

Chemical Analysis Report

CEN-DIST-2018-03-09-02

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

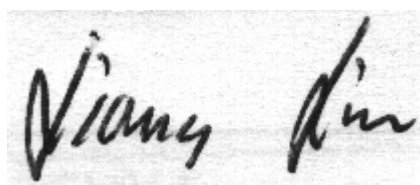
Event Description: **Kasey / Dot / Fairhope**
Request ID: **RQ-2018-03-05-65**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Michael Linger

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-APR-2018 11:52

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

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: Lake Dot @ Center (2997Q)

Collection Date/Time: 03/08/2018 09:36

Field ID: G2CE0067

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1973618	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P341323	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P341900	
		Sulfate	21		mg SO4/L	P341903	
	SM 2120 B	Color (true)	9.4		PCU	P341319	
	SM 2320 B-97	Total Alkalinity	76		mg CaCO3/L	P341624	
	SM 2540 C-97	TDS	132	A	mg/L	P341836	
	SM 2540 D-97	TSS	6	IA	mg/L	P341788	
	SM 4500 F-C-97	Fluoride	0.063	I	mg F/L	P341829	
1973619	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P341874	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P341536	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P341529	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P341448	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P342041	
1973620	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P341346	
1973628	EPA 8321B	2,4-D	0.0034	I	ug/L	P341188	
		Sucralose**	0.11		ug/L	P341275	
		Bentazon	0.0048		ug/L	P341188	MS
		MCP	0.0020	U	ug/L	P341188	MS
		Triclopyr**	0.0040	U	ug/L	P341188	MS
		Imidacloprid	0.0050	I	ug/L	P341188	
		Diuron	0.0048	I	ug/L	P341188	
		Primidone**	0.0040	U	ug/L	P341188	
		Linuron	0.0040	U	ug/L	P341188	
		Acetaminophen**	0.0080	U	ug/L	P341188	
		Fenuron	0.0080	U	ug/L	P341188	
		Imazapyr**	0.0040	U	ug/L	P341188	
		Carbamazepine**	4.0E-04	U	ug/L	P341188	
		Fluridone**	0.0034		ug/L	P341188	

Ref. Method and Comment:

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

Sample Location: Kasey Lake @ Center (3002Q)

Collection Date/Time: 03/08/2018 10:18

Field ID: G2CE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1973615	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P341323	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P341900	
		Sulfate	5.8		mg SO4/L	P341903	
	SM 2120 B	Color (true)	34		PCU	P341319	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P341624	
	SM 2540 C-97	TDS	64		mg/L	P341835	
	SM 2540 D-97	TSS	12	I	mg/L	P341787	
	SM 4500 F-C-97	Fluoride	0.056	I	mg F/L	P341829	
1973616	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P341874	

Field ID: G2CE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1973616	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P341536	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P341529	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P341448	
	SM 5310 B-00	Organic Carbon	9.0		mg C/L	P341972	
1973617	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P341345	
1973631	EPA 200.7 Rev. 4.4	Calcium	11.2		mg/L	P341368	
		Iron	68	I	ug/L	P341368	
		Magnesium	1.91		mg/L	P341368	
		Potassium	2.0		mg/L	P341368	
		Sodium	6.3		mg/L	P341368	
		Zinc	5.0	U	ug/L	P341368	
	EPA 200.8 Rev. 5.4	Arsenic	0.27		ug/L	P341368	
		Cadmium	0.020	U	ug/L	P341368	
		Chromium	0.40	U	ug/L	P341368	
		Copper	0.53	I	ug/L	P341368	
		Lead	0.13	I	ug/L	P341368	
		Nickel	0.20	U	ug/L	P341368	
		Silver	0.010	U	ug/L	P341368	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated due to sample matrix interference.

Sample Location: Kasey Lake @ Center (3002Q)

Collection Date/Time: 03/08/2018 10:18

Field ID: G2CE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1973626	EPA 8321B	Aldicarb	0.020	U	ug/L	P341188	
		Aldicarb Sulfone	0.0020	U	ug/L	P341188	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P341188	
		Carbaryl	0.0020	U	ug/L	P341188	
		Carbofuran	0.0020	U	ug/L	P341188	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P341188	
		Methiocarb	0.0020	U	ug/L	P341188	
		Methomyl	0.0020	U	ug/L	P341188	
		Oxamyl	0.0020	U	ug/L	P341188	
		Propoxur	0.0020	U	ug/L	P341188	
1973627		2,4-D	0.0024	I	ug/L	P341188	
		Sucralose**	0.12		ug/L	P341275	
		Bentazon	0.018		ug/L	P341188	MS
		MCP	0.0020	U	ug/L	P341188	MS
		Triclopyr**	0.0040	U	ug/L	P341188	MS
		Imidacloprid	0.0020	U	ug/L	P341188	
		Diuron	0.0020	U	ug/L	P341188	
		Pyraclostrobin**	0.0020	U	ug/L	P341188	
		Primidone**	0.0040	U	ug/L	P341188	
		Linuron	0.0040	U	ug/L	P341188	

Field ID: G2CE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1973627	EPA 8321B	Acetaminophen**	0.0080	U	ug/L	P341188	
		Fenuron	0.0080	U	ug/L	P341188	
		Imazapyr**	0.0040	U	ug/L	P341188	
		Carbamazepine**	4.7E-04	I	ug/L	P341188	
		Fluridone**	8.0E-04	U	ug/L	P341188	
		Glyphosate**	0.10	U	ug/L	P341274	
		AMPA**	0.10	U	ug/L	P341274	
1973629	EPA 8270D	Aldrin	4.4	U	ng/L	P341633	
		Alpha-BHC	2.2	U	ng/L	P341633	
		Beta-BHC	4.4	UJ	ng/L	P341633	LCS
		Delta-BHC	4.4	U	ng/L	P341633	
		Gamma-BHC	4.4	U	ng/L	P341633	
		Carbophenothion	4.4	U	ng/L	P341633	RPD
		Chlorothalonil	2.2	U	ng/L	P341633	RPD
		Cypermethrin	22	U	ng/L	P341633	
		DDD-p,p'	3.3	U	ng/L	P341633	
		DDE-p,p'	3.3	U	ng/L	P341633	
		DDT-p,p'	3.3	U	ng/L	P341633	
		Dieldrin	4.4	U	ng/L	P341633	
		Endosulfan I	4.4	U	ng/L	P341633	
		Endosulfan II	4.4	U	ng/L	P341633	
		Endosulfan Sulfate	2.2	U	ng/L	P341633	
		Endrin	2.2	U	ng/L	P341633	
		Endrin Aldehyde	2.2	UJ	ng/L	P341633	RPD
		Heptachlor	1.6	U	ng/L	P341633	
		Heptachlor Epoxide	2.2	U	ng/L	P341633	
		Methoxychlor	4.4	U	ng/L	P341633	
		Mirex	2.2	U	ng/L	P341633	
		Permethrin	11	U	ng/L	P341633	
		Trifluralin	1.1	U	ng/L	P341633	
		Alpha-Chlordane	1.1	U	ng/L	P341633	
		Gamma-Chlordane	1.1	U	ng/L	P341633	
		Endrin Ketone	2.2	U	ng/L	P341633	
		Dicofol	33	U	ng/L	P341633	
	EPA 8276	Chlordane**	2.7	U	ng/L	P341633	
		Toxaphene**	33	U	ng/L	P341633	
1973630	EPA 8270D	Alachlor	0.25	U	ng/L	P341343	
		Ametryn	5.3		ng/L	P341343	
		Atrazine	310		ng/L	P341343	
		Atrazine Desethyl	29		ng/L	P341343	
		Azinphos Methyl	2.2	U	ng/L	P341343	
		Bromacil	0.49	U	ng/L	P341343	
		Butylate	0.39	U	ng/L	P341343	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P341343	
		Chlorpyrifos Methyl	0.099	U	ng/L	P341343	

