

Chemical Analysis Report

NE-DIST-2017-11-01-02

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

Event Description: **Hawthorne Lake-9/19/17**

Request ID: **RQ-2017-09-18-21**

Customer: **NE-DIST**

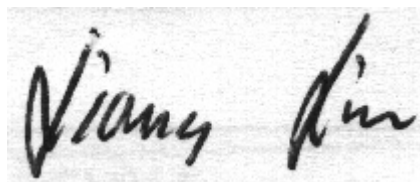
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 01-DEC-2017 14:05

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: 10/31/2017 10:30

Field ID: G1NE0040 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941851	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P334494	
	EPA 300.0 Rev. 2.1	Chloride	5.8		mg Cl/L	P334715	
		Sulfate	0.44	I	mg SO4/L	P334717	
	SM 2120 B	Color (true)	460		PCU	P334500	
	SM 2320 B-97	Total Alkalinity	3.1		mg CaCO3/L	P335154	
	SM 2540 C-97	TDS	87		mg/L	P334920	
	SM 2540 D-97	TSS	2	U	mg/L	P334785	
	SM 4500 F-C-97	Fluoride	0.063	I	mg F/L	P335157	
1941852	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P335184	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P334934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.061		mg N/L	P334941	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P334561	
	SM 5310 B-00	Organic Carbon	32		mg C/L	P335076	
1941853	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.36		mg P/L	P334491	
1941870	EPA 200.7 Rev. 4.4	Calcium	3.26		mg/L	P334545	
		Iron	600		ug/L	P334545	
		Magnesium	1.21		mg/L	P334545	
		Potassium	2.7		mg/L	P334545	
		Sodium	3.4		mg/L	P334545	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P334545	
		Arsenic	1.30		ug/L	P334545	
		Cadmium	0.020	U	ug/L	P334545	
		Chromium	1.6	I	ug/L	P334545	
		Copper	0.28	I	ug/L	P335017	
		Lead	0.32		ug/L	P335017	
		Nickel	0.75	I	ug/L	P334545	
		Silver	0.010	U	ug/L	P334545	

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.

Sample Location: Little Orange Lake-Center

Collection Date/Time: 10/31/2017 10:30

Field ID: G1NE0040 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941867	EPA 8321B	Glyphosate**	0.12	I	ug/L	P334531	
		Pyraclostrobin**	0.0020	U	ug/L	P334530	
		Sucralose**	0.041		ug/L	P334478	
	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335856	
		Diuron	8.0E-04	U	ug/L	P334335	
		Fenuron	0.0080	U	ug/L	P334335	
		Imidacloprid	8.0E-04	U	ug/L	P334335	
		Bentazon	8.0E-04	UQ	ug/L	P335856	
		Linuron	0.0040	U	ug/L	P334335	

Field ID: G1NE0040 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941867	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P334335	
		MCPD	0.0020	UQ	ug/L	P335856	
		Carbamazepine**	4.0E-04	U	ug/L	P334335	
		Triclopyr**	0.0040	UQ	ug/L	P335856	MS
		Primidone**	0.0040	U	ug/L	P334335	
		Fluridone**	4.0E-04	U	ug/L	P334335	
1941868	EPA 8270D	Aldrin	4.2	U	ng/L	P335149	
		Alpha-BHC	2.1	U	ng/L	P335149	
		Beta-BHC	4.2	U	ng/L	P335149	
		Delta-BHC	4.2	U	ng/L	P335149	
		Gamma-BHC	4.2	U	ng/L	P335149	
		Carbophenothion	4.2	U	ng/L	P335149	
		Chlorothalonil	2.1	U	ng/L	P335149	
		Cypermethrin	21	U	ng/L	P335149	
		DDD-p,p'	3.1	U	ng/L	P335149	
		DDE-p,p'	3.1	U	ng/L	P335149	
		DDT-p,p'	3.1	U	ng/L	P335149	
		Dieldrin	4.2	U	ng/L	P335149	
		Endosulfan I	4.2	U	ng/L	P335149	
		Endosulfan II	4.2	U	ng/L	P335149	
		Endosulfan Sulfate	2.1	U	ng/L	P335149	
		Endrin	2.1	U	ng/L	P335149	
		Endrin Aldehyde	2.1	U	ng/L	P335149	
		Heptachlor	1.6	U	ng/L	P335149	
		Heptachlor Epoxide	2.1	U	ng/L	P335149	
		Methoxychlor	4.2	U	ng/L	P335149	
		Mirex	2.1	U	ng/L	P335149	
		Permethrin	10	U	ng/L	P335149	
		Trifluralin	1.0	U	ng/L	P335149	
		Alpha-Chlordane	1.0	U	ng/L	P335149	
		Gamma-Chlordane	1.0	U	ng/L	P335149	
		Endrin Ketone	2.1	U	ng/L	P335149	
		Dicofol	31	UJ	ng/L	P335149	CCV
	EPA 8276	Chlordane**	2.6	U	ng/L	P335149	
		Toxaphene**	13	U	ng/L	P335149	
1941869	EPA 8270D	Alachlor	0.24	U	ng/L	P334709	
		Ametryn	0.31	U	ng/L	P334709	
		Atrazine	0.36	I	ng/L	P334709	
		Atrazine Desethyl	1.4	U	ng/L	P334709	
		Azinphos Methyl	2.2	U	ng/L	P334709	
		Bromacil	0.48	U	ng/L	P334709	
		Butylate	0.38	U	ng/L	P334709	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P334709	
		Chlorpyrifos Methyl	0.096	U	ng/L	P334709	
		Demeton	1.9	UJ	ng/L	P334709	RPD

Field ID: G1NE0040 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941869	EPA 8270D	Diazinon	0.12	U	ng/L	P334709	
		Disulfoton	0.48	UJ	ng/L	P334709	RPD
		EPTC	1.2	U	ng/L	P334709	
		Ethion	0.14	U	ng/L	P334709	
		Ethoprop	0.096	UJ	ng/L	P334709	LCS, RPD
		Fenamiphos	0.24	U	ng/L	P334709	
		Fipronil	0.24	U	ng/L	P334709	
		Fipronil Sulfide	0.14	U	ng/L	P334709	
		Fipronil Sulfone	0.14	U	ng/L	P334709	
		Hexazinone	0.48	U	ng/L	P334709	
		Malathion	0.33	U	ng/L	P334709	
		Metribuzin	0.19	UJ	ng/L	P334709	LCS
		Mevinphos	0.48	U	ng/L	P334709	
		Molinate	0.29	U	ng/L	P334709	
		Norflurazon	0.48	U	ng/L	P334709	
		Pendimethalin	0.96	U	ng/L	P334709	
		Phorate	0.24	U	ng/L	P334709	
		Prometon	0.86	U	ng/L	P334709	
		Prometryn	0.19	U	ng/L	P334709	
		Simazine	0.48	U	ng/L	P334709	
		Terbufos	0.096	U	ng/L	P334709	
		Terbutylazine	0.41	U	ng/L	P334709	
		Fonofos	0.19	U	ng/L	P334709	
		Metaxyl	0.24	U	ng/L	P334709	
		Metolachlor	0.59	I	ng/L	P334709	
		Acetochlor	0.24	U	ng/L	P334709	
		Cyanazine	0.48	U	ng/L	P334709	MS
		Parathion Ethyl	0.24	U	ng/L	P334709	
		Parathion Methyl	0.24	U	ng/L	P334709	

