

Chemical Analysis Report

CEN-DIST-2019-08-30-01

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

Event Description: **Dead River**
Request ID: **RQ-2019-08-12-39**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
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Date Certified: 23-SEP-2019 10:47



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: Dead River @ 1250 m north of Lake Hatchineha Collection Date/Time: 08/29/2019 10:41

Field ID: G4CE0167

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116124	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P370014	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P370345	
		Sulfate	0.70		mg SO4/L	P370348	
	SM 2120 B	Color (true)	530		PCU	P370079	
	SM 2320 B-97	Total Alkalinity	26		mg CaCO3/L	P370282	
	SM 2540 C-97	TDS	144		mg/L	P370385	
	SM 2540 D-97	TSS	2	I	mg/L	P370251	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P370284	
2116125	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P370323	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P370148	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P370185	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P370334	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P370245	
2116126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P370009	
2116130	EPA 8321B	Aldicarb	0.020	U	ug/L	P369771	
		Aldicarb Sulfone	0.0020	U	ug/L	P369771	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P369771	
		Carbaryl	0.0020	U	ug/L	P369771	
		Carbofuran	0.0020	U	ug/L	P369771	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P369771	
		Methiocarb	0.0020	U	ug/L	P369771	
		Methomyl	0.0020	U	ug/L	P369771	
		Oxamyl	0.0020	U	ug/L	P369771	
		Propoxur	0.0020	U	ug/L	P369771	
2116131		Acesulfame K**	0.10	U	ug/L	P370034	
		2,4-D	0.0020	U	ug/L	P370004	MS
		AMPA**	0.11	I	ug/L	P370034	MS
		Sucralose**	0.57		ug/L	P370034	
		Acetaminophen**	0.0080	U	ug/L	P370004	
		Endothall**	0.25	U	ug/L	P370034	
		Acetamiprid**	0.0020	U	ug/L	P370004	
		Glufosinate**	0.10	U	ug/L	P370034	
		Glyphosate**	0.10	U	ug/L	P370034	
		Afidopyropen**	0.0020	UJ	ug/L	P370004	
		Bentazon	0.0071		ug/L	P370004	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370004	
		Carbamazepine**	8.0E-04	U	ug/L	P370004	
		Clothianidin**	0.0020	U	ug/L	P370004	
		Dinotefuran**	0.0020	U	ug/L	P370004	
		Diuron	0.0020	U	ug/L	P370004	
		Fenuron	0.016	U	ug/L	P370004	
		Fluridone**	0.0020	I	ug/L	P370004	
		Imazapyr**	0.031		ug/L	P370004	

Field ID: G4CE0167

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116131	EPA 8321B	Hydrocodone**	0.0020	U	ug/L	P370004	
		Ibuprofen**	0.020	U	ug/L	P370004	
		Imidacloprid	0.0020	U	ug/L	P370004	MS
		Linuron	0.0040	U	ug/L	P370004	
		Mandestrobin**	0.0020	UJ	ug/L	P370004	
		MCP	0.0020	U	ug/L	P370004	MS
		Naproxen**	0.0080	U	ug/L	P370004	
		Primidone**	0.0040	U	ug/L	P370004	
		Pyraclostrobin**	0.0020	U	ug/L	P370004	
		Thiamethoxam**	0.0020	U	ug/L	P370004	MS
		Tolfenpyrad**	0.0020	U	ug/L	P370004	
		Triclopyr**	0.0040	U	ug/L	P370004	MS
2116132	EPA 8270E	Aldrin	4.3	U	ng/L	P370133	
		Alpha-BHC	2.1	U	ng/L	P370133	
		Alpha-Chlordane	1.1	U	ng/L	P370133	
		Beta-BHC	11	U	ng/L	P370133	
		Bifenthrin**	4.3	UJ	ng/L	P370133	MS
		Delta-BHC	8.5	U	ng/L	P370133	
		Gamma-BHC	8.5	U	ng/L	P370133	
		Carbophenothion	11	U	ng/L	P370133	
		Chlorothalonil	2.1	UJ	ng/L	P370133	CCV
		Cis-Nonachlor**	1.1	U	ng/L	P370133	
		Cypermethrin	21	U	ng/L	P370133	
		DDD-p,p'	6.4	U	ng/L	P370133	
		DDE-p,p'	6.4	U	ng/L	P370133	
		DDT-p,p'	7.4	U	ng/L	P370133	
		Dicofol	32	U	ng/L	P370133	
		Dieldrin	4.3	U	ng/L	P370133	
		Endosulfan I	4.3	U	ng/L	P370133	
		Endosulfan II	4.3	U	ng/L	P370133	
		Endosulfan Sulfate	2.1	U	ng/L	P370133	
		Endrin	2.1	U	ng/L	P370133	
		Endrin Aldehyde	2.1	U	ng/L	P370133	
		Endrin Ketone	2.1	U	ng/L	P370133	
		Ethalfuralin**	3.2	U	ng/L	P370133	
		Gamma-Chlordane	1.1	U	ng/L	P370133	
		Heptachlor	1.6	U	ng/L	P370133	
		Heptachlor Epoxide	2.1	U	ng/L	P370133	
		Hexachlorobenzene	2.1	UJ	ng/L	P370133	MS
		Methoxychlor	4.3	U	ng/L	P370133	
		Mirex	2.1	U	ng/L	P370133	
		Permethrin	11	U	ng/L	P370133	
		Trans-Nonachlor**	1.1	U	ng/L	P370133	
		Trifluralin	2.7	U	ng/L	P370133	
		Chlordane	5.3	U	ng/L	P370133	

EPA 8276

Field ID: G4CE0167

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116132	EPA 8276	Toxaphene	32	U	ng/L	P370133	
2116133	EPA 8270E	Acetochlor	0.26	U	ng/L	P369752	
		Alachlor	0.26	U	ng/L	P369752	
		Ametryn	0.62	U	ng/L	P369752	
		Atrazine	0.51	I	ng/L	P369752	
		Atrazine Desethyl	1.6	UJ	ng/L	P369752	RPD
		Azinphos Methyl	5.2	U	ng/L	P369752	
		Bromacil	0.52	U	ng/L	P369752	
		Butylate	0.42	U	ng/L	P369752	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P369752	
		Chlorpyrifos Methyl	0.10	U	ng/L	P369752	
		Cyanazine	3.4	UJ	ng/L	P369752	LCS, RPD
		Demeton	7.3	U	ng/L	P369752	
		Diazinon	0.13	U	ng/L	P369752	
		Dimethenamid**	0.10	U	ng/L	P369752	
		Disulfoton	0.52	U	ng/L	P369752	
		Dithiopyr**	0.10	U	ng/L	P369752	
		EPTC	1.3	U	ng/L	P369752	
		Ethion	0.16	U	ng/L	P369752	
		Ethoprop	0.10	U	ng/L	P369752	
		Fenamiphos	0.52	UJ	ng/L	P369752	MS, RPD
		Fipronil	0.26	U	ng/L	P369752	
		Fipronil Desulfinyl**	0.13	U	ng/L	P369752	
		Fipronil Sulfide	0.16	U	ng/L	P369752	
		Fipronil Sulfone	0.16	U	ng/L	P369752	
		Fonofos	0.21	U	ng/L	P369752	
		Hexazinone	0.52	U	ng/L	P369752	
		Malathion	0.36	UJ	ng/L	P369752	LCS, MS, RPD
		Metalaxyl	0.31	U	ng/L	P369752	
		Metolachlor	0.52	U	ng/L	P369752	
		Metribuzin	0.78	UJ	ng/L	P369752	MS, RPD
		Mevinphos	0.52	U	ng/L	P369752	
		Molinate	0.31	U	ng/L	P369752	
		Norflurazon	0.52	U	ng/L	P369752	
		Oxadiazon**	0.10	I	ng/L	P369752	
		Parathion Ethyl	0.26	U	ng/L	P369752	
		Parathion Methyl	0.57	U	ng/L	P369752	
		Pendimethalin	1.0	U	ng/L	P369752	
		Phorate	0.26	U	ng/L	P369752	
		Prodiamine**	0.18	U	ng/L	P369752	
		Prometon	0.94	U	ng/L	P369752	
		Prometryn	0.21	U	ng/L	P369752	
		Simazine	0.52	U	ng/L	P369752	
		Tebuconazole**	0.52	UJ	ng/L	P369752	RPD

