Chemical Analysis Report

CEN-DIST-2017-03-10-02

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

Event Description: **Louise / Haw Crk / Cow Crk**
Request ID: **RQ-2017-03-06-44**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
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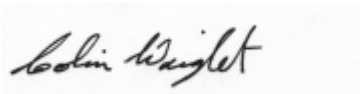
Certified by: Colin Wright, Program Administrator

Date Certified: 07-APR-2017 17:02



Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Lake Louise @ Center of South Lobe **Collection Date/Time: 03/09/2017 10:38**

Field ID: G2CE0065 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879377	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P321399	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P322121	
		Sulfate	33		mg SO4/L	P321815	
	SM 2120 B	Color (true)	19		PCU	P321368	
	SM 2320 B-97	Total Alkalinity	11		mg CaCO3/L	P321765	
	SM 2540 C-97	TDS	124		mg/L	P321889	
	SM 2540 D-97	TSS	5	I	mg/L	P321821	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P321768	
1879378	EPA 350.1 Rev. 2.0	Ammonia-N	0.0033	I	mg N/L	P321472	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P321585	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P321663	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P321489	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P321417	
1879379	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321660	
1879438	EPA 200.7 Rev. 4.4	Calcium	8.36		mg/L	P321847	
		Iron	30	U	ug/L	P321847	
		Magnesium	6.70		mg/L	P321847	
		Potassium	9.7		mg/L	P321847	
		Sodium	12.4		mg/L	P321847	
		Zinc	5.0	U	ug/L	P321847	
	EPA 200.8 Rev. 5.4	Aluminum	43		ug/L	P321847	
		Arsenic	2.04		ug/L	P321847	
		Boron**	88.3		ug/L	P321847	
		Cadmium	0.020	U	ug/L	P321847	
		Chromium	0.40	U	ug/L	P321847	
		Copper	0.40	I	ug/L	P321847	
		Lead	0.28		ug/L	P321847	
		Nickel	0.20	U	ug/L	P321847	
		Silver	0.010	U	ug/L	P321847	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Lake Louise @ Center of South Lobe **Collection Date/Time: 03/09/2017 10:38**

Field ID: G2CE0065 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879429	EPA 8321B	Glyphosate**	10	U	ug/L	P321370	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P321387	
		Diuron	0.0040	U	ug/L	P321387	
		Fenuron	0.0080	U	ug/L	P321387	
		Imidacloprid	0.0040	U	ug/L	P321387	

Field ID: G2CE0065 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879429	USGS O-2060-01	Bentazon	0.0040	U	ug/L	P321387	MS
		Linuron	0.0040	UJ	ug/L	P321387	CCV
		Acetaminophen**	0.0040	U	ug/L	P321387	
		MCPP	0.0040	U	ug/L	P321387	
		Carbamazepine**	4.0E-04	U	ug/L	P321387	
		Triclopyr**	0.010	U	ug/L	P321387	
		Primidone**	0.0080	U	ug/L	P321387	
		Fluridone**	4.0E-04	U	ug/L	P321387	
1879430	EPA 8321B	Sucralose**	0.012	I	ug/L	P321328	
1879431		Pyraclostrobin**	0.0020	U	ug/L	P321377	
1879445	EPA 8270D	Aldrin	4.3	UJ	ng/L	P321530	SUR
		Alpha-BHC	2.1	UJ	ng/L	P321530	SUR
		Beta-BHC	4.3	UJ	ng/L	P321530	SUR
		Delta-BHC	4.3	UJ	ng/L	P321530	SUR
		Gamma-BHC	4.3	UJ	ng/L	P321530	SUR
		Carbophenothion	4.3	UJ	ng/L	P321530	SUR
		Chlorothalonil	2.1	UJ	ng/L	P321530	RPD, SUR
		Cypermethrin	21	UJ	ng/L	P321530	SUR
		DDD-p,p'	2.1	UJ	ng/L	P321530	SUR
		DDE-p,p'	3.2	UJ	ng/L	P321530	SUR
		DDT-p,p'	3.2	UJ	ng/L	P321530	SUR
		Dieldrin	4.3	UJ	ng/L	P321530	SUR
		Endosulfan I	4.3	UJ	ng/L	P321530	SUR
		Endosulfan II	4.3	UJ	ng/L	P321530	SUR
		Endosulfan Sulfate	2.1	UJ	ng/L	P321530	SUR
		Endrin	2.1	UJ	ng/L	P321530	SUR
		Endrin Aldehyde	2.1	UJ	ng/L	P321530	LCS, MS, RPD, SUR
		Heptachlor	1.6	UJ	ng/L	P321530	SUR
		Heptachlor Epoxide	2.1	UJ	ng/L	P321530	SUR
		Methoxychlor	4.3	UJ	ng/L	P321530	SUR
		Mirex	2.1	UJ	ng/L	P321530	SUR
		Permethrin	11	UJ	ng/L	P321530	SUR
		Trifluralin	1.1	UJ	ng/L	P321530	SUR
		Alpha-Chlordane	1.1	UJ	ng/L	P321530	SUR
		Gamma-Chlordane	1.1	UJ	ng/L	P321530	SUR
		Endrin Ketone	2.1	UJ	ng/L	P321530	SUR
		Dicofol	32	UJ	ng/L	P321530	SUR
1879446		Ametryn	0.33	U	ng/L	P321313	
		Atrazine	0.91	I	ng/L	P321313	
		Chlorpyrifos Ethyl	1.1		ng/L	P321313	
		Chlorpyrifos Methyl	0.10	U	ng/L	P321313	
		Disulfoton	0.33	U	ng/L	P321313	
		Ethion	0.15	U	ng/L	P321313	
		Ethoprop	0.20	I	ng/L	P321313	

