

Chemical Analysis Report

CEN-DIST-2018-02-15-02

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

Event Description: **Marie / Gleason / Chain**

Request ID: **RQ-2018-02-12-59**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 15-MAR-2018 16:44



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 Marie @ Center

Collection Date/Time: 02/14/2018 10:45

Field ID: G2CE0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968138	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P340038	
	EPA 300.0 Rev. 2.1	Chloride	55		mg Cl/L	P340321	
		Sulfate	5.0		mg SO4/L	P340323	
	SM 2120 B	Color (true)	43		PCU	P340057	
	SM 2320 B-97	Total Alkalinity	52		mg CaCO3/L	P340528	
	SM 2540 C-97	TDS	182		mg/L	P340576	
	SM 2540 D-97	TSS	2	UA	mg/L	P340248	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P340532	
1968139	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P340677	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P340264	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P340422	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P340414	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P340501	
1968140	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P340065	
1968166	EPA 8321B	2,4-D	0.0053	I	ug/L	P340164	
		Sucralose**	1.4		ug/L	P340023	
		Bentazon	9.1E-04	I	ug/L	P340164	MS
		MCP	0.0020	U	ug/L	P340164	MS
		Triclopyr**	0.0040	U	ug/L	P340164	
		Imidacloprid	0.0022	I	ug/L	P340164	
		Diuron	0.0020	U	ug/L	P340164	
		Primidone**	0.0040	U	ug/L	P340164	
		Linuron	0.0040	U	ug/L	P340164	
		Acetaminophen**	0.0080	U	ug/L	P340164	
		Fenuron	0.0080	U	ug/L	P340164	
		Carbamazepine**	4.1E-04	I	ug/L	P340164	
		Fluridone**	0.38		ug/L	P340164	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy and precision for fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Gleason @ Center

Collection Date/Time: 02/14/2018 11:25

Field ID: G2CE0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968135	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P340038	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P340321	
		Sulfate	3.7		mg SO4/L	P340323	
	SM 2120 B	Color (true)	36		PCU	P340057	
	SM 2320 B-97	Total Alkalinity	47	A	mg CaCO3/L	P340528	
	SM 2540 C-97	TDS	110		mg/L	P340576	
	SM 2540 D-97	TSS	2	U	mg/L	P340248	
	SM 4500 F-C-97	Fluoride	0.080	I	mg F/L	P340532	
1968136	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P340677	

Field ID: G2CE0114

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968136	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P340264	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P340422	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P340414	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P340501	
1968137	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P340065	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Three Island Lake @ Center of S. Lobe

Collection Date/Time: 02/14/2018 12:30

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968132	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P340037	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P340321	
		Sulfate	8.1		mg SO4/L	P340323	
	SM 2120 B	Color (true)	220		PCU	P340057	
	SM 2320 B-97	Total Alkalinity	5.8		mg CaCO3/L	P340528	
	SM 2540 C-97	TDS	117		mg/L	P340576	
	SM 2540 D-97	TSS	2	U	mg/L	P340248	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P340532	
1968133	EPA 350.1 Rev. 2.0	Ammonia-N	0.080		mg N/L	P340677	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P340264	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046		mg N/L	P340421	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P340414	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P340500	
1968134	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P340065	
1968181	EPA 200.7 Rev. 4.4	Calcium	6.63		mg/L	P340293	
		Iron	240		ug/L	P340293	
		Magnesium	1.79		mg/L	P340293	
		Potassium	2.6		mg/L	P340293	
		Sodium	12.7		mg/L	P340293	
		Zinc	6.3	I	ug/L	P340293	
	EPA 200.8 Rev. 5.4	Arsenic	1.22		ug/L	P340293	
		Cadmium	0.020	U	ug/L	P340293	
		Chromium	0.72	I	ug/L	P340293	
		Copper	0.77	I	ug/L	P340293	
		Lead	0.47		ug/L	P340293	
		Nickel	0.56	I	ug/L	P340293	
		Silver	0.010	U	ug/L	P340293	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Three Island Lake @ Center of S. Lobe

Collection Date/Time: 02/14/2018 12:30

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968164	EPA 8321B	2,4-D	0.0020	U	ug/L	P340164	
		Sucralose**	1.9		ug/L	P340023	
		Bentazon	0.0045		ug/L	P340164	MS
		MCP	0.0020	U	ug/L	P340164	MS
		Triclopyr**	0.0040	U	ug/L	P340164	
		Imidacloprid	0.0025	I	ug/L	P340164	
		Diuron	0.24		ug/L	P340164	
		Pyraclostrobin**	0.0020	U	ug/L	P340164	
		Primidone**	0.0040	U	ug/L	P340164	
		Linuron	0.0040	U	ug/L	P340164	
		Acetaminophen**	0.0080	U	ug/L	P340164	
		Fenuron	0.0080	U	ug/L	P340164	
		Carbamazepine**	4.4E-04	I	ug/L	P340164	
		Fluridone**	8.0E-04	U	ug/L	P340164	
		Glyphosate**	0.10	U	ug/L	P340147	
		AMPA**	0.10	U	ug/L	P340147	
		Aldicarb	0.020	U	ug/L	P340164	RPD
		Aldicarb Sulfone	0.0020	U	ug/L	P340164	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P340164	
		Carbaryl	0.0020	U	ug/L	P340164	
1968165		Carbofuran	0.0020	U	ug/L	P340164	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P340164	
		Methiocarb	0.0020	U	ug/L	P340164	
		Methomyl	0.0020	U	ug/L	P340164	
		Oxamyl	0.0020	U	ug/L	P340164	
		Propoxur	0.0020	U	ug/L	P340164	
		Aldrin	4.3	U	ng/L	P340047	
		Alpha-BHC	2.2	U	ng/L	P340047	
		Beta-BHC	4.3	U	ng/L	P340047	
		Delta-BHC	4.3	U	ng/L	P340047	
		Gamma-BHC	4.3	U	ng/L	P340047	
		Carbophenothion	4.3	U	ng/L	P340047	
		Chlorothalonil	2.2	U	ng/L	P340047	RPD
		Cypermethrin	22	U	ng/L	P340047	
		DDD-p,p'	3.2	U	ng/L	P340047	
		DDE-p,p'	3.2	U	ng/L	P340047	
		DDT-p,p'	3.2	U	ng/L	P340047	
		Dieldrin	4.3	U	ng/L	P340047	
		Endosulfan I	4.3	U	ng/L	P340047	
		Endosulfan II	4.3	U	ng/L	P340047	
1968167	EPA 8270D	Endosulfan Sulfate	2.2	U	ng/L	P340047	
		Endrin	2.2	U	ng/L	P340047	
		Endrin Aldehyde	2.2	U	ng/L	P340047	
		Heptachlor	1.6	U	ng/L	P340047	
		Heptachlor Epoxide	2.2	U	ng/L	P340047	

