

Chemical Analysis Report

CEN-DIST-2019-09-06-02

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

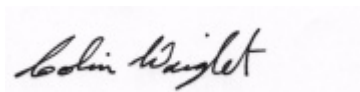
Event Description: **Soldier / Salt / Black Ham / Gee / Sweetwater / Howell / Bear**
Request ID: **RQ-2019-04-01-45**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Michael Linger

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: Colin Wright, Program Administrator

Date Certified: 27-SEP-2019 09:31



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: Soldier Creek @ 150m Upstream of SR Hwy 419 Collection Date/Time: 09/05/2019 10:40

Field ID: G2CE0071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116923	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P370295	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P370545	
		Sulfate	2.9		mg SO4/L	P370548	
	SM 2120 B	Color (true)	210		PCU	P370309	
	SM 2320 B-97	Total Alkalinity	54		mg CaCO3/L	P370399	
	SM 2540 C-97	TDS	124		mg/L	P370733	
	SM 2540 D-97	TSS	4	I	mg/L	P370619	
	SM 4500 F-C-97	Fluoride	0.087	I	mg F/L	P370403	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P370671	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P370411	MS
2116924	EPA 353.2 Rev. 2.0	NO2NO3-N	0.061		mg N/L	P370319	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P370490	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P370527	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P370297	
	EPA 8321B	Aldicarb	0.020	U	ug/L	P370422	
2116925		Aldicarb Sulfone	0.0020	U	ug/L	P370422	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P370422	
		Carbaryl	0.0020	U	ug/L	P370422	
		Carbofuran	0.0020	U	ug/L	P370422	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P370422	
		Methiocarb	0.0020	U	ug/L	P370422	
		Methomyl	0.0020	U	ug/L	P370422	
		Oxamyl	0.0020	U	ug/L	P370422	
		Propoxur	0.0020	U	ug/L	P370422	
		Acesulfame K**	0.11	I	ug/L	P370304	
2116929		2,4-D	0.012		ug/L	P370371	MS
		AMPA**	0.22	I	ug/L	P370304	
		Sucralose**	1.0		ug/L	P370304	
		Acetaminophen**	0.0080	U	ug/L	P370371	
		Endothall**	0.25	U	ug/L	P370304	
		Acetamiprid**	0.0020	U	ug/L	P370371	
		Glufosinate**	0.10	U	ug/L	P370304	
		Glyphosate**	0.48		ug/L	P370304	
		Afidopyropen**	0.0020	UJ	ug/L	P370371	
		Bentazon	0.055		ug/L	P370371	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370371	
		Carbamazepine**	8.5E-04	I	ug/L	P370371	
		Clothianidin**	0.0022	I	ug/L	P370371	
		Dinotefuran**	0.0020	U	ug/L	P370371	
		Diuron	0.0047	I	ug/L	P370371	
		Fenuron	0.016	U	ug/L	P370371	
		Fluridone**	0.030		ug/L	P370371	
		Imazapyr**	0.31		ug/L	P370371	

Field ID: G2CE0071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116929	EPA 8321B	Hydrocodone**	0.0020	U	ug/L	P370371	
		Ibuprofen**	0.020	U	ug/L	P370371	
		Imidacloprid	0.017		ug/L	P370371	MS
		Linuron	0.0040	U	ug/L	P370371	
		Mandestrobin**	0.0020	UJ	ug/L	P370371	
		MCP	0.0034	I	ug/L	P370371	MS
		Naproxen**	0.0080	U	ug/L	P370371	
		Primidone**	0.0040	U	ug/L	P370371	
		Pyraclostrobin**	0.0020	U	ug/L	P370371	
		Thiamethoxam**	0.0020	U	ug/L	P370371	
		Tolfenpyrad**	0.0020	U	ug/L	P370371	
		Triclopyr**	0.0040	U	ug/L	P370371	
2116930	EPA 8270E	Aldrin	4.2	U	ng/L	P370244	
		Alpha-BHC	2.1	U	ng/L	P370244	
		Alpha-Chlordane	1.0	U	ng/L	P370244	
		Beta-BHC	10	U	ng/L	P370244	
		Bifenthrin**	4.2	U	ng/L	P370244	
		Delta-BHC	8.4	U	ng/L	P370244	
		Gamma-BHC	8.4	U	ng/L	P370244	
		Carbophenothion	10	U	ng/L	P370244	
		Chlorothalonil	2.1	U	ng/L	P370244	
		Cis-Nonachlor**	1.0	U	ng/L	P370244	
		Cypermethrin	21	U	ng/L	P370244	
		DDD-p,p'	6.3	U	ng/L	P370244	
		DDE-p,p'	6.3	U	ng/L	P370244	
		DDT-p,p'	7.3	U	ng/L	P370244	
		Dicofol	31	U	ng/L	P370244	
		Dieldrin	4.2	U	ng/L	P370244	
		Endosulfan I	4.2	U	ng/L	P370244	
		Endosulfan II	4.2	U	ng/L	P370244	
		Endosulfan Sulfate	2.1	U	ng/L	P370244	
		Endrin	2.1	U	ng/L	P370244	
		Endrin Aldehyde	2.1	U	ng/L	P370244	
		Endrin Ketone	2.1	U	ng/L	P370244	
		Ethalfuralin**	3.1	U	ng/L	P370244	
		Gamma-Chlordane	1.0	U	ng/L	P370244	
		Heptachlor	1.6	U	ng/L	P370244	
		Heptachlor Epoxide	2.1	U	ng/L	P370244	
		Hexachlorobenzene	2.1	U	ng/L	P370244	
		Methoxychlor	4.2	U	ng/L	P370244	
		Mirex	2.1	U	ng/L	P370244	
		Permethrin	10	U	ng/L	P370244	
		Trans-Nonachlor**	1.0	U	ng/L	P370244	
		Trifluralin	2.6	U	ng/L	P370244	
	EPA 8276	Chlordane	5.2	U	ng/L	P370244	

Field ID: G2CE0071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116930	EPA 8276	Toxaphene	31	U	ng/L	P370244	
2116931	EPA 8270E	Acetochlor	0.26	U	ng/L	P370470	
		Alachlor	0.26	U	ng/L	P370470	
		Ametryn	0.62	U	ng/L	P370470	MS
		Atrazine	13		ng/L	P370470	
		Atrazine Desethyl	1.5	U	ng/L	P370470	RPD
		Azinphos Methyl	5.1	U	ng/L	P370470	
		Bromacil	0.51	U	ng/L	P370470	
		Butylate	0.41	U	ng/L	P370470	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P370470	
		Chlorpyrifos Methyl	0.10	U	ng/L	P370470	
		Cyanazine	3.3	UJ	ng/L	P370470	RPD
		Demeton	7.2	U	ng/L	P370470	
		Diazinon	0.13	U	ng/L	P370470	
		Dimethenamid**	0.10	U	ng/L	P370470	
		Disulfoton	0.51	U	ng/L	P370470	
		Dithiopyr**	0.13	I	ng/L	P370470	
		EPTC	1.3	U	ng/L	P370470	
		Ethion	0.15	U	ng/L	P370470	
		Ethoprop	0.10	U	ng/L	P370470	
		Fenamiphos	0.51	U	ng/L	P370470	MS
		Fipronil	0.26	U	ng/L	P370470	RPD
		Fipronil Desulfinyl**	0.52		ng/L	P370470	RPD
		Fipronil Sulfide	0.48	I	ng/L	P370470	MS, RPD
		Fipronil Sulfone	0.80		ng/L	P370470	RPD
		Fonofos	0.21	U	ng/L	P370470	
		Hexazinone	0.51	U	ng/L	P370470	
		Malathion	0.36	U	ng/L	P370470	
		Metalaxyl	0.31	U	ng/L	P370470	
		Metolachlor	0.51	U	ng/L	P370470	
		Metribuzin	0.77	UJ	ng/L	P370470	RPD
		Mevinphos	0.51	U	ng/L	P370470	
		Molinate	0.31	U	ng/L	P370470	
		Norflurazon	0.51	U	ng/L	P370470	RPD
		Oxadiazon**	0.50		ng/L	P370470	
		Parathion Ethyl	0.26	U	ng/L	P370470	
		Parathion Methyl	0.56	U	ng/L	P370470	
		Pendimethalin	1.0	U	ng/L	P370470	
		Phorate	0.26	U	ng/L	P370470	
		Prodiamine**	0.18	U	ng/L	P370470	
		Prometon	0.92	U	ng/L	P370470	
		Prometryn	0.21	U	ng/L	P370470	
		Simazine	0.51	U	ng/L	P370470	
		Tebuconazole**	0.51	U	ng/L	P370470	
		Terbufos	0.10	U	ng/L	P370470	

