

Chemical Analysis Report

NE-DIST-2017-11-30-02

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

Event Description: **Hawthorne Lake**
Request ID: **RQ-2017-11-27-18**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-DEC-2017 10:39

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

Case Narrative

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

Results for the following analytical groups are included in this report: 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: Little Orange Lake - center

Collection Date/Time: 11/29/2017 14:00

Field ID: G1NE0040 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949637	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P336148	
	EPA 300.0 Rev. 2.1	Chloride	5.9		mg Cl/L	P336481	
		Sulfate	0.46	I	mg SO4/L	P336484	
	SM 2120 B	Color (true)	460		PCU	P336141	
	SM 2320 B-97	Total Alkalinity	3.0		mg CaCO3/L	P336617	
	SM 2540 C-97	TDS	87		mg/L	P336442	
	SM 2540 D-97	TSS	2	U	mg/L	P336304	
	SM 4500 F-C-97	Fluoride	0.068	I	mg F/L	P336620	
1949638	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P336629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P336562	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P336384	
	EPA 365.1 Rev. 2.0	Total-P	0.34		mg P/L	P336471	
	SM 5310 B-00	Organic Carbon	32		mg C/L	P336335	
1949639	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.32		mg P/L	P336133	
1949688	EPA 200.7 Rev. 4.4	Calcium	3.08		mg/L	P336291	
		Iron	530		ug/L	P336291	
		Magnesium	1.20		mg/L	P336291	
		Potassium	2.7		mg/L	P336291	
		Sodium	3.6		mg/L	P336291	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P336291	
		Arsenic	1.21		ug/L	P336291	
		Cadmium	0.020	U	ug/L	P336291	
		Chromium	0.48	I	ug/L	P336291	
		Copper	0.21	I	ug/L	P336291	
		Lead	0.29		ug/L	P336291	
		Nickel	0.22	I	ug/L	P336291	
		Silver	0.010	U	ug/L	P336291	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Little Orange Lake - center

Collection Date/Time: 11/29/2017 14:00

Field ID: G1NE0040 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949659	EPA 8321B	Glyphosate**	0.10	U	ug/L	P335934	
		Pyraclostrobin**	0.0020	U	ug/L	P335933	
		Sucralose**	0.042		ug/L	P336107	
	USGS O-2060-01	2,4-D	0.0075	I	ug/L	P336034	
		Diuron	8.0E-04	U	ug/L	P336034	
		Fenuron	0.0080	U	ug/L	P336034	
		Imidacloprid	8.0E-04	U	ug/L	P336034	MS
		Bentazon	8.0E-04	U	ug/L	P336034	

Field ID: G1NE0040 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949659	USGS O-2060-01	Linuron	0.0040	U	ug/L	P336034	
		Acetaminophen**	0.0080	U	ug/L	P336034	
		MCPP	0.0020	U	ug/L	P336034	
		Carbamazepine**	4.0E-04	U	ug/L	P336034	
		Triclopyr**	0.0040	U	ug/L	P336034	
		Primidone**	0.0040	U	ug/L	P336034	
		Fluridone**	4.0E-04	U	ug/L	P336034	
1949660	EPA 8270D	Aldrin	4.0	UJ	ng/L	P336154	RPD, SUR
		Alpha-BHC	2.0	UJ	ng/L	P336154	SUR
		Beta-BHC	4.0	UJ	ng/L	P336154	LCS, SUR
		Delta-BHC	4.0	UJ	ng/L	P336154	SUR
		Gamma-BHC	4.0	UJ	ng/L	P336154	SUR
		Carbophenothion	4.0	UJ	ng/L	P336154	SUR
		Chlorothalonil	2.0	UJ	ng/L	P336154	MS, SUR
		Cypermethrin	20	UJ	ng/L	P336154	SUR
		DDD-p,p'	3.0	UJ	ng/L	P336154	SUR
		DDE-p,p'	3.0	UJ	ng/L	P336154	SUR
		DDT-p,p'	3.0	UJ	ng/L	P336154	LCS, SUR
		Dieldrin	4.0	UJ	ng/L	P336154	SUR
		Endosulfan I	4.0	UJ	ng/L	P336154	SUR
		Endosulfan II	4.0	UJ	ng/L	P336154	SUR
		Endosulfan Sulfate	2.0	UJ	ng/L	P336154	SUR
		Endrin	2.0	UJ	ng/L	P336154	SUR
		Endrin Aldehyde	2.0	UJ	ng/L	P336154	SUR
		Heptachlor	1.5	UJ	ng/L	P336154	SUR
		Heptachlor Epoxide	2.0	UJ	ng/L	P336154	SUR
		Methoxychlor	4.0	UJ	ng/L	P336154	SUR
		Mirex	2.0	UJ	ng/L	P336154	SUR
		Permethrin	10	UJ	ng/L	P336154	SUR
		Trifluralin	1.0	UJ	ng/L	P336154	SUR
		Alpha-Chlordane	1.0	UJ	ng/L	P336154	SUR
		Gamma-Chlordane	1.0	UJ	ng/L	P336154	SUR
		Endrin Ketone	2.0	UJ	ng/L	P336154	LCS, SUR
		Dicofol	30	UJ	ng/L	P336154	SUR
	EPA 8276	Chlordane**	2.5	UJ	ng/L	P336154	SUR
		Toxaphene**	12	UJ	ng/L	P336154	SUR
1949661	EPA 8270D	Alachlor	0.24	U	ng/L	P336157	
		Ametryn	0.31	U	ng/L	P336157	
		Atrazine	0.24	U	ng/L	P336157	
		Atrazine Desethyl	1.4	U	ng/L	P336157	
		Azinphos Methyl	2.1	U	ng/L	P336157	
		Bromacil	0.48	U	ng/L	P336157	
		Butylate	0.38	U	ng/L	P336157	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P336157	
		Chlorpyrifos Methyl	0.095	U	ng/L	P336157	