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968167	EPA 8270D	Methoxychlor	4.3	U	ng/L	P340047	
		Mirex	2.2	U	ng/L	P340047	
		Permethrin	11	U	ng/L	P340047	
		Trifluralin	1.1	U	ng/L	P340047	
		Alpha-Chlordane	1.1	U	ng/L	P340047	
		Gamma-Chlordane	1.1	U	ng/L	P340047	
		Endrin Ketone	2.2	U	ng/L	P340047	
		Dicofol	32	U	ng/L	P340047	
		Chlordane**	2.7	U	ng/L	P340047	
		Toxaphene**	32	U	ng/L	P340047	
1968168	EPA 8270D						
		Alachlor	0.24	U	ng/L	P340051	
		Ametryn	0.31	U	ng/L	P340051	MS
		Atrazine	4.5		ng/L	P340051	
		Atrazine Desethyl	1.4	U	ng/L	P340051	
		Azinphos Methyl	2.1	U	ng/L	P340051	
		Bromacil	0.47	UJ	ng/L	P340051	LCS
		Butylate	0.38	U	ng/L	P340051	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P340051	
		Chlorpyrifos Methyl	0.094	U	ng/L	P340051	MS
		Demeton	1.9	U	ng/L	P340051	MS
		Diazinon	0.12	U	ng/L	P340051	
		Disulfoton	0.47	U	ng/L	P340051	
		EPTC	1.2	U	ng/L	P340051	
		Ethion	0.14	U	ng/L	P340051	
		Ethoprop	0.094	U	ng/L	P340051	
		Fenamiphos	0.24	U	ng/L	P340051	RPD
		Fipronil	0.24	U	ng/L	P340051	
		Fipronil Sulfide	0.14	U	ng/L	P340051	
		Fipronil Sulfone	0.14	UJ	ng/L	P340051	CCV
		Hexazinone	0.47	U	ng/L	P340051	
		Malathion	0.33	U	ng/L	P340051	MS
		Metribuzin	0.19	U	ng/L	P340051	
		Mevinphos	0.47	UJ	ng/L	P340051	CCV, MS
		Molinate	0.28	U	ng/L	P340051	
		Norflurazon	0.47	U	ng/L	P340051	
		Pendimethalin	0.94	U	ng/L	P340051	
		Phorate	0.24	U	ng/L	P340051	
		Prometon	0.85	U	ng/L	P340051	
		Prometryn	0.19	U	ng/L	P340051	
		Simazine	0.47	U	ng/L	P340051	
		Terbufos	0.094	U	ng/L	P340051	
		Terbuthylazine	0.40	U	ng/L	P340051	
		Fonofos	0.19	U	ng/L	P340051	MS
		Metalaxyl	0.24	U	ng/L	P340051	
		Metolachlor	0.43	I	ng/L	P340051	

Field ID: G2CE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1968168	EPA 8270D	Acetochlor	0.24	U	ng/L	P340051	
		Cyanazine	0.47	U	ng/L	P340051	
		Parathion Ethyl	0.24	U	ng/L	P340051	
		Parathion Methyl	0.24	U	ng/L	P340051	MS

Ref. Method and Comment:
 EPA 8321B: MS accuracy and precision for fluridone could not be assessed due to high concentration of parameter in the spiked sample.
 EPA 8270D: MS accuracy for Atrazine , Simazine, and Fipronil Sulfone not assessed due to high content of this parameter in the sample spiked.
 Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P340037

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P340038

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P340293

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: P340293

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: P340321

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340323

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340677

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340264

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340421

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340422

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340414

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P340065

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

Reference Method: EPA 8270D
Batch ID: P340047

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P340047

Component	Result	Code	Units
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: P340051

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P340051

Component	Result	Code	Units
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: P340047

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

Reference Method: EPA 8321B

Batch ID: P340023

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P340147

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

Reference Method: EPA 8321B

Batch ID: P340164

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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P340164

Component	Result	Code	Units
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: P340057

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P340528

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

Reference Method: SM 2540 C-97
Batch ID: P340576

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P340248

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P340532

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P340500

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

Reference Method: SM 5310 B-00
Batch ID: P340501

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: P340293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	105		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	104		P	85 - 115
Sodium	112		P	85 - 115
Zinc	97.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P340293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	105		P	85 - 115
Chromium	100		P	85 - 115
Copper	104		P	85 - 115
Lead	106		P	85 - 115
Nickel	103		P	85 - 115
Silver	113		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P340321

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	91.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P340323

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	90.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P340677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P340264

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P340421

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P340422

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P340414

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P340065

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

Reference Method: EPA 8270D
 Batch ID: P340047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	63.6	65.1	P/P	24 - 89.0
Alpha-BHC	91.1	85.5	P/P	58 - 117
Alpha-Chlordane	86.1	83.1	P/P	56 - 115
Beta-BHC	85.4	73.9	P/P	55 - 137
Carbophenothion	88.6	83.0	P/P	37 - 145
Chlorothalonil	79.3	91.1	P/P	26 - 163
Cypermethrin	71.3	64.1	P/P	42 - 156
DDD-p,p'	100	100	P/P	59 - 129
DDE-p,p'	91.0	88.2	P/P	52 - 117
DDT-p,p'	100	91.5	P/P	48 - 128
Delta-BHC	99.0	89.2	P/P	59 - 158
Dicofol	86.6	93.9	P/P	19 - 124
Dieldrin	89.8	83.1	P/P	57 - 126
Endosulfan I	97.9	98.7	P/P	59 - 133
Endosulfan II	117	109	P/P	58 - 148
Endosulfan Sulfate	87.6	79.8	P/P	56 - 135
Endrin	86.6	82.3	P/P	50 - 140
Endrin Aldehyde	86.1	72.0	P/P	47 - 141
Endrin Ketone	92.2	83.3	P/P	63 - 123
Gamma-BHC	85.0	73.4	P/P	59 - 132
Gamma-Chlordane	84.6	84.6	P/P	55 - 112
Heptachlor	70.4	72.9	P/P	45 - 102
Heptachlor Epoxide	85.7	84.5	P/P	61 - 116
Methoxychlor	94.6	91.9	P/P	60 - 133
Mirex	83.5	78.4	P/P	40 - 98.0
Permethrin	85.5	82.1	P/P	45 - 131
Trifluralin	86.3	87.9	P/P	38 - 179

Reference Method: EPA 8270D
 Batch ID: P340051

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	81.4	94.8	P/P	74 - 119
Alachlor	87.6	99.2	P/P	75 - 118