Field ID: G2CE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1973630	EPA 8270D	Demeton	2.0	U	ng/L	P341343	
		Diazinon	0.12	U	ng/L	P341343	
		Disulfoton	0.49	U	ng/L	P341343	
		EPTC	1.2	U	ng/L	P341343	
		Ethion	0.15	U	ng/L	P341343	
		Ethoprop	0.099	U	ng/L	P341343	
		Fenamiphos	0.25	U	ng/L	P341343	
		Fipronil	0.54	I	ng/L	P341343	
		Fipronil Sulfide	2.7		ng/L	P341343	
		Fipronil Sulfone	8.6		ng/L	P341343	
		Hexazinone	0.49	U	ng/L	P341343	
		Malathion	0.35	U	ng/L	P341343	
		Metribuzin	0.20	U	ng/L	P341343	
		Mevinphos	0.49	U	ng/L	P341343	
		Molinate	0.30	U	ng/L	P341343	
		Norflurazon	0.49	U	ng/L	P341343	
		Pendimethalin	0.99	U	ng/L	P341343	
		Phorate	0.25	U	ng/L	P341343	
		Prometon	0.89	U	ng/L	P341343	
		Prometryn	0.20	U	ng/L	P341343	
		Simazine	0.49	U	ng/L	P341343	
		Terbufos	0.099	U	ng/L	P341343	
		Terbuthylazine	0.42	U	ng/L	P341343	
		Fonofos	0.20	U	ng/L	P341343	
		Metalaxyl	0.25	U	ng/L	P341343	
		Metolachlor	0.60	I	ng/L	P341343	
		Acetochlor	0.25	U	ng/L	P341343	
		Cyanazine	0.49	U	ng/L	P341343	
		Parathion Ethyl	0.25	U	ng/L	P341343	
		Parathion Methyl	0.25	U	ng/L	P341343	

Ref. Method and Comment:
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Non-Conformance Report

NCR ID: 6929

Event(s)

CEN-DIST-2018-03-09-02

Job(s)

TLH-2018-03-09-41

Sample(s)

1973629

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

Observation: Sample 1 of 3 received with cracked or broken cap.

Resolution: Affected container marked with an X on label and broken cap replaced. Additional container logged in.

Authorized by/Date: Joshua Ayres 3/20/2018

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: P341323

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P341368

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: P341368

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: P341900

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341903

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341874

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341536

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341536

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341529

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341448

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341345

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341346

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

Reference Method: EPA 8270D
Batch ID: P341343

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P341343

Component	Result	Code	Units
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
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D

Batch ID: P341633

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276

Batch ID: P341633

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

Reference Method: EPA 8321B

Batch ID: P341188

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

Reference Method: EPA 8321B

Batch ID: P341274

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

Reference Method: EPA 8321B

Batch ID: P341275

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B

Batch ID: P341319

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P341624

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
 Batch ID: P341835

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
 Batch ID: P341836

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P341787

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P341788

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P341829

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P341972

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

Reference Method: SM 5310 B-00
 Batch ID: P342041

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: P341368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P341368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	104		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	98.7		P	85 - 115
Sodium	100		P	85 - 115
Zinc	99.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.6		P	85 - 115
Copper	99.4		P	85 - 115
Lead	106		P	85 - 115
Nickel	98.4		P	85 - 115
Silver	90.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341900

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341903

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: P341874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341536

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341529

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341448

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341345

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341346

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

Reference Method: EPA 8270D
Batch ID: P341343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	98.2	95.6	P/P	74 - 119
Alachlor	99.4	96.1	P/P	75 - 118
Ametryn	107	105	P/P	59 - 137
Atrazine	101	92.4	P/P	73 - 120
Atrazine Desethyl	93.8	91.9	P/P	19 - 129
Azinphos Methyl	108	103	P/P	65 - 181
Bromacil	91.1	76.2	P/P	43 - 123
Butylate	51.7	53.2	P/P	28 - 85.0
Chlorpyrifos Ethyl	95.4	90.0	P/P	55 - 112
Chlorpyrifos Methyl	99.0	93.8	P/P	35 - 124
Cyanazine	135	121	P/P	26 - 262
Demeton	78.2	84.0	P/P	43 - 122
Diazinon	98.2	99.1	P/P	72 - 120
Disulfoton	79.4	85.7	P/P	45 - 137
EPTC	51.0	55.5	P/P	28 - 95.0
Ethion	83.9	86.8	P/P	63 - 127
Ethoprop	91.3	91.3	P/P	63 - 109
Fenamiphos	103	99.4	P/P	66 - 136
Fipronil	104	99.0	P/P	63 - 126
Fipronil Sulfide	104	92.6	P/P	59 - 123
Fipronil Sulfone	93.3	84.2	P/P	56 - 122
Fonofos	94.0	90.8	P/P	64 - 114
Hexazinone	101	100	P/P	49 - 144
Malathion	101	92.7	P/P	68 - 131
Metalaxyl	99.7	94.7	P/P	57 - 126
Metolachlor	95.8	93.1	P/P	75 - 118
Metribuzin	160	137	P/P	46 - 169
Mevinphos	84.8	80.4	P/P	34 - 126
Molinate	60.2	60.4	P/P	37 - 101
Norflurazon	98.9	94.3	P/P	63 - 127
Parathion Ethyl	93.2	93.2	P/P	78 - 109
Parathion Methyl	103	100	P/P	74 - 123
Pendimethalin	114	116	P/P	51 - 130
Phorate	90.4	88.3	P/P	53 - 116

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P341343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	91.4	86.0	P/P	66 - 124
Prometryn	96.3	93.7	P/P	66 - 124
Simazine	103	98.1	P/P	62 - 134
Terbufos	88.6	89.6	P/P	59 - 115
Terbutylazine	96.2	93.4	P/P	76 - 113

Reference Method: EPA 8270D

Batch ID: P341633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	76.8	57.4	P/P	24 - 89.0
Alpha-BHC	90.3	84.0	P/P	58 - 117
Alpha-Chlordane	102	88.1	P/P	56 - 115
Beta-BHC	140	135	F/P	55 - 137
Carbophenothion	114	99.1	P/P	37 - 145
Chlorothalonil	114	95.6	P/P	26 - 163
Cypermethrin	104	104	P/P	42 - 156
DDD-p,p'	110	97.9	P/P	59 - 129
DDE-p,p'	102	88.0	P/P	52 - 117
DDT-p,p'	102	93.8	P/P	48 - 128
Delta-BHC	123	107	P/P	59 - 158
Dicofol	98.0	75.2	P/P	19 - 124
Dieldrin	107	91.2	P/P	57 - 126
Endosulfan I	106	86.9	P/P	59 - 133
Endosulfan II	140	109	P/P	58 - 148
Endosulfan Sulfate	123	118	P/P	56 - 135
Endrin	104	80.1	P/P	50 - 140
Endrin Aldehyde	112	75.2	P/P	47 - 141
Endrin Ketone	111	111	P/P	63 - 123
Gamma-BHC	111	119	P/P	59 - 132
Gamma-Chlordane	101	86.8	P/P	55 - 112
Heptachlor	78.7	70.6	P/P	45 - 102
Heptachlor Epoxide	101	88.2	P/P	61 - 116
Methoxychlor	103	103	P/P	60 - 133
Mirex	78.8	76.2	P/P	40 - 98.0
Permethrin	97.7	103	P/P	45 - 131
Trifluralin	86.5	86.5	P/P	38 - 179

