Chemical Analysis Report

TLH-ROC-2018-05-14-01

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

Event Description: **kit C-b/M_pesticides (WBID 512 Wilson Mill Creek)**
Request ID: **RQ-2018-03-12-48**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 15-JUN-2018 11:21

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: WILSON MILL CREEK @ CR274 **Collection Date/Time: 05/14/2018 12:45**

Field ID: G2TLHR0032 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992556	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P345361	
	EPA 300.0 Rev. 2.1	Chloride	8.8	A	mg Cl/L	P345692	
		Sulfate	0.57	A	mg SO4/L	P345693	
	SM 2120 B	Color (true)	12		PCU	P345339	
	SM 2320 B-97	Total Alkalinity	13		mg CaCO3/L	P345489	
	SM 2540 C-97	TDS	50		mg/L	P345722	
	SM 2540 D-97	TSS	4	I	mg/L	P345714	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P345491	
1992557	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P345567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P345536	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.2		mg N/L	P345412	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P345443	
	SM 5310 B-00	Organic Carbon	2.0		mg C/L	P345545	
1992558	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345366	
1992562	EPA 8321B	Aldicarb	0.020	U	ug/L	P345194	
		Aldicarb Sulfone	0.0020	U	ug/L	P345194	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P345194	
		Carbaryl	0.0020	U	ug/L	P345194	
		Carbofuran	0.0020	U	ug/L	P345194	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P345194	
		Methiocarb	0.0020	U	ug/L	P345194	
		Methomyl	0.0020	U	ug/L	P345194	
		Oxamyl	0.0020	U	ug/L	P345194	
		Propoxur	0.0020	U	ug/L	P345194	
1992563		2,4-D	0.0020	U	ug/L	P345194	
		Bentazon	0.0050		ug/L	P345194	
		MCPP	0.0020	U	ug/L	P345194	
		Triclopyr**	0.0040	U	ug/L	P345194	
		Imidacloprid	0.0044	I	ug/L	P345194	
		Diuron	0.0020	U	ug/L	P345194	
		Pyraclostrobin**	0.0020	U	ug/L	P345194	
		Primidone**	0.0040	U	ug/L	P345194	
		Linuron	0.0040	U	ug/L	P345194	
		Acetaminophen**	0.0080	U	ug/L	P345194	
		Fenuron	0.016	U	ug/L	P345194	
		Imazapyr**	0.0040	U	ug/L	P345194	
		Carbamazepine**	4.0E-04	U	ug/L	P345194	
		Fluridone**	4.0E-04	U	ug/L	P345194	
		Hydrocodone**	8.0E-04	U	ug/L	P345194	
		Sucralose**	0.028	I	ug/L	P345129	
		Glyphosate**	0.10	U	ug/L	P345129	
		AMPA**	0.10	U	ug/L	P345129	
		Endothall**	0.10	U	ug/L	P345129	

Field ID: G2TLHR0032 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992563	EPA 8321B	Glufosinate**	0.10	U	ug/L	P345129	
1992564	EPA 8270D	Aldrin	4.6	U	ng/L	P345471	
		Alpha-BHC	2.3	U	ng/L	P345471	
		Beta-BHC	4.6	U	ng/L	P345471	
		Delta-BHC	4.6	U	ng/L	P345471	
		Gamma-BHC	4.6	U	ng/L	P345471	
		Carbophenothion	4.6	U	ng/L	P345471	
		Chlorothalonil	2.3	UJ	ng/L	P345471	RPD
		Cypermethrin	23	U	ng/L	P345471	
		DDD-p,p'	3.4	U	ng/L	P345471	
		DDE-p,p'	3.4	U	ng/L	P345471	
		DDT-p,p'	3.4	U	ng/L	P345471	
		Dieldrin	4.6	U	ng/L	P345471	
		Endosulfan I	4.6	U	ng/L	P345471	
		Endosulfan II	4.6	U	ng/L	P345471	
		Endosulfan Sulfate	2.3	U	ng/L	P345471	
		Endrin	2.3	U	ng/L	P345471	
		Endrin Aldehyde	2.3	U	ng/L	P345471	MS, RPD
		Heptachlor	1.7	U	ng/L	P345471	
		Heptachlor Epoxide	2.3	U	ng/L	P345471	
		Methoxychlor	4.6	U	ng/L	P345471	
		Mirex	2.3	U	ng/L	P345471	
		Permethrin	11	U	ng/L	P345471	
		Trifluralin	1.1	U	ng/L	P345471	
		Alpha-Chlordane	1.1	U	ng/L	P345471	
		Gamma-Chlordane	1.1	U	ng/L	P345471	
		Endrin Ketone	2.3	U	ng/L	P345471	
		Dicofol	34	U	ng/L	P345471	
	EPA 8276	Chlordane**	2.9	U	ng/L	P345471	
		Toxaphene**	34	U	ng/L	P345471	
1992565	EPA 8270D	Alachlor	0.25	U	ng/L	P345559	
		Ametryn	0.32	U	ng/L	P345559	RPD
		Atrazine	48		ng/L	P345559	
		Atrazine Desethyl	7.7	J	ng/L	P345559	CCV, MS
		Azinphos Methyl	2.2	U	ng/L	P345559	
		Bromacil	0.50	U	ng/L	P345559	
		Butylate	0.40	U	ng/L	P345559	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P345559	
		Chlorpyrifos Methyl	0.10	U	ng/L	P345559	
		Demeton	2.0	U	ng/L	P345559	RPD
		Diazinon	0.12	U	ng/L	P345559	
		Disulfoton	0.50	U	ng/L	P345559	
		EPTC	1.2	U	ng/L	P345559	
		Ethion	0.15	U	ng/L	P345559	
		Ethoprop	0.10	U	ng/L	P345559	

