Chemical Analysis Report

NE-DIST-2018-01-17-01

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

Event Description: **Di water check-NE**
Request ID: **RQ-2018-01-08-49**
Customer: **NE-DIST**
Project ID: **SMP**

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

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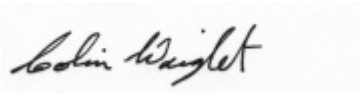
Certified by: Colin Wright, Program Administrator

Date Certified: 09-FEB-2018 10:09



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: NE DI Check **Collection Date/Time: 01/16/2018 14:55**

Field ID: DICHECK 01162018 Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1959768	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P338370	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P338474	
		Sulfate	0.20	U	mg SO4/L	P338476	
	SM 2120 B	Color (true)	2.5	U	PCU	P338398	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P338674	
	SM 2540 C-97	TDS	15	U	mg/L	P338695	
	SM 2540 D-97	TSS	2	U	mg/L	P338895	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P339050	
1959769	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P338724	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P338490	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P338570	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P338425	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P338527	
1959770	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P338372	
1959809	EPA 8321B	Glyphosate**	0.10	U	ug/L	P338530	
		AMPA**	0.10	U	ug/L	P338530	
		Pyraclostrobin**	0.0020	U	ug/L	P338545	RPD
		Sucralose**	0.010	U	ug/L	P338431	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P338349	
		Diuron	0.0020	U	ug/L	P338349	
		Fenuron	0.0080	U	ug/L	P338349	
		Imidacloprid	0.0020	U	ug/L	P338349	MS
		Bentazon	8.0E-04	U	ug/L	P338349	
		Linuron	0.0040	U	ug/L	P338349	
		MCPP	0.0020	U	ug/L	P338349	
		Triclopyr**	0.0040	U	ug/L	P338349	
1959810	EPA 8321B	Aldicarb	0.020	U	ug/L	P338349	MS
		Aldicarb Sulfone	0.0020	U	ug/L	P338349	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P338349	
		Carbaryl	0.0020	U	ug/L	P338349	
		Carbofuran	0.0020	U	ug/L	P338349	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P338349	
		Methiocarb	0.0020	U	ug/L	P338349	
		Methomyl	0.0020	U	ug/L	P338349	
		Oxamyl	0.0020	U	ug/L	P338349	
		Propoxur	0.0020	U	ug/L	P338349	
1959817	EPA 8270D	Aldrin	4.0	U	ng/L	P338844	
		Alpha-BHC	2.0	U	ng/L	P338844	
		Beta-BHC	4.0	U	ng/L	P338844	
		Delta-BHC	4.0	U	ng/L	P338844	
		Gamma-BHC	4.0	U	ng/L	P338844	
		Carbophenothion	4.0	UJ	ng/L	P338844	CCV, LCS, RPD
		Chlorothalonil	2.0	U	ng/L	P338844	

Field ID: DICHECK 01162018 Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1959817	EPA 8270D	Cypermethrin	20	U	ng/L	P338844	
		DDD-p,p'	3.0	U	ng/L	P338844	
		DDE-p,p'	3.0	U	ng/L	P338844	
		DDT-p,p'	3.0	U	ng/L	P338844	
		Dieldrin	4.0	U	ng/L	P338844	
		Endosulfan I	4.0	U	ng/L	P338844	
		Endosulfan II	4.0	U	ng/L	P338844	
		Endosulfan Sulfate	2.0	U	ng/L	P338844	
		Endrin	2.0	U	ng/L	P338844	
		Endrin Aldehyde	2.0	U	ng/L	P338844	
		Heptachlor	1.5	U	ng/L	P338844	
		Heptachlor Epoxide	2.0	U	ng/L	P338844	
		Methoxychlor	4.0	U	ng/L	P338844	
		Mirex	2.0	U	ng/L	P338844	
		Permethrin	10	U	ng/L	P338844	
		Trifluralin	1.0	U	ng/L	P338844	
		Alpha-Chlordane	1.0	U	ng/L	P338844	
		Gamma-Chlordane	1.0	U	ng/L	P338844	
		Endrin Ketone	2.0	U	ng/L	P338844	
		Dicofol	30	U	ng/L	P338844	
	EPA 8276	Chlordane**	2.5	U	ng/L	P338844	
		Toxaphene**	12	U	ng/L	P338844	
1959818	EPA 8270D	Alachlor	0.24	U	ng/L	P338517	
		Ametryn	0.31	U	ng/L	P338517	
		Atrazine	0.24	U	ng/L	P338517	
		Atrazine Desethyl	1.4	U	ng/L	P338517	
		Azinphos Methyl	2.2	U	ng/L	P338517	
		Bromacil	0.48	U	ng/L	P338517	
		Butylate	0.39	U	ng/L	P338517	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P338517	
		Chlorpyrifos Methyl	0.096	U	ng/L	P338517	
		Demeton	1.9	UJ	ng/L	P338517	RPD
		Diazinon	0.12	U	ng/L	P338517	
		Disulfoton	0.48	U	ng/L	P338517	
		EPTC	1.2	U	ng/L	P338517	
		Ethion	0.14	U	ng/L	P338517	
		Ethoprop	0.096	U	ng/L	P338517	MS
		Fenamiphos	0.24	U	ng/L	P338517	
		Fipronil	0.24	U	ng/L	P338517	
		Fipronil Sulfide	0.14	U	ng/L	P338517	RPD
		Fipronil Sulfone	0.14	U	ng/L	P338517	
		Hexazinone	0.48	U	ng/L	P338517	
		Malathion	0.34	U	ng/L	P338517	
		Metribuzin	0.19	U	ng/L	P338517	MS
		Mevinphos	0.48	U	ng/L	P338517	

Field ID: DICHECK 01162018 Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1959818	EPA 8270D	Molinate	0.29	U	ng/L	P338517	
		Norflurazon	0.48	U	ng/L	P338517	
		Pendimethalin	0.96	U	ng/L	P338517	
		Phorate	0.24	U	ng/L	P338517	
		Prometon	0.87	U	ng/L	P338517	
		Prometryn	0.19	U	ng/L	P338517	
		Simazine	0.48	U	ng/L	P338517	
		Terbufos	0.096	U	ng/L	P338517	
		Terbuthylazine	0.41	U	ng/L	P338517	
		Fonofos	0.19	U	ng/L	P338517	
		Metalaxyl	0.24	U	ng/L	P338517	
		Metolachlor	0.24	U	ng/L	P338517	
		Acetochlor	0.24	U	ng/L	P338517	
		Cyanazine	0.48	U	ng/L	P338517	
		Parathion Ethyl	0.24	U	ng/L	P338517	
		Parathion Methyl	0.24	U	ng/L	P338517	
1959821	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P338558	
		Iron	30	U	ug/L	P338558	
		Magnesium	0.040	U	mg/L	P338558	
		Potassium	0.30	U	mg/L	P338558	
		Sodium	0.50	U	mg/L	P338558	
		Zinc	5.0	U	ug/L	P338558	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P338558	
		Cadmium	0.020	U	ug/L	P338558	
		Chromium	0.40	U	ug/L	P339084	
		Copper	0.20	U	ug/L	P338558	
		Lead	0.050	U	ug/L	P338558	
		Nickel	0.20	U	ug/L	P339084	
		Silver	0.010	U	ug/L	P338558	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P338370

