

Chemical Analysis Report

NW-DIST-2017-04-27-02

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

Event Description: **BAKER CRESTVIEW RUN WBID 275 30G 321 83 91**
Request ID: **RQ-2017-04-17-24**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Colin Wright, Program Administrator

Date Certified: 26-MAY-2017 17:06

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: Baggett Creek upstream of Keyser Mill Rd.

Collection Date/Time: 04/26/2017 11:00

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893695	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P324194	
	EPA 300.0 Rev. 2.1	Chloride	4.6		mg Cl/L	P324870	
		Sulfate	0.54		mg SO4/L	P324874	
	SM 2120 B	Color (true)	21		PCU	P324143	
	SM 2320 B-97	Total Alkalinity	3.6		mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	19	I	mg/L	P325073	
	SM 2540 D-97	TSS	24		mg/L	P324863	
1893696	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P324831	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P324261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36		mg N/L	P324287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.85		mg N/L	P324389	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P324347	
1893697	SM 5310 B-00	Organic Carbon	2.1		mg C/L	P324282	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324185	
1893766	EPA 200.7 Rev. 4.4	Calcium	1.41		mg/L	P324493	
		Iron	700		ug/L	P324493	
		Magnesium	1.49		mg/L	P324493	
		Potassium	0.61	I	mg/L	P324493	
		Sodium	2.7		mg/L	P324493	
		Zinc	5.0	U	ug/L	P324493	
	EPA 200.8 Rev. 5.4	Arsenic	0.25		ug/L	P324493	
		Cadmium	0.020	U	ug/L	P324493	
		Chromium	0.40	U	ug/L	P324493	
		Copper	0.20	U	ug/L	P324493	
		Lead	0.23		ug/L	P324493	
		Nickel	0.31	I	ug/L	P324493	
		Silver	0.010	U	ug/L	P324493	

Ref. Method and Comment:

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

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

Sample Location: Baggett Creek upstream of Keyser Mill Rd.

Collection Date/Time: 04/26/2017 11:00

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893749	EPA 8321B	Glyphosate**	10	U	ug/L	P324039	
		Sucralose**	0.17		ug/L	P324163	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P324171	
		Diuron	8.0E-04	U	ug/L	P324171	
		Fenuron	0.013	I	ug/L	P324171	
		Imidacloprid	0.0066		ug/L	P324171	MS
		Bentazon	0.0030	I	ug/L	P324171	
		Linuron	0.0040	U	ug/L	P324171	
		Acetaminophen**	0.0080	U	ug/L	P324171	

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893749	USGS O-2060-01	MCP	8.0E-04	U	ug/L	P324171	
		Carbamazepine**	5.6E-04	I	ug/L	P324171	
		Triclopyr**	0.0040	U	ug/L	P324171	
		Primidone**	0.0040	U	ug/L	P324171	
		Fluridone**	4.0E-04	U	ug/L	P324171	
1893750	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P324033	
1893764	EPA 8270D	Aldrin	4.2	UJ	ng/L	P324073	SUR
		Alpha-BHC	2.1	UJ	ng/L	P324073	SUR
		Beta-BHC	4.2	UJ	ng/L	P324073	SUR
		Delta-BHC	4.2	UJ	ng/L	P324073	SUR
		Gamma-BHC	4.2	UJ	ng/L	P324073	SUR
		Carbophenothion	4.2	UJ	ng/L	P324073	SUR
		Chlorothalonil	2.1	UJ	ng/L	P324073	LCS, RPD, SUR
		Cypermethrin	21	UJ	ng/L	P324073	SUR
		DDD-p,p'	3.5	IJ	ng/L	P324073	SUR
		DDE-p,p'	3.2	UJ	ng/L	P324073	SUR
		DDT-p,p'	3.2	UJ	ng/L	P324073	SUR
		Dieldrin	4.2	UJ	ng/L	P324073	SUR
		Endosulfan I	4.2	UJ	ng/L	P324073	SUR
		Endosulfan II	4.2	UJ	ng/L	P324073	SUR
		Endosulfan Sulfate	2.1	UJ	ng/L	P324073	SUR
		Endrin	2.1	UJ	ng/L	P324073	SUR
		Endrin Aldehyde	2.1	U	ng/L	P324073	SUR
		Heptachlor	1.6	UJ	ng/L	P324073	SUR
		Heptachlor Epoxide	2.1	UJ	ng/L	P324073	SUR
		Methoxychlor	4.2	UJ	ng/L	P324073	SUR
		Mirex	2.1	UJ	ng/L	P324073	SUR
		Permethrin	11	UJ	ng/L	P324073	SUR
		Trifluralin	1.1	UJ	ng/L	P324073	MS, SUR
		Alpha-Chlordane	2.4	IJ	ng/L	P324073	SUR
		Gamma-Chlordane	2.8	IJ	ng/L	P324073	SUR
		Endrin Ketone	2.1	UJ	ng/L	P324073	SUR
		Dicofol	32	UJ	ng/L	P324073	MS, RPD, SUR
	EPA 8276	Chlordane**	14	J	ng/L	P324073	SUR
		Toxaphene**	13	UJ	ng/L	P324073	SUR
1893765	EPA 8270D	Ametryn	0.31	U	ng/L	P324314	
		Atrazine	0.76	I	ng/L	P324314	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P324314	
		Chlorpyrifos Methyl	0.096	U	ng/L	P324314	
		Disulfoton	0.31	U	ng/L	P324314	
		Ethion	0.14	U	ng/L	P324314	
		Ethoprop	0.096	U	ng/L	P324314	
		Hexazinone	1.7	I	ng/L	P324314	
		Malathion	0.34	U	ng/L	P324314	

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893765	EPA 8270D	Metribuzin	0.19	U	ng/L	P324314	
		Mevinphos	0.48	U	ng/L	P324314	
		Norflurazon	0.48	U	ng/L	P324314	
		Phorate	0.24	U	ng/L	P324314	
		Prometryn	0.19	U	ng/L	P324314	
		Simazine	0.48	U	ng/L	P324314	
		Atrazine Desethyl	1.4	U	ng/L	P324314	
		Prometon	0.87	U	ng/L	P324314	
		Fipronil	0.41	I	ng/L	P324314	
		Molinate	0.29	U	ng/L	P324314	
		Pendimethalin	1.4	U	ng/L	P324314	
		Terbufos	0.096	U	ng/L	P324314	
		EPTC	1.2	U	ng/L	P324314	
		Terbuthylazine	0.41	U	ng/L	P324314	
		Bromacil	1.4	I	ng/L	P324314	
		Fipronil Sulfide	0.14	U	ng/L	P324314	
		Fipronil Sulfone	0.37	I	ng/L	P324314	
		Alachlor	0.24	U	ng/L	P324314	
		Azinphos Methyl	2.2	U	ng/L	P324314	
		Butylate	0.38	U	ng/L	P324314	
		Demeton	1.9	UJ	ng/L	P324314	CCV
		Diazinon	0.12	U	ng/L	P324314	
		Fenamiphos	0.24	UJ	ng/L	P324314	LCS, MS
		Fonofos	0.19	U	ng/L	P324314	
		Metalaxyl	0.19	U	ng/L	P324314	
		Metolachlor	2.4		ng/L	P324314	
		Acetochlor	0.24	U	ng/L	P324314	
		Cyanazine	0.48	UJ	ng/L	P324314	CCV
		Parathion Ethyl	0.24	U	ng/L	P324314	
		Parathion Methyl	0.24	U	ng/L	P324314	

Ref. Method and Comment:

EPA 8270D: Refer to the narrative for an explanation of QC Codes. Surrogate failures were observed in both original extraction and re-extraction. No positives were detected in the re-extraction.