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P340051

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ametryn	78.0	95.6	P/P	59 - 137
Atrazine	107	112	P/P	73 - 120
Atrazine Desethyl	97.6	95.2	P/P	19 - 129
Azinphos Methyl	147	164	P/P	65 - 181
Bromacil	32.8	32.3	F/F	43 - 123
Butylate	67.6	56.4	P/P	28 - 85.0
Chlorpyrifos Ethyl	91.6	95.2	P/P	55 - 112
Chlorpyrifos Methyl	106	118	P/P	35 - 124
Cyanazine	108	111	P/P	26 - 262
Demeton	84.6	80.9	P/P	43 - 122
Diazinon	96.5	96.6	P/P	72 - 120
Disulfoton	112	110	P/P	45 - 137
EPTC	67.7	54.8	P/P	28 - 95.0
Ethion	120	115	P/P	63 - 127
Ethoprop	104	100	P/P	63 - 109
Fenamiphos	106	97.2	P/P	66 - 136
Fipronil	95.3	94.6	P/P	63 - 126
Fipronil Sulfide	92.3	94.1	P/P	59 - 123
Fipronil Sulfone	88.6	89.6	P/P	56 - 122
Fonofos	111	111	P/P	64 - 114
Hexazinone	113	120	P/P	49 - 144
Malathion	121	115	P/P	68 - 131
Metalaxyl	84.3	90.3	P/P	57 - 126
Metolachlor	95.2	91.8	P/P	75 - 118
Metribuzin	126	141	P/P	46 - 169
Mevinphos	93.4	89.0	P/P	34 - 126
Molinate	88.3	80.9	P/P	37 - 101
Norflurazon	80.9	84.7	P/P	63 - 127
Parathion Ethyl	92.5	95.6	P/P	78 - 109
Parathion Methyl	98.7	103	P/P	74 - 123
Pendimethalin	102	115	P/P	51 - 130
Phorate	110	109	P/P	53 - 116
Prometon	88.0	88.9	P/P	66 - 124
Prometryn	83.2	81.5	P/P	66 - 124
Simazine	124	113	P/P	62 - 134
Terbufos	108	108	P/P	59 - 115
Terbuthylazine	96.9	105	P/P	76 - 113

Reference Method: EPA 8276

Batch ID: P340047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	91.9	86.0	P/P	47 - 125
Toxaphene	89.3	96.2	P/P	46 - 147

Reference Method: EPA 8321B

Batch ID: P340023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	97.4		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P340147

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	99.4		P	40 - 150
Glyphosate	98.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P340164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.1		P	40 - 150
3-Hydroxycarbofuran	98.9		P	40 - 150
Acetaminophen	113		P	30 - 150
Aldicarb	85.6		P	30 - 150
Aldicarb Sulfone	114		P	40 - 150
Aldicarb Sulfoxide	116		P	40 - 150
Bentazon	128		P	30 - 150
Carbamazepine	104		P	40 - 150
Carbaryl	85.1		P	40 - 150
Carbofuran	87.6		P	40 - 150
Diuron	93.0		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	89.6		P	40 - 150
Imidacloprid	105		P	40 - 160
Linuron	100		P	40 - 150
MCPP	75.6		P	40 - 150
Methiocarb	78.0		P	40 - 150
Methomyl	121		P	40 - 150
Oxamyl	106		P	40 - 150
Primidone	120		P	40 - 150
Propoxur	89.1		P	40 - 150
Pyraclostrobin	101		P	40 - 150
Triclopyr	77.8		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P340528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P340532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P340500

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.3		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P340501

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P340293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968287	Calcium	99.2		P	80 - 120
1968287	Iron	105	104	P/P	80 - 120
1968287	Magnesium	99.8		P	80 - 120
1968287	Potassium	106	105	P/P	80 - 120
1968287	Sodium	98.3	101	P/P	80 - 120
1968287	Zinc	94.3	93.9	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968287	Arsenic	103	103	P/P	80 - 120
1968287	Cadmium	106	106	P/P	80 - 120
1968287	Chromium	99.5	98.8	P/P	80 - 120
1968287	Copper	101	99.6	P/P	80 - 120
1968287	Lead	107	107	P/P	80 - 120
1968287	Nickel	101	101	P/P	80 - 120
1968287	Silver	113	114	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967813	Chloride	95.5		P	90 - 110
1968067	Chloride	93.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967813	Sulfate	91.3		P	90 - 110
1968067	Sulfate	93.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968136	Ammonia-N	98.2	94.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P340264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968139	Kjeldahl Nitrogen	95.7	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P340421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967616	NO2NO3-N	98.9	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P340422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968136	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P340065

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967809	O-Phosphate-P	96.9	97.6	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P340047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967722	Aldrin	70.1	67.5	P/P	26 - 96.0
1967722	Alpha-BHC	74.7	75.5	P/P	51 - 123
1967722	Alpha-Chlordane	84.8	84.9	P/P	45 - 120
1967722	Beta-BHC	78.3	73.1	P/P	43 - 146
1967722	Carbophenothion	121	132	P/P	26 - 179
1967722	Chlorothalonil	85.9	128	P/P	10 - 215
1967722	Cypermethrin	99.2	95.2	P/P	35 - 169
1967722	DDD-p,p'	91.0	92.8	P/P	49 - 131
1967722	DDE-p,p'	84.8	81.8	P/P	39 - 127
1967722	DDT-p,p'	91.7	83.5	P/P	49 - 120
1967722	Delta-BHC	147	167	P/P	49 - 187
1967722	Dicofol	87.7	85.2	P/P	10 - 129
1967722	Dieldrin	85.5	88.1	P/P	46 - 132
1967722	Endosulfan I	106	111	P/P	57 - 130
1967722	Endosulfan II	109	120	P/P	52 - 148
1967722	Endosulfan Sulfate	127	107	P/P	55 - 129
1967722	Endrin	88.4	91.1	P/P	45 - 133
1967722	Endrin Aldehyde	31.9	32.5	P/P	26 - 140
1967722	Endrin Ketone	83.4	76.0	P/P	60 - 125
1967722	Gamma-BHC	77.4	94.4	P/P	50 - 145
1967722	Gamma-Chlordane	83.1	84.1	P/P	44 - 118
1967722	Heptachlor	81.0	81.2	P/P	35 - 106
1967722	Heptachlor Epoxide	89.0	87.6	P/P	52 - 123
1967722	Methoxychlor	103	95.5	P/P	54 - 132
1967722	Mirex	76.0	75.5	P/P	36 - 107
1967722	Permethrin	90.9	92.3	P/P	47 - 135
1967722	Trifluralin	83.1	76.3	P/P	32 - 228

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P340051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967723	Acetochlor	90.3	93.3	P/P	67 - 125
1967723	Alachlor	81.4	96.0	P/P	69 - 123
1967723	Ametryn	51.9	66.5	F/P	52 - 151
1967723	Atrazine Desethyl	60.1	65.2	P/P	10 - 129
1967723	Azinphos Methyl	174	198	P/P	48 - 200
1967723	Bromacil	62.8	82.7	P/P	46 - 130
1967723	Butylate	62.6	59.0	P/P	10 - 85.0
1967723	Chlorpyrifos Ethyl	83.3	111	P/P	54 - 115
1967723	Chlorpyrifos Methyl	113	127	P/F	44 - 117
1967723	Cyanazine	103	124	P/P	10 - 262
1967723	Demeton	143	154	P/F	24 - 145
1967723	Diazinon	96.1	97.1	P/P	66 - 129
1967723	Disulfoton	101	98.4	P/P	45 - 139
1967723	EPTC	58.8	53.5	P/P	10 - 86.0
1967723	Ethion	99.6	123	P/P	59 - 133
1967723	Ethoprop	101	114	P/P	54 - 116
1967723	Fenamiphos	77.7	111	P/P	55 - 140
1967723	Fipronil	93.0	72.6	P/P	37 - 142
1967723	Fipronil Sulfide	87.4	76.8	P/P	37 - 130
1967723	Fonofos	107	124	P/F	55 - 118
1967723	Hexazinone	108	127	P/P	62 - 140
1967723	Malathion	118	135	P/F	64 - 132
1967723	Metalaxyl	87.7	86.9	P/P	55 - 129
1967723	Metolachlor	92.3	104	P/P	56 - 137
1967723	Metribuzin	145	146	P/P	16 - 218
1967723	Mevinphos	139	160	F/F	34 - 129
1967723	Molinate	87.3	86.7	P/P	16 - 99.0
1967723	Norflurazon	88.7	106	P/P	43 - 135
1967723	Parathion Ethyl	102	112	P/P	71 - 112
1967723	Parathion Methyl	143	143	F/F	65 - 127
1967723	Pendimethalin	114	106	P/P	35 - 159
1967723	Phorate	99.7	109	P/P	41 - 129
1967723	Prometon	87.0	95.5	P/P	56 - 140
1967723	Prometryn	71.2	77.7	P/P	65 - 130
1967723	Terbufos	103	104	P/P	53 - 126
1967723	Terbuthylazine	93.0	89.3	P/P	73 - 114

