

Chemical Analysis Report

NE-DIST-2017-10-19-01

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

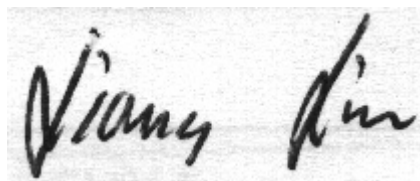
Event Description: **High Springs**
Request ID: **RQ-2017-09-18-11**
Customer: **NE-DIST**
Project ID: **SMP**

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

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 30-NOV-2017 10:43

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: TREEHOUSE SPRING

Collection Date/Time: 10/18/2017 11:45

Field ID: G1NE0016 10182017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938571	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P333722	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P333837	
		Sulfate	26		mg SO4/L	P333841	
	SM 2120 B	Color (true)	330		PCU	P333747	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P333927	
	SM 2540 C-97	TDS	182		mg/L	P334315	
	SM 2540 D-97	TSS	2	UA	mg/L	P334526	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P333928	
1938573	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P334091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P334069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P334097	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P334039	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P334348	
1938575	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P333755	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: SANTA FE RISE

Collection Date/Time: 10/18/2017 12:30

Field ID: G1NE0015 10182017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938572	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P333722	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P333837	
		Sulfate	22		mg SO4/L	P333841	
	SM 2120 B	Color (true)	420		PCU	P333747	
	SM 2320 B-97	Total Alkalinity	64		mg CaCO3/L	P333927	
	SM 2540 C-97	TDS	162		mg/L	P334315	
	SM 2540 D-97	TSS	2	I	mg/L	P334526	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P333928	
1938574	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P334091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P334069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P334097	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P334039	
	SM 5310 B-00	Organic Carbon	29		mg C/L	P334348	
1938576	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P333755	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: GILCHRIST BLUE SPRING

Collection Date/Time: 10/18/2017 10:10

Field ID: G1NE0014 10182017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G1NE0014 10182017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938577	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P333722	
	EPA 300.0 Rev. 2.1	Chloride	6.3		mg Cl/L	P333837	
		Sulfate	10		mg SO4/L	P333841	
	SM 2120 B	Color (true)	2.5	U	PCU	P333747	
	SM 2320 B-97	Total Alkalinity	169	A	mg CaCO3/L	P333927	
	SM 2540 C-97	TDS	191		mg/L	P334315	
	SM 2540 D-97	TSS	2	U	mg/L	P334527	
	SM 4500 F-C-97	Fluoride	0.096	I	mg F/L	P333928	
1938578	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P334091	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.097	I	mg N/L	P334069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.2		mg N/L	P334097	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P334039	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P334348	
1938579	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P333755	
1938583	EPA 8321B	Glyphosate**	0.10	U	ug/L	P333599	
		Pyraclostrobin**	0.0020	U	ug/L	P333600	
		Sucralose**	0.026	I	ug/L	P333921	
	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335339	
		Diuron	8.0E-04	U	ug/L	P333877	
		Fenuron	0.0080	U	ug/L	P333877	
		Imidacloprid	8.3E-04	I	ug/L	P333877	MS
		Bentazon	8.0E-04	UQ	ug/L	P335339	
		Linuron	0.0040	U	ug/L	P333877	
		Acetaminophen**	0.0080	U	ug/L	P333877	
		MCP	0.0020	UQ	ug/L	P335339	
		Carbamazepine**	4.0E-04	U	ug/L	P333877	MS
		Triclopyr**	0.0040	UQ	ug/L	P335339	
		Primidone**	0.0040	U	ug/L	P333877	
		Fluridone**	4.0E-04	U	ug/L	P333877	
	EPA 8270D	Aldrin	4.1	U	ng/L	P333744	
		Alpha-BHC	2.1	U	ng/L	P333744	
		Beta-BHC	4.1	U	ng/L	P333744	
		Delta-BHC	4.1	U	ng/L	P333744	
		Gamma-BHC	4.1	U	ng/L	P333744	
		Carbophenothion	4.1	U	ng/L	P333744	
		Chlorothalonil	2.1	U	ng/L	P333744	MS, RPD
		Cypermethrin	21	U	ng/L	P333744	
		DDD-p,p'	3.1	U	ng/L	P333744	
		DDE-p,p'	3.1	U	ng/L	P333744	
		DDT-p,p'	3.1	U	ng/L	P333744	
		Dieldrin	4.1	U	ng/L	P333744	
		Endosulfan I	4.1	U	ng/L	P333744	
		Endosulfan II	4.1	U	ng/L	P333744	
		Endosulfan Sulfate	2.1	U	ng/L	P333744	