EPA 8276: Refer to the narrative for an explanation of QC Codes. Reported results qualified with "J" due to surrogate below control limits; the sample was subsequently re-extracted after expiration and re-analyzed with acceptable surrogate recovery. No positives were detected in the re-extraction.

Sample Location: Trammel Creek @ Hwy 4

Collection Date/Time: 04/26/2017 11:35

Field ID: G4NW0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893698	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P324194	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P324870	
		Sulfate	4.3		mg SO4/L	P324874	
	SM 2120 B	Color (true)	48		PCU	P324143	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	40		mg/L	P325073	
	SM 2540 D-97	TSS	2	I	mg/L	P324863	

Field ID: G4NW0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893698	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P324831	
1893702	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P324261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P324287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P324389	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P324347	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P324282	
1893706	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P324185	

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: TiTi Creek @ Hwy 285

Collection Date/Time: 04/26/2017 12:50

Field ID: G4NW0365

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893699	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P324194	
	EPA 300.0 Rev. 2.1	Chloride	2.0		mg Cl/L	P324870	
		Sulfate	0.73		mg SO4/L	P324874	
	SM 2120 B	Color (true)	34		PCU	P324145	
	SM 2320 B-97	Total Alkalinity	0.76	I	mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	15	U	mg/L	P325073	
	SM 2540 D-97	TSS	2	U	mg/L	P324863	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P324831	
1893703	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P324287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P324389	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P324348	
	SM 5310 B-00	Organic Carbon	2.3		mg C/L	P324282	
1893707	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324185	

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: Green Branch upstream of Buck Tyner Rd

Collection Date/Time: 04/26/2017 13:45

Field ID: G4NW0207

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893700	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P324194	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P324870	
		Sulfate	0.42	I	mg SO4/L	P324874	
	SM 2120 B	Color (true)	77	A	PCU	P324145	
	SM 2320 B-97	Total Alkalinity	5.6		mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	23	I	mg/L	P325073	
	SM 2540 D-97	TSS	4	I	mg/L	P324863	
	SM 4500 F-C-97	Fluoride	0.036	I	mg F/L	P324831	
1893704	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P324261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P324287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324389	

Field ID: G4NW0207

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893704	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P324348	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P324282	
1893708	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P324187	

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: Hurricane Creek below Hurricane Lake

Collection Date/Time: 04/26/2017 14:30

Field ID: G4NW0160

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893701	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P324194	
	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P324870	
		Sulfate	0.25	I	mg SO4/L	P324874	
	SM 2120 B	Color (true)	61		PCU	P324145	
	SM 2320 B-97	Total Alkalinity	1.2	I	mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	18	I	mg/L	P325073	
	SM 2540 D-97	TSS	4	I	mg/L	P324863	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P324831	
1893705	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P324261	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P324287	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P324390	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P324348	
	SM 5310 B-00	Organic Carbon	5.4		mg C/L	P324282	
1893709	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324187	

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: P324194

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P324493

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324493

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: P324870

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324261

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324287

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324389

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324390

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324347

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P324348

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P324185

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P324187

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

Reference Method: EPA 8270D

Batch ID: P324073

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 8270D

Batch ID: P324314

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P324314

Component	Result	Code	Units
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
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 8276

Batch ID: P324073

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

Reference Method: EPA 8321B

Batch ID: P324033

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P324039

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P324163

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P324143

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P324145

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325141

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

Reference Method: SM 2540 C-97
Batch ID: P325073

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324863

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P324282

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: P324171

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
MCPD	8.0E-04	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: P324493

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	102		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	102		P	85 - 115
Sodium	105		P	85 - 115
Zinc	99.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P324493

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.8		P	85 - 115
Cadmium	107		P	85 - 115
Chromium	101		P	85 - 115
Copper	92.4		P	85 - 115
Lead	101		P	85 - 115
Nickel	94.1		P	85 - 115
Silver	97.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P324870

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P324874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P324261

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P324287

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P324389

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: P324390

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P324347

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P324348

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: P324185

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P324187

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

Reference Method: EPA 8270D
 Batch ID: P324073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	49.7	46.3	P/P	30 - 83.0
Alpha-BHC	93.1	92.6	P/P	62 - 119
Alpha-Chlordane	94.0	86.3	P/P	56 - 119
Beta-BHC	107	107	P/P	54 - 141

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
 Batch ID: P324073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbophenothion	109	110	P/P	33 - 147
Chlorothalonil	23.8	61.7	F/P	25 - 175
Cypermethrin	101	83.2	P/P	50 - 155
DDD-p,p'	100	91.7	P/P	56 - 135
DDE-p,p'	92.0	89.0	P/P	48 - 120
DDT-p,p'	98.8	95.4	P/P	51 - 121
Delta-BHC	124	127	P/P	65 - 163
Dicofol	44.1	33.8	P/P	15 - 112
Dieldrin	92.6	85.6	P/P	59 - 134
Endosulfan I	100	95.3	P/P	65 - 142
Endosulfan II	102	98.3	P/P	65 - 154
Endosulfan Sulfate	95.2	93.0	P/P	65 - 136
Endrin	102	91.2	P/P	53 - 156
Endrin Aldehyde	89.3	82.8	P/P	47 - 156
Endrin Ketone	93.6	91.1	P/P	70 - 124
Gamma-BHC	103	102	P/P	64 - 142
Gamma-Chlordane	91.1	82.9	P/P	55 - 114
Heptachlor	76.6	73.7	P/P	42 - 105
Heptachlor Epoxide	94.2	87.8	P/P	67 - 120
Methoxychlor	108	100	P/P	63 - 134
Mirex	77.1	72.4	P/P	40 - 90.0
Permethrin	99.6	83.3	P/P	36 - 144
Trifluralin	147	126	P/P	40 - 170

