

Chemical Analysis Report

WQAP-2017-08-29-02

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

Event Description: **SMP: OK Branch, Pollywog, Roberts, Telegraph**
Request ID: **RQ-2017-08-28-02**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-SEP-2017 09:57

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Pollywog Creek @ SR78

Collection Date/Time: 08/28/2017 11:20

Field ID: G3SD082817-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926021	EPA 180.1 Rev. 2.0	Turbidity	3.0	A	NTU	P331024	
	EPA 300.0 Rev. 2.1	Chloride	9.4		mg Cl/L	P331238	
		Sulfate	0.97		mg SO4/L	P331232	
	SM 2120 B	Color (true)	850		PCU	P331021	
	SM 2320 B-97	Total Alkalinity	5.9		mg CaCO3/L	P331108	
	SM 2540 C-97	TDS	163		mg/L	P331277	
	SM 2540 D-97	TSS	4	I	mg/L	P331269	
	SM 4500 F-C-97	Fluoride	0.049	I	mg F/L	P331109	
1926023	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P331166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P331037	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331113	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P331061	
	SM 5310 B-00	Organic Carbon	56		mg C/L	P331244	
1926025	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.079		mg P/L	P331004	
1926054	EPA 200.7 Rev. 4.4	Calcium	7.15		mg/L	P331017	
		Iron	1.93E+03		ug/L	P331017	
		Magnesium	2.04		mg/L	P331017	
		Potassium	1.0	I	mg/L	P331017	
		Sodium	6.8		mg/L	P331017	
	EPA 200.8 Rev. 5.4	Zinc	6.6	I	ug/L	P331017	
		Arsenic	2.53		ug/L	P331017	
		Cadmium	0.024	I	ug/L	P331017	
		Chromium	1.2	I	ug/L	P331017	
		Copper	0.91		ug/L	P331017	
		Lead	0.98		ug/L	P331017	
		Nickel	0.95		ug/L	P331017	
		Silver	0.010	U	ug/L	P331017	

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 calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 08/31/2017.

Sample Location: Pollywog Creek @ SR78

Collection Date/Time: 08/28/2017 11:20

Field ID: G3SD082817-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926040	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P330680	
		Sucralose**	0.010	U	ug/L	P331506	MS
	USGS O-2060-01	2,4-D	0.0066	IJ	ug/L	P331018	SUR
		Diuron	8.0E-04	U	ug/L	P331018	
		Fenuron	0.0080	U	ug/L	P331018	
		Imidacloprid	0.0076		ug/L	P331018	
		Bentazon	8.0E-04	UJ	ug/L	P331018	MS, SUR
		Linuron	0.0040	U	ug/L	P331018	MS

Field ID: G3SD082817-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926040	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P331018	
		MCP	0.0020	UJ	ug/L	P331018	SUR
		Carbamazepine**	4.0E-04	U	ug/L	P331018	
		Triclopyr**	0.0040	UJ	ug/L	P331018	RPD
		Primidone**	0.0040	U	ug/L	P331018	
		Fluridone**	4.0E-04	U	ug/L	P331018	MS
1926041	EPA 8270D	Aldrin	4.2	U	ng/L	P331172	
		Alpha-BHC	2.1	U	ng/L	P331172	
		Beta-BHC	4.2	U	ng/L	P331172	
		Delta-BHC	4.2	U	ng/L	P331172	
		Gamma-BHC	4.2	U	ng/L	P331172	
		Carbophenothion	4.2	U	ng/L	P331172	
		Chlorothalonil	2.1	UJ	ng/L	P331172	CCV
		Cypermethrin	21	U	ng/L	P331172	
		DDD-p,p'	3.1	U	ng/L	P331172	
		DDE-p,p'	3.1	U	ng/L	P331172	
		DDT-p,p'	3.1	U	ng/L	P331172	
		Dieldrin	4.2	U	ng/L	P331172	
		Endosulfan I	4.2	U	ng/L	P331172	
		Endosulfan II	4.2	U	ng/L	P331172	
		Endosulfan Sulfate	2.1	U	ng/L	P331172	
		Endrin	2.1	U	ng/L	P331172	
		Endrin Aldehyde	2.1	U	ng/L	P331172	
		Heptachlor	1.6	U	ng/L	P331172	
		Heptachlor Epoxide	2.1	U	ng/L	P331172	
		Methoxychlor	4.2	U	ng/L	P331172	
		Mirex	2.1	U	ng/L	P331172	
		Permethrin	10	U	ng/L	P331172	
		Trifluralin	1.0	U	ng/L	P331172	
		Alpha-Chlordane	1.0	U	ng/L	P331172	
		Gamma-Chlordane	1.0	U	ng/L	P331172	
		Endrin Ketone	2.1	U	ng/L	P331172	
		Dicofol	31	U	ng/L	P331172	
		Chlordane**	2.6	U	ng/L	P331172	
		Toxaphene**	13	U	ng/L	P331172	
1926042	EPA 8270D	Alachlor	0.24	U	ng/L	P331105	
		Ametryn	0.31	U	ng/L	P331105	
		Atrazine	0.46	I	ng/L	P331105	
		Atrazine Desethyl	1.4	U	ng/L	P331105	
		Azinphos Methyl	2.1	U	ng/L	P331105	
		Bromacil	3.5		ng/L	P331105	
		Butylate	0.38	U	ng/L	P331105	
		Chlorpyrifos Ethyl	0.20	T	ng/L	P331105	
		Chlorpyrifos Methyl	0.096	U	ng/L	P331105	
		Demeton	1.9	U	ng/L	P331105	

Field ID: G3SD082817-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926042	EPA 8270D	Diazinon	0.12	U	ng/L	P331105	
		Disulfoton	0.48	U	ng/L	P331105	
		EPTC	1.2	UJ	ng/L	P331105	RPD
		Ethion	0.14	U	ng/L	P331105	
		Ethoprop	0.096	U	ng/L	P331105	
		Fenamiphos	0.24	UJ	ng/L	P331105	MS, RPD
		Fipronil	0.24	U	ng/L	P331105	
		Fipronil Sulfide	0.14	U	ng/L	P331105	
		Fipronil Sulfone	0.14	U	ng/L	P331105	
		Hexazinone	2.6		ng/L	P331105	
		Malathion	0.33	U	ng/L	P331105	
		Metribuzin	0.19	UJ	ng/L	P331105	LCS, MS, RPD
		Mevinphos	0.48	U	ng/L	P331105	
		Molinate	0.29	UJ	ng/L	P331105	RPD
		Norflurazon	0.48	UJ	ng/L	P331105	CCV
		Pendimethalin	0.96	U	ng/L	P331105	
		Phorate	0.24	U	ng/L	P331105	
		Prometon	0.86	U	ng/L	P331105	
		Prometryn	0.19	U	ng/L	P331105	
		Simazine	0.48	U	ng/L	P331105	
		Terbufos	0.096	U	ng/L	P331105	
		Terbutylazine	0.41	UJ	ng/L	P331105	MS
		Fonofos	0.19	U	ng/L	P331105	
		Metalaxyl	0.56	I	ng/L	P331105	
		Metolachlor	0.33	IJ	ng/L	P331105	MS
		Acetochlor	0.24	UJ	ng/L	P331105	MS
		Cyanazine	0.48	U	ng/L	P331105	
		Parathion Ethyl	0.24	UJ	ng/L	P331105	MS
		Parathion Methyl	0.24	U	ng/L	P331105	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. 2,4-D-d3 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