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P338558

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P338558

Component	Result	Code	Units
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: P338558

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Component	Result	Code	Units
Chromium	0.40	U	ug/L
Nickel	0.30	I	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338474

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338476

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338724

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338490

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338570

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: P338425

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338372

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

Reference Method: EPA 8270D
Batch ID: P338517

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P338844

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
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: P338844

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

Reference Method: EPA 8321B
Batch ID: P338349

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P338431

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P338530

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

Reference Method: EPA 8321B
Batch ID: P338545

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: SM 2120 B
Batch ID: P338398

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P338674

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

Reference Method: SM 2540 C-97
Batch ID: P338695

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P338895

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P339050

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P338527

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

Quality Assurance Report
Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P338349

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	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: P338558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	108		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	106		P	85 - 115
Sodium	111		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.7		P	85 - 115
Cadmium	94.8		P	85 - 115
Copper	93.9		P	85 - 115
Lead	94.0		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	101		P	85 - 115
Nickel	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338474

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.4		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338490

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338570

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338425

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338372

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

Reference Method: EPA 8270D
Batch ID: P338517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	96.6	92.4	P/P	74 - 119
Alachlor	97.9	93.2	P/P	75 - 118
Ametryn	68.3	91.1	P/P	59 - 137
Atrazine	102	103	P/P	73 - 120
Atrazine Desethyl	105	105	P/P	19 - 129
Azinphos Methyl	108	108	P/P	65 - 181
Bromacil	58.3	58.5	P/P	43 - 123
Butylate	62.8	58.8	P/P	28 - 85.0
Chlorpyrifos Ethyl	94.8	96.9	P/P	55 - 112
Chlorpyrifos Methyl	97.9	103	P/P	35 - 124
Cyanazine	255	234	P/P	26 - 262
Demeton	64.4	88.1	P/P	43 - 122
Diazinon	92.4	84.2	P/P	72 - 120
Disulfoton	79.5	100	P/P	45 - 137
EPTC	60.3	56.0	P/P	28 - 95.0
Ethion	96.2	103	P/P	63 - 127
Ethoprop	95.0	106	P/P	63 - 109
Fenamiphos	90.8	101	P/P	66 - 136
Fipronil	94.9	93.9	P/P	63 - 126
Fipronil Sulfide	88.5	95.8	P/P	59 - 123
Fipronil Sulfone	86.2	91.3	P/P	56 - 122
Fonofos	93.7	98.9	P/P	64 - 114

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P338517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Hexazinone	96.5	93.6	P/P	49 - 144
Malathion	93.8	101	P/P	68 - 131
Metalaxyl	94.4	94.1	P/P	57 - 126
Metolachlor	98.6	93.8	P/P	75 - 118
Metribuzin	163	165	P/P	46 - 169
Mevinphos	69.9	68.0	P/P	34 - 126
Molinate	64.9	60.6	P/P	37 - 101
Norflurazon	88.5	86.2	P/P	63 - 127
Parathion Ethyl	95.8	95.6	P/P	78 - 109
Parathion Methyl	99.6	100	P/P	74 - 123
Pendimethalin	103	104	P/P	51 - 130
Phorate	77.7	86.8	P/P	53 - 116
Prometon	87.1	84.6	P/P	66 - 124
Prometryn	91.7	93.5	P/P	66 - 124
Simazine	99.8	99.0	P/P	62 - 134
Terbufos	90.3	98.2	P/P	59 - 115
Terbuthylazine	98.9	96.6	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P338844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	47.8	51.3	P/P	24 - 89.0
Alpha-BHC	84.0	89.9	P/P	58 - 117
Alpha-Chlordane	72.7	71.5	P/P	56 - 115
Beta-BHC	95.8	95.2	P/P	55 - 137
Carbophenothion	32.3	49.9	F/P	37 - 145
Chlorothalonil	67.7	76.0	P/P	26 - 163
Cypermethrin	109	100	P/P	42 - 156
DDD-p,p'	78.8	83.5	P/P	59 - 129
DDE-p,p'	68.9	73.1	P/P	52 - 117
DDT-p,p'	78.4	75.9	P/P	48 - 128
Delta-BHC	91.6	93.3	P/P	59 - 158
Dicofol	66.8	70.6	P/P	19 - 124
Dieldrin	77.3	80.0	P/P	57 - 126
Endosulfan I	78.0	92.9	P/P	59 - 133
Endosulfan II	90.3	91.3	P/P	58 - 148
Endosulfan Sulfate	96.5	107	P/P	56 - 135
Endrin	83.6	78.9	P/P	50 - 140
Endrin Aldehyde	85.1	86.4	P/P	47 - 141
Endrin Ketone	93.4	96.6	P/P	63 - 123
Gamma-BHC	74.7	79.3	P/P	59 - 132
Gamma-Chlordane	71.6	70.3	P/P	55 - 112
Heptachlor	67.7	68.2	P/P	45 - 102
Heptachlor Epoxide	76.3	76.6	P/P	61 - 116
Methoxychlor	95.0	99.4	P/P	60 - 133
Mirex	67.2	72.4	P/P	40 - 98.0
Permethrin	90.6	89.8	P/P	45 - 131
Trifluralin	76.1	78.7	P/P	38 - 179

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P338844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	68.6	70.9	P/P	47 - 125
Toxaphene	77.7	79.8	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P338349

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	102		P	40 - 150
Aldicarb	122		P	30 - 150
Aldicarb Sulfone	106		P	40 - 150
Aldicarb Sulfoxide	101		P	40 - 150
Carbaryl	88.5		P	40 - 150
Carbofuran	92.5		P	40 - 150
Methiocarb	93.3		P	40 - 150
Methomyl	99.5		P	40 - 150
Oxamyl	96.7		P	40 - 150
Propoxur	86.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338431

