

Chemical Analysis Report

NE-DIST-2017-06-20-01

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

Event Description: **LSJR Coast**
Request ID: **RQ-2017-06-19-14**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 14-JUL-2017 11:33



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: Greenfield Creek @ Wonderwood

Collection Date/Time: 06/19/2017 08:35

Field ID: G2NE1137 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907310	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P327193	
	SM 2320 B-97	Total Alkalinity	87		mg CaCO3/L	P327372	
	SM 2540 D-97	TSS	28		mg/L	P327531	
	SM 4500 F-C-97	Fluoride	0.65		mg F/L	P327379	
1907313	EPA 350.1 Rev. 2.0	Ammonia-N	0.090		mg N/L	P327287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P327185	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P327383	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P327212	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P327585	
1907316	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P327172	

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: Sherman Creek @ A1A Bridge

Collection Date/Time: 06/19/2017 08:55

Field ID: G2NE1141 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907311	EPA 180.1 Rev. 2.0	Turbidity	12	A	NTU	P327194	
	SM 2320 B-97	Total Alkalinity	116		mg CaCO3/L	P327372	
	SM 2540 D-97	TSS	22		mg/L	P327531	
	SM 4500 F-C-97	Fluoride	0.86		mg F/L	P327379	
1907314	EPA 350.1 Rev. 2.0	Ammonia-N	0.061		mg N/L	P327287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P327189	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.031		mg N/L	P327383	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P327212	
	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P327585	
1907317	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.087		mg P/L	P327172	

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: St. Johns R @ Scanlon BR Mayport

Collection Date/Time: 06/19/2017 09:15

Field ID: G2NE1128 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907319	EPA 180.1 Rev. 2.0	Turbidity	7.0		NTU	P327194	
	SM 2320 B-97	Total Alkalinity	110		mg CaCO3/L	P327372	
	SM 2540 D-97	TSS	18		mg/L	P327531	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P327379	
1907322	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P327287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P327189	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P327383	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P327212	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P327585	
1907325	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P327172	

Field ID: G2NE1128 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907347	EPA 200.7 Rev. 4.4	Iron	360	I	ug/L	P327143	
	EPA 200.8 Rev. 5.4	Arsenic	1.9	I	ug/L	P327143	
		Cadmium	0.20	U	ug/L	P327143	
		Chromium	1.2	U	ug/L	P327143	
		Copper	2.0	U	ug/L	P327143	
		Lead	0.80	U	ug/L	P327143	
		Nickel	1.0	U	ug/L	P327143	
		Silver	0.10	U	ug/L	P327143	
		Zinc	20	U	ug/L	P327143	

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: St. Johns R @ Scanlon BR Mayport

Collection Date/Time: 06/19/2017 09:15

Field ID: G2NE1128 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907344	EPA 8321B	Glyphosate**	10	UJ	ug/L	P327305	SUR
		Pyraclostrobin**	0.0020	U	ug/L	P327348	
		Sucralose**	0.31		ug/L	P326793	
	USGS O-2060-01	2,4-D	0.0030	I	ug/L	P327141	
		Diuron	0.055		ug/L	P327141	
		Fenuron	0.0080	U	ug/L	P327141	MS
		Imidacloprid	0.012		ug/L	P327141	
		Bentazon	0.0013	I	ug/L	P327141	MS
		Linuron	0.0040	U	ug/L	P327141	
		Acetaminophen**	0.0080	U	ug/L	P327141	
		MCP	0.0020	U	ug/L	P327141	
		Carbamazepine**	0.0010	I	ug/L	P327141	
		Triclopyr**	0.0040	U	ug/L	P327141	
		Primidone**	0.0040	U	ug/L	P327141	
		Fluridone**	0.0012	I	ug/L	P327141	
	EPA 8270D	Aldrin	4.0	U	ng/L	P327292	
		Alpha-BHC	2.0	U	ng/L	P327292	
		Beta-BHC	4.0	U	ng/L	P327292	
		Delta-BHC	4.0	U	ng/L	P327292	
		Gamma-BHC	4.0	U	ng/L	P327292	
		Carbophenothion	4.0	UJ	ng/L	P327292	LCS, RPD
		Chlorothalonil	2.0	U	ng/L	P327292	
		Cypermethrin	20	U	ng/L	P327292	
		DDD-p,p'	2.0	U	ng/L	P327292	
		DDE-p,p'	3.0	U	ng/L	P327292	
		DDT-p,p'	3.0	U	ng/L	P327292	
		Dieldrin	4.0	U	ng/L	P327292	
		Endosulfan I	4.0	U	ng/L	P327292	
		Endosulfan II	4.0	U	ng/L	P327292	
		Endosulfan Sulfate	2.0	U	ng/L	P327292	

Field ID: G2NE1128 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907345	EPA 8270D	Endrin	2.0	U	ng/L	P327292	
		Endrin Aldehyde	2.0	UJ	ng/L	P327292	MS
		Heptachlor	1.5	U	ng/L	P327292	
		Heptachlor Epoxide	2.0	U	ng/L	P327292	
		Methoxychlor	4.0	U	ng/L	P327292	
		Mirex	2.0	U	ng/L	P327292	
		Permethrin	10	U	ng/L	P327292	
		Trifluralin	1.0	UJ	ng/L	P327292	CCV
		Alpha-Chlordane	1.0	U	ng/L	P327292	
		Gamma-Chlordane	1.0	U	ng/L	P327292	
		Endrin Ketone	2.0	U	ng/L	P327292	
		Dicofol	30	UJ	ng/L	P327292	CCV, RPD
	EPA 8276	Chlordane**	2.5	U	ng/L	P327292	
		Toxaphene**	13	U	ng/L	P327292	
1907346	EPA 8270D	Alachlor	0.23	U	ng/L	P327402	
		Ametryn	0.45	I	ng/L	P327402	
		Atrazine	12		ng/L	P327402	
		Atrazine Desethyl	1.8	I	ng/L	P327402	
		Azinphos Methyl	2.1	U	ng/L	P327402	
		Bromacil	0.47	U	ng/L	P327402	
		Butylate	0.37	U	ng/L	P327402	
		Chlorpyrifos Ethyl	0.23	U	ng/L	P327402	
		Chlorpyrifos Methyl	0.093	U	ng/L	P327402	
		Demeton	1.9	U	ng/L	P327402	
		Diazinon	0.12	U	ng/L	P327402	
		Disulfoton	0.30	U	ng/L	P327402	
		EPTC	1.2	U	ng/L	P327402	
		Ethion	0.14	U	ng/L	P327402	
		Ethoprop	0.093	U	ng/L	P327402	
		Fenamiphos	0.23	U	ng/L	P327402	
		Fipronil	0.23	U	ng/L	P327402	
		Fipronil Sulfide	0.14	U	ng/L	P327402	
		Fipronil Sulfone	0.21	I	ng/L	P327402	
		Hexazinone	0.47	U	ng/L	P327402	
		Malathion	0.33	U	ng/L	P327402	
		Metribuzin	2.7	J	ng/L	P327402	LCS, MS
		Mevinphos	0.47	U	ng/L	P327402	
		Molinate	0.28	U	ng/L	P327402	
		Norflurazon	0.47	U	ng/L	P327402	
		Pendimethalin	1.4	U	ng/L	P327402	
		Phorate	0.23	U	ng/L	P327402	
		Prometon	0.84	U	ng/L	P327402	
		Prometryn	0.19	U	ng/L	P327402	
		Simazine	2.2		ng/L	P327402	
		Terbufos	0.093	U	ng/L	P327402	

