

Chemical Analysis Report

TLH-ROC-2017-12-19-03

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-2017-12-04-50**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 12-JAN-2018 11:51

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: CHIPLOA RIVER @ MAGNOLIA RD.

Collection Date/Time: 12/19/2017 11:45

Field ID: G2TLHR0016-2017-03

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955148	EPA 180.1 Rev. 2.0	Turbidity	3.0	A	NTU	P337222	
	EPA 300.0 Rev. 2.1	Chloride	6.0		mg Cl/L	P337391	
		Sulfate	1.6		mg SO4/L	P337395	
	SM 2120 B	Color (true)	6.2		PCU	P337229	
	SM 2320 B-97	Total Alkalinity	127		mg CaCO3/L	P337380	
	SM 2540 C-97	TDS	145		mg/L	P337497	
	SM 2540 D-97	TSS	4	I	mg/L	P337664	
	SM 4500 F-C-97	Fluoride	0.044	I	mg F/L	P337383	
1955150	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P337698	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P337593	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.1		mg N/L	P337466	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P337366	
	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P337473	
1955152	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P337265	
1955162	EPA 200.7 Rev. 4.4	Calcium	52.5		mg/L	P337307	
		Iron	240		ug/L	P337307	
		Magnesium	2.87		mg/L	P337307	
		Potassium	0.66	I	mg/L	P337307	
		Sodium	2.6		mg/L	P337307	
		Zinc	5.0	U	ug/L	P337307	
	EPA 200.8 Rev. 5.4	Arsenic	0.36		ug/L	P337307	
		Cadmium	0.020	U	ug/L	P337307	
		Chromium	1.1	I	ug/L	P337307	
		Copper	0.20	U	ug/L	P337307	
		Lead	0.26		ug/L	P337307	
		Nickel	0.20	U	ug/L	P337307	
		Silver	0.010	U	ug/L	P337307	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: CHIPLOA RIVER @ MAGNOLIA RD.

Collection Date/Time: 12/19/2017 11:45

Field ID: G2TLHR0016-2017-03

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955156	EPA 8321B	Glyphosate**	0.10	U	ug/L	P337210	
		AMPA**	0.10	U	ug/L	P337210	
		Pyraclostrobin**	0.0020	U	ug/L	P337204	
		Sucralose**	0.18		ug/L	P337235	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P337156	
		Diuron	8.0E-04	U	ug/L	P337156	
		Fenuron	0.0080	U	ug/L	P337156	
		Imidacloprid	8.5E-04	I	ug/L	P337156	
		Bentazon	8.9E-04	I	ug/L	P337156	

Field ID: G2TLHR0016-2017-03

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955156	USGS O-2060-01	Linuron	0.0040	U	ug/L	P337156	
		Acetaminophen**	0.0080	U	ug/L	P337156	
		MCPP	0.0020	U	ug/L	P337156	
		Carbamazepine**	4.0E-04	U	ug/L	P337156	
		Triclopyr**	0.0040	U	ug/L	P337156	
		Primidone**	0.0040	U	ug/L	P337156	
		Fluridone**	4.0E-04	U	ug/L	P337156	
1955158	EPA 8270D	Aldrin	4.3	U	ng/L	P337315	
		Alpha-BHC	2.1	U	ng/L	P337315	
		Beta-BHC	4.3	U	ng/L	P337315	
		Delta-BHC	4.3	U	ng/L	P337315	
		Gamma-BHC	4.3	U	ng/L	P337315	
		Carbophenothion	4.3	U	ng/L	P337315	
		Chlorothalonil	2.1	U	ng/L	P337315	
		Cypermethrin	21	U	ng/L	P337315	
		DDD-p,p'	3.2	U	ng/L	P337315	
		DDE-p,p'	3.2	U	ng/L	P337315	
		DDT-p,p'	3.2	U	ng/L	P337315	
		Dieldrin	4.3	U	ng/L	P337315	
		Endosulfan I	4.3	U	ng/L	P337315	
		Endosulfan II	4.3	U	ng/L	P337315	
		Endosulfan Sulfate	2.1	U	ng/L	P337315	
		Endrin	2.1	U	ng/L	P337315	
		Endrin Aldehyde	2.1	U	ng/L	P337315	
		Heptachlor	1.6	U	ng/L	P337315	
		Heptachlor Epoxide	2.1	U	ng/L	P337315	
		Methoxychlor	4.3	U	ng/L	P337315	
		Mirex	2.1	U	ng/L	P337315	
		Permethrin	11	U	ng/L	P337315	
		Trifluralin	1.1	U	ng/L	P337315	
		Alpha-Chlordane	1.1	U	ng/L	P337315	
		Gamma-Chlordane	1.1	U	ng/L	P337315	
		Endrin Ketone	2.1	U	ng/L	P337315	
		Dicofol	32	U	ng/L	P337315	
	EPA 8276	Chlordane**	2.7	U	ng/L	P337315	
		Toxaphene**	13	U	ng/L	P337315	
1955160	EPA 8270D	Alachlor	0.24	U	ng/L	P337230	
		Ametryn	0.31	UJ	ng/L	P337230	LCS, RPD
		Atrazine	1.5		ng/L	P337230	
		Atrazine Desethyl	2.8	I	ng/L	P337230	MS, RPD
		Azinphos Methyl	2.1	U	ng/L	P337230	
		Bromacil	0.47	U	ng/L	P337230	
		Butylate	0.38	U	ng/L	P337230	
		Chlorpyrifos Ethyl	0.24	UJ	ng/L	P337230	LCS
		Chlorpyrifos Methyl	0.095	U	ng/L	P337230	

Field ID: G2TLHR0016-2017-03

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955160	EPA 8270D	Demeton	1.9	U	ng/L	P337230	
		Diazinon	0.12	U	ng/L	P337230	
		Disulfoton	0.47	UJ	ng/L	P337230	RPD
		EPTC	1.2	U	ng/L	P337230	
		Ethion	0.14	U	ng/L	P337230	
		Ethoprop	0.095	UJ	ng/L	P337230	LCS
		Fenamiphos	0.24	UJ	ng/L	P337230	RPD
		Fipronil	0.24	U	ng/L	P337230	
		Fipronil Sulfide	0.14	UJ	ng/L	P337230	RPD
		Fipronil Sulfone	0.14	U	ng/L	P337230	
		Hexazinone	2.5		ng/L	P337230	
		Malathion	0.33	U	ng/L	P337230	
		Metribuzin	0.19	UJ	ng/L	P337230	LCS, MS, RPD
		Mevinphos	0.47	U	ng/L	P337230	
		Molinate	0.28	UJ	ng/L	P337230	RPD
		Norflurazon	0.47	UJ	ng/L	P337230	LCS
		Pendimethalin	0.95	U	ng/L	P337230	
		Phorate	0.24	UJ	ng/L	P337230	RPD
		Prometon	0.85	U	ng/L	P337230	
		Prometryn	0.19	U	ng/L	P337230	
		Simazine	2.4		ng/L	P337230	
		Terbufos	0.095	U	ng/L	P337230	
		Terbuthylazine	0.40	U	ng/L	P337230	
		Fonofos	0.19	UJ	ng/L	P337230	LCS, RPD
		Metalaxyl	0.24	U	ng/L	P337230	
		Metolachlor	2.6		ng/L	P337230	
		Acetochlor	0.24	U	ng/L	P337230	
		Cyanazine	0.47	UJ	ng/L	P337230	LCS, MS, RPD
		Parathion Ethyl	0.24	UJ	ng/L	P337230	LCS
		Parathion Methyl	0.24	U	ng/L	P337230	