Field ID: G4CE0167

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2116133	EPA 8270E	Terbufos	0.10	U	ng/L	P369752	
		Terbutylazine	0.44	U	ng/L	P369752	
2116134	EPA 200.7 Rev. 4.4	Barium	10.7		ug/L	P370126	
		Calcium	11.7		mg/L	P370126	
		Iron	630		ug/L	P370126	
		Magnesium	2.62		mg/L	P370126	
		Potassium	2.1		mg/L	P370126	
		Sodium	10.5		mg/L	P370126	
		Zinc	5.0	U	ug/L	P370126	
		Aluminum	185		ug/L	P370126	
	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P370126	
		Arsenic	0.60		ug/L	P370126	
		Boron**	28.7		ug/L	P370126	
		Cadmium	0.020	U	ug/L	P370126	
		Chromium	0.46	I	ug/L	P370126	
		Copper	0.49	I	ug/L	P370126	
		Lead	0.32	I	ug/L	P370126	
		Nickel	0.50	U	ug/L	P370126	
		Selenium	0.20	U	ug/L	P370126	
		Silver	0.010	U	ug/L	P370126	
		Thallium	0.10	U	ug/L	P370126	

Ref. Method and Comment:

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

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

EPA 8270E: Insufficient sample available to perform duplicate matrix spikes. Refer to the narrative for an explanation of QC Codes.

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

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370014

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370126

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: P370126

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: P370345

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370348

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370323

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: P370148

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P370185

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P370334

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P370009

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

Reference Method: EPA 8270E
 Batch ID: P369752

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P369752

Component	Result	Code	Units
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
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270E
Batch ID: P370133

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P370133

Component	Result	Code	Units
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8276
Batch ID: P370133

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

Reference Method: EPA 8321B
Batch ID: P369771

Component	Result	Code	Units
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: P370004

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P370004

Component	Result	Code	Units
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P370034

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: P370079

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P370282

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

Reference Method: SM 2540 C-97
Batch ID: P370385

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370251

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P370284

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P370245

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: P370126

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	106		P	85 - 115
Calcium	110		P	85 - 115
Iron	111		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	107		P	85 - 115
Sodium	107		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370126

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.3		P	85 - 115
Antimony	95.6		P	85 - 115
Arsenic	97.0		P	85 - 115
Boron	103		P	85 - 115
Cadmium	97.6		P	85 - 115
Chromium	93.3		P	85 - 115
Copper	95.6		P	85 - 115
Lead	94.0		P	85 - 115
Nickel	95.7		P	85 - 115
Selenium	95.8		P	85 - 115
Silver	100		P	85 - 115
Thallium	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370345

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370323

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.6		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P370185

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P370334

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	93.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P370009

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

Reference Method: EPA 8270E
 Batch ID: P369752

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P369752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	95.3	97.0	P/P	72 - 111
Parathion Methyl	102	114	P/P	74 - 126
Pendimethalin	82.4	89.0	P/P	61 - 131
Phorate	80.7	99.4	P/P	51 - 115
Prodiamine	72.9	69.8	P/P	38 - 144
Prometon	94.8	85.1	P/P	54 - 119
Prometryn	100	84.9	P/P	63 - 120
Simazine	102	114	P/P	75 - 126
Tebuconazole	74.7	22.5	P/P	20 - 119
Terbufos	79.4	97.7	P/P	64 - 116
Terbuthylazine	100	98.2	P/P	73 - 117

Reference Method: EPA 8270E

Batch ID: P370133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	33.8	33.2	P/P	20 - 93.0
Alpha-BHC	107	109	P/P	55 - 133
Alpha-Chlordane	89.0	91.0	P/P	58 - 112
Beta-BHC	121	117	P/P	54 - 168
Bifenthrin	76.3	78.6	P/P	30 - 134
Carbophenothion	85.2	88.6	P/P	26 - 147
Chlorothalonil	75.8	82.0	P/P	20 - 155
Cis-Nonachlor	89.6	91.0	P/P	54 - 115
Cypermethrin	82.1	83.5	P/P	40 - 137
DDD-p,p'	102	101	P/P	65 - 129
DDE-p,p'	89.0	89.4	P/P	57 - 116
DDT-p,p'	91.4	89.4	P/P	53 - 133
Delta-BHC	122	123	P/P	59 - 178
Dicofol	97.7	97.8	P/P	24 - 138
Dieldrin	96.3	100	P/P	60 - 120
Endosulfan I	101	102	P/P	64 - 118
Endosulfan II	106	106	P/P	58 - 142
Endosulfan Sulfate	96.3	97.3	P/P	60 - 127
Endrin	104	114	P/P	59 - 122
Endrin Aldehyde	102	104	P/P	49 - 132
Endrin Ketone	95.3	96.1	P/P	64 - 121
Ethalfuralin	105	107	P/P	60 - 126
Gamma-BHC	118	121	P/P	57 - 154
Gamma-Chlordane	85.7	86.0	P/P	56 - 110
Heptachlor	75.2	77.0	P/P	46 - 96.0
Heptachlor Epoxide	94.5	96.3	P/P	61 - 112
Hexachlorobenzene	82.0	80.0	P/P	44 - 98.0
Methoxychlor	101	105	P/P	63 - 134
Mirex	61.7	62.4	P/P	45 - 100
Permethrin	71.2	73.4	P/P	53 - 115
Trans-Nonachlor	84.1	86.0	P/P	47 - 110
Trifluralin	106	106	P/P	39 - 142

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8276

Batch ID: P370133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	85.0	87.3	P/P	43 - 128
Toxaphene	87.0	84.0	P/P	38 - 140