Reference Method: EPA 8276

Batch ID: P341633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	77.6	70.1	P/P	47 - 125
Toxaphene	88.5	83.0	P/P	46 - 147

Reference Method: EPA 8321B

Batch ID: P341188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.6		P	40 - 150
3-Hydroxycarbofuran	111		P	40 - 150
Acetaminophen	112		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P341188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldicarb	85.5		P	30 - 150
Aldicarb Sulfone	110		P	40 - 150
Aldicarb Sulfoxide	118		P	40 - 150
Bentazon	89.8		P	30 - 150
Carbamazepine	76.0		P	40 - 150
Carbaryl	71.1		P	40 - 150
Carbofuran	66.3		P	40 - 150
Diuron	64.9		P	40 - 150
Fenuron	110		P	40 - 150
Fluridone	61.8		P	40 - 150
Imazapyr	83.6		P	40 - 150
Imidacloprid	106		P	40 - 160
Linuron	86.9		P	40 - 150
MCPP	79.7		P	40 - 150
Methiocarb	75.6		P	40 - 150
Methomyl	93.5		P	40 - 150
Oxamyl	104		P	40 - 150
Primidone	111		P	40 - 150
Propoxur	66.9		P	40 - 150
Pyraclostrobin	57.3		P	40 - 150
Triclopyr	84.5		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P341274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	98.4		P	40 - 150
Glyphosate	97.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P341275

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	99.6		P	40 - 150

Reference Method: SM 2320 B-97

Batch ID: P341624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	95 - 108

Reference Method: SM 4500 F-C-97

Batch ID: P341829

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.0		P	91 - 105

Reference Method: SM 5310 B-00

Batch ID: P341972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P342041

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P341368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973258	Calcium	101		P	80 - 120
1973258	Iron	104	106	P/P	80 - 120
1973258	Magnesium	106	109	P/P	80 - 120
1973258	Potassium	101	102	P/P	80 - 120
1973258	Sodium	98.3	101	P/P	80 - 120
1973258	Zinc	96.6	98.9	P/P	80 - 120
1973463	Calcium	103		P	80 - 120
1973463	Iron	104		P	80 - 120
1973463	Magnesium	101		P	80 - 120
1973463	Potassium	102		P	80 - 120
1973463	Sodium	98.9		P	80 - 120
1973463	Zinc	96.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P341368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973258	Arsenic	99.8	96.9	P/P	80 - 120
1973258	Cadmium	104	99.7	P/P	80 - 120
1973258	Chromium	100	97.3	P/P	80 - 120
1973258	Copper	97.6	93.8	P/P	80 - 120
1973258	Lead	108	104	P/P	80 - 120
1973258	Nickel	96.6	93.4	P/P	80 - 120
1973258	Silver	92.4	89.1	P/P	80 - 120
1973463	Arsenic	100		P	80 - 120
1973463	Cadmium	99.3		P	80 - 120
1973463	Chromium	93.5		P	80 - 120
1973463	Copper	90.7		P	80 - 120
1973463	Lead	106		P	80 - 120
1973463	Nickel	92.2		P	80 - 120
1973463	Silver	88.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P341900

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973061	Chloride	97.6		P	90 - 110
1973351	Chloride	97.3		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973061	Sulfate	100		P	90 - 110
1973351	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973332	Ammonia-N	98.1	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973468	Kjeldahl Nitrogen	97.1	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973461	NO2NO3-N	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973353	Total-P	99.0	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973304	O-Phosphate-P	95.2	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973609	O-Phosphate-P	93.2	94.0	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P341343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972133	Acetochlor	92.8	96.6	P/P	67 - 125
1972133	Alachlor	90.1	89.0	P/P	69 - 123
1972133	Ametryn	105	110	P/P	52 - 151
1972133	Atrazine	92.5	93.5	P/P	71 - 125
1972133	Atrazine Desethyl	105	110	P/P	10 - 129
1972133	Azinphos Methyl	91.6	101	P/P	48 - 200
1972133	Bromacil	91.8	96.1	P/P	46 - 130
1972133	Butylate	34.4	42.9	P/P	10 - 85.0
1972133	Chlorpyrifos Ethyl	75.1	83.8	P/P	54 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P341343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972133	Chlorpyrifos Methyl	83.9	90.6	P/P	44 - 117
1972133	Cyanazine	115	122	P/P	10 - 262
1972133	Demeton	69.2	78.9	P/P	24 - 145
1972133	Diazinon	101	102	P/P	66 - 129
1972133	Disulfoton	71.3	72.2	P/P	45 - 139
1972133	EPTC	33.4	41.9	P/P	10 - 86.0
1972133	Ethion	89.5	84.4	P/P	59 - 133
1972133	Ethoprop	92.4	98.8	P/P	54 - 116
1972133	Fenamiphos	86.7	101	P/P	55 - 140
1972133	Fipronil	103	110	P/P	37 - 142
1972133	Fipronil Sulfide	89.9	103	P/P	37 - 130
1972133	Fipronil Sulfone	82.3	93.5	P/P	18 - 143
1972133	Fonofos	89.9	96.4	P/P	55 - 118
1972133	Hexazinone	108	117	P/P	62 - 140
1972133	Malathion	83.8	87.3	P/P	64 - 132
1972133	Metalaxyl	90.7	96.0	P/P	55 - 129
1972133	Metolachlor	83.7	90.2	P/P	56 - 137
1972133	Metribuzin	162	175	P/P	16 - 218
1972133	Mevinphos	83.5	91.6	P/P	34 - 129
1972133	Molinate	54.1	58.4	P/P	16 - 99.0
1972133	Norflurazon	93.0	103	P/P	43 - 135
1972133	Parathion Ethyl	88.4	96.2	P/P	71 - 112
1972133	Parathion Methyl	96.9	104	P/P	65 - 127
1972133	Pendimethalin	111	117	P/P	35 - 159
1972133	Phorate	79.3	77.7	P/P	41 - 129
1972133	Prometon	92.3	104	P/P	56 - 140
1972133	Prometryn	99.1	104	P/P	65 - 130
1972133	Simazine	107	116	P/P	54 - 148
1972133	Terbufos	83.9	90.0	P/P	53 - 126
1972133	Terbutylazine	94.8	103	P/P	73 - 114

