

Chemical Analysis Report

NW-DIST-2017-08-09-01

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

Event Description: **NW Local WBID 118 111 639**

Request ID: **RQ-2017-08-07-27**

Customer: **NW-DIST**

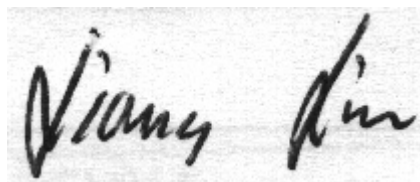
Project ID: **SMP**

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

Date Certified: 06-SEP-2017 12:01

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 ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919951	EPA 8321B	Glyphosate**	0.50	UQ	ug/L	P330061	
		Pyraclostrobin**	0.0020	U	ug/L	P330248	
		Sucralose**	0.061		ug/L	P330674	
	USGS O-2060-01	2,4-D	0.0038	I	ug/L	P329841	
		Diuron	0.32		ug/L	P329841	
		Fenuron	0.0080	U	ug/L	P329841	
		Imidacloprid	0.045		ug/L	P329841	
		Bentazon	8.0E-04	U	ug/L	P329841	MS
		Linuron	0.0040	U	ug/L	P329841	

Field ID: G4NW0176

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919951	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P329841	
		MCP	0.0020	U	ug/L	P329841	
		Carbamazepine**	4.0E-04	U	ug/L	P329841	
		Triclopyr**	0.0040	U	ug/L	P329841	
		Primidone**	0.0040	U	ug/L	P329841	
		Fluridone**	4.0E-04	U	ug/L	P329841	
1919952	EPA 8270D	Aldrin	4.5	UJ	ng/L	P329890	SUR
		Alpha-BHC	2.2	UJ	ng/L	P329890	SUR
		Beta-BHC	4.5	UJ	ng/L	P329890	SUR
		Delta-BHC	4.5	UJ	ng/L	P329890	SUR
		Gamma-BHC	4.5	UJ	ng/L	P329890	SUR
		Carbophenothion	4.5	UJ	ng/L	P329890	SUR
		Chlorothalonil	2.2	UJ	ng/L	P329890	MS, RPD, SUR
		Cypermethrin	22	UJ	ng/L	P329890	SUR
		DDD-p,p'	3.4	UJ	ng/L	P329890	SUR
		DDE-p,p'	3.4	UJ	ng/L	P329890	SUR
		DDT-p,p'	3.4	UJ	ng/L	P329890	SUR
		Dieldrin	4.5	UJ	ng/L	P329890	SUR
		Endosulfan I	4.5	UJ	ng/L	P329890	SUR
		Endosulfan II	4.5	UJ	ng/L	P329890	SUR
		Endosulfan Sulfate	2.2	UJ	ng/L	P329890	SUR
		Endrin	2.2	UJ	ng/L	P329890	SUR
		Endrin Aldehyde	2.2	UJ	ng/L	P329890	SUR
		Heptachlor	1.7	UJ	ng/L	P329890	SUR
		Heptachlor Epoxide	2.2	UJ	ng/L	P329890	SUR
		Methoxychlor	4.5	UJ	ng/L	P329890	SUR
		Mirex	2.2	UJ	ng/L	P329890	SUR
		Permethrin	11	UJ	ng/L	P329890	SUR
		Trifluralin	1.1	UJ	ng/L	P329890	SUR
		Alpha-Chlordane	1.1	UJ	ng/L	P329890	SUR
		Gamma-Chlordane	1.1	UJ	ng/L	P329890	SUR
		Endrin Ketone	2.2	UJ	ng/L	P329890	SUR
		Dicofol	34	UJ	ng/L	P329890	SUR
	EPA 8276	Chlordane**	2.8	U	ng/L	P329890	
		Toxaphene**	14	U	ng/L	P329890	
1919953	EPA 8270D	Alachlor	0.26	U	ng/L	P330082	
		Ametryn	0.33	U	ng/L	P330082	
		Atrazine	18		ng/L	P330082	
		Atrazine Desethyl	8.8		ng/L	P330082	
		Azinphos Methyl	2.3	U	ng/L	P330082	
		Bromacil	0.66	I	ng/L	P330082	
		Butylate	0.41	U	ng/L	P330082	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P330082	
		Chlorpyrifos Methyl	0.10	U	ng/L	P330082	

