chlordane	72.1	69.4	P/P	56 - 110
Heptachlor	65.6	64.8	P/P	46 - 96.0
Heptachlor Epoxide	87.4	84.5	P/P	61 - 112
Hexachlorobenzene	62.2	56.5	P/P	50 - 130
Methoxychlor	107	100	P/P	63 - 134
Mirex	50.6	49.4	P/P	45 - 100
Permethrin	55.0	58.2	P/P	53 - 115
Trans-Nonachlor	70.0	66.6	P/P	50 - 130
Trifluralin	86.0	89.5	P/P	39 - 142

Reference Method: EPA 8270E
Batch ID: P363224

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	121	113	P/P	71 - 121
Alachlor	119	110	P/P	72 - 119
Ametryn	107	104	P/P	47 - 144
Atrazine	113	105	P/P	75 - 123
Atrazine Desethyl	32.3	53.5	F/P	45 - 133
Azinphos Methyl	95.1	109	P/P	66 - 165
Bromacil	40.2	78.9	F/P	43 - 123
Butylate	84.2	75.2	F/P	27 - 83.0
Chlorpyrifos Ethyl	123	108	F/P	70 - 117
Chlorpyrifos Methyl	113	98.0	P/P	71 - 120
Cyanazine	52.1	84.4	P/P	34 - 264
Demeton	85.0	72.2	P/P	41 - 122
Diazinon	117	103	P/P	70 - 127
Dimethenamid	115	113	P/P	66 - 123
Disulfoton	87.9	73.8	P/P	56 - 127

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P363224

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dithiopyr	122	113	P/P	67 - 125
EPTC	87.0	79.4	F/P	24 - 84.0
Ethion	128	114	P/P	53 - 132
Ethoprop	115	101	P/P	57 - 117
Fenamiphos	12.3	36.7	F/F	55 - 136
Fipronil	84.5	107	P/P	64 - 126
Fipronil Desulfinyl	103	103	P/P	47 - 114
Fipronil Sulfide	110	105	P/P	57 - 120
Fipronil Sulfone	93.8	103	P/P	52 - 115
Fonofos	109	90.8	P/P	61 - 121
Hexazinone	45.6	83.8	F/P	62 - 131
Malathion	116	107	P/P	67 - 126
Metaxyl	8.60	37.4	F/F	54 - 128
Metolachlor	120	115	F/P	71 - 118
Metribuzin	76.7	84.4	P/P	42 - 221
Mevinphos	49.8	73.3	P/P	45 - 114
Molinate	98.4	86.7	F/P	33 - 91.0
Norflurazon	47.4	97.2	F/P	60 - 123
Oxadiazon	130	121	F/P	66 - 121
Parathion Ethyl	103	102	P/P	73 - 111
Parathion Methyl	103	99.3	P/P	74 - 126
Pendimethalin	126	118	P/P	63 - 131
Phorate	96.1	80.2	P/P	54 - 115
Prodiamine	132	133	P/P	38 - 140
Prometon	63.6	100	P/P	61 - 120
Prometryn	110	106	P/P	62 - 126
Simazine	111	109	P/P	75 - 126
Tebuconazole	21.0	56.0	P/P	21 - 115
Terbufos	108	92.6	P/P	65 - 116
Terbutylazine	115	109	P/P	73 - 117

Reference Method: EPA 8276
Batch ID: P363430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	69.6	79.5	P/P	43 - 128
Toxaphene	92.6	94.4	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P363161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	70.7		P	40 - 150
Acetaminophen	91.0		P	30 - 150
Bentazon	95.4		P	30 - 150
Carbamazepine	83.3		P	40 - 150
Diuron	89.7		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	141		P	40 - 150
Hydrocodone	97.4		P	40 - 150
Ibuprofen	74.6		P	40 - 150
Imazapyr	97.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P363161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	97.3		P	40 - 150
Linuron	106		P	40 - 150
MCPP	74.5		P	40 - 150
Naproxen	58.3		P	40 - 150
Primidone	75.8		P	40 - 150
Pyraclostrobin	72.7		P	40 - 150
Triclopyr	42.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P363186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	83.4		P	40 - 150
Aldicarb	77.6		P	30 - 150
Aldicarb Sulfone	99.5		P	40 - 150
Aldicarb Sulfoxide	102		P	40 - 150
Carbaryl	84.1		P	40 - 150
Carbofuran	82.9		P	40 - 150
Methiocarb	76.2		P	40 - 150
Methomyl	75.8		P	40 - 150
Oxamyl	97.8		P	40 - 150
Propoxur	78.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P363198

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	71.4		P	40 - 150
AMPA	105		P	40 - 150
Endothall	69.4		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	92.4		P	40 - 140
Sucralose	104		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P363213

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

Reference Method: SM 2320 B-97
Batch ID: P363868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P363761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P363352

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082046	Chloride	96.6		P	90 - 110
2082117	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363440