Reference Method: EPA 8276

Batch ID: P340047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968167	Chlordane	99.3	74.3	P/P	41 - 134
1968167	Toxaphene	119	111	P/P	39 - 158

Reference Method: EPA 8321B

Batch ID: P340023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967901	Sucralose	100	96.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P340147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1967720	AMPA	95.4	93.0	P/P	40 - 150
1967720	Glyphosate	103	92.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P340164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968092	2,4-D	58.9	69.4	P/P	40 - 150
1968092	3-Hydroxycarbofuran	96.8	86.8	P/P	40 - 150
1968092	Acetaminophen	119	114	P/P	30 - 150
1968092	Aldicarb	77.8	55.2	P/P	30 - 150
1968092	Aldicarb Sulfone	110	110	P/P	40 - 150
1968092	Aldicarb Sulfoxide	99.7	105	P/P	40 - 150
1968092	Bentazon	22.8	25.4	F/F	30 - 150
1968092	Carbamazepine	90.3	88.6	P/P	40 - 150
1968092	Carbaryl	60.4	58.4	P/P	40 - 150
1968092	Carbofuran	64.0	65.4	P/P	40 - 150
1968092	Diuron	72.4	66.6	P/P	40 - 150
1968092	Fenuron	95.9	92.7	P/P	40 - 150
1968092	Imidacloprid	106	102	P/P	40 - 160
1968092	Linuron	81.2	76.1	P/P	40 - 150
1968092	MCPP	31.4	29.8	F/F	40 - 150
1968092	Methiocarb	67.7	65.5	P/P	40 - 150
1968092	Methomyl	106	102	P/P	40 - 150
1968092	Oxamyl	96.6	91.6	P/P	40 - 150
1968092	Primidone	110	103	P/P	40 - 150
1968092	Propoxur	63.0	66.1	P/P	40 - 150
1968092	Pyraclostrobin	77.0	75.7	P/P	40 - 150
1968092	Triclopyr	51.1	54.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P340532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968135	Fluoride	95.1	95.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P340500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968030	Organic Carbon	102	102	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P340501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968136	Organic Carbon	101	98.0	P/P	85 - 115

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P340037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968096	Turbidity	0.643	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P340038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968141	Turbidity	1.55	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P340293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968287	Calcium	1.12	Spike	P	0 - 20
1968287	Iron	0.537	Spike	P	0 - 20
1968287	Magnesium	0.0347	Spike	P	0 - 20
1968287	Potassium	0.792	Spike	P	0 - 20
1968287	Sodium	1.71	Spike	P	0 - 20
1968287	Zinc	0.393	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968287	Arsenic	0.219	Spike	P	0 - 20
1968287	Cadmium	0.205	Spike	P	0 - 20
1968287	Chromium	0.696	Spike	P	0 - 20
1968287	Copper	1.14	Spike	P	0 - 20
1968287	Lead	0.228	Spike	P	0 - 20
1968287	Nickel	0.173	Spike	P	0 - 20
1968287	Silver	0.755	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968067	Chloride	2.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968067	Sulfate	5.68	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968136	Ammonia-N	3.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968139	Kjeldahl Nitrogen	0.660	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967616	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968136	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968389	Total-P	1.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P340065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967809	O-Phosphate-P	0.720	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P340047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967722	Aldrin	3.80	Spike	P	0 - 30
1967722	Alpha-BHC	1.15	Spike	P	0 - 30
1967722	Alpha-Chlordane	0.163	Spike	P	0 - 30
1967722	Beta-BHC	6.82	Spike	P	0 - 30
1967722	Carbophenothion	9.04	Spike	P	0 - 30
1967722	Chlorothalonil	39.3	Spike	F	0 - 30
1967722	Cypermethrin	4.09	Spike	P	0 - 30
1967722	DDD-p,p'	1.95	Spike	P	0 - 30
1967722	DDE-p,p'	3.59	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P340047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967722	DDT-p,p'	9.36	Spike	P	0 - 30
1967722	Delta-BHC	12.4	Spike	P	0 - 30
1967722	Dicofol	2.95	Spike	P	0 - 30
1967722	Dieldrin	3.01	Spike	P	0 - 30
1967722	Endosulfan I	5.11	Spike	P	0 - 30
1967722	Endosulfan II	9.22	Spike	P	0 - 30
1967722	Endosulfan Sulfate	17.4	Spike	P	0 - 30
1967722	Endrin	2.98	Spike	P	0 - 30
1967722	Endrin Aldehyde	2.07	Spike	P	0 - 30
1967722	Endrin Ketone	9.26	Spike	P	0 - 30
1967722	Gamma-BHC	19.8	Spike	P	0 - 30
1967722	Gamma-Chlordane	1.13	Spike	P	0 - 30
1967722	Heptachlor	0.326	Spike	P	0 - 30
1967722	Heptachlor Epoxide	1.55	Spike	P	0 - 30
1967722	Methoxychlor	7.23	Spike	P	0 - 30
1967722	Mirex	0.708	Spike	P	0 - 30
1967722	Permethrin	1.51	Spike	P	0 - 30
1967722	Trifluralin	7.73	Spike	P	0 - 30
LFB	Aldrin	2.32	LCS	P	0 - 30
LFB	Alpha-BHC	6.30	LCS	P	0 - 30
LFB	Alpha-Chlordane	3.51	LCS	P	0 - 30
LFB	Beta-BHC	14.5	LCS	P	0 - 30
LFB	Carbophenothion	6.55	LCS	P	0 - 30
LFB	Chlorothalonil	13.8	LCS	P	0 - 30
LFB	Cypermethrin	10.7	LCS	P	0 - 30
LFB	DDD-p,p'	0.271	LCS	P	0 - 30
LFB	DDE-p,p'	3.21	LCS	P	0 - 30
LFB	DDT-p,p'	8.87	LCS	P	0 - 30
LFB	Delta-BHC	10.4	LCS	P	0 - 30
LFB	Dicofol	8.01	LCS	P	0 - 30
LFB	Dieldrin	7.73	LCS	P	0 - 30
LFB	Endosulfan I	0.755	LCS	P	0 - 30
LFB	Endosulfan II	6.59	LCS	P	0 - 30
LFB	Endosulfan Sulfate	9.38	LCS	P	0 - 30
LFB	Endrin	5.15	LCS	P	0 - 30
LFB	Endrin Aldehyde	17.9	LCS	P	0 - 30
LFB	Endrin Ketone	10.2	LCS	P	0 - 30
LFB	Gamma-BHC	14.6	LCS	P	0 - 30
LFB	Gamma-Chlordane	0.0547	LCS	P	0 - 30
LFB	Heptachlor	3.41	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.44	LCS	P	0 - 30
LFB	Methoxychlor	2.90	LCS	P	0 - 30
LFB	Mirex	6.27	LCS	P	0 - 30
LFB	Permethrin	4.14	LCS	P	0 - 30
LFB	Trifluralin	1.87	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P340051