Ref. Method and Comment:

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

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

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

Sample Location: Moss Lee Lake Center

Collection Date/Time: 10/31/2017 11:05

Field ID: G1NE0200 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941854	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P334494	
	EPA 300.0 Rev. 2.1	Chloride	9.4		mg Cl/L	P334715	
		Sulfate	0.72		mg SO4/L	P334717	
	SM 2120 B	Color (true)	210		PCU	P334500	
	SM 2320 B-97	Total Alkalinity	2.4	I	mg CaCO3/L	P335154	
	SM 2540 C-97	TDS	76		mg/L	P334920	
	SM 2540 D-97	TSS	2	U	mg/L	P334786	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P335157	

Field ID: G1NE0200 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941857	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P335184	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P334934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P334941	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P334562	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P335076	
1941860	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P334491	

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.

Sample Location: Holdens Pond Center

Collection Date/Time: 10/31/2017 11:20

Field ID: G1NE0199 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941855	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P334494	
	EPA 300.0 Rev. 2.1	Chloride	8.7		mg Cl/L	P334715	
		Sulfate	0.42	I	mg SO4/L	P334717	
	SM 2120 B	Color (true)	290		PCU	P334500	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P335154	
	SM 2540 C-97	TDS	81		mg/L	P334920	
	SM 2540 D-97	TSS	2	U	mg/L	P334786	
	SM 4500 F-C-97	Fluoride	0.076	I	mg F/L	P335157	
1941858	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P335184	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P334934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334941	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P334562	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P335076	
1941861	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P334491	

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.

Sample Location: Lake Jeffords Center

Collection Date/Time: 10/31/2017 12:15

Field ID: G1NE0041 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941856	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P334494	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P334715	
		Sulfate	4.7		mg SO4/L	P334717	
	SM 2120 B	Color (true)	260		PCU	P334500	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P335154	
	SM 2540 C-97	TDS	63		mg/L	P334921	
	SM 2540 D-97	TSS	3	I	mg/L	P334786	
	SM 4500 F-C-97	Fluoride	0.050	I	mg F/L	P335157	
1941859	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P335184	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P335321	

Field ID: G1NE0041 10312017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1941859	EPA 353.2 Rev. 2.0	NO2NO3-N	0.039		mg N/L	P334941	
	EPA 365.1 Rev. 2.0	Total-P	0.095		mg P/L	P334562	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P335076	
1941862	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.074		mg P/L	P334491	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P334494

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P334545

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: P334545

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

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P335017

Component	Result	Code	Units
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334715

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334717

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335184

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334934

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335321

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334941

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334561

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334562

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334491

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

Reference Method: EPA 8270D
Batch ID: P334709

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P334709

Component	Result	Code	Units
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
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 8270D

Batch ID: P335149

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P335149

Component	Result	Code	Units
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276
Batch ID: P335149

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

Reference Method: EPA 8321B
Batch ID: P334478

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P334530

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P334531

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P334500

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P335154

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P334920

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P334921

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334785

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334786

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P335157

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P335076

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

Reference Method: USGS O-2060-01
Batch ID: P334335

Component	Result	Code	Units
Acetaminophen	0.0080	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
Primidone	0.0040	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P335856

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
MCP	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P335856

Component	Result	Code	Units
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P334545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	98.9		P	85 - 115
Sodium	103		P	85 - 115
Zinc	97.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.1		P	85 - 115
Nickel	98.7		P	85 - 115
Silver	93.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	103		P	85 - 115
Lead	98.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	94.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334717

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335184

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334934

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: P335321

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334941

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334561

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334562

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334491

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

Reference Method: EPA 8270D
Batch ID: P334709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	80.9	83.6	P/P	78 - 118
Alachlor	81.9	84.3	P/P	77 - 119
Ametryn	71.1	70.6	P/P	61 - 136
Atrazine	90.7	98.4	P/P	73 - 120
Atrazine Desethyl	119	113	P/P	16 - 122
Azinphos Methyl	124	120	P/P	69 - 186
Bromacil	84.5	77.7	P/P	40 - 125
Butylate	44.7	47.7	P/P	32 - 87.0
Chlorpyrifos Ethyl	92.2	91.7	P/P	53 - 110
Chlorpyrifos Methyl	101	93.6	P/P	31 - 119
Cyanazine	212	190	P/P	36 - 224
Demeton	97.2	53.3	P/P	39 - 122
Diazinon	88.2	85.5	P/P	75 - 119
Disulfoton	106	76.4	P/P	42 - 139
EPTC	41.0	45.2	P/P	33 - 96.0
Ethion	109	84.7	P/P	63 - 127

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P334709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethoprop	136	87.7	F/P	65 - 107
Fenamiphos	96.2	93.3	P/P	64 - 137
Fipronil	85.4	79.5	P/P	60 - 126
Fipronil Sulfide	93.3	81.8	P/P	58 - 124
Fipronil Sulfone	89.9	76.0	P/P	57 - 126
Fonofos	102	90.0	P/P	65 - 111
Hexazinone	87.9	85.9	P/P	46 - 151
Malathion	109	101	P/P	68 - 132
Metalaxyl	84.2	79.0	P/P	51 - 132
Metolachlor	84.3	85.2	P/P	78 - 119
Metribuzin	168	163	F/F	58 - 148
Mevinphos	83.1	73.6	P/P	34 - 128
Molinate	50.5	54.0	P/P	44 - 101
Norflurazon	78.8	78.3	P/P	63 - 129
Parathion Ethyl	88.4	91.2	P/P	80 - 109
Parathion Methyl	99.8	98.4	P/P	74 - 125
Pendimethalin	79.7	86.9	P/P	48 - 134
Phorate	92.4	78.3	P/P	52 - 119
Prometon	82.6	78.9	P/P	69 - 124
Prometryn	83.5	79.7	P/P	66 - 124
Simazine	97.7	97.0	P/P	61 - 134
Terbufos	107	89.6	P/P	58 - 115
Terbutylazine	94.5	91.9	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P335149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	73.4	61.9	P/P	26 - 88.0
Alpha-BHC	82.7	84.2	P/P	63 - 114
Alpha-Chlordane	89.4	85.2	P/P	56 - 117
Beta-BHC	90.5	93.2	P/P	57 - 138
Carbophenothion	92.5	90.1	P/P	36 - 148
Chlorothalonil	93.8	95.3	P/P	26 - 173
Cypermethrin	105	91.0	P/P	42 - 159
DDD-p,p'	100	92.1	P/P	62 - 126
DDE-p,p'	91.0	86.9	P/P	53 - 115
DDT-p,p'	88.9	86.3	P/P	54 - 117
Delta-BHC	85.3	89.3	P/P	68 - 158
Dicofol	76.3	80.0	P/P	25 - 114
Dieldrin	89.3	85.8	P/P	59 - 126
Endosulfan I	90.8	88.4	P/P	62 - 138
Endosulfan II	106	97.5	P/P	61 - 150
Endosulfan Sulfate	95.9	86.9	P/P	63 - 132
Endrin	89.6	85.3	P/P	49 - 148
Endrin Aldehyde	111	107	P/P	50 - 144
Endrin Ketone	97.8	91.7	P/P	66 - 122
Gamma-BHC	83.8	85.9	P/P	60 - 137
Gamma-Chlordane	86.8	82.1	P/P	54 - 113
Heptachlor	79.1	77.5	P/P	43 - 104
Heptachlor Epoxide	89.3	86.4	P/P	64 - 118
Methoxychlor	112	110	P/P	63 - 129