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082046	Sulfate	97.8		P	90 - 110
2082117	Sulfate	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082680	Sulfate	99.4		P	90 - 110
2082792	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2081828	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082105	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082105	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082118	Total-P	103	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082143	Total-P	101	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082121	O-Phosphate-P	94.8	95.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P363430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082071	Aldrin	59.3	58.6	P/P	25 - 92.0
2082071	Alpha-BHC	110	118	P/P	49 - 130
2082071	Alpha-Chlordane	81.0	82.6	P/P	50 - 115
2082071	Beta-BHC	101	117	P/P	43 - 157
2082071	Bifenthrin	73.4	71.9	P/P	50 - 130
2082071	Carbophenothion	94.4	98.6	P/P	27 - 180
2082071	Chlorothalonil	185	172	P/P	10 - 216
2082071	Cis-Nonachlor	86.3	87.1	P/P	50 - 130
2082071	Cypermethrin	80.8	85.7	P/P	40 - 153
2082071	DDD-p,p'	92.0	93.1	P/P	53 - 128
2082071	DDE-p,p'	75.1	75.5	P/P	48 - 116
2082071	DDT-p,p'	94.0	91.5	P/P	47 - 128
2082071	Delta-BHC	115	133	P/P	51 - 196
2082071	Dicofol	93.0	101	P/P	10 - 147
2082071	Dieldrin	83.1	86.2	P/P	48 - 128
2082071	Endosulfan I	99.0	108	P/P	58 - 126
2082071	Endosulfan II	101	115	P/P	50 - 150
2082071	Endosulfan Sulfate	110	112	P/P	56 - 130
2082071	Endrin	92.1	97.0	P/P	50 - 126
2082071	Endrin Aldehyde	52.3	50.0	P/P	12 - 145
2082071	Endrin Ketone	108	108	P/P	59 - 132
2082071	Ethalfuralin	93.1	92.7	P/P	50 - 130
2082071	Gamma-BHC	95.8	121	P/P	50 - 155
2082071	Gamma-Chlordane	77.7	80.0	P/P	50 - 112
2082071	Heptachlor	73.3	70.5	P/P	41 - 98.0
2082071	Heptachlor Epoxide	84.9	87.7	P/P	55 - 117
2082071	Hexachlorobenzene	56.0	49.0	P/F	50 - 130
2082071	Methoxychlor	108	103	P/P	55 - 133
2082071	Mirex	63.9	63.4	P/P	44 - 101
2082071	Permethrin	68.1	68.5	P/P	52 - 124
2082071	Trans-Nonachlor	72.3	76.1	P/P	50 - 130
2082071	Trifluralin	87.8	89.5	P/P	10 - 201

Reference Method: EPA 8270E
Batch ID: P363224

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082155	Acetochlor	98.4	103	P/P	63 - 129
2082155	Alachlor	98.5	102	P/P	65 - 127
2082155	Ametryn	99.0	101	P/P	40 - 164
2082155	Atrazine	105	120	P/P	66 - 135
2082155	Atrazine Desethyl	69.8	70.2	P/P	14 - 157
2082155	Azinphos Methyl	104	112	P/P	49 - 180
2082155	Butylate	39.4	47.4	P/P	10 - 94.0
2082155	Chlorpyrifos Ethyl	112	111	P/P	58 - 123
2082155	Chlorpyrifos Methyl	93.6	100	P/P	58 - 125
2082155	Cyanazine	112	128	P/P	24 - 253
2082155	Demeton	70.3	74.7	P/P	25 - 149
2082155	Diazinon	96.7	101	P/P	59 - 144
2082155	Dimethenamid	97.6	102	P/P	46 - 139
2082155	Disulfoton	88.4	86.9	P/P	54 - 132
2082155	Dithiopyr	100	106	P/P	64 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P363224

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082155	EPTC	40.8	52.4	P/P	10 - 92.0
2082155	Ethion	105	113	P/P	30 - 148
2082155	Ethoprop	83.9	93.0	P/P	50 - 130
2082155	Fenamiphos	93.0	97.9	P/P	49 - 142
2082155	Fipronil	98.1	101	P/P	46 - 140
2082155	Fipronil Desulfinyl	92.2	92.2	P/P	30 - 121
2082155	Fipronil Sulfide	95.9	100	P/P	31 - 136
2082155	Fipronil Sulfone	91.4	92.6	P/P	16 - 136
2082155	Fonofos	88.0	90.7	P/P	55 - 129
2082155	Hexazinone	109	113	P/P	56 - 141
2082155	Malathion	97.6	103	P/P	56 - 135
2082155	Metalaxyl	102	67.0	P/P	54 - 135
2082155	Metolachlor	98.4	104	P/P	51 - 140
2082155	Metribuzin	140	156	P/P	45 - 254
2082155	Mevinphos	82.9	86.2	P/P	33 - 131
2082155	Molinate	58.3	64.9	P/P	14 - 98.0
2082155	Oxadiazon	97.9	104	P/P	67 - 116
2082155	Parathion Ethyl	97.2	98.1	P/P	66 - 118
2082155	Parathion Methyl	99.7	104	P/P	64 - 136
2082155	Pendimethalin	122	129	P/P	59 - 144
2082155	Phorate	76.4	80.6	P/P	42 - 130
2082155	Prodiamine	130	148	P/P	42 - 148
2082155	Prometon	91.4	94.7	P/P	59 - 134
2082155	Prometryn	95.7	101	P/P	54 - 135
2082155	Simazine	103	112	P/P	53 - 156
2082155	Tebuconazole	63.4	64.3	P/P	10 - 131
2082155	Terbufos	90.3	94.0	P/P	57 - 131
2082155	Terbutylazine	99.5	106	P/P	68 - 125

