Chemical Analysis Report

SW-DIST-2019-02-08-02

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

Event Description: **Mullet Tidal**
Request ID: **RQ-2019-02-04-68**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Pawater

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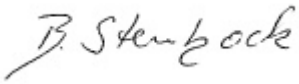
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 04-MAR-2019 14:20



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 by the Florida Department of Health Environmental Laboratory Certification Program 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: MULLET CREEK TIDAL AT PARK **Collection Date/Time: 02/07/2019 13:00**

Field ID: G1SW0095 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061232	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P358624	
	EPA 300.0	Bromide	13		mg Br/L	P358982	
	SM 2320 B-97	Total Alkalinity	111	A	mg CaCO3/L	P359100	
	SM 2540 D-97	TSS	3	U	mg/L	P359154	
	SM 4500 F-C-97	Fluoride	0.38		mg F/L	P359104	
2061233	EPA 350.1 Rev. 2.0	Ammonia-N	0.066		mg N/L	P358911	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P358930	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P359046	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P358863	
	SM 5310 B-00	Organic Carbon	9.7		mg C/L	P359417	
2061234	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.069		mg P/L	P358619	
2061238	EPA 8321B	Aldicarb	0.020	U	ug/L	P358573	
		Aldicarb Sulfone	0.0020	U	ug/L	P358573	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P358573	
		Carbaryl	0.0020	U	ug/L	P358573	
		Carbofuran	0.0020	U	ug/L	P358573	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P358573	
		Methiocarb	0.0020	U	ug/L	P358573	
		Methomyl	0.0020	U	ug/L	P358573	
		Oxamyl	0.0020	U	ug/L	P358573	
		Propoxur	0.0020	U	ug/L	P358573	
2061239		2,4-D	0.025		ug/L	P358573	
		Acesulfame K**	0.10	U	ug/L	P358749	
		AMPA**	0.10	UJ	ug/L	P358749	SUR
		Sucralose**	1.2		ug/L	P358749	
		Acetaminophen**	0.0080	U	ug/L	P358573	
		Endothall**	0.25	UJ	ug/L	P358749	MS
		Glufosinate**	0.10	UJ	ug/L	P358749	SUR
		Bentazon	0.073		ug/L	P358573	
		Glyphosate**	0.10	UJ	ug/L	P358749	SUR
		Carbamazepine**	0.0019	I	ug/L	P358573	
		Diuron	0.0039	I	ug/L	P358573	
		Fenuron	0.016	U	ug/L	P358573	
		Imazapyr**	0.15		ug/L	P358573	
		Imidacloprid	0.030	J	ug/L	P358573	MS
		Linuron	0.0040	U	ug/L	P358573	
		MCPP	0.0020	U	ug/L	P358573	
		Primidone**	0.0049	I	ug/L	P358573	
		Pyraclostrobin**	0.0020	U	ug/L	P358573	
		Triclopyr**	0.0040	U	ug/L	P358573	
		Fluridone**	0.081		ug/L	P358573	
		Hydrocodone**	0.0020	U	ug/L	P358573	
		Naproxen**	0.0080	U	ug/L	P358573	

Field ID: G1SW0095 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061239	EPA 8321B	Ibuprofen**	0.020	U	ug/L	P358573	
2061240	EPA 8270D	Aldrin	4.2	U	ng/L	P358586	
		Alpha-BHC	2.1	U	ng/L	P358586	
		Alpha-Chlordane	1.0	U	ng/L	P358586	
		Beta-BHC	10	U	ng/L	P358586	
		Delta-BHC	10	U	ng/L	P358586	
		Gamma-BHC	10	U	ng/L	P358586	
		Carbophenothion	12	U	ng/L	P358586	
		Chlorothalonil	2.1	U	ng/L	P358586	
		Cypermethrin	21	U	ng/L	P358586	
		DDD-p,p'	8.3	U	ng/L	P358586	
		DDE-p,p'	8.3	U	ng/L	P358586	
		DDT-p,p'	10	U	ng/L	P358586	
		Dicofol	31	U	ng/L	P358586	
		Dieldrin	4.2	U	ng/L	P358586	
		Endosulfan I	4.2	U	ng/L	P358586	
		Endosulfan II	4.2	U	ng/L	P358586	
		Endosulfan Sulfate	2.1	U	ng/L	P358586	
		Endrin	2.1	U	ng/L	P358586	
		Endrin Aldehyde	2.1	U	ng/L	P358586	
		Endrin Ketone	2.1	U	ng/L	P358586	
		Gamma-Chlordane	1.0	U	ng/L	P358586	
		Heptachlor	1.6	U	ng/L	P358586	
		Heptachlor Epoxide	2.1	U	ng/L	P358586	
		Methoxychlor	4.2	U	ng/L	P358586	
		Mirex	2.1	U	ng/L	P358586	
		Permethrin	10	U	ng/L	P358586	
		Trifluralin	2.6	U	ng/L	P358586	
	EPA 8276	Chlordane	6.0	I	ng/L	P358586	
		Toxaphene	31	U	ng/L	P358586	
2061241	EPA 8270D	Acetochlor	0.25	U	ng/L	P358680	
		Alachlor	0.25	U	ng/L	P358680	
		Ametryn	2.1	I	ng/L	P358680	RPD
		Atrazine	220		ng/L	P358680	
		Atrazine Desethyl	22	J	ng/L	P358680	RPD
		Azinphos Methyl	2.2	U	ng/L	P358680	
		Bromacil	0.96	I	ng/L	P358680	
		Butylate	0.40	U	ng/L	P358680	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P358680	
		Chlorpyrifos Methyl	0.099	U	ng/L	P358680	
		Cyanazine	3.2	U	ng/L	P358680	
		Demeton	6.9	U	ng/L	P358680	
		Diazinon	0.12	U	ng/L	P358680	
		Dimethenamid**	0.099	U	ng/L	P358680	
		Disulfoton	0.50	U	ng/L	P358680	