Field ID: G1NE0014 10182017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938584	EPA 8270D	Endrin	2.1	U	ng/L	P333744	
		Endrin Aldehyde	2.1	U	ng/L	P333744	
		Heptachlor	1.5	U	ng/L	P333744	
		Heptachlor Epoxide	2.1	U	ng/L	P333744	
		Methoxychlor	4.1	U	ng/L	P333744	
		Mirex	2.1	U	ng/L	P333744	
		Permethrin	10	U	ng/L	P333744	
		Trifluralin	1.0	U	ng/L	P333744	
		Alpha-Chlordane	1.0	U	ng/L	P333744	
		Gamma-Chlordane	1.0	U	ng/L	P333744	
		Endrin Ketone	2.1	U	ng/L	P333744	
		Dicofol	31	U	ng/L	P333744	MS
		Chlordane**	2.6	U	ng/L	P333744	
	EPA 8276	Toxaphene**	13	U	ng/L	P333744	
		Alachlor	0.24	UJ	ng/L	P333676	MS
		Ametryn	0.31	U	ng/L	P333676	
1938585	EPA 8270D	Atrazine	0.28	IJ	ng/L	P333676	LCS, MS
		Atrazine Desethyl	1.4	UJ	ng/L	P333676	RPD
		Azinphos Methyl	2.1	U	ng/L	P333676	
		Bromacil	0.47	U	ng/L	P333676	
		Butylate	0.38	UJ	ng/L	P333676	MS
		Chlorpyrifos Ethyl	0.24	U	ng/L	P333676	
		Chlorpyrifos Methyl	0.095	U	ng/L	P333676	
		Demeton	1.9	U	ng/L	P333676	
		Diazinon	0.12	UJ	ng/L	P333676	MS
		Disulfoton	0.47	U	ng/L	P333676	
		EPTC	1.2	U	ng/L	P333676	
		Ethion	0.14	U	ng/L	P333676	
		Ethoprop	0.095	UJ	ng/L	P333676	LCS
		Fenamiphos	0.24	U	ng/L	P333676	
		Fipronil	0.24	U	ng/L	P333676	
		Fipronil Sulfide	0.14	U	ng/L	P333676	
		Fipronil Sulfone	0.14	U	ng/L	P333676	
		Hexazinone	0.64	I	ng/L	P333676	
		Malathion	0.33	U	ng/L	P333676	
		Metribuzin	0.19	UJ	ng/L	P333676	LCS, MS, RPD
		Mevinphos	0.47	U	ng/L	P333676	
		Molinate	0.28	UJ	ng/L	P333676	MS
		Norflurazon	0.47	U	ng/L	P333676	
		Pendimethalin	0.95	U	ng/L	P333676	
		Phorate	0.24	U	ng/L	P333676	
		Prometon	0.85	U	ng/L	P333676	
		Prometryn	0.19	UJ	ng/L	P333676	MS
		Simazine	0.47	U	ng/L	P333676	

Field ID: G1NE0014 10182017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938585	EPA 8270D	Terbufos	0.095	U	ng/L	P333676	
		Terbutylazine	0.40	UJ	ng/L	P333676	LCS, MS
		Fonofos	0.19	UJ	ng/L	P333676	LCS, MS
		Metalaxyl	0.24	U	ng/L	P333676	
		Metolachlor	0.49	IJ	ng/L	P333676	MS
		Acetochlor	0.24	UJ	ng/L	P333676	LCS, MS
		Cyanazine	0.47	UJ	ng/L	P333676	LCS, MS, RPD
		Parathion Ethyl	0.24	UJ	ng/L	P333676	MS
		Parathion Methyl	0.24	U	ng/L	P333676	
1938586	EPA 200.7 Rev. 4.4	Calcium	66.2		mg/L	P333931	
		Iron	30	U	ug/L	P333931	
		Magnesium	6.66		mg/L	P333931	
		Potassium	0.49	I	mg/L	P333931	
		Sodium	3.2		mg/L	P333931	
		Zinc	5.0	U	ug/L	P333931	
	EPA 200.8 Rev. 5.4	Arsenic	0.42		ug/L	P333931	
		Cadmium	0.020	U	ug/L	P333931	
		Chromium	0.98	I	ug/L	P333931	
		Copper	0.20	U	ug/L	P333931	
		Lead	0.050	U	ug/L	P333931	
		Nickel	0.20	U	ug/L	P333931	
		Silver	0.010	U	ug/L	P333931	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

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: P333722

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P333931

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: P333931

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: P333837

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333841

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334091

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334097

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334039

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333755

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: P333676

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

Reference Method: EPA 8270D
Batch ID: P333744

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
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: P333744

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: P333744

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

Reference Method: EPA 8321B
Batch ID: P333599

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P333600

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P333921

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P333747

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P333927

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

Reference Method: SM 2540 C-97
Batch ID: P334315

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334526

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334527

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P334348

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

Reference Method: USGS O-2060-01
Batch ID: P333877

Component	Result	Code	Units
Acetaminophen	0.0080	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
Primidone	0.0040	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P335339

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
MCP	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
 Batch ID: P335339

Component	Result	Code	Units
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P333931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	103		P	85 - 115
Sodium	103		P	85 - 115
Zinc	98.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P333931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	105		P	85 - 115
Cadmium	106		P	85 - 115
Chromium	102		P	85 - 115
Copper	101		P	85 - 115
Lead	98.4		P	85 - 115
Nickel	103		P	85 - 115
Silver	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P333837

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P333841

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P334091

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P334069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P334097

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P334039

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333755

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

Reference Method: EPA 8270D
 Batch ID: P333676

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P333676

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

Reference Method: EPA 8270D
Batch ID: P333744

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

Reference Method: EPA 8276
Batch ID: P333744

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

Reference Method: EPA 8321B
Batch ID: P333599

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P333600

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

Reference Method: EPA 8321B
Batch ID: P333921

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

Reference Method: SM 2320 B-97
Batch ID: P333927

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

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P334348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	77.5		P	30 - 150
Carbamazepine	128		P	40 - 150
Diuron	111		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	114		P	40 - 150
Imidacloprid	96.1		P	40 - 160
Linuron	110		P	40 - 150
Primidone	106		P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335339

