

Chemical Analysis Report

TLH-ROC-2017-12-27-03

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

For additional information please contact
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 16-JAN-2018 13:40

A handwritten signature in black ink, appearing to read "Liang Lin", is shown 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: Lake Seminole 200m from Boat Ramp @ River Rd. **Collection Date/Time: 12/27/2017 10:20**

Field ID: G2TLHR0002-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956225	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P337520	
	EPA 300.0 Rev. 2.1	Chloride	8.2		mg Cl/L	P337660	
		Sulfate	12		mg SO4/L	P337661	
	SM 2120 B	Color (true)	16		PCU	P337521	
	SM 2320 B-97	Total Alkalinity	47		mg CaCO3/L	P337599	
	SM 2540 C-97	TDS	81		mg/L	P337813	
	SM 2540 D-97	TSS	3	I	mg/L	P337931	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P337600	
1956227	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P337720	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P337536	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.43		mg N/L	P337622	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P337607	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P337608	
1956229	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.006	I	mg P/L	P337526	
1956239	EPA 200.7 Rev. 4.4	Calcium	15.6		mg/L	P337562	
		Iron	240		ug/L	P337562	
		Magnesium	3.21		mg/L	P337562	
		Potassium	2.6		mg/L	P337562	
		Sodium	10.7		mg/L	P337562	
		Zinc	5.0	U	ug/L	P337562	
	EPA 200.8 Rev. 5.4	Arsenic	0.42		ug/L	P337562	
		Cadmium	0.020	U	ug/L	P337562	
		Chromium	0.40	U	ug/L	P337562	
		Copper	0.69	I	ug/L	P337562	
		Lead	0.091	I	ug/L	P337828	
		Nickel	0.38	I	ug/L	P337828	
		Silver	0.010	U	ug/L	P337562	

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: Lake Seminole 200m from Boat Ramp @ River Rd. **Collection Date/Time: 12/27/2017 10:20**

Field ID: G2TLHR0002-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956233	EPA 8321B	Glyphosate**	0.10	U	ug/L	P337683	
		AMPA**	0.10	U	ug/L	P337683	
		Pyraclostrobin**	0.0020	U	ug/L	P337683	
		Sucralose**	1.1		ug/L	P337657	
	USGS O-2060-01	2,4-D	0.013		ug/L	P337440	
		Diuron	0.0047		ug/L	P337440	
		Fenuron	0.0080	U	ug/L	P337440	
		Imidacloprid	0.0010	I	ug/L	P337440	MS
		Bentazon	8.0E-04	U	ug/L	P337440	

Field ID: G2TLHR0002-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956233	USGS O-2060-01	Linuron	0.0040	U	ug/L	P337440	
		Acetaminophen**	0.0080	U	ug/L	P337440	
		MCPP	0.0020	I	ug/L	P337440	
		Carbamazepine**	0.0035		ug/L	P337440	
		Triclopyr**	0.0040	U	ug/L	P337440	
		Primidone**	0.0040	U	ug/L	P337440	
		Fluridone**	0.025		ug/L	P337440	
1956235	EPA 8270D	Aldrin	4.6	U	ng/L	P337555	
		Alpha-BHC	2.3	U	ng/L	P337555	
		Beta-BHC	4.6	U	ng/L	P337555	
		Delta-BHC	4.6	U	ng/L	P337555	
		Gamma-BHC	4.6	U	ng/L	P337555	
		Carbophenothion	4.6	U	ng/L	P337555	
		Chlorothalonil	2.3	U	ng/L	P337555	
		Cypermethrin	23	U	ng/L	P337555	
		DDD-p,p'	3.5	U	ng/L	P337555	
		DDE-p,p'	3.5	U	ng/L	P337555	
		DDT-p,p'	3.5	U	ng/L	P337555	MS, RPD
		Dieldrin	4.6	U	ng/L	P337555	
		Endosulfan I	4.6	U	ng/L	P337555	
		Endosulfan II	4.6	U	ng/L	P337555	
		Endosulfan Sulfate	2.3	U	ng/L	P337555	
		Endrin	2.3	U	ng/L	P337555	
		Endrin Aldehyde	2.3	U	ng/L	P337555	
		Heptachlor	1.7	U	ng/L	P337555	
		Heptachlor Epoxide	2.3	U	ng/L	P337555	
		Methoxychlor	4.6	U	ng/L	P337555	
		Mirex	2.3	U	ng/L	P337555	
		Permethrin	12	U	ng/L	P337555	
		Trifluralin	1.2	U	ng/L	P337555	
		Alpha-Chlordane	1.2	U	ng/L	P337555	
		Gamma-Chlordane	1.2	U	ng/L	P337555	
		Endrin Ketone	2.3	U	ng/L	P337555	
		Dicofol	35	U	ng/L	P337555	
	EPA 8276	Chlordane**	2.9	U	ng/L	P337555	
		Toxaphene**	15	U	ng/L	P337555	
1956237	EPA 8270D	Alachlor	0.29	U	ng/L	P337550	
		Ametryn	0.38	U	ng/L	P337550	RPD
		Atrazine	5.3		ng/L	P337550	
		Atrazine Desethyl	1.8	U	ng/L	P337550	MS
		Azinphos Methyl	2.6	U	ng/L	P337550	
		Bromacil	0.59	U	ng/L	P337550	MS
		Butylate	0.47	U	ng/L	P337550	
		Chlorpyrifos Ethyl	0.29	U	ng/L	P337550	
		Chlorpyrifos Methyl	0.12	U	ng/L	P337550	

Field ID: G2TLHR0002-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956237	EPA 8270D	Demeton	2.4	U	ng/L	P337550	
		Diazinon	0.15	U	ng/L	P337550	
		Disulfoton	0.59	U	ng/L	P337550	
		EPTC	1.5	U	ng/L	P337550	
		Ethion	0.18	U	ng/L	P337550	
		Ethoprop	0.12	U	ng/L	P337550	
		Fenamiphos	0.29	U	ng/L	P337550	
		Fipronil	0.29	U	ng/L	P337550	
		Fipronil Sulfide	0.18	U	ng/L	P337550	
		Fipronil Sulfone	0.66	I	ng/L	P337550	
		Hexazinone	0.59	U	ng/L	P337550	
		Malathion	0.41	U	ng/L	P337550	
		Metribuzin	0.24	UJ	ng/L	P337550	LCS, MS
		Mevinphos	0.59	U	ng/L	P337550	
		Molinate	0.35	U	ng/L	P337550	
		Norflurazon	0.59	U	ng/L	P337550	
		Pendimethalin	1.2	U	ng/L	P337550	
		Phorate	0.29	U	ng/L	P337550	
		Prometon	1.1	U	ng/L	P337550	
		Prometryn	0.24	U	ng/L	P337550	
		Simazine	8.2		ng/L	P337550	
		Terbufos	0.12	U	ng/L	P337550	
		Terbuthylazine	0.50	U	ng/L	P337550	
		Fonofos	0.24	U	ng/L	P337550	
		Metalaxyl	0.54	I	ng/L	P337550	
		Metolachlor	3.0		ng/L	P337550	
		Acetochlor	0.29	U	ng/L	P337550	
		Cyanazine	0.59	U	ng/L	P337550	
		Parathion Ethyl	0.29	U	ng/L	P337550	
		Parathion Methyl	0.29	U	ng/L	P337550	

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

Sample Location: Chiploa River @ Magnolia Rd.