EPA 8270D: Insufficient sample available to perform duplicate matrix spikes. Refer to the narrative for an explanation of QC Codes.

EPA 8276: Insufficient sample available to perform duplicate matrix spikes.

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

Sample Location: OK Branch @ Eucalyptus Bld.

Collection Date/Time: 08/28/2017 11:00

Field ID: G3SD082817-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926022	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P331024	
	EPA 300.0 Rev. 2.1	Chloride	70		mg Cl/L	P331238	
		Sulfate	30		mg SO4/L	P331232	
	SM 2120 B	Color (true)	68	A	PCU	P331021	
	SM 2320 B-97	Total Alkalinity	240		mg CaCO3/L	P331108	

Field ID: G3SD082817-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926022	SM 2540 C-97	TDS	416		mg/L	P331277	
	SM 2540 D-97	TSS	4	I	mg/L	P331269	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P331109	
1926024	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P331166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P331037	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047		mg N/L	P331115	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P331061	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P331244	
1926026	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P331004	
1926055	EPA 200.7 Rev. 4.4	Calcium	98.9		mg/L	P331017	
		Iron	590		ug/L	P331017	
		Magnesium	5.86		mg/L	P331017	
		Potassium	3.1		mg/L	P331017	
		Sodium	51.4		mg/L	P331017	
		Zinc	5.0	U	ug/L	P331017	
	EPA 200.8 Rev. 5.4	Arsenic	2.21		ug/L	P331017	
		Cadmium	0.020	U	ug/L	P331017	
		Chromium	0.40	U	ug/L	P331017	
		Copper	0.20	U	ug/L	P331017	
		Lead	0.050	U	ug/L	P331017	
		Nickel	0.56	I	ug/L	P331017	
		Silver	0.010	U	ug/L	P331017	

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 calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Banana Branch @ Ft. Denaud Rd.

Collection Date/Time: 08/28/2017 10:30

Field ID: G3SD082817-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926015	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P331023	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P331238	
		Sulfate	9.9		mg SO4/L	P331232	
	SM 2120 B	Color (true)	350		PCU	P331020	
	SM 2320 B-97	Total Alkalinity	95		mg CaCO3/L	P331108	
	SM 2540 C-97	TDS	209		mg/L	P331277	
	SM 2540 D-97	TSS	15		mg/L	P331269	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P331109	
1926017	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P331166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P331037	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P331113	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P331061	
	SM 5310 B-00	Organic Carbon	31		mg C/L	P331244	
1926019	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P331004	

Field ID: G3SD082817-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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: Telegraph Swamp South Site

Collection Date/Time: 08/28/2017 09:30

Field ID: G3SD082817-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926016	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P331023	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P331238	
		Sulfate	1.5		mg SO4/L	P331232	
	SM 2120 B	Color (true)	290		PCU	P331020	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P331108	
	SM 2540 C-97	TDS	92		mg/L	P331277	
	SM 2540 D-97	TSS	3	I	mg/L	P331269	
	SM 4500 F-C-97	Fluoride	0.052	I	mg F/L	P331109	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P331166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P331037	
1926018	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P331113	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P331061	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P331336	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.054		mg P/L	P331004	
	dissolved						
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: P331023

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P331024

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P331017

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: P331017

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: P331232

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331238

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331037

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331113

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331115

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331061

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 dissolved
Batch ID: P331004

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

Reference Method: EPA 8270D
Batch ID: P331105

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P331172

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P331172

Component	Result	Code	Units
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
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: P331172

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

Reference Method: EPA 8321B
Batch ID: P330680

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P331506

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P331020

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P331021

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P331108

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
Batch ID: P331277

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P331269

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P331109

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P331244

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

Reference Method: SM 5310 B-00
Batch ID: P331336

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

Reference Method: USGS O-2060-01
Batch ID: P331018

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P331018

Component	Result	Code	Units
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: P331017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	101		P	85 - 115
Sodium	103		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	106		P	85 - 115
Cadmium	99.9		P	85 - 115
Chromium	99.7		P	85 - 115
Copper	99.8		P	85 - 115
Lead	100		P	85 - 115
Nickel	103		P	85 - 115
Silver	108		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331238

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331037

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P331037

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P331113

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P331115

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P331061

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P331004

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

Reference Method: EPA 8270D
 Batch ID: P331105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	85.7	101	P/P	78 - 118
Alachlor	85.3	99.1	P/P	77 - 119
Ametryn	84.0	91.5	P/P	61 - 136
Atrazine	81.0	93.6	P/P	73 - 120
Atrazine Desethyl	95.9	73.0	P/P	16 - 122
Azinphos Methyl	120	124	P/P	69 - 186
Bromacil	74.4	75.4	P/P	40 - 125
Butylate	56.4	73.0	P/P	32 - 87.0
Chlorpyrifos Ethyl	83.7	88.6	P/P	53 - 110
Chlorpyrifos Methyl	90.2	88.8	P/P	31 - 119
Cyanazine	133	107	P/P	36 - 224
Demeton	90.8	97.1	P/P	39 - 122
Diazinon	84.1	101	P/P	75 - 119
Disulfoton	96.3	102	P/P	42 - 139
EPTC	47.8	66.4	P/P	33 - 96.0
Ethion	80.6	81.8	P/P	63 - 127
Ethoprop	77.8	84.7	P/P	65 - 107
Fenamiphos	90.7	93.3	P/P	64 - 137
Fipronil	86.4	90.4	P/P	60 - 126
Fipronil Sulfide	81.9	77.2	P/P	58 - 124
Fipronil Sulfone	70.7	73.2	P/P	57 - 126
Fonofos	85.5	85.1	P/P	65 - 111

