

Chemical Analysis Report

NE-DIST-2017-08-24-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

Event Description: **Gainesville South**
Request ID: **RQ-2017-08-28-13**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 19-SEP-2017 13:27



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: Lochlossa Slough @ SE SR 225

Collection Date/Time: 08/23/2017 11:30

Field ID: G1NE0860 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924305	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P330822	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P330902	
		Sulfate	0.25	I	mg SO4/L	P330906	
	SM 2120 B	Color (true)	890		PCU	P330818	
	SM 2320 B-97	Total Alkalinity	9.0		mg CaCO3/L	P331030	
	SM 2540 C-97	TDS	177		mg/L	P331079	
	SM 2540 D-97	TSS	2	U	mg/L	P330927	
	SM 4500 F-C-97	Fluoride	0.080	I	mg F/L	P331032	
1924306	EPA 350.1 Rev. 2.0	Ammonia-N	0.086		mg N/L	P331098	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.5		mg N/L	P331033	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331051	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P330901	
	SM 5310 B-00	Organic Carbon	77		mg C/L	P331188	
1924307	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.20		mg P/L	P330813	
1924327	EPA 200.7 Rev. 4.4	Calcium	12.4		mg/L	P330940	
		Iron	1.37E+03		ug/L	P330940	
		Magnesium	3.16		mg/L	P330940	
		Potassium	0.66	I	mg/L	P330940	
		Sodium	6.0		mg/L	P330940	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P330940	
		Arsenic	1.21		ug/L	P330940	
		Cadmium	0.020	U	ug/L	P330940	
		Chromium	0.86	I	ug/L	P330940	
		Copper	0.21	I	ug/L	P330940	
		Lead	0.76		ug/L	P330940	
		Nickel	0.73	I	ug/L	P330940	
		Silver	0.010	U	ug/L	P330940	

Ref. Method and Comment:

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

Sample Location: Lochlossa Slough @ SE SR 225

Collection Date/Time: 08/23/2017 11:30

Field ID: G1NE0860 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924321	EPA 8321B	Glyphosate**	0.50	U	ug/L	P330738	
		Pyraclostrobin**	0.0020	U	ug/L	P330680	
		Sucralose**	0.010	U	ug/L	P330491	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P330883	
		Diuron	8.0E-04	U	ug/L	P330883	
		Fenuron	0.0080	U	ug/L	P330883	MS
		Imidacloprid	0.0069		ug/L	P330883	
		Bentazon	8.0E-04	U	ug/L	P330883	MS
		Linuron	0.0040	U	ug/L	P330883	
		Acetaminophen**	0.0080	U	ug/L	P330883	

Field ID: G1NE0860 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924321	USGS O-2060-01	MCP	0.0020	U	ug/L	P330883	
		Carbamazepine**	4.0E-04	U	ug/L	P330883	
		Triclopyr**	0.0040	U	ug/L	P330883	
		Primidone**	0.0040	U	ug/L	P330883	
		Fluridone**	7.8E-04	I	ug/L	P330883	MS, RPD
1924325	EPA 8270D	Aldrin	4.1	UJ	ng/L	P330732	RPD
		Alpha-BHC	2.1	U	ng/L	P330732	
		Beta-BHC	4.1	U	ng/L	P330732	
		Delta-BHC	4.1	U	ng/L	P330732	
		Gamma-BHC	4.1	U	ng/L	P330732	
		Carbophenothion	4.1	U	ng/L	P330732	RPD
		Chlorothalonil	2.1	U	ng/L	P330732	
		Cypermethrin	21	U	ng/L	P330732	
		DDD-p,p'	3.1	U	ng/L	P330732	
		DDE-p,p'	3.1	U	ng/L	P330732	
		DDT-p,p'	3.1	U	ng/L	P330732	
		Dieldrin	4.1	U	ng/L	P330732	
		Endosulfan I	4.1	U	ng/L	P330732	
		Endosulfan II	4.1	U	ng/L	P330732	
		Endosulfan Sulfate	2.1	U	ng/L	P330732	
		Endrin	2.1	U	ng/L	P330732	
		Endrin Aldehyde	2.1	U	ng/L	P330732	RPD
		Heptachlor	1.5	U	ng/L	P330732	
		Heptachlor Epoxide	2.1	U	ng/L	P330732	
		Methoxychlor	4.1	U	ng/L	P330732	
		Mirex	2.1	U	ng/L	P330732	
		Permethrin	10	U	ng/L	P330732	
		Trifluralin	1.0	U	ng/L	P330732	RPD
		Alpha-Chlordane	1.0	U	ng/L	P330732	
		Gamma-Chlordane	1.0	U	ng/L	P330732	
		Endrin Ketone	2.1	U	ng/L	P330732	
		Dicofol	31	UJ	ng/L	P330732	CCV
	EPA 8276	Chlordane**	2.6	U	ng/L	P330732	
		Toxaphene**	13	U	ng/L	P330732	
1924326	EPA 8270D	Alachlor	0.24	U	ng/L	P330733	
		Ametryn	0.31	U	ng/L	P330733	
		Atrazine	0.24	U	ng/L	P330733	
		Atrazine Desethyl	1.4	U	ng/L	P330733	
		Azinphos Methyl	2.2	U	ng/L	P330733	
		Bromacil	0.48	U	ng/L	P330733	
		Butylate	0.38	U	ng/L	P330733	RPD
		Chlorpyrifos Ethyl	0.24	U	ng/L	P330733	
		Chlorpyrifos Methyl	0.096	U	ng/L	P330733	
		Demeton	1.9	U	ng/L	P330733	
		Diazinon	0.12	U	ng/L	P330733	

Field ID: G1NE0860 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924326	EPA 8270D	Disulfoton	0.48	U	ng/L	P330733	RPD
		EPTC	1.2	U	ng/L	P330733	
		Ethion	0.14	U	ng/L	P330733	
		Ethoprop	0.096	U	ng/L	P330733	
		Fenamiphos	0.24	U	ng/L	P330733	
		Fipronil	0.24	U	ng/L	P330733	
		Fipronil Sulfide	0.14	U	ng/L	P330733	
		Fipronil Sulfone	0.14	U	ng/L	P330733	
		Hexazinone	0.48	U	ng/L	P330733	
		Malathion	0.34	U	ng/L	P330733	
		Metribuzin	0.19	UJ	ng/L	P330733	CCV, MS
		Mevinphos	0.48	U	ng/L	P330733	
		Molinate	0.29	U	ng/L	P330733	
		Norflurazon	0.48	U	ng/L	P330733	
		Pendimethalin	0.96	U	ng/L	P330733	
		Phorate	0.24	U	ng/L	P330733	
		Prometon	0.87	U	ng/L	P330733	
		Prometryn	0.19	U	ng/L	P330733	
		Simazine	0.48	U	ng/L	P330733	
		Terbufos	0.096	U	ng/L	P330733	
		Terbuthylazine	0.41	U	ng/L	P330733	
		Fonofos	0.19	U	ng/L	P330733	
		Metalaxyl	0.19	U	ng/L	P330733	
		Metolachlor	0.24	U	ng/L	P330733	
		Acetochlor	0.24	U	ng/L	P330733	
		Cyanazine	0.48	U	ng/L	P330733	
		Parathion Ethyl	0.24	U	ng/L	P330733	
		Parathion Methyl	0.24	U	ng/L	P330733	

Ref. Method and Comment:

EPA 8270D: MS accuracy for Heptachlor Epoxide and Dieldrin not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

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

Sample Location: W. Hawthorne Br. @ Fish Camp Rd.