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.9		P	40 - 150
Bentazon	84.9		P	30 - 150
MCPP	81.1		P	40 - 150
Triclopyr	81.4		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938627	Calcium	106		P	80 - 120
1938627	Iron	108		P	80 - 120
1938627	Magnesium	109		P	80 - 120
1938627	Potassium	108		P	80 - 120
1938627	Sodium	105		P	80 - 120
1938627	Zinc	101		P	80 - 120
1938886	Calcium	106	104	P/P	80 - 120
1938886	Iron	107	105	P/P	80 - 120
1938886	Magnesium	109	106	P/P	80 - 120
1938886	Potassium	103	102	P/P	80 - 120
1938886	Sodium	104		P	80 - 120
1938886	Zinc	99.8	99.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938627	Arsenic	107		P	80 - 120
1938627	Cadmium	108		P	80 - 120
1938627	Chromium	105		P	80 - 120
1938627	Copper	103		P	80 - 120
1938627	Lead	102		P	80 - 120
1938627	Nickel	104		P	80 - 120
1938627	Silver	101		P	80 - 120
1938886	Arsenic	103	102	P/P	80 - 120
1938886	Cadmium	107	106	P/P	80 - 120
1938886	Chromium	102	101	P/P	80 - 120
1938886	Copper	99.5	97.8	P/P	80 - 120
1938886	Lead	99.6	98.0	P/P	80 - 120
1938886	Nickel	101	100	P/P	80 - 120
1938886	Silver	98.7	97.4	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938615	Chloride	105		P	90 - 110
1938621	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938615	Sulfate	103		P	90 - 110
1938621	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938573	Ammonia-N	97.8	98.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P334069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938616	Kjeldahl Nitrogen	94.9	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P334097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938568	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P334039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938578	Total-P	103	101	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P333676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938585	Acetochlor	153	133	F/F	74 - 123
1938585	Alachlor	127	112	F/P	73 - 124
1938585	Ametryn	119	105	P/P	56 - 149
1938585	Atrazine	126	120	F/P	73 - 124
1938585	Atrazine Desethyl	70.1	103	P/P	12 - 103
1938585	Azinphos Methyl	138	118	P/P	60 - 202
1938585	Bromacil	105	94.5	P/P	42 - 133
1938585	Butylate	85.6	65.3	F/P	10 - 85.0
1938585	Chlorpyrifos Ethyl	111	110	P/P	53 - 113
1938585	Chlorpyrifos Methyl	109	115	P/P	40 - 115
1938585	Cyanazine	160	212	P/F	22 - 210
1938585	Demeton	111	119	P/P	17 - 149
1938585	Diazinon	135	125	F/F	72 - 124
1938585	Disulfoton	86.0	102	P/P	43 - 139
1938585	EPTC	85.3	70.2	P/P	10 - 86.0
1938585	Ethion	112	119	P/P	65 - 131
1938585	Ethoprop	100	103	P/P	59 - 110
1938585	Fenamiphos	114	130	P/P	57 - 138
1938585	Fipronil	127	118	P/P	40 - 130
1938585	Fipronil Sulfide	108	118	P/P	36 - 128
1938585	Fipronil Sulfone	97.7	104	P/P	16 - 145
1938585	Fonofos	126	137	F/F	60 - 112
1938585	Hexazinone	136	139	P/P	69 - 142
1938585	Malathion	116	121	P/P	68 - 132
1938585	Metalaxyl	112	103	P/P	66 - 118
1938585	Metolachlor	124	108	F/P	71 - 124
1938585	Metribuzin	158	214	F/F	61 - 140
1938585	Mevinphos	95.3	86.5	P/P	38 - 130
1938585	Molinate	106	85.1	F/P	23 - 99.0
1938585	Norflurazon	122	107	P/P	39 - 139
1938585	Parathion Ethyl	100	114	P/F	75 - 111
1938585	Parathion Methyl	105	113	P/P	64 - 130
1938585	Pendimethalin	106	118	P/P	26 - 173
1938585	Phorate	91.5	99.0	P/P	43 - 127

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P333676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938585	Prometon	127	109	P/P	50 - 144
1938585	Prometryn	138	115	F/P	69 - 126
1938585	Simazine	145	129	P/P	51 - 152
1938585	Terbufos	98.8	103	P/P	54 - 125
1938585	Terbuthylazine	120	116	F/F	76 - 113