Field ID: G2NE1128 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907346	EPA 8270D	Terbutylazine	0.40	U	ng/L	P327402	
		Fonofos	0.19	U	ng/L	P327402	
		Metolaxyl	0.40	I	ng/L	P327402	
		Metolachlor	2.8		ng/L	P327402	
		Acetochlor	0.23	U	ng/L	P327402	
		Cyanazine	0.47	U	ng/L	P327402	
		Parathion Ethyl	0.23	U	ng/L	P327402	
		Parathion Methyl	0.23	U	ng/L	P327402	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes. "J" - estimation due to glyphosate 13C 15N surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

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

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

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: St. Johns R @ Little Jetties Pier

Collection Date/Time: 06/19/2017 09:40

Field ID: G2NE0745 0619017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907320	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P327194	
	SM 2320 B-97	Total Alkalinity	105		mg CaCO3/L	P327372	
	SM 2540 D-97	TSS	15		mg/L	P327531	
	SM 4500 F-C-97	Fluoride	0.96		mg F/L	P327379	
1907323	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P327287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P327189	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.095		mg N/L	P327383	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P327212	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P327585	
1907326	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.055		mg P/L	P327172	
1907348	EPA 200.7 Rev. 4.4	Iron	410	I	ug/L	P327143	
	EPA 200.8 Rev. 5.4	Arsenic	2.2	I	ug/L	P327143	
		Cadmium	0.20	U	ug/L	P327143	
		Chromium	1.2	U	ug/L	P327143	
		Copper	2.0	U	ug/L	P327143	
		Lead	0.80	U	ug/L	P327143	
		Nickel	1.0	U	ug/L	P327143	
		Silver	0.10	U	ug/L	P327143	
		Zinc	20	U	ug/L	P327143	

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: ICW @ Isle of Palms Boat Ramp

Collection Date/Time: 06/19/2017 10:35

Field ID: G2NE1136 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907307	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P327193	
	EPA 300.0 Rev. 2.1	Sulfate	1.3E+03		mg SO4/L	P327408	

Field ID: G2NE1136 06192017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907307	SM 2320 B-97	Total Alkalinity	94		mg CaCO3/L	P327372	
	SM 2540 D-97	TSS	28		mg/L	P327531	
	SM 4500 F-C-97	Fluoride	0.67		mg F/L	P327379	
1907308	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P327287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P327185	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P327383	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P327212	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P327585	
1907309	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.064		mg P/L	P327172	
1907343	EPA 8321B	Sucralose**	0.30		ug/L	P326793	
	USGS O-2060-01	2,4-D	0.0076		ug/L	P327141	
		Diuron	0.021		ug/L	P327141	
		Fenuron	0.0080	U	ug/L	P327141	MS
		Imidacloprid	0.030		ug/L	P327141	
		Bentazon	0.0056		ug/L	P327141	MS
		Linuron	0.0040	U	ug/L	P327141	
		Acetaminophen**	0.0080	U	ug/L	P327141	
		MCPP	0.0020	U	ug/L	P327141	
		Carbamazepine**	7.2E-04	I	ug/L	P327141	
		Triclopyr**	0.0040	U	ug/L	P327141	
		Primidone**	0.0040	U	ug/L	P327141	
		Fluridone**	0.015		ug/L	P327141	

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: Open Creek @ San Pablo Rd

Collection Date/Time: 06/19/2017 10:55

Field ID: G2NE0703 06192017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907312	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P327194	
	SM 2320 B-97	Total Alkalinity	57		mg CaCO3/L	P327451	
	SM 2540 D-97	TSS	5	IA	mg/L	P327529	
	SM 4500 F-C-97	Fluoride	0.084	I	mg F/L	P327455	
1907315	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P327286	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P327188	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P327301	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P327210	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P327457	
1907318	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P327173	

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: Equipment Blank

Collection Date/Time: 06/19/2017 09:50

Field ID: Equipment Blank

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
-----------	-------------	-----------	--------	------	-------	----------	----------

Field ID: Equipment Blank

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1907321	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P327194	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P327451	
	SM 2540 D-97	TSS	2	U	mg/L	P327529	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P327455	
1907324	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P327287	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P327188	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327301	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P327210	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P327457	
1907327	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327173	
1907349	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P327270	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P327270	
		Cadmium	0.020	U	ug/L	P327270	
		Chromium	0.40	U	ug/L	P327270	
		Copper	0.20	U	ug/L	P327270	
		Lead	0.050	U	ug/L	P327270	
		Nickel	0.20	U	ug/L	P327270	
		Silver	0.010	U	ug/L	P327270	
		Zinc	1.0	U	ug/L	P327270	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: The result was confirmed on 06/27/2017.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P327193

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P327194

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P327143

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P327270

Component	Result	Code	Units
Iron	30	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327143

Component	Result	Code	Units
Arsenic	0.25	U	ug/L
Cadmium	0.050	U	ug/L
Chromium	0.30	U	ug/L
Copper	0.50	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.25	U	ug/L
Silver	0.025	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327270

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
Zinc	1.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327408

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327286

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327287

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327185

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327188

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327189

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327301

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327383

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327210

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327212

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327172

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327173

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

Reference Method: EPA 8270D
Batch ID: P327292

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P327292

Component	Result	Code	Units
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8270D

Batch ID: P327402

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	0.32	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P327402

Component	Result	Code	Units
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.5	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P327292

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

Reference Method: EPA 8321B
Batch ID: P326793

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P327305

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P327348

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P327372

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

Reference Method: SM 2320 B-97
Batch ID: P327451

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

Reference Method: SM 2540 D-97
Batch ID: P327529

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P327531

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P327379

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
 Batch ID: P327455

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P327457

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

Reference Method: SM 5310 B-00
 Batch ID: P327585

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

Reference Method: USGS O-2060-01
 Batch ID: P327141

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: P327143

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	104		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327143

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	95.0		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	98.6		P	85 - 115
Copper	97.9		P	85 - 115
Lead	99.0		P	85 - 115
Nickel	99.5		P	85 - 115
Silver	97.8		P	85 - 115
Zinc	94.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	101		P	85 - 115
Copper	97.4		P	85 - 115
Lead	99.5		P	85 - 115
Nickel	99.2		P	85 - 115
Silver	100		P	85 - 115
Zinc	99.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327408

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327286

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327287

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327185

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327188

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327189

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: P327301

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327383

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327210

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327172

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327173

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

Reference Method: EPA 8270D
Batch ID: P327292

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	56.3	60.0	P/P	26 - 88.0
Alpha-BHC	76.8	82.8	P/P	63 - 114
Alpha-Chlordane	73.3	76.0	P/P	56 - 117
Beta-BHC	83.7	84.2	P/P	57 - 138

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P327292

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbophenothion	32.0	20.9	F/F	36 - 148
Chlorothalonil	100	103	P/P	26 - 173
Cypermethrin	104	95.5	P/P	42 - 159
DDD-p,p'	81.9	86.0	P/P	62 - 126
DDE-p,p'	75.3	79.1	P/P	53 - 115
DDT-p,p'	87.0	92.1	P/P	54 - 117
Delta-BHC	82.1	79.3	P/P	68 - 158
Dicofol	60.7	78.9	P/P	25 - 114
Dieldrin	79.2	80.5	P/P	59 - 126
Endosulfan I	78.6	79.1	P/P	62 - 138
Endosulfan II	74.0	74.2	P/P	61 - 150
Endosulfan Sulfate	74.7	77.2	P/P	63 - 132
Endrin	80.0	84.6	P/P	49 - 148
Endrin Aldehyde	102	107	P/P	50 - 144
Endrin Ketone	91.5	96.7	P/P	66 - 122
Gamma-BHC	81.1	84.5	P/P	60 - 137
Gamma-Chlordane	70.6	75.6	P/P	54 - 113
Heptachlor	68.2	73.9	P/P	43 - 104
Heptachlor Epoxide	75.5	79.0	P/P	64 - 118
Methoxychlor	89.1	101	P/P	63 - 129
Mirex	67.6	69.8	P/P	39 - 93.0
Permethrin	86.2	90.3	P/P	51 - 123
Trifluralin	105	109	P/P	35 - 187