Collection Date/Time: 08/23/2017 10:30

Field ID: G1NE0210 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924308	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P330822	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P330902	
		Sulfate	0.70		mg SO4/L	P330906	
	SM 2120 B	Color (true)	1.0E+03		PCU	P330818	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P331030	
	SM 2540 C-97	TDS	134		mg/L	P331079	
	SM 2540 D-97	TSS	2	U	mg/L	P330927	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P331032	
1924311	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P331098	

Field ID: G1NE0210 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924311	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P331033	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331051	
	EPA 365.1 Rev. 2.0	Total-P	0.37		mg P/L	P330901	
	SM 5310 B-00	Organic Carbon	73		mg C/L	P331188	
1924314	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.31		mg P/L	P330813	

Ref. Method and Comment:

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

Sample Location: Prairie Creek @ SR 20

Collection Date/Time: 08/23/2017 13:35

Field ID: G1NE0095 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924309	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P330822	
	EPA 300.0 Rev. 2.1	Chloride	6.3		mg Cl/L	P330902	
		Sulfate	1.7		mg SO4/L	P330906	
		Color (true)	510		PCU	P330819	
	SM 2320 B-97	Total Alkalinity	11		mg CaCO3/L	P331030	
	SM 2540 C-97	TDS	110		mg/L	P331079	
	SM 2540 D-97	TSS	4	I	mg/L	P330927	
	SM 4500 F-C-97	Fluoride	0.074	I	mg F/L	P331032	
1924312	EPA 350.1 Rev. 2.0	Ammonia-N	0.26		mg N/L	P331098	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P330896	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P331051	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P330901	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P331188	
1924315	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P330814	

Ref. Method and Comment:

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

Sample Location: Cross Creek @ SR 325

Collection Date/Time: 08/23/2017 12:25

Field ID: G1NE0105 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924310	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P330822	
	EPA 300.0 Rev. 2.1	Chloride	9.1		mg Cl/L	P330902	
		Sulfate	2.3		mg SO4/L	P330906	
		Color (true)	240	A	PCU	P330819	
	SM 2320 B-97	Total Alkalinity	26		mg CaCO3/L	P331030	
	SM 2540 C-97	TDS	99		mg/L	P331079	
	SM 2540 D-97	TSS	3	I	mg/L	P330927	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P331032	
1924313	EPA 350.1 Rev. 2.0	Ammonia-N	0.056		mg N/L	P331099	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P330896	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331051	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P330901	
	SM 5310 B-00	Organic Carbon	30		mg C/L	P331188	

Field ID: G1NE0105 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924316	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P330814	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P330822

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P330940

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: P330940

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: P330902

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P330906

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P331098

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331099

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330896

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331033

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331051

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330901

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330813

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330814

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

Reference Method: EPA 8270D
Batch ID: P330732

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P330732

Component	Result	Code	Units
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8270D
Batch ID: P330733

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P330733

Component	Result	Code	Units
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P330732

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

Reference Method: EPA 8321B
Batch ID: P330491

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P330680

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P330738

Component	Result	Code	Units
Glyphosate	0.50	U	ug/L

Reference Method: SM 2120 B
Batch ID: P330818

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P330819

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P331030

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: P331079

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P330927

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P331032

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P331188

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

Reference Method: USGS O-2060-01
 Batch ID: P330883

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
MCPP	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: P330940

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	107		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	101		P	85 - 115
Sodium	99.8		P	85 - 115
Zinc	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330940

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	97.3		P	85 - 115
Chromium	98.0		P	85 - 115
Copper	95.7		P	85 - 115
Lead	97.2		P	85 - 115
Nickel	98.1		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330906

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: P331098

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331099

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330896

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331033

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331051

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P330901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P330813

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: P330814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.4		P	90 - 110

Reference Method: EPA 8270D

Batch ID: P330732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	33.0	47.9	P/P	26 - 88.0
Alpha-BHC	79.4	80.9	P/P	63 - 114
Alpha-Chlordane	80.1	83.3	P/P	56 - 117
Beta-BHC	87.8	87.0	P/P	57 - 138
Carbophenothion	71.1	93.6	P/P	36 - 148
Chlorothalonil	53.0	55.6	P/P	26 - 173
Cypermethrin	74.1	79.4	P/P	42 - 159
DDD-p,p'	81.3	83.0	P/P	62 - 126
DDE-p,p'	77.8	83.1	P/P	53 - 115
DDT-p,p'	79.8	82.0	P/P	54 - 117
Delta-BHC	94.5	88.6	P/P	68 - 158
Dicofol	77.3	61.9	P/P	25 - 114
Dieldrin	77.5	80.6	P/P	59 - 126
Endosulfan I	80.8	84.4	P/P	62 - 138
Endosulfan II	83.9	83.1	P/P	61 - 150
Endosulfan Sulfate	77.4	74.1	P/P	63 - 132
Endrin	80.4	74.7	P/P	49 - 148
Endrin Aldehyde	77.5	75.8	P/P	50 - 144
Endrin Ketone	78.3	79.2	P/P	66 - 122
Gamma-BHC	86.5	87.1	P/P	60 - 137
Gamma-Chlordane	77.9	81.0	P/P	54 - 113
Heptachlor	67.1	69.6	P/P	43 - 104
Heptachlor Epoxide	78.2	79.9	P/P	64 - 118
Methoxychlor	82.5	87.7	P/P	63 - 129
Mirex	65.6	70.9	P/P	39 - 93.0
Permethrin	73.6	79.3	P/P	51 - 123
Trifluralin	97.8	108	P/P	35 - 187

Reference Method: EPA 8270D

Batch ID: P330733

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	98.0	89.3	P/P	78 - 118
Alachlor	97.6	92.7	P/P	77 - 119