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	114		P	40 - 150
Glyphosate	114		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	79.3		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P338674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P339050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.4		P	92 - 103

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P338527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.2		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P338349

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	75.3		P	40 - 150
Bentazon	78.6		P	30 - 150
Diuron	102		P	40 - 150
Fenuron	114		P	40 - 150
Imidacloprid	113		P	40 - 160
Linuron	110		P	40 - 150
MCPP	79.5		P	40 - 150
Triclopyr	79.5		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P338558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959680	Calcium	102		P	80 - 120
1959680	Iron	107		P	80 - 120
1959680	Magnesium	107		P	80 - 120
1959680	Potassium	109		P	80 - 120
1959680	Sodium	104		P	80 - 120
1959680	Zinc	103		P	80 - 120
1960659	Calcium	105		P	80 - 120
1960659	Iron	109	110	P/P	80 - 120
1960659	Magnesium	107		P	80 - 120
1960659	Potassium	105	105	P/P	80 - 120
1960659	Sodium	109	109	P/P	80 - 120
1960659	Zinc	102	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959680	Arsenic	99.8		P	80 - 120
1959680	Cadmium	95.7		P	80 - 120
1959680	Copper	91.9		P	80 - 120
1959680	Lead	95.3		P	80 - 120
1959680	Silver	102		P	80 - 120
1960659	Arsenic	97.1	98.1	P/P	80 - 120
1960659	Cadmium	97.8	98.6	P/P	80 - 120
1960659	Copper	90.3	90.1	P/P	80 - 120
1960659	Lead	94.4	93.6	P/P	80 - 120
1960659	Silver	102	103	P/P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958726	Chromium	96.4		P	80 - 120
1958726	Nickel	96.5		P	80 - 120
1960539	Chromium	101	101	P/P	80 - 120
1960539	Nickel	101	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959559	Chloride	96.3		P	90 - 110
1959560	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959559	Sulfate	94.0		P	90 - 110
1959560	Sulfate	94.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959728	Ammonia-N	98.9	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959857	Kjeldahl Nitrogen	106	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338570

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959801	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959865	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338372

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959528	O-Phosphate-P	97.0	97.6	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P338517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959975	Acetochlor	90.0	90.4	P/P	67 - 125
1959975	Alachlor	86.8	89.1	P/P	69 - 123
1959975	Ametryn	110	146	P/P	52 - 151
1959975	Atrazine	100	98.1	P/P	71 - 125
1959975	Atrazine Desethyl	118	115	P/P	10 - 129
1959975	Azinphos Methyl	102	98.3	P/P	48 - 200
1959975	Bromacil	116	105	P/P	46 - 130
1959975	Butylate	43.0	39.7	P/P	10 - 85.0
1959975	Chlorpyrifos Ethyl	102	92.9	P/P	54 - 115
1959975	Chlorpyrifos Methyl	115	101	P/P	44 - 117
1959975	Cyanazine	226	191	P/P	10 - 262
1959975	Demeton	87.2	89.9	P/P	24 - 145
1959975	Diazinon	86.3	79.8	P/P	66 - 129
1959975	Disulfoton	113	97.7	P/P	45 - 139
1959975	EPTC	35.4	38.6	P/P	10 - 86.0
1959975	Ethion	100	92.0	P/P	59 - 133
1959975	Ethoprop	125	108	F/P	54 - 116
1959975	Fenamiphos	137	108	P/P	55 - 140
1959975	Fipronil	91.6	89.6	P/P	37 - 142
1959975	Fipronil Sulfide	106	42.5	P/P	37 - 130
1959975	Fipronil Sulfone	96.7	86.8	P/P	18 - 143
1959975	Fonofos	116	100	P/P	55 - 118
1959975	Hexazinone	93.2	88.1	P/P	62 - 140
1959975	Malathion	103	103	P/P	64 - 132
1959975	Metalaxyl	97.9	85.3	P/P	55 - 129
1959975	Metolachlor	95.0	90.9	P/P	56 - 137
1959975	Metribuzin	202	223	P/F	16 - 218
1959975	Mevinphos	119	88.8	P/P	34 - 129
1959975	Molinate	45.6	49.3	P/P	16 - 99.0
1959975	Norflurazon	78.3	77.5	P/P	43 - 135
1959975	Parathion Ethyl	97.5	91.2	P/P	71 - 112
1959975	Parathion Methyl	107	100	P/P	65 - 127
1959975	Pendimethalin	104	99.3	P/P	35 - 159
1959975	Phorate	105	94.7	P/P	41 - 129
1959975	Prometon	80.1	73.5	P/P	56 - 140
1959975	Prometryn	90.5	86.0	P/P	65 - 130
1959975	Simazine	105	99.7	P/P	54 - 148
1959975	Terbufos	114	99.6	P/P	53 - 126
1959975	Terbuthylazine	95.3	93.0	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P338844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959974	Aldrin	45.9	46.2	P/P	26 - 96.0
1959974	Alpha-BHC	83.0	79.3	P/P	51 - 123
1959974	Alpha-Chlordane	64.1	56.4	P/P	45 - 120
1959974	Beta-BHC	94.7	73.9	P/P	43 - 146
1959974	Carbophenothion	92.0	80.1	P/P	26 - 179
1959974	Chlorothalonil	54.8	41.4	P/P	10 - 215
1959974	Cypermethrin	91.4	95.4	P/P	35 - 169
1959974	DDD-p,p'	72.3	66.4	P/P	49 - 131

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P338844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959974	DDE-p,p'	65.2	58.4	P/P	39 - 127
1959974	DDT-p,p'	70.5	72.4	P/P	49 - 120
1959974	Delta-BHC	107	94.3	P/P	49 - 187
1959974	Dicofol	58.1	50.0	P/P	10 - 129
1959974	Dieldrin	69.5	60.6	P/P	46 - 132
1959974	Endosulfan I	67.5	58.9	P/P	57 - 130
1959974	Endosulfan II	81.4	61.8	P/P	52 - 148
1959974	Endosulfan Sulfate	78.2	96.8	P/P	55 - 129
1959974	Endrin	71.0	62.2	P/P	45 - 133
1959974	Endrin Aldehyde	73.4	60.9	P/P	26 - 140
1959974	Endrin Ketone	88.3	85.9	P/P	60 - 125
1959974	Gamma-BHC	81.8	83.1	P/P	50 - 145
1959974	Gamma-Chlordane	63.5	57.3	P/P	44 - 118
1959974	Heptachlor	49.4	53.0	P/P	35 - 106
1959974	Heptachlor Epoxide	67.8	59.9	P/P	52 - 123
1959974	Methoxychlor	79.8	74.7	P/P	54 - 132
1959974	Mirex	58.6	65.1	P/P	36 - 107
1959974	Permethrin	78.5	78.1	P/P	47 - 135
1959974	Trifluralin	64.2	69.1	P/P	32 - 228

