

Chemical Analysis Report

WQ-ASSESS-2017-08-10-01

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

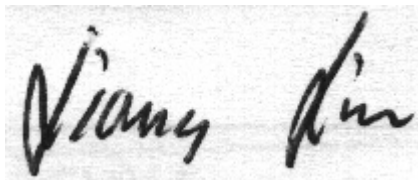
Event Description: **RUN 9**
Request ID: **RQ-2017-08-07-24**
Customer: **WQ-ASSESS**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
Division Of Water Facilities, FL DEP
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 06-SEP-2017 12:52

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: Armistead

Collection Date/Time: 08/09/2017 10:25

Field ID: G1SW0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920837	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P330070	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P330085	
		Sulfate	13		mg SO4/L	P330087	
	SM 2120 B	Color (true)	110		PCU	P330051	
	SM 2320 B-97	Total Alkalinity	24		mg CaCO3/L	P330192	
	SM 2540 C-97	TDS	138		mg/L	P330444	
	SM 2540 D-97	TSS	2	UA	mg/L	P330305	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P330400	
1920839	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P330370	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P330128	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P330290	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P330211	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P330412	
1920841	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P330056	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Magdalene

Collection Date/Time: 08/09/2017 11:25

Field ID: G1SW0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920848	EPA 8321B	Glyphosate**	0.50	U	ug/L	P330061	
		Pyraclostrobin**	0.0020	U	ug/L	P330248	
		Sucralose**	0.91		ug/L	P330674	
		2,4-D	0.15		ug/L	P330060	
		Diuron	0.0063		ug/L	P330060	
	USGS O-2060-01	Fenuron	0.0080	U	ug/L	P330060	
		Imidacloprid	0.011		ug/L	P330060	MS
		Bentazon	0.020		ug/L	P330060	
		Linuron	0.0040	U	ug/L	P330060	
		Acetaminophen**	0.0080	U	ug/L	P330060	
		MCP	0.0020	U	ug/L	P330060	
		Carbamazepine**	8.1E-04	I	ug/L	P330060	
		Triclopyr**	0.0040	U	ug/L	P330060	
		Primidone**	0.0063	I	ug/L	P330060	
		Fluridone**	0.027		ug/L	P330060	
1920851	EPA 8270D	Aldrin	4.2	U	ng/L	P330178	
		Alpha-BHC	2.1	U	ng/L	P330178	
		Beta-BHC	4.2	U	ng/L	P330178	
		Delta-BHC	4.2	U	ng/L	P330178	
		Gamma-BHC	4.2	U	ng/L	P330178	
		Carbophenothion	4.2	U	ng/L	P330178	
		Chlorothalonil	2.1	UJ	ng/L	P330178	CCV, MS, RPD

Field ID: G1SW0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920851	EPA 8270D	Cypermethrin	21	U	ng/L	P330178	
		DDD-p,p'	3.1	U	ng/L	P330178	
		DDE-p,p'	3.1	U	ng/L	P330178	
		DDT-p,p'	3.1	U	ng/L	P330178	
		Dieldrin	4.2	U	ng/L	P330178	
		Endosulfan I	4.2	U	ng/L	P330178	
		Endosulfan II	4.2	U	ng/L	P330178	
		Endosulfan Sulfate	2.1	U	ng/L	P330178	
		Endrin	2.1	U	ng/L	P330178	
		Endrin Aldehyde	2.1	U	ng/L	P330178	
		Heptachlor	1.6	U	ng/L	P330178	
		Heptachlor Epoxide	2.1	U	ng/L	P330178	
		Methoxychlor	4.2	U	ng/L	P330178	
		Mirex	2.1	U	ng/L	P330178	
		Permethrin	10	U	ng/L	P330178	
		Trifluralin	1.0	U	ng/L	P330178	
		Alpha-Chlordane	1.0	U	ng/L	P330178	
		Gamma-Chlordane	1.0	U	ng/L	P330178	
		Endrin Ketone	2.1	U	ng/L	P330178	
		Dicofol	31	UJ	ng/L	P330178	CCV, RPD
1920852	EPA 8276	Chlordane**	2.6	U	ng/L	P330178	
		Toxaphene**	13	U	ng/L	P330178	
	EPA 8270D	Alachlor	0.24	U	ng/L	P330082	
		Ametryn	1.8		ng/L	P330082	
		Atrazine	22		ng/L	P330082	
		Atrazine Desethyl	4.6	I	ng/L	P330082	
		Azinphos Methyl	2.2	U	ng/L	P330082	
		Bromacil	0.49	U	ng/L	P330082	
		Butylate	0.39	U	ng/L	P330082	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P330082	
		Chlorpyrifos Methyl	0.097	U	ng/L	P330082	
		Demeton	1.9	U	ng/L	P330082	
		Diazinon	0.12	U	ng/L	P330082	
		Disulfoton	0.49	U	ng/L	P330082	
		EPTC	1.2	U	ng/L	P330082	
		Ethion	0.15	U	ng/L	P330082	
		Ethoprop	0.097	U	ng/L	P330082	
		Fenamiphos	0.24	U	ng/L	P330082	
		Fipronil	0.24	U	ng/L	P330082	
		Fipronil Sulfide	0.15	U	ng/L	P330082	
		Fipronil Sulfone	0.31	I	ng/L	P330082	
		Hexazinone	5.7		ng/L	P330082	
		Malathion	0.34	U	ng/L	P330082	
		Metribuzin	0.19	UJ	ng/L	P330082	CCV, LCS, MS, RPD

Field ID: G1SW0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920852	EPA 8270D	Mevinphos	0.49	U	ng/L	P330082	
		Molinate	0.29	UJ	ng/L	P330082	LCS
		Norflurazon	0.49	U	ng/L	P330082	
		Pendimethalin	0.97	U	ng/L	P330082	
		Phorate	0.24	U	ng/L	P330082	
		Prometon	0.88	U	ng/L	P330082	
		Prometryn	0.19	U	ng/L	P330082	
		Simazine	1.1	I	ng/L	P330082	
		Terbufos	0.097	U	ng/L	P330082	
		Terbutylazine	0.41	U	ng/L	P330082	
		Fonofos	0.19	U	ng/L	P330082	
		Metalaxyl	0.19	U	ng/L	P330082	
		Metolachlor	0.24	U	ng/L	P330082	
		Acetochlor	0.24	U	ng/L	P330082	
		Cyanazine	0.49	UJ	ng/L	P330082	CCV
		Parathion Ethyl	0.24	U	ng/L	P330082	
		Parathion Methyl	0.24	U	ng/L	P330082	

Ref. Method and Comment:

EPA 8321B: MS recoveries are not available due to technical difficulties.