Reference Method: EPA 8276
Batch ID: P363430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082727	Chlordane	101	95.6	P/P	34 - 136
2082727	Toxaphene	94.4	98.3	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P363161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2081894	2,4-D	73.2	68.8	P/P	40 - 150
2081894	Acetaminophen	82.9	84.0	P/P	30 - 150
2081894	Bentazon	51.7	50.3	P/P	30 - 150
2081894	Carbamazepine	93.7	88.8	P/P	40 - 150
2081894	Diuron	76.2	68.2	P/P	40 - 150
2081894	Fenuron	105	112	P/P	40 - 150
2081894	Fluridone	139	143	P/P	40 - 150
2081894	Hydrocodone	94.5	91.4	P/P	40 - 150
2081894	Ibuprofen	71.8	72.5	P/P	40 - 150
2081894	Imazapyr	70.7	69.7	P/P	40 - 150
2081894	Imidacloprid	158	152	F/F	40 - 150
2081894	Linuron	101	109	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P363161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2081894	MCP	102	101	P/P	40 - 150
2081894	Naproxen	65.2	51.4	P/P	40 - 150
2081894	Primidone	75.5	68.6	P/P	40 - 150
2081894	Pyraclostrobin	79.6	72.2	P/P	40 - 150
2081894	Triclopyr	62.4	65.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P363186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082151	3-Hydroxycarbofuran	69.3	82.8	P/P	40 - 150
2082151	Aldicarb	69.9	74.4	P/P	30 - 150
2082151	Aldicarb Sulfone	92.9	103	P/P	40 - 150
2082151	Aldicarb Sulfoxide	50.4	58.5	P/P	40 - 150
2082151	Carbaryl	55.9	64.5	P/P	40 - 150
2082151	Carbofuran	56.4	63.6	P/P	40 - 150
2082151	Methiocarb	56.5	64.9	P/P	40 - 150
2082151	Methomyl	60.9	72.6	P/P	40 - 150
2082151	Oxamyl	77.3	97.6	P/P	40 - 150
2082151	Propoxur	54.1	60.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P363198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082110	Acesulfame K	77.1	77.2	P/P	40 - 150
2082110	AMPA	52.6	60.5	P/P	40 - 150
2082110	Endothall	63.6	63.9	P/P	40 - 150
2082110	Glufosinate	90.3	98.8	P/P	40 - 150
2082110	Glyphosate	82.7	91.8	P/P	40 - 140
2082110	Sucralose	104	110	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P363761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082695	Fluoride	98.3	98.3	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P363352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2082003	Organic Carbon	95.6	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P363182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082116	Turbidity	0.334	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082046	Chloride	0.375	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082046	Sulfate	0.537	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082680	Sulfate	0.0572	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081828	Ammonia-N	1.05	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082105	Kjeldahl Nitrogen	0.185	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082105	NO2NO3-N	0.440	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082118	Total-P	2.55	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082143	Total-P	2.36	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082121	O-Phosphate-P	1.15	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P363430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082071	Aldrin	1.33	Spike	P	0 - 30
2082071	Alpha-BHC	7.20	Spike	P	0 - 30
2082071	Alpha-Chlordane	1.95	Spike	P	0 - 30
2082071	Beta-BHC	15.3	Spike	P	0 - 30
2082071	Bifenthrin	2.11	Spike	P	0 - 30
2082071	Carbophenothion	4.33	Spike	P	0 - 30
2082071	Chlorothalonil	7.34	Spike	P	0 - 30
2082071	Cis-Nonachlor	0.883	Spike	P	0 - 30
2082071	Cypermethrin	5.96	Spike	P	0 - 30
2082071	DDD-p,p'	1.21	Spike	P	0 - 30
2082071	DDE-p,p'	0.546	Spike	P	0 - 30
2082071	DDT-p,p'	2.75	Spike	P	0 - 30
2082071	Delta-BHC	14.6	Spike	P	0 - 30
2082071	Dicofol	8.47	Spike	P	0 - 30
2082071	Dieldrin	3.71	Spike	P	0 - 30
2082071	Endosulfan I	8.38	Spike	P	0 - 30
2082071	Endosulfan II	12.6	Spike	P	0 - 30
2082071	Endosulfan Sulfate	1.77	Spike	P	0 - 30
2082071	Endrin	5.11	Spike	P	0 - 30
2082071	Endrin Aldehyde	4.60	Spike	P	0 - 30
2082071	Endrin Ketone	0.0691	Spike	P	0 - 30
2082071	Ethalfuralin	0.346	Spike	P	0 - 30
2082071	Gamma-BHC	23.6	Spike	P	0 - 30
2082071	Gamma-Chlordane	2.87	Spike	P	0 - 30
2082071	Heptachlor	3.95	Spike	P	0 - 30
2082071	Heptachlor Epoxide	3.21	Spike	P	0 - 30
2082071	Hexachlorobenzene	13.3	Spike	P	0 - 30
2082071	Methoxychlor	4.01	Spike	P	0 - 30
2082071	Mirex	0.708	Spike	P	0 - 30
2082071	Permethrin	0.555	Spike	P	0 - 30
2082071	Trans-Nonachlor	5.14	Spike	P	0 - 30
2082071	Trifluralin	1.97	Spike	P	0 - 30
LFB	Aldrin	0.144	LCS	P	0 - 30
LFB	Alpha-BHC	4.91	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.43	LCS	P	0 - 30
LFB	Beta-BHC	20.6	LCS	P	0 - 30
LFB	Bifenthrin	1.90	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P363430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Carbophenothion	4.00	LCS	P	0 - 30
LFB	Chlorothalonil	9.04	LCS	P	0 - 30
LFB	Cis-Nonachlor	5.46	LCS	P	0 - 30
LFB	Cypermethrin	14.0	LCS	P	0 - 30
LFB	DDD-p,p'	10.9	LCS	P	0 - 30
LFB	DDE-p,p'	7.37	LCS	P	0 - 30
LFB	DDT-p,p'	5.18	LCS	P	0 - 30
LFB	Delta-BHC	11.0	LCS	P	0 - 30
LFB	Dicofol	15.5	LCS	P	0 - 30
LFB	Dieldrin	10.0	LCS	P	0 - 30
LFB	Endosulfan I	0.437	LCS	P	0 - 30
LFB	Endosulfan II	2.01	LCS	P	0 - 30
LFB	Endosulfan Sulfate	1.58	LCS	P	0 - 30
LFB	Endrin	3.65	LCS	P	0 - 30
LFB	Endrin Aldehyde	17.9	LCS	P	0 - 30
LFB	Endrin Ketone	0.392	LCS	P	0 - 30
LFB	Ethalfuralin	1.21	LCS	P	0 - 30
LFB	Gamma-BHC	10.7	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.77	LCS	P	0 - 30
LFB	Heptachlor	1.35	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.43	LCS	P	0 - 30
LFB	Hexachlorobenzene	9.71	LCS	P	0 - 30
LFB	Methoxychlor	6.47	LCS	P	0 - 30
LFB	Mirex	2.27	LCS	P	0 - 30
LFB	Permethrin	5.61	LCS	P	0 - 30
LFB	Trans-Nonachlor	5.03	LCS	P	0 - 30
LFB	Trifluralin	3.96	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P363224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082155	Acetochlor	4.62	Spike	P	0 - 30