Field ID: G2CE0071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116931	EPA 8270E	Terbutylazine	0.44	U	ng/L	P370470	
2116932	EPA 200.7 Rev. 4.4	Barium	9.9		ug/L	P370341	
		Calcium	22.6		mg/L	P370341	
		Iron	470		ug/L	P370341	
		Magnesium	3.14		mg/L	P370341	
		Potassium	2.2		mg/L	P370341	
		Sodium	12.4		mg/L	P370341	
		Zinc	5.0	U	ug/L	P370341	
	EPA 200.8 Rev. 5.4	Aluminum	157		ug/L	P370341	
		Antimony	0.083	I	ug/L	P370341	
		Arsenic	0.72		ug/L	P370341	
		Boron**	34.7		ug/L	P370341	
		Cadmium	0.020	U	ug/L	P370341	
		Chromium	0.41	I	ug/L	P370341	
		Copper	0.62	I	ug/L	P370341	
		Lead	0.33	I	ug/L	P370341	
		Nickel	0.50	U	ug/L	P370341	
		Selenium	0.20	U	ug/L	P370341	
		Silver	0.010	U	ug/L	P370341	
		Thallium	0.10	U	ug/L	P370341	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: Insufficient sample available to perform duplicate matrix spikes.

EPA 8276: Insufficient sample available to perform duplicate matrix spikes,

EPA 8270E: MS accuracy for simazine, atrazine, hexazinone, and fipronil sulfone 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: P370295

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370341

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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 Rev. 2.1
Batch ID: P370545

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370548

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370671

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370411

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370319

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370490

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

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

Reference Method: EPA 8270E
Batch ID: P370244

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	10	U	ng/L
Bifenthrin	4.0	U	ng/L
Carbophenothion	10	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	6.0	U	ng/L
DDE-p,p'	6.0	U	ng/L
DDT-p,p'	7.0	U	ng/L
Delta-BHC	8.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Ethalfuralin	3.0	U	ng/L
Gamma-BHC	8.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P370244

Component	Result	Code	Units
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: P370470

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
Metaxyl	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P370470

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

Reference Method: EPA 8276
Batch ID: P370244

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

Reference Method: EPA 8321B
Batch ID: P370304

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

Reference Method: EPA 8321B
Batch ID: P370371

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P370422

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: SM 2120 B
Batch ID: P370309

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P370399

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

Reference Method: SM 2540 C-97
Batch ID: P370733

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370619

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P370403

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P370527

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: P370341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	108		P	85 - 115
Iron	104		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	103		P	85 - 115
Sodium	110		P	85 - 115
Zinc	99.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.4		P	85 - 115
Antimony	97.0		P	85 - 115
Arsenic	98.5		P	85 - 115
Boron	102		P	85 - 115
Cadmium	97.9		P	85 - 115
Chromium	90.8		P	85 - 115
Copper	95.7		P	85 - 115
Lead	94.4		P	85 - 115
Nickel	96.2		P	85 - 115
Selenium	103		P	85 - 115
Silver	98.8		P	85 - 115
Thallium	97.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370545

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370548

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370671

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370319

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: P370490

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

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

Reference Method: EPA 8270E
Batch ID: P370244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	50.2	41.1	P/P	20 - 93.0
Alpha-BHC	96.6	96.8	P/P	55 - 133
Alpha-Chlordane	81.5	78.0	P/P	58 - 112
Beta-BHC	109	107	P/P	54 - 168
Bifenthrin	73.9	70.5	P/P	30 - 134
Carbophenothion	105	103	P/P	26 - 147
Chlorothalonil	100	108	P/P	20 - 155
Cis-Nonachlor	84.7	81.4	P/P	54 - 115
Cypermethrin	75.8	78.4	P/P	40 - 137
DDD-p,p'	90.2	88.8	P/P	65 - 129
DDE-p,p'	80.0	74.5	P/P	57 - 116
DDT-p,p'	91.4	91.6	P/P	53 - 133
Delta-BHC	116	111	P/P	59 - 178
Dicofol	91.3	89.5	P/P	24 - 138
Dieldrin	88.7	87.3	P/P	60 - 120
Endosulfan I	91.4	89.7	P/P	64 - 118
Endosulfan II	109	100	P/P	58 - 142
Endosulfan Sulfate	87.1	89.6	P/P	60 - 127
Endrin	99.4	102	P/P	59 - 122
Endrin Aldehyde	94.9	94.5	P/P	49 - 132
Endrin Ketone	84.7	84.9	P/P	64 - 121
Ethalfuralin	87.8	91.8	P/P	60 - 126
Gamma-BHC	106	107	P/P	57 - 154
Gamma-Chlordane	77.3	74.4	P/P	56 - 110
Heptachlor	71.2	66.5	P/P	46 - 96.0
Heptachlor Epoxide	86.0	84.9	P/P	61 - 112
Hexachlorobenzene	73.1	66.6	P/P	44 - 98.0
Methoxychlor	94.8	99.1	P/P	63 - 134
Mirex	56.9	52.4	P/P	45 - 100
Permethrin	66.8	64.4	P/P	53 - 115
Trans-Nonachlor	76.6	72.6	P/P	47 - 110
Trifluralin	90.7	87.2	P/P	39 - 142

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P370470

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	91.4	97.0	P/P	69 - 122
Alachlor	88.6	94.1	P/P	71 - 120
Ametryn	87.4	84.0	P/P	47 - 138
Atrazine	97.5	99.4	P/P	74 - 124
Atrazine Desethyl	103	80.1	P/P	38 - 138
Azinphos Methyl	108	108	P/P	69 - 154
Bromacil	66.7	83.1	P/P	39 - 121
Butylate	59.1	64.1	P/P	27 - 87.0
Chlorpyrifos Ethyl	93.7	103	P/P	69 - 118
Chlorpyrifos Methyl	98.8	94.0	P/P	70 - 120
Cyanazine	156	108	P/P	20 - 250
Demeton	66.3	65.2	P/P	39 - 118
Diazinon	100	91.8	P/P	68 - 127
Dimethenamid	87.7	97.1	P/P	66 - 125
Disulfoton	96.0	79.2	P/P	52 - 126
Dithiopyr	88.6	94.1	P/P	67 - 127
EPTC	58.7	67.5	P/P	24 - 88.0
Ethion	94.2	106	P/P	51 - 132
Ethoprop	90.6	85.6	P/P	58 - 117
Fenamiphos	89.6	95.7	P/P	38 - 139
Fipronil	79.7	96.3	P/P	61 - 124
Fipronil Desulfinyl	80.0	92.2	P/P	47 - 120
Fipronil Sulfide	83.0	97.2	P/P	56 - 119
Fipronil Sulfone	75.3	96.4	P/P	50 - 117
Fonofos	94.1	82.5	P/P	60 - 121
Hexazinone	99.5	107	P/P	55 - 137
Malathion	99.2	98.5	P/P	66 - 126
Metaxyl	90.9	97.7	P/P	33 - 140
Metolachlor	83.3	100	P/P	69 - 119
Metribuzin	168	101	P/P	31 - 238
Mevinphos	82.7	85.5	P/P	42 - 113
Molinate	76.1	74.4	P/P	32 - 96.0
Norflurazon	84.5	96.9	P/P	54 - 123
Oxadiazon	90.3	103	P/P	63 - 128
Parathion Ethyl	91.9	94.5	P/P	72 - 111
Parathion Methyl	100	97.7	P/P	74 - 126
Pendimethalin	91.9	90.1	P/P	61 - 131
Phorate	93.9	88.6	P/P	51 - 115
Prodiamine	83.3	84.6	P/P	38 - 144
Prometon	78.5	91.2	P/P	54 - 119
Prometryn	85.1	92.7	P/P	63 - 120
Simazine	108	102	P/P	75 - 126
Tebuconazole	75.7	96.4	P/P	20 - 119
Terbufos	94.7	84.2	P/P	64 - 116
Terbutylazine	92.2	99.5	P/P	73 - 117

