

Chemical Analysis Report

NE-DIST-2017-07-27-01

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

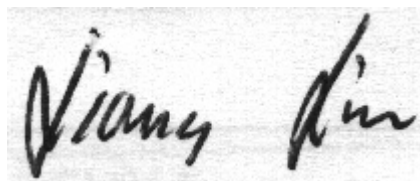
Event Description: **Ocklawaha lakes**
Request ID: **RQ-2017-07-24-07**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 16-AUG-2017 14:24

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: Orange Crk @ SR 315 near Orange Spring

Collection Date/Time: 07/26/2017 09:40

Field ID: G1NE0029 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916694	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P329270	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P329311	
		Sulfate	2.3		mg SO4/L	P329308	
	SM 2120 B	Color (true)	990		PCU	P329252	
	SM 2320 B-97	Total Alkalinity	7.9		mg CaCO3/L	P329455	
	SM 2540 C-97	TDS	141		mg/L	P329993	
	SM 2540 D-97	TSS	2	U	mg/L	P329523	
	SM 4500 F-C-97	Fluoride	0.082	I	mg F/L	P329459	
1916696	EPA 350.1 Rev. 2.0	Ammonia-N	0.094		mg N/L	P329431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P329336	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P329399	
	EPA 365.1 Rev. 2.0	Total-P	0.31		mg P/L	P329329	
	SM 5310 B-00	Organic Carbon	65		mg C/L	P329479	
1916698	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P329244	
1916712	EPA 200.7 Rev. 4.4	Calcium	10.8		mg/L	P329237	
		Iron	1.63E+03		ug/L	P329237	
		Magnesium	3.04		mg/L	P329237	
		Potassium	1.8		mg/L	P329237	
		Sodium	6.3		mg/L	P329237	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P329237	
		Arsenic	1.48		ug/L	P329237	
		Cadmium	0.020	U	ug/L	P329237	
		Chromium	0.82	I	ug/L	P329237	
		Copper	0.53	I	ug/L	P329237	
		Lead	0.85		ug/L	P329237	
		Nickel	0.81		ug/L	P329237	
		Silver	0.010	U	ug/L	P329237	

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: Orange Crk @ SR 315 near Orange Spring

Collection Date/Time: 07/26/2017 09:40

Field ID: G1NE0029 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916705	EPA 8321B	Glyphosate**	0.50	U	ug/L	P329109	
		Pyraclostrobin**	0.0020	U	ug/L	P329108	MS, RPD
		Sucralose**	0.010	U	ug/L	P329067	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P329107	MS
		Diuron	8.0E-04	U	ug/L	P329107	
		Fenuron	0.0080	U	ug/L	P329107	
		Imidacloprid	8.0E-04	U	ug/L	P329107	
		Bentazon	8.0E-04	U	ug/L	P329107	MS
		Linuron	0.0040	U	ug/L	P329107	
		Acetaminophen**	0.0080	UJ	ug/L	P329107	SUR

Field ID: G1NE0029 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916705	USGS O-2060-01	MCP	0.0020	U	ug/L	P329107	
		Carbamazepine**	4.0E-04	U	ug/L	P329107	
		Triclopyr**	0.0040	U	ug/L	P329107	
		Primidone**	0.0040	U	ug/L	P329107	
		Fluridone**	4.0E-04	U	ug/L	P329107	MS, RPD
1916706	EPA 8270D	Aldrin	4.2	U	ng/L	P329202	
		Alpha-BHC	2.1	U	ng/L	P329202	
		Beta-BHC	4.2	U	ng/L	P329202	
		Delta-BHC	4.2	U	ng/L	P329202	
		Gamma-BHC	4.2	U	ng/L	P329202	
		Carbophenothion	4.2	U	ng/L	P329202	
		Chlorothalonil	2.1	UJ	ng/L	P329202	RPD
		Cypermethrin	21	U	ng/L	P329202	
		DDD-p,p'	2.1	U	ng/L	P329202	
		DDE-p,p'	3.2	U	ng/L	P329202	
		DDT-p,p'	3.2	U	ng/L	P329202	
		Dieldrin	4.2	U	ng/L	P329202	
		Endosulfan I	4.2	U	ng/L	P329202	
		Endosulfan II	4.2	U	ng/L	P329202	
		Endosulfan Sulfate	2.1	U	ng/L	P329202	
		Endrin	2.1	U	ng/L	P329202	RPD
		Endrin Aldehyde	2.1	U	ng/L	P329202	
		Heptachlor	1.6	U	ng/L	P329202	
		Heptachlor Epoxide	2.1	U	ng/L	P329202	
		Methoxychlor	4.2	U	ng/L	P329202	
		Mirex	2.1	U	ng/L	P329202	
		Permethrin	11	U	ng/L	P329202	
		Trifluralin	1.1	U	ng/L	P329202	
		Alpha-Chlordane	1.1	U	ng/L	P329202	
		Gamma-Chlordane	1.1	U	ng/L	P329202	
		Endrin Ketone	2.1	U	ng/L	P329202	
		Dicofol	32	U	ng/L	P329202	
	EPA 8276	Chlordane**	2.6	U	ng/L	P329202	
		Toxaphene**	13	U	ng/L	P329202	
1916707	EPA 8270D	Alachlor	0.24	U	ng/L	P329167	
		Ametryn	0.31	U	ng/L	P329167	
		Atrazine	0.24	U	ng/L	P329167	
		Atrazine Desethyl	1.4	UJ	ng/L	P329167	RPD
		Azinphos Methyl	2.1	U	ng/L	P329167	
		Bromacil	0.47	U	ng/L	P329167	
		Butylate	0.38	UJ	ng/L	P329167	RPD
		Chlorpyrifos Ethyl	0.24	U	ng/L	P329167	
		Chlorpyrifos Methyl	0.095	UJ	ng/L	P329167	CCV
		Demeton	1.9	U	ng/L	P329167	
		Diazinon	0.12	U	ng/L	P329167	

Field ID: G1NE0029 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916707	EPA 8270D	Disulfoton	0.31	U	ng/L	P329167	
		EPTC	1.2	UJ	ng/L	P329167	RPD
		Ethion	0.14	U	ng/L	P329167	
		Ethoprop	0.095	U	ng/L	P329167	
		Fenamiphos	0.24	U	ng/L	P329167	
		Fipronil	0.24	U	ng/L	P329167	
		Fipronil Sulfide	0.14	U	ng/L	P329167	
		Fipronil Sulfone	0.14	U	ng/L	P329167	
		Hexazinone	2.9		ng/L	P329167	
		Malathion	0.33	U	ng/L	P329167	
		Metribuzin	0.19	UJ	ng/L	P329167	LCS, MS, RPD
		Mevinphos	0.47	U	ng/L	P329167	
		Molinate	0.28	U	ng/L	P329167	
		Norflurazon	0.47	U	ng/L	P329167	
		Pendimethalin	1.4	U	ng/L	P329167	
		Phorate	0.24	U	ng/L	P329167	
		Prometon	0.85	U	ng/L	P329167	
		Prometryn	0.19	U	ng/L	P329167	
		Simazine	0.47	U	ng/L	P329167	
		Terbufos	0.095	U	ng/L	P329167	
		Terbuthylazine	0.40	U	ng/L	P329167	
		Fonofos	0.19	U	ng/L	P329167	
		Metalaxyl	0.19	U	ng/L	P329167	
		Metolachlor	1.2		ng/L	P329167	
		Acetochlor	0.24	U	ng/L	P329167	
		Cyanazine	0.47	UJ	ng/L	P329167	RPD
		Parathion Ethyl	0.24	U	ng/L	P329167	
		Parathion Methyl	0.24	U	ng/L	P329167	

Ref. Method and Comment:

EPA 8321B: MS accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. Acetaminophen-d4 surrogate spike recovery exceeding the control limits.