Reference Method: EPA 8270D
Batch ID: P327402

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	85.8	84.4	P/P	78 - 118
Alachlor	83.9	84.1	P/P	77 - 119
Ametryn	89.4	97.1	P/P	61 - 136
Atrazine	92.4	94.2	P/P	73 - 120
Atrazine Desethyl	89.2	96.5	P/P	16 - 122
Azinphos Methyl	96.0	97.0	P/P	69 - 186
Bromacil	63.8	64.3	P/P	40 - 125
Butylate	51.2	47.2	P/P	32 - 87.0
Chlorpyrifos Ethyl	78.0	84.0	P/P	53 - 110
Chlorpyrifos Methyl	88.2	89.3	P/P	31 - 119
Cyanazine	149	150	P/P	36 - 224
Demeton	85.7	89.4	P/P	39 - 122
Diazinon	90.0	89.3	P/P	75 - 119
Disulfoton	94.4	96.3	P/P	42 - 139
EPTC	48.1	45.2	P/P	33 - 96.0
Ethion	85.1	73.9	P/P	63 - 127
Ethoprop	80.3	78.9	P/P	65 - 107
Fenamiphos	95.9	96.9	P/P	64 - 137
Fipronil	88.3	88.7	P/P	60 - 126
Fipronil Sulfide	88.8	90.8	P/P	58 - 124
Fipronil Sulfone	80.4	81.6	P/P	57 - 126
Fonofos	84.7	86.5	P/P	65 - 111
Hexazinone	80.0	79.8	P/P	46 - 151
Malathion	89.1	89.3	P/P	68 - 132

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P327402

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Metalaxyl	91.8	90.4	P/P	51 - 132
Metolachlor	84.4	84.4	P/P	78 - 119
Metribuzin	129	157	P/F	64 - 138
Mevinphos	79.8	79.8	P/P	34 - 128
Molinate	48.6	44.1	P/P	44 - 101
Norflurazon	88.0	84.8	P/P	63 - 129
Parathion Ethyl	87.7	88.5	P/P	80 - 109
Parathion Methyl	94.6	94.1	P/P	74 - 125
Pendimethalin	89.8	88.9	P/P	48 - 134
Phorate	82.7	80.6	P/P	52 - 119
Prometon	79.5	79.3	P/P	69 - 124
Prometryn	88.8	89.8	P/P	66 - 124
Simazine	98.3	94.9	P/P	61 - 134
Terbufos	92.0	93.1	P/P	58 - 115
Terbutylazine	85.8	86.4	P/P	77 - 113

Reference Method: EPA 8276
Batch ID: P327292

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	73.2	88.7	P/P	48 - 121
Toxaphene	90.6	119	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P326793

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327305

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	114	115	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	52.8	52.9	P/P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P327372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P327451

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P327379

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.7		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P327585

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.4		P	40 - 150
Acetaminophen	46.6		P	40 - 150
Bentazon	56.8		P	40 - 150
Carbamazepine	116		P	40 - 150
Diuron	117		P	40 - 150
Fenuron	108		P	40 - 150
Fluridone	99.8		P	40 - 150
Imidacloprid	90.8		P	40 - 160
Linuron	109		P	40 - 150
MCPP	86.0		P	40 - 150
Primidone	99.4		P	40 - 150
Triclopyr	95.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906988	Iron	101	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907395	Iron	108		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907500	Iron	107	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906988	Arsenic	91.1	95.0	P/P	70 - 130
1906988	Cadmium	85.4	89.3	P/P	70 - 130
1906988	Chromium	94.5	98.5	P/P	70 - 130
1906988	Copper	91.3	92.1	P/P	70 - 130
1906988	Lead	102	102	P/P	70 - 130
1906988	Nickel	89.5	91.6	P/P	70 - 130
1906988	Silver	83.3	86.9	P/P	70 - 130
1906988	Zinc	80.6	83.8	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907395	Arsenic	106		P	80 - 120
1907395	Cadmium	105		P	80 - 120
1907395	Chromium	95.6		P	80 - 120
1907395	Copper	96.2		P	80 - 120
1907395	Lead	102		P	80 - 120
1907395	Nickel	97.9		P	80 - 120
1907395	Silver	100		P	80 - 120
1907395	Zinc	99.7		P	80 - 120
1907500	Arsenic	104	107	P/P	80 - 120
1907500	Cadmium	102	104	P/P	80 - 120
1907500	Chromium	94.3	97.7	P/P	80 - 120
1907500	Copper	95.4	98.7	P/P	80 - 120
1907500	Lead	101	104	P/P	80 - 120
1907500	Nickel	95.6	98.7	P/P	80 - 120
1907500	Silver	100	102	P/P	80 - 120
1907500	Zinc	97.6	100	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907154	Sulfate	95.3		P	90 - 110
1907260	Sulfate	98.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907359	Ammonia-N	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907308	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907024	Kjeldahl Nitrogen	99.0	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907380	Kjeldahl Nitrogen	93.4	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907418	Kjeldahl Nitrogen	97.6	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907315	NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907308	NO2NO3-N	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907261	Total-P	99.2	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907022	Total-P	100	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907309	O-Phosphate-P	96.5	98.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P327173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907383	O-Phosphate-P	95.7	95.7	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P327292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907345	Aldrin	71.0	69.6	P/P	22 - 97.0
1907345	Alpha-BHC	76.3	72.2	P/P	43 - 132
1907345	Alpha-Chlordane	81.2	81.9	P/P	36 - 126
1907345	Beta-BHC	79.3	96.4	P/P	41 - 150
1907345	Carbophenothion	130	134	P/P	13 - 196
1907345	Chlorothalonil	115	108	P/P	10 - 266
1907345	Cypermethrin	123	133	P/P	37 - 161
1907345	DDD-p,p'	87.3	90.1	P/P	44 - 131
1907345	DDE-p,p'	87.0	83.1	P/P	32 - 127
1907345	DDT-p,p'	101	99.7	P/P	45 - 116
1907345	Delta-BHC	82.1	94.9	P/P	50 - 201
1907345	Dicofol	37.4	61.6	P/P	10 - 100
1907345	Dieldrin	80.8	83.8	P/P	39 - 142
1907345	Endosulfan I	92.3	89.6	P/P	51 - 139
1907345	Endosulfan II	77.9	85.0	P/P	49 - 155
1907345	Endosulfan Sulfate	79.2	99.7	P/P	54 - 136
1907345	Endrin	84.5	84.2	P/P	38 - 141
1907345	Endrin Aldehyde	465	459	F/F	14 - 152
1907345	Endrin Ketone	110	110	P/P	60 - 128
1907345	Gamma-BHC	85.0	85.2	P/P	48 - 157
1907345	Gamma-Chlordane	78.1	81.8	P/P	35 - 123
1907345	Heptachlor	72.0	71.6	P/P	25 - 112
1907345	Heptachlor Epoxide	83.2	82.8	P/P	48 - 125
1907345	Methoxychlor	94.9	92.2	P/P	52 - 127
1907345	Mirex	80.3	81.0	P/P	25 - 108
1907345	Permethrin	114	117	P/P	46 - 133
1907345	Trifluralin	242	239	P/P	29 - 254