Field ID: G1SW0095 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061241	EPA 8270D	Dithiopyr**	0.15	I	ng/L	P358680	
		EPTC	1.2	U	ng/L	P358680	
		Ethion	0.15	U	ng/L	P358680	
		Ethoprop	0.099	U	ng/L	P358680	
		Fenamiphos	0.50	U	ng/L	P358680	
		Fipronil	1.4		ng/L	P358680	
		Fipronil Desulfinyl**	1.4		ng/L	P358680	MS
		Fipronil Sulfide	1.1		ng/L	P358680	
		Fipronil Sulfone	2.3		ng/L	P358680	
		Fonofos	0.20	U	ng/L	P358680	
		Hexazinone	0.86	I	ng/L	P358680	
		Malathion	0.35	U	ng/L	P358680	
		Metalaxyl	0.25	U	ng/L	P358680	
		Metolachlor	0.50	U	ng/L	P358680	
		Metribuzin	0.74	UJ	ng/L	P358680	RPD
		Mevinphos	0.50	U	ng/L	P358680	
		Molinate	0.30	U	ng/L	P358680	
		Norflurazon	0.50	U	ng/L	P358680	
		Oxadiazon**	0.44		ng/L	P358680	
		Parathion Ethyl	0.25	U	ng/L	P358680	
		Parathion Methyl	0.55	U	ng/L	P358680	
		Pendimethalin	0.99	U	ng/L	P358680	
		Phorate	0.25	U	ng/L	P358680	
		Prodiamine**	0.17	U	ng/L	P358680	
		Prometon	0.89	U	ng/L	P358680	
		Prometryn	0.20	U	ng/L	P358680	
		Simazine	2.3		ng/L	P358680	
		Tebuconazole**	7.1		ng/L	P358680	
		Terbufos	0.099	U	ng/L	P358680	
		Terbuthylazine	0.42	U	ng/L	P358680	
2061242	EPA 200.7 Rev. 4.4	Iron	260	I	ug/L	P358880	
		Manganese	14		ug/L	P358880	
		Zinc	15	U	ug/L	P358880	
	EPA 200.8 Rev. 5.4	Aluminum	80		ug/L	P358880	
		Antimony	0.22	I	ug/L	P358880	
		Arsenic	1.96		ug/L	P358880	
		Cadmium	0.060	U	ug/L	P358880	
		Chromium	1.2	U	ug/L	P358880	
		Copper	1.2	U	ug/L	P358880	
		Lead	0.60	U	ug/L	P358880	
		Nickel	1.5	U	ug/L	P358880	
		Selenium	0.60	U	ug/L	P358880	
		Silver	0.030	U	ug/L	P358880	
		Thallium	0.30	U	ug/L	P358880	

Field ID: G1SW0095 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
EPA 8321B: Spike recoveries are not available for 3-hydroxycarbofuron due to technical difficulties.
EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Refer to the narrative for an explanation of QC Codes.
EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.
EPA 8270D: MS accuracy for Atrazine not assessed due to high content of this parameter in the sample spiked. 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: P358624

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358880

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358880

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P358982

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358911

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358930

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359046

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: P358863

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358619

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

Reference Method: EPA 8270D
Batch ID: P358586

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	10	U	ng/L
Carbophenothion	12	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	8.0	U	ng/L
DDE-p,p'	8.0	U	ng/L
DDT-p,p'	10	U	ng/L
Delta-BHC	10	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	10	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	2.5	U	ng/L

Reference Method: EPA 8270D
Batch ID: P358680

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P358680

Component	Result	Code	Units
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	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	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P358586

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P358573

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P358573

Component	Result	Code	Units
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	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	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
Naproxen	0.0080	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: EPA 8321B
Batch ID: P358749

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P359100

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

Reference Method: SM 2540 D-97
Batch ID: P359154

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P359417

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: P358880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Manganese	102		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	106		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	105		P	85 - 115
Copper	103		P	85 - 115
Lead	106		P	85 - 115
Nickel	104		P	85 - 115
Selenium	102		P	85 - 115
Silver	102		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P358982

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358930

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359046

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358863

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358619

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

Reference Method: EPA 8270D
Batch ID: P358586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	43.1	45.9	P/P	20 - 93.0
Alpha-BHC	89.7	89.0	P/P	57 - 119
Alpha-Chlordane	73.2	74.9	P/P	58 - 112
Beta-BHC	123	118	P/P	56 - 149
Carbophenothion	39.5	44.5	P/P	26 - 147
Chlorothalonil	64.1	62.1	P/P	20 - 155
Cypermethrin	102	107	P/P	40 - 137
DDD-p,p'	93.4	100	P/P	65 - 129
DDE-p,p'	69.4	75.4	P/P	57 - 116
DDT-p,p'	79.1	81.7	P/P	53 - 133
Delta-BHC	134	127	P/P	59 - 163
Dicofol	74.9	75.1	P/P	24 - 138
Dieldrin	75.6	76.9	P/P	60 - 120
Endosulfan I	80.4	82.6	P/P	64 - 118
Endosulfan II	103	99.7	P/P	58 - 142
Endosulfan Sulfate	98.8	97.0	P/P	60 - 127
Endrin	92.1	83.2	P/P	59 - 122
Endrin Aldehyde	99.6	102	P/P	49 - 132
Endrin Ketone	86.9	83.9	P/P	64 - 121
Gamma-BHC	102	106	P/P	56 - 141
Gamma-Chlordane	71.6	75.2	P/P	56 - 110
Heptachlor	61.9	66.0	P/P	46 - 96.0
Heptachlor Epoxide	76.9	76.9	P/P	61 - 112
Methoxychlor	99.6	97.7	P/P	63 - 134
Mirex	54.7	53.9	P/P	45 - 100
Permethrin	88.2	93.1	P/P	53 - 115
Trifluralin	74.0	75.0	P/P	39 - 142

Reference Method: EPA 8270D
Batch ID: P358680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.4	89.0	P/P	71 - 121
Alachlor	102	87.4	P/P	72 - 119
Ametryn	90.9	87.9	P/P	47 - 144
Atrazine	104	99.6	P/P	75 - 123
Atrazine Desethyl	106	56.6	P/P	45 - 133
Azinphos Methyl	126	111	P/P	66 - 165
Bromacil	68.2	63.5	P/P	43 - 123
Butylate	60.1	59.7	P/P	27 - 83.0
Chlorpyrifos Ethyl	98.0	111	P/P	70 - 117
Chlorpyrifos Methyl	98.5	88.2	P/P	71 - 120
Cyanazine	134	103	P/P	34 - 264
Demeton	73.8	69.1	P/P	41 - 122
Diazinon	99.2	84.8	P/P	70 - 127
Dimethenamid	100	88.7	P/P	60 - 130

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P358680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Disulfoton	85.4	82.8	P/P	56 - 127
Dithiopyr	99.5	87.6	P/P	60 - 130
EPTC	61.1	59.5	P/P	24 - 84.0
Ethion	90.8	96.9	P/P	53 - 132
Ethoprop	84.2	77.3	P/P	57 - 117
Fenamiphos	85.0	86.2	P/P	55 - 136
Fipronil	95.0	80.1	P/P	64 - 126
Fipronil Desulfinyl	91.2	78.9	P/P	60 - 130
Fipronil Sulfide	89.0	91.1	P/P	57 - 120
Fipronil Sulfone	78.1	75.7	P/P	52 - 115
Fonofos	86.8	88.0	P/P	61 - 121
Hexazinone	105	100	P/P	62 - 131
Malathion	93.4	105	P/P	67 - 126
Metalaxyl	97.4	77.9	P/P	54 - 128
Metolachlor	90.4	95.2	P/P	71 - 118
Metribuzin	202	87.2	P/P	42 - 221
Mevinphos	81.2	73.5	P/P	45 - 114
Molinate	65.2	62.5	P/P	33 - 91.0
Norflurazon	93.7	76.8	P/P	60 - 123
Oxadiazon	93.1	97.4	P/P	60 - 130
Parathion Ethyl	92.7	90.3	P/P	73 - 111
Parathion Methyl	104	80.0	P/P	74 - 126
Pendimethalin	85.6	81.0	P/P	63 - 131
Phorate	75.8	69.5	P/P	54 - 115
Prodiamine	62.5	78.4	P/P	60 - 130
Prometon	81.3	80.1	P/P	61 - 120
Prometryn	86.3	80.5	P/P	62 - 126
Simazine	110	97.1	P/P	75 - 126
Tebuconazole	78.2	72.7	P/P	30 - 100
Terbufos	85.1	82.3	P/P	65 - 116
Terbuthylazine	90.8	95.9	P/P	73 - 117

