

Chemical Analysis Report

CEN-DIST-2018-01-26-03

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

Event Description: **Chain of Lakes**
Request ID: **RQ-2018-01-15-30**
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
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-FEB-2018 16:50

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: THREE ISLAND LAKE @ CENTER OF S LOBE Collection Date/Time: 01/25/2018 11:37

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1962622	EPA 180.1 Rev. 2.0	Turbidity	1.1	A	NTU	P338892	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P339114	
		Sulfate	8.2		mg SO4/L	P339112	
	SM 2120 B	Color (true)	250		PCU	P338888	
	SM 2320 B-97	Total Alkalinity	5.2		mg CaCO3/L	P339303	
	SM 2540 C-97	TDS	93		mg/L	P339396	
	SM 2540 D-97	TSS	2	I	mg/L	P339383	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P339307	
1962623	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P339287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P338908	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.034		mg N/L	P339034	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P339029	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P339238	
1962624	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P338885	
1962631	EPA 200.7 Rev. 4.4	Calcium	6.54		mg/L	P339027	
		Iron	250		ug/L	P339027	
		Magnesium	1.79		mg/L	P339027	
		Potassium	2.6		mg/L	P339027	
		Sodium	12.7		mg/L	P339027	
	EPA 200.8 Rev. 5.4	Zinc	5.8	I	ug/L	P339027	
		Arsenic	1.32		ug/L	P339027	
		Cadmium	0.020	U	ug/L	P339027	
		Chromium	0.80	I	ug/L	P339027	
		Copper	0.74	I	ug/L	P339027	
		Lead	0.54		ug/L	P339027	
		Nickel	0.58	I	ug/L	P339027	
		Silver	0.010	U	ug/L	P339027	

Ref. Method and Comment:

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

Sample Location: THREE ISLAND LAKE @ CENTER OF S LOBE Collection Date/Time: 01/25/2018 11:37

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1962627	EPA 8321B	Glyphosate**	0.10	U	ug/L	P338988	
		AMPA**	0.10	U	ug/L	P338988	
		Pyraclostrobin**	0.0020	U	ug/L	P338801	
		Sucralose**	1.9		ug/L	P338824	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P338801	
		Diuron	0.18		ug/L	P338801	
		Fenuron	0.0080	U	ug/L	P338801	
		Imidacloprid	0.0028	I	ug/L	P338801	MS
		Bentazon	0.0040		ug/L	P338801	
		Linuron	0.0040	U	ug/L	P338801	

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1962627	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P338801	
		MCPD	0.0020	U	ug/L	P338801	
		Carbamazepine**	5.6E-04	I	ug/L	P338801	
		Triclopyr**	0.0040	U	ug/L	P338801	
		Primidone**	0.0040	U	ug/L	P338801	
		Fluridone**	4.0E-04	U	ug/L	P338801	
1962628	EPA 8321B	Aldicarb	0.020	U	ug/L	P338801	
		Aldicarb Sulfone	0.0020	U	ug/L	P338801	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P338801	
		Carbaryl	0.0020	U	ug/L	P338801	
		Carbofuran	0.0020	U	ug/L	P338801	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P338801	
		Methiocarb	0.0020	U	ug/L	P338801	
		Methomyl	0.0020	U	ug/L	P338801	
		Oxamyl	0.0020	U	ug/L	P338801	
		Propoxur	0.0020	U	ug/L	P338801	
1962629	EPA 8270D	Aldrin	4.5	UJ	ng/L	P338909	RPD
		Alpha-BHC	2.3	U	ng/L	P338909	
		Beta-BHC	4.5	U	ng/L	P338909	RPD
		Delta-BHC	4.5	U	ng/L	P338909	RPD
		Gamma-BHC	4.5	U	ng/L	P338909	
		Carbophenothion	4.5	U	ng/L	P338909	
		Chlorothalonil	2.3	U	ng/L	P338909	
		Cypermethrin	23	U	ng/L	P338909	
		DDD-p,p'	3.4	U	ng/L	P338909	RPD
		DDE-p,p'	3.4	U	ng/L	P338909	
		DDT-p,p'	3.4	U	ng/L	P338909	RPD
		Dieldrin	4.5	U	ng/L	P338909	
		Endosulfan I	4.5	U	ng/L	P338909	
		Endosulfan II	4.5	U	ng/L	P338909	
		Endosulfan Sulfate	2.3	U	ng/L	P338909	MS, RPD
		Endrin	2.3	U	ng/L	P338909	
		Endrin Aldehyde	2.3	U	ng/L	P338909	
		Heptachlor	1.7	U	ng/L	P338909	
		Heptachlor Epoxide	2.3	U	ng/L	P338909	
		Methoxychlor	4.5	U	ng/L	P338909	
		Mirex	2.3	U	ng/L	P338909	
		Permethrin	11	U	ng/L	P338909	
		Trifluralin	1.1	U	ng/L	P338909	
		Alpha-Chlordane	1.1	U	ng/L	P338909	
		Gamma-Chlordane	1.1	U	ng/L	P338909	
		Endrin Ketone	2.3	U	ng/L	P338909	MS
		Dicofol	34	U	ng/L	P338909	
	EPA 8276	Chlordane**	2.8	U	ng/L	P338909	
		Toxaphene**	14	U	ng/L	P338909	

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1962630	EPA 8270D	Alachlor	0.26	U	ng/L	P338832	
		Ametryn	0.34	U	ng/L	P338832	MS
		Atrazine	2.7		ng/L	P338832	
		Atrazine Desethyl	1.6	U	ng/L	P338832	
		Azinphos Methyl	2.4	U	ng/L	P338832	
		Bromacil	0.53	U	ng/L	P338832	
		Butylate	0.42	U	ng/L	P338832	RPD
		Chlorpyrifos Ethyl	0.26	U	ng/L	P338832	
		Chlorpyrifos Methyl	0.11	U	ng/L	P338832	
		Demeton	2.1	U	ng/L	P338832	
		Diazinon	0.13	U	ng/L	P338832	
		Disulfoton	0.53	U	ng/L	P338832	
		EPTC	1.3	U	ng/L	P338832	RPD
		Ethion	0.16	U	ng/L	P338832	
		Ethoprop	0.11	U	ng/L	P338832	
		Fenamiphos	0.26	UJ	ng/L	P338832	LCS, RPD
		Fipronil	0.26	U	ng/L	P338832	
		Fipronil Sulfide	0.16	U	ng/L	P338832	RPD
		Fipronil Sulfone	0.16	U	ng/L	P338832	MS, RPD
		Hexazinone	0.53	UJ	ng/L	P338832	LCS
		Malathion	0.37	U	ng/L	P338832	
		Metribuzin	0.21	U	ng/L	P338832	
		Mevinphos	0.53	U	ng/L	P338832	
		Molinate	0.32	U	ng/L	P338832	RPD
		Norflurazon	0.53	U	ng/L	P338832	RPD
		Pendimethalin	1.1	U	ng/L	P338832	
		Phorate	0.26	U	ng/L	P338832	
		Prometon	0.95	U	ng/L	P338832	
		Prometryn	0.21	U	ng/L	P338832	
		Simazine	0.53	U	ng/L	P338832	
		Terbufos	0.11	U	ng/L	P338832	
		Terbuthylazine	0.45	U	ng/L	P338832	
		Fonofos	0.21	U	ng/L	P338832	
		Metalaxyl	0.26	UJ	ng/L	P338832	LCS, RPD
		Metolachlor	0.42	I	ng/L	P338832	
		Acetochlor	0.26	U	ng/L	P338832	
		Cyanazine	0.53	U	ng/L	P338832	
		Parathion Ethyl	0.26	U	ng/L	P338832	
		Parathion Methyl	0.26	U	ng/L	P338832	

