

Chemical Analysis Report

SE-DIST-2022-02-04-01

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

Event Description: **Sebastian Boat 2022**

Request ID: **RQ-2022-01-31-61**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

For additional information please contact

Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 01-MAR-2022 09:26



NON-CONFORMANCE REPORT INCLUDED

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Sebastian @ Dale Wimbrow

Collection Date/Time: 02/03/2022 10:15

Field ID: G5SE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303718	EPA 8270E	Aldrin	0.66	U	ng/L	P409586	
		Alpha-BHC	0.10	U	ng/L	P409586	
		Alpha-Chlordane	0.20	U	ng/L	P409586	
		Beta-BHC	0.10	U	ng/L	P409586	RPD
		Beta-Cyfluthrin**	1.3	U	ng/L	P409586	
		Bifenthrin**	0.51	U	ng/L	P409586	
		Carbophenothion	0.91	U	ng/L	P409586	
		Chlorothalonil	1.3	U	ng/L	P409586	
		Cis-Nonachlor**	0.20	U	ng/L	P409586	
		Cypermethrin	1.5	U	ng/L	P409586	
		Dacthal**	0.15	U	ng/L	P409586	
		DDD-p,p'	0.25	U	ng/L	P409586	
		DDE-p,p'	0.20	U	ng/L	P409586	
		DDT-p,p'	0.25	U	ng/L	P409586	
		Delta-BHC	0.41	U	ng/L	P409586	
		Deltamethrin**	1.3	U	ng/L	P409586	
		Dichlobenil**	0.25	U	ng/L	P409586	
		Dicofol	1.3	UJ	ng/L	P409586	CCV, LCS, MS
		Dieldrin	0.41	U	ng/L	P409586	
		Endosulfan I	0.41	U	ng/L	P409586	
		Endosulfan II	0.41	U	ng/L	P409586	
		Endosulfan Sulfate	0.30	U	ng/L	P409586	
		Endrin	0.41	U	ng/L	P409586	
		Endrin Aldehyde	0.76	U	ng/L	P409586	
		Endrin Ketone	0.41	U	ng/L	P409586	
		Esfenvalerate**	0.76	U	ng/L	P409586	
		Ethalfuralin**	0.15	U	ng/L	P409586	
		Fenpropathrin**	0.25	UJ	ng/L	P409586	CCV, RPD
		Gamma-BHC	0.13	U	ng/L	P409586	
		Gamma-Chlordane	0.20	U	ng/L	P409586	
		Heptachlor	0.20	U	ng/L	P409586	
		Heptachlor Epoxide	0.25	U	ng/L	P409586	
		Hexachlorobenzene	1.0	U	ng/L	P409586	
		Kepone**	5.1	U	ng/L	P409586	
		Lambda-Cyhalothrin**	0.76	U	ng/L	P409586	
		Methoprene**	0.76	U	ng/L	P409586	
		Methoxychlor	0.30	U	ng/L	P409586	
		MGK-264**	0.20	U	ng/L	P409586	
		Mirex	0.71	U	ng/L	P409586	
		Oxychlordane**	0.30	U	ng/L	P409586	
		Permethrin	1.6	U	ng/L	P409586	MS
		Phenothrin**	0.91	U	ng/L	P409586	
		Piperonyl Butoxide**	0.15	UJ	ng/L	P409586	CCV