Field ID: G4NW0176

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919953	EPA 8270D	Demeton	2.0	U	ng/L	P330082	
		Diazinon	0.13	U	ng/L	P330082	
		Disulfoton	0.51	U	ng/L	P330082	
		EPTC	1.3	U	ng/L	P330082	
		Ethion	0.15	U	ng/L	P330082	
		Ethoprop	0.10	U	ng/L	P330082	
		Fenamiphos	0.26	U	ng/L	P330082	
		Fipronil	12		ng/L	P330082	
		Fipronil Sulfide	3.5		ng/L	P330082	
		Fipronil Sulfone	15		ng/L	P330082	
		Hexazinone	0.51	U	ng/L	P330082	
		Malathion	0.36	U	ng/L	P330082	
		Metribuzin	0.20	UJ	ng/L	P330082	CCV, LCS, MS, RPD
		Mevinphos	0.51	U	ng/L	P330082	
		Molinate	0.31	UJ	ng/L	P330082	LCS
		Norflurazon	0.51	U	ng/L	P330082	
		Pendimethalin	1.0	U	ng/L	P330082	
		Phorate	0.26	U	ng/L	P330082	
		Prometon	1.2	I	ng/L	P330082	
		Prometryn	0.20	U	ng/L	P330082	
		Simazine	0.94	I	ng/L	P330082	
		Terbufos	0.10	U	ng/L	P330082	
		Terbuthylazine	0.43	U	ng/L	P330082	
		Fonofos	0.20	U	ng/L	P330082	
		Metalaxyl	0.20	U	ng/L	P330082	
		Metolachlor	0.27	I	ng/L	P330082	
		Acetochlor	0.26	U	ng/L	P330082	
		Cyanazine	0.51	UJ	ng/L	P330082	CCV
		Parathion Ethyl	0.26	U	ng/L	P330082	
		Parathion Methyl	0.26	U	ng/L	P330082	

Ref. Method and Comment:

EPA 8321B: Glyphosate result reported beyond holding time due to technical difficulties.

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

USGS O-2060-01: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270D: Refer to the narrative for an explanation of QC Codes. Reported results qualified with J due to surrogate below control limits; the sample was subsequently re-analyzed (after expiration) with acceptable surrogate recovery and the same analytical results were obtained.

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: McCostill Mill Creek below Ebenezer Road

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

Field ID: G4NW0320

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919939	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P329943	
	EPA 300.0 Rev. 2.1	Chloride	5.8		mg Cl/L	P329986	
		Sulfate	0.63		mg SO4/L	P329988	
	SM 2120 B	Color (true)	11		PCU	P329953	

Field ID: G4NW0320

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919939	SM 2320 B-97	Total Alkalinity	0.65	I	mg CaCO3/L	P330132	
	SM 2540 C-97	TDS	42		mg/L	P330170	
	SM 2540 D-97	TSS	2	I	mg/L	P330572	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P330135	
1919941	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P330140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P330075	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.8		mg N/L	P330102	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P330037	
	SM 5310 B-00	Organic Carbon	1.1		mg C/L	P330330	
1919943	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329961	

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: Moore Creek @ SR 187

Collection Date/Time: 08/08/2017 11:30

Field ID: G4NW0318

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919940	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P329943	
	EPA 300.0 Rev. 2.1	Chloride	7.1		mg Cl/L	P329986	
		Sulfate	0.28	I	mg SO4/L	P329988	
	SM 2120 B	Color (true)	13		PCU	P329953	
	SM 2320 B-97	Total Alkalinity	6.3		mg CaCO3/L	P330132	
	SM 2540 C-97	TDS	52		mg/L	P330170	
	SM 2540 D-97	TSS	2	I	mg/L	P330572	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P330135	
1919942	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P330140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P330075	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.2		mg N/L	P330103	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P330038	
	SM 5310 B-00	Organic Carbon	1.1		mg C/L	P330330	
1919944	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329961	

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: P329943

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P330025

Component	Result	Code	Units
Calcium	0.075	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330025

Component	Result	Code	Units
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: P330025

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: P329986

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329988

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330140

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330075

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330102

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330103

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330103

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330037

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330038

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329961

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

Reference Method: EPA 8270D
Batch ID: P329890

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
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

Quality Assurance Report Method Blank Results

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
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
Metaxalyl	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 8276
Batch ID: P329890

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

Quality Assurance Report

Method Blank Results

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: P329953

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P330132

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

Reference Method: SM 2540 C-97
Batch ID: P330169

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P330170

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P330571

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P330572

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P330135

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
 Batch ID: P330330

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

Reference Method: USGS O-2060-01
 Batch ID: P329841

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	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: P330025

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	109		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P330025

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330025

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	100		P	85 - 115
Copper	97.1		P	85 - 115
Lead	96.5		P	85 - 115
Nickel	100		P	85 - 115
Silver	97.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329986