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
 Batch ID: P330733

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ametryn	92.2	106	P/P	61 - 136
Atrazine	87.5	87.1	P/P	73 - 120
Atrazine Desethyl	90.8	97.4	P/P	16 - 122
Azinphos Methyl	113	109	P/P	69 - 186
Bromacil	93.9	90.9	P/P	40 - 125
Butylate	50.3	51.0	P/P	32 - 87.0
Chlorpyrifos Ethyl	87.9	83.5	P/P	53 - 110
Chlorpyrifos Methyl	90.8	88.7	P/P	31 - 119
Cyanazine	156	146	P/P	36 - 224
Demeton	75.7	68.3	P/P	39 - 122
Diazinon	92.7	89.5	P/P	75 - 119
Disulfoton	86.7	87.7	P/P	42 - 139
EPTC	45.6	47.4	P/P	33 - 96.0
Ethion	85.5	82.3	P/P	63 - 127
Ethoprop	69.4	70.7	P/P	65 - 107
Fenamiphos	93.5	91.0	P/P	64 - 137
Fipronil	102	96.6	P/P	60 - 126
Fipronil Sulfide	92.2	82.8	P/P	58 - 124
Fipronil Sulfone	78.3	74.4	P/P	57 - 126
Fonofos	78.3	84.5	P/P	65 - 111
Hexazinone	87.2	81.7	P/P	46 - 151
Malathion	87.3	83.3	P/P	68 - 132
Metalaxyl	92.5	83.9	P/P	51 - 132
Metolachlor	91.1	85.7	P/P	78 - 119
Metribuzin	98.4	122	P/P	58 - 148
Mevinphos	70.7	72.1	P/P	34 - 128
Molinate	48.4	49.0	P/P	44 - 101
Norflurazon	93.7	89.3	P/P	63 - 129
Parathion Ethyl	85.3	85.4	P/P	80 - 109
Parathion Methyl	98.4	96.3	P/P	74 - 125
Pendimethalin	75.7	72.5	P/P	48 - 134
Phorate	68.9	75.1	P/P	52 - 119
Prometon	90.6	83.2	P/P	69 - 124
Prometryn	101	90.5	P/P	66 - 124
Simazine	89.6	95.1	P/P	61 - 134
Terbufos	79.1	79.6	P/P	58 - 115
Terbuthylazine	82.5	81.1	P/P	77 - 113

Reference Method: EPA 8276
 Batch ID: P330732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	110	102	P/P	48 - 121
Toxaphene	107	98.2	P/P	43 - 135

Reference Method: EPA 8321B
 Batch ID: P330491

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P330680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	119		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P330738

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

Reference Method: SM 2320 B-97
Batch ID: P331030

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

Reference Method: SM 4500 F-C-97
Batch ID: P331032

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

Reference Method: SM 5310 B-00
Batch ID: P331188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P330883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	113		P	40 - 150
Acetaminophen	142		P	30 - 150
Bentazon	62.2		P	40 - 150
Carbamazepine	132		P	40 - 150
Diuron	108		P	40 - 150
Fenuron	123		P	40 - 150
Fluridone	101		P	40 - 150
Imidacloprid	104		P	40 - 160
Linuron	92.2		P	40 - 150
MCP	121		P	40 - 150
Primidone	133		P	40 - 150
Triclopyr	111		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923927	Calcium	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923927	Iron	106		P	80 - 120
1923927	Magnesium	104		P	80 - 120
1923927	Potassium	100		P	80 - 120
1923927	Sodium	104		P	80 - 120
1923927	Zinc	98.2		P	80 - 120
1924613	Calcium	101		P	80 - 120
1924613	Iron	106	105	P/P	80 - 120
1924613	Magnesium	104		P	80 - 120
1924613	Potassium	100	101	P/P	80 - 120
1924613	Sodium	99.2		P	80 - 120
1924613	Zinc	97.6	99.9	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923927	Arsenic	104		P	80 - 120
1923927	Cadmium	99.5		P	80 - 120
1923927	Chromium	96.8		P	80 - 120
1923927	Copper	92.8		P	80 - 120
1923927	Lead	98.4		P	80 - 120
1923927	Nickel	95.4		P	80 - 120
1923927	Silver	103		P	80 - 120
1924613	Arsenic	105	105	P/P	80 - 120
1924613	Cadmium	99.1	101	P/P	80 - 120
1924613	Chromium	97.0	97.1	P/P	80 - 120
1924613	Copper	93.8	94.0	P/P	80 - 120
1924613	Lead	99.1	99.0	P/P	80 - 120
1924613	Nickel	96.6	96.8	P/P	80 - 120
1924613	Silver	105	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924339	Chloride	97.4		P	90 - 110
1924340	Chloride	96.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924339	Sulfate	97.7		P	90 - 110
1924340	Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924252	Ammonia-N	103	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924344	Ammonia-N	101	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924342	Kjeldahl Nitrogen	91.0	87.4	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925910	Kjeldahl Nitrogen	104	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924255	NO2NO3-N	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924264	Total-P	94.8	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924260	O-Phosphate-P	93.9	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924346	O-Phosphate-P	96.4	98.0	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P330732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924296	Aldrin	50.1	60.0	P/P	22 - 97.0
1924296	Alpha-BHC	83.0	77.6	P/P	43 - 132
1924296	Alpha-Chlordane	80.0	80.7	P/P	36 - 126
1924296	Beta-BHC	95.6	77.9	P/P	41 - 150
1924296	Carbophenothion	90.3	59.1	P/P	13 - 196
1924296	Chlorothalonil	79.0	82.4	P/P	10 - 266
1924296	Cypermethrin	75.4	58.9	P/P	37 - 161
1924296	DDD-p,p'	78.8	69.4	P/P	44 - 131
1924296	DDE-p,p'	81.5	81.0	P/P	32 - 127
1924296	DDT-p,p'	82.5	76.2	P/P	45 - 116

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P330732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924296	Delta-BHC	111	87.2	P/P	50 - 201
1924296	Dicofol	44.8	34.3	P/P	10 - 100
1924296	Endosulfan I	80.8	82.4	P/P	51 - 139
1924296	Endosulfan II	90.1	90.6	P/P	49 - 155
1924296	Endosulfan Sulfate	69.6	65.4	P/P	54 - 136
1924296	Endrin	72.6	69.5	P/P	38 - 141
1924296	Endrin Aldehyde	52.2	74.3	P/P	14 - 152
1924296	Endrin Ketone	76.0	73.7	P/P	60 - 128
1924296	Gamma-BHC	93.9	75.4	P/P	48 - 157
1924296	Gamma-Chlordane	78.6	78.2	P/P	35 - 123
1924296	Heptachlor	68.3	70.5	P/P	25 - 112
1924296	Methoxychlor	85.4	79.6	P/P	52 - 127
1924296	Mirex	70.4	66.9	P/P	25 - 108
1924296	Permethrin	76.3	66.9	P/P	46 - 133
1924296	Trifluralin	145	107	P/P	29 - 254

