

Chemical Analysis Report

WQAP-2017-06-09-03

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

Event Description: **Bellows & Rock**
Request ID: **RQ-2017-06-05-41**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 05-JUL-2017 10:59

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Bellows Lake

Collection Date/Time: 06/08/2017 11:15

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905087	EPA 180.1 Rev. 2.0	Turbidity	55	A	NTU	P326546	
	EPA 300.0 Rev. 2.1	Chloride	9.6		mg Cl/L	P327033	
		Sulfate	6.0		mg SO4/L	P327037	
	SM 2120 B	Color (true)	26	A	PCU	P326683	
	SM 2320 B-97	Total Alkalinity	67		mg CaCO3/L	P326792	
	SM 2540 C-97	TDS	148		mg/L	P327120	
	SM 2540 D-97	TSS	35		mg/L	P327086	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P326794	
1905088	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P326549	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	7.3		mg N/L	P326662	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326678	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P326675	
	SM 5310 B-00	Organic Carbon	30		mg C/L	P326723	
1905089	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326573	

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: Bellows Lake

Collection Date/Time: 06/08/2017 11:15

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905091	EPA 8321B	Glyphosate**	10	U	ug/L	P326580	
		Pyraclostrobin**	0.0020	U	ug/L	P326579	
		Sucralose**	0.067		ug/L	P326632	
	USGS O-2060-01	2,4-D	0.10		ug/L	P326471	
		Diuron	0.0044		ug/L	P326471	
		Fenuron	0.012	I	ug/L	P326471	
		Imidacloprid	0.0039		ug/L	P326471	MS
		Bentazon	8.0E-04	U	ug/L	P326471	MS
		Linuron	0.0040	U	ug/L	P326471	
		Acetaminophen**	0.0080	U	ug/L	P326471	
		MCP	0.0020	U	ug/L	P326471	
		Carbamazepine**	4.0E-04	U	ug/L	P326471	
		Triclopyr**	0.0040	U	ug/L	P326471	
		Primidone**	0.0040	U	ug/L	P326471	
		Fluridone**	0.012		ug/L	P326471	
1905092	EPA 8270D	Aldrin	4.2	UJ	ng/L	P326604	SUR
		Alpha-BHC	2.1	UJ	ng/L	P326604	SUR
		Beta-BHC	4.2	UJ	ng/L	P326604	SUR
		Delta-BHC	4.2	UJ	ng/L	P326604	SUR
		Gamma-BHC	4.2	UJ	ng/L	P326604	SUR
		Carbophenothion	4.2	UJ	ng/L	P326604	SUR
		Chlorothalonil	2.1	UJ	ng/L	P326604	RPD, SUR
		Cypermethrin	21	UJ	ng/L	P326604	SUR

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905092	EPA 8270D	DDD-p,p'	2.1	UJ	ng/L	P326604	SUR
		DDE-p,p'	3.1	UJ	ng/L	P326604	SUR
		DDT-p,p'	3.1	UJ	ng/L	P326604	SUR
		Dieldrin	4.2	UJ	ng/L	P326604	SUR
		Endosulfan I	4.2	UJ	ng/L	P326604	SUR
		Endosulfan II	4.2	UJ	ng/L	P326604	SUR
		Endosulfan Sulfate	2.1	UJ	ng/L	P326604	SUR
		Endrin	2.1	UJ	ng/L	P326604	SUR
		Endrin Aldehyde	2.1	UJ	ng/L	P326604	SUR
		Heptachlor	1.6	UJ	ng/L	P326604	SUR
		Heptachlor Epoxide	2.1	UJ	ng/L	P326604	SUR
		Methoxychlor	4.2	UJ	ng/L	P326604	SUR
		Mirex	2.1	UJ	ng/L	P326604	SUR
		Permethrin	10	UJ	ng/L	P326604	SUR
		Trifluralin	1.0	UJ	ng/L	P326604	LCS, SUR
		Alpha-Chlordane	1.0	UJ	ng/L	P326604	SUR
		Gamma-Chlordane	1.0	UJ	ng/L	P326604	SUR
		Endrin Ketone	2.1	UJ	ng/L	P326604	SUR
		Dicofol	31	UJ	ng/L	P326604	RPD, SUR
		Chlordane**	2.6	UJ	ng/L	P326604	SUR
		Toxaphene**	13	UJ	ng/L	P326604	SUR
1905093	EPA 8270D	Alachlor	0.24	UJ	ng/L	P326502	SUR
		Ametryn	0.31	UJ	ng/L	P326502	SUR
		Atrazine	26	J	ng/L	P326502	SUR
		Atrazine Desethyl	5.4	IJ	ng/L	P326502	MS, SUR
		Azinphos Methyl	2.1	UJ	ng/L	P326502	SUR
		Bromacil	0.48	UJ	ng/L	P326502	SUR
		Butylate	0.38	UJ	ng/L	P326502	SUR
		Chlorpyrifos Ethyl	0.24	UJ	ng/L	P326502	MS, SUR
		Chlorpyrifos Methyl	0.095	UJ	ng/L	P326502	SUR
		Demeton	1.9	UJ	ng/L	P326502	SUR
		Diazinon	0.12	UJ	ng/L	P326502	SUR
		Disulfoton	0.31	UJ	ng/L	P326502	MS, SUR
		EPTC	1.2	UJ	ng/L	P326502	SUR
		Ethion	0.14	UJ	ng/L	P326502	SUR
		Ethoprop	0.095	UJ	ng/L	P326502	SUR
		Fenamiphos	0.24	UJ	ng/L	P326502	SUR
		Fipronil	0.24	UJ	ng/L	P326502	SUR
		Fipronil Sulfide	0.14	UJ	ng/L	P326502	SUR
		Fipronil Sulfone	0.14	UJ	ng/L	P326502	SUR
		Hexazinone	0.95	IJ	ng/L	P326502	SUR
		Malathion	0.33	UJ	ng/L	P326502	SUR
		Metribuzin	0.19	UJ	ng/L	P326502	LCS, MS, SUR
		Mevinphos	0.48	UJ	ng/L	P326502	SUR

