

Chemical Analysis Report

SE-DIST-2021-06-30-02

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

Event Description: **06/2021 DI investigation**
Request ID: **RQ-2021-06-14-52**
Customer: **SE-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 22-JUL-2021 16:08

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: UF/IFAS Campus

Collection Date/Time: 06/29/2021 14:45

Field ID: DI_06292021

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257916	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P400432	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P400655	
		Sulfate	0.20	U	mg SO4/L	P400656	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P400423	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P400707	
	SM 2540 C-2011	TDS	15	U	mg/L	P400761	
	SM 2540 D-2011	TSS	2	U	mg/L	P400669	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P400710	
2257917	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P400693	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P400588	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400443	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P400527	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P400568	
2257918	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P400410	
2257919	EPA 8321B	Aldicarb	0.020	U	ug/L	P400469	
		Aldicarb Sulfone	0.0020	U	ug/L	P400469	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P400469	
		Carbaryl	0.0020	U	ug/L	P400469	
		Carbofuran	0.0020	U	ug/L	P400469	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P400469	
		Methiocarb	0.0020	U	ug/L	P400469	
		Methomyl	0.0020	U	ug/L	P400469	
		Oxamyl	0.0020	U	ug/L	P400469	
		Propoxur	0.0020	U	ug/L	P400469	
2257920		2,4-D	0.0020	U	ug/L	P400315	
		Acesulfame K	0.10	U	ug/L	P400314	
		2,4,5-T	0.0040	U	ug/L	P400315	
		AMPA	0.10	U	ug/L	P400314	
		Acetaminophen	0.0080	U	ug/L	P400315	
		Acetamiprid	0.0020	U	ug/L	P400315	
		Endothall	0.25	U	ug/L	P400314	
		Glufosinate	0.10	U	ug/L	P400314	
		Glyphosate	0.10	U	ug/L	P400314	
		Afidopyropen	0.0020	U	ug/L	P400315	
		Bentazon	8.0E-04	U	ug/L	P400315	
		Sucralose	0.010	U	ug/L	P400314	
		Benzovindiflupyr	0.0020	U	ug/L	P400315	
		Carbamazepine	8.0E-04	U	ug/L	P400315	
		Clothianidin	0.0020	U	ug/L	P400315	
		Dinotefuran	0.0020	U	ug/L	P400315	
		Diuron	0.0020	U	ug/L	P400315	
		Fenuron	0.016	U	ug/L	P400315	
		Fluridone	8.0E-04	U	ug/L	P400315	

Field ID: DI_06292021

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257920	EPA 8321B	Imazapyr	0.0040	U	ug/L	P400315	MS
		Hydrocodone	0.0020	U	ug/L	P400315	
		Ibuprofen	0.020	U	ug/L	P400315	
		Imidacloprid	0.0020	U	ug/L	P400315	
		Linuron	0.0040	U	ug/L	P400315	
		Mandestrobin	0.0020	U	ug/L	P400315	
		MCP	0.0020	U	ug/L	P400315	
		Naproxen	0.0080	U	ug/L	P400315	
		Primidone	0.0040	U	ug/L	P400315	
		Pyraclostrobin	0.0020	U	ug/L	P400315	
		Thiamethoxam	0.0020	U	ug/L	P400315	
		Tolfenpyrad	0.0020	U	ug/L	P400315	
		Triclopyr	0.0040	U	ug/L	P400315	
2257921	EPA 8270E	Aldrin	0.76	U	ng/L	P400365	
		Alpha-BHC	0.12	U	ng/L	P400365	
		Alpha-Chlordane	0.23	U	ng/L	P400365	
		Beta-BHC	0.12	U	ng/L	P400365	MS, RPD
		Beta-Cyfluthrin**	1.5	U	ng/L	P400365	
		Bifenthrin**	0.58	U	ng/L	P400365	
		Carbophenothion	0.41	U	ng/L	P400365	
		Chlorothalonil	0.58	U	ng/L	P400365	
		Cis-Nonachlor**	0.23	U	ng/L	P400365	
		Cypermethrin	1.7	U	ng/L	P400365	
		Dacthal**	0.17	U	ng/L	P400365	
		DDD-p,p'	0.29	U	ng/L	P400365	
		DDE-p,p'	0.23	U	ng/L	P400365	
		DDT-p,p'	0.29	U	ng/L	P400365	
		Delta-BHC	0.47	U	ng/L	P400365	RPD
		Deltamethrin**	1.5	U	ng/L	P400365	
		Dichlobenil**	0.12	U	ng/L	P400365	
		Dicofol	1.5	U	ng/L	P400365	
		Dieldrin	0.47	U	ng/L	P400365	
		Endosulfan I	0.47	U	ng/L	P400365	
		Endosulfan II	0.47	U	ng/L	P400365	
		Endosulfan Sulfate	0.35	U	ng/L	P400365	
		Endrin	0.47	U	ng/L	P400365	
		Endrin Aldehyde	0.87	U	ng/L	P400365	
		Endrin Ketone	0.47	U	ng/L	P400365	
		Esfenvalerate**	0.87	U	ng/L	P400365	
		Ethalfuralin**	0.17	U	ng/L	P400365	
		Fenpropathrin**	0.29	U	ng/L	P400365	
		Gamma-BHC	0.15	U	ng/L	P400365	
		Gamma-Chlordane	0.23	U	ng/L	P400365	
		Heptachlor	0.23	U	ng/L	P400365	
		Heptachlor Epoxide	0.29	U	ng/L	P400365	

Field ID: DI_06292021

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257921	EPA 8270E	Hexachlorobenzene	1.2	U	ng/L	P400365	
		Kepone**	5.8	U	ng/L	P400365	
		Lambda-Cyhalothrin**	0.87	U	ng/L	P400365	
		Methoxychlor	0.35	U	ng/L	P400365	
		MGK-264**	0.23	U	ng/L	P400365	
		Mirex	0.35	U	ng/L	P400365	
		Permethrin	1.9	U	ng/L	P400365	
		Phenothrin**	1.0	U	ng/L	P400365	
		Piperonyl Butoxide**	0.17	U	ng/L	P400365	
		Prallethrin**	2.3	U	ng/L	P400365	
		Tau-Fluvalinate**	0.29	U	ng/L	P400365	
		Tetramethrin**	0.87	U	ng/L	P400365	
		Trans-Nonachlor**	0.23	U	ng/L	P400365	
		Triclosan Methyl**	0.17	U	ng/L	P400365	
		Trifluralin	0.23	U	ng/L	P400365	
2257923	EPA 8276	Chlordane	5.8	U	ng/L	P400365	
		Toxaphene	35	U	ng/L	P400365	
	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P400573	
		Calcium	0.075	U	mg/L	P400573	
		Iron	30	U	ug/L	P400573	
		Magnesium	0.040	U	mg/L	P400573	
		Manganese	1.0	U	ug/L	P400573	
		Potassium	0.30	U	mg/L	P400573	
		Sodium	0.50	U	mg/L	P400573	
		Zinc	5.0	U	ug/L	P400573	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P400573	
		Antimony	0.050	U	ug/L	P400573	
		Arsenic	0.050	U	ug/L	P400573	
		Beryllium	0.010	U	ug/L	P400573	
		Boron**	112		ug/L	P400573	
		Cadmium	0.020	U	ug/L	P400573	
		Chromium	0.40	U	ug/L	P400573	
		Copper	0.40	U	ug/L	P400573	
	SM 2340B	Lead	0.20	U	ug/L	P400573	
		Nickel	0.50	U	ug/L	P400573	
		Selenium	0.20	U	ug/L	P400573	
		Silver	0.010	U	ug/L	P400573	
		Thallium	0.10	U	ug/L	P400573	
		Hardness	0.35	U	mg/L	P400573	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 06/30/2021.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The boron result was confirmed in the undigested sample on 07/07/2021.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400432