Reference Method: EPA 8270D
Batch ID: P330733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923026	Acetochlor	89.2	95.3	P/P	74 - 123
1923026	Alachlor	86.7	92.3	P/P	73 - 124
1923026	Ametryn	94.8	97.1	P/P	56 - 149
1923026	Atrazine	88.0	94.0	P/P	73 - 124
1923026	Atrazine Desethyl	76.4	87.2	P/P	12 - 103
1923026	Azinphos Methyl	103	104	P/P	60 - 202
1923026	Bromacil	105	94.0	P/P	42 - 133
1923026	Butylate	24.8	38.7	P/P	10 - 85.0
1923026	Chlorpyrifos Ethyl	76.8	84.1	P/P	53 - 113
1923026	Chlorpyrifos Methyl	83.5	86.9	P/P	40 - 115
1923026	Cyanazine	115	127	P/P	22 - 210
1923026	Demeton	82.7	84.3	P/P	17 - 149
1923026	Diazinon	92.9	99.7	P/P	72 - 124
1923026	Disulfoton	90.6	100	P/P	43 - 139
1923026	EPTC	24.9	35.5	P/P	10 - 86.0
1923026	Ethion	87.3	91.9	P/P	65 - 131
1923026	Ethoprop	72.5	77.8	P/P	59 - 110
1923026	Fenamiphos	86.3	80.8	P/P	57 - 138
1923026	Fipronil	104	105	P/P	40 - 130
1923026	Fipronil Sulfide	88.4	89.9	P/P	36 - 128
1923026	Fipronil Sulfone	74.4	76.0	P/P	16 - 145
1923026	Fonofos	75.3	88.6	P/P	60 - 112
1923026	Hexazinone	88.9	91.1	P/P	69 - 142
1923026	Malathion	78.1	82.9	P/P	68 - 132
1923026	Metalaxyl	87.8	88.0	P/P	66 - 118
1923026	Metolachlor	87.1	91.1	P/P	71 - 124
1923026	Metribuzin	150	161	F/F	61 - 140
1923026	Mevinphos	66.3	73.6	P/P	38 - 130
1923026	Molinate	33.0	41.4	P/P	23 - 99.0
1923026	Norflurazon	98.0	93.3	P/P	39 - 139
1923026	Parathion Ethyl	86.0	86.1	P/P	75 - 111
1923026	Parathion Methyl	96.7	100	P/P	64 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P330733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923026	Pendimethalin	80.5	81.4	P/P	26 - 173
1923026	Phorate	70.8	76.5	P/P	43 - 127
1923026	Prometon	92.2	100	P/P	50 - 144
1923026	Prometryn	96.3	101	P/P	69 - 126
1923026	Simazine	95.0	103	P/P	51 - 152
1923026	Terbufos	79.5	88.6	P/P	54 - 125
1923026	Terbuthylazine	82.4	84.6	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P330732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924366	Chlordane	98.6	103	P/P	44 - 134
1924366	Toxaphene	102	110	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P330491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922313	Sucralose	41.9	40.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P330680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923412	Pyraclostrobin	120	115	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P330738