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

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

Sample Location: Magdalene

Collection Date/Time: 08/09/2017 11:25

Field ID: G1SW0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920834	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P330070	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P330085	
		Sulfate	15		mg SO4/L	P330087	
	SM 2120 B	Color (true)	28	A	PCU	P330051	
	SM 2320 B-97	Total Alkalinity	37		mg CaCO3/L	P330192	
	SM 2540 C-97	TDS	136	A	mg/L	P330444	
	SM 2540 D-97	TSS	3	I	mg/L	P330305	
	SM 4500 F-C-97	Fluoride	0.096	I	mg F/L	P330400	
1920835	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P330368	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P330128	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P330290	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P330211	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P330412	
1920836	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P330056	
1920853	EPA 200.7 Rev. 4.4	Calcium	17.2		mg/L	P330182	
		Iron	30	U	ug/L	P330182	
		Magnesium	2.13		mg/L	P330182	
		Potassium	3.9		mg/L	P330182	
		Sodium	25.4		mg/L	P330182	

Field ID: G1SW0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920853	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P330182	
	EPA 200.8 Rev. 5.4	Arsenic	4.71		ug/L	P330182	
		Cadmium	0.020	U	ug/L	P330182	
		Chromium	0.40	U	ug/L	P330182	
		Copper	0.70	I	ug/L	P330182	
		Lead	0.065	I	ug/L	P330182	
		Nickel	0.20	U	ug/L	P330182	
		Silver	0.010	U	ug/L	P330182	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Bellows Outlet

Collection Date/Time: 08/09/2017 12:20

Field ID: G1SW0060

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920838	EPA 180.1 Rev. 2.0	Turbidity	17		NTU	P330069	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P330085	
		Sulfate	6.7		mg SO4/L	P330087	
	SM 2120 B	Color (true)	30		PCU	P330053	
	SM 2320 B-97	Total Alkalinity	54		mg CaCO3/L	P330192	
	SM 2540 C-97	TDS	114		mg/L	P330444	
	SM 2540 D-97	TSS	6	I	mg/L	P330305	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P330400	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P330370	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.2		mg N/L	P330128	
1920840	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P330291	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P330211	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P330412	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P330056	
	dissolved						

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Bellows Outlet

Collection Date/Time: 08/09/2017 12:20

Field ID: G1SW0060

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920849	EPA 8321B	Sucralose**	0.060		ug/L	P330674	
	USGS O-2060-01	2,4-D	0.22		ug/L	P330060	
		Diuron	0.0057		ug/L	P330060	
		Fenuron	0.0080	U	ug/L	P330060	
		Imidacloprid	0.012		ug/L	P330060	MS
		Bentazon	0.0011	I	ug/L	P330060	
		Linuron	0.0040	U	ug/L	P330060	
		Acetaminophen**	0.0080	U	ug/L	P330060	
		MCP	0.0020	U	ug/L	P330060	

Field ID: G1SW0060

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1920849	USGS O-2060-01	Carbamazepine**	4.0E-04	U	ug/L	P330060	
		Triclopyr**	0.0040	U	ug/L	P330060	
		Primidone**	0.0040	U	ug/L	P330060	
		Fluridone**	0.0067		ug/L	P330060	

Ref. Method and Comment:
 EPA 8321B: MS recoveries are not available due to technical difficulties.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P330069

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P330070

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P330182

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P330182

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: P330085

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P330087

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330087

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330368

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330370

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330128

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330290

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330291

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330211

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330056

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

Reference Method: EPA 8270D
Batch ID: P330082

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P330082

Component	Result	Code	Units
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270D

Batch ID: P330178

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P330178

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

Reference Method: EPA 8276
Batch ID: P330178

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

Reference Method: EPA 8321B
Batch ID: P330061

Component	Result	Code	Units
Glyphosate	0.50	U	ug/L

Reference Method: EPA 8321B
Batch ID: P330248

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P330674

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P330051

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P330053

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P330192

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

Reference Method: SM 2540 C-97
 Batch ID: P330444

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P330305

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P330400

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P330412

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

Reference Method: USGS O-2060-01
 Batch ID: P330060

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	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P330182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	101		P	85 - 115
Sodium	99.6		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	108		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	103		P	85 - 115
Copper	102		P	85 - 115
Lead	99.5		P	85 - 115
Nickel	105		P	85 - 115
Silver	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330085

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330087

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330370

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330128

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330290

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

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P330290

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P330291

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P330211

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P330056

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

Reference Method: EPA 8270D

Batch ID: P330082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.0	91.7	P/P	78 - 118
Alachlor	92.6	93.9	P/P	77 - 119
Ametryn	109	101	P/P	61 - 136
Atrazine	103	105	P/P	73 - 120
Atrazine Desethyl	81.3	104	P/P	16 - 122
Azinphos Methyl	118	118	P/P	69 - 186
Bromacil	97.1	93.0	P/P	40 - 125
Butylate	37.0	37.9	P/P	32 - 87.0
Chlorpyrifos Ethyl	86.2	90.2	P/P	53 - 110
Chlorpyrifos Methyl	91.7	93.5	P/P	31 - 119
Cyanazine	174	191	P/P	36 - 224
Demeton	81.8	85.9	P/P	39 - 122
Diazinon	91.1	87.8	P/P	75 - 119
Disulfoton	122	101	P/P	42 - 139
EPTC	38.2	38.2	P/P	33 - 96.0
Ethion	80.8	88.3	P/P	63 - 127
Ethoprop	76.1	75.7	P/P	65 - 107
Fenamiphos	102	104	P/P	64 - 137
Fipronil	99.9	98.8	P/P	60 - 126
Fipronil Sulfide	88.3	91.2	P/P	58 - 124
Fipronil Sulfone	80.2	83.6	P/P	57 - 126
Fonofos	88.7	89.7	P/P	65 - 111
Hexazinone	90.2	90.7	P/P	46 - 151
Malathion	89.7	92.9	P/P	68 - 132
Metaxyl	86.7	86.3	P/P	51 - 132
Metolachlor	89.8	89.9	P/P	78 - 119
Metribuzin	106	158	P/F	64 - 138
Mevinphos	69.4	73.7	P/P	34 - 128

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P330082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Molinate	47.5	43.5	P/F	44 - 101
Norflurazon	94.7	96.3	P/P	63 - 129
Parathion Ethyl	89.1	87.3	P/P	80 - 109
Parathion Methyl	101	96.7	P/P	74 - 125
Pendimethalin	80.7	75.4	P/P	48 - 134
Phorate	82.4	83.3	P/P	52 - 119
Prometon	86.5	85.3	P/P	69 - 124
Prometryn	95.8	96.1	P/P	66 - 124
Simazine	95.4	98.1	P/P	61 - 134
Terbufos	84.4	88.6	P/P	58 - 115
Terbuthylazine	85.8	89.4	P/P	77 - 113