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400573

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/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: P400573

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400655

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400656

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400693

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400588

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400443

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400527

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400410

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

Reference Method: EPA 8270E
Batch ID: P400365

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.35	U	ng/L
Carbophenothion	0.35	U	ng/L
Chlorothalonil	0.50	U	ng/L
Chlorothalonil	0.50	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P400365

Component	Result	Code	Units
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.10	U	ng/L
Dichlobenil	0.10	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.30	U	ng/L
Mirex	0.30	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P400365

Component	Result	Code	Units
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P400365

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

Reference Method: EPA 8321B

Batch ID: P400314

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

Reference Method: EPA 8321B

Batch ID: P400315

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P400315

Component	Result	Code	Units
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P400469

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Reference Method: SM 2120 B-2011

Batch ID: P400423

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P400707

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

Reference Method: SM 2540 C-2011

Batch ID: P400761

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P400669

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P400710

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400568

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: P400573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.2		P	85 - 115
Calcium	99.1		P	85 - 115
Iron	95.6		P	85 - 115
Magnesium	102		P	85 - 115
Manganese	99.7		P	85 - 115
Potassium	104		P	85 - 115
Sodium	92.1		P	85 - 115
Zinc	90.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	108		P	85 - 115
Antimony	108		P	85 - 115
Arsenic	105		P	85 - 115
Beryllium	105		P	85 - 115
Boron	113		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Copper	102		P	85 - 115
Lead	103		P	85 - 115
Nickel	103		P	85 - 115
Selenium	104		P	85 - 115
Silver	100		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400655

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400693

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400588

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400527

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400410

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

Reference Method: EPA 8270E

Batch ID: P400365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	54.4	53.2	P/P	20 - 150
Alpha-BHC	89.9	92.8	P/P	50 - 150
Alpha-Chlordane	78.2	75.3	P/P	50 - 150
Beta-BHC	95.0	94.6	P/P	50 - 150
Beta-Cyfluthrin	89.4	86.1	P/P	50 - 150
Bifenthrin	61.4	62.0	P/P	40 - 150
Carbophenothion	75.6	74.2	P/P	20 - 150
Chlorothalonil	97.2	93.0	P/P	20 - 150
Cis-Nonachlor	80.1	80.9	P/P	50 - 150
Cypermethrin	98.8	95.5	P/P	50 - 150
Dacthal	90.5	85.4	P/P	50 - 150
DDD-p,p'	80.0	77.5	P/P	50 - 150
DDE-p,p'	74.1	72.2	P/P	50 - 150
DDT-p,p'	74.6	74.6	P/P	50 - 150
Delta-BHC	96.5	96.9	P/P	50 - 150
Deltamethrin	81.0	75.1	P/P	50 - 150
Dichlobenil	78.7	73.5	P/P	40 - 150
Dicofol	78.8	79.6	P/P	50 - 150
Dieldrin	79.5	73.4	P/P	50 - 150
Endosulfan I	78.2	75.8	P/P	50 - 150
Endosulfan II	93.8	88.1	P/P	50 - 150
Endosulfan Sulfate	98.4	97.6	P/P	50 - 150
Endrin	83.6	81.4	P/P	50 - 150
Endrin Aldehyde	77.9	74.3	P/P	50 - 150
Endrin Ketone	107	101	P/P	50 - 150
Esfenvalerate	82.9	78.8	P/P	50 - 180
Ethalfuralin	75.4	74.0	P/P	50 - 150
Fenpropathrin	77.8	77.2	P/P	50 - 150
Gamma-BHC	85.8	88.2	P/P	50 - 150
Gamma-Chlordane	72.9	70.9	P/P	50 - 150
Heptachlor	69.3	69.5	P/P	50 - 150
Heptachlor Epoxide	76.3	74.8	P/P	50 - 150
Hexachlorobenzene	69.0	69.8	P/P	50 - 150
Kepone	106	95.7	P/P	30 - 180

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P400365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lambda-Cyhalothrin	82.8	77.4	P/P	50 - 200
Methoxychlor	81.2	81.8	P/P	50 - 150
MGK-264	82.4	79.1	P/P	30 - 150
Mirex	67.0	67.8	P/P	50 - 180
Permethrin	92.4	91.8	P/P	50 - 150
Phenothrin	77.9	76.2	P/P	20 - 150
Piperonyl Butoxide	109	108	P/P	50 - 150
Prallethrin	74.7	68.3	P/P	30 - 150
Tau-Fluvalinate	78.9	77.4	P/P	40 - 150
Tetramethrin	76.1	73.7	P/P	30 - 150
Trans-Nonachlor	74.5	69.7	P/P	50 - 150
Triclosan Methyl	79.8	77.4	P/P	50 - 150
Trifluralin	73.5	75.6	P/P	50 - 150

Reference Method: EPA 8276

Batch ID: P400365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	77.9	76.0	P/P	56 - 117
Toxaphene	62.2	59.9	P/P	45 - 116

