

Chemical Analysis Report

NE-DIST-2017-05-24-02

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

Event Description: **High Springs**
Request ID: **RQ-2017-05-15-14**
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: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 19-JUN-2017 14:52



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: TREE HOUSE SPRING

Collection Date/Time: 05/23/2017 10:15

Field ID: G1NE0016 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901292	EPA 180.1 Rev. 2.0	Turbidity	0.45		NTU	P325793	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P326772	
		Sulfate	81		mg SO4/L	P326774	
	SM 2120 B	Color (true)	22		PCU	P325783	
	SM 2320 B-97	Total Alkalinity	161		mg CaCO3/L	P325953	
	SM 2540 C-97	TDS	318	A	mg/L	P326092	
	SM 2540 D-97	TSS	3	IA	mg/L	P326268	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P325957	RPD
1901295	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P325917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P325868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P325887	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	2.8		mg C/L	P326158	
1901298	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.082		mg P/L	P325776	

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: GILCHRIST BLUE SPRING VENT

Collection Date/Time: 05/23/2017 11:20

Field ID: G1NE0014 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901301	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P325794	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P326773	MS
		Sulfate	13		mg SO4/L	P326775	
	SM 2120 B	Color (true)	2.5	U	PCU	P325783	
	SM 2320 B-97	Total Alkalinity	179		mg CaCO3/L	P325953	
	SM 2540 C-97	TDS	208	A	mg/L	P326093	
	SM 2540 D-97	TSS	2	UA	mg/L	P326269	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P325957	RPD
1901302	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P325917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P325868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.3		mg N/L	P325964	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P326158	
1901303	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P325776	
1901309	EPA 8321B	Glyphosate**	10	U	ug/L	P325790	
		Pyraclostrobin**	0.0040	U	ug/L	P325788	
		Sucralose**	0.010	U	ug/L	P325694	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P325789	
		Diuron	8.0E-04	U	ug/L	P325789	
		Fenuron	0.0040	U	ug/L	P325789	
		Imidacloprid	8.0E-04	U	ug/L	P325789	
		Bentazon	8.0E-04	U	ug/L	P325789	MS
		Linuron	0.0040	U	ug/L	P325789	

Field ID: G1NE0014 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901309	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P325789	
		MCP	0.0020	U	ug/L	P325789	
		Carbamazepine**	4.0E-04	U	ug/L	P325789	
		Triclopyr**	0.0040	U	ug/L	P325789	
		Primidone**	0.0040	U	ug/L	P325789	
		Fluridone**	4.0E-04	U	ug/L	P325789	
1901314	EPA 8270D	Aldrin	4.3	U	ng/L	P326163	
		Alpha-BHC	2.1	U	ng/L	P326163	
		Beta-BHC	4.3	U	ng/L	P326163	
		Delta-BHC	4.3	U	ng/L	P326163	
		Gamma-BHC	4.3	U	ng/L	P326163	
		Carbophenothion	4.3	U	ng/L	P326163	
		Chlorothalonil	2.1	UJ	ng/L	P326163	CCV, RPD
		Cypermethrin	21	U	ng/L	P326163	
		DDD-p,p'	2.1	U	ng/L	P326163	
		DDE-p,p'	3.2	U	ng/L	P326163	
		DDT-p,p'	3.2	U	ng/L	P326163	
		Dieldrin	4.3	U	ng/L	P326163	
		Endosulfan I	4.3	U	ng/L	P326163	
		Endosulfan II	4.3	U	ng/L	P326163	
		Endosulfan Sulfate	2.1	U	ng/L	P326163	
		Endrin	2.1	U	ng/L	P326163	
		Endrin Aldehyde	2.1	U	ng/L	P326163	
		Heptachlor	1.6	U	ng/L	P326163	
		Heptachlor Epoxide	2.1	U	ng/L	P326163	
		Methoxychlor	4.3	U	ng/L	P326163	
		Mirex	2.1	U	ng/L	P326163	
		Permethrin	11	U	ng/L	P326163	RPD
		Trifluralin	1.1	U	ng/L	P326163	
		Alpha-Chlordane	1.1	U	ng/L	P326163	
		Gamma-Chlordane	1.1	U	ng/L	P326163	
		Endrin Ketone	2.1	U	ng/L	P326163	
		Dicofol	32	U	ng/L	P326163	
	EPA 8276	Chlordane**	2.7	U	ng/L	P326163	
		Toxaphene**	13	U	ng/L	P326163	
1901315	EPA 8270D	Alachlor	0.25	U	ng/L	P325833	
		Ametryn	0.32	U	ng/L	P325833	
		Atrazine	0.25	U	ng/L	P325833	
		Atrazine Desethyl	1.5	U	ng/L	P325833	RPD
		Azinphos Methyl	2.2	U	ng/L	P325833	
		Bromacil	0.49	U	ng/L	P325833	
		Butylate	0.39	U	ng/L	P325833	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P325833	
		Chlorpyrifos Methyl	0.099	U	ng/L	P325833	
		Demeton	2.0	U	ng/L	P325833	

Field ID: G1NE0014 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901315	EPA 8270D	Diazinon	0.12	U	ng/L	P325833	MS
		Disulfoton	0.32	U	ng/L	P325833	
		EPTC	1.2	U	ng/L	P325833	
		Ethion	0.15	U	ng/L	P325833	
		Ethoprop	0.099	U	ng/L	P325833	
		Fenamiphos	0.25	U	ng/L	P325833	
		Fipronil	0.25	U	ng/L	P325833	
		Fipronil Sulfide	0.15	U	ng/L	P325833	
		Fipronil Sulfone	0.15	U	ng/L	P325833	
		Hexazinone	0.49	U	ng/L	P325833	
		Malathion	0.35	U	ng/L	P325833	
		Metribuzin	0.20	U	ng/L	P325833	
		Mevinphos	0.49	U	ng/L	P325833	
		Molinate	0.30	U	ng/L	P325833	
		Norflurazon	0.49	U	ng/L	P325833	
		Pendimethalin	1.5	U	ng/L	P325833	RPD
		Phorate	0.25	UJ	ng/L	P325833	
		Prometon	0.89	U	ng/L	P325833	
		Prometryn	0.20	U	ng/L	P325833	
		Simazine	0.49	U	ng/L	P325833	
		Terbufos	0.099	U	ng/L	P325833	
		Terbutylazine	0.42	U	ng/L	P325833	
		Fonofos	0.20	U	ng/L	P325833	
		Metalaxyl	0.20	U	ng/L	P325833	
		Metolachlor	0.25	U	ng/L	P325833	
		Acetochlor	0.25	U	ng/L	P325833	
		Cyanazine	0.49	U	ng/L	P325833	
		Parathion Ethyl	0.25	U	ng/L	P325833	
		Parathion Methyl	0.25	U	ng/L	P325833	
1901316	EPA 200.7 Rev. 4.4	Calcium	71.5		mg/L	P325839	
		Iron	30	U	ug/L	P325839	
		Magnesium	7.83		mg/L	P325839	
		Potassium	0.57	I	mg/L	P325839	
		Sodium	3.6		mg/L	P325839	
		Zinc	5.0	U	ug/L	P325839	
	EPA 200.8 Rev. 5.4	Arsenic	0.36		ug/L	P326400	
		Cadmium	0.020	U	ug/L	P326400	
		Chromium	1.1	I	ug/L	P326400	
		Copper	0.20	U	ug/L	P326400	
		Lead	0.050	U	ug/L	P326400	
		Nickel	0.20	U	ug/L	P326400	
		Silver	0.010	U	ug/L	P326400	

Field ID: G1NE0014 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment:							
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.							
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.							
EPA 8270D: Refer to the narrative for an explanation of QC Codes.							
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.							