Collection Date/Time: 12/27/2017 11:50

Field ID: G2TLHR0016-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956226	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P337520	
	EPA 300.0 Rev. 2.1	Chloride	5.3		mg Cl/L	P337660	
		Sulfate	1.2		mg SO4/L	P337661	
	SM 2120 B	Color (true)	7.8		PCU	P337521	
	SM 2320 B-97	Total Alkalinity	126	A	mg CaCO3/L	P337599	
	SM 2540 C-97	TDS	146		mg/L	P337813	
	SM 2540 D-97	TSS	3	I	mg/L	P337931	
	SM 4500 F-C-97	Fluoride	0.042	I	mg F/L	P337600	
1956228	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P337720	

Field ID: G2TLHR0016-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956228	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P337536	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.9		mg N/L	P337622	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P337607	
	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P337608	
1956230	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P337526	
1956240	EPA 200.7 Rev. 4.4	Calcium	53.3		mg/L	P337562	
		Iron	140		ug/L	P337562	
		Magnesium	2.70		mg/L	P337562	
		Potassium	0.62	I	mg/L	P337562	
		Sodium	2.8		mg/L	P337562	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P337562	
		Arsenic	0.42		ug/L	P337562	
		Cadmium	0.020	U	ug/L	P337562	
		Chromium	0.75	I	ug/L	P337562	
		Copper	0.20	U	ug/L	P337562	
		Lead	0.082	I	ug/L	P337828	
		Nickel	0.20	U	ug/L	P337562	
		Silver	0.010	U	ug/L	P337562	

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: Chiploa River @ Magnolia Rd.

Collection Date/Time: 12/27/2017 11:50

Field ID: G2TLHR0016-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956234	EPA 8321B	Glyphosate**	0.10	U	ug/L	P337683	
		AMPA**	0.10	U	ug/L	P337683	
		Pyraclostrobin**	0.0020	U	ug/L	P337683	
		Sucralose**	0.15		ug/L	P337657	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P337440	
		Diuron	8.0E-04	U	ug/L	P337440	
		Fenuron	0.0080	U	ug/L	P337440	
		Imidacloprid	8.0E-04	U	ug/L	P337440	MS
		Bentazon	8.2E-04	I	ug/L	P337440	
		Linuron	0.0040	U	ug/L	P337440	
		Acetaminophen**	0.0080	U	ug/L	P337440	
		MCPD	0.0020	U	ug/L	P337440	
		Carbamazepine**	4.9E-04	I	ug/L	P337440	
		Triclopyr**	0.0040	U	ug/L	P337440	
		Primidone**	0.0040	U	ug/L	P337440	
		Fluridone**	4.0E-04	U	ug/L	P337440	
1956236	EPA 8270D	Aldrin	4.9	U	ng/L	P337555	
		Alpha-BHC	2.5	U	ng/L	P337555	
		Beta-BHC	4.9	U	ng/L	P337555	
		Delta-BHC	4.9	U	ng/L	P337555	

Field ID: G2TLHR0016-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956236	EPA 8270D	Gamma-BHC	4.9	U	ng/L	P337555	
		Carbophenothion	4.9	U	ng/L	P337555	
		Chlorothalonil	2.5	U	ng/L	P337555	
		Cypermethrin	25	U	ng/L	P337555	
		DDD-p,p'	3.7	U	ng/L	P337555	
		DDE-p,p'	3.7	U	ng/L	P337555	
		DDT-p,p'	3.7	U	ng/L	P337555	MS, RPD
		Dieldrin	4.9	U	ng/L	P337555	
		Endosulfan I	4.9	U	ng/L	P337555	
		Endosulfan II	4.9	U	ng/L	P337555	
		Endosulfan Sulfate	2.5	U	ng/L	P337555	
		Endrin	2.5	U	ng/L	P337555	
		Endrin Aldehyde	2.5	U	ng/L	P337555	
		Heptachlor	1.8	U	ng/L	P337555	
		Heptachlor Epoxide	2.5	U	ng/L	P337555	
		Methoxychlor	4.9	U	ng/L	P337555	
		Mirex	2.5	U	ng/L	P337555	
		Permethrin	12	U	ng/L	P337555	
		Trifluralin	1.2	U	ng/L	P337555	
		Alpha-Chlordane	1.2	U	ng/L	P337555	
		Gamma-Chlordane	1.2	U	ng/L	P337555	
		Endrin Ketone	2.5	U	ng/L	P337555	
		Dicofol	37	U	ng/L	P337555	
	EPA 8276	Chlordane**	3.1	U	ng/L	P337555	
		Toxaphene**	15	U	ng/L	P337555	
1956238	EPA 8270D	Alachlor	0.29	U	ng/L	P337550	
		Ametryn	0.37	U	ng/L	P337550	RPD
		Atrazine	1.3		ng/L	P337550	
		Atrazine Desethyl	1.7	U	ng/L	P337550	MS
		Azinphos Methyl	2.6	U	ng/L	P337550	
		Bromacil	0.57	U	ng/L	P337550	MS
		Butylate	0.46	U	ng/L	P337550	
		Chlorpyrifos Ethyl	0.29	U	ng/L	P337550	
		Chlorpyrifos Methyl	0.11	U	ng/L	P337550	
		Demeton	2.3	U	ng/L	P337550	
		Diazinon	0.14	U	ng/L	P337550	
		Disulfoton	0.57	U	ng/L	P337550	
		EPTC	1.4	U	ng/L	P337550	
		Ethion	0.17	U	ng/L	P337550	
		Ethoprop	0.11	U	ng/L	P337550	
		Fenamiphos	0.29	U	ng/L	P337550	
		Fipronil	0.29	U	ng/L	P337550	
		Fipronil Sulfide	0.17	U	ng/L	P337550	
		Fipronil Sulfone	0.17	U	ng/L	P337550	
		Hexazinone	2.5		ng/L	P337550	

Field ID: G2TLHR0016-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1956238	EPA 8270D	Malathion	0.40	U	ng/L	P337550	LCS, MS
		Metribuzin	0.23	UJ	ng/L	P337550	
		Mevinphos	0.57	U	ng/L	P337550	
		Molinate	0.34	U	ng/L	P337550	
		Norflurazon	0.57	U	ng/L	P337550	
		Pendimethalin	1.1	U	ng/L	P337550	
		Phorate	0.29	U	ng/L	P337550	
		Prometon	1.0	U	ng/L	P337550	
		Prometryn	0.23	U	ng/L	P337550	
		Simazine	1.0	I	ng/L	P337550	
		Terbufos	0.11	U	ng/L	P337550	
		Terbutylazine	0.49	U	ng/L	P337550	
		Fonofos	0.23	U	ng/L	P337550	
		Metalaxyl	0.29	U	ng/L	P337550	
		Metolachlor	2.3		ng/L	P337550	
		Acetochlor	0.29	U	ng/L	P337550	
		Cyanazine	0.57	U	ng/L	P337550	
		Parathion Ethyl	0.29	U	ng/L	P337550	
		Parathion Methyl	0.29	U	ng/L	P337550	

Ref. Method and Comment:
 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: P337520

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P337562

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: P337562

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
Nickel	1.86		ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337562

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337828

Component	Result	Code	Units
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337660

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337661

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337720

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337536

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337622

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337607

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P337526

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P337550

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxalyl	0.25	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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270D

Batch ID: P337555

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P337555

Component	Result	Code	Units
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: P337555