Field ID: G5SE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303718	EPA 8270E	Prallethrin**	2.0	U	ng/L	P409586	
		Tau-Fluvalinate**	0.25	U	ng/L	P409586	RPD
		Tetramethrin**	0.76	U	ng/L	P409586	
		Trans-Nonachlor**	0.20	U	ng/L	P409586	
		Triclosan Methyl**	0.15	U	ng/L	P409586	
		Trifluralin	0.20	U	ng/L	P409586	
2303719	EPA 8321B	Chlordane	2.5	U	ng/L	P409586	
		Toxaphene	15	U	ng/L	P409586	
		Acesulfame K	0.10	U	ug/L	P409457	
		2,4-D	0.0034	I	ug/L	P409557	
		AMPA	10	U	ug/L	P409457	
		2,4,5-T	0.0040	U	ug/L	P409557	
		Acetaminophen	0.0080	U	ug/L	P409557	
		Endothall	0.25	U	ug/L	P409457	
		Acetamiprid	0.0020	U	ug/L	P409557	
		Glufosinate	10	U	ug/L	P409457	
		Glyphosate	10	U	ug/L	P409457	
		Afidopyrophen	0.0020	U	ug/L	P409557	
		Sucralose	0.22		ug/L	P409457	
		Bentazon	0.024		ug/L	P409557	
		Benzovindiflupyr	0.0020	U	ug/L	P409557	
		Carbamazepine	0.0012	I	ug/L	P409557	
		Clothianidin	0.0020	U	ug/L	P409557	
		Dinotefuran	0.0020	U	ug/L	P409557	
		Diuron	0.0023	I	ug/L	P409557	
		Fenuron	0.016	U	ug/L	P409557	
		Fluridone	0.0015	I	ug/L	P409557	
		Imazapyr	0.15		ug/L	P409557	
		Hydrocodone	0.0020	U	ug/L	P409557	
		Ibuprofen	0.020	U	ug/L	P409557	RPD
		Imidacloprid	0.0024	I	ug/L	P409557	
		Linuron	0.0040	U	ug/L	P409557	
		Mandestrobin	0.0020	U	ug/L	P409557	
		MCPP	0.0040	U	ug/L	P409557	
		Naproxen	0.0080	U	ug/L	P409557	
		Primidone	0.0040	U	ug/L	P409557	
		Pyraclostrobin	0.0020	U	ug/L	P409557	
		Silvex	0.0040	U	ug/L	P409557	MS
		Thiamethoxam	0.0020	U	ug/L	P409557	
		Tolfenpyrad	0.0020	U	ug/L	P409557	
		Triclopyr	0.0040	U	ug/L	P409557	MS

Ref. Method and Comment:

EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Sample Location: Sebastian 970m downstream of S-157

Collection Date/Time: 02/03/2022 11:30

Field ID: G5SE0084

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303701	EPA 180.1 Rev. 2.0	Turbidity	4.1	A	NTU	P409468	
	SM 2320 B-2011	Total Alkalinity	183		mg CaCO3/L	P409590	
	SM 2540 D-2011	TSS	3	I	mg/L	P409970	
	SM 4500 F-C-2011	Fluoride	0.47		mg F/L	P409592	
2303703	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P409952	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P409540	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.073		mg N/L	P409553	
	EPA 365.1 Rev. 2.0	Total-P	0.080		mg P/L	P409621	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P410103	
2303705	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P409464	
2303720	EPA 200.7 Rev. 4.4	Calcium	165		mg/L	P409606	
		Iron	400		ug/L	P409606	
		Magnesium	262		mg/L	P409606	
		Strontium	5.28E+03		ug/L	P409606	
		Tin	9.0	U	ug/L	P409606	
		Titanium	2.6	I	ug/L	P409606	
		Vanadium	6.0	U	ug/L	P409606	
		Zinc	15	U	ug/L	P409606	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P409606	
		Antimony	0.20	U	ug/L	P409606	
		Arsenic	0.86		ug/L	P409606	
		Beryllium	0.10	U	ug/L	P409606	
		Cadmium	0.080	U	ug/L	P409606	
		Chromium	1.6	U	ug/L	P409606	
		Cobalt	0.094	I	ug/L	P409606	
		Copper	1.6	U	ug/L	P409606	
		Lead	0.80	U	ug/L	P409606	
		Manganese	12.7		ug/L	P409606	
		Molybdenum	4.2		ug/L	P409606	
		Nickel	2.0	U	ug/L	P409606	
		Selenium	0.80	U	ug/L	P409606	
		Silver	0.040	U	ug/L	P409606	
		Thallium	0.40	U	ug/L	P409606	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: South Prong Sebastian @ Park Dock