Sample Location: HORNSBY SPRING

Collection Date/Time: 05/23/2017 12:15

Field ID: G1NE0017 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901293	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P325793	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P326773	MS
		Sulfate	50		mg SO4/L	P326775	
	SM 2120 B	Color (true)	5.1	I	PCU	P325783	
	SM 2320 B-97	Total Alkalinity	175		mg CaCO3/L	P325953	
	SM 2540 C-97	TDS	287		mg/L	P326092	
	SM 2540 D-97	TSS	2	I	mg/L	P326268	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P325957	RPD
1901296	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P325917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.091	I	mg N/L	P325868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.49		mg N/L	P325887	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	1.0		mg C/L	P326158	
1901299	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.072		mg P/L	P325776	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SANTA FE RISE

Collection Date/Time: 05/23/2017 12:55

Field ID: G1NE0015 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901294	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P325794	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P326773	MS
		Sulfate	97		mg SO4/L	P326775	
	SM 2120 B	Color (true)	29		PCU	P325783	
	SM 2320 B-97	Total Alkalinity	154		mg CaCO3/L	P325953	
	SM 2540 C-97	TDS	326		mg/L	P326092	
	SM 2540 D-97	TSS	2	I	mg/L	P326268	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P325957	RPD
1901297	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P325917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P325868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P325887	
	EPA 365.1 Rev. 2.0	Total-P	0.096		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P326158	

Field ID: G1NE0015 05232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901300	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.089		mg P/L	P325776	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: P325793

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P325794

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P325839

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: P326400

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: P326772

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326773

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326774

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326775

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325964

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

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

Reference Method: EPA 8270D
Batch ID: P325833

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P325833

Component	Result	Code	Units
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.32	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
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
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: P326163

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P326163

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

Reference Method: EPA 8276
Batch ID: P326163

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

Reference Method: EPA 8321B
Batch ID: P325694

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P325788

Component	Result	Code	Units
Pyraclostrobin	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P325790

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P325783

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325953

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: P326092

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P326093

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326268

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326269

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P326158

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

Reference Method: USGS O-2060-01
Batch ID: P325789

Component	Result	Code	Units
2,4-D	8.0E-04	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	0.0040	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: P325839

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	98.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P326400

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	93.3		P	85 - 115
Cadmium	97.7		P	85 - 115
Chromium	94.8		P	85 - 115
Copper	88.3		P	85 - 115
Lead	92.8		P	85 - 115
Nickel	91.7		P	85 - 115
Silver	92.9		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326772

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326773

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326774

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P326775

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P325917

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325964

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

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

Reference Method: EPA 8270D
Batch ID: P325833

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	92.7	86.9	P/P	78 - 118
Alachlor	90.4	87.6	P/P	77 - 119
Ametryn	107	96.7	P/P	61 - 136
Atrazine	98.8	97.8	P/P	73 - 120
Atrazine Desethyl	70.8	58.2	P/P	16 - 122
Azinphos Methyl	145	114	P/P	69 - 186
Bromacil	70.5	72.4	P/P	40 - 125
Butylate	64.7	52.2	P/P	32 - 87.0
Chlorpyrifos Ethyl	91.5	85.9	P/P	53 - 110
Chlorpyrifos Methyl	96.5	84.4	P/P	31 - 119
Cyanazine	107	93.6	P/P	36 - 224
Demeton	98.8	81.1	P/P	39 - 122
Diazinon	93.0	87.2	P/P	75 - 119
Disulfoton	89.1	71.5	P/P	42 - 139
EPTC	63.8	50.8	P/P	33 - 96.0
Ethion	94.8	92.9	P/P	63 - 127
Ethoprop	97.8	81.4	P/P	65 - 107
Fenamiphos	106	92.4	P/P	64 - 137
Fipronil	92.6	93.9	P/P	60 - 126
Fipronil Sulfide	86.4	89.1	P/P	58 - 124
Fipronil Sulfone	75.6	83.6	P/P	57 - 126
Fonofos	91.9	76.5	P/P	65 - 111

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P325833

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Hexazinone	88.5	89.8	P/P	46 - 151
Malathion	103	95.9	P/P	68 - 132
Metalaxyl	87.0	72.5	P/P	51 - 132
Metolachlor	91.3	90.2	P/P	78 - 119
Metribuzin	120	98.5	P/P	64 - 138
Mevinphos	97.7	74.1	P/P	34 - 128
Molinate	68.7	57.1	P/P	44 - 101
Norflurazon	92.1	86.4	P/P	63 - 129
Parathion Ethyl	95.3	95.5	P/P	80 - 109
Parathion Methyl	103	94.8	P/P	74 - 125
Pendimethalin	90.2	89.1	P/P	48 - 134
Phorate	115	83.1	P/P	52 - 119
Prometon	102	85.8	P/P	69 - 124
Prometryn	102	90.4	P/P	66 - 124
Simazine	97.3	92.2	P/P	61 - 134
Terbufos	91.6	75.5	P/P	58 - 115
Terbutylazine	92.4	91.7	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P326163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	52.5	56.5	P/P	30 - 83.0
Alpha-BHC	80.1	82.2	P/P	62 - 119
Alpha-Chlordane	81.7	75.1	P/P	56 - 119
Beta-BHC	91.6	83.4	P/P	54 - 141
Carbophenothion	44.2	43.8	P/P	33 - 147
Chlorothalonil	40.9	68.5	P/P	25 - 175
Cypermethrin	132	121	P/P	50 - 155
DDD-p,p'	92.2	88.2	P/P	56 - 135
DDE-p,p'	81.2	76.7	P/P	48 - 120
DDT-p,p'	84.4	81.2	P/P	51 - 121
Delta-BHC	121	103	P/P	65 - 163
Dicofol	55.6	45.3	P/P	15 - 112
Dieldrin	80.6	70.6	P/P	59 - 134
Endosulfan I	84.7	86.3	P/P	65 - 142
Endosulfan II	91.4	95.0	P/P	65 - 154
Endosulfan Sulfate	81.7	84.3	P/P	65 - 136
Endrin	81.2	80.1	P/P	53 - 156
Endrin Aldehyde	81.4	77.3	P/P	47 - 156
Endrin Ketone	70.9	73.6	P/P	70 - 124
Gamma-BHC	88.0	87.0	P/P	64 - 142
Gamma-Chlordane	78.3	75.6	P/P	55 - 114
Heptachlor	75.0	71.1	P/P	42 - 105
Heptachlor Epoxide	79.0	76.6	P/P	67 - 120
Methoxychlor	94.1	95.0	P/P	63 - 134
Mirex	61.5	63.8	P/P	40 - 90.0
Permethrin	111	100	P/P	36 - 144
Trifluralin	95.4	99.7	P/P	40 - 170