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

Reference Method: EPA 8321B
Batch ID: P337657

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P337683

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Pyraclostrobin	0.0020	U	ug/L

Reference Method: SM 2120 B
Batch ID: P337521

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P337599

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
 Batch ID: P337813

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P337931

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P337600

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P337608

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

Reference Method: USGS O-2060-01
 Batch ID: P337440

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: P337562

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	111		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	106		P	85 - 115
Sodium	107		P	85 - 115
Zinc	101		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337562

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lead	103		P	85 - 115
Nickel	106		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337660

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337661

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337720

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337607

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P337526

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

Reference Method: EPA 8270D
 Batch ID: P337550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	95.4	95.3	P/P	78 - 118
Alachlor	98.0	99.9	P/P	77 - 119
Ametryn	91.8	95.6	P/P	61 - 136
Atrazine	102	101	P/P	73 - 120
Atrazine Desethyl	111	115	P/P	16 - 122
Azinphos Methyl	106	112	P/P	69 - 186
Bromacil	96.4	97.5	P/P	40 - 125
Butylate	45.3	40.8	P/P	32 - 87.0
Chlorpyrifos Ethyl	96.4	98.6	P/P	53 - 110
Chlorpyrifos Methyl	102	105	P/P	31 - 119
Cyanazine	212	217	P/P	36 - 224
Demeton	85.9	86.8	P/P	39 - 122
Diazinon	80.4	80.5	P/P	75 - 119
Disulfoton	106	106	P/P	42 - 139
EPTC	47.6	42.2	P/P	33 - 96.0
Ethion	96.0	104	P/P	63 - 127
Ethoprop	100	99.4	P/P	65 - 107
Fenamiphos	116	111	P/P	64 - 137
Fipronil	97.5	102	P/P	60 - 126
Fipronil Sulfide	100	102	P/P	58 - 124
Fipronil Sulfone	94.0	100	P/P	57 - 126
Fonofos	94.5	98.8	P/P	65 - 111
Hexazinone	92.0	88.0	P/P	46 - 151
Malathion	103	109	P/P	68 - 132
Metaxyl	93.9	98.0	P/P	51 - 132
Metolachlor	97.0	98.1	P/P	78 - 119
Metribuzin	181	176	F/F	58 - 148
Mevinphos	53.9	53.7	P/P	34 - 128
Molinate	49.5	49.5	P/P	44 - 101
Norflurazon	87.1	93.4	P/P	63 - 129
Parathion Ethyl	93.8	93.3	P/P	80 - 109
Parathion Methyl	100	100	P/P	74 - 125
Pendimethalin	101	104	P/P	48 - 134
Phorate	85.6	85.7	P/P	52 - 119
Prometon	84.8	86.2	P/P	69 - 124
Prometryn	89.6	91.6	P/P	66 - 124
Simazine	105	99.3	P/P	61 - 134
Terbufos	94.4	98.1	P/P	58 - 115
Terbutylazine	99.5	98.9	P/P	77 - 113

Reference Method: EPA 8270D
 Batch ID: P337555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	75.4	72.1	P/P	24 - 89.0
Alpha-BHC	83.9	88.0	P/P	58 - 117

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P337555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alpha-Chlordane	97.2	92.8	P/P	56 - 115
Beta-BHC	93.4	85.4	P/P	55 - 137
Carbophenothion	99.8	86.3	P/P	37 - 145
Chlorothalonil	96.1	80.5	P/P	26 - 163
Cypermethrin	102	84.6	P/P	42 - 156
DDD-p,p'	99.2	96.5	P/P	59 - 129
DDE-p,p'	103	100	P/P	52 - 117
DDT-p,p'	119	103	P/P	48 - 128
Delta-BHC	121	106	P/P	59 - 158
Dicofol	81.3	92.9	P/P	19 - 124
Dieldrin	97.5	93.3	P/P	57 - 126
Endosulfan I	96.4	94.8	P/P	59 - 133
Endosulfan II	111	106	P/P	58 - 148
Endosulfan Sulfate	89.5	85.0	P/P	56 - 135
Endrin	104	92.3	P/P	50 - 140
Endrin Aldehyde	102	92.7	P/P	47 - 141
Endrin Ketone	87.3	84.3	P/P	63 - 123
Gamma-BHC	101	91.5	P/P	59 - 132
Gamma-Chlordane	94.7	89.2	P/P	55 - 112
Heptachlor	86.5	79.6	P/P	45 - 102
Heptachlor Epoxide	97.3	91.8	P/P	61 - 116
Methoxychlor	103	95.5	P/P	60 - 133
Mirex	82.7	81.6	P/P	40 - 98.0
Permethrin	107	82.0	P/P	45 - 131
Trifluralin	89.9	85.4	P/P	38 - 179

Reference Method: EPA 8276
Batch ID: P337555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	62.8	52.9	P/P	47 - 125
Toxaphene	73.2	68.4	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P337657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	93.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P337683

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	120		P	40 - 150
Glyphosate	122		P	40 - 150
Pyraclostrobin	86.6		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P337599

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P337600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P337608

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P337440

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	88.1		P	40 - 150
Acetaminophen	106		P	30 - 150
Bentazon	89.1		P	30 - 150
Carbamazepine	81.6		P	40 - 150
Diuron	69.8		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	74.6		P	40 - 150
Imidacloprid	103		P	40 - 160
Linuron	58.7		P	40 - 150
MCPP	85.3		P	40 - 150
Primidone	106		P	40 - 150
Triclopyr	85.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P337562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956140	Calcium	107		P	80 - 120
1956140	Iron	105	104	P/P	80 - 120
1956140	Magnesium	105		P	80 - 120
1956140	Potassium	109	109	P/P	80 - 120
1956140	Sodium	107	105	P/P	80 - 120
1956140	Zinc	101	98.7	P/P	80 - 120
1956341	Calcium	104		P	80 - 120
1956341	Iron	105		P	80 - 120
1956341	Magnesium	107		P	80 - 120
1956341	Potassium	102		P	80 - 120
1956341	Sodium	105		P	80 - 120
1956341	Zinc	91.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956140	Arsenic	105	103	P/P	80 - 120
1956140	Cadmium	104	102	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956140	Chromium	99.3	97.6	P/P	80 - 120
1956140	Copper	98.2	96.5	P/P	80 - 120
1956140	Nickel	101	100	P/P	80 - 120
1956140	Silver	103	102	P/P	80 - 120
1956341	Arsenic	107		P	80 - 120
1956341	Cadmium	105		P	80 - 120
1956341	Chromium	101		P	80 - 120
1956341	Copper	100		P	80 - 120
1956341	Nickel	103		P	80 - 120
1956341	Silver	105		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956240	Lead	102		P	80 - 120
1956240	Nickel	103		P	80 - 120
1956410	Lead	104	102	P/P	80 - 120
1956410	Nickel	102	99.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956218	Chloride	106		P	90 - 110
1956225	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956218	Sulfate	105		P	90 - 110
1956225	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956227	Ammonia-N	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956227	Kjeldahl Nitrogen	92.7	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956135	NO2NO3-N	102	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P337607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956219	Total-P	97.2	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P337526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956220	O-Phosphate-P	97.6	99.6	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P337550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956409	Acetochlor	110	95.4	P/P	74 - 123
1956409	Alachlor	117	121	P/P	73 - 124
1956409	Ametryn	137	79.4	P/P	56 - 149
1956409	Atrazine	119	97.9	P/P	73 - 124
1956409	Atrazine Desethyl	111	112	F/F	12 - 103
1956409	Azinphos Methyl	93.7	75.4	P/P	60 - 202
1956409	Bromacil	158	135	F/F	42 - 133
1956409	Butylate	30.9	33.7	P/P	10 - 85.0
1956409	Chlorpyrifos Ethyl	93.5	98.6	P/P	53 - 113
1956409	Chlorpyrifos Methyl	99.6	91.0	P/P	40 - 115
1956409	Cyanazine	154	167	P/P	22 - 210
1956409	Demeton	77.0	73.7	P/P	17 - 149
1956409	Diazinon	89.5	77.7	P/P	72 - 124
1956409	Disulfoton	105	95.8	P/P	43 - 139
1956409	EPTC	36.1	31.7	P/P	10 - 86.0
1956409	Ethion	106	97.0	P/P	65 - 131
1956409	Ethoprop	108	94.9	P/P	59 - 110
1956409	Fenamiphos	98.3	91.1	P/P	57 - 138
1956409	Fipronil	112	95.2	P/P	40 - 130
1956409	Fipronil Sulfide	65.3	65.9	P/P	36 - 128
1956409	Fipronil Sulfone	86.4	73.7	P/P	16 - 145
1956409	Fonofos	95.0	88.9	P/P	60 - 112
1956409	Hexazinone	112	101	P/P	69 - 142
1956409	Malathion	110	98.2	P/P	68 - 132
1956409	Metalaxyl	101	91.8	P/P	66 - 118
1956409	Metolachlor	108	99.1	P/P	71 - 124
1956409	Metribuzin	278	255	F/F	61 - 140
1956409	Mevinphos	52.6	53.8	P/P	38 - 130
1956409	Molinate	57.2	50.6	P/P	23 - 99.0
1956409	Norflurazon	97.3	91.3	P/P	39 - 139
1956409	Parathion Ethyl	96.6	93.3	P/P	75 - 111
1956409	Parathion Methyl	99.7	90.8	P/P	64 - 130
1956409	Pendimethalin	107	102	P/P	26 - 173
1956409	Phorate	82.7	79.2	P/P	43 - 127
1956409	Prometon	105	96.4	P/P	50 - 144
1956409	Prometryn	105	93.2	P/P	69 - 126
1956409	Simazine	111	90.0	P/P	51 - 152
1956409	Terbufos	98.7	89.9	P/P	54 - 125
1956409	Terbutylazine	113	98.4	P/P	76 - 113