Collection Date/Time: 02/03/2022 10:30

Field ID: G5SE0079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303707	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P409468	
	SM 2320 B-2011	Total Alkalinity	154		mg CaCO3/L	P409590	
	SM 2540 D-2011	TSS	5	I	mg/L	P409973	
	SM 4500 F-C-2011	Fluoride	0.60		mg F/L	P409592	
2303708	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P409952	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P409540	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P409553	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P409624	
	SM 5310 B-2011	Organic Carbon	7.4		mg C/L	P410401	
2303709	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P409464	
2303717	EPA 8270E	Aldrin	0.67	U	ng/L	P409586	
		Alpha-BHC	0.10	U	ng/L	P409586	
		Alpha-Chlordane	0.20	U	ng/L	P409586	
		Beta-BHC	0.10	U	ng/L	P409586	RPD
		Beta-Cyfluthrin**	1.3	U	ng/L	P409586	
		Bifenthrin**	0.51	U	ng/L	P409586	
		Carbophenothion	0.92	U	ng/L	P409586	
		Chlorothalonil	1.3	U	ng/L	P409586	
		Cis-Nonachlor**	0.20	U	ng/L	P409586	
		Cypermethrin	1.5	U	ng/L	P409586	
		Dacthal**	0.15	U	ng/L	P409586	
		DDD-p,p'	0.26	U	ng/L	P409586	
		DDE-p,p'	0.20	U	ng/L	P409586	
		DDT-p,p'	0.26	U	ng/L	P409586	
		Delta-BHC	0.41	U	ng/L	P409586	
		Deltamethrin**	1.3	U	ng/L	P409586	
		Dichlobenil**	0.26	U	ng/L	P409586	
		Dicofol	1.3	UJ	ng/L	P409586	CCV, LCS, MS
		Dieldrin	0.41	U	ng/L	P409586	
		Endosulfan I	0.41	U	ng/L	P409586	
		Endosulfan II	0.41	U	ng/L	P409586	
		Endosulfan Sulfate	0.31	U	ng/L	P409586	
		Endrin	0.41	U	ng/L	P409586	
		Endrin Aldehyde	0.77	U	ng/L	P409586	
		Endrin Ketone	0.41	U	ng/L	P409586	
		Esfenvalerate**	0.77	U	ng/L	P409586	
		Ethalfuralin**	0.15	U	ng/L	P409586	
		Fenpropathrin**	0.26	UJ	ng/L	P409586	CCV, RPD
		Gamma-BHC	0.13	U	ng/L	P409586	
		Gamma-Chlordane	0.20	U	ng/L	P409586	
		Heptachlor	0.20	U	ng/L	P409586	
		Heptachlor Epoxide	0.26	U	ng/L	P409586	
		Hexachlorobenzene	1.0	U	ng/L	P409586	

Field ID: G5SE0079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303717	EPA 8270E	Kepone**	5.1	U	ng/L	P409586	
		Lambda-Cyhalothrin**	0.77	U	ng/L	P409586	
		Methoprene**	0.77	U	ng/L	P409586	
		Methoxychlor	0.31	U	ng/L	P409586	
		MGK-264**	0.20	U	ng/L	P409586	
		Mirex	0.72	U	ng/L	P409586	
		Oxychlordane**	0.31	U	ng/L	P409586	
		Permethrin	1.6	U	ng/L	P409586	MS
		Phenothrin**	0.92	U	ng/L	P409586	
		Piperonyl Butoxide**	0.15	UJ	ng/L	P409586	CCV
		Prallethrin**	2.0	U	ng/L	P409586	
		Tau-Fluvalinate**	0.26	U	ng/L	P409586	RPD
		Tetramethrin**	0.77	U	ng/L	P409586	
		Trans-Nonachlor**	0.20	U	ng/L	P409586	
		Triclosan Methyl**	0.15	U	ng/L	P409586	
		Trifluralin	0.20	U	ng/L	P409586	
	EPA 8276	Chlordane	2.6	U	ng/L	P409586	
		Toxaphene	15	U	ng/L	P409586	