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

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

Sample Location: Pegram Lake Center

Collection Date/Time: 07/26/2017 10:25

Field ID: G1NE0866 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916685	EPA 180.1 Rev. 2.0	Turbidity	1.4	A	NTU	P329270	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P329311	
		Sulfate	4.0		mg SO4/L	P329308	
		Color (true)	20		PCU	P329252	
	SM 2320 B-97	Total Alkalinity	1.7	I	mg CaCO3/L	P329455	
	SM 2540 C-97	TDS	38		mg/L	P329993	
	SM 2540 D-97	TSS	2	I	mg/L	P329523	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P329459	

Field ID: G1NE0866 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916688	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P329431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P329336	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329399	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P329329	
	SM 5310 B-00	Organic Carbon	7.6		mg C/L	P329479	
1916691	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329244	

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: Hewitt Lake Center

Collection Date/Time: 07/26/2017 11:05

Field ID: G1NE0865 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916686	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P329270	
	EPA 300.0 Rev. 2.1	Chloride	8.6		mg Cl/L	P329311	
		Sulfate	8.7		mg SO4/L	P329308	
	SM 2120 B	Color (true)	2.6	I	PCU	P329252	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P329455	
	SM 2540 C-97	TDS	29		mg/L	P329993	
	SM 2540 D-97	TSS	2	UA	mg/L	P329523	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P329459	
1916689	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P329431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P329336	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329399	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P329329	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P329479	
1916692	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329244	

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: Penner Pond Center

Collection Date/Time: 07/26/2017 12:15

Field ID: G1NE0864 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916695	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P329270	
	EPA 300.0 Rev. 2.1	Chloride	4.0		mg Cl/L	P329311	
		Sulfate	0.25	I	mg SO4/L	P329308	
	SM 2120 B	Color (true)	81	A	PCU	P329252	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P329455	
	SM 2540 C-97	TDS	29		mg/L	P329993	
	SM 2540 D-97	TSS	2	U	mg/L	P329523	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P329459	
1916697	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P329431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P329337	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329399	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P329329	

Field ID: G1NE0864 07262017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916697	SM 5310 B-00	Organic Carbon	12		mg C/L	P329479	
1916699	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329244	
1916713	EPA 200.7 Rev. 4.4	Calcium	1.11		mg/L	P329237	
		Iron	360		ug/L	P329237	
		Magnesium	0.65		mg/L	P329237	
		Potassium	0.30	U	mg/L	P329237	
		Sodium	2.0	I	mg/L	P329237	
		Zinc	5.0	U	ug/L	P329237	
	EPA 200.8 Rev. 5.4	Arsenic	0.17	I	ug/L	P329237	
		Cadmium	0.020	U	ug/L	P329237	
		Chromium	0.40	U	ug/L	P329237	
		Copper	0.20	U	ug/L	P329237	
		Lead	0.12	I	ug/L	P329237	
		Nickel	0.20	U	ug/L	P329237	
		Silver	0.010	U	ug/L	P329237	

Ref. Method and Comment:

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

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

Sample Location: BLANK123

Collection Date/Time: 07/26/2017 12:30

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916687	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P329270	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P329311	
		Sulfate	0.20	U	mg SO4/L	P329308	
	SM 2120 B	Color (true)	2.5	U	PCU	P329252	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P329455	
	SM 2540 C-97	TDS	15	U	mg/L	P329993	
	SM 2540 D-97	TSS	2	U	mg/L	P329523	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P329459	
1916690	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P329431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P329336	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329399	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P329329	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P329479	
1916693	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329244	

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: P329270

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P329270

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P329237

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: P329237

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: P329308

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329311

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329431

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329336

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329337

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329399

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329329

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329244

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

Reference Method: EPA 8270D
Batch ID: P329167

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	0.32	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P329167

Component	Result	Code	Units
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	1.5	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: P329202

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'	2.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276
Batch ID: P329202

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P329067

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P329108

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P329109

Component	Result	Code	Units
Glyphosate	0.50	U	ug/L

Reference Method: SM 2120 B
Batch ID: P329252

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P329455

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

Reference Method: SM 2540 C-97
Batch ID: P329993

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P329523

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P329459

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P329479

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
 Batch ID: P329107

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
MCPD	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: P329237

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	110		P	85 - 115
Iron	109		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	104		P	85 - 115
Sodium	108		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P329237

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	106		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	101		P	85 - 115
Copper	99.6		P	85 - 115
Lead	97.6		P	85 - 115
Nickel	103		P	85 - 115
Silver	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	92.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329311

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.6		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P329431

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P329336

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: P329337

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P329399

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P329329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P329244

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

Reference Method: EPA 8270D
 Batch ID: P329167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.6	89.0	P/P	78 - 118
Alachlor	88.5	86.0	P/P	77 - 119
Ametryn	92.9	88.2	P/P	61 - 136
Atrazine	92.1	87.3	P/P	73 - 120
Atrazine Desethyl	93.2	64.6	P/P	16 - 122
Azinphos Methyl	105	83.9	P/P	69 - 186
Bromacil	87.9	82.2	P/P	40 - 125
Butylate	41.7	65.0	P/P	32 - 87.0
Chlorpyrifos Ethyl	83.3	70.1	P/P	53 - 110
Chlorpyrifos Methyl	84.9	66.5	P/P	31 - 119
Cyanazine	166	63.3	P/P	36 - 224
Demeton	77.2	75.5	P/P	39 - 122
Diazinon	88.1	82.8	P/P	75 - 119
Disulfoton	87.3	79.4	P/P	42 - 139
EPTC	41.3	62.7	P/P	33 - 96.0
Ethion	81.9	74.8	P/P	63 - 127