Reference Method: EPA 8270D
 Batch ID: P327402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907346	Acetochlor	85.6	85.9	P/P	74 - 123
1907346	Alachlor	82.1	82.8	P/P	73 - 124
1907346	Ametryn	87.0	86.9	P/P	56 - 149
1907346	Atrazine Desethyl	75.2	76.9	P/P	12 - 103
1907346	Azinphos Methyl	89.2	93.3	P/P	60 - 202
1907346	Bromacil	92.9	93.1	P/P	42 - 133
1907346	Butylate	40.2	39.9	P/P	10 - 85.0
1907346	Chlorpyrifos Ethyl	80.3	80.6	P/P	53 - 113
1907346	Chlorpyrifos Methyl	85.6	86.1	P/P	40 - 115
1907346	Cyanazine	138	135	P/P	22 - 210
1907346	Demeton	79.4	81.5	P/P	17 - 149
1907346	Diazinon	92.9	92.9	P/P	72 - 124
1907346	Disulfoton	90.1	93.7	P/P	43 - 139
1907346	EPTC	41.7	48.1	P/P	10 - 86.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P327402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907346	Ethion	92.3	92.9	P/P	65 - 131
1907346	Ethoprop	77.0	81.8	P/P	59 - 110
1907346	Fenamiphos	91.6	91.7	P/P	57 - 138
1907346	Fipronil	100	99.5	P/P	40 - 130
1907346	Fipronil Sulfide	93.4	94.6	P/P	36 - 128
1907346	Fipronil Sulfone	79.2	80.3	P/P	16 - 145
1907346	Fonofos	86.6	82.8	P/P	60 - 112
1907346	Hexazinone	89.3	91.1	P/P	69 - 142
1907346	Malathion	90.9	88.9	P/P	68 - 132
1907346	Metalaxyl	91.4	89.7	P/P	66 - 118
1907346	Metolachlor	81.7	81.0	P/P	71 - 124
1907346	Metribuzin	129	142	P/F	61 - 140
1907346	Mevinphos	71.2	74.9	P/P	38 - 130
1907346	Molinate	44.9	51.0	P/P	23 - 99.0
1907346	Norflurazon	88.1	86.5	P/P	39 - 139
1907346	Parathion Ethyl	91.9	91.4	P/P	75 - 111
1907346	Parathion Methyl	93.1	93.7	P/P	64 - 130
1907346	Pendimethalin	99.7	102	P/P	26 - 173
1907346	Phorate	76.3	88.4	P/P	43 - 127
1907346	Prometon	81.1	87.3	P/P	50 - 144
1907346	Prometryn	91.3	87.8	P/P	69 - 126
1907346	Simazine	86.2	71.1	P/P	51 - 152
1907346	Terbufos	88.8	91.9	P/P	54 - 125
1907346	Terbutylazine	87.1	85.5	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P327292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907292	Chlordane	82.5		P	44 - 134
1907292	Toxaphene	109		P	36 - 147

Reference Method: EPA 8321B
Batch ID: P326793

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905994	Sucralose	85.5	86.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327305

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907280	Glyphosate	128	132	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P327348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907280	Pyraclostrobin	49.0	50.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P327379

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907018	Fluoride	96.7	99.8	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907259	Fluoride	98.4	98.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P327457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907162	Organic Carbon	93.1	93.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P327585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906931	Organic Carbon	95.6	94.6	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907193	2,4-D	71.0	73.6	P/P	40 - 150
1907193	Acetaminophen	99.8	100	P/P	40 - 150
1907193	Bentazon	23.6	22.4	F/F	40 - 150
1907193	Carbamazepine	95.4	93.4	P/P	40 - 150
1907193	Diuron	71.8	68.6	P/P	40 - 150
1907193	Fenuron	150	123	F/P	40 - 150
1907193	Fluridone	58.2	57.2	P/P	40 - 150
1907193	Imidacloprid	156	159	P/P	40 - 160
1907193	Linuron	94.4	90.8	P/P	40 - 150
1907193	MCP	56.8	55.4	P/P	40 - 150
1907193	Primidone	85.2	91.2	P/P	40 - 150
1907193	Triclopyr	70.4	67.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P327193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907229	Turbidity	0.881	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P327194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907311	Turbidity	4.12	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906988	Iron	0.925	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907500	Iron	0.647	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906988	Arsenic	3.99	Spike	P	0 - 20
1906988	Cadmium	4.48	Spike	P	0 - 20
1906988	Chromium	4.15	Spike	P	0 - 20
1906988	Copper	0.883	Spike	P	0 - 20
1906988	Lead	0.294	Spike	P	0 - 20
1906988	Nickel	2.34	Spike	P	0 - 20
1906988	Silver	4.24	Spike	P	0 - 20
1906988	Zinc	3.86	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907500	Arsenic	2.78	Spike	P	0 - 20
1907500	Cadmium	1.71	Spike	P	0 - 20
1907500	Chromium	3.35	Spike	P	0 - 20
1907500	Copper	3.27	Spike	P	0 - 20
1907500	Lead	2.88	Spike	P	0 - 20
1907500	Nickel	3.19	Spike	P	0 - 20
1907500	Silver	2.17	Spike	P	0 - 20
1907500	Zinc	2.73	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907260	Sulfate	1.20	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907359	Ammonia-N	1.07	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907308	Ammonia-N	0.433	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907024	Kjeldahl Nitrogen	1.84	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907380	Kjeldahl Nitrogen	3.49	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907418	Kjeldahl Nitrogen	0.631	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907315	NO2NO3-N	1.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907308	NO2NO3-N	0.716	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907261	Total-P	0.418	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P327212

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907022	Total-P	2.94	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P327172

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907309	O-Phosphate-P	1.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P327173

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907383	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 8270D