Ref. Method and Comment:
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Sample Location: LAKE SEMINOLE 200M FROM BOAT RAMP @ RIVER RD. Collection Date/Time: 12/19/2017 14:05

Field ID: G2TLHR0002-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955149	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P337222	
	EPA 300.0 Rev. 2.1	Chloride	8.5		mg Cl/L	P337391	
		Sulfate	14		mg SO4/L	P337395	
	SM 2120 B	Color (true)	22	A	PCU	P337229	
	SM 2320 B-97	Total Alkalinity	43		mg CaCO3/L	P337380	
	SM 2540 C-97	TDS	86		mg/L	P337497	
	SM 2540 D-97	TSS	3	I	mg/L	P337664	

Field ID: G2TLHR0002-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955149	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P337383	
1955151	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P337698	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P337400	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P337466	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P337366	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P337473	
1955153	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P337265	
1955163	EPA 200.7 Rev. 4.4	Calcium	13.6		mg/L	P337307	
		Iron	210		ug/L	P337307	
		Magnesium	2.62		mg/L	P337307	
		Potassium	2.7		mg/L	P337307	
		Sodium	11.5		mg/L	P337307	
		Zinc	5.0	U	ug/L	P337307	
	EPA 200.8 Rev. 5.4	Arsenic	0.36		ug/L	P337307	
		Cadmium	0.020	U	ug/L	P337307	
		Chromium	0.40	U	ug/L	P337307	
		Copper	0.66	I	ug/L	P337307	
		Lead	0.056	I	ug/L	P337307	
		Nickel	0.32	I	ug/L	P337307	
		Silver	0.010	U	ug/L	P337307	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: LAKE SEMINOLE 200M FROM BOAT RAMP @ RIVER RD. **Collection Date/Time: 12/19/2017 14:05**

Field ID: G2TLHR0002-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955157	EPA 8321B	Glyphosate**	0.10	U	ug/L	P337210	
		AMPA**	0.10	U	ug/L	P337210	
		Pyraclostrobin**	0.0020	U	ug/L	P337204	
		Sucralose**	1.5		ug/L	P337235	
	USGS O-2060-01	2,4-D	0.021		ug/L	P337156	
		Diuron	0.0055		ug/L	P337156	
		Fenuron	0.0080	U	ug/L	P337156	
		Imidacloprid	0.0012	I	ug/L	P337156	
		Bentazon	8.0E-04	U	ug/L	P337156	
		Linuron	0.0040	U	ug/L	P337156	
		Acetaminophen**	0.0080	U	ug/L	P337156	
		MCPD	0.0020	U	ug/L	P337156	
		Carbamazepine**	0.0038		ug/L	P337156	
		Triclopyr**	0.0040	U	ug/L	P337156	
		Primidone**	0.0052	I	ug/L	P337156	
		Fluridone**	0.048		ug/L	P337156	
1955159	EPA 8270D	Aldrin	4.1	U	ng/L	P337315	

Field ID: G2TLHR0002-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955159	EPA 8270D	Alpha-BHC	2.0	U	ng/L	P337315	
		Beta-BHC	4.1	U	ng/L	P337315	
		Delta-BHC	4.1	U	ng/L	P337315	
		Gamma-BHC	4.1	U	ng/L	P337315	
		Carbophenothion	4.1	U	ng/L	P337315	
		Chlorothalonil	2.0	U	ng/L	P337315	
		Cypermethrin	20	U	ng/L	P337315	
		DDD-p,p'	3.0	U	ng/L	P337315	
		DDE-p,p'	3.0	U	ng/L	P337315	
		DDT-p,p'	3.0	U	ng/L	P337315	
		Dieldrin	4.1	U	ng/L	P337315	
		Endosulfan I	4.1	U	ng/L	P337315	
		Endosulfan II	4.1	U	ng/L	P337315	
		Endosulfan Sulfate	2.0	U	ng/L	P337315	
		Endrin	2.0	U	ng/L	P337315	
		Endrin Aldehyde	2.0	U	ng/L	P337315	
		Heptachlor	1.5	U	ng/L	P337315	
		Heptachlor Epoxide	2.0	U	ng/L	P337315	
		Methoxychlor	4.1	U	ng/L	P337315	
		Mirex	2.0	U	ng/L	P337315	
		Permethrin	10	U	ng/L	P337315	
		Trifluralin	1.0	U	ng/L	P337315	
		Alpha-Chlordane	1.0	U	ng/L	P337315	
		Gamma-Chlordane	1.0	U	ng/L	P337315	
		Endrin Ketone	2.0	U	ng/L	P337315	
		Dicofol	30	U	ng/L	P337315	
		Chlordane**	2.5	U	ng/L	P337315	
		Toxaphene**	60		ng/L	P337315	
1955161	EPA 8270D	Alachlor	0.25	U	ng/L	P337230	
		Ametryn	0.32	UJ	ng/L	P337230	LCS, RPD
		Atrazine	8.7		ng/L	P337230	
		Atrazine Desethyl	1.5	U	ng/L	P337230	MS, RPD
		Azinphos Methyl	2.2	U	ng/L	P337230	
		Bromacil	2.5		ng/L	P337230	
		Butylate	0.39	U	ng/L	P337230	
		Chlorpyrifos Ethyl	0.25	UJ	ng/L	P337230	LCS
		Chlorpyrifos Methyl	0.098	U	ng/L	P337230	
		Demeton	2.0	U	ng/L	P337230	
		Diazinon	0.12	U	ng/L	P337230	
		Disulfoton	0.49	UJ	ng/L	P337230	RPD
		EPTC	1.2	U	ng/L	P337230	
		Ethion	0.15	U	ng/L	P337230	
		Ethoprop	0.098	UJ	ng/L	P337230	LCS
		Fenamiphos	0.25	UJ	ng/L	P337230	RPD
		Fipronil	0.25	U	ng/L	P337230	

Field ID: G2TLHR0002-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1955161	EPA 8270D	Fipronil Sulfide	0.15	UJ	ng/L	P337230	RPD
		Fipronil Sulfone	0.38	I	ng/L	P337230	
		Hexazinone	0.93	I	ng/L	P337230	
		Malathion	0.34	U	ng/L	P337230	
		Metribuzin	0.20	UJ	ng/L	P337230	LCS, MS, RPD
		Mevinphos	0.49	U	ng/L	P337230	
		Molinate	0.29	UJ	ng/L	P337230	RPD
		Norflurazon	0.49	UJ	ng/L	P337230	LCS
		Pendimethalin	0.98	U	ng/L	P337230	
		Phorate	0.25	UJ	ng/L	P337230	RPD
		Prometon	0.88	U	ng/L	P337230	
		Prometryn	0.20	U	ng/L	P337230	
		Simazine	8.6		ng/L	P337230	
		Terbufos	0.098	U	ng/L	P337230	
		Terbuthylazine	0.42	U	ng/L	P337230	
		Fonofos	0.20	UJ	ng/L	P337230	LCS, RPD
		Metalaxyl	0.55	I	ng/L	P337230	
		Metolachlor	3.1		ng/L	P337230	
		Acetochlor	0.44	I	ng/L	P337230	
		Cyanazine	0.49	UJ	ng/L	P337230	LCS, MS, RPD
		Parathion Ethyl	0.25	UJ	ng/L	P337230	LCS
		Parathion Methyl	0.25	U	ng/L	P337230	