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
 Batch ID: P331105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Hexazinone	86.4	94.1	P/P	46 - 151
Malathion	89.8	95.6	P/P	68 - 132
Metalaxyl	78.5	95.0	P/P	51 - 132
Metolachlor	78.1	96.5	P/P	78 - 119
Metribuzin	196	111	F/P	58 - 148
Mevinphos	79.1	84.5	P/P	34 - 128
Molinate	53.1	77.6	P/P	44 - 101
Norflurazon	71.5	93.3	P/P	63 - 129
Parathion Ethyl	84.4	87.7	P/P	80 - 109
Parathion Methyl	101	94.6	P/P	74 - 125
Pendimethalin	76.6	84.1	P/P	48 - 134
Phorate	86.3	83.6	P/P	52 - 119
Prometon	81.9	97.7	P/P	69 - 124
Prometryn	81.9	94.3	P/P	66 - 124
Simazine	95.6	114	P/P	61 - 134
Terbufos	87.7	89.7	P/P	58 - 115
Terbutylazine	83.9	91.9	P/P	77 - 113

Reference Method: EPA 8270D
 Batch ID: P331172

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	46.4	44.1	P/P	26 - 88.0
Alpha-BHC	84.8	83.9	P/P	63 - 114
Alpha-Chlordane	87.9	77.8	P/P	56 - 117
Beta-BHC	89.3	100	P/P	57 - 138
Carbophenothion	78.0	91.5	P/P	36 - 148
Chlorothalonil	63.9	60.7	P/P	26 - 173
Cypermethrin	82.7	79.2	P/P	42 - 159
DDD-p,p'	106	106	P/P	62 - 126
DDE-p,p'	91.2	80.5	P/P	53 - 115
DDT-p,p'	87.3	85.5	P/P	54 - 117
Delta-BHC	102	97.2	P/P	68 - 158
Dicofol	81.4	84.8	P/P	25 - 114
Dieldrin	115	98.0	P/P	59 - 126
Endosulfan I	93.0	78.6	P/P	62 - 138
Endosulfan II	102	105	P/P	61 - 150
Endosulfan Sulfate	86.1	82.0	P/P	63 - 132
Endrin	112	101	P/P	49 - 148
Endrin Aldehyde	105	102	P/P	50 - 144
Endrin Ketone	85.4	79.3	P/P	66 - 122
Gamma-BHC	89.2	99.9	P/P	60 - 137
Gamma-Chlordane	90.4	79.8	P/P	54 - 113
Heptachlor	70.0	67.1	P/P	43 - 104
Heptachlor Epoxide	85.8	86.5	P/P	64 - 118
Methoxychlor	93.9	92.3	P/P	63 - 129
Mirex	72.1	70.7	P/P	39 - 93.0
Permethrin	77.2	77.0	P/P	51 - 123
Trifluralin	105	104	P/P	35 - 187

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P331172

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	104	93.6	P/P	48 - 121
Toxaphene	121	114	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P330680

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

Reference Method: EPA 8321B
Batch ID: P331506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.2		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P331108

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P331109

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P331244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P331336

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P331018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.6		P	40 - 150
Acetaminophen	120		P	30 - 150
Bentazon	43.3		P	40 - 150
Carbamazepine	117		P	40 - 150
Diuron	93.7		P	40 - 150
Fenuron	95.3		P	40 - 150
Fluridone	85.0		P	40 - 150
Imidacloprid	96.8		P	40 - 160
Linuron	79.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P331018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
MCP	111		P	40 - 150
Primidone	105		P	40 - 150
Triclopyr	106		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P331017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925897	Calcium	110		P	80 - 120
1925897	Iron	110		P	80 - 120
1925897	Magnesium	110		P	80 - 120
1925897	Potassium	105		P	80 - 120
1925897	Sodium	107		P	80 - 120
1925897	Zinc	104		P	80 - 120
1926055	Iron	105	106	P/P	80 - 120
1926055	Magnesium	105		P	80 - 120
1926055	Potassium	102	103	P/P	80 - 120
1926055	Sodium	102		P	80 - 120
1926055	Zinc	99.4	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P331017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925897	Arsenic	106		P	80 - 120
1925897	Cadmium	105		P	80 - 120
1925897	Chromium	100		P	80 - 120
1925897	Copper	99.4		P	80 - 120
1925897	Lead	101		P	80 - 120
1925897	Nickel	103		P	80 - 120
1925897	Silver	107		P	80 - 120
1926055	Arsenic	112	113	P/P	80 - 120
1926055	Cadmium	104	104	P/P	80 - 120
1926055	Chromium	99.3	99.4	P/P	80 - 120
1926055	Copper	99.7	99.9	P/P	80 - 120
1926055	Lead	105	105	P/P	80 - 120
1926055	Nickel	101	101	P/P	80 - 120
1926055	Silver	107	108	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P331232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925903	Sulfate	100		P	90 - 110
1926043	Sulfate	95.7		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925903	Chloride	106		P	90 - 110
1926043	Chloride	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926012	Ammonia-N	99.6	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926046	Kjeldahl Nitrogen	99.0	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331113

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925929	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926024	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926046	Total-P	102	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926048	O-Phosphate-P	94.9	95.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P331105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926042	Acetochlor	68.9	66.9	F/F	74 - 123
1926042	Alachlor	73.5	73.8	P/P	73 - 124
1926042	Ametryn	75.1	73.1	P/P	56 - 149
1926042	Atrazine	88.4	90.0	P/P	73 - 124
1926042	Atrazine Desethyl	78.6	77.9	P/P	12 - 103
1926042	Azinphos Methyl	126	110	P/P	60 - 202
1926042	Bromacil	58.0	66.3	P/P	42 - 133
1926042	Butylate	44.5	40.6	P/P	10 - 85.0
1926042	Chlorpyrifos Ethyl	65.7	70.0	P/P	53 - 113