Field ID: G2TLHR0032 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992565	EPA 8270D	Fenamiphos	0.25	U	ng/L	P345559	
		Fipronil	0.25	U	ng/L	P345559	
		Fipronil Sulfide	0.15	U	ng/L	P345559	
		Fipronil Sulfone	0.15	U	ng/L	P345559	
		Hexazinone	0.50	U	ng/L	P345559	
		Malathion	0.35	U	ng/L	P345559	MS
		Metribuzin	0.20	U	ng/L	P345559	
		Mevinphos	0.50	U	ng/L	P345559	
		Molinate	0.30	U	ng/L	P345559	
		Norflurazon	0.50	U	ng/L	P345559	
		Pendimethalin	1.0	U	ng/L	P345559	
		Phorate	0.25	U	ng/L	P345559	
		Prometon	0.90	U	ng/L	P345559	
		Prometryn	0.20	U	ng/L	P345559	
		Simazine	0.50	U	ng/L	P345559	
		Terbufos	0.10	U	ng/L	P345559	
		Terbuthylazine	0.42	U	ng/L	P345559	MS
		Fonofos	0.20	U	ng/L	P345559	
		Metalaxyl	0.25	U	ng/L	P345559	
		Metolachlor	14		ng/L	P345559	
		Acetochlor	0.25	U	ng/L	P345559	
		Cyanazine	0.50	UJ	ng/L	P345559	CCV
		Parathion Ethyl	0.25	U	ng/L	P345559	
		Parathion Methyl	0.25	U	ng/L	P345559	
1992566	EPA 200.7 Rev. 4.4	Calcium	7.93		mg/L	P345280	
		Iron	110	I	ug/L	P345280	
		Magnesium	3.47		mg/L	P345280	
		Potassium	2.0		mg/L	P345280	
		Sodium	1.7	I	mg/L	P345280	
		Zinc	5.0	U	ug/L	P345280	
	EPA 200.8 Rev. 5.4	Arsenic	0.13	I	ug/L	P345280	
		Cadmium	0.020	U	ug/L	P345280	
		Chromium	0.40	U	ug/L	P345280	
		Copper	0.20	U	ug/L	P345280	
		Lead	0.098	I	ug/L	P345280	
		Nickel	0.21	I	ug/L	P345280	
		Silver	0.010	U	ug/L	P345280	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P345361

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P345280

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: P345280

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345692

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345693

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345536

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345412

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345443

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345366

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

Reference Method: EPA 8270D
Batch ID: P345471

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 8270D
Batch ID: P345559

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P345559

Component	Result	Code	Units
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

Reference Method: EPA 8276
Batch ID: P345471

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P345129

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P345129

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P345194

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.030	I	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P345339

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P345489

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

Reference Method: SM 2540 C-97
Batch ID: P345722

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P345714

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P345491

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P345545

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P345280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.8		P	85 - 115
Iron	104		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	98.3		P	85 - 115
Sodium	97.5		P	85 - 115
Zinc	99.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	108		P	85 - 115
Copper	103		P	85 - 115
Lead	105		P	85 - 115
Nickel	102		P	85 - 115
Silver	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345692

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345693

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345536

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345412

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: P345443

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.2		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P345471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	40.8	33.9	P/P	24 - 89.0
Alpha-BHC	88.6	85.9	P/P	58 - 117
Alpha-Chlordane	86.6	81.9	P/P	56 - 115
Beta-BHC	90.1	95.5	P/P	55 - 137
Carbophenothion	104	102	P/P	37 - 145
Chlorothalonil	63.2	107	P/P	26 - 163
Cypermethrin	85.9	79.8	P/P	42 - 156
DDD-p,p'	93.3	90.4	P/P	59 - 129
DDE-p,p'	90.0	84.3	P/P	52 - 117
DDT-p,p'	93.9	84.1	P/P	48 - 128
Delta-BHC	98.1	101	P/P	59 - 158
Dicofol	84.5	89.7	P/P	19 - 124
Dieldrin	90.5	84.7	P/P	57 - 126
Endosulfan I	88.6	87.9	P/P	59 - 133
Endosulfan II	95.0	96.9	P/P	58 - 148
Endosulfan Sulfate	99.9	101	P/P	56 - 135
Endrin	93.3	82.5	P/P	50 - 140
Endrin Aldehyde	83.4	87.6	P/P	47 - 141
Endrin Ketone	90.6	88.5	P/P	63 - 123
Gamma-BHC	98.8	96.0	P/P	59 - 132
Gamma-Chlordane	87.4	82.0	P/P	55 - 112
Heptachlor	78.3	72.4	P/P	45 - 102

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P345471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Heptachlor Epoxide	89.3	84.2	P/P	61 - 116
Methoxychlor	93.8	92.3	P/P	60 - 133
Mirex	82.0	74.1	P/P	40 - 98.0
Permethrin	86.2	80.4	P/P	45 - 131
Trifluralin	83.9	77.6	P/P	38 - 179

Reference Method: EPA 8270D
Batch ID: P345559

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	95.4	96.1	P/P	74 - 119
Alachlor	92.4	97.6	P/P	75 - 118
Ametryn	86.3	95.1	P/P	59 - 137
Atrazine	94.5	97.8	P/P	73 - 120
Atrazine Desethyl	78.9	106	P/P	19 - 129
Azinphos Methyl	106	111	P/P	65 - 181
Bromacil	86.8	94.3	P/P	43 - 123
Butylate	51.3	58.0	P/P	28 - 85.0
Chlorpyrifos Ethyl	78.7	87.0	P/P	55 - 112
Chlorpyrifos Methyl	82.4	91.4	P/P	35 - 124
Cyanazine	188	209	P/P	26 - 262
Demeton	68.8	76.4	P/P	43 - 122
Diazinon	103	104	P/P	72 - 120
Disulfoton	84.8	89.2	P/P	45 - 137
EPTC	54.6	61.7	P/P	28 - 95.0
Ethion	80.2	85.8	P/P	63 - 127
Ethoprop	84.5	93.1	P/P	63 - 109
Fenamiphos	79.7	102	P/P	66 - 136
Fipronil	96.8	98.7	P/P	63 - 126
Fipronil Sulfide	78.2	85.4	P/P	59 - 123
Fipronil Sulfone	79.4	84.4	P/P	56 - 122
Fonofos	89.8	96.5	P/P	64 - 114
Hexazinone	95.4	94.2	P/P	49 - 144
Malathion	83.8	92.0	P/P	68 - 131
Metalaxyl	96.4	98.5	P/P	57 - 126
Metolachlor	92.5	95.0	P/P	75 - 118
Metribuzin	82.6	103	P/P	46 - 169
Mevinphos	74.3	85.6	P/P	34 - 126
Molinate	65.9	70.9	P/P	37 - 101
Norflurazon	93.8	96.2	P/P	63 - 127
Parathion Ethyl	88.9	92.1	P/P	78 - 109
Parathion Methyl	95.5	99.4	P/P	74 - 123
Pendimethalin	105	109	P/P	51 - 130
Phorate	83.7	86.7	P/P	53 - 116
Prometon	84.8	87.8	P/P	66 - 124
Prometryn	92.7	95.7	P/P	66 - 124
Simazine	87.8	103	P/P	62 - 134
Terbufos	85.9	91.7	P/P	59 - 115
Terbuthylazine	94.0	95.8	P/P	76 - 113

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P345471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.1	95.1	P/P	47 - 125
Toxaphene	64.7	64.4	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P345129

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	92.0		P	40 - 140
Endothall	84.9		P	40 - 140
Glufosinate	96.2		P	40 - 140
Glyphosate	106		P	40 - 140
Sucralose	113		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P345194