Reference Method: EPA 8270D

Batch ID: P341633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973697	Aldrin	70.8	66.0	P/P	26 - 96.0
1973697	Alpha-BHC	97.8	96.6	P/P	51 - 123
1973697	Alpha-Chlordane	98.4	99.3	P/P	45 - 120
1973697	Beta-BHC	116	127	P/P	43 - 146
1973697	Carbophenothion	80.6	109	P/P	26 - 179
1973697	Chlorothalonil	89.2	155	P/P	10 - 215
1973697	Cypermethrin	97.8	110	P/P	35 - 169
1973697	DDD-p,p'	109	111	P/P	49 - 131
1973697	DDE-p,p'	102	96.4	P/P	39 - 127
1973697	DDT-p,p'	95.0	114	P/P	49 - 120
1973697	Delta-BHC	131	165	P/P	49 - 187
1973697	Dicofol	87.9	87.9	P/P	10 - 129
1973697	Dieldrin	99.4	94.2	P/P	46 - 132
1973697	Endosulfan I	104	108	P/P	57 - 130
1973697	Endosulfan II	116	141	P/P	52 - 148
1973697	Endosulfan Sulfate	93.0	106	P/P	55 - 129
1973697	Endrin	91.3	95.7	P/P	45 - 133

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P341633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973697	Endrin Aldehyde	95.3	32.1	P/P	26 - 140
1973697	Endrin Ketone	92.8	102	P/P	60 - 125
1973697	Gamma-BHC	110	104	P/P	50 - 145
1973697	Gamma-Chlordane	94.0	95.9	P/P	44 - 118
1973697	Heptachlor	70.9	70.4	P/P	35 - 106
1973697	Heptachlor Epoxide	99.6	102	P/P	52 - 123
1973697	Methoxychlor	96.7	95.6	P/P	54 - 132
1973697	Mirex	80.4	83.5	P/P	36 - 107
1973697	Permethrin	90.5	95.8	P/P	47 - 135
1973697	Trifluralin	84.4	87.5	P/P	32 - 228

Reference Method: EPA 8276

Batch ID: P341633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973512	Chlordane	69.2	61.7	P/P	41 - 134
1973512	Toxaphene	79.4	80.1	P/P	39 - 158

Reference Method: EPA 8321B

Batch ID: P341188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973254	2,4-D	40.5	50.2	P/P	40 - 150
1973254	3-Hydroxycarbofuran	109	112	P/P	40 - 150
1973254	Acetaminophen	130	132	P/P	30 - 150
1973254	Aldicarb	80.1	84.7	P/P	30 - 150
1973254	Aldicarb Sulfone	121	122	P/P	40 - 150
1973254	Aldicarb Sulfoxide	93.9	92.9	P/P	40 - 150
1973254	Bentazon	25.7	27.3	F/F	30 - 150
1973254	Carbamazepine	82.8	78.6	P/P	40 - 150
1973254	Carbaryl	52.5	53.7	P/P	40 - 150
1973254	Carbofuran	63.3	63.1	P/P	40 - 150
1973254	Diuron	54.1	61.5	P/P	40 - 150
1973254	Fenuron	84.6	82.9	P/P	40 - 150
1973254	Fluridone	52.4	55.8	P/P	40 - 150
1973254	Imazapyr	74.0	61.6	P/P	40 - 150
1973254	Imidacloprid	148	152	P/P	40 - 160
1973254	Linuron	79.7	87.7	P/P	40 - 150
1973254	MCPP	33.9	39.1	F/F	40 - 150
1973254	Methiocarb	64.7	72.8	P/P	40 - 150
1973254	Methomyl	91.1	86.6	P/P	40 - 150
1973254	Oxamyl	91.5	88.7	P/P	40 - 150
1973254	Primidone	100	105	P/P	40 - 150
1973254	Propoxur	68.8	72.9	P/P	40 - 150
1973254	Pyraclostrobin	60.2	61.3	P/P	40 - 150
1973254	Triclopyr	34.2	40.8	F/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P341274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972973	AMPA	94.9	98.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P341274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972973	Glyphosate	104	102	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P341275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973254	Sucralose	91.8	103	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P341829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973287	Fluoride	94.2	95.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P341972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973291	Organic Carbon	100	101	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P342041

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973619	Organic Carbon	98.2	98.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P341323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973467	Turbidity	0.388	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P341368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973258	Calcium	0.990	Spike	P	0 - 20
1973258	Iron	1.83	Spike	P	0 - 20
1973258	Magnesium	1.81	Spike	P	0 - 20
1973258	Potassium	0.830	Spike	P	0 - 20
1973258	Sodium	1.40	Spike	P	0 - 20
1973258	Zinc	2.36	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973258	Arsenic	2.89	Spike	P	0 - 20
1973258	Cadmium	4.08	Spike	P	0 - 20
1973258	Chromium	3.11	Spike	P	0 - 20
1973258	Copper	3.78	Spike	P	0 - 20
1973258	Lead	3.33	Spike	P	0 - 20
1973258	Nickel	3.41	Spike	P	0 - 20
1973258	Silver	3.65	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973061	Chloride	0.639	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973061	Sulfate	1.49	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973332	Ammonia-N	1.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973468	Kjeldahl Nitrogen	3.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973461	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973353	Total-P	2.80	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P341345

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973304	O-Phosphate-P	0.0817	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P341346

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973609	O-Phosphate-P	0.855	Spike	P	0 - 20