Reference Method: EPA 8321B

Batch ID: P369771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	75.9		P	40 - 160
Aldicarb	66.4		P	30 - 160
Aldicarb Sulfone	92.7		P	40 - 160
Aldicarb Sulfoxide	69.7		P	40 - 160
Carbaryl	67.8		P	40 - 160
Carbofuran	82.8		P	40 - 160
Methiocarb	77.5		P	40 - 160
Methomyl	81.0		P	40 - 160
Oxamyl	96.2		P	40 - 160
Propoxur	85.9		P	40 - 160

Reference Method: EPA 8321B

Batch ID: P370004

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	110		P	40 - 160
Acetaminophen	73.1		P	30 - 160
Acetamiprid	87.0		P	40 - 160
Afidopyropen	99.1		P	40 - 160
Bentazon	90.4		P	30 - 160
Benzovindiflupyr	87.2		P	40 - 160
Carbamazepine	94.7		P	40 - 160
Clothianidin	94.1		P	40 - 160
Dinotefuran	82.7		P	40 - 160
Diuron	97.6		P	40 - 160
Fenuron	99.3		P	40 - 160
Fluridone	107		P	40 - 160
Hydrocodone	90.7		P	40 - 160
Ibuprofen	135		P	30 - 160
Imazapyr	75.9		P	40 - 160
Imidacloprid	94.2		P	40 - 160
Linuron	76.7		P	40 - 160
Mandestrobin	95.7		P	40 - 160
MCPP	139		P	40 - 160
Naproxen	112		P	40 - 160
Primidone	82.6		P	40 - 160
Pyraclostrobin	87.1		P	30 - 160
Thiamethoxam	91.7		P	40 - 160
Tolfenpyrad	70.6		P	40 - 160
Triclopyr	75.8		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P370034

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

Reference Method: EPA 8321B
Batch ID: P370034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	150		P	40 - 150
AMPA	149		P	40 - 150
Endothall	109		P	40 - 150
Glufosinate	118		P	40 - 150
Glyphosate	130		P	40 - 140
Sucralose	101		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P370079

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

Reference Method: SM 2320 B-97
Batch ID: P370282

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P370284

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P370245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370126

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116008	Barium	107	104	P/P	80 - 120
2116008	Calcium	109		P	80 - 120
2116008	Iron	109	109	P/P	80 - 120
2116008	Magnesium	109	108	P/P	80 - 120
2116008	Potassium	107	107	P/P	80 - 120
2116008	Sodium	109	109	P/P	80 - 120
2116008	Zinc	104	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370126

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116008	Aluminum	95.6	95.3	P/P	80 - 120
2116008	Antimony	96.8	97.1	P/P	80 - 120
2116008	Arsenic	98.1	98.3	P/P	80 - 120
2116008	Boron	99.3	101	P/P	80 - 120
2116008	Cadmium	99.0	99.9	P/P	80 - 120
2116008	Chromium	94.5	94.8	P/P	80 - 120
2116008	Copper	93.7	94.9	P/P	80 - 120
2116008	Lead	95.6	96.2	P/P	80 - 120
2116008	Nickel	94.3	95.0	P/P	80 - 120
2116008	Selenium	95.1	92.3	P/P	80 - 120
2116008	Silver	99.8	99.3	P/P	80 - 120
2116008	Thallium	101	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115920	Chloride	97.8		P	90 - 110
2115949	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115920	Sulfate	98.4		P	90 - 110
2115949	Sulfate	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116070	Ammonia-N	97.0	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116071	Kjeldahl Nitrogen	94.1	96.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P370185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116125	NO2NO3-N	95.8	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P370334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116044	Total-P	98.8	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P370009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115956	O-Phosphate-P	99.1	98.8	P/P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P369752

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P369752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115570	Pendimethalin	96.5	96.5	P/P	59 - 144
2115570	Phorate	113	112	P/P	42 - 130
2115570	Prodiamine	75.5	74.7	P/P	42 - 148
2115570	Prometon	96.1	106	P/P	59 - 134
2115570	Prometryn	83.2	84.1	P/P	54 - 135
2115570	Simazine	102	110	P/P	53 - 156
2115570	Tebuconazole	24.9	20.0	P/P	10 - 131
2115570	Terbufos	113	115	P/P	57 - 131
2115570	Terbutylazine	94.8	97.9	P/P	68 - 125

Reference Method: EPA 8270E
Batch ID: P370133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116132	Aldrin	88.7		P	25 - 92.0
2116132	Alpha-BHC	128		P	48 - 150
2116132	Alpha-Chlordane	98.6		P	50 - 115
2116132	Beta-BHC	132		P	39 - 184
2116132	Bifenthrin	128		F	46 - 116
2116132	Carbophenothion	142		P	27 - 180
2116132	Chlorothalonil	131		P	10 - 216
2116132	Cis-Nonachlor	99.1		P	55 - 112
2116132	Cypermethrin	144		P	40 - 153
2116132	DDD-p,p'	103		P	53 - 128
2116132	DDE-p,p'	97.6		P	48 - 116
2116132	DDT-p,p'	124		P	47 - 128
2116132	Delta-BHC	135		P	48 - 221
2116132	Dicofol	90.0		P	10 - 147
2116132	Dieldrin	99.5		P	48 - 128
2116132	Endosulfan I	108		P	58 - 126
2116132	Endosulfan II	118		P	50 - 150
2116132	Endosulfan Sulfate	108		P	56 - 130
2116132	Endrin	120		P	50 - 126
2116132	Endrin Aldehyde	104		P	12 - 145
2116132	Endrin Ketone	120		P	59 - 132
2116132	Ethalfuralin	122		P	65 - 122
2116132	Gamma-BHC	149		P	40 - 190
2116132	Gamma-Chlordane	99.1		P	50 - 112
2116132	Heptachlor	95.7		P	41 - 98.0
2116132	Heptachlor Epoxide	99.6		P	55 - 117
2116132	Hexachlorobenzene	94.5		F	47 - 91.0
2116132	Methoxychlor	123		P	55 - 133
2116132	Mirex	81.5		P	44 - 101
2116132	Permethrin	106		P	52 - 124
2116132	Trans-Nonachlor	90.1		P	53 - 99.0
2116132	Trifluralin	124		P	10 - 201

Reference Method: EPA 8276
Batch ID: P370133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116132	Chlordane	87.4		P	34 - 136

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P370133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116132	Toxaphene	70.9		P	22 - 152