Field ID: G1NE0040 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949661	EPA 8270D	Demeton	1.9	UJ	ng/L	P336157	RPD
		Diazinon	0.12	U	ng/L	P336157	
		Disulfoton	0.48	U	ng/L	P336157	
		EPTC	1.2	U	ng/L	P336157	
		Ethion	0.14	U	ng/L	P336157	MS, RPD
		Ethoprop	0.095	U	ng/L	P336157	
		Fenamiphos	0.24	U	ng/L	P336157	
		Fipronil	0.24	U	ng/L	P336157	
		Fipronil Sulfide	0.14	U	ng/L	P336157	
		Fipronil Sulfone	0.14	U	ng/L	P336157	
		Hexazinone	0.48	U	ng/L	P336157	
		Malathion	0.33	U	ng/L	P336157	
		Metribuzin	0.19	U	ng/L	P336157	MS
		Mevinphos	0.48	U	ng/L	P336157	
		Molinate	0.29	U	ng/L	P336157	
		Norflurazon	0.48	U	ng/L	P336157	
		Pendimethalin	0.95	U	ng/L	P336157	
		Phorate	0.24	U	ng/L	P336157	
		Prometon	0.86	U	ng/L	P336157	
		Prometryn	0.19	U	ng/L	P336157	
		Simazine	0.48	U	ng/L	P336157	
		Terbufos	0.095	U	ng/L	P336157	
		Terbuthylazine	0.41	U	ng/L	P336157	
		Fonofos	0.19	U	ng/L	P336157	
		Metalaxyl	0.24	U	ng/L	P336157	
		Metolachlor	0.24	U	ng/L	P336157	
		Acetochlor	0.24	U	ng/L	P336157	
		Cyanazine	0.48	UJ	ng/L	P336157	CCV
		Parathion Ethyl	0.24	U	ng/L	P336157	
		Parathion Methyl	0.24	U	ng/L	P336157	

Ref. Method and Comment:

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

EPA 8276: Refer to the narrative for an explanation of QC Codes.

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

Sample Location: Holdens Pond center

Collection Date/Time: 11/29/2017 14:45

Field ID: G1NE0199 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949640	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P336148	
	EPA 300.0 Rev. 2.1	Chloride	8.7		mg Cl/L	P336481	
		Sulfate	0.41	I	mg SO4/L	P336484	
	SM 2120 B	Color (true)	300		PCU	P336141	
	SM 2320 B-97	Total Alkalinity	3.7		mg CaCO3/L	P336617	
	SM 2540 C-97	TDS	84		mg/L	P336443	
	SM 2540 D-97	TSS	2	U	mg/L	P336304	

Field ID: G1NE0199 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949640	SM 4500 F-C-97	Fluoride	0.079	I	mg F/L	P336620	
1949642	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P336629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P336642	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P336384	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P336471	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P336335	
1949644	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P336133	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Moss Lee Lake center

Collection Date/Time: 11/29/2017 14:30

Field ID: G1NE0200 11292017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949641	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P336148	
	EPA 300.0 Rev. 2.1	Chloride	9.4		mg Cl/L	P336481	
		Sulfate	0.77		mg SO4/L	P336484	
	SM 2120 B	Color (true)	210		PCU	P336141	
	SM 2320 B-97	Total Alkalinity	1.9	I	mg CaCO3/L	P336617	
	SM 2540 C-97	TDS	63	Q	mg/L	P337019	
	SM 2540 D-97	TSS	2	UA	mg/L	P336304	
	SM 4500 F-C-97	Fluoride	0.085	I	mg F/L	P336620	
1949643	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P336629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P336567	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P336384	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P336471	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P336335	
1949645	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P336134	

Ref. Method and Comment:

SM 2540 C-97: Sample reanalyzed out of holding time due to analytical difficulties.

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P336148

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P336291

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P336291

Component	Result	Code	Units
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: P336291

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: P336481

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336484

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336629

Component	Result	Code	Units
Ammonia-N	0.002	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 351.2 Rev. 2.0
Batch ID: P336567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336642

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: P336384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336471

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336133

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336134

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

Reference Method: EPA 8270D
Batch ID: P336154

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P336157

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
Metaxyl	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
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P336154

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

Reference Method: EPA 8321B
Batch ID: P335933

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P335934

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P336107

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P336141

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P336617

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

Reference Method: SM 2540 C-97
Batch ID: P336442

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P336443

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P337019

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336304

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P336620

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: P336335

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

Reference Method: USGS O-2060-01
Batch ID: P336034

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	0.0080	U	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: P336291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	98.9		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	106		P	85 - 115
Sodium	102		P	85 - 115
Zinc	98.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	98.4		P	85 - 115
Chromium	97.0		P	85 - 115
Copper	99.1		P	85 - 115
Lead	97.6		P	85 - 115
Nickel	101		P	85 - 115
Silver	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336629

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	107		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 351.2 Rev. 2.0
Batch ID: P336567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336642

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336133

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336134

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P336154

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	50.1	84.6	P/P	26 - 88.0
Alpha-BHC	110	108	P/P	63 - 114
Alpha-Chlordane	107	99.2	P/P	56 - 117
Beta-BHC	138	123	F/P	57 - 138
Carbophenothion	91.9	84.6	P/P	36 - 148
Chlorothalonil	111	91.0	P/P	26 - 173
Cypermethrin	125	107	P/P	42 - 159
DDD-p,p'	124	107	P/P	62 - 126
DDE-p,p'	110	104	P/P	53 - 115
DDT-p,p'	122	107	F/P	54 - 117
Delta-BHC	142	147	P/P	68 - 158
Dicofol	110	87.5	P/P	25 - 114
Dieldrin	112	103	P/P	59 - 126
Endosulfan I	115	109	P/P	62 - 138
Endosulfan II	145	120	P/P	61 - 150
Endosulfan Sulfate	125	95.7	P/P	63 - 132
Endrin	115	104	P/P	49 - 148
Endrin Aldehyde	126	98.9	P/P	50 - 144
Endrin Ketone	123	101	F/P	66 - 122
Gamma-BHC	113	124	P/P	60 - 137
Gamma-Chlordane	104	94.6	P/P	54 - 113
Heptachlor	95.4	88.2	P/P	43 - 104
Heptachlor Epoxide	110	100	P/P	64 - 118
Methoxychlor	129	127	P/P	63 - 129
Mirex	86.5	86.1	P/P	40 - 96.0
Permethrin	108	97.9	P/P	51 - 123
Trifluralin	97.1	94.5	P/P	35 - 187