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P337555

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956194	Aldrin	72.0	72.3	P/P	26 - 96.0
1956194	Alpha-BHC	75.5	86.6	P/P	51 - 123
1956194	Alpha-Chlordane	94.2	95.7	P/P	45 - 120
1956194	Beta-BHC	111	101	P/P	43 - 146
1956194	Carbophenothion	101	98.2	P/P	26 - 179
1956194	Chlorothalonil	96.3	101	P/P	10 - 215
1956194	Cypermethrin	81.6	93.9	P/P	35 - 169
1956194	DDD-p,p'	91.7	114	P/P	49 - 131
1956194	DDE-p,p'	90.0	98.7	P/P	39 - 127
1956194	DDT-p,p'	106	466	P/F	49 - 120
1956194	Delta-BHC	118	125	P/P	49 - 187
1956194	Dicofol	91.6	99.6	P/P	10 - 129
1956194	Dieldrin	124	125	P/P	46 - 132
1956194	Endosulfan I	100	98.4	P/P	57 - 130
1956194	Endosulfan II	126	110	P/P	52 - 148
1956194	Endosulfan Sulfate	86.4	98.2	P/P	55 - 129
1956194	Endrin	97.8	96.2	P/P	45 - 133
1956194	Endrin Aldehyde	82.0	89.8	P/P	26 - 140
1956194	Endrin Ketone	91.0	100	P/P	60 - 125
1956194	Gamma-BHC	99.5	103	P/P	50 - 145
1956194	Gamma-Chlordane	89.7	93.4	P/P	44 - 118
1956194	Heptachlor	76.8	79.4	P/P	35 - 106
1956194	Heptachlor Epoxide	96.1	98.0	P/P	52 - 123
1956194	Methoxychlor	92.0	94.4	P/P	54 - 132
1956194	Mirex	77.9	83.1	P/P	36 - 107
1956194	Permethrin	80.3	87.8	P/P	47 - 135
1956194	Trifluralin	83.4	86.2	P/P	32 - 228

Reference Method: EPA 8276

Batch ID: P337555

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956408	Chlordane	49.4	44.3	P/P	41 - 134
1956408	Toxaphene	64.9	58.6	P/P	39 - 158

Reference Method: EPA 8321B

Batch ID: P337657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956295	Sucralose	69.9	75.0	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P337683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956233	AMPA	119	120	P/P	40 - 150
1956233	Glyphosate	123	118	P/P	40 - 150
1956233	Pyraclostrobin	83.0	89.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P337600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956226	Fluoride	93.9	96.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P337608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1956219	Organic Carbon	95.8	97.3	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P337440

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1955840	2,4-D	67.3	68.1	P/P	40 - 150
1955840	Acetaminophen	142	148	P/P	30 - 150
1955840	Bentazon	41.1	43.2	P/P	30 - 150
1955840	Carbamazepine	102	105	P/P	40 - 150
1955840	Diuron	79.2	86.7	P/P	40 - 150
1955840	Fenuron	96.4	95.7	P/P	40 - 150
1955840	Fluridone	77.7	83.4	P/P	40 - 150
1955840	Imidacloprid	173	173	F/F	40 - 160
1955840	Linuron	70.8	75.2	P/P	40 - 150
1955840	MCP	59.5	57.2	P/P	40 - 150
1955840	Primidone	124	125	P/P	40 - 150
1955840	Triclopyr	55.7	51.8	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P337520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956134	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P337562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956140	Calcium	0.741	Spike	P	0 - 20
1956140	Iron	0.352	Spike	P	0 - 20
1956140	Magnesium	0.719	Spike	P	0 - 20
1956140	Potassium	0.104	Spike	P	0 - 20
1956140	Sodium	1.26	Spike	P	0 - 20
1956140	Zinc	1.99	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956140	Arsenic	1.41	Spike	P	0 - 20
1956140	Cadmium	1.83	Spike	P	0 - 20
1956140	Chromium	1.71	Spike	P	0 - 20
1956140	Copper	1.70	Spike	P	0 - 20
1956140	Nickel	0.648	Spike	P	0 - 20
1956140	Silver	0.602	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P337828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956410	Lead	2.17	Spike	P	0 - 20
1956410	Nickel	2.21	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956218	Chloride	1.80	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P337661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956218	Sulfate	2.75	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956227	Ammonia-N	1.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956227	Kjeldahl Nitrogen	2.60	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956135	NO2NO3-N	1.46	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P337607

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956219	Total-P	2.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P337526

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956220	O-Phosphate-P	1.63	Spike	P	0 - 20

