

Chemical Analysis Report

CEN-DIST-2017-11-15-02

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

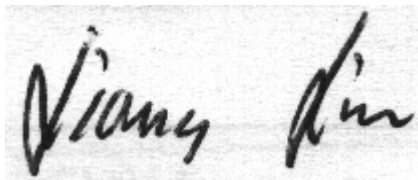
Event Description: **Louise / Shaw**
Request ID: **RQ-2017-11-06-55**
Customer: **CEN-DIST**
Project ID: **SMP**

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

Date Certified: 21-DEC-2017 10:03

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: Shaw Lake @ Center of North Lobe

Collection Date/Time: 11/14/2017 10:36

Field ID: G2CE0127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946264	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P335359	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P335408	
		Sulfate	5.7		mg SO4/L	P335410	
	SM 2120 B	Color (true)	670		PCU	P335392	
	SM 2320 B-97	Total Alkalinity	2.7		mg CaCO3/L	P335626	
	SM 2540 C-97	TDS	131		mg/L	P335712	
	SM 2540 D-97	TSS	2	I	mg/L	P335730	
	SM 4500 F-C-97	Fluoride	0.047	I	mg F/L	P335630	
1946265	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P336207	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P336562	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P335812	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P335541	
	SM 5310 B-00	Organic Carbon	47		mg C/L	P335614	
1946266	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P335389	

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: Lake Louise @ Center of South Lobe

Collection Date/Time: 11/14/2017 11:12

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946261	EPA 180.1 Rev. 2.0	Turbidity	2.4	A	NTU	P335359	
	EPA 300.0 Rev. 2.1	Chloride	21	A	mg Cl/L	P335408	
		Sulfate	23	A	mg SO4/L	P335410	
	SM 2120 B	Color (true)	45	A	PCU	P335392	
	SM 2320 B-97	Total Alkalinity	9.6		mg CaCO3/L	P335626	
	SM 2540 C-97	TDS	94	A	mg/L	P335712	
	SM 2540 D-97	TSS	3	IA	mg/L	P335730	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P335630	
1946262	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P336097	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P335945	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P335812	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P335541	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P335614	
1946263	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P335389	
1946292	EPA 200.7 Rev. 4.4	Calcium	7.39		mg/L	P335662	
		Iron	30	U	ug/L	P335662	
		Magnesium	5.64		mg/L	P335662	
		Potassium	7.9		mg/L	P335662	
		Sodium	10		mg/L	P335662	
		Zinc	7.2	I	ug/L	P335662	
	EPA 200.8 Rev. 5.4	Arsenic	1.98		ug/L	P335662	
		Cadmium	0.020	U	ug/L	P335662	
		Chromium	0.40	U	ug/L	P335662	

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946292	EPA 200.8 Rev. 5.4	Copper	7.85		ug/L	P335662	
		Lead	0.30		ug/L	P335662	
		Nickel	0.20	U	ug/L	P335662	
		Silver	0.010	U	ug/L	P335662	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 12/04/2017.

Sample Location: Lake Louise @ Center of South Lobe

Collection Date/Time: 11/14/2017 11:12

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946285	EPA 8321B	Glyphosate**	0.10	U	ug/L	P335313	
		Pyraclostrobin**	0.0020	U	ug/L	P335612	
		Sucralose**	0.014	I	ug/L	P335805	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P335308	MS
		Diuron	0.0013	I	ug/L	P335308	
		Fenuron	0.0080	U	ug/L	P335308	
		Imidacloprid	8.5E-04	I	ug/L	P335308	
		Bentazon	8.0E-04	U	ug/L	P335308	MS
		Linuron	0.0040	U	ug/L	P335308	
		Acetaminophen**	0.0080	U	ug/L	P335308	
		MCP	0.0020	U	ug/L	P335308	MS
		Carbamazepine**	4.0E-04	U	ug/L	P335308	
		Triclopyr**	0.0040	U	ug/L	P335308	MS
		Primidone**	0.0040	U	ug/L	P335308	
		Fluridone**	4.0E-04	U	ug/L	P335308	
1946286	EPA 8270D	Aldrin	4.3	U	ng/L	P335386	
		Alpha-BHC	2.2	U	ng/L	P335386	
		Beta-BHC	4.3	U	ng/L	P335386	
		Delta-BHC	4.3	U	ng/L	P335386	
		Gamma-BHC	4.3	U	ng/L	P335386	
		Carbophenothion	4.3	U	ng/L	P335386	
		Chlorothalonil	2.2	U	ng/L	P335386	
		Cypermethrin	22	U	ng/L	P335386	
		DDD-p,p'	3.2	U	ng/L	P335386	
		DDE-p,p'	3.2	U	ng/L	P335386	
		DDT-p,p'	3.2	U	ng/L	P335386	
		Dieldrin	4.3	U	ng/L	P335386	
		Endosulfan I	4.3	U	ng/L	P335386	
		Endosulfan II	4.3	U	ng/L	P335386	
		Endosulfan Sulfate	2.2	U	ng/L	P335386	
		Endrin	2.2	U	ng/L	P335386	
		Endrin Aldehyde	2.2	U	ng/L	P335386	
		Heptachlor	1.6	U	ng/L	P335386	
		Heptachlor Epoxide	2.2	U	ng/L	P335386	