Field ID: G2CE0065 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879446	EPA 8270D	Hexazinone	0.50	U	ng/L	P321313	
		Malathion	0.35	U	ng/L	P321313	
		Metribuzin	0.20	U	ng/L	P321313	
		Mevinphos	0.50	U	ng/L	P321313	
		Norflurazon	0.50	U	ng/L	P321313	
		Phorate	0.25	U	ng/L	P321313	
		Prometryn	0.20	U	ng/L	P321313	
		Simazine	0.50	UJ	ng/L	P321313	
		Atrazine Desethyl	1.5	U	ng/L	P321313	
		Prometon	0.90	U	ng/L	P321313	
		Fipronil	0.25	U	ng/L	P321313	
		Molinate	0.30	U	ng/L	P321313	
		Pendimethalin	1.5	U	ng/L	P321313	
		Terbufos	0.10	U	ng/L	P321313	
		EPTC	1.3	U	ng/L	P321313	
		Terbuthylazine	0.43	U	ng/L	P321313	
		Bromacil	1.8	I	ng/L	P321313	
		Fipronil Sulfide	0.15	U	ng/L	P321313	
		Fipronil Sulfone	0.15	U	ng/L	P321313	
		Alachlor	0.25	U	ng/L	P321313	
		Azinphos Methyl	2.3	U	ng/L	P321313	
		Butylate	0.40	U	ng/L	P321313	
		Demeton	1.0	U	ng/L	P321313	
		Diazinon	0.13	U	ng/L	P321313	
		Fenamiphos	0.25	U	ng/L	P321313	
		Fonofos	0.20	U	ng/L	P321313	
		Metalaxyl	0.20	U	ng/L	P321313	
		Metolachlor	1.2		ng/L	P321313	
		Acetochlor	0.25	U	ng/L	P321313	
		Cyanazine	0.50	U	ng/L	P321313	
		Parathion Ethyl	0.25	U	ng/L	P321313	
		Parathion Methyl	0.25	U	ng/L	P321313	

Ref. Method and Comment:
USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.
EPA 8270D: Refer to the narrative for an explanation of QC Codes. Reported results qualified with J due to surrogates below control limits: sample was subsequently re-extracted and re-analyzed with acceptable surrogate recovery and the same analytical results were obtained.

Sample Location: Little Haw Creek @ 10m Upstream of SR11 **Collection Date/Time: 03/09/2017 12:12**

Field ID: G2CE0066 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879380	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P321399	
	EPA 300.0 Rev. 2.1	Chloride	27	A	mg Cl/L	P322121	
		Sulfate	0.67	A	mg SO4/L	P321815	
	SM 2120 B	Color (true)	400		PCU	P321368	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P321765	

Field ID: G2CE0066 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879380	SM 2540 C-97	TDS	188		mg/L	P321889	
	SM 2540 D-97	TSS	2	I	mg/L	P321821	
	SM 4500 F-C-97	Fluoride	0.036	I	mg F/L	P321768	
1879381	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P321472	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P321648	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P321663	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P321489	
	SM 5310 B-00	Organic Carbon	57		mg C/L	P321417	
1879382	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321660	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P321399

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P321847

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: P321847

Component	Result	Code	Units
Aluminum	3.0	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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: P321815

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322121

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321472

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321585

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321648

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P321663

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321489

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321660

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

Reference Method: EPA 8270D
Batch ID: P321313

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P321313

Component	Result	Code	Units
Cyanazine	0.50	U	ng/L
Demeton	1.0	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
Metalaxyl	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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P321530

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P321530

Component	Result	Code	Units
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 8321B
Batch ID: P321328

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P321370

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P321377

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: SM 2120 B
Batch ID: P321368

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P321765

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

Reference Method: SM 2540 C-97
Batch ID: P321889

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P321821

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P321768

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P321417

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

Reference Method: USGS O-2060-01
Batch ID: P321387

Component	Result	Code	Units
2,4-D	0.0040	U	ug/L
Acetaminophen	0.0040	U	ug/L
Bentazon	0.0040	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Triclopyr	0.010	U	ug/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P321847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	106		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P321847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Arsenic	101		P	85 - 115
Boron	105		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	101		P	85 - 115
Copper	99.6		P	85 - 115
Lead	101		P	85 - 115
Nickel	101		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P321847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P321815

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322121

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321472

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: P321585

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321648

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P321663

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321489

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321660

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P321313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	107	96.0	P/P	78 - 118
Alachlor	104	93.0	P/P	77 - 119
Ametryn	78.4	97.9	P/P	61 - 136
Atrazine	108	97.7	P/P	73 - 120
Atrazine Desethyl	73.5	67.1	P/P	16 - 122
Azinphos Methyl	112	97.1	P/P	69 - 186
Bromacil	97.1	91.9	P/P	40 - 125
Butylate	60.1	62.8	P/P	32 - 87.0
Chlorpyrifos Ethyl	100	94.7	P/P	53 - 110
Chlorpyrifos Methyl	103	89.0	P/P	31 - 119
Cyanazine	142	112	P/P	36 - 224
Demeton	106	100	P/P	39 - 122
Diazinon	108	95.9	P/P	75 - 119
Disulfoton	104	93.1	P/P	42 - 139
EPTC	60.2	60.9	P/P	33 - 96.0
Ethion	94.6	105	P/P	63 - 127
Ethoprop	102	82.6	P/P	65 - 107
Fenamiphos	125	114	P/P	64 - 137
Fipronil	114	101	P/P	60 - 126
Fipronil Sulfide	107	97.3	P/P	58 - 124
Fipronil Sulfone	95.3	89.1	P/P	57 - 126
Fonofos	106	83.8	P/P	65 - 111
Hexazinone	94.5	104	P/P	46 - 151
Malathion	112	98.6	P/P	68 - 132
Metalaxyl	104	94.0	P/P	51 - 132
Metolachlor	106	102	P/P	78 - 119
Metribuzin	114	97.5	P/P	64 - 138
Mevinphos	87.9	77.7	P/P	34 - 128
Molinate	73.5	66.6	P/P	44 - 101
Norflurazon	76.9	91.7	P/P	63 - 129
Parathion Ethyl	97.6	96.3	P/P	80 - 109
Parathion Methyl	107	87.6	P/P	74 - 125
Pendimethalin	99.0	104	P/P	48 - 134
Phorate	110	85.3	P/P	52 - 119
Prometon	106	95.4	P/P	69 - 124
Prometryn	116	99.3	P/P	66 - 124
Simazine	108	101	P/P	61 - 134
Terbufos	105	84.9	P/P	58 - 115
Terbuthylazine	104	97.9	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P321530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	53.5	56.0	P/P	30 - 83.0
Alpha-BHC	77.2	80.0	P/P	62 - 119
Alpha-Chlordane	71.6	73.4	P/P	56 - 119
Beta-BHC	74.2	82.0	P/P	54 - 141
Carbophenothion	75.6	86.9	P/P	33 - 147
Chlorothalonil	64.8	86.0	P/P	25 - 175
Cypermethrin	90.9	89.1	P/P	50 - 155
DDD-p,p'	77.0	78.6	P/P	56 - 135