Reference Method: EPA 8270D

Batch ID: P341343

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972133	Acetochlor	4.05	Spike	P	0 - 30
1972133	Alachlor	1.30	Spike	P	0 - 30
1972133	Ametryn	2.49	Spike	P	0 - 30
1972133	Atrazine	0.489	Spike	P	0 - 30
1972133	Atrazine Desethyl	4.55	Spike	P	0 - 30
1972133	Azinphos Methyl	10.2	Spike	P	0 - 30
1972133	Bromacil	4.61	Spike	P	0 - 30
1972133	Butylate	22.1	Spike	P	0 - 30
1972133	Chlorpyrifos Ethyl	10.9	Spike	P	0 - 30
1972133	Chlorpyrifos Methyl	7.72	Spike	P	0 - 30
1972133	Cyanazine	6.21	Spike	P	0 - 30
1972133	Demeton	13.1	Spike	P	0 - 30
1972133	Diazinon	0.906	Spike	P	0 - 30
1972133	Disulfoton	1.21	Spike	P	0 - 30
1972133	EPTC	22.8	Spike	P	0 - 30
1972133	Ethion	5.88	Spike	P	0 - 30
1972133	Ethoprop	6.72	Spike	P	0 - 30
1972133	Fenamiphos	15.4	Spike	P	0 - 30
1972133	Fipronil	7.00	Spike	P	0 - 30
1972133	Fipronil Sulfide	13.3	Spike	P	0 - 30
1972133	Fipronil Sulfone	12.8	Spike	P	0 - 30
1972133	Fonofos	6.96	Spike	P	0 - 30
1972133	Hexazinone	7.85	Spike	P	0 - 30
1972133	Malathion	4.15	Spike	P	0 - 30
1972133	Metalaxyl	5.72	Spike	P	0 - 30
1972133	Metolachlor	6.88	Spike	P	0 - 30
1972133	Metribuzin	7.76	Spike	P	0 - 30
1972133	Mevinphos	9.29	Spike	P	0 - 30
1972133	Molinate	7.55	Spike	P	0 - 30
1972133	Norflurazon	10.2	Spike	P	0 - 30
1972133	Parathion Ethyl	8.43	Spike	P	0 - 30
1972133	Parathion Methyl	7.05	Spike	P	0 - 30
1972133	Pendimethalin	5.13	Spike	P	0 - 30
1972133	Phorate	1.68	Spike	P	0 - 30
1972133	Prometon	11.6	Spike	P	0 - 30
1972133	Prometryn	4.46	Spike	P	0 - 30
1972133	Simazine	7.93	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P341343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972133	Terbufos	7.02	Spike	P	0 - 30
1972133	Terbutylazine	7.90	Spike	P	0 - 30
LFB	Acetochlor	2.75	LCS	P	0 - 30
LFB	Alachlor	3.39	LCS	P	0 - 30
LFB	Ametryn	2.45	LCS	P	0 - 30
LFB	Atrazine	9.33	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.07	LCS	P	0 - 30
LFB	Azinphos Methyl	5.53	LCS	P	0 - 30
LFB	Bromacil	17.8	LCS	P	0 - 30
LFB	Butylate	2.92	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.83	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.39	LCS	P	0 - 30
LFB	Cyanazine	10.7	LCS	P	0 - 30
LFB	Demeton	7.15	LCS	P	0 - 30
LFB	Diazinon	0.963	LCS	P	0 - 30
LFB	Disulfoton	7.59	LCS	P	0 - 30
LFB	EPTC	8.40	LCS	P	0 - 30
LFB	Ethion	3.48	LCS	P	0 - 30
LFB	Ethoprop	0.0397	LCS	P	0 - 30
LFB	Fenamiphos	3.71	LCS	P	0 - 30
LFB	Fipronil	5.07	LCS	P	0 - 30
LFB	Fipronil Sulfide	11.6	LCS	P	0 - 30
LFB	Fipronil Sulfone	10.2	LCS	P	0 - 30
LFB	Fonofos	3.41	LCS	P	0 - 30
LFB	Hexazinone	1.10	LCS	P	0 - 30
LFB	Malathion	8.20	LCS	P	0 - 30
LFB	Metalaxyl	5.14	LCS	P	0 - 30
LFB	Metolachlor	2.84	LCS	P	0 - 30
LFB	Metribuzin	15.4	LCS	P	0 - 30
LFB	Mevinphos	5.27	LCS	P	0 - 30
LFB	Molinate	0.246	LCS	P	0 - 30
LFB	Norflurazon	4.79	LCS	P	0 - 30
LFB	Parathion Ethyl	0.0201	LCS	P	0 - 30
LFB	Parathion Methyl	2.74	LCS	P	0 - 30
LFB	Pendimethalin	2.17	LCS	P	0 - 30
LFB	Phorate	2.41	LCS	P	0 - 30
LFB	Prometon	6.09	LCS	P	0 - 30
LFB	Prometryn	2.79	LCS	P	0 - 30
LFB	Simazine	5.17	LCS	P	0 - 30
LFB	Terbufos	1.19	LCS	P	0 - 30
LFB	Terbutylazine	2.93	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P341633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973697	Aldrin	7.03	Spike	P	0 - 30
1973697	Alpha-BHC	1.21	Spike	P	0 - 30
1973697	Alpha-Chlordane	0.772	Spike	P	0 - 30
1973697	Beta-BHC	9.22	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P341633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973697	Carbophenothion	30.3	Spike	F	0 - 30
1973697	Chlorothalonil	53.9	Spike	F	0 - 30
1973697	Cypermethrin	12.1	Spike	P	0 - 30
1973697	DDD-p,p'	1.84	Spike	P	0 - 30
1973697	DDE-p,p'	5.22	Spike	P	0 - 30
1973697	DDT-p,p'	18.0	Spike	P	0 - 30
1973697	Delta-BHC	22.6	Spike	P	0 - 30
1973697	Dicofol	0.0291	Spike	P	0 - 30
1973697	Dieldrin	5.35	Spike	P	0 - 30
1973697	Endosulfan I	4.10	Spike	P	0 - 30
1973697	Endosulfan II	18.9	Spike	P	0 - 30
1973697	Endosulfan Sulfate	12.6	Spike	P	0 - 30
1973697	Endrin	4.70	Spike	P	0 - 30
1973697	Endrin Aldehyde	99.2	Spike	F	0 - 30
1973697	Endrin Ketone	9.30	Spike	P	0 - 30
1973697	Gamma-BHC	5.60	Spike	P	0 - 30
1973697	Gamma-Chlordane	1.74	Spike	P	0 - 30
1973697	Heptachlor	0.648	Spike	P	0 - 30
1973697	Heptachlor Epoxide	2.63	Spike	P	0 - 30
1973697	Methoxychlor	1.05	Spike	P	0 - 30
1973697	Mirex	3.84	Spike	P	0 - 30
1973697	Permethrin	5.72	Spike	P	0 - 30
1973697	Trifluralin	3.63	Spike	P	0 - 30
LFB	Aldrin	28.9	LCS	P	0 - 30
LFB	Alpha-BHC	7.28	LCS	P	0 - 30
LFB	Alpha-Chlordane	15.0	LCS	P	0 - 30
LFB	Beta-BHC	4.13	LCS	P	0 - 30
LFB	Carbophenothion	13.8	LCS	P	0 - 30
LFB	Chlorothalonil	17.7	LCS	P	0 - 30
LFB	Cypermethrin	0.686	LCS	P	0 - 30
LFB	DDD-p,p'	11.5	LCS	P	0 - 30
LFB	DDE-p,p'	15.0	LCS	P	0 - 30
LFB	DDT-p,p'	8.61	LCS	P	0 - 30
LFB	Delta-BHC	14.0	LCS	P	0 - 30
LFB	Dicofol	26.3	LCS	P	0 - 30
LFB	Dieldrin	16.1	LCS	P	0 - 30
LFB	Endosulfan I	20.0	LCS	P	0 - 30
LFB	Endosulfan II	24.5	LCS	P	0 - 30
LFB	Endosulfan Sulfate	4.06	LCS	P	0 - 30
LFB	Endrin	25.6	LCS	P	0 - 30
LFB	Endrin Aldehyde	39.3	LCS	F	0 - 30
LFB	Endrin Ketone	0.122	LCS	P	0 - 30
LFB	Gamma-BHC	7.15	LCS	P	0 - 30
LFB	Gamma-Chlordane	14.7	LCS	P	0 - 30
LFB	Heptachlor	10.8	LCS	P	0 - 30
LFB	Heptachlor Epoxide	13.9	LCS	P	0 - 30
LFB	Methoxychlor	0.0196	LCS	P	0 - 30
LFB	Mirex	3.44	LCS	P	0 - 30
LFB	Permethrin	4.88	LCS	P	0 - 30
LFB	Trifluralin	0.0223	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276

Batch ID: P341633

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973512	Chlordane	11.4	Spike	P	0 - 30
1973512	Toxaphene	0.901	Spike	P	0 - 30
LFB	Chlordane	10.2	LCS	P	0 - 30
LFB	Toxaphene	6.44	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P341188

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973254	2,4-D	19.8	Spike	P	0 - 30
1973254	3-Hydroxycarbofuran	2.94	Spike	P	0 - 30
1973254	Acetaminophen	1.83	Spike	P	0 - 30
1973254	Aldicarb	5.56	Spike	P	0 - 30
1973254	Aldicarb Sulfone	0.264	Spike	P	0 - 30
1973254	Aldicarb Sulfoxide	1.02	Spike	P	0 - 30
1973254	Bentazon	6.00	Spike	P	0 - 30
1973254	Carbamazepine	5.13	Spike	P	0 - 30
1973254	Carbaryl	2.12	Spike	P	0 - 30
1973254	Carbofuran	0.218	Spike	P	0 - 30
1973254	Diuron	12.1	Spike	P	0 - 30
1973254	Fenuron	2.01	Spike	P	0 - 30
1973254	Fluridone	6.42	Spike	P	0 - 30
1973254	Imazapyr	18.4	Spike	P	0 - 30
1973254	Imidacloprid	2.63	Spike	P	0 - 30
1973254	Linuron	9.57	Spike	P	0 - 30
1973254	MCP	14.3	Spike	P	0 - 30
1973254	Methiocarb	11.7	Spike	P	0 - 30
1973254	Methomyl	5.04	Spike	P	0 - 30
1973254	Oxamyl	3.12	Spike	P	0 - 30
1973254	Primidone	4.68	Spike	P	0 - 30
1973254	Propoxur	5.77	Spike	P	0 - 30
1973254	Pyraclostrobin	1.76	Spike	P	0 - 30
1973254	Triclopyr	17.5	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P341274