Reference Method: EPA 8270D
 Batch ID: P324314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	105	89.2	P/P	78 - 118
Alachlor	102	84.5	P/P	77 - 119
Ametryn	126	109	P/P	61 - 136
Atrazine	108	92.0	P/P	73 - 120
Atrazine Desethyl	76.0	67.8	P/P	16 - 122
Azinphos Methyl	144	131	P/P	69 - 186
Bromacil	88.1	77.3	P/P	40 - 125
Butylate	52.5	48.4	P/P	32 - 87.0
Chlorpyrifos Ethyl	99.8	87.2	P/P	53 - 110
Chlorpyrifos Methyl	97.7	86.1	P/P	31 - 119
Cyanazine	122	105	P/P	36 - 224
Demeton	102	94.6	P/P	39 - 122
Diazinon	101	84.5	P/P	75 - 119
Disulfoton	99.3	92.0	P/P	42 - 139
EPTC	51.4	47.9	P/P	33 - 96.0
Ethion	126	112	P/P	63 - 127
Ethoprop	103	85.1	P/P	65 - 107
Fenamiphos	150	131	F/P	64 - 137
Fipronil	113	99.2	P/P	60 - 126
Fipronil Sulfide	106	88.1	P/P	58 - 124
Fipronil Sulfone	102	91.1	P/P	57 - 126
Fonofos	97.9	82.9	P/P	65 - 111
Hexazinone	93.3	95.5	P/P	46 - 151
Malathion	102	98.5	P/P	68 - 132

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P324314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Metalaxyl	98.8	85.1	P/P	51 - 132
Metolachlor	110	91.1	P/P	78 - 119
Metribuzin	111	94.2	P/P	64 - 138
Mevinphos	95.4	81.9	P/P	34 - 128
Molinate	63.3	55.7	P/P	44 - 101
Norflurazon	112	97.5	P/P	63 - 129
Parathion Ethyl	98.7	87.9	P/P	80 - 109
Parathion Methyl	91.9	85.8	P/P	74 - 125
Pendimethalin	97.4	86.1	P/P	48 - 134
Phorate	109	87.1	P/P	52 - 119
Prometon	115	94.8	P/P	69 - 124
Prometryn	118	102	P/P	66 - 124
Simazine	105	88.9	P/P	61 - 134
Terbufos	100	85.9	P/P	58 - 115
Terbuthylazine	99.0	86.0	P/P	77 - 113

Reference Method: EPA 8276

Batch ID: P324073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	77.2	84.6	P/P	44 - 118
Toxaphene	92.7	90.9	P/P	36 - 136

Reference Method: EPA 8321B

Batch ID: P324033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	94.4		P	40 - 140

Reference Method: EPA 8321B

Batch ID: P324039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	129		P	40 - 140

Reference Method: EPA 8321B

Batch ID: P324163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	73.6		P	40 - 140

Reference Method: SM 2320 B-97

Batch ID: P325141

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

Reference Method: SM 4500 F-C-97

Batch ID: P324831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P324282

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P324171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.0		P	40 - 140
Acetaminophen	43.4		P	40 - 140
Bentazon	47.0		P	40 - 140
Carbamazepine	114		P	40 - 140
Diuron	119		P	40 - 140
Fenuron	106		P	40 - 140
Fluridone	99.5		P	40 - 140
Imidacloprid	108		P	40 - 160
Linuron	106		P	40 - 140
MCP	74.2		P	40 - 140
Primidone	99.7		P	40 - 140
Triclopyr	74.9		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893017	Calcium	109	106	P/P	80 - 120
1893017	Iron	107	104	P/P	80 - 120
1893017	Magnesium	113	105	P/P	80 - 120
1893017	Potassium	98.7	94.9	P/P	80 - 120
1893017	Sodium	104		P	80 - 120
1893017	Zinc	105	102	P/P	80 - 120
1893888	Calcium	100		P	80 - 120
1893888	Iron	99.4		P	80 - 120
1893888	Magnesium	97.0		P	80 - 120
1893888	Zinc	105		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893017	Arsenic	101	98.3	P/P	80 - 120
1893017	Cadmium	109	105	P/P	80 - 120
1893017	Chromium	105	102	P/P	80 - 120
1893017	Copper	94.8	92.3	P/P	80 - 120
1893017	Lead	103	101	P/P	80 - 120
1893017	Nickel	96.1	93.5	P/P	80 - 120
1893017	Silver	98.2	95.6	P/P	80 - 120
1893888	Arsenic	104		P	80 - 120
1893888	Cadmium	100		P	80 - 120
1893888	Chromium	86.8		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893888	Copper	85.7		P	80 - 120
1893888	Lead	101		P	80 - 120
1893888	Nickel	90.7		P	80 - 120
1893888	Silver	96.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324870

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893679	Chloride	97.5		P	90 - 110
1893698	Chloride	98.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893679	Sulfate	94.6		P	90 - 110
1893698	Sulfate	93.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893635	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893705	Kjeldahl Nitrogen	95.3	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893656	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324390

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893776	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893598	Total-P	96.1	94.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P324348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893704	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P324185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893582	O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P324187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893708	O-Phosphate-P	95.8	95.6	P/P	90 - 110

Reference Method: EPA 8270D

Batch ID: P324073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892624	Aldrin	59.2	70.7	P/P	30 - 83.0
1892624	Alpha-BHC	86.6	110	P/P	62 - 119
1892624	Alpha-Chlordane	75.0	88.4	P/P	56 - 119
1892624	Beta-BHC	89.2	109	P/P	54 - 141
1892624	Carbophenothion	125	147	P/P	33 - 147
1892624	Chlorothalonil	148	153	P/P	25 - 175
1892624	Cypermethrin	109	140	P/P	50 - 155
1892624	DDD-p,p'	78.7	95.2	P/P	56 - 135
1892624	DDE-p,p'	68.5	85.6	P/P	48 - 120
1892624	DDT-p,p'	68.7	79.0	P/P	51 - 121
1892624	Delta-BHC	116	135	P/P	65 - 163
1892624	Dicofol	11.8	20.1	F/P	15 - 112
1892624	Dieldrin	72.3	85.5	P/P	59 - 134
1892624	Endosulfan I	84.3	96.8	P/P	65 - 142
1892624	Endosulfan II	88.6	105	P/P	65 - 154
1892624	Endosulfan Sulfate	86.4	96.2	P/P	65 - 136
1892624	Endrin	84.6	87.7	P/P	53 - 156
1892624	Endrin Aldehyde	81.3	96.8	P/P	47 - 156
1892624	Endrin Ketone	90.6	110	P/P	70 - 124
1892624	Gamma-BHC	84.0	103	P/P	64 - 142
1892624	Gamma-Chlordane	74.9	87.6	P/P	55 - 114
1892624	Heptachlor	66.6	73.5	P/P	42 - 105
1892624	Heptachlor Epoxide	75.6	88.9	P/P	67 - 120
1892624	Methoxychlor	80.3	93.5	P/P	63 - 134
1892624	Mirex	64.5	78.7	P/P	40 - 90.0
1892624	Permethrin	98.9	124	P/P	36 - 144
1892624	Trifluralin	139	176	P/F	40 - 170

Reference Method: EPA 8270D

Batch ID: P324314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893765	Acetochlor	99.0	98.8	P/P	74 - 123
1893765	Alachlor	92.5	92.4	P/P	73 - 124