Ref. Method and Comment:

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

EPA 8270D: MS accuracy for Atrazine not assessed due to high content of this parameter in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P338892

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339027

Component	Result	Code	Units
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: P339027

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339112

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339114

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339287

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338908

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P339034

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P339029

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P338885

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

Reference Method: EPA 8270D
 Batch ID: P338832

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	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	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	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	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P338832

Component	Result	Code	Units
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P338909

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	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	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
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276
Batch ID: P338909

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	12	U	ng/L

Reference Method: EPA 8321B
Batch ID: P338801

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P338801

Component	Result	Code	Units
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
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P338824

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P338988

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Glyphosate	0.10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P338888

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P339303

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

Reference Method: SM 2540 C-97
Batch ID: P339396

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P339383

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P339307

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P339238

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

Reference Method: USGS O-2060-01
Batch ID: P338801

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	102		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	100		P	85 - 115
Sodium	98.2		P	85 - 115
Zinc	99.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	98.6		P	85 - 115
Chromium	99.3		P	85 - 115
Copper	97.4		P	85 - 115
Lead	103		P	85 - 115
Nickel	100		P	85 - 115
Silver	97.1		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339112

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.9		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339114

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339287

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338885

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.5		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P338832

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	101	104	P/P	74 - 119
Alachlor	105	107	P/P	75 - 118
Ametryn	109	105	P/P	59 - 137
Atrazine	100	109	P/P	73 - 120
Atrazine Desethyl	63.1	66.0	P/P	19 - 129
Azinphos Methyl	98.7	111	P/P	65 - 181
Bromacil	72.9	75.5	P/P	43 - 123
Butylate	66.9	80.9	P/P	28 - 85.0
Chlorpyrifos Ethyl	97.1	112	P/P	55 - 112
Chlorpyrifos Methyl	86.3	101	P/P	35 - 124
Cyanazine	97.1	90.1	P/P	26 - 262
Demeton	62.7	82.2	P/P	43 - 122
Diazinon	101	105	P/P	72 - 120
Disulfoton	60.7	77.6	P/P	45 - 137
EPTC	66.4	87.4	P/P	28 - 95.0
Ethion	112	121	P/P	63 - 127

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P338832

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethoprop	83.7	94.2	P/P	63 - 109
Fenamiphos	50.1	70.3	F/P	66 - 136
Fipronil	105	101	P/P	63 - 126
Fipronil Sulfide	111	108	P/P	59 - 123
Fipronil Sulfone	110	106	P/P	56 - 122
Fonofos	87.9	95.8	P/P	64 - 114
Hexazinone	142	158	P/F	49 - 144
Malathion	115	117	P/P	68 - 131
Metalaxyl	33.1	59.5	F/P	57 - 126
Metolachlor	107	111	P/P	75 - 118
Metribuzin	95.2	108	P/P	46 - 169
Mevinphos	81.2	91.7	P/P	34 - 126
Molinate	70.0	88.8	P/P	37 - 101
Norflurazon	92.7	80.2	P/P	63 - 127
Parathion Ethyl	103	103	P/P	78 - 109
Parathion Methyl	101	106	P/P	74 - 123
Pendimethalin	92.3	108	P/P	51 - 130
Phorate	65.3	86.5	P/P	53 - 116
Prometon	98.7	90.5	P/P	66 - 124
Prometryn	102	105	P/P	66 - 124
Simazine	105	110	P/P	62 - 134
Terbufos	81.4	93.1	P/P	59 - 115
Terbuthylazine	107	110	P/P	76 - 113

Reference Method: EPA 8270D

Batch ID: P338909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	54.7	40.2	P/P	24 - 89.0
Alpha-BHC	88.3	80.6	P/P	58 - 117
Alpha-Chlordane	87.6	75.1	P/P	56 - 115
Beta-BHC	104	83.2	P/P	55 - 137
Carbophenothion	108	91.0	P/P	37 - 145
Chlorothalonil	95.4	90.2	P/P	26 - 163
Cypermethrin	108	94.0	P/P	42 - 156
DDD-p,p'	100	81.8	P/P	59 - 129
DDE-p,p'	88.5	75.3	P/P	52 - 117
DDT-p,p'	90.8	82.9	P/P	48 - 128
Delta-BHC	111	94.6	P/P	59 - 158
Dicofol	70.9	66.7	P/P	19 - 124
Dieldrin	88.0	79.6	P/P	57 - 126
Endosulfan I	90.6	76.7	P/P	59 - 133
Endosulfan II	106	99.0	P/P	58 - 148
Endosulfan Sulfate	91.7	81.8	P/P	56 - 135
Endrin	91.0	74.0	P/P	50 - 140
Endrin Aldehyde	96.3	74.2	P/P	47 - 141
Endrin Ketone	90.9	83.1	P/P	63 - 123
Gamma-BHC	110	98.4	P/P	59 - 132
Gamma-Chlordane	88.4	76.6	P/P	55 - 112
Heptachlor	75.4	66.7	P/P	45 - 102
Heptachlor Epoxide	86.1	76.0	P/P	61 - 116
Methoxychlor	101	93.6	P/P	60 - 133

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P338909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mirex	88.0	79.0	P/P	40 - 98.0
Permethrin	103	92.7	P/P	45 - 131
Trifluralin	84.9	77.8	P/P	38 - 179