Reference Method: EPA 8270D
Batch ID: P336157

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.2	98.8	P/P	78 - 118
Alachlor	100	96.6	P/P	77 - 119
Ametryn	84.1	90.0	P/P	61 - 136
Atrazine	103	104	P/P	73 - 120
Atrazine Desethyl	82.5	83.2	P/P	16 - 122
Azinphos Methyl	113	109	P/P	69 - 186
Bromacil	100	99.2	P/P	40 - 125
Butylate	59.7	50.6	P/P	32 - 87.0
Chlorpyrifos Ethyl	93.7	91.6	P/P	53 - 110
Chlorpyrifos Methyl	100	99.0	P/P	31 - 119
Cyanazine	161	171	P/P	36 - 224
Demeton	45.3	78.5	P/P	39 - 122
Diazinon	95.9	91.8	P/P	75 - 119
Disulfoton	109	99.7	P/P	42 - 139
EPTC	35.9	42.9	P/P	33 - 96.0
Ethion	92.2	81.8	P/P	63 - 127
Ethoprop	102	96.8	P/P	65 - 107
Fenamiphos	109	103	P/P	64 - 137
Fipronil	102	98.4	P/P	60 - 126
Fipronil Sulfide	93.2	90.9	P/P	58 - 124

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P336157

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfone	89.5	85.6	P/P	57 - 126
Fonofos	93.8	96.9	P/P	65 - 111
Hexazinone	90.3	93.8	P/P	46 - 151
Malathion	99.9	98.8	P/P	68 - 132
Metalaxyl	102	99.8	P/P	51 - 132
Metolachlor	98.2	98.0	P/P	78 - 119
Metribuzin	104	110	P/P	58 - 148
Mevinphos	56.9	69.7	P/P	34 - 128
Molinate	50.4	48.2	P/P	44 - 101
Norflurazon	93.3	91.9	P/P	63 - 129
Parathion Ethyl	94.2	96.2	P/P	80 - 109
Parathion Methyl	104	105	P/P	74 - 125
Pendimethalin	105	107	P/P	48 - 134
Phorate	87.8	84.0	P/P	52 - 119
Prometon	94.7	97.3	P/P	69 - 124
Prometryn	96.8	92.3	P/P	66 - 124
Simazine	97.9	104	P/P	61 - 134
Terbufos	97.1	95.8	P/P	58 - 115
Terbutylazine	98.6	99.4	P/P	77 - 113

Reference Method: EPA 8276
Batch ID: P336154

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.0	93.3	P/P	48 - 121
Toxaphene	113	111	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P335933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	132		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P335934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	87.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	67.4		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P336617

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P336620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P336335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P336034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.6		P	40 - 150
Acetaminophen	115		P	30 - 150
Bentazon	75.8		P	30 - 150
Carbamazepine	109		P	40 - 150
Diuron	106		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	105		P	40 - 150
Imidacloprid	98.3		P	40 - 160
Linuron	100		P	40 - 150
MCPP	92.1		P	40 - 150
Primidone	93.9		P	40 - 150
Triclopyr	89.1		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P336291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949568	Calcium	97.8		P	80 - 120
1949568	Iron	98.5		P	80 - 120
1949568	Magnesium	98.3		P	80 - 120
1949568	Sodium	101		P	80 - 120
1949568	Zinc	96.5		P	80 - 120
1949904	Calcium	96.5	95.5	P/P	80 - 120
1949904	Iron	94.8	95.9	P/P	80 - 120
1949904	Magnesium	100	102	P/P	80 - 120
1949904	Potassium	104	101	P/P	80 - 120
1949904	Sodium	97.3		P	80 - 120
1949904	Zinc	98.2	97.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949568	Arsenic	104		P	80 - 120
1949568	Cadmium	100		P	80 - 120
1949568	Chromium	94.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949568	Copper	96.4		P	80 - 120
1949568	Lead	98.5		P	80 - 120
1949568	Nickel	97.7		P	80 - 120
1949568	Silver	101		P	80 - 120
1949904	Arsenic	98.7	99.1	P/P	80 - 120
1949904	Cadmium	97.2	99.1	P/P	80 - 120
1949904	Chromium	93.9	94.3	P/P	80 - 120
1949904	Copper	96.6	97.2	P/P	80 - 120
1949904	Lead	97.2	97.6	P/P	80 - 120
1949904	Nickel	97.8	97.9	P/P	80 - 120
1949904	Silver	98.6	99.6	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949769	Chloride	95.2		P	90 - 110
1949897	Chloride	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949769	Sulfate	97.2		P	90 - 110
1949897	Sulfate	97.8		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 351.2 Rev. 2.0
Batch ID: P336567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949651	Kjeldahl Nitrogen	96.8	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949161	NO2NO3-N	106	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949621	Total-P	94.7	94.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949468	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949470	O-Phosphate-P	98.4	98.2	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P336154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949273	Aldrin	57.8		P	22 - 97.0
1949273	Alpha-BHC	107		P	43 - 132
1949273	Alpha-Chlordane	91.5		P	36 - 126
1949273	Beta-BHC	88.8		P	41 - 150
1949273	Carbophenothion	126		P	13 - 196
1949273	Chlorothalonil	4.12		F	10 - 266
1949273	Cypermethrin	127		P	37 - 161
1949273	DDD-p,p'	78.4		P	44 - 131
1949273	DDE-p,p'	80.6		P	32 - 127
1949273	DDT-p,p'	74.9		P	45 - 116
1949273	Delta-BHC	110		P	50 - 201
1949273	Dicofol	83.6		P	10 - 100
1949273	Dieldrin	92.0		P	39 - 142
1949273	Endosulfan I	109		P	51 - 139
1949273	Endosulfan II	112		P	49 - 155
1949273	Endosulfan Sulfate	96.5		P	54 - 136
1949273	Endrin	93.5		P	38 - 141
1949273	Endrin Aldehyde	65.2		P	14 - 152
1949273	Endrin Ketone	100		P	60 - 128
1949273	Gamma-BHC	109		P	48 - 157
1949273	Gamma-Chlordane	90.4		P	35 - 123
1949273	Heptachlor	96.0		P	25 - 112
1949273	Heptachlor Epoxide	96.3		P	48 - 125
1949273	Methoxychlor	113		P	52 - 127
1949273	Mirex	94.3		P	25 - 108
1949273	Permethrin	108		P	46 - 133
1949273	Trifluralin	97.0		P	29 - 254