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 150
3-Hydroxycarbofuran	87.9		P	40 - 150
Acetaminophen	98.3		P	30 - 150
Aldicarb	70.6		P	30 - 150
Aldicarb Sulfone	98.7		P	40 - 150
Aldicarb Sulfoxide	89.5		P	40 - 150
Bentazon	79.5		P	30 - 150
Carbamazepine	61.5		P	40 - 150
Carbaryl	58.0		P	40 - 150
Carbofuran	60.7		P	40 - 150
Diuron	62.2		P	40 - 150
Fenuron	96.2		P	40 - 150
Fluridone	83.0		P	40 - 150
Hydrocodone	98.8		P	40 - 150
Imazapyr	85.6		P	40 - 150
Imidacloprid	102		P	40 - 160
Linuron	97.2		P	40 - 150
MCPP	96.7		P	40 - 150
Methiocarb	80.6		P	40 - 150
Methomyl	88.8		P	40 - 150
Oxamyl	80.1		P	40 - 150
Primidone	98.1		P	40 - 150
Propoxur	60.3		P	40 - 150
Pyraclostrobin	66.3		P	40 - 150
Triclopyr	94.9		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P345489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P345491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	92.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P345545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P345280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992363	Calcium	100		P	80 - 120
1992363	Iron	103	103	P/P	80 - 120
1992363	Magnesium	103	104	P/P	80 - 120
1992363	Potassium	96.7	96.4	P/P	80 - 120
1992363	Sodium	99.1		P	80 - 120
1992363	Zinc	102	101	P/P	80 - 120
1992415	Calcium	101		P	80 - 120
1992415	Iron	104		P	80 - 120
1992415	Magnesium	106		P	80 - 120
1992415	Potassium	96.8		P	80 - 120
1992415	Sodium	92.2		P	80 - 120
1992415	Zinc	99.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992363	Arsenic	101	104	P/P	80 - 120
1992363	Cadmium	102	105	P/P	80 - 120
1992363	Chromium	107	111	P/P	80 - 120
1992363	Copper	99.8	105	P/P	80 - 120
1992363	Lead	104	107	P/P	80 - 120
1992363	Nickel	99.4	102	P/P	80 - 120
1992363	Silver	98.2	103	P/P	80 - 120
1992415	Arsenic	105		P	80 - 120
1992415	Cadmium	110		P	80 - 120
1992415	Chromium	101		P	80 - 120
1992415	Copper	105		P	80 - 120
1992415	Lead	106		P	80 - 120
1992415	Nickel	100		P	80 - 120
1992415	Silver	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345692

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992556	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992556	Sulfate	99.8		P	90 - 110
1992612	Sulfate	93.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992557	Ammonia-N	98.6	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992599	Kjeldahl Nitrogen	91.5	91.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992747	NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992598	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992558	O-Phosphate-P	96.4	97.6	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P345471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1993020	Aldrin	52.2	48.5	P/P	26 - 96.0
1993020	Alpha-BHC	92.9	94.3	P/P	51 - 123
1993020	Alpha-Chlordane	64.0	61.6	P/P	45 - 120
1993020	Beta-BHC	78.0	61.6	P/P	43 - 146
1993020	Carbophenothion	103	105	P/P	26 - 179
1993020	Chlorothalonil	75.3	81.6	P/P	10 - 215
1993020	Cypermethrin	85.8	77.6	P/P	35 - 169
1993020	DDD-p,p'	86.5	82.6	P/P	49 - 131
1993020	DDE-p,p'	61.0	60.4	P/P	39 - 127

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P345471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1993020	DDT-p,p'	80.0	66.7	P/P	49 - 120
1993020	Delta-BHC	90.9	104	P/P	49 - 187
1993020	Dicofol	80.8	91.0	P/P	10 - 129
1993020	Dieldrin	64.1	53.3	P/P	46 - 132
1993020	Endosulfan I	83.2	82.9	P/P	57 - 130
1993020	Endosulfan II	78.9	84.8	P/P	52 - 148
1993020	Endosulfan Sulfate	96.3	89.6	P/P	55 - 129
1993020	Endrin	63.0	67.6	P/P	45 - 133
1993020	Endrin Aldehyde	6.73	20.0	F/F	26 - 140
1993020	Endrin Ketone	98.9	101	P/P	60 - 125
1993020	Gamma-BHC	92.4	77.4	P/P	50 - 145
1993020	Gamma-Chlordane	62.5	58.4	P/P	44 - 118
1993020	Heptachlor	60.5	57.3	P/P	35 - 106
1993020	Heptachlor Epoxide	69.0	67.2	P/P	52 - 123
1993020	Methoxychlor	70.6	71.8	P/P	54 - 132
1993020	Mirex	51.2	56.1	P/P	36 - 107
1993020	Permethrin	75.9	71.9	P/P	47 - 135
1993020	Trifluralin	63.7	62.8	P/P	32 - 228

Reference Method: EPA 8270D
Batch ID: P345559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992932	Acetochlor	100	87.5	P/P	67 - 125
1992932	Alachlor	104	93.9	P/P	69 - 123
1992932	Ametryn	112	80.2	P/P	52 - 151
1992932	Atrazine	124	91.1	P/P	71 - 125
1992932	Atrazine Desethyl	110	136	P/F	10 - 129
1992932	Azinphos Methyl	118	98.4	P/P	48 - 200
1992932	Bromacil	101	91.1	P/P	46 - 130
1992932	Butylate	51.5	39.3	P/P	10 - 85.0
1992932	Chlorpyrifos Ethyl	99.2	81.1	P/P	54 - 115
1992932	Chlorpyrifos Methyl	88.5	79.3	P/P	44 - 117
1992932	Cyanazine	199	181	P/P	10 - 262
1992932	Demeton	117	81.1	P/P	24 - 145
1992932	Diazinon	123	106	P/P	66 - 129
1992932	Disulfoton	96.8	98.8	P/P	45 - 139
1992932	EPTC	44.3	34.4	P/P	10 - 86.0
1992932	Ethion	67.2	69.1	P/P	59 - 133
1992932	Ethoprop	113	92.4	P/P	54 - 116
1992932	Fenamiphos	71.0	72.4	P/P	55 - 140
1992932	Fipronil	93.2	83.5	P/P	37 - 142
1992932	Fipronil Sulfide	76.2	71.1	P/P	37 - 130
1992932	Fipronil Sulfone	70.2	66.8	P/P	18 - 143
1992932	Fonofos	117	99.5	P/P	55 - 118
1992932	Hexazinone	118	113	P/P	62 - 140
1992932	Malathion	61.8	76.6	F/P	64 - 132
1992932	Metalaxyl	104	88.7	P/P	55 - 129
1992932	Metolachlor	109	86.7	P/P	56 - 137
1992932	Metribuzin	137	172	P/P	16 - 218
1992932	Mevinphos	115	93.7	P/P	34 - 129
1992932	Molinate	57.4	47.4	P/P	16 - 99.0