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329988

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330140

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330075

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330102

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: P330103

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330037

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330038

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P330038

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P329961

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

Reference Method: EPA 8270D
 Batch ID: P329890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	44.9	48.3	P/P	26 - 88.0
Alpha-BHC	79.7	77.3	P/P	63 - 114
Alpha-Chlordane	77.0	72.9	P/P	56 - 117
Beta-BHC	75.5	88.4	P/P	57 - 138
Carbophenothion	97.7	76.4	P/P	36 - 148
Chlorothalonil	31.0	76.7	P/P	26 - 173
Cypermethrin	99.0	97.4	P/P	42 - 159
DDD-p,p'	80.7	79.1	P/P	62 - 126
DDE-p,p'	73.8	69.8	P/P	53 - 115
DDT-p,p'	81.7	77.2	P/P	54 - 117
Delta-BHC	97.0	105	P/P	68 - 158
Dicofol	42.8	36.1	P/P	25 - 114
Dieldrin	76.3	75.1	P/P	59 - 126
Endosulfan I	88.2	85.6	P/P	62 - 138
Endosulfan II	90.2	103	P/P	61 - 150
Endosulfan Sulfate	89.3	89.1	P/P	63 - 132
Endrin	81.7	80.2	P/P	49 - 148
Endrin Aldehyde	84.6	82.3	P/P	50 - 144
Endrin Ketone	82.8	81.4	P/P	66 - 122
Gamma-BHC	83.8	84.3	P/P	60 - 137
Gamma-Chlordane	72.2	70.4	P/P	54 - 113
Heptachlor	65.4	62.5	P/P	43 - 104
Heptachlor Epoxide	76.9	74.6	P/P	64 - 118
Methoxychlor	88.2	87.4	P/P	63 - 129
Mirex	72.0	62.5	P/P	39 - 93.0
Permethrin	83.1	82.7	P/P	51 - 123
Trifluralin	107	98.8	P/P	35 - 187

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P330082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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
Metalaxyl	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
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
Terbutylazine	85.8	89.4	P/P	77 - 113

Reference Method: EPA 8276
Batch ID: P329890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.0	99.4	P/P	44 - 134
Toxaphene	85.6	109	P/P	36 - 147

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

Quality Assurance Report Laboratory Control Sample Accuracy

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: P330132

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

Reference Method: SM 4500 F-C-97
 Batch ID: P330135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P330330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P329841

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	103		P	40 - 150
Acetaminophen	76.0		P	30 - 150
Bentazon	101		P	40 - 150
Carbamazepine	88.2		P	40 - 150
Diuron	81.5		P	40 - 150
Fenuron	82.1		P	40 - 150
Fluridone	111		P	40 - 150
Imidacloprid	81.2		P	40 - 160
Linuron	83.1		P	40 - 150
MCPP	91.6		P	40 - 150
Primidone	84.5		P	40 - 150
Triclopyr	90.3		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P330025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919978	Calcium	103		P	80 - 120
1919978	Iron	108		P	80 - 120
1919978	Magnesium	107		P	80 - 120
1919978	Potassium	99.1		P	80 - 120
1919978	Sodium	104		P	80 - 120
1919978	Zinc	104		P	80 - 120
1920499	Calcium	109		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920499	Iron	113	111	P/P	80 - 120
1920499	Magnesium	110		P	80 - 120
1920499	Potassium	102	100	P/P	80 - 120
1920499	Sodium	107		P	80 - 120
1920499	Zinc	105	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919978	Arsenic	104		P	80 - 120
1919978	Cadmium	104		P	80 - 120
1919978	Chromium	99.8		P	80 - 120
1919978	Copper	96.7		P	80 - 120
1919978	Lead	97.5		P	80 - 120
1919978	Nickel	99.5		P	80 - 120
1919978	Silver	98.8		P	80 - 120
1920499	Arsenic	105	105	P/P	80 - 120
1920499	Cadmium	106	103	P/P	80 - 120
1920499	Chromium	100	99.1	P/P	80 - 120
1920499	Copper	97.9	96.6	P/P	80 - 120
1920499	Lead	98.3	98.2	P/P	80 - 120
1920499	Nickel	100	99.0	P/P	80 - 120
1920499	Silver	101	99.5	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329986

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919936	Chloride	104		P	90 - 110
1919939	Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919936	Sulfate	102		P	90 - 110
1919939	Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919923	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330075

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919922	Kjeldahl Nitrogen	101	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919826	NO2NO3-N	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919969	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919937	Total-P	92.4	94.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330038

