

Chemical Analysis Report

TLH-ROC-2017-10-17-01

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

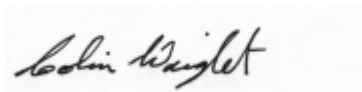
Event Description: **kit C_pesticides**
Request ID: **RQ-2017-10-16-42**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 29-NOV-2017 11:17



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: Little Aucilla River @ US 90

Collection Date/Time: 10/17/2017 10:00

Field ID: G1TLHR0029-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937363	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P333572	
	EPA 300.0 Rev. 2.1	Chloride	6.0		mg Cl/L	P333834	
		Sulfate	0.20	U	mg SO4/L	P333838	
	SM 2120 B	Color (true)	630		PCU	P333634	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P333853	
	SM 2540 C-97	TDS	147		mg/L	P334032	
	SM 2540 D-97	TSS	2	I	mg/L	P334328	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P333857	
1937365	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P333895	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P333920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333997	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P333943	
	SM 5310 B-00	Organic Carbon	65		mg C/L	P333992	
1937367	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	IJ	mg P/L	P333625	MS
1937392	EPA 200.7 Rev. 4.4	Calcium	2.30		mg/L	P333716	
		Iron	2.25E+03		ug/L	P333716	
		Magnesium	1.30		mg/L	P333716	
		Potassium	0.30	U	mg/L	P333716	
		Sodium	2.9		mg/L	P333716	
	EPA 200.8 Rev. 5.4	Zinc	5.6	I	ug/L	P333716	
		Arsenic	0.62		ug/L	P333716	
		Cadmium	0.032	I	ug/L	P333716	
		Chromium	0.76	I	ug/L	P333716	
		Copper	0.40	I	ug/L	P333716	
		Lead	0.49		ug/L	P333716	
		Nickel	1.24		ug/L	P333716	
		Silver	0.010	U	ug/L	P333716	

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 dissolved: Refer to the narrative for an explanation of QC Codes.

Sample Location: Little Aucilla River @ US 90

Collection Date/Time: 10/17/2017 10:00

Field ID: G1TLHR0029-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937371	EPA 8321B	Glyphosate**	0.10	U	ug/L	P333599	
		Pyraclostrobin**	0.0020	U	ug/L	P333600	
		Sucralose**	0.010	U	ug/L	P333619	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P333492	
		Diuron	8.0E-04	U	ug/L	P333492	
		Fenuron	0.0080	U	ug/L	P333492	RPD
		Imidacloprid	8.0E-04	U	ug/L	P333492	MS
		Bentazon	8.0E-04	UJ	ug/L	P333492	LCS, MS
		Linuron	0.0040	U	ug/L	P333492	

Field ID: G1TLHR0029-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937371	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P333492	
		MCPD	0.0020	U	ug/L	P333492	
		Carbamazepine**	4.0E-04	U	ug/L	P333492	
		Triclopyr**	0.0040	U	ug/L	P333492	
		Primidone**	0.0040	U	ug/L	P333492	
		Fluridone**	4.0E-04	U	ug/L	P333492	
1937388	EPA 8270D	Aldrin	4.4	U	ng/L	P333744	
		Alpha-BHC	2.2	U	ng/L	P333744	
		Beta-BHC	4.4	U	ng/L	P333744	
		Delta-BHC	4.4	U	ng/L	P333744	
		Gamma-BHC	4.4	U	ng/L	P333744	
		Carbophenothion	4.4	U	ng/L	P333744	
		Chlorothalonil	2.2	U	ng/L	P333744	MS, RPD
		Cypermethrin	22	U	ng/L	P333744	
		DDD-p,p'	3.3	U	ng/L	P333744	
		DDE-p,p'	3.3	U	ng/L	P333744	
		DDT-p,p'	3.3	U	ng/L	P333744	
		Dieldrin	4.4	U	ng/L	P333744	
		Endosulfan I	4.4	U	ng/L	P333744	
		Endosulfan II	4.4	U	ng/L	P333744	
		Endosulfan Sulfate	2.2	U	ng/L	P333744	
		Endrin	2.2	U	ng/L	P333744	
		Endrin Aldehyde	2.2	U	ng/L	P333744	
		Heptachlor	1.6	U	ng/L	P333744	
		Heptachlor Epoxide	2.2	U	ng/L	P333744	
		Methoxychlor	4.4	U	ng/L	P333744	
		Mirex	2.2	U	ng/L	P333744	
		Permethrin	11	U	ng/L	P333744	
		Trifluralin	1.1	U	ng/L	P333744	
		Alpha-Chlordane	1.1	U	ng/L	P333744	
		Gamma-Chlordane	1.1	U	ng/L	P333744	
		Endrin Ketone	2.2	U	ng/L	P333744	
		Dicofol	33	U	ng/L	P333744	MS
		Chlordane**	3.3	I	ng/L	P333744	
		Toxaphene**	14	U	ng/L	P333744	
1937390	EPA 8270D	Alachlor	0.25	U	ng/L	P333676	MS
		Ametryn	0.33	U	ng/L	P333676	
		Atrazine	0.25	UJ	ng/L	P333676	LCS, MS
		Atrazine Desethyl	1.5	UJ	ng/L	P333676	RPD
		Azinphos Methyl	2.3	U	ng/L	P333676	
		Bromacil	0.51	U	ng/L	P333676	
		Butylate	0.40	U	ng/L	P333676	MS
		Chlorpyrifos Ethyl	0.25	U	ng/L	P333676	
		Chlorpyrifos Methyl	0.10	U	ng/L	P333676	
		Demeton	2.0	U	ng/L	P333676	

Field ID: G1TLHR0029-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937390	EPA 8270D	Diazinon	0.13	U	ng/L	P333676	MS
		Disulfoton	0.51	U	ng/L	P333676	
		EPTC	1.3	U	ng/L	P333676	
		Ethion	0.15	U	ng/L	P333676	
		Ethoprop	0.10	UJ	ng/L	P333676	LCS
		Fenamiphos	0.25	U	ng/L	P333676	
		Fipronil	0.25	U	ng/L	P333676	
		Fipronil Sulfide	0.15	U	ng/L	P333676	
		Fipronil Sulfone	0.15	U	ng/L	P333676	
		Hexazinone	0.51	U	ng/L	P333676	
		Malathion	0.35	U	ng/L	P333676	
		Metribuzin	0.20	UJ	ng/L	P333676	LCS, MS, RPD
		Mevinphos	0.51	U	ng/L	P333676	
		Molinate	0.30	U	ng/L	P333676	MS
		Norflurazon	0.51	U	ng/L	P333676	
		Pendimethalin	1.0	U	ng/L	P333676	
		Phorate	0.25	U	ng/L	P333676	
		Prometon	0.91	U	ng/L	P333676	
		Prometryn	0.20	U	ng/L	P333676	MS
		Simazine	0.51	U	ng/L	P333676	
		Terbufos	0.10	U	ng/L	P333676	
		Terbuthylazine	0.43	UJ	ng/L	P333676	LCS, MS
		Fonofos	0.20	UJ	ng/L	P333676	LCS, MS
		Metalaxyl	0.25	U	ng/L	P333676	
		Metolachlor	0.25	U	ng/L	P333676	MS
		Acetochlor	0.25	UJ	ng/L	P333676	LCS, MS
		Cyanazine	0.51	UJ	ng/L	P333676	LCS, MS, RPD
		Parathion Ethyl	0.25	U	ng/L	P333676	MS
		Parathion Methyl	0.25	U	ng/L	P333676	