Reference Method: EPA 8270D
Batch ID: P336157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948578	Acetochlor	85.0	85.8	P/P	74 - 123
1948578	Alachlor	90.2	91.6	P/P	73 - 124
1948578	Ametryn	68.5	77.9	P/P	56 - 149
1948578	Atrazine	95.4	92.4	P/P	73 - 124
1948578	Atrazine Desethyl	98.4	83.9	P/P	12 - 103
1948578	Azinphos Methyl	104	79.5	P/P	60 - 202
1948578	Bromacil	76.0	86.7	P/P	42 - 133
1948578	Butylate	26.3	27.7	P/P	10 - 85.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P336157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948578	Chlorpyrifos Ethyl	74.1	78.0	P/P	53 - 113
1948578	Chlorpyrifos Methyl	80.4	79.5	P/P	40 - 115
1948578	Cyanazine	152	126	P/P	22 - 210
1948578	Demeton	80.1	70.6	P/P	17 - 149
1948578	Diazinon	80.7	80.1	P/P	72 - 124
1948578	Disulfoton	105	96.5	P/P	43 - 139
1948578	EPTC	22.6	26.3	P/P	10 - 86.0
1948578	Ethion	41.0	83.1	F/P	65 - 131
1948578	Ethoprop	93.3	90.6	P/P	59 - 110
1948578	Fenamiphos	107	98.9	P/P	57 - 138
1948578	Fipronil	76.9	85.3	P/P	40 - 130
1948578	Fipronil Sulfide	71.5	75.1	P/P	36 - 128
1948578	Fipronil Sulfone	67.0	68.4	P/P	16 - 145
1948578	Fonofos	88.1	81.2	P/P	60 - 112
1948578	Hexazinone	84.5	90.2	P/P	69 - 142
1948578	Malathion	80.2	75.4	P/P	68 - 132
1948578	Metalaxyl	79.6	78.7	P/P	66 - 118
1948578	Metolachlor	85.5	83.7	P/P	71 - 124
1948578	Metribuzin	172	133	F/P	61 - 140
1948578	Mevinphos	51.7	49.4	P/P	38 - 130
1948578	Molinate	32.8	31.2	P/P	23 - 99.0
1948578	Norflurazon	76.2	82.8	P/P	39 - 139
1948578	Parathion Ethyl	85.7	83.8	P/P	75 - 111
1948578	Parathion Methyl	97.7	94.1	P/P	64 - 130
1948578	Pendimethalin	99.3	95.6	P/P	26 - 173
1948578	Phorate	71.9	73.6	P/P	43 - 127
1948578	Prometon	98.3	95.5	P/P	50 - 144
1948578	Prometryn	74.0	80.6	P/P	69 - 126
1948578	Simazine	100	96.6	P/P	51 - 152
1948578	Terbufos	92.2	82.9	P/P	54 - 125
1948578	Terbuthylazine	93.2	92.9	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P336154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948659	Chlordane	72.5	77.6	P/P	44 - 134
1948659	Toxaphene	93.5	95.5	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P335933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948475	Pyraclostrobin	123	139	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P335934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948475	Glyphosate	91.0	91.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P336107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949632	Sucralose	76.2	82.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P336620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949722	Fluoride	98.2	97.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P336335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949464	Organic Carbon	97.2	96.9	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P336034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948788	2,4-D	70.0	71.5	P/P	40 - 150
1948788	Acetaminophen	122	125	P/P	30 - 150
1948788	Bentazon	45.1	44.6	P/P	30 - 150
1948788	Carbamazepine	90.4	93.1	P/P	40 - 150
1948788	Diuron	85.6	88.0	P/P	40 - 150
1948788	Fenuron	66.5	74.1	P/P	40 - 150
1948788	Fluridone	89.7	94.3	P/P	40 - 150
1948788	Imidacloprid	164	174	F/F	40 - 160
1948788	Linuron	99.0	99.5	P/P	40 - 150
1948788	MCP	59.4	58.1	P/P	40 - 150
1948788	Primidone	82.9	82.9	P/P	40 - 150
1948788	Triclopyr	61.3	57.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949618	Turbidity	2.26	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P336291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949904	Calcium	0.567	Spike	P	0 - 20
1949904	Iron	1.20	Spike	P	0 - 20
1949904	Magnesium	1.37	Spike	P	0 - 20
1949904	Potassium	2.14	Spike	P	0 - 20
1949904	Sodium	0.284	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P336291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949904	Zinc	0.646	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949904	Arsenic	0.413	Spike	P	0 - 20
1949904	Cadmium	1.93	Spike	P	0 - 20
1949904	Chromium	0.476	Spike	P	0 - 20
1949904	Copper	0.534	Spike	P	0 - 20
1949904	Lead	0.437	Spike	P	0 - 20
1949904	Nickel	0.114	Spike	P	0 - 20
1949904	Silver	1.09	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949769	Chloride	0.468	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949769	Sulfate	0.213	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949621	Ammonia-N	0.253	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 351.2 Rev. 2.0
Batch ID: P336567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949651	Kjeldahl Nitrogen	1.11	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949963	Kjeldahl Nitrogen	1.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949161	NO2NO3-N	7.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949621	Total-P	0.371	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949468	O-Phosphate-P	0.199	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949470	O-Phosphate-P	0.203	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P336154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	51.2	LCS	F	0 - 30
LFB	Alpha-BHC	2.57	LCS	P	0 - 30
LFB	Alpha-Chlordane	7.72	LCS	P	0 - 30
LFB	Beta-BHC	12.0	LCS	P	0 - 30
LFB	Carbophenothion	8.22	LCS	P	0 - 30