2082155	Alachlor	3.40	Spike	P	0 - 30
2082155	Ametryn	2.43	Spike	P	0 - 30
2082155	Atrazine	13.5	Spike	P	0 - 30
2082155	Atrazine Desethyl	0.607	Spike	P	0 - 30
2082155	Azinphos Methyl	7.83	Spike	P	0 - 30
2082155	Bromacil	0.123	Spike	P	0 - 30
2082155	Butylate	18.4	Spike	P	0 - 30
2082155	Chlorpyrifos Ethyl	0.495	Spike	P	0 - 30
2082155	Chlorpyrifos Methyl	6.72	Spike	P	0 - 30
2082155	Cyanazine	13.2	Spike	P	0 - 30
2082155	Demeton	6.10	Spike	P	0 - 30
2082155	Diazinon	4.11	Spike	P	0 - 30
2082155	Dimethenamid	3.95	Spike	P	0 - 30
2082155	Disulfoton	1.73	Spike	P	0 - 30
2082155	Dithiopyr	5.94	Spike	P	0 - 30
2082155	EPTC	24.7	Spike	P	0 - 30
2082155	Ethion	6.83	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P363224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082155	Ethoprop	10.4	Spike	P	0 - 30
2082155	Fenamiphos	5.11	Spike	P	0 - 30
2082155	Fipronil	2.50	Spike	P	0 - 30
2082155	Fipronil Desulfinyl	0.00542	Spike	P	0 - 30
2082155	Fipronil Sulfide	4.27	Spike	P	0 - 30
2082155	Fipronil Sulfone	1.35	Spike	P	0 - 30
2082155	Fonofos	3.11	Spike	P	0 - 30
2082155	Hexazinone	3.71	Spike	P	0 - 30
2082155	Malathion	5.19	Spike	P	0 - 30
2082155	Metalaxyl	40.8	Spike	F	0 - 30
2082155	Metolachlor	5.78	Spike	P	0 - 30
2082155	Metribuzin	10.8	Spike	P	0 - 30
2082155	Mevinphos	3.81	Spike	P	0 - 30
2082155	Molinate	10.7	Spike	P	0 - 30
2082155	Norflurazon	18.1	Spike	P	0 - 30
2082155	Oxadiazon	5.86	Spike	P	0 - 30
2082155	Parathion Ethyl	0.921	Spike	P	0 - 30
2082155	Parathion Methyl	3.90	Spike	P	0 - 30
2082155	Pendimethalin	5.33	Spike	P	0 - 30
2082155	Phorate	5.42	Spike	P	0 - 30
2082155	Prodiamine	12.7	Spike	P	0 - 30
2082155	Prometon	3.59	Spike	P	0 - 30
2082155	Prometryn	5.43	Spike	P	0 - 30
2082155	Simazine	7.33	Spike	P	0 - 30
2082155	Tebuconazole	1.51	Spike	P	0 - 30
2082155	Terbufos	4.01	Spike	P	0 - 30
2082155	Terbutylazine	6.14	Spike	P	0 - 30
LFB	Acetochlor	6.04	LCS	P	0 - 30
LFB	Alachlor	8.20	LCS	P	0 - 30
LFB	Ametryn	2.56	LCS	P	0 - 30
LFB	Atrazine	7.45	LCS	P	0 - 30
LFB	Atrazine Desethyl	49.3	LCS	F	0 - 30
LFB	Azinphos Methyl	13.7	LCS	P	0 - 30
LFB	Bromacil	65.0	LCS	F	0 - 30
LFB	Butylate	11.3	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	12.9	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	14.3	LCS	P	0 - 30
LFB	Cyanazine	47.3	LCS	F	0 - 30
LFB	Demeton	16.3	LCS	P	0 - 30
LFB	Diazinon	13.1	LCS	P	0 - 30
LFB	Dimethenamid	1.60	LCS	P	0 - 30
LFB	Disulfoton	17.4	LCS	P	0 - 30
LFB	Dithiopyr	7.25	LCS	P	0 - 30
LFB	EPTC	9.08	LCS	P	0 - 30
LFB	Ethion	11.9	LCS	P	0 - 30
LFB	Ethoprop	13.0	LCS	P	0 - 30
LFB	Fenamiphos	99.6	LCS	F	0 - 30
LFB	Fipronil	23.1	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	0.162	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.25	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.04	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P363224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fonofos	18.1	LCS	P	0 - 30
LFB	Hexazinone	58.9	LCS	F	0 - 30
LFB	Malathion	8.73	LCS	P	0 - 30
LFB	Metalaxyl	125	LCS	F	0 - 30
LFB	Metolachlor	4.13	LCS	P	0 - 30
LFB	Metribuzin	9.60	LCS	P	0 - 30
LFB	Mevinphos	38.0	LCS	F	0 - 30
LFB	Molinate	12.6	LCS	P	0 - 30
LFB	Norflurazon	68.9	LCS	F	0 - 30
LFB	Oxadiazon	7.66	LCS	P	0 - 30
LFB	Parathion Ethyl	1.25	LCS	P	0 - 30
LFB	Parathion Methyl	3.84	LCS	P	0 - 30
LFB	Pendimethalin	6.55	LCS	P	0 - 30
LFB	Phorate	18.0	LCS	P	0 - 30
LFB	Prodiamine	0.0981	LCS	P	0 - 30
LFB	Prometon	44.6	LCS	F	0 - 30
LFB	Prometryn	3.80	LCS	P	0 - 30
LFB	Simazine	2.46	LCS	P	0 - 30
LFB	Tebuconazole	90.7	LCS	F	0 - 30
LFB	Terbufos	15.6	LCS	P	0 - 30
LFB	Terbutylazine	5.11	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P363430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082727	Chlordane	5.84	Spike	P	0 - 30
2082727	Toxaphene	4.10	Spike	P	0 - 30
LFB	Chlordane	13.4	LCS	P	0 - 30
LFB	Toxaphene	2.00	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P363161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081894	2,4-D	6.21	Spike	P	0 - 30
2081894	Acetaminophen	1.33	Spike	P	0 - 30
2081894	Bentazon	2.86	Spike	P	0 - 30
2081894	Carbamazepine	5.37	Spike	P	0 - 30
2081894	Diuron	11.2	Spike	P	0 - 30
2081894	Fenuron	6.34	Spike	P	0 - 30
2081894	Fluridone	2.53	Spike	P	0 - 30
2081894	Hydrocodone	3.30	Spike	P	0 - 30
2081894	Ibuprofen	0.918	Spike	P	0 - 30
2081894	Imazapyr	1.14	Spike	P	0 - 30
2081894	Imidacloprid	4.27	Spike	P	0 - 30
2081894	Linuron	7.66	Spike	P	0 - 30
2081894	MCP	1.39	Spike	P	0 - 30
2081894	Naproxen	23.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P363161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2081894	Primidone	9.54	Spike	P	0 - 30
2081894	Pyraclostrobin	9.76	Spike	P	0 - 30
2081894	Triclopyr	5.28	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P363186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082151	3-Hydroxycarbofuran	17.8	Spike	P	0 - 30
2082151	Aldicarb	6.24	Spike	P	0 - 30
2082151	Aldicarb Sulfone	10.1	Spike	P	0 - 30
2082151	Aldicarb Sulfoxide	14.7	Spike	P	0 - 30
2082151	Carbaryl	14.3	Spike	P	0 - 30
2082151	Carbofuran	12.0	Spike	P	0 - 30
2082151	Methiocarb	13.9	Spike	P	0 - 30
2082151	Methomyl	17.6	Spike	P	0 - 30
2082151	Oxamyl	23.2	Spike	P	0 - 30
2082151	Propoxur	10.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P363198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082110	Acesulfame K	0.106	Spike	P	0 - 30
2082110	AMPA	4.37	Spike	P	0 - 30
2082110	Endothall	0.550	Spike	P	0 - 30
2082110	Glufosinate	8.91	Spike	P	0 - 30
2082110	Glyphosate	3.77	Spike	P	0 - 30
2082110	Sucralose	5.30	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P363213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082104	Color (true)	1.23	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P363868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082695	Total Alkalinity	0.0473	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P363820