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919981	Total-P	91.4	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919897	O-Phosphate-P	92.0	93.3	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P329890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919252	Aldrin	56.8	46.4	P/P	22 - 97.0
1919252	Alpha-BHC	81.2	72.8	P/P	43 - 132
1919252	Alpha-Chlordane	69.2	58.6	P/P	36 - 126
1919252	Beta-BHC	81.2	66.9	P/P	41 - 150
1919252	Carbophenothion	81.4	94.8	P/P	13 - 196
1919252	Chlorothalonil	10.2	2.51	P/F	10 - 266
1919252	Cypermethrin	113	96.8	P/P	37 - 161
1919252	DDD-p,p'	73.4	65.5	P/P	44 - 131
1919252	DDE-p,p'	64.3	55.7	P/P	32 - 127
1919252	DDT-p,p'	76.2	70.4	P/P	45 - 116
1919252	Delta-BHC	122	99.4	P/P	50 - 201
1919252	Dicofol	14.8	19.8	P/P	10 - 100
1919252	Dieldrin	68.5	59.1	P/P	39 - 142
1919252	Endosulfan I	86.9	69.0	P/P	51 - 139
1919252	Endosulfan II	100	79.5	P/P	49 - 155
1919252	Endosulfan Sulfate	82.7	70.7	P/P	54 - 136
1919252	Endrin	73.5	67.2	P/P	38 - 141
1919252	Endrin Aldehyde	63.3	52.3	P/P	14 - 152
1919252	Endrin Ketone	85.1	70.0	P/P	60 - 128
1919252	Gamma-BHC	103	89.6	P/P	48 - 157
1919252	Gamma-Chlordane	66.6	56.8	P/P	35 - 123
1919252	Heptachlor	64.1	58.1	P/P	25 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P329890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919252	Heptachlor Epoxide	73.3	59.7	P/P	48 - 125
1919252	Methoxychlor	89.8	75.9	P/P	52 - 127
1919252	Mirex	64.9	59.2	P/P	25 - 108
1919252	Permethrin	89.1	76.4	P/P	46 - 133
1919252	Trifluralin	138	135	P/P	29 - 254

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
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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
 Batch ID: P329890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919083	Chlordane	87.0	88.7	P/P	44 - 134
1919083	Toxaphene	103	104	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: P330135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919993	Fluoride	98.4	98.4	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P330330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919150	Organic Carbon	99.2	98.2	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P329841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919076	Acetaminophen	98.2	96.7	P/P	30 - 150
1919076	Bentazon	38.2	38.8	F/F	40 - 150
1919076	Carbamazepine	83.9	72.7	P/P	40 - 150
1919076	Diuron	48.5	53.8	P/P	40 - 150
1919076	Fenuron	73.4	64.3	P/P	40 - 150
1919076	Fluridone	67.7	55.6	P/P	40 - 150
1919076	Imidacloprid	139	123	P/P	40 - 160
1919076	Linuron	62.3	65.5	P/P	40 - 150
1919076	MCP	121	111	P/P	40 - 150
1919076	Primidone	102	80.3	P/P	40 - 150
1919076	Triclopyr	112	123	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P329943

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P329943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919891	Turbidity	0.803	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P330025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920499	Calcium	1.75	Spike	P	0 - 20
1920499	Iron	1.50	Spike	P	0 - 20
1920499	Magnesium	2.03	Spike	P	0 - 20
1920499	Potassium	1.63	Spike	P	0 - 20
1920499	Sodium	1.51	Spike	P	0 - 20
1920499	Zinc	1.19	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P330025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920499	Arsenic	0.566	Spike	P	0 - 20
1920499	Cadmium	2.61	Spike	P	0 - 20
1920499	Chromium	1.31	Spike	P	0 - 20
1920499	Copper	1.40	Spike	P	0 - 20
1920499	Lead	0.0478	Spike	P	0 - 20
1920499	Nickel	0.951	Spike	P	0 - 20
1920499	Silver	1.11	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919936	Chloride	1.33	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919936	Sulfate	0.267	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919923	Ammonia-N	0.324	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330075

