

Chemical Analysis Report

SE-DIST-2018-10-09-02

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

Event Description: **SMP- Blank**
Request ID: **RQ-2018-10-08-63**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 06-NOV-2018 14:16

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

NON-CONFORMANCE REPORT INCLUDED

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: South Fork SLR@ Hosford Park

Collection Date/Time: 10/08/2018 12:25

Field ID: BLANK

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2032522	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P352988	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P353499	
		Sulfate	0.20	U	mg SO4/L	P353500	
		Color (true)	2.5	U	PCU	P353000	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P353318	
	SM 2540 C-97	TDS	15	U	mg/L	P353227	
	SM 2540 D-97	TSS	2	U	mg/L	P353229	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P353321	
2032523	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	UY	mg N/L	P353861	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	UY	mg N/L	P353381	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P353347	
	EPA 365.1 Rev. 2.0	Total-P	0.002	UY	mg P/L	P353311	
	SM 5310 B-00	Organic Carbon	0.50	UY	mg C/L	P353426	
2032524	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P352987	
2032525	EPA 8321B	Aldicarb	0.020	U	ug/L	P353002	
		Aldicarb Sulfone	0.0020	U	ug/L	P353002	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P353002	
		Carbaryl	0.0020	U	ug/L	P353002	
		Carbofuran	0.0020	U	ug/L	P353002	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P353002	
		Methiocarb	0.0020	U	ug/L	P353002	
		Methomyl	0.0020	U	ug/L	P353002	
		Oxamyl	0.0020	U	ug/L	P353002	
		Propoxur	0.0020	U	ug/L	P353002	
		2,4-D	0.0020	U	ug/L	P353002	
		Sucralose**	0.010	U	ug/L	P352994	
		Bentazon	8.0E-04	U	ug/L	P353002	
		MCP	0.0020	U	ug/L	P353002	
2032526		Triclopyr**	0.0040	U	ug/L	P353002	
		Imidacloprid	0.0020	U	ug/L	P353002	
		Diuron	0.0020	U	ug/L	P353002	
		Pyraclostrobin**	0.0020	U	ug/L	P353002	
		Primidone**	0.0040	U	ug/L	P353002	
		Linuron	0.0040	U	ug/L	P353002	
		Acetaminophen**	0.0080	U	ug/L	P353002	
		Fenuron	0.016	U	ug/L	P353002	
		Imazapyr**	0.0040	U	ug/L	P353002	
		Carbamazepine**	8.0E-04	U	ug/L	P353002	
		Fluridone**	4.0E-04	U	ug/L	P353002	
		Hydrocodone**	8.0E-04	U	ug/L	P353002	
		Naproxen**	0.0080	U	ug/L	P353002	
		Ibuprofen**	0.020	U	ug/L	P353002	
		Glyphosate**	0.10	U	ug/L	P352994	

Field ID: BLANK

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2032526	EPA 8321B	AMPA**	0.10	U	ug/L	P352994	
		Endothall**	0.25	U	ug/L	P352994	
		Glufosinate**	0.10	U	ug/L	P352994	
		Acesulfame K**	0.10	U	ug/L	P352994	
2032527	EPA 8270D	Aldrin	4.3	U	ng/L	P352993	
		Alpha-BHC	2.1	U	ng/L	P352993	
		Beta-BHC	4.3	U	ng/L	P352993	
		Delta-BHC	4.3	U	ng/L	P352993	
		Gamma-BHC	4.3	U	ng/L	P352993	MS
		Carbophenothion	4.3	U	ng/L	P352993	
		Chlorothalonil	2.1	U	ng/L	P352993	RPD
		Cypermethrin	21	U	ng/L	P352993	
		DDD-p,p'	3.2	U	ng/L	P352993	
		DDE-p,p'	3.2	U	ng/L	P352993	
		DDT-p,p'	3.2	U	ng/L	P352993	MS
		Dieldrin	4.3	U	ng/L	P352993	
		Endosulfan I	4.3	U	ng/L	P352993	
		Endosulfan II	4.3	U	ng/L	P352993	
		Endosulfan Sulfate	2.1	U	ng/L	P352993	
		Endrin	2.1	U	ng/L	P352993	
		Endrin Aldehyde	2.1	U	ng/L	P352993	
		Heptachlor	1.6	U	ng/L	P352993	
		Heptachlor Epoxide	2.1	U	ng/L	P352993	
		Methoxychlor	4.3	U	ng/L	P352993	
		Mirex	2.1	U	ng/L	P352993	
		Permethrin	11	U	ng/L	P352993	
		Trifluralin	1.1	U	ng/L	P352993	
		Alpha-Chlordane	1.1	U	ng/L	P352993	
		Gamma-Chlordane	1.1	U	ng/L	P352993	
		Endrin Ketone	2.1	U	ng/L	P352993	
		Dicofol	32	U	ng/L	P352993	
		Chlordane	2.7	U	ng/L	P352993	
		Toxaphene	32	U	ng/L	P352993	
2032528	EPA 8270D	Alachlor	0.25	U	ng/L	P353067	
		Ametryn	0.32	U	ng/L	P353067	
		Atrazine	0.25	U	ng/L	P353067	
		Atrazine Desethyl	1.5	U	ng/L	P353067	
		Azinphos Methyl	2.2	U	ng/L	P353067	
		Bromacil	0.50	U	ng/L	P353067	
		Butylate	0.40	U	ng/L	P353067	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P353067	
		Chlorpyrifos Methyl	0.10	U	ng/L	P353067	
		Demeton	2.0	U	ng/L	P353067	
		Diazinon	0.12	U	ng/L	P353067	
		Disulfoton	0.50	U	ng/L	P353067	
	EPA 8276						

Field ID: BLANK

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2032528	EPA 8270D	EPTC	1.2	U	ng/L	P353067	MS, RPD
		Ethion	0.15	UJ	ng/L	P353067	
		Ethoprop	0.10	U	ng/L	P353067	
		Fenamiphos	0.25	U	ng/L	P353067	
		Fipronil	0.25	U	ng/L	P353067	
		Fipronil Sulfide	0.15	U	ng/L	P353067	
		Fipronil Sulfone	0.15	U	ng/L	P353067	
		Hexazinone	0.50	U	ng/L	P353067	
		Malathion	0.35	U	ng/L	P353067	
		Metribuzin	0.20	U	ng/L	P353067	
		Mevinphos	0.50	U	ng/L	P353067	
		Molinate	0.30	U	ng/L	P353067	
		Norflurazon	0.50	U	ng/L	P353067	
		Pendimethalin	1.0	U	ng/L	P353067	
		Phorate	0.25	U	ng/L	P353067	
		Prometon	0.90	U	ng/L	P353067	
		Prometryn	0.20	U	ng/L	P353067	
		Simazine	0.50	U	ng/L	P353067	
		Terbufos	0.10	U	ng/L	P353067	
		Terbutylazine	0.42	U	ng/L	P353067	
		Fonofos	0.20	U	ng/L	P353067	
		Metalaxyl	0.25	U	ng/L	P353067	
		Metolachlor	0.25	U	ng/L	P353067	
		Acetochlor	0.25	U	ng/L	P353067	
		Cyanazine	0.50	U	ng/L	P353067	
		Parathion Ethyl	0.25	U	ng/L	P353067	
		Parathion Methyl	0.25	U	ng/L	P353067	
2032529	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P353304	
		Iron	30	U	ug/L	P353304	
		Magnesium	0.040	U	mg/L	P353304	
		Potassium	0.30	U	mg/L	P353304	
		Sodium	0.50	U	mg/L	P353304	
		Zinc	5.0	U	ug/L	P353304	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P353304	
		Cadmium	0.020	U	ug/L	P353304	
		Chromium	0.40	U	ug/L	P353304	
		Copper	0.20	U	ug/L	P353304	
		Lead	0.050	U	ug/L	P353304	
		Nickel	0.20	U	ug/L	P353304	
		Silver	0.010	U	ug/L	P353304	