Reference Method: EPA 8276
Batch ID: P358586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	63.6	64.8	P/P	43 - 128
Toxaphene	75.4	70.2	P/P	38 - 140

Reference Method: EPA 8321B
Batch ID: P358573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	60.5		P	40 - 150
Acetaminophen	82.2		P	30 - 150
Aldicarb	58.9		P	30 - 150
Aldicarb Sulfone	84.6		P	40 - 150
Aldicarb Sulfoxide	87.1		P	40 - 150
Bentazon	64.9		P	30 - 150
Carbamazepine	85.2		P	40 - 150
Carbaryl	76.0		P	40 - 150
Carbofuran	75.6		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P358573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	83.0		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	101		P	40 - 150
Hydrocodone	96.7		P	40 - 150
Ibuprofen	75.9		P	40 - 150
Imazapyr	74.4		P	40 - 150
Imidacloprid	111		P	40 - 150
Linuron	82.4		P	40 - 150
MCPP	79.2		P	40 - 150
Methiocarb	76.9		P	40 - 150
Methomyl	71.2		P	40 - 150
Naproxen	70.7		P	40 - 150
Oxamyl	90.8		P	40 - 150
Primidone	94.4		P	40 - 150
Propoxur	75.1		P	40 - 150
Pyraclostrobin	78.1		P	40 - 150
Triclopyr	50.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P358749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	103		P	40 - 150
Endothall	100		P	40 - 150
Glufosinate	94.1		P	40 - 150
Glyphosate	107		P	40 - 140
Sucralose	99.4		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P359100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061242	Iron	102	100	P/P	70 - 130
2061242	Manganese	96.1	98.4	P/P	70 - 130
2061242	Zinc	102	104	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061242	Aluminum	103	104	P/P	70 - 130
2061242	Antimony	105	106	P/P	70 - 130
2061242	Arsenic	113	113	P/P	70 - 130
2061242	Cadmium	102	102	P/P	70 - 130
2061242	Chromium	97.9	97.6	P/P	70 - 130
2061242	Copper	96.7	96.8	P/P	70 - 130
2061242	Lead	108	110	P/P	70 - 130
2061242	Nickel	94.8	94.8	P/P	70 - 130
2061242	Selenium	103	104	P/P	70 - 130
2061242	Silver	94.3	94.2	P/P	70 - 130
2061242	Thallium	103	105	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P358982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058620	Bromide	96.0		P	90 - 110
2061372	Bromide	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061085	Ammonia-N	96.9	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061711	Kjeldahl Nitrogen	106	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061082	NO2NO3-N	97.3	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358863

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061614	Total-P	97.7	94.9	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061077	O-Phosphate-P	97.1	98.8	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P358586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060383	Aldrin	51.1	44.5	P/P	25 - 92.0
2060383	Alpha-BHC	111	103	P/P	49 - 130
2060383	Alpha-Chlordane	80.8	72.2	P/P	50 - 115
2060383	Beta-BHC	136	134	P/P	43 - 157
2060383	Carbophenothion	99.6	106	P/P	27 - 180
2060383	Chlorothalonil	139	141	P/P	10 - 216
2060383	Cypermethrin	107	101	P/P	40 - 153
2060383	DDD-p,p'	104	98.1	P/P	53 - 128
2060383	DDE-p,p'	76.7	66.4	P/P	48 - 116
2060383	DDT-p,p'	83.0	72.3	P/P	47 - 128
2060383	Delta-BHC	154	150	P/P	51 - 196
2060383	Dicofol	81.7	78.4	P/P	10 - 147
2060383	Dieldrin	90.7	78.5	P/P	48 - 128
2060383	Endosulfan I	96.2	81.8	P/P	58 - 126
2060383	Endosulfan II	123	117	P/P	50 - 150
2060383	Endosulfan Sulfate	109	102	P/P	56 - 130
2060383	Endrin	95.8	88.2	P/P	50 - 126
2060383	Endrin Aldehyde	101	85.7	P/P	12 - 145
2060383	Endrin Ketone	95.0	95.5	P/P	59 - 132
2060383	Gamma-BHC	127	120	P/P	50 - 155
2060383	Gamma-Chlordane	79.4	69.7	P/P	50 - 112
2060383	Heptachlor	70.3	60.6	P/P	41 - 98.0
2060383	Heptachlor Epoxide	88.6	81.8	P/P	55 - 117
2060383	Methoxychlor	109	101	P/P	55 - 133
2060383	Mirex	54.1	46.7	P/P	44 - 101
2060383	Permethrin	92.4	82.8	P/P	52 - 124
2060383	Trifluralin	85.8	75.9	P/P	10 - 201

Reference Method: EPA 8270D
Batch ID: P358680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061294	Acetochlor	81.3	84.8	P/P	63 - 129
2061294	Alachlor	84.6	88.1	P/P	65 - 127
2061294	Ametryn	130	92.7	P/P	40 - 164
2061294	Atrazine Desethyl	97.4	96.9	P/P	14 - 157
2061294	Azinphos Methyl	105	111	P/P	49 - 180
2061294	Bromacil	79.2	76.9	P/P	48 - 130
2061294	Butylate	66.6	55.2	P/P	10 - 94.0
2061294	Chlorpyrifos Ethyl	86.7	91.2	P/P	58 - 123
2061294	Chlorpyrifos Methyl	94.4	90.7	P/P	58 - 125
2061294	Cyanazine	147	135	P/P	24 - 253
2061294	Demeton	106	84.4	P/P	25 - 149
2061294	Diazinon	101	102	P/P	59 - 144
2061294	Dimethenamid	82.8	85.9	P/P	60 - 130
2061294	Disulfoton	104	102	P/P	54 - 132

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P358680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061294	Dithiopyr	89.3	93.7	P/P	60 - 130
2061294	EPTC	65.5	50.9	P/P	10 - 92.0
2061294	Ethion	92.0	89.3	P/P	30 - 148
2061294	Ethoprop	102	96.4	P/P	50 - 130
2061294	Fenamiphos	92.1	77.1	P/P	49 - 142
2061294	Fipronil	81.8	71.8	P/P	46 - 140
2061294	Fipronil Desulfinyl	67.1	60.0	P/F	60 - 130
2061294	Fipronil Sulfide	66.2	54.9	P/P	31 - 136
2061294	Fipronil Sulfone	50.5	35.4	P/P	16 - 136
2061294	Fonofos	105	96.9	P/P	55 - 129
2061294	Hexazinone	113	110	P/P	56 - 141
2061294	Malathion	80.1	80.4	P/P	56 - 135
2061294	Metalaxyl	89.8	86.6	P/P	54 - 135
2061294	Metolachlor	81.4	84.9	P/P	51 - 140
2061294	Metribuzin	216	217	P/P	45 - 254
2061294	Mevinphos	104	96.5	P/P	33 - 131
2061294	Molinate	62.9	59.7	P/P	14 - 98.0
2061294	Norflurazon	79.3	67.8	P/P	34 - 136
2061294	Oxadiazon	82.8	85.5	P/P	60 - 130
2061294	Parathion Ethyl	92.0	87.1	P/P	66 - 118
2061294	Parathion Methyl	106	104	P/P	64 - 136
2061294	Pendimethalin	100	94.1	P/P	59 - 144
2061294	Phorate	94.5	77.8	P/P	42 - 130
2061294	Prodiamine	67.3	67.0	P/P	60 - 130
2061294	Prometon	76.0	76.1	P/P	59 - 134
2061294	Prometryn	82.2	78.2	P/P	54 - 135
2061294	Simazine	126	133	P/P	53 - 156
2061294	Tebuconazole	69.4	65.5	P/P	30 - 100
2061294	Terbufos	107	96.0	P/P	57 - 131
2061294	Terbuthylazine	85.2	82.4	P/P	68 - 125