Reference Method: EPA 8270D

Batch ID: P330178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	58.3	65.5	P/P	26 - 88.0
Alpha-BHC	81.8	85.4	P/P	63 - 114
Alpha-Chlordane	80.4	87.4	P/P	56 - 117
Beta-BHC	97.0	88.4	P/P	57 - 138
Carbophenothion	63.6	47.2	P/P	36 - 148
Chlorothalonil	60.3	30.8	P/P	26 - 173
Cypermethrin	76.6	82.2	P/P	42 - 159
DDD-p,p'	94.4	93.0	P/P	62 - 126
DDE-p,p'	79.4	90.1	P/P	53 - 115
DDT-p,p'	84.1	96.2	P/P	54 - 117
Delta-BHC	100	95.9	P/P	68 - 158
Dicofol	63.8	111	P/P	25 - 114
Dieldrin	86.8	89.2	P/P	59 - 126
Endosulfan I	87.3	89.2	P/P	62 - 138
Endosulfan II	107	95.5	P/P	61 - 150
Endosulfan Sulfate	94.9	85.7	P/P	63 - 132
Endrin	94.9	88.4	P/P	49 - 148
Endrin Aldehyde	95.9	86.9	P/P	50 - 144
Endrin Ketone	87.8	92.8	P/P	66 - 122
Gamma-BHC	88.1	87.9	P/P	60 - 137
Gamma-Chlordane	78.0	84.1	P/P	54 - 113
Heptachlor	63.8	73.1	P/P	43 - 104
Heptachlor Epoxide	83.3	84.6	P/P	64 - 118
Methoxychlor	97.8	97.0	P/P	63 - 129
Mirex	65.9	80.5	P/P	39 - 93.0
Permethrin	80.2	87.2	P/P	51 - 123
Trifluralin	122	129	P/P	35 - 187

Reference Method: EPA 8276

Batch ID: P330178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	117	115	P/P	48 - 121
Toxaphene	122	112	P/P	43 - 135

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P330061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	115		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P330248

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	94.2		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P330674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	90.3	92.2	P/P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P330192

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

Reference Method: SM 4500 F-C-97
 Batch ID: P330400

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P330412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.6		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P330060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	75.7		P	40 - 150
Acetaminophen	93.1		P	30 - 150
Bentazon	67.3		P	40 - 150
Carbamazepine	101		P	40 - 150
Diuron	96.6		P	40 - 150
Fenuron	89.9		P	40 - 150
Fluridone	86.6		P	40 - 150
Imidacloprid	69.0		P	40 - 160
Linuron	83.2		P	40 - 150
MCPP	73.5		P	40 - 150
Primidone	85.1		P	40 - 150
Triclopyr	67.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P330182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920853	Calcium	103		P	80 - 120
1920853	Iron	107		P	80 - 120
1920853	Magnesium	106		P	80 - 120
1920853	Potassium	103		P	80 - 120
1920853	Sodium	99.5		P	80 - 120
1920853	Zinc	104		P	80 - 120
1920976	Calcium	102		P	80 - 120
1920976	Iron	102	104	P/P	80 - 120
1920976	Magnesium	100		P	80 - 120
1920976	Potassium	96.3	98.0	P/P	80 - 120
1920976	Sodium	99.5		P	80 - 120
1920976	Zinc	96.9	98.5	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P330182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920853	Arsenic	105		P	80 - 120
1920853	Cadmium	99.6		P	80 - 120
1920853	Chromium	95.9		P	80 - 120
1920853	Copper	97.6		P	80 - 120
1920853	Lead	98.1		P	80 - 120
1920853	Nickel	101		P	80 - 120
1920853	Silver	98.6		P	80 - 120
1920976	Arsenic	104	103	P/P	80 - 120
1920976	Cadmium	101	100	P/P	80 - 120
1920976	Chromium	96.4	97.3	P/P	80 - 120
1920976	Copper	95.6	94.4	P/P	80 - 120
1920976	Lead	96.6	97.0	P/P	80 - 120
1920976	Nickel	97.4	97.3	P/P	80 - 120
1920976	Silver	98.5	98.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P330085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920584	Chloride	104		P	90 - 110
1920590	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P330087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920584	Sulfate	104		P	90 - 110
1920590	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P330368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920644	Ammonia-N	98.5	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P330370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920839	Ammonia-N	101	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P330128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920644	Kjeldahl Nitrogen	96.9	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P330290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920448	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P330291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920840	NO2NO3-N	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P330211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920644	Total-P	91.6	94.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P330056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920647	O-Phosphate-P	90.8	93.1	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P330082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920852	Acetochlor	96.0	88.6	P/P	74 - 123
1920852	Alachlor	99.4	95.4	P/P	73 - 124
1920852	Ametryn	121	112	P/P	56 - 149
1920852	Atrazine Desethyl	84.5	79.0	P/P	12 - 103
1920852	Azinphos Methyl	118	114	P/P	60 - 202
1920852	Bromacil	99.8	101	P/P	42 - 133
1920852	Butylate	27.9	23.2	P/P	10 - 85.0
1920852	Chlorpyrifos Ethyl	87.2	85.9	P/P	53 - 113
1920852	Chlorpyrifos Methyl	78.7	78.3	P/P	40 - 115
1920852	Cyanazine	161	167	P/P	22 - 210
1920852	Demeton	59.4	68.2	P/P	17 - 149
1920852	Diazinon	93.9	95.7	P/P	72 - 124
1920852	Disulfoton	98.5	97.3	P/P	43 - 139
1920852	EPTC	25.6	25.2	P/P	10 - 86.0
1920852	Ethion	84.8	80.7	P/P	65 - 131
1920852	Ethoprop	69.4	70.7	P/P	59 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P330082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920852	Fenamiphos	95.2	92.0	P/P	57 - 138
1920852	Fipronil	113	93.5	P/P	40 - 130
1920852	Fipronil Sulfide	86.8	78.3	P/P	36 - 128
1920852	Fipronil Sulfone	71.5	59.7	P/P	16 - 145
1920852	Fonofos	77.7	78.5	P/P	60 - 112
1920852	Hexazinone	87.6	87.0	P/P	69 - 142
1920852	Malathion	109	105	P/P	68 - 132
1920852	Metalaxyl	98.3	86.5	P/P	66 - 118
1920852	Metolachlor	99.6	91.2	P/P	71 - 124
1920852	Metribuzin	165	141	F/F	61 - 140
1920852	Mevinphos	61.1	61.1	P/P	38 - 130
1920852	Molinate	36.1	35.4	P/P	23 - 99.0
1920852	Norflurazon	102	93.9	P/P	39 - 139
1920852	Parathion Ethyl	89.6	80.5	P/P	75 - 111
1920852	Parathion Methyl	94.7	96.3	P/P	64 - 130
1920852	Pendimethalin	79.5	74.7	P/P	26 - 173
1920852	Phorate	63.9	66.6	P/P	43 - 127
1920852	Prometon	102	102	P/P	50 - 144
1920852	Prometryn	106	95.2	P/P	69 - 126
1920852	Simazine	93.9	90.1	P/P	51 - 152
1920852	Terbufos	74.4	78.2	P/P	54 - 125
1920852	Terbutylazine	91.4	86.4	P/P	76 - 113