Reference Method: EPA 8321B

Batch ID: P400314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.8		P	40 - 150
AMPA	97.0		P	40 - 150
Endothall	97.7		P	40 - 150
Glufosinate	93.3		P	40 - 150
Glyphosate	96.5		P	40 - 150
Sucralose	85.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	120		P	30 - 160
2,4,5-T	128		P	30 - 160
Acetaminophen	83.0		P	30 - 160
Acetamiprid	90.6		P	30 - 160
Afidopyropen	73.6		P	30 - 160
Bentazon	92.3		P	30 - 160
Benzovindiflupyr	92.8		P	30 - 160
Carbamazepine	92.0		P	30 - 160
Clothianidin	92.2		P	30 - 160
Dinotefuran	88.1		P	30 - 160
Diuron	73.7		P	30 - 160
Fenuron	99.7		P	30 - 160
Fluridone	87.6		P	30 - 160
Hydrocodone	94.6		P	30 - 160
Ibuprofen	86.0		P	30 - 160
Imazapyr	101		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	92.6		P	30 - 160
Linuron	73.3		P	30 - 160
Mandestrobin	94.1		P	30 - 160
MCPD	125		P	30 - 160
Naproxen	82.1		P	30 - 160
Primidone	93.3		P	30 - 160
Pyraclostrobin	81.1		P	30 - 160
Thiamethoxam	91.7		P	30 - 160
Tolfenpyrad	47.4		P	30 - 160
Triclopyr	122		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P400469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	89.4		P	40 - 150
Aldicarb	87.7		P	30 - 150
Aldicarb Sulfone	95.1		P	40 - 150
Aldicarb Sulfoxide	86.7		P	40 - 150
Carbaryl	83.8		P	40 - 150
Carbofuran	89.2		P	40 - 150
Methiocarb	83.4		P	40 - 150
Methomyl	86.3		P	40 - 150
Oxamyl	99.5		P	40 - 150
Propoxur	93.7		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P400423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P400707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P400710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P400568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257773	Barium	97.2		P	80 - 120
2257773	Calcium	105		P	80 - 120
2257773	Iron	90.4		P	80 - 120
2257773	Magnesium	101		P	80 - 120
2257773	Manganese	97.3		P	80 - 120
2257773	Potassium	108		P	80 - 120
2257773	Sodium	94.7		P	80 - 120
2257773	Zinc	88.7		P	80 - 120
2258458	Barium	100	98.9	P/P	80 - 120
2258458	Calcium	100		P	80 - 120
2258458	Iron	115	109	P/P	80 - 120
2258458	Magnesium	98.0	102	P/P	80 - 120
2258458	Manganese	99.9	98.9	P/P	80 - 120
2258458	Potassium	104	103	P/P	80 - 120
2258458	Sodium	97.7		P	80 - 120
2258458	Zinc	91.9	90.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257773	Aluminum	114		P	80 - 120
2257773	Antimony	108		P	80 - 120
2257773	Arsenic	105		P	80 - 120
2257773	Beryllium	104		P	80 - 120
2257773	Boron	113		P	80 - 120
2257773	Cadmium	103		P	80 - 120
2257773	Chromium	102		P	80 - 120
2257773	Copper	105		P	80 - 120
2257773	Lead	104		P	80 - 120
2257773	Nickel	104		P	80 - 120
2257773	Selenium	105		P	80 - 120
2257773	Silver	102		P	80 - 120
2257773	Thallium	111		P	80 - 120
2258458	Aluminum	108	109	P/P	80 - 120
2258458	Antimony	107	108	P/P	80 - 120
2258458	Arsenic	105	106	P/P	80 - 120
2258458	Beryllium	102	105	P/P	80 - 120
2258458	Boron	115	115	P/P	80 - 120
2258458	Cadmium	102	105	P/P	80 - 120
2258458	Chromium	100	101	P/P	80 - 120
2258458	Copper	104	105	P/P	80 - 120
2258458	Lead	105	105	P/P	80 - 120
2258458	Nickel	103	104	P/P	80 - 120
2258458	Selenium	103	102	P/P	80 - 120
2258458	Silver	100	101	P/P	80 - 120
2258458	Thallium	112	111	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400655

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257613	Chloride	95.4		P	90 - 110
2258001	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257613	Sulfate	92.6		P	90 - 110
2258001	Sulfate	93.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257904	Ammonia-N	100	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257782	NO2NO3-N	98.2	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257956	Total-P	107	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258067	O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P400365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258111	Aldrin	67.0	62.2	P/P	20 - 170
2258111	Alpha-BHC	73.7	73.4	P/P	50 - 170
2258111	Alpha-Chlordane	63.9	75.2	P/P	50 - 170
2258111	Beta-BHC	43.5	79.1	F/P	50 - 170
2258111	Beta-Cyfluthrin	114	101	P/P	50 - 170
2258111	Bifenthrin	67.2	70.8	P/P	40 - 170
2258111	Carbophenothion	88.2	73.7	P/P	20 - 170
2258111	Chlorothalonil	128	104	P/P	20 - 170
2258111	Cis-Nonachlor	96.1	81.6	P/P	50 - 170
2258111	Cypermethrin	108	100	P/P	50 - 170
2258111	Dacthal	67.6	79.2	P/P	50 - 170
2258111	DDD-p,p'	90.5	77.9	P/P	50 - 170
2258111	DDE-p,p'	60.9	71.0	P/P	50 - 170
2258111	DDT-p,p'	64.4	65.4	P/P	50 - 170

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P400365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258111	Delta-BHC	51.9	88.2	P/P	50 - 170
2258111	Deltamethrin	103	95.6	P/P	50 - 170
2258111	Dichlobenil	65.9	68.8	P/P	40 - 170
2258111	Dicofol	64.5	74.2	P/P	50 - 170
2258111	Dieldrin	71.7	82.1	P/P	50 - 170
2258111	Endosulfan I	67.0	75.4	P/P	50 - 170
2258111	Endosulfan II	106	87.2	P/P	50 - 170
2258111	Endosulfan Sulfate	109	94.5	P/P	50 - 170
2258111	Endrin	99.7	82.8	P/P	50 - 170
2258111	Endrin Aldehyde	98.0	73.2	P/P	50 - 170
2258111	Endrin Ketone	102	86.5	P/P	50 - 170
2258111	Esfenvalerate	103	92.5	P/P	50 - 180
2258111	Ethalfuralin	73.8	71.2	P/P	50 - 170
2258111	Fenpropathrin	76.1	83.3	P/P	50 - 170
2258111	Gamma-BHC	64.6	75.9	P/P	50 - 170
2258111	Gamma-Chlordane	65.8	76.4	P/P	50 - 170
2258111	Heptachlor	83.8	69.5	P/P	50 - 170
2258111	Heptachlor Epoxide	66.7	78.1	P/P	50 - 170
2258111	Hexachlorobenzene	64.7	74.1	P/P	50 - 170
2258111	Kepone	96.2	86.1	P/P	30 - 180
2258111	Lambda-Cyhalothrin	107	98.5	P/P	50 - 200
2258111	Methoxychlor	63.7	74.1	P/P	50 - 170
2258111	MGK-264	63.1	74.5	P/P	30 - 170
2258111	Mirex	82.0	74.5	P/P	50 - 180
2258111	Permethrin	94.7	89.3	P/P	50 - 170
2258111	Phenothrin	78.0	78.7	P/P	20 - 170
2258111	Piperonyl Butoxide	79.3	92.9	P/P	50 - 170
2258111	Prallethrin	57.9	72.4	P/P	30 - 170
2258111	Tau-Fluvalinate	96.0	89.2	P/P	40 - 170
2258111	Tetramethrin	72.0	75.0	P/P	30 - 170
2258111	Trans-Nonachlor	60.3	73.6	P/P	50 - 170
2258111	Triclosan Methyl	64.8	77.6	P/P	50 - 170
2258111	Trifluralin	72.5	72.7	P/P	50 - 170