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972973	AMPA	3.77	Spike	P	0 - 30
1972973	Glyphosate	2.04	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P341275

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973254	Sucralose	10.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P341319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973594	Color (true)	3.91	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P341624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973287	Total Alkalinity	0.314	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P341835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973594	TDS	5.85	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P341836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973618	TDS	5.32	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P341829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973287	Fluoride	0.953	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P341972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973291	Organic Carbon	1.11	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P342041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973619	Organic Carbon	0.288	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

Quality Assurance Report Surrogates

Lab Sample ID: 1973626
Field Sample ID: G2CE0011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	58.6	P	30 - 160

Lab Sample ID: 1973627
Field Sample ID: G2CE0011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	55.9	P	30 - 160
EPA 8321B	2,4-D-d3	55.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	126	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.0	P	30 - 160
EPA 8321B	Diuron-d6	61.6	P	30 - 160
EPA 8321B	Diuron-d6	61.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	92.0	P	40 - 160
EPA 8321B	Primidone-d5	107	P	30 - 160
EPA 8321B	Primidone-d5	107	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160

Lab Sample ID: 1973628
Field Sample ID: G2CE0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	46.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	132	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.6	P	30 - 160
EPA 8321B	Diuron-d6	65.0	P	30 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Sucralose-d6	99.9	P	40 - 160

Lab Sample ID: 1973629
Field Sample ID: G2CE0011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	61.7	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	45.6	P	34 - 101
EPA 8276	Decachlorobiphenyl	48.5	P	31 - 108
EPA 8276	PCNB	106	P	62 - 142

Lab Sample ID: 1973630
Field Sample ID: G2CE0011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	96.3	P	71 - 126
EPA 8270D	Terbufos-d10	88.1	P	50 - 130

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A82535

Included Lab Sample IDs: 1973615, 1973618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	97.6	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A82536

Included Lab Sample IDs: 1973615, 1973618

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

Reference Method: EPA 8321B

Run ID: A82544

Included Lab Sample IDs: 1973627, 1973628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.7	91.0	P/P	60 - 150
Sucralose	91.0	88.4	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A82545

Included Lab Sample IDs: 1973617, 1973620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	101	P/P	90 - 110
O-Phosphate-P	99.2	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A82556

Included Lab Sample IDs: 1973627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	97.5	P/P	70 - 130
Glyphosate	102	93.1	P/P	70 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A82589

Included Lab Sample IDs: 1973631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.7	98.9	P/P	90 - 110
Iron	99.8	98.7	P/P	90 - 110
Magnesium	100	98.8	P/P	90 - 110
Potassium	96.7	96.3	P/P	90 - 110
Sodium	94.6	95.0	P/P	90 - 110
Zinc	98.5	97.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A82605

Included Lab Sample IDs: 1973616, 1973619

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A82606
 Included Lab Sample IDs: 1973616, 1973619

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

Reference Method: SM 2320 B-97
 Run ID: A82634
 Included Lab Sample IDs: 1973615, 1973618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.5	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A82647
 Included Lab Sample IDs: 1973616, 1973619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	100	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A82650
 Included Lab Sample IDs: 1973627, 1973628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.7	109	P/P	50 - 150
3-Hydroxycarbofuran	114	122	P/P	60 - 150
Acetaminophen	104	111	P/P	60 - 150
Aldicarb	126	132	P/P	60 - 150
Aldicarb Sulfone	114	117	P/P	50 - 150
Aldicarb Sulfoxide	120	121	P/P	50 - 150
Bentazon	119	109	P/P	50 - 150
Carbamazepine	93.4	116	P/P	60 - 150
Carbaryl	111	120	P/P	60 - 150
Carbofuran	100	130	P/P	50 - 150
Diuron	115	109	P/P	60 - 150
Fenuron	109	103	P/P	60 - 150
Fluridone	118	113	P/P	60 - 160
Imazapyr	98.2	99.7	P/P	50 - 150
Imidacloprid	117	112	P/P	60 - 150
Linuron	127	123	P/P	60 - 150
MCPP	99.6	95.6	P/P	50 - 150
Methiocarb	126	119	P/P	50 - 150
Methomyl	110	115	P/P	50 - 150
Oxamyl	115	124	P/P	50 - 150
Primidone	96.0	99.8	P/P	60 - 150
Propoxur	99.4	136	P/P	50 - 150
Pyraclostrobin	106	101	P/P	60 - 150
Triclopyr	98.2	104	P/P	50 - 150

Reference Method: EPA 8276
 Run ID: A82696
 Included Lab Sample IDs: 1973629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A82696

Included Lab Sample IDs: 1973629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.6		P	80 - 120
Toxaphene	80.8		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A82720

Included Lab Sample IDs: 1973631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	98.2	P/P	90 - 110
Cadmium	95.6	99.2	P/P	90 - 110
Chromium	92.4	96.4	P/P	90 - 110
Copper	98.1	96.9	P/P	90 - 110
Lead	103	106	P/P	90 - 110
Nickel	98.4	96.9	P/P	90 - 110
Silver	98.9	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A82726

Included Lab Sample IDs: 1973615, 1973618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A82743

Included Lab Sample IDs: 1973616, 1973619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A82750

Included Lab Sample IDs: 1973615, 1973618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.3	98.3	P/P	90 - 110
Sulfate	98.1	100	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A82759

Included Lab Sample IDs: 1973630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	108		P	80 - 120
Atrazine Desethyl	99.8		P	80 - 120
Azinphos Methyl	96.7		P	80 - 120
Bromacil	104		P	80 - 120
Butylate	98.2		P	80 - 120
Chlorpyrifos Ethyl	94.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A82759
 Included Lab Sample IDs: 1973630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Methyl	95.7		P	80 - 120
Cyanazine	93.5		P	80 - 120
Demeton	99.5		P	80 - 120
Diazinon	99.9		P	80 - 120
Disulfoton	92.3		P	80 - 120
EPTC	102		P	80 - 120
Ethion	85.4		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	95.5		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Sulfide	96.5		P	80 - 120
Fipronil Sulfone	96.9		P	80 - 120
Fonofos	95.9		P	80 - 120
Hexazinone	96.7		P	80 - 120
Malathion	95.9		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	85.7		P	80 - 120
Mevinphos	101		P	80 - 120
Molinate	102		P	80 - 120
Norflurazon	104		P	80 - 120
Parathion Ethyl	92.5		P	80 - 120
Parathion Methyl	94.1		P	80 - 120
Pendimethalin	100		P	80 - 120
Phorate	98.5		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	95.8		P	80 - 120
Terbufos	94.8		P	80 - 120
Terbutylazine	98.8		P	80 - 120