Field ID: BLANK

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 350.1 Rev. 2.0: Sample was stored at room temperature in the laboratory, should be stored below 6 degC.
EPA 351.2 Rev. 2.0: Sample was stored at room temperature in the laboratory, should be stored below 6 degC.
EPA 353.2 Rev. 2.0: Sample was stored at room temperature in the laboratory, should be stored below 6 degC.
EPA 365.1 Rev. 2.0: Total-P: Sample was stored at room temperature in the laboratory, should be stored at 6 degC.
SM 5310 B-00: Sample was stored at room temperature in the laboratory, should be stored below 6 degC.
EPA 8321B: Insufficient sample to perform matrix spikes.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Non-Conformance Report

NCR ID: 7246

Event(s)

SE-DIST-2018-10-09-02

Job(s)

TLH-2018-10-09-15

Sample(s)

2032523

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Sample Integrity

Observation: Sample was mislabeled and shelved outside of acceptable temperature.

Resolution: Correct label was placed on sample and it was moved to an appropriate location on 10-18-18 at 9:40 AM

Authorized by/Date: Peter D. Kaus 11/1/2018

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352988

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353304

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: P353304

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: P353499

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353500

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353861

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353381

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: P353347

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353311

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352987

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

Reference Method: EPA 8270D
Batch ID: P352993

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: P353067

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: P353067

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
Metaxyl	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: P352993

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

Reference Method: EPA 8321B
Batch ID: P352994

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P352994

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

Reference Method: EPA 8321B
Batch ID: P353002

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	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	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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: SM 2120 B
Batch ID: P353000

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P353318

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

Reference Method: SM 2540 C-97
Batch ID: P353227

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P353227

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P353229

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P353321

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P353426

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: P353304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	97.6		P	85 - 115
Iron	103		P	85 - 115
Magnesium	98.3		P	85 - 115
Potassium	104		P	85 - 115
Sodium	101		P	85 - 115
Zinc	97.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	102		P	85 - 115
Copper	102		P	85 - 115
Lead	106		P	85 - 115
Nickel	100		P	85 - 115
Silver	107		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353499

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353500

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353861

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353311

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352987

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

Reference Method: EPA 8270D
Batch ID: P352993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	38.0	41.2	P/P	24 - 89.0
Alpha-BHC	87.2	98.1	P/P	58 - 117
Alpha-Chlordane	77.3	87.7	P/P	56 - 115
Beta-BHC	102	119	P/P	55 - 137
Carbophenothion	72.0	81.8	P/P	37 - 145
Chlorothalonil	62.4	53.1	P/P	26 - 163
Cypermethrin	53.7	65.5	P/P	42 - 156
DDD-p,p'	84.0	94.7	P/P	59 - 129
DDE-p,p'	79.0	90.9	P/P	52 - 117
DDT-p,p'	96.9	109	P/P	48 - 128
Delta-BHC	117	124	P/P	59 - 158
Dicofol	85.8	93.0	P/P	19 - 124
Dieldrin	86.0	95.5	P/P	57 - 126
Endosulfan I	82.4	87.8	P/P	59 - 133
Endosulfan II	67.6	83.4	P/P	58 - 148
Endosulfan Sulfate	78.5	91.1	P/P	56 - 135
Endrin	85.2	93.2	P/P	50 - 140
Endrin Aldehyde	83.6	89.1	P/P	47 - 141
Endrin Ketone	75.1	83.1	P/P	63 - 123
Gamma-BHC	113	121	P/P	59 - 132
Gamma-Chlordane	74.6	85.5	P/P	55 - 112
Heptachlor	61.9	67.5	P/P	45 - 102
Heptachlor Epoxide	81.1	87.9	P/P	61 - 116
Methoxychlor	84.9	82.7	P/P	60 - 133
Mirex	52.4	61.8	P/P	40 - 98.0
Permethrin	59.9	69.4	P/P	45 - 131
Trifluralin	76.4	86.0	P/P	38 - 179

Reference Method: EPA 8270D
Batch ID: P353067

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	85.8	97.9	P/P	74 - 119
Alachlor	91.2	103	P/P	75 - 118
Ametryn	82.8	95.8	P/P	59 - 137
Atrazine	94.2	115	P/P	73 - 120
Atrazine Desethyl	99.6	109	P/P	19 - 129
Azinphos Methyl	117	130	P/P	65 - 181
Bromacil	57.8	66.5	P/P	43 - 123
Butylate	51.7	62.1	P/P	28 - 85.0

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P353067

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Ethyl	85.5	105	P/P	55 - 112
Chlorpyrifos Methyl	98.6	117	P/P	35 - 124
Cyanazine	124	153	P/P	26 - 262
Demeton	56.2	63.0	P/P	43 - 122
Diazinon	103	116	P/P	72 - 120
Disulfoton	76.1	74.3	P/P	45 - 137
EPTC	48.8	61.0	P/P	28 - 95.0
Ethion	78.8	84.9	P/P	63 - 127
Ethoprop	69.9	81.4	P/P	63 - 109
Fenamiphos	73.5	82.3	P/P	66 - 136
Fipronil	86.2	96.9	P/P	63 - 126
Fipronil Sulfide	76.0	82.9	P/P	59 - 123
Fipronil Sulfone	73.6	79.7	P/P	56 - 122
Fonofos	87.2	97.2	P/P	64 - 114
Hexazinone	104	119	P/P	49 - 144
Malathion	95.4	108	P/P	68 - 131
Metaxyl	92.6	107	P/P	57 - 126
Metolachlor	82.5	99.8	P/P	75 - 118
Metribuzin	140	151	P/P	46 - 169
Mevinphos	65.8	83.9	P/P	34 - 126
Molinate	56.1	63.8	P/P	37 - 101
Norflurazon	83.4	97.0	P/P	63 - 127
Parathion Ethyl	97.5	109	P/P	78 - 109
Parathion Methyl	108	116	P/P	74 - 123
Pendimethalin	96.4	99.0	P/P	51 - 130
Phorate	83.0	96.2	P/P	53 - 116
Prometon	87.0	97.6	P/P	66 - 124
Prometryn	80.0	94.0	P/P	66 - 124
Simazine	100	127	P/P	62 - 134
Terbufos	81.9	95.9	P/P	59 - 115
Terbutylazine	87.9	103	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P352993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	79.4	78.0	P/P	47 - 125
Toxaphene	88.1	84.7	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P352994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	133		P	40 - 150
AMPA	89.4		P	40 - 150
Endothall	67.3		P	40 - 150
Glufosinate	95.7		P	40 - 150
Glyphosate	86.8		P	40 - 140