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P345559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992932	Norflurazon	66.0	60.4	P/P	43 - 135
1992932	Parathion Ethyl	101	93.2	P/P	71 - 112
1992932	Parathion Methyl	122	106	P/P	65 - 127
1992932	Pendimethalin	119	113	P/P	35 - 159
1992932	Phorate	125	107	P/P	41 - 129
1992932	Prometon	112	87.6	P/P	56 - 140
1992932	Prometryn	93.4	85.1	P/P	65 - 130
1992932	Simazine	102	95.6	P/P	54 - 148
1992932	Terbufos	123	101	P/P	53 - 126
1992932	Terbuthylazine	115	95.8	F/P	73 - 114

Reference Method: EPA 8276
Batch ID: P345471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1993243	Chlordane	80.9	82.6	P/P	41 - 134
1993243	Toxaphene	57.0	54.5	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P345129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992563	AMPA	85.4	77.0	P/P	40 - 140
1992563	Endothall	94.0	83.6	P/P	40 - 140
1992563	Glufosinate	86.7	83.6	P/P	40 - 140
1992563	Glyphosate	108	94.0	P/P	40 - 140
1992563	Sucralose	111	107	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P345194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992331	2,4-D	76.0	72.8	P/P	40 - 150
1992331	3-Hydroxycarbofuran	87.1	92.5	P/P	40 - 150
1992331	Acetaminophen	95.0	92.5	P/P	30 - 150
1992331	Aldicarb	54.2	61.8	P/P	30 - 150
1992331	Aldicarb Sulfone	101	103	P/P	40 - 150
1992331	Aldicarb Sulfoxide	83.5	82.3	P/P	40 - 150
1992331	Bentazon	45.6	44.3	P/P	30 - 150
1992331	Carbamazepine	53.4	56.7	P/P	40 - 150
1992331	Carbaryl	51.2	50.8	P/P	40 - 150
1992331	Carbofuran	50.8	53.7	P/P	40 - 150
1992331	Diuron	52.4	55.3	P/P	40 - 150
1992331	Fenuron	85.2	91.1	P/P	40 - 150
1992331	Fluridone	75.3	77.3	P/P	40 - 150
1992331	Hydrocodone	106	109	P/P	40 - 150
1992331	Imazapyr	100	99.6	P/P	40 - 150
1992331	Imidacloprid	152	159	P/P	40 - 160
1992331	Linuron	92.3	91.6	P/P	40 - 150
1992331	MCPP	74.5	71.5	P/P	40 - 150
1992331	Methiocarb	79.8	82.0	P/P	40 - 150
1992331	Methomyl	83.5	85.5	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P345194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992331	Oxamyl	76.7	78.6	P/P	40 - 150
1992331	Primidone	103	111	P/P	40 - 150
1992331	Propoxur	52.4	51.7	P/P	40 - 150
1992331	Pyraclostrobin	72.0	71.6	P/P	40 - 150
1992331	Triclopyr	81.1	73.8	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P345491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992610	Fluoride	94.4	93.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P345545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992342	Organic Carbon	93.3	94.1	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P345361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992568	Turbidity	4.12	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P345280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992363	Calcium	0.368	Spike	P	0 - 20
1992363	Iron	0.549	Spike	P	0 - 20
1992363	Magnesium	0.806	Spike	P	0 - 20
1992363	Potassium	0.183	Spike	P	0 - 20
1992363	Sodium	0.0954	Spike	P	0 - 20
1992363	Zinc	0.195	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992363	Arsenic	3.25	Spike	P	0 - 20
1992363	Cadmium	2.01	Spike	P	0 - 20
1992363	Chromium	4.06	Spike	P	0 - 20
1992363	Copper	5.14	Spike	P	0 - 20
1992363	Lead	3.04	Spike	P	0 - 20
1992363	Nickel	3.03	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992363	Silver	4.33	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992556	Chloride	1.25	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992556	Sulfate	2.28	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992557	Ammonia-N	0.740	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992599	Kjeldahl Nitrogen	0.216	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992747	NO2NO3-N	0.954	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992598	Total-P	1.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992558	O-Phosphate-P	1.24	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P345471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1993020	Aldrin	7.33	Spike	P	0 - 30
1993020	Alpha-BHC	1.46	Spike	P	0 - 30
1993020	Alpha-Chlordane	3.70	Spike	P	0 - 30
1993020	Beta-BHC	23.6	Spike	P	0 - 30
1993020	Carbophenothion	2.70	Spike	P	0 - 30
1993020	Chlorothalonil	7.97	Spike	P	0 - 30
1993020	Cypermethrin	9.98	Spike	P	0 - 30
1993020	DDD-p,p'	4.61	Spike	P	0 - 30
1993020	DDE-p,p'	1.04	Spike	P	0 - 30
1993020	DDT-p,p'	18.2	Spike	P	0 - 30
1993020	Delta-BHC	13.7	Spike	P	0 - 30
1993020	Dicofol	12.0	Spike	P	0 - 30
1993020	Dieldrin	18.4	Spike	P	0 - 30
1993020	Endosulfan I	0.372	Spike	P	0 - 30
1993020	Endosulfan II	7.12	Spike	P	0 - 30
1993020	Endosulfan Sulfate	7.24	Spike	P	0 - 30
1993020	Endrin	7.00	Spike	P	0 - 30
1993020	Endrin Aldehyde	99.4	Spike	F	0 - 30
1993020	Endrin Ketone	2.55	Spike	P	0 - 30
1993020	Gamma-BHC	17.7	Spike	P	0 - 30
1993020	Gamma-Chlordane	6.74	Spike	P	0 - 30
1993020	Heptachlor	5.31	Spike	P	0 - 30
1993020	Heptachlor Epoxide	2.71	Spike	P	0 - 30
1993020	Methoxychlor	1.67	Spike	P	0 - 30
1993020	Mirex	9.05	Spike	P	0 - 30
1993020	Permethrin	5.44	Spike	P	0 - 30
1993020	Trifluralin	1.46	Spike	P	0 - 30
LFB	Aldrin	18.3	LCS	P	0 - 30
LFB	Alpha-BHC	3.10	LCS	P	0 - 30
LFB	Alpha-Chlordane	5.50	LCS	P	0 - 30
LFB	Beta-BHC	5.88	LCS	P	0 - 30
LFB	Carbophenothion	2.41	LCS	P	0 - 30
LFB	Chlorothalonil	51.9	LCS	F	0 - 30
LFB	Cypermethrin	7.40	LCS	P	0 - 30
LFB	DDD-p,p'	3.16	LCS	P	0 - 30
LFB	DDE-p,p'	6.58	LCS	P	0 - 30
LFB	DDT-p,p'	11.1	LCS	P	0 - 30
LFB	Delta-BHC	2.50	LCS	P	0 - 30
LFB	Dicofol	6.02	LCS	P	0 - 30
LFB	Dieldrin	6.64	LCS	P	0 - 30
LFB	Endosulfan I	0.822	LCS	P	0 - 30