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923017	Glyphosate	92.6	95.6	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P331032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924385	Fluoride	96.5	99.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P331188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924253	Organic Carbon	104	104	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P330883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924466	2,4-D	102	100	P/P	40 - 150
1924466	Acetaminophen	136	140	P/P	30 - 150
1924466	Bentazon	12.4	13.4	F/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P330883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924466	Carbamazepine	79.0	88.4	P/P	40 - 150
1924466	Diuron	44.5	48.1	P/P	40 - 150
1924466	Fenuron	40.2	38.6	P/F	40 - 150
1924466	Fluridone	20.6	32.6	F/F	40 - 150
1924466	Imidacloprid	130	146	P/P	40 - 160
1924466	Linuron	58.7	65.4	P/P	40 - 150
1924466	MCP	128	134	P/P	40 - 150
1924466	Primidone	54.8	65.7	P/P	40 - 150
1924466	Triclopyr	104	118	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P330822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924248	Turbidity	4.65	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924613	Calcium	1.19	Spike	P	0 - 20
1924613	Iron	0.533	Spike	P	0 - 20
1924613	Magnesium	0.247	Spike	P	0 - 20
1924613	Potassium	1.07	Spike	P	0 - 20
1924613	Sodium	0.342	Spike	P	0 - 20
1924613	Zinc	2.31	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924613	Arsenic	0.0697	Spike	P	0 - 20
1924613	Cadmium	1.62	Spike	P	0 - 20
1924613	Chromium	0.108	Spike	P	0 - 20
1924613	Copper	0.151	Spike	P	0 - 20
1924613	Lead	0.139	Spike	P	0 - 20
1924613	Nickel	0.230	Spike	P	0 - 20
1924613	Silver	0.507	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924339	Chloride	0.894	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924339	Sulfate	1.99	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924252	Ammonia-N	0.275	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924344	Ammonia-N	0.831	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924342	Kjeldahl Nitrogen	3.26	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925910	Kjeldahl Nitrogen	0.813	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924255	NO2NO3-N	0.466	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924264	Total-P	0.964	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924260	O-Phosphate-P	1.69	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924346	O-Phosphate-P	1.20	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P330732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924296	Aldrin	18.0	Spike	P	0 - 30
1924296	Alpha-BHC	6.63	Spike	P	0 - 30
1924296	Alpha-Chlordane	0.608	Spike	P	0 - 30
1924296	Beta-BHC	20.4	Spike	P	0 - 30
1924296	Carbophenothion	41.8	Spike	F	0 - 30
1924296	Chlorothalonil	4.29	Spike	P	0 - 30
1924296	Cypermethrin	24.5	Spike	P	0 - 30
1924296	DDD-p,p'	12.8	Spike	P	0 - 30
1924296	DDE-p,p'	0.550	Spike	P	0 - 30
1924296	DDT-p,p'	7.98	Spike	P	0 - 30
1924296	Delta-BHC	24.1	Spike	P	0 - 30
1924296	Dicofol	26.5	Spike	P	0 - 30
1924296	Dieldrin	3.24	Spike	P	0 - 30
1924296	Endosulfan I	1.87	Spike	P	0 - 30
1924296	Endosulfan II	0.585	Spike	P	0 - 30
1924296	Endosulfan Sulfate	6.17	Spike	P	0 - 30
1924296	Endrin	4.29	Spike	P	0 - 30
1924296	Endrin Aldehyde	34.8	Spike	F	0 - 30
1924296	Endrin Ketone	2.51	Spike	P	0 - 30
1924296	Gamma-BHC	21.9	Spike	P	0 - 30
1924296	Gamma-Chlordane	0.424	Spike	P	0 - 30
1924296	Heptachlor	3.16	Spike	P	0 - 30
1924296	Heptachlor Epoxide	1.61	Spike	P	0 - 30
1924296	Methoxychlor	7.02	Spike	P	0 - 30
1924296	Mirex	5.10	Spike	P	0 - 30
1924296	Permethrin	13.1	Spike	P	0 - 30
1924296	Trifluralin	30.4	Spike	F	0 - 30
LFB	Aldrin	36.7	LCS	F	0 - 30
LFB	Alpha-BHC	1.86	LCS	P	0 - 30
LFB	Alpha-Chlordane	3.97	LCS	P	0 - 30
LFB	Beta-BHC	0.974	LCS	P	0 - 30
LFB	Carbophenothion	27.4	LCS	P	0 - 30
LFB	Chlorothalonil	4.86	LCS	P	0 - 30
LFB	Cypermethrin	6.98	LCS	P	0 - 30
LFB	DDD-p,p'	1.97	LCS	P	0 - 30
LFB	DDE-p,p'	6.66	LCS	P	0 - 30
LFB	DDT-p,p'	2.74	LCS	P	0 - 30
LFB	Delta-BHC	6.51	LCS	P	0 - 30
LFB	Dicofol	22.2	LCS	P	0 - 30
LFB	Dieldrin	3.93	LCS	P	0 - 30
LFB	Endosulfan I	4.37	LCS	P	0 - 30
LFB	Endosulfan II	1.01	LCS	P	0 - 30
LFB	Endosulfan Sulfate	4.28	LCS	P	0 - 30
LFB	Endrin	7.38	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P330732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endrin Aldehyde	2.19	LCS	P	0 - 30
LFB	Endrin Ketone	1.09	LCS	P	0 - 30
LFB	Gamma-BHC	0.685	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.79	LCS	P	0 - 30
LFB	Heptachlor	3.78	LCS	P	0 - 30
LFB	Heptachlor Epoxide	2.16	LCS	P	0 - 30
LFB	Methoxychlor	6.09	LCS	P	0 - 30
LFB	Mirex	7.79	LCS	P	0 - 30
LFB	Permethrin	7.52	LCS	P	0 - 30
LFB	Trifluralin	9.84	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P330733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923026	Acetochlor	6.70	Spike	P	0 - 30
1923026	Alachlor	6.24	Spike	P	0 - 30
1923026	Ametryn	2.40	Spike	P	0 - 30
1923026	Atrazine	5.43	Spike	P	0 - 30
1923026	Atrazine Desethyl	13.3	Spike	P	0 - 30
1923026	Azinphos Methyl	1.26	Spike	P	0 - 30
1923026	Bromacil	10.7	Spike	P	0 - 30
1923026	Butylate	43.9	Spike	F	0 - 30
1923026	Chlorpyrifos Ethyl	6.79	Spike	P	0 - 30
1923026	Chlorpyrifos Methyl	4.05	Spike	P	0 - 30
1923026	Cyanazine	10.1	Spike	P	0 - 30
1923026	Demeton	1.91	Spike	P	0 - 30
1923026	Diazinon	6.99	Spike	P	0 - 30
1923026	Disulfoton	10.1	Spike	P	0 - 30
1923026	EPTC	35.1	Spike	F	0 - 30
1923026	Ethion	5.12	Spike	P	0 - 30
1923026	Ethoprop	6.94	Spike	P	0 - 30
1923026	Fenamiphos	6.63	Spike	P	0 - 30
1923026	Fipronil	0.945	Spike	P	0 - 30
1923026	Fipronil Sulfide	1.63	Spike	P	0 - 30
1923026	Fipronil Sulfone	2.20	Spike	P	0 - 30
1923026	Fonofos	16.2	Spike	P	0 - 30
1923026	Hexazinone	2.44	Spike	P	0 - 30
1923026	Malathion	6.05	Spike	P	0 - 30
1923026	Metalaxyl	0.166	Spike	P	0 - 30
1923026	Metolachlor	3.99	Spike	P	0 - 30
1923026	Metribuzin	6.59	Spike	P	0 - 30
1923026	Mevinphos	10.5	Spike	P	0 - 30
1923026	Molinate	22.4	Spike	P	0 - 30
1923026	Norflurazon	4.98	Spike	P	0 - 30
1923026	Parathion Ethyl	0.0871	Spike	P	0 - 30
1923026	Parathion Methyl	3.42	Spike	P	0 - 30
1923026	Pendimethalin	1.20	Spike	P	0 - 30
1923026	Phorate	7.85	Spike	P	0 - 30
1923026	Prometon	8.08	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P330733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923026	Prometryn	5.08	Spike	P	0 - 30
1923026	Simazine	8.15	Spike	P	0 - 30
1923026	Terbufos	10.8	Spike	P	0 - 30
1923026	Terbutylazine	2.69	Spike	P	0 - 30
LFB	Acetochlor	9.29	LCS	P	0 - 30
LFB	Alachlor	5.10	LCS	P	0 - 30
LFB	Ametryn	13.5	LCS	P	0 - 30
LFB	Atrazine	0.505	LCS	P	0 - 30
LFB	Atrazine Desethyl	6.95	LCS	P	0 - 30
LFB	Azinphos Methyl	4.19	LCS	P	0 - 30
LFB	Bromacil	3.27	LCS	P	0 - 30
LFB	Butylate	1.39	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.14	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	2.34	LCS	P	0 - 30
LFB	Cyanazine	6.39	LCS	P	0 - 30
LFB	Demeton	10.2	LCS	P	0 - 30
LFB	Diazinon	3.53	LCS	P	0 - 30
LFB	Disulfoton	1.21	LCS	P	0 - 30
LFB	EPTC	3.76	LCS	P	0 - 30
LFB	Ethion	3.81	LCS	P	0 - 30
LFB	Ethoprop	1.94	LCS	P	0 - 30
LFB	Fenamiphos	2.65	LCS	P	0 - 30
LFB	Fipronil	5.34	LCS	P	0 - 30
LFB	Fipronil Sulfide	10.7	LCS	P	0 - 30
LFB	Fipronil Sulfone	5.19	LCS	P	0 - 30
LFB	Fonofos	7.61	LCS	P	0 - 30
LFB	Hexazinone	6.58	LCS	P	0 - 30
LFB	Malathion	4.73	LCS	P	0 - 30
LFB	Metalaxyl	9.75	LCS	P	0 - 30
LFB	Metolachlor	6.13	LCS	P	0 - 30
LFB	Metribuzin	21.7	LCS	P	0 - 30
LFB	Mevinphos	1.96	LCS	P	0 - 30
LFB	Molinate	1.21	LCS	P	0 - 30
LFB	Norflurazon	4.77	LCS	P	0 - 30
LFB	Parathion Ethyl	0.129	LCS	P	0 - 30
LFB	Parathion Methyl	2.08	LCS	P	0 - 30
LFB	Pendimethalin	4.30	LCS	P	0 - 30
LFB	Phorate	8.62	LCS	P	0 - 30
LFB	Prometon	8.61	LCS	P	0 - 30
LFB	Prometryn	10.5	LCS	P	0 - 30
LFB	Simazine	5.88	LCS	P	0 - 30
LFB	Terbufos	0.640	LCS	P	0 - 30
LFB	Terbutylazine	1.78	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P330732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924366	Chlordane	4.23	Spike	P	0 - 30
1924366	Toxaphene	7.71	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P330732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	7.42	LCS	P	0 - 30
LFB	Toxaphene	8.54	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P330491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922313	Sucralose	1.44	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P330680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923412	Pyraclostrobin	4.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P330738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923017	Glyphosate	3.12	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P330818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924250	Color (true)	2.65	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P330819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924310	Color (true)	0.984	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P331030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924385	Total Alkalinity	0.247	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P331079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924369	TDS	0.276	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P331032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924385	Fluoride	1.97	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P331188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924253	Organic Carbon	0.0	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P330883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924466	2,4-D	1.78	Spike	P	0 - 30
1924466	Acetaminophen	2.62	Spike	P	0 - 30
1924466	Bentazon	7.76	Spike	P	0 - 30
1924466	Carbamazepine	11.3	Spike	P	0 - 30
1924466	Diuron	7.69	Spike	P	0 - 30
1924466	Fenuron	4.01	Spike	P	0 - 30
1924466	Fluridone	45.0	Spike	F	0 - 30
1924466	Imidacloprid	11.7	Spike	P	0 - 30
1924466	Linuron	10.7	Spike	P	0 - 30
1924466	MCP	4.67	Spike	P	0 - 30
1924466	Primidone	18.0	Spike	P	0 - 30
1924466	Triclopyr	12.3	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: 1924321
Field Sample ID: G1NE0860 08232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	138	P	30 - 160
EPA 8321B	Acetaminophen-d4	138	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.4	P	30 - 160
EPA 8321B	Diuron-d6	121	P	30 - 160
EPA 8321B	Diuron-d6	45.9	P	30 - 160
EPA 8321B	Diuron-d6	121	P	30 - 160
EPA 8321B	Diuron-d6	45.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.3	P	40 - 160
EPA 8321B	Primidone-d5	51.4	P	30 - 160
EPA 8321B	Primidone-d5	51.4	P	30 - 160
EPA 8321B	Sucralose-d6	41.7	P	40 - 160
EPA 8321B	Sucralose-d6	41.7	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1924321
Field Sample ID: G1NE0860 08232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	2,4-D-d3	95.3	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	138	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	76.4	P	30 - 160
USGS O-2060-01	Diuron-d6	121	P	30 - 160
USGS O-2060-01	Diuron-d6	45.9	P	30 - 160
USGS O-2060-01	Primidone-d5	51.4	P	30 - 160
USGS O-2060-01	Sucralose-d6	41.7	P	40 - 160