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1905093	EPA 8270D	Molinate	0.29	UJ	ng/L	P326502	SUR
		Norflurazon	0.48	UJ	ng/L	P326502	SUR
		Pendimethalin	1.4	UJ	ng/L	P326502	SUR
		Phorate	0.24	UJ	ng/L	P326502	SUR
		Prometon	0.86	UJ	ng/L	P326502	SUR
		Prometryn	0.19	UJ	ng/L	P326502	SUR
		Simazine	0.48	UJ	ng/L	P326502	SUR
		Terbufos	0.095	UJ	ng/L	P326502	SUR
		Terbutylazine	0.41	UJ	ng/L	P326502	SUR
		Fonofos	0.19	UJ	ng/L	P326502	SUR
		Metalaxyl	0.19	UJ	ng/L	P326502	SUR
		Metolachlor	0.36	IJ	ng/L	P326502	SUR
		Acetochlor	0.24	UJ	ng/L	P326502	SUR
		Cyanazine	0.48	UJ	ng/L	P326502	MS, SUR
		Parathion Ethyl	0.24	UJ	ng/L	P326502	SUR
		Parathion Methyl	0.24	UJ	ng/L	P326502	SUR
1905094	EPA 200.7 Rev. 4.4	Calcium	31.2		mg/L	P326645	
		Iron	84	I	ug/L	P326645	
		Magnesium	1.76		mg/L	P326645	
		Potassium	2.2		mg/L	P326645	
		Sodium	6.2		mg/L	P326645	
		Zinc	5.0	U	ug/L	P326645	
	EPA 200.8 Rev. 5.4	Arsenic	3.71		ug/L	P326645	
		Cadmium	0.020	U	ug/L	P326645	
		Chromium	0.40	U	ug/L	P326645	
		Copper	1.25		ug/L	P326645	
		Lead	0.83		ug/L	P326645	
		Nickel	0.42	I	ug/L	P326645	
		Silver	0.010	U	ug/L	P326645	

Ref. Method and Comment:
EPA 8270D: Refer to the narrative for an explanation of QC Codes. Surrogate failures were observed in both original extraction and re-extraction. Analytical results were confirmed.
EPA 8276: Refer to the narrative for an explanation of QC Codes. Surrogate failures were observed in both original extraction and re-extraction. Analytical results were confirmed.
EPA 8270D: MS accuracy for Atrazine not assessed due to high content of this parameter in the sample spiked. Surrogate failures were observed in both original extraction and re-extraction. Analytical results were confirmed. Refer to the narrative for an explanation of QC Codes.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for copper are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326546

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P326645

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: P326645

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: P327033

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327037

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326549

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326662

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326678

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326675

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326573

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

Reference Method: EPA 8270D
Batch ID: P326502

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P326604

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	2.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
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: P326604

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

Reference Method: EPA 8321B
Batch ID: P326579

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P326580

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P326632

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P326683

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P326792

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

Reference Method: SM 2540 C-97
Batch ID: P327120

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327086

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P326794

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P326723

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

Reference Method: USGS O-2060-01
Batch ID: P326471

Component	Result	Code	Units
2,4-D	8.0E-04	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0040	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: P326645

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	107		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	99.9		P	85 - 115
Sodium	103		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326645

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	101		P	85 - 115
Copper	97.9		P	85 - 115
Lead	100		P	85 - 115
Nickel	99.7		P	85 - 115
Silver	99.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327033

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327037

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326549

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326678

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P326675

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P326573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P326502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	80.4	80.6	P/P	78 - 118
Alachlor	81.9	80.4	P/P	77 - 119
Ametryn	80.4	82.2	P/P	61 - 136
Atrazine	91.1	90.0	P/P	73 - 120
Atrazine Desethyl	95.8	88.7	P/P	16 - 122
Azinphos Methyl	105	101	P/P	69 - 186
Bromacil	84.0	83.9	P/P	40 - 125
Butylate	49.8	45.9	P/P	32 - 87.0
Chlorpyrifos Ethyl	91.3	84.6	P/P	53 - 110
Chlorpyrifos Methyl	93.4	88.8	P/P	31 - 119
Cyanazine	222	212	P/P	36 - 224
Demeton	77.9	87.9	P/P	39 - 122
Diazinon	82.2	83.7	P/P	75 - 119
Disulfoton	88.0	90.6	P/P	42 - 139
EPTC	48.6	44.3	P/P	33 - 96.0
Ethion	97.1	90.7	P/P	63 - 127
Ethoprop	81.5	76.6	P/P	65 - 107
Fenamiphos	102	98.9	P/P	64 - 137
Fipronil	87.0	85.4	P/P	60 - 126
Fipronil Sulfide	89.5	90.4	P/P	58 - 124
Fipronil Sulfone	87.5	80.8	P/P	57 - 126
Fonofos	85.2	84.7	P/P	65 - 111
Hexazinone	85.5	83.3	P/P	46 - 151
Malathion	98.9	92.8	P/P	68 - 132
Metaxyl	86.2	83.2	P/P	51 - 132
Metolachlor	83.4	82.2	P/P	78 - 119
Metribuzin	140	122	F/P	64 - 138
Mevinphos	74.1	69.5	P/P	34 - 128
Molinate	63.2	48.0	P/P	44 - 101
Norflurazon	83.9	79.7	P/P	63 - 129
Parathion Ethyl	87.3	84.9	P/P	80 - 109
Parathion Methyl	90.0	86.1	P/P	74 - 125
Pendimethalin	85.8	84.6	P/P	48 - 134
Phorate	91.3	83.4	P/P	52 - 119
Prometon	78.0	78.8	P/P	69 - 124
Prometryn	82.7	83.8	P/P	66 - 124
Simazine	93.4	96.0	P/P	61 - 134
Terbufos	84.0	84.6	P/P	58 - 115
Terbutylazine	84.6	83.7	P/P	77 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P326604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	61.8	67.8	P/P	26 - 88.0
Alpha-BHC	106	112	P/P	63 - 114
Alpha-Chlordane	86.0	89.6	P/P	56 - 117
Beta-BHC	122	121	P/P	57 - 138
Carbophenothion	36.2	43.2	P/P	36 - 148
Chlorothalonil	170	125	P/P	26 - 173
Cypermethrin	104	116	P/P	42 - 159
DDD-p,p'	111	100	P/P	62 - 126
DDE-p,p'	84.7	81.6	P/P	53 - 115
DDT-p,p'	74.0	71.2	P/P	54 - 117
Delta-BHC	140	139	P/P	68 - 158
Dicofol	32.6	36.1	P/P	25 - 114
Dieldrin	85.8	85.8	P/P	59 - 126
Endosulfan I	106	102	P/P	62 - 138
Endosulfan II	119	106	P/P	61 - 150
Endosulfan Sulfate	97.2	94.2	P/P	63 - 132
Endrin	81.2	81.3	P/P	49 - 148
Endrin Aldehyde	75.8	63.1	P/P	50 - 144
Endrin Ketone	83.8	87.5	P/P	66 - 122
Gamma-BHC	109	107	P/P	60 - 137
Gamma-Chlordane	86.6	84.4	P/P	54 - 113
Heptachlor	79.1	75.7	P/P	43 - 104
Heptachlor Epoxide	90.0	84.7	P/P	64 - 118
Methoxychlor	86.0	94.9	P/P	63 - 129
Mirex	55.8	62.8	P/P	39 - 93.0
Permethrin	81.9	77.0	P/P	51 - 123
Trifluralin	179	188	P/F	35 - 187