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P353002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	72.2	76.0	P/P	40 - 150
3-Hydroxycarbofuran	46.8	48.8	P/P	40 - 150
Acetaminophen	89.6	90.8	P/P	30 - 150
Aldicarb	78.1	63.5	P/P	30 - 150
Aldicarb Sulfone	94.1	88.0	P/P	40 - 150
Aldicarb Sulfoxide	77.2	79.0	P/P	40 - 150
Bentazon	99.0	103	P/P	30 - 150
Carbamazepine	84.6	81.0	P/P	40 - 150
Carbaryl	78.0	77.6	P/P	40 - 150
Carbofuran	76.9	77.0	P/P	40 - 150
Diuron	81.0	78.8	P/P	40 - 150
Fenuron	106	99.4	P/P	40 - 150
Fluridone	98.2	99.6	P/P	40 - 150
Hydrocodone	93.6	89.5	P/P	40 - 150
Ibuprofen	76.8	72.5	P/P	40 - 150
Imazapyr	95.1	93.4	P/P	40 - 150
Imidacloprid	83.5	89.3	P/P	40 - 160
Linuron	70.1	70.3	P/P	40 - 150
MCPP	84.9	71.2	P/P	40 - 150
Methiocarb	64.4	65.0	P/P	40 - 150
Methomyl	93.1	90.2	P/P	40 - 150
Naproxen	74.8	66.5	P/P	40 - 150
Oxamyl	94.2	83.7	P/P	40 - 150
Primidone	83.1	91.4	P/P	40 - 150
Propoxur	79.0	72.5	P/P	40 - 150
Pyraclostrobin	66.6	63.7	P/P	40 - 150
Triclopyr	87.1	73.7	P/P	40 - 150

Reference Method: SM 2120 B
Batch ID: P353000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P353318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P353321

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033258	Calcium	98.3		P	80 - 120
2033258	Iron	101		P	80 - 120
2033258	Magnesium	105		P	80 - 120
2033258	Potassium	104		P	80 - 120
2033258	Sodium	101		P	80 - 120
2033258	Zinc	98.1		P	80 - 120
2033325	Calcium	91.0		P	80 - 120
2033325	Iron	98.9	101	P/P	80 - 120
2033325	Magnesium	95.4		P	80 - 120
2033325	Potassium	104	102	P/P	80 - 120
2033325	Sodium	101		P	80 - 120
2033325	Zinc	94.4	95.7	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033258	Arsenic	102		P	80 - 120
2033258	Cadmium	102		P	80 - 120
2033258	Chromium	103		P	80 - 120
2033258	Copper	105		P	80 - 120
2033258	Lead	105		P	80 - 120
2033258	Nickel	101		P	80 - 120
2033258	Silver	104		P	80 - 120
2033325	Arsenic	102	103	P/P	80 - 120
2033325	Cadmium	106	109	P/P	80 - 120
2033325	Chromium	101	101	P/P	80 - 120
2033325	Copper	99.0	99.0	P/P	80 - 120
2033325	Lead	107	106	P/P	80 - 120
2033325	Nickel	92.2	92.7	P/P	80 - 120
2033325	Silver	104	107	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032492	Chloride	94.8		P	90 - 110
2032635	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032492	Sulfate	98.1		P	90 - 110
2032635	Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032502	Ammonia-N	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032674	Kjeldahl Nitrogen	96.2	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033043	NO2NO3-N	97.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033295	Total-P	102	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032494	O-Phosphate-P	100	102	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P352993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032533	Aldrin	58.2	58.7	P/P	26 - 96.0
2032533	Alpha-BHC	118	119	P/P	51 - 123
2032533	Alpha-Chlordane	91.7	86.3	P/P	45 - 120
2032533	Beta-BHC	132	119	P/P	43 - 146
2032533	Carbophenothion	102	97.5	P/P	26 - 179
2032533	Chlorothalonil	39.0	78.7	P/P	10 - 215
2032533	Cypermethrin	83.0	80.3	P/P	35 - 169
2032533	DDD-p,p'	101	90.3	P/P	49 - 131
2032533	DDE-p,p'	93.9	85.6	P/P	39 - 127
2032533	DDT-p,p'	122	116	F/P	49 - 120
2032533	Delta-BHC	177	136	P/P	49 - 187
2032533	Dicofol	102	113	P/P	10 - 129
2032533	Dieldrin	98.1	98.5	P/P	46 - 132
2032533	Endosulfan I	84.3	89.8	P/P	57 - 130
2032533	Endosulfan II	102	83.3	P/P	52 - 148
2032533	Endosulfan Sulfate	105	109	P/P	55 - 129
2032533	Endrin	95.4	102	P/P	45 - 133
2032533	Endrin Aldehyde	71.7	73.1	P/P	26 - 140
2032533	Endrin Ketone	89.1	104	P/P	60 - 125
2032533	Gamma-BHC	117	148	P/F	50 - 145
2032533	Gamma-Chlordane	89.7	83.6	P/P	44 - 118
2032533	Heptachlor	70.6	71.8	P/P	35 - 106
2032533	Heptachlor Epoxide	92.3	90.3	P/P	52 - 123
2032533	Methoxychlor	78.7	80.8	P/P	54 - 132
2032533	Mirex	68.9	62.5	P/P	36 - 107
2032533	Permethrin	82.5	80.0	P/P	47 - 135
2032533	Trifluralin	89.8	87.0	P/P	32 - 228