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P324314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893765	Ametryn	122	125	P/P	56 - 149
1893765	Atrazine	99.3	97.3	P/P	73 - 124
1893765	Atrazine Desethyl	65.9	61.9	P/P	12 - 103
1893765	Azinphos Methyl	147	127	P/P	60 - 202
1893765	Bromacil	92.7	92.1	P/P	42 - 133
1893765	Butylate	41.4	39.2	P/P	10 - 85.0
1893765	Chlorpyrifos Ethyl	93.3	93.3	P/P	53 - 113
1893765	Chlorpyrifos Methyl	89.3	85.7	P/P	40 - 115
1893765	Cyanazine	115	109	P/P	22 - 210
1893765	Demeton	96.9	94.3	P/P	17 - 149
1893765	Diazinon	97.6	97.4	P/P	72 - 124
1893765	Disulfoton	98.6	89.5	P/P	43 - 139
1893765	EPTC	39.7	37.3	P/P	10 - 86.0
1893765	Ethion	120	117	P/P	65 - 131
1893765	Ethoprop	96.8	93.6	P/P	59 - 110
1893765	Fenamiphos	143	141	F/F	57 - 138
1893765	Fipronil	113	108	P/P	40 - 130
1893765	Fipronil Sulfide	99.5	91.9	P/P	36 - 128
1893765	Fipronil Sulfone	100	90.2	P/P	16 - 145
1893765	Fonofos	95.5	89.3	P/P	60 - 112
1893765	Hexazinone	94.1	87.9	P/P	69 - 142
1893765	Malathion	103	92.9	P/P	68 - 132
1893765	Metalaxyl	96.7	95.4	P/P	66 - 118
1893765	Metolachlor	97.9	101	P/P	71 - 124
1893765	Metribuzin	104	98.0	P/P	61 - 140
1893765	Mevinphos	95.6	84.4	P/P	38 - 130
1893765	Molinate	54.5	52.2	P/P	23 - 99.0
1893765	Norflurazon	114	105	P/P	39 - 139
1893765	Parathion Ethyl	98.1	90.6	P/P	75 - 111
1893765	Parathion Methyl	91.6	85.6	P/P	64 - 130
1893765	Pendimethalin	99.3	93.9	P/P	26 - 173
1893765	Phorate	97.3	95.5	P/P	43 - 127
1893765	Prometon	115	112	P/P	50 - 144
1893765	Prometryn	116	115	P/P	69 - 126
1893765	Simazine	94.0	89.3	P/P	51 - 152
1893765	Terbufos	96.1	93.2	P/P	54 - 125
1893765	Terbutylazine	92.3	90.5	P/P	76 - 113

Reference Method: EPA 8276
 Batch ID: P324073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893803	Chlordane	83.4	76.9	P/P	44 - 118
1893803	Toxaphene	115	112	P/P	36 - 136

Reference Method: EPA 8321B
 Batch ID: P324033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892645	Pyraclostrobin	94.2	86.2	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P324039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892980	Glyphosate	124	128	P/P	40 - 140

Reference Method: EPA 8321B
 Batch ID: P324163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893377	Sucralose	109	114	P/P	40 - 140

Reference Method: SM 4500 F-C-97
 Batch ID: P324831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893545	Fluoride	96.8	96.1	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P324282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893288	Organic Carbon	103	103	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P324171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893801	2,4-D	64.9	67.1	P/P	40 - 140
1893801	Acetaminophen	87.4	91.4	P/P	40 - 140
1893801	Bentazon	52.8	56.6	P/P	40 - 140
1893801	Carbamazepine	103	107	P/P	40 - 140
1893801	Diuron	88.9	98.4	P/P	40 - 140
1893801	Fenuron	81.5	83.8	P/P	40 - 140
1893801	Fluridone	81.5	86.4	P/P	40 - 140
1893801	Imidacloprid	183	198	F/F	40 - 160
1893801	Linuron	97.5	95.9	P/P	40 - 140
1893801	MCP	57.6	61.7	P/P	40 - 140
1893801	Primidone	103	107	P/P	40 - 140
1893801	Triclopyr	58.8	63.5	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P324194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893655	Turbidity	1.77	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893017	Calcium	1.88	Spike	P	0 - 20
1893017	Iron	3.65	Spike	P	0 - 20
1893017	Magnesium	4.94	Spike	P	0 - 20
1893017	Potassium	2.49	Spike	P	0 - 20
1893017	Sodium	2.02	Spike	P	0 - 20
1893017	Zinc	2.11	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893017	Arsenic	2.51	Spike	P	0 - 20
1893017	Cadmium	3.59	Spike	P	0 - 20
1893017	Chromium	2.82	Spike	P	0 - 20
1893017	Copper	2.55	Spike	P	0 - 20
1893017	Lead	1.56	Spike	P	0 - 20
1893017	Nickel	2.73	Spike	P	0 - 20
1893017	Silver	2.64	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893679	Chloride	0.217	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893679	Sulfate	0.428	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893635	Ammonia-N	0.880	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893705	Kjeldahl Nitrogen	1.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893656	NO2NO3-N	1.98	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893776	NO2NO3-N	0.348	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893598	Total-P	1.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893704	Total-P	0.179	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893582	O-Phosphate-P	0.901	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893708	O-Phosphate-P	0.188	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P324073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892624	Aldrin	17.6	Spike	P	0 - 30
1892624	Alpha-BHC	24.0	Spike	P	0 - 30
1892624	Alpha-Chlordane	16.5	Spike	P	0 - 30
1892624	Beta-BHC	20.0	Spike	P	0 - 30
1892624	Carbophenothion	16.1	Spike	P	0 - 30
1892624	Chlorothalonil	3.21	Spike	P	0 - 30
1892624	Cypermethrin	24.6	Spike	P	0 - 30
1892624	DDD-p,p'	19.0	Spike	P	0 - 30
1892624	DDE-p,p'	22.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P324073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892624	DDT-p,p'	13.9	Spike	P	0 - 30
1892624	Delta-BHC	14.4	Spike	P	0 - 30
1892624	Dicofol	51.9	Spike	F	0 - 30
1892624	Dieldrin	16.7	Spike	P	0 - 30
1892624	Endosulfan I	13.8	Spike	P	0 - 30
1892624	Endosulfan II	17.2	Spike	P	0 - 30
1892624	Endosulfan Sulfate	10.7	Spike	P	0 - 30
1892624	Endrin	3.50	Spike	P	0 - 30
1892624	Endrin Aldehyde	17.4	Spike	P	0 - 30
1892624	Endrin Ketone	19.3	Spike	P	0 - 30
1892624	Gamma-BHC	20.4	Spike	P	0 - 30
1892624	Gamma-Chlordane	15.6	Spike	P	0 - 30
1892624	Heptachlor	9.76	Spike	P	0 - 30
1892624	Heptachlor Epoxide	16.2	Spike	P	0 - 30
1892624	Methoxychlor	15.1	Spike	P	0 - 30
1892624	Mirex	19.8	Spike	P	0 - 30
1892624	Permethrin	22.2	Spike	P	0 - 30
1892624	Trifluralin	23.7	Spike	P	0 - 30
LFB	Aldrin	7.13	LCS	P	0 - 30
LFB	Alpha-BHC	0.503	LCS	P	0 - 30
LFB	Alpha-Chlordane	8.54	LCS	P	0 - 30
LFB	Beta-BHC	0.0541	LCS	P	0 - 30
LFB	Carbophenothion	1.12	LCS	P	0 - 30
LFB	Chlorothalonil	88.5	LCS	F	0 - 30
LFB	Cypermethrin	18.9	LCS	P	0 - 30
LFB	DDD-p,p'	9.11	LCS	P	0 - 30
LFB	DDE-p,p'	3.27	LCS	P	0 - 30
LFB	DDT-p,p'	3.56	LCS	P	0 - 30
LFB	Delta-BHC	2.40	LCS	P	0 - 30
LFB	Dicofol	26.5	LCS	P	0 - 30
LFB	Dieldrin	7.84	LCS	P	0 - 30
LFB	Endosulfan I	5.08	LCS	P	0 - 30
LFB	Endosulfan II	3.73	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.32	LCS	P	0 - 30
LFB	Endrin	11.7	LCS	P	0 - 30
LFB	Endrin Aldehyde	7.60	LCS	P	0 - 30
LFB	Endrin Ketone	2.71	LCS	P	0 - 30
LFB	Gamma-BHC	0.727	LCS	P	0 - 30
LFB	Gamma-Chlordane	9.39	LCS	P	0 - 30
LFB	Heptachlor	3.87	LCS	P	0 - 30
LFB	Heptachlor Epoxide	7.04	LCS	P	0 - 30
LFB	Methoxychlor	7.65	LCS	P	0 - 30
LFB	Mirex	6.35	LCS	P	0 - 30
LFB	Permethrin	17.8	LCS	P	0 - 30
LFB	Trifluralin	15.4	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P324314