Ref. Method and Comment:
EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: C-54 Confluence 1.25 miles downstream of S-157

Collection Date/Time: 02/03/2022 11:15

Field ID: G5SE0116

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2303702	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P409468	
	SM 2320 B-2011	Total Alkalinity	170	A	mg CaCO3/L	P409590	
	SM 2540 D-2011	TSS	4	I	mg/L	P409973	
	SM 4500 F-C-2011	Fluoride	0.58		mg F/L	P409592	
2303704	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P409952	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P409540	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.069		mg N/L	P409553	
	EPA 365.1 Rev. 2.0	Total-P	0.069		mg P/L	P409621	
	SM 5310 B-2011	Organic Carbon	8.6		mg C/L	P410401	
2303706	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P409464	
2303721	EPA 200.7 Rev. 4.4	Calcium	195		mg/L	P409606	
		Iron	340	I	ug/L	P409606	
		Magnesium	375		mg/L	P409606	
		Strontium	5.66E+03		ug/L	P409606	
		Tin	60	U	ug/L	P409606	
		Titanium	2.7	I	ug/L	P409606	
		Vanadium	6.0	U	ug/L	P409606	
		Zinc	15	U	ug/L	P409606	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P409606	
		Antimony	0.20	U	ug/L	P409606	
		Arsenic	0.98		ug/L	P409606	
		Beryllium	0.10	U	ug/L	P409606	
		Cadmium	0.080	U	ug/L	P409606	
		Chromium	1.6	U	ug/L	P409606	
		Cobalt	0.15	I	ug/L	P409606	
		Copper	1.6	U	ug/L	P409606	
		Lead	0.80	U	ug/L	P409606	
		Manganese	11.9		ug/L	P409606	
		Molybdenum	5.1		ug/L	P409606	
		Nickel	2.0	U	ug/L	P409606	
		Selenium	0.80	U	ug/L	P409606	
		Silver	0.040	U	ug/L	P409606	
		Thallium	0.40	U	ug/L	P409606	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 9282

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
SE-DIST-2022-02-04-01	TLH-2022-02-04-16	2303704	
SE-DIST-2022-02-04-01	TLH-2022-02-04-16	2303708	

NCR Type: CUSTODY

NCR Category: General

Observation: Samples were removed from the receiving room refrigerator on 02/27/2022 at 4:30 PM, and left out over night at room temperature. Receiving observed the leftout samples the next day on 02/28/2022 at 9:00 AM.

Resolution: Customers were contacted by the receiving staff, and samples were returned to the appropriate refrigerators. Results reported for event BBAP-2022-02-04-01, SE-DIST-2022-02-04-01 were not affected by improper storage. All results were obtained prior to 02/28/2022.

Authorized by/Date: 0

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

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409468

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P409606

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P409606

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
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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 350.1 Rev. 2.0
Batch ID: P409952

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409540

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409553

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409621

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409624

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409464

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

Reference Method: EPA 8270E
Batch ID: P409586

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	0.90	U	ng/L
Carbophenothion	0.90	U	ng/L
Chlorothalonil	1.2	U	ng/L
Chlorothalonil	1.2	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
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	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P409586

Component	Result	Code	Units
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
Methoprene	0.75	U	ng/L
Methoprene	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	0.70	U	ng/L
Mirex	0.70	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	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
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P409586

Component	Result	Code	Units
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: P409586

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Chlordane	2.5	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: EPA 8321B

Batch ID: P409457

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: P409557

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
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P409557

Component	Result	Code	Units
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P409590