Reference Method: EPA 8270D

Batch ID: P330178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920986	Aldrin	64.9	65.1	P/P	22 - 97.0
1920986	Alpha-BHC	82.3	78.3	P/P	43 - 132
1920986	Alpha-Chlordane	81.3	83.3	P/P	36 - 126
1920986	Beta-BHC	95.8	89.0	P/P	41 - 150
1920986	Carbophenothion	64.2	62.0	P/P	13 - 196
1920986	Chlorothalonil	9.39	20.9	F/P	10 - 266
1920986	Cypermethrin	80.1	75.2	P/P	37 - 161
1920986	DDD-p,p'	92.8	90.8	P/P	44 - 131
1920986	DDE-p,p'	84.5	81.8	P/P	32 - 127
1920986	DDT-p,p'	90.5	87.8	P/P	45 - 116
1920986	Delta-BHC	114	102	P/P	50 - 201
1920986	Dicofol	90.9	95.4	P/P	10 - 100
1920986	Dieldrin	82.5	83.3	P/P	39 - 142
1920986	Endosulfan I	89.5	86.2	P/P	51 - 139
1920986	Endosulfan II	87.2	98.0	P/P	49 - 155
1920986	Endosulfan Sulfate	80.6	78.8	P/P	54 - 136
1920986	Endrin	98.5	97.2	P/P	38 - 141
1920986	Endrin Aldehyde	79.5	79.5	P/P	14 - 152
1920986	Endrin Ketone	83.2	82.4	P/P	60 - 128
1920986	Gamma-BHC	96.8	88.3	P/P	48 - 157
1920986	Gamma-Chlordane	81.5	81.0	P/P	35 - 123
1920986	Heptachlor	65.6	66.9	P/P	25 - 112
1920986	Heptachlor Epoxide	81.1	80.4	P/P	48 - 125
1920986	Methoxychlor	93.4	93.0	P/P	52 - 127
1920986	Mirex	79.0	74.4	P/P	25 - 108

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P330178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920986	Permethrin	88.8	85.6	P/P	46 - 133
1920986	Trifluralin	169	155	P/P	29 - 254

Reference Method: EPA 8276
 Batch ID: P330178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920851	Chlordane	102	102	P/P	44 - 134
1920851	Toxaphene	105	110	P/P	36 - 147

Reference Method: EPA 8321B
 Batch ID: P330061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919951	Glyphosate	118	114	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P330248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920848	Pyraclostrobin	103	98.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P330400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920970	Fluoride	97.5	99.5	P/P	91 - 105

Reference Method: USGS O-2060-01
 Batch ID: P330060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920478	2,4-D	81.6	85.6	P/P	40 - 150
1920478	Acetaminophen	92.9	93.9	P/P	30 - 150
1920478	Bentazon	42.9	45.4	P/P	40 - 150
1920478	Carbamazepine	96.8	99.2	P/P	40 - 150
1920478	Diuron	78.5	82.9	P/P	40 - 150
1920478	Fenuron	84.2	107	P/P	40 - 150
1920478	Fluridone	65.4	76.1	P/P	40 - 150
1920478	Imidacloprid	165	178	F/F	40 - 160
1920478	Linuron	82.8	93.1	P/P	40 - 150
1920478	MCPP	59.0	63.1	P/P	40 - 150
1920478	Primidone	105	113	P/P	40 - 150
1920478	Triclopyr	56.1	63.7	P/P	40 - 150

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P330069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920648	Turbidity	7.58	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P330070