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946286	EPA 8270D	Methoxychlor	4.3	U	ng/L	P335386	
		Mirex	2.2	U	ng/L	P335386	
		Permethrin	11	U	ng/L	P335386	
		Trifluralin	1.1	U	ng/L	P335386	
		Alpha-Chlordane	1.1	U	ng/L	P335386	
		Gamma-Chlordane	1.1	U	ng/L	P335386	
		Endrin Ketone	2.2	U	ng/L	P335386	
		Dicofol	32	UJ	ng/L	P335386	LCS
		Chlordane**	2.7	UJ	ng/L	P335386	MS
		Toxaphene**	13	UJ	ng/L	P335386	MS
1946287	EPA 8270D	Alachlor	0.27	U	ng/L	P335622	
		Ametryn	0.35	UJ	ng/L	P335622	LCS
		Atrazine	0.66	I	ng/L	P335622	
		Atrazine Desethyl	1.6	U	ng/L	P335622	
		Azinphos Methyl	2.4	U	ng/L	P335622	
		Bromacil	1.7	I	ng/L	P335622	
		Butylate	0.43	U	ng/L	P335622	
		Chlorpyrifos Ethyl	6.9		ng/L	P335622	
		Chlorpyrifos Methyl	0.11	U	ng/L	P335622	
		Demeton	2.1	UJ	ng/L	P335622	RPD
		Diazinon	0.13	UJ	ng/L	P335622	LCS, MS
		Disulfoton	0.53	UJ	ng/L	P335622	RPD
		EPTC	1.3	UJ	ng/L	P335622	LCS
		Ethion	0.16	U	ng/L	P335622	
		Ethoprop	0.11	U	ng/L	P335622	
		Fenamiphos	0.27	U	ng/L	P335622	
		Fipronil	0.27	U	ng/L	P335622	
		Fipronil Sulfide	0.16	U	ng/L	P335622	
		Fipronil Sulfone	0.16	U	ng/L	P335622	
		Hexazinone	0.53	U	ng/L	P335622	
		Malathion	0.37	U	ng/L	P335622	
		Metribuzin	0.21	U	ng/L	P335622	MS
		Mevinphos	0.53	U	ng/L	P335622	
		Molinate	0.32	UJ	ng/L	P335622	LCS
		Norflurazon	2.1	I	ng/L	P335622	
		Pendimethalin	1.1	U	ng/L	P335622	
		Phorate	0.27	U	ng/L	P335622	
		Prometon	0.96	U	ng/L	P335622	
		Prometryn	0.21	UJ	ng/L	P335622	LCS
		Simazine	0.53	U	ng/L	P335622	
		Terbufos	0.11	U	ng/L	P335622	
		Terbuthylazine	0.45	U	ng/L	P335622	
		Fonofos	0.21	U	ng/L	P335622	
		Metalaxyl	0.27	U	ng/L	P335622	
		Metolachlor	1.3	J	ng/L	P335622	LCS

Field ID: G2CE0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946287	EPA 8270D	Acetochlor	0.27	UJ	ng/L	P335622	LCS, MS
		Cyanazine	0.53	UJ	ng/L	P335622	LCS
		Parathion Ethyl	0.27	U	ng/L	P335622	
		Parathion Methyl	0.27	U	ng/L	P335622	

Ref. Method and Comment:

USGS O-2060-01: Fenuron was detected in the method blank slightly above the MDL.

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

EPA 8270D: MS accuracy for Atrazine, Simazine, Bromacil, Fipronil Sulfide and Fipronil Sulfone not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P335359

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P335662

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: P335662

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: P335408

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P335410

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336097

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336207

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335945

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336562

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335812

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335541

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335389

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

Reference Method: EPA 8270D
Batch ID: P335386

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P335386

Component	Result	Code	Units
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 8270D

Batch ID: P335622

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P335622

Component	Result	Code	Units
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
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 8276
Batch ID: P335386

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

Reference Method: EPA 8321B
Batch ID: P335313

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P335612

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P335805

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P335392

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P335626

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

Reference Method: SM 2540 C-97
Batch ID: P335712

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P335730

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P335630

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P335614

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

Reference Method: USGS O-2060-01
Batch ID: P335308

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	8.0E-04	U	ug/L
Fenuron	0.011	I	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	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: P335662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	104		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	98.8		P	85 - 115
Sodium	101		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	97.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	96.6		P	85 - 115
Copper	99.6		P	85 - 115
Lead	91.3		P	85 - 115
Nickel	99.9		P	85 - 115
Silver	98.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335408

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335410

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336207

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335945

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336562

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335812

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335541

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P335541

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P335389

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

Reference Method: EPA 8270D

Batch ID: P335386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	47.6	36.0	P/P	26 - 88.0
Alpha-BHC	94.2	81.6	P/P	63 - 114
Alpha-Chlordane	88.7	85.1	P/P	56 - 117
Beta-BHC	94.7	80.6	P/P	57 - 138
Carbophenothion	79.2	71.5	P/P	36 - 148
Chlorothalonil	50.5	49.4	P/P	26 - 173
Cypermethrin	94.7	84.9	P/P	42 - 159
DDD-p,p'	102	99.3	P/P	62 - 126
DDE-p,p'	90.9	91.9	P/P	53 - 115
DDT-p,p'	99.2	89.5	P/P	54 - 117
Delta-BHC	102	85.4	P/P	68 - 158
Dicofol	116	129	F/F	25 - 114
Dieldrin	92.7	90.2	P/P	59 - 126
Endosulfan I	94.4	86.4	P/P	62 - 138
Endosulfan II	99.7	99.3	P/P	61 - 150
Endosulfan Sulfate	89.9	87.6	P/P	63 - 132
Endrin	92.4	97.5	P/P	49 - 148
Endrin Aldehyde	93.3	92.1	P/P	50 - 144
Endrin Ketone	93.6	88.5	P/P	66 - 122
Gamma-BHC	90.4	82.9	P/P	60 - 137
Gamma-Chlordane	87.1	83.6	P/P	54 - 113
Heptachlor	80.3	73.7	P/P	43 - 104
Heptachlor Epoxide	89.2	88.2	P/P	64 - 118
Methoxychlor	106	98.1	P/P	63 - 129
Mirex	87.4	77.7	P/P	40 - 96.0
Permethrin	89.9	77.5	P/P	51 - 123
Trifluralin	86.6	78.7	P/P	35 - 187

Reference Method: EPA 8270D

Batch ID: P335622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	76.2	77.3	F/F	78 - 118
Alachlor	77.1	78.9	P/P	77 - 119
Ametryn	61.9	56.4	P/F	61 - 136
Atrazine	78.1	82.8	P/P	73 - 120
Atrazine Desethyl	99.9	103	P/P	16 - 122
Azinphos Methyl	118	113	P/P	69 - 186
Bromacil	81.9	81.9	P/P	40 - 125
Butylate	35.9	35.8	P/P	32 - 87.0