Reference Method: EPA 8270D

Batch ID: P337550

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956409	Acetochlor	14.6	Spike	P	0 - 30
1956409	Alachlor	3.21	Spike	P	0 - 30
1956409	Ametryn	53.6	Spike	F	0 - 30
1956409	Atrazine	11.8	Spike	P	0 - 30
1956409	Atrazine Desethyl	0.331	Spike	P	0 - 30
1956409	Azinphos Methyl	21.6	Spike	P	0 - 30
1956409	Bromacil	15.5	Spike	P	0 - 30
1956409	Butylate	8.66	Spike	P	0 - 30
1956409	Chlorpyrifos Ethyl	5.34	Spike	P	0 - 30
1956409	Chlorpyrifos Methyl	8.96	Spike	P	0 - 30
1956409	Cyanazine	8.20	Spike	P	0 - 30
1956409	Demeton	4.46	Spike	P	0 - 30
1956409	Diazinon	14.1	Spike	P	0 - 30
1956409	Disulfoton	9.42	Spike	P	0 - 30
1956409	EPTC	13.0	Spike	P	0 - 30
1956409	Ethion	8.90	Spike	P	0 - 30
1956409	Ethoprop	13.4	Spike	P	0 - 30
1956409	Fenamiphos	7.65	Spike	P	0 - 30
1956409	Fipronil	16.3	Spike	P	0 - 30
1956409	Fipronil Sulfide	0.642	Spike	P	0 - 30
1956409	Fipronil Sulfone	12.5	Spike	P	0 - 30
1956409	Fonofos	6.64	Spike	P	0 - 30
1956409	Hexazinone	8.61	Spike	P	0 - 30
1956409	Malathion	11.1	Spike	P	0 - 30
1956409	Metalaxyl	9.58	Spike	P	0 - 30
1956409	Metolachlor	8.53	Spike	P	0 - 30
1956409	Metribuzin	8.57	Spike	P	0 - 30
1956409	Mevinphos	2.36	Spike	P	0 - 30
1956409	Molinate	12.2	Spike	P	0 - 30
1956409	Norflurazon	6.40	Spike	P	0 - 30
1956409	Parathion Ethyl	3.45	Spike	P	0 - 30
1956409	Parathion Methyl	9.30	Spike	P	0 - 30
1956409	Pendimethalin	4.93	Spike	P	0 - 30
1956409	Phorate	4.34	Spike	P	0 - 30
1956409	Prometon	8.97	Spike	P	0 - 30
1956409	Prometryn	11.7	Spike	P	0 - 30
1956409	Simazine	20.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P337550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956409	Terbufos	9.41	Spike	P	0 - 30
1956409	Terbutylazine	13.5	Spike	P	0 - 30
LFB	Acetochlor	0.174	LCS	P	0 - 30
LFB	Alachlor	1.84	LCS	P	0 - 30
LFB	Ametryn	4.07	LCS	P	0 - 30
LFB	Atrazine	0.993	LCS	P	0 - 30
LFB	Atrazine Desethyl	3.35	LCS	P	0 - 30
LFB	Azinphos Methyl	5.50	LCS	P	0 - 30
LFB	Bromacil	1.07	LCS	P	0 - 30
LFB	Butylate	10.4	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.31	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	2.03	LCS	P	0 - 30
LFB	Cyanazine	2.38	LCS	P	0 - 30
LFB	Demeton	0.997	LCS	P	0 - 30
LFB	Diazinon	0.0964	LCS	P	0 - 30
LFB	Disulfoton	0.194	LCS	P	0 - 30
LFB	EPTC	11.8	LCS	P	0 - 30
LFB	Ethion	7.57	LCS	P	0 - 30
LFB	Ethoprop	0.640	LCS	P	0 - 30
LFB	Fenamiphos	4.43	LCS	P	0 - 30
LFB	Fipronil	4.53	LCS	P	0 - 30
LFB	Fipronil Sulfide	1.71	LCS	P	0 - 30
LFB	Fipronil Sulfone	6.53	LCS	P	0 - 30
LFB	Fonofos	4.46	LCS	P	0 - 30
LFB	Hexazinone	4.41	LCS	P	0 - 30
LFB	Malathion	5.31	LCS	P	0 - 30
LFB	Metalaxyl	4.25	LCS	P	0 - 30
LFB	Metolachlor	1.14	LCS	P	0 - 30
LFB	Metribuzin	3.05	LCS	P	0 - 30
LFB	Mevinphos	0.296	LCS	P	0 - 30
LFB	Molinate	0.0543	LCS	P	0 - 30
LFB	Norflurazon	6.98	LCS	P	0 - 30
LFB	Parathion Ethyl	0.566	LCS	P	0 - 30
LFB	Parathion Methyl	0.0200	LCS	P	0 - 30
LFB	Pendimethalin	2.52	LCS	P	0 - 30
LFB	Phorate	0.0876	LCS	P	0 - 30
LFB	Prometon	1.65	LCS	P	0 - 30
LFB	Prometryn	2.21	LCS	P	0 - 30
LFB	Simazine	5.53	LCS	P	0 - 30
LFB	Terbufos	3.77	LCS	P	0 - 30
LFB	Terbutylazine	0.618	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P337555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956194	Aldrin	0.384	Spike	P	0 - 30
1956194	Alpha-BHC	13.8	Spike	P	0 - 30
1956194	Alpha-Chlordane	1.51	Spike	P	0 - 30
1956194	Beta-BHC	9.51	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P337555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956194	Carbophenothion	2.87	Spike	P	0 - 30
1956194	Chlorothalonil	4.52	Spike	P	0 - 30
1956194	Cypermethrin	14.0	Spike	P	0 - 30
1956194	DDD-p,p'	21.9	Spike	P	0 - 30
1956194	DDE-p,p'	9.17	Spike	P	0 - 30
1956194	DDT-p,p'	126	Spike	F	0 - 30
1956194	Delta-BHC	5.80	Spike	P	0 - 30
1956194	Dicofol	8.33	Spike	P	0 - 30
1956194	Dieldrin	0.103	Spike	P	0 - 30
1956194	Endosulfan I	1.62	Spike	P	0 - 30
1956194	Endosulfan II	13.1	Spike	P	0 - 30
1956194	Endosulfan Sulfate	12.7	Spike	P	0 - 30
1956194	Endrin	1.59	Spike	P	0 - 30
1956194	Endrin Aldehyde	9.05	Spike	P	0 - 30
1956194	Endrin Ketone	9.57	Spike	P	0 - 30
1956194	Gamma-BHC	2.97	Spike	P	0 - 30
1956194	Gamma-Chlordane	4.01	Spike	P	0 - 30
1956194	Heptachlor	3.32	Spike	P	0 - 30
1956194	Heptachlor Epoxide	1.59	Spike	P	0 - 30
1956194	Methoxychlor	2.56	Spike	P	0 - 30
1956194	Mirex	6.42	Spike	P	0 - 30
1956194	Permethrin	8.94	Spike	P	0 - 30
1956194	Trifluralin	3.34	Spike	P	0 - 30
LFB	Aldrin	4.47	LCS	P	0 - 30
LFB	Alpha-BHC	4.74	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.70	LCS	P	0 - 30
LFB	Beta-BHC	9.00	LCS	P	0 - 30
LFB	Carbophenothion	14.6	LCS	P	0 - 30
LFB	Chlorothalonil	17.7	LCS	P	0 - 30
LFB	Cypermethrin	18.3	LCS	P	0 - 30
LFB	DDD-p,p'	2.77	LCS	P	0 - 30
LFB	DDE-p,p'	2.67	LCS	P	0 - 30
LFB	DDT-p,p'	14.0	LCS	P	0 - 30
LFB	Delta-BHC	12.5	LCS	P	0 - 30
LFB	Dicofol	13.3	LCS	P	0 - 30
LFB	Dieldrin	4.38	LCS	P	0 - 30
LFB	Endosulfan I	1.64	LCS	P	0 - 30
LFB	Endosulfan II	4.20	LCS	P	0 - 30
LFB	Endosulfan Sulfate	5.11	LCS	P	0 - 30
LFB	Endrin	12.4	LCS	P	0 - 30
LFB	Endrin Aldehyde	9.13	LCS	P	0 - 30
LFB	Endrin Ketone	3.47	LCS	P	0 - 30
LFB	Gamma-BHC	9.80	LCS	P	0 - 30
LFB	Gamma-Chlordane	6.03	LCS	P	0 - 30
LFB	Heptachlor	8.34	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.82	LCS	P	0 - 30
LFB	Methoxychlor	7.26	LCS	P	0 - 30
LFB	Mirex	1.39	LCS	P	0 - 30
LFB	Permethrin	26.8	LCS	P	0 - 30
LFB	Trifluralin	5.05	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276