Ref. Method and Comment:
USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Sample Location: Little Alapaha @ US 129

Collection Date/Time: 10/17/2017 12:00

Field ID: G1TLHR0037-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937364	EPA 180.1 Rev. 2.0	Turbidity	1.2	A	NTU	P333572	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P333834	
		Sulfate	0.52		mg SO4/L	P333838	
	SM 2120 B	Color (true)	820		PCU	P333634	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P333853	
	SM 2540 C-97	TDS	232		mg/L	P334032	
	SM 2540 D-97	TSS	2	I	mg/L	P334328	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P333857	

Field ID: G1TLHR0037-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937366	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P333895	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P333920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333997	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P333944	
	SM 5310 B-00	Organic Carbon	71		mg C/L	P333992	
1937368	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P333625	MS
1937393	EPA 200.7 Rev. 4.4	Calcium	10.1		mg/L	P333716	
		Iron	1.67E+03		ug/L	P333716	
		Magnesium	5.68		mg/L	P333716	
		Potassium	0.41	I	mg/L	P333716	
		Sodium	6.2		mg/L	P333716	
		Zinc	5.0	U	ug/L	P333716	
		Arsenic	1.04		ug/L	P333716	
	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P333716	
		Chromium	1.2	I	ug/L	P333716	
		Copper	0.40	I	ug/L	P333716	
		Lead	0.53		ug/L	P333716	
		Nickel	1.40		ug/L	P333716	
		Silver	0.010	U	ug/L	P333716	

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: Little Alapaha @ US 129

Collection Date/Time: 10/17/2017 12:00

Field ID: G1TLHR0037-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937372	EPA 8321B	Glyphosate**	0.10	U	ug/L	P333599	
		Pyraclostrobin**	0.0020	U	ug/L	P333600	
		Sucralose**	0.010	U	ug/L	P333619	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P333492	
		Diuron	8.0E-04	U	ug/L	P333492	
		Fenuron	0.0080	U	ug/L	P333492	RPD
		Imidacloprid	8.0E-04	U	ug/L	P333492	MS
		Bentazon	8.0E-04	UJ	ug/L	P333492	LCS, MS
		Linuron	0.0040	U	ug/L	P333492	
		Acetaminophen**	0.0080	U	ug/L	P333492	
		MCPD	0.0020	U	ug/L	P333492	
		Carbamazepine**	4.0E-04	U	ug/L	P333492	
		Triclopyr**	0.0040	U	ug/L	P333492	
		Primidone**	0.0040	U	ug/L	P333492	
		Fluridone**	4.0E-04	U	ug/L	P333492	
1937389	EPA 8270D	Aldrin	4.1	UJ	ng/L	P333744	SUR
		Alpha-BHC	2.1	UJ	ng/L	P333744	SUR
		Beta-BHC	4.1	UJ	ng/L	P333744	SUR
		Delta-BHC	4.1	UJ	ng/L	P333744	SUR

Field ID: G1TLHR0037-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937389	EPA 8270D	Gamma-BHC	4.1	UJ	ng/L	P333744	SUR
		Carbophenothion	4.1	UJ	ng/L	P333744	SUR
		Chlorothalonil	2.1	UJ	ng/L	P333744	MS, RPD, SUR
		Cypermethrin	21	UJ	ng/L	P333744	SUR
		DDD-p,p'	3.1	UJ	ng/L	P333744	SUR
		DDE-p,p'	3.1	UJ	ng/L	P333744	SUR
		DDT-p,p'	3.1	UJ	ng/L	P333744	SUR
		Dieldrin	4.1	UJ	ng/L	P333744	SUR
		Endosulfan I	4.1	UJ	ng/L	P333744	SUR
		Endosulfan II	4.1	UJ	ng/L	P333744	SUR
		Endosulfan Sulfate	2.1	UJ	ng/L	P333744	SUR
		Endrin	2.1	UJ	ng/L	P333744	SUR
		Endrin Aldehyde	2.1	UJ	ng/L	P333744	SUR
		Heptachlor	1.5	UJ	ng/L	P333744	SUR
		Heptachlor Epoxide	2.1	UJ	ng/L	P333744	SUR
		Methoxychlor	4.1	UJ	ng/L	P333744	SUR
		Mirex	2.1	UJ	ng/L	P333744	SUR
		Permethrin	10	UJ	ng/L	P333744	SUR
		Trifluralin	1.0	UJ	ng/L	P333744	SUR
		Alpha-Chlordane	1.0	UJ	ng/L	P333744	SUR
		Gamma-Chlordane	1.0	UJ	ng/L	P333744	SUR
		Endrin Ketone	2.1	UJ	ng/L	P333744	SUR
		Dicofol	31	UJ	ng/L	P333744	MS, SUR
	EPA 8276	Chlordane**	2.8	I	ng/L	P333744	
		Toxaphene**	13	U	ng/L	P333744	
1937391	EPA 8270D	Alachlor	0.24	U	ng/L	P333676	MS
		Ametryn	0.31	U	ng/L	P333676	
		Atrazine	0.24	UJ	ng/L	P333676	LCS, MS
		Atrazine Desethyl	1.4	UJ	ng/L	P333676	RPD
		Azinphos Methyl	2.1	U	ng/L	P333676	
		Bromacil	0.47	U	ng/L	P333676	
		Butylate	0.38	U	ng/L	P333676	MS
		Chlorpyrifos Ethyl	0.24	U	ng/L	P333676	
		Chlorpyrifos Methyl	0.095	U	ng/L	P333676	
		Demeton	1.9	U	ng/L	P333676	
		Diazinon	0.12	U	ng/L	P333676	MS
		Disulfoton	0.47	U	ng/L	P333676	
		EPTC	1.2	U	ng/L	P333676	
		Ethion	0.14	U	ng/L	P333676	
		Ethoprop	0.095	UJ	ng/L	P333676	LCS
		Fenamiphos	0.24	U	ng/L	P333676	
		Fipronil	0.24	U	ng/L	P333676	
		Fipronil Sulfide	0.14	U	ng/L	P333676	
		Fipronil Sulfone	0.14	U	ng/L	P333676	

Field ID: G1TLHR0037-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937391	EPA 8270D	Hexazinone	0.47	U	ng/L	P333676	
		Malathion	0.33	U	ng/L	P333676	
		Metribuzin	0.19	UJ	ng/L	P333676	LCS, MS, RPD
		Mevinphos	0.47	U	ng/L	P333676	
		Molinate	0.28	U	ng/L	P333676	MS
		Norflurazon	0.47	U	ng/L	P333676	
		Pendimethalin	0.95	U	ng/L	P333676	
		Phorate	0.24	U	ng/L	P333676	
		Prometon	0.85	U	ng/L	P333676	
		Prometryn	0.19	U	ng/L	P333676	MS
		Simazine	0.47	U	ng/L	P333676	
		Terbufos	0.095	U	ng/L	P333676	
		Terbuthylazine	0.40	UJ	ng/L	P333676	LCS, MS
		Fonofos	0.19	UJ	ng/L	P333676	LCS, MS
		Metalaxyl	0.24	U	ng/L	P333676	
		Metolachlor	0.68	I	ng/L	P333676	MS
		Acetochlor	0.24	UJ	ng/L	P333676	LCS, MS
		Cyanazine	0.47	UJ	ng/L	P333676	LCS, MS, RPD
		Parathion Ethyl	0.24	U	ng/L	P333676	MS
		Parathion Methyl	0.24	U	ng/L	P333676	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