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P321530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DDE-p,p'	69.1	73.4	P/P	48 - 120
DDT-p,p'	77.3	75.1	P/P	51 - 121
Delta-BHC	88.2	93.7	P/P	65 - 163
Dicofol	38.5	38.5	P/P	15 - 112
Dieldrin	71.0	72.0	P/P	59 - 134
Endosulfan I	78.2	86.2	P/P	65 - 142
Endosulfan II	71.3	74.2	P/P	65 - 154
Endosulfan Sulfate	79.8	78.0	P/P	65 - 136
Endrin	82.1	78.4	P/P	53 - 156
Endrin Aldehyde	44.9	74.0	F/P	47 - 156
Endrin Ketone	74.3	71.1	P/P	70 - 124
Gamma-BHC	86.2	90.0	P/P	64 - 142
Gamma-Chlordane	71.4	74.2	P/P	55 - 114
Heptachlor	66.0	58.7	P/P	42 - 105
Heptachlor Epoxide	70.7	73.1	P/P	67 - 120
Methoxychlor	85.6	86.4	P/P	63 - 134
Mirex	67.3	68.2	P/P	40 - 90.0
Permethrin	85.4	86.9	P/P	36 - 144
Trifluralin	113	132	P/P	40 - 170

Reference Method: EPA 8321B
Batch ID: P321328

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	96.0		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P321370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	100		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P321377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	76.8		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P321765

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P321768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.5		P	92 - 103

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P321417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P321387

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	70.8		P	40 - 140
Acetaminophen	84.4		P	40 - 140
Bentazon	77.6		P	40 - 140
Carbamazepine	85.2		P	40 - 140
Diuron	75.6		P	40 - 140
Fenuron	95.2		P	40 - 140
Fluridone	70.8		P	40 - 140
Imidacloprid	94.4		P	40 - 160
Linuron	56.8		P	40 - 140
MCPP	59.6		P	40 - 140
Primidone	78.4		P	40 - 140
Triclopyr	52.8		P	40 - 140

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P321847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879078	Calcium	99.7		P	80 - 120
1879078	Iron	104		P	80 - 120
1879078	Magnesium	98.7		P	80 - 120
1879078	Sodium	98.8		P	80 - 120
1879078	Zinc	98.8		P	80 - 120
1879619	Calcium	99.0		P	80 - 120
1879619	Iron	106	105	P/P	80 - 120
1879619	Magnesium	102	104	P/P	80 - 120
1879619	Potassium	100	102	P/P	80 - 120
1879619	Sodium	103	102	P/P	80 - 120
1879619	Zinc	97.9	98.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P321847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879078	Aluminum	103		P	80 - 120
1879078	Arsenic	103		P	80 - 120
1879078	Cadmium	99.6		P	80 - 120
1879078	Chromium	100		P	80 - 120
1879078	Copper	100		P	80 - 120
1879078	Lead	101		P	80 - 120
1879078	Nickel	99.3		P	80 - 120
1879078	Silver	102		P	80 - 120
1879619	Aluminum	103	102	P/P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P321847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879619	Arsenic	102	100	P/P	80 - 120
1879619	Boron	106	104	P/P	80 - 120
1879619	Cadmium	100	103	P/P	80 - 120
1879619	Chromium	101	100	P/P	80 - 120
1879619	Copper	99.3	98.3	P/P	80 - 120
1879619	Lead	99.9	99.5	P/P	80 - 120
1879619	Nickel	101	99.6	P/P	80 - 120
1879619	Silver	103	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P321815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879380	Sulfate	107		P	90 - 110
1879868	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879380	Chloride	95.6		P	90 - 110
1879868	Chloride	94.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879378	Ammonia-N	97.6	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879364	Kjeldahl Nitrogen	99.7	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879524	Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P321663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879365	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879358	Total-P	104	108	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879526	O-Phosphate-P	97.9	99.3	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P321313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879446	Acetochlor	105	113	P/P	74 - 123
1879446	Alachlor	97.2	119	P/P	73 - 124
1879446	Ametryn	112	128	P/P	56 - 149
1879446	Atrazine	97.9	113	P/P	73 - 124
1879446	Atrazine Desethyl	73.3	81.1	P/P	12 - 103
1879446	Azinphos Methyl	99.3	105	P/P	60 - 202
1879446	Bromacil	95.7	111	P/P	42 - 133
1879446	Butylate	55.3	59.3	P/P	10 - 85.0
1879446	Chlorpyrifos Ethyl	77.0	73.9	P/P	53 - 113
1879446	Chlorpyrifos Methyl	102	102	P/P	40 - 115
1879446	Cyanazine	152	163	P/P	22 - 210
1879446	Demeton	111	119	P/P	17 - 149
1879446	Diazinon	108	120	P/P	72 - 124
1879446	Disulfoton	101	99.8	P/P	43 - 139
1879446	EPTC	54.8	54.5	P/P	10 - 86.0
1879446	Ethion	107	113	P/P	65 - 131
1879446	Ethoprop	93.8	98.3	P/P	59 - 110
1879446	Fenamiphos	117	104	P/P	57 - 138
1879446	Fipronil	111	120	P/P	40 - 130
1879446	Fipronil Sulfide	100	98.1	P/P	36 - 128
1879446	Fipronil Sulfone	84.7	88.2	P/P	16 - 145
1879446	Fonofos	109	110	P/P	60 - 112
1879446	Hexazinone	105	112	P/P	69 - 142
1879446	Malathion	115	116	P/P	68 - 132
1879446	Metalaxyl	101	107	P/P	66 - 118
1879446	Metolachlor	105	113	P/P	71 - 124
1879446	Metribuzin	115	117	P/P	61 - 140
1879446	Mevinphos	104	110	P/P	38 - 130
1879446	Molinate	72.7	75.9	P/P	23 - 99.0
1879446	Norflurazon	94.7	95.2	P/P	39 - 139
1879446	Parathion Ethyl	100	106	P/P	75 - 111
1879446	Parathion Methyl	104	108	P/P	64 - 130
1879446	Pendimethalin	110	118	P/P	26 - 173
1879446	Phorate	111	120	P/P	43 - 127
1879446	Prometon	107	118	P/P	50 - 144
1879446	Prometryn	99.6	92.9	P/P	69 - 126
1879446	Simazine	107	109	P/P	51 - 152
1879446	Terbufos	111	115	P/P	54 - 125
1879446	Terbuthylazine	101	110	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P321530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879572	Aldrin	55.8	54.3	P/P	30 - 83.0
1879572	Alpha-BHC	82.9	78.9	P/P	62 - 119