Reference Method: EPA 8276

Batch ID: P370244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	83.2	95.1	P/P	43 - 128
Toxaphene	56.8	63.1	P/P	38 - 140

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P370304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	70.7		P	40 - 150
AMPA	126		P	40 - 150
Endothall	112		P	40 - 150
Glufosinate	131		P	40 - 150
Glyphosate	137		P	40 - 140
Sucralose	122		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P370371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	139		P	40 - 160
Acetaminophen	85.8		P	30 - 160
Acetamiprid	105		P	40 - 160
Afidopyropen	103		P	40 - 160
Bentazon	136		P	30 - 160
Benzovindiflupyr	88.9		P	40 - 160
Carbamazepine	108		P	40 - 160
Clothianidin	94.8		P	40 - 160
Dinotefuran	96.7		P	40 - 160
Diuron	128		P	40 - 160
Fenuron	110		P	40 - 160
Fluridone	98.9		P	40 - 160
Hydrocodone	101		P	40 - 160
Ibuprofen	85.5		P	30 - 160
Imazapyr	98.6		P	40 - 160
Imidacloprid	97.9		P	40 - 160
Linuron	74.8		P	40 - 160
Mandestrobin	90.4		P	40 - 160
MCPP	158		P	40 - 160
Naproxen	110		P	40 - 160
Primidone	82.0		P	40 - 160
Pyraclostrobin	84.2		P	30 - 160
Thiamethoxam	110		P	40 - 160
Tolfenpyrad	65.9		P	40 - 160
Triclopyr	116		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P370422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	109		P	40 - 160
Aldicarb	113		P	30 - 160
Aldicarb Sulfone	105		P	40 - 160
Aldicarb Sulfoxide	105		P	40 - 160
Carbaryl	113		P	40 - 160
Carbofuran	93.0		P	40 - 160
Methiocarb	80.4		P	40 - 160
Methomyl	90.6		P	40 - 160
Oxamyl	112		P	40 - 160
Propoxur	95.4		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P370309

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P370399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P370403

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P370527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	107		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116676	Barium	99.9	101	P/P	80 - 120
2116676	Calcium	110	110	P/P	80 - 120
2116676	Iron	106	107	P/P	80 - 120
2116676	Magnesium	112	112	P/P	80 - 120
2116676	Potassium	106	111	P/P	80 - 120
2116676	Sodium	107	107	P/P	80 - 120
2116676	Zinc	100	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116676	Aluminum	94.8	95.4	P/P	80 - 120
2116676	Antimony	93.4	94.8	P/P	80 - 120
2116676	Arsenic	96.6	97.5	P/P	80 - 120
2116676	Boron	98.3	101	P/P	80 - 120
2116676	Cadmium	94.7	96.5	P/P	80 - 120
2116676	Chromium	94.0	95.7	P/P	80 - 120
2116676	Copper	96.3	97.0	P/P	80 - 120
2116676	Lead	91.0	92.7	P/P	80 - 120
2116676	Nickel	93.9	94.8	P/P	80 - 120
2116676	Selenium	101	98.0	P/P	80 - 120
2116676	Silver	96.5	97.7	P/P	80 - 120
2116676	Thallium	97.6	98.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116911	Chloride	101	103	P/P	90 - 110
2117231	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116911	Sulfate	102	104	P/P	90 - 110
2117231	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116898	Ammonia-N	95.3	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116935	Kjeldahl Nitrogen	93.8	88.5	P/F	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116898	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116854	Total-P	95.9	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116969	O-Phosphate-P	97.7	98.5	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P370244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116515	Aldrin	42.5		P	25 - 92.0
2116515	Alpha-BHC	148		P	48 - 150
2116515	Alpha-Chlordane	85.0		P	50 - 115
2116515	Beta-BHC	132		P	39 - 184
2116515	Bifenthrin	77.4		P	46 - 116
2116515	Carbophenothion	140		P	27 - 180
2116515	Chlorothalonil	174		P	10 - 216
2116515	Cis-Nonachlor	85.6		P	55 - 112
2116515	Cypermethrin	92.7		P	40 - 153
2116515	DDD-p,p'	96.4		P	53 - 128
2116515	DDE-p,p'	78.5		P	48 - 116
2116515	DDT-p,p'	113		P	47 - 128
2116515	Delta-BHC	157		P	48 - 221
2116515	Dicofol	99.8		P	10 - 147
2116515	Dieldrin	94.8		P	48 - 128
2116515	Endosulfan I	107		P	58 - 126
2116515	Endosulfan II	111		P	50 - 150
2116515	Endosulfan Sulfate	102		P	56 - 130
2116515	Endrin	114		P	50 - 126
2116515	Endrin Aldehyde	92.4		P	12 - 145
2116515	Endrin Ketone	97.4		P	59 - 132
2116515	Ethalfuralin	103		P	65 - 122
2116515	Gamma-BHC	142		P	40 - 190
2116515	Gamma-Chlordane	79.5		P	50 - 112
2116515	Heptachlor	68.4		P	41 - 98.0
2116515	Heptachlor Epoxide	96.5		P	55 - 117
2116515	Hexachlorobenzene	66.3		P	47 - 91.0
2116515	Methoxychlor	124		P	55 - 133
2116515	Mirex	58.1		P	44 - 101
2116515	Permethrin	72.1		P	52 - 124
2116515	Trans-Nonachlor	76.3		P	53 - 99.0
2116515	Trifluralin	97.3		P	10 - 201