LFB	Chlorothalonil	20.1	LCS	P	0 - 30
LFB	Cypermethrin	15.7	LCS	P	0 - 30
LFB	DDD-p,p'	15.1	LCS	P	0 - 30
LFB	DDE-p,p'	5.92	LCS	P	0 - 30
LFB	DDT-p,p'	12.7	LCS	P	0 - 30
LFB	Delta-BHC	4.09	LCS	P	0 - 30
LFB	Dicofol	22.6	LCS	P	0 - 30
LFB	Dieldrin	8.34	LCS	P	0 - 30
LFB	Endosulfan I	5.88	LCS	P	0 - 30
LFB	Endosulfan II	18.9	LCS	P	0 - 30
LFB	Endosulfan Sulfate	26.7	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P336154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endrin	10.1	LCS	P	0 - 30
LFB	Endrin Aldehyde	23.9	LCS	P	0 - 30
LFB	Endrin Ketone	19.9	LCS	P	0 - 30
LFB	Gamma-BHC	9.60	LCS	P	0 - 30
LFB	Gamma-Chlordane	9.54	LCS	P	0 - 30
LFB	Heptachlor	7.86	LCS	P	0 - 30
LFB	Heptachlor Epoxide	9.01	LCS	P	0 - 30
LFB	Methoxychlor	1.66	LCS	P	0 - 30
LFB	Mirex	0.491	LCS	P	0 - 30
LFB	Permethrin	10.1	LCS	P	0 - 30
LFB	Trifluralin	2.69	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P336157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948578	Acetochlor	0.995	Spike	P	0 - 30
1948578	Alachlor	1.43	Spike	P	0 - 30
1948578	Ametryn	12.8	Spike	P	0 - 30
1948578	Atrazine	2.80	Spike	P	0 - 30
1948578	Atrazine Desethyl	15.9	Spike	P	0 - 30
1948578	Azinphos Methyl	26.3	Spike	P	0 - 30
1948578	Bromacil	6.39	Spike	P	0 - 30
1948578	Butylate	5.16	Spike	P	0 - 30
1948578	Chlorpyrifos Ethyl	5.21	Spike	P	0 - 30
1948578	Chlorpyrifos Methyl	1.18	Spike	P	0 - 30
1948578	Cyanazine	18.9	Spike	P	0 - 30
1948578	Demeton	12.5	Spike	P	0 - 30
1948578	Diazinon	0.721	Spike	P	0 - 30
1948578	Disulfoton	7.99	Spike	P	0 - 30
1948578	EPTC	15.3	Spike	P	0 - 30
1948578	Ethion	67.9	Spike	F	0 - 30
1948578	Ethoprop	3.00	Spike	P	0 - 30
1948578	Fenamiphos	7.86	Spike	P	0 - 30
1948578	Fipronil	9.43	Spike	P	0 - 30
1948578	Fipronil Sulfide	4.07	Spike	P	0 - 30
1948578	Fipronil Sulfone	1.56	Spike	P	0 - 30
1948578	Fonofos	8.22	Spike	P	0 - 30
1948578	Hexazinone	6.53	Spike	P	0 - 30
1948578	Malathion	2.85	Spike	P	0 - 30
1948578	Metalaxyl	1.08	Spike	P	0 - 30
1948578	Metolachlor	2.03	Spike	P	0 - 30
1948578	Metribuzin	25.4	Spike	P	0 - 30
1948578	Mevinphos	4.66	Spike	P	0 - 30
1948578	Molinate	4.98	Spike	P	0 - 30
1948578	Norflurazon	8.24	Spike	P	0 - 30
1948578	Parathion Ethyl	2.23	Spike	P	0 - 30
1948578	Parathion Methyl	3.75	Spike	P	0 - 30
1948578	Pendimethalin	3.77	Spike	P	0 - 30
1948578	Phorate	2.35	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P336157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948578	Prometon	2.91	Spike	P	0 - 30
1948578	Prometryn	8.50	Spike	P	0 - 30
1948578	Simazine	3.80	Spike	P	0 - 30
1948578	Terbufos	10.7	Spike	P	0 - 30
1948578	Terbutylazine	0.366	Spike	P	0 - 30
LFB	Acetochlor	0.474	LCS	P	0 - 30
LFB	Alachlor	3.52	LCS	P	0 - 30
LFB	Ametryn	6.79	LCS	P	0 - 30
LFB	Atrazine	1.40	LCS	P	0 - 30
LFB	Atrazine Desethyl	0.848	LCS	P	0 - 30
LFB	Azinphos Methyl	3.83	LCS	P	0 - 30
LFB	Bromacil	0.981	LCS	P	0 - 30
LFB	Butylate	16.5	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.32	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.36	LCS	P	0 - 30
LFB	Cyanazine	6.06	LCS	P	0 - 30
LFB	Demeton	53.6	LCS	F	0 - 30
LFB	Diazinon	4.36	LCS	P	0 - 30
LFB	Disulfoton	8.55	LCS	P	0 - 30
LFB	EPTC	17.6	LCS	P	0 - 30
LFB	Ethion	11.9	LCS	P	0 - 30
LFB	Ethoprop	4.84	LCS	P	0 - 30
LFB	Fenamiphos	5.57	LCS	P	0 - 30
LFB	Fipronil	3.07	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.53	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.46	LCS	P	0 - 30
LFB	Fonofos	3.21	LCS	P	0 - 30
LFB	Hexazinone	3.81	LCS	P	0 - 30
LFB	Malathion	1.16	LCS	P	0 - 30
LFB	Metalaxyl	2.60	LCS	P	0 - 30
LFB	Metolachlor	0.233	LCS	P	0 - 30
LFB	Metribuzin	6.03	LCS	P	0 - 30
LFB	Mevinphos	20.2	LCS	P	0 - 30
LFB	Molinate	4.62	LCS	P	0 - 30
LFB	Norflurazon	1.58	LCS	P	0 - 30
LFB	Parathion Ethyl	2.11	LCS	P	0 - 30
LFB	Parathion Methyl	1.67	LCS	P	0 - 30
LFB	Pendimethalin	1.72	LCS	P	0 - 30
LFB	Phorate	4.51	LCS	P	0 - 30
LFB	Prometon	2.69	LCS	P	0 - 30
LFB	Prometryn	4.81	LCS	P	0 - 30
LFB	Simazine	5.55	LCS	P	0 - 30
LFB	Terbufos	1.35	LCS	P	0 - 30
LFB	Terbutylazine	0.794	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P336154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948659	Chlordane	6.83	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P336154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948659	Toxaphene	2.10	Spike	P	0 - 30
LFB	Chlordane	6.93	LCS	P	0 - 30
LFB	Toxaphene	2.36	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948475	Pyraclostrobin	12.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P335934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948475	Glyphosate	0.711	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P336107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949632	Sucralose	2.51	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P336141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949618	Color (true)	2.71	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P336617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949722	Total Alkalinity	1.19	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P336442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949547	TDS	5.65	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P336443