Reference Method: EPA 8276
Batch ID: P338844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959817	Chlordane	73.1	68.7	P/P	41 - 134
1959817	Toxaphene	80.2	78.7	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P338349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959579	3-Hydroxycarbofuran	114	133	P/P	40 - 150
1959579	Aldicarb	127	164	P/F	30 - 150
1959579	Aldicarb Sulfone	143	142	P/P	40 - 150
1959579	Aldicarb Sulfoxide	107	87.3	P/P	40 - 150
1959579	Carbaryl	67.7	73.7	P/P	40 - 150
1959579	Carbofuran	78.6	82.5	P/P	40 - 150
1959579	Methiocarb	75.8	78.2	P/P	40 - 150
1959579	Methomyl	99.4	89.6	P/P	40 - 150
1959579	Oxamyl	100	97.4	P/P	40 - 150
1959579	Propoxur	68.8	75.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959537	Sucralose	87.4	97.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P338530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959972	AMPA	87.8	87.3	P/P	40 - 150
1959972	Glyphosate	103	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P338545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959537	Pyraclostrobin	111	70.4	P/P	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P338527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959801	Organic Carbon	92.9	92.0	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P338349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1959579	2,4-D	113	103	P/P	40 - 150
1959579	Bentazon	148	105	P/P	30 - 150
1959579	Diuron	74.3	85.4	P/P	40 - 150
1959579	Fenuron	107	93.4	P/P	40 - 150
1959579	Imidacloprid	161	223	F/F	40 - 160
1959579	Linuron	87.7	87.0	P/P	40 - 150
1959579	MCPP	97.1	75.7	P/P	40 - 150
1959579	Triclopyr	90.9	75.1	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P338370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959800	Turbidity	1.59	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P338558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960659	Calcium	0.0851	Spike	P	0 - 20
1960659	Iron	0.984	Spike	P	0 - 20
1960659	Magnesium	1.13	Spike	P	0 - 20
1960659	Potassium	0.238	Spike	P	0 - 20
1960659	Sodium	0.272	Spike	P	0 - 20
1960659	Zinc	1.39	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960659	Arsenic	1.02	Spike	P	0 - 20
1960659	Cadmium	0.805	Spike	P	0 - 20
1960659	Copper	0.251	Spike	P	0 - 20
1960659	Lead	0.797	Spike	P	0 - 20
1960659	Silver	1.05	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960539	Chromium	0.0321	Spike	P	0 - 20
1960539	Nickel	0.107	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959559	Chloride	0.667	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959559	Sulfate	0.663	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959728	Ammonia-N	1.56	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959857	Kjeldahl Nitrogen	5.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959801	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959865	Total-P	0.561	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959528	O-Phosphate-P	0.617	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P338517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959975	Acetochlor	0.467	Spike	P	0 - 30
1959975	Alachlor	2.62	Spike	P	0 - 30
1959975	Ametryn	27.8	Spike	P	0 - 30
1959975	Atrazine	1.42	Spike	P	0 - 30
1959975	Atrazine Desethyl	2.70	Spike	P	0 - 30
1959975	Azinphos Methyl	3.60	Spike	P	0 - 30
1959975	Bromacil	10.1	Spike	P	0 - 30
1959975	Butylate	7.79	Spike	P	0 - 30
1959975	Chlorpyrifos Ethyl	9.22	Spike	P	0 - 30
1959975	Chlorpyrifos Methyl	12.5	Spike	P	0 - 30
1959975	Cyanazine	16.9	Spike	P	0 - 30
1959975	Demeton	3.14	Spike	P	0 - 30
1959975	Diazinon	7.79	Spike	P	0 - 30
1959975	Disulfoton	14.6	Spike	P	0 - 30
1959975	EPTC	8.59	Spike	P	0 - 30
1959975	Ethion	8.34	Spike	P	0 - 30
1959975	Ethoprop	15.1	Spike	P	0 - 30
1959975	Fenamiphos	23.7	Spike	P	0 - 30
1959975	Fipronil	2.19	Spike	P	0 - 30
1959975	Fipronil Sulfide	85.7	Spike	F	0 - 30
1959975	Fipronil Sulfone	10.7	Spike	P	0 - 30
1959975	Fonofos	14.6	Spike	P	0 - 30
1959975	Hexazinone	4.45	Spike	P	0 - 30
1959975	Malathion	0.358	Spike	P	0 - 30
1959975	Metalaxyl	13.7	Spike	P	0 - 30
1959975	Metolachlor	4.45	Spike	P	0 - 30
1959975	Metribuzin	10.0	Spike	P	0 - 30
1959975	Mevinphos	29.0	Spike	P	0 - 30
1959975	Molinate	7.89	Spike	P	0 - 30
1959975	Norflurazon	1.08	Spike	P	0 - 30
1959975	Parathion Ethyl	6.65	Spike	P	0 - 30
1959975	Parathion Methyl	6.22	Spike	P	0 - 30
1959975	Pendimethalin	4.24	Spike	P	0 - 30
1959975	Phorate	10.6	Spike	P	0 - 30
1959975	Prometon	6.38	Spike	P	0 - 30
1959975	Prometryn	5.10	Spike	P	0 - 30
1959975	Simazine	4.91	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P338517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959975	Terbufos	13.5	Spike	P	0 - 30
1959975	Terbuthylazine	2.48	Spike	P	0 - 30
LFB	Acetochlor	4.40	LCS	P	0 - 30
LFB	Alachlor	4.86	LCS	P	0 - 30