Reference Method: EPA 8276

Batch ID: P338909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	75.2	71.5	P/P	47 - 125
Toxaphene	80.4	70.9	P/P	46 - 147

Reference Method: EPA 8321B

Batch ID: P338801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	100		P	40 - 150
Aldicarb	124		P	30 - 150
Aldicarb Sulfone	107		P	40 - 150
Aldicarb Sulfoxide	122		P	40 - 150
Carbaryl	81.0		P	40 - 150
Carbofuran	83.9		P	40 - 150
Methiocarb	84.2		P	40 - 150
Methomyl	108		P	40 - 150
Oxamyl	112		P	40 - 150
Propoxur	85.0		P	40 - 150
Pyraclostrobin	106		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P338824

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P338988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	114		P	40 - 150
Glyphosate	129		P	40 - 150

Reference Method: SM 2320 B-97

Batch ID: P339303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	95 - 108

Reference Method: SM 4500 F-C-97

Batch ID: P339307

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P339238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P338801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.4		P	40 - 150
Acetaminophen	105		P	30 - 150
Bentazon	82.7		P	30 - 150
Carbamazepine	99.9		P	40 - 150
Diuron	88.8		P	40 - 150
Fenuron	117		P	40 - 150
Fluridone	117		P	40 - 150
Imidacloprid	112		P	40 - 160
Linuron	103		P	40 - 150
MCP	84.1		P	40 - 150
Primidone	119		P	40 - 150
Triclopyr	81.2		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962497	Calcium	99.5		P	80 - 120
1962497	Iron	107	105	P/P	80 - 120
1962497	Magnesium	99.8		P	80 - 120
1962497	Potassium	102	100	P/P	80 - 120
1962497	Sodium	99.1		P	80 - 120
1962497	Zinc	102	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962497	Arsenic	104	105	P/P	80 - 120
1962497	Cadmium	102	102	P/P	80 - 120
1962497	Chromium	98.4	100	P/P	80 - 120
1962497	Copper	97.7	99.4	P/P	80 - 120
1962497	Lead	106	106	P/P	80 - 120
1962497	Nickel	100	101	P/P	80 - 120
1962497	Silver	98.2	97.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962772	Sulfate	95.4		P	90 - 110
1962807	Sulfate	93.3		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962772	Chloride	96.5		P	90 - 110
1962807	Chloride	91.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962713	Ammonia-N	96.7	94.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962623	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962433	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962713	Total-P	109	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962437	O-Phosphate-P	95.5	96.4	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P338832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961026	Acetochlor	102	101	P/P	67 - 125
1961026	Alachlor	106	103	P/P	69 - 123
1961026	Ametryn	170	163	F/F	52 - 151
1961026	Atrazine Desethyl	73.2	54.0	P/P	10 - 129
1961026	Azinphos Methyl	129	120	P/P	48 - 200
1961026	Bromacil	95.7	81.8	P/P	46 - 130
1961026	Butylate	32.2	43.8	P/P	10 - 85.0
1961026	Chlorpyrifos Ethyl	108	106	P/P	54 - 115
1961026	Chlorpyrifos Methyl	104	101	P/P	44 - 117
1961026	Cyanazine	163	129	P/P	10 - 262
1961026	Demeton	61.5	64.6	P/P	24 - 145
1961026	Diazinon	95.7	98.0	P/P	66 - 129
1961026	Disulfoton	88.2	83.0	P/P	45 - 139
1961026	EPTC	32.5	46.6	P/P	10 - 86.0
1961026	Ethion	121	118	P/P	59 - 133

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P338832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961026	Ethoprop	72.1	69.9	P/P	54 - 116
1961026	Fenamiphos	104	89.7	P/P	55 - 140
1961026	Fipronil	101	77.4	P/P	37 - 142
1961026	Fipronil Sulfide	98.0	66.4	P/P	37 - 130
1961026	Fipronil Sulfone	92.2	16.1	P/F	18 - 143
1961026	Fonofos	92.1	86.5	P/P	55 - 118
1961026	Hexazinone	126	111	P/P	62 - 140
1961026	Malathion	119	109	P/P	64 - 132
1961026	Metalaxyl	126	112	P/P	55 - 129
1961026	Metolachlor	109	110	P/P	56 - 137
1961026	Metribuzin	163	154	P/P	16 - 218
1961026	Mevinphos	69.4	67.0	P/P	34 - 129
1961026	Molinate	41.3	56.0	P/P	16 - 99.0
1961026	Norflurazon	107	78.3	P/P	43 - 135
1961026	Parathion Ethyl	105	108	P/P	71 - 112
1961026	Parathion Methyl	108	107	P/P	65 - 127
1961026	Pendimethalin	108	116	P/P	35 - 159
1961026	Phorate	72.2	73.3	P/P	41 - 129
1961026	Prometon	116	112	P/P	56 - 140
1961026	Prometryn	105	103	P/P	65 - 130
1961026	Simazine	117	120	P/P	54 - 148
1961026	Terbufos	88.1	84.8	P/P	53 - 126
1961026	Terbutylazine	109	107	P/P	73 - 114

Reference Method: EPA 8270D

Batch ID: P338909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962128	Aldrin	61.9	46.5	P/P	26 - 96.0
1962128	Alpha-BHC	93.8	84.8	P/P	51 - 123
1962128	Alpha-Chlordane	76.9	60.6	P/P	45 - 120
1962128	Beta-BHC	71.6	47.8	P/P	43 - 146
1962128	Carbophenothion	153	137	P/P	26 - 179
1962128	Chlorothalonil	67.2	57.1	P/P	10 - 215
1962128	Cypermethrin	125	104	P/P	35 - 169
1962128	DDD-p,p'	77.2	55.7	P/P	49 - 131
1962128	DDE-p,p'	75.4	62.0	P/P	39 - 127
1962128	DDT-p,p'	72.8	53.5	P/P	49 - 120
1962128	Delta-BHC	91.6	62.7	P/P	49 - 187
1962128	Dicofol	60.2	58.8	P/P	10 - 129
1962128	Dieldrin	74.0	57.8	P/P	46 - 132
1962128	Endosulfan I	85.7	69.5	P/P	57 - 130
1962128	Endosulfan II	81.7	62.0	P/P	52 - 148
1962128	Endosulfan Sulfate	63.4	42.8	P/F	55 - 129
1962128	Endrin	80.8	69.8	P/P	45 - 133
1962128	Endrin Aldehyde	28.0	36.9	P/P	26 - 140
1962128	Endrin Ketone	65.3	49.3	P/F	60 - 125
1962128	Gamma-BHC	93.0	97.2	P/P	50 - 145
1962128	Gamma-Chlordane	79.4	62.2	P/P	44 - 118
1962128	Heptachlor	70.1	52.0	P/P	35 - 106
1962128	Heptachlor Epoxide	77.1	59.7	P/P	52 - 123
1962128	Methoxychlor	81.2	64.8	P/P	54 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P338909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962128	Mirex	75.0	59.5	P/P	36 - 107
1962128	Permethrin	111	90.2	P/P	47 - 135
1962128	Trifluralin	78.2	61.3	P/P	32 - 228