Reference Method: SM 5310 B-00
 Run ID: A82777
 Included Lab Sample IDs: 1973616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.6	P/P	90 - 110

Reference Method: EPA 8270D
 Run ID: A82780
 Included Lab Sample IDs: 1973630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	93.5		P	80 - 120

Reference Method: SM 5310 B-00
 Run ID: A82791
 Included Lab Sample IDs: 1973619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	98.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A82891
 Included Lab Sample IDs: 1973629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.8		P	80 - 120
Alpha-BHC	99.0		P	80 - 120
Alpha-Chlordane	96.1		P	80 - 120
Beta-BHC	107		P	80 - 120
Carbophenothion	94.8		P	80 - 120
Chlorothalonil	94.6		P	80 - 120
Cypermethrin	92.0		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	98.4		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	106		P	80 - 120
Dicofol	108		P	80 - 120
Dieldrin	96.4		P	80 - 120
Endosulfan I	94.4		P	80 - 120
Endosulfan II	101		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	91.1		P	80 - 120
Endrin Aldehyde	90.7		P	80 - 120
Endrin Ketone	100		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	95.3		P	80 - 120
Heptachlor	92.7		P	80 - 120
Heptachlor Epoxide	97.1		P	80 - 120
Methoxychlor	103		P	80 - 120
Mirex	94.0		P	80 - 120
Permethrin	94.2		P	80 - 120
Trifluralin	98.8		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS			SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.388	
EPA 200.7 Rev. 4.4	Calcium	103	101	103			0.990
	Iron	104	104	106	104		1.83
	Magnesium	107	106	109	101		1.81
	Potassium	98.7	101	102	102		0.830
	Sodium	100	98.3	101	98.9		1.40
	Zinc	99.7	96.6	98.9	96.9		2.36
EPA 200.8 Rev. 5.4	Arsenic	101	99.8	96.9	100		2.89
	Cadmium	101	104	99.7	99.3		4.08
	Chromium	99.6	100	97.3	93.5		3.11
	Copper	99.4	97.6	93.8	90.7		3.78
	Lead	106	108	104	106		3.33
	Nickel	98.4	96.6	93.4	92.2		3.41

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 200.8 Rev. 5.4	Silver	90.7		92.4	89.1	88.0			3.65
EPA 300.0 Rev. 2.1	Chloride	96.3		97.6	97.3		0.639		
	Sulfate	97.9		100	98.9		1.49		
EPA 350.1 Rev. 2.0	Ammonia-N	97.1		98.1	99.6				1.47
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110		97.1	103				3.13
EPA 353.2 Rev. 2.0	NO2NO3-N	102		105	104				0.477
EPA 365.1 Rev. 2.0	Total-P	103		99.0	95.8				2.80
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		95.2	95.3				0.0817
	O-Phosphate-P	97.1		93.2	94.0				0.855
EPA 8270D	Acetochlor	98.2	95.6	92.8	96.6	2.75			4.05
	Alachlor	99.4	96.1	90.1	89.0	3.39			1.30
	Aldrin	76.8	57.4	70.8	66.0	28.9			7.03
	Alpha-BHC	90.3	84.0	97.8	96.6	7.28			1.21
	Alpha-Chlordane	102	88.1	98.4	99.3	15.0			0.772
	Ametryn	107	105	105	110	2.45			2.49
	Atrazine	101	92.4	92.5	93.5	9.33			0.489
	Atrazine Desethyl	93.8	91.9	105	110	2.07			4.55
	Azinphos Methyl	108	103	91.6	101	5.53			10.2
	Beta-BHC	140	135	116	127	4.13			9.22
	Bromacil	91.1	76.2	91.8	96.1	17.8			4.61
	Butylate	51.7	53.2	34.4	42.9	2.92			22.1
	Carbophenothion	114	99.1	80.6	109	13.8			30.3
	Chlorothalonil	114	95.6	89.2	155	17.7			53.9
	Chlorpyrifos Ethyl	95.4	90.0	75.1	83.8	5.83			10.9
	Chlorpyrifos Methyl	99.0	93.8	83.9	90.6	5.39			7.72
	Cyanazine	135	121	115	122	10.7			6.21
	Cypermethrin	104	104	97.8	110	0.686			12.1
	DDD-p,p'	110	97.9	109	111	11.5			1.84
	DDE-p,p'	102	88.0	102	96.4	15.0			5.22
	DDT-p,p'	102	93.8	95.0	114	8.61			18.0
	Delta-BHC	123	107	131	165	14.0			22.6
	Demeton	78.2	84.0	69.2	78.9	7.15			13.1
	Diazinon	98.2	99.1	101	102	0.963			0.906
	Dicofol	98.0	75.2	87.9	87.9	26.3			0.0291
	Dieldrin	107	91.2	99.4	94.2	16.1			5.35
	Disulfoton	79.4	85.7	71.3	72.2	7.59			1.21
	Endosulfan I	106	86.9	104	108	20.0			4.10
	Endosulfan II	140	109	116	141	24.5			18.9
	Endosulfan Sulfate	123	118	93.0	106	4.06			12.6
	Endrin	104	80.1	91.3	95.7	25.6			4.70
	Endrin Aldehyde	112	75.2	95.3	32.1	39.3			99.2
	Endrin Ketone	111	111	92.8	102	0.122			9.30
	EPTC	51.0	55.5	33.4	41.9	8.40			22.8
	Ethion	83.9	86.8	89.5	84.4	3.48			5.88
	Ethoprop	91.3	91.3	92.4	98.8	0.0397			6.72
	Fenamiphos	103	99.4	86.7	101	3.71			15.4
	Fipronil	104	99.0	103	110	5.07			7.00
	Fipronil Sulfide	104	92.6	89.9	103	11.6			13.3
	Fipronil Sulfone	93.3	84.2	82.3	93.5	10.2			12.8
	Fonofos	94.0	90.8	89.9	96.4	3.41			6.96
	Gamma-BHC	111	119	110	104	7.15			5.60
	Gamma-Chlordane	101	86.8	94.0	95.9	14.7			1.74
	Heptachlor	78.7	70.6	70.9	70.4	10.8			0.648
	Heptachlor Epoxide	101	88.2	99.6	102	13.9			2.63