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P353067

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032528	Acetochlor	96.9	89.1	P/P	67 - 125
2032528	Alachlor	99.0	97.7	P/P	69 - 123
2032528	Ametryn	101	93.5	P/P	52 - 151
2032528	Atrazine	101	105	P/P	71 - 125
2032528	Atrazine Desethyl	91.5	92.6	P/P	10 - 129
2032528	Azinphos Methyl	122	118	P/P	48 - 200
2032528	Bromacil	89.8	87.3	P/P	46 - 130
2032528	Butylate	59.0	60.4	P/P	10 - 85.0
2032528	Chlorpyrifos Ethyl	91.5	91.0	P/P	54 - 115
2032528	Chlorpyrifos Methyl	104	104	P/P	44 - 117
2032528	Cyanazine	132	115	P/P	10 - 262
2032528	Demeton	64.9	67.7	P/P	24 - 145
2032528	Diazinon	113	114	P/P	66 - 129
2032528	Disulfoton	79.1	83.1	P/P	45 - 139
2032528	EPTC	51.6	53.4	P/P	10 - 86.0
2032528	Ethion	69.5	45.7	P/F	59 - 133
2032528	Ethoprop	73.4	81.7	P/P	54 - 116
2032528	Fenamiphos	83.6	66.4	P/P	55 - 140
2032528	Fipronil	96.4	84.7	P/P	37 - 142
2032528	Fipronil Sulfide	87.5	77.9	P/P	37 - 130
2032528	Fipronil Sulfone	74.7	69.6	P/P	18 - 143
2032528	Fonofos	93.3	108	P/P	55 - 118
2032528	Hexazinone	115	117	P/P	62 - 140
2032528	Malathion	99.2	101	P/P	64 - 132
2032528	Metalaxyl	98.8	98.4	P/P	55 - 129
2032528	Metolachlor	93.9	88.8	P/P	56 - 137
2032528	Metribuzin	150	136	P/P	16 - 218
2032528	Mevinphos	78.2	89.1	P/P	34 - 129
2032528	Molinate	63.1	61.2	P/P	16 - 99.0
2032528	Norflurazon	85.8	85.9	P/P	43 - 135
2032528	Parathion Ethyl	99.0	103	P/P	71 - 112
2032528	Parathion Methyl	124	121	P/P	65 - 127
2032528	Pendimethalin	102	95.0	P/P	35 - 159
2032528	Phorate	90.5	98.4	P/P	41 - 129
2032528	Prometon	93.5	84.2	P/P	56 - 140
2032528	Prometryn	86.1	76.6	P/P	65 - 130
2032528	Simazine	107	108	P/P	54 - 148
2032528	Terbufos	87.9	104	P/P	53 - 126
2032528	Terbutylazine	99.6	97.2	P/P	73 - 114