Reference Method: EPA 8276
Batch ID: P326604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	94.5	96.3	P/P	48 - 121
Toxaphene	108	115	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P326579

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	60.3		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	87.0		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	83.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
 Batch ID: P326792

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

Reference Method: SM 4500 F-C-97
 Batch ID: P326794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P326723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	88.0		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P326471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 140
Acetaminophen	70.4		P	40 - 140
Bentazon	77.4		P	40 - 140
Carbamazepine	132		P	40 - 140
Diuron	120		P	40 - 140
Fenuron	113		P	40 - 140
Fluridone	115		P	40 - 140
Imidacloprid	110		P	40 - 160
Linuron	119		P	40 - 140
MCP	95.6		P	40 - 140
Primidone	110		P	40 - 140
Triclopyr	94.2		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P326645

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904698	Calcium	107		P	80 - 120
1904698	Iron	109		P	80 - 120
1904698	Magnesium	111		P	80 - 120
1904698	Potassium	103		P	80 - 120
1904698	Sodium	105		P	80 - 120
1904698	Zinc	102		P	80 - 120
1904987	Calcium	109	109	P/P	80 - 120
1904987	Iron	109	109	P/P	80 - 120
1904987	Magnesium	111	111	P/P	80 - 120
1904987	Potassium	102	101	P/P	80 - 120
1904987	Sodium	104	104	P/P	80 - 120
1904987	Zinc	104	102	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326645

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904698	Arsenic	98.5		P	75 - 125
1904698	Cadmium	97.3		P	75 - 125
1904698	Chromium	92.7		P	75 - 125
1904698	Lead	97.1		P	75 - 125
1904698	Nickel	91.8		P	75 - 125
1904698	Silver	98.9		P	75 - 125
1904987	Arsenic	103	102	P/P	80 - 120
1904987	Cadmium	104	102	P/P	80 - 120
1904987	Chromium	105	103	P/P	80 - 120
1904987	Copper	101	99.3	P/P	80 - 120
1904987	Lead	103	102	P/P	80 - 120
1904987	Nickel	100	98.8	P/P	80 - 120
1904987	Silver	101	99.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904975	Chloride	102		P	90 - 110
1905441	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904975	Sulfate	98.1		P	90 - 110
1905441	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904804	Ammonia-N	105	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904977	Kjeldahl Nitrogen	93.7	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905014	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905300	Total-P	102	99.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904943	O-Phosphate-P	93.2	93.3	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P326502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904161	Acetochlor	81.1	80.3	P/P	74 - 123
1904161	Alachlor	88.6	89.7	P/P	73 - 124
1904161	Ametryn	103	101	P/P	56 - 149
1904161	Atrazine Desethyl	114	96.8	F/P	12 - 103
1904161	Azinphos Methyl	171	164	P/P	60 - 202
1904161	Bromacil	96.8	92.6	P/P	42 - 133
1904161	Butylate	17.7	22.9	P/P	10 - 85.0
1904161	Chlorpyrifos Ethyl	125	116	F/F	53 - 113
1904161	Chlorpyrifos Methyl	92.4	94.6	P/P	40 - 115
1904161	Cyanazine	315	308	F/F	22 - 210
1904161	Demeton	102	113	P/P	17 - 149
1904161	Diazinon	87.9	86.7	P/P	72 - 124
1904161	Disulfoton	135	145	P/F	43 - 139
1904161	EPTC	24.3	27.0	P/P	10 - 86.0
1904161	Ethion	92.7	95.5	P/P	65 - 131
1904161	Ethoprop	95.2	104	P/P	59 - 110
1904161	Fenamiphos	97.1	96.2	P/P	57 - 138
1904161	Fipronil	83.4	81.7	P/P	40 - 130
1904161	Fipronil Sulfide	88.6	89.9	P/P	36 - 128
1904161	Fipronil Sulfone	76.9	80.7	P/P	16 - 145
1904161	Fonofos	101	109	P/P	60 - 112
1904161	Hexazinone	89.2	94.1	P/P	69 - 142
1904161	Malathion	105	109	P/P	68 - 132
1904161	Metalaxyl	82.3	90.1	P/P	66 - 118
1904161	Metolachlor	79.6	81.7	P/P	71 - 124
1904161	Metribuzin	301	293	F/F	61 - 140
1904161	Mevinphos	68.1	76.0	P/P	38 - 130
1904161	Molinate	71.3	83.2	P/P	23 - 99.0
1904161	Norflurazon	92.5	83.9	P/P	39 - 139
1904161	Parathion Ethyl	86.9	92.1	P/P	75 - 111
1904161	Parathion Methyl	91.3	92.2	P/P	64 - 130
1904161	Pendimethalin	97.5	100	P/P	26 - 173
1904161	Phorate	104	114	P/P	43 - 127
1904161	Prometon	77.1	74.2	P/P	50 - 144
1904161	Prometryn	82.7	80.9	P/P	69 - 126
1904161	Simazine	129	122	P/P	51 - 152
1904161	Terbufos	108	115	P/P	54 - 125
1904161	Terbutylazine	89.5	88.3	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P326604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905344	Aldrin	54.9	49.5	P/P	22 - 97.0
1905344	Alpha-BHC	95.2	74.3	P/P	43 - 132
1905344	Alpha-Chlordane	69.2	61.2	P/P	36 - 126