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

Reference Method: EPA 8270D
Batch ID: P324314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893765	Acetochlor	0.220	Spike	P	0 - 30
1893765	Alachlor	0.128	Spike	P	0 - 30
1893765	Ametryn	2.89	Spike	P	0 - 30
1893765	Atrazine	1.67	Spike	P	0 - 30
1893765	Atrazine Desethyl	6.24	Spike	P	0 - 30
1893765	Azinphos Methyl	14.3	Spike	P	0 - 30
1893765	Bromacil	0.607	Spike	P	0 - 30
1893765	Butylate	5.36	Spike	P	0 - 30
1893765	Chlorpyrifos Ethyl	0.0469	Spike	P	0 - 30
1893765	Chlorpyrifos Methyl	4.12	Spike	P	0 - 30
1893765	Cyanazine	5.56	Spike	P	0 - 30
1893765	Demeton	2.64	Spike	P	0 - 30
1893765	Diazinon	0.233	Spike	P	0 - 30
1893765	Disulfoton	9.59	Spike	P	0 - 30
1893765	EPTC	6.18	Spike	P	0 - 30
1893765	Ethion	2.84	Spike	P	0 - 30
1893765	Ethoprop	3.40	Spike	P	0 - 30
1893765	Fenamiphos	1.13	Spike	P	0 - 30
1893765	Fipronil	3.59	Spike	P	0 - 30
1893765	Fipronil Sulfide	8.01	Spike	P	0 - 30
1893765	Fipronil Sulfone	9.15	Spike	P	0 - 30
1893765	Fonofos	6.72	Spike	P	0 - 30
1893765	Hexazinone	6.02	Spike	P	0 - 30
1893765	Malathion	10.8	Spike	P	0 - 30
1893765	Metalaxyl	1.37	Spike	P	0 - 30
1893765	Metolachlor	2.56	Spike	P	0 - 30
1893765	Metribuzin	5.54	Spike	P	0 - 30
1893765	Mevinphos	12.4	Spike	P	0 - 30
1893765	Molinate	4.39	Spike	P	0 - 30
1893765	Norflurazon	7.92	Spike	P	0 - 30
1893765	Parathion Ethyl	7.92	Spike	P	0 - 30
1893765	Parathion Methyl	6.78	Spike	P	0 - 30
1893765	Pendimethalin	5.61	Spike	P	0 - 30
1893765	Phorate	1.87	Spike	P	0 - 30
1893765	Prometon	2.69	Spike	P	0 - 30
1893765	Prometryn	0.528	Spike	P	0 - 30
1893765	Simazine	5.17	Spike	P	0 - 30
1893765	Terbufos	3.08	Spike	P	0 - 30
1893765	Terbuthylazine	1.94	Spike	P	0 - 30
LFB	Acetochlor	15.9	LCS	P	0 - 30
LFB	Alachlor	18.5	LCS	P	0 - 30
LFB	Ametryn	14.4	LCS	P	0 - 30
LFB	Atrazine	15.9	LCS	P	0 - 30
LFB	Atrazine Desethyl	11.5	LCS	P	0 - 30
LFB	Azinphos Methyl	9.43	LCS	P	0 - 30
LFB	Bromacil	13.0	LCS	P	0 - 30
LFB	Butylate	8.11	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	13.4	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	12.6	LCS	P	0 - 30
LFB	Cyanazine	14.9	LCS	P	0 - 30
LFB	Demeton	7.25	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P324314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	17.3	LCS	P	0 - 30
LFB	Disulfoton	7.71	LCS	P	0 - 30
LFB	EPTC	7.10	LCS	P	0 - 30
LFB	Ethion	12.3	LCS	P	0 - 30
LFB	Ethoprop	18.6	LCS	P	0 - 30
LFB	Fenamiphos	13.2	LCS	P	0 - 30
LFB	Fipronil	13.2	LCS	P	0 - 30
LFB	Fipronil Sulfide	18.0	LCS	P	0 - 30
LFB	Fipronil Sulfone	10.9	LCS	P	0 - 30
LFB	Fonofos	16.5	LCS	P	0 - 30
LFB	Hexazinone	2.31	LCS	P	0 - 30
LFB	Malathion	3.75	LCS	P	0 - 30
LFB	Metaxyl	14.9	LCS	P	0 - 30
LFB	Metolachlor	18.8	LCS	P	0 - 30
LFB	Metribuzin	15.9	LCS	P	0 - 30
LFB	Mevinphos	15.3	LCS	P	0 - 30
LFB	Molinate	12.9	LCS	P	0 - 30
LFB	Norflurazon	14.2	LCS	P	0 - 30
LFB	Parathion Ethyl	11.6	LCS	P	0 - 30
LFB	Parathion Methyl	6.81	LCS	P	0 - 30
LFB	Pendimethalin	12.3	LCS	P	0 - 30
LFB	Phorate	22.8	LCS	P	0 - 30
LFB	Prometon	19.5	LCS	P	0 - 30
LFB	Prometryn	13.8	LCS	P	0 - 30
LFB	Simazine	16.8	LCS	P	0 - 30
LFB	Terbufos	15.4	LCS	P	0 - 30
LFB	Terbutylazine	14.1	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P324073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893803	Chlordane	8.10	Spike	P	0 - 30
1893803	Toxaphene	3.05	Spike	P	0 - 30
LFB	Chlordane	9.10	LCS	P	0 - 30
LFB	Toxaphene	1.96	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P324033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892645	Pyraclostrobin	8.87	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P324039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892980	Glyphosate	2.86	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P324163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893377	Sucralose	4.12	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P324143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893670	Color (true)	4.48	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P324145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893700	Color (true)	10.9	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P325141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893545	Total Alkalinity	0.451	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P325073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893785	TDS	0.816	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893545	Fluoride	0.477	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P324282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893288	Organic Carbon	0.146	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P324171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893801	2,4-D	3.17	Spike	P	0 - 30
1893801	Acetaminophen	4.09	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
 Batch ID: P324171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893801	Bentazon	6.47	Spike	P	0 - 30
1893801	Carbamazepine	3.95	Spike	P	0 - 30
1893801	Diuron	9.28	Spike	P	0 - 30
1893801	Fenuron	2.61	Spike	P	0 - 30
1893801	Fluridone	5.75	Spike	P	0 - 30
1893801	Imidacloprid	7.60	Spike	P	0 - 30
1893801	Linuron	1.56	Spike	P	0 - 30
1893801	MCP	6.98	Spike	P	0 - 30
1893801	Primidone	4.20	Spike	P	0 - 30
1893801	Triclopyr	7.72	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: 1893749
 Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	115	P	40 - 150
EPA 8321B	Sucralose-d6	118	P	40 - 150
USGS O-2060-01	2,4-D-d3	57.6	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	81.0	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	105	P	30 - 160
USGS O-2060-01	Diuron-d6	102	P	30 - 150
USGS O-2060-01	Primidone-d5	101	P	30 - 150