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P370470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117895	Acetochlor	95.1	87.3	P/P	63 - 129
2117895	Alachlor	95.4	91.4	P/P	65 - 127
2117895	Ametryn	215	198	F/F	40 - 164
2117895	Atrazine Desethyl	42.7	137	P/P	14 - 157
2117895	Azinphos Methyl	94.1	92.5	P/P	49 - 180
2117895	Bromacil	58.6	94.2	P/P	48 - 130
2117895	Butylate	61.8	71.3	P/P	10 - 94.0
2117895	Chlorpyrifos Ethyl	101	91.1	P/P	58 - 123
2117895	Chlorpyrifos Methyl	95.4	96.8	P/P	58 - 125
2117895	Cyanazine	89.8	155	P/P	24 - 253
2117895	Demeton	81.2	99.0	P/P	25 - 149
2117895	Diazinon	111	107	P/P	59 - 144
2117895	Dimethenamid	86.2	68.3	P/P	46 - 139
2117895	Disulfoton	105	109	P/P	54 - 132
2117895	Dithiopyr	90.4	83.3	P/P	64 - 130
2117895	EPTC	61.5	72.9	P/P	10 - 92.0
2117895	Ethion	89.0	84.3	P/P	30 - 148
2117895	Ethoprop	99.3	120	P/P	50 - 130
2117895	Fenamiphos	30.8	34.3	F/F	49 - 142
2117895	Fipronil	46.5	85.0	P/P	46 - 140
2117895	Fipronil Desulfinyl	36.7	83.2	P/P	30 - 121
2117895	Fipronil Sulfide	13.0	88.8	F/P	31 - 136
2117895	Fonofos	101	110	P/P	55 - 129
2117895	Malathion	89.4	89.9	P/P	56 - 135
2117895	Metalaxyl	92.3	85.3	P/P	54 - 135
2117895	Metolachlor	98.6	79.6	P/P	51 - 140
2117895	Metribuzin	180	224	P/P	45 - 254
2117895	Mevinphos	90.4	97.9	P/P	33 - 131
2117895	Molinate	80.5	82.2	P/P	14 - 98.0
2117895	Norflurazon	40.1	85.2	P/P	34 - 136
2117895	Oxadiazon	95.5	72.2	P/P	67 - 116
2117895	Parathion Ethyl	91.7	98.3	P/P	66 - 118
2117895	Parathion Methyl	99.8	109	P/P	64 - 136
2117895	Pendimethalin	95.9	95.0	P/P	59 - 144
2117895	Phorate	88.5	100	P/P	42 - 130
2117895	Prodiamine	83.2	83.8	P/P	42 - 148
2117895	Prometon	81.1	77.6	P/P	59 - 134
2117895	Prometryn	87.1	83.2	P/P	54 - 135
2117895	Tebuconazole	13.8	11.1	P/P	10 - 131
2117895	Terbufos	105	116	P/P	57 - 131
2117895	Terbuthylazine	97.9	99.4	P/P	68 - 125

Reference Method: EPA 8276

Batch ID: P370244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116515	Chlordane	85.4		P	34 - 136
2116515	Toxaphene	63.8		P	22 - 152

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P370304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116709	Acesulfame K	107	141	P/P	40 - 150
2116709	AMPA	70.0	71.4	P/P	40 - 150
2116709	Endothall	79.1	75.0	P/P	40 - 150
2116709	Glufosinate	98.4	87.7	P/P	40 - 150
2116709	Glyphosate	127	122	P/P	40 - 140
2116709	Sucralose	126	128	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P370371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116708	2,4-D	151	163	P/F	40 - 160
2116708	Acetaminophen	79.5	85.1	P/P	30 - 160
2116708	Acetamiprid	117	123	P/P	40 - 160
2116708	Afidopyropen	117	128	P/P	40 - 160
2116708	Bentazon	76.0	82.0	P/P	30 - 160
2116708	Benzovindiflupyr	92.3	97.9	P/P	40 - 160
2116708	Carbamazepine	94.9	102	P/P	40 - 160
2116708	Clothianidin	92.9	104	P/P	40 - 160
2116708	Dinotefuran	111	116	P/P	40 - 160
2116708	Diuron	109	113	P/P	40 - 160
2116708	Fenuron	88.4	95.6	P/P	40 - 160
2116708	Fluridone	91.8	96.6	P/P	40 - 160
2116708	Hydrocodone	83.2	105	P/P	40 - 160
2116708	Ibuprofen	82.8	82.2	P/P	30 - 160
2116708	Imidacloprid	186	196	F/F	40 - 160
2116708	Linuron	68.5	70.5	P/P	40 - 160
2116708	Mandestrobin	88.4	93.9	P/P	40 - 160
2116708	MCCP	163	174	F/F	40 - 160
2116708	Naproxen	89.8	106	P/P	40 - 160
2116708	Primidone	89.4	94.4	P/P	40 - 160
2116708	Pyraclostrobin	91.7	90.9	P/P	30 - 160
2116708	Thiamethoxam	149	156	P/P	40 - 160
2116708	Tolfenpyrad	68.1	71.4	P/P	40 - 160
2116708	Triclopyr	137	125	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P370422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116928	3-Hydroxycarbofuran	93.4	98.9	P/P	40 - 160
2116928	Aldicarb	78.3	93.7	P/P	30 - 160
2116928	Aldicarb Sulfone	101	110	P/P	40 - 160
2116928	Aldicarb Sulfoxide	52.3	55.4	P/P	40 - 160
2116928	Carbaryl	81.7	88.9	P/P	40 - 160
2116928	Carbofuran	65.3	68.7	P/P	40 - 160
2116928	Methiocarb	64.5	70.6	P/P	40 - 160
2116928	Methomyl	69.8	76.4	P/P	40 - 160
2116928	Oxamyl	92.4	96.4	P/P	40 - 160
2116928	Propoxur	67.0	70.5	P/P	40 - 160

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-00

Batch ID: P370527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116909	Organic Carbon	104	106	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116967	Turbidity	0.939	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116676	Barium	1.53	Spike	P	0 - 20
2116676	Calcium	0.292	Spike	P	0 - 20
2116676	Iron	0.698	Spike	P	0 - 20
2116676	Magnesium	0.686	Spike	P	0 - 20
2116676	Potassium	5.06	Spike	P	0 - 20
2116676	Sodium	0.139	Spike	P	0 - 20
2116676	Zinc	1.84	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116676	Aluminum	0.663	Spike	P	0 - 20
2116676	Antimony	1.49	Spike	P	0 - 20
2116676	Arsenic	0.926	Spike	P	0 - 20
2116676	Boron	1.94	Spike	P	0 - 20
2116676	Cadmium	1.92	Spike	P	0 - 20
2116676	Chromium	1.78	Spike	P	0 - 20
2116676	Copper	0.663	Spike	P	0 - 20
2116676	Lead	1.75	Spike	P	0 - 20
2116676	Nickel	0.921	Spike	P	0 - 20
2116676	Selenium	3.19	Spike	P	0 - 20
2116676	Silver	1.15	Spike	P	0 - 20
2116676	Thallium	1.25	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116911	Chloride	1.10	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116911	Sulfate	1.72	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P370671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116898	Ammonia-N	1.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P370411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116935	Kjeldahl Nitrogen	2.98	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P370319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116898	NO2NO3-N	0.519	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P370490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116854	Total-P	0.729	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P370297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116969	O-Phosphate-P	0.815	Spike	P	0 - 20