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P326604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905344	Beta-BHC	80.5	76.5	P/P	41 - 150
1905344	Carbophenothion	90.4	94.9	P/P	13 - 196
1905344	Chlorothalonil	100	183	P/P	10 - 266
1905344	Cypermethrin	101	121	P/P	37 - 161
1905344	DDD-p,p'	76.7	69.8	P/P	44 - 131
1905344	DDE-p,p'	66.6	59.7	P/P	32 - 127
1905344	DDT-p,p'	59.0	59.4	P/P	45 - 116
1905344	Delta-BHC	108	110	P/P	50 - 201
1905344	Dicofol	19.2	12.0	P/P	10 - 100
1905344	Dieldrin	69.8	63.8	P/P	39 - 142
1905344	Endosulfan I	109	85.4	P/P	51 - 139
1905344	Endosulfan II	92.7	96.5	P/P	49 - 155
1905344	Endosulfan Sulfate	67.3	87.0	P/P	54 - 136
1905344	Endrin	67.4	81.5	P/P	38 - 141
1905344	Endrin Aldehyde	72.8	77.6	P/P	14 - 152
1905344	Endrin Ketone	70.0	88.4	P/P	60 - 128
1905344	Gamma-BHC	96.8	74.3	P/P	48 - 157
1905344	Gamma-Chlordane	66.3	60.5	P/P	35 - 123
1905344	Heptachlor	58.0	51.8	P/P	25 - 112
1905344	Heptachlor Epoxide	70.8	61.0	P/P	48 - 125
1905344	Methoxychlor	71.2	59.8	P/P	52 - 127
1905344	Mirex	55.8	52.7	P/P	25 - 108
1905344	Permethrin	68.4	81.5	P/P	46 - 133
1905344	Trifluralin	148	116	P/P	29 - 254