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919922	Kjeldahl Nitrogen	2.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919826	NO2NO3-N	0.300	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919969	NO2NO3-N	0.426	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919937	Total-P	1.90	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919981	Total-P	2.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919897	O-Phosphate-P	1.40	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P329890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919252	Aldrin	20.0	Spike	P	0 - 30
1919252	Alpha-BHC	10.9	Spike	P	0 - 30
1919252	Alpha-Chlordane	16.6	Spike	P	0 - 30
1919252	Beta-BHC	19.4	Spike	P	0 - 30
1919252	Carbophenothion	15.3	Spike	P	0 - 30
1919252	Chlorothalonil	121	Spike	F	0 - 30
1919252	Cypermethrin	15.2	Spike	P	0 - 30
1919252	DDD-p,p'	11.4	Spike	P	0 - 30
1919252	DDE-p,p'	14.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P329890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919252	DDT-p,p'	7.95	Spike	P	0 - 30
1919252	Delta-BHC	20.1	Spike	P	0 - 30
1919252	Dicofol	28.5	Spike	P	0 - 30
1919252	Dieldrin	14.7	Spike	P	0 - 30
1919252	Endosulfan I	22.9	Spike	P	0 - 30
1919252	Endosulfan II	23.0	Spike	P	0 - 30
1919252	Endosulfan Sulfate	15.7	Spike	P	0 - 30
1919252	Endrin	8.87	Spike	P	0 - 30
1919252	Endrin Aldehyde	19.1	Spike	P	0 - 30
1919252	Endrin Ketone	19.4	Spike	P	0 - 30
1919252	Gamma-BHC	13.7	Spike	P	0 - 30
1919252	Gamma-Chlordane	16.0	Spike	P	0 - 30
1919252	Heptachlor	9.91	Spike	P	0 - 30
1919252	Heptachlor Epoxide	20.5	Spike	P	0 - 30
1919252	Methoxychlor	16.8	Spike	P	0 - 30
1919252	Mirex	9.16	Spike	P	0 - 30
1919252	Permethrin	15.4	Spike	P	0 - 30
1919252	Trifluralin	2.41	Spike	P	0 - 30
LFB	Aldrin	7.24	LCS	P	0 - 30
LFB	Alpha-BHC	3.10	LCS	P	0 - 30
LFB	Alpha-Chlordane	5.44	LCS	P	0 - 30
LFB	Beta-BHC	15.8	LCS	P	0 - 30
LFB	Carbophenothion	24.5	LCS	P	0 - 30
LFB	Chlorothalonil	84.8	LCS	F	0 - 30
LFB	Cypermethrin	1.69	LCS	P	0 - 30
LFB	DDD-p,p'	2.06	LCS	P	0 - 30
LFB	DDE-p,p'	5.51	LCS	P	0 - 30
LFB	DDT-p,p'	5.72	LCS	P	0 - 30
LFB	Delta-BHC	8.08	LCS	P	0 - 30
LFB	Dicofol	16.9	LCS	P	0 - 30
LFB	Dieldrin	1.63	LCS	P	0 - 30
LFB	Endosulfan I	2.90	LCS	P	0 - 30
LFB	Endosulfan II	13.3	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.211	LCS	P	0 - 30
LFB	Endrin	1.79	LCS	P	0 - 30
LFB	Endrin Aldehyde	2.76	LCS	P	0 - 30
LFB	Endrin Ketone	1.73	LCS	P	0 - 30
LFB	Gamma-BHC	0.664	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.55	LCS	P	0 - 30
LFB	Heptachlor	4.69	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.09	LCS	P	0 - 30
LFB	Methoxychlor	0.899	LCS	P	0 - 30
LFB	Mirex	14.2	LCS	P	0 - 30
LFB	Permethrin	0.416	LCS	P	0 - 30
LFB	Trifluralin	8.07	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P330082

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

Reference Method: EPA 8270D
Batch ID: 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
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	Terbuthylazine	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

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	Diazinon	3.66	LCS	P	0 - 30
LFB	Disulfoton	18.5	LCS	P	0 - 30
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 8276
Batch ID: P329890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919083	Chlordane	1.87	Spike	P	0 - 30
1919083	Toxaphene	1.21	Spike	P	0 - 30
LFB	Chlordane	26.7	LCS	P	0 - 30
LFB	Toxaphene	24.0	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

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

Quality Assurance Report Precision

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: P329953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919916	Color (true)	3.19	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P330132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919993	Total Alkalinity	0.0254	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P330169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919825	TDS	3.98	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P330170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919994	TDS	4.16	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P330135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919993	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P330330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919150	Organic Carbon	0.791	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P329841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919076	2,4-D	0.984	Spike	P	0 - 30
1919076	Acetaminophen	1.46	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P329841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919076	Bentazon	0.907	Spike	P	0 - 30
1919076	Carbamazepine	13.8	Spike	P	0 - 30
1919076	Diuron	7.89	Spike	P	0 - 30
1919076	Fenuron	13.2	Spike	P	0 - 30
1919076	Fluridone	11.9	Spike	P	0 - 30
1919076	Imidacloprid	9.50	Spike	P	0 - 30
1919076	Linuron	4.98	Spike	P	0 - 30
1919076	MCP	9.09	Spike	P	0 - 30
1919076	Primidone	24.0	Spike	P	0 - 30
1919076	Triclopyr	8.97	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: 1919951
Field Sample ID: G4NW0176

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	97.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	97.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Diuron-d6	89.3	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Diuron-d6	89.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	40 - 160
EPA 8321B	Primidone-d5	94.4	P	30 - 160
EPA 8321B	Primidone-d5	94.4	P	30 - 160
EPA 8321B	Sucralose-d6	70.4	P	40 - 160
EPA 8321B	Sucralose-d6	70.4	P	40 - 160
USGS O-2060-01	2,4-D-d3	124	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	97.5	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	108	P	30 - 160
USGS O-2060-01	Diuron-d6	104	P	30 - 160
USGS O-2060-01	Diuron-d6	89.3	P	30 - 160
USGS O-2060-01	Primidone-d5	94.4	P	30 - 160
USGS O-2060-01	Sucralose-d6	70.4	P	40 - 160