Ref. Method and Comment:

EPA 8276: A severely weathered Toxaphene pattern is observed.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P337222

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P337307

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337307

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337391

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337395

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337698

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337400

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337593

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337466

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337366

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: P337265

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

Reference Method: EPA 8270D
Batch ID: P337230

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: P337315

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: P337315

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: P337315

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

Reference Method: EPA 8321B
Batch ID: P337204

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P337210

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P337235

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P337229

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P337380

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

Reference Method: SM 2540 C-97
Batch ID: P337497

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P337664

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P337383

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P337473

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

Reference Method: USGS O-2060-01
Batch ID: P337156

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
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: P337307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	104		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	102		P	85 - 115
Sodium	99.9		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	98.8		P	85 - 115
Copper	101		P	85 - 115
Lead	98.5		P	85 - 115
Nickel	101		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337391

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337395

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337698

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337400

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337593

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P337466

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P337366

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P337265

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

Reference Method: EPA 8270D
 Batch ID: P337230

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	110	90.8	P/P	78 - 118
Alachlor	109	93.8	P/P	77 - 119
Ametryn	79.3	142	P/F	61 - 136
Atrazine	109	111	P/P	73 - 120
Atrazine Desethyl	106	79.2	P/P	16 - 122
Azinphos Methyl	153	127	P/P	69 - 186
Bromacil	112	115	P/P	40 - 125
Butylate	56.7	67.7	P/P	32 - 87.0
Chlorpyrifos Ethyl	125	109	F/P	53 - 110
Chlorpyrifos Methyl	107	100	P/P	31 - 119
Cyanazine	287	127	F/P	36 - 224
Demeton	106	88.6	P/P	39 - 122
Diazinon	104	102	P/P	75 - 119
Disulfoton	121	76.0	P/P	42 - 139
EPTC	54.7	69.1	P/P	33 - 96.0
Ethion	105	114	P/P	63 - 127
Ethoprop	122	97.4	F/P	65 - 107
Fenamiphos	130	79.3	P/P	64 - 137
Fipronil	114	106	P/P	60 - 126
Fipronil Sulfide	121	76.0	P/P	58 - 124
Fipronil Sulfone	114	85.6	P/P	57 - 126
Fonofos	133	89.8	F/P	65 - 111
Hexazinone	109	119	P/P	46 - 151
Malathion	120	116	P/P	68 - 132
Metaxyl	114	96.6	P/P	51 - 132
Metolachlor	110	99.1	P/P	78 - 119
Metribuzin	234	122	F/P	58 - 148
Mevinphos	86.2	104	P/P	34 - 128
Molinate	99.6	61.6	P/P	44 - 101
Norflurazon	113	130	P/F	63 - 129
Parathion Ethyl	112	105	F/P	80 - 109
Parathion Methyl	122	105	P/P	74 - 125
Pendimethalin	120	124	P/P	48 - 134
Phorate	103	67.6	P/P	52 - 119

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P337230

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	98.9	95.2	P/P	69 - 124
Prometryn	107	100	P/P	66 - 124
Simazine	127	131	P/P	61 - 134
Terbufos	113	86.0	P/P	58 - 115
Terbutylazine	111	91.3	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P337315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	61.9	62.9	P/P	26 - 88.0
Alpha-BHC	77.3	85.6	P/P	63 - 114
Alpha-Chlordane	89.9	83.9	P/P	56 - 117
Beta-BHC	109	102	P/P	57 - 138
Carbophenothion	67.4	68.0	P/P	36 - 148
Chlorothalonil	124	92.0	P/P	26 - 173
Cypermethrin	96.3	83.8	P/P	42 - 159
DDD-p,p'	104	97.4	P/P	62 - 126
DDE-p,p'	93.6	84.6	P/P	53 - 115
DDT-p,p'	90.8	90.1	P/P	54 - 117
Delta-BHC	120	109	P/P	68 - 158
Dicofol	89.2	93.1	P/P	25 - 114
Dieldrin	98.3	86.4	P/P	59 - 126
Endosulfan I	103	96.6	P/P	62 - 138
Endosulfan II	127	96.9	P/P	61 - 150
Endosulfan Sulfate	103	92.7	P/P	63 - 132
Endrin	96.1	87.7	P/P	49 - 148
Endrin Aldehyde	103	98.5	P/P	50 - 144
Endrin Ketone	99.2	93.2	P/P	66 - 122
Gamma-BHC	78.0	78.2	P/P	60 - 137
Gamma-Chlordane	85.7	81.4	P/P	54 - 113
Heptachlor	60.1	67.3	P/P	43 - 104
Heptachlor Epoxide	89.4	86.2	P/P	64 - 118
Methoxychlor	104	95.6	P/P	63 - 129
Mirex	78.0	72.0	P/P	40 - 96.0
Permethrin	85.9	77.4	P/P	51 - 123
Trifluralin	73.6	77.3	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P337315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	91.0	90.0	P/P	48 - 121
Toxaphene	96.3	100	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P337204

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	142		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P337210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	126		P	40 - 150
Glyphosate	120		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P337235

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	89.5		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P337380

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P337383

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P337473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P337156

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	103		P	40 - 150
Acetaminophen	95.0		P	30 - 150
Bentazon	94.6		P	30 - 150
Carbamazepine	98.5		P	40 - 150
Diuron	83.7		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	100		P	40 - 150
Imidacloprid	99.8		P	40 - 160
Linuron	90.5		P	40 - 150
MCPP	93.3		P	40 - 150
Primidone	107		P	40 - 150
Triclopyr	90.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P337307

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P337307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955163	Iron	107	109	P/P	80 - 120
1955163	Magnesium	109	110	P/P	80 - 120
1955163	Potassium	101	103	P/P	80 - 120
1955163	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955163	Arsenic	100	102	P/P	80 - 120
1955163	Cadmium	99.1	100	P/P	80 - 120
1955163	Chromium	95.2	97.2	P/P	80 - 120
1955163	Copper	95.9	97.0	P/P	80 - 120
1955163	Lead	96.4	98.3	P/P	80 - 120
1955163	Nickel	96.6	97.6	P/P	80 - 120
1955163	Silver	99.6	99.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337391

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955064	Chloride	100		P	90 - 110
1955065	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955064	Sulfate	94.6		P	90 - 110
1955065	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955140	Ammonia-N	98.6	90.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955185	Kjeldahl Nitrogen	98.9	94.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956249	Kjeldahl Nitrogen	97.8	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955069	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955141	Total-P	99.4	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P337265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955142	O-Phosphate-P	99.0	100	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P337230