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P335622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Ethyl	82.9	80.8	P/P	53 - 110
Chlorpyrifos Methyl	86.5	84.9	P/P	31 - 119
Cyanazine	260	265	F/F	36 - 224
Demeton	44.5	66.6	P/P	39 - 122
Diazinon	72.9	72.8	F/F	75 - 119
Disulfoton	58.2	84.0	P/P	42 - 139
EPTC	31.5	34.2	F/P	33 - 96.0
Ethion	75.1	86.1	P/P	63 - 127
Ethoprop	77.2	76.7	P/P	65 - 107
Fenamiphos	80.4	88.3	P/P	64 - 137
Fipronil	76.6	79.3	P/P	60 - 126
Fipronil Sulfide	71.9	73.6	P/P	58 - 124
Fipronil Sulfone	75.6	77.7	P/P	57 - 126
Fonofos	79.8	81.3	P/P	65 - 111
Hexazinone	76.8	78.0	P/P	46 - 151
Malathion	86.0	88.3	P/P	68 - 132
Metalaxyl	70.6	71.0	P/P	51 - 132
Metolachlor	77.7	79.3	F/P	78 - 119
Metribuzin	135	144	P/P	58 - 148
Mevinphos	61.3	61.9	P/P	34 - 128
Molinate	37.0	38.5	F/F	44 - 101
Norflurazon	75.2	78.7	P/P	63 - 129
Parathion Ethyl	83.8	84.2	P/P	80 - 109
Parathion Methyl	92.1	96.1	P/P	74 - 125
Pendimethalin	79.5	81.7	P/P	48 - 134
Phorate	60.4	66.5	P/P	52 - 119
Prometon	72.9	75.3	P/P	69 - 124
Prometryn	69.5	61.6	P/F	66 - 124
Simazine	89.9	93.9	P/P	61 - 134
Terbufos	69.8	77.3	P/P	58 - 115
Terbutylazine	84.3	85.3	P/P	77 - 113

Reference Method: EPA 8276

Batch ID: P335386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	66.5	58.0	P/P	48 - 121
Toxaphene	86.5	85.4	P/P	43 - 135

Reference Method: EPA 8321B

Batch ID: P335313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	124		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P335612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	85.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P335805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	73.8		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P335626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P335630

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P335614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P335308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	68.9	66.4	P/P	40 - 150
Acetaminophen	114	125	P/P	30 - 150
Bentazon	63.7	66.4	P/P	30 - 150
Carbamazepine	132	140	P/P	40 - 150
Diuron	107	103	P/P	40 - 150
Fenuron	140	129	P/P	40 - 150
Fluridone	133	143	P/P	40 - 150
Imidacloprid	108	116	P/P	40 - 160
Linuron	100	107	P/P	40 - 150
MCPP	76.5	70.8	P/P	40 - 150
Primidone	99.8	106	P/P	40 - 150
Triclopyr	74.0	71.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P335662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1945810	Calcium	101		P	80 - 120
1945810	Iron	103		P	80 - 120
1945810	Magnesium	103		P	80 - 120
1945810	Potassium	95.4		P	80 - 120
1945810	Sodium	97.8		P	80 - 120
1945810	Zinc	98.4		P	80 - 120
1946215	Calcium	103		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P335662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946215	Iron	101	104	P/P	80 - 120
1946215	Magnesium	101		P	80 - 120
1946215	Potassium	96.7	100	P/P	80 - 120
1946215	Sodium	98.2	102	P/P	80 - 120
1946215	Zinc	95.6	97.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P335662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1945810	Arsenic	104		P	80 - 120
1945810	Cadmium	103		P	80 - 120
1945810	Chromium	100		P	80 - 120
1945810	Copper	101		P	80 - 120
1945810	Lead	92.1		P	80 - 120
1945810	Nickel	101		P	80 - 120
1945810	Silver	102		P	80 - 120
1946215	Arsenic	102	99.6	P/P	80 - 120
1946215	Cadmium	101	98.7	P/P	80 - 120
1946215	Chromium	97.3	95.7	P/P	80 - 120
1946215	Copper	95.4	94.0	P/P	80 - 120
1946215	Lead	92.4	91.6	P/P	80 - 120
1946215	Nickel	98.7	95.9	P/P	80 - 120
1946215	Silver	102	99.3	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P335408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946261	Chloride	99.4		P	90 - 110
1946273	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P335410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946261	Sulfate	103		P	90 - 110
1946273	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P336097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946277	Ammonia-N	100	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P336207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946326	Ammonia-N	97.9	97.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946197	Kjeldahl Nitrogen	109	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949621	Kjeldahl Nitrogen	95.6	97.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946262	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946262	Total-P	101	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946186	O-Phosphate-P	94.0	94.2	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P335386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946286	Aldrin	58.2		P	22 - 97.0
1946286	Alpha-BHC	74.7		P	43 - 132
1946286	Alpha-Chlordane	67.2		P	36 - 126
1946286	Beta-BHC	55.0		P	41 - 150
1946286	Carbophenothion	111		P	13 - 196
1946286	Chlorothalonil	89.7		P	10 - 266
1946286	Cypermethrin	151		P	37 - 161
1946286	DDD-p,p'	70.6		P	44 - 131
1946286	DDE-p,p'	75.8		P	32 - 127
1946286	DDT-p,p'	81.9		P	45 - 116
1946286	Delta-BHC	76.1		P	50 - 201
1946286	Dicofol	60.7		P	10 - 100
1946286	Dieldrin	70.3		P	39 - 142
1946286	Endosulfan I	79.3		P	51 - 139
1946286	Endosulfan II	83.3		P	49 - 155
1946286	Endosulfan Sulfate	64.4		P	54 - 136
1946286	Endrin	69.9		P	38 - 141
1946286	Endrin Aldehyde	70.4		P	14 - 152
1946286	Endrin Ketone	66.7		P	60 - 128
1946286	Gamma-BHC	80.8		P	48 - 157
1946286	Gamma-Chlordane	67.1		P	35 - 123
1946286	Heptachlor	63.3		P	25 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P335386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946286	Heptachlor Epoxide	70.3		P	48 - 125
1946286	Methoxychlor	86.5		P	52 - 127
1946286	Mirex	71.2		P	25 - 108
1946286	Permethrin	77.7		P	46 - 133
1946286	Trifluralin	65.5		P	29 - 254