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Hexazinone	101	100	108	117	1.10	7.85
	Malathion	101	92.7	83.8	87.3	8.20	4.15
	Metalaxyl	99.7	94.7	90.7	96.0	5.14	5.72
	Methoxychlor	103	103	96.7	95.6	0.0196	1.05
	Metolachlor	95.8	93.1	83.7	90.2	2.84	6.88
	Metribuzin	160	137	162	175	15.4	7.76
	Mevinphos	84.8	80.4	83.5	91.6	5.27	9.29
	Mirex	78.8	76.2	80.4	83.5	3.44	3.84
	Molinate	60.2	60.4	54.1	58.4	0.246	7.55
	Norflurazon	98.9	94.3	93.0	103	4.79	10.2
	Parathion Ethyl	93.2	93.2	88.4	96.2	0.0201	8.43
	Parathion Methyl	103	100	96.9	104	2.74	7.05
	Pendimethalin	114	116	111	117	2.17	5.13
	Permethrin	97.7	103	90.5	95.8	4.88	5.72
	Phorate	90.4	88.3	79.3	77.7	2.41	1.68
	Prometon	91.4	86.0	92.3	104	6.09	11.6
	Prometryn	96.3	93.7	99.1	104	2.79	4.46
	Simazine	103	98.1	107	116	5.17	7.93
	Terbufos	88.6	89.6	83.9	90.0	1.19	7.02
	Terbutylazine	96.2	93.4	94.8	103	2.93	7.90
EPA 8276	Trifluralin	86.5	86.5	84.4	87.5	0.0223	3.63
	Chlordane	77.6	70.1	69.2	61.7	10.2	11.4
	Toxaphene	88.5	83.0	79.4	80.1	6.44	0.901
EPA 8321B	2,4-D	81.6		40.5	50.2		19.8
	3-Hydroxycarbofuran	111		109	112		2.94
	Acetaminophen	112		130	132		1.83
	Aldicarb	85.5		80.1	84.7		5.56
	Aldicarb Sulfone	110		121	122		0.264
	Aldicarb Sulfoxide	118		93.9	92.9		1.02
	AMPA	98.4		94.9	98.6		3.77
	Bentazon	89.8		25.7	27.3		6.00
	Carbamazepine	76.0		82.8	78.6		5.13
	Carbaryl	71.1		52.5	53.7		2.12
	Carbofuran	66.3		63.3	63.1		0.218
	Diuron	64.9		54.1	61.5		12.1
	Fenuron	110		84.6	82.9		2.01
	Fluridone	61.8		52.4	55.8		6.42
	Glyphosate	97.8		104	102		2.04
	Imazapyr	83.6		74.0	61.6		18.4
	Imidacloprid	106		148	152		2.63
	Linuron	86.9		79.7	87.7		9.57
	MCPP	79.7		39.1	33.9		14.3
	Methiocarb	75.6		64.7	72.8		11.7
	Methomyl	93.5		91.1	86.6		5.04
	Oxamyl	104		91.5	88.7		3.12
	Primidone	111		100	105		4.68
	Propoxur	66.9		68.8	72.9		5.77
	Pyraclostrobin	57.3		60.2	61.3		1.76
	Sucralose	99.6		91.8	103		10.7
	Triclopyr	84.5		34.2	40.8		17.5
SM 2120 B	Color (true)					3.91	
SM 2320 B-97	Total Alkalinity	99.7				0.314	
SM 2540 C-97	TDS					5.85	
	TDS					5.32	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
SM 4500 F-C-97	Fluoride	94.0	94.2	95.4		0.953
SM 5310 B-00	Organic Carbon	98.0	100	101		1.11
	Organic Carbon	98.2	98.2	98.5		0.288

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1973615, 1973618
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1973631
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1973631
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1973615, 1973618
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1973615, 1973618
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1973616, 1973619
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1973616, 1973619
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1973616, 1973619
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1973616, 1973619
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1973617, 1973620
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1973629
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1973630
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1973629
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1973626
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1973627
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1973627, 1973628
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1973627, 1973628
SM 2120 B / E31780	True Color measured at 450 nm	1973615, 1973618
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1973615, 1973618
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1973615, 1973618
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1973615, 1973618
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1973615, 1973618
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1973616, 1973619

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/09/2018			03/09/2018 15:21	Tanya Welborn	1973615, 1973618
EPA 200.7 Rev. 4.4	03/09/2018	03/12/2018 12:15	Vijayalakshmi Reddy	03/13/2018 20:42	Betina Topolski	1973631
EPA 200.8 Rev. 5.4	03/09/2018	03/12/2018 12:15	Vijayalakshmi Reddy	03/19/2018 18:34	Nadine Brooks	1973631
EPA 300.0 Rev. 2.1	03/09/2018			03/20/2018 20:35	Julia Storbeck	1973615
	03/09/2018			03/20/2018 20:47	Julia Storbeck	1973618
EPA 350.1 Rev. 2.0	03/09/2018			03/15/2018 16:43	Ping Hua	1973616
	03/09/2018			03/15/2018 16:44	Ping Hua	1973619
EPA 351.2 Rev. 2.0	03/09/2018	03/14/2018 15:30	Adrian Shelby	03/15/2018 15:43	Joseph Suarez	1973616
	03/09/2018	03/14/2018 15:30	Adrian Shelby	03/15/2018 15:44	Joseph Suarez	1973619
EPA 353.2 Rev. 2.0	03/09/2018			03/14/2018 11:11	Lauren Bottorf	1973616
	03/09/2018			03/14/2018 11:13	Lauren Bottorf	1973619
EPA 365.1 Rev. 2.0	03/09/2018	03/13/2018 13:20	Lipi Saha	03/14/2018 12:44	Beverly Y. Sanders	1973616
	03/09/2018	03/13/2018 13:20	Lipi Saha	03/14/2018 12:45	Beverly Y. Sanders	1973619
EPA 365.1 Rev. 2.0 dissolved	03/09/2018			03/09/2018 17:35	Megan Treadwell	1973617
	03/09/2018			03/09/2018 18:15	Megan Treadwell	1973620
EPA 8270D	03/09/2018	03/12/2018 09:48	John Kaba	03/14/2018 18:47	Vandana T. Nagar	1973630
	03/09/2018	03/12/2018 09:48	John Kaba	03/15/2018 13:48	Vandana T. Nagar	1973630
	03/09/2018	03/13/2018 08:31	Rasheda Ghaffari	03/15/2018 18:44	Vandana T. Nagar	1973629
EPA 8276	03/09/2018	03/13/2018 08:31	Rasheda Ghaffari	03/15/2018 19:04	John P. Burgos	1973629
EPA 8321B	03/09/2018	03/09/2018 14:00	Julie Michelle Frank	03/10/2018 00:58	Juyoung Kim	1973627
	03/09/2018	03/09/2018 14:00	Julie Michelle Frank	03/10/2018 01:29	Juyoung Kim	1973628
	03/09/2018	03/12/2018 11:00	Julie Michelle Frank	03/12/2018 14:28	Julie Michelle Frank	1973627
	03/09/2018	03/13/2018 12:00	Hoor Shaik	03/13/2018 20:32	Julie Michelle Frank	1973627
	03/09/2018	03/13/2018 12:00	Hoor Shaik	03/13/2018 21:06	Julie Michelle Frank	1973628
	03/09/2018	03/13/2018 12:00	Hoor Shaik	03/14/2018 08:38	Julie Michelle Frank	1973627
	03/09/2018	03/13/2018 12:00	Hoor Shaik	03/14/2018 09:13	Julie Michelle Frank	1973628
	03/09/2018	03/13/2018 12:00	Hoor Shaik	03/14/2018 13:15	Julie Michelle Frank	1973626
SM 2120 B	03/09/2018			03/09/2018 16:10	Tanya Welborn	1973615
	03/09/2018			03/09/2018 16:11	Tanya Welborn	1973618
SM 2320 B-97	03/09/2018			03/15/2018 07:03	Dale L. Simmons	1973615
	03/09/2018			03/15/2018 07:13	Dale L. Simmons	1973618
SM 2540 C-97	03/09/2018			03/14/2018 16:02	Yijie Li	1973615, 1973618
SM 2540 D-97	03/09/2018			03/14/2018 16:02	Yijie Li	1973615, 1973618
SM 4500 F-C-97	03/09/2018			03/20/2018 08:59	Lauren Bottorf	1973615
	03/09/2018			03/20/2018 09:02	Lauren Bottorf	1973618
SM 5310 B-00	03/09/2018			03/21/2018 06:41	Megan Treadwell	1973616
	03/09/2018			03/21/2018 21:10	Megan Treadwell	1973619