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P329167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethoprop	76.7	67.8	P/P	65 - 107
Fenamiphos	85.3	78.9	P/P	64 - 137
Fipronil	88.3	88.4	P/P	60 - 126
Fipronil Sulfide	81.3	74.0	P/P	58 - 124
Fipronil Sulfone	74.0	68.7	P/P	57 - 126
Fonofos	82.1	74.1	P/P	65 - 111
Hexazinone	86.7	86.4	P/P	46 - 151
Malathion	82.7	73.3	P/P	68 - 132
Metalaxyl	93.9	80.4	P/P	51 - 132
Metolachlor	81.1	87.7	P/P	78 - 119
Metribuzin	155	94.0	F/P	64 - 138
Mevinphos	69.4	60.9	P/P	34 - 128
Molinate	52.5	64.9	P/P	44 - 101
Norflurazon	86.1	87.0	P/P	63 - 129
Parathion Ethyl	85.1	83.0	P/P	80 - 109
Parathion Methyl	97.4	82.5	P/P	74 - 125
Pendimethalin	80.9	73.9	P/P	48 - 134
Phorate	86.8	70.5	P/P	52 - 119
Prometon	84.0	92.0	P/P	69 - 124
Prometryn	93.4	94.6	P/P	66 - 124
Simazine	89.9	88.3	P/P	61 - 134
Terbufos	82.7	73.8	P/P	58 - 115
Terbutylazine	81.4	91.4	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P329202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	58.2	51.0	P/P	26 - 88.0
Alpha-BHC	85.6	75.0	P/P	63 - 114
Alpha-Chlordane	76.9	66.5	P/P	56 - 117
Beta-BHC	100	81.8	P/P	57 - 138
Carbophenothion	106	105	P/P	36 - 148
Chlorothalonil	95.0	33.2	P/P	26 - 173
Cypermethrin	120	96.7	P/P	42 - 159
DDD-p,p'	89.2	76.7	P/P	62 - 126
DDE-p,p'	76.8	67.1	P/P	53 - 115
DDT-p,p'	88.4	74.2	P/P	54 - 117
Delta-BHC	106	87.3	P/P	68 - 158
Dicofol	29.2	28.1	P/P	25 - 114
Dieldrin	85.4	71.4	P/P	59 - 126
Endosulfan I	86.0	73.4	P/P	62 - 138
Endosulfan II	95.7	74.5	P/P	61 - 150
Endosulfan Sulfate	91.3	75.4	P/P	63 - 132
Endrin	86.6	72.5	P/P	49 - 148
Endrin Aldehyde	77.7	66.1	P/P	50 - 144
Endrin Ketone	87.8	75.2	P/P	66 - 122
Gamma-BHC	98.0	82.8	P/P	60 - 137
Gamma-Chlordane	77.1	66.0	P/P	54 - 113
Heptachlor	66.8	59.2	P/P	43 - 104
Heptachlor Epoxide	79.9	68.1	P/P	64 - 118
Methoxychlor	105	91.0	P/P	63 - 129

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P329202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mirex	72.1	60.7	P/P	39 - 93.0
Permethrin	86.5	71.0	P/P	51 - 123
Trifluralin	101	83.8	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P329202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	84.0	95.9	P/P	48 - 121
Toxaphene	95.8	115	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P329067

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	61.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P329108

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	42.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P329109

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	109		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P329455

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

Reference Method: SM 4500 F-C-97
Batch ID: P329459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P329479

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.5		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P329107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P329107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	91.9		P	30 - 150
Bentazon	107		P	40 - 150
Carbamazepine	96.7		P	40 - 150
Diuron	116		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	94.1		P	40 - 150
Imidacloprid	102		P	40 - 160
Linuron	97.0		P	40 - 150
MCPP	94.4		P	40 - 150
Primidone	116		P	40 - 150
Triclopyr	94.4		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P329237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916226	Calcium	104		P	80 - 120
1916226	Iron	111		P	80 - 120
1916226	Magnesium	107		P	80 - 120
1916226	Potassium	104		P	80 - 120
1916226	Sodium	108		P	80 - 120
1916226	Zinc	103		P	80 - 120
1916433	Calcium	106		P	80 - 120
1916433	Iron	110	112	P/P	80 - 120
1916433	Magnesium	105		P	80 - 120
1916433	Potassium	104	106	P/P	80 - 120
1916433	Sodium	107	109	P/P	80 - 120
1916433	Zinc	106	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916226	Arsenic	109		P	80 - 120
1916226	Cadmium	105		P	80 - 120
1916226	Chromium	100		P	80 - 120
1916226	Copper	96.8		P	80 - 120
1916226	Lead	98.0		P	80 - 120
1916226	Nickel	101		P	80 - 120
1916226	Silver	102		P	80 - 120
1916433	Arsenic	106	106	P/P	80 - 120
1916433	Cadmium	104	103	P/P	80 - 120
1916433	Chromium	98.5	97.8	P/P	80 - 120
1916433	Copper	96.5	96.6	P/P	80 - 120
1916433	Lead	96.5	96.1	P/P	80 - 120
1916433	Nickel	99.7	99.7	P/P	80 - 120
1916433	Silver	100	100	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916695	Sulfate	93.5		P	90 - 110
1916809	Sulfate	91.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916695	Chloride	95.7		P	90 - 110
1916809	Chloride	93.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916669	Ammonia-N	99.0	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916633	Kjeldahl Nitrogen	102	91.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916697	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916669	Total-P	97.7	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916735	O-Phosphate-P	93.0	96.1	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P329167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916017	Acetochlor	83.3	91.3	P/P	74 - 123
1916017	Alachlor	80.3	93.8	P/P	73 - 124
1916017	Atrazine Desethyl	60.5	81.7	P/P	12 - 103
1916017	Azinphos Methyl	86.0	106	P/P	60 - 202
1916017	Bromacil	86.2	101	P/P	42 - 133
1916017	Butylate	31.1	43.0	P/P	10 - 85.0
1916017	Chlorpyrifos Ethyl	73.6	86.6	P/P	53 - 113
1916017	Chlorpyrifos Methyl	74.9	87.0	P/P	40 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P329167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916017	Cyanazine	149	185	P/P	22 - 210
1916017	Demeton	67.9	86.7	P/P	17 - 149
1916017	Diazinon	89.5	104	P/P	72 - 124
1916017	Disulfoton	77.7	96.0	P/P	43 - 139
1916017	EPTC	30.4	47.1	P/P	10 - 86.0
1916017	Ethion	71.4	83.0	P/P	65 - 131
1916017	Ethoprop	63.0	76.0	P/P	59 - 110
1916017	Fenamiphos	80.9	85.5	P/P	57 - 138
1916017	Fipronil	95.1	101	P/P	40 - 130
1916017	Fipronil Sulfide	73.3	80.7	P/P	36 - 128
1916017	Fipronil Sulfone	71.7	88.4	P/P	16 - 145
1916017	Fonofos	80.1	98.0	P/P	60 - 112
1916017	Hexazinone	79.3	96.4	P/P	69 - 142
1916017	Malathion	74.0	80.2	P/P	68 - 132
1916017	Metalaxyl	87.3	98.1	P/P	66 - 118
1916017	Metolachlor	88.0	93.8	P/P	71 - 124
1916017	Metribuzin	249	283	F/F	61 - 140
1916017	Mevinphos	68.1	82.5	P/P	38 - 130
1916017	Molinate	48.3	58.9	P/P	23 - 99.0
1916017	Norflurazon	83.5	88.8	P/P	39 - 139
1916017	Parathion Ethyl	77.9	89.6	P/P	75 - 111
1916017	Parathion Methyl	89.8	96.7	P/P	64 - 130
1916017	Pendimethalin	75.4	87.9	P/P	26 - 173
1916017	Phorate	89.5	94.8	P/P	43 - 127
1916017	Prometon	87.5	98.6	P/P	50 - 144
1916017	Prometryn	91.7	98.1	P/P	69 - 126
1916017	Simazine	103	122	P/P	51 - 152
1916017	Terbufos	76.7	96.2	P/P	54 - 125
1916017	Terbutylazine	78.3	92.2	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P329202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916300	Aldrin	57.0	53.8	P/P	22 - 97.0
1916300	Alpha-BHC	81.3	92.0	P/P	43 - 132
1916300	Alpha-Chlordane	71.6	68.4	P/P	36 - 126
1916300	Beta-BHC	95.8	95.7	P/P	41 - 150
1916300	Carbophenothion	84.6	87.9	P/P	13 - 196
1916300	Chlorothalonil	75.2	114	P/P	10 - 266
1916300	Cypermethrin	113	127	P/P	37 - 161
1916300	DDD-p,p'	82.7	84.8	P/P	44 - 131
1916300	DDE-p,p'	70.2	66.7	P/P	32 - 127
1916300	DDT-p,p'	81.0	79.1	P/P	45 - 116
1916300	Delta-BHC	112	124	P/P	50 - 201
1916300	Dicofol	18.9	22.9	P/P	10 - 100
1916300	Dieldrin	75.9	77.1	P/P	39 - 142
1916300	Endosulfan I	75.1	80.6	P/P	51 - 139
1916300	Endosulfan II	81.8	93.7	P/P	49 - 155
1916300	Endosulfan Sulfate	85.5	86.1	P/P	54 - 136
1916300	Endrin	43.1	69.6	P/P	38 - 141
1916300	Endrin Aldehyde	67.4	69.6	P/P	14 - 152