Lab Sample ID: 1893750
 Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	99.9	P	30 - 150

Lab Sample ID: 1893764
 Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	31.1	F	51 - 123
EPA 8270D	Tetrachloro-m-xylene	25.4	F	31 - 111
EPA 8276	Decachlorobiphenyl	29.4	F	41 - 106

Lab Sample ID: 1893765
 Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	88.2	P	62 - 132
EPA 8270D	Simazine-d10	89.8	P	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A76035

Included Lab Sample IDs: 1893695, 1893698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	100	P/P	85 - 115

Reference Method: SM 2120 B

Run ID: A76036

Included Lab Sample IDs: 1893699, 1893700, 1893701

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	94.3	98.5	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A76048

Included Lab Sample IDs: 1893697, 1893706, 1893707, 1893708, 1893709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	98.0	P/P	90 - 110
O-Phosphate-P	98.1	97.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76055

Included Lab Sample IDs: 1893695, 1893698, 1893699, 1893700, 1893701

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76071

Included Lab Sample IDs: 1893696, 1893702, 1893703, 1893704, 1893705

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

Reference Method: EPA 8321B

Run ID: A76073

Included Lab Sample IDs: 1893749

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	117	114	P/P	70 - 160

Reference Method: EPA 8321B

Run ID: A76074

Included Lab Sample IDs: 1893749

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	122	119	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A76081

Included Lab Sample IDs: 1893696, 1893702, 1893703, 1893704, 1893705

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76117

Included Lab Sample IDs: 1893696, 1893702, 1893703, 1893704, 1893705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110
NO2NO3-N	101	100	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76133

Included Lab Sample IDs: 1893696, 1893702, 1893703, 1893704, 1893705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	98.6	P/P	90 - 110
Kjeldahl Nitrogen	98.4	101	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A76140

Included Lab Sample IDs: 1893764

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.4		P	80 - 120
Toxaphene	107		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76183

Included Lab Sample IDs: 1893696, 1893702, 1893703, 1893704, 1893705

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	99.0	P/P	90 - 110
Total-P	99.0	99.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76229

Included Lab Sample IDs: 1893766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.7	97.8	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Copper	93.0	92.8	P/P	90 - 110
Lead	100	99.9	P/P	90 - 110
Nickel	93.9	93.1	P/P	90 - 110
Silver	99.6	99.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76242

Included Lab Sample IDs: 1893695, 1893698, 1893699, 1893700, 1893701

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A76248

Included Lab Sample IDs: 1893750

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	103	114	P/P	60 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A76269

Included Lab Sample IDs: 1893695, 1893698, 1893699, 1893700, 1893701

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.0	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Chloride	99.0	101	P/P	90 - 110
Sulfate	95.7	97.3	P/P	90 - 110
Sulfate	96.4	95.7	P/P	90 - 110
Sulfate	98.9	96.4	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A76297

Included Lab Sample IDs: 1893764

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.2		P	80 - 120
Alpha-BHC	97.4		P	80 - 120
Alpha-Chlordane	101		P	80 - 120
Beta-BHC	98.0		P	80 - 120
Carbophenothion	95.7		P	80 - 120
Chlorothalonil	97.3		P	80 - 120
Cypermethrin	88.0		P	80 - 120
DDD-p,p'	95.7		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	102		P	80 - 120
Dicofol	98.2		P	80 - 120
Dieldrin	98.9		P	80 - 120
Endosulfan I	98.1		P	80 - 120
Endosulfan II	87.1		P	80 - 120
Endosulfan Sulfate	92.8		P	80 - 120
Endrin	97.2		P	80 - 120
Endrin Ketone	93.1		P	80 - 120
Gamma-BHC	99.2		P	80 - 120
Gamma-Chlordane	100		P	80 - 120
Heptachlor	97.4		P	80 - 120
Heptachlor Epoxide	99.1		P	80 - 120
Methoxychlor	108		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	91.7		P	80 - 120
Trifluralin	98.1		P	80 - 120

Reference Method: EPA 8270D

Run ID: A76310

Included Lab Sample IDs: 1893765

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

Reference Method: EPA 8270D
Run ID: A76310
Included Lab Sample IDs: 1893765

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	95.5		P	80 - 120
Alachlor	95.0		P	80 - 120
Ametryn	93.6		P	80 - 120
Atrazine	96.4		P	80 - 120
Atrazine Desethyl	93.6		P	80 - 120
Azinphos Methyl	89.5		P	80 - 120
Bromacil	106		P	80 - 120
Butylate	82.2		P	80 - 120
Chlorpyrifos Ethyl	92.6		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	77.9*		F	80 - 120
Demeton	77.5*		F	80 - 120
Diazinon	81.1		P	80 - 120
Disulfoton	93.1		P	80 - 120
EPTC	90.3		P	80 - 120
Ethion	92.7		P	80 - 120
Ethoprop	94.0		P	80 - 120
Fenamiphos	91.7		P	80 - 120
Fipronil	94.0		P	80 - 120
Fipronil Sulfide	96.1		P	80 - 120
Fipronil Sulfone	98.0		P	80 - 120
Fonofos	94.2		P	80 - 120
Hexazinone	100		P	80 - 120
Malathion	88.8		P	80 - 120
Metalaxyl	90.8		P	80 - 120
Metolachlor	96.3		P	80 - 120
Metribuzin	91.8		P	80 - 120
Mevinphos	96.9		P	80 - 120
Molinate	88.1		P	80 - 120
Norflurazon	92.4		P	80 - 120
Parathion Ethyl	113		P	80 - 120
Parathion Methyl	96.1		P	80 - 120
Pendimethalin	92.7		P	80 - 120
Phorate	99.5		P	80 - 120
Prometon	90.8		P	80 - 120
Prometryn	95.3		P	80 - 120
Simazine	94.3		P	80 - 120
Terbufos	94.9		P	80 - 120
Terbuthylazine	118		P	80 - 120