Batch ID: P327292

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907345	Aldrin	2.02	Spike	P	0 - 30
1907345	Alpha-BHC	5.55	Spike	P	0 - 30
1907345	Alpha-Chlordane	0.850	Spike	P	0 - 30
1907345	Beta-BHC	19.5	Spike	P	0 - 30
1907345	Carbophenothion	2.93	Spike	P	0 - 30
1907345	Chlorothalonil	6.01	Spike	P	0 - 30
1907345	Cypermethrin	7.64	Spike	P	0 - 30
1907345	DDD-p,p'	3.14	Spike	P	0 - 30
1907345	DDE-p,p'	4.57	Spike	P	0 - 30
1907345	DDT-p,p'	0.884	Spike	P	0 - 30
1907345	Delta-BHC	14.4	Spike	P	0 - 30
1907345	Dicofol	48.9	Spike	F	0 - 30
1907345	Dieldrin	3.63	Spike	P	0 - 30
1907345	Endosulfan I	2.92	Spike	P	0 - 30
1907345	Endosulfan II	8.78	Spike	P	0 - 30
1907345	Endosulfan Sulfate	22.9	Spike	P	0 - 30
1907345	Endrin	0.294	Spike	P	0 - 30
1907345	Endrin Aldehyde	1.39	Spike	P	0 - 30
1907345	Endrin Ketone	0.295	Spike	P	0 - 30
1907345	Gamma-BHC	0.245	Spike	P	0 - 30
1907345	Gamma-Chlordane	4.56	Spike	P	0 - 30
1907345	Heptachlor	0.561	Spike	P	0 - 30
1907345	Heptachlor Epoxide	0.472	Spike	P	0 - 30
1907345	Methoxychlor	2.91	Spike	P	0 - 30
1907345	Mirex	0.918	Spike	P	0 - 30
1907345	Permethrin	2.75	Spike	P	0 - 30
1907345	Trifluralin	1.33	Spike	P	0 - 30
LFB	Aldrin	6.38	LCS	P	0 - 30
LFB	Alpha-BHC	7.54	LCS	P	0 - 30
LFB	Alpha-Chlordane	3.66	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Beta-BHC	0.642	LCS	P	0 - 30
LFB	Carbophenothion	41.9	LCS	F	0 - 30
LFB	Chlorothalonil	2.50	LCS	P	0 - 30
LFB	Cypermethrin	8.33	LCS	P	0 - 30
LFB	DDD-p,p'	4.89	LCS	P	0 - 30
LFB	DDE-p,p'	5.03	LCS	P	0 - 30
LFB	DDT-p,p'	5.69	LCS	P	0 - 30
LFB	Delta-BHC	3.54	LCS	P	0 - 30
LFB	Dicofol	26.2	LCS	P	0 - 30
LFB	Dieldrin	1.63	LCS	P	0 - 30
LFB	Endosulfan I	0.655	LCS	P	0 - 30
LFB	Endosulfan II	0.235	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.37	LCS	P	0 - 30
LFB	Endrin	5.63	LCS	P	0 - 30
LFB	Endrin Aldehyde	4.84	LCS	P	0 - 30
LFB	Endrin Ketone	5.55	LCS	P	0 - 30
LFB	Gamma-BHC	4.04	LCS	P	0 - 30
LFB	Gamma-Chlordane	6.75	LCS	P	0 - 30
LFB	Heptachlor	8.07	LCS	P	0 - 30
LFB	Heptachlor Epoxide	4.48	LCS	P	0 - 30
LFB	Methoxychlor	12.1	LCS	P	0 - 30
LFB	Mirex	3.25	LCS	P	0 - 30
LFB	Permethrin	4.56	LCS	P	0 - 30
LFB	Trifluralin	3.67	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P327402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907346	Acetochlor	0.265	Spike	P	0 - 30
1907346	Alachlor	0.853	Spike	P	0 - 30
1907346	Ametryn	0.102	Spike	P	0 - 30
1907346	Atrazine	1.06	Spike	P	0 - 30
1907346	Atrazine Desethyl	1.94	Spike	P	0 - 30
1907346	Azinphos Methyl	4.51	Spike	P	0 - 30
1907346	Bromacil	0.227	Spike	P	0 - 30
1907346	Butylate	0.754	Spike	P	0 - 30
1907346	Chlorpyrifos Ethyl	0.440	Spike	P	0 - 30
1907346	Chlorpyrifos Methyl	0.575	Spike	P	0 - 30
1907346	Cyanazine	2.22	Spike	P	0 - 30
1907346	Demeton	2.59	Spike	P	0 - 30
1907346	Diazinon	0.0552	Spike	P	0 - 30
1907346	Disulfoton	3.95	Spike	P	0 - 30
1907346	EPTC	14.4	Spike	P	0 - 30
1907346	Ethion	0.685	Spike	P	0 - 30
1907346	Ethoprop	5.98	Spike	P	0 - 30
1907346	Fenamiphos	0.120	Spike	P	0 - 30
1907346	Fipronil	0.573	Spike	P	0 - 30
1907346	Fipronil Sulfide	1.35	Spike	P	0 - 30
1907346	Fipronil Sulfone	1.25	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907346	Fonofos	4.42	Spike	P	0 - 30
1907346	Hexazinone	2.05	Spike	P	0 - 30
1907346	Malathion	2.24	Spike	P	0 - 30
1907346	Metalaxyl	1.82	Spike	P	0 - 30
1907346	Metolachlor	0.718	Spike	P	0 - 30
1907346	Metribuzin	8.03	Spike	P	0 - 30
1907346	Mevinphos	5.06	Spike	P	0 - 30
1907346	Molinate	12.6	Spike	P	0 - 30
1907346	Norflurazon	1.81	Spike	P	0 - 30
1907346	Parathion Ethyl	0.552	Spike	P	0 - 30
1907346	Parathion Methyl	0.698	Spike	P	0 - 30
1907346	Pendimethalin	1.99	Spike	P	0 - 30
1907346	Phorate	14.7	Spike	P	0 - 30
1907346	Prometon	7.42	Spike	P	0 - 30
1907346	Prometryn	3.88	Spike	P	0 - 30
1907346	Simazine	11.0	Spike	P	0 - 30
1907346	Terbufos	3.39	Spike	P	0 - 30
1907346	Terbutylazine	1.82	Spike	P	0 - 30
LFB	Acetochlor	1.56	LCS	P	0 - 30
LFB	Alachlor	0.260	LCS	P	0 - 30
LFB	Ametryn	8.28	LCS	P	0 - 30
LFB	Atrazine	1.95	LCS	P	0 - 30
LFB	Atrazine Desethyl	7.96	LCS	P	0 - 30
LFB	Azinphos Methyl	1.05	LCS	P	0 - 30
LFB	Bromacil	0.757	LCS	P	0 - 30
LFB	Butylate	8.30	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	7.35	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.28	LCS	P	0 - 30
LFB	Cyanazine	0.301	LCS	P	0 - 30
LFB	Demeton	4.24	LCS	P	0 - 30
LFB	Diazinon	0.760	LCS	P	0 - 30
LFB	Disulfoton	2.06	LCS	P	0 - 30
LFB	EPTC	6.22	LCS	P	0 - 30
LFB	Ethion	14.1	LCS	P	0 - 30
LFB	Ethoprop	1.75	LCS	P	0 - 30
LFB	Fenamiphos	1.10	LCS	P	0 - 30
LFB	Fipronil	0.462	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.31	LCS	P	0 - 30
LFB	Fipronil Sulfone	1.44	LCS	P	0 - 30
LFB	Fonofos	2.15	LCS	P	0 - 30
LFB	Hexazinone	0.273	LCS	P	0 - 30
LFB	Malathion	0.233	LCS	P	0 - 30
LFB	Metalaxyl	1.62	LCS	P	0 - 30
LFB	Metolachlor	0.0553	LCS	P	0 - 30
LFB	Metribuzin	19.3	LCS	P	0 - 30
LFB	Mevinphos	0.0227	LCS	P	0 - 30
LFB	Molinate	9.81	LCS	P	0 - 30
LFB	Norflurazon	3.64	LCS	P	0 - 30
LFB	Parathion Ethyl	0.917	LCS	P	0 - 30
LFB	Parathion Methyl	0.564	LCS	P	0 - 30
LFB	Pendimethalin	0.933	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	2.56	LCS	P	0 - 30
LFB	Prometon	0.200	LCS	P	0 - 30
LFB	Prometryn	1.14	LCS	P	0 - 30
LFB	Simazine	3.47	LCS	P	0 - 30
LFB	Terbufos	1.19	LCS	P	0 - 30
LFB	Terbutylazine	0.720	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P327292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	19.1	LCS	P	0 - 30
LFB	Toxaphene	27.0	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P326793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905994	Sucralose	0.295	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907280	Glyphosate	2.88	Spike	P	0 - 30
LFB	Glyphosate	0.753	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907280	Pyraclostrobin	2.82	Spike	P	0 - 30
LFB	Pyraclostrobin	0.189	LCS	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P327372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907018	Total Alkalinity	0.0601	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P327451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907259	Total Alkalinity	0.698	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P327379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907018	Fluoride	2.44	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P327455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907259	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907162	Organic Carbon	0.0290	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P327585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906931	Organic Carbon	0.969	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P327141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907193	2,4-D	2.71	Spike	P	0 - 30
1907193	Acetaminophen	0.400	Spike	P	0 - 30
1907193	Bentazon	4.55	Spike	P	0 - 30
1907193	Carbamazepine	2.12	Spike	P	0 - 30
1907193	Diuron	4.31	Spike	P	0 - 30
1907193	Fenuron	20.2	Spike	P	0 - 30
1907193	Fluridone	1.73	Spike	P	0 - 30
1907193	Imidacloprid	1.09	Spike	P	0 - 30
1907193	Linuron	3.89	Spike	P	0 - 30
1907193	MCPP	2.50	Spike	P	0 - 30
1907193	Primidone	6.80	Spike	P	0 - 30
1907193	Triclopyr	4.35	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