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P329202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916300	Endrin Ketone	87.1	87.9	P/P	60 - 128
1916300	Gamma-BHC	84.6	90.1	P/P	48 - 157
1916300	Gamma-Chlordane	71.8	68.6	P/P	35 - 123
1916300	Heptachlor	61.3	56.8	P/P	25 - 112
1916300	Heptachlor Epoxide	73.1	72.7	P/P	48 - 125
1916300	Methoxychlor	97.1	94.9	P/P	52 - 127
1916300	Mirex	68.3	66.2	P/P	25 - 108
1916300	Permethrin	82.5	85.1	P/P	46 - 133
1916300	Trifluralin	109	108	P/P	29 - 254

Reference Method: EPA 8276
 Batch ID: P329202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916016	Chlordane	90.9	93.8	P/P	44 - 134
1916016	Toxaphene	105	117	P/P	36 - 147

Reference Method: EPA 8321B
 Batch ID: P329108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917168	Pyraclostrobin	43.9	27.8	P/F	40 - 150

Reference Method: EPA 8321B
 Batch ID: P329109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916003	Glyphosate	110	118	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P329459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917116	Fluoride	92.6	94.2	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P329479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916451	Organic Carbon	96.9	97.7	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P329107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916003	2,4-D	150	148	F/P	40 - 150
1916003	Acetaminophen	95.9	124	P/P	30 - 150
1916003	Bentazon	38.5	32.7	F/F	40 - 150
1916003	Carbamazepine	104	97.1	P/P	40 - 150
1916003	Diuron	68.4	74.7	P/P	40 - 150
1916003	Fenuron	69.8	72.5	P/P	40 - 150
1916003	Fluridone	37.7	60.2	F/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P329107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916003	Imidacloprid	107	135	P/P	40 - 160
1916003	Linuron	70.9	81.7	P/P	40 - 150
1916003	MCP	123	127	P/P	40 - 150
1916003	Primidone	103	112	P/P	40 - 150
1916003	Triclopyr	108	128	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P329270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916685	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P329237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916433	Calcium	0.561	Spike	P	0 - 20
1916433	Iron	1.43	Spike	P	0 - 20
1916433	Magnesium	1.58	Spike	P	0 - 20
1916433	Potassium	1.54	Spike	P	0 - 20
1916433	Sodium	1.17	Spike	P	0 - 20
1916433	Zinc	0.779	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916433	Arsenic	0.589	Spike	P	0 - 20
1916433	Cadmium	0.946	Spike	P	0 - 20
1916433	Chromium	0.588	Spike	P	0 - 20
1916433	Copper	0.0720	Spike	P	0 - 20
1916433	Lead	0.379	Spike	P	0 - 20
1916433	Nickel	0.0296	Spike	P	0 - 20
1916433	Silver	0.109	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916809	Sulfate	4.46	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916809	Chloride	0.526	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916669	Ammonia-N	0.163	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916633	Kjeldahl Nitrogen	8.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916734	Kjeldahl Nitrogen	0.721	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916697	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916669	Total-P	1.20	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916735	O-Phosphate-P	3.28	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P329167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916017	Acetochlor	9.16	Spike	P	0 - 30
1916017	Alachlor	15.5	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916017	Ametryn	4.08	Spike	P	0 - 30
1916017	Atrazine	9.32	Spike	P	0 - 30
1916017	Atrazine Desethyl	17.6	Spike	P	0 - 30
1916017	Azinphos Methyl	20.7	Spike	P	0 - 30
1916017	Bromacil	16.2	Spike	P	0 - 30
1916017	Butylate	31.9	Spike	F	0 - 30
1916017	Chlorpyrifos Ethyl	16.2	Spike	P	0 - 30
1916017	Chlorpyrifos Methyl	14.9	Spike	P	0 - 30
1916017	Cyanazine	21.4	Spike	P	0 - 30
1916017	Demeton	24.3	Spike	P	0 - 30
1916017	Diazinon	14.7	Spike	P	0 - 30
1916017	Disulfoton	21.1	Spike	P	0 - 30
1916017	EPTC	43.1	Spike	F	0 - 30
1916017	Ethion	15.0	Spike	P	0 - 30
1916017	Ethoprop	18.8	Spike	P	0 - 30
1916017	Fenamiphos	5.57	Spike	P	0 - 30
1916017	Fipronil	5.92	Spike	P	0 - 30
1916017	Fipronil Sulfide	7.62	Spike	P	0 - 30
1916017	Fipronil Sulfone	12.7	Spike	P	0 - 30
1916017	Fonofos	20.1	Spike	P	0 - 30
1916017	Hexazinone	13.1	Spike	P	0 - 30
1916017	Malathion	8.08	Spike	P	0 - 30
1916017	Metaxyl	11.6	Spike	P	0 - 30
1916017	Metolachlor	6.40	Spike	P	0 - 30
1916017	Metribuzin	12.6	Spike	P	0 - 30
1916017	Mevinphos	19.2	Spike	P	0 - 30
1916017	Molinate	19.8	Spike	P	0 - 30
1916017	Norflurazon	6.22	Spike	P	0 - 30
1916017	Parathion Ethyl	14.0	Spike	P	0 - 30
1916017	Parathion Methyl	7.42	Spike	P	0 - 30
1916017	Pendimethalin	15.3	Spike	P	0 - 30
1916017	Phorate	5.80	Spike	P	0 - 30
1916017	Prometon	11.9	Spike	P	0 - 30
1916017	Prometryn	6.77	Spike	P	0 - 30
1916017	Simazine	16.9	Spike	P	0 - 30
1916017	Terbufos	22.5	Spike	P	0 - 30
1916017	Terbutylazine	16.4	Spike	P	0 - 30
LFB	Acetochlor	0.744	LCS	P	0 - 30
LFB	Alachlor	2.87	LCS	P	0 - 30
LFB	Ametryn	5.22	LCS	P	0 - 30
LFB	Atrazine	5.28	LCS	P	0 - 30
LFB	Atrazine Desethyl	36.3	LCS	F	0 - 30
LFB	Azinphos Methyl	22.7	LCS	P	0 - 30
LFB	Bromacil	6.63	LCS	P	0 - 30
LFB	Butylate	43.7	LCS	F	0 - 30
LFB	Chlorpyrifos Ethyl	17.3	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	24.3	LCS	P	0 - 30
LFB	Cyanazine	89.8	LCS	F	0 - 30
LFB	Demeton	2.18	LCS	P	0 - 30
LFB	Diazinon	6.27	LCS	P	0 - 30
LFB	Disulfoton	9.52	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	EPTC	41.1	LCS	F	0 - 30
LFB	Ethion	9.09	LCS	P	0 - 30
LFB	Ethoprop	12.3	LCS	P	0 - 30