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P335149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mirex	80.5	74.7	P/P	40 - 96.0
Permethrin	89.9	83.2	P/P	51 - 123
Trifluralin	80.7	79.3	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P335149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	83.1	76.8	P/P	48 - 121
Toxaphene	121	112	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P334478

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P334530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	79.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P334531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	89.6		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P335154

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

Reference Method: SM 4500 F-C-97
Batch ID: P335157

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P335076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P334335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	58.7		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P334335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	98.7		P	40 - 150
Diuron	77.6		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	99.3		P	40 - 150
Imidacloprid	99.8		P	40 - 160
Linuron	95.5		P	40 - 150
Primidone	95.9		P	40 - 150

Reference Method: USGS O-2060-01
 Batch ID: P335856

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150
Bentazon	99.6		P	30 - 150
MCP	101		P	40 - 150
Triclopyr	103		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P334545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941706	Calcium	105	104	P/P	80 - 120
1941706	Iron	102	104	P/P	80 - 120
1941706	Magnesium	104	105	P/P	80 - 120
1941706	Potassium	96.3	97.4	P/P	80 - 120
1941706	Sodium	102		P	80 - 120
1941706	Zinc	99.5	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P334545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941706	Arsenic	101	101	P/P	80 - 120
1941706	Cadmium	102	101	P/P	80 - 120
1941706	Chromium	99.6	100	P/P	80 - 120
1941706	Nickel	98.8	99.4	P/P	80 - 120
1941706	Silver	93.7	93.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P335017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939777	Copper	101		P	80 - 120
1939777	Lead	97.4		P	80 - 120
1941704	Copper	98.0	99.5	P/P	80 - 120
1941704	Lead	96.3	96.1	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941739	Chloride	96.0		P	90 - 110
1941940	Chloride	95.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941739	Sulfate	95.2		P	90 - 110
1941940	Sulfate	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941803	Kjeldahl Nitrogen	94.6	95.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941852	NO2NO3-N	98.7	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941734	Total-P	98.2	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941956	Total-P	98.0	96.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941725	O-Phosphate-P	95.4	93.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P334709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941554	Acetochlor	86.3	90.1	P/P	74 - 123
1941554	Ametryn	70.4	75.0	P/P	56 - 149
1941554	Atrazine	97.2	98.5	P/P	73 - 124
1941554	Atrazine Desethyl	79.1	65.6	P/P	12 - 103
1941554	Azinphos Methyl	106	110	P/P	60 - 202
1941554	Bromacil	71.9	87.1	P/P	42 - 133
1941554	Butylate	48.3	59.4	P/P	10 - 85.0
1941554	Chlorpyrifos Ethyl	81.4	85.7	P/P	53 - 113

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P334709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941554	Chlorpyrifos Methyl	80.8	82.3	P/P	40 - 115
1941554	Cyanazine	268	211	F/F	22 - 210
1941554	Demeton	62.5	43.8	P/P	17 - 149
1941554	Diazinon	88.2	86.3	P/P	72 - 124
1941554	Disulfoton	77.6	76.2	P/P	43 - 139
1941554	EPTC	39.8	50.2	P/P	10 - 86.0
1941554	Ethion	89.9	95.4	P/P	65 - 131
1941554	Ethoprop	90.5	79.7	P/P	59 - 110
1941554	Fenamiphos	79.3	91.6	P/P	57 - 138
1941554	Fipronil	78.8	90.6	P/P	40 - 130
1941554	Fipronil Sulfide	68.6	81.5	P/P	36 - 128
1941554	Fipronil Sulfone	68.0	80.9	P/P	16 - 145
1941554	Fonofos	81.0	75.6	P/P	60 - 112
1941554	Hexazinone	110	124	P/P	69 - 142
1941554	Malathion	86.6	95.9	P/P	68 - 132
1941554	Metalaxyl	83.8	98.3	P/P	66 - 118
1941554	Metolachlor	83.5	98.3	P/P	71 - 124
1941554	Metribuzin	117	132	P/P	61 - 140
1941554	Mevinphos	65.7	69.8	P/P	38 - 130
1941554	Molinate	62.6	62.6	P/P	23 - 99.0
1941554	Norflurazon	82.6	91.7	P/P	39 - 139
1941554	Parathion Ethyl	92.1	91.0	P/P	75 - 111
1941554	Parathion Methyl	95.6	94.4	P/P	64 - 130
1941554	Pendimethalin	93.2	92.7	P/P	26 - 173
1941554	Phorate	58.3	67.8	P/P	43 - 127
1941554	Prometon	87.4	92.5	P/P	50 - 144
1941554	Prometryn	74.1	91.3	P/P	69 - 126
1941554	Simazine	88.3	94.1	P/P	51 - 152
1941554	Terbufos	83.3	78.7	P/P	54 - 125
1941554	Terbutylazine	90.8	94.0	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P335149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942492	Aldrin	69.3	75.4	P/P	22 - 97.0
1942492	Alpha-BHC	89.7	94.7	P/P	43 - 132
1942492	Alpha-Chlordane	92.7	91.5	P/P	36 - 126
1942492	Beta-BHC	86.3	92.0	P/P	41 - 150
1942492	Carbophenothion	125	129	P/P	13 - 196
1942492	Chlorothalonil	112	127	P/P	10 - 266
1942492	Cypermethrin	105	117	P/P	37 - 161
1942492	DDD-p,p'	97.1	105	P/P	44 - 131
1942492	DDE-p,p'	87.4	85.1	P/P	32 - 127
1942492	DDT-p,p'	98.3	97.2	P/P	45 - 116
1942492	Delta-BHC	101	95.3	P/P	50 - 201
1942492	Dicofol	70.4	71.1	P/P	10 - 100
1942492	Dieldrin	93.5	96.3	P/P	39 - 142
1942492	Endosulfan I	94.8	103	P/P	51 - 139
1942492	Endosulfan II	98.5	109	P/P	49 - 155
1942492	Endosulfan Sulfate	90.2	97.8	P/P	54 - 136
1942492	Endrin	94.1	97.7	P/P	38 - 141