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P331105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926042	Chlorpyrifos Methyl	78.6	75.7	P/P	40 - 115
1926042	Cyanazine	141	150	P/P	22 - 210
1926042	Demeton	89.7	91.5	P/P	17 - 149
1926042	Diazinon	89.2	77.3	P/P	72 - 124
1926042	Disulfoton	104	96.4	P/P	43 - 139
1926042	EPTC	38.8	29.6	P/P	10 - 86.0
1926042	Ethion	91.8	75.4	P/P	65 - 131
1926042	Ethoprop	83.8	75.7	P/P	59 - 110
1926042	Fenamiphos	103	56.6	P/F	57 - 138
1926042	Fipronil	86.8	81.5	P/P	40 - 130
1926042	Fipronil Sulfide	76.7	70.9	P/P	36 - 128
1926042	Fipronil Sulfone	62.8	64.7	P/P	16 - 145
1926042	Fonofos	82.6	74.2	P/P	60 - 112
1926042	Hexazinone	89.6	85.7	P/P	69 - 142
1926042	Malathion	87.0	82.1	P/P	68 - 132
1926042	Metalaxyl	74.2	78.3	P/P	66 - 118
1926042	Metolachlor	57.0	68.4	F/F	71 - 124
1926042	Metribuzin	249	260	F/F	61 - 140
1926042	Mevinphos	87.7	81.5	P/P	38 - 130
1926042	Molinate	50.5	40.8	P/P	23 - 99.0
1926042	Norflurazon	87.9	84.6	P/P	39 - 139
1926042	Parathion Ethyl	80.0	73.2	P/F	75 - 111
1926042	Parathion Methyl	107	86.2	P/P	64 - 130
1926042	Pendimethalin	81.5	67.3	P/P	26 - 173
1926042	Phorate	73.3	72.6	P/P	43 - 127
1926042	Prometon	77.1	69.3	P/P	50 - 144
1926042	Prometryn	77.6	79.7	P/P	69 - 126
1926042	Simazine	107	109	P/P	51 - 152
1926042	Terbufos	90.6	83.1	P/P	54 - 125
1926042	Terbuthylazine	76.0	73.5	P/F	76 - 113

Reference Method: EPA 8270D
Batch ID: P331172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926041	Aldrin	54.7		P	22 - 97.0
1926041	Alpha-BHC	74.1		P	43 - 132
1926041	Alpha-Chlordane	63.6		P	36 - 126
1926041	Beta-BHC	80.4		P	41 - 150
1926041	Carbophenothion	90.2		P	13 - 196
1926041	Chlorothalonil	103		P	10 - 266
1926041	Cypermethrin	94.6		P	37 - 161
1926041	DDD-p,p'	71.4		P	44 - 131
1926041	DDE-p,p'	69.3		P	32 - 127
1926041	DDT-p,p'	68.5		P	45 - 116
1926041	Delta-BHC	95.2		P	50 - 201
1926041	Dicofol	23.2		P	10 - 100
1926041	Dieldrin	75.4		P	39 - 142
1926041	Endosulfan I	81.3		P	51 - 139
1926041	Endosulfan II	88.7		P	49 - 155
1926041	Endosulfan Sulfate	82.9		P	54 - 136
1926041	Endrin	82.1		P	38 - 141

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P331172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926041	Endrin Aldehyde	51.2		P	14 - 152
1926041	Endrin Ketone	82.4		P	60 - 128
1926041	Gamma-BHC	127		P	48 - 157
1926041	Gamma-Chlordane	65.7		P	35 - 123
1926041	Heptachlor	58.2		P	25 - 112
1926041	Heptachlor Epoxide	71.0		P	48 - 125
1926041	Methoxychlor	59.7		P	52 - 127
1926041	Mirex	60.2		P	25 - 108
1926041	Permethrin	81.2		P	46 - 133
1926041	Trifluralin	157		P	29 - 254

Reference Method: EPA 8276

Batch ID: P331172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926041	Chlordane	104		P	44 - 134
1926041	Toxaphene	125		P	36 - 147

Reference Method: EPA 8321B

Batch ID: P330680

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

Reference Method: EPA 8321B

Batch ID: P331506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1928742	Sucralose	38.7	64.2	F/P	40 - 150

Reference Method: SM 4500 F-C-97

Batch ID: P331109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924584	Fluoride	96.7	97.9	P/P	91 - 105

Reference Method: SM 5310 B-00

Batch ID: P331244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926294	Organic Carbon	104	104	P/P	85 - 115

Reference Method: SM 5310 B-00

Batch ID: P331336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926239	Organic Carbon	103	102	P/P	85 - 115