Lab Sample ID: 1924325
Field Sample ID: G1NE0860 08232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	58.5	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	40.8	P	32 - 103
EPA 8276	Decachlorobiphenyl	58.7	P	31 - 100

Lab Sample ID: 1924326
Field Sample ID: G1NE0860 08232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	69.6	P	53 - 135
EPA 8270D	Simazine-d10	91.1	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A78584
Included Lab Sample IDs: 1924305, 1924308, 1924309, 1924310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.1	98.2	P/P	90 - 110
Chloride	98.2	102	P/P	90 - 110
Sulfate	98.6	104	P/P	90 - 110
Sulfate	99.0	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A78608
Included Lab Sample IDs: 1924307, 1924314, 1924315, 1924316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	99.5	P/P	90 - 110
O-Phosphate-P	99.5	99.1	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A78609
Included Lab Sample IDs: 1924305, 1924308, 1924309, 1924310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78610

Included Lab Sample IDs: 1924305, 1924308, 1924309, 1924310

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

Reference Method: EPA 8321B

Run ID: A78653

Included Lab Sample IDs: 1924321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	95.9	92.4	P/P	70 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78677

Included Lab Sample IDs: 1924306, 1924311, 1924312, 1924313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	105	P/P	90 - 110
Total-P	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78680

Included Lab Sample IDs: 1924312, 1924313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.2	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78686

Included Lab Sample IDs: 1924327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	98.8	99.1	P/P	90 - 110
Sodium	99.8	99.5	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78691

Included Lab Sample IDs: 1924327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	101	P/P	90 - 110
Cadmium	98.1	98.8	P/P	90 - 110
Chromium	99.5	100	P/P	90 - 110
Copper	99.3	100	P/P	90 - 110
Lead	99.3	99.8	P/P	90 - 110
Nickel	98.4	98.5	P/P	90 - 110
Silver	96.7	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A78696

Included Lab Sample IDs: 1924305, 1924308, 1924309, 1924310

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: A78696

Included Lab Sample IDs: 1924305, 1924308, 1924309, 1924310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.5	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78700

Included Lab Sample IDs: 1924321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	113	114	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78701

Included Lab Sample IDs: 1924306, 1924311, 1924312, 1924313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78720

Included Lab Sample IDs: 1924306, 1924311, 1924312, 1924313

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78728

Included Lab Sample IDs: 1924306, 1924311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.8	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A78746

Included Lab Sample IDs: 1924306, 1924311, 1924312, 1924313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78750

Included Lab Sample IDs: 1924321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	118	126	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A78765

Included Lab Sample IDs: 1924321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	135	128	P/P	50 - 150
Acetaminophen	104	107	P/P	60 - 150
Bentazon	88.4	81.0	P/P	50 - 150
MCP	141	146	P/P	50 - 150
Triclopyr	142	136	P/P	50 - 160

Reference Method: USGS O-2060-01

Run ID: A78805

Included Lab Sample IDs: 1924321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	127	125	P/P	60 - 150
Diuron	119	108	P/P	60 - 150
Fenuron	102	97.2	P/P	60 - 150
Fluridone	108	102	P/P	60 - 160
Imidacloprid	112	108	P/P	60 - 150
Linuron	98.5	105	P/P	60 - 150
Primidone	127	115	P/P	60 - 150

Reference Method: EPA 8276

Run ID: A78819

Included Lab Sample IDs: 1924325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	106		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78826

Included Lab Sample IDs: 1924325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.8		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	100		P	80 - 120
Beta-BHC	99.8		P	80 - 120
Carbophenothion	95.9		P	80 - 120
Chlorothalonil	80.0		P	80 - 120
Cypermethrin	92.1		P	80 - 120
DDD-p,p'	95.3		P	80 - 120
DDE-p,p'	99.5		P	80 - 120
DDT-p,p'	104		P	80 - 120
Delta-BHC	99.9		P	80 - 120
Dicofol	157*		F	80 - 120
Dieldrin	96.7		P	80 - 120
Endosulfan I	95.5		P	80 - 120
Endosulfan II	94.3		P	80 - 120
Endosulfan Sulfate	96.0		P	80 - 120
Endrin	95.2		P	80 - 120
Endrin Aldehyde	94.9		P	80 - 120
Endrin Ketone	96.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A78826
Included Lab Sample IDs: 1924325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Gamma-BHC	104		P	80 - 120
Gamma-Chlordane	99.1		P	80 - 120
Heptachlor	95.3		P	80 - 120
Heptachlor Epoxide	98.5		P	80 - 120
Methoxychlor	102		P	80 - 120
Mirex	96.9		P	80 - 120
Permethrin	94.7		P	80 - 120
Trifluralin	83.5		P	80 - 120