Lab Sample ID: 1919952
Field Sample ID: G4NW0176

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	39.4	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	29.5	F	32 - 103
EPA 8276	Decachlorobiphenyl	38.4	P	31 - 100

Quality Assurance Report Surrogates

Lab Sample ID: 1919953
Field Sample ID: G4NW0176

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	74.6	P	53 - 135
EPA 8270D	Simazine-d10	105	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A78270
Included Lab Sample IDs: 1919936, 1919939, 1919940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	99.2	P/P	90 - 110
Chloride	99.2	103	P/P	90 - 110
Sulfate	104	97.8	P/P	90 - 110
Sulfate	97.8	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A78298
Included Lab Sample IDs: 1919936, 1919939, 1919940

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

Reference Method: SM 2120 B
Run ID: A78299
Included Lab Sample IDs: 1919936, 1919939, 1919940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.7	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A78303
Included Lab Sample IDs: 1919938, 1919943, 1919944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A78348
Included Lab Sample IDs: 1919937, 1919941, 1919942

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A78349
Included Lab Sample IDs: 1919937, 1919941, 1919942

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78363

Included Lab Sample IDs: 1919954

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	103	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	98.5	99.5	P/P	90 - 110
Copper	98.9	100	P/P	90 - 110
Lead	96.2	97.3	P/P	90 - 110
Nickel	98.8	100	P/P	90 - 110
Silver	96.0	97.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A78364

Included Lab Sample IDs: 1919936, 1919939, 1919940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A78364

Included Lab Sample IDs: 1919936, 1919939, 1919940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78366

Included Lab Sample IDs: 1919937, 1919941, 1919942

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78390

Included Lab Sample IDs: 1919954

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Potassium	97.6	97.4	P/P	90 - 110
Sodium	96.8	98.6	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A78403

Included Lab Sample IDs: 1919951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	112	132	P/P	50 - 150
Acetaminophen	77.7	82.7	P/P	60 - 150
Bentazon	110	117	P/P	50 - 150
Carbamazepine	81.9	87.0	P/P	60 - 150
Diuron	87.0	96.8	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A78403

Included Lab Sample IDs: 1919951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	85.4	87.1	P/P	60 - 150
Fluridone	120	116	P/P	60 - 160
Imidacloprid	82.5	82.0	P/P	60 - 150
Linuron	117	87.0	P/P	60 - 150
MCPP	93.0	114	P/P	50 - 150
Primidone	100	105	P/P	60 - 150
Triclopyr	151	144	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78404

Included Lab Sample IDs: 1919937, 1919941, 1919942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	102	P/P	90 - 110
Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78417

Included Lab Sample IDs: 1919951

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

Reference Method: EPA 8276

Run ID: A78420

Included Lab Sample IDs: 1919952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	104		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: SM 5310 B-00

Run ID: A78438

Included Lab Sample IDs: 1919937, 1919941, 1919942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	102	P/P	90 - 110
Organic Carbon	99.6	101	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A78472

Included Lab Sample IDs: 1919952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.5		P	80 - 120
Alpha-BHC	97.8		P	80 - 120
Alpha-Chlordane	99.8		P	80 - 120
Beta-BHC	101		P	80 - 120
Carbophenothion	84.1		P	80 - 120
Chlorothalonil	99.8		P	80 - 120
Cypermethrin	107		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A78472
 Included Lab Sample IDs: 1919952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
DDD-p,p'	97.9		P	80 - 120
DDE-p,p'	99.0		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	90.6		P	80 - 120
Dicofol	106		P	80 - 120
Dieldrin	96.0		P	80 - 120
Endosulfan I	99.1		P	80 - 120
Endosulfan II	94.3		P	80 - 120
Endosulfan Sulfate	96.3		P	80 - 120
Endrin	99.4		P	80 - 120
Endrin Aldehyde	96.4		P	80 - 120
Endrin Ketone	97.7		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	99.0		P	80 - 120
Heptachlor	93.3		P	80 - 120
Heptachlor Epoxide	98.0		P	80 - 120
Methoxychlor	110		P	80 - 120
Mirex	99.3		P	80 - 120
Permethrin	98.4		P	80 - 120
Trifluralin	105		P	80 - 120

Reference Method: EPA 8270D
 Run ID: A78497
 Included Lab Sample IDs: 1919953

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A78497
Included Lab Sample IDs: 1919953

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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
Terbuthylazine	96.3		P	80 - 120