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920816	Turbidity	7.63	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920976	Calcium	2.93	Spike	P	0 - 20
1920976	Iron	1.86	Spike	P	0 - 20
1920976	Magnesium	3.01	Spike	P	0 - 20
1920976	Potassium	1.16	Spike	P	0 - 20
1920976	Sodium	1.58	Spike	P	0 - 20
1920976	Zinc	1.59	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920976	Arsenic	1.09	Spike	P	0 - 20
1920976	Cadmium	1.04	Spike	P	0 - 20
1920976	Chromium	0.884	Spike	P	0 - 20
1920976	Copper	1.32	Spike	P	0 - 20
1920976	Lead	0.407	Spike	P	0 - 20
1920976	Nickel	0.143	Spike	P	0 - 20
1920976	Silver	0.382	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920584	Chloride	0.503	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920584	Sulfate	1.71	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920644	Ammonia-N	3.58	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920839	Ammonia-N	2.53	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920644	Kjeldahl Nitrogen	6.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920448	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920840	NO2NO3-N	0.930	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920644	Total-P	2.63	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920647	O-Phosphate-P	2.50	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P330082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920852	Acetochlor	7.99	Spike	P	0 - 30
1920852	Alachlor	4.13	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P330082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920852	Ametryn	5.75	Spike	P	0 - 30
1920852	Atrazine	4.97	Spike	P	0 - 30
1920852	Atrazine Desethyl	4.96	Spike	P	0 - 30
1920852	Azinphos Methyl	3.26	Spike	P	0 - 30
1920852	Bromacil	1.65	Spike	P	0 - 30
1920852	Butylate	18.4	Spike	P	0 - 30
1920852	Chlorpyrifos Ethyl	1.49	Spike	P	0 - 30
1920852	Chlorpyrifos Methyl	0.435	Spike	P	0 - 30
1920852	Cyanazine	3.66	Spike	P	0 - 30
1920852	Demeton	13.9	Spike	P	0 - 30
1920852	Diazinon	1.92	Spike	P	0 - 30
1920852	Disulfoton	1.22	Spike	P	0 - 30
1920852	EPTC	1.66	Spike	P	0 - 30
1920852	Ethion	4.94	Spike	P	0 - 30
1920852	Ethoprop	1.75	Spike	P	0 - 30
1920852	Fenamiphos	3.46	Spike	P	0 - 30
1920852	Fipronil	18.7	Spike	P	0 - 30
1920852	Fipronil Sulfide	10.3	Spike	P	0 - 30
1920852	Fipronil Sulfone	14.5	Spike	P	0 - 30
1920852	Fonofos	1.04	Spike	P	0 - 30
1920852	Hexazinone	0.399	Spike	P	0 - 30
1920852	Malathion	3.81	Spike	P	0 - 30
1920852	Metaxyl	12.8	Spike	P	0 - 30
1920852	Metolachlor	8.80	Spike	P	0 - 30
1920852	Metribuzin	15.8	Spike	P	0 - 30
1920852	Mevinphos	0.0736	Spike	P	0 - 30
1920852	Molinate	1.95	Spike	P	0 - 30
1920852	Norflurazon	7.80	Spike	P	0 - 30
1920852	Parathion Ethyl	10.7	Spike	P	0 - 30
1920852	Parathion Methyl	1.70	Spike	P	0 - 30
1920852	Pendimethalin	6.18	Spike	P	0 - 30
1920852	Phorate	4.19	Spike	P	0 - 30
1920852	Prometon	0.181	Spike	P	0 - 30
1920852	Prometryn	10.5	Spike	P	0 - 30
1920852	Simazine	3.15	Spike	P	0 - 30
1920852	Terbufos	4.95	Spike	P	0 - 30
1920852	Terbutylazine	5.69	Spike	P	0 - 30
LFB	Acetochlor	2.99	LCS	P	0 - 30
LFB	Alachlor	1.38	LCS	P	0 - 30
LFB	Ametryn	8.07	LCS	P	0 - 30
LFB	Atrazine	1.89	LCS	P	0 - 30
LFB	Atrazine Desethyl	24.6	LCS	P	0 - 30
LFB	Azinphos Methyl	0.718	LCS	P	0 - 30
LFB	Bromacil	4.26	LCS	P	0 - 30
LFB	Butylate	2.53	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.55	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.90	LCS	P	0 - 30
LFB	Cyanazine	9.18	LCS	P	0 - 30
LFB	Demeton	4.88	LCS	P	0 - 30
LFB	Diazinon	3.66	LCS	P	0 - 30
LFB	Disulfoton	18.5	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P330082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	EPTC	0.0736	LCS	P	0 - 30
LFB	Ethion	8.96	LCS	P	0 - 30
LFB	Ethoprop	0.520	LCS	P	0 - 30
LFB	Fenamiphos	2.15	LCS	P	0 - 30
LFB	Fipronil	1.07	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.23	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.14	LCS	P	0 - 30
LFB	Fonofos	1.12	LCS	P	0 - 30
LFB	Hexazinone	0.587	LCS	P	0 - 30
LFB	Malathion	3.47	LCS	P	0 - 30
LFB	Metalaxyl	0.465	LCS	P	0 - 30
LFB	Metolachlor	0.119	LCS	P	0 - 30
LFB	Metribuzin	39.9	LCS	F	0 - 30
LFB	Mevinphos	5.93	LCS	P	0 - 30
LFB	Molinate	8.69	LCS	P	0 - 30
LFB	Norflurazon	1.67	LCS	P	0 - 30
LFB	Parathion Ethyl	2.05	LCS	P	0 - 30
LFB	Parathion Methyl	4.75	LCS	P	0 - 30
LFB	Pendimethalin	6.72	LCS	P	0 - 30
LFB	Phorate	1.07	LCS	P	0 - 30
LFB	Prometon	1.42	LCS	P	0 - 30
LFB	Prometryn	0.294	LCS	P	0 - 30
LFB	Simazine	2.77	LCS	P	0 - 30
LFB	Terbufos	4.89	LCS	P	0 - 30
LFB	Terbutylazine	4.03	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P330178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920986	Aldrin	0.206	Spike	P	0 - 30
1920986	Alpha-BHC	4.97	Spike	P	0 - 30
1920986	Alpha-Chlordane	2.43	Spike	P	0 - 30
1920986	Beta-BHC	7.32	Spike	P	0 - 30
1920986	Carbophenothion	3.49	Spike	P	0 - 30
1920986	Chlorothalonil	76.1	Spike	F	0 - 30
1920986	Cypermethrin	6.34	Spike	P	0 - 30
1920986	DDD-p,p'	2.23	Spike	P	0 - 30
1920986	DDE-p,p'	3.33	Spike	P	0 - 30
1920986	DDT-p,p'	3.02	Spike	P	0 - 30
1920986	Delta-BHC	11.3	Spike	P	0 - 30
1920986	Dicofol	4.86	Spike	P	0 - 30
1920986	Dieldrin	0.957	Spike	P	0 - 30
1920986	Endosulfan I	3.85	Spike	P	0 - 30
1920986	Endosulfan II	11.7	Spike	P	0 - 30
1920986	Endosulfan Sulfate	2.20	Spike	P	0 - 30
1920986	Endrin	1.37	Spike	P	0 - 30
1920986	Endrin Aldehyde	0.0428	Spike	P	0 - 30
1920986	Endrin Ketone	1.00	Spike	P	0 - 30
1920986	Gamma-BHC	9.17	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P330178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920986	Gamma-Chlordane	0.662	Spike	P	0 - 30
1920986	Heptachlor	2.06	Spike	P	0 - 30
1920986	Heptachlor Epoxide	0.920	Spike	P	0 - 30
1920986	Methoxychlor	0.514	Spike	P	0 - 30
1920986	Mirex	6.08	Spike	P	0 - 30
1920986	Permethrin	3.76	Spike	P	0 - 30
1920986	Trifluralin	8.66	Spike	P	0 - 30
LFB	Aldrin	11.7	LCS	P	0 - 30
LFB	Alpha-BHC	4.24	LCS	P	0 - 30
LFB	Alpha-Chlordane	8.34	LCS	P	0 - 30
LFB	Beta-BHC	9.19	LCS	P	0 - 30
LFB	Carbophenothion	29.7	LCS	P	0 - 30
LFB	Chlorothalonil	64.7	LCS	F	0 - 30
LFB	Cypermethrin	7.00	LCS	P	0 - 30
LFB	DDD-p,p'	1.46	LCS	P	0 - 30
LFB	DDE-p,p'	12.5	LCS	P	0 - 30
LFB	DDT-p,p'	13.4	LCS	P	0 - 30
LFB	Delta-BHC	4.50	LCS	P	0 - 30
LFB	Dicofol	53.9	LCS	F	0 - 30
LFB	Dieldrin	2.77	LCS	P	0 - 30
LFB	Endosulfan I	2.18	LCS	P	0 - 30
LFB	Endosulfan II	11.1	LCS	P	0 - 30
LFB	Endosulfan Sulfate	10.2	LCS	P	0 - 30
LFB	Endrin	7.09	LCS	P	0 - 30
LFB	Endrin Aldehyde	9.85	LCS	P	0 - 30
LFB	Endrin Ketone	5.47	LCS	P	0 - 30
LFB	Gamma-BHC	0.176	LCS	P	0 - 30
LFB	Gamma-Chlordane	7.54	LCS	P	0 - 30
LFB	Heptachlor	13.6	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.51	LCS	P	0 - 30
LFB	Methoxychlor	0.855	LCS	P	0 - 30
LFB	Mirex	19.9	LCS	P	0 - 30
LFB	Permethrin	8.34	LCS	P	0 - 30
LFB	Trifluralin	5.17	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P330178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920851	Chlordane	0.0557	Spike	P	0 - 30
1920851	Toxaphene	4.72	Spike	P	0 - 30
LFB	Chlordane	1.43	LCS	P	0 - 30
LFB	Toxaphene	8.84	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P330061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919951	Glyphosate	3.53	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P330248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920848	Pyraclostrobin	3.71	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P330674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Sucralose	2.12	LCS	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P330051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920834	Color (true)	2.95	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P330053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920596	Color (true)	0.463	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P330192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920970	Total Alkalinity	0.0123	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P330444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920834	TDS	3.69	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P330400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920970	Fluoride	0.946	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P330412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920626	Organic Carbon	0.235	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: USGS O-2060-01