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955049	Acetochlor	94.3	90.4	P/P	74 - 123
1955049	Alachlor	95.4	92.1	P/P	73 - 124
1955049	Ametryn	88.0	65.0	P/P	56 - 149
1955049	Atrazine	105	108	P/P	73 - 124
1955049	Atrazine Desethyl	66.0	107	P/F	12 - 103
1955049	Azinphos Methyl	105	126	P/P	60 - 202
1955049	Bromacil	93.1	86.4	P/P	42 - 133
1955049	Butylate	59.1	50.4	P/P	10 - 85.0
1955049	Chlorpyrifos Ethyl	99.8	97.8	P/P	53 - 113
1955049	Chlorpyrifos Methyl	92.3	105	P/P	40 - 115
1955049	Cyanazine	113	267	P/F	22 - 210
1955049	Demeton	81.2	90.6	P/P	17 - 149
1955049	Diazinon	79.5	85.6	P/P	72 - 124
1955049	Disulfoton	84.4	99.9	P/P	43 - 139
1955049	EPTC	59.7	49.0	P/P	10 - 86.0
1955049	Ethion	104	87.0	P/P	65 - 131
1955049	Ethoprop	86.7	102	P/P	59 - 110
1955049	Fenamiphos	109	108	P/P	57 - 138
1955049	Fipronil	103	89.8	P/P	40 - 130
1955049	Fipronil Sulfide	107	96.8	P/P	36 - 128
1955049	Fipronil Sulfone	107	92.3	P/P	16 - 145
1955049	Fonofos	80.4	96.7	P/P	60 - 112
1955049	Hexazinone	116	94.6	P/P	69 - 142
1955049	Malathion	98.6	90.2	P/P	68 - 132
1955049	Metalaxyl	94.9	91.2	P/P	66 - 118
1955049	Metolachlor	103	91.5	P/P	71 - 124
1955049	Metribuzin	111	175	P/F	61 - 140
1955049	Mevinphos	53.1	62.9	P/P	38 - 130
1955049	Molinate	61.1	61.8	P/P	23 - 99.0
1955049	Norflurazon	107	84.8	P/P	39 - 139
1955049	Parathion Ethyl	91.7	92.2	P/P	75 - 111
1955049	Parathion Methyl	93.1	100	P/P	64 - 130
1955049	Pendimethalin	98.9	102	P/P	26 - 173
1955049	Phorate	75.6	87.7	P/P	43 - 127

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P337230

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955049	Prometon	97.1	86.6	P/P	50 - 144
1955049	Prometryn	102	87.9	P/P	69 - 126
1955049	Simazine	102	108	P/P	51 - 152
1955049	Terbufos	83.0	97.8	P/P	54 - 125
1955049	Terbuthylazine	99.6	96.7	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P337315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955044	Aldrin	63.4	65.3	P/P	22 - 97.0
1955044	Alpha-BHC	97.6	94.3	P/P	43 - 132
1955044	Alpha-Chlordane	92.6	91.3	P/P	36 - 126
1955044	Beta-BHC	112	101	P/P	41 - 150
1955044	Carbophenothion	84.7	83.7	P/P	13 - 196
1955044	Chlorothalonil	116	116	P/P	10 - 266
1955044	Cypermethrin	101	88.3	P/P	37 - 161
1955044	DDD-p,p'	103	100	P/P	44 - 131
1955044	DDE-p,p'	96.5	94.3	P/P	32 - 127
1955044	DDT-p,p'	95.1	89.1	P/P	45 - 116
1955044	Delta-BHC	126	126	P/P	50 - 201
1955044	Dicofol	93.5	81.0	P/P	10 - 100
1955044	Dieldrin	97.3	104	P/P	39 - 142
1955044	Endosulfan I	103	107	P/P	51 - 139
1955044	Endosulfan II	119	114	P/P	49 - 155
1955044	Endosulfan Sulfate	101	90.7	P/P	54 - 136
1955044	Endrin	92.1	92.7	P/P	38 - 141
1955044	Endrin Aldehyde	104	87.7	P/P	14 - 152
1955044	Endrin Ketone	97.5	90.4	P/P	60 - 128
1955044	Gamma-BHC	92.5	88.5	P/P	48 - 157
1955044	Gamma-Chlordane	88.4	89.5	P/P	35 - 123
1955044	Heptachlor	71.3	74.4	P/P	25 - 112
1955044	Heptachlor Epoxide	92.7	90.6	P/P	48 - 125
1955044	Methoxychlor	114	97.0	P/P	52 - 127
1955044	Mirex	85.6	77.4	P/P	25 - 108
1955044	Permethrin	89.5	80.7	P/P	46 - 133
1955044	Trifluralin	82.1	82.9	P/P	29 - 254

Reference Method: EPA 8276
Batch ID: P337315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955510	Chlordane	107	101	P/P	44 - 134
1955510	Toxaphene	103	108	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P337204

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955156	Pyraclostrobin	148	140	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P337210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955156	AMPA	126	122	P/P	40 - 150
1955156	Glyphosate	128	128	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P337235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955251	Sucralose	105	108	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P337383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1954981	Fluoride	96.6	95.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P337473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955140	Organic Carbon	97.1	99.4	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P337156