LFB	Fenamiphos	7.70	LCS	P	0 - 30
LFB	Fipronil	0.137	LCS	P	0 - 30
LFB	Fipronil Sulfide	9.46	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.37	LCS	P	0 - 30
LFB	Fonofos	10.2	LCS	P	0 - 30
LFB	Hexazinone	0.291	LCS	P	0 - 30
LFB	Malathion	12.0	LCS	P	0 - 30
LFB	Metaxyl	15.5	LCS	P	0 - 30
LFB	Metolachlor	7.80	LCS	P	0 - 30
LFB	Metribuzin	48.9	LCS	F	0 - 30
LFB	Mevinphos	13.1	LCS	P	0 - 30
LFB	Molinate	21.1	LCS	P	0 - 30
LFB	Norflurazon	0.983	LCS	P	0 - 30
LFB	Parathion Ethyl	2.54	LCS	P	0 - 30
LFB	Parathion Methyl	16.6	LCS	P	0 - 30
LFB	Pendimethalin	9.07	LCS	P	0 - 30
LFB	Phorate	20.7	LCS	P	0 - 30
LFB	Prometon	9.14	LCS	P	0 - 30
LFB	Prometryn	1.30	LCS	P	0 - 30
LFB	Simazine	1.79	LCS	P	0 - 30
LFB	Terbufos	11.4	LCS	P	0 - 30
LFB	Terbuthylazine	11.6	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P329202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916300	Aldrin	5.80	Spike	P	0 - 30
1916300	Alpha-BHC	12.4	Spike	P	0 - 30
1916300	Alpha-Chlordane	4.56	Spike	P	0 - 30
1916300	Beta-BHC	0.0843	Spike	P	0 - 30
1916300	Carbophenothion	3.77	Spike	P	0 - 30
1916300	Chlorothalonil	41.2	Spike	F	0 - 30
1916300	Cypermethrin	11.3	Spike	P	0 - 30
1916300	DDD-p,p'	2.51	Spike	P	0 - 30
1916300	DDE-p,p'	5.09	Spike	P	0 - 30
1916300	DDT-p,p'	2.49	Spike	P	0 - 30
1916300	Delta-BHC	9.42	Spike	P	0 - 30
1916300	Dicofol	19.4	Spike	P	0 - 30
1916300	Dieldrin	1.61	Spike	P	0 - 30
1916300	Endosulfan I	7.08	Spike	P	0 - 30
1916300	Endosulfan II	13.5	Spike	P	0 - 30
1916300	Endosulfan Sulfate	0.677	Spike	P	0 - 30
1916300	Endrin	46.9	Spike	F	0 - 30
1916300	Endrin Aldehyde	3.20	Spike	P	0 - 30
1916300	Endrin Ketone	0.935	Spike	P	0 - 30
1916300	Gamma-BHC	6.22	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916300	Gamma-Chlordane	4.52	Spike	P	0 - 30
1916300	Heptachlor	7.61	Spike	P	0 - 30
1916300	Heptachlor Epoxide	0.485	Spike	P	0 - 30
1916300	Methoxychlor	2.38	Spike	P	0 - 30
1916300	Mirex	3.09	Spike	P	0 - 30
1916300	Permethrin	3.08	Spike	P	0 - 30
1916300	Trifluralin	0.970	Spike	P	0 - 30
LFB	Aldrin	13.2	LCS	P	0 - 30
LFB	Alpha-BHC	13.2	LCS	P	0 - 30
LFB	Alpha-Chlordane	14.5	LCS	P	0 - 30
LFB	Beta-BHC	20.2	LCS	P	0 - 30
LFB	Carbophenothion	0.949	LCS	P	0 - 30
LFB	Chlorothalonil	96.4	LCS	F	0 - 30
LFB	Cypermethrin	21.7	LCS	P	0 - 30
LFB	DDD-p,p'	15.2	LCS	P	0 - 30
LFB	DDE-p,p'	13.5	LCS	P	0 - 30
LFB	DDT-p,p'	17.5	LCS	P	0 - 30
LFB	Delta-BHC	19.4	LCS	P	0 - 30
LFB	Dicofol	3.94	LCS	P	0 - 30
LFB	Dieldrin	17.8	LCS	P	0 - 30
LFB	Endosulfan I	15.8	LCS	P	0 - 30
LFB	Endosulfan II	24.9	LCS	P	0 - 30
LFB	Endosulfan Sulfate	19.1	LCS	P	0 - 30
LFB	Endrin	17.7	LCS	P	0 - 30
LFB	Endrin Aldehyde	16.2	LCS	P	0 - 30
LFB	Endrin Ketone	15.5	LCS	P	0 - 30
LFB	Gamma-BHC	16.8	LCS	P	0 - 30
LFB	Gamma-Chlordane	15.6	LCS	P	0 - 30
LFB	Heptachlor	12.1	LCS	P	0 - 30
LFB	Heptachlor Epoxide	16.0	LCS	P	0 - 30
LFB	Methoxychlor	14.2	LCS	P	0 - 30
LFB	Mirex	17.2	LCS	P	0 - 30
LFB	Permethrin	19.7	LCS	P	0 - 30
LFB	Trifluralin	18.9	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P329202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916016	Chlordane	3.08	Spike	P	0 - 30
1916016	Toxaphene	10.9	Spike	P	0 - 30
LFB	Chlordane	13.2	LCS	P	0 - 30
LFB	Toxaphene	17.8	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P329067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916053	Sucralose	8.70	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P329108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917168	Pyraclostrobin	44.9	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P329109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916003	Glyphosate	6.86	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P329252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916695	Color (true)	0.873	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P329455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917116	Total Alkalinity	0.714	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P329993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916750	TDS	1.17	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P329459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917116	Fluoride	1.53	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P329479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916451	Organic Carbon	0.676	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P329107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916003	2,4-D	0.772	Spike	P	0 - 30
1916003	Acetaminophen	19.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P329107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916003	Bentazon	7.55	Spike	P	0 - 30
1916003	Carbamazepine	6.79	Spike	P	0 - 30
1916003	Diuron	8.46	Spike	P	0 - 30
1916003	Fenuron	3.82	Spike	P	0 - 30
1916003	Fluridone	41.3	Spike	F	0 - 30
1916003	Imidacloprid	7.60	Spike	P	0 - 30
1916003	Linuron	14.2	Spike	P	0 - 30
1916003	MCP	3.20	Spike	P	0 - 30
1916003	Primidone	8.76	Spike	P	0 - 30
1916003	Triclopyr	17.3	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: 1916705
Field Sample ID: G1NE0029 07262017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	162	F	30 - 160
EPA 8321B	Carbamazepine-d10	75.3	P	30 - 160
EPA 8321B	Diuron-d6	129	P	30 - 160
EPA 8321B	Diuron-d6	79.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	40 - 150
EPA 8321B	Primidone-d5	60.7	P	30 - 160
EPA 8321B	Sucralose-d6	67.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	107	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	162	F	30 - 160
USGS O-2060-01	Carbamazepine-d10	75.3	P	30 - 160
USGS O-2060-01	Diuron-d6	129	P	30 - 160
USGS O-2060-01	Diuron-d6	79.9	P	30 - 160
USGS O-2060-01	Primidone-d5	60.7	P	30 - 160