Batch ID: P330060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920478	2,4-D	4.78	Spike	P	0 - 30
1920478	Acetaminophen	1.06	Spike	P	0 - 30
1920478	Bentazon	5.63	Spike	P	0 - 30
1920478	Carbamazepine	2.44	Spike	P	0 - 30
1920478	Diuron	5.43	Spike	P	0 - 30
1920478	Fenuron	23.9	Spike	P	0 - 30
1920478	Fluridone	15.1	Spike	P	0 - 30
1920478	Imidacloprid	7.63	Spike	P	0 - 30
1920478	Linuron	11.7	Spike	P	0 - 30
1920478	MCP	6.66	Spike	P	0 - 30
1920478	Primidone	7.89	Spike	P	0 - 30
1920478	Triclopyr	12.7	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: 1920848

Field Sample ID: G1SW0059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	93.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.6	P	30 - 160
EPA 8321B	Diuron-d6	84.6	P	30 - 160
EPA 8321B	Diuron-d6	67.7	P	30 - 160
EPA 8321B	Diuron-d6	84.6	P	30 - 160
EPA 8321B	Diuron-d6	67.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	40 - 160
EPA 8321B	Primidone-d5	94.7	P	30 - 160
EPA 8321B	Primidone-d5	94.7	P	30 - 160
EPA 8321B	Sucralose-d6	78.7	P	40 - 160
EPA 8321B	Sucralose-d6	78.7	P	40 - 160
USGS O-2060-01	2,4-D-d3	84.7	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	93.5	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	84.6	P	30 - 160
USGS O-2060-01	Diuron-d6	84.6	P	30 - 160
USGS O-2060-01	Diuron-d6	67.7	P	30 - 160
USGS O-2060-01	Primidone-d5	94.7	P	30 - 160
USGS O-2060-01	Sucralose-d6	78.7	P	40 - 160

Lab Sample ID: 1920849

Field Sample ID: G1SW0060

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	77.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1920849
Field Sample ID: G1SW0060

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	48.9	P	30 - 160
EPA 8321B	Primidone-d5	87.7	P	30 - 160
EPA 8321B	Sucralose-d6	99.0	P	40 - 160
USGS O-2060-01	2,4-D-d3	102	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	77.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	65.6	P	30 - 160
USGS O-2060-01	Diuron-d6	48.9	P	30 - 160
USGS O-2060-01	Primidone-d5	87.7	P	30 - 160
USGS O-2060-01	Sucralose-d6	99.0	P	40 - 160

Lab Sample ID: 1920851
Field Sample ID: G1SW0059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	73.2	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	57.3	P	32 - 103
EPA 8276	Decachlorobiphenyl	77.5	P	31 - 100

Lab Sample ID: 1920852
Field Sample ID: G1SW0059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	67.7	P	53 - 135
EPA 8270D	Simazine-d10	95.0	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A78270
Included Lab Sample IDs: 1920834, 1920837, 1920838

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

Reference Method: SM 2120 B
Run ID: A78336
Included Lab Sample IDs: 1920834, 1920837, 1920838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	85 - 115
Color (true)	101	104	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A78337
Included Lab Sample IDs: 1920836, 1920841, 1920842

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78339

Included Lab Sample IDs: 1920834, 1920837, 1920838

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

Reference Method: SM 2320 B-97

Run ID: A78396

Included Lab Sample IDs: 1920834, 1920837, 1920838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.8	P/P	90 - 110
Total Alkalinity	99.8	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78416

Included Lab Sample IDs: 1920853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.8	101	P/P	90 - 110
Iron	99.0	101	P/P	90 - 110
Magnesium	98.3	100	P/P	90 - 110
Potassium	97.1	98.8	P/P	90 - 110
Sodium	96.8	98.2	P/P	90 - 110
Zinc	101	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78417

Included Lab Sample IDs: 1920848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	98.2	105	P/P	70 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78424

Included Lab Sample IDs: 1920835, 1920839, 1920840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78431

Included Lab Sample IDs: 1920840

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78436

Included Lab Sample IDs: 1920835, 1920839, 1920840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78448

Included Lab Sample IDs: 1920853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	100	99.4	P/P	90 - 110
Copper	101	99.1	P/P	90 - 110
Lead	96.6	97.1	P/P	90 - 110
Nickel	102	99.6	P/P	90 - 110
Silver	97.5	97.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78450

Included Lab Sample IDs: 1920835, 1920839, 1920840

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78451

Included Lab Sample IDs: 1920835, 1920839

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

Reference Method: SM 4500 F-C-97

Run ID: A78465

Included Lab Sample IDs: 1920834, 1920837, 1920838

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

Reference Method: SM 5310 B-00

Run ID: A78471

Included Lab Sample IDs: 1920835, 1920839, 1920840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	97.0	P/P	90 - 110
Organic Carbon	97.0	95.8	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A78475

Included Lab Sample IDs: 1920851

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	110		P	80 - 120
Toxaphene	103		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78497

Included Lab Sample IDs: 1920852

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

Reference Method: EPA 8270D

Run ID: A78497

Included Lab Sample IDs: 1920852

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.8		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	99.7		P	80 - 120
Atrazine	112		P	80 - 120
Atrazine Desethyl	81.1		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Bromacil	107		P	80 - 120
Butylate	99.5		P	80 - 120
Chlorpyrifos Ethyl	90.8		P	80 - 120
Chlorpyrifos Methyl	90.5		P	80 - 120
Cyanazine	66.3*		F	80 - 120
Demeton	95.1		P	80 - 120
Diazinon	93.2		P	80 - 120
Disulfoton	93.7		P	80 - 120
EPTC	99.8		P	80 - 120
Ethion	91.7		P	80 - 120
Ethoprop	91.7		P	80 - 120
Fenamiphos	99.4		P	80 - 120
Fipronil	99.3		P	80 - 120
Fipronil Sulfide	96.2		P	80 - 120
Fipronil Sulfone	97.3		P	80 - 120
Fonofos	99.0		P	80 - 120
Hexazinone	97.5		P	80 - 120
Malathion	96.5		P	80 - 120
Metalaxyl	96.8		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	72.4*		F	80 - 120
Mevinphos	102		P	80 - 120
Molinate	87.7		P	80 - 120
Norflurazon	103		P	80 - 120
Parathion Ethyl	95.5		P	80 - 120
Parathion Methyl	99.1		P	80 - 120
Pendimethalin	83.0		P	80 - 120
Phorate	93.2		P	80 - 120
Prometon	107		P	80 - 120
Prometryn	110		P	80 - 120
Simazine	103		P	80 - 120
Terbufos	94.4		P	80 - 120
Terbutylazine	96.3		P	80 - 120

Reference Method: EPA 8321B

Run ID: A78551

Included Lab Sample IDs: 1920848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	101	101	P/P	60 - 150