Reference Method: EPA 8276
Batch ID: P338909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961515	Chlordane	63.4	65.4	P/P	41 - 134
1961515	Toxaphene	59.9	66.6	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P338801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962120	3-Hydroxycarbofuran	122	120	P/P	40 - 150
1962120	Aldicarb	117	119	P/P	30 - 150
1962120	Aldicarb Sulfone	131	133	P/P	40 - 150
1962120	Aldicarb Sulfoxide	83.1	82.4	P/P	40 - 150
1962120	Carbaryl	68.9	72.5	P/P	40 - 150
1962120	Carbofuran	74.4	76.5	P/P	40 - 150
1962120	Methiocarb	80.8	78.1	P/P	40 - 150
1962120	Methomyl	81.5	79.9	P/P	40 - 150
1962120	Oxamyl	95.8	98.2	P/P	40 - 150
1962120	Propoxur	68.3	69.1	P/P	40 - 150
1962120	Pyraclostrobin	104	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338824

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962250	Sucralose	121	128	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962627	AMPA	101	102	P/P	40 - 150
1962627	Glyphosate	131	130	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P339307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962474	Fluoride	96.9	96.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P339238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962478	Organic Carbon	100	96.0	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P338801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1962120	2,4-D	102	90.3	P/P	40 - 150
1962120	Acetaminophen	142	146	P/P	30 - 150
1962120	Bentazon	40.2	37.0	P/P	30 - 150
1962120	Carbamazepine	101	101	P/P	40 - 150
1962120	Diuron	95.8	94.0	P/P	40 - 150
1962120	Fenuron	80.3	81.3	P/P	40 - 150
1962120	Fluridone	89.6	92.1	P/P	40 - 150
1962120	Imidacloprid	189	200	F/F	40 - 160
1962120	Linuron	105	103	P/P	40 - 150
1962120	MCP	86.7	78.8	P/P	40 - 150
1962120	Primidone	79.6	95.7	P/P	40 - 150
1962120	Triclopyr	91.8	82.1	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P338892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962622	Turbidity	7.02	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P339027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962497	Calcium	0.497	Spike	P	0 - 20
1962497	Iron	1.48	Spike	P	0 - 20
1962497	Magnesium	1.00	Spike	P	0 - 20
1962497	Potassium	1.47	Spike	P	0 - 20
1962497	Sodium	0.547	Spike	P	0 - 20
1962497	Zinc	1.32	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P339027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962497	Arsenic	1.06	Spike	P	0 - 20
1962497	Cadmium	0.358	Spike	P	0 - 20
1962497	Chromium	1.63	Spike	P	0 - 20
1962497	Copper	1.71	Spike	P	0 - 20
1962497	Lead	0.370	Spike	P	0 - 20
1962497	Nickel	1.23	Spike	P	0 - 20
1962497	Silver	0.249	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962807	Sulfate	3.64	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P339114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962807	Chloride	2.97	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962713	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962623	Kjeldahl Nitrogen	0.171	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962433	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962713	Total-P	4.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962437	O-Phosphate-P	0.938	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P338832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961026	Acetochlor	0.919	Spike	P	0 - 30
1961026	Alachlor	2.72	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P338832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961026	Ametryn	4.49	Spike	P	0 - 30
1961026	Atrazine	6.58	Spike	P	0 - 30
1961026	Atrazine Desethyl	22.7	Spike	P	0 - 30
1961026	Azinphos Methyl	6.83	Spike	P	0 - 30
1961026	Bromacil	15.6	Spike	P	0 - 30
1961026	Butylate	30.3	Spike	F	0 - 30
1961026	Chlorpyrifos Ethyl	2.36	Spike	P	0 - 30
1961026	Chlorpyrifos Methyl	2.77	Spike	P	0 - 30
1961026	Cyanazine	23.5	Spike	P	0 - 30
1961026	Demeton	4.88	Spike	P	0 - 30
1961026	Diazinon	2.30	Spike	P	0 - 30
1961026	Disulfoton	5.98	Spike	P	0 - 30
1961026	EPTC	35.7	Spike	F	0 - 30
1961026	Ethion	2.30	Spike	P	0 - 30
1961026	Ethoprop	3.12	Spike	P	0 - 30
1961026	Fenamiphos	15.0	Spike	P	0 - 30
1961026	Fipronil	26.1	Spike	P	0 - 30
1961026	Fipronil Sulfide	34.3	Spike	F	0 - 30
1961026	Fipronil Sulfone	56.3	Spike	F	0 - 30
1961026	Fonofos	6.17	Spike	P	0 - 30
1961026	Hexazinone	11.0	Spike	P	0 - 30
1961026	Malathion	9.06	Spike	P	0 - 30
1961026	Metalaxyl	12.2	Spike	P	0 - 30
1961026	Metolachlor	1.00	Spike	P	0 - 30
1961026	Metribuzin	5.79	Spike	P	0 - 30
1961026	Mevinphos	3.52	Spike	P	0 - 30
1961026	Molinate	30.2	Spike	F	0 - 30
1961026	Norflurazon	31.0	Spike	F	0 - 30
1961026	Parathion Ethyl	3.00	Spike	P	0 - 30
1961026	Parathion Methyl	1.21	Spike	P	0 - 30
1961026	Pendimethalin	6.91	Spike	P	0 - 30
1961026	Phorate	1.46	Spike	P	0 - 30
1961026	Prometon	3.13	Spike	P	0 - 30
1961026	Prometryn	1.67	Spike	P	0 - 30
1961026	Simazine	2.43	Spike	P	0 - 30
1961026	Terbufos	3.81	Spike	P	0 - 30
1961026	Terbuthylazine	1.51	Spike	P	0 - 30
LFB	Acetochlor	3.09	LCS	P	0 - 30
LFB	Alachlor	2.21	LCS	P	0 - 30
LFB	Ametryn	3.76	LCS	P	0 - 30
LFB	Atrazine	8.54	LCS	P	0 - 30
LFB	Atrazine Desethyl	4.43	LCS	P	0 - 30
LFB	Azinphos Methyl	11.7	LCS	P	0 - 30
LFB	Bromacil	3.54	LCS	P	0 - 30
LFB	Butylate	19.1	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	13.8	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	16.1	LCS	P	0 - 30
LFB	Cyanazine	7.38	LCS	P	0 - 30
LFB	Demeton	26.8	LCS	P	0 - 30
LFB	Diazinon	3.77	LCS	P	0 - 30
LFB	Disulfoton	24.5	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P338832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	EPTC	27.3	LCS	P	0 - 30