Reference Method: EPA 8276
Batch ID: P358586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061240	Chlordane	59.8	60.0	P/P	34 - 136
2061240	Toxaphene	80.4	78.5	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P358573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061238	Aldicarb	57.6	52.2	P/P	30 - 150
2061238	Aldicarb Sulfone	96.2	84.5	P/P	40 - 150
2061238	Aldicarb Sulfoxide	41.0	40.2	P/P	40 - 150
2061238	Carbaryl	62.6	59.2	P/P	40 - 150
2061238	Carbofuran	61.6	54.3	P/P	40 - 150
2061238	Methiocarb	68.1	62.6	P/P	40 - 150
2061238	Methomyl	67.9	74.0	P/P	40 - 150
2061238	Oxamyl	70.8	58.7	P/P	40 - 150
2061238	Propoxur	58.9	55.3	P/P	40 - 150
2061239	2,4-D	70.1	65.3	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P358573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061239	Acetaminophen	118	116	P/P	30 - 150
2061239	Bentazon	36.7	36.3	P/P	30 - 150
2061239	Carbamazepine	71.9	74.9	P/P	40 - 150
2061239	Diuron	62.4	66.4	P/P	40 - 150
2061239	Fenuron	83.3	80.6	P/P	40 - 150
2061239	Fluridone	80.8	87.0	P/P	40 - 150
2061239	Hydrocodone	78.8	79.7	P/P	40 - 150
2061239	Ibuprofen	87.9	87.0	P/P	40 - 150
2061239	Imidacloprid	184	167	F/F	40 - 150
2061239	Linuron	66.6	70.5	P/P	40 - 150
2061239	MCPP	88.5	79.5	P/P	40 - 150
2061239	Naproxen	51.7	50.3	P/P	40 - 150
2061239	Primidone	109	102	P/P	40 - 150
2061239	Pyraclostrobin	78.7	76.3	P/P	40 - 150
2061239	Triclopyr	47.4	40.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P358749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061239	Acesulfame K	71.3	72.6	P/P	40 - 150
2061239	Endothall	25.1	20.9	F/F	40 - 150
2061239	Sucralose	101	109	P/P	40 - 150
2061887	AMPA	94.0	92.8	P/P	40 - 150
2061887	Glufosinate	80.5	85.4	P/P	40 - 150
2061887	Glyphosate	89.8	89.1	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061232	Fluoride	96.9	96.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061196	Organic Carbon	96.3	94.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061276	Turbidity	1.40	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061242	Iron	1.88	Spike	P	0 - 20
2061242	Manganese	2.21	Spike	P	0 - 20
2061242	Zinc	2.04	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061242	Aluminum	0.577	Spike	P	0 - 20
2061242	Antimony	0.643	Spike	P	0 - 20
2061242	Arsenic	0.576	Spike	P	0 - 20
2061242	Cadmium	0.152	Spike	P	0 - 20
2061242	Chromium	0.289	Spike	P	0 - 20
2061242	Copper	0.0256	Spike	P	0 - 20
2061242	Lead	1.22	Spike	P	0 - 20
2061242	Nickel	0.0632	Spike	P	0 - 20
2061242	Selenium	1.02	Spike	P	0 - 20
2061242	Silver	0.100	Spike	P	0 - 20
2061242	Thallium	2.60	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P358982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058620	Bromide	0.790	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061085	Ammonia-N	2.22	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061711	Kjeldahl Nitrogen	2.07	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061082	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061614	Total-P	2.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061077	O-Phosphate-P	0.918	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P358586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060383	Aldrin	13.6	Spike	P	0 - 30
2060383	Alpha-BHC	7.75	Spike	P	0 - 30
2060383	Alpha-Chlordane	11.3	Spike	P	0 - 30
2060383	Beta-BHC	1.99	Spike	P	0 - 30
2060383	Carbophenothion	6.71	Spike	P	0 - 30
2060383	Chlorothalonil	1.09	Spike	P	0 - 30
2060383	Cypermethrin	5.78	Spike	P	0 - 30
2060383	DDD-p,p'	6.26	Spike	P	0 - 30
2060383	DDE-p,p'	14.3	Spike	P	0 - 30
2060383	DDT-p,p'	13.7	Spike	P	0 - 30
2060383	Delta-BHC	2.75	Spike	P	0 - 30
2060383	Dicofol	4.10	Spike	P	0 - 30
2060383	Dieldrin	14.5	Spike	P	0 - 30
2060383	Endosulfan I	16.2	Spike	P	0 - 30
2060383	Endosulfan II	5.25	Spike	P	0 - 30
2060383	Endosulfan Sulfate	6.62	Spike	P	0 - 30
2060383	Endrin	8.25	Spike	P	0 - 30
2060383	Endrin Aldehyde	16.2	Spike	P	0 - 30
2060383	Endrin Ketone	0.466	Spike	P	0 - 30
2060383	Gamma-BHC	6.16	Spike	P	0 - 30
2060383	Gamma-Chlordane	13.1	Spike	P	0 - 30
2060383	Heptachlor	14.8	Spike	P	0 - 30
2060383	Heptachlor Epoxide	8.01	Spike	P	0 - 30
2060383	Methoxychlor	7.46	Spike	P	0 - 30
2060383	Mirex	14.6	Spike	P	0 - 30
2060383	Permethrin	11.0	Spike	P	0 - 30
2060383	Trifluralin	12.2	Spike	P	0 - 30
LFB	Aldrin	6.44	LCS	P	0 - 30
LFB	Alpha-BHC	0.867	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.39	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P358586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Beta-BHC	3.68	LCS	P	0 - 30
LFB	Carbophenothion	11.7	LCS	P	0 - 30
LFB	Chlorothalonil	3.19	LCS	P	0 - 30
LFB	Cypermethrin	4.14	LCS	P	0 - 30
LFB	DDD-p,p'	7.01	LCS	P	0 - 30
LFB	DDE-p,p'	8.20	LCS	P	0 - 30
LFB	DDT-p,p'	3.30	LCS	P	0 - 30
LFB	Delta-BHC	5.46	LCS	P	0 - 30
LFB	Dicofol	0.354	LCS	P	0 - 30
LFB	Dieldrin	1.78	LCS	P	0 - 30
LFB	Endosulfan I	2.72	LCS	P	0 - 30
LFB	Endosulfan II	3.53	LCS	P	0 - 30
LFB	Endosulfan Sulfate	1.75	LCS	P	0 - 30
LFB	Endrin	10.2	LCS	P	0 - 30
LFB	Endrin Aldehyde	2.14	LCS	P	0 - 30
LFB	Endrin Ketone	3.56	LCS	P	0 - 30
LFB	Gamma-BHC	3.93	LCS	P	0 - 30
LFB	Gamma-Chlordane	4.95	LCS	P	0 - 30
LFB	Heptachlor	6.37	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.0191	LCS	P	0 - 30
LFB	Methoxychlor	1.93	LCS	P	0 - 30
LFB	Mirex	1.39	LCS	P	0 - 30
LFB	Permethrin	5.49	LCS	P	0 - 30
LFB	Trifluralin	1.41	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P358680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061294	Acetochlor	4.18	Spike	P	0 - 30