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270D

Run ID: A78560

Included Lab Sample IDs: 1920851

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.3		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	101		P	80 - 120
Beta-BHC	99.4		P	80 - 120
Carbophenothion	89.2		P	80 - 120
Chlorothalonil	69.3*		F	80 - 120
Cypermethrin	81.2		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	95.5		P	80 - 120
Dicofol	147*		F	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	96.0		P	80 - 120
Endosulfan II	101		P	80 - 120
Endosulfan Sulfate	93.7		P	80 - 120
Endrin	105		P	80 - 120
Endrin Aldehyde	96.2		P	80 - 120
Endrin Ketone	87.6		P	80 - 120
Gamma-BHC	98.1		P	80 - 120
Gamma-Chlordane	98.9		P	80 - 120
Heptachlor	97.3		P	80 - 120
Heptachlor Epoxide	98.3		P	80 - 120
Methoxychlor	101		P	80 - 120
Mirex	99.9		P	80 - 120
Permethrin	95.8		P	80 - 120
Trifluralin	105		P	80 - 120

Reference Method: USGS O-2060-01

Run ID: A78596

Included Lab Sample IDs: 1920848, 1920849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	80.7	83.7	P/P	50 - 150
Acetaminophen	77.2	78.9	P/P	60 - 150
Bentazon	96.2	96.0	P/P	50 - 150
Carbamazepine	82.0	81.4	P/P	60 - 150
Diuron	86.7	90.6	P/P	60 - 150
Fenuron	88.5	89.6	P/P	60 - 150
Fluridone	97.1	95.6	P/P	60 - 160
Imidacloprid	74.5	75.6	P/P	60 - 150
Linuron	99.0	97.2	P/P	60 - 150
MCPP	65.3	63.8	P/P	50 - 150
Primidone	81.8	83.1	P/P	60 - 150
Triclopyr	72.8	65.0	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A78750

Included Lab Sample IDs: 1920848, 1920849

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

Reference Method: EPA 8321B

Run ID: A78750

Included Lab Sample IDs: 1920848, 1920849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	120	121	P/P	60 - 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		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						7.58	
	Turbidity						7.63	
EPA 200.7 Rev. 4.4	Calcium	103		103	102			2.93
	Iron	108		107	102	104		1.86
	Magnesium	102		106	100			3.01
	Potassium	101		103	96.3	98.0		1.16
	Sodium	99.6		99.5	99.5			1.58
	Zinc	99.3		104	96.9	98.5		1.59
EPA 200.8 Rev. 5.4	Arsenic	108		105	104	103		1.09
	Cadmium	103		99.6	101	100		1.04
	Chromium	103		95.9	96.4	97.3		0.884
	Copper	102		97.6	95.6	94.4		1.32
	Lead	99.5		98.1	96.6	97.0		0.407
	Nickel	105		101	97.4	97.3		0.143
	Silver	101		98.6	98.5	98.9		0.382
EPA 300.0 Rev. 2.1	Chloride	102		104	103		0.503	
	Sulfate	103		104	103		1.71	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8		98.5	104			3.58
	Ammonia-N	103		101	98.1			2.53
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		96.9	107			6.12
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	106		100	100			0.0
	NO ₂ NO ₃ -N	106		108	107			0.930
EPA 365.1 Rev. 2.0	Total-P	95.7		91.6	94.2			2.63
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		90.8	93.1			2.50
EPA 8270D	Acetochlor	89.0	91.7	96.0	88.6	2.99		7.99
	Alachlor	92.6	93.9	95.4	99.4	1.38		4.13
	Aldrin	58.3	65.5	64.9	65.1	11.7		0.206
	Alpha-BHC	81.8	85.4	82.3	78.3	4.24		4.97
	Alpha-Chlordane	80.4	87.4	81.3	83.3	8.34		2.43
	Ametryn	109	101	112	121	8.07		5.75
	Atrazine	103	105			1.89		4.97
	Atrazine Desethyl	81.3	104	84.5	79.0	24.6		4.96
	Azinphos Methyl	118	118	118	114	0.718		3.26
	Beta-BHC	97.0	88.4	95.8	89.0	9.19		7.32
	Bromacil	97.1	93.0	99.8	101	4.26		1.65
	Butylate	37.0	37.9	27.9	23.2	2.53		18.4
	Carbophenothion	63.6	47.2	64.2	62.0	29.7		3.49
	Chlorothalonil	60.3	30.8	9.39	20.9	64.7		76.1
	Chlorpyrifos Ethyl	86.2	90.2	87.2	85.9	4.55		1.49

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Chlorpyrifos Methyl	91.7	93.5	78.7	78.3	1.90	0.435
	Cyanazine	174	191	161	167	9.18	3.66
	Cypermethrin	76.6	82.2	80.1	75.2	7.00	6.34
	DDD-p,p'	94.4	93.0	92.8	90.8	1.46	2.23
	DDE-p,p'	79.4	90.1	84.5	81.8	12.5	3.33
	DDT-p,p'	84.1	96.2	90.5	87.8	13.4	3.02
	Delta-BHC	100	95.9	114	102	4.50	11.3
	Demeton	81.8	85.9	68.2	59.4	4.88	13.9
	Diazinon	91.1	87.8	95.7	93.9	3.66	1.92
	Dicofol	63.8	111	90.9	95.4	53.9	4.86
	Dieldrin	86.8	89.2	82.5	83.3	2.77	0.957
	Disulfoton	122	101	97.3	98.5	18.5	1.22
	Endosulfan I	87.3	89.2	89.5	86.2	2.18	3.85
	Endosulfan II	107	95.5	87.2	98.0	11.1	11.7
	Endosulfan Sulfate	94.9	85.7	80.6	78.8	10.2	2.20
	Endrin	94.9	88.4	98.5	97.2	7.09	1.37
	Endrin Aldehyde	95.9	86.9	79.5	79.5	9.85	0.0428
	Endrin Ketone	87.8	92.8	83.2	82.4	5.47	1.00
	EPTC	38.2	38.2	25.2	25.6	0.0736	1.66
	Ethion	80.8	88.3	80.7	84.8	8.96	4.94
	Ethoprop	76.1	75.7	70.7	69.4	0.520	1.75
	Fenamiphos	102	104	92.0	95.2	2.15	3.46
	Fipronil	99.9	98.8	93.5	113	1.07	18.7
	Fipronil Sulfide	88.3	91.2	78.3	86.8	3.23	10.3
	Fipronil Sulfone	80.2	83.6	59.7	71.5	4.14	14.5
	Fonofos	88.7	89.7	77.7	78.5	1.12	1.04
	Gamma-BHC	88.1	87.9	96.8	88.3	0.176	9.17
	Gamma-Chlordane	78.0	84.1	81.5	81.0	7.54	0.662
	Heptachlor	63.8	73.1	65.6	66.9	13.6	2.06
	Heptachlor Epoxide	83.3	84.6	81.1	80.4	1.51	0.920
	Hexazinone	90.2	90.7	87.0	87.6	0.587	0.399
	Malathion	89.7	92.9	105	109	3.47	3.81
	Metalaxyl	86.7	86.3	98.3	86.5	0.465	12.8
	Methoxychlor	97.8	97.0	93.4	93.0	0.855	0.514
	Metolachlor	89.8	89.9	99.6	91.2	0.119	8.80
	Metribuzin	106	158	141	165	39.9	15.8
	Mevinphos	69.4	73.7	61.1	61.1	5.93	0.0736
	Mirex	65.9	80.5	79.0	74.4	19.9	6.08
	Molinate	47.5	43.5	36.1	35.4	8.69	1.95
	Norflurazon	94.7	96.3	102	93.9	1.67	7.80
	Parathion Ethyl	89.1	87.3	89.6	80.5	2.05	10.7
	Parathion Methyl	101	96.7	94.7	96.3	4.75	1.70
	Pendimethalin	80.7	75.4	79.5	74.7	6.72	6.18
	Permethrin	80.2	87.2	88.8	85.6	8.34	3.76
	Phorate	82.4	83.3	63.9	66.6	1.07	4.19
	Prometon	86.5	85.3	102	102	1.42	0.181
	Prometryn	95.8	96.1	106	95.2	0.294	10.5
	Simazine	95.4	98.1	93.9	90.1	2.77	3.15
	Terbufos	84.4	88.6	74.4	78.2	4.89	4.95
	Terbuthylazine	85.8	89.4	91.4	86.4	4.03	5.69
	Trifluralin	122	129	169	155	5.17	8.66
EPA 8276	Chlordane	117	115	102	102	1.43	0.0557
	Toxaphene	122	112	105	110	8.84	4.72
EPA 8321B	Glyphosate	115		118	114		3.53