Reference Method: EPA 8270D
Run ID: A78885
Included Lab Sample IDs: 1924326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.8		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	96.5		P	80 - 120
Atrazine Desethyl	92.6		P	80 - 120
Azinphos Methyl	87.8		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	97.5		P	80 - 120
Chlorpyrifos Ethyl	98.2		P	80 - 120
Chlorpyrifos Methyl	97.1		P	80 - 120
Cyanazine	95.4		P	80 - 120
Demeton	83.2		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	94.5		P	80 - 120
EPTC	98.5		P	80 - 120
Ethion	92.9		P	80 - 120
Ethoprop	97.5		P	80 - 120
Fenamiphos	93.3		P	80 - 120
Fipronil	90.9		P	80 - 120
Fipronil Sulfide	95.9		P	80 - 120
Fipronil Sulfone	95.3		P	80 - 120
Fonofos	97.9		P	80 - 120
Hexazinone	98.1		P	80 - 120
Malathion	94.5		P	80 - 120
Metalaxyl	94.9		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	79.1*		F	80 - 120
Mevinphos	93.6		P	80 - 120
Molinate	106		P	80 - 120
Norflurazon	93.1		P	80 - 120
Parathion Ethyl	94.4		P	80 - 120
Parathion Methyl	96.8		P	80 - 120
Pendimethalin	90.3		P	80 - 120
Phorate	92.9		P	80 - 120
Prometon	95.4		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	88.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A78885
 Included Lab Sample IDs: 1924326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbufos	101		P	80 - 120
Terbutylazine	97.2		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							4.65	
EPA 200.7 Rev. 4.4	Calcium	102		101	101				1.19
	Iron	107		106	106	105			0.533
	Magnesium	104		104	104				0.247
	Potassium	101		100	100	101			1.07
	Sodium	99.8		104	99.2				0.342
	Zinc	102		98.2	97.6	99.9			2.31
EPA 200.8 Rev. 5.4	Arsenic	102		104	105	105			0.0697
	Cadmium	97.3		99.5	99.1	101			1.62
	Chromium	98.0		96.8	97.0	97.1			0.108
	Copper	95.7		92.8	93.8	94.0			0.151
	Lead	97.2		98.4	99.1	99.0			0.139
	Nickel	98.1		95.4	96.6	96.8			0.230
	Silver	103		103	105	105			0.507
EPA 300.0 Rev. 2.1	Chloride	97.3		97.4	96.7			0.894	
	Sulfate	98.0		97.7	97.5			1.99	
EPA 350.1 Rev. 2.0	Ammonia-N	103		103	103				0.275
	Ammonia-N	104		101	99.8				0.831
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		91.0	87.4				3.26
	Kjeldahl Nitrogen	96.7		104	103				0.813
EPA 353.2 Rev. 2.0	NO2NO3-N	106		108	107				0.466
EPA 365.1 Rev. 2.0	Total-P	96.0		94.8	95.9				0.964
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		93.9	95.5				1.69
	O-Phosphate-P	97.4		96.4	98.0				1.20
EPA 8270D	Acetochlor	98.0	89.3	89.2	95.3		9.29		6.70
	Alachlor	97.6	92.7	86.7	92.3		5.10		6.24
	Aldrin	33.0	47.9	50.1	60.0		36.7		18.0
	Alpha-BHC	79.4	80.9	83.0	77.6		1.86		6.63
	Alpha-Chlordane	80.1	83.3	80.0	80.7		3.97		0.608
	Ametryn	92.2	106	94.8	97.1		13.5		2.40
	Atrazine	87.5	87.1	88.0	94.0		0.505		5.43
	Atrazine Desethyl	90.8	97.4	76.4	87.2		6.95		13.3
	Azinphos Methyl	113	109	103	104		4.19		1.26
	Beta-BHC	87.8	87.0	95.6	77.9		0.974		20.4
	Bromacil	93.9	90.9	105	94.0		3.27		10.7
	Butylate	50.3	51.0	24.8	38.7		1.39		43.9
	Carbophenothion	71.1	93.6	90.3	59.1		27.4		41.8
	Chlorothalonil	53.0	55.6	79.0	82.4		4.86		4.29

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Chlorpyrifos Ethyl	87.9	83.5	76.8	84.1	5.14	6.79
	Chlorpyrifos Methyl	90.8	88.7	83.5	86.9	2.34	4.05
	Cyanazine	156	146	115	127	6.39	10.1
	Cypermethrin	74.1	79.4	75.4	58.9	6.98	24.5
	DDD-p,p'	81.3	83.0	78.8	69.4	1.97	12.8
	DDE-p,p'	77.8	83.1	81.5	81.0	6.66	0.550
	DDT-p,p'	79.8	82.0	82.5	76.2	2.74	7.98
	Delta-BHC	94.5	88.6	111	87.2	6.51	24.1
	Demeton	75.7	68.3	82.7	84.3	10.2	1.91
	Diazinon	92.7	89.5	92.9	99.7	3.53	6.99
	Dicofol	77.3	61.9	44.8	34.3	22.2	26.5
	Dieldrin	77.5	80.6			3.93	3.24
	Disulfoton	86.7	87.7	90.6	100	1.21	10.1
	Endosulfan I	80.8	84.4	80.8	82.4	4.37	1.87
	Endosulfan II	83.9	83.1	90.1	90.6	1.01	0.585
	Endosulfan Sulfate	77.4	74.1	69.6	65.4	4.28	6.17
	Endrin	80.4	74.7	72.6	69.5	7.38	4.29
	Endrin Aldehyde	77.5	75.8	52.2	74.3	2.19	34.8
	Endrin Ketone	78.3	79.2	76.0	73.7	1.09	2.51
	EPTC	45.6	47.4	24.9	35.5	3.76	35.1
	Ethion	85.5	82.3	87.3	91.9	3.81	5.12
	Ethoprop	69.4	70.7	72.5	77.8	1.94	6.94
	Fenamiphos	93.5	91.0	86.3	80.8	2.65	6.63
	Fipronil	102	96.6	104	105	5.34	0.945
	Fipronil Sulfide	92.2	82.8	88.4	89.9	10.7	1.63
	Fipronil Sulfone	78.3	74.4	74.4	76.0	5.19	2.20
	Fonofos	78.3	84.5	75.3	88.6	7.61	16.2
	Gamma-BHC	86.5	87.1	93.9	75.4	0.685	21.9
	Gamma-Chlordane	77.9	81.0	78.6	78.2	3.79	0.424
	Heptachlor	67.1	69.6	68.3	70.5	3.78	3.16
	Heptachlor Epoxide	78.2	79.9			2.16	1.61
	Hexazinone	87.2	81.7	88.9	91.1	6.58	2.44
	Malathion	87.3	83.3	78.1	82.9	4.73	6.05
	Metalaxyl	92.5	83.9	87.8	88.0	9.75	0.166
	Methoxychlor	82.5	87.7	85.4	79.6	6.09	7.02
	Metolachlor	91.1	85.7	87.1	91.1	6.13	3.99
	Metribuzin	98.4	122	150	161	21.7	6.59
	Mevinphos	70.7	72.1	66.3	73.6	1.96	10.5
	Mirex	65.6	70.9	70.4	66.9	7.79	5.10
	Molinate	48.4	49.0	33.0	41.4	1.21	22.4
	Norflurazon	93.7	89.3	98.0	93.3	4.77	4.98
	Parathion Ethyl	85.3	85.4	86.0	86.1	0.129	0.0871
	Parathion Methyl	98.4	96.3	96.7	100	2.08	3.42
	Pendimethalin	75.7	72.5	80.5	81.4	4.30	1.20
	Permethrin	73.6	79.3	76.3	66.9	7.52	13.1
	Phorate	68.9	75.1	70.8	76.5	8.62	7.85
	Prometon	90.6	83.2	92.2	100	8.61	8.08
	Prometryn	101	90.5	96.3	101	10.5	5.08
	Simazine	89.6	95.1	95.0	103	5.88	8.15
	Terbufos	79.1	79.6	79.5	88.6	0.640	10.8
	Terbutylazine	82.5	81.1	82.4	84.6	1.78	2.69
	Trifluralin	97.8	108	145	107	9.84	30.4
EPA 8276	Chlordane	110	102	98.6	103	7.42	4.23
	Toxaphene	107	98.2	102	110	8.54	7.71