Quality Assurance Report Surrogates

Lab Sample ID: 1907343
Field Sample ID: G2NE1136 06192017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	89.5	P	40 - 160
USGS O-2060-01	2,4-D-d3	78.6	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	129	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	119	P	30 - 160
USGS O-2060-01	Diuron-d6	89.9	P	30 - 160
USGS O-2060-01	Primidone-d5	100	P	30 - 150

Lab Sample ID: 1907344
Field Sample ID: G2NE1128 06192017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	131	P	30 - 150
EPA 8321B	Carbamazepine-d10	129	P	30 - 160
EPA 8321B	Diuron-d6	68.2	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	28.8	F	40 - 150
EPA 8321B	Primidone-d5	118	P	30 - 150
EPA 8321B	Sucralose-d6	80.5	P	40 - 160
USGS O-2060-01	2,4-D-d3	65.6	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	131	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	129	P	30 - 160
USGS O-2060-01	Diuron-d6	68.2	P	30 - 160
USGS O-2060-01	Diuron-d6	101	P	30 - 160
USGS O-2060-01	Primidone-d5	118	P	30 - 150

Lab Sample ID: 1907345
Field Sample ID: G2NE1128 06192017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	93.6	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	66.6	P	32 - 103
EPA 8276	Decachlorobiphenyl	86.7	P	31 - 100

Lab Sample ID: 1907346
Field Sample ID: G2NE1128 06192017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	71.9	P	62 - 132
EPA 8270D	Simazine-d10	99.5	P	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A77183
Included Lab Sample IDs: 1907307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	104	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77215

Included Lab Sample IDs: 1907309, 1907316, 1907317, 1907318, 1907325, 1907326, 1907327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.7	P/P	90 - 110
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	101	100	P/P	90 - 110
O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77223

Included Lab Sample IDs: 1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77259

Included Lab Sample IDs: 1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.7	P/P	90 - 110
Ammonia-N	99.4	99.3	P/P	90 - 110
Ammonia-N	100	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77260

Included Lab Sample IDs: 1907308, 1907313, 1907314

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77262

Included Lab Sample IDs: 1907315, 1907324

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77267

Included Lab Sample IDs: 1907315, 1907322, 1907323, 1907324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.0	P/P	90 - 110
Total-P	99.0	99.5	P/P	90 - 110
Total-P	99.5	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77273

Included Lab Sample IDs: 1907343, 1907344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A77273

Included Lab Sample IDs: 1907343, 1907344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	107	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77282

Included Lab Sample IDs: 1907347, 1907348, 1907349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	100	P/P	90 - 110
Iron	102	101	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77287

Included Lab Sample IDs: 1907308, 1907313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.6	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A77291

Included Lab Sample IDs: 1907307, 1907310, 1907311, 1907319, 1907320

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

Reference Method: SM 4500 F-C-97

Run ID: A77291

Included Lab Sample IDs: 1907307, 1907310, 1907311, 1907319, 1907320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.1	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77292

Included Lab Sample IDs: 1907314, 1907315, 1907322, 1907323, 1907324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	96.2	P/P	90 - 110
Kjeldahl Nitrogen	94.8	94.9	P/P	90 - 110
Kjeldahl Nitrogen	96.2	94.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77296

Included Lab Sample IDs: 1907308, 1907313, 1907314, 1907322, 1907323

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A77301
 Included Lab Sample IDs: 1907344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	110	119	P/P	70 - 160

Reference Method: EPA 8321B
 Run ID: A77323
 Included Lab Sample IDs: 1907344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	130	110	P/P	60 - 150

Reference Method: SM 2320 B-97
 Run ID: A77329
 Included Lab Sample IDs: 1907312, 1907321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Run ID: A77329
 Included Lab Sample IDs: 1907312, 1907321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.1	P/P	90 - 110

Reference Method: SM 5310 B-00
 Run ID: A77331
 Included Lab Sample IDs: 1907315, 1907324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	94.6	P/P	90 - 110
Organic Carbon	94.6	93.6	P/P	90 - 110

Reference Method: USGS O-2060-01
 Run ID: A77371
 Included Lab Sample IDs: 1907343, 1907344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	83.6	85.6	P/P	50 - 150
Acetaminophen	106	112	P/P	60 - 150
Bentazon	81.2	86.4	P/P	50 - 150
Carbamazepine	110	112	P/P	60 - 150
Diuron	105	113	P/P	60 - 150
Fenuron	105	110	P/P	60 - 150
Fluridone	99.2	106	P/P	60 - 160
Imidacloprid	91.2	104	P/P	60 - 150
Linuron	106	111	P/P	60 - 150
MCPP	84.8	83.6	P/P	50 - 150
Primidone	97.6	108	P/P	60 - 150
Triclopyr	84.0	90.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A77378

Included Lab Sample IDs: 1907308, 1907313, 1907314, 1907322, 1907323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	95.4	P/P	90 - 110
Organic Carbon	95.4	96.4	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A77386

Included Lab Sample IDs: 1907345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	88.4		P	80 - 120
Toxaphene	90.5		P	80 - 120

Reference Method: EPA 8270D

Run ID: A77389

Included Lab Sample IDs: 1907345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.1		P	80 - 120
Alpha-BHC	99.5		P	80 - 120
Alpha-Chlordane	98.3		P	80 - 120
Beta-BHC	96.6		P	80 - 120
Carbophenothion	93.8		P	80 - 120
Chlorothalonil	88.6		P	80 - 120
Cypermethrin	102		P	80 - 120
DDD-p,p'	100		P	80 - 120
DDE-p,p'	99.0		P	80 - 120
DDT-p,p'	104		P	80 - 120
Delta-BHC	96.0		P	80 - 120
Dicofol	206*		F	80 - 120
Dieldrin	98.6		P	80 - 120
Endosulfan I	94.5		P	80 - 120
Endosulfan II	89.0		P	80 - 120
Endosulfan Sulfate	97.3		P	80 - 120
Endrin	96.7		P	80 - 120
Endrin Aldehyde	101		P	80 - 120
Endrin Ketone	97.3		P	80 - 120
Gamma-BHC	100		P	80 - 120
Gamma-Chlordane	97.4		P	80 - 120
Heptachlor	94.1		P	80 - 120
Heptachlor Epoxide	97.8		P	80 - 120
Methoxychlor	103		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	100		P	80 - 120
Trifluralin	65.3*		F	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77408