Reference Method: EPA 8321B
Batch ID: P369771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114831	3-Hydroxycarbofuran	89.3	90.4	P/P	40 - 160
2114831	Aldicarb	45.6	43.5	P/P	30 - 160
2114831	Aldicarb Sulfone	101	92.7	P/P	40 - 160
2114831	Aldicarb Sulfoxide	48.3	47.0	P/P	40 - 160
2114831	Carbaryl	66.9	71.0	P/P	40 - 160
2114831	Carbofuran	75.0	75.6	P/P	40 - 160
2114831	Methiocarb	73.0	71.3	P/P	40 - 160
2114831	Methomyl	78.4	75.4	P/P	40 - 160
2114831	Oxamyl	90.7	88.2	P/P	40 - 160
2114831	Propoxur	75.3	74.5	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P370004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115469	2,4-D	205	180	F/F	40 - 160
2115469	Acetaminophen	104	83.0	P/P	30 - 160
2115469	Acetamiprid	107	102	P/P	40 - 160
2115469	Afidopyropen	114	99.1	P/P	40 - 160
2115469	Bentazon	56.8	55.7	P/P	30 - 160
2115469	Benzovindiflupyr	114	101	P/P	40 - 160
2115469	Carbamazepine	121	109	P/P	40 - 160
2115469	Clothianidin	139	123	P/P	40 - 160
2115469	Dinotefuran	138	118	P/P	40 - 160
2115469	Diuron	115	102	P/P	40 - 160
2115469	Fenuron	102	93.6	P/P	40 - 160
2115469	Fluridone	127	109	P/P	40 - 160
2115469	Hydrocodone	121	114	P/P	40 - 160
2115469	Ibuprofen	150	144	P/P	30 - 160
2115469	Imazapyr	112	102	P/P	40 - 160
2115469	Imidacloprid	257	210	F/F	40 - 160
2115469	Linuron	87.8	77.1	P/P	40 - 160
2115469	Mandestrobin	113	103	P/P	40 - 160
2115469	MCPP	238	221	F/F	40 - 160
2115469	Naproxen	136	133	P/P	40 - 160
2115469	Primidone	117	112	P/P	40 - 160
2115469	Pyraclostrobin	109	108	P/P	30 - 160
2115469	Thiamethoxam	206	178	F/F	40 - 160
2115469	Tolfenpyrad	101	93.7	P/P	40 - 160
2115469	Triclopyr	162	137	F/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115665	Acesulfame K	136	139	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P370034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115665	AMPA	150	153	P/F	40 - 150
2115665	Endothall	107	106	P/P	40 - 150
2115665	Glufosinate	119	118	P/P	40 - 150
2115665	Glyphosate	128	132	P/P	40 - 140
2115665	Sucralose	93.3	113	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P370284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116463	Fluoride	98.5	97.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P370245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2116070	Organic Carbon	102	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116137	Turbidity	1.05	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116008	Barium	1.95	Spike	P	0 - 20
2116008	Calcium	1.22	Spike	P	0 - 20
2116008	Iron	0.222	Spike	P	0 - 20
2116008	Magnesium	0.402	Spike	P	0 - 20
2116008	Potassium	0.364	Spike	P	0 - 20
2116008	Sodium	0.209	Spike	P	0 - 20
2116008	Zinc	1.85	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116008	Aluminum	0.268	Spike	P	0 - 20
2116008	Antimony	0.298	Spike	P	0 - 20
2116008	Arsenic	0.174	Spike	P	0 - 20
2116008	Boron	1.74	Spike	P	0 - 20
2116008	Cadmium	0.910	Spike	P	0 - 20
2116008	Chromium	0.317	Spike	P	0 - 20
2116008	Copper	1.25	Spike	P	0 - 20
2116008	Lead	0.653	Spike	P	0 - 20
2116008	Nickel	0.754	Spike	P	0 - 20
2116008	Selenium	2.99	Spike	P	0 - 20
2116008	Silver	0.544	Spike	P	0 - 20
2116008	Thallium	2.56	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115920	Chloride	1.24	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P370348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115920	Sulfate	2.65	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P370323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116070	Ammonia-N	0.236	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P370148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116071	Kjeldahl Nitrogen	1.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P370185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116125	NO2NO3-N	0.495	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P370334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116044	Total-P	0.368	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P370009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115956	O-Phosphate-P	0.303	Spike	P	0 - 20