Batch ID: P337555

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956408	Chlordane	10.8	Spike	P	0 - 30
1956408	Toxaphene	10.1	Spike	P	0 - 30
LFB	Chlordane	17.1	LCS	P	0 - 30
LFB	Toxaphene	6.89	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P337657

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956295	Sucralose	6.47	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P337683

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956233	AMPA	0.377	Spike	P	0 - 30
1956233	Glyphosate	3.99	Spike	P	0 - 30
1956233	Pyraclostrobin	7.18	Spike	P	0 - 30

Reference Method: SM 2120 B

Batch ID: P337521

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956153	Color (true)	1.81	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P337599

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956226	Total Alkalinity	0.0629	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97

Batch ID: P337813

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956218	TDS	3.60	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97

Batch ID: P337600

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956226	Fluoride	1.96	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P337608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1956219	Organic Carbon	1.33	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P337440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1955840	2,4-D	1.15	Spike	P	0 - 30
1955840	Acetaminophen	3.58	Spike	P	0 - 30
1955840	Bentazon	4.91	Spike	P	0 - 30
1955840	Carbamazepine	3.02	Spike	P	0 - 30
1955840	Diuron	8.87	Spike	P	0 - 30
1955840	Fenuron	0.750	Spike	P	0 - 30
1955840	Fluridone	7.00	Spike	P	0 - 30
1955840	Imidacloprid	0.0267	Spike	P	0 - 30
1955840	Linuron	5.94	Spike	P	0 - 30
1955840	MCPP	3.96	Spike	P	0 - 30
1955840	Primidone	1.15	Spike	P	0 - 30
1955840	Triclopyr	7.33	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: 1956233
Field Sample ID: G2TLHR0002-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.4	P	30 - 160
EPA 8321B	Diuron-d6	68.0	P	30 - 160
EPA 8321B	Diuron-d6	85.7	P	30 - 160
EPA 8321B	Diuron-d6	68.0	P	30 - 160
EPA 8321B	Diuron-d6	85.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	40 - 160
EPA 8321B	Primidone-d5	129	P	30 - 160
EPA 8321B	Primidone-d5	129	P	30 - 160
EPA 8321B	Sucralose-d6	83.3	P	40 - 160
EPA 8321B	Sucralose-d6	83.3	P	40 - 160
USGS O-2060-01	2,4-D-d3	66.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	123	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	96.4	P	30 - 160
USGS O-2060-01	Diuron-d6	68.0	P	30 - 160
USGS O-2060-01	Diuron-d6	85.7	P	30 - 160
USGS O-2060-01	Primidone-d5	129	P	30 - 160
USGS O-2060-01	Sucralose-d6	83.3	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1956234

Field Sample ID: G2TLHR0016-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	100	P	30 - 160
EPA 8321B	Diuron-d6	80.4	P	30 - 160
EPA 8321B	Diuron-d6	87.2	P	30 - 160
EPA 8321B	Diuron-d6	80.4	P	30 - 160
EPA 8321B	Diuron-d6	87.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	40 - 160
EPA 8321B	Primidone-d5	122	P	30 - 160
EPA 8321B	Primidone-d5	122	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160
USGS O-2060-01	2,4-D-d3	73.5	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	112	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	100	P	30 - 160
USGS O-2060-01	Diuron-d6	80.4	P	30 - 160
USGS O-2060-01	Diuron-d6	87.2	P	30 - 160
USGS O-2060-01	Primidone-d5	122	P	30 - 160
USGS O-2060-01	Sucralose-d6	106	P	40 - 160

Lab Sample ID: 1956235

Field Sample ID: G2TLHR0002-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	76.8	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	56.4	P	34 - 101
EPA 8276	Decachlorobiphenyl	58.4	P	31 - 108
EPA 8276	PCNB	107	P	40 - 130

Lab Sample ID: 1956236

Field Sample ID: G2TLHR0016-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	84.6	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	70.3	P	34 - 101
EPA 8276	Decachlorobiphenyl	53.8	P	31 - 108
EPA 8276	PCNB	107	P	40 - 130

Lab Sample ID: 1956237

Field Sample ID: G2TLHR0002-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	92.5	P	53 - 135
EPA 8270D	Simazine-d10	93.9	P	71 - 126

Lab Sample ID: 1956238

Field Sample ID: G2TLHR0016-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	109	P	53 - 135
EPA 8270D	Simazine-d10	101	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A81144

Included Lab Sample IDs: 1956225, 1956226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	97.3	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A81145

Included Lab Sample IDs: 1956225, 1956226

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81148

Included Lab Sample IDs: 1956229, 1956230

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.9	98.6	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A81177

Included Lab Sample IDs: 1956225, 1956226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A81177

Included Lab Sample IDs: 1956225, 1956226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	98.6	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A81179

Included Lab Sample IDs: 1956227, 1956228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81180

Included Lab Sample IDs: 1956227, 1956228

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A81187

Included Lab Sample IDs: 1956227, 1956228

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A81207

Included Lab Sample IDs: 1956239, 1956240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	103	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Potassium	99.9	99.3	P/P	90 - 110
Sodium	104	101	P/P	90 - 110
Zinc	101	99.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A81210

Included Lab Sample IDs: 1956225, 1956226

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81230

Included Lab Sample IDs: 1956227, 1956228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	105	P/P	90 - 110
Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81231

Included Lab Sample IDs: 1956239, 1956240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	101	P/P	90 - 110
Cadmium	99.6	99.5	P/P	90 - 110
Chromium	98.4	98.4	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Silver	99.8	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A81238

Included Lab Sample IDs: 1956233, 1956234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	85.9	90.2	P/P	60 - 150
Glyphosate	80.0	94.6	P/P	60 - 150
Pyraclostrobin	103		P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81258

Included Lab Sample IDs: 1956227, 1956228

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81258

Included Lab Sample IDs: 1956227, 1956228

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

Reference Method: EPA 8321B

Run ID: A81275

Included Lab Sample IDs: 1956233, 1956234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.2	146	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A81280

Included Lab Sample IDs: 1956233, 1956234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.1	92.7	P/P	50 - 150
Acetaminophen	96.2	108	P/P	60 - 150
Bentazon	91.2	89.5	P/P	50 - 150
Carbamazepine	101	111	P/P	60 - 150
Diuron	102	101	P/P	60 - 150
Fenuron	99.3	111	P/P	60 - 150
Fluridone	96.3	112	P/P	60 - 160
Imidacloprid	97.3	105	P/P	60 - 150
Linuron	98.2	116	P/P	60 - 150
MCPP	97.2	93.0	P/P	50 - 150
Primidone	89.7	95.9	P/P	60 - 150
Triclopyr	90.0	86.3	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81318