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

Reference Method: SM 2540 D-2011
Batch ID: P409970

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P409973

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P409592

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P410103

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

Reference Method: SM 5310 B-2011
Batch ID: P410401

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.2		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P409606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	103		P	85 - 115
Strontium	101		P	85 - 115
Tin	105		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	95.7		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P409606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	101		P	85 - 115
Beryllium	95.2		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	103		P	85 - 115
Copper	100		P	85 - 115
Lead	99.8		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	103		P	85 - 115
Selenium	99.4		P	85 - 115
Silver	102		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409952

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409540

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P409553

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409621

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409624

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409464

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

Reference Method: EPA 8270E

Batch ID: P409586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	52.2		P	10 - 93.0
Alpha-BHC	90.3		P	75 - 106
Alpha-Chlordane	69.0		P	50 - 109
Beta-BHC	91.1		P	65 - 135
Beta-Cyfluthrin	98.2		P	23 - 167
Bifenthrin	55.5		P	11 - 123
Carbophenothion	51.3		P	18 - 96.0
Chlorothalonil	103		P	26 - 182
Cis-Nonachlor	68.6		P	40 - 111
Cypermethrin	84.7		P	25 - 155
Dacthal	88.0		P	73 - 112
DDD-p,p'	56.1		P	47 - 108
DDE-p,p'	66.4		P	48 - 107
DDT-p,p'	80.7		P	49 - 111
Delta-BHC	102		P	68 - 143
Deltamethrin	70.1		P	16 - 176
Dichlobenil	80.9		P	32 - 113
Dicofol	47.0		F	50 - 108
Dieldrin	70.5		P	56 - 110
Endosulfan I	75.2		P	60 - 105
Endosulfan II	70.9		P	50 - 120
Endosulfan Sulfate	88.5		P	55 - 121
Endrin	66.4		P	35 - 117
Endrin Aldehyde	58.2		P	36 - 116
Endrin Ketone	99.2		P	56 - 130
Esfenvalerate	86.1		P	10 - 179
Ethalfuralin	65.1		P	49 - 99.0
Fenpropathrin	64.5		P	35 - 119
Gamma-BHC	90.6		P	72 - 115
Gamma-Chlordane	69.1		P	45 - 107
Heptachlor	64.8		P	41 - 100
Heptachlor Epoxide	80.0		P	58 - 106
Hexachlorobenzene	73.9		P	39 - 100
Kepone	144		P	10 - 191

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P409586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lambda-Cyhalothrin	65.0		P	10 - 186
Methoprene	56.7		P	10 - 129
Methoxychlor	87.9		P	61 - 111
MGK-264	74.8		P	20 - 123
Mirex	46.3		P	10 - 182
Oxychlordane	76.6		P	39 - 110
Permethrin	137		P	26 - 152
Phenothrin	41.3		P	10 - 109
Piperonyl Butoxide	64.3		P	27 - 142
Prallethrin	66.5		P	14 - 109
Tau-Fluvalinate	64.0		P	16 - 134
Tetramethrin	67.8		P	10 - 125
Trans-Nonachlor	74.4		P	45 - 107
Triclosan Methyl	94.3		P	60 - 110
Trifluralin	59.9		P	49 - 98.0

Reference Method: EPA 8276

Batch ID: P409586

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	79.2		P	61 - 118
Toxaphene	65.8		P	51 - 122

Reference Method: EPA 8321B

Batch ID: P409457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	76.7		P	40 - 150
AMPA	109		P	40 - 150
Endothall	68.2		P	40 - 150
Glufosinate	103		P	40 - 150
Glyphosate	96.0		P	40 - 150
Sucralose	81.7		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P409557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.8		P	40 - 150
2,4,5-T	63.9		P	40 - 150
Acetaminophen	62.7		P	30 - 150
Acetamiprid	83.8		P	40 - 150
Afidopyropen	49.6		P	40 - 150
Bentazon	83.1		P	30 - 150
Benzovindiflupyr	66.9		P	40 - 150
Carbamazepine	96.6		P	40 - 150
Clothianidin	81.7		P	40 - 150
Dinotefuran	98.9		P	40 - 150
Diuron	98.1		P	40 - 150
Fenuron	86.1		P	40 - 150
Fluridone	89.1		P	40 - 150
Hydrocodone	85.0		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P409557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ibuprofen	101		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	79.8		P	40 - 150
Linuron	59.2		P	40 - 150
Mandestrobin	93.4		P	40 - 150
MCPP	102		P	40 - 150
Naproxen	64.8		P	40 - 150
Primidone	109		P	40 - 150
Pyraclostrobin	70.6		P	40 - 150
Silvex	76.7		P	40 - 150
Thiamethoxam	103		P	40 - 150
Tolfenpyrad	40.4		P	30 - 150
Triclopyr	55.8		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P409590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P409592