Reference Method: EPA 8270E
 Batch ID: P369752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115570	Acetochlor	0.0438	Spike	P	0 - 30
2115570	Alachlor	19.0	Spike	P	0 - 30
2115570	Ametryn	2.51	Spike	P	0 - 30
2115570	Atrazine	2.23	Spike	P	0 - 30
2115570	Atrazine Desethyl	2.31	Spike	P	0 - 30
2115570	Azinphos Methyl	3.10	Spike	P	0 - 30
2115570	Bromacil	2.11	Spike	P	0 - 30
2115570	Butylate	8.23	Spike	P	0 - 30
2115570	Chlorpyrifos Ethyl	0.822	Spike	P	0 - 30
2115570	Chlorpyrifos Methyl	1.51	Spike	P	0 - 30
2115570	Cyanazine	2.78	Spike	P	0 - 30
2115570	Demeton	2.21	Spike	P	0 - 30
2115570	Diazinon	1.24	Spike	P	0 - 30
2115570	Dimethenamid	5.90	Spike	P	0 - 30
2115570	Disulfoton	2.61	Spike	P	0 - 30
2115570	Dithiopyr	0.944	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P369752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115570	EPTC	10.6	Spike	P	0 - 30
2115570	Ethion	6.86	Spike	P	0 - 30
2115570	Ethoprop	0.691	Spike	P	0 - 30
2115570	Fenamiphos	1.92	Spike	P	0 - 30
2115570	Fipronil	3.94	Spike	P	0 - 30
2115570	Fipronil Desulfinyl	0.411	Spike	P	0 - 30
2115570	Fipronil Sulfide	2.34	Spike	P	0 - 30
2115570	Fipronil Sulfone	12.6	Spike	P	0 - 30
2115570	Fonofos	4.99	Spike	P	0 - 30
2115570	Hexazinone	6.19	Spike	P	0 - 30
2115570	Malathion	14.0	Spike	P	0 - 30
2115570	Metaxyl	7.54	Spike	P	0 - 30
2115570	Metolachlor	0.299	Spike	P	0 - 30
2115570	Metribuzin	3.53	Spike	P	0 - 30
2115570	Mevinphos	5.70	Spike	P	0 - 30
2115570	Molinate	9.64	Spike	P	0 - 30
2115570	Norflurazon	1.38	Spike	P	0 - 30
2115570	Oxadiazon	1.15	Spike	P	0 - 30
2115570	Parathion Ethyl	1.25	Spike	P	0 - 30
2115570	Parathion Methyl	0.272	Spike	P	0 - 30
2115570	Pendimethalin	0.00421	Spike	P	0 - 30
2115570	Phorate	0.909	Spike	P	0 - 30
2115570	Prodiamine	1.02	Spike	P	0 - 30
2115570	Prometon	7.25	Spike	P	0 - 30
2115570	Prometryn	1.08	Spike	P	0 - 30
2115570	Simazine	3.88	Spike	P	0 - 30
2115570	Tebuconazole	22.0	Spike	P	0 - 30
2115570	Terbufos	1.30	Spike	P	0 - 30
2115570	Terbutylazine	3.18	Spike	P	0 - 30
LFB	Acetochlor	13.2	LCS	P	0 - 30
LFB	Alachlor	12.4	LCS	P	0 - 30
LFB	Ametryn	8.02	LCS	P	0 - 30
LFB	Atrazine	1.70	LCS	P	0 - 30
LFB	Atrazine Desethyl	61.7	LCS	F	0 - 30
LFB	Azinphos Methyl	8.99	LCS	P	0 - 30
LFB	Bromacil	21.8	LCS	P	0 - 30
LFB	Butylate	4.33	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.26	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	18.3	LCS	P	0 - 30
LFB	Cyanazine	110	LCS	F	0 - 30
LFB	Demeton	17.9	LCS	P	0 - 30
LFB	Diazinon	1.97	LCS	P	0 - 30
LFB	Dimethenamid	13.7	LCS	P	0 - 30
LFB	Disulfoton	17.8	LCS	P	0 - 30
LFB	Dithiopyr	11.7	LCS	P	0 - 30
LFB	EPTC	11.4	LCS	P	0 - 30
LFB	Ethion	2.54	LCS	P	0 - 30
LFB	Ethoprop	20.0	LCS	P	0 - 30
LFB	Fenamiphos	36.8	LCS	F	0 - 30
LFB	Fipronil	26.9	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	17.6	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P369752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	5.17	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.85	LCS	P	0 - 30
LFB	Fonofos	28.1	LCS	P	0 - 30
LFB	Hexazinone	11.6	LCS	P	0 - 30
LFB	Malathion	77.7	LCS	F	0 - 30
LFB	Metalaxyl	2.21	LCS	P	0 - 30
LFB	Metolachlor	15.0	LCS	P	0 - 30
LFB	Metribuzin	85.6	LCS	F	0 - 30
LFB	Mevinphos	17.7	LCS	P	0 - 30
LFB	Molinate	21.1	LCS	P	0 - 30
LFB	Norflurazon	12.3	LCS	P	0 - 30
LFB	Oxadiazon	18.1	LCS	P	0 - 30
LFB	Parathion Ethyl	1.76	LCS	P	0 - 30
LFB	Parathion Methyl	10.6	LCS	P	0 - 30
LFB	Pendimethalin	7.66	LCS	P	0 - 30
LFB	Phorate	20.8	LCS	P	0 - 30
LFB	Prodiamine	4.36	LCS	P	0 - 30
LFB	Prometon	10.8	LCS	P	0 - 30
LFB	Prometryn	16.5	LCS	P	0 - 30
LFB	Simazine	11.1	LCS	P	0 - 30
LFB	Tebuconazole	107	LCS	F	0 - 30
LFB	Terbufos	20.6	LCS	P	0 - 30
LFB	Terbuthylazine	1.77	LCS	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P370133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	1.74	LCS	P	0 - 30
LFB	Alpha-BHC	1.90	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.30	LCS	P	0 - 30
LFB	Beta-BHC	3.27	LCS	P	0 - 30
LFB	Bifenthrin	2.96	LCS	P	0 - 30
LFB	Carbophenothion	3.86	LCS	P	0 - 30
LFB	Chlorothalonil	7.76	LCS	P	0 - 30
LFB	Cis-Nonachlor	1.55	LCS	P	0 - 30
LFB	Cypermethrin	1.72	LCS	P	0 - 30
LFB	DDD-p,p'	0.533	LCS	P	0 - 30
LFB	DDE-p,p'	0.433	LCS	P	0 - 30
LFB	DDT-p,p'	2.23	LCS	P	0 - 30
LFB	Delta-BHC	0.674	LCS	P	0 - 30
LFB	Dicofol	0.125	LCS	P	0 - 30
LFB	Dieldrin	3.85	LCS	P	0 - 30
LFB	Endosulfan I	1.16	LCS	P	0 - 30
LFB	Endosulfan II	0.171	LCS	P	0 - 30
LFB	Endosulfan Sulfate	1.02	LCS	P	0 - 30
LFB	Endrin	9.28	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.17	LCS	P	0 - 30
LFB	Endrin Ketone	0.773	LCS	P	0 - 30
LFB	Ethalfuralin	2.01	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P370133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Gamma-BHC	2.56	LCS	P	0 - 30
LFB	Gamma-Chlordane	0.251	LCS	P	0 - 30
LFB	Heptachlor	2.31	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.90	LCS	P	0 - 30
LFB	Hexachlorobenzene	2.50	LCS	P	0 - 30
LFB	Methoxychlor	2.98	LCS	P	0 - 30
LFB	Mirex	1.12	LCS	P	0 - 30
LFB	Permethrin	3.13	LCS	P	0 - 30
LFB	Trans-Nonachlor	2.21	LCS	P	0 - 30
LFB	Trifluralin	0.387	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P370133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	2.71	LCS	P	0 - 30
LFB	Toxaphene	3.51	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P369771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114831	3-Hydroxycarbofuran	1.23	Spike	P	0 - 30
2114831	Aldicarb	4.70	Spike	P	0 - 30
2114831	Aldicarb Sulfone	8.18	Spike	P	0 - 30
2114831	Aldicarb Sulfoxide	2.92	Spike	P	0 - 30
2114831	Carbaryl	5.96	Spike	P	0 - 30
2114831	Carbofuran	0.718	Spike	P	0 - 30
2114831	Methiocarb	2.40	Spike	P	0 - 30
2114831	Methomyl	3.68	Spike	P	0 - 30
2114831	Oxamyl	2.83	Spike	P	0 - 30
2114831	Propoxur	1.08	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P370004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115469	2,4-D	13.0	Spike	P	0 - 30
2115469	Acetaminophen	22.4	Spike	P	0 - 30
2115469	Acetamiprid	4.65	Spike	P	0 - 30
2115469	Afidopyropen	13.7	Spike	P	0 - 30
2115469	Bentazon	1.91	Spike	P	0 - 30
2115469	Benzovindiflupyr	11.5	Spike	P	0 - 30
2115469	Carbamazepine	10.1	Spike	P	0 - 30
2115469	Clothianidin	12.1	Spike	P	0 - 30
2115469	Dinotefuran	16.1	Spike	P	0 - 30
2115469	Diuron	11.9	Spike	P	0 - 30
2115469	Fenuron	8.16	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P370004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115469	Fluridone	15.8	Spike	P	0 - 30
2115469	Hydrocodone	6.14	Spike	P	0 - 30
2115469	Ibuprofen	4.27	Spike	P	0 - 30
2115469	Imazapyr	9.35	Spike	P	0 - 30
2115469	Imidacloprid	20.2	Spike	P	0 - 30
2115469	Linuron	12.9	Spike	P	0 - 30
2115469	Mandestrobin	9.43	Spike	P	0 - 30
2115469	MCCP	7.30	Spike	P	0 - 30
2115469	Naproxen	2.65	Spike	P	0 - 30
2115469	Primidone	4.61	Spike	P	0 - 30
2115469	Pyraclostrobin	1.19	Spike	P	0 - 30
2115469	Thiamethoxam	14.8	Spike	P	0 - 30
2115469	Tolfenpyrad	7.84	Spike	P	0 - 30
2115469	Triclopyr	17.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P370034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115665	Acesulfame K	2.52	Spike	P	0 - 30
2115665	AMPA	2.19	Spike	P	0 - 30
2115665	Endothall	0.565	Spike	P	0 - 30
2115665	Glufosinate	0.959	Spike	P	0 - 30
2115665	Glyphosate	3.46	Spike	P	0 - 30
2115665	Sucralose	19.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P370079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116069	Color (true)	0.387	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P370282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116463	Total Alkalinity	1.36	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P370385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116068	TDS	6.67	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P370284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116463	Fluoride	0.958	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P370245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2116070	Organic Carbon	0.460	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: 2116130
Field Sample ID: G4CE0167