Reference Method: EPA 8276
Batch ID: P400365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258113	Chlordane	81.2	81.6	P/P	47 - 128
2258113	Toxaphene	72.8	67.7	P/P	11 - 163

Reference Method: EPA 8321B
Batch ID: P400314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257607	Acesulfame K	78.8	87.6	P/P	40 - 150
2257607	AMPA	85.0	82.9	P/P	40 - 150
2257607	Endothall	93.9	93.7	P/P	40 - 150
2257607	Glufosinate	86.9	89.2	P/P	40 - 150
2257607	Glyphosate	91.4	82.6	P/P	40 - 150
2257607	Sucralose	80.9	85.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P400315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256868	2,4-D	122	124	P/P	30 - 160
2256868	2,4,5-T	113	116	P/P	30 - 160
2256868	Acetaminophen	112	112	P/P	30 - 160
2256868	Acetamiprid	82.4	74.6	P/P	30 - 160
2256868	Afidopyropen	71.1	57.7	P/P	30 - 160
2256868	Bentazon	79.5	74.5	P/P	30 - 160
2256868	Benzovindiflupyr	84.5	91.2	P/P	30 - 160
2256868	Carbamazepine	85.2	87.3	P/P	30 - 160
2256868	Clothianidin	114	107	P/P	30 - 160
2256868	Dinotefuran	125	123	P/P	30 - 160
2256868	Diuron	75.7	68.5	P/P	30 - 160
2256868	Fenuron	83.1	79.1	P/P	30 - 160
2256868	Fluridone	79.7	81.1	P/P	30 - 160
2256868	Hydrocodone	108	107	P/P	30 - 160
2256868	Ibuprofen	84.8	67.3	P/P	30 - 160
2256868	Imazapyr	168	159	F/P	30 - 160
2256868	Imidacloprid	148	155	P/P	30 - 160
2256868	Linuron	70.6	70.0	P/P	30 - 160
2256868	Mandestrobin	94.0	90.3	P/P	30 - 160
2256868	MCCP	113	112	P/P	30 - 160
2256868	Naproxen	97.4	75.5	P/P	30 - 160
2256868	Primidone	122	111	P/P	30 - 160
2256868	Pyraclostrobin	88.6	80.2	P/P	30 - 160
2256868	Thiamethoxam	145	148	P/P	30 - 160
2256868	Tolfenpyrad	53.7	55.9	P/P	30 - 160
2256868	Triclopyr	121	113	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P400469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258522	3-Hydroxycarbofuran	94.8	97.9	P/P	40 - 150
2258522	Aldicarb	71.4	80.1	P/P	30 - 150
2258522	Aldicarb Sulfone	102	96.4	P/P	40 - 150
2258522	Aldicarb Sulfoxide	66.2	68.4	P/P	40 - 150
2258522	Carbaryl	73.9	60.2	P/P	40 - 150
2258522	Carbofuran	77.1	75.8	P/P	40 - 150
2258522	Methiocarb	74.8	85.7	P/P	40 - 150
2258522	Methomyl	84.3	80.8	P/P	40 - 150
2258522	Oxamyl	93.8	90.0	P/P	40 - 150
2258522	Propoxur	75.1	72.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P400710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257941	Fluoride	95.0	97.3	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P400568

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

Reference Method: SM 5310 B-2011
Batch ID: P400568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257786	Organic Carbon	101		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400432

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257960	Turbidity	2.63	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400573

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258458	Barium	1.18	Spike	P	0 - 20
2258458	Calcium	0.163	Spike	P	0 - 20
2258458	Iron	5.17	Spike	P	0 - 20
2258458	Magnesium	2.20	Spike	P	0 - 20
2258458	Manganese	0.958	Spike	P	0 - 20
2258458	Potassium	0.704	Spike	P	0 - 20
2258458	Sodium	2.84	Spike	P	0 - 20
2258458	Zinc	1.21	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400573

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258458	Aluminum	0.725	Spike	P	0 - 20
2258458	Antimony	0.714	Spike	P	0 - 20
2258458	Arsenic	0.265	Spike	P	0 - 20
2258458	Beryllium	2.82	Spike	P	0 - 20
2258458	Boron	0.190	Spike	P	0 - 20
2258458	Cadmium	2.19	Spike	P	0 - 20
2258458	Chromium	0.976	Spike	P	0 - 20
2258458	Copper	0.924	Spike	P	0 - 20
2258458	Lead	0.310	Spike	P	0 - 20
2258458	Nickel	0.583	Spike	P	0 - 20
2258458	Selenium	0.683	Spike	P	0 - 20
2258458	Silver	0.631	Spike	P	0 - 20
2258458	Thallium	0.784	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400655

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257613	Chloride	1.54	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400656

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257613	Sulfate	1.51	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400693

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257904	Ammonia-N	1.28	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400588

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257818	Kjeldahl Nitrogen	2.60	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400443

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257782	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400527

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257956	Total-P	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400410

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258067	O-Phosphate-P	0.166	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P400365