2061294	Alachlor	4.02	Spike	P	0 - 30
2061294	Ametryn	33.5	Spike	F	0 - 30
2061294	Atrazine	1.35	Spike	P	0 - 30
2061294	Atrazine Desethyl	0.408	Spike	P	0 - 30
2061294	Azinphos Methyl	4.84	Spike	P	0 - 30
2061294	Bromacil	2.99	Spike	P	0 - 30
2061294	Butylate	18.6	Spike	P	0 - 30
2061294	Chlorpyrifos Ethyl	5.06	Spike	P	0 - 30
2061294	Chlorpyrifos Methyl	3.98	Spike	P	0 - 30
2061294	Cyanazine	8.64	Spike	P	0 - 30
2061294	Demeton	22.3	Spike	P	0 - 30
2061294	Diazinon	0.732	Spike	P	0 - 30
2061294	Dimethenamid	3.67	Spike	P	0 - 30
2061294	Disulfoton	1.16	Spike	P	0 - 30
2061294	Dithiopyr	4.76	Spike	P	0 - 30
2061294	EPTC	25.1	Spike	P	0 - 30
2061294	Ethion	2.96	Spike	P	0 - 30
2061294	Ethoprop	5.52	Spike	P	0 - 30
2061294	Fenamiphos	17.7	Spike	P	0 - 30
2061294	Fipronil	12.9	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P358680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061294	Fipronil Desulfinyl	10.1	Spike	P	0 - 30
2061294	Fipronil Sulfide	14.3	Spike	P	0 - 30
2061294	Fipronil Sulfone	19.3	Spike	P	0 - 30
2061294	Fonofos	7.75	Spike	P	0 - 30
2061294	Hexazinone	3.06	Spike	P	0 - 30
2061294	Malathion	0.437	Spike	P	0 - 30
2061294	Metalaxyl	3.68	Spike	P	0 - 30
2061294	Metolachlor	4.18	Spike	P	0 - 30
2061294	Metribuzin	0.452	Spike	P	0 - 30
2061294	Mevinphos	7.29	Spike	P	0 - 30
2061294	Molinate	5.27	Spike	P	0 - 30
2061294	Norflurazon	15.6	Spike	P	0 - 30
2061294	Oxadiazon	2.71	Spike	P	0 - 30
2061294	Parathion Ethyl	5.45	Spike	P	0 - 30
2061294	Parathion Methyl	1.81	Spike	P	0 - 30
2061294	Pendimethalin	6.30	Spike	P	0 - 30
2061294	Phorate	19.4	Spike	P	0 - 30
2061294	Prodiamine	0.444	Spike	P	0 - 30
2061294	Prometon	0.0937	Spike	P	0 - 30
2061294	Prometryn	4.94	Spike	P	0 - 30
2061294	Simazine	4.93	Spike	P	0 - 30
2061294	Tebuconazole	5.78	Spike	P	0 - 30
2061294	Terbufos	11.1	Spike	P	0 - 30
2061294	Terbuthylazine	3.31	Spike	P	0 - 30
LFB	Acetochlor	11.0	LCS	P	0 - 30
LFB	Alachlor	15.7	LCS	P	0 - 30
LFB	Ametryn	3.36	LCS	P	0 - 30
LFB	Atrazine	4.00	LCS	P	0 - 30
LFB	Atrazine Desethyl	60.9	LCS	F	0 - 30
LFB	Azinphos Methyl	13.2	LCS	P	0 - 30
LFB	Bromacil	7.00	LCS	P	0 - 30
LFB	Butylate	0.553	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	12.3	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	11.1	LCS	P	0 - 30
LFB	Cyanazine	26.2	LCS	P	0 - 30
LFB	Demeton	6.67	LCS	P	0 - 30
LFB	Diazinon	15.7	LCS	P	0 - 30
LFB	Dimethenamid	12.2	LCS	P	0 - 30
LFB	Disulfoton	3.09	LCS	P	0 - 30
LFB	Dithiopyr	12.8	LCS	P	0 - 30
LFB	EPTC	2.65	LCS	P	0 - 30
LFB	Ethion	6.53	LCS	P	0 - 30
LFB	Ethoprop	8.59	LCS	P	0 - 30
LFB	Fenamiphos	1.40	LCS	P	0 - 30
LFB	Fipronil	17.0	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	14.4	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.43	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.22	LCS	P	0 - 30
LFB	Fonofos	1.32	LCS	P	0 - 30
LFB	Hexazinone	4.89	LCS	P	0 - 30
LFB	Malathion	12.0	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P358680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Metalaxyl	22.2	LCS	P	0 - 30
LFB	Metolachlor	5.15	LCS	P	0 - 30
LFB	Metribuzin	79.3	LCS	F	0 - 30
LFB	Mevinphos	9.91	LCS	P	0 - 30
LFB	Molinate	4.23	LCS	P	0 - 30
LFB	Norflurazon	19.8	LCS	P	0 - 30
LFB	Oxadiazon	4.56	LCS	P	0 - 30
LFB	Parathion Ethyl	2.68	LCS	P	0 - 30
LFB	Parathion Methyl	26.6	LCS	P	0 - 30
LFB	Pendimethalin	5.49	LCS	P	0 - 30
LFB	Phorate	8.66	LCS	P	0 - 30
LFB	Prodiamine	22.5	LCS	P	0 - 30
LFB	Prometon	1.53	LCS	P	0 - 30
LFB	Prometryn	6.93	LCS	P	0 - 30
LFB	Simazine	12.3	LCS	P	0 - 30
LFB	Tebuconazole	7.35	LCS	P	0 - 30
LFB	Terbufos	3.35	LCS	P	0 - 30
LFB	Terbuthylazine	5.45	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P358586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061240	Chlordane	0.255	Spike	P	0 - 30
2061240	Toxaphene	2.37	Spike	P	0 - 30
LFB	Chlordane	1.87	LCS	P	0 - 30
LFB	Toxaphene	7.16	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P358573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061238	Aldicarb	9.85	Spike	P	0 - 30
2061238	Aldicarb Sulfone	13.0	Spike	P	0 - 30
2061238	Aldicarb Sulfoxide	2.10	Spike	P	0 - 30
2061238	Carbaryl	5.63	Spike	P	0 - 30
2061238	Carbofuran	12.5	Spike	P	0 - 30
2061238	Methiocarb	8.48	Spike	P	0 - 30
2061238	Methomyl	8.61	Spike	P	0 - 30
2061238	Oxamyl	18.8	Spike	P	0 - 30
2061238	Propoxur	6.30	Spike	P	0 - 30
2061239	2,4-D	4.88	Spike	P	0 - 30
2061239	Acetaminophen	2.21	Spike	P	0 - 30
2061239	Bentazon	0.308	Spike	P	0 - 30
2061239	Carbamazepine	3.99	Spike	P	0 - 30
2061239	Diuron	5.81	Spike	P	0 - 30
2061239	Fenuron	3.35	Spike	P	0 - 30
2061239	Fluridone	3.32	Spike	P	0 - 30
2061239	Hydrocodone	1.14	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P358573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061239	Ibuprofen	1.12	Spike	P	0 - 30
2061239	Imazapyr	24.4	Spike	P	0 - 30
2061239	Imidacloprid	7.98	Spike	P	0 - 30
2061239	Linuron	5.72	Spike	P	0 - 30
2061239	MCPP	10.6	Spike	P	0 - 30
2061239	Naproxen	2.75	Spike	P	0 - 30
2061239	Primidone	6.24	Spike	P	0 - 30
2061239	Pyraclostrobin	3.10	Spike	P	0 - 30
2061239	Triclopyr	15.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P358749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061239	Acesulfame K	1.72	Spike	P	0 - 30
2061239	Endothall	18.5	Spike	P	0 - 30
2061239	Sucralose	5.41	Spike	P	0 - 30
2061887	AMPA	1.37	Spike	P	0 - 30
2061887	Glufosinate	5.80	Spike	P	0 - 30
2061887	Glyphosate	0.769	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P359100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061232	Total Alkalinity	0.248	Sample	P	0 - 1.6