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

Reference Method: EPA 8270D

Batch ID: P340051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967723	Acetochlor	3.29	Spike	P	0 - 30
1967723	Alachlor	16.4	Spike	P	0 - 30
1967723	Ametryn	24.7	Spike	P	0 - 30
1967723	Atrazine	6.48	Spike	P	0 - 30
1967723	Atrazine Desethyl	6.00	Spike	P	0 - 30
1967723	Azinphos Methyl	13.1	Spike	P	0 - 30
1967723	Bromacil	20.5	Spike	P	0 - 30
1967723	Butylate	5.92	Spike	P	0 - 30
1967723	Chlorpyrifos Ethyl	28.7	Spike	P	0 - 30
1967723	Chlorpyrifos Methyl	11.9	Spike	P	0 - 30
1967723	Cyanazine	18.5	Spike	P	0 - 30
1967723	Demeton	7.03	Spike	P	0 - 30
1967723	Diazinon	1.05	Spike	P	0 - 30
1967723	Disulfoton	2.10	Spike	P	0 - 30
1967723	EPTC	9.53	Spike	P	0 - 30
1967723	Ethion	21.3	Spike	P	0 - 30
1967723	Ethoprop	11.6	Spike	P	0 - 30
1967723	Fenamiphos	35.4	Spike	F	0 - 30
1967723	Fipronil	14.7	Spike	P	0 - 30
1967723	Fipronil Sulfide	8.78	Spike	P	0 - 30
1967723	Fipronil Sulfone	15.9	Spike	P	0 - 30
1967723	Fonofos	15.2	Spike	P	0 - 30
1967723	Hexazinone	16.0	Spike	P	0 - 30
1967723	Malathion	13.7	Spike	P	0 - 30
1967723	Metaxyl	0.975	Spike	P	0 - 30
1967723	Metolachlor	11.9	Spike	P	0 - 30
1967723	Metribuzin	0.613	Spike	P	0 - 30
1967723	Mevinphos	14.1	Spike	P	0 - 30
1967723	Molinate	0.691	Spike	P	0 - 30
1967723	Norflurazon	17.4	Spike	P	0 - 30
1967723	Parathion Ethyl	8.89	Spike	P	0 - 30
1967723	Parathion Methyl	0.121	Spike	P	0 - 30
1967723	Pendimethalin	7.70	Spike	P	0 - 30
1967723	Phorate	9.16	Spike	P	0 - 30
1967723	Prometon	9.31	Spike	P	0 - 30
1967723	Prometryn	8.80	Spike	P	0 - 30
1967723	Simazine	17.6	Spike	P	0 - 30
1967723	Terbufos	1.15	Spike	P	0 - 30
1967723	Terbuthylazine	4.10	Spike	P	0 - 30
LFB	Acetochlor	15.2	LCS	P	0 - 30
LFB	Alachlor	12.4	LCS	P	0 - 30
LFB	Ametryn	20.3	LCS	P	0 - 30
LFB	Atrazine	4.11	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.58	LCS	P	0 - 30
LFB	Azinphos Methyl	11.4	LCS	P	0 - 30
LFB	Bromacil	1.35	LCS	P	0 - 30
LFB	Butylate	18.0	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.87	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	10.7	LCS	P	0 - 30
LFB	Cyanazine	3.31	LCS	P	0 - 30
LFB	Demeton	4.53	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P340051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	0.0362	LCS	P	0 - 30
LFB	Disulfoton	1.15	LCS	P	0 - 30
LFB	EPTC	21.1	LCS	P	0 - 30
LFB	Ethion	3.95	LCS	P	0 - 30
LFB	Ethoprop	3.42	LCS	P	0 - 30
LFB	Fenamiphos	8.47	LCS	P	0 - 30
LFB	Fipronil	0.773	LCS	P	0 - 30
LFB	Fipronil Sulfide	1.98	LCS	P	0 - 30
LFB	Fipronil Sulfone	1.06	LCS	P	0 - 30
LFB	Fonofos	0.757	LCS	P	0 - 30
LFB	Hexazinone	5.96	LCS	P	0 - 30
LFB	Malathion	5.21	LCS	P	0 - 30
LFB	Metalaxyl	6.81	LCS	P	0 - 30
LFB	Metolachlor	3.56	LCS	P	0 - 30
LFB	Metribuzin	11.1	LCS	P	0 - 30
LFB	Mevinphos	4.79	LCS	P	0 - 30
LFB	Molinate	8.68	LCS	P	0 - 30
LFB	Norflurazon	4.70	LCS	P	0 - 30
LFB	Parathion Ethyl	3.33	LCS	P	0 - 30
LFB	Parathion Methyl	3.92	LCS	P	0 - 30
LFB	Pendimethalin	12.4	LCS	P	0 - 30
LFB	Phorate	1.22	LCS	P	0 - 30
LFB	Prometon	1.08	LCS	P	0 - 30
LFB	Prometryn	2.14	LCS	P	0 - 30
LFB	Simazine	8.94	LCS	P	0 - 30
LFB	Terbufos	0.233	LCS	P	0 - 30
LFB	Terbutylazine	8.48	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P340047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968167	Chlordane	28.8	Spike	P	0 - 30
1968167	Toxaphene	6.99	Spike	P	0 - 30
LFB	Chlordane	6.62	LCS	P	0 - 30
LFB	Toxaphene	7.43	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P340023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967901	Sucralose	2.06	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P340147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967720	AMPA	2.07	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P340147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967720	Glyphosate	8.47	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P340164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968092	2,4-D	6.77	Spike	P	0 - 30
1968092	3-Hydroxycarbofuran	10.8	Spike	P	0 - 30
1968092	Acetaminophen	4.36	Spike	P	0 - 30
1968092	Aldicarb	34.1	Spike	F	0 - 30
1968092	Aldicarb Sulfone	0.364	Spike	P	0 - 30
1968092	Aldicarb Sulfoxide	4.89	Spike	P	0 - 30
1968092	Bentazon	4.77	Spike	P	0 - 30
1968092	Carbamazepine	1.87	Spike	P	0 - 30
1968092	Carbaryl	3.37	Spike	P	0 - 30
1968092	Carbofuran	2.16	Spike	P	0 - 30
1968092	Diuron	8.36	Spike	P	0 - 30
1968092	Fenuron	3.33	Spike	P	0 - 30
1968092	Imidacloprid	1.30	Spike	P	0 - 30
1968092	Linuron	6.55	Spike	P	0 - 30
1968092	MCPP	2.56	Spike	P	0 - 30
1968092	Methiocarb	3.39	Spike	P	0 - 30
1968092	Methomyl	4.32	Spike	P	0 - 30
1968092	Oxamyl	5.27	Spike	P	0 - 30
1968092	Primidone	6.48	Spike	P	0 - 30
1968092	Propoxur	4.73	Spike	P	0 - 30
1968092	Pyraclostrobin	1.68	Spike	P	0 - 30
1968092	Triclopyr	5.52	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P340057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968266	Color (true)	9.05	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P340528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968135	Total Alkalinity	0.719	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P340576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1967977	TDS	0.0	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P340532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968135	Fluoride	0.514	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P340500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968030	Organic Carbon	0.236	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P340501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968136	Organic Carbon	1.67	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: 1968164
Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.8	P	30 - 160
EPA 8321B	2,4-D-d3	76.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	133	P	30 - 160
EPA 8321B	Acetaminophen-d4	133	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.8	P	30 - 160
EPA 8321B	Diuron-d6	73.9	P	30 - 160
EPA 8321B	Diuron-d6	73.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	40 - 160
EPA 8321B	Primidone-d5	87.9	P	30 - 160
EPA 8321B	Primidone-d5	87.9	P	30 - 160
EPA 8321B	Sucralose-d6	139	P	40 - 160