Reference Method: EPA 8270D

Batch ID: P335622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946969	Acetochlor	79.4	73.2	P/F	74 - 123
1946969	Alachlor	79.6	75.4	P/P	73 - 124
1946969	Ametryn	84.7	73.2	P/P	56 - 149
1946969	Atrazine Desethyl	78.9	68.5	P/P	12 - 103
1946969	Azinphos Methyl	97.3	93.9	P/P	60 - 202
1946969	Butylate	25.0	20.1	P/P	10 - 85.0
1946969	Chlorpyrifos Ethyl	79.3	70.3	P/P	53 - 113
1946969	Chlorpyrifos Methyl	77.8	70.2	P/P	40 - 115
1946969	Cyanazine	182	147	P/P	22 - 210
1946969	Demeton	53.9	47.1	P/P	17 - 149
1946969	Diazinon	71.4	62.4	F/F	72 - 124
1946969	Disulfoton	72.9	64.8	P/P	43 - 139
1946969	EPTC	24.8	21.3	P/P	10 - 86.0
1946969	Ethion	88.0	84.3	P/P	65 - 131
1946969	Ethoprop	71.5	63.0	P/P	59 - 110
1946969	Fenamiphos	81.8	80.5	P/P	57 - 138
1946969	Fipronil	73.0	71.7	P/P	40 - 130
1946969	Fonofos	68.3	62.3	P/P	60 - 112
1946969	Hexazinone	90.4	87.2	P/P	69 - 142
1946969	Malathion	84.8	81.3	P/P	68 - 132
1946969	Metalaxyl	72.5	69.6	P/P	66 - 118
1946969	Metolachlor	81.2	73.7	P/P	71 - 124
1946969	Metribuzin	177	160	F/F	61 - 140
1946969	Mevinphos	51.2	49.4	P/P	38 - 130
1946969	Molinate	32.6	30.3	P/P	23 - 99.0
1946969	Norflurazon	71.2	76.0	P/P	39 - 139
1946969	Parathion Ethyl	82.5	78.1	P/P	75 - 111
1946969	Parathion Methyl	89.1	80.3	P/P	64 - 130
1946969	Pendimethalin	84.0	77.6	P/P	26 - 173
1946969	Phorate	52.5	46.9	P/P	43 - 127
1946969	Prometon	90.2	97.9	P/P	50 - 144
1946969	Prometryn	79.2	74.0	P/P	69 - 126
1946969	Terbufos	70.5	60.5	P/P	54 - 125
1946969	Terbuthylazine	85.4	79.5	P/P	76 - 113

Reference Method: EPA 8276

Batch ID: P335386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946286	Chlordane	25.2		F	44 - 134
1946286	Toxaphene	32.0		F	36 - 147

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P335313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946205	Glyphosate	128	128	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P335612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946205	Pyraclostrobin	86.0	91.6	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P335805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947930	Sucralose	107	115	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P335630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946193	Fluoride	102	103	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P335614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946249	Organic Carbon	95.3	95.3	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P335308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1945852	2,4-D	30.7	34.0	F/F	40 - 150
1945852	Acetaminophen	116	121	P/P	30 - 150
1945852	Bentazon	26.0	29.2	F/F	30 - 150
1945852	Carbamazepine	66.3	70.9	P/P	40 - 150
1945852	Diuron	44.7	48.4	P/P	40 - 150
1945852	Fenuron	55.0	57.5	P/P	40 - 150
1945852	Fluridone	65.0	69.3	P/P	40 - 150
1945852	Imidacloprid	135	137	P/P	40 - 160
1945852	Linuron	83.5	83.7	P/P	40 - 150
1945852	MCPP	35.7	39.0	F/F	40 - 150
1945852	Primidone	73.0	63.4	P/P	40 - 150
1945852	Triclopyr	30.4	31.1	F/F	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P335359

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P335359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946261	Turbidity	2.11	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P335662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946215	Calcium	1.40	Spike	P	0 - 20
1946215	Iron	2.48	Spike	P	0 - 20
1946215	Magnesium	2.16	Spike	P	0 - 20
1946215	Potassium	2.50	Spike	P	0 - 20
1946215	Sodium	1.90	Spike	P	0 - 20
1946215	Zinc	1.52	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946215	Arsenic	1.86	Spike	P	0 - 20
1946215	Cadmium	1.86	Spike	P	0 - 20
1946215	Chromium	1.63	Spike	P	0 - 20
1946215	Copper	1.53	Spike	P	0 - 20
1946215	Lead	0.878	Spike	P	0 - 20
1946215	Nickel	2.82	Spike	P	0 - 20
1946215	Silver	2.35	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946261	Chloride	0.750	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946261	Sulfate	0.686	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946277	Ammonia-N	2.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P336207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946326	Ammonia-N	0.0449	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P335945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946197	Kjeldahl Nitrogen	5.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P336562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949621	Kjeldahl Nitrogen	1.14	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P335812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946262	NO2NO3-N	2.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P335541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946262	Total-P	5.29	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P335389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946186	O-Phosphate-P	0.145	Spike	P	0 - 20