Reference Method: EPA 8321B
Run ID: A78551
Included Lab Sample IDs: 1919951

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

Reference Method: EPA 8321B
Run ID: A78750
Included Lab Sample IDs: 1919951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	126	114	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			Precision SMP	MS
					LCS		
EPA 180.1 Rev. 2.0	Turbidity					0.803	
EPA 200.7 Rev. 4.4	Calcium	104	103	109			1.75
	Iron	109	108	113	111		1.50
	Magnesium	106	107	110			2.03
	Potassium	101	99.1	102	100		1.63
	Sodium	101	104	107			1.51
	Zinc	104	104	105	106		1.19
EPA 200.8 Rev. 5.4	Arsenic	103	104	105	105		0.566
	Cadmium	102	104	106	103		2.61
	Chromium	100	99.8	100	99.1		1.31
	Copper	97.1	96.7	97.9	96.6		1.40
	Lead	96.5	97.5	98.3	98.2		0.0478

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 200.8 Rev. 5.4	Nickel	100		99.5	100	99.0		0.951
	Silver	97.8		98.8	101	99.5		1.11
EPA 300.0 Rev. 2.1	Chloride	106		104	98.9		1.33	
	Sulfate	106		102	98.8		0.267	
EPA 350.1 Rev. 2.0	Ammonia-N	101		102	102			0.324
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107		101	106			2.67
EPA 353.2 Rev. 2.0	NO2NO3-N	106		105	104			0.300
	NO2NO3-N	105		103	104			0.426
EPA 365.1 Rev. 2.0	Total-P	97.8		92.4	94.2			1.90
	Total-P	98.5		91.4	95.2			2.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1		92.0	93.3			1.40
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	44.9	48.3	56.8	46.4	7.24		20.0
	Alpha-BHC	79.7	77.3	81.2	72.8	3.10		10.9
	Alpha-Chlordane	77.0	72.9	69.2	58.6	5.44		16.6
	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	75.5	88.4	81.2	66.9	15.8		19.4
	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	97.7	76.4	81.4	94.8	24.5		15.3
	Chlorothalonil	31.0	76.7	10.2	2.51	84.8		121
	Chlorpyrifos Ethyl	86.2	90.2	87.2	85.9	4.55		1.49
	Chlorpyrifos Methyl	91.7	93.5	78.7	78.3	1.90		0.435
	Cyanazine	174	191	161	167	9.18		3.66
	Cypermethrin	99.0	97.4	113	96.8	1.69		15.2
	DDD-p,p'	80.7	79.1	73.4	65.5	2.06		11.4
	DDE-p,p'	73.8	69.8	64.3	55.7	5.51		14.3
	DDT-p,p'	81.7	77.2	76.2	70.4	5.72		7.95
	Delta-BHC	97.0	105	122	99.4	8.08		20.1
	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	42.8	36.1	14.8	19.8	16.9		28.5
	Dieldrin	76.3	75.1	68.5	59.1	1.63		14.7
	Disulfoton	122	101	97.3	98.5	18.5		1.22
	Endosulfan I	88.2	85.6	86.9	69.0	2.90		22.9
	Endosulfan II	90.2	103	100	79.5	13.3		23.0
	Endosulfan Sulfate	89.3	89.1	82.7	70.7	0.211		15.7
	Endrin	81.7	80.2	73.5	67.2	1.79		8.87
	Endrin Aldehyde	84.6	82.3	63.3	52.3	2.76		19.1
	Endrin Ketone	82.8	81.4	85.1	70.0	1.73		19.4
	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	83.8	84.3	103	89.6	0.664		13.7
	Gamma-Chlordane	72.2	70.4	66.6	56.8	2.55		16.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Heptachlor	65.4	62.5	64.1	58.1	4.69	9.91
	Heptachlor Epoxide	76.9	74.6	73.3	59.7	3.09	20.5
	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	88.2	87.4	89.8	75.9	0.899	16.8
	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	72.0	62.5	64.9	59.2	14.2	9.16
	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	83.1	82.7	89.1	76.4	0.416	15.4
	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
	Terbutylazine	85.8	89.4	91.4	86.4	4.03	5.69
	Trifluralin	107	98.8	138	135	8.07	2.41
	Chlordane	76.0	99.4	87.0	88.7	26.7	1.87
	Toxaphene	85.6	109	103	104	24.0	1.21
EPA 8276	Glyphosate	115		118	114		3.53
EPA 8321B	Pyraclostrobin	94.2		103	98.9		3.71
	Sucralose	90.3	92.2			2.12	
SM 2120 B	Color (true)					3.19	
SM 2320 B-97	Total Alkalinity	102				0.0254	
SM 2540 C-97	TDS					3.98	
	TDS					4.16	
SM 4500 F-C-97	Fluoride	101		98.4	98.4		0.0
SM 5310 B-00	Organic Carbon	98.8		99.2	98.2		0.791
USGS O-2060-01	2,4-D	103					0.984
	Acetaminophen	76.0		96.7	98.2		1.46
	Bentazon	101		38.2	38.8		0.907
	Carbamazepine	88.2		83.9	72.7		13.8
	Diuron	81.5		48.5	53.8		7.89
	Fenuron	82.1		64.3	73.4		13.2
	Fluridone	111		67.7	55.6		11.9
	Imidacloprid	81.2		123	139		9.50
	Linuron	83.1		62.3	65.5		4.98
	MCPP	91.6		121	111		9.09
	Primidone	84.5		80.3	102		24.0
	Triclopyr	90.3		112	123		8.97