Reference Method: EPA 8276
Batch ID: P352993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032527	Chlordane	78.7	86.8	P/P	41 - 134
2032527	Toxaphene	86.4	88.7	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P352994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032520	Acesulfame K	83.5	67.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P352994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032520	AMPA	85.9	89.0	P/P	40 - 150
2032520	Endothall	128	122	P/P	40 - 150
2032520	Glufosinate	77.1	82.7	P/P	40 - 150
2032520	Glyphosate	76.7	71.9	P/P	40 - 140
2032520	Sucralose	94.8	104	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P353321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032005	Fluoride	98.4	98.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032493	Organic Carbon	95.8	97.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032489	Turbidity	7.25	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033325	Calcium	1.23	Spike	P	0 - 20
2033325	Iron	1.71	Spike	P	0 - 20
2033325	Magnesium	1.49	Spike	P	0 - 20
2033325	Potassium	1.52	Spike	P	0 - 20
2033325	Sodium	0.514	Spike	P	0 - 20
2033325	Zinc	1.38	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033325	Arsenic	0.667	Spike	P	0 - 20
2033325	Cadmium	2.58	Spike	P	0 - 20
2033325	Chromium	0.105	Spike	P	0 - 20
2033325	Copper	0.0530	Spike	P	0 - 20
2033325	Lead	0.222	Spike	P	0 - 20
2033325	Nickel	0.475	Spike	P	0 - 20
2033325	Silver	2.36	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032492	Chloride	0.738	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032492	Sulfate	1.41	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032502	Ammonia-N	0.336	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032674	Kjeldahl Nitrogen	0.470	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033043	NO2NO3-N	0.762	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033295	Total-P	4.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032494	O-Phosphate-P	1.29	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P352993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032533	Aldrin	0.864	Spike	P	0 - 30
2032533	Alpha-BHC	0.520	Spike	P	0 - 30
2032533	Alpha-Chlordane	6.01	Spike	P	0 - 30
2032533	Beta-BHC	10.4	Spike	P	0 - 30
2032533	Carbophenothion	4.48	Spike	P	0 - 30
2032533	Chlorothalonil	67.4	Spike	F	0 - 30
2032533	Cypermethrin	3.22	Spike	P	0 - 30
2032533	DDD-p,p'	11.6	Spike	P	0 - 30
2032533	DDE-p,p'	9.32	Spike	P	0 - 30
2032533	DDT-p,p'	4.75	Spike	P	0 - 30
2032533	Delta-BHC	21.5	Spike	P	0 - 30
2032533	Dicofol	10.2	Spike	P	0 - 30
2032533	Dieldrin	0.360	Spike	P	0 - 30
2032533	Endosulfan I	6.27	Spike	P	0 - 30
2032533	Endosulfan II	20.4	Spike	P	0 - 30
2032533	Endosulfan Sulfate	3.68	Spike	P	0 - 30
2032533	Endrin	6.95	Spike	P	0 - 30
2032533	Endrin Aldehyde	1.98	Spike	P	0 - 30
2032533	Endrin Ketone	15.4	Spike	P	0 - 30
2032533	Gamma-BHC	23.8	Spike	P	0 - 30
2032533	Gamma-Chlordane	7.04	Spike	P	0 - 30
2032533	Heptachlor	1.61	Spike	P	0 - 30
2032533	Heptachlor Epoxide	2.16	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P352993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032533	Methoxychlor	2.62	Spike	P	0 - 30
2032533	Mirex	9.81	Spike	P	0 - 30
2032533	Permethrin	3.07	Spike	P	0 - 30
2032533	Trifluralin	3.18	Spike	P	0 - 30
LFB	Aldrin	8.11	LCS	P	0 - 30
LFB	Alpha-BHC	11.7	LCS	P	0 - 30
LFB	Alpha-Chlordane	12.6	LCS	P	0 - 30
LFB	Beta-BHC	15.2	LCS	P	0 - 30
LFB	Carbophenothion	12.8	LCS	P	0 - 30
LFB	Chlorothalonil	16.2	LCS	P	0 - 30
LFB	Cypermethrin	19.7	LCS	P	0 - 30
LFB	DDD-p,p'	12.0	LCS	P	0 - 30
LFB	DDE-p,p'	14.0	LCS	P	0 - 30
LFB	DDT-p,p'	11.5	LCS	P	0 - 30
LFB	Delta-BHC	5.15	LCS	P	0 - 30
LFB	Dicofol	8.06	LCS	P	0 - 30
LFB	Dieldrin	10.4	LCS	P	0 - 30
LFB	Endosulfan I	6.41	LCS	P	0 - 30
LFB	Endosulfan II	20.9	LCS	P	0 - 30
LFB	Endosulfan Sulfate	14.8	LCS	P	0 - 30
LFB	Endrin	8.90	LCS	P	0 - 30
LFB	Endrin Aldehyde	6.39	LCS	P	0 - 30
LFB	Endrin Ketone	10.1	LCS	P	0 - 30
LFB	Gamma-BHC	7.49	LCS	P	0 - 30
LFB	Gamma-Chlordane	13.6	LCS	P	0 - 30
LFB	Heptachlor	8.65	LCS	P	0 - 30
LFB	Heptachlor Epoxide	8.05	LCS	P	0 - 30
LFB	Methoxychlor	2.62	LCS	P	0 - 30
LFB	Mirex	16.5	LCS	P	0 - 30
LFB	Permethrin	14.8	LCS	P	0 - 30
LFB	Trifluralin	11.7	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P353067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032528	Acetochlor	8.41	Spike	P	0 - 30
2032528	Alachlor	1.29	Spike	P	0 - 30
2032528	Ametryn	7.32	Spike	P	0 - 30
2032528	Atrazine	4.73	Spike	P	0 - 30
2032528	Atrazine Desethyl	1.15	Spike	P	0 - 30
2032528	Azinphos Methyl	4.03	Spike	P	0 - 30
2032528	Bromacil	2.82	Spike	P	0 - 30
2032528	Butylate	2.43	Spike	P	0 - 30
2032528	Chlorpyrifos Ethyl	0.534	Spike	P	0 - 30
2032528	Chlorpyrifos Methyl	0.321	Spike	P	0 - 30
2032528	Cyanazine	14.1	Spike	P	0 - 30
2032528	Demeton	4.23	Spike	P	0 - 30
2032528	Diazinon	0.304	Spike	P	0 - 30
2032528	Disulfoton	4.96	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P353067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032528	EPTC	3.50	Spike	P	0 - 30
2032528	Ethion	41.4	Spike	F	0 - 30
2032528	Ethoprop	10.7	Spike	P	0 - 30
2032528	Fenamiphos	23.0	Spike	P	0 - 30
2032528	Fipronil	12.8	Spike	P	0 - 30
2032528	Fipronil Sulfide	11.7	Spike	P	0 - 30
2032528	Fipronil Sulfone	7.13	Spike	P	0 - 30
2032528	Fonofos	14.6	Spike	P	0 - 30
2032528	Hexazinone	1.86	Spike	P	0 - 30
2032528	Malathion	1.67	Spike	P	0 - 30
2032528	Metalaxyl	0.402	Spike	P	0 - 30
2032528	Metolachlor	5.57	Spike	P	0 - 30
2032528	Metribuzin	9.53	Spike	P	0 - 30
2032528	Mevinphos	13.0	Spike	P	0 - 30
2032528	Molinate	3.05	Spike	P	0 - 30
2032528	Norflurazon	0.0786	Spike	P	0 - 30
2032528	Parathion Ethyl	3.96	Spike	P	0 - 30
2032528	Parathion Methyl	2.93	Spike	P	0 - 30
2032528	Pendimethalin	7.30	Spike	P	0 - 30
2032528	Phorate	8.41	Spike	P	0 - 30
2032528	Prometon	10.4	Spike	P	0 - 30
2032528	Prometryn	11.6	Spike	P	0 - 30
2032528	Simazine	1.22	Spike	P	0 - 30
2032528	Terbufos	17.1	Spike	P	0 - 30
2032528	Terbutylazine	2.47	Spike	P	0 - 30
LFB	Acetochlor	13.2	LCS	P	0 - 30
LFB	Alachlor	12.1	LCS	P	0 - 30
LFB	Ametryn	14.6	LCS	P	0 - 30
LFB	Atrazine	20.0	LCS	P	0 - 30
LFB	Atrazine Desethyl	8.73	LCS	P	0 - 30
LFB	Azinphos Methyl	11.3	LCS	P	0 - 30
LFB	Bromacil	14.1	LCS	P	0 - 30
LFB	Butylate	18.4	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	20.7	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	17.2	LCS	P	0 - 30
LFB	Cyanazine	20.8	LCS	P	0 - 30
LFB	Demeton	11.5	LCS	P	0 - 30
LFB	Diazinon	12.3	LCS	P	0 - 30
LFB	Disulfoton	2.47	LCS	P	0 - 30
LFB	EPTC	22.2	LCS	P	0 - 30
LFB	Ethion	7.45	LCS	P	0 - 30
LFB	Ethoprop	15.2	LCS	P	0 - 30
LFB	Fenamiphos	11.2	LCS	P	0 - 30
LFB	Fipronil	11.7	LCS	P	0 - 30
LFB	Fipronil Sulfide	8.65	LCS	P	0 - 30
LFB	Fipronil Sulfone	8.00	LCS	P	0 - 30
LFB	Fonofos	10.8	LCS	P	0 - 30
LFB	Hexazinone	13.5	LCS	P	0 - 30
LFB	Malathion	12.1	LCS	P	0 - 30
LFB	Metalaxyl	14.8	LCS	P	0 - 30
LFB	Metolachlor	19.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P353067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Metribuzin	7.55	LCS	P	0 - 30
LFB	Mevinphos	24.1	LCS	P	0 - 30
LFB	Molinate	12.9	LCS	P	0 - 30
LFB	Norflurazon	15.1	LCS	P	0 - 30
LFB	Parathion Ethyl	10.7	LCS	P	0 - 30
LFB	Parathion Methyl	7.05	LCS	P	0 - 30
LFB	Pendimethalin	2.72	LCS	P	0 - 30
LFB	Phorate	14.7	LCS	P	0 - 30
LFB	Prometon	11.5	LCS	P	0 - 30
LFB	Prometryn	16.1	LCS	P	0 - 30
LFB	Simazine	23.2	LCS	P	0 - 30
LFB	Terbufos	15.8	LCS	P	0 - 30
LFB	Terbutylazine	15.3	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P352993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032527	Chlordane	9.81	Spike	P	0 - 30
2032527	Toxaphene	2.61	Spike	P	0 - 30
LFB	Chlordane	1.79	LCS	P	0 - 30
LFB	Toxaphene	3.98	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P352994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032520	Acesulfame K	20.6	Spike	P	0 - 30
2032520	AMPA	3.46	Spike	P	0 - 30
2032520	Endothall	4.67	Spike	P	0 - 30
2032520	Glufosinate	6.95	Spike	P	0 - 30
2032520	Glyphosate	6.47	Spike	P	0 - 30
2032520	Sucralose	9.24	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P353002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	5.03	LCS	P	0 - 30
LFB	3-Hydroxycarbofuran	4.26	LCS	P	0 - 30
LFB	Acetaminophen	1.41	LCS	P	0 - 30
LFB	Aldicarb	20.6	LCS	P	0 - 30
LFB	Aldicarb Sulfone	6.69	LCS	P	0 - 30
LFB	Aldicarb Sulfoxide	2.27	LCS	P	0 - 30
LFB	Bentazon	4.41	LCS	P	0 - 30
LFB	Carbamazepine	4.35	LCS	P	0 - 30
LFB	Carbaryl	0.550	LCS	P	0 - 30
LFB	Carbofuran	0.101	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P353002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diuron	2.73	LCS	P	0 - 30
LFB	Fenuron	6.26	LCS	P	0 - 30
LFB	Fluridone	1.47	LCS	P	0 - 30
LFB	Hydrocodone	4.46	LCS	P	0 - 30
LFB	Ibuprofen	5.74	LCS	P	0 - 30
LFB	Imazapyr	1.88	LCS	P	0 - 30
LFB	Imidacloprid	6.65	LCS	P	0 - 30
LFB	Linuron	0.204	LCS	P	0 - 30
LFB	MCPP	17.5	LCS	P	0 - 30
LFB	Methiocarb	0.894	LCS	P	0 - 30
LFB	Methomyl	3.23	LCS	P	0 - 30
LFB	Naproxen	11.8	LCS	P	0 - 30
LFB	Oxamyl	11.8	LCS	P	0 - 30
LFB	Primidone	9.54	LCS	P	0 - 30
LFB	Propoxur	8.46	LCS	P	0 - 30
LFB	Pyraclostrobin	4.47	LCS	P	0 - 30
LFB	Triclopyr	16.7	LCS	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P353000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032489	Color (true)	0.646	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P353318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032005	Total Alkalinity	0.713	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P353227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032501	TDS	5.56	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P353321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032005	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P353426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P353426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032493	Organic Carbon	0.766	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: 2032525
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	74.3	P	30 - 160