Reference Method: EPA 8270D

Batch ID: P333744

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

Reference Method: EPA 8276

Batch ID: P333744

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

Reference Method: EPA 8321B

Batch ID: P333599

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P333600

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

Reference Method: EPA 8321B
Batch ID: P333921

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938505	Sucralose	61.0	61.4	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938577	Fluoride	96.8	98.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P334348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938567	Organic Carbon	101		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938443	Acetaminophen	119	115	P/P	30 - 150
1938443	Carbamazepine	154	147	F/P	40 - 150
1938443	Diuron	115	106	P/P	40 - 150
1938443	Fenuron	106	105	P/P	40 - 150
1938443	Fluridone	125	108	P/P	40 - 150
1938443	Imidacloprid	173	167	F/F	40 - 160
1938443	Linuron	120	114	P/P	40 - 150
1938443	Primidone	130	117	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938672	2,4-D	76.7	84.3	P/P	40 - 150
1938672	Bentazon	69.2	66.4	P/P	30 - 150
1938672	MCPP	58.9	58.9	P/P	40 - 150
1938672	Triclopyr	54.0	59.8	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938565	Turbidity	3.74	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P333931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938886	Calcium	1.46	Spike	P	0 - 20
1938886	Iron	1.44	Spike	P	0 - 20
1938886	Magnesium	1.78	Spike	P	0 - 20
1938886	Potassium	1.26	Spike	P	0 - 20
1938886	Sodium	0.114	Spike	P	0 - 20
1938886	Zinc	0.862	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P333931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938886	Arsenic	1.06	Spike	P	0 - 20
1938886	Cadmium	0.713	Spike	P	0 - 20
1938886	Chromium	0.257	Spike	P	0 - 20
1938886	Copper	1.78	Spike	P	0 - 20
1938886	Lead	1.58	Spike	P	0 - 20
1938886	Nickel	0.801	Spike	P	0 - 20
1938886	Silver	1.35	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938621	Chloride	0.470	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938621	Sulfate	0.371	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938573	Ammonia-N	0.678	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938616	Kjeldahl Nitrogen	5.63	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938568	NO2NO3-N	0.662	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938578	Total-P	1.97	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938569	O-Phosphate-P	0.773	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P333676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938585	Acetochlor	13.9	Spike	P	0 - 30
1938585	Alachlor	13.1	Spike	P	0 - 30
1938585	Ametryn	11.8	Spike	P	0 - 30
1938585	Atrazine	4.61	Spike	P	0 - 30
1938585	Atrazine Desethyl	31.7	Spike	F	0 - 30
1938585	Azinphos Methyl	15.7	Spike	P	0 - 30
1938585	Bromacil	10.7	Spike	P	0 - 30
1938585	Butylate	26.9	Spike	P	0 - 30
1938585	Chlorpyrifos Ethyl	1.30	Spike	P	0 - 30
1938585	Chlorpyrifos Methyl	5.16	Spike	P	0 - 30
1938585	Cyanazine	28.0	Spike	P	0 - 30
1938585	Demeton	6.79	Spike	P	0 - 30
1938585	Diazinon	7.76	Spike	P	0 - 30
1938585	Disulfoton	17.4	Spike	P	0 - 30
1938585	EPTC	19.4	Spike	P	0 - 30
1938585	Ethion	6.06	Spike	P	0 - 30
1938585	Ethoprop	2.31	Spike	P	0 - 30
1938585	Fenamiphos	13.1	Spike	P	0 - 30
1938585	Fipronil	6.91	Spike	P	0 - 30
1938585	Fipronil Sulfide	8.28	Spike	P	0 - 30
1938585	Fipronil Sulfone	5.91	Spike	P	0 - 30
1938585	Fonofos	8.40	Spike	P	0 - 30
1938585	Hexazinone	1.96	Spike	P	0 - 30
1938585	Malathion	4.38	Spike	P	0 - 30
1938585	Metalaxyl	8.35	Spike	P	0 - 30
1938585	Metolachlor	13.3	Spike	P	0 - 30
1938585	Metribuzin	30.1	Spike	F	0 - 30
1938585	Mevinphos	9.73	Spike	P	0 - 30
1938585	Molinate	22.1	Spike	P	0 - 30
1938585	Norflurazon	13.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P333676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938585	Parathion Ethyl	12.6	Spike	P	0 - 30
1938585	Parathion Methyl	7.76	Spike	P	0 - 30
1938585	Pendimethalin	11.1	Spike	P	0 - 30
1938585	Phorate	7.87	Spike	P	0 - 30
1938585	Prometon	15.1	Spike	P	0 - 30
1938585	Prometryn	17.9	Spike	P	0 - 30
1938585	Simazine	11.7	Spike	P	0 - 30
1938585	Terbufos	4.55	Spike	P	0 - 30
1938585	Terbuthylazine	3.37	Spike	P	0 - 30
LFB	Acetochlor	5.66	LCS	P	0 - 30
LFB	Alachlor	4.21	LCS	P	0 - 30
LFB	Ametryn	8.36	LCS	P	0 - 30
LFB	Atrazine	12.9	LCS	P	0 - 30
LFB	Atrazine Desethyl	48.9	LCS	F	0 - 30
LFB	Azinphos Methyl	17.6	LCS	P	0 - 30
LFB	Bromacil	3.80	LCS	P	0 - 30
LFB	Butylate	5.98	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	8.23	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	16.2	LCS	P	0 - 30
LFB	Cyanazine	81.2	LCS	F	0 - 30
LFB	Demeton	6.18	LCS	P	0 - 30
LFB	Diazinon	9.03	LCS	P	0 - 30
LFB	Disulfoton	10.2	LCS	P	0 - 30
LFB	EPTC	3.40	LCS	P	0 - 30
LFB	Ethion	4.62	LCS	P	0 - 30
LFB	Ethoprop	23.0	LCS	P	0 - 30
LFB	Fenamiphos	6.00	LCS	P	0 - 30
LFB	Fipronil	4.73	LCS	P	0 - 30
LFB	Fipronil Sulfide	19.9	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.83	LCS	P	0 - 30
LFB	Fonofos	27.2	LCS	P	0 - 30
LFB	Hexazinone	3.16	LCS	P	0 - 30
LFB	Malathion	3.03	LCS	P	0 - 30
LFB	Metaxyl	4.17	LCS	P	0 - 30
LFB	Metolachlor	3.58	LCS	P	0 - 30
LFB	Metribuzin	62.8	LCS	F	0 - 30
LFB	Mevinphos	23.9	LCS	P	0 - 30
LFB	Molinate	11.3	LCS	P	0 - 30
LFB	Norflurazon	1.65	LCS	P	0 - 30
LFB	Parathion Ethyl	10.3	LCS	P	0 - 30
LFB	Parathion Methyl	14.2	LCS	P	0 - 30
LFB	Pendimethalin	11.4	LCS	P	0 - 30
LFB	Phorate	15.4	LCS	P	0 - 30
LFB	Prometon	1.62	LCS	P	0 - 30
LFB	Prometryn	1.22	LCS	P	0 - 30
LFB	Simazine	6.95	LCS	P	0 - 30
LFB	Terbufos	16.5	LCS	P	0 - 30
LFB	Terbuthylazine	10.7	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P333744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937357	Aldrin	4.83	Spike	P	0 - 30
1937357	Alpha-BHC	4.28	Spike	P	0 - 30
1937357	Alpha-Chlordane	5.11	Spike	P	0 - 30
1937357	Beta-BHC	14.5	Spike	P	0 - 30
1937357	Carbophenothion	10.6	Spike	P	0 - 30
1937357	Chlorothalonil	87.8	Spike	F	0 - 30
1937357	Cypermethrin	3.74	Spike	P	0 - 30
1937357	DDD-p,p'	6.67	Spike	P	0 - 30
1937357	DDE-p,p'	5.63	Spike	P	0 - 30
1937357	DDT-p,p'	0.514	Spike	P	0 - 30
1937357	Delta-BHC	3.65	Spike	P	0 - 30
1937357	Dicofol	6.52	Spike	P	0 - 30
1937357	Dieldrin	6.00	Spike	P	0 - 30
1937357	Endosulfan I	4.66	Spike	P	0 - 30
1937357	Endosulfan II	14.4	Spike	P	0 - 30
1937357	Endosulfan Sulfate	9.29	Spike	P	0 - 30
1937357	Endrin	5.82	Spike	P	0 - 30
1937357	Endrin Aldehyde	11.6	Spike	P	0 - 30
1937357	Endrin Ketone	4.36	Spike	P	0 - 30
1937357	Gamma-BHC	2.17	Spike	P	0 - 30
1937357	Gamma-Chlordane	5.37	Spike	P	0 - 30
1937357	Heptachlor	5.25	Spike	P	0 - 30
1937357	Heptachlor Epoxide	6.34	Spike	P	0 - 30
1937357	Methoxychlor	4.70	Spike	P	0 - 30
1937357	Mirex	6.13	Spike	P	0 - 30
1937357	Permethrin	0.890	Spike	P	0 - 30
1937357	Trifluralin	2.96	Spike	P	0 - 30
LFB	Aldrin	9.64	LCS	P	0 - 30
LFB	Alpha-BHC	2.20	LCS	P	0 - 30
LFB	Alpha-Chlordane	6.61	LCS	P	0 - 30
LFB	Beta-BHC	11.2	LCS	P	0 - 30
LFB	Carbophenothion	3.88	LCS	P	0 - 30
LFB	Chlorothalonil	23.8	LCS	P	0 - 30
LFB	Cypermethrin	8.08	LCS	P	0 - 30
LFB	DDD-p,p'	7.24	LCS	P	0 - 30
LFB	DDE-p,p'	18.9	LCS	P	0 - 30
LFB	DDT-p,p'	6.01	LCS	P	0 - 30
LFB	Delta-BHC	9.41	LCS	P	0 - 30
LFB	Dicofol	2.04	LCS	P	0 - 30
LFB	Dieldrin	4.57	LCS	P	0 - 30
LFB	Endosulfan I	6.22	LCS	P	0 - 30
LFB	Endosulfan II	7.41	LCS	P	0 - 30
LFB	Endosulfan Sulfate	8.48	LCS	P	0 - 30
LFB	Endrin	1.14	LCS	P	0 - 30
LFB	Endrin Aldehyde	8.71	LCS	P	0 - 30
LFB	Endrin Ketone	5.58	LCS	P	0 - 30
LFB	Gamma-BHC	4.12	LCS	P	0 - 30
LFB	Gamma-Chlordane	6.68	LCS	P	0 - 30
LFB	Heptachlor	5.23	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.46	LCS	P	0 - 30
LFB	Methoxychlor	8.56	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P333744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Mirex	12.5	LCS	P	0 - 30
LFB	Permethrin	4.94	LCS	P	0 - 30
LFB	Trifluralin	6.41	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P333744