LFB	Endosulfan II	1.94	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.966	LCS	P	0 - 30
LFB	Endrin	12.3	LCS	P	0 - 30
LFB	Endrin Aldehyde	4.94	LCS	P	0 - 30
LFB	Endrin Ketone	2.37	LCS	P	0 - 30
LFB	Gamma-BHC	2.87	LCS	P	0 - 30
LFB	Gamma-Chlordane	6.40	LCS	P	0 - 30
LFB	Heptachlor	7.83	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.86	LCS	P	0 - 30
LFB	Methoxychlor	1.58	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P345471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Mirex	10.1	LCS	P	0 - 30
LFB	Permethrin	6.93	LCS	P	0 - 30
LFB	Trifluralin	7.79	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P345559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992932	Acetochlor	13.7	Spike	P	0 - 30
1992932	Alachlor	10.1	Spike	P	0 - 30
1992932	Ametryn	33.1	Spike	F	0 - 30
1992932	Atrazine	22.8	Spike	P	0 - 30
1992932	Atrazine Desethyl	20.9	Spike	P	0 - 30
1992932	Azinphos Methyl	18.3	Spike	P	0 - 30
1992932	Bromacil	10.8	Spike	P	0 - 30
1992932	Butylate	27.0	Spike	P	0 - 30
1992932	Chlorpyrifos Ethyl	20.1	Spike	P	0 - 30
1992932	Chlorpyrifos Methyl	11.0	Spike	P	0 - 30
1992932	Cyanazine	9.28	Spike	P	0 - 30
1992932	Demeton	36.0	Spike	F	0 - 30
1992932	Diazinon	15.6	Spike	P	0 - 30
1992932	Disulfoton	2.04	Spike	P	0 - 30
1992932	EPTC	25.1	Spike	P	0 - 30
1992932	Ethion	2.78	Spike	P	0 - 30
1992932	Ethoprop	20.5	Spike	P	0 - 30
1992932	Fenamiphos	2.01	Spike	P	0 - 30
1992932	Fipronil	10.9	Spike	P	0 - 30
1992932	Fipronil Sulfide	6.97	Spike	P	0 - 30
1992932	Fipronil Sulfone	4.98	Spike	P	0 - 30
1992932	Fonofos	15.8	Spike	P	0 - 30
1992932	Hexazinone	4.28	Spike	P	0 - 30
1992932	Malathion	21.3	Spike	P	0 - 30
1992932	Metalaxyl	15.9	Spike	P	0 - 30
1992932	Metolachlor	23.0	Spike	P	0 - 30
1992932	Metribuzin	22.2	Spike	P	0 - 30
1992932	Mevinphos	20.3	Spike	P	0 - 30
1992932	Molinate	19.2	Spike	P	0 - 30
1992932	Norflurazon	8.85	Spike	P	0 - 30
1992932	Parathion Ethyl	7.95	Spike	P	0 - 30
1992932	Parathion Methyl	13.7	Spike	P	0 - 30
1992932	Pendimethalin	5.07	Spike	P	0 - 30
1992932	Phorate	15.7	Spike	P	0 - 30
1992932	Prometon	24.4	Spike	P	0 - 30
1992932	Prometryn	9.31	Spike	P	0 - 30
1992932	Simazine	6.42	Spike	P	0 - 30
1992932	Terbufos	20.1	Spike	P	0 - 30
1992932	Terbuthylazine	18.4	Spike	P	0 - 30
LFB	Acetochlor	0.692	LCS	P	0 - 30
LFB	Alachlor	5.45	LCS	P	0 - 30
LFB	Ametryn	9.78	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P345559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	3.42	LCS	P	0 - 30
LFB	Atrazine Desethyl	28.9	LCS	P	0 - 30
LFB	Azinphos Methyl	4.76	LCS	P	0 - 30
LFB	Bromacil	8.28	LCS	P	0 - 30
LFB	Butylate	12.2	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	10.1	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	10.4	LCS	P	0 - 30
LFB	Cyanazine	10.6	LCS	P	0 - 30
LFB	Demeton	10.4	LCS	P	0 - 30
LFB	Diazinon	1.06	LCS	P	0 - 30
LFB	Disulfoton	4.98	LCS	P	0 - 30
LFB	EPTC	12.3	LCS	P	0 - 30
LFB	Ethion	6.79	LCS	P	0 - 30
LFB	Ethoprop	9.69	LCS	P	0 - 30
LFB	Fenamiphos	24.3	LCS	P	0 - 30
LFB	Fipronil	1.91	LCS	P	0 - 30
LFB	Fipronil Sulfide	8.76	LCS	P	0 - 30
LFB	Fipronil Sulfone	6.15	LCS	P	0 - 30
LFB	Fonofos	7.15	LCS	P	0 - 30
LFB	Hexazinone	1.19	LCS	P	0 - 30
LFB	Malathion	9.37	LCS	P	0 - 30
LFB	Metalaxyl	2.13	LCS	P	0 - 30
LFB	Metolachlor	2.63	LCS	P	0 - 30
LFB	Metribuzin	21.5	LCS	P	0 - 30
LFB	Mevinphos	14.1	LCS	P	0 - 30
LFB	Molinate	7.29	LCS	P	0 - 30
LFB	Norflurazon	2.52	LCS	P	0 - 30
LFB	Parathion Ethyl	3.47	LCS	P	0 - 30
LFB	Parathion Methyl	3.99	LCS	P	0 - 30
LFB	Pendimethalin	3.66	LCS	P	0 - 30
LFB	Phorate	3.54	LCS	P	0 - 30
LFB	Prometon	3.48	LCS	P	0 - 30
LFB	Prometryn	3.18	LCS	P	0 - 30
LFB	Simazine	15.6	LCS	P	0 - 30
LFB	Terbufos	6.56	LCS	P	0 - 30
LFB	Terbuthylazine	1.86	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P345471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1993243	Chlordane	2.07	Spike	P	0 - 30
1993243	Toxaphene	4.56	Spike	P	0 - 30
LFB	Chlordane	8.74	LCS	P	0 - 30
LFB	Toxaphene	0.412	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P345129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992563	AMPA	10.3	Spike	P	0 - 30
1992563	Endothall	11.6	Spike	P	0 - 30
1992563	Glufosinate	3.69	Spike	P	0 - 30
1992563	Glyphosate	13.5	Spike	P	0 - 30
1992563	Sucralose	3.82	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P345194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992331	2,4-D	4.28	Spike	P	0 - 30
1992331	3-Hydroxycarbofuran	6.02	Spike	P	0 - 30
1992331	Acetaminophen	2.60	Spike	P	0 - 30
1992331	Aldicarb	13.1	Spike	P	0 - 30
1992331	Aldicarb Sulfone	2.19	Spike	P	0 - 30
1992331	Aldicarb Sulfoxide	1.46	Spike	P	0 - 30
1992331	Bentazon	3.03	Spike	P	0 - 30
1992331	Carbamazepine	5.92	Spike	P	0 - 30
1992331	Carbaryl	0.717	Spike	P	0 - 30
1992331	Carbofuran	5.64	Spike	P	0 - 30
1992331	Diuron	5.45	Spike	P	0 - 30
1992331	Fenuron	6.70	Spike	P	0 - 30
1992331	Fluridone	2.63	Spike	P	0 - 30
1992331	Hydrocodone	2.28	Spike	P	0 - 30
1992331	Imazapyr	0.862	Spike	P	0 - 30
1992331	Imidacloprid	4.18	Spike	P	0 - 30
1992331	Linuron	0.702	Spike	P	0 - 30
1992331	MCPP	4.22	Spike	P	0 - 30
1992331	Methiocarb	2.79	Spike	P	0 - 30
1992331	Methomyl	2.39	Spike	P	0 - 30
1992331	Oxamyl	2.44	Spike	P	0 - 30
1992331	Primidone	7.32	Spike	P	0 - 30
1992331	Propoxur	1.47	Spike	P	0 - 30
1992331	Pyraclostrobin	0.568	Spike	P	0 - 30
1992331	Triclopyr	9.45	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P345339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992569	Color (true)	0.150	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P345489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992610	Total Alkalinity	0.0961	Sample	P	0 - 1.6