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

Reference Method: SM 2540 C-97
Batch ID: P363820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082104	TDS	2.60	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P363821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082142	TDS	2.96	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P363761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082695	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P363352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2082003	Organic Carbon	0.923	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: 2082151
Field Sample ID: G2SW0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	63.8	P	30 - 160

Lab Sample ID: 2082152
Field Sample ID: G2SW0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.3	P	30 - 160
EPA 8321B	Diuron-d6	90.6	P	30 - 160
EPA 8321B	Endothall-d6	79.1	P	30 - 160
EPA 8321B	Endothall-d6	79.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.0	P	30 - 160
EPA 8321B	Primidone-d5	92.7	P	30 - 160
EPA 8321B	Sucralose-d6	123	P	30 - 160
EPA 8321B	Sucralose-d6	123	P	30 - 160

Lab Sample ID: 2082153
Field Sample ID: G3SW0053

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	55.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.4	P	30 - 160
EPA 8321B	Diuron-d6	71.3	P	30 - 160
EPA 8321B	Endothall-d6	69.0	P	30 - 160
EPA 8321B	Endothall-d6	69.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.4	P	30 - 160
EPA 8321B	Primidone-d5	75.7	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Lab Sample ID: 2082154
Field Sample ID: G2SW0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	73.8	P	39 - 109
EPA 8270D	Tetrachloro-m-xylene	52.2	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	57.2	P	30 - 103
EPA 8276	PCNB	96.6	P	37 - 143

Lab Sample ID: 2082155
Field Sample ID: G2SW0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	103	P	68 - 130
EPA 8270E	Terbufos-d10	86.6	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91137

Included Lab Sample IDs: 2082139, 2082142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91138

Included Lab Sample IDs: 2082141, 2082144

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.4	98.5	P/P	90 - 110
O-Phosphate-P	97.4	97.7	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A91150

Included Lab Sample IDs: 2082139, 2082142

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91184

Included Lab Sample IDs: 2082140, 2082143

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	101	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A91203

Included Lab Sample IDs: 2082140, 2082143

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91222

Included Lab Sample IDs: 2082143

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

Reference Method: EPA 8270E

Run ID: A91226

Included Lab Sample IDs: 2082155

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	104		P	80 - 120
Alachlor	106		P	80 - 120
Ametryn	108		P	80 - 120
Atrazine	94.3		P	80 - 120
Atrazine Desethyl	87.3		P	80 - 120
Azinphos Methyl	96.3		P	80 - 120
Bromacil	98.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A91226
Included Lab Sample IDs: 2082155

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Butylate	96.7		P	80 - 120
Chlorpyrifos Ethyl	97.3		P	80 - 120
Chlorpyrifos Methyl	99.2		P	80 - 120
Cyanazine	84.1		P	80 - 120
Demeton	99.2		P	80 - 120
Diazinon	104		P	80 - 120
Dimethenamid	104		P	80 - 120
Disulfoton	95.6		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	99.7		P	80 - 120
Ethion	95.3		P	80 - 120
Ethoprop	95.9		P	80 - 120
Fenamiphos	94.6		P	80 - 120
Fipronil	99.4		P	80 - 120
Fipronil Desulfinyl	99.8		P	80 - 120
Fipronil Sulfide	94.8		P	80 - 120
Fipronil Sulfone	96.0		P	80 - 120
Fonofos	98.7		P	80 - 120
Hexazinone	96.2		P	80 - 120
Malathion	94.3		P	80 - 120
Metalaxyl	104		P	80 - 120
Metolachlor	107		P	80 - 120
Metribuzin	78.2*		F	80 - 120
Mevinphos	98.9		P	80 - 120
Molinate	96.7		P	80 - 120
Oxadiazon	105		P	80 - 120
Parathion Ethyl	98.0		P	80 - 120
Parathion Methyl	96.5		P	80 - 120
Pendimethalin	97.4		P	80 - 120
Phorate	96.4		P	80 - 120
Prodiamine	98.2		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	101		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	93.5		P	80 - 120
Terbutylazine	99.4		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A91228
Included Lab Sample IDs: 2082139, 2082142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	100	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A91264