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P335149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942492	Endrin Aldehyde	117	115	P/P	14 - 152
1942492	Endrin Ketone	90.8	101	P/P	60 - 128
1942492	Gamma-BHC	88.8	89.0	P/P	48 - 157
1942492	Gamma-Chlordane	90.4	88.0	P/P	35 - 123
1942492	Heptachlor	86.0	79.9	P/P	25 - 112
1942492	Heptachlor Epoxide	91.2	92.5	P/P	48 - 125
1942492	Methoxychlor	121	126	P/P	52 - 127
1942492	Mirex	87.3	86.9	P/P	25 - 108
1942492	Permethrin	97.3	97.4	P/P	46 - 133
1942492	Trifluralin	93.0	88.9	P/P	29 - 254

Reference Method: EPA 8276
 Batch ID: P335149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941868	Chlordane	71.2	76.3	P/P	44 - 134
1941868	Toxaphene	96.0	100	P/P	36 - 147

Reference Method: EPA 8321B
 Batch ID: P334478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941595	Sucralose	104	101	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P334530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941867	Pyraclostrobin	83.6	85.6	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P334531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941867	Glyphosate	96.6	93.4	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P335157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941802	Fluoride	97.8	98.4	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P335076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941734	Organic Carbon	93.7	94.3	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P334335

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

Reference Method: USGS O-2060-01
Batch ID: P334335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941115	Acetaminophen	99.7	102	P/P	30 - 150
1941115	Carbamazepine	62.0	61.5	P/P	40 - 150
1941115	Diuron	49.9	48.3	P/P	40 - 150
1941115	Fenuron	68.0	65.9	P/P	40 - 150
1941115	Fluridone	73.9	70.8	P/P	40 - 150
1941115	Imidacloprid	116	116	P/P	40 - 160
1941115	Linuron	66.5	68.8	P/P	40 - 150
1941115	Primidone	82.4	83.8	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941997	2,4-D	54.8	58.8	P/P	40 - 150
1941997	Bentazon	52.2	54.2	P/P	30 - 150
1941997	MCP	40.8	40.3	P/P	40 - 150
1941997	Triclopyr	41.2	39.2	P/F	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941739	Turbidity	1.60	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P334545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941706	Calcium	0.242	Spike	P	0 - 20
1941706	Iron	1.32	Spike	P	0 - 20
1941706	Magnesium	0.502	Spike	P	0 - 20
1941706	Potassium	0.743	Spike	P	0 - 20
1941706	Sodium	1.03	Spike	P	0 - 20
1941706	Zinc	1.29	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941706	Arsenic	0.456	Spike	P	0 - 20
1941706	Cadmium	0.335	Spike	P	0 - 20
1941706	Chromium	0.374	Spike	P	0 - 20
1941706	Nickel	0.638	Spike	P	0 - 20
1941706	Silver	0.0420	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P335017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941704	Copper	1.51	Spike	P	0 - 20
1941704	Lead	0.185	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941739	Chloride	0.388	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941739	Sulfate	1.02	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941852	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941803	Kjeldahl Nitrogen	0.664	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941955	Kjeldahl Nitrogen	3.52	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941852	NO2NO3-N	1.17	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941734	Total-P	0.0665	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P334562

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941956	Total-P	0.788	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P334491

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941725	O-Phosphate-P	1.72	Spike	P	0 - 20