Quality Assurance Report
Precision

Reference Method: SM 2540 C-97
Batch ID: P345722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992609	TDS	6.04	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P345491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992610	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P345545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992342	Organic Carbon	0.675	Spike	P	0 - 20

* 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: 1992562
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	39.8	P	30 - 160

Lab Sample ID: 1992563
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	45.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.0	P	30 - 160
EPA 8321B	Diuron-d6	54.0	P	30 - 160
EPA 8321B	Endothall-d6	89.2	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	108	P	40 - 160
EPA 8321B	Primidone-d5	115	P	30 - 160
EPA 8321B	Sucralose-d6	123	P	40 - 160

Lab Sample ID: 1992564
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	61.9	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	48.0	P	34 - 101
EPA 8276	Decachlorobiphenyl	46.8	P	31 - 108
EPA 8276	PCNB	80.3	P	62 - 142

Quality Assurance Report
Surrogates

Lab Sample ID: 1992565
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	103	P	71 - 126
EPA 8270D	Terbufos-d10	102	P	59 - 149

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A83897
Included Lab Sample IDs: 1992556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.4	98.4	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83908
Included Lab Sample IDs: 1992556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83910
Included Lab Sample IDs: 1992558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A83934
Included Lab Sample IDs: 1992557

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

Reference Method: SM 2320 B-97
Run ID: A83973
Included Lab Sample IDs: 1992556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.0	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A83973
Included Lab Sample IDs: 1992556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	96.3	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A83978
Included Lab Sample IDs: 1992563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	91.9	93.1	P/P	60 - 160
Endothall	120	82.6	P/P	60 - 160
Glufosinate	90.8	89.7	P/P	60 - 160
Glyphosate	99.7	103	P/P	60 - 160
Sucralose	99.5	105	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A83986
Included Lab Sample IDs: 1992566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	98.7	P/P	90 - 110
Iron	100	100	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Potassium	97.0	97.1	P/P	90 - 110
Sodium	98.4	96.4	P/P	90 - 110
Zinc	101	98.3	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A83989
Included Lab Sample IDs: 1992557

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A83991
Included Lab Sample IDs: 1992566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.5	98.9	P/P	90 - 110
Cadmium	102	100	P/P	90 - 110
Chromium	104	105	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Nickel	96.6	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A84010
Included Lab Sample IDs: 1992557

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A84044
Included Lab Sample IDs: 1992557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	96.2	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A84048
Included Lab Sample IDs: 1992557

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A84061
Included Lab Sample IDs: 1992556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	97.9	P/P	90 - 110
Sulfate	101	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A84101
Included Lab Sample IDs: 1992566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	104	97.2	P/P	90 - 110
Silver	99.4	95.8	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A84132
Included Lab Sample IDs: 1992564

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.1		P	80 - 120
Alpha-BHC	97.8		P	80 - 120
Alpha-Chlordane	99.9		P	80 - 120
Beta-BHC	92.2		P	80 - 120
Carbophenothion	91.0		P	80 - 120
Chlorothalonil	105		P	80 - 120
Cypermethrin	94.8		P	80 - 120
DDD-p,p'	98.9		P	80 - 120
DDE-p,p'	99.5		P	80 - 120
DDT-p,p'	109		P	80 - 120
Delta-BHC	96.3		P	80 - 120
Dicofol	109		P	80 - 120
Dieldrin	93.4		P	80 - 120
Endosulfan I	97.1		P	80 - 120
Endosulfan II	96.2		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	92.3		P	80 - 120
Endrin Aldehyde	98.2		P	80 - 120
Endrin Ketone	97.3		P	80 - 120
Gamma-BHC	100		P	80 - 120
Gamma-Chlordane	99.7		P	80 - 120
Heptachlor	98.4		P	80 - 120
Heptachlor Epoxide	100		P	80 - 120
Methoxychlor	108		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	93.7		P	80 - 120
Trifluralin	98.5		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8276
Run ID: A84183
Included Lab Sample IDs: 1992564

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	88.4		P	80 - 120

Reference Method: EPA 8321B
Run ID: A84227
Included Lab Sample IDs: 1992562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	100	84.4	P/P	50 - 150
Aldicarb	97.7	77.8	P/P	60 - 150
Aldicarb Sulfone	106	98.8	P/P	50 - 150
Aldicarb Sulfoxide	102	90.2	P/P	50 - 150
Carbaryl	93.2	83.8	P/P	60 - 150
Carbofuran	89.3	70.6	P/P	50 - 150
Methiocarb	94.4	102	P/P	50 - 150
Methomyl	99.6	95.6	P/P	50 - 150
Oxamyl	103	88.5	P/P	50 - 150
Propoxur	84.1	68.1	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A84229
Included Lab Sample IDs: 1992563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	80.4	81.4	P/P	50 - 150
Acetaminophen	81.4	93.9	P/P	60 - 150
Bentazon	92.0	93.1	P/P	50 - 150
Carbamazepine	73.1	87.2	P/P	60 - 150
Diuron	80.2	90.4	P/P	60 - 150
Fenuron	89.9	99.9	P/P	60 - 150
Fluridone	92.4	94.6	P/P	60 - 160
Hydrocodone	91.0	101	P/P	60 - 150
Imazapyr	105	98.2	P/P	50 - 150
Imidacloprid	79.3	98.1	P/P	60 - 150
Linuron	112	102	P/P	60 - 150
MCPP	81.0	89.8	P/P	50 - 150
Primidone	89.3	102	P/P	60 - 150
Pyraclostrobin	101	93.8	P/P	60 - 150
Triclopyr	74.1	83.5	P/P	50 - 160