Reference Method: EPA 8270E
 Batch ID: P370244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	19.8	LCS	P	0 - 30
LFB	Alpha-BHC	0.169	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.37	LCS	P	0 - 30
LFB	Beta-BHC	1.65	LCS	P	0 - 30
LFB	Bifenthrin	4.63	LCS	P	0 - 30
LFB	Carbophenothion	2.19	LCS	P	0 - 30
LFB	Chlorothalonil	7.41	LCS	P	0 - 30
LFB	Cis-Nonachlor	4.00	LCS	P	0 - 30
LFB	Cypermethrin	3.35	LCS	P	0 - 30
LFB	DDD-p,p'	1.60	LCS	P	0 - 30
LFB	DDE-p,p'	7.08	LCS	P	0 - 30
LFB	DDT-p,p'	0.265	LCS	P	0 - 30
LFB	Delta-BHC	4.11	LCS	P	0 - 30
LFB	Dicofol	1.99	LCS	P	0 - 30
LFB	Dieldrin	1.54	LCS	P	0 - 30
LFB	Endosulfan I	1.87	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P370244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	8.79	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.91	LCS	P	0 - 30
LFB	Endrin	2.87	LCS	P	0 - 30
LFB	Endrin Aldehyde	0.372	LCS	P	0 - 30
LFB	Endrin Ketone	0.163	LCS	P	0 - 30
LFB	Ethalfuralin	4.41	LCS	P	0 - 30
LFB	Gamma-BHC	0.652	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.85	LCS	P	0 - 30
LFB	Heptachlor	6.85	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.25	LCS	P	0 - 30
LFB	Hexachlorobenzene	9.41	LCS	P	0 - 30
LFB	Methoxychlor	4.34	LCS	P	0 - 30
LFB	Mirex	8.28	LCS	P	0 - 30
LFB	Permethrin	3.68	LCS	P	0 - 30
LFB	Trans-Nonachlor	5.34	LCS	P	0 - 30
LFB	Trifluralin	3.90	LCS	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P370470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117895	Acetochlor	8.55	Spike	P	0 - 30
2117895	Alachlor	4.30	Spike	P	0 - 30
2117895	Ametryn	8.39	Spike	P	0 - 30
2117895	Atrazine	7.43	Spike	P	0 - 30
2117895	Atrazine Desethyl	52.2	Spike	F	0 - 30
2117895	Azinphos Methyl	1.75	Spike	P	0 - 30
2117895	Bromacil	25.8	Spike	P	0 - 30
2117895	Butylate	14.3	Spike	P	0 - 30
2117895	Chlorpyrifos Ethyl	9.98	Spike	P	0 - 30
2117895	Chlorpyrifos Methyl	1.45	Spike	P	0 - 30
2117895	Cyanazine	53.1	Spike	F	0 - 30
2117895	Demeton	19.7	Spike	P	0 - 30
2117895	Diazinon	3.23	Spike	P	0 - 30
2117895	Dimethenamid	20.0	Spike	P	0 - 30
2117895	Disulfoton	4.29	Spike	P	0 - 30
2117895	Dithiopyr	7.47	Spike	P	0 - 30
2117895	EPTC	17.1	Spike	P	0 - 30
2117895	Ethion	5.41	Spike	P	0 - 30
2117895	Ethoprop	18.9	Spike	P	0 - 30
2117895	Fenamiphos	10.7	Spike	P	0 - 30
2117895	Fipronil	46.2	Spike	F	0 - 30
2117895	Fipronil Desulfinyl	51.0	Spike	F	0 - 30
2117895	Fipronil Sulfide	50.2	Spike	F	0 - 30
2117895	Fipronil Sulfone	49.7	Spike	F	0 - 30
2117895	Fonofos	8.55	Spike	P	0 - 30
2117895	Hexazinone	21.5	Spike	P	0 - 30
2117895	Malathion	0.466	Spike	P	0 - 30
2117895	Metalaxyl	7.90	Spike	P	0 - 30
2117895	Metolachlor	14.1	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P370470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117895	Metribuzin	20.3	Spike	P	0 - 30
2117895	Mevinphos	7.97	Spike	P	0 - 30
2117895	Molinate	2.10	Spike	P	0 - 30
2117895	Norflurazon	72.0	Spike	F	0 - 30
2117895	Oxadiazon	18.0	Spike	P	0 - 30
2117895	Parathion Ethyl	6.92	Spike	P	0 - 30
2117895	Parathion Methyl	9.04	Spike	P	0 - 30
2117895	Pendimethalin	0.934	Spike	P	0 - 30
2117895	Phorate	10.8	Spike	P	0 - 30
2117895	Prodiamine	0.719	Spike	P	0 - 30
2117895	Prometon	3.32	Spike	P	0 - 30
2117895	Prometryn	4.56	Spike	P	0 - 30
2117895	Simazine	12.3	Spike	P	0 - 30
2117895	Tebuconazole	12.5	Spike	P	0 - 30
2117895	Terbufos	9.97	Spike	P	0 - 30
2117895	Terbutylazine	1.58	Spike	P	0 - 30
LFB	Acetochlor	6.00	LCS	P	0 - 30
LFB	Alachlor	5.97	LCS	P	0 - 30
LFB	Ametryn	4.03	LCS	P	0 - 30
LFB	Atrazine	1.90	LCS	P	0 - 30
LFB	Atrazine Desethyl	25.4	LCS	P	0 - 30
LFB	Azinphos Methyl	0.0515	LCS	P	0 - 30
LFB	Bromacil	21.9	LCS	P	0 - 30
LFB	Butylate	8.06	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	9.34	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.02	LCS	P	0 - 30
LFB	Cyanazine	36.4	LCS	F	0 - 30
LFB	Demeton	1.56	LCS	P	0 - 30
LFB	Diazinon	8.58	LCS	P	0 - 30
LFB	Dimethenamid	10.2	LCS	P	0 - 30
LFB	Disulfoton	19.1	LCS	P	0 - 30
LFB	Dithiopyr	5.94	LCS	P	0 - 30
LFB	EPTC	13.9	LCS	P	0 - 30
LFB	Ethion	12.1	LCS	P	0 - 30
LFB	Ethoprop	5.63	LCS	P	0 - 30
LFB	Fenamiphos	6.58	LCS	P	0 - 30
LFB	Fipronil	18.8	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	14.2	LCS	P	0 - 30
LFB	Fipronil Sulfide	15.8	LCS	P	0 - 30
LFB	Fipronil Sulfone	24.6	LCS	P	0 - 30
LFB	Fonofos	13.1	LCS	P	0 - 30
LFB	Hexazinone	7.31	LCS	P	0 - 30
LFB	Malathion	0.766	LCS	P	0 - 30
LFB	Metalaxyl	7.21	LCS	P	0 - 30
LFB	Metolachlor	18.4	LCS	P	0 - 30
LFB	Metribuzin	50.1	LCS	F	0 - 30
LFB	Mevinphos	3.33	LCS	P	0 - 30
LFB	Molinate	2.27	LCS	P	0 - 30
LFB	Norflurazon	13.7	LCS	P	0 - 30
LFB	Oxadiazon	13.1	LCS	P	0 - 30
LFB	Parathion Ethyl	2.79	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P370470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Parathion Methyl	2.58	LCS	P	0 - 30
LFB	Pendimethalin	1.92	LCS	P	0 - 30
LFB	Phorate	5.80	LCS	P	0 - 30
LFB	Prodiamine	1.57	LCS	P	0 - 30
LFB	Prometon	15.0	LCS	P	0 - 30
LFB	Prometryn	8.58	LCS	P	0 - 30
LFB	Simazine	5.61	LCS	P	0 - 30
LFB	Tebuconazole	24.1	LCS	P	0 - 30
LFB	Terbufos	11.8	LCS	P	0 - 30
LFB	Terbutylazine	7.68	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P370244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	13.3	LCS	P	0 - 30
LFB	Toxaphene	10.4	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P370304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116709	Acesulfame K	27.2	Spike	P	0 - 30
2116709	AMPA	2.00	Spike	P	0 - 30
2116709	Endothall	5.33	Spike	P	0 - 30
2116709	Glufosinate	11.4	Spike	P	0 - 30
2116709	Glyphosate	3.77	Spike	P	0 - 30
2116709	Sucralose	1.07	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P370371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116708	2,4-D	7.67	Spike	P	0 - 30
2116708	Acetaminophen	6.71	Spike	P	0 - 30
2116708	Acetamiprid	5.24	Spike	P	0 - 30
2116708	Afidopyropen	8.78	Spike	P	0 - 30
2116708	Bentazon	7.64	Spike	P	0 - 30
2116708	Benzovindiflupyr	5.89	Spike	P	0 - 30
2116708	Carbamazepine	7.28	Spike	P	0 - 30
2116708	Clothianidin	10.9	Spike	P	0 - 30
2116708	Dinotefuran	4.47	Spike	P	0 - 30
2116708	Diuron	3.20	Spike	P	0 - 30
2116708	Fenuron	7.91	Spike	P	0 - 30
2116708	Fluridone	5.07	Spike	P	0 - 30
2116708	Hydrocodone	23.2	Spike	P	0 - 30
2116708	Ibuprofen	0.724	Spike	P	0 - 30
2116708	Imazapyr	0.420	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P370371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116708	Imidacloprid	5.37	Spike	P	0 - 30
2116708	Linuron	2.87	Spike	P	0 - 30
2116708	Mandestrobin	6.03	Spike	P	0 - 30
2116708	MCP	6.14	Spike	P	0 - 30
2116708	Naproxen	16.6	Spike	P	0 - 30
2116708	Primidone	5.41	Spike	P	0 - 30
2116708	Pyraclostrobin	0.861	Spike	P	0 - 30
2116708	Thiamethoxam	4.78	Spike	P	0 - 30
2116708	Tolfenpyrad	4.83	Spike	P	0 - 30
2116708	Triclopyr	9.51	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P370422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116928	3-Hydroxycarbofuran	5.71	Spike	P	0 - 30
2116928	Aldicarb	17.8	Spike	P	0 - 30
2116928	Aldicarb Sulfone	7.96	Spike	P	0 - 30
2116928	Aldicarb Sulfoxide	5.81	Spike	P	0 - 30
2116928	Carbaryl	8.44	Spike	P	0 - 30
2116928	Carbofuran	5.11	Spike	P	0 - 30
2116928	Methiocarb	9.03	Spike	P	0 - 30
2116928	Methomyl	8.99	Spike	P	0 - 30
2116928	Oxamyl	4.25	Spike	P	0 - 30
2116928	Propoxur	5.05	Spike	P	0 - 30