Reference Method: USGS O-2060-01

Batch ID: P331018

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

Reference Method: USGS O-2060-01
 Batch ID: P331018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1925991	2,4-D	96.6	88.7	P/P	40 - 150
1925991	Acetaminophen	91.2	86.8	P/P	30 - 150
1925991	Bentazon	20.2	17.9	F/F	40 - 150
1925991	Carbamazepine	90.4	84.6	P/P	40 - 150
1925991	Diuron	44.2	42.0	P/P	40 - 150
1925991	Fenuron	65.1	68.6	P/P	40 - 150
1925991	Fluridone	17.9	13.2	F/F	40 - 150
1925991	Linuron	37.9	35.7	F/F	40 - 150
1925991	MCP	101	80.8	P/P	40 - 150
1925991	Primidone	91.2	91.6	P/P	40 - 150
1925991	Triclopyr	84.8	61.1	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P331023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925926	Turbidity	4.32	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P331024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926021	Turbidity	2.68	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P331017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926055	Calcium	0.612	Spike	P	0 - 20
1926055	Iron	0.730	Spike	P	0 - 20
1926055	Magnesium	0.283	Spike	P	0 - 20
1926055	Potassium	0.302	Spike	P	0 - 20
1926055	Sodium	0.0891	Spike	P	0 - 20
1926055	Zinc	2.17	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P331017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926055	Arsenic	0.445	Spike	P	0 - 20
1926055	Cadmium	0.745	Spike	P	0 - 20
1926055	Chromium	0.143	Spike	P	0 - 20
1926055	Copper	0.254	Spike	P	0 - 20
1926055	Lead	0.0370	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926055	Nickel	0.105	Spike	P	0 - 20
1926055	Silver	0.379	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925903	Sulfate	4.84	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925903	Chloride	5.88	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926012	Ammonia-N	2.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926046	Kjeldahl Nitrogen	0.359	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925929	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926024	NO2NO3-N	0.791	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926046	Total-P	3.06	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926048	O-Phosphate-P	0.839	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P331105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926042	Acetochlor	2.88	Spike	P	0 - 30
1926042	Alachlor	0.404	Spike	P	0 - 30
1926042	Ametryn	2.71	Spike	P	0 - 30
1926042	Atrazine	1.64	Spike	P	0 - 30
1926042	Atrazine Desethyl	0.839	Spike	P	0 - 30
1926042	Azinphos Methyl	14.1	Spike	P	0 - 30
1926042	Bromacil	6.92	Spike	P	0 - 30
1926042	Butylate	9.27	Spike	P	0 - 30
1926042	Chlorpyrifos Ethyl	6.37	Spike	P	0 - 30
1926042	Chlorpyrifos Methyl	3.73	Spike	P	0 - 30
1926042	Cyanazine	6.42	Spike	P	0 - 30
1926042	Demeton	1.98	Spike	P	0 - 30
1926042	Diazinon	14.2	Spike	P	0 - 30
1926042	Disulfoton	7.85	Spike	P	0 - 30
1926042	EPTC	27.0	Spike	P	0 - 30
1926042	Ethion	19.6	Spike	P	0 - 30
1926042	Ethoprop	10.2	Spike	P	0 - 30
1926042	Fenamiphos	58.6	Spike	F	0 - 30
1926042	Fipronil	6.19	Spike	P	0 - 30
1926042	Fipronil Sulfide	7.90	Spike	P	0 - 30
1926042	Fipronil Sulfone	2.93	Spike	P	0 - 30
1926042	Fonofos	10.7	Spike	P	0 - 30
1926042	Hexazinone	3.49	Spike	P	0 - 30
1926042	Malathion	5.75	Spike	P	0 - 30
1926042	Metalaxyl	4.87	Spike	P	0 - 30
1926042	Metolachlor	17.3	Spike	P	0 - 30
1926042	Metribuzin	4.42	Spike	P	0 - 30
1926042	Mevinphos	7.24	Spike	P	0 - 30
1926042	Molinate	21.2	Spike	P	0 - 30
1926042	Norflurazon	3.83	Spike	P	0 - 30
1926042	Parathion Ethyl	8.82	Spike	P	0 - 30
1926042	Parathion Methyl	21.9	Spike	P	0 - 30
1926042	Pendimethalin	19.1	Spike	P	0 - 30
1926042	Phorate	1.03	Spike	P	0 - 30
1926042	Prometon	10.7	Spike	P	0 - 30
1926042	Prometryn	2.71	Spike	P	0 - 30
1926042	Simazine	1.88	Spike	P	0 - 30
1926042	Terbufos	8.64	Spike	P	0 - 30
1926042	Terbutylazine	3.45	Spike	P	0 - 30
LFB	Acetochlor	16.4	LCS	P	0 - 30
LFB	Alachlor	15.0	LCS	P	0 - 30
LFB	Ametryn	8.48	LCS	P	0 - 30
LFB	Atrazine	14.4	LCS	P	0 - 30
LFB	Atrazine Desethyl	27.1	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P331105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Azinphos Methyl	2.74	LCS	P	0 - 30
LFB	Bromacil	1.23	LCS	P	0 - 30
LFB	Butylate	25.6	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.74	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.55	LCS	P	0 - 30
LFB	Cyanazine	21.6	LCS	P	0 - 30
LFB	Demeton	6.66	LCS	P	0 - 30
LFB	Diazinon	18.5	LCS	P	0 - 30
LFB	Disulfoton	5.63	LCS	P	0 - 30
LFB	EPTC	32.6	LCS	F	0 - 30
LFB	Ethion	1.47	LCS	P	0 - 30
LFB	Ethoprop	8.48	LCS	P	0 - 30
LFB	Fenamiphos	2.86	LCS	P	0 - 30
LFB	Fipronil	4.46	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.89	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.47	LCS	P	0 - 30
LFB	Fonofos	0.481	LCS	P	0 - 30
LFB	Hexazinone	8.51	LCS	P	0 - 30
LFB	Malathion	6.29	LCS	P	0 - 30
LFB	Metalaxyl	19.0	LCS	P	0 - 30
LFB	Metolachlor	21.1	LCS	P	0 - 30
LFB	Metribuzin	54.9	LCS	F	0 - 30
LFB	Mevinphos	6.58	LCS	P	0 - 30
LFB	Molinate	37.5	LCS	F	0 - 30
LFB	Norflurazon	26.5	LCS	P	0 - 30
LFB	Parathion Ethyl	3.93	LCS	P	0 - 30
LFB	Parathion Methyl	6.08	LCS	P	0 - 30
LFB	Pendimethalin	9.34	LCS	P	0 - 30
LFB	Phorate	3.17	LCS	P	0 - 30
LFB	Prometon	17.6	LCS	P	0 - 30
LFB	Prometryn	14.0	LCS	P	0 - 30
LFB	Simazine	17.4	LCS	P	0 - 30
LFB	Terbufos	2.31	LCS	P	0 - 30
LFB	Terbuthylazine	9.07	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P331172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Aldrin	4.98	LCS	P	0 - 30
LFB	Alpha-BHC	1.14	LCS	P	0 - 30
LFB	Alpha-Chlordane	12.1	LCS	P	0 - 30
LFB	Beta-BHC	11.7	LCS	P	0 - 30
LFB	Carbophenothion	15.9	LCS	P	0 - 30
LFB	Chlorothalonil	5.22	LCS	P	0 - 30
LFB	Cypermethrin	4.25	LCS	P	0 - 30
LFB	DDD-p,p'	0.449	LCS	P	0 - 30
LFB	DDE-p,p'	12.5	LCS	P	0 - 30
LFB	DDT-p,p'	2.06	LCS	P	0 - 30
LFB	Delta-BHC	4.64	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P331172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Dicofol	4.10	LCS	P	0 - 30
LFB	Dieldrin	15.9	LCS	P	0 - 30
LFB	Endosulfan I	16.8	LCS	P	0 - 30
LFB	Endosulfan II	3.36	LCS	P	0 - 30
LFB	Endosulfan Sulfate	4.85	LCS	P	0 - 30
LFB	Endrin	9.59	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.69	LCS	P	0 - 30
LFB	Endrin Ketone	7.48	LCS	P	0 - 30
LFB	Gamma-BHC	11.3	LCS	P	0 - 30
LFB	Gamma-Chlordane	12.4	LCS	P	0 - 30
LFB	Heptachlor	4.26	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.746	LCS	P	0 - 30
LFB	Methoxychlor	1.66	LCS	P	0 - 30
LFB	Mirex	1.90	LCS	P	0 - 30
LFB	Permethrin	0.225	LCS	P	0 - 30
LFB	Trifluralin	1.36	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P331172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	10.9	LCS	P	0 - 30
LFB	Toxaphene	5.77	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P330680

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

Reference Method: EPA 8321B
Batch ID: P331506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1928742	Sucralose	22.0	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P331020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925909	Color (true)	1.54	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P331021