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258111	Aldrin	7.38	Spike	P	0 - 30
2258111	Alpha-BHC	0.400	Spike	P	0 - 30
2258111	Alpha-Chlordane	16.2	Spike	P	0 - 30
2258111	Beta-BHC	58.0	Spike	F	0 - 30
2258111	Beta-Cyfluthrin	12.2	Spike	P	0 - 30
2258111	Bifenthrin	5.29	Spike	P	0 - 30
2258111	Carbophenothion	17.9	Spike	P	0 - 30
2258111	Chlorothalonil	19.9	Spike	P	0 - 50
2258111	Cis-Nonachlor	16.4	Spike	P	0 - 30
2258111	Cypermethrin	7.26	Spike	P	0 - 30
2258111	Dacthal	15.8	Spike	P	0 - 30
2258111	DDD-p,p'	15.0	Spike	P	0 - 30
2258111	DDE-p,p'	15.3	Spike	P	0 - 30
2258111	DDT-p,p'	1.34	Spike	P	0 - 30
2258111	Delta-BHC	51.8	Spike	F	0 - 30
2258111	Deltamethrin	7.69	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P400365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258111	Dichlobenil	4.26	Spike	P	0 - 30
2258111	Dicofol	14.0	Spike	P	0 - 30
2258111	Dieldrin	13.6	Spike	P	0 - 30
2258111	Endosulfan I	11.8	Spike	P	0 - 30
2258111	Endosulfan II	19.7	Spike	P	0 - 30
2258111	Endosulfan Sulfate	14.0	Spike	P	0 - 30
2258111	Endrin	18.5	Spike	P	0 - 30
2258111	Endrin Aldehyde	28.9	Spike	P	0 - 30
2258111	Endrin Ketone	16.7	Spike	P	0 - 30
2258111	Esfenvalerate	10.5	Spike	P	0 - 30
2258111	Ethalfuralin	3.61	Spike	P	0 - 30
2258111	Fenpropathrin	9.11	Spike	P	0 - 30
2258111	Gamma-BHC	16.0	Spike	P	0 - 30
2258111	Gamma-Chlordane	14.9	Spike	P	0 - 30
2258111	Heptachlor	18.7	Spike	P	0 - 30
2258111	Heptachlor Epoxide	15.7	Spike	P	0 - 30
2258111	Hexachlorobenzene	13.6	Spike	P	0 - 30
2258111	Kepone	11.1	Spike	P	0 - 30
2258111	Lambda-Cyhalothrin	7.83	Spike	P	0 - 30
2258111	Methoxychlor	15.1	Spike	P	0 - 30
2258111	MGK-264	16.7	Spike	P	0 - 30
2258111	Mirex	9.54	Spike	P	0 - 30
2258111	Permethrin	5.91	Spike	P	0 - 30
2258111	Phenothrin	1.01	Spike	P	0 - 30
2258111	Piperonyl Butoxide	15.8	Spike	P	0 - 30
2258111	Prallethrin	22.2	Spike	P	0 - 30
2258111	Tau-Fluvalinate	7.34	Spike	P	0 - 30
2258111	Tetramethrin	4.07	Spike	P	0 - 30
2258111	Trans-Nonachlor	19.8	Spike	P	0 - 30
2258111	Triclosan Methyl	17.9	Spike	P	0 - 30
2258111	Trifluralin	0.338	Spike	P	0 - 30
LFB	Aldrin	2.24	LCS	P	0 - 30
LFB	Alpha-BHC	3.14	LCS	P	0 - 30
LFB	Alpha-Chlordane	3.83	LCS	P	0 - 30
LFB	Beta-BHC	0.414	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	3.79	LCS	P	0 - 30
LFB	Bifenthrin	0.912	LCS	P	0 - 30
LFB	Carbophenothion	1.80	LCS	P	0 - 30
LFB	Chlorothalonil	4.34	LCS	P	0 - 50
LFB	Cis-Nonachlor	1.04	LCS	P	0 - 30
LFB	Cypermethrin	3.45	LCS	P	0 - 30
LFB	Dacthal	5.83	LCS	P	0 - 30
LFB	DDD-p,p'	3.11	LCS	P	0 - 30
LFB	DDE-p,p'	2.67	LCS	P	0 - 30
LFB	DDT-p,p'	0.0482	LCS	P	0 - 30
LFB	Delta-BHC	0.458	LCS	P	0 - 30
LFB	Deltamethrin	7.52	LCS	P	0 - 30
LFB	Dichlobenil	6.72	LCS	P	0 - 30
LFB	Dicofol	1.02	LCS	P	0 - 30
LFB	Dieldrin	7.87	LCS	P	0 - 30
LFB	Endosulfan I	3.18	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P400365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	6.25	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.843	LCS	P	0 - 30
LFB	Endrin	2.62	LCS	P	0 - 30
LFB	Endrin Aldehyde	4.76	LCS	P	0 - 30
LFB	Endrin Ketone	6.31	LCS	P	0 - 30
LFB	Esfenvalerate	5.13	LCS	P	0 - 30
LFB	Ethalfuralin	1.81	LCS	P	0 - 30
LFB	Fenpropathrin	0.784	LCS	P	0 - 30
LFB	Gamma-BHC	2.67	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.75	LCS	P	0 - 30
LFB	Heptachlor	0.358	LCS	P	0 - 30
LFB	Heptachlor Epoxide	2.00	LCS	P	0 - 30
LFB	Hexachlorobenzene	1.15	LCS	P	0 - 30
LFB	Kepone	9.81	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	6.72	LCS	P	0 - 30
LFB	Methoxychlor	0.769	LCS	P	0 - 30
LFB	MGK-264	4.12	LCS	P	0 - 30
LFB	Mirex	1.20	LCS	P	0 - 30
LFB	Permethrin	0.616	LCS	P	0 - 30
LFB	Phenothrin	2.14	LCS	P	0 - 30
LFB	Piperonyl Butoxide	1.44	LCS	P	0 - 30
LFB	Prallethrin	8.91	LCS	P	0 - 30
LFB	Tau-Fluvalinate	1.97	LCS	P	0 - 30
LFB	Tetramethrin	3.11	LCS	P	0 - 30
LFB	Trans-Nonachlor	6.67	LCS	P	0 - 30
LFB	Triclosan Methyl	3.06	LCS	P	0 - 30
LFB	Trifluralin	2.85	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P400365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258113	Chlordane	0.593	Spike	P	0 - 30
2258113	Toxaphene	7.18	Spike	P	0 - 30
LFB	Chlordane	2.52	LCS	P	0 - 30
LFB	Toxaphene	3.81	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P400314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257607	Acesulfame K	9.91	Spike	P	0 - 30
2257607	AMPA	2.21	Spike	P	0 - 30
2257607	Endothall	0.197	Spike	P	0 - 30
2257607	Glufosinate	2.64	Spike	P	0 - 30
2257607	Glyphosate	9.03	Spike	P	0 - 30
2257607	Sucralose	5.32	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P400315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256868	2,4-D	1.26	Spike	P	0 - 30
2256868	2,4,5-T	3.02	Spike	P	0 - 30
2256868	Acetaminophen	0.0414	Spike	P	0 - 30
2256868	Acetamiprid	10.0	Spike	P	0 - 30
2256868	Afidopyropen	20.9	Spike	P	0 - 30
2256868	Bentazon	4.42	Spike	P	0 - 30
2256868	Benzovindiflupyr	7.62	Spike	P	0 - 30
2256868	Carbamazepine	2.49	Spike	P	0 - 30
2256868	Clothianidin	6.72	Spike	P	0 - 30
2256868	Dinotefuran	1.79	Spike	P	0 - 30
2256868	Diuron	9.87	Spike	P	0 - 30
2256868	Fenuron	4.91	Spike	P	0 - 30
2256868	Fluridone	1.73	Spike	P	0 - 30
2256868	Hydrocodone	1.10	Spike	P	0 - 30
2256868	Ibuprofen	23.0	Spike	P	0 - 30
2256868	Imazapyr	5.53	Spike	P	0 - 30
2256868	Imidacloprid	3.73	Spike	P	0 - 30
2256868	Linuron	0.884	Spike	P	0 - 30
2256868	Mandestrobin	4.05	Spike	P	0 - 30
2256868	MCP	0.487	Spike	P	0 - 30
2256868	Naproxen	25.3	Spike	P	0 - 30
2256868	Primidone	9.27	Spike	P	0 - 30
2256868	Pyraclostrobin	9.94	Spike	P	0 - 30
2256868	Thiamethoxam	2.44	Spike	P	0 - 30
2256868	Tolfenpyrad	4.05	Spike	P	0 - 30
2256868	Triclopyr	6.44	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P400469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258522	3-Hydroxycarbofuran	3.20	Spike	P	0 - 30
2258522	Aldicarb	11.6	Spike	P	0 - 30
2258522	Aldicarb Sulfone	5.78	Spike	P	0 - 30
2258522	Aldicarb Sulfoxide	3.20	Spike	P	0 - 30
2258522	Carbaryl	20.3	Spike	P	0 - 30
2258522	Carbofuran	1.62	Spike	P	0 - 30
2258522	Methiocarb	13.6	Spike	P	0 - 30
2258522	Methomyl	4.24	Spike	P	0 - 30
2258522	Oxamyl	3.88	Spike	P	0 - 30
2258522	Propoxur	4.00	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P400423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257817	Color (true)	1.39	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P400707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257941	Total Alkalinity	0.884	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257423	TDS	6.21	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257941	Fluoride	0.457	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257786	Organic Carbon	0.0481	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2257919
Field Sample ID: DI_06292021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	93.6	P	30 - 160