Reference Method: EPA 8270D

Batch ID: P334709

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941554	Acetochlor	4.31	Spike	P	0 - 30
1941554	Alachlor	1.29	Spike	P	0 - 30
1941554	Ametryn	6.34	Spike	P	0 - 30
1941554	Atrazine	1.15	Spike	P	0 - 30
1941554	Atrazine Desethyl	16.0	Spike	P	0 - 30
1941554	Azinphos Methyl	3.40	Spike	P	0 - 30
1941554	Bromacil	19.2	Spike	P	0 - 30
1941554	Butylate	20.6	Spike	P	0 - 30
1941554	Chlorpyrifos Ethyl	5.16	Spike	P	0 - 30
1941554	Chlorpyrifos Methyl	1.83	Spike	P	0 - 30
1941554	Cyanazine	23.7	Spike	P	0 - 30
1941554	Demeton	35.1	Spike	F	0 - 30
1941554	Diazinon	2.21	Spike	P	0 - 30
1941554	Disulfoton	1.80	Spike	P	0 - 30
1941554	EPTC	23.1	Spike	P	0 - 30
1941554	Ethion	5.87	Spike	P	0 - 30
1941554	Ethoprop	12.7	Spike	P	0 - 30
1941554	Fenamiphos	14.5	Spike	P	0 - 30
1941554	Fipronil	13.9	Spike	P	0 - 30
1941554	Fipronil Sulfide	17.2	Spike	P	0 - 30
1941554	Fipronil Sulfone	17.4	Spike	P	0 - 30
1941554	Fonofos	6.90	Spike	P	0 - 30
1941554	Hexazinone	8.78	Spike	P	0 - 30
1941554	Malathion	10.2	Spike	P	0 - 30
1941554	Metalaxyl	16.0	Spike	P	0 - 30
1941554	Metolachlor	11.5	Spike	P	0 - 30
1941554	Metribuzin	11.3	Spike	P	0 - 30
1941554	Mevinphos	6.06	Spike	P	0 - 30
1941554	Molinate	0.0110	Spike	P	0 - 30
1941554	Norflurazon	10.5	Spike	P	0 - 30
1941554	Parathion Ethyl	1.18	Spike	P	0 - 30
1941554	Parathion Methyl	1.30	Spike	P	0 - 30
1941554	Pendimethalin	0.495	Spike	P	0 - 30
1941554	Phorate	15.1	Spike	P	0 - 30
1941554	Prometon	5.65	Spike	P	0 - 30
1941554	Prometryn	20.8	Spike	P	0 - 30
1941554	Simazine	6.39	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P334709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941554	Terbufos	5.62	Spike	P	0 - 30
1941554	Terbutylazine	3.54	Spike	P	0 - 30
LFB	Acetochlor	3.35	LCS	P	0 - 30
LFB	Alachlor	2.85	LCS	P	0 - 30
LFB	Ametryn	0.612	LCS	P	0 - 30
LFB	Atrazine	8.19	LCS	P	0 - 30
LFB	Atrazine Desethyl	5.55	LCS	P	0 - 30
LFB	Azinphos Methyl	3.70	LCS	P	0 - 30
LFB	Bromacil	8.31	LCS	P	0 - 30
LFB	Butylate	6.57	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.468	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.84	LCS	P	0 - 30
LFB	Cyanazine	10.8	LCS	P	0 - 30
LFB	Demeton	58.4	LCS	F	0 - 30
LFB	Diazinon	3.05	LCS	P	0 - 30
LFB	Disulfoton	32.4	LCS	F	0 - 30
LFB	EPTC	9.76	LCS	P	0 - 30
LFB	Ethion	25.3	LCS	P	0 - 30
LFB	Ethoprop	43.0	LCS	F	0 - 30
LFB	Fenamiphos	3.00	LCS	P	0 - 30
LFB	Fipronil	7.10	LCS	P	0 - 30
LFB	Fipronil Sulfide	13.1	LCS	P	0 - 30
LFB	Fipronil Sulfone	16.8	LCS	P	0 - 30
LFB	Fonofos	12.8	LCS	P	0 - 30
LFB	Hexazinone	2.28	LCS	P	0 - 30
LFB	Malathion	7.77	LCS	P	0 - 30
LFB	Metalaxyl	6.45	LCS	P	0 - 30
LFB	Metolachlor	0.967	LCS	P	0 - 30
LFB	Metribuzin	3.31	LCS	P	0 - 30
LFB	Mevinphos	12.1	LCS	P	0 - 30
LFB	Molinate	6.54	LCS	P	0 - 30
LFB	Norflurazon	0.681	LCS	P	0 - 30
LFB	Parathion Ethyl	3.07	LCS	P	0 - 30
LFB	Parathion Methyl	1.43	LCS	P	0 - 30
LFB	Pendimethalin	8.66	LCS	P	0 - 30
LFB	Phorate	16.6	LCS	P	0 - 30
LFB	Prometon	4.53	LCS	P	0 - 30
LFB	Prometryn	4.69	LCS	P	0 - 30
LFB	Simazine	0.672	LCS	P	0 - 30
LFB	Terbufos	17.7	LCS	P	0 - 30
LFB	Terbutylazine	2.79	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942492	Aldrin	8.49	Spike	P	0 - 30
1942492	Alpha-BHC	5.48	Spike	P	0 - 30
1942492	Alpha-Chlordane	1.30	Spike	P	0 - 30
1942492	Beta-BHC	6.46	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942492	Carbophenothion	2.94	Spike	P	0 - 30
1942492	Chlorothalonil	12.6	Spike	P	0 - 30
1942492	Cypermethrin	11.3	Spike	P	0 - 30
1942492	DDD-p,p'	8.24	Spike	P	0 - 30
1942492	DDE-p,p'	2.60	Spike	P	0 - 30
1942492	DDT-p,p'	1.18	Spike	P	0 - 30
1942492	Delta-BHC	5.85	Spike	P	0 - 30
1942492	Dicofol	0.997	Spike	P	0 - 30
1942492	Dieldrin	2.94	Spike	P	0 - 30
1942492	Endosulfan I	8.61	Spike	P	0 - 30
1942492	Endosulfan II	9.79	Spike	P	0 - 30
1942492	Endosulfan Sulfate	8.15	Spike	P	0 - 30
1942492	Endrin	3.74	Spike	P	0 - 30
1942492	Endrin Aldehyde	1.59	Spike	P	0 - 30
1942492	Endrin Ketone	10.7	Spike	P	0 - 30
1942492	Gamma-BHC	0.233	Spike	P	0 - 30
1942492	Gamma-Chlordane	2.71	Spike	P	0 - 30
1942492	Heptachlor	7.30	Spike	P	0 - 30
1942492	Heptachlor Epoxide	1.34	Spike	P	0 - 30
1942492	Methoxychlor	3.84	Spike	P	0 - 30
1942492	Mirex	0.381	Spike	P	0 - 30
1942492	Permethrin	0.192	Spike	P	0 - 30
1942492	Trifluralin	4.49	Spike	P	0 - 30
LFB	Aldrin	17.0	LCS	P	0 - 30
LFB	Alpha-BHC	1.86	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.74	LCS	P	0 - 30
LFB	Beta-BHC	2.97	LCS	P	0 - 30
LFB	Carbophenothion	2.65	LCS	P	0 - 30
LFB	Chlorothalonil	1.57	LCS	P	0 - 30
LFB	Cypermethrin	14.0	LCS	P	0 - 30
LFB	DDD-p,p'	8.73	LCS	P	0 - 30
LFB	DDE-p,p'	4.61	LCS	P	0 - 30
LFB	DDT-p,p'	3.01	LCS	P	0 - 30
LFB	Delta-BHC	4.56	LCS	P	0 - 30
LFB	Dicofol	4.73	LCS	P	0 - 30
LFB	Dieldrin	4.01	LCS	P	0 - 30
LFB	Endosulfan I	2.69	LCS	P	0 - 30
LFB	Endosulfan II	8.03	LCS	P	0 - 30
LFB	Endosulfan Sulfate	9.88	LCS	P	0 - 30
LFB	Endrin	4.82	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.96	LCS	P	0 - 30
LFB	Endrin Ketone	6.43	LCS	P	0 - 30
LFB	Gamma-BHC	2.54	LCS	P	0 - 30
LFB	Gamma-Chlordane	5.56	LCS	P	0 - 30
LFB	Heptachlor	2.11	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.32	LCS	P	0 - 30
LFB	Methoxychlor	1.00	LCS	P	0 - 30
LFB	Mirex	7.45	LCS	P	0 - 30
LFB	Permethrin	7.74	LCS	P	0 - 30
LFB	Trifluralin	1.77	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941868	Chlordane	6.86	Spike	P	0 - 30
1941868	Toxaphene	4.33	Spike	P	0 - 30
LFB	Chlordane	7.80	LCS	P	0 - 30
LFB	Toxaphene	7.55	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P334478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941595	Sucralose	2.93	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P334530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941867	Pyraclostrobin	2.48	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P334531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941867	Glyphosate	3.41	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P334500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941677	Color (true)	1.34	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P335154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941802	Total Alkalinity	0.694	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P334920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941761	TDS	1.82	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
 Batch ID: P334921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941951	TDS	0.803	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P335157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941802	Fluoride	0.484	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P335076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941734	Organic Carbon	0.458	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P334335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941115	Acetaminophen	2.40	Spike	P	0 - 30
1941115	Carbamazepine	0.777	Spike	P	0 - 30
1941115	Diuron	3.30	Spike	P	0 - 30
1941115	Fenuron	3.14	Spike	P	0 - 30
1941115	Fluridone	4.28	Spike	P	0 - 30
1941115	Imidacloprid	0.0172	Spike	P	0 - 30
1941115	Linuron	3.34	Spike	P	0 - 30
1941115	Primidone	1.66	Spike	P	0 - 30