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

Reference Method: SM 2120 B
Batch ID: P331021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926022	Color (true)	0.220	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P331108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924584	Total Alkalinity	0.457	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P331277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925927	TDS	3.81	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P331109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924584	Fluoride	0.996	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P331244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926294	Organic Carbon	0.532	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P331336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926239	Organic Carbon	0.889	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P331018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925991	2,4-D	8.27	Spike	P	0 - 30
1925991	Acetaminophen	4.43	Spike	P	0 - 30
1925991	Bentazon	11.5	Spike	P	0 - 30
1925991	Carbamazepine	6.60	Spike	P	0 - 30
1925991	Diuron	2.85	Spike	P	0 - 30
1925991	Fenuron	5.31	Spike	P	0 - 30
1925991	Fluridone	29.7	Spike	P	0 - 30
1925991	Imidacloprid	4.74	Spike	P	0 - 30
1925991	Linuron	5.90	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P331018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1925991	MCP	22.3	Spike	P	0 - 30
1925991	Primidone	0.525	Spike	P	0 - 30
1925991	Triclopyr	32.4	Spike	F	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: 1926040
Field Sample ID: G3SD082817-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	142	P	30 - 160
EPA 8321B	Acetaminophen-d4	142	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	66.2	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Diuron-d6	66.2	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	61.0	P	40 - 160
EPA 8321B	Sucralose-d6	61.0	P	40 - 160
USGS O-2060-01	2,4-D-d3	167	F	40 - 160
USGS O-2060-01	Acetaminophen-d4	142	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	112	P	30 - 160
USGS O-2060-01	Diuron-d6	66.2	P	30 - 160
USGS O-2060-01	Diuron-d6	101	P	30 - 160
USGS O-2060-01	Primidone-d5	103	P	30 - 160
USGS O-2060-01	Sucralose-d6	61.0	P	40 - 160

Lab Sample ID: 1926041
Field Sample ID: G3SD082817-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	42.7	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	50.0	P	32 - 103
EPA 8276	Decachlorobiphenyl	42.3	P	31 - 100

Lab Sample ID: 1926042
Field Sample ID: G3SD082817-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	72.8	P	53 - 135
EPA 8270D	Simazine-d10	115	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A78683

Included Lab Sample IDs: 1926019, 1926020, 1926025, 1926026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.4	P/P	90 - 110
O-Phosphate-P	99.4	99.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A78689

Included Lab Sample IDs: 1926015, 1926016, 1926021, 1926022

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78690

Included Lab Sample IDs: 1926015, 1926016, 1926021, 1926022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A78700

Included Lab Sample IDs: 1926040

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78716

Included Lab Sample IDs: 1926054, 1926055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	104	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Copper	102	103	P/P	90 - 110
Lead	100	102	P/P	90 - 110
Nickel	102	102	P/P	90 - 110
Silver	99.6	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78718

Included Lab Sample IDs: 1926054, 1926055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.2	99.5	P/P	90 - 110
Calcium	99.5	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Potassium	99.1	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78718

Included Lab Sample IDs: 1926054, 1926055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	99.8	99.1	P/P	90 - 110
Sodium	99.3	99.3	P/P	90 - 110
Sodium	99.3	101	P/P	90 - 110
Zinc	101	101	P/P	90 - 110
Zinc	98.4	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A78722

Included Lab Sample IDs: 1926015, 1926016, 1926021, 1926022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.3	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A78722

Included Lab Sample IDs: 1926015, 1926016, 1926021, 1926022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78723

Included Lab Sample IDs: 1926017, 1926018, 1926023, 1926024

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78738

Included Lab Sample IDs: 1926017, 1926018, 1926023, 1926024

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	105	P/P	90 - 110
Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78741

Included Lab Sample IDs: 1926017, 1926018, 1926023, 1926024

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78759

Included Lab Sample IDs: 1926017, 1926018, 1926023, 1926024

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A78767

Included Lab Sample IDs: 1926015, 1926016, 1926021, 1926022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	108	101	P/P	90 - 110
Sulfate	109	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A78769

Included Lab Sample IDs: 1926017, 1926023, 1926024

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

Reference Method: USGS O-2060-01

Run ID: A78805

Included Lab Sample IDs: 1926040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	125	123	P/P	50 - 150
Acetaminophen	115	112	P/P	60 - 150
Bentazon	75.7	69.1	P/P	50 - 150
Carbamazepine	133	129	P/P	60 - 150
Diuron	110	118	P/P	60 - 150
Fenuron	96.2	91.8	P/P	60 - 150
Fluridone	107	106	P/P	60 - 160
Imidacloprid	111	114	P/P	60 - 150
Linuron	85.8	98.7	P/P	60 - 150
MCPP	132	135	P/P	50 - 150
Primidone	107	106	P/P	60 - 150
Triclopyr	132	127	P/P	50 - 160

Reference Method: SM 5310 B-00

Run ID: A78811

Included Lab Sample IDs: 1926018

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78939

Included Lab Sample IDs: 1926040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	110	P/P	60 - 150

Reference Method: EPA 8270D

Run ID: A78963

Included Lab Sample IDs: 1926042

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	96.6		P	80 - 120
Alachlor	96.2		P	80 - 120
Ametryn	89.0		P	80 - 120
Atrazine	90.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A78963
 Included Lab Sample IDs: 1926042

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine Desethyl	93.3		P	80 - 120
Azinphos Methyl	113		P	80 - 120
Bromacil	87.5		P	80 - 120
Butylate	102		P	80 - 120
Chlorpyrifos Ethyl	93.5		P	80 - 120
Chlorpyrifos Methyl	99.5		P	80 - 120
Cyanazine	82.4		P	80 - 120
Demeton	95.0		P	80 - 120
Diazinon	91.7		P	80 - 120
Disulfoton	93.7		P	80 - 120
EPTC	92.6		P	80 - 120
Ethion	86.8		P	80 - 120
Ethoprop	98.3		P	80 - 120
Fenamiphos	88.4		P	80 - 120
Fipronil	82.9		P	80 - 120
Fipronil Sulfide	88.8		P	80 - 120
Fipronil Sulfone	87.1		P	80 - 120
Fonofos	96.0		P	80 - 120
Hexazinone	96.8		P	80 - 120
Malathion	88.9		P	80 - 120
Metalaxyl	92.4		P	80 - 120
Metolachlor	94.2		P	80 - 120
Metribuzin	100		P	80 - 120
Mevinphos	95.6		P	80 - 120
Molinate	93.6		P	80 - 120
Norflurazon	79.6*		F	80 - 120
Parathion Ethyl	89.0		P	80 - 120
Parathion Methyl	99.3		P	80 - 120
Pendimethalin	84.3		P	80 - 120
Phorate	96.4		P	80 - 120
Prometon	99.0		P	80 - 120
Prometryn	92.6		P	80 - 120
Simazine	92.1		P	80 - 120
Terbufos	96.3		P	80 - 120
Terbutylazine	93.2		P	80 - 120