Reference Method Descriptions

Method / DoH Cert #
EPA 180.1 Rev. 2.0 /
E31780

Description
Turbidity in aqueous matrices

Associated Samples
1919936, 1919939, 1919940

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1919954
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1919954
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1919936, 1919939, 1919940
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1919936, 1919939, 1919940
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1919937, 1919941, 1919942
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1919937, 1919941, 1919942
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1919937, 1919941, 1919942
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1919937, 1919941, 1919942
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1919938, 1919943, 1919944
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1919952
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1919953
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1919952
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1919951
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1919951
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1919951
SM 2120 B / E31780	True Color measured at 450 nm	1919936, 1919939, 1919940
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1919936, 1919939, 1919940
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1919936, 1919939, 1919940
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1919936, 1919939, 1919940
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1919936, 1919939, 1919940
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1919937, 1919941, 1919942
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1919951
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1919951

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	08/09/2017			08/09/2017 15:43	DeAsia Armster	1919936, 1919939, 1919940
EPA 200.7 Rev. 4.4	08/09/2017	08/10/2017	Elliott D. Healy	08/14/2017	Betina Topolski	1919954
EPA 200.8 Rev. 5.4	08/09/2017	08/10/2017	Elliott D. Healy	08/11/2017	Nadine Brooks	1919954
EPA 300.0 Rev. 2.1	08/09/2017			08/09/2017	Julia Storbeck	1919936, 1919939, 1919940
EPA 350.1 Rev. 2.0	08/09/2017			08/10/2017	Sofia Elnemr	1919937, 1919941, 1919942
EPA 351.2 Rev. 2.0	08/09/2017	08/11/2017	Adrian Shelby	08/15/2017	Joseph Suarez	1919937, 1919941, 1919942
EPA 353.2 Rev. 2.0	08/09/2017			08/11/2017	Beverly Y. Sanders	1919937, 1919941, 1919942
EPA 365.1 Rev. 2.0	08/09/2017	08/10/2017	Sima Feizi	08/11/2017	Lipi Saha	1919937, 1919941, 1919942
EPA 365.1 Rev. 2.0 dissolved	08/09/2017			08/09/2017 14:38	Ping Hua	1919938
	08/09/2017			08/09/2017 14:39	Ping Hua	1919943
	08/09/2017			08/09/2017 14:40	Ping Hua	1919944
EPA 8270D	08/09/2017	08/10/2017	Fe-Val Siddell	08/14/2017	Marek Topolski	1919952
	08/09/2017	08/11/2017	John Kaba	08/15/2017	Irina Carbone	1919953
EPA 8276	08/09/2017	08/10/2017	Fe-Val Siddell	08/14/2017	John P. Burgos	1919952
EPA 8321B	08/09/2017	08/15/2017	Hoor Shaik	08/16/2017	Julie Michelle Frank	1919951
	08/09/2017	08/15/2017	Julie Michelle Frank	08/15/2017	Juyoung Kim	1919951
	08/09/2017	08/23/2017	Julie Michelle Frank	08/31/2017	Julie Michelle Frank	1919951
SM 2120 B	08/09/2017			08/09/2017 15:36	Tanya Welborn	1919936
	08/09/2017			08/09/2017 15:37	Tanya Welborn	1919939, 1919940
SM 2320 B-97	08/09/2017			08/12/2017	Dale L. Simmons	1919936, 1919939, 1919940
SM 2540 C-97	08/09/2017			08/10/2017	Yijie Li	1919936, 1919939, 1919940
SM 2540 D-97	08/09/2017			08/10/2017	Yijie Li	1919936, 1919939, 1919940
SM 4500 F-C-97	08/09/2017			08/12/2017	Dale L. Simmons	1919936, 1919939, 1919940
SM 5310 B-00	08/09/2017			08/15/2017	Sofia Elnemr	1919937, 1919941, 1919942
USGS O-2060-01	08/09/2017	08/10/2017	Hoor Shaik	08/11/2017	Juyoung Kim	1919951