Reference Method: EPA 8270D
Run ID: A76326
Included Lab Sample IDs: 1893764

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin Aldehyde	95.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76346

Included Lab Sample IDs: 1893766

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

Reference Method: SM 2320 B-97

Run ID: A76363

Included Lab Sample IDs: 1893695, 1893698, 1893699, 1893700, 1893701

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

Reference Method: USGS O-2060-01

Run ID: A76477

Included Lab Sample IDs: 1893749

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.4	85.6	P/P	50 - 150
Acetaminophen	108	102	P/P	60 - 150
Bentazon	82.8	80.8	P/P	50 - 150
Carbamazepine	106	90.0	P/P	60 - 150
Diuron	114	96.4	P/P	60 - 150
Fenuron	104	93.6	P/P	60 - 150
Fluridone	116	97.2	P/P	60 - 150
Imidacloprid	110	97.2	P/P	60 - 150
Linuron	94.0	85.2	P/P	60 - 150
MCPD	89.6	88.0	P/P	50 - 150
Primidone	99.6	88.4	P/P	60 - 150
Triclopyr	91.2	89.6	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					1.77	
EPA 200.7 Rev. 4.4	Calcium	108	109	106	100		1.88
	Iron	102	107	104	99.4		3.65
	Magnesium	108	113	105	97.0		4.94
	Potassium	102	98.7	94.9			2.49
	Sodium	105	104				2.02
	Zinc	99.6	105	102	105		2.11
EPA 200.8 Rev. 5.4	Arsenic	97.8	101	98.3	104		2.51
	Cadmium	107	109	105	100		3.59

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision SMP	MS
EPA 200.8 Rev. 5.4	Chromium	101		105	102	86.8		2.82
	Copper	92.4		94.8	92.3	85.7		2.55
	Lead	101		101	103	101		1.56
	Nickel	94.1		96.1	93.5	90.7		2.73
	Silver	97.0		98.2	95.6	96.0		2.64
EPA 300.0 Rev. 2.1	Chloride	99.4		97.5	98.0		0.217	
	Sulfate	95.1		94.6	93.9		0.428	
EPA 350.1 Rev. 2.0	Ammonia-N	101		102	103			0.880
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.9		95.3	94.0			1.13
EPA 353.2 Rev. 2.0	NO2NO3-N	100		100	102			1.98
	NO2NO3-N	102		101				0.348
EPA 365.1 Rev. 2.0	Total-P	101		96.1	94.8			1.30
	Total-P	102		106	106			0.179
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		99.4	100			0.901
	O-Phosphate-P	98.7		95.8	95.6			0.188
EPA 8270D	Acetochlor	105	89.2	99.0	98.8	15.9		0.220
	Alachlor	102	84.5	92.5	92.4	18.5		0.128
	Aldrin	49.7	46.3	59.2	70.7	7.13		17.6
	Alpha-BHC	93.1	92.6	86.6	110	0.503		24.0
	Alpha-Chlordane	94.0	86.3	75.0	88.4	8.54		16.5
	Ametryn	126	109	122	125	14.4		2.89
	Atrazine	108	92.0	99.3	97.3	15.9		1.67
	Atrazine Desethyl	76.0	67.8	65.9	61.9	11.5		6.24
	Azinphos Methyl	144	131	147	127	9.43		14.3
	Beta-BHC	107	107	89.2	109	0.0541		20.0
	Bromacil	88.1	77.3	92.7	92.1	13.0		0.607
	Butylate	52.5	48.4	41.4	39.2	8.11		5.36
	Carbophenothion	109	110	125	147	1.12		16.1
	Chlorothalonil	23.8	61.7	148	153	88.5		3.21
	Chlorpyrifos Ethyl	99.8	87.2	93.3	93.3	13.4		0.0469
	Chlorpyrifos Methyl	97.7	86.1	89.3	85.7	12.6		4.12
	Cyanazine	122	105	115	109	14.9		5.56
	Cypermethrin	101	83.2	109	140	18.9		24.6
	DDD-p,p'	100	91.7	78.7	95.2	9.11		19.0
	DDE-p,p'	92.0	89.0	68.5	85.6	3.27		22.2
	DDT-p,p'	98.8	95.4	68.7	79.0	3.56		13.9
	Delta-BHC	124	127	116	135	2.40		14.4
	Demeton	102	94.6	96.9	94.3	7.25		2.64
	Diazinon	101	84.5	97.6	97.4	17.3		0.233
	Dicofol	44.1	33.8	11.8	20.1	26.5		51.9
	Dieldrin	92.6	85.6	72.3	85.5	7.84		16.7
	Disulfoton	99.3	92.0	98.6	89.5	7.71		9.59
	Endosulfan I	100	95.3	84.3	96.8	5.08		13.8
	Endosulfan II	102	98.3	88.6	105	3.73		17.2
	Endosulfan Sulfate	95.2	93.0	86.4	96.2	2.32		10.7
	Endrin	102	91.2	84.6	87.7	11.7		3.50
	Endrin Aldehyde	89.3	82.8	81.3	96.8	7.60		17.4
	Endrin Ketone	93.6	91.1	90.6	110	2.71		19.3
	EPTC	51.4	47.9	39.7	37.3	7.10		6.18
	Ethion	126	112	120	117	12.3		2.84
	Ethoprop	103	85.1	96.8	93.6	18.6		3.40
	Fenamiphos	150	131	143	141	13.2		1.13
	Fipronil	113	99.2	113	108	13.2		3.59
	Fipronil Sulfide	106	88.1	99.5	91.9	18.0		8.01