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.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P333572

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P333716

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

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P333716

Component	Result	Code	Units
Arsenic	0.050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333716

Component	Result	Code	Units
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: P333834

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333838

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333895

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333920

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333997

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333943

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333944

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333625

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

Reference Method: EPA 8270D
 Batch ID: P333676

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

Reference Method: EPA 8270D
 Batch ID: P333744

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P333744

Component	Result	Code	Units
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276

Batch ID: P333744

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

Reference Method: EPA 8321B

Batch ID: P333599

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B

Batch ID: P333600

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B

Batch ID: P333619

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P333634

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333853

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

Reference Method: SM 2540 C-97
Batch ID: P334032

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334328

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333857

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P333992

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

Reference Method: USGS O-2060-01
Batch ID: P333492

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
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: P333716

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	98.3		P	85 - 115
Sodium	100		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333716

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	99.8		P	85 - 115
Copper	99.8		P	85 - 115
Lead	98.3		P	85 - 115
Nickel	102		P	85 - 115
Silver	98.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333834

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333838

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333895

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333920

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333997

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P333943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P333944

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333625

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

Reference Method: EPA 8270D
 Batch ID: P333676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	137	130	F/F	78 - 118
Alachlor	113	108	P/P	77 - 119
Ametryn	109	100	P/P	61 - 136
Atrazine	132	116	F/P	73 - 120
Atrazine Desethyl	121	73.3	P/P	16 - 122
Azinphos Methyl	168	141	P/P	69 - 186
Bromacil	80.2	77.2	P/P	40 - 125
Butylate	64.2	60.5	P/P	32 - 87.0
Chlorpyrifos Ethyl	110	101	P/P	53 - 110
Chlorpyrifos Methyl	116	98.6	P/P	31 - 119
Cyanazine	238	100	F/P	36 - 224
Demeton	105	98.4	P/P	39 - 122
Diazinon	118	108	P/P	75 - 119
Disulfoton	90.1	81.4	P/P	42 - 139
EPTC	65.5	63.3	P/P	33 - 96.0
Ethion	111	106	P/P	63 - 127
Ethoprop	114	90.3	F/P	65 - 107
Fenamiphos	103	110	P/P	64 - 137
Fipronil	106	111	P/P	60 - 126
Fipronil Sulfide	99.6	122	P/P	58 - 124
Fipronil Sulfone	89.3	92.8	P/P	57 - 126
Fonofos	159	121	F/F	65 - 111
Hexazinone	129	125	P/P	46 - 151
Malathion	108	111	P/P	68 - 132
Metalaxyl	103	98.7	P/P	51 - 132
Metolachlor	104	108	P/P	78 - 119
Metribuzin	234	122	F/P	58 - 148
Mevinphos	109	85.5	P/P	34 - 128
Molinate	89.3	79.8	P/P	44 - 101
Norflurazon	112	110	P/P	63 - 129
Parathion Ethyl	105	94.8	P/P	80 - 109
Parathion Methyl	115	100	P/P	74 - 125
Pendimethalin	108	96.1	P/P	48 - 134
Phorate	98.5	84.4	P/P	52 - 119

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P333676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	114	116	P/P	69 - 124
Prometryn	114	116	P/P	66 - 124
Simazine	132	124	P/P	61 - 134
Terbufos	109	92.1	P/P	58 - 115
Terbutylazine	124	111	F/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P333744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	45.0	49.5	P/P	26 - 88.0
Alpha-BHC	92.4	94.4	P/P	63 - 114
Alpha-Chlordane	86.1	92.0	P/P	56 - 117
Beta-BHC	88.2	98.7	P/P	57 - 138
Carbophenothion	110	114	P/P	36 - 148
Chlorothalonil	47.5	60.3	P/P	26 - 173
Cypermethrin	126	136	P/P	42 - 159
DDD-p,p'	96.9	104	P/P	62 - 126
DDE-p,p'	78.8	95.3	P/P	53 - 115
DDT-p,p'	92.5	98.2	P/P	54 - 117
Delta-BHC	95.0	104	P/P	68 - 158
Dicofol	61.7	63.0	P/P	25 - 114
Dieldrin	94.6	99.1	P/P	59 - 126
Endosulfan I	93.3	99.3	P/P	62 - 138
Endosulfan II	93.6	86.9	P/P	61 - 150
Endosulfan Sulfate	95.5	104	P/P	63 - 132
Endrin	88.3	89.3	P/P	49 - 148
Endrin Aldehyde	97.4	106	P/P	50 - 144
Endrin Ketone	95.9	101	P/P	66 - 122
Gamma-BHC	77.8	81.0	P/P	60 - 137
Gamma-Chlordane	84.1	89.9	P/P	54 - 113
Heptachlor	72.8	76.7	P/P	43 - 104
Heptachlor Epoxide	87.8	90.9	P/P	64 - 118
Methoxychlor	99.2	108	P/P	63 - 129
Mirex	76.4	86.6	P/P	39 - 93.0
Permethrin	110	116	P/P	51 - 123
Trifluralin	81.1	86.5	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P333744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	91.6	105	P/P	48 - 121
Toxaphene	117	135	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P333599

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	104		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P333600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	95.2		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P333619

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	101		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P333853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P333857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P333992

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P333492

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	67.9		P	40 - 150
Acetaminophen	102		P	30 - 150
Bentazon	24.4		F	30 - 150
Carbamazepine	66.4		P	40 - 150
Diuron	104		P	40 - 150
Fenuron	98.4		P	40 - 150
Fluridone	105		P	40 - 150
Imidacloprid	76.9		P	40 - 160
Linuron	113		P	40 - 150
MCP	63.7		P	40 - 150
Primidone	91.1		P	40 - 150
Triclopyr	62.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P333716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937479	Calcium	105		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937479	Iron	106		P	80 - 120
1937479	Magnesium	106		P	80 - 120
1937479	Potassium	99.1		P	80 - 120
1937479	Sodium	101		P	80 - 120
1937479	Zinc	100		P	80 - 120
1937773	Calcium	101		P	80 - 120
1937773	Iron	107	105	P/P	80 - 120
1937773	Magnesium	101		P	80 - 120
1937773	Potassium	97.6		P	80 - 120
1937773	Sodium	101		P	80 - 120
1937773	Zinc	99.1	99.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937479	Arsenic	103		P	80 - 120
1937479	Cadmium	105		P	80 - 120
1937479	Chromium	102		P	80 - 120
1937479	Copper	102		P	80 - 120
1937479	Lead	100		P	80 - 120
1937479	Nickel	103		P	80 - 120
1937479	Silver	97.8		P	80 - 120
1937773	Arsenic	105	107	P/P	80 - 120
1937773	Cadmium	105	108	P/P	80 - 120
1937773	Chromium	101	103	P/P	80 - 120
1937773	Copper	101	103	P/P	80 - 120
1937773	Lead	101	102	P/P	80 - 120
1937773	Nickel	103	104	P/P	80 - 120
1937773	Silver	102	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937460	Chloride	99.6		P	90 - 110
1937491	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937460	Sulfate	99.0		P	90 - 110
1937491	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937309	Ammonia-N	98.6	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P333920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937309	Kjeldahl Nitrogen	99.5	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P333997