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8321B	Pyraclostrobin	94.2		103	98.9		3.71
	Sucralose	90.3	92.2			2.12	
SM 2120 B	Color (true)					2.95	
	Color (true)					0.463	
SM 2320 B-97	Total Alkalinity	103				0.0123	
SM 2540 C-97	TDS					3.69	
SM 4500 F-C-97	Fluoride	98.3		97.5	99.5		0.946
SM 5310 B-00	Organic Carbon	92.6					0.235
USGS O-2060-01	2,4-D	75.7		81.6	85.6		4.78
	Acetaminophen	93.1		92.9	93.9		1.06
	Bentazon	67.3		42.9	45.4		5.63
	Carbamazepine	101		96.8	99.2		2.44
	Diuron	96.6		78.5	82.9		5.43
	Fenuron	89.9		84.2	107		23.9
	Fluridone	86.6		65.4	76.1		15.1
	Imidacloprid	69.0		165	178		7.63
	Linuron	83.2		82.8	93.1		11.7
	MCPP	73.5		59.0	63.1		6.66
	Primidone	85.1		105	113		7.89
	Triclopyr	67.8		56.1	63.7		12.7

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1920834, 1920837, 1920838
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1920853
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1920853
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1920834, 1920837, 1920838
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1920834, 1920837, 1920838
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1920835, 1920839, 1920840
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1920835, 1920839, 1920840
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1920835, 1920839, 1920840
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1920835, 1920839, 1920840
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1920836, 1920841, 1920842
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1920851
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1920852
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1920851
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1920848, 1920849
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1920848
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1920848
SM 2120 B / E31780	True Color measured at 450 nm	1920834, 1920837, 1920838
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1920834, 1920837, 1920838
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1920834, 1920837, 1920838

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1920834, 1920837, 1920838
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1920834, 1920837, 1920838
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1920835, 1920839, 1920840
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1920848, 1920849
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1920848, 1920849

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	08/10/2017			08/10/2017 16:33	DeAsia Armster	1920834, 1920837, 1920838
EPA 200.7 Rev. 4.4	08/10/2017	08/14/2017	Elliott D. Healy	08/15/2017	Betina Topolski	1920853
EPA 200.8 Rev. 5.4	08/10/2017	08/14/2017	Elliott D. Healy	08/16/2017	Nadine Brooks	1920853
EPA 300.0 Rev. 2.1	08/10/2017			08/10/2017	Julia Storbeck	1920834, 1920837, 1920838
EPA 350.1 Rev. 2.0	08/10/2017			08/16/2017	Sofia Elnemr	1920835, 1920839, 1920840
EPA 351.2 Rev. 2.0	08/10/2017	08/14/2017	Adrian Shelby	08/16/2017	Joseph Suarez	1920835, 1920839, 1920840
EPA 353.2 Rev. 2.0	08/10/2017			08/16/2017	Beverly Y. Sanders	1920835, 1920839, 1920840
EPA 365.1 Rev. 2.0	08/10/2017	08/15/2017	Sima Feizi	08/16/2017	Lipi Saha	1920835, 1920839, 1920840
EPA 365.1 Rev. 2.0 dissolved	08/10/2017			08/10/2017 15:57	Anthony C. Onicha	1920836
	08/10/2017			08/10/2017 15:58	Anthony C. Onicha	1920841
	08/10/2017			08/10/2017 15:59	Anthony C. Onicha	1920842
EPA 8270D	08/10/2017	08/11/2017	John Kaba	08/15/2017	Irina Carbone	1920852
	08/10/2017	08/14/2017	Rasheda Ghaffari	08/16/2017	Marek Topolski	1920851
EPA 8276	08/10/2017	08/14/2017	Rasheda Ghaffari	08/16/2017	John P. Burgos	1920851
EPA 8321B	08/10/2017	08/15/2017	Hoor Shaik	08/16/2017	Julie Michelle Frank	1920848
	08/10/2017	08/15/2017	Julie Michelle Frank	08/15/2017	Juyoung Kim	1920848
	08/10/2017	08/23/2017	Julie Michelle Frank	09/01/2017	Julie Michelle Frank	1920848, 1920849
SM 2120 B	08/10/2017			08/10/2017 15:36	Tanya Welborn	1920834, 1920837
	08/10/2017			08/10/2017 16:17	Tanya Welborn	1920838
SM 2320 B-97	08/10/2017			08/14/2017	Dale L. Simmons	1920834, 1920837, 1920838
SM 2540 C-97	08/10/2017			08/11/2017	DeAsia Armster	1920834, 1920837, 1920838
SM 2540 D-97	08/10/2017			08/11/2017	DeAsia Armster	1920834, 1920837, 1920838
SM 4500 F-C-97	08/10/2017			08/17/2017	Dale L. Simmons	1920834, 1920837, 1920838
SM 5310 B-00	08/10/2017			08/16/2017	Ping Hua	1920835, 1920839
	08/10/2017			08/17/2017	Ping Hua	1920840
USGS O-2060-01	08/10/2017	08/15/2017	Hoor Shaik	08/18/2017	Juyoung Kim	1920848, 1920849