Reference Method: EPA 8276
Batch ID: P326604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905114	Chlordane	111	98.6	P/P	44 - 134
1905114	Toxaphene	134	122	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P326579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905091	Pyraclostrobin	59.2	49.3	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904159	Glyphosate	102	99.2	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P326632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905341	Sucralose	82.0	77.5	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P326794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905012	Fluoride	97.6	98.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P326723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904765	Organic Carbon	90.5	91.9	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P326471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904436	2,4-D	93.2	87.4	P/P	40 - 140
1904436	Acetaminophen	99.2	115	P/P	40 - 140
1904436	Bentazon	32.4	29.6	F/F	40 - 140
1904436	Carbamazepine	116	111	P/P	40 - 140
1904436	Diuron	88.5	79.9	P/P	40 - 140
1904436	Fenuron	86.9	83.2	P/P	40 - 140
1904436	Fluridone	79.1	71.8	P/P	40 - 140
1904436	Imidacloprid	197	187	F/F	40 - 160
1904436	Linuron	112	98.7	P/P	40 - 140
1904436	MCP	71.4	65.2	P/P	40 - 140
1904436	Primidone	98.8	95.1	P/P	40 - 140
1904436	Triclopyr	75.2	72.4	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905087	Turbidity	0.358	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P326645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904987	Calcium	0.0791	Spike	P	0 - 20
1904987	Iron	0.151	Spike	P	0 - 20
1904987	Magnesium	0.0163	Spike	P	0 - 20
1904987	Potassium	0.325	Spike	P	0 - 20
1904987	Sodium	0.0290	Spike	P	0 - 20
1904987	Zinc	1.36	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P326645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904987	Arsenic	1.40	Spike	P	0 - 20
1904987	Cadmium	2.14	Spike	P	0 - 20
1904987	Chromium	2.51	Spike	P	0 - 20
1904987	Copper	1.38	Spike	P	0 - 20
1904987	Lead	1.37	Spike	P	0 - 20
1904987	Nickel	1.54	Spike	P	0 - 20
1904987	Silver	1.74	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904975	Chloride	0.330	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904975	Sulfate	2.51	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904804	Ammonia-N	1.98	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904977	Kjeldahl Nitrogen	1.18	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905014	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905300	Total-P	2.87	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904943	O-Phosphate-P	0.103	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P326502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904161	Acetochlor	1.02	Spike	P	0 - 30
1904161	Alachlor	1.24	Spike	P	0 - 30
1904161	Ametryn	1.67	Spike	P	0 - 30
1904161	Atrazine	2.14	Spike	P	0 - 30
1904161	Atrazine Desethyl	14.5	Spike	P	0 - 30
1904161	Azinphos Methyl	4.34	Spike	P	0 - 30
1904161	Bromacil	4.44	Spike	P	0 - 30
1904161	Butylate	25.5	Spike	P	0 - 30
1904161	Chlorpyrifos Ethyl	7.06	Spike	P	0 - 30
1904161	Chlorpyrifos Methyl	2.29	Spike	P	0 - 30
1904161	Cyanazine	1.99	Spike	P	0 - 30
1904161	Demeton	10.5	Spike	P	0 - 30
1904161	Diazinon	1.48	Spike	P	0 - 30
1904161	Disulfoton	7.17	Spike	P	0 - 30
1904161	EPTC	10.6	Spike	P	0 - 30
1904161	Ethion	2.95	Spike	P	0 - 30
1904161	Ethoprop	8.72	Spike	P	0 - 30
1904161	Fenamiphos	1.00	Spike	P	0 - 30
1904161	Fipronil	1.99	Spike	P	0 - 30
1904161	Fipronil Sulfide	1.28	Spike	P	0 - 30
1904161	Fipronil Sulfone	4.15	Spike	P	0 - 30
1904161	Fonofos	7.52	Spike	P	0 - 30
1904161	Hexazinone	4.53	Spike	P	0 - 30
1904161	Malathion	3.52	Spike	P	0 - 30
1904161	Metalaxyl	9.06	Spike	P	0 - 30
1904161	Metolachlor	2.49	Spike	P	0 - 30
1904161	Metribuzin	2.95	Spike	P	0 - 30
1904161	Mevinphos	11.0	Spike	P	0 - 30
1904161	Molinate	15.5	Spike	P	0 - 30
1904161	Norflurazon	9.73	Spike	P	0 - 30
1904161	Parathion Ethyl	5.75	Spike	P	0 - 30
1904161	Parathion Methyl	0.965	Spike	P	0 - 30
1904161	Pendimethalin	2.76	Spike	P	0 - 30
1904161	Phorate	9.03	Spike	P	0 - 30
1904161	Prometon	3.76	Spike	P	0 - 30
1904161	Prometryn	2.19	Spike	P	0 - 30
1904161	Simazine	5.14	Spike	P	0 - 30
1904161	Terbufos	5.60	Spike	P	0 - 30
1904161	Terbutylazine	1.42	Spike	P	0 - 30
LFB	Acetochlor	0.306	LCS	P	0 - 30
LFB	Alachlor	1.93	LCS	P	0 - 30
LFB	Ametryn	2.19	LCS	P	0 - 30
LFB	Atrazine	1.23	LCS	P	0 - 30
LFB	Atrazine Desethyl	7.60	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P326502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Azinphos Methyl	4.08	LCS	P	0 - 30
LFB	Bromacil	0.0812	LCS	P	0 - 30
LFB	Butylate	8.30	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	7.65	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.03	LCS	P	0 - 30
LFB	Cyanazine	4.88	LCS	P	0 - 30
LFB	Demeton	12.1	LCS	P	0 - 30
LFB	Diazinon	1.83	LCS	P	0 - 30
LFB	Disulfoton	2.84	LCS	P	0 - 30
LFB	EPTC	9.33	LCS	P	0 - 30
LFB	Ethion	6.83	LCS	P	0 - 30
LFB	Ethoprop	6.15	LCS	P	0 - 30
LFB	Fenamiphos	3.15	LCS	P	0 - 30
LFB	Fipronil	1.85	LCS	P	0 - 30
LFB	Fipronil Sulfide	1.05	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.90	LCS	P	0 - 30
LFB	Fonofos	0.530	LCS	P	0 - 30
LFB	Hexazinone	2.59	LCS	P	0 - 30
LFB	Malathion	6.41	LCS	P	0 - 30
LFB	Metalaxyl	3.53	LCS	P	0 - 30
LFB	Metolachlor	1.45	LCS	P	0 - 30
LFB	Metribuzin	13.7	LCS	P	0 - 30
LFB	Mevinphos	6.43	LCS	P	0 - 30
LFB	Molinate	27.5	LCS	P	0 - 30
LFB	Norflurazon	5.08	LCS	P	0 - 30
LFB	Parathion Ethyl	2.72	LCS	P	0 - 30
LFB	Parathion Methyl	4.48	LCS	P	0 - 30
LFB	Pendimethalin	1.31	LCS	P	0 - 30
LFB	Phorate	9.08	LCS	P	0 - 30
LFB	Prometon	1.10	LCS	P	0 - 30
LFB	Prometryn	1.32	LCS	P	0 - 30
LFB	Simazine	2.79	LCS	P	0 - 30
LFB	Terbufos	0.716	LCS	P	0 - 30
LFB	Terbutylazine	1.09	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P326604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905344	Aldrin	10.4	Spike	P	0 - 30
1905344	Alpha-BHC	24.7	Spike	P	0 - 30
1905344	Alpha-Chlordane	12.3	Spike	P	0 - 30
1905344	Beta-BHC	5.14	Spike	P	0 - 30
1905344	Carbophenothion	4.93	Spike	P	0 - 30
1905344	Chlorothalonil	58.6	Spike	F	0 - 30
1905344	Cypermethrin	18.1	Spike	P	0 - 30
1905344	DDD-p,p'	9.37	Spike	P	0 - 30
1905344	DDE-p,p'	11.0	Spike	P	0 - 30
1905344	DDT-p,p'	0.521	Spike	P	0 - 30
1905344	Delta-BHC	1.23	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P326604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905344	Dicofol	46.1	Spike	F	0 - 30
1905344	Dieldrin	9.09	Spike	P	0 - 30
1905344	Endosulfan I	24.0	Spike	P	0 - 30
1905344	Endosulfan II	4.00	Spike	P	0 - 30
1905344	Endosulfan Sulfate	25.5	Spike	P	0 - 30
1905344	Endrin	19.0	Spike	P	0 - 30
1905344	Endrin Aldehyde	6.39	Spike	P	0 - 30
1905344	Endrin Ketone	23.3	Spike	P	0 - 30
1905344	Gamma-BHC	26.3	Spike	P	0 - 30
1905344	Gamma-Chlordane	9.12	Spike	P	0 - 30
1905344	Heptachlor	11.2	Spike	P	0 - 30
1905344	Heptachlor Epoxide	14.9	Spike	P	0 - 30
1905344	Methoxychlor	17.4	Spike	P	0 - 30
1905344	Mirex	5.55	Spike	P	0 - 30
1905344	Permethrin	17.5	Spike	P	0 - 30
1905344	Trifluralin	24.5	Spike	P	0 - 30
LFB	Aldrin	9.20	LCS	P	0 - 30
LFB	Alpha-BHC	5.08	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.05	LCS	P	0 - 30
LFB	Beta-BHC	0.463	LCS	P	0 - 30
LFB	Carbophenothion	17.7	LCS	P	0 - 30
LFB	Chlorothalonil	30.5	LCS	F	0 - 30
LFB	Cypermethrin	10.9	LCS	P	0 - 30
LFB	DDD-p,p'	10.6	LCS	P	0 - 30
LFB	DDE-p,p'	3.67	LCS	P	0 - 30
LFB	DDT-p,p'	3.87	LCS	P	0 - 30
LFB	Delta-BHC	1.13	LCS	P	0 - 30
LFB	Dicofol	10.3	LCS	P	0 - 30
LFB	Dieldrin	0.0693	LCS	P	0 - 30
LFB	Endosulfan I	3.26	LCS	P	0 - 30
LFB	Endosulfan II	11.2	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.08	LCS	P	0 - 30
LFB	Endrin	0.107	LCS	P	0 - 30
LFB	Endrin Aldehyde	18.3	LCS	P	0 - 30
LFB	Endrin Ketone	4.38	LCS	P	0 - 30
LFB	Gamma-BHC	1.08	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.54	LCS	P	0 - 30
LFB	Heptachlor	4.38	LCS	P	0 - 30
LFB	Heptachlor Epoxide	6.02	LCS	P	0 - 30
LFB	Methoxychlor	9.81	LCS	P	0 - 30
LFB	Mirex	11.8	LCS	P	0 - 30
LFB	Permethrin	6.17	LCS	P	0 - 30
LFB	Trifluralin	5.02	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P326604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905114	Chlordane	11.4	Spike	P	0 - 30
1905114	Toxaphene	9.97	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P326604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	1.90	LCS	P	0 - 30
LFB	Toxaphene	6.34	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P326579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905091	Pyraclostrobin	18.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P326580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904159	Glyphosate	2.78	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P326632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905341	Sucralose	5.47	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P326683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905087	Color (true)	1.91	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P326792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905012	Total Alkalinity	0.140	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P327120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905012	TDS	5.45	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P326794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905012	Fluoride	1.04	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P326723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904765	Organic Carbon	1.47	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P326471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904436	2,4-D	5.69	Spike	P	0 - 30
1904436	Acetaminophen	14.5	Spike	P	0 - 30
1904436	Bentazon	6.33	Spike	P	0 - 30
1904436	Carbamazepine	4.41	Spike	P	0 - 30
1904436	Diuron	9.47	Spike	P	0 - 30
1904436	Fenuron	4.33	Spike	P	0 - 30
1904436	Fluridone	8.95	Spike	P	0 - 30
1904436	Imidacloprid	4.13	Spike	P	0 - 30
1904436	Linuron	12.4	Spike	P	0 - 30
1904436	MCP	9.08	Spike	P	0 - 30
1904436	Primidone	3.80	Spike	P	0 - 30
1904436	Triclopyr	3.79	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: 1905091
Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	112	P	30 - 150
EPA 8321B	Carbamazepine-d10	94.4	P	30 - 160
EPA 8321B	Diuron-d6	86.7	P	30 - 160
EPA 8321B	Diuron-d6	66.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.6	P	40 - 150
EPA 8321B	Primidone-d5	83.1	P	30 - 150
EPA 8321B	Sucralose-d6	140	P	40 - 160
USGS O-2060-01	2,4-D-d3	74.3	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	112	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	94.4	P	30 - 160
USGS O-2060-01	Diuron-d6	86.7	P	30 - 160
USGS O-2060-01	Diuron-d6	66.9	P	30 - 160
USGS O-2060-01	Primidone-d5	83.1	P	30 - 150