Included Lab Sample IDs: 2082152, 2082153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	83.7	90.1	P/P	60 - 160
Endothall	65.7	68.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A91267

Included Lab Sample IDs: 2082152, 2082153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.6	103	P/P	60 - 160
Glufosinate	82.1	103	P/P	60 - 160
Glyphosate	83.3	109	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91269

Included Lab Sample IDs: 2082140

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91280

Included Lab Sample IDs: 2082140, 2082143

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	108	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91289

Included Lab Sample IDs: 2082152, 2082153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.5	80.6	P/P	50 - 150
Acetaminophen	129	110	P/P	60 - 160
Bentazon	116	110	P/P	50 - 160
Carbamazepine	110	110	P/P	60 - 150
Diuron	112	92.1	P/P	60 - 150
Fenuron	100	106	P/P	60 - 150
Fluridone	116	102	P/P	60 - 160
Hydrocodone	80.2	104	P/P	60 - 150
Ibuprofen	124	107	P/P	50 - 160
Imazapyr	91.2	90.8	P/P	50 - 150
Imidacloprid	94.5	83.5	P/P	60 - 150
Linuron	129	127	P/P	60 - 150
MCPP	98.9	99.7	P/P	50 - 150
Naproxen	91.2	100	P/P	50 - 160
Primidone	101	93.2	P/P	60 - 150
Pyraclostrobin	105	108	P/P	60 - 150
Triclopyr	112	106	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A91293

Included Lab Sample IDs: 2082152, 2082153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	99.3	105	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91300

Included Lab Sample IDs: 2082140, 2082143

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A91309

Included Lab Sample IDs: 2082154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.7		P	80 - 120
Alpha-BHC	91.8		P	80 - 120
Alpha-Chlordane	91.7		P	80 - 120
Beta-BHC	73.6*		F	80 - 120
Bifenthrin	93.1		P	80 - 120
Carbophenothion	91.7		P	80 - 120
Chlorothalonil	72.0*		F	80 - 120
Cis-Nonachlor	94.1		P	80 - 120
Cypermethrin	82.1		P	80 - 120
DDD-p,p'	98.8		P	80 - 120
DDE-p,p'	100		P	80 - 120
DDT-p,p'	99.0		P	80 - 120
Delta-BHC	64.1*		F	80 - 120
Dicofol	98.5		P	80 - 120
Dieldrin	88.2		P	80 - 120
Endosulfan I	88.3		P	80 - 120
Endosulfan II	88.1		P	80 - 120
Endosulfan Sulfate	92.9		P	80 - 120
Endrin	92.7		P	80 - 120
Endrin Aldehyde	88.6		P	80 - 120
Endrin Ketone	92.4		P	80 - 120
Ethalfuralin	89.4		P	80 - 120
Gamma-BHC	78.2*		F	80 - 120
Gamma-Chlordane	91.5		P	80 - 120
Heptachlor	94.4		P	80 - 120
Heptachlor Epoxide	92.3		P	80 - 120
Hexachlorobenzene	95.7		P	80 - 120
Methoxychlor	98.2		P	80 - 120
Mirex	93.8		P	80 - 120
Permethrin	88.7		P	80 - 120
Trans-Nonachlor	91.6		P	80 - 120
Trifluralin	98.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A91346

Included Lab Sample IDs: 2082139, 2082142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91397

Included Lab Sample IDs: 2082139, 2082142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91464

Included Lab Sample IDs: 2082151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	111	111	P/P	60 - 150
Aldicarb	96.8	119	P/P	60 - 150
Aldicarb Sulfone	104	106	P/P	50 - 150
Aldicarb Sulfoxide	106	101	P/P	50 - 150
Carbaryl	107	99.8	P/P	60 - 150
Carbofuran	102	100	P/P	50 - 150
Methiocarb	97.1	96.6	P/P	50 - 150
Methomyl	99.8	100	P/P	50 - 150
Oxamyl	101	96.5	P/P	50 - 150
Propoxur	101	99.8	P/P	50 - 150

Reference Method: EPA 8270E

Run ID: A91469

Included Lab Sample IDs: 2082155

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

Reference Method: EPA 8276

Run ID: A91493

Included Lab Sample IDs: 2082154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	98.8		P	80 - 120
Toxaphene	104		P	80 - 120