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

Reference Method: SM 2540 C-97
Batch ID: P336443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949649	TDS	0.567	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P337019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951926	TDS	1.02	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P336620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949722	Fluoride	0.474	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P336335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949464	Organic Carbon	0.262	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P336034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948788	2,4-D	2.26	Spike	P	0 - 30
1948788	Acetaminophen	2.70	Spike	P	0 - 30
1948788	Bentazon	1.00	Spike	P	0 - 30
1948788	Carbamazepine	2.94	Spike	P	0 - 30
1948788	Diuron	2.72	Spike	P	0 - 30
1948788	Fenuron	8.74	Spike	P	0 - 30
1948788	Fluridone	5.01	Spike	P	0 - 30
1948788	Imidacloprid	5.83	Spike	P	0 - 30
1948788	Linuron	0.427	Spike	P	0 - 30
1948788	MCPP	2.11	Spike	P	0 - 30
1948788	Primidone	0.0415	Spike	P	0 - 30
1948788	Triclopyr	6.48	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

Quality Assurance Report Surrogates

Lab Sample ID: 1949659
Field Sample ID: G1NE0040 11292017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	134	P	30 - 160
EPA 8321B	Acetaminophen-d4	134	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.0	P	30 - 160
EPA 8321B	Diuron-d6	87.3	P	30 - 160
EPA 8321B	Diuron-d6	79.5	P	30 - 160
EPA 8321B	Diuron-d6	87.3	P	30 - 160
EPA 8321B	Diuron-d6	79.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	40 - 160
EPA 8321B	Primidone-d5	67.7	P	30 - 160
EPA 8321B	Primidone-d5	67.7	P	30 - 160
EPA 8321B	Sucralose-d6	93.3	P	40 - 160
EPA 8321B	Sucralose-d6	93.3	P	40 - 160
USGS O-2060-01	2,4-D-d3	80.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	134	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	83.0	P	30 - 160
USGS O-2060-01	Diuron-d6	87.3	P	30 - 160
USGS O-2060-01	Diuron-d6	79.5	P	30 - 160
USGS O-2060-01	Primidone-d5	67.7	P	30 - 160
USGS O-2060-01	Sucralose-d6	93.3	P	40 - 160

Lab Sample ID: 1949660
Field Sample ID: G1NE0040 11292017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	170	F	39 - 118
EPA 8270D	Tetrachloro-m-xylene	110	F	32 - 103
EPA 8276	Decachlorobiphenyl	147	F	31 - 100

Lab Sample ID: 1949661
Field Sample ID: G1NE0040 11292017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	70.5	P	53 - 135
EPA 8270D	Simazine-d10	76.0	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A80568
Included Lab Sample IDs: 1949659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	72.7	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A80611
Included Lab Sample IDs: 1949639, 1949644, 1949645

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80611

Included Lab Sample IDs: 1949639, 1949644, 1949645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.4	P/P	90 - 110
O-Phosphate-P	99.3	99.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A80612

Included Lab Sample IDs: 1949637, 1949640, 1949641

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80613

Included Lab Sample IDs: 1949637, 1949640, 1949641

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

Reference Method: EPA 8321B

Run ID: A80660

Included Lab Sample IDs: 1949659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	95.0	101	P/P	60 - 150
Pyraclostrobin	79.4	81.4	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A80692

Included Lab Sample IDs: 1949638, 1949642, 1949643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.5	98.6	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A80693

Included Lab Sample IDs: 1949659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.9	98.5	P/P	50 - 150
Acetaminophen	117	115	P/P	60 - 150
Bentazon	99.4	100	P/P	50 - 150
Carbamazepine	115	113	P/P	60 - 150
Diuron	111	104	P/P	60 - 150
Fenuron	114	112	P/P	60 - 150
Fluridone	117	116	P/P	60 - 160
Imidacloprid	108	103	P/P	60 - 150
Linuron	110	115	P/P	60 - 150
MCPP	94.3	98.8	P/P	50 - 150
Primidone	119	114	P/P	60 - 150
Triclopyr	87.7	90.6	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80702

Included Lab Sample IDs: 1949638, 1949642, 1949643

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80712

Included Lab Sample IDs: 1949688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	97.8	97.0	P/P	90 - 110
Chromium	97.5	94.6	P/P	90 - 110
Copper	101	102	P/P	90 - 110
Lead	98.2	97.2	P/P	90 - 110
Nickel	101	102	P/P	90 - 110
Silver	98.1	97.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80735

Included Lab Sample IDs: 1949637, 1949640, 1949641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	104	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A80748

Included Lab Sample IDs: 1949688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	95.6	94.8	P/P	90 - 110
Iron	94.1	90.8	P/P	90 - 110
Magnesium	95.9	93.6	P/P	90 - 110
Potassium	101	99.3	P/P	90 - 110
Sodium	98.2	95.9	P/P	90 - 110
Zinc	97.8	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80757

Included Lab Sample IDs: 1949638, 1949642, 1949643

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

Reference Method: SM 2320 B-97

Run ID: A80770

Included Lab Sample IDs: 1949637, 1949640, 1949641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A80770

Included Lab Sample IDs: 1949637, 1949640, 1949641

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80773

Included Lab Sample IDs: 1949638, 1949642, 1949643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	108	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80797

Included Lab Sample IDs: 1949638, 1949643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.5	P/P	90 - 110
Kjeldahl Nitrogen	99.0	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80815

Included Lab Sample IDs: 1949642

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

Reference Method: EPA 8270D

Run ID: A80861

Included Lab Sample IDs: 1949661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.5		P	80 - 120
Alachlor	97.6		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	98.2		P	80 - 120
Atrazine Desethyl	90.0		P	80 - 120
Azinphos Methyl	91.0		P	80 - 120
Bromacil	105		P	80 - 120
Butylate	97.6		P	80 - 120
Chlorpyrifos Ethyl	97.4		P	80 - 120
Chlorpyrifos Methyl	98.2		P	80 - 120
Cyanazine	72.7*		F	80 - 120
Demeton	91.7		P	80 - 120
Diazinon	94.1		P	80 - 120
Disulfoton	95.6		P	80 - 120
EPTC	100		P	80 - 120
Ethion	90.9		P	80 - 120
Ethoprop	95.5		P	80 - 120
Fenamiphos	99.0		P	80 - 120
Fipronil	98.8		P	80 - 120
Fipronil Sulfide	99.3		P	80 - 120
Fipronil Sulfone	100		P	80 - 120
Fonofos	97.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80861

Included Lab Sample IDs: 1949661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hexazinone	94.0		P	80 - 120
Malathion	95.6		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	92.2		P	80 - 120
Mevinphos	99.1		P	80 - 120
Molinate	92.6		P	80 - 120
Norflurazon	96.0		P	80 - 120
Parathion Ethyl	92.0		P	80 - 120
Parathion Methyl	93.8		P	80 - 120
Pendimethalin	97.3		P	80 - 120
Phorate	98.0		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	96.0		P	80 - 120
Terbufos	96.4		P	80 - 120
Terbutylazine	96.7		P	80 - 120