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

Reference Method: EPA 8321B
Batch ID: P333599

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

Reference Method: EPA 8321B
Batch ID: P333600

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

Reference Method: EPA 8321B
Batch ID: P333921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938505	Sucralose	0.562	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P333747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938656	Color (true)	1.49	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P333927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938577	Total Alkalinity	0.118	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P334315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938658	TDS	5.17	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938577	Fluoride	0.982	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P334348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938567	Organic Carbon	0.284	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P333877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938443	Acetaminophen	3.60	Spike	P	0 - 30
1938443	Carbamazepine	4.38	Spike	P	0 - 30
1938443	Diuron	8.17	Spike	P	0 - 30
1938443	Fenuron	1.12	Spike	P	0 - 30
1938443	Fluridone	14.2	Spike	P	0 - 30
1938443	Imidacloprid	3.83	Spike	P	0 - 30
1938443	Linuron	4.53	Spike	P	0 - 30
1938443	Primidone	10.8	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P335339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938672	2,4-D	5.24	Spike	P	0 - 30
1938672	Bentazon	2.28	Spike	P	0 - 30
1938672	MCPP	0.0	Spike	P	0 - 30
1938672	Triclopyr	10.2	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: 1938583
Field Sample ID: G1NE0014 10182017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report Surrogates

Lab Sample ID: 1938583
 Field Sample ID: G1NE0014 10182017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	97.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	97.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	143	P	30 - 160
EPA 8321B	Carbamazepine-d10	143	P	30 - 160
EPA 8321B	Diuron-d6	126	P	30 - 160
EPA 8321B	Diuron-d6	108	P	30 - 160
EPA 8321B	Diuron-d6	126	P	30 - 160
EPA 8321B	Diuron-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.4	P	40 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	63.6	P	40 - 160
EPA 8321B	Sucralose-d6	63.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	47.2	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	97.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	143	P	30 - 160
USGS O-2060-01	Diuron-d6	126	P	30 - 160
USGS O-2060-01	Diuron-d6	108	P	30 - 160
USGS O-2060-01	Primidone-d5	111	P	30 - 160
USGS O-2060-01	Sucralose-d6	63.6	P	40 - 160