LFB	Ethion	7.49	LCS	P	0 - 30
LFB	Ethoprop	11.8	LCS	P	0 - 30
LFB	Fenamiphos	33.6	LCS	F	0 - 30
LFB	Fipronil	3.99	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.97	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.54	LCS	P	0 - 30
LFB	Fonofos	8.66	LCS	P	0 - 30
LFB	Hexazinone	11.2	LCS	P	0 - 30
LFB	Malathion	1.98	LCS	P	0 - 30
LFB	Metalaxyl	57.0	LCS	F	0 - 30
LFB	Metolachlor	4.37	LCS	P	0 - 30
LFB	Metribuzin	12.6	LCS	P	0 - 30
LFB	Mevinphos	12.2	LCS	P	0 - 30
LFB	Molinate	23.7	LCS	P	0 - 30
LFB	Norflurazon	14.4	LCS	P	0 - 30
LFB	Parathion Ethyl	0.0946	LCS	P	0 - 30
LFB	Parathion Methyl	5.18	LCS	P	0 - 30
LFB	Pendimethalin	15.5	LCS	P	0 - 30
LFB	Phorate	27.9	LCS	P	0 - 30
LFB	Prometon	8.63	LCS	P	0 - 30
LFB	Prometryn	3.34	LCS	P	0 - 30
LFB	Simazine	5.07	LCS	P	0 - 30
LFB	Terbufos	13.4	LCS	P	0 - 30
LFB	Terbuthylazine	3.54	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P338909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962128	Aldrin	28.5	Spike	P	0 - 30
1962128	Alpha-BHC	10.1	Spike	P	0 - 30
1962128	Alpha-Chlordane	23.7	Spike	P	0 - 30
1962128	Beta-BHC	39.8	Spike	F	0 - 30
1962128	Carbophenothion	10.8	Spike	P	0 - 30
1962128	Chlorothalonil	16.4	Spike	P	0 - 30
1962128	Cypermethrin	18.0	Spike	P	0 - 30
1962128	DDD-p,p'	32.4	Spike	F	0 - 30
1962128	DDE-p,p'	19.5	Spike	P	0 - 30
1962128	DDT-p,p'	30.4	Spike	F	0 - 30
1962128	Delta-BHC	37.6	Spike	F	0 - 30
1962128	Dicofol	2.32	Spike	P	0 - 30
1962128	Dieldrin	24.7	Spike	P	0 - 30
1962128	Endosulfan I	20.9	Spike	P	0 - 30
1962128	Endosulfan II	27.3	Spike	P	0 - 30
1962128	Endosulfan Sulfate	38.9	Spike	F	0 - 30
1962128	Endrin	14.5	Spike	P	0 - 30
1962128	Endrin Aldehyde	27.4	Spike	P	0 - 30
1962128	Endrin Ketone	27.9	Spike	P	0 - 30
1962128	Gamma-BHC	4.50	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P338909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962128	Gamma-Chlordane	24.3	Spike	P	0 - 30
1962128	Heptachlor	29.7	Spike	P	0 - 30
1962128	Heptachlor Epoxide	25.3	Spike	P	0 - 30
1962128	Methoxychlor	22.5	Spike	P	0 - 30
1962128	Mirex	23.0	Spike	P	0 - 30
1962128	Permethrin	21.1	Spike	P	0 - 30
1962128	Trifluralin	24.3	Spike	P	0 - 30
LFB	Aldrin	30.6	LCS	F	0 - 30
LFB	Alpha-BHC	9.13	LCS	P	0 - 30
LFB	Alpha-Chlordane	15.4	LCS	P	0 - 30
LFB	Beta-BHC	22.0	LCS	P	0 - 30
LFB	Carbophenothion	17.3	LCS	P	0 - 30
LFB	Chlorothalonil	5.63	LCS	P	0 - 30
LFB	Cypermethrin	13.8	LCS	P	0 - 30
LFB	DDD-p,p'	20.1	LCS	P	0 - 30
LFB	DDE-p,p'	16.1	LCS	P	0 - 30
LFB	DDT-p,p'	9.16	LCS	P	0 - 30
LFB	Delta-BHC	16.0	LCS	P	0 - 30
LFB	Dicofol	5.99	LCS	P	0 - 30
LFB	Dieldrin	10.0	LCS	P	0 - 30
LFB	Endosulfan I	16.6	LCS	P	0 - 30
LFB	Endosulfan II	6.64	LCS	P	0 - 30
LFB	Endosulfan Sulfate	11.4	LCS	P	0 - 30
LFB	Endrin	20.7	LCS	P	0 - 30
LFB	Endrin Aldehyde	26.0	LCS	P	0 - 30
LFB	Endrin Ketone	8.92	LCS	P	0 - 30
LFB	Gamma-BHC	11.1	LCS	P	0 - 30
LFB	Gamma-Chlordane	14.2	LCS	P	0 - 30
LFB	Heptachlor	12.3	LCS	P	0 - 30
LFB	Heptachlor Epoxide	12.6	LCS	P	0 - 30
LFB	Methoxychlor	7.10	LCS	P	0 - 30
LFB	Mirex	10.7	LCS	P	0 - 30
LFB	Permethrin	10.8	LCS	P	0 - 30
LFB	Trifluralin	8.65	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P338909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961515	Chlordane	3.04	Spike	P	0 - 30
1961515	Toxaphene	10.6	Spike	P	0 - 30
LFB	Chlordane	5.06	LCS	P	0 - 30
LFB	Toxaphene	12.6	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P338801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962120	3-Hydroxycarbofuran	1.57	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P338801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962120	Aldicarb	1.27	Spike	P	0 - 30
1962120	Aldicarb Sulfone	1.06	Spike	P	0 - 30
1962120	Aldicarb Sulfoxide	0.797	Spike	P	0 - 30
1962120	Carbaryl	4.98	Spike	P	0 - 30
1962120	Carbofuran	2.77	Spike	P	0 - 30
1962120	Methiocarb	3.39	Spike	P	0 - 30
1962120	Methomyl	2.03	Spike	P	0 - 30
1962120	Oxamyl	2.54	Spike	P	0 - 30
1962120	Propoxur	1.11	Spike	P	0 - 30
1962120	Pyraclostrobin	1.06	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P338824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962250	Sucralose	5.66	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P338988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962627	AMPA	1.18	Spike	P	0 - 30
1962627	Glyphosate	0.844	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P338888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962475	Color (true)	0.0821	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P339303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962474	Total Alkalinity	0.147	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P339396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962444	TDS	8.16	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P339307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962474	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P339238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962478	Organic Carbon	2.30	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P338801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1962120	2,4-D	11.8	Spike	P	0 - 30
1962120	Acetaminophen	2.18	Spike	P	0 - 30
1962120	Bentazon	8.16	Spike	P	0 - 30
1962120	Carbamazepine	0.0981	Spike	P	0 - 30
1962120	Diuron	1.98	Spike	P	0 - 30
1962120	Fenuron	1.27	Spike	P	0 - 30
1962120	Fluridone	2.84	Spike	P	0 - 30
1962120	Imidacloprid	5.81	Spike	P	0 - 30
1962120	Linuron	1.54	Spike	P	0 - 30
1962120	MCP	9.53	Spike	P	0 - 30
1962120	Primidone	18.4	Spike	P	0 - 30
1962120	Triclopyr	11.1	Spike	P	0 - 30