Reference Method: SM 2540 D-97
Batch ID: P359154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061081	TSS	5.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061232	Fluoride	0.473	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P359417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061196	Organic Carbon	1.32	Spike	P	0 - 20

Quality Assurance Report
Precision

* 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: 2061238
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	75.4	P	30 - 160

Lab Sample ID: 2061239
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	121	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.8	P	30 - 160
EPA 8321B	Diuron-d6	72.5	P	30 - 160
EPA 8321B	Endothall-d6	81.0	P	40 - 160
EPA 8321B	Endothall-d6	81.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	6.52	F	40 - 160
EPA 8321B	Glyphosate 13C 15N	6.52	F	40 - 160
EPA 8321B	Ibuprofen-d3	87.9	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160

Lab Sample ID: 2061240
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	71.9	P	39 - 109
EPA 8270D	Tetrachloro-m-xylene	50.1	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	51.1	P	30 - 103
EPA 8276	PCNB	97.6	P	37 - 143

Lab Sample ID: 2061241
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	101	P	68 - 130
EPA 8270D	Terbufos-d10	82.5	P	61 - 136

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A89302
Included Lab Sample IDs: 2061234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	96.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89303
Included Lab Sample IDs: 2061232

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89410
Included Lab Sample IDs: 2061233

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89413
Included Lab Sample IDs: 2061233

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

Reference Method: EPA 8270D
Run ID: A89425
Included Lab Sample IDs: 2061240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.6		P	80 - 120
Alpha-BHC	94.0		P	80 - 120
Alpha-Chlordane	94.2		P	80 - 120
Beta-BHC	89.6		P	80 - 120
Carbophenothion	105		P	80 - 120
Chlorothalonil	96.8		P	80 - 120
Cypermethrin	83.7		P	80 - 120
DDD-p,p'	94.0		P	80 - 120
DDE-p,p'	94.7		P	80 - 120
DDT-p,p'	100		P	80 - 120
Delta-BHC	91.8		P	80 - 120
Dicofol	96.8		P	80 - 120
Dieldrin	96.3		P	80 - 120
Endosulfan I	94.6		P	80 - 120
Endosulfan II	90.0		P	80 - 120
Endosulfan Sulfate	91.1		P	80 - 120
Endrin	95.8		P	80 - 120
Endrin Aldehyde	93.8		P	80 - 120
Endrin Ketone	98.8		P	80 - 120
Gamma-BHC	97.1		P	80 - 120
Gamma-Chlordane	94.5		P	80 - 120
Heptachlor	93.8		P	80 - 120
Heptachlor Epoxide	94.8		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A89425
Included Lab Sample IDs: 2061240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoxychlor	103		P	80 - 120
Mirex	94.2		P	80 - 120
Permethrin	84.4		P	80 - 120
Trifluralin	94.9		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A89433
Included Lab Sample IDs: 2061242

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

Reference Method: EPA 8270D
Run ID: A89434
Included Lab Sample IDs: 2061241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	107		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine Desethyl	97.3		P	80 - 120
Azinphos Methyl	103		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	101		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	96.8		P	80 - 120
Cyanazine	101		P	80 - 120
Demeton	97.3		P	80 - 120
Diazinon	96.8		P	80 - 120
Dimethenamid	99.3		P	80 - 120
Disulfoton	98.9		P	80 - 120
Dithiopyr	106		P	80 - 120
EPTC	101		P	80 - 120
Ethion	95.4		P	80 - 120
Ethoprop	99.9		P	80 - 120
Fenamiphos	105		P	80 - 120
Fipronil	102		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	105		P	80 - 120
Fipronil Sulfone	106		P	80 - 120
Fonofos	99.0		P	80 - 120
Hexazinone	99.5		P	80 - 120
Malathion	97.3		P	80 - 120
Metalaxyl	102		P	80 - 120
Metolachlor	104		P	80 - 120
Metribuzin	82.6		P	80 - 120
Mevinphos	99.3		P	80 - 120
Molinate	101		P	80 - 120
Norflurazon	107		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A89434
Included Lab Sample IDs: 2061241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Oxadiazon	106		P	80 - 120
Parathion Ethyl	99.8		P	80 - 120
Parathion Methyl	89.0		P	80 - 120
Pendimethalin	86.7		P	80 - 120
Phorate	96.2		P	80 - 120
Prodiamine	106		P	80 - 120
Prometon	98.7		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	105		P	80 - 120
Tebuconazole	106		P	80 - 120
Terbufos	97.1		P	80 - 120
Terbuthylazine	99.5		P	80 - 120

Reference Method: EPA 300.0
Run ID: A89435
Included Lab Sample IDs: 2061232

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89442
Included Lab Sample IDs: 2061233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A89458
Included Lab Sample IDs: 2061233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A89459
Included Lab Sample IDs: 2061240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.2		P	80 - 120
Toxaphene	95.1		P	80 - 120

Reference Method: EPA 8321B
Run ID: A89461
Included Lab Sample IDs: 2061239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	105	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A89482
Included Lab Sample IDs: 2061232