Lab Sample ID: 2257920
Field Sample ID: DI_06292021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	132	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	115	P	30 - 160
EPA 8321B	Diuron-d6	89.2	P	30 - 160
EPA 8321B	Endothall-d6	82.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	106	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	86.1	P	30 - 160

Lab Sample ID: 2257921
Field Sample ID: DI_06292021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	83.5	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	69.9	P	30 - 110
EPA 8276	Decachlorobiphenyl	58.9	P	29 - 92.0
EPA 8276	PCNB	90.5	P	43 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106369

Included Lab Sample IDs: 2257918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	99.3	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106379

Included Lab Sample IDs: 2257916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106383

Included Lab Sample IDs: 2257916

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106386

Included Lab Sample IDs: 2257917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106390

Included Lab Sample IDs: 2257920

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.7	95.4	P/P	50 - 150
2,4,5-T	104	99.2	P/P	50 - 150
Acetaminophen	111	104	P/P	60 - 160
Acetamiprid	104	101	P/P	50 - 150
Afidopyropen	97.1	95.0	P/P	50 - 150
Bentazon	105	101	P/P	50 - 160
Benzovindiflupyr	113	114	P/P	50 - 160
Carbamazepine	111	109	P/P	60 - 150
Clothianidin	116	105	P/P	60 - 150
Dinotefuran	109	103	P/P	50 - 150
Diuron	105	108	P/P	60 - 160
Fenuron	99.6	104	P/P	60 - 150
Fluridone	101	103	P/P	60 - 160
Hydrocodone	109	108	P/P	60 - 150
Ibuprofen	96.7	103	P/P	50 - 160
Imazapyr	108	94.0	P/P	50 - 160
Imidacloprid	94.3	95.4	P/P	60 - 150
Linuron	114	101	P/P	60 - 150
Mandestrobin	107	113	P/P	50 - 150
MCPP	105	103	P/P	50 - 150
Naproxen	91.9	102	P/P	50 - 160
Primidone	101	100	P/P	60 - 150
Pyraclostrobin	104	108	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106390
Included Lab Sample IDs: 2257920

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thiamethoxam	106	106	P/P	50 - 150
Tolfenpyrad	107	101	P/P	60 - 150
Triclopyr	103	103	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A106404
Included Lab Sample IDs: 2257920

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	98.9	75.1	P/P	60 - 160
Glufosinate	97.0	78.5	P/P	60 - 160
Glyphosate	99.9	84.5	P/P	60 - 160

Reference Method: EPA 8276
Run ID: A106437
Included Lab Sample IDs: 2257921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	100		P	80 - 120
Toxaphene	95.8		P	80 - 120

Reference Method: EPA 8270E
Run ID: A106440
Included Lab Sample IDs: 2257921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	95.9		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	105		P	80 - 120
Beta-BHC	98.0		P	80 - 120
Beta-Cyfluthrin	104		P	80 - 120
Bifenthrin	99.3		P	80 - 120
Carbophenothion	105		P	80 - 120
Chlorothalonil	111		P	80 - 120
Cis-Nonachlor	103		P	80 - 120
Cypermethrin	98.7		P	80 - 120
Dacthal	102		P	80 - 120
DDD-p,p'	102		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	98.7		P	80 - 120
Delta-BHC	101		P	80 - 120
Deltamethrin	104		P	80 - 120
Dichlobenil	91.3		P	80 - 120
Dicofol	102		P	80 - 120
Dieldrin	105		P	80 - 120
Endosulfan I	102		P	80 - 120
Endosulfan II	104		P	80 - 120
Endosulfan Sulfate	100		P	80 - 120
Endrin	103		P	80 - 120
Endrin Aldehyde	98.9		P	80 - 120
Endrin Ketone	103		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A106440
Included Lab Sample IDs: 2257921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Esfenvalerate	101		P	80 - 120
Ethalfuralin	99.2		P	80 - 120
Fenpropathrin	97.5		P	80 - 120
Gamma-BHC	99.4		P	80 - 120
Gamma-Chlordane	103		P	80 - 120
Heptachlor	101		P	80 - 120
Heptachlor Epoxide	102		P	80 - 120
Hexachlorobenzene	99.2		P	80 - 120
Kepone	96.6		P	80 - 120
Lambda-Cyhalothrin	102		P	80 - 120
Methoxychlor	96.5		P	80 - 120
MGK-264	102		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	100		P	80 - 120
Phenothrin	98.1		P	80 - 120
Piperonyl Butoxide	103		P	80 - 120
Prallethrin	102		P	80 - 120
Tau-Fluvalinate	103		P	80 - 120
Tetramethrin	103		P	80 - 120
Trans-Nonachlor	105		P	80 - 120
Triclosan Methyl	101		P	80 - 120
Trifluralin	98.0		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A106454
Included Lab Sample IDs: 2257917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106459
Included Lab Sample IDs: 2257917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A106461
Included Lab Sample IDs: 2257920

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	82.8	75.4	P/P	60 - 160
Endothall	80.2	71.1	P/P	60 - 160
Sucralose	77.4	75.8	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A106481
Included Lab Sample IDs: 2257916