Lab Sample ID: 1938584
 Field Sample ID: G1NE0014 10182017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	105	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	69.5	P	32 - 103
EPA 8276	Decachlorobiphenyl	82.7	P	31 - 100

Lab Sample ID: 1938585
 Field Sample ID: G1NE0014 10182017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	88.6	P	53 - 135
EPA 8270D	Simazine-d10	111	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
 Run ID: A79674
 Included Lab Sample IDs: 1938571, 1938572, 1938577

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Run ID: A79682
 Included Lab Sample IDs: 1938575, 1938576, 1938579

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 dissolved

Run ID: A79682

Included Lab Sample IDs: 1938575, 1938576, 1938579

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

Reference Method: SM 2120 B

Run ID: A79684

Included Lab Sample IDs: 1938571, 1938572, 1938577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.0	100	P/P	85 - 115
Color (true)	100	97.8	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A79726

Included Lab Sample IDs: 1938571, 1938572, 1938577

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

Reference Method: EPA 8321B

Run ID: A79738

Included Lab Sample IDs: 1938583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	96.8	99.2	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A79740

Included Lab Sample IDs: 1938583

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

Reference Method: SM 2320 B-97

Run ID: A79765

Included Lab Sample IDs: 1938571, 1938572, 1938577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79765

Included Lab Sample IDs: 1938571, 1938572, 1938577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79811

Included Lab Sample IDs: 1938586

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79811

Included Lab Sample IDs: 1938586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	95 - 105
Iron	103	103	P/P	95 - 105
Magnesium	104	103	P/P	95 - 105
Potassium	103	102	P/P	95 - 105
Sodium	103	104	P/P	95 - 105
Zinc	95.8	97.6	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79814

Included Lab Sample IDs: 1938573, 1938574, 1938578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79823

Included Lab Sample IDs: 1938573, 1938574, 1938578

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79825

Included Lab Sample IDs: 1938573, 1938574

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79852

Included Lab Sample IDs: 1938578

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79896

Included Lab Sample IDs: 1938573, 1938574, 1938578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.6	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A79905

Included Lab Sample IDs: 1938583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	114	111	P/P	60 - 150
Carbamazepine	115	118	P/P	60 - 150
Diuron	109	112	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79905

Included Lab Sample IDs: 1938583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	110	112	P/P	60 - 150
Fluridone	112	114	P/P	60 - 160
Imidacloprid	118	110	P/P	60 - 150
Linuron	109	118	P/P	60 - 150
Primidone	107	102	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A79911

Included Lab Sample IDs: 1938573, 1938574, 1938578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A79920

Included Lab Sample IDs: 1938583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	111	P/P	60 - 150

Reference Method: EPA 8270D

Run ID: A79960

Included Lab Sample IDs: 1938584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.1		P	80 - 120
Alpha-BHC	97.7		P	80 - 120
Alpha-Chlordane	98.6		P	80 - 120
Beta-BHC	96.3		P	80 - 120
Carbophenothion	99.5		P	80 - 120
Chlorothalonil	99.8		P	80 - 120
Cypermethrin	97.2		P	80 - 120
DDD-p,p'	97.8		P	80 - 120
DDE-p,p'	100		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	100		P	80 - 120
Dicofol	88.4		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	96.2		P	80 - 120
Endosulfan II	99.4		P	80 - 120
Endosulfan Sulfate	98.6		P	80 - 120
Endrin	97.0		P	80 - 120
Endrin Aldehyde	93.9		P	80 - 120
Endrin Ketone	96.6		P	80 - 120
Gamma-BHC	92.2		P	80 - 120
Gamma-Chlordane	97.1		P	80 - 120
Heptachlor	96.1		P	80 - 120
Heptachlor Epoxide	98.1		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	97.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A79960

Included Lab Sample IDs: 1938584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Trifluralin	97.8		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79972

Included Lab Sample IDs: 1938586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	108	105	P/P	90 - 110
Cadmium	104	104	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Copper	105	102	P/P	90 - 110
Lead	98.3	98.0	P/P	90 - 110
Nickel	105	102	P/P	90 - 110
Silver	96.9	96.0	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A79998

Included Lab Sample IDs: 1938584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	87.9		P	80 - 120
Toxaphene	104		P	80 - 120

Reference Method: USGS O-2060-01

Run ID: A80386

Included Lab Sample IDs: 1938583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	112	104	P/P	50 - 150
Bentazon	116	119	P/P	50 - 150
MCPP	107	103	P/P	50 - 150
Triclopyr	108	101	P/P	50 - 150

Reference Method: EPA 8270D

Run ID: A80497

Included Lab Sample IDs: 1938585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.6		P	80 - 120
Alachlor	105		P	80 - 120
Ametryn	107		P	80 - 120
Atrazine	97.7		P	80 - 120
Atrazine Desethyl	108		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	105		P	80 - 120
Butylate	106		P	80 - 120
Chlorpyrifos Ethyl	95.5		P	80 - 120
Chlorpyrifos Methyl	96.3		P	80 - 120
Cyanazine	93.6		P	80 - 120
Demeton	90.6		P	80 - 120
Diazinon	111		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A80497
 Included Lab Sample IDs: 1938585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Disulfoton	97.3		P	80 - 120
EPTC	102		P	80 - 120
Ethion	95.3		P	80 - 120
Ethoprop	96.7		P	80 - 120
Fenamiphos	96.9		P	80 - 120
Fipronil	103		P	80 - 120
Fipronil Sulfide	93.8		P	80 - 120
Fipronil Sulfone	94.5		P	80 - 120
Fonofos	99.9		P	80 - 120
Hexazinone	101		P	80 - 120
Malathion	97.9		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	112		P	80 - 120
Mevinphos	92.1		P	80 - 120
Molinate	108		P	80 - 120
Norflurazon	99.0		P	80 - 120
Parathion Ethyl	104		P	80 - 120
Parathion Methyl	104		P	80 - 120
Pendimethalin	104		P	80 - 120
Phorate	99.8		P	80 - 120
Prometon	107		P	80 - 120
Prometryn	105		P	80 - 120
Simazine	101		P	80 - 120
Terbufos	94.7		P	80 - 120
Terbutylazine	101		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.74	
EPA 200.7 Rev. 4.4	Calcium	105	106	106	104			1.46
	Iron	105	108	107	105			1.44
	Magnesium	107	109	109	106			1.78
	Potassium	103	108	103	102			1.26
	Sodium	103	105	104				0.114
	Zinc	98.2	101	99.8	99.0			0.862
EPA 200.8 Rev. 5.4	Arsenic	105	107	103	102			1.06
	Cadmium	106	108	107	106			0.713
	Chromium	102	105	102	101			0.257
	Copper	101	103	99.5	97.8			1.78
	Lead	98.4	102	99.6	98.0			1.58
	Nickel	103	104	101	100			0.801
	Silver	98.3	101	98.7	97.4			1.35