* 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: 1962627
Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	147	P	30 - 160
EPA 8321B	Acetaminophen-d4	147	P	30 - 160
EPA 8321B	Carbamazepine-d10	116	P	30 - 160
EPA 8321B	Carbamazepine-d10	116	P	30 - 160
EPA 8321B	Diuron-d6	98.4	P	30 - 160
EPA 8321B	Diuron-d6	98.4	P	30 - 160
EPA 8321B	Diuron-d6	98.4	P	30 - 160
EPA 8321B	Diuron-d6	98.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	111	P	40 - 160
EPA 8321B	Primidone-d5	92.8	P	30 - 160
EPA 8321B	Primidone-d5	92.8	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	40 - 160
EPA 8321B	Sucralose-d6	145	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1962627
 Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	2,4-D-d3	98.0	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	147	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	116	P	30 - 160
USGS O-2060-01	Diuron-d6	98.4	P	30 - 160
USGS O-2060-01	Diuron-d6	98.4	P	30 - 160
USGS O-2060-01	Primidone-d5	92.8	P	30 - 160
USGS O-2060-01	Sucralose-d6	145	P	40 - 160

Lab Sample ID: 1962628
 Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	82.1	P	30 - 160

Lab Sample ID: 1962629
 Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	57.0	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	52.0	P	34 - 101
EPA 8276	Decachlorobiphenyl	45.4	P	31 - 108
EPA 8276	PCNB	107	P	40 - 130

Lab Sample ID: 1962630
 Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	119	P	71 - 126
EPA 8270D	Terbufos-d10	118	P	50 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A81671
 Included Lab Sample IDs: 1962627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	106	105	P/P	60 - 150

Reference Method: USGS O-2060-01
 Run ID: A81671
 Included Lab Sample IDs: 1962627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.5	97.0	P/P	50 - 150
Acetaminophen	109	106	P/P	60 - 150
Bentazon	102	97.7	P/P	50 - 150
Carbamazepine	107	108	P/P	60 - 150
Diuron	113	107	P/P	60 - 150
Fenuron	112	107	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A81671

Included Lab Sample IDs: 1962627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	119	121	P/P	60 - 160
Imidacloprid	102	105	P/P	60 - 150
Linuron	106	107	P/P	60 - 150
MCPP	96.9	90.1	P/P	50 - 150
Primidone	96.5	108	P/P	60 - 150
Triclopyr	91.4	81.0	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81678

Included Lab Sample IDs: 1962624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	98.2	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A81679

Included Lab Sample IDs: 1962622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	105	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A81680

Included Lab Sample IDs: 1962622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A81727

Included Lab Sample IDs: 1962627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	122	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81735

Included Lab Sample IDs: 1962623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.5	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A81743

Included Lab Sample IDs: 1962627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.2	84.4	P/P	70 - 130
Glyphosate	93.7	97.4	P/P	70 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81760

Included Lab Sample IDs: 1962623

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A81771

Included Lab Sample IDs: 1962631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.0	97.3	P/P	90 - 110
Iron	98.8	98.8	P/P	90 - 110
Magnesium	98.3	98.5	P/P	90 - 110
Potassium	95.4	95.5	P/P	90 - 110
Sodium	96.9	96.5	P/P	90 - 110
Zinc	101	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A81775

Included Lab Sample IDs: 1962622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	99.7	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A81788

Included Lab Sample IDs: 1962623

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

Reference Method: SM 5310 B-00

Run ID: A81820

Included Lab Sample IDs: 1962623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81838

Included Lab Sample IDs: 1962623

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

Reference Method: SM 2320 B-97

Run ID: A81839

Included Lab Sample IDs: 1962622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A81839

Included Lab Sample IDs: 1962622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81845

Included Lab Sample IDs: 1962631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	102	P/P	90 - 110
Cadmium	98.9	99.4	P/P	90 - 110
Chromium	98.9	98.6	P/P	90 - 110
Copper	100	98.9	P/P	90 - 110
Lead	104	103	P/P	90 - 110
Nickel	100	99.3	P/P	90 - 110
Silver	98.0	98.3	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A81858