Lab Sample ID: 1905092
Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	18.4	F	39 - 118
EPA 8270D	Tetrachloro-m-xylene	16.4	F	32 - 103

Quality Assurance Report Surrogates

Lab Sample ID: 1905092
Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	17.9	F	31 - 100

Lab Sample ID: 1905093
Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	28.0	F	62 - 132
EPA 8270D	Simazine-d10	49.4	F	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A76994
Included Lab Sample IDs: 1905087

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A76995
Included Lab Sample IDs: 1905088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76999
Included Lab Sample IDs: 1905089

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

Reference Method: SM 2120 B
Run ID: A77000
Included Lab Sample IDs: 1905087

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	85 - 115

Reference Method: EPA 8321B
Run ID: A77006
Included Lab Sample IDs: 1905091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	84.2	96.0	P/P	70 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77033

Included Lab Sample IDs: 1905088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77054

Included Lab Sample IDs: 1905088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	92.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77056

Included Lab Sample IDs: 1905094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Zinc	103	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77065

Included Lab Sample IDs: 1905091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	107	97.2	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77075

Included Lab Sample IDs: 1905088

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77076

Included Lab Sample IDs: 1905087

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	108	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A77078

Included Lab Sample IDs: 1905087

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A77078

Included Lab Sample IDs: 1905087

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77140

Included Lab Sample IDs: 1905088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.6	90.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77193

Included Lab Sample IDs: 1905094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.6	98.5	P/P	90 - 110
Cadmium	98.3	98.8	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Copper	97.9	98.0	P/P	90 - 110
Lead	99.4	98.9	P/P	90 - 110
Silver	98.4	99.2	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A77208

Included Lab Sample IDs: 1905091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.4	82.8	P/P	50 - 150
Acetaminophen	101	102	P/P	60 - 150
Bentazon	97.6	98.0	P/P	50 - 150
Carbamazepine	115	114	P/P	60 - 150
Diuron	103	105	P/P	60 - 150
Fenuron	107	108	P/P	60 - 150
Fluridone	109	110	P/P	60 - 160
Imidacloprid	98.2	104	P/P	60 - 150
Linuron	107	108	P/P	60 - 150
MCPP	80.8	78.0	P/P	50 - 150
Primidone	91.0	103	P/P	60 - 150
Triclopyr	81.2	81.2	P/P	50 - 150

Reference Method: EPA 8276

Run ID: A77239

Included Lab Sample IDs: 1905092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	97.1		P	80 - 120
Toxaphene	106		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A77269
 Included Lab Sample IDs: 1905092

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.0		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	91.5		P	80 - 120
Beta-BHC	101		P	80 - 120
Carbophenothion	80.6		P	80 - 120
Chlorothalonil	97.8		P	80 - 120
Cypermethrin	93.1		P	80 - 120
DDD-p,p'	94.3		P	80 - 120
DDE-p,p'	91.7		P	80 - 120
DDT-p,p'	102		P	80 - 120
Delta-BHC	96.3		P	80 - 120
Dicofol	88.8		P	80 - 120
Dieldrin	90.2		P	80 - 120
Endosulfan I	90.2		P	80 - 120
Endosulfan II	88.2		P	80 - 120
Endosulfan Sulfate	110		P	80 - 120
Endrin	85.0		P	80 - 120
Endrin Aldehyde	84.8		P	80 - 120
Endrin Ketone	102		P	80 - 120
Gamma-BHC	103		P	80 - 120
Gamma-Chlordane	92.8		P	80 - 120
Heptachlor	90.9		P	80 - 120
Heptachlor Epoxide	91.0		P	80 - 120
Methoxychlor	101		P	80 - 120
Mirex	99.7		P	80 - 120
Permethrin	95.2		P	80 - 120
Trifluralin	82.9		P	80 - 120