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P326163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.8	92.8	P/P	44 - 118
Toxaphene	90.3	98.7	P/P	36 - 136

Reference Method: EPA 8321B
Batch ID: P325694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	76.7		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P325788

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	47.2		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P325790

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	91.2		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P325953

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

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P326158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.0		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P325789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	66.6		P	40 - 140
Acetaminophen	48.4		P	40 - 140
Bentazon	63.2		P	40 - 140
Carbamazepine	92.2		P	40 - 140
Diuron	89.0		P	40 - 140
Fenuron	88.8		P	40 - 140
Fluridone	85.0		P	40 - 140
Imidacloprid	77.0		P	40 - 160
Linuron	74.6		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P325789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
MCP	81.2		P	40 - 140
Primidone	78.6		P	40 - 140
Triclopyr	77.4		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901001	Calcium	107		P	80 - 120
1901001	Iron	107		P	80 - 120
1901001	Magnesium	108		P	80 - 120
1901001	Sodium	104		P	80 - 120
1901001	Zinc	101		P	80 - 120
1901456	Calcium	98.6		P	80 - 120
1901456	Iron	109	102	P/P	80 - 120
1901456	Magnesium	112	102	P/P	80 - 120
1901456	Potassium	101	95.6	P/P	80 - 120
1901456	Sodium	105		P	80 - 120
1901456	Zinc	103	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900666	Arsenic	100	99.0	P/P	80 - 120
1900666	Cadmium	98.3	98.9	P/P	80 - 120
1900666	Chromium	90.3	89.5	P/P	80 - 120
1900666	Copper	87.6	86.3	P/P	80 - 120
1900666	Lead	99.1	98.2	P/P	80 - 120
1900666	Nickel	90.1	89.4	P/P	80 - 120
1900666	Silver	94.7	95.8	P/P	80 - 120
1901316	Arsenic	94.6		P	80 - 120
1901316	Cadmium	99.0		P	80 - 120
1901316	Chromium	92.1		P	80 - 120
1901316	Copper	85.4		P	80 - 120
1901316	Lead	95.2		P	80 - 120
1901316	Nickel	88.7		P	80 - 120
1901316	Silver	97.1		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326772

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900916	Chloride	103		P	90 - 110
1900917	Chloride	101		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901061	Chloride	110		F	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900916	Sulfate	101		P	90 - 110
1900917	Sulfate	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900983	Sulfate	102		P	90 - 110
1901061	Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901171	Ammonia-N	97.9	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901296	Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901163	NO2NO3-N	96.2	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901590	NO2NO3-N	97.7	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901297	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901093	O-Phosphate-P	96.6	97.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P325833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900695	Acetochlor	101	100	P/P	74 - 123
1900695	Alachlor	106	104	P/P	73 - 124
1900695	Ametryn	147	145	P/P	56 - 149
1900695	Atrazine	103	103	P/P	73 - 124
1900695	Atrazine Desethyl	47.6	71.3	P/P	12 - 103
1900695	Azinphos Methyl	163	161	P/P	60 - 202
1900695	Bromacil	90.4	89.2	P/P	42 - 133
1900695	Butylate	52.1	55.3	P/P	10 - 85.0
1900695	Chlorpyrifos Ethyl	86.6	89.5	P/P	53 - 113
1900695	Chlorpyrifos Methyl	96.5	93.0	P/P	40 - 115
1900695	Cyanazine	103	98.9	P/P	22 - 210
1900695	Demeton	106	103	P/P	17 - 149
1900695	Diazinon	108	107	P/P	72 - 124
1900695	Disulfoton	92.3	89.8	P/P	43 - 139
1900695	EPTC	52.7	52.7	P/P	10 - 86.0
1900695	Ethion	101	100	P/P	65 - 131
1900695	Ethoprop	116	112	F/F	59 - 110
1900695	Fenamiphos	98.0	94.1	P/P	57 - 138
1900695	Fipronil	92.3	91.8	P/P	40 - 130
1900695	Fipronil Sulfide	81.1	79.8	P/P	36 - 128
1900695	Fipronil Sulfone	68.4	66.4	P/P	16 - 145
1900695	Fonofos	104	104	P/P	60 - 112
1900695	Hexazinone	97.5	96.3	P/P	69 - 142
1900695	Malathion	104	101	P/P	68 - 132
1900695	Metalaxyl	90.4	90.3	P/P	66 - 118
1900695	Metolachlor	99.1	98.3	P/P	71 - 124
1900695	Metribuzin	116	114	P/P	61 - 140
1900695	Mevinphos	108	111	P/P	38 - 130
1900695	Molinate	66.3	65.2	P/P	23 - 99.0
1900695	Norflurazon	87.5	87.3	P/P	39 - 139
1900695	Parathion Ethyl	101	100	P/P	75 - 111
1900695	Parathion Methyl	108	109	P/P	64 - 130
1900695	Pendimethalin	98.3	98.6	P/P	26 - 173
1900695	Phorate	115	109	P/P	43 - 127
1900695	Prometon	117	116	P/P	50 - 144
1900695	Prometryn	91.6	90.6	P/P	69 - 126
1900695	Simazine	93.4	98.3	P/P	51 - 152
1900695	Terbufos	107	106	P/P	54 - 125
1900695	Terbutylazine	99.4	97.9	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P326163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900816	Aldrin	57.3	73.6	P/P	30 - 83.0
1900816	Alpha-BHC	81.7	92.2	P/P	62 - 119
1900816	Alpha-Chlordane	67.6	84.7	P/P	56 - 119
1900816	Beta-BHC	87.1	91.3	P/P	54 - 141
1900816	Carbophenothion	89.2	114	P/P	33 - 147
1900816	Chlorothalonil	53.4	74.6	P/P	25 - 175
1900816	Cypermethrin	98.9	128	P/P	50 - 155
1900816	DDD-p,p'	74.8	92.8	P/P	56 - 135