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Fipronil Sulfone	102	91.1	100	90.2	10.9	9.15
	Fonofos	97.9	82.9	95.5	89.3	16.5	6.72
	Gamma-BHC	103	102	84.0	103	0.727	20.4
	Gamma-Chlordane	91.1	82.9	74.9	87.6	9.39	15.6
	Heptachlor	76.6	73.7	66.6	73.5	3.87	9.76
	Heptachlor Epoxide	94.2	87.8	75.6	88.9	7.04	16.2
	Hexazinone	93.3	95.5	94.1	87.9	2.31	6.02
	Malathion	102	98.5	103	92.9	3.75	10.8
	Metalaxyl	98.8	85.1	96.7	95.4	14.9	1.37
	Methoxychlor	108	100	80.3	93.5	7.65	15.1
	Metolachlor	110	91.1	97.9	101	18.8	2.56
	Metribuzin	111	94.2	104	98.0	15.9	5.54
	Mevinphos	95.4	81.9	95.6	84.4	15.3	12.4
	Mirex	77.1	72.4	64.5	78.7	6.35	19.8
	Molinate	63.3	55.7	54.5	52.2	12.9	4.39
	Norflurazon	112	97.5	114	105	14.2	7.92
	Parathion Ethyl	98.7	87.9	98.1	90.6	11.6	7.92
	Parathion Methyl	91.9	85.8	91.6	85.6	6.81	6.78
	Pendimethalin	97.4	86.1	99.3	93.9	12.3	5.61
	Permethrin	99.6	83.3	98.9	124	17.8	22.2
	Phorate	109	87.1	97.3	95.5	22.8	1.87
	Prometon	115	94.8	115	112	19.5	2.69
	Prometryn	118	102	116	115	13.8	0.528
	Simazine	105	88.9	94.0	89.3	16.8	5.17
	Terbufos	100	85.9	96.1	93.2	15.4	3.08
	Terbuthylazine	99.0	86.0	92.3	90.5	14.1	1.94
	Trifluralin	147	126	139	176	15.4	23.7
EPA 8276	Chlordane	77.2	84.6	83.4	76.9	9.10	8.10
	Toxaphene	92.7	90.9	115	112	1.96	3.05
EPA 8321B	Glyphosate	129		124	128		2.86
	Pyraclostrobin	94.4		94.2	86.2		8.87
	Sucralose	73.6		109	114		4.12
SM 2120 B	Color (true)					4.48	
	Color (true)					10.9	
SM 2320 B-97	Total Alkalinity	103				0.451	
SM 2540 C-97	TDS					0.816	
SM 4500 F-C-97	Fluoride	97.0		96.8	96.1		0.477
SM 5310 B-00	Organic Carbon	102		103	103		0.146
USGS O-2060-01	2,4-D	69.0		64.9	67.1		3.17
	Acetaminophen	43.4		87.4	91.4		4.09
	Bentazon	47.0		52.8	56.6		6.47
	Carbamazepine	114		103	107		3.95
	Diuron	119		88.9	98.4		9.28
	Fenuron	106		81.5	83.8		2.61
	Fluridone	99.5		81.5	86.4		5.75
	Imidacloprid	108		183	198		7.60
	Linuron	106		97.5	95.9		1.56
	MCP	74.2		57.6	61.7		6.98
	Primidone	99.7		103	107		4.20
	Triclopyr	74.9		58.8	63.5		7.72

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1893695, 1893698, 1893699, 1893700, 1893701
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1893766
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1893766
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1893695, 1893698, 1893699, 1893700, 1893701
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1893695, 1893698, 1893699, 1893700, 1893701
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1893696, 1893702, 1893703, 1893704, 1893705
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1893696, 1893702, 1893703, 1893704, 1893705
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1893696, 1893702, 1893703, 1893704, 1893705
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1893696, 1893702, 1893703, 1893704, 1893705
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1893697, 1893706, 1893707, 1893708, 1893709
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1893764
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1893765
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1893764
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1893749
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1893750
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1893749
SM 2120 B / E31780	True Color measured at 450 nm	1893695, 1893698, 1893699, 1893700, 1893701
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1893695, 1893698, 1893699, 1893700, 1893701
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1893695, 1893698, 1893699, 1893700, 1893701
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1893695, 1893698, 1893699, 1893700, 1893701
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1893695, 1893698, 1893699, 1893700, 1893701
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1893696, 1893702, 1893703, 1893704, 1893705
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1893749
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1893749

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	04/27/2017			04/27/2017 16:59	Sima Feizi	1893695, 1893698, 1893699, 1893700, 1893701
EPA 200.7 Rev. 4.4	04/27/2017	05/03/2017	Robert K Palmer	05/10/2017	Martin Acosta	1893766
EPA 200.8 Rev. 5.4	04/27/2017	05/03/2017	Robert K Palmer	05/06/2017	Betina Topolski	1893766
EPA 300.0 Rev. 2.1	04/27/2017			05/08/2017	Ping Hua	1893695, 1893698, 1893699, 1893700, 1893701
EPA 350.1 Rev. 2.0	04/27/2017			04/28/2017	Julie Michelle Frank	1893696, 1893702, 1893703, 1893704, 1893705
EPA 351.2 Rev. 2.0	04/27/2017	05/01/2017	Adrian Shelby	05/02/2017	Joseph Suarez	1893696, 1893702, 1893703, 1893704, 1893705
EPA 353.2 Rev. 2.0	04/27/2017			05/02/2017	Beverly Y. Sanders	1893696, 1893702, 1893703, 1893704, 1893705
EPA 365.1 Rev. 2.0	04/27/2017	05/02/2017	Adrian Shelby	05/04/2017	Lipi Saha	1893696, 1893702, 1893703, 1893704, 1893705
EPA 365.1 Rev. 2.0 dissolved	04/27/2017			04/27/2017 17:27	Anthony C. Onicha	1893697, 1893708
	04/27/2017			04/27/2017 17:29	Anthony C. Onicha	1893707
	04/27/2017			04/27/2017 17:30	Anthony C. Onicha	1893709
	04/27/2017			04/27/2017 17:53	Anthony C. Onicha	1893706
EPA 8270D	04/27/2017	04/28/2017	Fe-Val Siddell	05/02/2017	Marek Topolski	1893764
	04/27/2017	04/28/2017	Fe-Val Siddell	05/10/2017	Marek Topolski	1893764
	04/27/2017	05/01/2017	Rasheda Ghaffari	05/05/2017	Irina Carbone	1893765
EPA 8276	04/27/2017	04/28/2017	Fe-Val Siddell	05/02/2017	Vandana T. Nagar	1893764
EPA 8321B	04/27/2017	04/28/2017	Mohammad Ghaffari	04/28/2017	Mohammad Ghaffari	1893749
	04/27/2017	04/29/2017	Fe-Val Siddell	05/05/2017	Juyoung Kim	1893750
	04/27/2017	04/29/2017	Mohammad Ghaffari	04/29/2017	Mohammad Ghaffari	1893749
SM 2120 B	04/27/2017			04/27/2017 15:51	Julia Storbeck	1893695
	04/27/2017			04/27/2017 15:52	Julia Storbeck	1893698
	04/27/2017			04/27/2017 16:49	Julia Storbeck	1893700
	04/27/2017			04/27/2017 16:50	Julia Storbeck	1893699
	04/27/2017			04/27/2017 16:51	Julia Storbeck	1893701
SM 2320 B-97	04/27/2017			05/09/2017	Dale L. Simmons	1893695, 1893698, 1893699, 1893700, 1893701
SM 2540 C-97	04/27/2017			05/02/2017	Sima Feizi	1893695, 1893698, 1893699, 1893700, 1893701
SM 2540 D-97	04/27/2017			05/02/2017	Sima Feizi	1893695, 1893698, 1893699, 1893700, 1893701
SM 4500 F-C-97	04/27/2017			05/06/2017	Dale L. Simmons	1893695, 1893698, 1893699, 1893700, 1893701
SM 5310 B-00	04/27/2017			04/28/2017	Julie Michelle Frank	1893696, 1893702, 1893703, 1893704, 1893705
USGS O-2060-01	04/27/2017	05/03/2017	Hoor Shaik	05/15/2017	Juyoung Kim	1893749