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P321530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879572	Alpha-Chlordane	72.1	69.8	P/P	56 - 119
1879572	Beta-BHC	72.2	74.0	P/P	54 - 141
1879572	Carbophenothion	90.3	87.0	P/P	33 - 147
1879572	Chlorothalonil	55.0	37.6	P/P	25 - 175
1879572	Cypermethrin	103	105	P/P	50 - 155
1879572	DDD-p,p'	78.2	73.4	P/P	56 - 135
1879572	DDE-p,p'	71.1	68.3	P/P	48 - 120
1879572	DDT-p,p'	75.6	76.4	P/P	51 - 121
1879572	Delta-BHC	106	90.7	P/P	65 - 163
1879572	Dicofol	25.4	28.7	P/P	15 - 112
1879572	Dieldrin	69.5	65.5	P/P	59 - 134
1879572	Endosulfan I	83.1	77.8	P/P	65 - 142
1879572	Endosulfan II	86.1	75.7	P/P	65 - 154
1879572	Endosulfan Sulfate	82.4	80.7	P/P	65 - 136
1879572	Endrin	82.5	74.1	P/P	53 - 156
1879572	Endrin Aldehyde	75.2	26.0	P/F	47 - 156
1879572	Endrin Ketone	75.3	74.3	P/P	70 - 124
1879572	Gamma-BHC	101	91.6	P/P	64 - 142
1879572	Gamma-Chlordane	73.4	71.0	P/P	55 - 114
1879572	Heptachlor	60.0	59.5	P/P	42 - 105
1879572	Heptachlor Epoxide	71.9	70.3	P/P	67 - 120
1879572	Methoxychlor	85.4	87.3	P/P	63 - 134
1879572	Mirex	67.5	68.6	P/P	40 - 90.0
1879572	Permethrin	92.2	93.4	P/P	36 - 144
1879572	Trifluralin	159	142	P/P	40 - 170

Reference Method: EPA 8321B
Batch ID: P321328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879153	Sucralose	114	102	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P321370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1878905	Glyphosate	73.0	81.4	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P321377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879431	Pyraclostrobin	109	100	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P321768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879911	Fluoride	98.6	99.2	P/P	91 - 105

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P321417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879378	Organic Carbon	95.9	91.8	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P321387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879555	2,4-D	103	104	P/P	40 - 140
1879555	Acetaminophen	43.2	40.4	P/P	40 - 140
1879555	Bentazon	184	192	F/F	40 - 140
1879555	Carbamazepine	86.3	83.1	P/P	40 - 140
1879555	Diuron	73.2	79.6	P/P	40 - 140
1879555	Fenuron	66.4	73.2	P/P	40 - 140
1879555	Fluridone	60.8	62.4	P/P	40 - 140
1879555	Imidacloprid	140	134	P/P	40 - 160
1879555	Linuron	113	129	P/P	40 - 140
1879555	MCPP	87.2	82.8	P/P	40 - 140
1879555	Primidone	78.8	83.6	P/P	40 - 140
1879555	Triclopyr	84.4	90.8	P/P	40 - 140