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

Reference Method: SM 4500 F-C-97
Run ID: A89482
Included Lab Sample IDs: 2061232

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A89502
Included Lab Sample IDs: 2061239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	67.3	69.5	P/P	50 - 150
3-Hydroxycarbofuran	107	117	P/P	60 - 150
Acetaminophen	111	115	P/P	60 - 160
Aldicarb	63.1	99.6	P/P	60 - 150
Aldicarb Sulfone	92.8	108	P/P	50 - 150
Aldicarb Sulfoxide	106	94.1	P/P	50 - 150
Bentazon	93.8	83.7	P/P	50 - 160
Carbamazepine	100	99.4	P/P	60 - 150
Carbaryl	109	94.2	P/P	60 - 150
Carbofuran	96.0	95.5	P/P	50 - 150
Diuron	92.5	97.4	P/P	60 - 150
Fenuron	82.6	100	P/P	60 - 150
Fluridone	107	98.2	P/P	60 - 160
Hydrocodone	92.8	110	P/P	60 - 150
Ibuprofen	94.7	71.3	P/P	50 - 160
Imazapyr	69.6	79.3	P/P	50 - 150
Imidacloprid	105	108	P/P	60 - 150
Linuron	101	96.1	P/P	60 - 150
MCPP	90.9	83.5	P/P	50 - 150
Methiocarb	123	119	P/P	50 - 150
Methomyl	106	101	P/P	50 - 150
Naproxen	112	102	P/P	50 - 160
Oxamyl	108	99.7	P/P	50 - 150
Primidone	101	106	P/P	60 - 150
Propoxur	99.0	101	P/P	50 - 150
Pyraclostrobin	112	115	P/P	60 - 150
Triclopyr	88.5	79.0	P/P	50 - 150

Reference Method: EPA 8270D
Run ID: A89526
Included Lab Sample IDs: 2061241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	94.8		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A89578
Included Lab Sample IDs: 2061239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	91.4	101	P/P	60 - 160
Glufosinate	99.3	104	P/P	60 - 160
Glyphosate	98.9	112	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A89585
Included Lab Sample IDs: 2061239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	97.9	P/P	60 - 160
Endothall	86.5	94.4	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89601
Included Lab Sample IDs: 2061242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	101	P/P	90 - 110
Antimony	99.3	98.3	P/P	90 - 110
Arsenic	99.9	99.0	P/P	90 - 110
Cadmium	99.2	98.0	P/P	90 - 110
Copper	98.7	97.0	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Nickel	98.8	96.8	P/P	90 - 110
Selenium	100	99.1	P/P	90 - 110
Silver	96.7	94.6	P/P	90 - 110
Thallium	94.2	94.2	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A89603
Included Lab Sample IDs: 2061233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.7	94.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89713
Included Lab Sample IDs: 2061242

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	101	96.9	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						1.40	
EPA 200.7 Rev. 4.4	Iron	108		102	100			1.88
	Manganese	102		96.1	98.4			2.21
	Zinc	102		102	104			2.04
EPA 200.8 Rev. 5.4	Aluminum	103		103	104			0.577
	Antimony	102		105	106			0.643
	Arsenic	106		113	113			0.576
	Cadmium	104		102	102			0.152
	Chromium	105		97.9	97.6			0.289
	Copper	103		96.7	96.8			0.0256
	Lead	106		108	110			1.22
	Nickel	104		94.8	94.8			0.0632
	Selenium	102		103	104			1.02
	Silver	102		94.3	94.2			0.100
	Thallium	105		103	105			2.60
EPA 300.0	Bromide	100		96.0	96.0		0.790	
EPA 350.1 Rev. 2.0	Ammonia-N	92.5		96.9	99.4			2.22
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		106	108			2.07
EPA 353.2 Rev. 2.0	NO2NO3-N	100		97.3	96.3			1.03
EPA 365.1 Rev. 2.0	Total-P	103		97.7	94.9			2.83
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		97.1	98.8			0.918
EPA 8270D	Acetochlor	99.4	89.0	81.3	84.8	11.0		4.18
	Alachlor	102	87.4	84.6	88.1	15.7		4.02
	Aldrin	43.1	45.9	51.1	44.5	6.44		13.6
	Alpha-BHC	89.7	89.0	111	103	0.867		7.75
	Alpha-Chlordane	73.2	74.9	80.8	72.2	2.39		11.3
	Ametryn	90.9	87.9	130	92.7	3.36		33.5
	Atrazine	104	99.6			4.00		1.35
	Atrazine Desethyl	106	56.6	97.4	96.9	60.9		0.408
	Azinphos Methyl	126	111	105	111	13.2		4.84
	Beta-BHC	123	118	136	134	3.68		1.99
	Bromacil	68.2	63.5	79.2	76.9	7.00		2.99
	Butylate	60.1	59.7	66.6	55.2	0.553		18.6
	Carbophenothion	39.5	44.5	99.6	106	11.7		6.71
	Chlorothalonil	64.1	62.1	139	141	3.19		1.09
	Chlorpyrifos Ethyl	98.0	111	86.7	91.2	12.3		5.06
	Chlorpyrifos Methyl	98.5	88.2	94.4	90.7	11.1		3.98
	Cyanazine	134	103	147	135	26.2		8.64
	Cypermethrin	102	107	107	101	4.14		5.78
	DDD-p,p'	93.4	100	104	98.1	7.01		6.26
	DDE-p,p'	69.4	75.4	76.7	66.4	8.20		14.3
	DDT-p,p'	79.1	81.7	83.0	72.3	3.30		13.7
	Delta-BHC	134	127	154	150	5.46		2.75
	Demeton	73.8	69.1	106	84.4	6.67		22.3
	Diazinon	99.2	84.8	101	102	15.7		0.732
	Dicofol	74.9	75.1	81.7	78.4	0.354		4.10
	Dieldrin	75.6	76.9	90.7	78.5	1.78		14.5
	Dimethenamid	100	88.7	82.8	85.9	12.2		3.67
	Disulfoton	85.4	82.8	104	102	3.09		1.16
	Dithiopyr	99.5	87.6	89.3	93.7	12.8		4.76
	Endosulfan I	80.4	82.6	96.2	81.8	2.72		16.2
	Endosulfan II	103	99.7	123	117	3.53		5.25
	Endosulfan Sulfate	98.8	97.0	109	102	1.75		6.62
	Endrin	92.1	83.2	95.8	88.2	10.2		8.25