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1954940	2,4-D	82.6	99.4	P/P	40 - 150
1954940	Acetaminophen	111	114	P/P	30 - 150
1954940	Bentazon	53.1	59.6	P/P	30 - 150
1954940	Carbamazepine	96.3	95.0	P/P	40 - 150
1954940	Diuron	80.0	76.1	P/P	40 - 150
1954940	Fenuron	88.8	90.0	P/P	40 - 150
1954940	Fluridone	79.9	77.0	P/P	40 - 150
1954940	Imidacloprid	157	155	P/P	40 - 160
1954940	Linuron	85.5	76.0	P/P	40 - 150
1954940	MCP	65.6	72.0	P/P	40 - 150
1954940	Primidone	101	110	P/P	40 - 150
1954940	Triclopyr	62.5	71.9	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P337222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955148	Turbidity	1.64	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P337307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955163	Calcium	0.919	Spike	P	0 - 20
1955163	Iron	2.19	Spike	P	0 - 20
1955163	Magnesium	0.895	Spike	P	0 - 20
1955163	Potassium	0.998	Spike	P	0 - 20
1955163	Sodium	0.362	Spike	P	0 - 20
1955163	Zinc	0.0903	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955163	Arsenic	1.27	Spike	P	0 - 20
1955163	Cadmium	1.37	Spike	P	0 - 20
1955163	Chromium	1.98	Spike	P	0 - 20
1955163	Copper	1.08	Spike	P	0 - 20
1955163	Lead	1.97	Spike	P	0 - 20
1955163	Nickel	1.03	Spike	P	0 - 20
1955163	Silver	0.274	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955064	Chloride	3.77	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955064	Sulfate	4.14	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955140	Ammonia-N	7.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955185	Kjeldahl Nitrogen	4.37	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956249	Kjeldahl Nitrogen	2.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955069	NO2NO3-N	0.134	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955141	Total-P	0.764	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P337265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955142	O-Phosphate-P	1.29	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P337230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955049	Acetochlor	4.24	Spike	P	0 - 30
1955049	Alachlor	3.60	Spike	P	0 - 30
1955049	Ametryn	30.0	Spike	F	0 - 30
1955049	Atrazine	2.03	Spike	P	0 - 30
1955049	Atrazine Desethyl	47.0	Spike	F	0 - 30
1955049	Azinphos Methyl	18.4	Spike	P	0 - 30
1955049	Bromacil	7.53	Spike	P	0 - 30
1955049	Butylate	15.9	Spike	P	0 - 30
1955049	Chlorpyrifos Ethyl	2.00	Spike	P	0 - 30
1955049	Chlorpyrifos Methyl	12.5	Spike	P	0 - 30
1955049	Cyanazine	80.8	Spike	F	0 - 30
1955049	Demeton	10.9	Spike	P	0 - 30
1955049	Diazinon	7.33	Spike	P	0 - 30
1955049	Disulfoton	16.8	Spike	P	0 - 30
1955049	EPTC	19.8	Spike	P	0 - 30
1955049	Ethion	17.4	Spike	P	0 - 30
1955049	Ethoprop	16.2	Spike	P	0 - 30
1955049	Fenamiphos	0.945	Spike	P	0 - 30
1955049	Fipronil	14.0	Spike	P	0 - 30
1955049	Fipronil Sulfide	9.96	Spike	P	0 - 30
1955049	Fipronil Sulfone	14.4	Spike	P	0 - 30
1955049	Fonofos	18.4	Spike	P	0 - 30
1955049	Hexazinone	17.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P337230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955049	Malathion	8.11	Spike	P	0 - 30
1955049	Metalaxyl	3.93	Spike	P	0 - 30
1955049	Metolachlor	11.0	Spike	P	0 - 30
1955049	Metribuzin	43.9	Spike	F	0 - 30
1955049	Mevinphos	16.9	Spike	P	0 - 30
1955049	Molinate	1.12	Spike	P	0 - 30
1955049	Norflurazon	21.2	Spike	P	0 - 30
1955049	Parathion Ethyl	0.529	Spike	P	0 - 30
1955049	Parathion Methyl	7.60	Spike	P	0 - 30
1955049	Pendimethalin	3.04	Spike	P	0 - 30
1955049	Phorate	14.8	Spike	P	0 - 30
1955049	Prometon	11.4	Spike	P	0 - 30
1955049	Prometryn	14.4	Spike	P	0 - 30
1955049	Simazine	6.10	Spike	P	0 - 30
1955049	Terbufos	16.4	Spike	P	0 - 30
1955049	Terbutylazine	2.92	Spike	P	0 - 30
LFB	Acetochlor	19.4	LCS	P	0 - 30
LFB	Alachlor	14.8	LCS	P	0 - 30
LFB	Ametryn	56.5	LCS	F	0 - 30
LFB	Atrazine	1.58	LCS	P	0 - 30
LFB	Atrazine Desethyl	29.0	LCS	P	0 - 30
LFB	Azinphos Methyl	18.2	LCS	P	0 - 30
LFB	Bromacil	2.87	LCS	P	0 - 30
LFB	Butylate	17.7	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	13.7	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	6.63	LCS	P	0 - 30
LFB	Cyanazine	77.5	LCS	F	0 - 30
LFB	Demeton	18.2	LCS	P	0 - 30
LFB	Diazinon	2.07	LCS	P	0 - 30
LFB	Disulfoton	45.5	LCS	F	0 - 30
LFB	EPTC	23.2	LCS	P	0 - 30
LFB	Ethion	7.72	LCS	P	0 - 30
LFB	Ethoprop	22.8	LCS	P	0 - 30
LFB	Fenamiphos	48.2	LCS	F	0 - 30
LFB	Fipronil	7.23	LCS	P	0 - 30
LFB	Fipronil Sulfide	45.4	LCS	F	0 - 30
LFB	Fipronil Sulfone	28.9	LCS	P	0 - 30
LFB	Fonofos	38.9	LCS	F	0 - 30
LFB	Hexazinone	8.95	LCS	P	0 - 30
LFB	Malathion	3.93	LCS	P	0 - 30
LFB	Metalaxyl	16.6	LCS	P	0 - 30
LFB	Metolachlor	10.3	LCS	P	0 - 30
LFB	Metribuzin	63.1	LCS	F	0 - 30
LFB	Mevinphos	19.0	LCS	P	0 - 30
LFB	Molinate	47.2	LCS	F	0 - 30
LFB	Norflurazon	14.1	LCS	P	0 - 30
LFB	Parathion Ethyl	6.99	LCS	P	0 - 30
LFB	Parathion Methyl	15.2	LCS	P	0 - 30
LFB	Pendimethalin	2.54	LCS	P	0 - 30
LFB	Phorate	41.1	LCS	F	0 - 30
LFB	Prometon	3.82	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P337230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometryn	5.96	LCS	P	0 - 30
LFB	Simazine	3.00	LCS	P	0 - 30
LFB	Terbufos	27.5	LCS	P	0 - 30
LFB	Terbutylazine	19.2	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P337315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955044	Aldrin	2.95	Spike	P	0 - 30
1955044	Alpha-BHC	3.47	Spike	P	0 - 30
1955044	Alpha-Chlordane	1.40	Spike	P	0 - 30
1955044	Beta-BHC	10.2	Spike	P	0 - 30
1955044	Carbophenothion	1.24	Spike	P	0 - 30
1955044	Chlorothalonil	0.154	Spike	P	0 - 30
1955044	Cypermethrin	13.4	Spike	P	0 - 30
1955044	DDD-p,p'	3.33	Spike	P	0 - 30
1955044	DDE-p,p'	2.27	Spike	P	0 - 30
1955044	DDT-p,p'	6.49	Spike	P	0 - 30
1955044	Delta-BHC	0.0231	Spike	P	0 - 30
1955044	Dicofol	14.3	Spike	P	0 - 30
1955044	Dieldrin	6.57	Spike	P	0 - 30
1955044	Endosulfan I	3.06	Spike	P	0 - 30
1955044	Endosulfan II	4.11	Spike	P	0 - 30
1955044	Endosulfan Sulfate	10.5	Spike	P	0 - 30
1955044	Endrin	0.601	Spike	P	0 - 30
1955044	Endrin Aldehyde	16.9	Spike	P	0 - 30
1955044	Endrin Ketone	7.56	Spike	P	0 - 30
1955044	Gamma-BHC	4.39	Spike	P	0 - 30
1955044	Gamma-Chlordane	1.22	Spike	P	0 - 30
1955044	Heptachlor	4.17	Spike	P	0 - 30
1955044	Heptachlor Epoxide	2.30	Spike	P	0 - 30
1955044	Methoxychlor	16.2	Spike	P	0 - 30
1955044	Mirex	10.2	Spike	P	0 - 30
1955044	Permethrin	10.3	Spike	P	0 - 30
1955044	Trifluralin	1.04	Spike	P	0 - 30
LFB	Aldrin	1.50	LCS	P	0 - 30
LFB	Alpha-BHC	10.3	LCS	P	0 - 30
LFB	Alpha-Chlordane	6.93	LCS	P	0 - 30
LFB	Beta-BHC	6.98	LCS	P	0 - 30
LFB	Carbophenothion	0.843	LCS	P	0 - 30
LFB	Chlorothalonil	29.2	LCS	P	0 - 30
LFB	Cypermethrin	13.9	LCS	P	0 - 30
LFB	DDD-p,p'	6.65	LCS	P	0 - 30
LFB	DDE-p,p'	10.1	LCS	P	0 - 30
LFB	DDT-p,p'	0.858	LCS	P	0 - 30
LFB	Delta-BHC	9.61	LCS	P	0 - 30
LFB	Dicofol	4.26	LCS	P	0 - 30
LFB	Dieldrin	12.9	LCS	P	0 - 30
LFB	Endosulfan I	6.86	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P337315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	26.8	LCS	P	0 - 30
LFB	Endosulfan Sulfate	10.7	LCS	P	0 - 30
LFB	Endrin	9.17	LCS	P	0 - 30
LFB	Endrin Aldehyde	4.76	LCS	P	0 - 30
LFB	Endrin Ketone	6.18	LCS	P	0 - 30
LFB	Gamma-BHC	0.326	LCS	P	0 - 30
LFB	Gamma-Chlordane	5.07	LCS	P	0 - 30
LFB	Heptachlor	11.4	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.63	LCS	P	0 - 30
LFB	Methoxychlor	8.49	LCS	P	0 - 30
LFB	Mirex	7.99	LCS	P	0 - 30
LFB	Permethrin	10.4	LCS	P	0 - 30
LFB	Trifluralin	4.92	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P337315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955510	Chlordane	4.99	Spike	P	0 - 30
1955510	Toxaphene	5.26	Spike	P	0 - 30
LFB	Chlordane	1.15	LCS	P	0 - 30
LFB	Toxaphene	4.16	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P337204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955156	Pyraclostrobin	6.04	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P337210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955156	AMPA	3.95	Spike	P	0 - 30
1955156	Glyphosate	0.156	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P337235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955251	Sucralose	1.64	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P337229