Reference Method: EPA 8270D
 Run ID: A78977
 Included Lab Sample IDs: 1926041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	91.7		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	91.1		P	80 - 120
Beta-BHC	112		P	80 - 120
Carbophenothion	115		P	80 - 120
Chlorothalonil	136*		F	80 - 120
Cypermethrin	101		P	80 - 120
DDD-p,p'	116		P	80 - 120
DDE-p,p'	92.5		P	80 - 120
DDT-p,p'	108		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A78977
 Included Lab Sample IDs: 1926041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Delta-BHC	116		P	80 - 120
Dicofol	119		P	80 - 120
Dieldrin	109		P	80 - 120
Endosulfan I	87.8		P	80 - 120
Endosulfan II	105		P	80 - 120
Endosulfan Sulfate	103		P	80 - 120
Endrin	105		P	80 - 120
Endrin Aldehyde	106		P	80 - 120
Endrin Ketone	100		P	80 - 120
Gamma-BHC	107		P	80 - 120
Gamma-Chlordane	95.0		P	80 - 120
Heptachlor	95.4		P	80 - 120
Heptachlor Epoxide	99.6		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	99.0		P	80 - 120
Trifluralin	101		P	80 - 120

Reference Method: EPA 8276
 Run ID: A78984
 Included Lab Sample IDs: 1926041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	106		P	80 - 120
Toxaphene	116		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS			SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					4.32	
	Turbidity					2.68	
EPA 200.7 Rev. 4.4	Calcium	103		110			0.612
	Iron	106		110	105	106	0.730
	Magnesium	103		110	105		0.283
	Potassium	101		105	102	103	0.302
	Sodium	103		107	102		0.0891
	Zinc	101		104	99.4	102	2.17
EPA 200.8 Rev. 5.4	Arsenic	106		106	112	113	0.445
	Cadmium	99.9		105	104	104	0.745
	Chromium	99.7		100	99.3	99.4	0.143
	Copper	99.8		99.4	99.7	99.9	0.254
	Lead	100		101	105	105	0.0370
	Nickel	103		103	101	101	0.105
	Silver	108		107	107	108	0.379

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 300.0 Rev. 2.1	Chloride	100		106	102		5.88	
	Sulfate	96.6		100	95.7		4.84	
EPA 350.1 Rev. 2.0	Ammonia-N	102		99.6	102			2.29
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		99.0	98.5			0.359
EPA 353.2 Rev. 2.0	NO2NO3-N	102		104	104			0.0
	NO2NO3-N	104		104	103			0.791
EPA 365.1 Rev. 2.0	Total-P	101		102	98.9			3.06
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103		94.9	95.7			0.839
EPA 8270D	Acetochlor	85.7	101	68.9	66.9	16.4		2.88
	Alachlor	85.3	99.1	73.5	73.8	15.0		0.404
	Aldrin	46.4	44.1	54.7		4.98		
	Alpha-BHC	84.8	83.9	74.1		1.14		
	Alpha-Chlordane	87.9	77.8	63.6		12.1		
	Ametryn	84.0	91.5	75.1	73.1	8.48		2.71
	Atrazine	81.0	93.6	88.4	90.0	14.4		1.64
	Atrazine Desethyl	95.9	73.0	78.6	77.9	27.1		0.839
	Azinphos Methyl	120	124	126	110	2.74		14.1
	Beta-BHC	89.3	100	80.4		11.7		
	Bromacil	74.4	75.4	58.0	66.3	1.23		6.92
	Butylate	56.4	73.0	44.5	40.6	25.6		9.27
	Carbophenothion	78.0	91.5	90.2		15.9		
	Chlorothalonil	63.9	60.7	103		5.22		
	Chlorpyrifos Ethyl	83.7	88.6	65.7	70.0	5.74		6.37
	Chlorpyrifos Methyl	90.2	88.8	78.6	75.7	1.55		3.73
	Cyanazine	133	107	141	150	21.6		6.42
	Cypermethrin	82.7	79.2	94.6		4.25		
	DDD-p,p'	106	106	71.4		0.449		
	DDE-p,p'	91.2	80.5	69.3		12.5		
	DDT-p,p'	87.3	85.5	68.5		2.06		
	Delta-BHC	102	97.2	95.2		4.64		
	Demeton	90.8	97.1	89.7	91.5	6.66		1.98
	Diazinon	84.1	101	89.2	77.3	18.5		14.2
	Dicofol	81.4	84.8	23.2		4.10		
	Dieldrin	115	98.0	75.4		15.9		
	Disulfoton	96.3	102	104	96.4	5.63		7.85
	Endosulfan I	93.0	78.6	81.3		16.8		
	Endosulfan II	102	105	88.7		3.36		
	Endosulfan Sulfate	86.1	82.0	82.9		4.85		
	Endrin	112	101	82.1		9.59		
	Endrin Aldehyde	105	102	51.2		3.69		
	Endrin Ketone	85.4	79.3	82.4		7.48		
	EPTC	47.8	66.4	38.8	29.6	32.6		27.0
	Ethion	80.6	81.8	91.8	75.4	1.47		19.6
	Ethoprop	77.8	84.7	83.8	75.7	8.48		10.2
	Fenamiphos	90.7	93.3	103	56.6	2.86		58.6
	Fipronil	86.4	90.4	86.8	81.5	4.46		6.19
	Fipronil Sulfide	81.9	77.2	76.7	70.9	5.89		7.90
	Fipronil Sulfone	70.7	73.2	62.8	64.7	3.47		2.93
	Fonofos	85.5	85.1	82.6	74.2	0.481		10.7
	Gamma-BHC	89.2	99.9	127		11.3		
	Gamma-Chlordane	90.4	79.8	65.7		12.4		
	Heptachlor	70.0	67.1	58.2		4.26		
	Heptachlor Epoxide	85.8	86.5	71.0		0.746		
	Hexazinone	86.4	94.1	89.6	85.7	8.51		3.49