Reference Method: USGS O-2060-01
 Batch ID: P335856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941997	2,4-D	7.04	Spike	P	0 - 30
1941997	Bentazon	3.75	Spike	P	0 - 30
1941997	MCPP	1.10	Spike	P	0 - 30
1941997	Triclopyr	4.86	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 1941867
 Field Sample ID: G1NE0040 10312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report Surrogates

Lab Sample ID: 1941867
Field Sample ID: G1NE0040 10312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.2	P	30 - 160
EPA 8321B	Diuron-d6	56.4	P	30 - 160
EPA 8321B	Diuron-d6	98.0	P	30 - 160
EPA 8321B	Diuron-d6	56.4	P	30 - 160
EPA 8321B	Diuron-d6	98.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.3	P	40 - 160
EPA 8321B	Primidone-d5	83.0	P	30 - 160
EPA 8321B	Primidone-d5	83.0	P	30 - 160
EPA 8321B	Sucralose-d6	95.2	P	40 - 160
EPA 8321B	Sucralose-d6	95.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	59.7	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	102	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	74.2	P	30 - 160
USGS O-2060-01	Diuron-d6	56.4	P	30 - 160
USGS O-2060-01	Diuron-d6	98.0	P	30 - 160
USGS O-2060-01	Primidone-d5	83.0	P	30 - 160
USGS O-2060-01	Sucralose-d6	95.2	P	40 - 160

Lab Sample ID: 1941868
Field Sample ID: G1NE0040 10312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	59.6	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	37.3	P	32 - 103
EPA 8276	Decachlorobiphenyl	53.0	P	31 - 100

Lab Sample ID: 1941869
Field Sample ID: G1NE0040 10312017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	81.5	P	53 - 135
EPA 8270D	Simazine-d10	93.9	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A79966
Included Lab Sample IDs: 1941851, 1941854, 1941855, 1941856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A79967
Included Lab Sample IDs: 1941853, 1941860, 1941861, 1941862

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: A79967

Included Lab Sample IDs: 1941853, 1941860, 1941861, 1941862

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.8	P/P	90 - 110
O-Phosphate-P	102	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79968

Included Lab Sample IDs: 1941851, 1941854, 1941855, 1941856

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

Reference Method: EPA 8321B

Run ID: A80019

Included Lab Sample IDs: 1941867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	111	109	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80021

Included Lab Sample IDs: 1941852, 1941857, 1941858, 1941859

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.1	102	P/P	90 - 110
Total-P	99.6	99.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80039

Included Lab Sample IDs: 1941851, 1941854, 1941855, 1941856

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	100	P/P	90 - 110
Sulfate	99.0	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80044

Included Lab Sample IDs: 1941870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	102	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Silver	94.5	94.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A80045

Included Lab Sample IDs: 1941870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	96.3	P/P	90 - 110
Iron	101	97.7	P/P	90 - 110
Magnesium	100	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A80045

Included Lab Sample IDs: 1941870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	97.8	95.0	P/P	90 - 110
Sodium	99.9	95.6	P/P	90 - 110
Zinc	98.2	95.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A80066

Included Lab Sample IDs: 1941867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	95.2	94.7	P/P	70 - 160

Reference Method: EPA 8321B

Run ID: A80072

Included Lab Sample IDs: 1941867

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80104

Included Lab Sample IDs: 1941870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80129

Included Lab Sample IDs: 1941852, 1941857, 1941858, 1941859

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

Reference Method: SM 5310 B-00

Run ID: A80188

Included Lab Sample IDs: 1941852, 1941857, 1941858, 1941859

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	97.5	P/P	90 - 110
Organic Carbon	96.4	95.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80218

Included Lab Sample IDs: 1941870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	101	97.8	P/P	90 - 110
Lead	93.8	91.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A80221

Included Lab Sample IDs: 1941851, 1941854, 1941855, 1941856

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

Reference Method: SM 4500 F-C-97

Run ID: A80221

Included Lab Sample IDs: 1941851, 1941854, 1941855, 1941856

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

Reference Method: USGS O-2060-01

Run ID: A80228

Included Lab Sample IDs: 1941867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	96.2	93.4	P/P	60 - 150
Carbamazepine	102	106	P/P	60 - 150
Diuron	110	107	P/P	60 - 150
Fenuron	103	106	P/P	60 - 150
Fluridone	106	107	P/P	60 - 160
Imidacloprid	94.9	97.3	P/P	60 - 150
Linuron	105	105	P/P	60 - 150
Primidone	108	112	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80229

Included Lab Sample IDs: 1941852, 1941857, 1941858, 1941859

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80295

Included Lab Sample IDs: 1941852, 1941857, 1941858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80377

Included Lab Sample IDs: 1941859

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	95.1	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A80441

Included Lab Sample IDs: 1941868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	112		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276
Run ID: A80441
Included Lab Sample IDs: 1941868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Toxaphene	119		P	80 - 120

Reference Method: EPA 8270D
Run ID: A80466
Included Lab Sample IDs: 1941868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	107		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	107		P	80 - 120
Beta-BHC	109		P	80 - 120
Carbophenothion	90.0		P	80 - 120
Chlorothalonil	85.0		P	80 - 120
Cypermethrin	88.3		P	80 - 120
DDD-p,p'	105		P	80 - 120
DDE-p,p'	108		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	95.0		P	80 - 120
Dicofol	128*		F	80 - 120
Dieldrin	106		P	80 - 120
Endosulfan I	103		P	80 - 120
Endosulfan II	107		P	80 - 120
Endosulfan Sulfate	95.2		P	80 - 120
Endrin	107		P	80 - 120
Endrin Aldehyde	100		P	80 - 120
Endrin Ketone	95.8		P	80 - 120
Gamma-BHC	103		P	80 - 120
Gamma-Chlordane	106		P	80 - 120
Heptachlor	105		P	80 - 120
Heptachlor Epoxide	107		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	99.0		P	80 - 120
Permethrin	92.9		P	80 - 120
Trifluralin	99.4		P	80 - 120

Reference Method: EPA 8270D
Run ID: A80469
Included Lab Sample IDs: 1941869

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.0		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	98.5		P	80 - 120
Atrazine	96.7		P	80 - 120
Atrazine Desethyl	93.4		P	80 - 120
Azinphos Methyl	95.7		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	99.5		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	98.4		P	80 - 120
Cyanazine	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A80469
Included Lab Sample IDs: 1941869