Lab Sample ID: 1916706
Field Sample ID: G1NE0029 07262017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	74.8	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	59.6	P	32 - 103
EPA 8276	Decachlorobiphenyl	55.0	P	31 - 100

Lab Sample ID: 1916707
Field Sample ID: G1NE0029 07262017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	56.5	P	53 - 135
EPA 8270D	Simazine-d10	88.3	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77948

Included Lab Sample IDs: 1916685, 1916686, 1916687, 1916694, 1916695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Sulfate	100	102	P/P	90 - 110
Sulfate	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77996

Included Lab Sample IDs: 1916691, 1916692, 1916693, 1916698, 1916699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	99.6	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A77997

Included Lab Sample IDs: 1916685, 1916686, 1916687, 1916694, 1916695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115
Color (true)	103	105	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78004

Included Lab Sample IDs: 1916685, 1916686, 1916687, 1916694, 1916695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A78025

Included Lab Sample IDs: 1916705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	112	111	P/P	70 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78041

Included Lab Sample IDs: 1916712, 1916713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	103	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	100	101	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Zinc	103	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78042

Included Lab Sample IDs: 1916712, 1916713

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78042

Included Lab Sample IDs: 1916712, 1916713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	102	P/P	90 - 110
Arsenic	103	102	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Chromium	98.9	100	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Copper	100	100	P/P	90 - 110
Lead	94.9	96.4	P/P	90 - 110
Lead	95.6	94.9	P/P	90 - 110
Nickel	100	100	P/P	90 - 110
Nickel	100	99.9	P/P	90 - 110
Silver	95.4	95.7	P/P	90 - 110
Silver	95.7	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78045

Included Lab Sample IDs: 1916696

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.7	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78053

Included Lab Sample IDs: 1916688, 1916689, 1916690, 1916696, 1916697

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78060

Included Lab Sample IDs: 1916688, 1916689, 1916690, 1916697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78068

Included Lab Sample IDs: 1916688, 1916689, 1916690, 1916696, 1916697

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78071

Included Lab Sample IDs: 1916688, 1916689, 1916690, 1916696, 1916697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.0	99.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A78079

Included Lab Sample IDs: 1916685, 1916686, 1916687, 1916694, 1916695

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

Reference Method: SM 4500 F-C-97

Run ID: A78079

Included Lab Sample IDs: 1916685, 1916686, 1916687, 1916694, 1916695

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.1	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A78087

Included Lab Sample IDs: 1916688, 1916689, 1916690, 1916696, 1916697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.9	99.2	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A78147

Included Lab Sample IDs: 1916707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	100		P	80 - 120
Alachlor	98.4		P	80 - 120
Ametryn	97.9		P	80 - 120
Atrazine	103		P	80 - 120
Atrazine Desethyl	105		P	80 - 120
Azinphos Methyl	93.5		P	80 - 120
Bromacil	95.0		P	80 - 120
Butylate	88.8		P	80 - 120
Chlorpyrifos Ethyl	85.8		P	80 - 120
Chlorpyrifos Methyl	77.6*		F	80 - 120
Cyanazine	112		P	80 - 120
Demeton	88.4		P	80 - 120
Diazinon	102		P	80 - 120
Disulfoton	85.7		P	80 - 120
EPTC	92.4		P	80 - 120
Ethion	82.6		P	80 - 120
Ethoprop	98.2		P	80 - 120
Fenamiphos	86.5		P	80 - 120
Fipronil	88.7		P	80 - 120
Fipronil Sulfide	84.3		P	80 - 120
Fipronil Sulfone	84.5		P	80 - 120
Fonofos	94.2		P	80 - 120
Hexazinone	106		P	80 - 120
Malathion	83.7		P	80 - 120
Metalaxyl	97.1		P	80 - 120
Metolachlor	97.5		P	80 - 120
Metribuzin	113		P	80 - 120
Mevinphos	92.4		P	80 - 120
Molinate	106		P	80 - 120
Norflurazon	96.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A78147
Included Lab Sample IDs: 1916707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Parathion Ethyl	94.0		P	80 - 120
Parathion Methyl	100		P	80 - 120
Pendimethalin	88.6		P	80 - 120
Phorate	101		P	80 - 120
Prometon	94.1		P	80 - 120
Prometryn	99.8		P	80 - 120
Simazine	99.6		P	80 - 120
Terbufos	95.3		P	80 - 120
Terbuthylazine	101		P	80 - 120

Reference Method: EPA 8270D
Run ID: A78159
Included Lab Sample IDs: 1916706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.2		P	80 - 120
Alpha-BHC	98.1		P	80 - 120
Alpha-Chlordane	95.8		P	80 - 120
Beta-BHC	111		P	80 - 120
Carbophenothion	92.3		P	80 - 120
Chlorothalonil	93.9		P	80 - 120
Cypermethrin	95.9		P	80 - 120
DDD-p,p'	99.7		P	80 - 120
DDE-p,p'	99.0		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	103		P	80 - 120
Dicofol	108		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	90.4		P	80 - 120
Endosulfan II	92.9		P	80 - 120
Endosulfan Sulfate	96.8		P	80 - 120
Endrin	97.4		P	80 - 120
Endrin Aldehyde	94.2		P	80 - 120
Endrin Ketone	98.4		P	80 - 120
Gamma-BHC	106		P	80 - 120
Gamma-Chlordane	99.8		P	80 - 120
Heptachlor	94.7		P	80 - 120
Heptachlor Epoxide	98.2		P	80 - 120
Methoxychlor	107		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	95.4		P	80 - 120
Trifluralin	98.3		P	80 - 120