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P326163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900816	DDE-p,p'	66.4	85.1	P/P	48 - 120
1900816	DDT-p,p'	71.5	89.4	P/P	51 - 121
1900816	Delta-BHC	96.0	110	P/P	65 - 163
1900816	Dicofol	43.0	46.8	P/P	15 - 112
1900816	Dieldrin	77.1	91.1	P/P	59 - 134
1900816	Endosulfan I	74.5	93.3	P/P	65 - 142
1900816	Endosulfan II	79.3	99.2	P/P	65 - 154
1900816	Endosulfan Sulfate	87.3	96.0	P/P	65 - 136
1900816	Endrin	67.8	85.6	P/P	53 - 156
1900816	Endrin Aldehyde	66.6	78.1	P/P	47 - 156
1900816	Endrin Ketone	71.2	89.9	P/P	70 - 124
1900816	Gamma-BHC	101	92.8	P/P	64 - 142
1900816	Gamma-Chlordane	67.2	85.1	P/P	55 - 114
1900816	Heptachlor	64.6	82.8	P/P	42 - 105
1900816	Heptachlor Epoxide	76.1	89.6	P/P	67 - 120
1900816	Methoxychlor	89.4	102	P/P	63 - 134
1900816	Mirex	59.5	79.4	P/P	40 - 90.0
1900816	Permethrin	78.8	107	P/P	36 - 144
1900816	Trifluralin	109	133	P/P	40 - 170

Reference Method: EPA 8276
Batch ID: P326163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901314	Chlordane	89.0	86.2	P/P	44 - 118
1901314	Toxaphene	98.2	90.1	P/P	36 - 136

Reference Method: EPA 8321B
Batch ID: P325694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900888	Sucralose	99.0	68.0	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P325788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901499	Pyraclostrobin	89.6	101	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P325790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900995	Glyphosate	101	97.0	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901426	Fluoride	94.3	98.5	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P326158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902401	Organic Carbon	92.5	92.8	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P325789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900995	2,4-D	71.4	63.8	P/P	40 - 140
1900995	Acetaminophen	79.2	75.4	P/P	40 - 140
1900995	Bentazon	31.4	28.0	F/F	40 - 140
1900995	Carbamazepine	69.6	62.2	P/P	40 - 140
1900995	Diuron	57.8	52.0	P/P	40 - 140
1900995	Fenuron	49.4	67.6	P/P	40 - 140
1900995	Fluridone	75.0	65.6	P/P	40 - 140
1900995	Imidacloprid	120	111	P/P	40 - 160
1900995	Linuron	77.0	70.4	P/P	40 - 140
1900995	MCCP	64.0	54.2	P/P	40 - 140
1900995	Primidone	64.2	62.4	P/P	40 - 140
1900995	Triclopyr	67.4	63.2	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P325793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901162	Turbidity	0.643	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P325794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901123	Turbidity	2.44	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P325839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901456	Calcium	3.19	Spike	P	0 - 20
1901456	Iron	5.89	Spike	P	0 - 20
1901456	Magnesium	6.00	Spike	P	0 - 20
1901456	Potassium	3.76	Spike	P	0 - 20
1901456	Sodium	3.54	Spike	P	0 - 20
1901456	Zinc	1.28	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900666	Arsenic	1.01	Spike	P	0 - 20
1900666	Cadmium	0.552	Spike	P	0 - 20
1900666	Chromium	0.886	Spike	P	0 - 20
1900666	Copper	1.41	Spike	P	0 - 20
1900666	Lead	0.921	Spike	P	0 - 20
1900666	Nickel	0.712	Spike	P	0 - 20
1900666	Silver	1.17	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326772

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900916	Chloride	0.798	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901061	Chloride	0.161	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900916	Sulfate	0.523	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901061	Sulfate	0.331	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901171	Ammonia-N	0.630	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901296	Kjeldahl Nitrogen	2.22	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P325887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901163	NO2NO3-N	1.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P325964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901590	NO2NO3-N	0.862	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P325873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901297	Total-P	0.399	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P325776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901093	O-Phosphate-P	1.03	Spike	P	0 - 20