LFB	Ametryn	28.6	LCS	P	0 - 30
LFB	Atrazine	1.20	LCS	P	0 - 30
LFB	Atrazine Desethyl	0.309	LCS	P	0 - 30
LFB	Azinphos Methyl	0.805	LCS	P	0 - 30
LFB	Bromacil	0.204	LCS	P	0 - 30
LFB	Butylate	6.47	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.26	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.33	LCS	P	0 - 30
LFB	Cyanazine	8.67	LCS	P	0 - 30
LFB	Demeton	31.1	LCS	F	0 - 30
LFB	Diazinon	9.22	LCS	P	0 - 30
LFB	Disulfoton	22.8	LCS	P	0 - 30
LFB	EPTC	7.43	LCS	P	0 - 30
LFB	Ethion	6.91	LCS	P	0 - 30
LFB	Ethoprop	10.6	LCS	P	0 - 30
LFB	Fenamiphos	11.1	LCS	P	0 - 30
LFB	Fipronil	1.05	LCS	P	0 - 30
LFB	Fipronil Sulfide	7.97	LCS	P	0 - 30
LFB	Fipronil Sulfone	5.78	LCS	P	0 - 30
LFB	Fonofos	5.34	LCS	P	0 - 30
LFB	Hexazinone	3.01	LCS	P	0 - 30
LFB	Malathion	7.23	LCS	P	0 - 30
LFB	Metalaxyl	0.259	LCS	P	0 - 30
LFB	Metolachlor	5.04	LCS	P	0 - 30
LFB	Metribuzin	1.57	LCS	P	0 - 30
LFB	Mevinphos	2.78	LCS	P	0 - 30
LFB	Molinate	6.85	LCS	P	0 - 30
LFB	Norflurazon	2.60	LCS	P	0 - 30
LFB	Parathion Ethyl	0.223	LCS	P	0 - 30
LFB	Parathion Methyl	0.623	LCS	P	0 - 30
LFB	Pendimethalin	0.737	LCS	P	0 - 30
LFB	Phorate	11.0	LCS	P	0 - 30
LFB	Prometon	2.92	LCS	P	0 - 30
LFB	Prometryn	1.97	LCS	P	0 - 30
LFB	Simazine	0.801	LCS	P	0 - 30
LFB	Terbufos	8.31	LCS	P	0 - 30
LFB	Terbuthylazine	2.38	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P338844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959974	Aldrin	0.607	Spike	P	0 - 30
1959974	Alpha-BHC	4.50	Spike	P	0 - 30
1959974	Alpha-Chlordane	12.9	Spike	P	0 - 30
1959974	Beta-BHC	24.6	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P338844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959974	Carbophenothion	13.9	Spike	P	0 - 30
1959974	Chlorothalonil	27.9	Spike	P	0 - 30
1959974	Cypermethrin	4.28	Spike	P	0 - 30
1959974	DDD-p,p'	8.49	Spike	P	0 - 30
1959974	DDE-p,p'	11.0	Spike	P	0 - 30
1959974	DDT-p,p'	2.62	Spike	P	0 - 30
1959974	Delta-BHC	12.9	Spike	P	0 - 30
1959974	Dicofol	15.1	Spike	P	0 - 30
1959974	Dieldrin	13.7	Spike	P	0 - 30
1959974	Endosulfan I	13.7	Spike	P	0 - 30
1959974	Endosulfan II	27.3	Spike	P	0 - 30
1959974	Endosulfan Sulfate	21.2	Spike	P	0 - 30
1959974	Endrin	13.3	Spike	P	0 - 30
1959974	Endrin Aldehyde	18.6	Spike	P	0 - 30
1959974	Endrin Ketone	2.69	Spike	P	0 - 30
1959974	Gamma-BHC	1.59	Spike	P	0 - 30
1959974	Gamma-Chlordane	10.4	Spike	P	0 - 30
1959974	Heptachlor	7.10	Spike	P	0 - 30
1959974	Heptachlor Epoxide	12.5	Spike	P	0 - 30
1959974	Methoxychlor	6.51	Spike	P	0 - 30
1959974	Mirex	10.4	Spike	P	0 - 30
1959974	Permethrin	0.464	Spike	P	0 - 30
1959974	Trifluralin	7.36	Spike	P	0 - 30
LFB	Aldrin	7.13	LCS	P	0 - 30
LFB	Alpha-BHC	6.76	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.71	LCS	P	0 - 30
LFB	Beta-BHC	0.567	LCS	P	0 - 30
LFB	Carbophenothion	42.8	LCS	F	0 - 30
LFB	Chlorothalonil	11.5	LCS	P	0 - 30
LFB	Cypermethrin	8.46	LCS	P	0 - 30
LFB	DDD-p,p'	5.84	LCS	P	0 - 30
LFB	DDE-p,p'	5.89	LCS	P	0 - 30
LFB	DDT-p,p'	3.36	LCS	P	0 - 30
LFB	Delta-BHC	1.80	LCS	P	0 - 30
LFB	Dicofol	5.45	LCS	P	0 - 30
LFB	Dieldrin	3.36	LCS	P	0 - 30
LFB	Endosulfan I	17.5	LCS	P	0 - 30
LFB	Endosulfan II	1.02	LCS	P	0 - 30
LFB	Endosulfan Sulfate	10.2	LCS	P	0 - 30
LFB	Endrin	5.81	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.54	LCS	P	0 - 30
LFB	Endrin Ketone	3.35	LCS	P	0 - 30
LFB	Gamma-BHC	5.85	LCS	P	0 - 30
LFB	Gamma-Chlordane	1.85	LCS	P	0 - 30
LFB	Heptachlor	0.798	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.461	LCS	P	0 - 30
LFB	Methoxychlor	4.59	LCS	P	0 - 30
LFB	Mirex	7.46	LCS	P	0 - 30
LFB	Permethrin	0.885	LCS	P	0 - 30
LFB	Trifluralin	3.33	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8276
Batch ID: P338844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959817	Chlordane	6.21	Spike	P	0 - 30
1959817	Toxaphene	1.89	Spike	P	0 - 30
LFB	Chlordane	3.24	LCS	P	0 - 30
LFB	Toxaphene	2.67	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P338349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959579	3-Hydroxycarbofuran	15.3	Spike	P	0 - 30
1959579	Aldicarb	25.3	Spike	P	0 - 30
1959579	Aldicarb Sulfone	0.575	Spike	P	0 - 30
1959579	Aldicarb Sulfoxide	20.4	Spike	P	0 - 30
1959579	Carbaryl	8.17	Spike	P	0 - 30
1959579	Carbofuran	4.81	Spike	P	0 - 30
1959579	Methiocarb	3.04	Spike	P	0 - 30
1959579	Methomyl	10.4	Spike	P	0 - 30
1959579	Oxamyl	2.88	Spike	P	0 - 30
1959579	Propoxur	8.94	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P338431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959537	Sucralose	11.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P338530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959972	AMPA	0.571	Spike	P	0 - 30
1959972	Glyphosate	4.09	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P338545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959537	Pyraclostrobin	44.9	Spike	F	0 - 30