Reference Method: EPA 8270D
 Batch ID: P335386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	27.9	LCS	P	0 - 30
LFB	Alpha-BHC	14.3	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.11	LCS	P	0 - 30
LFB	Beta-BHC	16.1	LCS	P	0 - 30
LFB	Carbophenothion	10.2	LCS	P	0 - 30
LFB	Chlorothalonil	2.14	LCS	P	0 - 30
LFB	Cypermethrin	10.9	LCS	P	0 - 30
LFB	DDD-p,p'	2.58	LCS	P	0 - 30
LFB	DDE-p,p'	1.07	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P335386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	DDT-p,p'	10.3	LCS	P	0 - 30
LFB	Delta-BHC	17.3	LCS	P	0 - 30
LFB	Dicofol	10.4	LCS	P	0 - 30
LFB	Dieldrin	2.82	LCS	P	0 - 30
LFB	Endosulfan I	8.86	LCS	P	0 - 30
LFB	Endosulfan II	0.427	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.49	LCS	P	0 - 30
LFB	Endrin	5.38	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.22	LCS	P	0 - 30
LFB	Endrin Ketone	5.53	LCS	P	0 - 30
LFB	Gamma-BHC	8.67	LCS	P	0 - 30
LFB	Gamma-Chlordane	4.08	LCS	P	0 - 30
LFB	Heptachlor	8.58	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.16	LCS	P	0 - 30
LFB	Methoxychlor	7.59	LCS	P	0 - 30
LFB	Mirex	11.8	LCS	P	0 - 30
LFB	Permethrin	14.8	LCS	P	0 - 30
LFB	Trifluralin	9.53	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P335622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946969	Acetochlor	8.13	Spike	P	0 - 30
1946969	Alachlor	5.49	Spike	P	0 - 30
1946969	Ametryn	14.5	Spike	P	0 - 30
1946969	Atrazine	6.04	Spike	P	0 - 30
1946969	Atrazine Desethyl	11.6	Spike	P	0 - 30
1946969	Azinphos Methyl	3.53	Spike	P	0 - 30
1946969	Bromacil	4.05	Spike	P	0 - 30
1946969	Butylate	21.4	Spike	P	0 - 30
1946969	Chlorpyrifos Ethyl	12.0	Spike	P	0 - 30
1946969	Chlorpyrifos Methyl	10.2	Spike	P	0 - 30
1946969	Cyanazine	21.0	Spike	P	0 - 30
1946969	Demeton	13.4	Spike	P	0 - 30
1946969	Diazinon	13.5	Spike	P	0 - 30
1946969	Disulfoton	11.8	Spike	P	0 - 30
1946969	EPTC	15.3	Spike	P	0 - 30
1946969	Ethion	4.20	Spike	P	0 - 30
1946969	Ethoprop	12.5	Spike	P	0 - 30
1946969	Fenamiphos	1.63	Spike	P	0 - 30
1946969	Fipronil	1.27	Spike	P	0 - 30
1946969	Fipronil Sulfide	6.87	Spike	P	0 - 30
1946969	Fipronil Sulfone	7.01	Spike	P	0 - 30
1946969	Fonofos	9.16	Spike	P	0 - 30
1946969	Hexazinone	3.57	Spike	P	0 - 30
1946969	Malathion	4.30	Spike	P	0 - 30
1946969	Metalaxyl	4.04	Spike	P	0 - 30
1946969	Metolachlor	9.62	Spike	P	0 - 30
1946969	Metribuzin	10.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P335622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946969	Mevinphos	3.52	Spike	P	0 - 30
1946969	Molinate	7.23	Spike	P	0 - 30
1946969	Norflurazon	6.57	Spike	P	0 - 30
1946969	Parathion Ethyl	5.43	Spike	P	0 - 30
1946969	Parathion Methyl	10.4	Spike	P	0 - 30
1946969	Pendimethalin	7.95	Spike	P	0 - 30
1946969	Phorate	11.3	Spike	P	0 - 30
1946969	Prometon	8.21	Spike	P	0 - 30
1946969	Prometryn	6.81	Spike	P	0 - 30
1946969	Simazine	6.90	Spike	P	0 - 30
1946969	Terbufos	15.3	Spike	P	0 - 30
1946969	Terbuthylazine	7.06	Spike	P	0 - 30
LFB	Acetochlor	1.44	LCS	P	0 - 30
LFB	Alachlor	2.42	LCS	P	0 - 30
LFB	Ametryn	9.34	LCS	P	0 - 30
LFB	Atrazine	5.79	LCS	P	0 - 30
LFB	Atrazine Desethyl	3.16	LCS	P	0 - 30
LFB	Azinphos Methyl	4.48	LCS	P	0 - 30
LFB	Bromacil	0.0359	LCS	P	0 - 30
LFB	Butylate	0.0994	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.50	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.89	LCS	P	0 - 30
LFB	Cyanazine	2.20	LCS	P	0 - 30
LFB	Demeton	39.6	LCS	F	0 - 30
LFB	Diazinon	0.0995	LCS	P	0 - 30
LFB	Disulfoton	36.3	LCS	F	0 - 30
LFB	EPTC	8.23	LCS	P	0 - 30
LFB	Ethion	13.7	LCS	P	0 - 30
LFB	Ethoprop	0.608	LCS	P	0 - 30
LFB	Fenamiphos	9.38	LCS	P	0 - 30
LFB	Fipronil	3.51	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.38	LCS	P	0 - 30
LFB	Fipronil Sulfone	2.75	LCS	P	0 - 30
LFB	Fonofos	1.79	LCS	P	0 - 30
LFB	Hexazinone	1.56	LCS	P	0 - 30
LFB	Malathion	2.73	LCS	P	0 - 30
LFB	Metalaxyl	0.476	LCS	P	0 - 30
LFB	Metolachlor	2.01	LCS	P	0 - 30
LFB	Metribuzin	6.31	LCS	P	0 - 30
LFB	Mevinphos	0.974	LCS	P	0 - 30
LFB	Molinate	3.79	LCS	P	0 - 30
LFB	Norflurazon	4.55	LCS	P	0 - 30
LFB	Parathion Ethyl	0.491	LCS	P	0 - 30
LFB	Parathion Methyl	4.27	LCS	P	0 - 30
LFB	Pendimethalin	2.78	LCS	P	0 - 30
LFB	Phorate	9.63	LCS	P	0 - 30
LFB	Prometon	3.20	LCS	P	0 - 30
LFB	Prometryn	12.0	LCS	P	0 - 30
LFB	Simazine	4.36	LCS	P	0 - 30
LFB	Terbufos	10.2	LCS	P	0 - 30
LFB	Terbuthylazine	1.17	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P335386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	13.7	LCS	P	0 - 30
LFB	Toxaphene	1.18	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946205	Glyphosate	0.234	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946205	Pyraclostrobin	6.31	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1947930	Sucralose	6.99	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P335392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946261	Color (true)	1.54	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P335626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946193	Total Alkalinity	0.0904	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P335712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946261	TDS	6.38	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P335630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946193	Fluoride	0.463	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P335614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946249	Organic Carbon	0.0474	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P335308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1945852	2,4-D	10.3	Spike	P	0 - 30
1945852	Acetaminophen	4.53	Spike	P	0 - 30
1945852	Bentazon	8.03	Spike	P	0 - 30
1945852	Carbamazepine	6.41	Spike	P	0 - 30
1945852	Diuron	7.92	Spike	P	0 - 30
1945852	Fenuron	4.39	Spike	P	0 - 30
1945852	Fluridone	6.37	Spike	P	0 - 30
1945852	Imidacloprid	0.766	Spike	P	0 - 30
1945852	Linuron	0.129	Spike	P	0 - 30
1945852	MCP	8.88	Spike	P	0 - 30
1945852	Primidone	14.1	Spike	P	0 - 30
1945852	Triclopyr	2.37	Spike	P	0 - 30
LFB	2,4-D	3.65	LCS	P	0 - 30
LFB	Acetaminophen	9.48	LCS	P	0 - 30
LFB	Bentazon	4.15	LCS	P	0 - 30
LFB	Carbamazepine	5.82	LCS	P	0 - 30
LFB	Diuron	4.60	LCS	P	0 - 30
LFB	Fenuron	8.40	LCS	P	0 - 30
LFB	Fluridone	7.15	LCS	P	0 - 30
LFB	Imidacloprid	7.86	LCS	P	0 - 30
LFB	Linuron	6.22	LCS	P	0 - 30
LFB	MCP	7.70	LCS	P	0 - 30
LFB	Primidone	5.86	LCS	P	0 - 30
LFB	Triclopyr	3.92	LCS	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: 1946285
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	91.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	91.2	P	30 - 160
EPA 8321B	Diuron-d6	60.7	P	30 - 160
EPA 8321B	Diuron-d6	100	P	30 - 160
EPA 8321B	Diuron-d6	60.7	P	30 - 160
EPA 8321B	Diuron-d6	100	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1946285
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	119	P	40 - 160
EPA 8321B	Primidone-d5	76.0	P	30 - 160
EPA 8321B	Primidone-d5	76.0	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160
USGS O-2060-01	2,4-D-d3	35.9	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	117	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	91.2	P	30 - 160
USGS O-2060-01	Diuron-d6	60.7	P	30 - 160
USGS O-2060-01	Diuron-d6	100	P	30 - 160
USGS O-2060-01	Primidone-d5	76.0	P	30 - 160
USGS O-2060-01	Sucralose-d6	104	P	40 - 160