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P321399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879333	Turbidity	8.00	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P321847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879619	Calcium	0.319	Spike	P	0 - 20
1879619	Iron	0.745	Spike	P	0 - 20
1879619	Magnesium	1.11	Spike	P	0 - 20
1879619	Potassium	1.75	Spike	P	0 - 20
1879619	Sodium	0.820	Spike	P	0 - 20
1879619	Zinc	0.715	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P321847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879619	Aluminum	0.740	Spike	P	0 - 20
1879619	Arsenic	1.19	Spike	P	0 - 20
1879619	Boron	1.70	Spike	P	0 - 20
1879619	Cadmium	2.05	Spike	P	0 - 20
1879619	Chromium	1.21	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P321847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879619	Copper	1.08	Spike	P	0 - 20
1879619	Lead	0.406	Spike	P	0 - 20
1879619	Nickel	1.02	Spike	P	0 - 20
1879619	Silver	2.40	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P321815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879380	Sulfate	9.23	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P322121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879380	Chloride	0.124	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879378	Ammonia-N	1.20	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879364	Kjeldahl Nitrogen	1.05	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879524	Kjeldahl Nitrogen	2.62	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P321663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879365	NO2NO3-N	1.41	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879358	Total-P	3.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879526	O-Phosphate-P	1.42	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P321313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879446	Acetochlor	6.84	Spike	P	0 - 30
1879446	Alachlor	20.4	Spike	P	0 - 30
1879446	Ametryn	13.3	Spike	P	0 - 30
1879446	Atrazine	11.7	Spike	P	0 - 30
1879446	Atrazine Desethyl	10.1	Spike	P	0 - 30
1879446	Azinphos Methyl	5.78	Spike	P	0 - 30
1879446	Bromacil	12.1	Spike	P	0 - 30
1879446	Butylate	6.96	Spike	P	0 - 30
1879446	Chlorpyrifos Ethyl	3.04	Spike	P	0 - 30
1879446	Chlorpyrifos Methyl	0.822	Spike	P	0 - 30
1879446	Cyanazine	6.82	Spike	P	0 - 30
1879446	Demeton	6.88	Spike	P	0 - 30
1879446	Diazinon	11.3	Spike	P	0 - 30
1879446	Disulfoton	1.32	Spike	P	0 - 30
1879446	EPTC	0.568	Spike	P	0 - 30
1879446	Ethion	5.86	Spike	P	0 - 30
1879446	Ethoprop	4.23	Spike	P	0 - 30
1879446	Fenamiphos	12.1	Spike	P	0 - 30
1879446	Fipronil	8.46	Spike	P	0 - 30
1879446	Fipronil Sulfide	1.96	Spike	P	0 - 30
1879446	Fipronil Sulfone	4.12	Spike	P	0 - 30
1879446	Fonofos	1.09	Spike	P	0 - 30
1879446	Hexazinone	6.51	Spike	P	0 - 30
1879446	Malathion	1.51	Spike	P	0 - 30
1879446	Metalaxyl	6.11	Spike	P	0 - 30
1879446	Metolachlor	6.82	Spike	P	0 - 30
1879446	Metribuzin	1.53	Spike	P	0 - 30
1879446	Mevinphos	5.51	Spike	P	0 - 30
1879446	Molinate	4.37	Spike	P	0 - 30
1879446	Norflurazon	0.535	Spike	P	0 - 30
1879446	Parathion Ethyl	6.25	Spike	P	0 - 30
1879446	Parathion Methyl	3.70	Spike	P	0 - 30
1879446	Pendimethalin	7.12	Spike	P	0 - 30
1879446	Phorate	7.76	Spike	P	0 - 30
1879446	Prometon	9.51	Spike	P	0 - 30
1879446	Prometryn	6.89	Spike	P	0 - 30
1879446	Simazine	1.66	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P321313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879446	Terbufos	4.03	Spike	P	0 - 30
1879446	Terbuthylazine	9.09	Spike	P	0 - 30
LFB	Acetochlor	10.8	LCS	P	0 - 30
LFB	Alachlor	11.3	LCS	P	0 - 30
LFB	Ametryn	22.1	LCS	P	0 - 30
LFB	Atrazine	10.4	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.05	LCS	P	0 - 30
LFB	Azinphos Methyl	14.2	LCS	P	0 - 30
LFB	Bromacil	5.54	LCS	P	0 - 30
LFB	Butylate	4.30	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.54	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	14.2	LCS	P	0 - 30
LFB	Cyanazine	24.3	LCS	P	0 - 30
LFB	Demeton	6.17	LCS	P	0 - 30
LFB	Diazinon	12.0	LCS	P	0 - 30
LFB	Disulfoton	10.7	LCS	P	0 - 30
LFB	EPTC	1.06	LCS	P	0 - 30
LFB	Ethion	10.7	LCS	P	0 - 30
LFB	Ethoprop	21.3	LCS	P	0 - 30
LFB	Fenamiphos	9.11	LCS	P	0 - 30
LFB	Fipronil	12.0	LCS	P	0 - 30
LFB	Fipronil Sulfide	9.84	LCS	P	0 - 30
LFB	Fipronil Sulfone	6.64	LCS	P	0 - 30
LFB	Fonofos	23.4	LCS	P	0 - 30
LFB	Hexazinone	9.90	LCS	P	0 - 30
LFB	Malathion	12.8	LCS	P	0 - 30
LFB	Metalaxyl	9.95	LCS	P	0 - 30
LFB	Metolachlor	4.25	LCS	P	0 - 30
LFB	Metribuzin	15.7	LCS	P	0 - 30
LFB	Mevinphos	12.3	LCS	P	0 - 30
LFB	Molinate	9.91	LCS	P	0 - 30
LFB	Norflurazon	17.5	LCS	P	0 - 30
LFB	Parathion Ethyl	1.26	LCS	P	0 - 30
LFB	Parathion Methyl	20.1	LCS	P	0 - 30
LFB	Pendimethalin	4.58	LCS	P	0 - 30
LFB	Phorate	24.9	LCS	P	0 - 30
LFB	Prometon	10.1	LCS	P	0 - 30
LFB	Prometryn	15.5	LCS	P	0 - 30
LFB	Simazine	7.47	LCS	P	0 - 30
LFB	Terbufos	20.8	LCS	P	0 - 30
LFB	Terbuthylazine	5.75	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P321530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879572	Aldrin	2.73	Spike	P	0 - 30
1879572	Alpha-BHC	5.02	Spike	P	0 - 30
1879572	Alpha-Chlordane	3.20	Spike	P	0 - 30
1879572	Beta-BHC	2.48	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P321530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879572	Carbophenothion	3.69	Spike	P	0 - 30
1879572	Chlorothalonil	37.6	Spike	F	0 - 30
1879572	Cypermethrin	1.88	Spike	P	0 - 30
1879572	DDD-p,p'	6.38	Spike	P	0 - 30
1879572	DDE-p,p'	4.03	Spike	P	0 - 30
1879572	DDT-p,p'	1.04	Spike	P	0 - 30
1879572	Delta-BHC	15.4	Spike	P	0 - 30
1879572	Dicofol	12.1	Spike	P	0 - 30
1879572	Dieldrin	6.03	Spike	P	0 - 30
1879572	Endosulfan I	6.60	Spike	P	0 - 30
1879572	Endosulfan II	12.9	Spike	P	0 - 30
1879572	Endosulfan Sulfate	2.05	Spike	P	0 - 30
1879572	Endrin	10.8	Spike	P	0 - 30
1879572	Endrin Aldehyde	97.3	Spike	F	0 - 30
1879572	Endrin Ketone	1.33	Spike	P	0 - 30
1879572	Gamma-BHC	9.86	Spike	P	0 - 30
1879572	Gamma-Chlordane	3.32	Spike	P	0 - 30
1879572	Heptachlor	0.740	Spike	P	0 - 30
1879572	Heptachlor Epoxide	2.22	Spike	P	0 - 30
1879572	Methoxychlor	2.20	Spike	P	0 - 30
1879572	Mirex	1.63	Spike	P	0 - 30
1879572	Permethrin	1.32	Spike	P	0 - 30
1879572	Trifluralin	10.9	Spike	P	0 - 30
LFB	Aldrin	4.55	LCS	P	0 - 30
LFB	Alpha-BHC	3.62	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.46	LCS	P	0 - 30
LFB	Beta-BHC	9.97	LCS	P	0 - 30
LFB	Carbophenothion	13.9	LCS	P	0 - 30
LFB	Chlorothalonil	28.2	LCS	P	0 - 30
LFB	Cypermethrin	2.04	LCS	P	0 - 30
LFB	DDD-p,p'	2.06	LCS	P	0 - 30
LFB	DDE-p,p'	6.03	LCS	P	0 - 30
LFB	DDT-p,p'	2.86	LCS	P	0 - 30
LFB	Delta-BHC	6.06	LCS	P	0 - 30
LFB	Dicofol	0.117	LCS	P	0 - 30
LFB	Dieldrin	1.33	LCS	P	0 - 30
LFB	Endosulfan I	9.71	LCS	P	0 - 30
LFB	Endosulfan II	4.05	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.29	LCS	P	0 - 30
LFB	Endrin	4.53	LCS	P	0 - 30
LFB	Endrin Aldehyde	48.9	LCS	F	0 - 30
LFB	Endrin Ketone	4.48	LCS	P	0 - 30
LFB	Gamma-BHC	4.30	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.89	LCS	P	0 - 30
LFB	Heptachlor	11.7	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.36	LCS	P	0 - 30
LFB	Methoxychlor	0.941	LCS	P	0 - 30
LFB	Mirex	1.41	LCS	P	0 - 30
LFB	Permethrin	1.76	LCS	P	0 - 30
LFB	Trifluralin	15.4	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P321328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879153	Sucralose	10.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P321370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1878905	Glyphosate	10.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P321377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879431	Pyraclostrobin	8.43	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P321368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879324	Color (true)	5.30	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P321765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879911	Total Alkalinity	0.468	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P321889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879363	TDS	6.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P321768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879911	Fluoride	0.480	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P321417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879378	Organic Carbon	2.63	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: USGS O-2060-01
Batch ID: P321387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879555	2,4-D	1.16	Spike	P	0 - 30
1879555	Acetaminophen	6.70	Spike	P	0 - 30
1879555	Bentazon	4.05	Spike	P	0 - 30
1879555	Carbamazepine	3.56	Spike	P	0 - 30
1879555	Diuron	8.38	Spike	P	0 - 30
1879555	Fenuron	9.74	Spike	P	0 - 30
1879555	Fluridone	2.60	Spike	P	0 - 30
1879555	Imidacloprid	4.22	Spike	P	0 - 30
1879555	Linuron	12.9	Spike	P	0 - 30
1879555	MCPP	5.18	Spike	P	0 - 30
1879555	Primidone	5.91	Spike	P	0 - 30
1879555	Triclopyr	7.31	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: 1879429
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	55.8	P	50 - 150
USGS O-2060-01	2,4-D-d3	99.8	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	63.2	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	63.8	P	40 - 160
USGS O-2060-01	Diuron-d6	70.6	P	40 - 150
USGS O-2060-01	Primidone-d5	59.4	P	40 - 150