Reference Method: SM 2120 B
Batch ID: P338398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959664	Color (true)	2.38	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2320 B-97
Batch ID: P338674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960002	Total Alkalinity	1.01	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P338695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959526	TDS	2.63	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P339050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960002	Fluoride	1.96	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P338527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959801	Organic Carbon	0.583	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P338349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959579	2,4-D	8.07	Spike	P	0 - 30
1959579	Bentazon	12.6	Spike	P	0 - 30
1959579	Diuron	12.2	Spike	P	0 - 30
1959579	Fenuron	13.3	Spike	P	0 - 30
1959579	Imidacloprid	28.3	Spike	P	0 - 30
1959579	Linuron	0.843	Spike	P	0 - 30
1959579	MCPP	23.6	Spike	P	0 - 30
1959579	Triclopyr	19.0	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report
Surrogates

Lab Sample ID: 1959809
Field Sample ID: DICHECK 01162018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	92.9	P	30 - 160
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Diuron-d6	92.9	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 1959809
Field Sample ID: DICHECK 01162018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.5	P	40 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160
USGS O-2060-01	2,4-D-d3	66.3	P	30 - 160
USGS O-2060-01	Diuron-d6	92.9	P	30 - 160
USGS O-2060-01	Diuron-d6	103	P	30 - 160
USGS O-2060-01	Sucralose-d6	106	P	40 - 160

Lab Sample ID: 1959810
Field Sample ID: DICHECK 01162018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	83.2	P	30 - 160

Lab Sample ID: 1959817
Field Sample ID: DICHECK 01162018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	95.9	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	75.6	P	34 - 101
EPA 8276	Decachlorobiphenyl	84.4	P	31 - 108
EPA 8276	PCNB	116	P	40 - 130

Lab Sample ID: 1959818
Field Sample ID: DICHECK 01162018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	101	P	71 - 126
EPA 8270D	Terbufos-d10	108	P	50 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A81498
Included Lab Sample IDs: 1959768

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A81499
Included Lab Sample IDs: 1959770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.2	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A81514
Included Lab Sample IDs: 1959768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.2	99.5	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A81524
Included Lab Sample IDs: 1959768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	105	P/P	90 - 110
Sulfate	97.0	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A81556
Included Lab Sample IDs: 1959769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	100	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A81564
Included Lab Sample IDs: 1959769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.2	95.3	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A81577
Included Lab Sample IDs: 1959809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	90.2	79.8	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A81579
Included Lab Sample IDs: 1959769

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

Reference Method: EPA 8321B
Run ID: A81583
Included Lab Sample IDs: 1959809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	74.1	76.3	P/P	60 - 150
Glyphosate	71.0	78.0	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81585
Included Lab Sample IDs: 1959769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81585
Included Lab Sample IDs: 1959769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.1	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A81591
Included Lab Sample IDs: 1959809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	101	P/P	60 - 150

Reference Method: SM 2320 B-97
Run ID: A81614
Included Lab Sample IDs: 1959768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.1	99.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A81615
Included Lab Sample IDs: 1959821

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	95 - 105
Iron	102	101	P/P	95 - 105
Magnesium	102	101	P/P	95 - 105
Potassium	97.9	99.6	P/P	95 - 105
Sodium	100	102	P/P	95 - 105
Zinc	100	100	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A81623
Included Lab Sample IDs: 1959810

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	106	114	P/P	60 - 150
Aldicarb	125	124	P/P	60 - 150
Aldicarb Sulfone	110	109	P/P	50 - 150
Aldicarb Sulfoxide	111	119	P/P	50 - 150
Carbaryl	110	100	P/P	60 - 150
Carbofuran	110	109	P/P	50 - 150
Methiocarb	103	109	P/P	50 - 150
Methomyl	98.5	110	P/P	50 - 150
Oxamyl	111	110	P/P	50 - 150
Propoxur	108	110	P/P	50 - 150

Reference Method: USGS O-2060-01
Run ID: A81623
Included Lab Sample IDs: 1959809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	83.9	P/P	50 - 150
Bentazon	111	97.5	P/P	50 - 150

Quality Assurance Report
Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A81623
Included Lab Sample IDs: 1959809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diuron	112	113	P/P	60 - 150
Fenuron	108	109	P/P	60 - 150
Imidacloprid	107	112	P/P	60 - 150
Linuron	113	107	P/P	60 - 150
MCPP	103	101	P/P	50 - 150
Triclopyr	109	88.0	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A81629
Included Lab Sample IDs: 1959769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	98.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A81632
Included Lab Sample IDs: 1959821

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.7	99.8	P/P	90 - 110
Cadmium	95.6	95.4	P/P	90 - 110
Copper	96.7	97.7	P/P	90 - 110
Lead	93.9	95.1	P/P	90 - 110
Silver	96.0	96.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A81747
Included Lab Sample IDs: 1959768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	100	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A81749
Included Lab Sample IDs: 1959818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.3		P	80 - 120
Alachlor	95.2		P	80 - 120
Ametryn	95.8		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	91.0		P	80 - 120
Azinphos Methyl	96.9		P	80 - 120
Bromacil	95.7		P	80 - 120
Butylate	97.5		P	80 - 120
Chlorpyrifos Ethyl	98.6		P	80 - 120
Chlorpyrifos Methyl	98.3		P	80 - 120
Cyanazine	106		P	80 - 120
Demeton	97.6		P	80 - 120
Diazinon	94.1		P	80 - 120
Disulfoton	96.0		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A81749
Included Lab Sample IDs: 1959818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
EPTC	99.1		P	80 - 120
Ethion	89.0		P	80 - 120
Ethoprop	103		P	80 - 120
Fenamiphos	95.2		P	80 - 120
Fipronil	96.0		P	80 - 120
Fipronil Sulfide	94.6		P	80 - 120
Fipronil Sulfone	97.0		P	80 - 120
Fonofos	97.5		P	80 - 120
Hexazinone	98.5		P	80 - 120
Malathion	96.8		P	80 - 120
Metalaxyl	99.3		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	96.0		P	80 - 120
Mevinphos	88.0		P	80 - 120
Molinate	102		P	80 - 120
Norflurazon	95.9		P	80 - 120
Parathion Ethyl	94.3		P	80 - 120
Parathion Methyl	93.1		P	80 - 120
Pendimethalin	99.4		P	80 - 120
Phorate	96.3		P	80 - 120
Prometon	96.2		P	80 - 120
Prometryn	97.7		P	80 - 120
Simazine	91.3		P	80 - 120
Terbufos	97.6		P	80 - 120
Terbuthylazine	96.8		P	80 - 120