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937307	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P333943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937308	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P333944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937884	Total-P	101	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937367	O-Phosphate-P	87.3	88.5	F/F	90 - 110

Reference Method: EPA 8270D
 Batch ID: P333676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938585	Acetochlor	153	133	F/F	74 - 123
1938585	Alachlor	127	112	F/P	73 - 124
1938585	Ametryn	119	105	P/P	56 - 149
1938585	Atrazine	126	120	F/P	73 - 124
1938585	Atrazine Desethyl	70.1	103	P/P	12 - 103
1938585	Azinphos Methyl	138	118	P/P	60 - 202
1938585	Bromacil	105	94.5	P/P	42 - 133
1938585	Butylate	85.6	65.3	F/P	10 - 85.0
1938585	Chlorpyrifos Ethyl	111	110	P/P	53 - 113
1938585	Chlorpyrifos Methyl	109	115	P/P	40 - 115
1938585	Cyanazine	160	212	P/F	22 - 210
1938585	Demeton	111	119	P/P	17 - 149
1938585	Diazinon	135	125	F/F	72 - 124
1938585	Disulfoton	86.0	102	P/P	43 - 139
1938585	EPTC	85.3	70.2	P/P	10 - 86.0
1938585	Ethion	112	119	P/P	65 - 131
1938585	Ethoprop	100	103	P/P	59 - 110
1938585	Fenamiphos	114	130	P/P	57 - 138
1938585	Fipronil	127	118	P/P	40 - 130
1938585	Fipronil Sulfide	108	118	P/P	36 - 128
1938585	Fipronil Sulfone	97.7	104	P/P	16 - 145
1938585	Fonofos	126	137	F/F	60 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P333676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938585	Hexazinone	136	139	P/P	69 - 142
1938585	Malathion	116	121	P/P	68 - 132
1938585	Metalaxyl	112	103	P/P	66 - 118
1938585	Metolachlor	124	108	F/P	71 - 124
1938585	Metribuzin	158	214	F/F	61 - 140
1938585	Mevinphos	95.3	86.5	P/P	38 - 130
1938585	Molinate	106	85.1	F/P	23 - 99.0
1938585	Norflurazon	122	107	P/P	39 - 139
1938585	Parathion Ethyl	100	114	P/F	75 - 111
1938585	Parathion Methyl	105	113	P/P	64 - 130
1938585	Pendimethalin	106	118	P/P	26 - 173
1938585	Phorate	91.5	99.0	P/P	43 - 127
1938585	Prometon	127	109	P/P	50 - 144
1938585	Prometryn	138	115	F/P	69 - 126
1938585	Simazine	145	129	P/P	51 - 152
1938585	Terbufos	98.8	103	P/P	54 - 125
1938585	Terbutylazine	120	116	F/F	76 - 113

Reference Method: EPA 8270D

Batch ID: P333744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937357	Aldrin	81.4	77.6	P/P	22 - 97.0
1937357	Alpha-BHC	82.1	78.7	P/P	43 - 132
1937357	Alpha-Chlordane	104	98.6	P/P	36 - 126
1937357	Beta-BHC	101	87.6	P/P	41 - 150
1937357	Carbophenothion	139	125	P/P	13 - 196
1937357	Chlorothalonil	5.42	13.9	F/P	10 - 266
1937357	Cypermethrin	109	105	P/P	37 - 161
1937357	DDD-p,p'	126	118	P/P	44 - 131
1937357	DDE-p,p'	112	106	P/P	32 - 127
1937357	DDT-p,p'	95.1	94.6	P/P	45 - 116
1937357	Delta-BHC	82.2	85.3	P/P	50 - 201
1937357	Dicofol	171	161	F/F	10 - 100
1937357	Dieldrin	105	98.8	P/P	39 - 142
1937357	Endosulfan I	104	99.0	P/P	51 - 139
1937357	Endosulfan II	95.6	82.8	P/P	49 - 155
1937357	Endosulfan Sulfate	87.4	79.6	P/P	54 - 136
1937357	Endrin	99.6	106	P/P	38 - 141
1937357	Endrin Aldehyde	89.5	79.6	P/P	14 - 152
1937357	Endrin Ketone	88.7	84.9	P/P	60 - 128
1937357	Gamma-BHC	80.0	81.7	P/P	48 - 157
1937357	Gamma-Chlordane	103	97.9	P/P	35 - 123
1937357	Heptachlor	80.5	76.3	P/P	25 - 112
1937357	Heptachlor Epoxide	102	96.1	P/P	48 - 125
1937357	Methoxychlor	106	102	P/P	52 - 127
1937357	Mirex	86.7	81.5	P/P	25 - 108
1937357	Permethrin	108	109	P/P	46 - 133
1937357	Trifluralin	87.5	84.9	P/P	29 - 254

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P333744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937415	Chlordane	106	95.1	P/P	44 - 134
1937415	Toxaphene	139	127	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P333599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938583	Glyphosate	84.8	85.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P333600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937371	Pyraclostrobin	96.1	95.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P333619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937475	Sucralose	97.9	106	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P333857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938061	Fluoride	96.6	97.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P333992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937278	Organic Carbon	94.6	95.4	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333492

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937158	2,4-D	61.0	65.5	P/P	40 - 150
1937158	Acetaminophen	100	99.6	P/P	30 - 150
1937158	Bentazon	15.0	18.2	F/F	30 - 150
1937158	Carbamazepine	124	127	P/P	40 - 150
1937158	Diuron	91.0	93.4	P/P	40 - 150
1937158	Fenuron	75.8	124	P/P	40 - 150
1937158	Fluridone	78.8	90.4	P/P	40 - 150
1937158	Imidacloprid	200	197	F/F	40 - 160
1937158	Linuron	97.1	99.5	P/P	40 - 150
1937158	MCPP	45.6	43.3	P/P	40 - 150
1937158	Primidone	111	102	P/P	40 - 150
1937158	Triclopyr	41.1	44.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937364	Turbidity	1.68	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937773	Calcium	1.19	Spike	P	0 - 20
1937773	Iron	1.68	Spike	P	0 - 20
1937773	Magnesium	2.18	Spike	P	0 - 20
1937773	Potassium	0.535	Spike	P	0 - 20
1937773	Sodium	0.801	Spike	P	0 - 20
1937773	Zinc	0.101	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937773	Arsenic	1.15	Spike	P	0 - 20
1937773	Cadmium	3.11	Spike	P	0 - 20
1937773	Chromium	1.57	Spike	P	0 - 20
1937773	Copper	2.05	Spike	P	0 - 20
1937773	Lead	1.58	Spike	P	0 - 20
1937773	Nickel	0.777	Spike	P	0 - 20
1937773	Silver	0.800	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937491	Chloride	0.398	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937491	Sulfate	0.621	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937309	Ammonia-N	1.31	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937309	Kjeldahl Nitrogen	0.224	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333997