Included Lab Sample IDs: 1956239, 1956240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	102	101	P/P	90 - 110
Nickel	103	100	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A81339

Included Lab Sample IDs: 1956235, 1956236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.6		P	80 - 120
Alpha-BHC	98.8		P	80 - 120
Alpha-Chlordane	96.7		P	80 - 120
Beta-BHC	104		P	80 - 120
Carbophenothion	93.3		P	80 - 120
Chlorothalonil	101		P	80 - 120
Cypermethrin	90.7		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	98.8		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	98.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A81339

Included Lab Sample IDs: 1956235, 1956236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dicofol	102		P	80 - 120
Dieldrin	93.0		P	80 - 120
Endosulfan I	96.2		P	80 - 120
Endosulfan II	104		P	80 - 120
Endosulfan Sulfate	96.5		P	80 - 120
Endrin	94.1		P	80 - 120
Endrin Aldehyde	96.0		P	80 - 120
Endrin Ketone	93.7		P	80 - 120
Gamma-BHC	96.7		P	80 - 120
Gamma-Chlordane	94.8		P	80 - 120
Heptachlor	94.4		P	80 - 120
Heptachlor Epoxide	96.9		P	80 - 120
Methoxychlor	101		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	89.3		P	80 - 120
Trifluralin	97.0		P	80 - 120

Reference Method: EPA 8276

Run ID: A81346

Included Lab Sample IDs: 1956235, 1956236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	109		P	80 - 120
Chlordane	96.2		P	80 - 120
Toxaphene	106		P	80 - 120
Toxaphene	97.5		P	80 - 120

Reference Method: EPA 8270D

Run ID: A81378

Included Lab Sample IDs: 1956237, 1956238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.3		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	96.9		P	80 - 120
Atrazine Desethyl	98.7		P	80 - 120
Azinphos Methyl	93.7		P	80 - 120
Bromacil	99.1		P	80 - 120
Butylate	97.2		P	80 - 120
Chlorpyrifos Ethyl	96.7		P	80 - 120
Chlorpyrifos Methyl	98.3		P	80 - 120
Cyanazine	97.2		P	80 - 120
Demeton	103		P	80 - 120
Diazinon	93.0		P	80 - 120
Disulfoton	97.4		P	80 - 120
EPTC	97.6		P	80 - 120
Ethion	99.0		P	80 - 120
Ethoprop	100		P	80 - 120
Fenamiphos	96.1		P	80 - 120
Fipronil	94.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A81378

Included Lab Sample IDs: 1956237, 1956238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil Sulfide	96.8		P	80 - 120
Fipronil Sulfone	96.8		P	80 - 120
Fonofos	97.5		P	80 - 120
Hexazinone	95.0		P	80 - 120
Malathion	95.4		P	80 - 120
Metalaxyl	97.7		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	93.5		P	80 - 120
Mevinphos	97.8		P	80 - 120
Molinate	102		P	80 - 120
Norflurazon	93.9		P	80 - 120
Parathion Ethyl	93.8		P	80 - 120
Parathion Methyl	95.4		P	80 - 120
Pendimethalin	100		P	80 - 120
Phorate	96.6		P	80 - 120
Prometon	94.4		P	80 - 120
Prometryn	97.3		P	80 - 120
Simazine	93.1		P	80 - 120
Terbufos	96.0		P	80 - 120
Terbutylazine	94.1		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			Precision SMP	MS
			LCS	MS	MS		
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 200.7 Rev. 4.4	Calcium	108	107	104			0.741
	Iron	111	105	104	105		0.352
	Magnesium	108	105	107			0.719
	Potassium	106	109	109	102		0.104
	Sodium	107	107	105	105		1.26
	Zinc	101	101	98.7	91.0		1.99
EPA 200.8 Rev. 5.4	Arsenic	103	105	103	107		1.41
	Cadmium	102	104	102	105		1.83
	Chromium	98.3	99.3	97.6	101		1.71
	Copper	99.8	98.2	96.5	100		1.70
	Lead	103	102	104	102		2.17
	Nickel	102	101	100	103		0.648
	Nickel	106	103	102	99.9		2.21
	Silver	102	103	102	105		0.602
EPA 300.0 Rev. 2.1	Chloride	104	106	103		1.80	
	Sulfate	103	105	101		2.75	
EPA 350.1 Rev. 2.0	Ammonia-N	106	105	103			1.00
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.3	92.7	95.7			2.60
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	104			1.46

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 365.1 Rev. 2.0	Total-P	99.4		97.2	94.8			2.31
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6		97.6	99.6			1.63
EPA 8270D	Acetochlor	95.4	95.3	110	95.4	0.174		14.6
	Alachlor	98.0	99.9	117	121	1.84		3.21
	Aldrin	75.4	72.1	72.0	72.3	4.47		0.384
	Alpha-BHC	83.9	88.0	75.5	86.6	4.74		13.8
	Alpha-Chlordane	97.2	92.8	94.2	95.7	4.70		1.51
	Ametryn	91.8	95.6	137	79.4	4.07		53.6
	Atrazine	102	101	119	97.9	0.993		11.8
	Atrazine Desethyl	111	115	111	112	3.35		0.331
	Azinphos Methyl	106	112	93.7	75.4	5.50		21.6
	Beta-BHC	93.4	85.4	111	101	9.00		9.51
	Bromacil	96.4	97.5	158	135	1.07		15.5
	Butylate	45.3	40.8	30.9	33.7	10.4		8.66
	Carbophenothion	99.8	86.3	101	98.2	14.6		2.87
	Chlorothalonil	96.1	80.5	96.3	101	17.7		4.52
	Chlorpyrifos Ethyl	96.4	98.6	93.5	98.6	2.31		5.34
	Chlorpyrifos Methyl	102	105	99.6	91.0	2.03		8.96
	Cyanazine	212	217	154	167	2.38		8.20
	Cypermethrin	102	84.6	81.6	93.9	18.3		14.0
	DDD-p,p'	99.2	96.5	91.7	114	2.77		21.9
	DDE-p,p'	103	100	90.0	98.7	2.67		9.17
	DDT-p,p'	119	103	106	466	14.0		126
	Delta-BHC	121	106	118	125	12.5		5.80
	Demeton	85.9	86.8	77.0	73.7	0.997		4.46
	Diazinon	80.4	80.5	89.5	77.7	0.0964		14.1
	Dicofol	81.3	92.9	91.6	99.6	13.3		8.33
	Dieldrin	97.5	93.3	124	125	4.38		0.103
	Disulfoton	106	106	105	95.8	0.194		9.42
	Endosulfan I	96.4	94.8	100	98.4	1.64		1.62
	Endosulfan II	111	106	126	110	4.20		13.1
	Endosulfan Sulfate	89.5	85.0	86.4	98.2	5.11		12.7
	Endrin	104	92.3	97.8	96.2	12.4		1.59
	Endrin Aldehyde	102	92.7	82.0	89.8	9.13		9.05
	Endrin Ketone	87.3	84.3	91.0	100	3.47		9.57
	EPTC	47.6	42.2	36.1	31.7	11.8		13.0
	Ethion	96.0	104	106	97.0	7.57		8.90
	Ethoprop	100	99.4	108	94.9	0.640		13.4
	Fenamiphos	116	111	98.3	91.1	4.43		7.65
	Fipronil	97.5	102	112	95.2	4.53		16.3
	Fipronil Sulfide	100	102	65.3	65.9	1.71		0.642
	Fipronil Sulfone	94.0	100	86.4	73.7	6.53		12.5
	Fonofos	94.5	98.8	95.0	88.9	4.46		6.64
	Gamma-BHC	101	91.5	99.5	103	9.80		2.97
	Gamma-Chlordane	94.7	89.2	89.7	93.4	6.03		4.01
	Heptachlor	86.5	79.6	76.8	79.4	8.34		3.32
	Heptachlor Epoxide	97.3	91.8	96.1	98.0	5.82		1.59
	Hexazinone	92.0	88.0	112	101	4.41		8.61
	Malathion	103	109	110	98.2	5.31		11.1
	Metalaxyl	93.9	98.0	101	91.8	4.25		9.58
	Methoxychlor	103	95.5	92.0	94.4	7.26		2.56
	Metolachlor	97.0	98.1	108	99.1	1.14		8.53
	Metribuzin	181	176	278	255	3.05		8.57
	Mevinphos	53.9	53.7	52.6	53.8	0.296		2.36