Reference Method: EPA 8276
Run ID: A81772
Included Lab Sample IDs: 1959817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	110		P	80 - 120
Toxaphene	108		P	80 - 120

Reference Method: EPA 8270D
Run ID: A81774
Included Lab Sample IDs: 1959817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	89.1		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	93.0		P	80 - 120
Beta-BHC	109		P	80 - 120
Carbophenothion	77.1*		F	80 - 120
Chlorothalonil	99.2		P	80 - 120
Cypermethrin	87.1		P	80 - 120
DDD-p,p'	95.5		P	80 - 120
DDE-p,p'	94.6		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	97.6		P	80 - 120
Dicofol	105		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A81774
Included Lab Sample IDs: 1959817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dieldrin	96.6		P	80 - 120
Endosulfan I	90.6		P	80 - 120
Endosulfan II	90.0		P	80 - 120
Endosulfan Sulfate	98.5		P	80 - 120
Endrin	90.9		P	80 - 120
Endrin Aldehyde	89.1		P	80 - 120
Endrin Ketone	97.8		P	80 - 120
Gamma-BHC	95.1		P	80 - 120
Gamma-Chlordane	90.6		P	80 - 120
Heptachlor	94.0		P	80 - 120
Heptachlor Epoxide	92.9		P	80 - 120
Methoxychlor	107		P	80 - 120
Mirex	102		P	80 - 120
Permethrin	90.9		P	80 - 120
Trifluralin	99.1		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A81833
Included Lab Sample IDs: 1959821

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	99.8	99.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A81856
Included Lab Sample IDs: 1959821

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.4	97.7	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						1.59	
EPA 200.7 Rev. 4.4	Calcium	107	102	105				0.0851
	Iron	108	107	109	110			0.984
	Magnesium	107	107	107				1.13
	Potassium	106	109	105	105			0.238
	Sodium	111	104	109	109			0.272
	Zinc	103	103	102	103			1.39
EPA 200.8 Rev. 5.4	Arsenic	98.7	99.8	97.1	98.1			1.02
	Cadmium	94.8	95.7	97.8	98.6			0.805
	Chromium	101	96.4	101	101			0.0321
	Copper	93.9	91.9	90.3	90.1			0.251

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 200.8 Rev. 5.4	Lead	94.0		95.3	94.4	93.6			0.797
	Nickel	100		96.5	101	102			0.107
	Silver	104		102	102	103			1.05
EPA 300.0 Rev. 2.1	Chloride	98.5		96.3	96.8			0.667	
	Sulfate	94.4		94.0	94.6			0.663	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9		98.9	101				1.56
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		106	96.9				5.39
EPA 353.2 Rev. 2.0	NO2NO3-N	104		103	103				0.0
EPA 365.1 Rev. 2.0	Total-P	103		101	101				0.561
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7		97.0	97.6				0.617
EPA 8270D	Acetochlor	96.6	92.4	90.0	90.4		4.40		0.467
	Alachlor	97.9	93.2	86.8	89.1		4.86		2.62
	Aldrin	47.8	51.3	46.2	45.9		7.13		0.607
	Alpha-BHC	89.9	84.0	79.3	83.0		6.76		4.50
	Alpha-Chlordane	71.5	72.7	56.4	64.1		1.71		12.9
	Ametryn	68.3	91.1	110	146		28.6		27.8
	Atrazine	102	103	100	98.1		1.20		1.42
	Atrazine Desethyl	105	105	118	115		0.309		2.70
	Azinphos Methyl	108	108	102	98.3		0.805		3.60
	Beta-BHC	95.2	95.8	73.9	94.7		0.567		24.6
	Bromacil	58.3	58.5	116	105		0.204		10.1
	Butylate	62.8	58.8	43.0	39.7		6.47		7.79
	Carbophenothion	49.9	32.3	80.1	92.0		42.8		13.9
	Chlorothalonil	76.0	67.7	54.8	41.4		11.5		27.9
	Chlorpyrifos Ethyl	94.8	96.9	102	92.9		2.26		9.22
	Chlorpyrifos Methyl	97.9	103	115	101		5.33		12.5
	Cyanazine	255	234	226	191		8.67		16.9
	Cypermethrin	100	109	91.4	95.4		8.46		4.28
	DDD-p,p'	83.5	78.8	72.3	66.4		5.84		8.49
	DDE-p,p'	68.9	73.1	58.4	65.2		5.89		11.0
	DDT-p,p'	78.4	75.9	72.4	70.5		3.36		2.62
	Delta-BHC	93.3	91.6	94.3	107		1.80		12.9
	Demeton	64.4	88.1	87.2	89.9		31.1		3.14
	Diazinon	92.4	84.2	86.3	79.8		9.22		7.79
	Dicofol	70.6	66.8	50.0	58.1		5.45		15.1
	Dieldrin	77.3	80.0	60.6	69.5		3.36		13.7
	Disulfoton	79.5	100	113	97.7		22.8		14.6
	Endosulfan I	78.0	92.9	58.9	67.5		17.5		13.7
	Endosulfan II	90.3	91.3	61.8	81.4		1.02		27.3
	Endosulfan Sulfate	96.5	107	96.8	78.2		10.2		21.2
	Endrin	83.6	78.9	62.2	71.0		5.81		13.3
	Endrin Aldehyde	85.1	86.4	60.9	73.4		1.54		18.6
	Endrin Ketone	96.6	93.4	85.9	88.3		3.35		2.69
	EPTC	60.3	56.0	35.4	38.6		7.43		8.59
	Ethion	96.2	103	100	92.0		6.91		8.34
	Ethoprop	95.0	106	125	108		10.6		15.1
	Fenamiphos	90.8	101	137	108		11.1		23.7
	Fipronil	94.9	93.9	91.6	89.6		1.05		2.19
	Fipronil Sulfide	88.5	95.8	106	42.5		7.97		85.7
	Fipronil Sulfone	86.2	91.3	96.7	86.8		5.78		10.7
	Fonofos	93.7	98.9	116	100		5.34		14.6
	Gamma-BHC	79.3	74.7	83.1	81.8		5.85		1.59
	Gamma-Chlordane	70.3	71.6	57.3	63.5		1.85		10.4
	Heptachlor	67.7	68.2	53.0	49.4		0.798		7.10