Reference Method: EPA 8270D
 Batch ID: P325833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900695	Acetochlor	0.235	Spike	P	0 - 30
1900695	Alachlor	1.81	Spike	P	0 - 30
1900695	Ametryn	0.894	Spike	P	0 - 30
1900695	Atrazine	0.0496	Spike	P	0 - 30
1900695	Atrazine Desethyl	39.9	Spike	F	0 - 30
1900695	Azinphos Methyl	1.49	Spike	P	0 - 30
1900695	Bromacil	1.37	Spike	P	0 - 30
1900695	Butylate	5.99	Spike	P	0 - 30
1900695	Chlorpyrifos Ethyl	3.24	Spike	P	0 - 30
1900695	Chlorpyrifos Methyl	3.69	Spike	P	0 - 30
1900695	Cyanazine	4.41	Spike	P	0 - 30
1900695	Demeton	2.49	Spike	P	0 - 30
1900695	Diazinon	1.15	Spike	P	0 - 30
1900695	Disulfoton	2.69	Spike	P	0 - 30
1900695	EPTC	0.0211	Spike	P	0 - 30
1900695	Ethion	1.10	Spike	P	0 - 30
1900695	Ethoprop	3.38	Spike	P	0 - 30
1900695	Fenamiphos	4.01	Spike	P	0 - 30
1900695	Fipronil	0.514	Spike	P	0 - 30
1900695	Fipronil Sulfide	1.65	Spike	P	0 - 30
1900695	Fipronil Sulfone	3.02	Spike	P	0 - 30
1900695	Fonofos	0.396	Spike	P	0 - 30
1900695	Hexazinone	1.09	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P325833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900695	Malathion	2.82	Spike	P	0 - 30
1900695	Metalaxyl	0.142	Spike	P	0 - 30
1900695	Metolachlor	0.769	Spike	P	0 - 30
1900695	Metribuzin	1.94	Spike	P	0 - 30
1900695	Mevinphos	2.86	Spike	P	0 - 30
1900695	Molinate	1.65	Spike	P	0 - 30
1900695	Norflurazon	0.258	Spike	P	0 - 30
1900695	Parathion Ethyl	1.06	Spike	P	0 - 30
1900695	Parathion Methyl	0.524	Spike	P	0 - 30
1900695	Pendimethalin	0.210	Spike	P	0 - 30
1900695	Phorate	5.40	Spike	P	0 - 30
1900695	Prometon	0.593	Spike	P	0 - 30
1900695	Prometryn	1.07	Spike	P	0 - 30
1900695	Simazine	4.32	Spike	P	0 - 30
1900695	Terbufos	0.876	Spike	P	0 - 30
1900695	Terbutylazine	1.58	Spike	P	0 - 30
LFB	Acetochlor	6.48	LCS	P	0 - 30
LFB	Alachlor	3.09	LCS	P	0 - 30
LFB	Ametryn	10.3	LCS	P	0 - 30
LFB	Atrazine	0.989	LCS	P	0 - 30
LFB	Atrazine Desethyl	19.5	LCS	P	0 - 30
LFB	Azinphos Methyl	24.2	LCS	P	0 - 30
LFB	Bromacil	2.61	LCS	P	0 - 30
LFB	Butylate	21.3	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	6.36	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	13.3	LCS	P	0 - 30
LFB	Cyanazine	13.3	LCS	P	0 - 30
LFB	Demeton	19.6	LCS	P	0 - 30
LFB	Diazinon	6.47	LCS	P	0 - 30
LFB	Disulfoton	21.9	LCS	P	0 - 30
LFB	EPTC	22.6	LCS	P	0 - 30
LFB	Ethion	2.03	LCS	P	0 - 30
LFB	Ethoprop	18.3	LCS	P	0 - 30
LFB	Fenamiphos	13.2	LCS	P	0 - 30
LFB	Fipronil	1.43	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.12	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.97	LCS	P	0 - 30
LFB	Fonofos	18.3	LCS	P	0 - 30
LFB	Hexazinone	1.41	LCS	P	0 - 30
LFB	Malathion	7.00	LCS	P	0 - 30
LFB	Metalaxyl	18.2	LCS	P	0 - 30
LFB	Metolachlor	1.25	LCS	P	0 - 30
LFB	Metribuzin	19.5	LCS	P	0 - 30
LFB	Mevinphos	27.6	LCS	P	0 - 30
LFB	Molinate	18.5	LCS	P	0 - 30
LFB	Norflurazon	6.39	LCS	P	0 - 30
LFB	Parathion Ethyl	0.125	LCS	P	0 - 30
LFB	Parathion Methyl	8.30	LCS	P	0 - 30
LFB	Pendimethalin	1.25	LCS	P	0 - 30
LFB	Phorate	32.0	LCS	F	0 - 30
LFB	Prometon	16.8	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P325833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometryn	12.4	LCS	P	0 - 30
LFB	Simazine	5.38	LCS	P	0 - 30
LFB	Terbufos	19.2	LCS	P	0 - 30
LFB	Terbutylazine	0.753	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P326163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900816	Aldrin	25.0	Spike	P	0 - 30
1900816	Alpha-BHC	12.1	Spike	P	0 - 30
1900816	Alpha-Chlordane	22.5	Spike	P	0 - 30
1900816	Beta-BHC	4.70	Spike	P	0 - 30
1900816	Carbophenothion	24.5	Spike	P	0 - 30
1900816	Chlorothalonil	33.1	Spike	F	0 - 30
1900816	Cypermethrin	25.8	Spike	P	0 - 30
1900816	DDD-p,p'	21.4	Spike	P	0 - 30
1900816	DDE-p,p'	24.6	Spike	P	0 - 30
1900816	DDT-p,p'	22.3	Spike	P	0 - 30
1900816	Delta-BHC	13.3	Spike	P	0 - 30
1900816	Dicofol	8.49	Spike	P	0 - 30
1900816	Dieldrin	16.6	Spike	P	0 - 30
1900816	Endosulfan I	22.4	Spike	P	0 - 30
1900816	Endosulfan II	22.3	Spike	P	0 - 30
1900816	Endosulfan Sulfate	9.56	Spike	P	0 - 30
1900816	Endrin	23.2	Spike	P	0 - 30
1900816	Endrin Aldehyde	15.8	Spike	P	0 - 30
1900816	Endrin Ketone	23.2	Spike	P	0 - 30
1900816	Gamma-BHC	8.04	Spike	P	0 - 30
1900816	Gamma-Chlordane	23.5	Spike	P	0 - 30
1900816	Heptachlor	24.7	Spike	P	0 - 30
1900816	Heptachlor Epoxide	16.3	Spike	P	0 - 30
1900816	Methoxychlor	13.4	Spike	P	0 - 30
1900816	Mirex	28.6	Spike	P	0 - 30
1900816	Permethrin	30.6	Spike	F	0 - 30
1900816	Trifluralin	19.3	Spike	P	0 - 30
LFB	Aldrin	7.37	LCS	P	0 - 30
LFB	Alpha-BHC	2.60	LCS	P	0 - 30
LFB	Alpha-Chlordane	8.36	LCS	P	0 - 30
LFB	Beta-BHC	9.40	LCS	P	0 - 30
LFB	Carbophenothion	0.843	LCS	P	0 - 30
LFB	Chlorothalonil	50.6	LCS	F	0 - 30
LFB	Cypermethrin	9.08	LCS	P	0 - 30
LFB	DDD-p,p'	4.45	LCS	P	0 - 30
LFB	DDE-p,p'	5.65	LCS	P	0 - 30
LFB	DDT-p,p'	3.80	LCS	P	0 - 30
LFB	Delta-BHC	16.2	LCS	P	0 - 30
LFB	Dicofol	20.4	LCS	P	0 - 30
LFB	Dieldrin	13.2	LCS	P	0 - 30
LFB	Endosulfan I	1.93	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P326163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	3.91	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.15	LCS	P	0 - 30
LFB	Endrin	1.29	LCS	P	0 - 30
LFB	Endrin Aldehyde	5.17	LCS	P	0 - 30
LFB	Endrin Ketone	3.82	LCS	P	0 - 30
LFB	Gamma-BHC	1.14	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.53	LCS	P	0 - 30
LFB	Heptachlor	5.35	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.03	LCS	P	0 - 30
LFB	Methoxychlor	0.932	LCS	P	0 - 30
LFB	Mirex	3.76	LCS	P	0 - 30
LFB	Permethrin	10.4	LCS	P	0 - 30
LFB	Trifluralin	4.36	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P326163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901314	Chlordane	3.23	Spike	P	0 - 30
1901314	Toxaphene	8.59	Spike	P	0 - 30
LFB	Chlordane	5.50	LCS	P	0 - 30
LFB	Toxaphene	8.84	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P325694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900888	Sucralose	3.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P325788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901499	Pyraclostrobin	11.8	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P325790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900995	Glyphosate	4.44	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P325783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901170	Color (true)	4.92	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P325953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901426	Total Alkalinity	0.344	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P326092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901292	TDS	1.26	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P326093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901301	TDS	7.23	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901426	Fluoride	3.38	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P326158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902401	Organic Carbon	0.239	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P325789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900995	2,4-D	10.5	Spike	P	0 - 30
1900995	Acetaminophen	4.92	Spike	P	0 - 30
1900995	Bentazon	11.4	Spike	P	0 - 30
1900995	Carbamazepine	11.2	Spike	P	0 - 30
1900995	Diuron	10.6	Spike	P	0 - 30
1900995	Fenuron	23.4	Spike	P	0 - 30
1900995	Fluridone	13.4	Spike	P	0 - 30
1900995	Imidacloprid	7.63	Spike	P	0 - 30
1900995	Linuron	8.96	Spike	P	0 - 30
1900995	MCCP	16.6	Spike	P	0 - 30
1900995	Primidone	2.84	Spike	P	0 - 30
1900995	Triclopyr	6.43	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: 1901309
Field Sample ID: G1NE0014 05232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	65.8	P	30 - 150
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	100	P	30 - 160
EPA 8321B	Diuron-d6	105	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	40 - 150
EPA 8321B	Primidone-d5	102	P	30 - 150
EPA 8321B	Sucralose-d6	85.0	P	40 - 150
USGS O-2060-01	2,4-D-d3	71.0	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	65.8	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	109	P	30 - 160
USGS O-2060-01	Diuron-d6	100	P	30 - 160
USGS O-2060-01	Diuron-d6	105	P	30 - 160
USGS O-2060-01	Primidone-d5	102	P	30 - 150