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 300.0 Rev. 2.1	Chloride	103		103	105		0.470	
	Sulfate	102		102	103		0.371	
EPA 350.1 Rev. 2.0	Ammonia-N	101		97.8	98.8			0.678
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109		94.9	102			5.63
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104		101				0.662
EPA 365.1 Rev. 2.0	Total-P	98.0		103	101			1.97
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100						0.773
EPA 8270D	Acetochlor	137	130	153	133	5.66		13.9
	Alachlor	113	108	127	112	4.21		13.1
	Aldrin	45.0	49.5	81.4	77.6	9.64		4.83
	Alpha-BHC	92.4	94.4	82.1	78.7	2.20		4.28
	Alpha-Chlordane	86.1	92.0	104	98.6	6.61		5.11
	Ametryn	109	100	119	105	8.36		11.8
	Atrazine	132	116	126	120	12.9		4.61
	Atrazine Desethyl	121	73.3	70.1	103	48.9		31.7
	Azinphos Methyl	168	141	138	118	17.6		15.7
	Beta-BHC	88.2	98.7	101	87.6	11.2		14.5
	Bromacil	80.2	77.2	105	94.5	3.80		10.7
	Butylate	64.2	60.5	85.6	65.3	5.98		26.9
	Carbophenothion	110	114	139	125	3.88		10.6
	Chlorothalonil	47.5	60.3	5.42	13.9	23.8		87.8
	Chlorpyrifos Ethyl	110	101	111	110	8.23		1.30
	Chlorpyrifos Methyl	116	98.6	109	115	16.2		5.16
	Cyanazine	238	100	160	212	81.2		28.0
	Cypermethrin	126	136	109	105	8.08		3.74
	DDD-p,p'	96.9	104	126	118	7.24		6.67
	DDE-p,p'	78.8	95.3	112	106	18.9		5.63
	DDT-p,p'	92.5	98.2	95.1	94.6	6.01		0.514
	Delta-BHC	95.0	104	82.2	85.3	9.41		3.65
	Demeton	105	98.4	111	119	6.18		6.79
	Diazinon	118	108	135	125	9.03		7.76
	Dicofol	61.7	63.0	171	161	2.04		6.52
	Dieldrin	94.6	99.1	105	98.8	4.57		6.00
	Disulfoton	90.1	81.4	86.0	102	10.2		17.4
	Endosulfan I	93.3	99.3	104	99.0	6.22		4.66
	Endosulfan II	93.6	86.9	95.6	82.8	7.41		14.4
	Endosulfan Sulfate	95.5	104	87.4	79.6	8.48		9.29
	Endrin	88.3	89.3	99.6	106	1.14		5.82
	Endrin Aldehyde	97.4	106	89.5	79.6	8.71		11.6
	Endrin Ketone	95.9	101	88.7	84.9	5.58		4.36
	EPTC	65.5	63.3	85.3	70.2	3.40		19.4
	Ethion	111	106	112	119	4.62		6.06
	Ethoprop	114	90.3	100	103	23.0		2.31
	Fenamiphos	103	110	114	130	6.00		13.1
	Fipronil	106	111	127	118	4.73		6.91
	Fipronil Sulfide	99.6	122	108	118	19.9		8.28
	Fipronil Sulfone	89.3	92.8	97.7	104	3.83		5.91
	Fonofos	159	121	126	137	27.2		8.40
	Gamma-BHC	77.8	81.0	80.0	81.7	4.12		2.17
	Gamma-Chlordane	84.1	89.9	103	97.9	6.68		5.37
	Heptachlor	72.8	76.7	80.5	76.3	5.23		5.25
	Heptachlor Epoxide	87.8	90.9	102	96.1	3.46		6.34
	Hexazinone	129	125	136	139	3.16		1.96
	Malathion	108	111	116	121	3.03		4.38