Included Lab Sample IDs: 1962629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.1		P	80 - 120
Alpha-BHC	94.1		P	80 - 120
Alpha-Chlordane	99.0		P	80 - 120
Beta-BHC	91.5		P	80 - 120
Carbophenothion	102		P	80 - 120
Chlorothalonil	102		P	80 - 120
Cypermethrin	98.3		P	80 - 120
DDD-p,p'	99.0		P	80 - 120
DDE-p,p'	99.3		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	96.5		P	80 - 120
Dicofol	99.2		P	80 - 120
Dieldrin	95.8		P	80 - 120
Endosulfan I	96.9		P	80 - 120
Endosulfan II	97.7		P	80 - 120
Endosulfan Sulfate	99.5		P	80 - 120
Endrin	99.6		P	80 - 120
Endrin Aldehyde	95.3		P	80 - 120
Endrin Ketone	98.5		P	80 - 120
Gamma-BHC	93.3		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	96.4		P	80 - 120
Heptachlor Epoxide	99.0		P	80 - 120
Methoxychlor	104		P	80 - 120
Mirex	104		P	80 - 120
Permethrin	97.6		P	80 - 120
Trifluralin	99.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A81885
Included Lab Sample IDs: 1962630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	99.4		P	80 - 120
Atrazine	112		P	80 - 120
Atrazine Desethyl	108		P	80 - 120
Azinphos Methyl	98.6		P	80 - 120
Bromacil	109		P	80 - 120
Butylate	97.4		P	80 - 120
Chlorpyrifos Ethyl	105		P	80 - 120
Chlorpyrifos Methyl	109		P	80 - 120
Cyanazine	109		P	80 - 120
Demeton	106		P	80 - 120
Diazinon	108		P	80 - 120
Disulfoton	103		P	80 - 120
EPTC	110		P	80 - 120
Ethion	104		P	80 - 120
Ethoprop	94.5		P	80 - 120
Fenamiphos	106		P	80 - 120
Fipronil	98.9		P	80 - 120
Fipronil Sulfide	107		P	80 - 120
Fipronil Sulfone	105		P	80 - 120
Fonofos	109		P	80 - 120
Hexazinone	108		P	80 - 120
Malathion	106		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	115		P	80 - 120
Mevinphos	111		P	80 - 120
Molinate	103		P	80 - 120
Norflurazon	104		P	80 - 120
Parathion Ethyl	109		P	80 - 120
Parathion Methyl	115		P	80 - 120
Pendimethalin	107		P	80 - 120
Phorate	111		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	107		P	80 - 120
Terbufos	110		P	80 - 120
Terbuthylazine	105		P	80 - 120

Reference Method: EPA 8276
Run ID: A81889
Included Lab Sample IDs: 1962629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.3		P	80 - 120
Toxaphene	80.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: AA81671
Included Lab Sample IDs: 1962628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	102	106	P/P	60 - 150
Aldicarb	115	120	P/P	60 - 150
Aldicarb Sulfone	96.7	101	P/P	50 - 150
Aldicarb Sulfoxide	104	107	P/P	50 - 150
Carbaryl	105	101	P/P	60 - 150
Carbofuran	106	113	P/P	50 - 150
Methiocarb	93.6	111	P/P	50 - 150
Methomyl	105	99.9	P/P	50 - 150
Oxamyl	103	105	P/P	50 - 150
Propoxur	106	110	P/P	50 - 150

* 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						7.02	
EPA 200.7 Rev. 4.4	Calcium	101		99.5				0.497
	Iron	102		107	105			1.48
	Magnesium	101		99.8				1.00
	Potassium	100		102	100			1.47
	Sodium	98.2		99.1				0.547
	Zinc	99.0		102	101			1.32
EPA 200.8 Rev. 5.4	Arsenic	103		104	105			1.06
	Cadmium	98.6		102	102			0.358
	Chromium	99.3		98.4	100			1.63
	Copper	97.4		97.7	99.4			1.71
	Lead	103		106	106			0.370
	Nickel	100		100	101			1.23
	Silver	97.1		98.2	97.9			0.249
EPA 300.0 Rev. 2.1	Chloride	95.7		91.5	96.5		2.97	
	Sulfate	94.9		93.3	95.4		3.64	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2		96.7	94.8			1.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6		105	104			0.171
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103		101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	106		109	103			4.77
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.5		95.5	96.4			0.938
EPA 8270D	Acetochlor	101	104	102	101	3.09		0.919
	Alachlor	105	107	106	103	2.21		2.72
	Aldrin	54.7	40.2	61.9	46.5	30.6		28.5
	Alpha-BHC	88.3	80.6	93.8	84.8	9.13		10.1
	Alpha-Chlordane	87.6	75.1	76.9	60.6	15.4		23.7
	Ametryn	109	105	170	163	3.76		4.49
	Atrazine	100	109			8.54		6.58
	Atrazine Desethyl	63.1	66.0	73.2	54.0	4.43		22.7
	Azinphos Methyl	98.7	111	129	120	11.7		6.83

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						SMP	MS
EPA 8270D	Beta-BHC	104	83.2	71.6	47.8	22.0	39.8
	Bromacil	72.9	75.5	95.7	81.8	3.54	15.6
	Butylate	66.9	80.9	32.2	43.8	19.1	30.3
	Carbophenothion	108	91.0	153	137	17.3	10.8
	Chlorothalonil	95.4	90.2	67.2	57.1	5.63	16.4
	Chlorpyrifos Ethyl	97.1	112	108	106	13.8	2.36
	Chlorpyrifos Methyl	86.3	101	104	101	16.1	2.77
	Cyanazine	97.1	90.1	163	129	7.38	23.5
	Cypermethrin	108	94.0	125	104	13.8	18.0
	DDD-p,p'	100	81.8	77.2	55.7	20.1	32.4
	DDE-p,p'	88.5	75.3	75.4	62.0	16.1	19.5
	DDT-p,p'	90.8	82.9	72.8	53.5	9.16	30.4
	Delta-BHC	111	94.6	91.6	62.7	16.0	37.6
	Demeton	62.7	82.2	61.5	64.6	26.8	4.88
	Diazinon	101	105	95.7	98.0	3.77	2.30
	Dicofol	70.9	66.7	60.2	58.8	5.99	2.32
	Dieldrin	88.0	79.6	74.0	57.8	10.0	24.7
	Disulfoton	60.7	77.6	88.2	83.0	24.5	5.98
	Endosulfan I	90.6	76.7	85.7	69.5	16.6	20.9
	Endosulfan II	106	99.0	81.7	62.0	6.64	27.3
	Endosulfan Sulfate	91.7	81.8	63.4	42.8	11.4	38.9
	Endrin	91.0	74.0	80.8	69.8	20.7	14.5
	Endrin Aldehyde	96.3	74.2	28.0	36.9	26.0	27.4
	Endrin Ketone	90.9	83.1	65.3	49.3	8.92	27.9
	EPTC	66.4	87.4	32.5	46.6	27.3	35.7
	Ethion	112	121	121	118	7.49	2.30
	Ethoprop	83.7	94.2	72.1	69.9	11.8	3.12
	Fenamiphos	50.1	70.3	104	89.7	33.6	15.0
	Fipronil	105	101	101	77.4	3.99	26.1
	Fipronil Sulfide	111	108	98.0	66.4	2.97	34.3
	Fipronil Sulfone	110	106	92.2	16.1	3.54	56.3
	Fonofos	87.9	95.8	92.1	86.5	8.66	6.17
	Gamma-BHC	110	98.4	93.0	97.2	11.1	4.50
	Gamma-Chlordane	88.4	76.6	79.4	62.2	14.2	24.3
	Heptachlor	75.4	66.7	70.1	52.0	12.3	29.7
	Heptachlor Epoxide	86.1	76.0	77.1	59.7	12.6	25.3
	Hexazinone	142	158	126	111	11.2	11.0
	Malathion	115	117	119	109	1.98	9.06
	Metalaxyl	33.1	59.5	126	112	57.0	12.2
	Methoxychlor	101	93.6	81.2	64.8	7.10	22.5
	Metolachlor	107	111	109	110	4.37	1.00
	Metribuzin	95.2	108	163	154	12.6	5.79
	Mevinphos	81.2	91.7	69.4	67.0	12.2	3.52
	Mirex	88.0	79.0	75.0	59.5	10.7	23.0
	Molinate	70.0	88.8	41.3	56.0	23.7	30.2
	Norflurazon	92.7	80.2	107	78.3	14.4	31.0
	Parathion Ethyl	103	103	105	108	0.0946	3.00
	Parathion Methyl	101	106	108	107	5.18	1.21
	Pendimethalin	92.3	108	108	116	15.5	6.91
	Permethrin	103	92.7	111	90.2	10.8	21.1
	Phorate	65.3	86.5	72.2	73.3	27.9	1.46
	Prometon	98.7	90.5	116	112	8.63	3.13
	Prometryn	102	105	105	103	3.34	1.67
	Simazine	105	110	117	120	5.07	2.43