Lab Sample ID: 1879430
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	108	P	40 - 150

Lab Sample ID: 1879431
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	66.0	P	40 - 150

Lab Sample ID: 1879445
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	39.0	F	51 - 123
EPA 8270D	Tetrachloro-m-xylene	28.8	F	31 - 111

Quality Assurance Report
Surrogates

Lab Sample ID: 1879446
Field Sample ID: G2CE0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	80.3	P	62 - 132
EPA 8270D	Simazine-d10	112	P	72 - 127

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A75024
Included Lab Sample IDs: 1879377, 1879380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.6	99.0	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75034
Included Lab Sample IDs: 1879377, 1879380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75035
Included Lab Sample IDs: 1879379, 1879382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	96.1	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A75042
Included Lab Sample IDs: 1879378, 1879381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	95.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A75044
Included Lab Sample IDs: 1879430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	135	110	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75062
Included Lab Sample IDs: 1879378, 1879381

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A75084
Included Lab Sample IDs: 1879429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	85.6	100	P/P	70 - 130

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A75140
Included Lab Sample IDs: 1879378, 1879381

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

Reference Method: USGS O-2060-01
Run ID: A75159
Included Lab Sample IDs: 1879429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	90.8	108	P/P	60 - 150
Carbamazepine	110	129	P/P	60 - 150
Diuron	138	138	P/P	60 - 150
Fenuron	111	114	P/P	60 - 150
Fluridone	102	107	P/P	60 - 150
Imidacloprid	125	121	P/P	60 - 150
Linuron	143	160*	P/F	60 - 150
Primidone	100	86.4	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A75169
Included Lab Sample IDs: 1879378, 1879381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	98.2	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A75182
Included Lab Sample IDs: 1879377, 1879380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A75182
Included Lab Sample IDs: 1879377, 1879380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A75185
Included Lab Sample IDs: 1879378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.3	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A75187
Included Lab Sample IDs: 1879381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75193
Included Lab Sample IDs: 1879377, 1879380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	106	109	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A75202
Included Lab Sample IDs: 1879446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine Desethyl	91.8		P	80 - 120
Azinphos Methyl	92.6		P	80 - 120
Butylate	102		P	80 - 120
Chlorpyrifos Ethyl	95.6		P	80 - 120
Chlorpyrifos Methyl	97.2		P	80 - 120
Cyanazine	93.4		P	80 - 120
Demeton	93.7		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	90.4		P	80 - 120
EPTC	103		P	80 - 120
Ethion	94.4		P	80 - 120
Ethoprop	97.3		P	80 - 120
Fenamiphos	100		P	80 - 120
Fipronil	97.5		P	80 - 120
Fipronil Sulfide	94.0		P	80 - 120
Fipronil Sulfone	99.0		P	80 - 120
Fonofos	96.6		P	80 - 120
Hexazinone	100		P	80 - 120
Malathion	95.4		P	80 - 120
Metalaxyl	99.7		P	80 - 120
Metribuzin	90.5		P	80 - 120
Mevinphos	107		P	80 - 120
Molinate	100		P	80 - 120
Norflurazon	101		P	80 - 120
Parathion Ethyl	94.8		P	80 - 120
Parathion Methyl	97.8		P	80 - 120
Pendimethalin	90.9		P	80 - 120
Phorate	95.0		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	101		P	80 - 120
Terbufos	92.4		P	80 - 120
Terbuthylazine	101		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A75204
Included Lab Sample IDs: 1879431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	115	133	P/P	60 - 150

Reference Method: EPA 8270D
Run ID: A75209
Included Lab Sample IDs: 1879446

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	98.9		P	80 - 120
Bromacil	99.4		P	80 - 120
Metolachlor	101		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A75210
Included Lab Sample IDs: 1879438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.2	102	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Magnesium	100	102	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	100	102	P/P	90 - 110
Zinc	99.6	101	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A75222
Included Lab Sample IDs: 1879445

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.1		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	92.9		P	80 - 120
Beta-BHC	105		P	80 - 120
Carbophenothion	111		P	80 - 120
Chlorothalonil	97.5		P	80 - 120
Cypermethrin	105		P	80 - 120
DDD-p,p'	98.2		P	80 - 120
DDE-p,p'	95.6		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	99.7		P	80 - 120
Dicofol	89.4		P	80 - 120
Dieldrin	95.0		P	80 - 120
Endosulfan I	93.4		P	80 - 120
Endosulfan II	84.4		P	80 - 120
Endosulfan Sulfate	106		P	80 - 120
Endrin	91.3		P	80 - 120
Endrin Aldehyde	93.1		P	80 - 120
Endrin Ketone	98.0		P	80 - 120
Gamma-BHC	104		P	80 - 120
Gamma-Chlordane	97.4		P	80 - 120
Heptachlor	87.7		P	80 - 120
Heptachlor Epoxide	95.9		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A75222
Included Lab Sample IDs: 1879445