Lab Sample ID: 1968165
Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	49.3	P	30 - 160

Lab Sample ID: 1968166
Field Sample ID: G2CE0084

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report Surrogates

Lab Sample ID: 1968166
Field Sample ID: G2CE0084

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	47.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.6	P	30 - 160
EPA 8321B	Diuron-d6	71.1	P	30 - 160
EPA 8321B	Primidone-d5	99.8	P	30 - 160
EPA 8321B	Sucralose-d6	124	P	40 - 160

Lab Sample ID: 1968167
Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	65.7	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	52.9	P	34 - 101
EPA 8276	Decachlorobiphenyl	62.2	P	31 - 108
EPA 8276	PCNB	133	P	62 - 142

Lab Sample ID: 1968168
Field Sample ID: G2CE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	103	P	71 - 126
EPA 8270D	Terbufos-d10	95.2	P	50 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A82096
Included Lab Sample IDs: 1968132, 1968135, 1968138

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

Reference Method: SM 2120 B
Run ID: A82104
Included Lab Sample IDs: 1968132, 1968135, 1968138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	110	107	P/P	85 - 115
Color (true)	99.5	98.8	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A82105
Included Lab Sample IDs: 1968134, 1968137, 1968140

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A82142

Included Lab Sample IDs: 1968164

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	115	P/P	70 - 130
Glyphosate	104	104	P/P	70 - 160

Reference Method: EPA 8321B

Run ID: A82169

Included Lab Sample IDs: 1968164, 1968166

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.9	94.9	P/P	60 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A82190

Included Lab Sample IDs: 1968132, 1968135, 1968138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	100	P/P	90 - 110
Sulfate	102	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A82218

Included Lab Sample IDs: 1968181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	101	P/P	90 - 110
Cadmium	98.3	98.5	P/P	90 - 110
Chromium	92.6	92.7	P/P	90 - 110
Copper	99.7	101	P/P	90 - 110
Lead	97.4	100	P/P	90 - 110
Nickel	100	101	P/P	90 - 110
Silver	97.0	96.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A82219

Included Lab Sample IDs: 1968181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.4	96.1	P/P	90 - 110
Iron	99.5	97.8	P/P	90 - 110
Magnesium	99.4	98.0	P/P	90 - 110
Potassium	98.1	97.0	P/P	90 - 110
Sodium	96.2	94.7	P/P	90 - 110
Zinc	97.6	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A82229

Included Lab Sample IDs: 1968133, 1968136, 1968139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A82230

Included Lab Sample IDs: 1968133, 1968136, 1968139

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

Reference Method: SM 5310 B-00

Run ID: A82257

Included Lab Sample IDs: 1968133, 1968136, 1968139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	100	P/P	90 - 110
Organic Carbon	99.8	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A82258

Included Lab Sample IDs: 1968133, 1968136, 1968139

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

Reference Method: SM 2320 B-97

Run ID: A82266

Included Lab Sample IDs: 1968132, 1968135, 1968138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.9	P/P	90 - 110
Total Alkalinity	97.7	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A82266

Included Lab Sample IDs: 1968132, 1968135, 1968138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.7	100	P/P	90 - 110
Fluoride	98.5	96.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A82285

Included Lab Sample IDs: 1968164, 1968166

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.3	99.2	P/P	50 - 150
3-Hydroxycarbofuran	121	124	P/P	60 - 150
Acetaminophen	109	105	P/P	60 - 150
Aldicarb	108	112	P/P	60 - 150
Aldicarb Sulfone	106	106	P/P	50 - 150
Aldicarb Sulfoxide	111	108	P/P	50 - 150
Bentazon	98.9	117	P/P	50 - 150
Carbamazepine	105	101	P/P	60 - 150
Carbaryl	118	123	P/P	60 - 150
Carbofuran	119	129	P/P	50 - 150
Diuron	128	129	P/P	60 - 150
Fenuron	119	119	P/P	60 - 150
Fluridone	108	112	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A82285

Included Lab Sample IDs: 1968164, 1968166

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	111	108	P/P	60 - 160
Imidacloprid	114	109	P/P	60 - 150
Linuron	121	133	P/P	60 - 150
MCPP	94.0	94.5	P/P	50 - 150
Methiocarb	115	115	P/P	50 - 150
Methomyl	119	111	P/P	50 - 150
Oxamyl	115	107	P/P	50 - 150
Primidone	118	111	P/P	60 - 150
Propoxur	124	124	P/P	50 - 150
Pyraclostrobin	120	120	P/P	60 - 150
Triclopyr	117	112	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A82317

Included Lab Sample IDs: 1968133, 1968136, 1968139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	102	P/P	90 - 110
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	99.9	102	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A82361

Included Lab Sample IDs: 1968167

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	105		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 8270D

Run ID: A82394

Included Lab Sample IDs: 1968167

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	91.2		P	80 - 120
Alpha-BHC	94.3		P	80 - 120
Alpha-Chlordane	92.1		P	80 - 120
Beta-BHC	98.0		P	80 - 120
Carbophenothion	86.5		P	80 - 120
Chlorothalonil	91.5		P	80 - 120
Cypermethrin	102		P	80 - 120
DDD-p,p'	98.7		P	80 - 120
DDE-p,p'	91.4		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	97.0		P	80 - 120
Dicofol	95.5		P	80 - 120
Dieldrin	92.3		P	80 - 120
Endosulfan I	88.0		P	80 - 120
Endosulfan II	90.7		P	80 - 120
Endosulfan Sulfate	112		P	80 - 120
Endrin	90.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A82394