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106481

Included Lab Sample IDs: 2257916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	98.5	P/P	90 - 110
Sulfate	98.6	98.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106493

Included Lab Sample IDs: 2257923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	103	P/P	90 - 110
Antimony	105	105	P/P	90 - 110
Arsenic	102	100	P/P	90 - 110
Beryllium	95.7	96.5	P/P	90 - 110
Boron	104	105	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Chromium	98.9	99.8	P/P	90 - 110
Copper	102	99.5	P/P	90 - 110
Lead	98.9	98.8	P/P	90 - 110
Nickel	101	100	P/P	90 - 110
Selenium	100	100	P/P	90 - 110
Silver	99.5	98.7	P/P	90 - 110
Thallium	99.4	98.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106497

Included Lab Sample IDs: 2257919

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	105	101	P/P	60 - 150
Aldicarb	114	110	P/P	60 - 150
Aldicarb Sulfone	98.3	101	P/P	50 - 150
Aldicarb Sulfoxide	95.8	90.4	P/P	50 - 150
Carbaryl	98.1	102	P/P	60 - 150
Carbofuran	107	107	P/P	50 - 150
Methiocarb	93.0	86.1	P/P	50 - 150
Methomyl	95.0	98.4	P/P	50 - 150
Oxamyl	103	104	P/P	50 - 150
Propoxur	101	93.1	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106506

Included Lab Sample IDs: 2257917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	98.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106513

Included Lab Sample IDs: 2257916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A106513

Included Lab Sample IDs: 2257916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106543

Included Lab Sample IDs: 2257923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	99.6	P/P	95 - 105
Calcium	102	101	P/P	95 - 105
Iron	98.6	94.9	P/P	95 - 105
Magnesium	99.8	97.9	P/P	95 - 105
Manganese	101	101	P/P	95 - 105
Potassium	101	102	P/P	95 - 105
Sodium	100	96.6	P/P	95 - 105
Zinc	97.5	96.5	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106580

Included Lab Sample IDs: 2257917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.3	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							2.63	
EPA 200.7 Rev. 4.4	Barium	99.2		97.2	100	98.9			1.18
	Calcium	99.1		105	100				0.163
	Iron	95.6		90.4	115	109			5.17
	Magnesium	102		101	98.0	102			2.20
	Manganese	99.7		97.3	99.9	98.9			0.958
	Potassium	104		108	104	103			0.704
	Sodium	92.1		94.7	97.7				2.84
	Zinc	90.2		88.7	91.9	90.8			1.21
EPA 200.8 Rev. 5.4	Aluminum	108		114	108	109			0.725
	Antimony	108		108	107	108			0.714
	Arsenic	105		105	105	106			0.265
	Beryllium	105		104	102	105			2.82
	Boron	113		113	115	115			0.190
	Cadmium	102		103	102	105			2.19
	Chromium	102		102	100	101			0.976
	Copper	102		105	104	105			0.924
	Lead	103		104	105	105			0.310
	Nickel	103		104	103	104			0.583
	Selenium	104		105	103	102			0.683
	Silver	100		102	100	101			0.631
	Thallium	107		111	112	111			0.784
EPA 300.0 Rev. 2.1	Chloride	96.7		95.4	98.2			1.54	
	Sulfate	97.3		92.6	93.0			1.51	
EPA 350.1 Rev. 2.0	Ammonia-N	99.4		100	98.8				1.28
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107							2.60
EPA 353.2 Rev. 2.0	NO2NO3-N	101		98.2	98.2				0.0
EPA 365.1 Rev. 2.0	Total-P	101		107	104				1.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		101	100				0.166
EPA 8270E	Aldrin	54.4	53.2	62.2	67.0		2.24		7.38
	Alpha-BHC	89.9	92.8	73.4	73.7		3.14		0.400
	Alpha-Chlordane	78.2	75.3	75.2	63.9		3.83		16.2
	Beta-BHC	95.0	94.6	79.1	43.5		0.414		58.0
	Beta-Cyfluthrin	89.4	86.1	114	101		3.79		12.2
	Bifenthrin	61.4	62.0	67.2	70.8		0.912		5.29
	Carbophenothion	75.6	74.2	88.2	73.7		1.80		17.9
	Chlorothalonil	97.2	93.0	128	104		4.34		19.9
	Cis-Nonachlor	80.1	80.9	96.1	81.6		1.04		16.4
	Cypermethrin	98.8	95.5	108	100		3.45		7.26
	Dacthal	90.5	85.4	67.6	79.2		5.83		15.8
	DDD-p,p'	80.0	77.5	90.5	77.9		3.11		15.0
	DDE-p,p'	74.1	72.2	60.9	71.0		2.67		15.3
	DDT-p,p'	74.6	74.6	64.4	65.4		0.0482		1.34
	Delta-BHC	96.5	96.9	51.9	88.2		0.458		51.8
	Deltamethrin	81.0	75.1	103	95.6		7.52		7.69
	Dichlobenil	78.7	73.5	65.9	68.8		6.72		4.26
	Dicofol	78.8	79.6	64.5	74.2		1.02		14.0
	Dieldrin	79.5	73.4	71.7	82.1		7.87		13.6
	Endosulfan I	78.2	75.8	67.0	75.4		3.18		11.8
	Endosulfan II	93.8	88.1	106	87.2		6.25		19.7
	Endosulfan Sulfate	98.4	97.6	109	94.5		0.843		14.0
	Endrin	83.6	81.4	99.7	82.8		2.62		18.5
	Endrin Aldehyde	77.9	74.3	98.0	73.2		4.76		28.9
	Endrin Ketone	107	101	102	86.5		6.31		16.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Esfenvalerate	82.9	78.8	103	92.5	5.13		10.5
	Ethalfuralin	75.4	74.0	73.8	71.2	1.81		3.61
	Fenpropathrin	77.8	77.2	76.1	83.3	0.784		9.11
	Gamma-BHC	85.8	88.2	64.6	75.9	2.67		16.0
	Gamma-Chlordane	72.9	70.9	65.8	76.4	2.75		14.9
	Heptachlor	69.3	69.5	83.8	69.5	0.358		18.7
	Heptachlor Epoxide	76.3	74.8	66.7	78.1	2.00		15.7
	Hexachlorobenzene	69.0	69.8	64.7	74.1	1.15		13.6
	Kepone	106	95.7	96.2	86.1	9.81		11.1
	Lambda-Cyhalothrin	82.8	77.4	107	98.5	6.72		7.83
	Methoxychlor	81.2	81.8	63.7	74.1	0.769		15.1
	MGK-264	82.4	79.1	63.1	74.5	4.12		16.7
	Mirex	67.0	67.8	82.0	74.5	1.20		9.54
	Permethrin	92.4	91.8	94.7	89.3	0.616		5.91
	Phenothrin	77.9	76.2	78.0	78.7	2.14		1.01
	Piperonyl Butoxide	109	108	79.3	92.9	1.44		15.8
	Prallethrin	74.7	68.3	57.9	72.4	8.91		22.2
	Tau-Fluvalinate	78.9	77.4	96.0	89.2	1.97		7.34
	Tetramethrin	76.1	73.7	72.0	75.0	3.11		4.07
	Trans-Nonachlor	74.5	69.7	60.3	73.6	6.67		19.8
EPA 8276	Triclosan Methyl	79.8	77.4	64.8	77.6	3.06		17.9
	Trifluralin	73.5	75.6	72.5	72.7	2.85		0.338
	Chlordane	77.9	76.0	81.2	81.6	2.52		0.593
EPA 8321B	Toxaphene	62.2	59.9	72.8	67.7	3.81		7.18
	2,4-D	120		122	124			1.26
	2,4,5-T	128		113	116			3.02
	3-Hydroxycarbofuran	89.4		94.8	97.9			3.20
	Acesulfame K	89.8		78.8	87.6			9.91
	Acetaminophen	83.0		112	112			0.0414
	Acetamiprid	90.6		82.4	74.6			10.0
	Afidopyropen	73.6		71.1	57.7			20.9
	Aldicarb	87.7		71.4	80.1			11.6
	Aldicarb Sulfone	95.1		102	96.4			5.78
	Aldicarb Sulfoxide	86.7		66.2	68.4			3.20
	AMPA	97.0		85.0	82.9			2.21
	Bentazon	92.3		79.5	74.5			4.42
	Benzovindiflupyr	92.8		84.5	91.2			7.62
	Carbamazepine	92.0		85.2	87.3			2.49
	Carbaryl	83.8		73.9	60.2			20.3
	Carbofuran	89.2		77.1	75.8			1.62
	Clothianidin	92.2		114	107			6.72
	Dinotefuran	88.1		125	123			1.79
	Diuron	73.7		75.7	68.5			9.87
	Endothall	97.7		93.9	93.7			0.197
	Fenuron	99.7		83.1	79.1			4.91
	Fluridone	87.6		79.7	81.1			1.73
	Glufosinate	93.3		86.9	89.2			2.64
	Glyphosate	96.5		91.4	82.6			9.03
	Hydrocodone	94.6		108	107			1.10
	Ibuprofen	86.0		84.8	67.3			23.0
	Imazapyr	101		168	159			5.53
	Imidacloprid	92.6		148	155			3.73
	Linuron	73.3		70.6	70.0			0.884
	Mandestrobin	94.1		94.0	90.3			4.05