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Heptachlor Epoxide	76.3	76.6	59.9	67.8	0.461		12.5
	Hexazinone	96.5	93.6	93.2	88.1	3.01		4.45
	Malathion	93.8	101	103	103	7.23		0.358
	Metalaxyl	94.4	94.1	97.9	85.3	0.259		13.7
	Methoxychlor	99.4	95.0	74.7	79.8	4.59		6.51
	Metolachlor	98.6	93.8	95.0	90.9	5.04		4.45
	Metribuzin	163	165	202	223	1.57		10.0
	Mevinphos	69.9	68.0	119	88.8	2.78		29.0
	Mirex	72.4	67.2	65.1	58.6	7.46		10.4
	Molinate	64.9	60.6	45.6	49.3	6.85		7.89
	Norflurazon	88.5	86.2	78.3	77.5	2.60		1.08
	Parathion Ethyl	95.8	95.6	97.5	91.2	0.223		6.65
	Parathion Methyl	99.6	100	107	100	0.623		6.22
	Pendimethalin	103	104	104	99.3	0.737		4.24
	Permethrin	89.8	90.6	78.1	78.5	0.885		0.464
	Phorate	77.7	86.8	105	94.7	11.0		10.6
	Prometon	87.1	84.6	80.1	73.5	2.92		6.38
	Prometryn	91.7	93.5	90.5	86.0	1.97		5.10
	Simazine	99.8	99.0	105	99.7	0.801		4.91
	Terbufos	90.3	98.2	114	99.6	8.31		13.5
	Terbuthylazine	98.9	96.6	95.3	93.0	2.38		2.48
	Trifluralin	78.7	76.1	69.1	64.2	3.33		7.36
EPA 8276	Chlordane	68.6	70.9	73.1	68.7	3.24		6.21
	Toxaphene	77.7	79.8	80.2	78.7	2.67		1.89
EPA 8321B	3-Hydroxycarbofuran	102		114	133			15.3
	Aldicarb	122		127	164			25.3
	Aldicarb Sulfone	106		143	142			0.575
	Aldicarb Sulfoxide	101		107	87.3			20.4
	AMPA	114		87.8	87.3			0.571
	Carbaryl	88.5		67.7	73.7			8.17
	Carbofuran	92.5		78.6	82.5			4.81
	Glyphosate	114		103	108			4.09
	Methiocarb	93.3		75.8	78.2			3.04
	Methomyl	99.5		99.4	89.6			10.4
	Oxamyl	96.7		100	97.4			2.88
	Propoxur	86.1		68.8	75.2			8.94
	Pyraclostrobin	79.3		111	70.4			44.9
	Sucralose	102		87.4	97.6			11.0
SM 2120 B	Color (true)						2.38	
SM 2320 B-97	Total Alkalinity	98.8					1.01	
SM 2540 C-97	TDS						2.63	
SM 4500 F-C-97	Fluoride	95.4						1.96
SM 5310 B-00	Organic Carbon	93.2		92.9	92.0			0.583
USGS O-2060-01	2,4-D	75.3		113	103			8.07
	Bentazon	78.6		148	105			12.6
	Diuron	102		74.3	85.4			12.2
	Fenuron	114		107	93.4			13.3
	Imidacloprid	113		161	223			28.3
	Linuron	110		87.7	87.0			0.843
	MCPP	79.5		97.1	75.7			23.6
	Triclopyr	79.5		90.9	75.1			19.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1959768
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1959821
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1959821
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1959768
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1959768
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1959769
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1959769
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1959769
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1959769
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1959770
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1959817
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1959818
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1959817
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1959809
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1959810
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1959809
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1959809
SM 2120 B / E31780	True Color measured at 450 nm	1959768
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1959768
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1959768
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1959768
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1959768
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1959769
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1959809
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1959809

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	01/17/2018			01/17/2018 16:19	DeAsia Armster	1959768
EPA 200.7 Rev. 4.4	01/17/2018	01/22/2018	Elliott D. Healy	01/23/2018	Martin Acosta	1959821
EPA 200.8 Rev. 5.4	01/17/2018	01/22/2018	Elliott D. Healy	01/24/2018	Robert K Palmer	1959821
	01/17/2018	01/31/2018	Elliott D. Healy	02/02/2018	Nadine Brooks	1959821
	01/17/2018	01/31/2018	Elliott D. Healy	02/05/2018	Nadine Brooks	1959821
EPA 300.0 Rev. 2.1	01/17/2018			01/18/2018	Julia Storbeck	1959768
EPA 350.1 Rev. 2.0	01/17/2018			01/24/2018	Ping Hua	1959769
EPA 351.2 Rev. 2.0	01/17/2018	01/19/2018	Adrian Shelby	01/22/2018	Joseph Suarez	1959769
EPA 353.2 Rev. 2.0	01/17/2018			01/22/2018	Lauren Bottorf	1959769
EPA 365.1 Rev. 2.0	01/17/2018	01/18/2018	Sima Feizi	01/19/2018	Lipi Saha	1959769
EPA 365.1 Rev. 2.0 dissolved	01/17/2018			01/17/2018 16:16	Megan Treadwell	1959770
EPA 8270D	01/17/2018	01/22/2018	John Kaba	01/25/2018	Vandana T. Nagar	1959817
	01/17/2018	01/22/2018	Rasheda Ghaffari	01/25/2018	Vandana T. Nagar	1959818
EPA 8276	01/17/2018	01/22/2018	John Kaba	01/31/2018	John P. Burgos	1959817
EPA 8321B	01/17/2018	01/19/2018	Hoor Shaik	01/20/2018	Julie Michelle Frank	1959810
	01/17/2018	01/19/2018	Juyoung Kim	01/20/2018	Juyoung Kim	1959809
	01/17/2018	01/19/2018	Juyoung Kim	01/21/2018	Juyoung Kim	1959809
	01/17/2018	01/22/2018	Juyoung Kim	01/22/2018	Juyoung Kim	1959809
SM 2120 B	01/17/2018			01/17/2018 17:03	Tanya Welborn	1959768
SM 2320 B-97	01/17/2018			01/23/2018	Dale L. Simmons	1959768
SM 2540 C-97	01/17/2018			01/19/2018	Yijie Li	1959768
SM 2540 D-97	01/17/2018			01/19/2018	Yijie Li	1959768
SM 4500 F-C-97	01/17/2018			01/30/2018	Lauren Bottorf	1959768
SM 5310 B-00	01/17/2018			01/20/2018	Megan Treadwell	1959769
USGS O-2060-01	01/17/2018	01/19/2018	Hoor Shaik	01/20/2018	Julie Michelle Frank	1959809