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937307	NO2NO3-N	0.328	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937308	Total-P	1.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937884	Total-P	1.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937367	O-Phosphate-P	1.24	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P333676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938585	Acetochlor	13.9	Spike	P	0 - 30
1938585	Alachlor	13.1	Spike	P	0 - 30
1938585	Ametryn	11.8	Spike	P	0 - 30
1938585	Atrazine	4.61	Spike	P	0 - 30
1938585	Atrazine Desethyl	31.7	Spike	F	0 - 30
1938585	Azinphos Methyl	15.7	Spike	P	0 - 30
1938585	Bromacil	10.7	Spike	P	0 - 30
1938585	Butylate	26.9	Spike	P	0 - 30
1938585	Chlorpyrifos Ethyl	1.30	Spike	P	0 - 30
1938585	Chlorpyrifos Methyl	5.16	Spike	P	0 - 30
1938585	Cyanazine	28.0	Spike	P	0 - 30
1938585	Demeton	6.79	Spike	P	0 - 30
1938585	Diazinon	7.76	Spike	P	0 - 30
1938585	Disulfoton	17.4	Spike	P	0 - 30
1938585	EPTC	19.4	Spike	P	0 - 30
1938585	Ethion	6.06	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P333676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938585	Ethoprop	2.31	Spike	P	0 - 30
1938585	Fenamiphos	13.1	Spike	P	0 - 30
1938585	Fipronil	6.91	Spike	P	0 - 30
1938585	Fipronil Sulfide	8.28	Spike	P	0 - 30
1938585	Fipronil Sulfone	5.91	Spike	P	0 - 30
1938585	Fonofos	8.40	Spike	P	0 - 30
1938585	Hexazinone	1.96	Spike	P	0 - 30
1938585	Malathion	4.38	Spike	P	0 - 30
1938585	Metalaxyl	8.35	Spike	P	0 - 30
1938585	Metolachlor	13.3	Spike	P	0 - 30
1938585	Metribuzin	30.1	Spike	F	0 - 30
1938585	Mevinphos	9.73	Spike	P	0 - 30
1938585	Molinate	22.1	Spike	P	0 - 30
1938585	Norflurazon	13.2	Spike	P	0 - 30
1938585	Parathion Ethyl	12.6	Spike	P	0 - 30
1938585	Parathion Methyl	7.76	Spike	P	0 - 30
1938585	Pendimethalin	11.1	Spike	P	0 - 30
1938585	Phorate	7.87	Spike	P	0 - 30
1938585	Prometon	15.1	Spike	P	0 - 30
1938585	Prometryn	17.9	Spike	P	0 - 30
1938585	Simazine	11.7	Spike	P	0 - 30
1938585	Terbufos	4.55	Spike	P	0 - 30
1938585	Terbuthylazine	3.37	Spike	P	0 - 30
LFB	Acetochlor	5.66	LCS	P	0 - 30
LFB	Alachlor	4.21	LCS	P	0 - 30
LFB	Ametryn	8.36	LCS	P	0 - 30
LFB	Atrazine	12.9	LCS	P	0 - 30
LFB	Atrazine Desethyl	48.9	LCS	F	0 - 30
LFB	Azinphos Methyl	17.6	LCS	P	0 - 30
LFB	Bromacil	3.80	LCS	P	0 - 30
LFB	Butylate	5.98	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	8.23	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	16.2	LCS	P	0 - 30
LFB	Cyanazine	81.2	LCS	F	0 - 30
LFB	Demeton	6.18	LCS	P	0 - 30
LFB	Diazinon	9.03	LCS	P	0 - 30
LFB	Disulfoton	10.2	LCS	P	0 - 30
LFB	EPTC	3.40	LCS	P	0 - 30
LFB	Ethion	4.62	LCS	P	0 - 30
LFB	Ethoprop	23.0	LCS	P	0 - 30
LFB	Fenamiphos	6.00	LCS	P	0 - 30
LFB	Fipronil	4.73	LCS	P	0 - 30
LFB	Fipronil Sulfide	19.9	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.83	LCS	P	0 - 30
LFB	Fonofos	27.2	LCS	P	0 - 30
LFB	Hexazinone	3.16	LCS	P	0 - 30
LFB	Malathion	3.03	LCS	P	0 - 30
LFB	Metalaxyl	4.17	LCS	P	0 - 30
LFB	Metolachlor	3.58	LCS	P	0 - 30
LFB	Metribuzin	62.8	LCS	F	0 - 30
LFB	Mevinphos	23.9	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P333676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Molinate	11.3	LCS	P	0 - 30
LFB	Norflurazon	1.65	LCS	P	0 - 30
LFB	Parathion Ethyl	10.3	LCS	P	0 - 30
LFB	Parathion Methyl	14.2	LCS	P	0 - 30
LFB	Pendimethalin	11.4	LCS	P	0 - 30
LFB	Phorate	15.4	LCS	P	0 - 30
LFB	Prometon	1.62	LCS	P	0 - 30
LFB	Prometryn	1.22	LCS	P	0 - 30
LFB	Simazine	6.95	LCS	P	0 - 30
LFB	Terbufos	16.5	LCS	P	0 - 30
LFB	Terbuthylazine	10.7	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P333744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937357	Aldrin	4.83	Spike	P	0 - 30
1937357	Alpha-BHC	4.28	Spike	P	0 - 30
1937357	Alpha-Chlordane	5.11	Spike	P	0 - 30
1937357	Beta-BHC	14.5	Spike	P	0 - 30
1937357	Carbophenothion	10.6	Spike	P	0 - 30
1937357	Chlorothalonil	87.8	Spike	F	0 - 30
1937357	Cypermethrin	3.74	Spike	P	0 - 30
1937357	DDD-p,p'	6.67	Spike	P	0 - 30
1937357	DDE-p,p'	5.63	Spike	P	0 - 30
1937357	DDT-p,p'	0.514	Spike	P	0 - 30
1937357	Delta-BHC	3.65	Spike	P	0 - 30
1937357	Dicofol	6.52	Spike	P	0 - 30
1937357	Dieldrin	6.00	Spike	P	0 - 30
1937357	Endosulfan I	4.66	Spike	P	0 - 30
1937357	Endosulfan II	14.4	Spike	P	0 - 30
1937357	Endosulfan Sulfate	9.29	Spike	P	0 - 30
1937357	Endrin	5.82	Spike	P	0 - 30
1937357	Endrin Aldehyde	11.6	Spike	P	0 - 30
1937357	Endrin Ketone	4.36	Spike	P	0 - 30
1937357	Gamma-BHC	2.17	Spike	P	0 - 30
1937357	Gamma-Chlordane	5.37	Spike	P	0 - 30
1937357	Heptachlor	5.25	Spike	P	0 - 30
1937357	Heptachlor Epoxide	6.34	Spike	P	0 - 30
1937357	Methoxychlor	4.70	Spike	P	0 - 30
1937357	Mirex	6.13	Spike	P	0 - 30
1937357	Permethrin	0.890	Spike	P	0 - 30
1937357	Trifluralin	2.96	Spike	P	0 - 30
LFB	Aldrin	9.64	LCS	P	0 - 30
LFB	Alpha-BHC	2.20	LCS	P	0 - 30
LFB	Alpha-Chlordane	6.61	LCS	P	0 - 30
LFB	Beta-BHC	11.2	LCS	P	0 - 30
LFB	Carbophenothion	3.88	LCS	P	0 - 30
LFB	Chlorothalonil	23.8	LCS	P	0 - 30
LFB	Cypermethrin	8.08	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P333744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	DDD-p,p'	7.24	LCS	P	0 - 30
LFB	DDE-p,p'	18.9	LCS	P	0 - 30
LFB	DDT-p,p'	6.01	LCS	P	0 - 30
LFB	Delta-BHC	9.41	LCS	P	0 - 30
LFB	Dicofol	2.04	LCS	P	0 - 30
LFB	Dieldrin	4.57	LCS	P	0 - 30
LFB	Endosulfan I	6.22	LCS	P	0 - 30
LFB	Endosulfan II	7.41	LCS	P	0 - 30
LFB	Endosulfan Sulfate	8.48	LCS	P	0 - 30
LFB	Endrin	1.14	LCS	P	0 - 30
LFB	Endrin Aldehyde	8.71	LCS	P	0 - 30
LFB	Endrin Ketone	5.58	LCS	P	0 - 30
LFB	Gamma-BHC	4.12	LCS	P	0 - 30
LFB	Gamma-Chlordane	6.68	LCS	P	0 - 30
LFB	Heptachlor	5.23	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.46	LCS	P	0 - 30
LFB	Methoxychlor	8.56	LCS	P	0 - 30
LFB	Mirex	12.5	LCS	P	0 - 30
LFB	Permethrin	4.94	LCS	P	0 - 30
LFB	Trifluralin	6.41	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P333744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937415	Chlordane	10.5	Spike	P	0 - 30
1937415	Toxaphene	8.89	Spike	P	0 - 30
LFB	Chlordane	13.8	LCS	P	0 - 30
LFB	Toxaphene	13.8	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P333599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938583	Glyphosate	1.35	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P333600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937371	Pyraclostrobin	0.679	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P333619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937475	Sucralose	8.23	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P333634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937460	Color (true)	2.33	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P333853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938061	Total Alkalinity	0.354	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
 Batch ID: P334032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937779	TDS	3.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P333857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938061	Fluoride	0.940	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P333992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937278	Organic Carbon	0.552	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P333492