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoxychlor	101		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	102		P	80 - 120
Trifluralin	96.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A75247
Included Lab Sample IDs: 1879438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	99.6	98.1	P/P	90 - 110
Silver	102	101	P/P	90 - 110

Reference Method: USGS O-2060-01
Run ID: A75259
Included Lab Sample IDs: 1879429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.4	88.6	P/P	50 - 150
Bentazon	94.6	87.2	P/P	50 - 150
MCPP	109	109	P/P	50 - 150
Triclopyr	114	101	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A75280
Included Lab Sample IDs: 1879438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	101	P/P	90 - 110
Arsenic	99.7	99.8	P/P	90 - 110
Boron	101	99.3	P/P	90 - 110
Cadmium	97.4	97.7	P/P	90 - 110
Chromium	98.9	98.9	P/P	90 - 110
Copper	99.9	99.6	P/P	90 - 110
Nickel	100	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75326
Included Lab Sample IDs: 1879377, 1879380

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

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							8.00	
EPA 200.7 Rev. 4.4	Calcium	101		99.7	99.0				0.319
	Iron	106		104	106	105			0.745
	Magnesium	104		98.7	102	104			1.11
	Potassium	102		100	102				1.75
	Sodium	103		98.8	103	102			0.820
	Zinc	100		98.8	97.9	98.6			0.715
EPA 200.8 Rev. 5.4	Aluminum	104		103	103	102			0.740
	Arsenic	101		103	102	100			1.19
	Boron	105		106	104				1.70
	Cadmium	100		99.6	100	103			2.05
	Chromium	101		100	101	100			1.21
	Copper	99.6		100	99.3	98.3			1.08
	Lead	101		101	99.9	99.5			0.406
	Nickel	101		99.3	101	99.6			1.02
	Silver	104		102	103	101			2.40
EPA 300.0 Rev. 2.1	Chloride	102		95.6	94.3			0.124	
	Sulfate	106		107	104			9.23	
EPA 350.1 Rev. 2.0	Ammonia-N	101		97.6	98.9				1.20
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103		99.7	102				1.05
	Kjeldahl Nitrogen	105		104	101				2.62
EPA 353.2 Rev. 2.0	NO2NO3-N	102		100	102				1.41
EPA 365.1 Rev. 2.0	Total-P	104		104	108				3.70
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7		97.9	99.3				1.42
EPA 8270D	Acetochlor	107	96.0	105	113		10.8		6.84
	Alachlor	104	93.0	97.2	119		11.3		20.4
	Aldrin	53.5	56.0	55.8	54.3		4.55		2.73
	Alpha-BHC	77.2	80.0	82.9	78.9		3.62		5.02
	Alpha-Chlordane	71.6	73.4	72.1	69.8		2.46		3.20
	Ametryn	78.4	97.9	112	128		22.1		13.3
	Atrazine	108	97.7	97.9	113		10.4		11.7
	Atrazine Desethyl	73.5	67.1	73.3	81.1		9.05		10.1
	Azinphos Methyl	112	97.1	99.3	105		14.2		5.78
	Beta-BHC	74.2	82.0	72.2	74.0		9.97		2.48
	Bromacil	97.1	91.9	95.7	111		5.54		12.1
	Butylate	60.1	62.8	55.3	59.3		4.30		6.96
	Carbophenothion	75.6	86.9	90.3	87.0		13.9		3.69
	Chlorothalonil	64.8	86.0	55.0	37.6		28.2		37.6
	Chlorpyrifos Ethyl	100	94.7	77.0	73.9		5.54		3.04
	Chlorpyrifos Methyl	103	89.0	102	102		14.2		0.822
	Cyanazine	142	112	152	163		24.3		6.82
	Cypermethrin	90.9	89.1	103	105		2.04		1.88
	DDD-p,p'	77.0	78.6	78.2	73.4		2.06		6.38
	DDE-p,p'	69.1	73.4	71.1	68.3		6.03		4.03
	DDT-p,p'	77.3	75.1	75.6	76.4		2.86		1.04
	Delta-BHC	88.2	93.7	106	90.7		6.06		15.4
	Demeton	106	100	111	119		6.17		6.88
	Diazinon	108	95.9	108	120		12.0		11.3
	Dicofol	38.5	38.5	25.4	28.7		0.117		12.1
	Dieldrin	71.0	72.0	69.5	65.5		1.33		6.03
	Disulfoton	104	93.1	101	99.8		10.7		1.32
	Endosulfan I	78.2	86.2	83.1	77.8		9.71		6.60
	Endosulfan II	71.3	74.2	86.1	75.7		4.05		12.9
	Endosulfan Sulfate	79.8	78.0	82.4	80.7		2.29		2.05