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						0.334	
EPA 300.0 Rev. 2.1	Chloride	98.4		96.6	99.3		0.375	
	Sulfate	99.2		97.8	99.5		0.537	
	Sulfate	97.7		99.4	98.9		0.0572	
	Sulfate							
EPA 350.1 Rev. 2.0	Ammonia-N	101		102	100			1.05
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109		101	101			0.185
EPA 353.2 Rev. 2.0	NO2NO3-N	102		101	100			0.440
EPA 365.1 Rev. 2.0	Total-P	107		103	105			2.55
	Total-P	104		101	96.5			2.36
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5		94.8	95.9			1.15
EPA 8270D	Aldrin	38.3	38.2	59.3	58.6	0.144		1.33
	Alpha-BHC	116	110	110	118	4.91		7.20
	Alpha-Chlordane	76.2	72.9	81.0	82.6	4.43		1.95
	Beta-BHC	130	106	101	117	20.6		15.3
	Bifenthrin	56.8	57.9	73.4	71.9	1.90		2.11
	Carbophenothion	67.9	65.2	94.4	98.6	4.00		4.33
	Chlorothalonil	123	135	185	172	9.04		7.34
	Cis-Nonachlor	80.1	75.8	86.3	87.1	5.46		0.883
	Cypermethrin	53.2	61.1	80.8	85.7	14.0		5.96
	DDD-p,p'	94.4	84.6	92.0	93.1	10.9		1.21
	DDE-p,p'	74.1	68.8	75.1	75.5	7.37		0.546
	DDT-p,p'	87.3	82.8	94.0	91.5	5.18		2.75
	Delta-BHC	111	99.1	115	133	11.0		14.6
	Dicofol	92.5	108	93.0	101	15.5		8.47
	Dieldrin	86.2	78.0	83.1	86.2	10.0		3.71
	Endosulfan I	91.5	91.9	99.0	108	0.437		8.38
	Endosulfan II	108	106	101	115	2.01		12.6
	Endosulfan Sulfate	101	102	110	112	1.58		1.77
	Endrin	91.1	87.8	92.1	97.0	3.65		5.11
	Endrin Aldehyde	96.3	80.5	52.3	50.0	17.9		4.60
	Endrin Ketone	99.5	99.9	108	108	0.392		0.0691
	Ethalfuralin	79.8	80.8	93.1	92.7	1.21		0.346
	Gamma-BHC	99.3	111	95.8	121	10.7		23.6
	Gamma-Chlordane	72.1	69.4	77.7	80.0	3.77		2.87
	Heptachlor	65.6	64.8	73.3	70.5	1.35		3.95
	Heptachlor Epoxide	87.4	84.5	84.9	87.7	3.43		3.21
	Hexachlorobenzene	62.2	56.5	56.0	49.0	9.71		13.3
	Methoxychlor	107	100	108	103	6.47		4.01
	Mirex	50.6	49.4	63.9	63.4	2.27		0.708
	Permethrin	55.0	58.2	68.1	68.5	5.61		0.555
	Trans-Nonachlor	70.0	66.6	72.3	76.1	5.03		5.14
	Trifluralin	86.0	89.5	87.8	89.5	3.96		1.97
EPA 8270E	Acetochlor	121	113	103	98.4	6.04		4.62
	Alachlor	119	110	98.5	102	8.20		3.40
	Ametryn	107	104	101	99.0	2.56		2.43
	Atrazine	113	105	120	105	7.45		13.5
	Atrazine Desethyl	32.3	53.5	70.2	69.8	49.3		0.607
	Azinphos Methyl	95.1	109	112	104	13.7		7.83
	Bromacil	40.2	78.9			65.0		0.123
	Butylate	84.2	75.2	47.4	39.4	11.3		18.4
	Chlorpyrifos Ethyl	123	108	111	112	12.9		0.495
	Chlorpyrifos Methyl	113	98.0	93.6	100	14.3		6.72
	Cyanazine	52.1	84.4	112	128	47.3		13.2
	Demeton	85.0	72.2	70.3	74.7	16.3		6.10

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Diazinon	117	103	96.7	101	13.1		4.11
	Dimethenamid	115	113	97.6	102	1.60		3.95
	Disulfoton	87.9	73.8	88.4	86.9	17.4		1.73
	Dithiopyr	122	113	100	106	7.25		5.94
	EPTC	87.0	79.4	40.8	52.4	9.08		24.7
	Ethion	128	114	105	113	11.9		6.83
	Ethoprop	115	101	83.9	93.0	13.0		10.4
	Fenamiphos	12.3	36.7	93.0	97.9	99.6		5.11
	Fipronil	84.5	107	98.1	101	23.1		2.50
	Fipronil Desulfinyl	103	103	92.2	92.2	0.162		0.0054
	Fipronil Sulfide	110	105	95.9	100	5.25		4.27
	Fipronil Sulfone	93.8	103	91.4	92.6	9.04		1.35
	Fonofos	109	90.8	88.0	90.7	18.1		3.11
	Hexazinone	45.6	83.8	113	109	58.9		3.71
	Malathion	116	107	103	97.6	8.73		5.19
	Metalaxyl	8.60	37.4	67.0	102	125		40.8
	Metolachlor	120	115	104	98.4	4.13		5.78
	Metribuzin	76.7	84.4	156	140	9.60		10.8
	Mevinphos	49.8	73.3	86.2	82.9	38.0		3.81
	Molinate	98.4	86.7	64.9	58.3	12.6		10.7
	Norflurazon	47.4	97.2			68.9		18.1
	Oxadiazon	130	121	104	97.9	7.66		5.86
	Parathion Ethyl	103	102	98.1	97.2	1.25		0.921
	Parathion Methyl	103	99.3	104	99.7	3.84		3.90
	Pendimethalin	126	118	129	122	6.55		5.33
	Phorate	96.1	80.2	80.6	76.4	18.0		5.42
	Prodiamine	132	133	148	130	0.0981		12.7
	Prometon	63.6	100	94.7	91.4	44.6		3.59
	Prometryn	110	106	101	95.7	3.80		5.43
	Simazine	111	109	112	103	2.46		7.33
	Tebuconazole	21.0	56.0	64.3	63.4	90.7		1.51
	Terbufos	108	92.6	94.0	90.3	15.6		4.01
	Terbuthylazine	115	109	106	99.5	5.11		6.14
EPA 8276	Chlordane	69.6	79.5	101	95.6	13.4		5.84
	Toxaphene	92.6	94.4	94.4	98.3	2.00		4.10
EPA 8321B	2,4-D	70.7		73.2	68.8			6.21
	3-Hydroxycarbofuran	83.4		69.3	82.8			17.8
	Acesulfame K	71.4		77.1	77.2			0.106
	Acetaminophen	91.0		82.9	84.0			1.33
	Aldicarb	77.6		69.9	74.4			6.24
	Aldicarb Sulfone	99.5		92.9	103			10.1
	Aldicarb Sulfoxide	102		50.4	58.5			14.7
	AMPA	105		52.6	60.5			4.37
	Bentazon	95.4		51.7	50.3			2.86
	Carbamazepine	83.3		93.7	88.8			5.37
	Carbaryl	84.1		55.9	64.5			14.3
	Carbofuran	82.9		56.4	63.6			12.0
	Diuron	89.7		76.2	68.2			11.2
	Endothall	69.4		63.6	63.9			0.550
	Fenuron	112		105	112			6.34
	Fluridone	141		139	143			2.53
	Glufosinate	100		90.3	98.8			8.91
	Glyphosate	92.4		82.7	91.8			3.77
	Hydrocodone	97.4		94.5	91.4			3.30