Reference Method: EPA 8270D
Run ID: A84287
Included Lab Sample IDs: 1992565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.9		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	92.4		P	80 - 120
Atrazine Desethyl	78.5*		F	80 - 120
Azinphos Methyl	99.7		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A84287
Included Lab Sample IDs: 1992565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromacil	101		P	80 - 120
Butylate	101		P	80 - 120
Chlorpyrifos Ethyl	95.3		P	80 - 120
Chlorpyrifos Methyl	95.8		P	80 - 120
Cyanazine	66.4*		F	80 - 120
Demeton	100		P	80 - 120
Diazinon	99.2		P	80 - 120
Disulfoton	95.3		P	80 - 120
EPTC	101		P	80 - 120
Ethion	93.9		P	80 - 120
Ethoprop	97.3		P	80 - 120
Fenamiphos	92.8		P	80 - 120
Fipronil	97.6		P	80 - 120
Fipronil Sulfide	108		P	80 - 120
Fipronil Sulfone	95.6		P	80 - 120
Fonofos	97.1		P	80 - 120
Hexazinone	96.9		P	80 - 120
Malathion	95.6		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	104		P	80 - 120
Metribuzin	85.8		P	80 - 120
Mevinphos	97.4		P	80 - 120
Molinate	96.4		P	80 - 120
Norflurazon	98.1		P	80 - 120
Parathion Ethyl	92.9		P	80 - 120
Parathion Methyl	94.4		P	80 - 120
Pendimethalin	96.1		P	80 - 120
Phorate	91.3		P	80 - 120
Prometon	97.2		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	94.7		P	80 - 120
Terbufos	94.0		P	80 - 120
Terbuthylazine	96.5		P	80 - 120

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						4.12	
EPA 200.7 Rev. 4.4	Calcium	99.8	100	101				0.368
	Iron	104	103	103	104			0.549
	Magnesium	106	103	104	106			0.806
	Potassium	98.3	96.7	96.4	96.8			0.183
	Sodium	97.5	99.1	92.2				0.0954
	Zinc	99.5	102	101	99.0			0.195

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 200.8 Rev. 5.4	Arsenic	104		101	104	105			3.25
	Cadmium	102		102	105	110			2.01
	Chromium	108		107	111	101			4.06
	Copper	103		99.8	105	105			5.14
	Lead	105		104	107	106			3.04
	Nickel	102		99.4	102	100			3.03
	Silver	102		98.2	103	107			4.33
EPA 300.0 Rev. 2.1	Chloride	101		101				1.25	
	Sulfate	101		99.8	93.7			2.28	
EPA 350.1 Rev. 2.0	Ammonia-N	102		98.6	99.5				0.740
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.9		91.5	91.9				0.216
EPA 353.2 Rev. 2.0	NO2NO3-N	102		99.0	100				0.954
EPA 365.1 Rev. 2.0	Total-P	102		101	102				1.27
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.2		96.4	97.6				1.24
EPA 8270D	Acetochlor	95.4	96.1	100	87.5		0.692		13.7
	Alachlor	92.4	97.6	93.9	104		5.45		10.1
	Aldrin	40.8	33.9	52.2	48.5		18.3		7.33
	Alpha-BHC	88.6	85.9	92.9	94.3		3.10		1.46
	Alpha-Chlordane	86.6	81.9	64.0	61.6		5.50		3.70
	Ametryn	86.3	95.1	80.2	112		9.78		33.1
	Atrazine	94.5	97.8	91.1	124		3.42		22.8
	Atrazine Desethyl	78.9	106	136	110		28.9		20.9
	Azinphos Methyl	106	111	118	98.4		4.76		18.3
	Beta-BHC	90.1	95.5	78.0	61.6		5.88		23.6
	Bromacil	86.8	94.3	101	91.1		8.28		10.8
	Butylate	51.3	58.0	51.5	39.3		12.2		27.0
	Carbophenothion	104	102	103	105		2.41		2.70
	Chlorothalonil	63.2	107	75.3	81.6		51.9		7.97
	Chlorpyrifos Ethyl	78.7	87.0	99.2	81.1		10.1		20.1
	Chlorpyrifos Methyl	82.4	91.4	88.5	79.3		10.4		11.0
	Cyanazine	188	209	199	181		10.6		9.28
	Cypermethrin	85.9	79.8	85.8	77.6		7.40		9.98
	DDD-p,p'	93.3	90.4	86.5	82.6		3.16		4.61
	DDE-p,p'	90.0	84.3	61.0	60.4		6.58		1.04
	DDT-p,p'	93.9	84.1	80.0	66.7		11.1		18.2
	Delta-BHC	98.1	101	90.9	104		2.50		13.7
	Demeton	68.8	76.4	81.1	117		10.4		36.0
	Diazinon	103	104	106	123		1.06		15.6
	Dicofol	84.5	89.7	80.8	91.0		6.02		12.0
	Dieldrin	90.5	84.7	64.1	53.3		6.64		18.4
	Disulfoton	84.8	89.2	98.8	96.8		4.98		2.04
	Endosulfan I	88.6	87.9	83.2	82.9		0.822		0.372
	Endosulfan II	95.0	96.9	78.9	84.8		1.94		7.12
	Endosulfan Sulfate	99.9	101	96.3	89.6		0.966		7.24
	Endrin	93.3	82.5	63.0	67.6		12.3		7.00
	Endrin Aldehyde	83.4	87.6	6.73	20.0		4.94		99.4
	Endrin Ketone	90.6	88.5	98.9	101		2.37		2.55
	EPTC	54.6	61.7	34.4	44.3		12.3		25.1
	Ethion	80.2	85.8	69.1	67.2		6.79		2.78
	Ethoprop	84.5	93.1	92.4	113		9.69		20.5
	Fenamiphos	79.7	102	72.4	71.0		24.3		2.01
	Fipronil	96.8	98.7	83.5	93.2		1.91		10.9
	Fipronil Sulfide	78.2	85.4	71.1	76.2		8.76		6.97
	Fipronil Sulfone	79.4	84.4	66.8	70.2		6.15		4.98