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glyphosate	102	92.6	95.6		3.12
	Pyraclostrobin	119	120	115		4.19
	Sucralose	107	41.9	40.8		1.44
SM 2120 B	Color (true)				2.65	
	Color (true)				0.984	
SM 2320 B-97	Total Alkalinity	103			0.247	
SM 2540 C-97	TDS				0.276	
SM 4500 F-C-97	Fluoride	94.9	96.5	99.1		1.97
SM 5310 B-00	Organic Carbon	99.0	104	104		0.0
USGS O-2060-01	2,4-D	113	102	100		1.78
	Acetaminophen	142	136	140		2.62
	Bentazon	62.2	12.4	13.4		7.76
	Carbamazepine	132	79.0	88.4		11.3
	Diuron	108	44.5	48.1		7.69
	Fenuron	123	40.2	38.6		4.01
	Fluridone	101	20.6	32.6		45.0
	Imidacloprid	104	130	146		11.7
	Linuron	92.2	58.7	65.4		10.7
	MCPP	121	128	134		4.67
	Primidone	133	54.8	65.7		18.0
	Triclopyr	111	104	118		12.3

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1924305, 1924308, 1924309, 1924310
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1924327
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1924327
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1924305, 1924308, 1924309, 1924310
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1924305, 1924308, 1924309, 1924310
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1924306, 1924311, 1924312, 1924313
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1924306, 1924311, 1924312, 1924313
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1924306, 1924311, 1924312, 1924313
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1924306, 1924311, 1924312, 1924313
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1924307, 1924314, 1924315, 1924316
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1924325
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1924326
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1924325
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1924321
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1924321
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1924321
SM 2120 B / E31780	True Color measured at 450 nm	1924305, 1924308, 1924309, 1924310
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1924305, 1924308, 1924309, 1924310

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1924305, 1924308, 1924309, 1924310
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1924305, 1924308, 1924309, 1924310
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1924305, 1924308, 1924309, 1924310
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1924306, 1924311, 1924312, 1924313
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1924321
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1924321

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/24/2017			08/24/2017 16:33	DeAsia Armster	1924305, 1924308, 1924309, 1924310
EPA 200.7 Rev. 4.4	08/24/2017	08/28/2017	Elliott D. Healy	08/29/2017	Betina Topolski	1924327
EPA 200.8 Rev. 5.4	08/24/2017	08/28/2017	Elliott D. Healy	08/29/2017	Nadine Brooks	1924327
EPA 300.0 Rev. 2.1	08/24/2017			08/25/2017	Julia Storbeck	1924305, 1924308, 1924309, 1924310
EPA 350.1 Rev. 2.0	08/24/2017			08/29/2017	Sofia Elnemr	1924306, 1924311, 1924312, 1924313
EPA 351.2 Rev. 2.0	08/24/2017	08/28/2017	Adrian Shelby	08/29/2017	Joseph Suarez	1924312, 1924313
	08/24/2017	08/30/2017	Adrian Shelby	08/31/2017	Joseph Suarez	1924306, 1924311
EPA 353.2 Rev. 2.0	08/24/2017			08/30/2017	Beverly Y. Sanders	1924306, 1924311, 1924312, 1924313
EPA 365.1 Rev. 2.0	08/24/2017	08/28/2017	Sima Feizi	08/29/2017	Lipi Saha	1924306, 1924311, 1924312, 1924313
EPA 365.1 Rev. 2.0 dissolved	08/24/2017			08/24/2017 15:15	Megan Treadwell	1924315
	08/24/2017			08/24/2017 15:16	Megan Treadwell	1924316
	08/24/2017			08/24/2017 15:31	Megan Treadwell	1924307
	08/24/2017			08/24/2017 15:32	Megan Treadwell	1924314
EPA 8270D	08/24/2017	08/25/2017	John Kaba	08/30/2017	Irina Carbone	1924326
	08/24/2017	08/28/2017	Fe-Val Siddell	08/30/2017	Vandana T. Nagar	1924325
EPA 8276	08/24/2017	08/28/2017	Fe-Val Siddell	08/31/2017	John P. Burgos	1924325
EPA 8321B	08/24/2017	08/24/2017	Julie Michelle Frank	08/24/2017	Julie Michelle Frank	1924321
	08/24/2017	08/25/2017	Julie Michelle Frank	08/31/2017	Julie Michelle Frank	1924321
	08/24/2017	08/29/2017	Hoor Shaik	08/30/2017	Juyoung Kim	1924321
SM 2120 B	08/24/2017			08/24/2017 16:48	Tanya Welborn	1924305
	08/24/2017			08/24/2017 16:49	Tanya Welborn	1924308
	08/24/2017			08/24/2017 16:50	Tanya Welborn	1924309
	08/24/2017			08/24/2017 16:51	Tanya Welborn	1924310
SM 2320 B-97	08/24/2017			08/30/2017	Dale L. Simmons	1924305, 1924308, 1924309, 1924310
SM 2540 C-97	08/24/2017			08/25/2017	DeAsia Armster	1924305, 1924308, 1924309, 1924310
SM 2540 D-97	08/24/2017			08/25/2017	DeAsia Armster	1924305, 1924308, 1924309, 1924310
SM 4500 F-C-97	08/24/2017			08/30/2017	Dale L. Simmons	1924305, 1924308, 1924309, 1924310
SM 5310 B-00	08/24/2017			08/31/2017	Ping Hua	1924306, 1924311, 1924312, 1924313
USGS O-2060-01	08/24/2017	08/30/2017	Hoor Shaik	09/01/2017	Juyoung Kim	1924321