Lab Sample ID: 1946286
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	53.1	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	41.3	P	32 - 103
EPA 8276	Decachlorobiphenyl	53.3	P	31 - 100

Lab Sample ID: 1946287
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	84.1	P	53 - 135
EPA 8270D	Simazine-d10	87.4	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A80230
Included Lab Sample IDs: 1946261, 1946264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	95.5	101	P/P	90 - 110
Sulfate	97.6	99.9	P/P	90 - 110
Sulfate	99.9	99.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A80289
Included Lab Sample IDs: 1946261, 1946264

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80298

Included Lab Sample IDs: 1946263, 1946266

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

Reference Method: SM 2120 B

Run ID: A80299

Included Lab Sample IDs: 1946261, 1946264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	85 - 115
Color (true)	104	103	P/P	85 - 115

Reference Method: SM 5310 B-00

Run ID: A80379

Included Lab Sample IDs: 1946262, 1946265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.5	98.6	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A80383

Included Lab Sample IDs: 1946261, 1946264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80383

Included Lab Sample IDs: 1946261, 1946264

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

Reference Method: EPA 8321B

Run ID: A80410

Included Lab Sample IDs: 1946285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	104	106	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A80412

Included Lab Sample IDs: 1946285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	105	106	P/P	70 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80413

Included Lab Sample IDs: 1946262, 1946265

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

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A80422

Included Lab Sample IDs: 1946285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.7	92.9	P/P	50 - 150
Acetaminophen	94.8	96.6	P/P	60 - 150
Bentazon	136	137	P/P	50 - 150
Carbamazepine	123	127	P/P	60 - 150
Diuron	107	116	P/P	60 - 150
Fenuron	92.5	86.9	P/P	60 - 150
Fluridone	136	138	P/P	60 - 160
Imidacloprid	87.9	91.3	P/P	60 - 150
Linuron	102	107	P/P	60 - 150
MCPP	101	99.2	P/P	50 - 150
Primidone	89.0	73.7	P/P	60 - 150
Triclopyr	95.5	100	P/P	50 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A80448

Included Lab Sample IDs: 1946292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	100	P/P	90 - 110
Iron	101	99.4	P/P	90 - 110
Magnesium	101	99.0	P/P	90 - 110
Potassium	98.4	96.9	P/P	90 - 110
Sodium	97.4	97.3	P/P	90 - 110
Zinc	98.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80468

Included Lab Sample IDs: 1946262, 1946265

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80550

Included Lab Sample IDs: 1946292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.3	95.9	P/P	90 - 110
Cadmium	94.9	94.1	P/P	90 - 110
Chromium	95.9	94.4	P/P	90 - 110
Copper	98.8	96.9	P/P	90 - 110
Lead	94.0	93.4	P/P	90 - 110
Nickel	97.0	96.1	P/P	90 - 110
Silver	105	105	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A80568

Included Lab Sample IDs: 1946285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	108	102	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80596

Included Lab Sample IDs: 1946262

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80627

Included Lab Sample IDs: 1946265

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80668

Included Lab Sample IDs: 1946262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80797

Included Lab Sample IDs: 1946265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	99.0	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A80805

Included Lab Sample IDs: 1946287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine	93.9		P	80 - 120
Atrazine Desethyl	94.8		P	80 - 120
Azinphos Methyl	92.6		P	80 - 120
Bromacil	103		P	80 - 120
Butylate	98.8		P	80 - 120
Chlorpyrifos Ethyl	98.7		P	80 - 120
Chlorpyrifos Methyl	98.0		P	80 - 120
Cyanazine	90.9		P	80 - 120
Demeton	95.0		P	80 - 120
Diazinon	96.1		P	80 - 120
Disulfoton	97.9		P	80 - 120
EPTC	103		P	80 - 120
Ethion	94.9		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	94.9		P	80 - 120
Fipronil	99.8		P	80 - 120
Fipronil Sulfide	85.5		P	80 - 120
Fipronil Sulfone	96.9		P	80 - 120
Fonofos	96.0		P	80 - 120
Hexazinone	93.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80805