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937158	2,4-D	7.18	Spike	P	0 - 30
1937158	Acetaminophen	0.461	Spike	P	0 - 30
1937158	Bentazon	10.2	Spike	P	0 - 30
1937158	Carbamazepine	1.95	Spike	P	0 - 30
1937158	Diuron	1.78	Spike	P	0 - 30
1937158	Fenuron	37.5	Spike	F	0 - 30
1937158	Fluridone	11.1	Spike	P	0 - 30
1937158	Imidacloprid	1.41	Spike	P	0 - 30
1937158	Linuron	2.38	Spike	P	0 - 30
1937158	MCP	4.99	Spike	P	0 - 30
1937158	Primidone	7.11	Spike	P	0 - 30
1937158	Triclopyr	8.34	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: 1937371

Field Sample ID: G1TLHR0029-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.1	P	30 - 160
EPA 8321B	Diuron-d6	107	P	30 - 160
EPA 8321B	Diuron-d6	54.5	P	30 - 160
EPA 8321B	Diuron-d6	107	P	30 - 160
EPA 8321B	Diuron-d6	54.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.5	P	40 - 160
EPA 8321B	Primidone-d5	50.0	P	30 - 160
EPA 8321B	Primidone-d5	50.0	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	40 - 160
EPA 8321B	Sucralose-d6	100	P	40 - 160
USGS O-2060-01	2,4-D-d3	65.8	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	129	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	76.1	P	30 - 160
USGS O-2060-01	Diuron-d6	107	P	30 - 160
USGS O-2060-01	Diuron-d6	54.5	P	30 - 160
USGS O-2060-01	Primidone-d5	50.0	P	30 - 160
USGS O-2060-01	Sucralose-d6	100	P	40 - 160

Lab Sample ID: 1937372

Field Sample ID: G1TLHR0037-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	153	P	30 - 160
EPA 8321B	Acetaminophen-d4	153	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.3	P	30 - 160
EPA 8321B	Diuron-d6	106	P	30 - 160
EPA 8321B	Diuron-d6	62.4	P	30 - 160
EPA 8321B	Diuron-d6	106	P	30 - 160
EPA 8321B	Diuron-d6	62.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.0	P	40 - 160
EPA 8321B	Primidone-d5	58.2	P	30 - 160
EPA 8321B	Primidone-d5	58.2	P	30 - 160
EPA 8321B	Sucralose-d6	69.8	P	40 - 160
EPA 8321B	Sucralose-d6	69.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	71.7	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	153	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	83.3	P	30 - 160
USGS O-2060-01	Diuron-d6	106	P	30 - 160
USGS O-2060-01	Diuron-d6	62.4	P	30 - 160
USGS O-2060-01	Primidone-d5	58.2	P	30 - 160
USGS O-2060-01	Sucralose-d6	69.8	P	40 - 160

Lab Sample ID: 1937388

Field Sample ID: G1TLHR0029-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	50.1	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	45.8	P	32 - 103

Quality Assurance Report Surrogates

Lab Sample ID: 1937388

Field Sample ID: G1TLHR0029-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	40.1	P	31 - 100

Lab Sample ID: 1937389

Field Sample ID: G1TLHR0037-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	36.3	F	39 - 118
EPA 8270D	Tetrachloro-m-xylene	41.2	P	32 - 103
EPA 8276	Decachlorobiphenyl	57.1	P	31 - 100

Lab Sample ID: 1937390

Field Sample ID: G1TLHR0029-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	54.7	P	53 - 135
EPA 8270D	Simazine-d10	96.1	P	71 - 126

Lab Sample ID: 1937391

Field Sample ID: G1TLHR0037-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	96.3	P	53 - 135
EPA 8270D	Simazine-d10	101	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79632

Included Lab Sample IDs: 1937363, 1937364

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79643

Included Lab Sample IDs: 1937367, 1937368

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

Reference Method: SM 2120 B

Run ID: A79646

Included Lab Sample IDs: 1937363, 1937364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.2	P/P	85 - 115
Color (true)	99.1	100	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79706

Included Lab Sample IDs: 1937392, 1937393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	106	106	P/P	90 - 110
Cadmium	103	105	P/P	90 - 110
Chromium	103	105	P/P	90 - 110
Copper	105	106	P/P	90 - 110
Lead	99.9	101	P/P	90 - 110
Nickel	105	106	P/P	90 - 110
Silver	98.6	98.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79707

Included Lab Sample IDs: 1937392, 1937393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.8	98.9	P/P	90 - 110
Iron	100	97.0	P/P	90 - 110
Magnesium	100	97.4	P/P	90 - 110
Potassium	96.0	94.5	P/P	90 - 110
Sodium	98.3	98.1	P/P	90 - 110
Zinc	95.8	94.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A79726

Included Lab Sample IDs: 1937363, 1937364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	103	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A79730

Included Lab Sample IDs: 1937363, 1937364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79730

Included Lab Sample IDs: 1937363, 1937364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A79738

Included Lab Sample IDs: 1937371, 1937372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	99.1	96.8	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A79740

Included Lab Sample IDs: 1937371, 1937372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	98.4	105	P/P	70 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79747

Included Lab Sample IDs: 1937365, 1937366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79779

Included Lab Sample IDs: 1937365, 1937366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79780

Included Lab Sample IDs: 1937365, 1937366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79781

Included Lab Sample IDs: 1937366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.3	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79802

Included Lab Sample IDs: 1937365

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79846

Included Lab Sample IDs: 1937365, 1937366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.2	101	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A79847