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Ibuprofen	74.6	71.8	72.5		
	Imazapyr	97.2	70.7	69.7		
	Imidacloprid	97.3	158	152		
	Linuron	106	101	109		
	MCCP	74.5	102	101		
	Methiocarb	76.2	56.5	64.9		
	Methomyl	75.8	60.9	72.6		
	Naproxen	58.3	65.2	51.4		
	Oxamyl	97.8	77.3	97.6		
	Primidone	75.8	75.5	68.6		
	Propoxur	78.2	54.1	60.3		
	Pyraclostrobin	72.7	79.6	72.2		
	Sucralose	104	104	110		
	Triclopyr	42.2	62.4	65.8		
SM 2120 B	Color (true)	102				1.23
SM 2320 B-97	Total Alkalinity	102				0.0473
SM 2540 C-97	TDS					2.60
	TDS					2.96
SM 4500 F-C-97	Fluoride	97.5	98.3	98.3		
SM 5310 B-00	Organic Carbon	98.4	95.6	97.0		

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2082139, 2082142
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2082139, 2082142
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2082139, 2082142
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2082140, 2082143
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2082140, 2082143
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2082140, 2082143
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2082140, 2082143
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2082141, 2082144
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2082154
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2082155
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2082154
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2082151
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2082152, 2082153
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2082152, 2082153
SM 2120 B / E31780	True Color measured at 450 nm	2082139, 2082142
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2082139, 2082142
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2082139, 2082142
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2082139, 2082142
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2082139, 2082142
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2082140, 2082143

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	05/01/2019			05/01/2019 16:13	Adrian Shelby	2082139, 2082142
EPA 300.0 Rev. 2.1	05/01/2019			05/06/2019 23:16	Lipi Saha	2082139
	05/01/2019			05/06/2019 23:28	Lipi Saha	2082142
	05/01/2019			05/07/2019 16:58	Lipi Saha	2082139
EPA 350.1 Rev. 2.0	05/01/2019			05/07/2019 13:16	Ping Hua	2082140
	05/01/2019			05/07/2019 13:18	Ping Hua	2082143
EPA 351.2 Rev. 2.0	05/01/2019	05/06/2019 12:50	Jhamieka S. Greenwood	05/08/2019 11:06	Joseph Suarez	2082140
	05/01/2019	05/06/2019 12:50	Jhamieka S. Greenwood	05/08/2019 11:07	Joseph Suarez	2082143
EPA 353.2 Rev. 2.0	05/01/2019			05/03/2019 09:48	Beverly Y. Sanders	2082140
	05/01/2019			05/03/2019 11:17	Beverly Y. Sanders	2082143
EPA 365.1 Rev. 2.0	05/01/2019	05/02/2019 13:35	Sima Feizi	05/03/2019 13:45	Rosalyn Ballman	2082140
	05/01/2019	05/03/2019 12:30	Sima Feizi	05/06/2019 13:52	Beverly Y. Sanders	2082143
EPA 365.1 Rev. 2.0 dissolved	05/01/2019			05/01/2019 15:49	Jhamieka S. Greenwood	2082141
	05/01/2019			05/01/2019 16:31	Jhamieka S. Greenwood	2082144
EPA 8270D	05/01/2019	05/03/2019 08:30	Rasheda Ghaffari	05/09/2019 04:07	Arthur Maknenko	2082154
EPA 8270E	05/01/2019	05/03/2019 09:00	Fe-Val Siddell	05/06/2019 17:52	Vandana T. Nagar	2082155
	05/01/2019	05/03/2019 09:00	Fe-Val Siddell	05/07/2019 16:05	Vandana T. Nagar	2082155
EPA 8276	05/01/2019	05/03/2019 08:30	Rasheda Ghaffari	05/17/2019 03:05	Dinesh Mishra	2082154
EPA 8321B	05/01/2019	05/02/2019 10:00	Hoor Shaik	05/04/2019 12:47	Juyoung Kim	2082152
	05/01/2019	05/02/2019 10:00	Hoor Shaik	05/04/2019 13:21	Juyoung Kim	2082153
	05/01/2019	05/02/2019 10:00	Rebecca Ware	05/06/2019 12:03	Rebecca Ware	2082152
	05/01/2019	05/02/2019 10:00	Rebecca Ware	05/06/2019 12:11	Rebecca Ware	2082153
	05/01/2019	05/02/2019 10:00	Rebecca Ware	05/06/2019 20:06	Rebecca Ware	2082152
	05/01/2019	05/02/2019 10:00	Rebecca Ware	05/06/2019 20:20	Rebecca Ware	2082153
	05/01/2019	05/02/2019 10:00	Rebecca Ware	05/07/2019 15:05	Rebecca Ware	2082152
	05/01/2019	05/02/2019 10:00	Rebecca Ware	05/07/2019 15:16	Rebecca Ware	2082153
	05/01/2019	05/06/2019 12:00	Hoor Shaik	05/16/2019 06:10	Juyoung Kim	2082151
SM 2120 B	05/01/2019			05/01/2019 16:12	Mariam Hanna	2082139
	05/01/2019			05/01/2019 16:13	Mariam Hanna	2082142
SM 2320 B-97	05/01/2019			05/13/2019 22:18	Dale L. Simmons	2082139
	05/01/2019			05/13/2019 22:28	Dale L. Simmons	2082142
SM 2540 C-97	05/01/2019			05/03/2019 15:19	Yijie Li	2082139, 2082142
SM 2540 D-97	05/01/2019			05/03/2019 15:19	Yijie Li	2082139, 2082142
SM 4500 F-C-97	05/01/2019			05/09/2019 09:48	Dale L. Simmons	2082139
	05/01/2019			05/09/2019 10:00	Dale L. Simmons	2082142
SM 5310 B-00	05/01/2019			05/03/2019 19:22	Lauren Lees	2082140
	05/01/2019			05/03/2019 19:36	Lauren Lees	2082143