Lab Sample ID: 1901314
Field Sample ID: G1NE0014 05232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	76.0	P	51 - 123
EPA 8270D	Tetrachloro-m-xylene	55.4	P	31 - 111
EPA 8276	Decachlorobiphenyl	74.2	P	41 - 106

Lab Sample ID: 1901315
Field Sample ID: G1NE0014 05232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	93.6	P	62 - 132
EPA 8270D	Simazine-d10	103	P	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76655
Included Lab Sample IDs: 1901298, 1901299, 1901300, 1901303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.1	P/P	90 - 110
O-Phosphate-P	99.1	100	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A76656
Included Lab Sample IDs: 1901292, 1901293, 1901294, 1901301

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76659

Included Lab Sample IDs: 1901292, 1901293, 1901294, 1901301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	100	102	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76697

Included Lab Sample IDs: 1901295, 1901296, 1901297

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76718

Included Lab Sample IDs: 1901295, 1901296, 1901297, 1901302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76722

Included Lab Sample IDs: 1901309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	93.4	94.8	P/P	70 - 160

Reference Method: SM 2320 B-97

Run ID: A76730

Included Lab Sample IDs: 1901292, 1901293, 1901294, 1901301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76730

Included Lab Sample IDs: 1901292, 1901293, 1901294, 1901301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76743

Included Lab Sample IDs: 1901302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	97.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76745

Included Lab Sample IDs: 1901309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	79.5	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76768

Included Lab Sample IDs: 1901295, 1901296, 1901297

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76779

Included Lab Sample IDs: 1901295, 1901296, 1901297, 1901302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	107	P/P	90 - 110
Kjeldahl Nitrogen	107	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76805

Included Lab Sample IDs: 1901302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	94.5	93.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76818

Included Lab Sample IDs: 1901316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	104	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	105	105	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Sodium	104	104	P/P	90 - 110
Zinc	103	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A76825

Included Lab Sample IDs: 1901295, 1901296, 1901297, 1901302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.5	94.6	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A76862

Included Lab Sample IDs: 1901314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	95.7		P	80 - 120
Alpha-BHC	103		P	80 - 120
Alpha-Chlordane	95.6		P	80 - 120
Beta-BHC	105		P	80 - 120
Carbophenothion	89.7		P	80 - 120
Chlorothalonil	128*		F	80 - 120
Cypermethrin	100		P	80 - 120
DDD-p,p'	96.0		P	80 - 120
DDE-p,p'	97.8		P	80 - 120
DDT-p,p'	107		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A76862

Included Lab Sample IDs: 1901314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Delta-BHC	118		P	80 - 120
Dicofol	85.2		P	80 - 120
Dieldrin	97.1		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	103		P	80 - 120
Endosulfan Sulfate	102		P	80 - 120
Endrin	94.2		P	80 - 120
Endrin Aldehyde	85.8		P	80 - 120
Endrin Ketone	96.7		P	80 - 120
Gamma-BHC	104		P	80 - 120
Gamma-Chlordane	98.0		P	80 - 120
Heptachlor	92.2		P	80 - 120
Heptachlor Epoxide	95.2		P	80 - 120
Methoxychlor	109		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	93.7		P	80 - 120
Trifluralin	99.1		P	80 - 120

Reference Method: EPA 8321B

Run ID: A76863

Included Lab Sample IDs: 1901309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	89.6	87.6	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A76863

Included Lab Sample IDs: 1901309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.8	84.8	P/P	50 - 150
Acetaminophen	104	96.8	P/P	60 - 150
Bentazon	112	111	P/P	50 - 150
Carbamazepine	105	107	P/P	60 - 150
Diuron	98.4	97.6	P/P	60 - 150
Fenuron	112	110	P/P	60 - 150
Fluridone	112	108	P/P	60 - 160
Imidacloprid	96.4	93.2	P/P	60 - 150
Linuron	88.4	100	P/P	60 - 150
MCPP	94.0	95.2	P/P	50 - 150
Primidone	95.2	98.4	P/P	60 - 150
Triclopyr	95.6	94.8	P/P	50 - 150

Reference Method: EPA 8276

Run ID: A76874

Included Lab Sample IDs: 1901314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.9		P	80 - 120
Toxaphene	90.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A76907
Included Lab Sample IDs: 1901315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.3		P	80 - 120
Alachlor	99.3		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	104		P	80 - 120
Atrazine Desethyl	100		P	80 - 120
Azinphos Methyl	97.4		P	80 - 120
Bromacil	110		P	80 - 120
Butylate	99.2		P	80 - 120
Chlorpyrifos Ethyl	98.1		P	80 - 120
Chlorpyrifos Methyl	98.5		P	80 - 120
Cyanazine	99.2		P	80 - 120
Demeton	95.9		P	80 - 120
Diazinon	100		P	80 - 120
Disulfoton	95.2		P	80 - 120
EPTC	100		P	80 - 120
Ethion	96.0		P	80 - 120
Ethoprop	98.8		P	80 - 120
Fenamiphos	98.5		P	80 - 120
Fipronil	98.3		P	80 - 120
Fipronil Sulfide	100		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fonofos	99.1		P	80 - 120
Hexazinone	99.0		P	80 - 120
Malathion	95.8		P	80 - 120
Metaxyl	100		P	80 - 120
Metolachlor	102		P	80 - 120
Metribuzin	104		P	80 - 120
Mevinphos	88.9		P	80 - 120
Molinate	101		P	80 - 120
Norflurazon	93.9		P	80 - 120
Parathion Ethyl	95.0		P	80 - 120
Parathion Methyl	98.8		P	80 - 120
Pendimethalin	98.0		P	80 - 120
Phorate	96.8		P	80 - 120
Prometon	98.7		P	80 - 120
Prometryn	98.6		P	80 - 120
Simazine	101		P	80 - 120
Terbufos	96.6		P	80 - 120
Terbutylazine	98.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A76969
Included Lab Sample IDs: 1901316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	94.1	93.3	P/P	90 - 110
Cadmium	97.4	97.5	P/P	90 - 110
Chromium	97.0	97.1	P/P	90 - 110
Copper	91.4	91.5	P/P	90 - 110
Lead	93.8	94.6	P/P	90 - 110
Nickel	91.5	91.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76969