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	MCCP	125	113	112			0.487
	Methiocarb	83.4	74.8	85.7			13.6
	Methomyl	86.3	84.3	80.8			4.24
	Naproxen	82.1	97.4	75.5			25.3
	Oxamyl	99.5	93.8	90.0			3.88
	Primidone	93.3	122	111			9.27
	Propoxur	93.7	75.1	72.2			4.00
	Pyraclostrobin	81.1	88.6	80.2			9.94
	Sucralose	85.2	80.9	85.6			5.32
	Thiamethoxam	91.7	145	148			2.44
	Tolfenpyrad	47.4	53.7	55.9			4.05
	Triclopyr	122	121	113			6.44
SM 2120 B-2011	Color (true)	100				1.39	
SM 2320 B-2011	Total Alkalinity	103				0.884	
SM 2540 C-2011	TDS					6.21	
SM 4500 F-C-2011	Fluoride	99.9	95.0	97.3			0.457
SM 5310 B-2011	Organic Carbon	97.1	101				0.0481

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2257916
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2257923
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2257923
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2257916
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2257916
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2257917
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2257917
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2257917
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2257917
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2257918
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2257921
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2257921
EPA 8321B	Carbamates in water matrices by HPLC/MS/MS	2257919
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2257920
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2257916
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2257916
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2257923
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2257916
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2257916
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2257916
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2257917

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	06/30/2021			06/30/2021 16:33	Sarah A Nixon	2257916
EPA 200.7 Rev. 4.4	06/30/2021	07/06/2021 13:45	Elliott D. Healy	07/09/2021 11:47	Betina Topolski	2257923
EPA 200.8 Rev. 5.4	06/30/2021	07/06/2021 13:45	Elliott D. Healy	07/07/2021 14:02	Alexander Thompson	2257923
EPA 300.0 Rev. 2.1	06/30/2021			07/07/2021 18:06	Lipi Saha	2257916
EPA 350.1 Rev. 2.0	06/30/2021			07/08/2021 12:32	Roberta Tatti	2257917
EPA 351.2 Rev. 2.0	06/30/2021	07/06/2021 14:20	Benjamin T. Nordmann	07/13/2021 12:06	Letuzia M De Oliveira	2257917
EPA 353.2 Rev. 2.0	06/30/2021			07/01/2021 09:06	Beverly Y. Sanders	2257917
EPA 365.1 Rev. 2.0	06/30/2021	07/02/2021 14:09	Madeline Gruver	07/06/2021 13:26	Shengyu Ding	2257917
EPA 365.1 Rev. 2.0 dissolved	06/30/2021			06/30/2021 14:19	Ping Hua	2257918
EPA 8270E	06/30/2021	07/01/2021 08:30	Rasheda Ghaffari	07/04/2021 02:05	Michael Poppell	2257921
EPA 8276	06/30/2021	07/01/2021 08:30	Rasheda Ghaffari	07/05/2021 17:49	Michael Poppell	2257921
EPA 8321B	06/30/2021	06/30/2021 13:00	Hoor Shaik	07/01/2021 05:08	Juyoung Kim	2257920
	06/30/2021	07/01/2021 11:30	Pramila Ghimire	07/01/2021 17:32	Juyoung Kim	2257920
	06/30/2021	07/01/2021 11:30	Pramila Ghimire	07/02/2021 11:34	Pramila Ghimire	2257920
	06/30/2021	07/02/2021 14:00	Hoor Shaik	07/07/2021 16:18	Juyoung Kim	2257919
SM 2120 B-2011	06/30/2021			06/30/2021 17:07	Sarah A Nixon	2257916
SM 2320 B-2011	06/30/2021			07/09/2021 01:22	Dale L. Simmons	2257916
SM 2340B	06/30/2021			07/09/2021 11:47	Betina Topolski	2257923
SM 2540 C-2011	06/30/2021			07/01/2021 15:22	Yijie Li	2257916
SM 2540 D-2011	06/30/2021			07/01/2021 15:22	Yijie Li	2257916
SM 4500 F-C-2011	06/30/2021			07/09/2021 01:22	Dale L. Simmons	2257916
SM 5310 B-2011	06/30/2021			07/03/2021 05:20	Madeline Gruver	2257917