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	68.1	P	30 - 160

Lab Sample ID: 2116131
Field Sample ID: G4CE0167

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.4	P	30 - 160
EPA 8321B	Diuron-d6	83.2	P	30 - 160
EPA 8321B	Endothall-d6	105	P	30 - 160
EPA 8321B	Endothall-d6	105	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	110	P	30 - 160
EPA 8321B	Primidone-d5	94.8	P	30 - 160
EPA 8321B	Sucralose-d6	84.8	P	30 - 160
EPA 8321B	Sucralose-d6	84.8	P	30 - 160

Lab Sample ID: 2116132
Field Sample ID: G4CE0167

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	83.1	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	76.9	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	44.3	P	30 - 103
EPA 8276	PCNB	106	P	37 - 143

Lab Sample ID: 2116133
Field Sample ID: G4CE0167

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	97.8	P	68 - 130
EPA 8270E	Terbufos-d10	75.3	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93926

Included Lab Sample IDs: 2116126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93927

Included Lab Sample IDs: 2116124

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

Reference Method: SM 2120 B

Run ID: A93960

Included Lab Sample IDs: 2116124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	105	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A93975

Included Lab Sample IDs: 2116131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	114	109	P/P	60 - 160
Glufosinate	110	116	P/P	60 - 160
Glyphosate	117	119	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93977

Included Lab Sample IDs: 2116131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	107	108	P/P	60 - 160
Endothall	113	117	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93996

Included Lab Sample IDs: 2116131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	84.5	91.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93999

Included Lab Sample IDs: 2116125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94010

Included Lab Sample IDs: 2116125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	98.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94012

Included Lab Sample IDs: 2116124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.8	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A94021

Included Lab Sample IDs: 2116125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	106	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94038

Included Lab Sample IDs: 2116124

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

Reference Method: SM 4500 F-C-97

Run ID: A94038

Included Lab Sample IDs: 2116124

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94050

Included Lab Sample IDs: 2116134

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94059

Included Lab Sample IDs: 2116125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	94.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A94087
 Included Lab Sample IDs: 2116133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	98.2		P	80 - 120
Atrazine	98.7		P	80 - 120
Atrazine Desethyl	105		P	80 - 120
Azinphos Methyl	94.7		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	96.8		P	80 - 120
Chlorpyrifos Ethyl	96.2		P	80 - 120
Chlorpyrifos Methyl	97.4		P	80 - 120
Cyanazine	95.3		P	80 - 120
Demeton	97.4		P	80 - 120
Diazinon	99.4		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	99.2		P	80 - 120
Dithiopyr	98.8		P	80 - 120
EPTC	96.7		P	80 - 120
Ethion	97.4		P	80 - 120
Ethoprop	98.7		P	80 - 120
Fenamiphos	98.0		P	80 - 120
Fipronil	98.9		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	97.8		P	80 - 120
Fipronil Sulfone	98.5		P	80 - 120
Fonofos	98.2		P	80 - 120
Hexazinone	100		P	80 - 120
Malathion	97.5		P	80 - 120
Metaxyl	102		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	88.0		P	80 - 120
Mevinphos	99.9		P	80 - 120
Molinate	87.1		P	80 - 120
Norflurazon	98.9		P	80 - 120
Oxadiazon	102		P	80 - 120
Parathion Ethyl	98.0		P	80 - 120
Parathion Methyl	99.7		P	80 - 120
Pendimethalin	97.7		P	80 - 120
Phorate	97.5		P	80 - 120
Prodiamine	95.4		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	100		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	98.2		P	80 - 120
Terbutylazine	98.1		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A94099
 Included Lab Sample IDs: 2116125

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94099

Included Lab Sample IDs: 2116125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.8	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A94113

Included Lab Sample IDs: 2116132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	91.7		P	80 - 120
Alpha-BHC	97.0		P	80 - 120
Alpha-Chlordane	90.8		P	80 - 120
Beta-BHC	97.7		P	80 - 120
Bifenthrin	88.1		P	80 - 120
Carbophenothion	94.1		P	80 - 120
Chlorothalonil	77.3*		F	80 - 120
Cis-Nonachlor	91.0		P	80 - 120
Cypermethrin	87.4		P	80 - 120
DDD-p,p'	95.5		P	80 - 120
DDE-p,p'	92.5		P	80 - 120
DDT-p,p'	98.3		P	80 - 120
Delta-BHC	93.3		P	80 - 120
Dicofol	98.3		P	80 - 120
Dieldrin	92.4		P	80 - 120
Endosulfan I	88.0		P	80 - 120
Endosulfan II	92.1		P	80 - 120
Endosulfan Sulfate	97.9		P	80 - 120
Endrin	94.1		P	80 - 120
Endrin Aldehyde	86.9		P	80 - 120
Endrin Ketone	95.3		P	80 - 120
Ethalfuralin	93.2		P	80 - 120
Gamma-BHC	95.8		P	80 - 120
Gamma-Chlordane	91.7		P	80 - 120
Heptachlor	89.3		P	80 - 120
Heptachlor Epoxide	91.4		P	80 - 120
Hexachlorobenzene	97.5		P	80 - 120
Methoxychlor	90.8		P	80 - 120
Mirex	96.1		P	80 - 120
Permethrin	85.2		P	80 - 120
Trans-Nonachlor	91.3		P	80 - 120
Trifluralin	94.0		P	80 - 120

Reference Method: EPA 8321B

Run ID: A94124

Included Lab Sample IDs: 2116131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	122	P/P	50 - 150
3-Hydroxycarbofuran	106	99.2	P/P	60 - 150
Acetaminophen	104	98.9	P/P	60 - 160
Acetamiprid	108	108	P/P	50 - 150
Afidopyropen	107	98.0	P/P	50 - 150
Aldicarb	99.0	99.7	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94124

Included Lab Sample IDs: 2116130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldicarb Sulfone	103	103	P/P	50 - 150
Aldicarb Sulfoxide	104	104	P/P	50 - 150
Bentazon	95.8	92.4	P/P	50 - 160
Benzovindiflupyr	104	105	P/P	50 - 150
Carbamazepine	114	114	P/P	60 - 150
Carbaryl	101	99.6	P/P	60 - 150
Carbofuran	113	110	P/P	50 - 150
Clothianidin	116	117	P/P	60 - 150
Dinotefuran	96.7	103	P/P	50 - 150
Diuron	106	107	P/P	60 - 150
Fenuron	110	109	P/P	60 - 150
Fluridone	122	124	P/P	60 - 160
Hydrocodone	98.0	104	P/P	60 - 150
Ibuprofen	101	123	P/P	50 - 160
Imazapyr	80.9	78.5	P/P	50 - 150
Imidacloprid	97.4	101	P/P	60 - 150
Linuron	89.7	93.2	P/P	60 - 150
Mandestrobin	118	115	P/P	50 - 150
MCPP	125	127	P/P	50 - 150
Methiocarb	105	104	P/P	50 - 150
Methomyl	102	101	P/P	50 - 150
Naproxen	131	109	P/P	50 - 160
Oxamyl	105	105	P/P	50 - 150
Primidone	100	102	P/P	60 - 150
Propoxur	108	102	P/P	50 - 150
Pyraclostrobin	116	116	P/P	60 - 150
Thiamethoxam	97.7	99.7	P/P	50 - 150
Tolfenpyrad	140	132	P/P	60 - 150
Triclopyr	118	128	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94206