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

Reference Method: SM 2120 B
 Batch ID: P337229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955149	Color (true)	2.06	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P337380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1954981	Total Alkalinity	0.591	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
 Batch ID: P337497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955066	TDS	2.90	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P337383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1954981	Fluoride	0.986	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P337473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955140	Organic Carbon	2.27	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P337156

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1954940	2,4-D	12.8	Spike	P	0 - 30
1954940	Acetaminophen	2.56	Spike	P	0 - 30
1954940	Bentazon	7.08	Spike	P	0 - 30
1954940	Carbamazepine	1.30	Spike	P	0 - 30
1954940	Diuron	4.61	Spike	P	0 - 30
1954940	Fenuron	1.32	Spike	P	0 - 30
1954940	Fluridone	3.18	Spike	P	0 - 30
1954940	Imidacloprid	1.02	Spike	P	0 - 30
1954940	Linuron	11.7	Spike	P	0 - 30
1954940	MCCP	9.42	Spike	P	0 - 30
1954940	Primidone	8.67	Spike	P	0 - 30
1954940	Triclopyr	14.0	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: 1955156

Field Sample ID: G2TLHR0016-2017-03

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	92.3	P	30 - 160
EPA 8321B	Diuron-d6	127	P	30 - 160
EPA 8321B	Diuron-d6	92.3	P	30 - 160
EPA 8321B	Diuron-d6	127	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	114	P	40 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Sucralose-d6	97.4	P	40 - 160
EPA 8321B	Sucralose-d6	97.4	P	40 - 160
USGS O-2060-01	2,4-D-d3	75.5	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	107	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	112	P	30 - 160
USGS O-2060-01	Diuron-d6	92.3	P	30 - 160
USGS O-2060-01	Diuron-d6	127	P	30 - 160
USGS O-2060-01	Primidone-d5	120	P	30 - 160
USGS O-2060-01	Sucralose-d6	97.4	P	40 - 160

Lab Sample ID: 1955157

Field Sample ID: G2TLHR0002-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	92.3	P	30 - 160
EPA 8321B	Diuron-d6	125	P	30 - 160
EPA 8321B	Diuron-d6	92.3	P	30 - 160
EPA 8321B	Diuron-d6	125	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	117	P	40 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	92.2	P	40 - 160
EPA 8321B	Sucralose-d6	92.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	71.0	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	110	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	104	P	30 - 160
USGS O-2060-01	Diuron-d6	92.3	P	30 - 160
USGS O-2060-01	Diuron-d6	125	P	30 - 160
USGS O-2060-01	Primidone-d5	108	P	30 - 160
USGS O-2060-01	Sucralose-d6	92.2	P	40 - 160

Lab Sample ID: 1955158

Field Sample ID: G2TLHR0016-2017-03

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	77.6	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	68.8	P	32 - 103

Quality Assurance Report Surrogates

Lab Sample ID: 1955158

Field Sample ID: G2TLHR0016-2017-03

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	76.0	P	31 - 100

Lab Sample ID: 1955159

Field Sample ID: G2TLHR0002-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	76.2	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	62.1	P	32 - 103
EPA 8276	Decachlorobiphenyl	67.9	P	31 - 100

Lab Sample ID: 1955160

Field Sample ID: G2TLHR0016-2017-03

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	116	P	53 - 135
EPA 8270D	Simazine-d10	104	P	71 - 126

Lab Sample ID: 1955161

Field Sample ID: G2TLHR0002-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	120	P	53 - 135
EPA 8270D	Simazine-d10	110	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A81014

Included Lab Sample IDs: 1955148, 1955149

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

Reference Method: SM 2120 B

Run ID: A81015

Included Lab Sample IDs: 1955148, 1955149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	101	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81036

Included Lab Sample IDs: 1955152, 1955153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A81083

Included Lab Sample IDs: 1955148, 1955149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.6	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A81083

Included Lab Sample IDs: 1955148, 1955149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	98.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A81086

Included Lab Sample IDs: 1955156, 1955157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	84.0	94.3	P/P	60 - 150
Glyphosate	83.2	83.8	P/P	60 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A81087

Included Lab Sample IDs: 1955148, 1955149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	107	106	P/P	90 - 110
Sulfate	104	103	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A81093

Included Lab Sample IDs: 1955156, 1955157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	93.8	P/P	50 - 150
Acetaminophen	103	101	P/P	60 - 150
Bentazon	102	98.0	P/P	50 - 150
Carbamazepine	106	103	P/P	60 - 150
Diuron	108	95.8	P/P	60 - 150
Fenuron	104	101	P/P	60 - 150
Fluridone	106	101	P/P	60 - 160
Imidacloprid	95.1	96.0	P/P	60 - 150
Linuron	106	106	P/P	60 - 150
MCPP	97.6	94.4	P/P	50 - 150
Primidone	104	101	P/P	60 - 150
Triclopyr	91.2	83.8	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A81106

Included Lab Sample IDs: 1955156, 1955157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	88.1	83.8	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A81111
 Included Lab Sample IDs: 1955150, 1955151

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

Reference Method: EPA 353.2 Rev. 2.0
 Run ID: A81116
 Included Lab Sample IDs: 1955150, 1955151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00
 Run ID: A81124
 Included Lab Sample IDs: 1955150, 1955151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.7	97.0	P/P	90 - 110
Organic Carbon	96.8	96.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A81133
 Included Lab Sample IDs: 1955151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	103	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A81137
 Included Lab Sample IDs: 1955156, 1955157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	85.0	88.6	P/P	60 - 150

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A81152
 Included Lab Sample IDs: 1955162, 1955163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	97.7	99.3	P/P	90 - 110
Arsenic	99.1	97.7	P/P	90 - 110
Cadmium	95.5	96.4	P/P	90 - 110
Cadmium	96.1	95.5	P/P	90 - 110
Chromium	93.6	95.1	P/P	90 - 110
Chromium	95.4	93.6	P/P	90 - 110
Copper	97.4	99.9	P/P	90 - 110
Copper	98.9	97.4	P/P	90 - 110
Lead	96.1	97.1	P/P	90 - 110
Lead	97.1	98.3	P/P	90 - 110
Nickel	97.2	99.4	P/P	90 - 110
Nickel	98.8	97.2	P/P	90 - 110
Silver	104	104	P/P	90 - 110
Silver	104	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A81173
Included Lab Sample IDs: 1955162, 1955163

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	105	P/P	95 - 105
Calcium	105	109	P/P	90 - 110
Iron	103	105	P/P	95 - 105
Iron	105	107	P/P	90 - 110
Magnesium	104	106	P/P	95 - 105
Magnesium	106	108	P/P	90 - 110
Potassium	103	105	P/P	95 - 105
Potassium	105	106	P/P	90 - 110
Sodium	101	105	P/P	90 - 110
Sodium	98.7	101	P/P	95 - 105
Zinc	101	104	P/P	90 - 110
Zinc	101	101	P/P	95 - 105