Included Lab Sample IDs: 1946287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Malathion	95.7		P	80 - 120
Metalaxyl	102		P	80 - 120
Metolachlor	106		P	80 - 120
Metribuzin	86.7		P	80 - 120
Mevinphos	97.0		P	80 - 120
Molinate	95.3		P	80 - 120
Norflurazon	98.0		P	80 - 120
Parathion Ethyl	91.5		P	80 - 120
Parathion Methyl	91.7		P	80 - 120
Pendimethalin	87.8		P	80 - 120
Phorate	94.8		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	94.3		P	80 - 120
Terbufos	96.0		P	80 - 120
Terbutylazine	97.8		P	80 - 120

Reference Method: EPA 8276

Run ID: A80875

Included Lab Sample IDs: 1946286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	86.0		P	80 - 120
Toxaphene	88.6		P	80 - 120

Reference Method: EPA 8270D

Run ID: A80997

Included Lab Sample IDs: 1946286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	102		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	102		P	80 - 120
Beta-BHC	109		P	80 - 120
Carbophenothion	86.4		P	80 - 120
Chlorothalonil	81.7		P	80 - 120
Cypermethrin	88.8		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	95.0		P	80 - 120
Dicofol	115		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	98.5		P	80 - 120
Endosulfan II	101		P	80 - 120
Endosulfan Sulfate	95.2		P	80 - 120
Endrin	103		P	80 - 120
Endrin Aldehyde	95.6		P	80 - 120
Endrin Ketone	95.8		P	80 - 120
Gamma-BHC	102		P	80 - 120
Gamma-Chlordane	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A80997
Included Lab Sample IDs: 1946286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Heptachlor	100		P	80 - 120
Heptachlor Epoxide	103		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	99.0		P	80 - 120
Permethrin	92.7		P	80 - 120
Trifluralin	99.5		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							2.11	
EPA 200.7 Rev. 4.4	Calcium	103		101	103				1.40
	Iron	104		103	101	104			2.48
	Magnesium	103		103	101				2.16
	Potassium	98.8		95.4	96.7	100			2.50
	Sodium	101		97.8	98.2	102			1.90
	Zinc	99.3		98.4	95.6	97.1			1.52
EPA 200.8 Rev. 5.4	Arsenic	101		104	102	99.6			1.86
	Cadmium	97.6		103	101	98.7			1.86
	Chromium	96.6		100	97.3	95.7			1.63
	Copper	99.6		101	95.4	94.0			1.53
	Lead	91.3		92.1	92.4	91.6			0.878
	Nickel	99.9		101	98.7	95.9			2.82
	Silver	98.4		102	102	99.3			2.35
EPA 300.0 Rev. 2.1	Chloride	98.7		99.4	101			0.750	
	Sulfate	99.6		103	100			0.686	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0		100	97.9				2.02
	Ammonia-N	102		97.9	97.8				0.0449
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104		109	103				5.50
	Kjeldahl Nitrogen	97.2		95.6	97.3				1.14
EPA 353.2 Rev. 2.0	NO2NO3-N	105		104	106				2.38
EPA 365.1 Rev. 2.0	Total-P	102		101	95.8				5.29
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.5		94.0	94.2				0.145
EPA 8270D	Acetochlor	76.2	77.3	73.2	79.4		1.44		8.13
	Alachlor	77.1	78.9	79.6	75.4		2.42		5.49
	Aldrin	47.6	36.0	58.2			27.9		
	Alpha-BHC	94.2	81.6	74.7			14.3		
	Alpha-Chlordane	88.7	85.1	67.2			4.11		
	Ametryn	61.9	56.4	84.7	73.2		9.34		14.5
	Atrazine	78.1	82.8				5.79		6.04
	Atrazine Desethyl	99.9	103	78.9	68.5		3.16		11.6
	Azinphos Methyl	118	113	97.3	93.9		4.48		3.53
	Beta-BHC	94.7	80.6	55.0			16.1		
	Bromacil	81.9	81.9				0.0359		4.05

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Butylate	35.9	35.8	25.0	20.1	0.0994	21.4
	Carbophenothion	79.2	71.5	111		10.2	
	Chlorothalonil	50.5	49.4	89.7		2.14	
	Chlorpyrifos Ethyl	82.9	80.8	79.3	70.3	2.50	12.0
	Chlorpyrifos Methyl	86.5	84.9	77.8	70.2	1.89	10.2
	Cyanazine	260	265	182	147	2.20	21.0
	Cypermethrin	94.7	84.9	151		10.9	
	DDD-p,p'	102	99.3	70.6		2.58	
	DDE-p,p'	90.9	91.9	75.8		1.07	
	DDT-p,p'	99.2	89.5	81.9		10.3	
	Delta-BHC	102	85.4	76.1		17.3	
	Demeton	44.5	66.6	53.9	47.1	39.6	13.4
	Diazinon	72.9	72.8	71.4	62.4	0.0995	13.5
	Dicofol	116	129	60.7		10.4	
	Dieldrin	92.7	90.2	70.3		2.82	
	Disulfoton	58.2	84.0	72.9	64.8	36.3	11.8
	Endosulfan I	94.4	86.4	79.3		8.86	
	Endosulfan II	99.7	99.3	83.3		0.427	
	Endosulfan Sulfate	89.9	87.6	64.4		2.49	
	Endrin	92.4	97.5	69.9		5.38	
	Endrin Aldehyde	93.3	92.1	70.4		1.22	
	Endrin Ketone	93.6	88.5	66.7		5.53	
	EPTC	31.5	34.2	24.8	21.3	8.23	15.3
	Ethion	75.1	86.1	88.0	84.3	13.7	4.20
	Ethoprop	77.2	76.7	71.5	63.0	0.608	12.5
	Fenamiphos	80.4	88.3	81.8	80.5	9.38	1.63
	Fipronil	76.6	79.3	73.0	71.7	3.51	1.27
	Fipronil Sulfide	71.9	73.6			2.38	6.87
	Fipronil Sulfone	75.6	77.7			2.75	7.01
	Fonofos	79.8	81.3	68.3	62.3	1.79	9.16
	Gamma-BHC	90.4	82.9	80.8		8.67	
	Gamma-Chlordane	87.1	83.6	67.1		4.08	
	Heptachlor	80.3	73.7	63.3		8.58	
	Heptachlor Epoxide	89.2	88.2	70.3		1.16	
	Hexazinone	76.8	78.0	90.4	87.2	1.56	3.57
	Malathion	86.0	88.3	84.8	81.3	2.73	4.30
	Metalaxyl	70.6	71.0	72.5	69.6	0.476	4.04
	Methoxychlor	106	98.1	86.5		7.59	
	Metolachlor	77.7	79.3	81.2	73.7	2.01	9.62
	Metribuzin	135	144	177	160	6.31	10.2
	Mevinphos	61.3	61.9	51.2	49.4	0.974	3.52
	Mirex	87.4	77.7	71.2		11.8	
	Molinate	37.0	38.5	32.6	30.3	3.79	7.23
	Norflurazon	75.2	78.7	71.2	76.0	4.55	6.57
	Parathion Ethyl	83.8	84.2	82.5	78.1	0.491	5.43
	Parathion Methyl	92.1	96.1	89.1	80.3	4.27	10.4
	Pendimethalin	79.5	81.7	84.0	77.6	2.78	7.95
	Permethrin	89.9	77.5	77.7		14.8	
	Phorate	60.4	66.5	52.5	46.9	9.63	11.3
	Prometon	72.9	75.3	90.2	97.9	3.20	8.21
	Prometryn	69.5	61.6	79.2	74.0	12.0	6.81
	Simazine	89.9	93.9			4.36	6.90
	Terbufos	69.8	77.3	70.5	60.5	10.2	15.3
	Terbutylazine	84.3	85.3	85.4	79.5	1.17	7.06