Reference Method: EPA 8276

Run ID: A80885

Included Lab Sample IDs: 1949660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	117		P	80 - 120
Toxaphene	117		P	80 - 120

Reference Method: EPA 8270D

Run ID: A81070

Included Lab Sample IDs: 1949660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	105		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	97.9		P	80 - 120
Beta-BHC	87.3		P	80 - 120
Carbophenothion	88.8		P	80 - 120
Chlorothalonil	94.0		P	80 - 120
Cypermethrin	88.1		P	80 - 120
DDD-p,p'	89.4		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	95.7		P	80 - 120
Dicofol	93.7		P	80 - 120
Dieldrin	99.7		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	104		P	80 - 120
Endosulfan Sulfate	87.7		P	80 - 120
Endrin	96.2		P	80 - 120
Endrin Aldehyde	88.8		P	80 - 120
Endrin Ketone	93.3		P	80 - 120
Gamma-BHC	99.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A81070
Included Lab Sample IDs: 1949660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Gamma-Chlordane	97.4		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	98.0		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	99.9		P	80 - 120
Permethrin	91.6		P	80 - 120
Trifluralin	99.4		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							2.26	
EPA 200.7 Rev. 4.4	Calcium	101		97.8	96.5	95.5			0.567
	Iron	98.9		98.5	94.8	95.9			1.20
	Magnesium	105		98.3	100	102			1.37
	Potassium	106		104	101				2.14
	Sodium	102		101	97.3				0.284
	Zinc	98.9		96.5	98.2	97.6			0.646
EPA 200.8 Rev. 5.4	Arsenic	102		104	98.7	99.1			0.413
	Cadmium	98.4		100	97.2	99.1			1.93
	Chromium	97.0		94.4	93.9	94.3			0.476
	Copper	99.1		96.4	96.6	97.2			0.534
	Lead	97.6		98.5	97.2	97.6			0.437
	Nickel	101		97.7	97.8	97.9			0.114
	Silver	100		101	98.6	99.6			1.09
EPA 300.0 Rev. 2.1	Chloride	97.0		95.2	95.8			0.468	
	Sulfate	98.0		97.2	97.8			0.213	
EPA 350.1 Rev. 2.0	Ammonia-N	107							0.253
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.2		95.6	97.3				1.14
	Kjeldahl Nitrogen	102		96.8	98.6				1.11
	Kjeldahl Nitrogen	106							1.46
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		106	98.4				7.37
EPA 365.1 Rev. 2.0	Total-P	96.7		94.7	94.3				0.371
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		101	101				0.199
	O-Phosphate-P	99.6		98.4	98.2				0.203
EPA 8270D	Acetochlor	99.2	98.8	85.0	85.8		0.474		0.995
	Alachlor	100	96.6	90.2	91.6		3.52		1.43
	Aldrin	50.1	84.6	57.8			51.2		
	Alpha-BHC	110	108	107			2.57		
	Alpha-Chlordane	107	99.2	91.5			7.72		
	Ametryn	84.1	90.0	68.5	77.9		6.79		12.8
	Atrazine	103	104	95.4	92.4		1.40		2.80
	Atrazine Desethyl	82.5	83.2	98.4	83.9		0.848		15.9
	Azinphos Methyl	113	109	104	79.5		3.83		26.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Beta-BHC	138	123	88.8		12.0	
	Bromacil	100	99.2	76.0	86.7	0.981	6.39
	Butylate	59.7	50.6	26.3	27.7	16.5	5.16
	Carbophenothion	91.9	84.6	126		8.22	
	Chlorothalonil	111	91.0	4.12		20.1	
	Chlorpyrifos Ethyl	93.7	91.6	74.1	78.0	2.32	5.21
	Chlorpyrifos Methyl	100	99.0	80.4	79.5	1.36	1.18
	Cyanazine	161	171	152	126	6.06	18.9
	Cypermethrin	125	107	127		15.7	
	DDD-p,p'	124	107	78.4		15.1	
	DDE-p,p'	110	104	80.6		5.92	
	DDT-p,p'	122	107	74.9		12.7	
	Delta-BHC	142	147	110		4.09	
	Demeton	45.3	78.5	80.1	70.6	53.6	12.5
	Diazinon	95.9	91.8	80.7	80.1	4.36	0.721
	Dicofol	110	87.5	83.6		22.6	
	Dieldrin	112	103	92.0		8.34	
	Disulfoton	109	99.7	105	96.5	8.55	7.99
	Endosulfan I	115	109	109		5.88	
	Endosulfan II	145	120	112		18.9	
	Endosulfan Sulfate	125	95.7	96.5		26.7	
	Endrin	115	104	93.5		10.1	
	Endrin Aldehyde	126	98.9	65.2		23.9	
	Endrin Ketone	123	101	100		19.9	
	EPTC	35.9	42.9	22.6	26.3	17.6	15.3
	Ethion	92.2	81.8	41.0	83.1	11.9	67.9
	Ethoprop	102	96.8	93.3	90.6	4.84	3.00
	Fenamiphos	109	103	107	98.9	5.57	7.86
	Fipronil	102	98.4	76.9	85.3	3.07	9.43
	Fipronil Sulfide	93.2	90.9	71.5	75.1	2.53	4.07
	Fipronil Sulfone	89.5	85.6	67.0	68.4	4.46	1.56
	Fonofos	93.8	96.9	88.1	81.2	3.21	8.22
	Gamma-BHC	113	124	109		9.60	
	Gamma-Chlordane	104	94.6	90.4		9.54	
	Heptachlor	95.4	88.2	96.0		7.86	
	Heptachlor Epoxide	110	100	96.3		9.01	
	Hexazinone	90.3	93.8	84.5	90.2	3.81	6.53
	Malathion	99.9	98.8	80.2	75.4	1.16	2.85
	Metalaxyl	102	99.8	79.6	78.7	2.60	1.08
	Methoxychlor	129	127	113		1.66	
	Metolachlor	98.2	98.0	85.5	83.7	0.233	2.03
	Metribuzin	104	110	172	133	6.03	25.4
	Mevinphos	56.9	69.7	51.7	49.4	20.2	4.66
	Mirex	86.5	86.1	94.3		0.491	
	Molinate	50.4	48.2	32.8	31.2	4.62	4.98
	Norflurazon	93.3	91.9	76.2	82.8	1.58	8.24
	Parathion Ethyl	94.2	96.2	85.7	83.8	2.11	2.23
	Parathion Methyl	104	105	97.7	94.1	1.67	3.75
	Pendimethalin	105	107	99.3	95.6	1.72	3.77
	Permethrin	108	97.9	108		10.1	
	Phorate	87.8	84.0	71.9	73.6	4.51	2.35
	Prometon	94.7	97.3	98.3	95.5	2.69	2.91
	Prometryn	96.8	92.3	74.0	80.6	4.81	8.50
	Simazine	97.9	104	100	96.6	5.55	3.80