Reference Method: EPA 8276
Run ID: A81190
Included Lab Sample IDs: 1955159

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	113		P	80 - 120
Toxaphene	106		P	80 - 120

Reference Method: EPA 8276
Run ID: A81218
Included Lab Sample IDs: 1955158

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	116		P	80 - 120
Toxaphene	113		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81223
Included Lab Sample IDs: 1955150

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A81225
Included Lab Sample IDs: 1955150, 1955151

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

Reference Method: EPA 8270D
Run ID: A81287
Included Lab Sample IDs: 1955158, 1955159

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.8		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	96.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A81287

Included Lab Sample IDs: 1955158, 1955159

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beta-BHC	94.6		P	80 - 120
Carbophenothion	85.8		P	80 - 120
Chlorothalonil	114		P	80 - 120
Cypermethrin	89.1		P	80 - 120
DDD-p,p'	96.9		P	80 - 120
DDE-p,p'	99.0		P	80 - 120
DDT-p,p'	106		P	80 - 120
Delta-BHC	95.4		P	80 - 120
Dicofol	91.7		P	80 - 120
Dieldrin	96.8		P	80 - 120
Endosulfan I	97.1		P	80 - 120
Endosulfan II	98.7		P	80 - 120
Endosulfan Sulfate	98.2		P	80 - 120
Endrin	91.3		P	80 - 120
Endrin Aldehyde	93.2		P	80 - 120
Endrin Ketone	95.8		P	80 - 120
Gamma-BHC	96.1		P	80 - 120
Gamma-Chlordane	95.9		P	80 - 120
Heptachlor	91.9		P	80 - 120
Heptachlor Epoxide	97.1		P	80 - 120
Methoxychlor	104		P	80 - 120
Mirex	99.6		P	80 - 120
Permethrin	90.0		P	80 - 120
Trifluralin	100		P	80 - 120

Reference Method: EPA 8270D

Run ID: A81366

Included Lab Sample IDs: 1955160, 1955161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	95.9		P	80 - 120
Alachlor	97.1		P	80 - 120
Ametryn	90.5		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	108		P	80 - 120
Azinphos Methyl	94.8		P	80 - 120
Bromacil	97.9		P	80 - 120
Butylate	98.0		P	80 - 120
Chlorpyrifos Ethyl	96.6		P	80 - 120
Chlorpyrifos Methyl	98.0		P	80 - 120
Cyanazine	108		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	92.6		P	80 - 120
Disulfoton	97.9		P	80 - 120
EPTC	97.7		P	80 - 120
Ethion	99.7		P	80 - 120
Ethoprop	100		P	80 - 120
Fenamiphos	94.7		P	80 - 120
Fipronil	94.5		P	80 - 120
Fipronil Sulfide	96.6		P	80 - 120
Fipronil Sulfone	97.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A81366

Included Lab Sample IDs: 1955160, 1955161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fonofos	97.6		P	80 - 120
Hexazinone	94.7		P	80 - 120
Malathion	97.6		P	80 - 120
Metalaxyl	97.2		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	95.5		P	80 - 120
Mevinphos	92.2		P	80 - 120
Molinate	102		P	80 - 120
Norflurazon	98.2		P	80 - 120
Parathion Ethyl	90.9		P	80 - 120
Parathion Methyl	94.0		P	80 - 120
Pendimethalin	96.7		P	80 - 120
Phorate	96.1		P	80 - 120
Prometon	97.3		P	80 - 120
Prometryn	95.8		P	80 - 120
Simazine	92.8		P	80 - 120
Terbufos	96.4		P	80 - 120
Terbutylazine	96.3		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					1.64	
EPA 200.7 Rev. 4.4	Calcium	105					0.919
	Iron	104	107	109			2.19
	Magnesium	109	109	110			0.895
	Potassium	102	101	103			0.998
	Sodium	99.9					0.362
	Zinc	101	102	102			0.0903
EPA 200.8 Rev. 5.4	Arsenic	104	100	102			1.27
	Cadmium	103	99.1	100			1.37
	Chromium	98.8	95.2	97.2			1.98
	Copper	101	95.9	97.0			1.08
	Lead	98.5	96.4	98.3			1.97
	Nickel	101	96.6	97.6			1.03
	Silver	103	99.6	99.9			0.274
EPA 300.0 Rev. 2.1	Chloride	105	100	102		3.77	
	Sulfate	102	94.6	96.9		4.14	
EPA 350.1 Rev. 2.0	Ammonia-N	102	98.6	90.1			7.48
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.8	98.9	94.6			4.37
	Kjeldahl Nitrogen	99.0	97.8	101			2.01
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	100			0.134
EPA 365.1 Rev. 2.0	Total-P	99.2	99.4	98.6			0.764
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	99.0	100			1.29

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	SMP
EPA 8270D	Acetochlor	110	90.8	94.3	90.4	19.4	4.24
	Alachlor	109	93.8	95.4	92.1	14.8	3.60
	Aldrin	61.9	62.9	63.4	65.3	1.50	2.95
	Alpha-BHC	77.3	85.6	97.6	94.3	10.3	3.47
	Alpha-Chlordane	83.9	89.9	92.6	91.3	6.93	1.40
	Ametryn	79.3	142	88.0	65.0	56.5	30.0
	Atrazine	109	111	105	108	1.58	2.03
	Atrazine Desethyl	106	79.2	66.0	107	29.0	47.0
	Azinphos Methyl	153	127	105	126	18.2	18.4
	Beta-BHC	102	109	112	101	6.98	10.2
	Bromacil	112	115	93.1	86.4	2.87	7.53
	Butylate	56.7	67.7	59.1	50.4	17.7	15.9
	Carbophenothion	68.0	67.4	84.7	83.7	0.843	1.24
	Chlorothalonil	92.0	124	116	116	29.2	0.154
	Chlorpyrifos Ethyl	125	109	99.8	97.8	13.7	2.00
	Chlorpyrifos Methyl	107	100	92.3	105	6.63	12.5
	Cyanazine	287	127	113	267	77.5	80.8
	Cypermethrin	83.8	96.3	101	88.3	13.9	13.4
	DDD-p,p'	97.4	104	103	100	6.65	3.33
	DDE-p,p'	93.6	84.6	96.5	94.3	10.1	2.27
	DDT-p,p'	90.8	90.1	95.1	89.1	0.858	6.49
	Delta-BHC	109	120	126	126	9.61	0.0231
	Demeton	106	88.6	81.2	90.6	18.2	10.9
	Diazinon	104	102	79.5	85.6	2.07	7.33
	Dicofol	93.1	89.2	93.5	81.0	4.26	14.3
	Dieldrin	98.3	86.4	97.3	104	12.9	6.57
	Disulfoton	121	76.0	84.4	99.9	45.5	16.8
	Endosulfan I	103	96.6	103	107	6.86	3.06
	Endosulfan II	127	96.9	119	114	26.8	4.11
	Endosulfan Sulfate	103	92.7	101	90.7	10.7	10.5
	Endrin	96.1	87.7	92.1	92.7	9.17	0.601
	Endrin Aldehyde	103	98.5	104	87.7	4.76	16.9
	Endrin Ketone	93.2	99.2	97.5	90.4	6.18	7.56
	EPTC	54.7	69.1	59.7	49.0	23.2	19.8
	Ethion	105	114	104	87.0	7.72	17.4
	Ethoprop	122	97.4	86.7	102	22.8	16.2
	Fenamiphos	130	79.3	109	108	48.2	0.945
	Fipronil	114	106	103	89.8	7.23	14.0
	Fipronil Sulfide	121	76.0	107	96.8	45.4	9.96
	Fipronil Sulfone	114	85.6	107	92.3	28.9	14.4
	Fonofos	133	89.8	80.4	96.7	38.9	18.4
	Gamma-BHC	78.2	78.0	92.5	88.5	0.326	4.39
	Gamma-Chlordane	81.4	85.7	88.4	89.5	5.07	1.22
	Heptachlor	60.1	67.3	71.3	74.4	11.4	4.17
	Heptachlor Epoxide	89.4	86.2	92.7	90.6	3.63	2.30
	Hexazinone	109	119	116	94.6	8.95	17.7
	Malathion	120	116	98.6	90.2	3.93	8.11
	Metalaxyl	114	96.6	94.9	91.2	16.6	3.93
	Methoxychlor	104	95.6	114	97.0	8.49	16.2
	Metolachlor	110	99.1	103	91.5	10.3	11.0
	Metribuzin	234	122	111	175	63.1	43.9
	Mevinphos	86.2	104	53.1	62.9	19.0	16.9
	Mirex	78.0	72.0	85.6	77.4	7.99	10.2
	Molinate	99.6	61.6	61.1	61.8	47.2	1.12