Included Lab Sample IDs: 2116134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.2	98.6	P/P	90 - 110
Antimony	95.9	95.6	P/P	90 - 110
Arsenic	101	99.6	P/P	90 - 110
Boron	100	104	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Copper	99.7	101	P/P	90 - 110
Lead	97.0	98.9	P/P	90 - 110
Nickel	99.3	99.9	P/P	90 - 110
Selenium	98.9	98.6	P/P	90 - 110
Silver	98.4	98.2	P/P	90 - 110
Thallium	95.8	96.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94208

Included Lab Sample IDs: 2116134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	99.6	99.4	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A94286

Included Lab Sample IDs: 2116132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	92.7		P	80 - 120
Toxaphene	99.7		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						1.05	
EPA 200.7 Rev. 4.4	Barium	106		107	104			1.95
	Calcium	110		109				1.22
	Iron	111		109	109			0.222
	Magnesium	112		109	108			0.402
	Potassium	107		107	107			0.364
	Sodium	107		109	109			0.209
	Zinc	104		104	102			1.85
EPA 200.8 Rev. 5.4	Aluminum	95.3		95.6	95.3			0.268
	Antimony	95.6		96.8	97.1			0.298
	Arsenic	97.0		98.1	98.3			0.174
	Boron	103		99.3	101			1.74
	Cadmium	97.6		99.0	99.9			0.910
	Chromium	93.3		94.5	94.8			0.317
	Copper	95.6		93.7	94.9			1.25
	Lead	94.0		95.6	96.2			0.653
	Nickel	95.7		94.3	95.0			0.754
	Selenium	95.8		95.1	92.3			2.99
	Silver	100		99.8	99.3			0.544
	Thallium	98.3		101	103			2.56
EPA 300.0 Rev. 2.1	Chloride	99.1		97.8	99.4		1.24	
	Sulfate	98.9		98.4	98.4		2.65	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8		97.0	97.4			0.236
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.6		94.1	96.0			1.26
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104		95.8	95.2			0.495
EPA 365.1 Rev. 2.0	Total-P	93.8		98.8	99.4			0.368
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5		99.1	98.8			0.303
EPA 8270E	Acetochlor	99.7	87.4	75.6	75.6	13.2		0.0438
	Alachlor	95.0	84.0	79.4	96.0	12.4		19.0
	Aldrin	33.8	33.2	88.7		1.74		
	Alpha-BHC	107	109	128		1.90		
	Alpha-Chlordane	89.0	91.0	98.6		2.30		
	Ametryn	98.8	91.2	108	110	8.02		2.51
	Atrazine	104	106			1.70		2.23
	Atrazine Desethyl	72.1	136	123	127	61.7		2.31
	Azinphos Methyl	98.9	108	98.9	95.8	8.99		3.10
	Beta-BHC	121	117	132		3.27		
	Bifenthrin	76.3	78.6	128		2.96		
	Bromacil	95.8	77.0			21.8		2.11
	Butylate	60.1	57.6	53.6	49.4	4.33		8.23
	Carbophenothion	85.2	88.6	142		3.86		
	Chlorothalonil	75.8	82.0	131		7.76		
	Chlorpyrifos Ethyl	93.8	97.9	93.2	92.4	4.26		0.822
	Chlorpyrifos Methyl	85.9	103	95.7	94.3	18.3		1.51
	Cis-Nonachlor	89.6	91.0	99.1		1.55		
	Cyanazine	86.8	298	144	148	110		2.78
	Cypermethrin	82.1	83.5	144		1.72		
	DDD-p,p'	102	101	103		0.533		
	DDE-p,p'	89.0	89.4	97.6		0.433		
	DDT-p,p'	91.4	89.4	124		2.23		
	Delta-BHC	122	123	135		0.674		
	Demeton	65.3	78.2	114	112	17.9		2.21
	Diazinon	95.1	97.0	95.8	97.0	1.97		1.24
	Dicofol	97.7	97.8	90.0		0.125		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8270E	Dieldrin	96.3	100	99.5		3.85		
	Dimethenamid	98.3	85.8	61.6	58.1	13.7		5.90
	Disulfoton	73.4	87.8	105	108	17.8		2.61
	Dithiopyr	98.4	87.5	76.0	75.3	11.7		0.944
	Endosulfan I	101	102	108		1.16		
	Endosulfan II	106	106	118		0.171		
	Endosulfan Sulfate	96.3	97.3	108		1.02		
	Endrin	104	114	120		9.28		
	Endrin Aldehyde	102	104	104		1.17		
	Endrin Ketone	95.3	96.1	120		0.773		
	EPTC	57.2	64.2	57.6	51.8	11.4		10.6
	Ethalfuralin	105	107	122		2.01		
	Ethion	100	97.7	89.3	95.6	2.54		6.86
	Ethoprop	83.0	101	108	108	20.0		0.691
	Fenamiphos	83.1	57.3	48.5	47.6	36.8		1.92
	Fipronil	107	81.3	81.6	77.6	26.9		3.94
	Fipronil Desulfinyl	102	85.3	80.9	80.5	17.6		0.411
	Fipronil Sulfide	102	96.9	90.4	87.7	5.17		2.34
	Fipronil Sulfone	100	90.6	80.6	65.3	9.85		12.6
	Fonofos	76.6	102	110	104	28.1		4.99
	Gamma-BHC	118	121	149		2.56		
	Gamma-Chlordane	85.7	86.0	99.1		0.251		
	Heptachlor	75.2	77.0	95.7		2.31		
	Heptachlor Epoxide	94.5	96.3	99.6		1.90		
	Hexachlorobenzene	82.0	80.0	94.5		2.50		
	Hexazinone	114	101	110	104	11.6		6.19
	Malathion	106	46.8	61.6	53.5	77.7		14.0
	Metalaxyl	91.2	89.2	82.4	76.4	2.21		7.54
	Methoxychlor	101	105	123		2.98		
	Metolachlor	99.9	86.0	80.1	80.4	15.0		0.299
	Metribuzin	88.2	220	307	322	85.6		3.53
	Mevinphos	71.0	84.8	39.1	36.9	17.7		5.70
	Mirex	61.7	62.4	81.5		1.12		
	Molinate	59.7	73.7	68.6	62.3	21.1		9.64
	Norflurazon	107	94.2	80.2	79.1	12.3		1.38
	Oxadiazon	103	85.7	74.7	73.7	18.1		1.15
	Parathion Ethyl	95.3	97.0	97.1	98.3	1.76		1.25
	Parathion Methyl	102	114	114	114	10.6		0.272
	Pendimethalin	82.4	89.0	96.5	96.5	7.66		0.0042
	Permethrin	71.2	73.4	106		3.13		
	Phorate	80.7	99.4	113	112	20.8		0.909
	Prodiamine	72.9	69.8	75.5	74.7	4.36		1.02
	Prometon	94.8	85.1	96.1	106	10.8		7.25
	Prometryn	100	84.9	83.2	84.1	16.5		1.08
	Simazine	102	114	102	110	11.1		3.88
	Tebuconazole	74.7	22.5	24.9	20.0	107		22.0
	Terbufos	79.4	97.7	113	115	20.6		1.30
	Terbuthylazine	100	98.2	94.8	97.9	1.77		3.18
	Trans-Nonachlor	84.1	86.0	90.1		2.21		
	Trifluralin	106	106	124		0.387		
EPA 8276	Chlordane	85.0	87.3	87.4		2.71		
	Toxaphene	87.0	84.0	70.9		3.51		
EPA 8321B	2,4-D	110		205	180			13.0
	3-Hydroxycarbofuran	75.9		89.3	90.4			1.23