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Fonofos	89.8	96.5	99.5	117	7.15		15.8
	Gamma-BHC	98.8	96.0	92.4	77.4	2.87		17.7
	Gamma-Chlordane	87.4	82.0	62.5	58.4	6.40		6.74
	Heptachlor	78.3	72.4	60.5	57.3	7.83		5.31
	Heptachlor Epoxide	89.3	84.2	69.0	67.2	5.86		2.71
	Hexazinone	95.4	94.2	113	118	1.19		4.28
	Malathion	83.8	92.0	76.6	61.8	9.37		21.3
	Metalaxyl	96.4	98.5	104	88.7	2.13		15.9
	Methoxychlor	93.8	92.3	70.6	71.8	1.58		1.67
	Metolachlor	92.5	95.0	109	86.7	2.63		23.0
	Metribuzin	82.6	103	172	137	21.5		22.2
	Mevinphos	74.3	85.6	93.7	115	14.1		20.3
	Mirex	82.0	74.1	51.2	56.1	10.1		9.05
	Molinate	65.9	70.9	47.4	57.4	7.29		19.2
	Norflurazon	93.8	96.2	60.4	66.0	2.52		8.85
	Parathion Ethyl	88.9	92.1	101	93.2	3.47		7.95
	Parathion Methyl	95.5	99.4	122	106	3.99		13.7
	Pendimethalin	105	109	113	119	3.66		5.07
	Permethrin	86.2	80.4	75.9	71.9	6.93		5.44
	Phorate	83.7	86.7	107	125	3.54		15.7
	Prometon	84.8	87.8	87.6	112	3.48		24.4
	Prometryn	92.7	95.7	85.1	93.4	3.18		9.31
	Simazine	87.8	103	95.6	102	15.6		6.42
	Terbufos	85.9	91.7	101	123	6.56		20.1
	Terbuthylazine	94.0	95.8	95.8	115	1.86		18.4
	Trifluralin	83.9	77.6	63.7	62.8	7.79		1.46
EPA 8276	Chlordane	87.1	95.1	80.9	82.6	8.74		2.07
	Toxaphene	64.7	64.4	57.0	54.5	0.412		4.56
EPA 8321B	2,4-D	90.0		76.0	72.8			4.28
	3-Hydroxycarbofuran	87.9		87.1	92.5			6.02
	Acetaminophen	98.3		95.0	92.5			2.60
	Aldicarb	70.6		54.2	61.8			13.1
	Aldicarb Sulfone	98.7		101	103			2.19
	Aldicarb Sulfoxide	89.5		83.5	82.3			1.46
	AMPA	92.0		85.4	77.0			10.3
	Bentazon	79.5		45.6	44.3			3.03
	Carbamazepine	61.5		53.4	56.7			5.92
	Carbaryl	58.0		51.2	50.8			0.717
	Carbofuran	60.7		50.8	53.7			5.64
	Diuron	62.2		52.4	55.3			5.45
	Endothall	84.9		94.0	83.6			11.6
	Fenuron	96.2		85.2	91.1			6.70
	Fluridone	83.0		75.3	77.3			2.63
	Glufosinate	96.2		86.7	83.6			3.69
	Glyphosate	106		108	94.0			13.5
	Hydrocodone	98.8		106	109			2.28
	Imazapyr	85.6		100	99.6			0.862
	Imidacloprid	102		152	159			4.18
	Linuron	97.2		92.3	91.6			0.702
	MCPP	96.7		74.5	71.5			4.22
	Methiocarb	80.6		79.8	82.0			2.79
	Methomyl	88.8		83.5	85.5			2.39
	Oxamyl	80.1		76.7	78.6			2.44
	Primidone	98.1		103	111			7.32

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Propoxur	60.3	52.4	51.7			1.47
	Pyraclostrobin	66.3	72.0	71.6			0.568
	Sucralose	113	111	107			3.82
	Triclopyr	94.9	81.1	73.8			9.45
SM 2120 B	Color (true)					0.150	
SM 2320 B-97	Total Alkalinity	101				0.0961	
SM 2540 C-97	TDS					6.04	
SM 4500 F-C-97	Fluoride	92.9	94.4	93.8			0.480
SM 5310 B-00	Organic Carbon	95.4	93.3	94.1			0.675

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1992556
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1992566
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1992566
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1992556
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1992556
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1992557
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1992557
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1992557
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1992557
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1992558
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1992564
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1992565
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1992564
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1992562
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1992563
SM 2120 B / E31780	True Color measured at 450 nm	1992556
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1992556
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1992556
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	1992556
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1992556
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1992557

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	05/14/2018			05/15/2018 15:35	William L. Brown IV	1992556
EPA 200.7 Rev. 4.4	05/14/2018	05/15/2018 16:00	Martin Acosta	05/17/2018 22:13	Betina Topolski	1992566
EPA 200.8 Rev. 5.4	05/14/2018	05/15/2018 16:00	Martin Acosta	05/17/2018 21:21	Robert K Palmer	1992566
	05/14/2018	05/15/2018 16:00	Martin Acosta	05/22/2018 12:57	Robert K Palmer	1992566
EPA 300.0 Rev. 2.1	05/14/2018			05/21/2018 17:46	Lipi Saha	1992556
EPA 350.1 Rev. 2.0	05/14/2018			05/18/2018 10:04	Ping Hua	1992557
EPA 351.2 Rev. 2.0	05/14/2018	05/17/2018 15:45	Adrian Shelby	05/18/2018 20:58	Joseph Suarez	1992557
EPA 353.2 Rev. 2.0	05/14/2018			05/16/2018 13:42	Lauren Bottorf	1992557
EPA 365.1 Rev. 2.0	05/14/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 13:01	Beverly Y. Sanders	1992557
EPA 365.1 Rev. 2.0 dissolved	05/14/2018			05/15/2018 15:31	Megan Treadwell	1992558
EPA 8270D	05/14/2018	05/18/2018 09:00	Fe-Val Siddell	05/22/2018 19:47	Dinesh Mishra	1992564
	05/14/2018	05/18/2018 12:39	Rasheda Ghaffari	05/23/2018 14:19	Vandana T. Nagar	1992565
EPA 8276	05/14/2018	05/18/2018 09:00	Fe-Val Siddell	05/25/2018 18:02	John P. Burgos	1992564
EPA 8321B	05/14/2018	05/16/2018 09:00	Juyoung Kim	05/16/2018 11:59	Juyoung Kim	1992563
	05/14/2018	05/16/2018 10:00	Hoor Shaik	05/16/2018 20:47	Juyoung Kim	1992562
	05/14/2018	05/16/2018 10:00	Hoor Shaik	05/17/2018 00:15	Juyoung Kim	1992563
	05/14/2018	05/16/2018 10:00	Hoor Shaik	05/17/2018 16:23	Juyoung Kim	1992563
SM 2120 B	05/14/2018			05/15/2018 14:37	Julia Storbeck	1992556
SM 2320 B-97	05/14/2018			05/16/2018 19:14	Dale L. Simmons	1992556
SM 2540 C-97	05/14/2018			05/16/2018 15:26	Yijie Li	1992556
SM 2540 D-97	05/14/2018			05/16/2018 15:26	Yijie Li	1992556
SM 4500 F-C-97	05/14/2018			05/16/2018 19:14	Dale L. Simmons	1992556
SM 5310 B-00	05/14/2018			05/17/2018 06:06	Megan Treadwell	1992557