Included Lab Sample IDs: 1901316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	97.5	97.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77076

Included Lab Sample IDs: 1901292, 1901293, 1901294, 1901301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.4	P/P	90 - 110
Chloride	98.4	98.6	P/P	90 - 110
Chloride	98.9	99.7	P/P	90 - 110
Chloride	99.7	100	P/P	90 - 110
Sulfate	101	105	P/P	90 - 110
Sulfate	105	99.7	P/P	90 - 110
Sulfate	106	101	P/P	90 - 110
Sulfate	99.7	106	P/P	90 - 110

* 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						0.643	
	Turbidity						2.44	
EPA 200.7 Rev. 4.4	Calcium	104		107	98.6			3.19
	Iron	107		107	109	102		5.89
	Magnesium	113		108	112	102		6.00
	Potassium	102		101	95.6			3.76
	Sodium	103		104	105			3.54
	Zinc	98.7		101	103	101		1.28
EPA 200.8 Rev. 5.4	Arsenic	93.3		100	99.0	94.6		1.01
	Cadmium	97.7		98.3	98.9	99.0		0.552
	Chromium	94.8		90.3	89.5	92.1		0.886
	Copper	88.3		87.6	86.3	85.4		1.41
	Lead	92.8		99.1	98.2	95.2		0.921
	Nickel	91.7		90.1	89.4	88.7		0.712
	Silver	92.9		94.7	95.8	97.1		1.17
EPA 300.0 Rev. 2.1	Chloride	101		103	101		0.798	
	Chloride	107		110			0.161	
	Sulfate	98.4		101	99.1		0.523	
	Sulfate	106		107	102		0.331	
EPA 350.1 Rev. 2.0	Ammonia-N	96.5		97.9	98.8			0.630
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.3		103	101			2.22
EPA 353.2 Rev. 2.0	NO2NO3-N	100		96.2	98.2			1.92
	NO2NO3-N	101		97.7	98.7			0.862
EPA 365.1 Rev. 2.0	Total-P	102		102	101			0.399
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		96.6	97.6			1.03

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Acetochlor	92.7	86.9	100	101	6.48	0.235
	Alachlor	90.4	87.6	104	106	3.09	1.81
	Aldrin	52.5	56.5	57.3	73.6	7.37	25.0
	Alpha-BHC	80.1	82.2	81.7	92.2	2.60	12.1
	Alpha-Chlordane	81.7	75.1	67.6	84.7	8.36	22.5
	Ametryn	107	96.7	145	147	10.3	0.894
	Atrazine	98.8	97.8	103	103	0.989	0.0496
	Atrazine Desethyl	70.8	58.2	71.3	47.6	19.5	39.9
	Azinphos Methyl	145	114	161	163	24.2	1.49
	Beta-BHC	91.6	83.4	87.1	91.3	9.40	4.70
	Bromacil	70.5	72.4	89.2	90.4	2.61	1.37
	Butylate	64.7	52.2	55.3	52.1	21.3	5.99
	Carbophenothion	44.2	43.8	89.2	114	0.843	24.5
	Chlorothalonil	68.5	40.9	53.4	74.6	50.6	33.1
	Chlorpyrifos Ethyl	91.5	85.9	89.5	86.6	6.36	3.24
	Chlorpyrifos Methyl	96.5	84.4	93.0	96.5	13.3	3.69
	Cyanazine	107	93.6	98.9	103	13.3	4.41
	Cypermethrin	121	132	98.9	128	9.08	25.8
	DDD-p,p'	88.2	92.2	74.8	92.8	4.45	21.4
	DDE-p,p'	76.7	81.2	66.4	85.1	5.65	24.6
	DDT-p,p'	81.2	84.4	71.5	89.4	3.80	22.3
	Delta-BHC	103	121	96.0	110	16.2	13.3
	Demeton	98.8	81.1	103	106	19.6	2.49
	Diazinon	93.0	87.2	107	108	6.47	1.15
	Dicofol	45.3	55.6	43.0	46.8	20.4	8.49
	Dieldrin	70.6	80.6	77.1	91.1	13.2	16.6
	Disulfoton	89.1	71.5	89.8	92.3	21.9	2.69
	Endosulfan I	86.3	84.7	74.5	93.3	1.93	22.4
	Endosulfan II	95.0	91.4	79.3	99.2	3.91	22.3
	Endosulfan Sulfate	84.3	81.7	87.3	96.0	3.15	9.56
	Endrin	80.1	81.2	67.8	85.6	1.29	23.2
	Endrin Aldehyde	77.3	81.4	66.6	78.1	5.17	15.8
	Endrin Ketone	73.6	70.9	71.2	89.9	3.82	23.2
	EPTC	63.8	50.8	52.7	52.7	22.6	0.0211
	Ethion	94.8	92.9	100	101	2.03	1.10
	Ethoprop	97.8	81.4	112	116	18.3	3.38
	Fenamiphos	106	92.4	94.1	98.0	13.2	4.01
	Fipronil	92.6	93.9	91.8	92.3	1.43	0.514
	Fipronil Sulfide	86.4	89.1	79.8	81.1	3.12	1.65
	Fipronil Sulfone	75.6	83.6	66.4	68.4	9.97	3.02
	Fonofos	91.9	76.5	104	104	18.3	0.396
	Gamma-BHC	87.0	88.0	101	92.8	1.14	8.04
	Gamma-Chlordane	75.6	78.3	67.2	85.1	3.53	23.5
	Heptachlor	71.1	75.0	64.6	82.8	5.35	24.7
	Heptachlor Epoxide	76.6	79.0	76.1	89.6	3.03	16.3
	Hexazinone	88.5	89.8	96.3	97.5	1.41	1.09
	Malathion	103	95.9	101	104	7.00	2.82
	Metalaxyl	87.0	72.5	90.4	90.3	18.2	0.142
	Methoxychlor	95.0	94.1	89.4	102	0.932	13.4
	Metolachlor	91.3	90.2	99.1	98.3	1.25	0.769
	Metribuzin	120	98.5	116	114	19.5	1.94
	Mevinphos	97.7	74.1	108	111	27.6	2.86
	Mirex	63.8	61.5	59.5	79.4	3.76	28.6
	Molinate	68.7	57.1	66.3	65.2	18.5	1.65