Lab Sample ID: 2032526
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.5	P	30 - 160
EPA 8321B	Diuron-d6	92.4	P	30 - 160
EPA 8321B	Endothall-d6	72.7	P	40 - 160
EPA 8321B	Endothall-d6	72.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	114	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	114	P	40 - 160
EPA 8321B	Ibuprofen-d3	61.6	P	30 - 160
EPA 8321B	Primidone-d5	118	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160

Lab Sample ID: 2032527
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	62.4	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	62.5	P	34 - 101
EPA 8276	Decachlorobiphenyl	48.8	P	31 - 108
EPA 8276	PCNB	77.9	P	62 - 142

Lab Sample ID: 2032528
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	94.6	P	71 - 126
EPA 8270D	Terbufos-d10	89.1	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86998

Included Lab Sample IDs: 2032524

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86999

Included Lab Sample IDs: 2032522

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

Reference Method: SM 2120 B

Run ID: A87004

Included Lab Sample IDs: 2032522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.0	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A87008

Included Lab Sample IDs: 2032526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	158	158	P/P	60 - 160
Endothall	130	104	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A87018

Included Lab Sample IDs: 2032526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	112	130	P/P	60 - 160
Glufosinate	106	117	P/P	60 - 160
Glyphosate	110	113	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A87036

Included Lab Sample IDs: 2032526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	80.4	105	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A87130

Included Lab Sample IDs: 2032522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A87130

Included Lab Sample IDs: 2032522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87143

Included Lab Sample IDs: 2032525

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	98.2	98.2	P/P	50 - 150
Acetaminophen	100	106	P/P	60 - 160
Aldicarb	87.4	84.5	P/P	60 - 150
Aldicarb Sulfone	101	107	P/P	50 - 150
Aldicarb Sulfoxide	99.7	96.1	P/P	50 - 150
Carbamazepine	106	110	P/P	60 - 160
Carbaryl	108	104	P/P	60 - 150
Carbofuran	106	109	P/P	50 - 150
Diuron	109	109	P/P	60 - 150
Fenuron	99.5	105	P/P	60 - 150
Fluridone	104	114	P/P	60 - 160
Hydrocodone	99.6	108	P/P	60 - 150
Imazapyr	93.6	106	P/P	50 - 150
Imidacloprid	100	103	P/P	60 - 150
Linuron	108	102	P/P	60 - 150
Methiocarb	105	97.2	P/P	50 - 150
Methomyl	100	92.8	P/P	50 - 150
Oxamyl	97.7	105	P/P	50 - 150
Primidone	99.5	99.4	P/P	60 - 150
Propoxur	103	105	P/P	50 - 150
Pyraclostrobin	114	89.4	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87160

Included Lab Sample IDs: 2032523

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87172

Included Lab Sample IDs: 2032526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.9	96.0	P/P	50 - 150
Bentazon	133	142	P/P	50 - 160
Ibuprofen	75.3	84.1	P/P	50 - 160
MCP	91.5	91.2	P/P	50 - 150
Naproxen	92.0	97.4	P/P	50 - 160
Triclopyr	90.7	87.5	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A87187
 Included Lab Sample IDs: 2032528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	100		P	80 - 120
Alachlor	96.3		P	80 - 120
Ametryn	97.3		P	80 - 120
Atrazine	102		P	80 - 120
Atrazine Desethyl	94.6		P	80 - 120
Azinphos Methyl	96.1		P	80 - 120
Bromacil	98.5		P	80 - 120
Butylate	97.6		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	97.3		P	80 - 120
Cyanazine	94.4		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	98.3		P	80 - 120
Disulfoton	93.1		P	80 - 120
EPTC	96.3		P	80 - 120
Ethion	93.5		P	80 - 120
Ethoprop	85.5		P	80 - 120
Fenamiphos	93.2		P	80 - 120
Fipronil	90.5		P	80 - 120
Fipronil Sulfide	102		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fonofos	105		P	80 - 120
Hexazinone	98.4		P	80 - 120
Malathion	98.5		P	80 - 120
Metaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	93.6		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	97.3		P	80 - 120
Norflurazon	105		P	80 - 120
Parathion Ethyl	98.1		P	80 - 120
Parathion Methyl	93.8		P	80 - 120
Pendimethalin	89.4		P	80 - 120
Phorate	101		P	80 - 120
Prometon	99.8		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	96.2		P	80 - 120
Terbufos	100		P	80 - 120
Terbuthylazine	102		P	80 - 120

Reference Method: SM 5310 B-00
 Run ID: A87189
 Included Lab Sample IDs: 2032523

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A87195

Included Lab Sample IDs: 2032523

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87212

Included Lab Sample IDs: 2032522

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

Reference Method: EPA 8276

Run ID: A87221

Included Lab Sample IDs: 2032527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	97.4		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87238

Included Lab Sample IDs: 2032523

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	97.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A87337

Included Lab Sample IDs: 2032529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.9	97.5	P/P	90 - 110
Iron	98.9	96.9	P/P	90 - 110
Magnesium	99.8	97.7	P/P	90 - 110
Potassium	100	98.1	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Zinc	99.1	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87366