Included Lab Sample IDs: 1968167

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin Aldehyde	97.6		P	80 - 120
Endrin Ketone	100		P	80 - 120
Gamma-BHC	96.3		P	80 - 120
Gamma-Chlordane	91.6		P	80 - 120
Heptachlor	87.0		P	80 - 120
Heptachlor Epoxide	92.6		P	80 - 120
Methoxychlor	103		P	80 - 120
Mirex	99.6		P	80 - 120
Permethrin	91.6		P	80 - 120
Trifluralin	100		P	80 - 120

Reference Method: EPA 8270D

Run ID: A82432

Included Lab Sample IDs: 1968168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	103		P	80 - 120
Alachlor	109		P	80 - 120
Ametryn	109		P	80 - 120
Atrazine	112		P	80 - 120
Atrazine Desethyl	110		P	80 - 120
Azinphos Methyl	116		P	80 - 120
Bromacil	103		P	80 - 120
Butylate	107		P	80 - 120
Chlorpyrifos Ethyl	99.5		P	80 - 120
Chlorpyrifos Methyl	111		P	80 - 120
Cyanazine	99.9		P	80 - 120
Demeton	112		P	80 - 120
Diazinon	97.6		P	80 - 120
Disulfoton	110		P	80 - 120
EPTC	111		P	80 - 120
Ethion	116		P	80 - 120
Ethoprop	108		P	80 - 120
Fenamiphos	99.7		P	80 - 120
Fipronil	115		P	80 - 120
Fipronil Sulfide	106		P	80 - 120
Fipronil Sulfone	135*		F	80 - 120
Fonofos	114		P	80 - 120
Hexazinone	111		P	80 - 120
Malathion	113		P	80 - 120
Metaxyl	107		P	80 - 120
Metolachlor	102		P	80 - 120
Metribuzin	107		P	80 - 120
Mevinphos	126*		F	80 - 120
Molinate	107		P	80 - 120
Norflurazon	105		P	80 - 120
Parathion Ethyl	112		P	80 - 120
Parathion Methyl	119		P	80 - 120
Pendimethalin	114		P	80 - 120
Phorate	118		P	80 - 120
Prometon	106		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A82432
Included Lab Sample IDs: 1968168

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Prometryn	108		P	80 - 120
Simazine	117		P	80 - 120
Terbufos	108		P	80 - 120
Terbutylazine	107		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		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.643	
	Turbidity						1.55	
EPA 200.7 Rev. 4.4	Calcium	100		99.2				1.12
	Iron	105		105	104			0.537
	Magnesium	102		99.8				0.0347
	Potassium	104		106	105			0.792
	Sodium	112		98.3	101			1.71
	Zinc	97.4		94.3	93.9			0.393
EPA 200.8 Rev. 5.4	Arsenic	103		103	103			0.219
	Cadmium	105		106	106			0.205
	Chromium	100		99.5	98.8			0.696
	Copper	104		101	99.6			1.14
	Lead	106		107	107			0.228
	Nickel	103		101	101			0.173
	Silver	113		113	114			0.755
EPA 300.0 Rev. 2.1	Chloride	91.2		93.2	95.5		2.37	
	Sulfate	90.1		93.5	91.3		5.68	
EPA 350.1 Rev. 2.0	Ammonia-N	99.7		98.2	94.8			3.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		95.7	96.9			0.660
EPA 353.2 Rev. 2.0	NO2NO3-N	104		98.9	98.9			0.0
	NO2NO3-N	104		104	105			0.477
EPA 365.1 Rev. 2.0	Total-P	107						1.76
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		96.9	97.6			0.720
EPA 8270D	Acetochlor	81.4	94.8	90.3	93.3	15.2		3.29
	Alachlor	87.6	99.2	81.4	96.0	12.4		16.4
	Aldrin	63.6	65.1	70.1	67.5	2.32		3.80
	Alpha-BHC	91.1	85.5	74.7	75.5	6.30		1.15
	Alpha-Chlordane	86.1	83.1	84.8	84.9	3.51		0.163
	Ametryn	78.0	95.6	51.9	66.5	20.3		24.7
	Atrazine	107	112			4.11		6.48
	Atrazine Desethyl	97.6	95.2	60.1	65.2	2.58		6.00
	Azinphos Methyl	147	164	174	198	11.4		13.1
	Beta-BHC	85.4	73.9	78.3	73.1	14.5		6.82
	Bromacil	32.8	32.3	62.8	82.7	1.35		20.5
	Butylate	67.6	56.4	62.6	59.0	18.0		5.92
	Carbophenothion	88.6	83.0	121	132	6.55		9.04