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Malathion	89.8	95.6	87.0	82.1	6.29	5.75
	Metalaxyl	78.5	95.0	74.2	78.3	19.0	4.87
	Methoxychlor	93.9	92.3	59.7		1.66	
	Metolachlor	78.1	96.5	57.0	68.4	21.1	17.3
	Metribuzin	196	111	249	260	54.9	4.42
	Mevinphos	79.1	84.5	87.7	81.5	6.58	7.24
	Mirex	72.1	70.7	60.2		1.90	
	Molinate	53.1	77.6	50.5	40.8	37.5	21.2
	Norflurazon	71.5	93.3	87.9	84.6	26.5	3.83
	Parathion Ethyl	84.4	87.7	80.0	73.2	3.93	8.82
	Parathion Methyl	101	94.6	107	86.2	6.08	21.9
	Pendimethalin	76.6	84.1	81.5	67.3	9.34	19.1
	Permethrin	77.2	77.0	81.2		0.225	
	Phorate	86.3	83.6	73.3	72.6	3.17	1.03
	Prometon	81.9	97.7	77.1	69.3	17.6	10.7
	Prometryn	81.9	94.3	77.6	79.7	14.0	2.71
	Simazine	95.6	114	107	109	17.4	1.88
	Terbufos	87.7	89.7	90.6	83.1	2.31	8.64
	Terbutylazine	83.9	91.9	76.0	73.5	9.07	3.45
	Trifluralin	105	104	157		1.36	
EPA 8276	Chlordane	104	93.6	104		10.9	
	Toxaphene	121	114	125		5.77	
EPA 8321B	Pyraclostrobin	119		120	115		4.19
	Sucralose	92.2		38.7	64.2		22.0
SM 2120 B	Color (true)					1.54	
	Color (true)					0.220	
SM 2320 B-97	Total Alkalinity	102				0.457	
SM 2540 C-97	TDS					3.81	
SM 4500 F-C-97	Fluoride	95.1		96.7	97.9		0.996
SM 5310 B-00	Organic Carbon	101		104	104		0.532
	Organic Carbon	98.9		103	102		0.889
USGS O-2060-01	2,4-D	95.6		96.6	88.7		8.27
	Acetaminophen	120		91.2	86.8		4.43
	Bentazon	43.3		20.2	17.9		11.5
	Carbamazepine	117		90.4	84.6		6.60
	Diuron	93.7		44.2	42.0		2.85
	Fenuron	95.3		65.1	68.6		5.31
	Fluridone	85.0		17.9	13.2		29.7
	Imidacloprid	96.8					4.74
	Linuron	79.2		37.9	35.7		5.90
	MCPP	111		101	80.8		22.3
	Primidone	105		91.2	91.6		0.525
	Triclopyr	106		84.8	61.1		32.4

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1926015, 1926016, 1926021, 1926022
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1926054, 1926055
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1926054, 1926055

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1926015, 1926016, 1926021, 1926022
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1926015, 1926016, 1926021, 1926022
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1926017, 1926018, 1926023, 1926024
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1926017, 1926018, 1926023, 1926024
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1926017, 1926018, 1926023, 1926024
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1926017, 1926018, 1926023, 1926024
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1926019, 1926020, 1926025, 1926026
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1926041
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1926042
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1926041
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1926040
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1926040
SM 2120 B / E31780	True Color measured at 450 nm	1926015, 1926016, 1926021, 1926022
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1926015, 1926016, 1926021, 1926022
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1926015, 1926016, 1926021, 1926022
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1926015, 1926016, 1926021, 1926022
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1926015, 1926016, 1926021, 1926022
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1926017, 1926018, 1926023, 1926024
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1926040
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1926040

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/29/2017			08/29/2017 16:39	DeAsia Armster	1926015, 1926016, 1926021, 1926022
EPA 200.7 Rev. 4.4	08/29/2017	08/29/2017	Elliott D. Healy	08/30/2017	Betina Topolski	1926054, 1926055
EPA 200.8 Rev. 5.4	08/29/2017	08/29/2017	Elliott D. Healy	08/30/2017	Nadine Brooks	1926054, 1926055
EPA 300.0 Rev. 2.1	08/29/2017			09/01/2017	Julia Storbeck	1926015, 1926016, 1926021, 1926022
EPA 350.1 Rev. 2.0	08/29/2017			08/31/2017	Sofia Elnemr	1926017, 1926018, 1926023, 1926024
EPA 351.2 Rev. 2.0	08/29/2017	08/31/2017	Adrian Shelby	08/31/2017	Joseph Suarez	1926017, 1926018, 1926023, 1926024
EPA 353.2 Rev. 2.0	08/29/2017			08/31/2017	Beverly Y. Sanders	1926017, 1926018, 1926023, 1926024
EPA 365.1 Rev. 2.0	08/29/2017	08/30/2017	Sima Feizi	08/31/2017	Lipi Saha	1926017, 1926018, 1926023, 1926024
EPA 365.1 Rev. 2.0 dissolved	08/29/2017			08/29/2017 14:23	Megan Treadwell	1926026
	08/29/2017			08/29/2017 14:31	Megan Treadwell	1926019
	08/29/2017			08/29/2017 14:32	Megan Treadwell	1926020
	08/29/2017			08/29/2017 14:33	Megan Treadwell	1926025
EPA 8270D	08/29/2017	09/01/2017	Fe-Val Siddell	09/05/2017	Irina Carbone	1926042
	08/29/2017	09/01/2017	John Kaba	09/14/2017	Marek Topolski	1926041
EPA 8276	08/29/2017	09/01/2017	John Kaba	09/14/2017	Vandana T. Nagar	1926041
EPA 8321B	08/29/2017	08/29/2017	Hoor Shaik	08/30/2017	Juyoung Kim	1926040
	08/29/2017	09/13/2017	Hoor Shaik	09/14/2017	Julie Michelle Frank	1926040
SM 2120 B	08/29/2017			08/29/2017 15:44	Tanya Welborn	1926022
	08/29/2017			08/29/2017 15:59	Tanya Welborn	1926015, 1926016
	08/29/2017			08/29/2017 16:00	Tanya Welborn	1926021
SM 2320 B-97	08/29/2017			08/30/2017	Dale L. Simmons	1926015, 1926016, 1926021, 1926022
SM 2540 C-97	08/29/2017			08/30/2017	Yijie Li	1926015, 1926016, 1926021, 1926022
SM 2540 D-97	08/29/2017			08/30/2017	Yijie Li	1926015, 1926016, 1926021, 1926022
SM 4500 F-C-97	08/29/2017			08/30/2017	Dale L. Simmons	1926015, 1926016, 1926021, 1926022
SM 5310 B-00	08/29/2017			09/01/2017	Ping Hua	1926017, 1926023, 1926024
	08/29/2017			09/05/2017	Ping Hua	1926018
USGS O-2060-01	08/29/2017	08/31/2017	Hoor Shaik	09/02/2017	Juyoung Kim	1926040