Included Lab Sample IDs: 2032523

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

Reference Method: EPA 8270D

Run ID: A87388

Included Lab Sample IDs: 2032527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	93.6		P	80 - 120
Alpha-BHC	92.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A87388
Included Lab Sample IDs: 2032527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alpha-Chlordane	93.2		P	80 - 120
Beta-BHC	99.6		P	80 - 120
Carbophenothion	85.3		P	80 - 120
Chlorothalonil	99.4		P	80 - 120
Cypermethrin	84.2		P	80 - 120
DDD-p,p'	97.2		P	80 - 120
DDE-p,p'	95.9		P	80 - 120
DDT-p,p'	98.5		P	80 - 120
Delta-BHC	86.6		P	80 - 120
Dicofol	94.9		P	80 - 120
Dieldrin	94.0		P	80 - 120
Endosulfan I	88.2		P	80 - 120
Endosulfan II	93.3		P	80 - 120
Endosulfan Sulfate	99.0		P	80 - 120
Endrin	92.1		P	80 - 120
Endrin Aldehyde	93.6		P	80 - 120
Endrin Ketone	96.0		P	80 - 120
Gamma-BHC	93.7		P	80 - 120
Gamma-Chlordane	94.3		P	80 - 120
Heptachlor	90.3		P	80 - 120
Heptachlor Epoxide	95.0		P	80 - 120
Methoxychlor	98.8		P	80 - 120
Mirex	97.7		P	80 - 120
Permethrin	91.0		P	80 - 120
Trifluralin	92.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A87406
Included Lab Sample IDs: 2032529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	101	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Lead	106	105	P/P	90 - 110
Nickel	98.9	101	P/P	90 - 110
Silver	105	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A87513
Included Lab Sample IDs: 2032529

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	104	103	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		LCS	Precision	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						7.25	
EPA 200.7 Rev. 4.4	Calcium	97.6		98.3	91.0			1.23
	Iron	103		101	98.9	101		1.71
	Magnesium	98.3		105	95.4			1.49
	Potassium	104		104	104	102		1.52
	Sodium	101		101	101			0.514
	Zinc	97.6		98.1	94.4	95.7		1.38
EPA 200.8 Rev. 5.4	Arsenic	102		102	102	103		0.667
	Cadmium	104		102	106	109		2.58
	Chromium	102		103	101	101		0.105
	Copper	102		105	99.0	99.0		0.0530
	Lead	106		105	107	106		0.222
	Nickel	100		101	92.2	92.7		0.475
	Silver	107		104	104	107		2.36
EPA 300.0 Rev. 2.1	Chloride	98.0		94.8	100		0.738	
	Sulfate	97.9		98.1	95.7		1.41	
EPA 350.1 Rev. 2.0	Ammonia-N	101		100	101			0.336
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7		96.2	95.7			0.470
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		97.5	99.0			0.762
EPA 365.1 Rev. 2.0	Total-P	101		102	97.0			4.46
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7		100	102			1.29
EPA 8270D	Acetochlor	85.8	97.9	96.9	89.1	13.2		8.41
	Alachlor	103	91.2	99.0	97.7	12.1		1.29
	Aldrin	41.2	38.0	58.2	58.7	8.11		0.864
	Alpha-BHC	98.1	87.2	118	119	11.7		0.520
	Alpha-Chlordane	87.7	77.3	91.7	86.3	12.6		6.01
	Ametryn	82.8	95.8	101	93.5	14.6		7.32
	Atrazine	94.2	115	101	105	20.0		4.73
	Atrazine Desethyl	99.6	109	91.5	92.6	8.73		1.15
	Azinphos Methyl	117	130	122	118	11.3		4.03
	Beta-BHC	119	102	132	119	15.2		10.4
	Bromacil	57.8	66.5	89.8	87.3	14.1		2.82
	Butylate	51.7	62.1	59.0	60.4	18.4		2.43
	Carbophenothion	81.8	72.0	102	97.5	12.8		4.48
	Chlorothalonil	53.1	62.4	39.0	78.7	16.2		67.4
	Chlorpyrifos Ethyl	85.5	105	91.5	91.0	20.7		0.534
	Chlorpyrifos Methyl	98.6	117	104	104	17.2		0.321
	Cyanazine	124	153	132	115	20.8		14.1
	Cypermethrin	65.5	53.7	83.0	80.3	19.7		3.22
	DDD-p,p'	94.7	84.0	101	90.3	12.0		11.6
	DDE-p,p'	90.9	79.0	93.9	85.6	14.0		9.32
	DDT-p,p'	109	96.9	122	116	11.5		4.75
	Delta-BHC	124	117	177	136	5.15		21.5
	Demeton	63.0	56.2	64.9	67.7	11.5		4.23
	Diazinon	103	116	113	114	12.3		0.304
	Dicofol	93.0	85.8	102	113	8.06		10.2
	Dieldrin	95.5	86.0	98.1	98.5	10.4		0.360
	Disulfoton	74.3	76.1	79.1	83.1	2.47		4.96
	Endosulfan I	87.8	82.4	84.3	89.8	6.41		6.27
	Endosulfan II	83.4	67.6	102	83.3	20.9		20.4
	Endosulfan Sulfate	91.1	78.5	105	109	14.8		3.68
	Endrin	93.2	85.2	95.4	102	8.90		6.95
	Endrin Aldehyde	89.1	83.6	71.7	73.1	6.39		1.98
	Endrin Ketone	83.1	75.1	89.1	104	10.1		15.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	61.0	48.8	51.6	53.4	22.2	3.50
	Ethion	84.9	78.8	69.5	45.7	7.45	41.4
	Ethoprop	81.4	69.9	73.4	81.7	15.2	10.7
	Fenamiphos	82.3	73.5	83.6	66.4	11.2	23.0
	Fipronil	96.9	86.2	96.4	84.7	11.7	12.8
	Fipronil Sulfide	76.0	82.9	87.5	77.9	8.65	11.7
	Fipronil Sulfone	73.6	79.7	74.7	69.6	8.00	7.13
	Fonofos	87.2	97.2	93.3	108	10.8	14.6
	Gamma-BHC	121	113	117	148	7.49	23.8
	Gamma-Chlordane	85.5	74.6	89.7	83.6	13.6	7.04
	Heptachlor	67.5	61.9	70.6	71.8	8.65	1.61
	Heptachlor Epoxide	87.9	81.1	92.3	90.3	8.05	2.16
	Hexazinone	104	119	115	117	13.5	1.86
	Malathion	95.4	108	99.2	101	12.1	1.67
	Metalaxyl	92.6	107	98.8	98.4	14.8	0.402
	Methoxychlor	82.7	84.9	78.7	80.8	2.62	2.62
	Metolachlor	82.5	99.8	93.9	88.8	19.0	5.57
	Metribuzin	140	151	150	136	7.55	9.53
	Mevinphos	65.8	83.9	78.2	89.1	24.1	13.0
	Mirex	61.8	52.4	68.9	62.5	16.5	9.81
	Molinate	56.1	63.8	63.1	61.2	12.9	3.05
	Norflurazon	83.4	97.0	85.8	85.9	15.1	0.0786
	Parathion Ethyl	97.5	109	99.0	103	10.7	3.96
	Parathion Methyl	108	116	124	121	7.05	2.93
	Pendimethalin	96.4	99.0	102	95.0	2.72	7.30
	Permethrin	69.4	59.9	82.5	80.0	14.8	3.07
	Phorate	83.0	96.2	90.5	98.4	14.7	8.41
	Prometon	87.0	97.6	93.5	84.2	11.5	10.4
	Prometryn	80.0	94.0	86.1	76.6	16.1	11.6
	Simazine	100	127	107	108	23.2	1.22
	Terbufos	81.9	95.9	87.9	104	15.8	17.1
	Terbutylazine	87.9	103	99.6	97.2	15.3	2.47
	Trifluralin	86.0	76.4	89.8	87.0	11.7	3.18
EPA 8276	Chlordane	79.4	78.0	78.7	86.8	1.79	9.81
	Toxaphene	88.1	84.7	86.4	88.7	3.98	2.61
EPA 8321B	2,4-D	72.2	76.0			5.03	
	3-Hydroxycarbofuran	46.8	48.8			4.26	
	Acesulfame K	133		83.5	67.9		20.6
	Acetaminophen	89.6	90.8			1.41	
	Aldicarb	78.1	63.5			20.6	
	Aldicarb Sulfone	94.1	88.0			6.69	
	Aldicarb Sulfoxide	77.2	79.0			2.27	
	AMPA	89.4		85.9	89.0		3.46
	Bentazon	99.0	103			4.41	
	Carbamazepine	84.6	81.0			4.35	
	Carbaryl	78.0	77.6			0.550	
	Carbofuran	76.9	77.0			0.101	
	Diuron	81.0	78.8			2.73	
	Endothall	67.3		128	122		4.67
	Fenuron	106	99.4			6.26	
	Fluridone	98.2	99.6			1.47	
	Glufosinate	95.7		77.1	82.7		6.95
	Glyphosate	86.8		76.7	71.9		6.47
	Hydrocodone	93.6	89.5			4.46	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8321B	Ibuprofen	76.8	72.5			5.74		
	Imazapyr	95.1	93.4			1.88		
	Imidacloprid	83.5	89.3			6.65		
	Linuron	70.1	70.3			0.204		
	MCCP	84.9	71.2			17.5		
	Methiocarb	64.4	65.0			0.894		
	Methomyl	93.1	90.2			3.23		
	Naproxen	74.8	66.5			11.8		
	Oxamyl	94.2	83.7			11.8		
	Primidone	83.1	91.4			9.54		
	Propoxur	79.0	72.5			8.46		
	Pyraclostrobin	66.6	63.7			4.47		
	Sucralose			94.8	104			9.24
	Triclopyr	87.1	73.7			16.7		
SM 2120 B	Color (true)	98.3					0.646	
SM 2320 B-97	Total Alkalinity	102					0.713	
SM 2540 C-97	TDS						5.56	
SM 4500 F-C-97	Fluoride	98.4		98.4	98.4			0.0
SM 5310 B-00	Organic Carbon	97.8		95.8	97.2			0.766