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Demeton	101		P	80 - 120
Diazinon	96.3		P	80 - 120
Disulfoton	96.6		P	80 - 120
EPTC	101		P	80 - 120
Ethion	97.8		P	80 - 120
Ethoprop	97.8		P	80 - 120
Fenamiphos	95.2		P	80 - 120
Fipronil	99.6		P	80 - 120
Fipronil Sulfide	97.7		P	80 - 120
Fipronil Sulfone	98.7		P	80 - 120
Fonofos	99.1		P	80 - 120
Hexazinone	96.9		P	80 - 120
Malathion	99.5		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	93.4		P	80 - 120
Mevinphos	98.2		P	80 - 120
Molinate	97.7		P	80 - 120
Norflurazon	99.2		P	80 - 120
Parathion Ethyl	91.2		P	80 - 120
Parathion Methyl	93.1		P	80 - 120
Pendimethalin	88.2		P	80 - 120
Phorate	96.9		P	80 - 120
Prometon	98.9		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	95.2		P	80 - 120
Terbufos	95.4		P	80 - 120
Terbutylazine	98.1		P	80 - 120

Reference Method: USGS O-2060-01
Run ID: A80527
Included Lab Sample IDs: 1941867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.8	94.5	P/P	50 - 150
Bentazon	112	113	P/P	50 - 150
MCP	96.1	101	P/P	50 - 150
Triclopyr	101	102	P/P	50 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.60	
EPA 200.7 Rev. 4.4	Calcium	108	105 104			0.242

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 200.7 Rev. 4.4	Iron	106		102	104			1.32
	Magnesium	108		104	105			0.502
	Potassium	98.9		96.3	97.4			0.743
	Sodium	103		102				1.03
	Zinc	97.4		99.5	101			1.29
EPA 200.8 Rev. 5.4	Arsenic	101		101	101			0.456
	Cadmium	101		102	101			0.335
	Chromium	97.1		99.6	100			0.374
	Copper	103		101	98.0	99.5		1.51
	Lead	98.0		97.4	96.3	96.1		0.185
	Nickel	98.7		98.8	99.4			0.638
	Silver	93.9		93.7	93.8			0.0420
EPA 300.0 Rev. 2.1	Chloride	94.3		96.0	95.1		0.388	
	Sulfate	93.8		95.2	95.0		1.02	
EPA 350.1 Rev. 2.0	Ammonia-N	105						1.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		94.6	95.5			0.664
	Kjeldahl Nitrogen	101						3.52
EPA 353.2 Rev. 2.0	NO2NO3-N	103		98.7	97.2			1.17
EPA 365.1 Rev. 2.0	Total-P	101		98.2	98.1			0.0665
	Total-P	101		98.0	96.7			0.788
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		95.4	93.7			1.72
EPA 8270D	Acetochlor	80.9	83.6	86.3	90.1	3.35		4.31
	Alachlor	81.9	84.3			2.85		1.29
	Aldrin	73.4	61.9	69.3	75.4	17.0		8.49
	Alpha-BHC	82.7	84.2	89.7	94.7	1.86		5.48
	Alpha-Chlordane	89.4	85.2	92.7	91.5	4.74		1.30
	Ametryn	71.1	70.6	70.4	75.0	0.612		6.34
	Atrazine	90.7	98.4	97.2	98.5	8.19		1.15
	Atrazine Desethyl	119	113	79.1	65.6	5.55		16.0
	Azinphos Methyl	124	120	106	110	3.70		3.40
	Beta-BHC	90.5	93.2	86.3	92.0	2.97		6.46
	Bromacil	84.5	77.7	71.9	87.1	8.31		19.2
	Butylate	44.7	47.7	48.3	59.4	6.57		20.6
	Carbophenothion	92.5	90.1	125	129	2.65		2.94
	Chlorothalonil	93.8	95.3	112	127	1.57		12.6
	Chlorpyrifos Ethyl	92.2	91.7	81.4	85.7	0.468		5.16
	Chlorpyrifos Methyl	101	93.6	80.8	82.3	7.84		1.83
	Cyanazine	212	190	268	211	10.8		23.7
	Cypermethrin	105	91.0	105	117	14.0		11.3
	DDD-p,p'	100	92.1	97.1	105	8.73		8.24
	DDE-p,p'	91.0	86.9	87.4	85.1	4.61		2.60
	DDT-p,p'	88.9	86.3	98.3	97.2	3.01		1.18
	Delta-BHC	85.3	89.3	101	95.3	4.56		5.85
	Demeton	97.2	53.3	62.5	43.8	58.4		35.1
	Diazinon	88.2	85.5	88.2	86.3	3.05		2.21
	Dicofol	76.3	80.0	70.4	71.1	4.73		0.997
	Dieldrin	89.3	85.8	93.5	96.3	4.01		2.94
	Disulfoton	106	76.4	77.6	76.2	32.4		1.80
	Endosulfan I	90.8	88.4	94.8	103	2.69		8.61
	Endosulfan II	106	97.5	98.5	109	8.03		9.79
	Endosulfan Sulfate	95.9	86.9	90.2	97.8	9.88		8.15
	Endrin	89.6	85.3	94.1	97.7	4.82		3.74
	Endrin Aldehyde	111	107	117	115	3.96		1.59
	Endrin Ketone	97.8	91.7	90.8	101	6.43		10.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	41.0	45.2	39.8	50.2	9.76	23.1
	Ethion	109	84.7	89.9	95.4	25.3	5.87
	Ethoprop	136	87.7	90.5	79.7	43.0	12.7
	Fenamiphos	96.2	93.3	79.3	91.6	3.00	14.5
	Fipronil	85.4	79.5	78.8	90.6	7.10	13.9
	Fipronil Sulfide	93.3	81.8	68.6	81.5	13.1	17.2
	Fipronil Sulfone	89.9	76.0	68.0	80.9	16.8	17.4
	Fonofos	102	90.0	81.0	75.6	12.8	6.90
	Gamma-BHC	83.8	85.9	88.8	89.0	2.54	0.233
	Gamma-Chlordane	86.8	82.1	90.4	88.0	5.56	2.71
	Heptachlor	79.1	77.5	86.0	79.9	2.11	7.30
	Heptachlor Epoxide	89.3	86.4	91.2	92.5	3.32	1.34
	Hexazinone	87.9	85.9	110	124	2.28	8.78
	Malathion	109	101	86.6	95.9	7.77	10.2
	Metalaxyl	84.2	79.0	83.8	98.3	6.45	16.0
	Methoxychlor	112	110	121	126	1.00	3.84
	Metolachlor	84.3	85.2	83.5	98.3	0.967	11.5
	Metribuzin	168	163	117	132	3.31	11.3
	Mevinphos	83.1	73.6	65.7	69.8	12.1	6.06
	Mirex	80.5	74.7	87.3	86.9	7.45	0.381
	Molinate	50.5	54.0	62.6	62.6	6.54	0.0110
	Norflurazon	78.8	78.3	82.6	91.7	0.681	10.5
	Parathion Ethyl	88.4	91.2	92.1	91.0	3.07	1.18
	Parathion Methyl	99.8	98.4	95.6	94.4	1.43	1.30
	Pendimethalin	79.7	86.9	93.2	92.7	8.66	0.495
	Permethrin	89.9	83.2	97.3	97.4	7.74	0.192
	Phorate	92.4	78.3	58.3	67.8	16.6	15.1
	Prometon	82.6	78.9	87.4	92.5	4.53	5.65
	Prometryn	83.5	79.7	74.1	91.3	4.69	20.8
	Simazine	97.7	97.0	88.3	94.1	0.672	6.39
	Terbufos	107	89.6	83.3	78.7	17.7	5.62
	Terbuthylazine	94.5	91.9	90.8	94.0	2.79	3.54
	Trifluralin	80.7	79.3	93.0	88.9	1.77	4.49
EPA 8276	Chlordane	83.1	76.8	71.2	76.3	7.80	6.86
	Toxaphene	121	112	96.0	100	7.55	4.33
EPA 8321B	Glyphosate	89.6		96.6	93.4		3.41
	Pyraclostrobin	79.2		83.6	85.6		2.48
	Sucralose	102		104	101		2.93
SM 2120 B	Color (true)					1.34	
SM 2320 B-97	Total Alkalinity	103				0.694	
SM 2540 C-97	TDS					1.82	
	TDS					0.803	
SM 4500 F-C-97	Fluoride	94.9		97.8	98.4		0.484
SM 5310 B-00	Organic Carbon	97.0		93.7	94.3		0.458
USGS O-2060-01	2,4-D	105		54.8	58.8		7.04
	Acetaminophen	58.7		99.7	102		2.40
	Bentazon	99.6		52.2	54.2		3.75
	Carbamazepine	98.7		62.0	61.5		0.777
	Diuron	77.6		49.9	48.3		3.30
	Fenuron	104		68.0	65.9		3.14
	Fluridone	99.3		73.9	70.8		4.28
	Imidacloprid	99.8		116	116		0.0172
	Linuron	95.5		66.5	68.8		3.34
	MCPP	101		40.8	40.3		1.10