Included Lab Sample IDs: 1937371, 1937372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.7	101	P/P	50 - 150
Acetaminophen	106	107	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79847

Included Lab Sample IDs: 1937371, 1937372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	92.1	90.8	P/P	50 - 150
Carbamazepine	109	110	P/P	60 - 150
Diuron	107	110	P/P	60 - 150
Fenuron	105	108	P/P	60 - 150
Fluridone	109	108	P/P	60 - 160
Imidacloprid	98.5	98.1	P/P	60 - 150
Linuron	105	106	P/P	60 - 150
MCPD	91.2	92.9	P/P	50 - 150
Primidone	97.7	104	P/P	60 - 150
Triclopyr	101	96.1	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A79918

Included Lab Sample IDs: 1937372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	77.6	88.4	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A79920

Included Lab Sample IDs: 1937371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	112	114	P/P	60 - 150

Reference Method: EPA 8270D

Run ID: A79960

Included Lab Sample IDs: 1937388, 1937389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.1		P	80 - 120
Alpha-BHC	97.7		P	80 - 120
Alpha-Chlordane	98.6		P	80 - 120
Beta-BHC	96.3		P	80 - 120
Carbophenothion	99.5		P	80 - 120
Chlorothalonil	99.8		P	80 - 120
Cypermethrin	97.2		P	80 - 120
DDD-p,p'	97.8		P	80 - 120
DDE-p,p'	100		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	100		P	80 - 120
Dicofol	88.4		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	96.2		P	80 - 120
Endosulfan II	99.4		P	80 - 120
Endosulfan Sulfate	98.6		P	80 - 120
Endrin	97.0		P	80 - 120
Endrin Aldehyde	93.9		P	80 - 120
Endrin Ketone	96.6		P	80 - 120
Gamma-BHC	92.2		P	80 - 120
Gamma-Chlordane	97.1		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A79960

Included Lab Sample IDs: 1937388, 1937389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Heptachlor	96.1		P	80 - 120
Heptachlor Epoxide	98.1		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	97.8		P	80 - 120
Trifluralin	97.8		P	80 - 120

Reference Method: EPA 8276

Run ID: A79998

Included Lab Sample IDs: 1937388, 1937389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	87.3		P	80 - 120
Toxaphene	106		P	80 - 120

Reference Method: EPA 8270D

Run ID: A80497

Included Lab Sample IDs: 1937390, 1937391

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.6		P	80 - 120
Alachlor	105		P	80 - 120
Ametryn	107		P	80 - 120
Atrazine	97.7		P	80 - 120
Atrazine Desethyl	108		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	105		P	80 - 120
Butylate	106		P	80 - 120
Chlorpyrifos Ethyl	95.5		P	80 - 120
Chlorpyrifos Methyl	96.3		P	80 - 120
Cyanazine	93.6		P	80 - 120
Demeton	90.6		P	80 - 120
Diazinon	111		P	80 - 120
Disulfoton	97.3		P	80 - 120
EPTC	102		P	80 - 120
Ethion	95.3		P	80 - 120
Ethoprop	96.7		P	80 - 120
Fenamiphos	96.9		P	80 - 120
Fipronil	103		P	80 - 120
Fipronil Sulfide	93.8		P	80 - 120
Fipronil Sulfone	94.5		P	80 - 120
Fonofos	99.9		P	80 - 120
Hexazinone	101		P	80 - 120
Malathion	97.9		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	112		P	80 - 120
Mevinphos	92.1		P	80 - 120
Molinate	108		P	80 - 120
Norflurazon	99.0		P	80 - 120
Parathion Ethyl	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80497

Included Lab Sample IDs: 1937390, 1937391

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Parathion Methyl	104		P	80 - 120
Pendimethalin	104		P	80 - 120
Phorate	99.8		P	80 - 120
Prometon	107		P	80 - 120
Prometryn	105		P	80 - 120
Simazine	101		P	80 - 120
Terbufos	94.7		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							1.68	
EPA 200.7 Rev. 4.4	Calcium	102		105	101				1.19
	Iron	106		106	107	105			1.68
	Magnesium	103		106	101				2.18
	Potassium	98.3		99.1	97.6				0.535
	Sodium	100		101	101				0.801
	Zinc	100		100	99.1	99.2			0.101
EPA 200.8 Rev. 5.4	Arsenic	103		103	105	107			1.15
	Cadmium	103		105	105	108			3.11
	Chromium	99.8		102	101	103			1.57
	Copper	99.8		102	101	103			2.05
	Lead	98.3		100	101	102			1.58
	Nickel	102		103	103	104			0.777
	Silver	98.7		97.8	102	101			0.800
EPA 300.0 Rev. 2.1	Chloride	102		100	99.6			0.398	
	Sulfate	100		100	99.0			0.621	
EPA 350.1 Rev. 2.0	Ammonia-N	103		98.6	100				1.31
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106		99.5	99.8				0.224
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	105		102	102				0.328
EPA 365.1 Rev. 2.0	Total-P	97.7		102	101				1.10
	Total-P	95.2		101	99.9				1.41
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	105		87.3	88.5				1.24
EPA 8270D	Acetochlor	137	130	153	133		5.66		13.9
	Alachlor	113	108	127	112		4.21		13.1
	Aldrin	45.0	49.5	81.4	77.6		9.64		4.83
	Alpha-BHC	92.4	94.4	82.1	78.7		2.20		4.28
	Alpha-Chlordane	86.1	92.0	104	98.6		6.61		5.11
	Ametryn	109	100	119	105		8.36		11.8
	Atrazine	132	116	126	120		12.9		4.61
	Atrazine Desethyl	121	73.3	70.1	103		48.9		31.7
	Azinphos Methyl	168	141	138	118		17.6		15.7
	Beta-BHC	88.2	98.7	101	87.6		11.2		14.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						SMP	MS
EPA 8270D	Bromacil	80.2	77.2	105	94.5	3.80	10.7
	Butylate	64.2	60.5	85.6	65.3	5.98	26.9
	Carbophenothion	110	114	139	125	3.88	10.6
	Chlorothalonil	47.5	60.3	5.42	13.9	23.8	87.8
	Chlorpyrifos Ethyl	110	101	111	110	8.23	1.30
	Chlorpyrifos Methyl	116	98.6	109	115	16.2	5.16
	Cyanazine	238	100	160	212	81.2	28.0
	Cypermethrin	126	136	109	105	8.08	3.74
	DDD-p,p'	96.9	104	126	118	7.24	6.67
	DDE-p,p'	78.8	95.3	112	106	18.9	5.63
	DDT-p,p'	92.5	98.2	95.1	94.6	6.01	0.514
	Delta-BHC	95.0	104	82.2	85.3	9.41	3.65
	Demeton	105	98.4	111	119	6.18	6.79
	Diazinon	118	108	135	125	9.03	7.76
	Dicofol	61.7	63.0	171	161	2.04	6.52
	Dieldrin	94.6	99.1	105	98.8	4.57	6.00
	Disulfoton	90.1	81.4	86.0	102	10.2	17.4
	Endosulfan I	93.3	99.3	104	99.0	6.22	4.66
	Endosulfan II	93.6	86.9	95.6	82.8	7.41	14.4
	Endosulfan Sulfate	95.5	104	87.4	79.6	8.48	9.29
	Endrin	88.3	89.3	99.6	106	1.14	5.82
	Endrin Aldehyde	97.4	106	89.5	79.6	8.71	11.6
	Endrin Ketone	95.9	101	88.7	84.9	5.58	4.36
	EPTC	65.5	63.3	85.3	70.2	3.40	19.4
	Ethion	111	106	112	119	4.62	6.06
	Ethoprop	114	90.3	100	103	23.0	2.31
	Fenamiphos	103	110	114	130	6.00	13.1
	Fipronil	106	111	127	118	4.73	6.91
	Fipronil Sulfide	99.6	122	108	118	19.9	8.28
	Fipronil Sulfone	89.3	92.8	97.7	104	3.83	5.91
	Fonofos	159	121	126	137	27.2	8.40
	Gamma-BHC	77.8	81.0	80.0	81.7	4.12	2.17
	Gamma-Chlordane	84.1	89.9	103	97.9	6.68	5.37
	Heptachlor	72.8	76.7	80.5	76.3	5.23	5.25
	Heptachlor Epoxide	87.8	90.9	102	96.1	3.46	6.34
	Hexazinone	129	125	136	139	3.16	1.96
	Malathion	108	111	116	121	3.03	4.38
	Metalaxyl	103	98.7	112	103	4.17	8.35
	Methoxychlor	99.2	108	106	102	8.56	4.70
	Metolachlor	104	108	124	108	3.58	13.3
	Metribuzin	234	122	158	214	62.8	30.1
	Mevinphos	109	85.5	95.3	86.5	23.9	9.73
	Mirex	76.4	86.6	86.7	81.5	12.5	6.13
	Molinate	89.3	79.8	106	85.1	11.3	22.1
	Norflurazon	112	110	122	107	1.65	13.2
	Parathion Ethyl	105	94.8	100	114	10.3	12.6
	Parathion Methyl	100	115	105	113	14.2	7.76
	Pendimethalin	108	96.1	106	118	11.4	11.1
	Permethrin	110	116	108	109	4.94	0.890
	Phorate	98.5	84.4	91.5	99.0	15.4	7.87
	Prometon	114	116	127	109	1.62	15.1
	Prometryn	114	116	138	115	1.22	17.9
	Simazine	132	124	145	129	6.95	11.7
	Terbufos	109	92.1	98.8	103	16.5	4.55