Reference Method: EPA 8321B
 Run ID: A77273
 Included Lab Sample IDs: 1905091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	130	121	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A77324
 Included Lab Sample IDs: 1905094

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

Reference Method: EPA 8270D
 Run ID: A77337
 Included Lab Sample IDs: 1905093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.5		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	96.4		P	80 - 120
Atrazine	98.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A77337

Included Lab Sample IDs: 1905093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azinphos Methyl	100		P	80 - 120
Bromacil	94.5		P	80 - 120
Butylate	101		P	80 - 120
Chlorpyrifos Ethyl	101		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	113		P	80 - 120
Demeton	105		P	80 - 120
Diazinon	98.9		P	80 - 120
Disulfoton	95.6		P	80 - 120
EPTC	100		P	80 - 120
Ethion	97.4		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	94.2		P	80 - 120
Fipronil	95.6		P	80 - 120
Fipronil Sulfide	96.5		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Fonofos	101		P	80 - 120
Hexazinone	101		P	80 - 120
Malathion	99.8		P	80 - 120
Metalaxyl	97.5		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	108		P	80 - 120
Mevinphos	104		P	80 - 120
Molinate	105		P	80 - 120
Norflurazon	95.4		P	80 - 120
Parathion Ethyl	96.7		P	80 - 120
Parathion Methyl	97.7		P	80 - 120
Pendimethalin	92.6		P	80 - 120
Phorate	99.4		P	80 - 120
Prometon	97.2		P	80 - 120
Prometryn	97.4		P	80 - 120
Simazine	95.4		P	80 - 120
Terbufos	99.5		P	80 - 120
Terbuthylazine	99.2		P	80 - 120

Reference Method: EPA 8270D

Run ID: A77338

Included Lab Sample IDs: 1905093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine Desethyl	92.1		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			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							0.358	
EPA 200.7 Rev. 4.4	Calcium	108		109	109	107			0.0791
	Iron	107		109	109	109			0.151
	Magnesium	109		111	111	111			0.0163
	Potassium	99.9		102	101	103			0.325
	Sodium	103		104	104	105			0.0290
	Zinc	100		104	102	102			1.36
EPA 200.8 Rev. 5.4	Arsenic	103		98.5	103	102			1.40
	Cadmium	102		97.3	104	102			2.14
	Chromium	101		92.7	105	103			2.51
	Copper	97.9		101	99.3				1.38
	Lead	100		97.1	103	102			1.37
	Nickel	99.7		91.8	100	98.8			1.54
	Silver	99.8		98.9	101	99.2			1.74
EPA 300.0 Rev. 2.1	Chloride	104		102	106			0.330	
	Sulfate	104		98.1	103			2.51	
EPA 350.1 Rev. 2.0	Ammonia-N	100		105	102				1.98
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.6		93.7	94.9				1.18
EPA 353.2 Rev. 2.0	NO2NO3-N	104		104	104				0.0
EPA 365.1 Rev. 2.0	Total-P	102		102	99.1				2.87
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1		93.2	93.3				0.103
EPA 8270D	Acetochlor	80.4	80.6	81.1	80.3		0.306		1.02
	Alachlor	81.9	80.4	88.6	89.7		1.93		1.24
	Aldrin	61.8	67.8	54.9	49.5		9.20		10.4
	Alpha-BHC	106	112	95.2	74.3		5.08		24.7
	Alpha-Chlordane	86.0	89.6	69.2	61.2		4.05		12.3
	Ametryn	80.4	82.2	103	101		2.19		1.67
	Atrazine	91.1	90.0				1.23		2.14
	Atrazine Desethyl	95.8	88.7	114	96.8		7.60		14.5
	Azinphos Methyl	105	101	171	164		4.08		4.34
	Beta-BHC	122	121	80.5	76.5		0.463		5.14
	Bromacil	84.0	83.9	96.8	92.6		0.0812		4.44
	Butylate	49.8	45.9	17.7	22.9		8.30		25.5
	Carbophenothion	36.2	43.2	90.4	94.9		17.7		4.93
	Chlorothalonil	170	125	100	183		30.5		58.6
	Chlorpyrifos Ethyl	91.3	84.6	125	116		7.65		7.06
	Chlorpyrifos Methyl	93.4	88.8	92.4	94.6		5.03		2.29
	Cyanazine	222	212	315	308		4.88		1.99
	Cypermethrin	104	116	101	121		10.9		18.1
	DDD-p,p'	111	100	76.7	69.8		10.6		9.37
	DDE-p,p'	84.7	81.6	66.6	59.7		3.67		11.0
	DDT-p,p'	74.0	71.2	59.0	59.4		3.87		0.521
	Delta-BHC	140	139	108	110		1.13		1.23
	Demeton	77.9	87.9	102	113		12.1		10.5
	Diazinon	82.2	83.7	87.9	86.7		1.83		1.48
	Dicofol	32.6	36.1	19.2	12.0		10.3		46.1
	Dieldrin	85.8	85.8	69.8	63.8		0.0693		9.09
	Disulfoton	88.0	90.6	135	145		2.84		7.17
	Endosulfan I	106	102	109	85.4		3.26		24.0
	Endosulfan II	119	106	92.7	96.5		11.2		4.00
	Endosulfan Sulfate	97.2	94.2	67.3	87.0		3.08		25.5
	Endrin	81.2	81.3	67.4	81.5		0.107		19.0
	Endrin Aldehyde	75.8	63.1	72.8	77.6		18.3		6.39
	Endrin Ketone	83.8	87.5	70.0	88.4		4.38		23.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	48.6	44.3	24.3	27.0	9.33	10.6
	Ethion	97.1	90.7	92.7	95.5	6.83	2.95
	Ethoprop	81.5	76.6	95.2	104	6.15	8.72
	Fenamiphos	102	98.9	97.1	96.2	3.15	1.00
	Fipronil	87.0	85.4	83.4	81.7	1.85	1.99
	Fipronil Sulfide	89.5	90.4	88.6	89.9	1.05	1.28
	Fipronil Sulfone	87.5	80.8	76.9	80.7	7.90	4.15
	Fonofos	85.2	84.7	101	109	0.530	7.52
	Gamma-BHC	109	107	96.8	74.3	1.08	26.3
	Gamma-Chlordane	86.6	84.4	66.3	60.5	2.54	9.12
	Heptachlor	79.1	75.7	58.0	51.8	4.38	11.2
	Heptachlor Epoxide	90.0	84.7	70.8	61.0	6.02	14.9
	Hexazinone	85.5	83.3	89.2	94.1	2.59	4.53
	Malathion	98.9	92.8	105	109	6.41	3.52
	Metalaxyl	86.2	83.2	82.3	90.1	3.53	9.06
	Methoxychlor	86.0	94.9	71.2	59.8	9.81	17.4
	Metolachlor	83.4	82.2	79.6	81.7	1.45	2.49
	Metribuzin	140	122	301	293	13.7	2.95
	Mevinphos	74.1	69.5	68.1	76.0	6.43	11.0
	Mirex	55.8	62.8	55.8	52.7	11.8	5.55
	Molinate	63.2	48.0	71.3	83.2	27.5	15.5
	Norflurazon	83.9	79.7	92.5	83.9	5.08	9.73
	Parathion Ethyl	87.3	84.9	86.9	92.1	2.72	5.75
	Parathion Methyl	90.0	86.1	91.3	92.2	4.48	0.965
	Pendimethalin	85.8	84.6	97.5	100	1.31	2.76
	Permethrin	81.9	77.0	68.4	81.5	6.17	17.5
	Phorate	91.3	83.4	104	114	9.08	9.03
	Prometon	78.0	78.8	77.1	74.2	1.10	3.76
	Prometryn	82.7	83.8	82.7	80.9	1.32	2.19
	Simazine	93.4	96.0	129	122	2.79	5.14
	Terbufos	84.0	84.6	108	115	0.716	5.60
	Terbutylazine	84.6	83.7	89.5	88.3	1.09	1.42
	Trifluralin	179	188	148	116	5.02	24.5
EPA 8276	Chlordane	94.5	96.3	111	98.6	1.90	11.4
	Toxaphene	108	115	134	122	6.34	9.97
EPA 8321B	Glyphosate	87.0		102	99.2		2.78
	Pyraclostrobin	60.3		59.2	49.3		18.2
	Sucralose	83.0		82.0	77.5		5.47
SM 2120 B	Color (true)					1.91	
SM 2320 B-97	Total Alkalinity	103				0.140	
SM 2540 C-97	TDS					5.45	
SM 4500 F-C-97	Fluoride	97.5		97.6	98.8		1.04
SM 5310 B-00	Organic Carbon	88.0		90.5	91.9		1.47
USGS O-2060-01	2,4-D	90.0		93.2	87.4		5.69
	Acetaminophen	70.4		99.2	115		14.5
	Bentazon	77.4		32.4	29.6		6.33
	Carbamazepine	132		116	111		4.41
	Diuron	120		88.5	79.9		9.47
	Fenuron	113		86.9	83.2		4.33
	Fluridone	115		79.1	71.8		8.95
	Imidacloprid	110		197	187		4.13
	Linuron	119		112	98.7		12.4
	MCPP	95.6		71.4	65.2		9.08
	Primidone	110		98.8	95.1		3.80