Included Lab Sample IDs: 1907349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	102	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77408

Included Lab Sample IDs: 1907349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	100	104	P/P	90 - 110
Copper	99.2	101	P/P	90 - 110
Lead	99.2	99.6	P/P	90 - 110
Nickel	99.2	101	P/P	90 - 110
Silver	93.1	93.7	P/P	90 - 110
Zinc	101	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77444

Included Lab Sample IDs: 1907347, 1907348

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	95.3	95.6	P/P	90 - 110
Cadmium	98.7	96.5	P/P	90 - 110
Chromium	99.7	99.7	P/P	90 - 110
Copper	98.1	97.9	P/P	90 - 110
Lead	101	100	P/P	90 - 110
Nickel	98.9	99.2	P/P	90 - 110
Silver	97.6	96.6	P/P	90 - 110
Zinc	96.8	96.3	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A77625

Included Lab Sample IDs: 1907346

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	102		P	80 - 120
Atrazine Desethyl	95.4		P	80 - 120
Azinphos Methyl	98.8		P	80 - 120
Bromacil	101		P	80 - 120
Butylate	101		P	80 - 120
Chlorpyrifos Ethyl	99.8		P	80 - 120
Chlorpyrifos Methyl	103		P	80 - 120
Cyanazine	97.7		P	80 - 120
Demeton	97.1		P	80 - 120
Diazinon	100		P	80 - 120
Disulfoton	97.2		P	80 - 120
EPTC	101		P	80 - 120
Ethion	98.8		P	80 - 120
Ethoprop	99.0		P	80 - 120
Fenamiphos	95.6		P	80 - 120
Fipronil	100		P	80 - 120
Fipronil Sulfide	96.9		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fonofos	102		P	80 - 120
Hexazinone	98.5		P	80 - 120
Malathion	101		P	80 - 120
Metalaxyl	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A77625
Included Lab Sample IDs: 1907346

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Metolachlor	104		P	80 - 120
Metribuzin	99.3		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	99.7		P	80 - 120
Norflurazon	102		P	80 - 120
Parathion Ethyl	98.5		P	80 - 120
Parathion Methyl	101		P	80 - 120
Pendimethalin	99.0		P	80 - 120
Phorate	96.7		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	101		P	80 - 120
Terbufos	99.5		P	80 - 120
Terbutylazine	101		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.881	
	Turbidity						4.12	
EPA 200.7 Rev. 4.4	Iron	104	101	102				0.925
	Iron	106	108	107	106			0.647
EPA 200.8 Rev. 5.4	Arsenic	95.0	91.1	95.0				3.99
	Arsenic	102	106	104	107			2.78
	Cadmium	99.0	85.4	89.3				4.48
	Cadmium	101	105	102	104			1.71
	Chromium	98.6	94.5	98.5				4.15
	Chromium	101	95.6	94.3	97.7			3.35
	Copper	97.9	91.3	92.1				0.883
	Copper	97.4	96.2	95.4	98.7			3.27
	Lead	99.0	102	102				0.294
	Lead	99.5	102	101	104			2.88
	Nickel	99.5	89.5	91.6				2.34
	Nickel	99.2	97.9	95.6	98.7			3.19
	Silver	97.8	83.3	86.9				4.24
	Silver	100	100	100	102			2.17
	Zinc	94.4	80.6	83.8				3.86
	Zinc	99.5	99.7	97.6	100			2.73
EPA 300.0 Rev. 2.1	Sulfate	95.2	98.5	95.3			1.20	
EPA 350.1 Rev. 2.0	Ammonia-N	103	100	101				1.07
	Ammonia-N	104	102	101				0.433
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.0	101				1.84
	Kjeldahl Nitrogen	102	93.4	102				3.49
	Kjeldahl Nitrogen	101	97.6	98.4				0.631

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 353.2 Rev. 2.0	NO2NO3-N	103		104	102			1.11
	NO2NO3-N	104		106	105			0.716
EPA 365.1 Rev. 2.0	Total-P	101		99.2	99.8			0.418
	Total-P	96.4		100	97.4			2.94
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.6		96.5	98.6			1.30
	O-Phosphate-P	101		95.7	95.7			0.0
EPA 8270D	Acetochlor	85.8	84.4	85.6	85.9	1.56		0.265
	Alachlor	83.9	84.1	82.1	82.8	0.260		0.853
	Aldrin	56.3	60.0	71.0	69.6	6.38		2.02
	Alpha-BHC	76.8	82.8	76.3	72.2	7.54		5.55
	Alpha-Chlordane	73.3	76.0	81.2	81.9	3.66		0.850
	Ametryn	89.4	97.1	87.0	86.9	8.28		0.102
	Atrazine	92.4	94.2			1.95		1.06
	Atrazine Desethyl	89.2	96.5	75.2	76.9	7.96		1.94
	Azinphos Methyl	96.0	97.0	89.2	93.3	1.05		4.51
	Beta-BHC	83.7	84.2	79.3	96.4	0.642		19.5
	Bromacil	63.8	64.3	92.9	93.1	0.757		0.227
	Butylate	51.2	47.2	40.2	39.9	8.30		0.754
	Carbophenothion	32.0	20.9	130	134	41.9		2.93
	Chlorothalonil	100	103	115	108	2.50		6.01
	Chlorpyrifos Ethyl	78.0	84.0	80.3	80.6	7.35		0.440
	Chlorpyrifos Methyl	88.2	89.3	85.6	86.1	1.28		0.575
	Cyanazine	149	150	138	135	0.301		2.22
	Cypermethrin	104	95.5	123	133	8.33		7.64
	DDD-p,p'	81.9	86.0	87.3	90.1	4.89		3.14
	DDE-p,p'	75.3	79.1	87.0	83.1	5.03		4.57
	DDT-p,p'	87.0	92.1	101	99.7	5.69		0.884
	Delta-BHC	82.1	79.3	82.1	94.9	3.54		14.4
	Demeton	85.7	89.4	79.4	81.5	4.24		2.59
	Diazinon	90.0	89.3	92.9	92.9	0.760		0.0552
	Dicofol	60.7	78.9	37.4	61.6	26.2		48.9
	Dieldrin	79.2	80.5	80.8	83.8	1.63		3.63
	Disulfoton	94.4	96.3	90.1	93.7	2.06		3.95
	Endosulfan I	78.6	79.1	92.3	89.6	0.655		2.92
	Endosulfan II	74.0	74.2	77.9	85.0	0.235		8.78
	Endosulfan Sulfate	77.2	74.7	79.2	99.7	3.37		22.9
	Endrin	84.6	80.0	84.5	84.2	5.63		0.294
	Endrin Aldehyde	102	107	465	459	4.84		1.39
	Endrin Ketone	96.7	91.5	110	110	5.55		0.295
	EPTC	48.1	45.2	41.7	48.1	6.22		14.4
	Ethion	85.1	73.9	92.3	92.9	14.1		0.685
	Ethoprop	80.3	78.9	77.0	81.8	1.75		5.98
	Fenamiphos	95.9	96.9	91.6	91.7	1.10		0.120
	Fipronil	88.3	88.7	100	99.5	0.462		0.573
	Fipronil Sulfide	88.8	90.8	93.4	94.6	2.31		1.35
	Fipronil Sulfone	80.4	81.6	79.2	80.3	1.44		1.25
	Fonofos	84.7	86.5	86.6	82.8	2.15		4.42
	Gamma-BHC	84.5	81.1	85.0	85.2	4.04		0.245
	Gamma-Chlordane	75.6	70.6	78.1	81.8	6.75		4.56
	Heptachlor	73.9	68.2	72.0	71.6	8.07		0.561
	Heptachlor Epoxide	79.0	75.5	83.2	82.8	4.48		0.472
	Hexazinone	80.0	79.8	89.3	91.1	0.273		2.05
	Malathion	89.1	89.3	90.9	88.9	0.233		2.24
	Metalaxyl	91.8	90.4	91.4	89.7	1.62		1.82