Reference Method: SM 2120 B

Batch ID: P370309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116934	Color (true)	3.49	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P370399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116620	Total Alkalinity	1.21	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97

Batch ID: P370733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116908	TDS	5.45	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P370403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116620	Fluoride	0.471	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P370527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116909	Organic Carbon	1.27	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: 2116928
Field Sample ID: G2CE0071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	101	P	30 - 160

Lab Sample ID: 2116929
Field Sample ID: G2CE0071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	154	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.4	P	30 - 160
EPA 8321B	Diuron-d6	99.9	P	30 - 160
EPA 8321B	Endothall-d6	113	P	30 - 160
EPA 8321B	Endothall-d6	113	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.1	P	30 - 160
EPA 8321B	Primidone-d5	84.7	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Lab Sample ID: 2116930
Field Sample ID: G2CE0071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	80.5	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	70.2	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	51.0	P	30 - 103
EPA 8276	PCNB	104	P	37 - 143

Lab Sample ID: 2116931
Field Sample ID: G2CE0071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	114	P	68 - 130
EPA 8270E	Terbufos-d10	89.0	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94042

Included Lab Sample IDs: 2116923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94044

Included Lab Sample IDs: 2116925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.1	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A94055

Included Lab Sample IDs: 2116923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	100	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94057

Included Lab Sample IDs: 2116924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94082

Included Lab Sample IDs: 2116929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	72.7	80.1	P/P	60 - 160
Glufosinate	108	120	P/P	60 - 160
Glyphosate	137	144	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A94093

Included Lab Sample IDs: 2116923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A94093

Included Lab Sample IDs: 2116923

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94108

Included Lab Sample IDs: 2116932

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94108

Included Lab Sample IDs: 2116932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	102	P/P	90 - 110
Calcium	105	100	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	105	103	P/P	90 - 110
Potassium	104	102	P/P	90 - 110
Sodium	107	104	P/P	90 - 110
Zinc	101	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94125

Included Lab Sample IDs: 2116929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	117	111	P/P	60 - 160
Endothall	111	114	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A94127

Included Lab Sample IDs: 2116929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	123	133	P/P	60 - 160

Reference Method: EPA 8270E

Run ID: A94144

Included Lab Sample IDs: 2116930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.1		P	80 - 120
Alpha-BHC	96.8		P	80 - 120
Alpha-Chlordane	93.2		P	80 - 120
Beta-BHC	102		P	80 - 120
Bifenthrin	89.2		P	80 - 120
Carbophenothion	103		P	80 - 120
Chlorothalonil	88.8		P	80 - 120
Cis-Nonachlor	93.2		P	80 - 120
Cypermethrin	87.6		P	80 - 120
DDD-p,p'	96.2		P	80 - 120
DDE-p,p'	93.7		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	97.4		P	80 - 120
Dicofol	99.3		P	80 - 120
Dieldrin	92.1		P	80 - 120
Endosulfan I	91.6		P	80 - 120
Endosulfan II	91.7		P	80 - 120
Endosulfan Sulfate	95.4		P	80 - 120
Endrin	93.3		P	80 - 120
Endrin Aldehyde	91.9		P	80 - 120
Endrin Ketone	95.7		P	80 - 120
Ethalfuralin	94.0		P	80 - 120
Gamma-BHC	98.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A94144
Included Lab Sample IDs: 2116930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Gamma-Chlordane	93.7		P	80 - 120
Heptachlor	93.2		P	80 - 120
Heptachlor Epoxide	93.3		P	80 - 120
Hexachlorobenzene	96.3		P	80 - 120
Methoxychlor	90.2		P	80 - 120
Mirex	96.2		P	80 - 120
Permethrin	86.4		P	80 - 120
Trans-Nonachlor	93.4		P	80 - 120
Trifluralin	94.8		P	80 - 120

Reference Method: SM 5310 B-00
Run ID: A94151
Included Lab Sample IDs: 2116924

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A94153
Included Lab Sample IDs: 2116924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	94.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94158
Included Lab Sample IDs: 2116924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.7	98.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A94159
Included Lab Sample IDs: 2116923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94206
Included Lab Sample IDs: 2116932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.2	98.2	P/P	90 - 110
Antimony	95.6	96.1	P/P	90 - 110
Arsenic	99.6	101	P/P	90 - 110
Boron	102	99.6	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Copper	99.0	99.2	P/P	90 - 110
Lead	95.3	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94206

Included Lab Sample IDs: 2116932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	98.3	99.2	P/P	90 - 110
Silver	98.1	98.2	P/P	90 - 110
Thallium	93.9	94.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94208

Included Lab Sample IDs: 2116932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	102	96.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94209

Included Lab Sample IDs: 2116932

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94214

Included Lab Sample IDs: 2116924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	98.2	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A94311

Included Lab Sample IDs: 2116930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	98.3		P	80 - 120
Toxaphene	94.8		P	80 - 120

Reference Method: EPA 8321B

Run ID: A94400

Included Lab Sample IDs: 2116929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	113	P/P	50 - 150
3-Hydroxycarbofuran	119	120	P/P	60 - 150
Acetaminophen	101	104	P/P	60 - 160
Acetamiprid	110	114	P/P	50 - 150
Afidopyropen	125	109	P/P	50 - 150
Aldicarb	136	129	P/P	60 - 150
Aldicarb Sulfone	113	101	P/P	50 - 150
Aldicarb Sulfoxide	109	114	P/P	50 - 150
Bentazon	105	107	P/P	50 - 160
Benzovindiflupyr	100	97.9	P/P	50 - 150
Carbamazepine	108	106	P/P	60 - 150
Carbaryl	135	128	P/P	60 - 150
Carbofuran	115	117	P/P	50 - 150

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8321B

Run ID: A94400

Included Lab Sample IDs: 2116929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	101	99.2	P/P	60 - 150
Dinotefuran	91.8	86.4	P/P	50 - 150
Diuron	133	136	P/P	60 - 150
Fenuron	115	116	P/P	60 - 150
Fluridone	107	107	P/P	60 - 160
Hydrocodone	107	109	P/P	60 - 150
Ibuprofen	76.7	91.3	P/P	50 - 160
Imazapyr	90.1	113	P/P	50 - 150
Imidacloprid	100	103	P/P	60 - 150
Linuron	102	94.0	P/P	60 - 150
Mandestrobin	113	111	P/P	50 - 150
MCPP	99.1	103	P/P	50 - 150
Methiocarb	105	101	P/P	50 - 150
Methomyl	110	112	P/P	50 - 150
Naproxen	82.3	103	P/P	50 - 160
Oxamyl	113	115	P/P	50 - 150
Primidone	94.7	92.4	P/P	60 - 150
Propoxur	113	110	P/P	50 - 150
Pyraclostrobin	104	111	P/P	60 - 150
Thiamethoxam	107	106	P/P	50 - 150
Tolfenpyrad	106	115	P/P	60 - 150
Triclopyr	100	97.7	P/P	50 - 150