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8270D	Trifluralin	86.6	78.7	65.5		9.53		
EPA 8276	Chlordane	66.5	58.0	25.2		13.7		
	Toxaphene	86.5	85.4	32.0		1.18		
EPA 8321B	Glyphosate	124		128	128			0.234
	Pyraclostrobin	85.2		86.0	91.6			6.31
	Sucralose	73.8		107	115			6.99
SM 2120 B	Color (true)						1.54	
SM 2320 B-97	Total Alkalinity	103					0.0904	
SM 2540 C-97	TDS						6.38	
SM 4500 F-C-97	Fluoride	102		102	103			0.463
SM 5310 B-00	Organic Carbon	98.9		95.3	95.3			0.0474
USGS O-2060-01	2,4-D	68.9	66.4	30.7	34.0	3.65		10.3
	Acetaminophen	114	125	116	121	9.48		4.53
	Bentazon	63.7	66.4	26.0	29.2	4.15		8.03
	Carbamazepine	132	140	66.3	70.9	5.82		6.41
	Diuron	107	103	44.7	48.4	4.60		7.92
	Fenuron	140	129	55.0	57.5	8.40		4.39
	Fluridone	133	143	65.0	69.3	7.15		6.37
	Imidacloprid	108	116	135	137	7.86		0.766
	Linuron	100	107	83.5	83.7	6.22		0.129
	MCP	76.5	70.8	35.7	39.0	7.70		8.88
	Primidone	99.8	106	73.0	63.4	5.86		14.1
	Triclopyr	74.0	71.2	30.4	31.1	3.92		2.37

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1946261, 1946264
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1946292
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1946292
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1946261, 1946264
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1946261, 1946264
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1946262, 1946265
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1946262, 1946265
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1946262, 1946265
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1946262, 1946265
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1946263, 1946266
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1946286
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1946287
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1946286
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1946285
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1946285
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1946285

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2120 B / E31780	True Color measured at 450 nm	1946261, 1946264
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1946261, 1946264
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1946261, 1946264
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1946261, 1946264
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1946261, 1946264
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1946262, 1946265
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1946285
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1946285

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	11/15/2017			11/15/2017 16:32	DeAsia Armster	1946261, 1946264
EPA 200.7 Rev. 4.4	11/15/2017	11/20/2017	Elliott D. Healy	11/21/2017	Betina Topolski	1946292
EPA 200.8 Rev. 5.4	11/15/2017	11/20/2017	Elliott D. Healy	11/28/2017	Robert K Palmer	1946292
EPA 300.0 Rev. 2.1	11/15/2017			11/15/2017	Julia Storbeck	1946261, 1946264
EPA 350.1 Rev. 2.0	11/15/2017			11/29/2017	Sofia Elnemr	1946262
	11/15/2017			11/30/2017	Sofia Elnemr	1946265
EPA 351.2 Rev. 2.0	11/15/2017	11/28/2017	Adrian Shelby	12/01/2017	Tanya Welborn	1946262
	11/15/2017	12/07/2017	Adrian Shelby	12/08/2017	Joseph Suarez	1946265
EPA 353.2 Rev. 2.0	11/15/2017			11/22/2017	Lauren Bottorf	1946262, 1946265
EPA 365.1 Rev. 2.0	11/15/2017	11/17/2017	Sima Feizi	11/20/2017	Lipi Saha	1946262, 1946265
EPA 365.1 Rev. 2.0 dissolved	11/15/2017			11/15/2017 14:38	Megan Treadwell	1946263
	11/15/2017			11/15/2017 14:40	Megan Treadwell	1946266
EPA 8270D	11/15/2017	11/16/2017	John Kaba	11/22/2017	Goutam Palui	1946286
	11/15/2017	11/20/2017	John Kaba	11/28/2017	Marek Topolski	1946287
EPA 8276	11/15/2017	11/16/2017	John Kaba	11/28/2017	John P. Burgos	1946286
EPA 8321B	11/15/2017	11/20/2017	Mohammad Ghaffari	11/20/2017	Mohammad Ghaffari	1946285
	11/15/2017	11/28/2017	Juyoung Kim	11/28/2017	Juyoung Kim	1946285
SM 2120 B	11/15/2017			11/15/2017 15:48	Tanya Welborn	1946261
	11/15/2017			11/15/2017 16:32	Tanya Welborn	1946264
SM 2320 B-97	11/15/2017			11/18/2017	Dale L. Simmons	1946261, 1946264
SM 2540 C-97	11/15/2017			11/17/2017	Yijie Li	1946261, 1946264
SM 2540 D-97	11/15/2017			11/17/2017	Yijie Li	1946261, 1946264
SM 4500 F-C-97	11/15/2017			11/18/2017	Dale L. Simmons	1946261, 1946264
SM 5310 B-00	11/15/2017			11/18/2017	Ping Hua	1946262, 1946265
USGS O-2060-01	11/15/2017	11/17/2017	Hoor Shaik	11/18/2017	Juyoung Kim	1946285