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Chlorothalonil	79.3	91.1	85.9	128	13.8	39.3
	Chlorpyrifos Ethyl	91.6	95.2	83.3	111	3.87	28.7
	Chlorpyrifos Methyl	106	118	113	127	10.7	11.9
	Cyanazine	108	111	103	124	3.31	18.5
	Cypermethrin	71.3	64.1	99.2	95.2	10.7	4.09
	DDD-p,p'	100	100	91.0	92.8	0.271	1.95
	DDE-p,p'	91.0	88.2	84.8	81.8	3.21	3.59
	DDT-p,p'	100	91.5	91.7	83.5	8.87	9.36
	Delta-BHC	99.0	89.2	147	167	10.4	12.4
	Demeton	84.6	80.9	143	154	4.53	7.03
	Diazinon	96.5	96.6	96.1	97.1	0.0362	1.05
	Dicofol	86.6	93.9	87.7	85.2	8.01	2.95
	Dieldrin	89.8	83.1	85.5	88.1	7.73	3.01
	Disulfoton	112	110	101	98.4	1.15	2.10
	Endosulfan I	97.9	98.7	106	111	0.755	5.11
	Endosulfan II	117	109	109	120	6.59	9.22
	Endosulfan Sulfate	87.6	79.8	127	107	9.38	17.4
	Endrin	86.6	82.3	88.4	91.1	5.15	2.98
	Endrin Aldehyde	86.1	72.0	31.9	32.5	17.9	2.07
	Endrin Ketone	92.2	83.3	83.4	76.0	10.2	9.26
	EPTC	67.7	54.8	58.8	53.5	21.1	9.53
	Ethion	120	115	99.6	123	3.95	21.3
	Ethoprop	104	100	101	114	3.42	11.6
	Fenamiphos	106	97.2	77.7	111	8.47	35.4
	Fipronil	95.3	94.6	93.0	72.6	0.773	14.7
	Fipronil Sulfide	92.3	94.1	87.4	76.8	1.98	8.78
	Fipronil Sulfone	88.6	89.6			1.06	15.9
	Fonofos	111	111	107	124	0.757	15.2
	Gamma-BHC	85.0	73.4	77.4	94.4	14.6	19.8
	Gamma-Chlordane	84.6	84.6	83.1	84.1	0.0547	1.13
	Heptachlor	70.4	72.9	81.0	81.2	3.41	0.326
	Heptachlor Epoxide	85.7	84.5	89.0	87.6	1.44	1.55
	Hexazinone	113	120	108	127	5.96	16.0
	Malathion	121	115	118	135	5.21	13.7
	Metalaxyl	84.3	90.3	87.7	86.9	6.81	0.975
	Methoxychlor	94.6	91.9	103	95.5	2.90	7.23
	Metolachlor	95.2	91.8	92.3	104	3.56	11.9
	Metribuzin	126	141	145	146	11.1	0.613
	Mevinphos	93.4	89.0	139	160	4.79	14.1
	Mirex	83.5	78.4	76.0	75.5	6.27	0.708
	Molinate	88.3	80.9	87.3	86.7	8.68	0.691
	Norflurazon	80.9	84.7	88.7	106	4.70	17.4
	Parathion Ethyl	92.5	95.6	102	112	3.33	8.89
	Parathion Methyl	98.7	103	143	143	3.92	0.121
	Pendimethalin	102	115	114	106	12.4	7.70
	Permethrin	85.5	82.1	90.9	92.3	4.14	1.51
	Phorate	110	109	99.7	109	1.22	9.16
	Prometon	88.0	88.9	87.0	95.5	1.08	9.31
	Prometryn	83.2	81.5	71.2	77.7	2.14	8.80
	Simazine	124	113			8.94	17.6
	Terbufos	108	108	103	104	0.233	1.15
	Terbuthylazine	96.9	105	93.0	89.3	8.48	4.10
	Trifluralin	86.3	87.9	83.1	76.3	1.87	7.73
EPA 8276	Chlordane	91.9	86.0	99.3	74.3	6.62	28.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8276	Toxaphene	89.3	96.2	119	111	7.43	6.99
EPA 8321B	2,4-D	89.1		58.9	69.4		6.77
	3-Hydroxycarbofuran	98.9		96.8	86.8		10.8
	Acetaminophen	113		119	114		4.36
	Aldicarb	85.6		77.8	55.2		34.1
	Aldicarb Sulfone	114		110	110		0.364
	Aldicarb Sulfoxide	116		99.7	105		4.89
	AMPA	99.4		95.4	93.0		2.07
	Bentazon	128		22.8	25.4		4.77
	Carbamazepine	104		90.3	88.6		1.87
	Carbaryl	85.1		60.4	58.4		3.37
	Carbofuran	87.6		64.0	65.4		2.16
	Diuron	93.0		72.4	66.6		8.36
	Fenuron	120		95.9	92.7		3.33
	Fluridone	89.6					
	Glyphosate	98.3		103	92.6		8.47
	Imidacloprid	105		106	102		1.30
	Linuron	100		81.2	76.1		6.55
	MCPP	75.6		31.4	29.8		2.56
	Methiocarb	78.0		67.7	65.5		3.39
	Methomyl	121		106	102		4.32
	Oxamyl	106		96.6	91.6		5.27
	Primidone	120		110	103		6.48
	Propoxur	89.1		63.0	66.1		4.73
	Pyraclostrobin	101		77.0	75.7		1.68
	Sucralose	97.4		100	96.9		2.06
	Triclopyr	77.8		51.1	54.0		5.52
SM 2120 B	Color (true)					9.05	
SM 2320 B-97	Total Alkalinity	99.4				0.719	
SM 2540 C-97	TDS					0.0	
SM 4500 F-C-97	Fluoride	96.3		95.1	95.7		0.514
SM 5310 B-00	Organic Carbon	99.3		102	102		0.236
	Organic Carbon	100		101	98.0		1.67

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1968132, 1968135, 1968138
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1968181
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1968181
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1968132, 1968135, 1968138
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1968132, 1968135, 1968138
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1968133, 1968136, 1968139
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1968133, 1968136, 1968139
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1968133, 1968136, 1968139
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1968133, 1968136, 1968139

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1968134, 1968137, 1968140
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1968167
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1968168
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1968167
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1968165
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1968164
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1968164, 1968166
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1968164, 1968166
SM 2120 B / E31780	True Color measured at 450 nm	1968132, 1968135, 1968138
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1968132, 1968135, 1968138
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1968132, 1968135, 1968138
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1968132, 1968135, 1968138
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1968132, 1968135, 1968138
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1968133, 1968136, 1968139

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/15/2018			02/15/2018 16:53	Julia Storbeck	1968132, 1968135, 1968138
EPA 200.7 Rev. 4.4	02/15/2018	02/20/2018	Elliott D. Healy	02/21/2018	Betina Topolski	1968181
EPA 200.8 Rev. 5.4	02/15/2018	02/20/2018	Elliott D. Healy	02/21/2018	Nadine Brooks	1968181
EPA 300.0 Rev. 2.1	02/15/2018			02/21/2018	Julia Storbeck	1968132, 1968135, 1968138
EPA 350.1 Rev. 2.0	02/15/2018			02/27/2018	Ping Hua	1968133, 1968136, 1968139
EPA 351.2 Rev. 2.0	02/15/2018	02/20/2018	Adrian Shelby	02/22/2018	Joseph Suarez	1968133, 1968136, 1968139
EPA 353.2 Rev. 2.0	02/15/2018			02/22/2018	Lauren Bottorf	1968133, 1968136, 1968139
EPA 365.1 Rev. 2.0	02/15/2018	02/22/2018	Sima Feizi	02/23/2018	Lipi Saha	1968133, 1968136, 1968139
EPA 365.1 Rev. 2.0 dissolved	02/15/2018			02/15/2018 16:50	Megan Treadwell	1968134, 1968137
	02/15/2018			02/15/2018 16:51	Megan Treadwell	1968140
EPA 8270D	02/15/2018	02/16/2018	Fe-Val Siddell	02/21/2018	Marek Topolski	1968167
	02/15/2018	02/16/2018	Rasheda Ghaffari	02/20/2018	Vandana T. Nagar	1968168
EPA 8276	02/15/2018	02/16/2018	Fe-Val Siddell	03/01/2018	John P. Burgos	1968167
EPA 8321B	02/15/2018	02/16/2018	Julie Michelle Frank	02/17/2018	Juyoung Kim	1968164, 1968166
	02/15/2018	02/19/2018	Julie Michelle Frank	02/19/2018	Julie Michelle Frank	1968164
	02/15/2018	02/20/2018	Hoor Shaik	02/21/2018	Julie Michelle Frank	1968164, 1968166
	02/15/2018	02/20/2018	Hoor Shaik	02/22/2018	Julie Michelle Frank	1968165
SM 2120 B	02/15/2018			02/15/2018 17:12	Tanya Welborn	1968135
	02/15/2018			02/15/2018 17:13	Tanya Welborn	1968138
	02/15/2018			02/15/2018 18:29	Tanya Welborn	1968132
SM 2320 B-97	02/15/2018			02/24/2018	Dale L. Simmons	1968132, 1968135, 1968138
SM 2540 C-97	02/15/2018			02/16/2018	DeAsia Armster	1968132, 1968135, 1968138
SM 2540 D-97	02/15/2018			02/16/2018	DeAsia Armster	1968132, 1968135, 1968138
SM 4500 F-C-97	02/15/2018			02/24/2018	Dale L. Simmons	1968132, 1968135, 1968138
SM 5310 B-00	02/15/2018			02/23/2018	Megan Treadwell	1968133, 1968136, 1968139