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Terbufos	81.4	93.1	88.1	84.8	13.4	3.81
	Terbutylazine	107	110	109	107	3.54	1.51
	Trifluralin	84.9	77.8	78.2	61.3	8.65	24.3
EPA 8276	Chlordane	75.2	71.5	63.4	65.4	5.06	3.04
	Toxaphene	80.4	70.9	59.9	66.6	12.6	10.6
EPA 8321B	3-Hydroxycarbofuran	100		122	120		1.57
	Aldicarb	124		117	119		1.27
	Aldicarb Sulfone	107		131	133		1.06
	Aldicarb Sulfoxide	122		83.1	82.4		0.797
	AMPA	114		101	102		1.18
	Carbaryl	81.0		68.9	72.5		4.98
	Carbofuran	83.9		74.4	76.5		2.77
	Glyphosate	129		131	130		0.844
	Methiocarb	84.2		80.8	78.1		3.39
	Methomyl	108		81.5	79.9		2.03
	Oxamyl	112		95.8	98.2		2.54
	Propoxur	85.0		68.3	69.1		1.11
	Pyraclostrobin	106		104	103		1.06
	Sucralose	105		121	128		5.66
SM 2120 B	Color (true)						0.0821
SM 2320 B-97	Total Alkalinity	100					0.147
SM 2540 C-97	TDS						8.16
SM 4500 F-C-97	Fluoride	97.5		96.9	96.9		0.0
SM 5310 B-00	Organic Carbon	94.8		100	96.0		2.30
USGS O-2060-01	2,4-D	90.4		90.3	102		11.8
	Acetaminophen	105		142	146		2.18
	Bentazon	82.7		37.0	40.2		8.16
	Carbamazepine	99.9		101	101		0.0981
	Diuron	88.8		95.8	94.0		1.98
	Fenuron	117		80.3	81.3		1.27
	Fluridone	117		89.6	92.1		2.84
	Imidacloprid	112		189	200		5.81
	Linuron	103		105	103		1.54
	MCPP	84.1		78.8	86.7		9.53
	Primidone	119		79.6	95.7		18.4
	Triclopyr	81.2		82.1	91.8		11.1

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1962622
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1962631
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1962631
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1962622
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1962622
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1962623
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1962623

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1962623
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1962623
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1962624
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1962629
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1962630
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1962629
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1962627
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1962628
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1962627
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1962627
SM 2120 B / E31780	True Color measured at 450 nm	1962622
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1962622
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1962622
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1962622
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1962622
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1962623
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1962627
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1962627

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	01/26/2018			01/26/2018 15:09	Tanya Welborn	1962622
EPA 200.7 Rev. 4.4	01/26/2018	01/30/2018	Elliott D. Healy	01/31/2018	Betina Topolski	1962631
EPA 200.8 Rev. 5.4	01/26/2018	01/30/2018	Elliott D. Healy	02/02/2018	Nadine Brooks	1962631
EPA 300.0 Rev. 2.1	01/26/2018			01/31/2018	Julia Storbeck	1962622
EPA 350.1 Rev. 2.0	01/26/2018			02/02/2018	Ping Hua	1962623
EPA 351.2 Rev. 2.0	01/26/2018	01/29/2018	Adrian Shelby	01/30/2018	Joseph Suarez	1962623
EPA 353.2 Rev. 2.0	01/26/2018			01/30/2018	Lauren Bottorf	1962623
EPA 365.1 Rev. 2.0	01/26/2018	01/30/2018	Sima Feizi	01/31/2018	Lipi Saha	1962623
EPA 365.1 Rev. 2.0 dissolved	01/26/2018			01/26/2018 15:50	Megan Treadwell	1962624
EPA 8270D	01/26/2018	01/26/2018	John Kaba	02/01/2018	Vandana T. Nagar	1962630
	01/26/2018	01/29/2018	John Kaba	02/01/2018	Marek Topolski	1962629
EPA 8276	01/26/2018	01/29/2018	John Kaba	02/06/2018	John P. Burgos	1962629
EPA 8321B	01/26/2018	01/26/2018	Hoor Shaik	01/28/2018	Julie Michelle Frank	1962628
	01/26/2018	01/26/2018	Hoor Shaik	01/28/2018	S. M. Reddy	1962627
	01/26/2018	01/26/2018	Juyoung Kim	01/27/2018	Juyoung Kim	1962627
	01/26/2018	01/30/2018	Juyoung Kim	01/30/2018	Juyoung Kim	1962627
SM 2120 B	01/26/2018			01/26/2018 16:34	Tanya Welborn	1962622
SM 2320 B-97	01/26/2018			02/03/2018	Dale L. Simmons	1962622
SM 2540 C-97	01/26/2018			01/31/2018	Yijie Li	1962622
SM 2540 D-97	01/26/2018			01/31/2018	Yijie Li	1962622
SM 4500 F-C-97	01/26/2018			02/03/2018	Dale L. Simmons	1962622
SM 5310 B-00	01/26/2018			02/02/2018	Megan Treadwell	1962623
USGS O-2060-01	01/26/2018	01/26/2018	Hoor Shaik	01/28/2018	Julie Michelle Frank	1962627