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Endrin	82.1	78.4	82.5	74.1	4.53		10.8
	Endrin Aldehyde	44.9	74.0	75.2	26.0	48.9		97.3
	Endrin Ketone	74.3	71.1	75.3	74.3	4.48		1.33
	EPTC	60.2	60.9	54.8	54.5	1.06		0.568
	Ethion	94.6	105	107	113	10.7		5.86
	Ethoprop	102	82.6	93.8	98.3	21.3		4.23
	Fenamiphos	125	114	117	104	9.11		12.1
	Fipronil	114	101	111	120	12.0		8.46
	Fipronil Sulfide	107	97.3	100	98.1	9.84		1.96
	Fipronil Sulfone	95.3	89.1	84.7	88.2	6.64		4.12
	Fonofos	106	83.8	109	110	23.4		1.09
	Gamma-BHC	86.2	90.0	101	91.6	4.30		9.86
	Gamma-Chlordane	71.4	74.2	73.4	71.0	3.89		3.32
	Heptachlor	66.0	58.7	60.0	59.5	11.7		0.740
	Heptachlor Epoxide	70.7	73.1	71.9	70.3	3.36		2.22
	Hexazinone	94.5	104	105	112	9.90		6.51
	Malathion	112	98.6	115	116	12.8		1.51
	Metalaxyl	104	94.0	101	107	9.95		6.11
	Methoxychlor	85.6	86.4	85.4	87.3	0.941		2.20
	Metolachlor	106	102	105	113	4.25		6.82
	Metribuzin	114	97.5	115	117	15.7		1.53
	Mevinphos	87.9	77.7	104	110	12.3		5.51
	Mirex	67.3	68.2	67.5	68.6	1.41		1.63
	Molinate	73.5	66.6	72.7	75.9	9.91		4.37
	Norflurazon	76.9	91.7	94.7	95.2	17.5		0.535
	Parathion Ethyl	97.6	96.3	100	106	1.26		6.25
	Parathion Methyl	107	87.6	104	108	20.1		3.70
	Pendimethalin	99.0	104	110	118	4.58		7.12
	Permethrin	85.4	86.9	92.2	93.4	1.76		1.32
	Phorate	110	85.3	111	120	24.9		7.76
	Prometon	106	95.4	107	118	10.1		9.51
	Prometryn	116	99.3	99.6	92.9	15.5		6.89
	Simazine	108	101	107	109	7.47		1.66
	Terbufos	105	84.9	111	115	20.8		4.03
	Terbuthylazine	104	97.9	101	110	5.75		9.09
	Trifluralin	113	132	159	142	15.4		10.9
EPA 8321B	Glyphosate	100		73.0	81.4			10.9
	Pyraclostrobin	76.8		100	109			8.43
	Sucralose	96.0		114	102			10.7
SM 2120 B	Color (true)						5.30	
SM 2320 B-97	Total Alkalinity	104					0.468	
SM 2540 C-97	TDS						6.59	
SM 4500 F-C-97	Fluoride	93.5		98.6	99.2			0.480
SM 5310 B-00	Organic Carbon	97.2		95.9	91.8			2.63
USGS O-2060-01	2,4-D	70.8		103	104			1.16
	Acetaminophen	84.4		43.2	40.4			6.70
	Bentazon	77.6		184	192			4.05
	Carbamazepine	85.2		86.3	83.1			3.56
	Diuron	75.6		73.2	79.6			8.38
	Fenuron	95.2		66.4	73.2			9.74
	Fluridone	70.8		60.8	62.4			2.60
	Imidacloprid	94.4		140	134			4.22
	Linuron	56.8		113	129			12.9
	MCPP	59.6		87.2	82.8			5.18

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
USGS O-2060-01	Primidone	78.4	78.8	83.6			5.91
	Triclopyr	52.8	84.4	90.8			7.31

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1879377, 1879380
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1879438
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1879438
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1879377, 1879380
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1879377, 1879380
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1879378, 1879381
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1879378, 1879381
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1879378, 1879381
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1879378, 1879381
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1879379, 1879382
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1879445
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1879446
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1879429
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1879431
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1879430
SM 2120 B / E31780	True Color measured at 450 nm	1879377, 1879380
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1879377, 1879380
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1879377, 1879380
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1879377, 1879380
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1879377, 1879380
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1879378, 1879381
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1879429
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1879429

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	03/10/2017			03/10/2017 13:37	Sima Feizi	1879377, 1879380
EPA 200.7 Rev. 4.4	03/10/2017	03/15/2017	Elliott D. Healy	03/17/2017	Martin Acosta	1879438
EPA 200.8 Rev. 5.4	03/10/2017	03/15/2017	Elliott D. Healy	03/21/2017	Betina Topolski	1879438
	03/10/2017	03/15/2017	Elliott D. Healy	03/22/2017	Betina Topolski	1879438
EPA 300.0 Rev. 2.1	03/10/2017			03/18/2017	Elisa J Lutz	1879377, 1879380
	03/10/2017			03/24/2017	Ping Hua	1879377, 1879380
EPA 350.1 Rev. 2.0	03/10/2017			03/13/2017	Julie Michelle Frank	1879378, 1879381
EPA 351.2 Rev. 2.0	03/10/2017	03/15/2017	Adrian Shelby	03/17/2017	Joseph Suarez	1879378
	03/10/2017	03/16/2017	Adrian Shelby	03/17/2017	Joseph Suarez	1879381
EPA 353.2 Rev. 2.0	03/10/2017			03/16/2017	Beverly Y. Sanders	1879378, 1879381
EPA 365.1 Rev. 2.0	03/10/2017	03/14/2017	Adrian Shelby	03/17/2017	Lipi Saha	1879378, 1879381
EPA 365.1 Rev. 2.0 dissolved	03/10/2017			03/10/2017 18:14	Virginia P. Brown	1879382
	03/10/2017			03/10/2017 18:15	Virginia P. Brown	1879379
EPA 8270D	03/10/2017	03/13/2017	Fe-Val Siddell	03/15/2017	Marek Topolski	1879446
	03/10/2017	03/13/2017	Fe-Val Siddell	03/17/2017	Marek Topolski	1879446
	03/10/2017	03/13/2017	Rasheda Ghaffari	03/17/2017	Vandana T. Nagar	1879445
EPA 8321B	03/10/2017	03/10/2017	Mohammad Ghaffari	03/10/2017	Mohammad Ghaffari	1879430
	03/10/2017	03/14/2017	Mohammad Ghaffari	03/14/2017	Mohammad Ghaffari	1879429
	03/10/2017	03/15/2017	Hoor Shaik	03/17/2017	Juyoung Kim	1879431
SM 2120 B	03/10/2017			03/10/2017 13:15	Julia Storbeck	1879377
	03/10/2017			03/10/2017 13:17	Julia Storbeck	1879380
SM 2320 B-97	03/10/2017			03/16/2017	Dale L. Simmons	1879377, 1879380
SM 2540 C-97	03/10/2017			03/10/2017	Yijie Li	1879377, 1879380
SM 2540 D-97	03/10/2017			03/10/2017	Yijie Li	1879377, 1879380
SM 4500 F-C-97	03/10/2017			03/16/2017	Dale L. Simmons	1879377, 1879380
SM 5310 B-00	03/10/2017			03/10/2017	Julie Michelle Frank	1879378, 1879381
USGS O-2060-01	03/10/2017	03/14/2017	Hoor Shaik	03/17/2017	Juyoung Kim	1879429
	03/10/2017	03/14/2017	Hoor Shaik	03/19/2017	Juyoung Kim	1879429