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
USGS O-2060-01	Primidone	95.9	82.4	83.8		1.66
	Triclopyr	103	41.2	39.2		4.86

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1941851, 1941854, 1941855, 1941856
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1941870
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1941870
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1941851, 1941854, 1941855, 1941856
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1941851, 1941854, 1941855, 1941856
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1941852, 1941857, 1941858, 1941859
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1941852, 1941857, 1941858, 1941859
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1941852, 1941857, 1941858, 1941859
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1941852, 1941857, 1941858, 1941859
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1941853, 1941860, 1941861, 1941862
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1941868
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1941869
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1941868
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1941867
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1941867
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1941867
SM 2120 B / E31780	True Color measured at 450 nm	1941851, 1941854, 1941855, 1941856
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1941851, 1941854, 1941855, 1941856
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1941851, 1941854, 1941855, 1941856
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1941851, 1941854, 1941855, 1941856
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1941851, 1941854, 1941855, 1941856
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1941852, 1941857, 1941858, 1941859
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1941867
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1941867

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	11/01/2017			11/01/2017 16:13	DeAsia Armster	1941851, 1941854, 1941855, 1941856
EPA 200.7 Rev. 4.4	11/01/2017	11/02/2017	Elliott D. Healy	11/03/2017	Betina Topolski	1941870
EPA 200.8 Rev. 5.4	11/01/2017	11/02/2017	Elliott D. Healy	11/05/2017	Robert K Palmer	1941870
	11/01/2017	11/02/2017	Elliott D. Healy	11/07/2017	Robert K Palmer	1941870
	11/01/2017	11/09/2017	Elliott D. Healy	11/13/2017	Nadine Brooks	1941870
EPA 300.0 Rev. 2.1	11/01/2017			11/03/2017	Irina Carbone	1941851, 1941854, 1941855, 1941856
EPA 350.1 Rev. 2.0	11/01/2017			11/13/2017	Sofia Elnemr	1941852, 1941857, 1941858, 1941859
EPA 351.2 Rev. 2.0	11/01/2017	11/08/2017	Adrian Shelby	11/15/2017	Tanya Welborn	1941852, 1941857, 1941858
	11/01/2017	11/15/2017	Adrian Shelby	11/17/2017	Virginia P. Brown	1941859
EPA 353.2 Rev. 2.0	11/01/2017			11/08/2017	Beverly Y. Sanders	1941852, 1941857, 1941858, 1941859
EPA 365.1 Rev. 2.0	11/01/2017	11/02/2017	Sima Feizi	11/03/2017	Lipi Saha	1941852, 1941857, 1941858, 1941859
EPA 365.1 Rev. 2.0 dissolved	11/01/2017			11/01/2017 15:40	Megan Treadwell	1941861
	11/01/2017			11/01/2017 15:41	Megan Treadwell	1941862
	11/01/2017			11/01/2017 15:51	Megan Treadwell	1941860
	11/01/2017			11/01/2017 15:54	Megan Treadwell	1941853
EPA 8270D	11/01/2017	11/06/2017	John Kaba	11/17/2017	Marek Topolski	1941869
	11/01/2017	11/06/2017	Rasheda Ghaffari	11/21/2017	Goutam Palui	1941868
EPA 8276	11/01/2017	11/06/2017	Rasheda Ghaffari	11/20/2017	John P. Burgos	1941868
EPA 8321B	11/01/2017	11/02/2017	Juyoung Kim	11/02/2017	Juyoung Kim	1941867
	11/01/2017	11/06/2017	Juyoung Kim	11/06/2017	Juyoung Kim	1941867
SM 2120 B	11/01/2017			11/01/2017 15:58	Tanya Welborn	1941851
	11/01/2017			11/01/2017 15:59	Tanya Welborn	1941854, 1941855
	11/01/2017			11/01/2017 16:00	Tanya Welborn	1941856
SM 2320 B-97	11/01/2017			11/09/2017	Dale L. Simmons	1941851, 1941854, 1941855, 1941856
SM 2540 C-97	11/01/2017			11/03/2017	DeAsia Armster	1941851, 1941854, 1941855, 1941856
SM 2540 D-97	11/01/2017			11/03/2017	DeAsia Armster	1941851, 1941854, 1941855, 1941856
SM 4500 F-C-97	11/01/2017			11/09/2017	Dale L. Simmons	1941851, 1941854, 1941855, 1941856
SM 5310 B-00	11/01/2017			11/10/2017	Ping Hua	1941852, 1941857, 1941858, 1941859
USGS O-2060-01	11/01/2017	11/06/2017	Hoor Shaik	11/10/2017	S. M. Reddy	1941867
	11/01/2017	11/27/2017	Hoor Shaik	11/28/2017	Julie Michelle Frank	1941867