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Mirex	82.7	81.6	77.9	83.1	1.39	6.42
	Molinate	49.5	49.5	57.2	50.6	0.0543	12.2
	Norflurazon	87.1	93.4	97.3	91.3	6.98	6.40
	Parathion Ethyl	93.8	93.3	96.6	93.3	0.566	3.45
	Parathion Methyl	100	100	99.7	90.8	0.0200	9.30
	Pendimethalin	101	104	107	102	2.52	4.93
	Permethrin	107	82.0	80.3	87.8	26.8	8.94
	Phorate	85.6	85.7	82.7	79.2	0.0876	4.34
	Prometon	84.8	86.2	105	96.4	1.65	8.97
	Prometryn	89.6	91.6	105	93.2	2.21	11.7
	Simazine	105	99.3	111	90.0	5.53	20.7
	Terbufos	94.4	98.1	98.7	89.9	3.77	9.41
	Terbutylazine	99.5	98.9	113	98.4	0.618	13.5
	Trifluralin	89.9	85.4	83.4	86.2	5.05	3.34
	Chlordane	62.8	52.9	49.4	44.3	17.1	10.8
EPA 8276	Toxaphene	73.2	68.4	64.9	58.6	6.89	10.1
EPA 8321B	AMPA	120		119	120		0.377
	Glyphosate	122		123	118		3.99
	Pyraclostrobin	86.6		83.0	89.1		7.18
	Sucralose	93.9		69.9	75.0		6.47
SM 2120 B	Color (true)					1.81	
SM 2320 B-97	Total Alkalinity	101				0.0629	
SM 2540 C-97	TDS					3.60	
SM 4500 F-C-97	Fluoride	93.7		93.9	96.0		1.96
SM 5310 B-00	Organic Carbon	96.9		95.8	97.3		1.33
USGS O-2060-01	2,4-D	88.1		68.1	67.3		1.15
	Acetaminophen	106		142	148		3.58
	Bentazon	89.1		43.2	41.1		4.91
	Carbamazepine	81.6		102	105		3.02
	Diuron	69.8		79.2	86.7		8.87
	Fenuron	111		96.4	95.7		0.750
	Fluridone	74.6		77.7	83.4		7.00
	Imidacloprid	103		173	173		0.0267
	Linuron	58.7		70.8	75.2		5.94
	MCPP	85.3		57.2	59.5		3.96
	Primidone	106		124	125		1.15
	Triclopyr	85.7		51.8	55.7		7.33

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1956225, 1956226
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1956239, 1956240
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1956239, 1956240
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1956225, 1956226
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1956225, 1956226
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1956227, 1956228

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1956227, 1956228
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1956227, 1956228
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1956227, 1956228
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1956229, 1956230
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1956235, 1956236
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1956237, 1956238
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1956235, 1956236
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1956233, 1956234
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1956233, 1956234
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1956233, 1956234
SM 2120 B / E31780	True Color measured at 450 nm	1956225, 1956226
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1956225, 1956226
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1956225, 1956226
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1956225, 1956226
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1956225, 1956226
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1956227, 1956228
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1956233, 1956234
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1956233, 1956234

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	12/27/2017			12/27/2017 14:02	DeAsia Armster	1956225, 1956226
EPA 200.7 Rev. 4.4	12/27/2017	12/28/2017	Elliott D. Healy	12/29/2017	Betina Topolski	1956239, 1956240
EPA 200.8 Rev. 5.4	12/27/2017	01/04/2018	Elliott D. Healy	01/05/2018	Nadine Brooks	1956239, 1956240
	12/27/2017	12/28/2017	Elliott D. Healy	01/02/2018	Nadine Brooks	1956239, 1956240
EPA 300.0 Rev. 2.1	12/27/2017			12/29/2017	Julia Storbeck	1956225, 1956226
EPA 350.1 Rev. 2.0	12/27/2017			01/02/2018	Sofia Elnemr	1956227, 1956228
EPA 351.2 Rev. 2.0	12/27/2017	12/28/2017	Adrian Shelby	12/29/2017	Joseph Suarez	1956227, 1956228
EPA 353.2 Rev. 2.0	12/27/2017			12/29/2017	Beverly Y. Sanders	1956227, 1956228
EPA 365.1 Rev. 2.0	12/27/2017	12/29/2017	Sima Feizi	01/03/2018	Lipi Saha	1956227, 1956228
EPA 365.1 Rev. 2.0 dissolved	12/27/2017			12/27/2017 14:40	Megan Treadwell	1956229
	12/27/2017			12/27/2017 14:41	Megan Treadwell	1956230
EPA 8270D	12/27/2017	12/28/2017	John Kaba	12/29/2017	Vandana T. Nagar	1956237, 1956238
	12/27/2017	12/29/2017	Fe-Val Siddell	01/04/2018	Goutam Palui	1956235, 1956236
EPA 8276	12/27/2017	12/29/2017	Fe-Val Siddell	01/08/2018	John P. Burgos	1956235
	12/27/2017	12/29/2017	Fe-Val Siddell	01/09/2018	John P. Burgos	1956236
EPA 8321B	12/27/2017	01/02/2018	Mohammad Ghaffari	01/02/2018	Mohammad Ghaffari	1956233, 1956234
	12/27/2017	01/03/2018	Mohammad Ghaffari	01/03/2018	Mohammad Ghaffari	1956233, 1956234
SM 2120 B	12/27/2017			12/27/2017 14:29	Julia Storbeck	1956225
	12/27/2017			12/27/2017 14:30	Julia Storbeck	1956226
SM 2320 B-97	12/27/2017			12/28/2017	Dale L. Simmons	1956225, 1956226
SM 2540 C-97	12/27/2017			01/02/2018	Yijie Li	1956225, 1956226
SM 2540 D-97	12/27/2017			01/02/2018	Yijie Li	1956225, 1956226
SM 4500 F-C-97	12/27/2017			12/28/2017	Dale L. Simmons	1956225, 1956226
SM 5310 B-00	12/27/2017			12/28/2017	Megan Treadwell	1956227, 1956228
USGS O-2060-01	12/27/2017	12/28/2017	Julie Michelle Frank	12/28/2017	Julie Michelle Frank	1956233, 1956234
	12/27/2017	12/28/2017	Julie Michelle Frank	12/29/2017	Julie Michelle Frank	1956233, 1956234