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2032522
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2032529
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2032529
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2032522
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2032522
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2032523
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2032523
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2032523
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2032523
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2032524
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2032527
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2032528
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2032527
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2032525
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2032526
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2032526
SM 2120 B / E31780	True Color measured at 450 nm	2032522
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2032522
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2032522
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2032522
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2032522

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2032523

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	10/09/2018			10/09/2018 13:42	Sima Feizi	2032522
EPA 200.7 Rev. 4.4	10/09/2018	10/18/2018 18:30	Elliott D. Healy	10/26/2018 15:36	Betina Topolski	2032529
EPA 200.8 Rev. 5.4	10/09/2018	10/18/2018 18:30	Elliott D. Healy	10/30/2018 16:22	Allison Taylor	2032529
	10/09/2018	10/18/2018 18:30	Elliott D. Healy	11/02/2018 14:22	Allison Taylor	2032529
EPA 300.0 Rev. 2.1	10/09/2018			10/22/2018 22:31	Lipi Saha	2032522
EPA 350.1 Rev. 2.0	10/09/2018			10/29/2018 12:40	Ping Hua	2032523
EPA 351.2 Rev. 2.0	10/09/2018	10/19/2018 11:30	Adrian Shelby	10/23/2018 13:37	Joseph Suarez	2032523
EPA 353.2 Rev. 2.0	10/09/2018			10/19/2018 11:06	Lauren Bottorf	2032523
EPA 365.1 Rev. 2.0	10/09/2018	10/19/2018 12:10	Sima Feizi	10/22/2018 11:34	Beverly Y. Sanders	2032523
EPA 365.1 Rev. 2.0 dissolved	10/09/2018			10/09/2018 13:12	Anthony C. Onicha	2032524
EPA 8270D	10/09/2018	10/15/2018 08:00	Fe-Val Siddell	10/25/2018 01:04	Arthur Maknenko	2032527
	10/09/2018	10/15/2018 08:30	Rasheda Ghaffari	10/19/2018 16:13	Vandana T. Nagar	2032528
EPA 8276	10/09/2018	10/15/2018 08:00	Fe-Val Siddell	10/23/2018 08:23	Dinesh Mishra	2032527
EPA 8321B	10/09/2018	10/15/2018 08:45	Mohammad Ghaffari	10/15/2018 09:31	Mohammad Ghaffari	2032526
	10/09/2018	10/15/2018 08:45	Mohammad Ghaffari	10/15/2018 11:12	Rebecca Ware	2032526
	10/09/2018	10/15/2018 08:45	Mohammad Ghaffari	10/15/2018 15:34	Rebecca Ware	2032526
	10/09/2018	10/15/2018 09:00	Hoor Shaik	10/18/2018 21:19	Juyoung Kim	2032525
	10/09/2018	10/15/2018 09:00	Hoor Shaik	10/18/2018 21:54	Juyoung Kim	2032526
	10/09/2018	10/15/2018 09:00	Hoor Shaik	10/20/2018 07:45	Juyoung Kim	2032526
SM 2120 B	10/09/2018			10/09/2018 13:46	Blanca Fach	2032522
SM 2320 B-97	10/09/2018			10/18/2018 04:41	Dale L. Simmons	2032522
SM 2540 C-97	10/09/2018			10/15/2018 11:12	Yijie Li	2032522
SM 2540 D-97	10/09/2018			10/15/2018 11:09	Yijie Li	2032522
SM 4500 F-C-97	10/09/2018			10/18/2018 04:41	Dale L. Simmons	2032522
SM 5310 B-00	10/09/2018			10/20/2018 02:50	Megan Treadwell	2032523