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Norflurazon	113	130	107	84.8	14.1	21.2
	Parathion Ethyl	112	105	91.7	92.2	6.99	0.529
	Parathion Methyl	122	105	93.1	100	15.2	7.60
	Pendimethalin	120	124	98.9	102	2.54	3.04
	Permethrin	85.9	77.4	89.5	80.7	10.4	10.3
	Phorate	103	67.6	75.6	87.7	41.1	14.8
	Prometon	98.9	95.2	97.1	86.6	3.82	11.4
	Prometryn	107	100	102	87.9	5.96	14.4
	Simazine	127	131	102	108	3.00	6.10
	Terbufos	113	86.0	83.0	97.8	27.5	16.4
	Terbutylazine	111	91.3	99.6	96.7	19.2	2.92
	Trifluralin	77.3	73.6	82.1	82.9	4.92	1.04
	Chlordane	91.0	90.0	107	101	1.15	4.99
	Toxaphene	96.3	100	103	108	4.16	5.26
EPA 8276							
EPA 8321B	AMPA	126		126	122		3.95
	Glyphosate	120		128	128		0.156
	Pyraclostrobin	142		148	140		6.04
	Sucralose	89.5		105	108		1.64
SM 2120 B	Color (true)					2.06	
SM 2320 B-97	Total Alkalinity	100				0.591	
SM 2540 C-97	TDS					2.90	
SM 4500 F-C-97	Fluoride	96.7		96.6	95.2		0.986
SM 5310 B-00	Organic Carbon	95.2		97.1	99.4		2.27
USGS O-2060-01	2,4-D	103		99.4	82.6		12.8
	Acetaminophen	95.0		111	114		2.56
	Bentazon	94.6		59.6	53.1		7.08
	Carbamazepine	98.5		96.3	95.0		1.30
	Diuron	83.7		80.0	76.1		4.61
	Fenuron	103		88.8	90.0		1.32
	Fluridone	100		79.9	77.0		3.18
	Imidacloprid	99.8		157	155		1.02
	Linuron	90.5		85.5	76.0		11.7
	MCP	93.3		72.0	65.6		9.42
	Primidone	107		101	110		8.67
	Triclopyr	90.8		71.9	62.5		14.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1955148, 1955149
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1955162, 1955163
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1955162, 1955163
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1955148, 1955149
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1955148, 1955149
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1955150, 1955151
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1955150, 1955151
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1955150, 1955151

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1955150, 1955151
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1955152, 1955153
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1955158, 1955159
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1955160, 1955161
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1955158, 1955159
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1955156, 1955157
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1955156, 1955157
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1955156, 1955157
SM 2120 B / E31780	True Color measured at 450 nm	1955148, 1955149
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1955148, 1955149
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1955148, 1955149
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1955148, 1955149
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1955148, 1955149
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1955150, 1955151
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1955156, 1955157
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1955156, 1955157

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	12/19/2017			12/19/2017 16:37	DeAsia Armster	1955148, 1955149
EPA 200.7 Rev. 4.4	12/19/2017	12/20/2017	Elliott D. Healy	12/28/2017	Betina Topolski	1955162, 1955163
EPA 200.8 Rev. 5.4	12/19/2017	12/20/2017	Elliott D. Healy	12/26/2017	Nadine Brooks	1955162, 1955163
EPA 300.0 Rev. 2.1	12/19/2017			12/21/2017	Julia Storbeck	1955148, 1955149
EPA 350.1 Rev. 2.0	12/19/2017			12/29/2017	Sofia Elnemr	1955150, 1955151
EPA 351.2 Rev. 2.0	12/19/2017	12/22/2017	Adrian Shelby	12/27/2017	Joseph Suarez	1955151
	12/19/2017	12/29/2017	Adrian Shelby	01/02/2018	Joseph Suarez	1955150
EPA 353.2 Rev. 2.0	12/19/2017			12/26/2017	Beverly Y. Sanders	1955150, 1955151
EPA 365.1 Rev. 2.0	12/19/2017	12/21/2017	Adrian Shelby	12/26/2017	Lipi Saha	1955150, 1955151
EPA 365.1 Rev. 2.0 dissolved	12/19/2017			12/20/2017 11:39	Megan Treadwell	1955152
	12/19/2017			12/20/2017 11:40	Megan Treadwell	1955153
EPA 8270D	12/19/2017	12/21/2017	Fe-Val Siddell	12/26/2017	Vandana T. Nagar	1955160, 1955161
	12/19/2017	12/21/2017	Rasheda Ghaffari	12/28/2017	Goutam Palui	1955158, 1955159
EPA 8276	12/19/2017	12/21/2017	Rasheda Ghaffari	12/27/2017	John P. Burgos	1955159
	12/19/2017	12/21/2017	Rasheda Ghaffari	12/29/2017	John P. Burgos	1955158
EPA 8321B	12/19/2017	12/20/2017	Juyoung Kim	12/26/2017	Juyoung Kim	1955156, 1955157
	12/19/2017	12/21/2017	Juyoung Kim	12/21/2017	Juyoung Kim	1955156, 1955157
	12/19/2017	12/21/2017	Juyoung Kim	12/23/2017	Juyoung Kim	1955156, 1955157
SM 2120 B	12/19/2017			12/19/2017 16:42	Tanya Welborn	1955148
	12/19/2017			12/19/2017 16:43	Tanya Welborn	1955149
SM 2320 B-97	12/19/2017			12/21/2017	Dale L. Simmons	1955148, 1955149
SM 2540 C-97	12/19/2017			12/20/2017	Yijie Li	1955148, 1955149
SM 2540 D-97	12/19/2017			12/20/2017	Yijie Li	1955148, 1955149
SM 4500 F-C-97	12/19/2017			12/21/2017	Dale L. Simmons	1955148, 1955149
SM 5310 B-00	12/19/2017			12/22/2017	Megan Treadwell	1955150, 1955151
USGS O-2060-01	12/19/2017	12/20/2017	Hoor Shaik	12/21/2017	Julie Michelle Frank	1955156, 1955157