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Acesulfame K	150	136	139			2.52
	Acetaminophen	73.1	104	83.0			22.4
	Acetamiprid	87.0	107	102			4.65
	Afidopyropen	99.1	114	99.1			13.7
	Aldicarb	66.4	45.6	43.5			4.70
	Aldicarb Sulfone	92.7	101	92.7			8.18
	Aldicarb Sulfoxide	69.7	48.3	47.0			2.92
	AMPA	149	150	153			2.19
	Bentazon	90.4	56.8	55.7			1.91
	Benzovindiflupyr	87.2	114	101			11.5
	Carbamazepine	94.7	121	109			10.1
	Carbaryl	67.8	66.9	71.0			5.96
	Carbofuran	82.8	75.0	75.6			0.718
	Clothianidin	94.1	139	123			12.1
	Dinotefuran	82.7	138	118			16.1
	Diuron	97.6	115	102			11.9
	Endothall	109	107	106			0.565
	Fenuron	99.3	102	93.6			8.16
	Fluridone	107	127	109			15.8
	Glufosinate	118	119	118			0.959
	Glyphosate	130	128	132			3.46
	Hydrocodone	90.7	121	114			6.14
	Ibuprofen	135	150	144			4.27
	Imazapyr	75.9	112	102			9.35
	Imidacloprid	94.2	257	210			20.2
	Linuron	76.7	87.8	77.1			12.9
	Mandestrobin	95.7	113	103			9.43
	MCPP	139	238	221			7.30
	Methiocarb	77.5	73.0	71.3			2.40
	Methomyl	81.0	78.4	75.4			3.68
	Naproxen	112	136	133			2.65
	Oxamyl	96.2	90.7	88.2			2.83
	Primidone	82.6	117	112			4.61
	Propoxur	85.9	75.3	74.5			1.08
	Pyraclostrobin	87.1	109	108			1.19
	Sucralose	101	93.3	113			19.1
	Thiamethoxam	91.7	206	178			14.8
	Tolfenpyrad	70.6	101	93.7			7.84
	Triclopyr	75.8	162	137			17.1
SM 2120 B	Color (true)	102				0.387	
SM 2320 B-97	Total Alkalinity	104				1.36	
SM 2540 C-97	TDS					6.67	
SM 4500 F-C-97	Fluoride	98.9	98.5	97.4			0.958
SM 5310 B-00	Organic Carbon	102	102	102			0.460

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2116124
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2116134

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	2116134
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2116124
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2116124
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2116125
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2116125
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2116125
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2116125
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2116126
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2116132
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2116133
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2116132
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2116130
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2116131
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2116131
SM 2120 B / E31780	True Color measured at 450 nm	2116124
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2116124
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2116124
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2116124
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2116124
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2116125

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/30/2019			08/30/2019 16:15	Samantha Davila	2116124
EPA 200.7 Rev. 4.4	08/30/2019	09/04/2019 13:30	Elliott D. Healy	09/06/2019 16:36	Alexander Thompson	2116134
EPA 200.8 Rev. 5.4	08/30/2019	09/04/2019 13:30	Elliott D. Healy	09/12/2019 22:48	Robert K Palmer	2116134
	08/30/2019	09/04/2019 13:30	Elliott D. Healy	09/14/2019 04:14	Robert K Palmer	2116134
EPA 300.0 Rev. 2.1	08/30/2019			09/06/2019 17:10	Jhamieka S. Greenwood	2116124
EPA 350.1 Rev. 2.0	08/30/2019			09/06/2019 12:53	Ping Hua	2116125
EPA 351.2 Rev. 2.0	08/30/2019	09/04/2019 13:40	Sima Feizi	09/05/2019 12:12	Joseph Suarez	2116125
EPA 353.2 Rev. 2.0	08/30/2019			09/05/2019 11:17	Beverly Y. Sanders	2116125
EPA 365.1 Rev. 2.0	08/30/2019	09/09/2019 13:10	Lipi Saha	09/10/2019 11:28	Rosalyn Ballman	2116125
EPA 365.1 Rev. 2.0 dissolved	08/30/2019			08/30/2019 14:51	Jhamieka S. Greenwood	2116126
EPA 8270E	08/30/2019	08/30/2019 14:30	Fe-Val Siddell	09/04/2019 21:23	Vandana T. Nagar	2116133
	08/30/2019	09/05/2019 08:30	Rasheda Ghaffari	09/10/2019 22:05	Arthur Maknenko	2116132
EPA 8276	08/30/2019	09/05/2019 08:30	Rasheda Ghaffari	09/13/2019 22:51	Michael Poppell	2116132
EPA 8321B	08/30/2019	08/30/2019 12:30	Hoor Shaik	09/01/2019 03:11	Juyoung Kim	2116130
	08/30/2019	09/03/2019 10:00	Rebecca Ware	09/03/2019 13:34	Rebecca Ware	2116131
	08/30/2019	09/03/2019 10:00	Rebecca Ware	09/03/2019 20:27	Rebecca Ware	2116131
	08/30/2019	09/03/2019 10:00	Rebecca Ware	09/04/2019 19:16	Rebecca Ware	2116131
	08/30/2019	09/04/2019 07:00	Fe-Val Siddell	09/06/2019 03:29	Juyoung Kim	2116131
SM 2120 B	08/30/2019			08/30/2019 18:07	Madeline Funaro	2116124
SM 2320 B-97	08/30/2019			09/06/2019 00:49	Dale L. Simmons	2116124
SM 2540 C-97	08/30/2019			08/30/2019 15:41	Yijie Li	2116124
SM 2540 D-97	08/30/2019			08/30/2019 15:41	Yijie Li	2116124
SM 4500 F-C-97	08/30/2019			09/06/2019 00:49	Dale L. Simmons	2116124
SM 5310 B-00	08/30/2019			09/05/2019 22:03	Madeline Funaro	2116125