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Methoxychlor	101	89.1	94.9	92.2	12.1	2.91
	Metolachlor	84.4	84.4	81.7	81.0	0.0553	0.718
	Metribuzin	129	157	129	142	19.3	8.03
	Mevinphos	79.8	79.8	71.2	74.9	0.0227	5.06
	Mirex	69.8	67.6	80.3	81.0	3.25	0.918
	Molinate	48.6	44.1	44.9	51.0	9.81	12.6
	Norflurazon	88.0	84.8	88.1	86.5	3.64	1.81
	Parathion Ethyl	87.7	88.5	91.9	91.4	0.917	0.552
	Parathion Methyl	94.6	94.1	93.1	93.7	0.564	0.698
	Pendimethalin	89.8	88.9	99.7	102	0.933	1.99
	Permethrin	90.3	86.2	114	117	4.56	2.75
	Phorate	82.7	80.6	76.3	88.4	2.56	14.7
	Prometon	79.5	79.3	81.1	87.3	0.200	7.42
	Prometryn	88.8	89.8	91.3	87.8	1.14	3.88
	Simazine	98.3	94.9	86.2	71.1	3.47	11.0
	Terbufos	92.0	93.1	88.8	91.9	1.19	3.39
	Terbutylazine	85.8	86.4	87.1	85.5	0.720	1.82
	Trifluralin	105	109	242	239	3.67	1.33
EPA 8276	Chlordane	73.2	88.7	82.5		19.1	
	Toxaphene	90.6	119	109		27.0	
EPA 8321B	Glyphosate	114	115	128	132	0.753	2.88
	Pyraclostrobin	52.8	52.9	49.0	50.4	0.189	2.82
	Sucralose	92.0		85.5	86.0		0.295
SM 2320 B-97	Total Alkalinity	104				0.0601	
	Total Alkalinity	104				0.698	
SM 4500 F-C-97	Fluoride	94.7		96.7	99.8		2.44
	Fluoride	96.1		98.4	98.4		0.0
SM 5310 B-00	Organic Carbon	96.8		93.1	93.2		0.0290
	Organic Carbon	95.8		95.6	94.6		0.969
USGS O-2060-01	2,4-D	81.4		71.0	73.6		2.71
	Acetaminophen	46.6		99.8	100		0.400
	Bentazon	56.8		23.6	22.4		4.55
	Carbamazepine	116		95.4	93.4		2.12
	Diuron	117		71.8	68.6		4.31
	Fenuron	108		150	123		20.2
	Fluridone	99.8		58.2	57.2		1.73
	Imidacloprid	90.8		156	159		1.09
	Linuron	109		94.4	90.8		3.89
	MCPP	86.0		56.8	55.4		2.50
	Primidone	99.4		85.2	91.2		6.80
	Triclopyr	95.0		70.4	67.4		4.35

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1907347, 1907348, 1907349
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1907347, 1907348, 1907349
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1907307

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1907309, 1907316, 1907317, 1907318, 1907325, 1907326, 1907327
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1907345
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1907346
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1907345
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1907344
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1907344
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1907343, 1907344
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1907343, 1907344
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1907343, 1907344

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	06/20/2017			06/20/2017 16:32	DeAsia Armster	1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321
EPA 200.7 Rev. 4.4	06/20/2017	06/20/2017	Elliott D. Healy	06/22/2017	Betina Topolski	1907347, 1907348
	06/20/2017	06/21/2017	Elliott D. Healy	06/22/2017	Betina Topolski	1907349
EPA 200.8 Rev. 5.4	06/20/2017	06/20/2017	Elliott D. Healy	06/29/2017	Robert K Palmer	1907347, 1907348
	06/20/2017	06/21/2017	Elliott D. Healy	06/29/2017	Robert K Palmer	1907349
EPA 300.0 Rev. 2.1	06/20/2017			06/22/2017	Julia Storbeck	1907307
EPA 350.1 Rev. 2.0	06/20/2017			06/21/2017	Sofia Elnemr	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 351.2 Rev. 2.0	06/20/2017	06/21/2017	Adrian Shelby	06/22/2017	Tanya Welborn	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 353.2 Rev. 2.0	06/20/2017			06/22/2017	Beverly Y. Sanders	1907315, 1907324
	06/20/2017			06/23/2017	Beverly Y. Sanders	1907308, 1907313, 1907314, 1907322, 1907323
EPA 365.1 Rev. 2.0	06/20/2017	06/21/2017	Vijayalakshmi Reddy	06/22/2017	Lipi Saha	1907308, 1907313, 1907314, 1907315, 1907322, 1907323, 1907324
EPA 365.1 Rev. 2.0 dissolved	06/20/2017			06/20/2017 14:55	Anthony C. Onicha	1907309
	06/20/2017			06/20/2017 15:38	Anthony C. Onicha	1907316
	06/20/2017			06/20/2017 15:39	Anthony C. Onicha	1907317
	06/20/2017			06/20/2017 15:44	Anthony C. Onicha	1907318
	06/20/2017			06/20/2017 15:46	Anthony C. Onicha	1907326
	06/20/2017			06/20/2017 15:47	Anthony C. Onicha	1907327
	06/20/2017			06/20/2017 16:06	Anthony C. Onicha	1907325
EPA 8270D	06/20/2017	06/22/2017	John Kaba	06/26/2017	Vandana T. Nagar	1907345
	06/20/2017	06/22/2017	Rasheda Ghaffari	07/04/2017	Irina Carbone	1907346
EPA 8276	06/20/2017	06/22/2017	John Kaba	06/26/2017	Vandana T. Nagar	1907345
EPA 8321B	06/20/2017	06/20/2017	Mohammad Ghaffari	06/22/2017	Mohammad Ghaffari	1907343, 1907344
	06/20/2017	06/23/2017	Julie Michelle Frank	06/23/2017	Julie Michelle Frank	1907344
	06/20/2017	06/23/2017	Julie Michelle Frank	06/24/2017	Julie Michelle Frank	1907344
SM 2320 B-97	06/20/2017			06/22/2017	Dale L. Simmons	1907307, 1907310, 1907311, 1907319
	06/20/2017			06/23/2017	Dale L. Simmons	1907320
	06/20/2017			06/24/2017	Dale L. Simmons	1907312, 1907321
SM 2540 D-97	06/20/2017			06/21/2017	Yijie Li	1907307, 1907310, 1907311, 1907312, 1907319, 1907320, 1907321
SM 4500 F-C-97	06/20/2017			06/22/2017	Dale L. Simmons	1907307, 1907310, 1907311, 1907319, 1907320
	06/20/2017			06/24/2017	Dale L. Simmons	1907312, 1907321
SM 5310 B-00	06/20/2017			06/24/2017	Sofia Elnemr	1907315, 1907324
	06/20/2017			06/28/2017	Ping Hua	1907308, 1907313, 1907314, 1907322, 1907323
USGS O-2060-01	06/20/2017	06/21/2017	Hoor Shaik	06/25/2017	Juyoung Kim	1907343, 1907344