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
USGS O-2060-01	Triclopyr	94.2	75.2 72.4			3.79

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1905087
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1905094
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1905094
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1905087
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1905087
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1905088
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1905088
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1905088
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1905088
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1905089
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1905092
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1905093
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1905092
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1905091
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1905091
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1905091
SM 2120 B / E31780	True Color measured at 450 nm	1905087
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1905087
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1905087
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1905087
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1905087
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1905088
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1905091
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1905091

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/09/2017			06/09/2017 16:38	Sima Feizi	1905087
EPA 200.7 Rev. 4.4	06/09/2017	06/12/2017	Elliott D. Healy	06/13/2017	Betina Topolski	1905094
EPA 200.8 Rev. 5.4	06/09/2017	06/12/2017	Elliott D. Healy	06/20/2017	Nadine Brooks	1905094
	06/09/2017	06/12/2017	Elliott D. Healy	06/25/2017	Robert K Palmer	1905094
EPA 300.0 Rev. 2.1	06/09/2017			06/17/2017	Julia Storbeck	1905087
EPA 350.1 Rev. 2.0	06/09/2017			06/09/2017	Julie Michelle Frank	1905088
EPA 351.2 Rev. 2.0	06/09/2017	06/13/2017	Adrian Shelby	06/16/2017	Joseph Suarez	1905088
EPA 353.2 Rev. 2.0	06/09/2017			06/13/2017	Beverly Y. Sanders	1905088
EPA 365.1 Rev. 2.0	06/09/2017	06/13/2017	Adrian Shelby	06/14/2017	Christopher Armour	1905088
EPA 365.1 Rev. 2.0 dissolved	06/09/2017			06/09/2017 16:00	Anthony C. Onicha	1905089
EPA 8270D	06/09/2017	06/09/2017	John Kaba	06/13/2017	Irina Carbone	1905093
	06/09/2017	06/09/2017	John Kaba	06/19/2017	Irina Carbone	1905093
	06/09/2017	06/12/2017	John Kaba	06/16/2017	Marek Topolski	1905092
EPA 8276	06/09/2017	06/12/2017	John Kaba	06/16/2017	Marek Topolski	1905092
EPA 8321B	06/09/2017	06/12/2017	Mohammad Ghaffari	06/12/2017	Mohammad Ghaffari	1905091
	06/09/2017	06/13/2017	Hoor Shaik	06/13/2017	Juyoung Kim	1905091
	06/09/2017	06/15/2017	Mohammad Ghaffari	06/21/2017	Mohammad Ghaffari	1905091
SM 2120 B	06/09/2017			06/09/2017 16:41	Tanya Welborn	1905087
SM 2320 B-97	06/09/2017			06/13/2017	Dale L. Simmons	1905087
SM 2540 C-97	06/09/2017			06/14/2017	Yijie Li	1905087
SM 2540 D-97	06/09/2017			06/14/2017	Yijie Li	1905087
SM 4500 F-C-97	06/09/2017			06/13/2017	Dale L. Simmons	1905087
SM 5310 B-00	06/09/2017			06/13/2017	Christopher Armour	1905088
USGS O-2060-01	06/09/2017	06/14/2017	Hoor Shaik	06/17/2017	Juyoung Kim	1905091