Reference Method: EPA 8276
Run ID: A78179
Included Lab Sample IDs: 1916706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.9		P	80 - 120
Toxaphene	108		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A78239
Included Lab Sample IDs: 1916705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	80.5	81.4	P/P	60 - 150

Reference Method: EPA 8321B
Run ID: A78247
Included Lab Sample IDs: 1916705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	67.8	85.9	P/P	60 - 160

Reference Method: USGS O-2060-01
Run ID: A78250
Included Lab Sample IDs: 1916705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	73.7	65.7	P/P	50 - 150
Acetaminophen	93.7	99.5	P/P	60 - 150
Bentazon	106	116	P/P	50 - 150
Carbamazepine	88.2	95.7	P/P	60 - 150
Diuron	96.9	89.7	P/P	60 - 150
Fenuron	103	103	P/P	60 - 150
Fluridone	89.3	99.1	P/P	60 - 160
Imidacloprid	95.1	92.6	P/P	60 - 150
Linuron	98.1	101	P/P	60 - 150
MCPP	78.0	86.1	P/P	50 - 150
Primidone	94.2	94.8	P/P	60 - 150
Triclopyr	72.9	73.4	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			Precision SMP	MS
					LCS		
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 200.7 Rev. 4.4	Calcium	110	104	106			0.561
	Iron	109	111	110	112		1.43
	Magnesium	110	107	105			1.58
	Potassium	104	104	104	106		1.54
	Sodium	108	108	107	109		1.17
	Zinc	105	103	106	106		0.779
EPA 200.8 Rev. 5.4	Arsenic	106	109	106	106		0.589
	Cadmium	104	105	104	103		0.946
	Chromium	101	100	98.5	97.8		0.588
	Copper	99.6	96.8	96.5	96.6		0.0720
	Lead	97.6	98.0	96.5	96.1		0.379
	Nickel	103	101	99.7	99.7		0.0296
	Silver	101	102	100	100		0.109

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 300.0 Rev. 2.1	Chloride	95.6		93.2	95.7		0.526	
	Sulfate	92.0		91.8	93.5		4.46	
EPA 350.1 Rev. 2.0	Ammonia-N	100		99.0	99.2			0.163
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		102	91.8			8.67
	Kjeldahl Nitrogen	102						0.721
EPA 353.2 Rev. 2.0	NO2NO3-N	104		104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	98.3		97.7	96.4			1.20
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7		93.0	96.1			3.28
EPA 8270D	Acetochlor	89.6	89.0	83.3	91.3	0.744		9.16
	Alachlor	88.5	86.0	80.3	93.8	2.87		15.5
	Aldrin	58.2	51.0	57.0	53.8	13.2		5.80
	Alpha-BHC	85.6	75.0	81.3	92.0	13.2		12.4
	Alpha-Chlordane	76.9	66.5	71.6	68.4	14.5		4.56
	Ametryn	92.9	88.2			5.22		4.08
	Atrazine	92.1	87.3			5.28		9.32
	Atrazine Desethyl	93.2	64.6	60.5	81.7	36.3		17.6
	Azinphos Methyl	105	83.9	86.0	106	22.7		20.7
	Beta-BHC	100	81.8	95.8	95.7	20.2		0.0843
	Bromacil	87.9	82.2	86.2	101	6.63		16.2
	Butylate	41.7	65.0	31.1	43.0	43.7		31.9
	Carbophenothion	106	105	84.6	87.9	0.949		3.77
	Chlorothalonil	95.0	33.2	75.2	114	96.4		41.2
	Chlorpyrifos Ethyl	83.3	70.1	73.6	86.6	17.3		16.2
	Chlorpyrifos Methyl	84.9	66.5	74.9	87.0	24.3		14.9
	Cyanazine	166	63.3	149	185	89.8		21.4
	Cypermethrin	120	96.7	113	127	21.7		11.3
	DDD-p,p'	89.2	76.7	82.7	84.8	15.2		2.51
	DDE-p,p'	76.8	67.1	70.2	66.7	13.5		5.09
	DDT-p,p'	88.4	74.2	81.0	79.1	17.5		2.49
	Delta-BHC	106	87.3	112	124	19.4		9.42
	Demeton	77.2	75.5	67.9	86.7	2.18		24.3
	Diazinon	88.1	82.8	89.5	104	6.27		14.7
	Dicofol	29.2	28.1	18.9	22.9	3.94		19.4
	Dieldrin	85.4	71.4	75.9	77.1	17.8		1.61
	Disulfoton	87.3	79.4	77.7	96.0	9.52		21.1
	Endosulfan I	86.0	73.4	75.1	80.6	15.8		7.08
	Endosulfan II	95.7	74.5	81.8	93.7	24.9		13.5
	Endosulfan Sulfate	91.3	75.4	85.5	86.1	19.1		0.677
	Endrin	86.6	72.5	43.1	69.6	17.7		46.9
	Endrin Aldehyde	77.7	66.1	67.4	69.6	16.2		3.20
	Endrin Ketone	87.8	75.2	87.1	87.9	15.5		0.935
	EPTC	41.3	62.7	30.4	47.1	41.1		43.1
	Ethion	81.9	74.8	71.4	83.0	9.09		15.0
	Ethoprop	76.7	67.8	63.0	76.0	12.3		18.8
	Fenamiphos	85.3	78.9	80.9	85.5	7.70		5.57
	Fipronil	88.3	88.4	95.1	101	0.137		5.92
	Fipronil Sulfide	81.3	74.0	73.3	80.7	9.46		7.62
	Fipronil Sulfone	74.0	68.7	71.7	88.4	7.37		12.7
	Fonofos	82.1	74.1	80.1	98.0	10.2		20.1
	Gamma-BHC	98.0	82.8	84.6	90.1	16.8		6.22
	Gamma-Chlordane	77.1	66.0	71.8	68.6	15.6		4.52
	Heptachlor	66.8	59.2	61.3	56.8	12.1		7.61
	Heptachlor Epoxide	79.9	68.1	73.1	72.7	16.0		0.485
	Hexazinone	86.7	86.4	79.3	96.4	0.291		13.1