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Norflurazon	92.1	86.4	87.5	87.3	6.39	0.258
	Parathion Ethyl	95.3	95.5	101	100	0.125	1.06
	Parathion Methyl	103	94.8	108	109	8.30	0.524
	Pendimethalin	90.2	89.1	98.3	98.6	1.25	0.210
	Permethrin	100	111	78.8	107	10.4	30.6
	Phorate	115	83.1	115	109	32.0	5.40
	Prometon	102	85.8	117	116	16.8	0.593
	Prometryn	102	90.4	91.6	90.6	12.4	1.07
	Simazine	97.3	92.2	93.4	98.3	5.38	4.32
	Terbufos	91.6	75.5	107	106	19.2	0.876
	Terbutylazine	92.4	91.7	99.4	97.9	0.753	1.58
	Trifluralin	99.7	95.4	109	133	4.36	19.3
	Chlordane	87.8	92.8	89.0	86.2	5.50	3.23
	Toxaphene	90.3	98.7	98.2	90.1	8.84	8.59
EPA 8276	Glyphosate	91.2		101	97.0		4.44
	Pyraclostrobin	47.2		89.6	101		11.8
	Sucralose	76.7		99.0	68.0		3.15
EPA 8321B							
SM 2120 B	Color (true)					4.92	
SM 2320 B-97	Total Alkalinity	103				0.344	
SM 2540 C-97	TDS					1.26	
	TDS					7.23	
SM 4500 F-C-97	Fluoride	95.8		94.3	98.5		3.38
SM 5310 B-00	Organic Carbon	93.0		92.5	92.8		0.239
USGS O-2060-01	2,4-D	66.6		71.4	63.8		10.5
	Acetaminophen	48.4		79.2	75.4		4.92
	Bentazon	63.2		31.4	28.0		11.4
	Carbamazepine	92.2		69.6	62.2		11.2
	Diuron	89.0		57.8	52.0		10.6
	Fenuron	88.8		49.4	67.6		23.4
	Fluridone	85.0		75.0	65.6		13.4
	Imidacloprid	77.0		120	111		7.63
	Linuron	74.6		77.0	70.4		8.96
	MCP	81.2		64.0	54.2		16.6
	Primidone	78.6		64.2	62.4		2.84
	Triclopyr	77.4		67.4	63.2		6.43

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1901292, 1901293, 1901294, 1901301
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1901316
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1901316
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1901292, 1901293, 1901294, 1901301
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1901292, 1901293, 1901294, 1901301
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1901295, 1901296, 1901297, 1901302
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1901295, 1901296, 1901297, 1901302
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1901295, 1901296, 1901297, 1901302

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1901295, 1901296, 1901297, 1901302
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1901298, 1901299, 1901300, 1901303
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1901314
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1901315
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1901314
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1901309
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1901309
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1901309
SM 2120 B / E31780	True Color measured at 450 nm	1901292, 1901293, 1901294, 1901301
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1901292, 1901293, 1901294, 1901301
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1901292, 1901293, 1901294, 1901301
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1901292, 1901293, 1901294, 1901301
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1901292, 1901293, 1901294, 1901301
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1901295, 1901296, 1901297, 1901302
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1901309
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1901309

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	05/24/2017			05/24/2017 16:45	Sima Feizi	1901292, 1901293, 1901294, 1901301
EPA 200.7 Rev. 4.4	05/24/2017	05/25/2017	Elliott D. Healy	06/01/2017	Betina Topolski	1901316
EPA 200.8 Rev. 5.4	05/24/2017	06/07/2017	Elliott D. Healy	06/08/2017	Robert K Palmer	1901316
EPA 300.0 Rev. 2.1	05/24/2017			06/12/2017	Julia Storbeck	1901292
	05/24/2017			06/13/2017	Julia Storbeck	1901293, 1901294, 1901301
EPA 350.1 Rev. 2.0	05/24/2017			05/26/2017	Julia Storbeck	1901295, 1901296, 1901297, 1901302
EPA 351.2 Rev. 2.0	05/24/2017	05/26/2017	Adrian Shelby	05/31/2017	Joseph Suarez	1901295, 1901296, 1901297, 1901302
EPA 353.2 Rev. 2.0	05/24/2017			05/26/2017	Beverly Y. Sanders	1901295, 1901296, 1901297
	05/24/2017			05/30/2017	Beverly Y. Sanders	1901302
EPA 365.1 Rev. 2.0	05/24/2017	05/26/2017	Adrian Shelby	05/31/2017	Beverly Y. Sanders	1901295, 1901296, 1901297
	05/24/2017	05/26/2017	Adrian Shelby	05/31/2017	Lipi Saha	1901302
EPA 365.1 Rev. 2.0 dissolved	05/24/2017			05/24/2017 15:10	Julia Storbeck	1901298
	05/24/2017			05/24/2017 15:11	Julia Storbeck	1901299
	05/24/2017			05/24/2017 15:12	Julia Storbeck	1901300
	05/24/2017			05/24/2017 15:26	Julia Storbeck	1901303
EPA 8270D	05/24/2017	05/26/2017	Fe-Val Siddell	06/01/2017	Marek Topolski	1901315
	05/24/2017	05/26/2017	Rasheda Ghaffari	06/01/2017	Kerry Tate	1901314
	05/24/2017	05/26/2017	Rasheda Ghaffari	06/01/2017	Marek Topolski	1901314
EPA 8276	05/24/2017	05/26/2017	Rasheda Ghaffari	06/02/2017	John P. Burgos	1901314
EPA 8321B	05/24/2017	05/26/2017	Fe-Val Siddell	05/31/2017	Juyoung Kim	1901309
	05/24/2017	05/26/2017	Mohammad Ghaffari	05/26/2017	Mohammad Ghaffari	1901309
	05/24/2017	05/27/2017	Mohammad Ghaffari	05/28/2017	Mohammad Ghaffari	1901309
SM 2120 B	05/24/2017			05/24/2017 15:26	Tanya Welborn	1901292
	05/24/2017			05/24/2017 15:27	Tanya Welborn	1901293
	05/24/2017			05/24/2017 15:28	Tanya Welborn	1901294, 1901301
SM 2320 B-97	05/24/2017			05/27/2017	Dale L. Simmons	1901292, 1901293, 1901294, 1901301
SM 2540 C-97	05/24/2017			05/26/2017	Yijie Li	1901292, 1901293, 1901294, 1901301
SM 2540 D-97	05/24/2017			05/26/2017	Yijie Li	1901292, 1901293, 1901294, 1901301
SM 4500 F-C-97	05/24/2017			05/27/2017	Dale L. Simmons	1901292, 1901293, 1901294, 1901301
SM 5310 B-00	05/24/2017			06/01/2017	Julie Michelle Frank	1901295, 1901296, 1901297, 1901302
USGS O-2060-01	05/24/2017	05/30/2017	Hoor Shaik	05/31/2017	Juyoung Kim	1901309