Reference Method: EPA 8270E

Run ID: A94470

Included Lab Sample IDs: 2116931

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	104		P	80 - 120
Alachlor	106		P	80 - 120
Ametryn	94.8		P	80 - 120
Atrazine	90.6		P	80 - 120
Atrazine Desethyl	95.3		P	80 - 120
Azinphos Methyl	98.3		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	95.3		P	80 - 120
Chlorpyrifos Ethyl	98.3		P	80 - 120
Chlorpyrifos Methyl	99.9		P	80 - 120
Cyanazine	84.2		P	80 - 120
Demeton	85.7		P	80 - 120
Diazinon	104		P	80 - 120
Dimethenamid	105		P	80 - 120
Disulfoton	98.7		P	80 - 120
Dithiopyr	104		P	80 - 120
EPTC	99.9		P	80 - 120
Ethion	97.2		P	80 - 120
Ethoprop	98.0		P	80 - 120
Fenamiphos	94.7		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	96.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A94470

Included Lab Sample IDs: 2116931

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil Sulfone	96.6		P	80 - 120
Fonofos	96.5		P	80 - 120
Hexazinone	100		P	80 - 120
Malathion	96.3		P	80 - 120
Metalaxyl	104		P	80 - 120
Metolachlor	108		P	80 - 120
Metribuzin	96.2		P	80 - 120
Mevinphos	100		P	80 - 120
Molinate	99.8		P	80 - 120
Norflurazon	103		P	80 - 120
Oxadiazon	108		P	80 - 120
Parathion Ethyl	98.2		P	80 - 120
Parathion Methyl	99.0		P	80 - 120
Pendimethalin	96.6		P	80 - 120
Phorate	95.1		P	80 - 120
Prodiamine	95.4		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	104		P	80 - 120
Simazine	97.8		P	80 - 120
Tebuconazole	104		P	80 - 120
Terbufos	96.6		P	80 - 120
Terbutylazine	99.2		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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.939	
EPA 200.7 Rev. 4.4	Barium	101		99.9	101			1.53
	Calcium	108		110	110			0.292
	Iron	104		106	107			0.698
	Magnesium	110		112	112			0.686
	Potassium	103		106	111			5.06
	Sodium	110		107	107			0.139
	Zinc	99.9		100	102			1.84
EPA 200.8 Rev. 5.4	Aluminum	96.4		94.8	95.4			0.663
	Antimony	97.0		93.4	94.8			1.49
	Arsenic	98.5		96.6	97.5			0.926
	Boron	102		98.3	101			1.94
	Cadmium	97.9		94.7	96.5			1.92
	Chromium	90.8		94.0	95.7			1.78
	Copper	95.7		96.3	97.0			0.663
	Lead	94.4		91.0	92.7			1.75
	Nickel	96.2		93.9	94.8			0.921
	Selenium	103		101	98.0			3.19
	Silver	98.8		96.5	97.7			1.15
	Thallium	97.5		97.6	98.9			1.25
EPA 300.0 Rev. 2.1	Chloride	100		101	103	101		1.10
	Sulfate	101		102	104	102		1.72
EPA 350.1 Rev. 2.0	Ammonia-N	95.8		95.3	97.0			1.47
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7		93.8	88.5			2.98
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		96.0	96.5			0.519
EPA 365.1 Rev. 2.0	Total-P	97.8		95.9	96.6			0.729
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		97.7	98.5			0.815
EPA 8270E	Acetochlor	97.0	91.4	95.1	87.3	6.00		8.55
	Alachlor	94.1	88.6	95.4	91.4	5.97		4.30
	Aldrin	50.2	41.1	42.5		19.8		
	Alpha-BHC	96.6	96.8	148		0.169		
	Alpha-Chlordane	81.5	78.0	85.0		4.37		
	Ametryn	84.0	87.4	215	198	4.03		8.39
	Atrazine	99.4	97.5			1.90		7.43
	Atrazine Desethyl	103	80.1	42.7	137	25.4		52.2
	Azinphos Methyl	108	108	94.1	92.5	0.0515		1.75
	Beta-BHC	109	107	132		1.65		
	Bifenthrin	73.9	70.5	77.4		4.63		
	Bromacil	66.7	83.1	58.6	94.2	21.9		25.8
	Butylate	59.1	64.1	61.8	71.3	8.06		14.3
	Carbophenothion	105	103	140		2.19		
	Chlorothalonil	100	108	174		7.41		
	Chlorpyrifos Ethyl	93.7	103	101	91.1	9.34		9.98
	Chlorpyrifos Methyl	94.0	98.8	95.4	96.8	5.02		1.45
	Cis-Nonachlor	84.7	81.4	85.6		4.00		
	Cyanazine	108	156	89.8	155	36.4		53.1
	Cypermethrin	75.8	78.4	92.7		3.35		
	DDD-p,p'	90.2	88.8	96.4		1.60		
	DDE-p,p'	80.0	74.5	78.5		7.08		
	DDT-p,p'	91.4	91.6	113		0.265		
	Delta-BHC	116	111	157		4.11		
	Demeton	65.2	66.3	81.2	99.0	1.56		19.7
	Diazinon	91.8	100	111	107	8.58		3.23
	Dicofol	91.3	89.5	99.8		1.99		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8270E	Dieldrin	88.7	87.3	94.8		1.54		
	Dimethenamid	97.1	87.7	86.2	68.3	10.2		20.0
	Disulfoton	79.2	96.0	105	109	19.1		4.29
	Dithiopyr	94.1	88.6	90.4	83.3	5.94		7.47
	Endosulfan I	91.4	89.7	107		1.87		
	Endosulfan II	109	100	111		8.79		
	Endosulfan Sulfate	87.1	89.6	102		2.91		
	Endrin	99.4	102	114		2.87		
	Endrin Aldehyde	94.9	94.5	92.4		0.372		
	Endrin Ketone	84.7	84.9	97.4		0.163		
	EPTC	67.5	58.7	61.5	72.9	13.9		17.1
	Ethalfuralin	87.8	91.8	103		4.41		
	Ethion	106	94.2	89.0	84.3	12.1		5.41
	Ethoprop	85.6	90.6	99.3	120	5.63		18.9
	Fenamiphos	89.6	95.7	30.8	34.3	6.58		10.7
	Fipronil	96.3	79.7	46.5	85.0	18.8		46.2
	Fipronil Desulfinyl	92.2	80.0	36.7	83.2	14.2		51.0
	Fipronil Sulfide	97.2	83.0	13.0	88.8	15.8		50.2
	Fipronil Sulfone	96.4	75.3			24.6		49.7
	Fonofos	82.5	94.1	101	110	13.1		8.55
	Gamma-BHC	106	107	142		0.652		
	Gamma-Chlordane	77.3	74.4	79.5		3.85		
	Heptachlor	71.2	66.5	68.4		6.85		
	Heptachlor Epoxide	86.0	84.9	96.5		1.25		
	Hexachlorobenzene	73.1	66.6	66.3		9.41		
	Hexazinone	107	99.5			7.31		21.5
	Malathion	99.2	98.5	89.4	89.9	0.766		0.466
	Metalaxyl	97.7	90.9	92.3	85.3	7.21		7.90
	Methoxychlor	94.8	99.1	124		4.34		
	Metolachlor	100	83.3	98.6	79.6	18.4		14.1
	Metribuzin	168	101	180	224	50.1		20.3
	Mevinphos	85.5	82.7	90.4	97.9	3.33		7.97
	Mirex	56.9	52.4	58.1		8.28		
	Molinate	74.4	76.1	80.5	82.2	2.27		2.10
	Norflurazon	96.9	84.5	40.1	85.2	13.7		72.0
	Oxadiazon	103	90.3	95.5	72.2	13.1		18.0
	Parathion Ethyl	94.5	91.9	91.7	98.3	2.79		6.92
	Parathion Methyl	97.7	100	99.8	109	2.58		9.04
	Pendimethalin	90.1	91.9	95.9	95.0	1.92		0.934
	Permethrin	66.8	64.4	72.1		3.68		
	Phorate	88.6	93.9	88.5	100	5.80		10.8
	Prodiamine	84.6	83.3	83.2	83.8	1.57		0.719
	Prometon	91.2	78.5	81.1	77.6	15.0		3.32
	Prometryn	92.7	85.1	87.1	83.2	8.58		4.56
	Simazine	102	108			5.61		12.3
	Tebuconazole	75.7	96.4	13.8	11.1	24.1		12.5
	Terbufos	84.2	94.7	105	116	11.8		9.97
	Terbuthylazine	99.5	92.2	97.9	99.4	7.68		1.58
	Trans-Nonachlor	76.6	72.6	76.3		5.34		
	Trifluralin	90.7	87.2	97.3		3.90		
EPA 8276	Chlordane	83.2	95.1	85.4		13.3		
	Toxaphene	56.8	63.1	63.8		10.4		
EPA 8321B	2,4-D	139		151	163			7.67
	3-Hydroxycarbofuran	109		93.4	98.9			5.71