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Endrin Aldehyde	99.6	102	101	85.7	2.14		16.2
	Endrin Ketone	86.9	83.9	95.0	95.5	3.56		0.466
	EPTC	61.1	59.5	65.5	50.9	2.65		25.1
	Ethion	90.8	96.9	92.0	89.3	6.53		2.96
	Ethoprop	84.2	77.3	102	96.4	8.59		5.52
	Fenamiphos	85.0	86.2	92.1	77.1	1.40		17.7
	Fipronil	95.0	80.1	81.8	71.8	17.0		12.9
	Fipronil Desulfinyl	91.2	78.9	67.1	60.0	14.4		10.1
	Fipronil Sulfide	89.0	91.1	66.2	54.9	2.43		14.3
	Fipronil Sulfone	78.1	75.7	50.5	35.4	3.22		19.3
	Fonofos	86.8	88.0	105	96.9	1.32		7.75
	Gamma-BHC	102	106	127	120	3.93		6.16
	Gamma-Chlordane	71.6	75.2	79.4	69.7	4.95		13.1
	Heptachlor	61.9	66.0	70.3	60.6	6.37		14.8
	Heptachlor Epoxide	76.9	76.9	88.6	81.8	0.0191		8.01
	Hexazinone	105	100	113	110	4.89		3.06
	Malathion	93.4	105	80.1	80.4	12.0		0.437
	Metalaxyl	97.4	77.9	89.8	86.6	22.2		3.68
	Methoxychlor	99.6	97.7	109	101	1.93		7.46
	Metolachlor	90.4	95.2	81.4	84.9	5.15		4.18
	Metribuzin	202	87.2	216	217	79.3		0.452
	Mevinphos	81.2	73.5	104	96.5	9.91		7.29
	Mirex	54.7	53.9	54.1	46.7	1.39		14.6
	Molinate	65.2	62.5	62.9	59.7	4.23		5.27
	Norflurazon	93.7	76.8	79.3	67.8	19.8		15.6
	Oxadiazon	93.1	97.4	82.8	85.5	4.56		2.71
	Parathion Ethyl	92.7	90.3	92.0	87.1	2.68		5.45
	Parathion Methyl	104	80.0	106	104	26.6		1.81
	Pendimethalin	85.6	81.0	100	94.1	5.49		6.30
	Permethrin	88.2	93.1	92.4	82.8	5.49		11.0
	Phorate	75.8	69.5	94.5	77.8	8.66		19.4
	Prodiamine	62.5	78.4	67.3	67.0	22.5		0.444
	Prometon	81.3	80.1	76.0	76.1	1.53		0.0937
	Prometryn	86.3	80.5	82.2	78.2	6.93		4.94
	Simazine	110	97.1	126	133	12.3		4.93
	Tebuconazole	78.2	72.7	69.4	65.5	7.35		5.78
	Terbufos	85.1	82.3	107	96.0	3.35		11.1
	Terbuthylazine	90.8	95.9	85.2	82.4	5.45		3.31
	Trifluralin	74.0	75.0	85.8	75.9	1.41		12.2
EPA 8276	Chlordane	63.6	64.8	59.8	60.0	1.87		0.255
	Toxaphene	75.4	70.2	80.4	78.5	7.16		2.37
EPA 8321B	2,4-D	60.5		65.3	70.1			4.88
	Acesulfame K	112		71.3	72.6			1.72
	Acetaminophen	82.2		116	118			2.21
	Aldicarb	58.9		57.6	52.2			9.85
	Aldicarb Sulfone	84.6		96.2	84.5			13.0
	Aldicarb Sulfoxide	87.1		41.0	40.2			2.10
	AMPA	103		94.0	92.8			1.37
	Bentazon	64.9		36.3	36.7			0.308
	Carbamazepine	85.2		74.9	71.9			3.99
	Carbaryl	76.0		62.6	59.2			5.63
	Carbofuran	75.6		61.6	54.3			12.5
	Diuron	83.0		66.4	62.4			5.81
	Endothall	100		25.1	20.9			18.5

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Fenuron	101	80.6	83.3			3.35
	Fluridone	101	87.0	80.8			3.32
	Glufosinate	94.1	80.5	85.4			5.80
	Glyphosate	107	89.8	89.1			0.769
	Hydrocodone	96.7	79.7	78.8			1.14
	Ibuprofen	75.9	87.0	87.9			1.12
	Imazapyr	74.4					24.4
	Imidacloprid	111	167	184			7.98
	Linuron	82.4	70.5	66.6			5.72
	MCPP	79.2	79.5	88.5			10.6
	Methiocarb	76.9	68.1	62.6			8.48
	Methomyl	71.2	67.9	74.0			8.61
	Naproxen	70.7	50.3	51.7			2.75
	Oxamyl	90.8	70.8	58.7			18.8
	Primidone	94.4	102	109			6.24
	Propoxur	75.1	58.9	55.3			6.30
	Pyraclostrobin	78.1	76.3	78.7			3.10
	Sucralose	99.4	101	109			5.41
	Triclopyr	50.5	40.6	47.4			15.6
SM 2320 B-97	Total Alkalinity	104				0.248	
SM 2540 D-97	TSS					5.80	
SM 4500 F-C-97	Fluoride	97.3	96.9	96.2			0.473
SM 5310 B-00	Organic Carbon	95.8	96.3	94.6			1.32

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2061232
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2061242
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2061242
EPA 300.0 / E31780	Bromide in aqueous matrices	2061232
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2061233
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2061233
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2061233
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2061233
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2061234
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2061240
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2061241
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2061240
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2061238
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2061239
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2061239
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2061232
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2061232
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2061232
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2061233

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	02/08/2019			02/08/2019 17:16	Adrian Shelby	2061232
EPA 200.7 Rev. 4.4	02/08/2019	02/13/2019 16:35	Elliott D. Healy	02/14/2019 17:19	Betina Topolski	2061242
EPA 200.8 Rev. 5.4	02/08/2019	02/13/2019 16:35	Elliott D. Healy	02/22/2019 13:01	Allison Taylor	2061242
	02/08/2019	02/13/2019 16:35	Elliott D. Healy	02/28/2019 00:10	Allison Taylor	2061242
EPA 300.0	02/08/2019			02/14/2019 20:11	Lipi Saha	2061232
EPA 350.1 Rev. 2.0	02/08/2019			02/13/2019 13:47	Ping Hua	2061233
EPA 351.2 Rev. 2.0	02/08/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 10:38	Joseph Suarez	2061233
EPA 353.2 Rev. 2.0	02/08/2019			02/15/2019 12:28	Beverly Y. Sanders	2061233
EPA 365.1 Rev. 2.0	02/08/2019	02/13/2019 12:40	Sima Feizi	02/13/2019 19:58	Rosalyn Ballman	2061233
EPA 365.1 Rev. 2.0 dissolved	02/08/2019			02/08/2019 16:39	Lipi Saha	2061234
EPA 8270D	02/08/2019	02/11/2019 08:30	Rasheda Ghaffari	02/13/2019 20:59	Dinesh Mishra	2061240
	02/08/2019	02/13/2019 11:45	Fe-Val Siddell	02/14/2019 17:30	Vandana T. Nagar	2061241
	02/08/2019	02/13/2019 11:45	Fe-Val Siddell	02/15/2019 16:01	Vandana T. Nagar	2061241
EPA 8276	02/08/2019	02/11/2019 08:30	Rasheda Ghaffari	02/15/2019 02:48	Arthur Maknenko	2061240
EPA 8321B	02/08/2019	02/12/2019 12:00	Hoor Shaik	02/19/2019 17:59	Juyoung Kim	2061238
	02/08/2019	02/12/2019 12:00	Hoor Shaik	02/19/2019 20:17	Juyoung Kim	2061239
	02/08/2019	02/13/2019 14:30	Rebecca Ware	02/13/2019 18:49	Mohammad Ghaffari	2061239
	02/08/2019	02/13/2019 14:30	Rebecca Ware	02/14/2019 12:48	Mohammad Ghaffari	2061239
	02/08/2019	02/13/2019 14:30	Rebecca Ware	02/16/2019 04:52	Mohammad Ghaffari	2061239
SM 2320 B-97	02/08/2019			02/15/2019 10:13	Dale L. Simmons	2061232
SM 2540 D-97	02/08/2019			02/13/2019 15:22	Yijie Li	2061232
SM 4500 F-C-97	02/08/2019			02/15/2019 08:15	Dale L. Simmons	2061232
SM 5310 B-00	02/08/2019			02/24/2019 08:48	Julia Storbeck	2061233