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Malathion	82.7	73.3	74.0	80.2	12.0	8.08
	Metalaxyl	93.9	80.4	87.3	98.1	15.5	11.6
	Methoxychlor	105	91.0	97.1	94.9	14.2	2.38
	Metolachlor	81.1	87.7	88.0	93.8	7.80	6.40
	Metribuzin	155	94.0	249	283	48.9	12.6
	Mevinphos	69.4	60.9	68.1	82.5	13.1	19.2
	Mirex	72.1	60.7	68.3	66.2	17.2	3.09
	Molinate	52.5	64.9	48.3	58.9	21.1	19.8
	Norflurazon	86.1	87.0	83.5	88.8	0.983	6.22
	Parathion Ethyl	85.1	83.0	77.9	89.6	2.54	14.0
	Parathion Methyl	97.4	82.5	89.8	96.7	16.6	7.42
	Pendimethalin	80.9	73.9	75.4	87.9	9.07	15.3
	Permethrin	86.5	71.0	82.5	85.1	19.7	3.08
	Phorate	86.8	70.5	89.5	94.8	20.7	5.80
	Prometon	84.0	92.0	87.5	98.6	9.14	11.9
	Prometryn	93.4	94.6	91.7	98.1	1.30	6.77
	Simazine	89.9	88.3	103	122	1.79	16.9
	Terbufos	82.7	73.8	76.7	96.2	11.4	22.5
	Terbutylazine	81.4	91.4	78.3	92.2	11.6	16.4
	Trifluralin	101	83.8	109	108	18.9	0.970
EPA 8276	Chlordane	84.0	95.9	90.9	93.8	13.2	3.08
	Toxaphene	95.8	115	105	117	17.8	10.9
EPA 8321B	Glyphosate	109		110	118		6.86
	Pyraclostrobin	42.5		43.9	27.8		44.9
	Sucralose	61.6					8.70
SM 2120 B	Color (true)					0.873	
SM 2320 B-97	Total Alkalinity	103				0.714	
SM 2540 C-97	TDS					1.17	
SM 4500 F-C-97	Fluoride	94.6		92.6	94.2		1.53
SM 5310 B-00	Organic Carbon	97.5		96.9	97.7		0.676
USGS O-2060-01	2,4-D	105		150	148		0.772
	Acetaminophen	91.9		95.9	124		19.0
	Bentazon	107		38.5	32.7		7.55
	Carbamazepine	96.7		104	97.1		6.79
	Diuron	116		68.4	74.7		8.46
	Fenuron	112		69.8	72.5		3.82
	Fluridone	94.1		37.7	60.2		41.3
	Imidacloprid	102		107	135		7.60
	Linuron	97.0		70.9	81.7		14.2
	MCPP	94.4		123	127		3.20
	Primidone	116		103	112		8.76
	Triclopyr	94.4		108	128		17.3

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1916685, 1916686, 1916687, 1916694, 1916695
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1916712, 1916713
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1916712, 1916713
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1916685, 1916686, 1916687, 1916694, 1916695

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1916685, 1916686, 1916687, 1916694, 1916695
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1916688, 1916689, 1916690, 1916696, 1916697
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1916688, 1916689, 1916690, 1916696, 1916697
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1916688, 1916689, 1916690, 1916696, 1916697
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1916688, 1916689, 1916690, 1916696, 1916697
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1916691, 1916692, 1916693, 1916698, 1916699
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1916706
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1916707
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1916706
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1916705
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1916705
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1916705
SM 2120 B / E31780	True Color measured at 450 nm	1916685, 1916686, 1916687, 1916694, 1916695
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1916685, 1916686, 1916687, 1916694, 1916695
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1916685, 1916686, 1916687, 1916694, 1916695
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1916685, 1916686, 1916687, 1916694, 1916695
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1916685, 1916686, 1916687, 1916694, 1916695
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1916688, 1916689, 1916690, 1916696, 1916697
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1916705
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1916705

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	07/27/2017			07/27/2017 17:18	DeAsia Armster	1916685, 1916686, 1916687, 1916694, 1916695
EPA 200.7 Rev. 4.4	07/27/2017	07/27/2017	Elliott D. Healy	07/28/2017	Betina Topolski	1916712, 1916713
EPA 200.8 Rev. 5.4	07/27/2017	07/27/2017	Elliott D. Healy	07/28/2017	Nadine Brooks	1916712, 1916713
EPA 300.0 Rev. 2.1	07/27/2017			07/27/2017	Julia Storbeck	1916685, 1916686, 1916687, 1916694, 1916695
EPA 350.1 Rev. 2.0	07/27/2017			07/31/2017	Sofia Elnemr	1916688, 1916689, 1916690, 1916696, 1916697
EPA 351.2 Rev. 2.0	07/27/2017	07/28/2017	Adrian Shelby	08/01/2017	Joseph Suarez	1916688, 1916689, 1916690, 1916696, 1916697
EPA 353.2 Rev. 2.0	07/27/2017			07/31/2017	Beverly Y. Sanders	1916688, 1916689, 1916690, 1916696, 1916697
EPA 365.1 Rev. 2.0	07/27/2017	07/28/2017	Adrian Shelby	07/31/2017	Lipi Saha	1916688, 1916689, 1916690, 1916696, 1916697
EPA 365.1 Rev. 2.0 dissolved	07/27/2017			07/27/2017 14:31	Ping Hua	1916691
	07/27/2017			07/27/2017 14:32	Ping Hua	1916692
	07/27/2017			07/27/2017 14:33	Ping Hua	1916693
	07/27/2017			07/27/2017 14:34	Ping Hua	1916698
	07/27/2017			07/27/2017 14:35	Ping Hua	1916699
EPA 8270D	07/27/2017	07/27/2017	Rasheda Ghaffari	07/31/2017	Vandana T. Nagar	1916706
	07/27/2017	07/28/2017	Fe-Val Siddell	08/03/2017	Irina Carbone	1916707
EPA 8276	07/27/2017	07/27/2017	Rasheda Ghaffari	08/01/2017	Vandana T. Nagar	1916706
EPA 8321B	07/27/2017	07/27/2017	Julie Michelle Frank	08/04/2017	Mohammad Ghaffari	1916705
	07/27/2017	07/28/2017	Julie Michelle Frank	07/28/2017	Julie Michelle Frank	1916705
	07/27/2017	07/31/2017	Fe-Val Siddell	08/06/2017	Juyoung Kim	1916705
SM 2120 B	07/27/2017			07/27/2017 14:51	Tanya Welborn	1916685, 1916686
	07/27/2017			07/27/2017 14:52	Tanya Welborn	1916687
	07/27/2017			07/27/2017 14:54	Tanya Welborn	1916695
	07/27/2017			07/27/2017 15:48	Tanya Welborn	1916694
SM 2320 B-97	07/27/2017			07/31/2017	Dale L. Simmons	1916685, 1916686, 1916687
	07/27/2017			08/01/2017	Dale L. Simmons	1916694, 1916695
SM 2540 C-97	07/27/2017			07/31/2017	DeAsia Armster	1916685, 1916686, 1916687, 1916694, 1916695
SM 2540 D-97	07/27/2017			07/31/2017	DeAsia Armster	1916685, 1916686, 1916687, 1916694, 1916695
SM 4500 F-C-97	07/27/2017			07/31/2017	Dale L. Simmons	1916685, 1916686, 1916687
	07/27/2017			08/01/2017	Dale L. Simmons	1916694, 1916695
SM 5310 B-00	07/27/2017			08/01/2017	Sofia Elnemr	1916688, 1916689, 1916690, 1916696, 1916697
USGS O-2060-01	07/27/2017	07/28/2017	Hoor Shaik	08/02/2017	Juyoung Kim	1916705