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Terbufos	97.1	95.8	92.2	82.9	1.35	10.7
	Terbutylazine	98.6	99.4	93.2	92.9	0.794	0.366
	Trifluralin	97.1	94.5	97.0		2.69	
EPA 8276	Chlordane	87.0	93.3	72.5	77.6	6.93	6.83
	Toxaphene	113	111	93.5	95.5	2.36	2.10
EPA 8321B	Glyphosate	87.6		91.0	91.7		0.711
	Pyraclostrobin	132		123	139		12.2
	Sucralose	67.4		76.2	82.2		2.51
SM 2120 B	Color (true)					2.71	
SM 2320 B-97	Total Alkalinity	103				1.19	
SM 2540 C-97	TDS					5.65	
	TDS					0.567	
	TDS					1.02	
SM 4500 F-C-97	Fluoride	98.2		98.2	97.6		0.474
SM 5310 B-00	Organic Carbon	98.5		97.2	96.9		0.262
USGS O-2060-01	2,4-D	97.6		70.0	71.5		2.26
	Acetaminophen	115		125	122		2.70
	Bentazon	75.8		45.1	44.6		1.00
	Carbamazepine	109		93.1	90.4		2.94
	Diuron	106		88.0	85.6		2.72
	Fenuron	109		74.1	66.5		8.74
	Fluridone	105		94.3	89.7		5.01
	Imidacloprid	98.3		174	164		5.83
	Linuron	100		99.5	99.0		0.427
	MCPP	92.1		59.4	58.1		2.11
	Primidone	93.9		82.9	82.9		0.0415
	Triclopyr	89.1		61.3	57.4		6.48

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1949637, 1949640, 1949641
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1949688
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1949688
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1949637, 1949640, 1949641
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1949637, 1949640, 1949641
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1949638, 1949642, 1949643
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1949638, 1949642, 1949643
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1949638, 1949642, 1949643
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1949638, 1949642, 1949643
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1949639, 1949644, 1949645
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1949660
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1949661

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1949660
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1949659
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1949659
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1949659
SM 2120 B / E31780	True Color measured at 450 nm	1949637, 1949640, 1949641
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1949637, 1949640, 1949641
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1949637, 1949640, 1949641
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1949637, 1949640, 1949641
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1949637, 1949640, 1949641
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1949638, 1949642, 1949643
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1949659
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1949659

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	11/30/2017			11/30/2017 17:11	Tanya Welborn	1949637, 1949640, 1949641
EPA 200.7 Rev. 4.4	11/30/2017	12/04/2017	Elliott D. Healy	12/06/2017	Martin Acosta	1949688
EPA 200.8 Rev. 5.4	11/30/2017	12/04/2017	Elliott D. Healy	12/05/2017	Nadine Brooks	1949688
EPA 300.0 Rev. 2.1	11/30/2017			12/05/2017	Julia Storbeck	1949637, 1949640, 1949641
EPA 350.1 Rev. 2.0	11/30/2017			12/07/2017	Sofia Elnemr	1949638, 1949642, 1949643
EPA 351.2 Rev. 2.0	11/30/2017	12/07/2017	Adrian Shelby	12/08/2017	Joseph Suarez	1949638, 1949643
	11/30/2017	12/08/2017	Adrian Shelby	12/11/2017	Joseph Suarez	1949642
EPA 353.2 Rev. 2.0	11/30/2017			12/05/2017	Lauren Bottorf	1949638, 1949642, 1949643
EPA 365.1 Rev. 2.0	11/30/2017	12/06/2017	Sima Feizi	12/07/2017	Lipi Saha	1949638, 1949642, 1949643
EPA 365.1 Rev. 2.0 dissolved	11/30/2017			11/30/2017 14:04	Megan Treadwell	1949644
	11/30/2017			11/30/2017 14:05	Megan Treadwell	1949645
	11/30/2017			11/30/2017 14:24	Megan Treadwell	1949639
EPA 8270D	11/30/2017	12/01/2017	John Kaba	12/05/2017	Vandana T. Nagar	1949661
	11/30/2017	12/01/2017	Rasheda Ghaffari	12/06/2017	Goutam Palui	1949660
EPA 8276	11/30/2017	12/01/2017	Rasheda Ghaffari	12/12/2017	John P. Burgos	1949660
EPA 8321B	11/30/2017	11/30/2017	Juyoung Kim	11/30/2017	Juyoung Kim	1949659
	11/30/2017	12/01/2017	Juyoung Kim	12/01/2017	Juyoung Kim	1949659
SM 2120 B	11/30/2017			11/30/2017 14:43	Tanya Welborn	1949637
	11/30/2017			11/30/2017 14:44	Tanya Welborn	1949640
	11/30/2017			11/30/2017 14:46	Tanya Welborn	1949641
SM 2320 B-97	11/30/2017			12/07/2017	Dale L. Simmons	1949637, 1949640, 1949641
SM 2540 C-97	11/30/2017			12/01/2017	DeAsia Armster	1949637, 1949640
	11/30/2017			12/08/2017	DeAsia Armster	1949641
SM 2540 D-97	11/30/2017			12/01/2017	DeAsia Armster	1949637, 1949640, 1949641
SM 4500 F-C-97	11/30/2017			12/07/2017	Dale L. Simmons	1949637, 1949640, 1949641
SM 5310 B-00	11/30/2017			12/05/2017	Ping Hua	1949638, 1949642, 1949643
USGS O-2060-01	11/30/2017	12/04/2017	Hoor Shaik	12/05/2017	Julie Michelle Frank	1949659
	11/30/2017	12/04/2017	Hoor Shaik	12/06/2017	Julie Michelle Frank	1949659