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Acesulfame K	70.7	107	141			27.2
	Acetaminophen	85.8	79.5	85.1			6.71
	Acetamiprid	105	117	123			5.24
	Afidopyropen	103	117	128			8.78
	Aldicarb	113	78.3	93.7			17.8
	Aldicarb Sulfone	105	101	110			7.96
	Aldicarb Sulfoxide	105	52.3	55.4			5.81
	AMPA	126	70.0	71.4			2.00
	Bentazon	136	76.0	82.0			7.64
	Benzovindiflupyr	88.9	92.3	97.9			5.89
	Carbamazepine	108	94.9	102			7.28
	Carbaryl	113	81.7	88.9			8.44
	Carbofuran	93.0	65.3	68.7			5.11
	Clothianidin	94.8	92.9	104			10.9
	Dinotefuran	96.7	111	116			4.47
	Diuron	128	109	113			3.20
	Endothall	112	79.1	75.0			5.33
	Fenuron	110	88.4	95.6			7.91
	Fluridone	98.9	91.8	96.6			5.07
	Glufosinate	131	98.4	87.7			11.4
	Glyphosate	137	127	122			3.77
	Hydrocodone	101	83.2	105			23.2
	Ibuprofen	85.5	82.8	82.2			0.724
	Imazapyr	98.6					0.420
	Imidacloprid	97.9	186	196			5.37
	Linuron	74.8	68.5	70.5			2.87
	Mandestrobin	90.4	88.4	93.9			6.03
	MCCP	158	163	174			6.14
	Methiocarb	80.4	64.5	70.6			9.03
	Methomyl	90.6	69.8	76.4			8.99
	Naproxen	110	89.8	106			16.6
	Oxamyl	112	92.4	96.4			4.25
	Primidone	82.0	89.4	94.4			5.41
	Propoxur	95.4	67.0	70.5			5.05
	Pyraclostrobin	84.2	91.7	90.9			0.861
	Sucralose	122	126	128			1.07
	Thiamethoxam	110	149	156			4.78
	Tolfenpyrad	65.9	68.1	71.4			4.83
	Triclopyr	116	137	125			9.51
SM 2120 B	Color (true)	101				3.49	
SM 2320 B-97	Total Alkalinity	105				1.21	
SM 2540 C-97	TDS					5.45	
SM 4500 F-C-97	Fluoride	96.5					0.471
SM 5310 B-00	Organic Carbon	107	104	106			1.27

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2116923
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2116932

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2116932
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2116923
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2116923
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2116924
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2116924
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2116924
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2116924
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2116925
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2116930
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2116931
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2116930
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2116928
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2116929
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2116929
SM 2120 B / E31780	True Color measured at 450 nm	2116923
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2116923
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2116923
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2116923
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2116923
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2116924

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	09/06/2019			09/06/2019 16:35	Samantha Davila	2116923
EPA 200.7 Rev. 4.4	09/06/2019	09/09/2019 13:25	Elliott D. Healy	09/10/2019 14:03	Alexander Thompson	2116932
EPA 200.8 Rev. 5.4	09/06/2019	09/09/2019 13:25	Elliott D. Healy	09/13/2019 09:05	Robert K Palmer	2116932
	09/06/2019	09/09/2019 13:25	Elliott D. Healy	09/14/2019 09:27	Robert K Palmer	2116932
	09/06/2019	09/09/2019 13:25	Elliott D. Healy	09/15/2019 07:28	Robert K Palmer	2116932
EPA 300.0 Rev. 2.1	09/06/2019			09/11/2019 23:02	Jhamieka S. Greenwood	2116923
EPA 350.1 Rev. 2.0	09/06/2019			09/13/2019 12:06	Ping Hua	2116924
EPA 351.2 Rev. 2.0	09/06/2019	09/10/2019 13:06	Sima Feizi	09/11/2019 15:32	Julia Storbeck	2116924
EPA 353.2 Rev. 2.0	09/06/2019			09/09/2019 09:16	Beverly Y. Sanders	2116924
EPA 365.1 Rev. 2.0	09/06/2019	09/11/2019 10:25	Lipi Saha	09/12/2019 09:37	Rosalyn Ballman	2116924
EPA 365.1 Rev. 2.0 dissolved	09/06/2019			09/06/2019 16:22	Jhamieka S. Greenwood	2116925
EPA 8270E	09/06/2019	09/09/2019 08:00	Fe-Val Siddell	09/12/2019 00:34	Arthur Maknenko	2116930
	09/06/2019	09/12/2019 08:00	Fe-Val Siddell	09/13/2019 15:54	Vandana T. Nagar	2116931
EPA 8276	09/06/2019	09/09/2019 08:00	Fe-Val Siddell	09/15/2019 10:35	Michael Poppell	2116930
EPA 8321B	09/06/2019	09/09/2019 11:00	Rebecca Ware	09/09/2019 17:41	Rebecca Ware	2116929
	09/06/2019	09/09/2019 11:00	Rebecca Ware	09/10/2019 11:25	Rebecca Ware	2116929
	09/06/2019	09/09/2019 11:00	Rebecca Ware	09/10/2019 20:39	Rebecca Ware	2116929
	09/06/2019	09/11/2019 09:00	Hoor Shaik	09/13/2019 07:56	Juyoung Kim	2116929
	09/06/2019	09/12/2019 10:30	Hoor Shaik	09/13/2019 20:02	Juyoung Kim	2116928
SM 2120 B	09/06/2019			09/06/2019 17:53	Madeline Funaro	2116923
SM 2320 B-97	09/06/2019			09/09/2019 21:16	Dale L. Simmons	2116923
SM 2540 C-97	09/06/2019			09/10/2019 14:32	Yijie Li	2116923
SM 2540 D-97	09/06/2019			09/10/2019 14:32	Yijie Li	2116923
SM 4500 F-C-97	09/06/2019			09/09/2019 21:16	Dale L. Simmons	2116923
SM 5310 B-00	09/06/2019			09/11/2019 17:58	Madeline Funaro	2116924