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Metalaxyl	103	98.7	112	103	4.17	8.35
	Methoxychlor	99.2	108	106	102	8.56	4.70
	Metolachlor	104	108	124	108	3.58	13.3
	Metribuzin	234	122	158	214	62.8	30.1
	Mevinphos	109	85.5	95.3	86.5	23.9	9.73
	Mirex	76.4	86.6	86.7	81.5	12.5	6.13
	Molinate	89.3	79.8	106	85.1	11.3	22.1
	Norflurazon	112	110	122	107	1.65	13.2
	Parathion Ethyl	105	94.8	100	114	10.3	12.6
	Parathion Methyl	100	115	105	113	14.2	7.76
	Pendimethalin	108	96.1	106	118	11.4	11.1
	Permethrin	110	116	108	109	4.94	0.890
	Phorate	98.5	84.4	91.5	99.0	15.4	7.87
	Prometon	114	116	127	109	1.62	15.1
	Prometryn	114	116	138	115	1.22	17.9
	Simazine	132	124	145	129	6.95	11.7
	Terbufos	109	92.1	98.8	103	16.5	4.55
	Terbuthylazine	124	111	120	116	10.7	3.37
	Trifluralin	81.1	86.5	87.5	84.9	6.41	2.96
EPA 8276	Chlordane	91.6	105	106	95.1	13.8	10.5
	Toxaphene	117	135	139	127	13.8	8.89
EPA 8321B	Glyphosate	104		84.8	85.9		1.35
	Pyraclostrobin	95.2		96.1	95.4		0.679
	Sucralose	105		61.0	61.4		0.562
SM 2120 B	Color (true)					1.49	
SM 2320 B-97	Total Alkalinity	102				0.118	
SM 2540 C-97	TDS					5.17	
SM 4500 F-C-97	Fluoride	99.8		96.8	98.0		0.982
SM 5310 B-00	Organic Carbon	98.4		101			0.284
USGS O-2060-01	2,4-D	97.9		76.7	84.3		5.24
	Acetaminophen	77.5		119	115		3.60
	Bentazon	84.9		69.2	66.4		2.28
	Carbamazepine	128		154	147		4.38
	Diuron	111		115	106		8.17
	Fenuron	109		106	105		1.12
	Fluridone	114		125	108		14.2
	Imidacloprid	96.1		173	167		3.83
	Linuron	110		120	114		4.53
	MCPP	81.1		58.9	58.9		0.0
	Primidone	106		130	117		10.8
	Triclopyr	81.4		54.0	59.8		10.2

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1938571, 1938572, 1938577
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1938586
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1938586
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1938571, 1938572, 1938577

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1938571, 1938572, 1938577
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1938573, 1938574, 1938578
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1938573, 1938574, 1938578
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1938573, 1938574, 1938578
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1938573, 1938574, 1938578
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1938575, 1938576, 1938579
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1938584
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1938585
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1938584
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1938583
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1938583
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1938583
SM 2120 B / E31780	True Color measured at 450 nm	1938571, 1938572, 1938577
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1938571, 1938572, 1938577
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1938571, 1938572, 1938577
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1938571, 1938572, 1938577
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1938571, 1938572, 1938577
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1938573, 1938574, 1938578
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1938583
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1938583

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	10/19/2017			10/19/2017 18:20	DeAsia Armster	1938571, 1938572, 1938577
EPA 200.7 Rev. 4.4	10/19/2017	10/24/2017	Elliott D. Healy	10/25/2017	Betina Topolski	1938586
EPA 200.8 Rev. 5.4	10/19/2017	10/24/2017	Elliott D. Healy	11/01/2017	Nadine Brooks	1938586
EPA 300.0 Rev. 2.1	10/19/2017			10/20/2017	Julia Storbeck	1938571, 1938572, 1938577
EPA 350.1 Rev. 2.0	10/19/2017			10/25/2017	Sofia Elnemr	1938573, 1938574, 1938578
EPA 351.2 Rev. 2.0	10/19/2017	10/26/2017	Adrian Shelby	10/27/2017	Joseph Suarez	1938573, 1938574, 1938578
EPA 353.2 Rev. 2.0	10/19/2017			10/26/2017	Beverly Y. Sanders	1938573, 1938574, 1938578
EPA 365.1 Rev. 2.0	10/19/2017	10/25/2017	Sima Feizi	10/26/2017	Lipi Saha	1938573, 1938574
	10/19/2017	10/25/2017	Sima Feizi	10/27/2017	Lipi Saha	1938578
EPA 365.1 Rev. 2.0 dissolved	10/19/2017			10/19/2017 15:31	Megan Treadwell	1938575
	10/19/2017			10/19/2017 15:32	Megan Treadwell	1938576
	10/19/2017			10/19/2017 15:33	Megan Treadwell	1938579
EPA 8270D	10/19/2017	10/20/2017	Fe-Val Siddell	11/02/2017	Vandana T. Nagar	1938585
	10/19/2017	10/20/2017	John Kaba	10/25/2017	Marek Topolski	1938584
EPA 8276	10/19/2017	10/20/2017	John Kaba	10/27/2017	John P. Burgos	1938584
EPA 8321B	10/19/2017	10/20/2017	Mohammad Ghaffari	10/20/2017	Mohammad Ghaffari	1938583
	10/19/2017	10/24/2017	Juyoung Kim	10/26/2017	Juyoung Kim	1938583
SM 2120 B	10/19/2017			10/19/2017 16:25	Tanya Welborn	1938577
	10/19/2017			10/19/2017 16:46	Tanya Welborn	1938571, 1938572
SM 2320 B-97	10/19/2017			10/23/2017	Dale L. Simmons	1938571, 1938572, 1938577
SM 2540 C-97	10/19/2017			10/23/2017	DeAsia Armster	1938571, 1938572, 1938577
SM 2540 D-97	10/19/2017			10/23/2017	DeAsia Armster	1938571, 1938572, 1938577
SM 4500 F-C-97	10/19/2017			10/23/2017	Dale L. Simmons	1938571, 1938572, 1938577
SM 5310 B-00	10/19/2017			10/30/2017	Ping Hua	1938573, 1938574, 1938578
USGS O-2060-01	10/19/2017	10/23/2017	Hoor Shaik	10/28/2017	Julie Michelle Frank	1938583
	10/19/2017	11/15/2017	Hoor Shaik	11/18/2017	Julie Michelle Frank	1938583