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Terbutylazine	124	111	120	116	10.7	3.37
	Trifluralin	81.1	86.5	87.5	84.9	6.41	2.96
EPA 8276	Chlordane	91.6	105	106	95.1	13.8	10.5
	Toxaphene	117	135	139	127	13.8	8.89
EPA 8321B	Glyphosate	104		84.8	85.9		1.35
	Pyraclostrobin	95.2		96.1	95.4		0.679
	Sucralose	101		97.9	106		8.23
SM 2120 B	Color (true)						2.33
SM 2320 B-97	Total Alkalinity	101					0.354
SM 2540 C-97	TDS						3.64
SM 4500 F-C-97	Fluoride	95.9		96.6	97.8		0.940
SM 5310 B-00	Organic Carbon	95.5		94.6	95.4		0.552
USGS O-2060-01	2,4-D	67.9		61.0	65.5		7.18
	Acetaminophen	102		100	99.6		0.461
	Bentazon	24.4		15.0	18.2		10.2
	Carbamazepine	66.4		124	127		1.95
	Diuron	104		91.0	93.4		1.78
	Fenuron	98.4		75.8	124		37.5
	Fluridone	105		78.8	90.4		11.1
	Imidacloprid	76.9		200	197		1.41
	Linuron	113		97.1	99.5		2.38
	MCP	63.7		45.6	43.3		4.99
	Primidone	91.1		111	102		7.11
	Triclopyr	62.0		41.1	44.7		8.34

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1937363, 1937364
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1937392, 1937393
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1937392, 1937393
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1937363, 1937364
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1937363, 1937364
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1937365, 1937366
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1937365, 1937366
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1937365, 1937366
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1937365, 1937366
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1937367, 1937368
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1937388, 1937389
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1937390, 1937391
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1937388, 1937389
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1937371, 1937372
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1937371, 1937372

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1937371, 1937372
SM 2120 B / E31780	True Color measured at 450 nm	1937363, 1937364
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1937363, 1937364
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1937363, 1937364
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1937363, 1937364
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1937363, 1937364
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1937365, 1937366
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1937371, 1937372
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1937371, 1937372

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	10/17/2017			10/17/2017 15:46	DeAsia Armster	1937363, 1937364
EPA 200.7 Rev. 4.4	10/17/2017	10/19/2017	Elliott D. Healy	10/20/2017	Betina Topolski	1937392, 1937393
EPA 200.8 Rev. 5.4	10/17/2017	10/19/2017	Elliott D. Healy	10/20/2017	Nadine Brooks	1937392, 1937393
EPA 300.0 Rev. 2.1	10/17/2017			10/19/2017	Julia Storbeck	1937363, 1937364
EPA 350.1 Rev. 2.0	10/17/2017			10/23/2017	Sofia Elnemr	1937365, 1937366
EPA 351.2 Rev. 2.0	10/17/2017	10/24/2017	Adrian Shelby	10/26/2017	Tanya Welborn	1937365, 1937366
EPA 353.2 Rev. 2.0	10/17/2017			10/24/2017	Beverly Y. Sanders	1937365, 1937366
EPA 365.1 Rev. 2.0	10/17/2017	10/24/2017	Sima Feizi	10/25/2017	Lipi Saha	1937365, 1937366
EPA 365.1 Rev. 2.0 dissolved	10/17/2017			10/18/2017 12:32	Megan Treadwell	1937367
	10/17/2017			10/18/2017 13:07	Megan Treadwell	1937368
EPA 8270D	10/17/2017	10/20/2017	Fe-Val Siddell	11/02/2017	Vandana T. Nagar	1937390, 1937391
	10/17/2017	10/20/2017	John Kaba	10/25/2017	Marek Topolski	1937388, 1937389
EPA 8276	10/17/2017	10/20/2017	John Kaba	10/27/2017	John P. Burgos	1937388, 1937389
EPA 8321B	10/17/2017	10/20/2017	Mohammad Ghaffari	10/20/2017	Mohammad Ghaffari	1937371, 1937372
	10/17/2017	10/24/2017	Juyoung Kim	10/25/2017	Juyoung Kim	1937372
	10/17/2017	10/24/2017	Juyoung Kim	10/27/2017	Juyoung Kim	1937371
SM 2120 B	10/17/2017			10/18/2017 16:42	Tanya Welborn	1937363
	10/17/2017			10/18/2017 16:48	Tanya Welborn	1937364
SM 2320 B-97	10/17/2017			10/21/2017	Dale L. Simmons	1937363, 1937364
SM 2540 C-97	10/17/2017			10/20/2017	Yijie Li	1937363, 1937364
SM 2540 D-97	10/17/2017			10/20/2017	Yijie Li	1937363, 1937364
SM 4500 F-C-97	10/17/2017			10/21/2017	Dale L. Simmons	1937363, 1937364
SM 5310 B-00	10/17/2017			10/24/2017	Ping Hua	1937365, 1937366
USGS O-2060-01	10/17/2017	10/19/2017	Hoor Shaik	10/25/2017	Julie Michelle Frank	1937371, 1937372