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P410103

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	91.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P410401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P409606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303721	Iron	108	106	P/P	80 - 120
2303721	Tin	99.4	101	P/P	80 - 120
2303721	Titanium	104	106	P/P	80 - 120
2303721	Vanadium	101	100	P/P	80 - 120
2303721	Zinc	104	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P409606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303721	Aluminum	97.6	106	P/P	70 - 130
2303721	Antimony	105	106	P/P	70 - 130
2303721	Arsenic	117	116	P/P	70 - 130
2303721	Beryllium	117	117	P/P	70 - 130
2303721	Cadmium	101	99.7	P/P	70 - 130
2303721	Chromium	101	101	P/P	70 - 130
2303721	Cobalt	119	117	P/P	70 - 130
2303721	Copper	110	110	P/P	70 - 130
2303721	Lead	107	107	P/P	70 - 130
2303721	Manganese	102	101	P/P	70 - 130
2303721	Molybdenum	115	116	P/P	70 - 130
2303721	Nickel	121	119	P/P	70 - 130
2303721	Selenium	106	108	P/P	70 - 130
2303721	Silver	93.7	93.8	P/P	70 - 130
2303721	Thallium	113	115	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P409952

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303923	Ammonia-N	98.6	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P409540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303703	Kjeldahl Nitrogen	99.5	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P409553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303638	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303639	Total-P	92.9	93.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304113	Total-P	99.1	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303705	O-Phosphate-P	96.9	98.0	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P409586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303758	Aldrin	43.0	40.9	P/P	10 - 89.0
2303758	Alpha-BHC	88.2	87.9	P/P	71 - 105
2303758	Alpha-Chlordane	57.5	55.5	P/P	43 - 107
2303758	Beta-BHC	72.6	102	P/P	57 - 152
2303758	Beta-Cyfluthrin	107	82.4	P/P	29 - 186
2303758	Bifenthrin	67.4	49.8	P/P	19 - 119
2303758	Carbophenothion	68.0	53.6	P/P	19 - 107
2303758	Chlorothalonil	114	148	P/P	10 - 245
2303758	Cis-Nonachlor	57.9	50.7	P/P	36 - 110
2303758	Cypermethrin	111	82.2	P/P	24 - 169
2303758	Dacthal	89.9	83.9	P/P	62 - 115
2303758	DDD-p,p'	49.7	47.0	P/P	36 - 109
2303758	DDE-p,p'	53.4	46.6	P/P	30 - 114
2303758	DDT-p,p'	69.1	60.1	P/P	42 - 108
2303758	Delta-BHC	100	113	P/P	60 - 164
2303758	Deltamethrin	77.6	54.5	P/P	10 - 210
2303758	Dichlobenil	46.6	57.9	P/P	23 - 108
2303758	Dicofol	45.1	39.6	P/F	44 - 109
2303758	Dieldrin	61.6	57.5	P/P	37 - 119
2303758	Endosulfan I	64.9	63.9	P/P	52 - 105
2303758	Endosulfan II	62.5	65.9	P/P	35 - 127
2303758	Endosulfan Sulfate	88.0	96.1	P/P	39 - 130
2303758	Endrin	59.7	55.0	P/P	30 - 116
2303758	Endrin Aldehyde	48.2	52.1	P/P	20 - 110
2303758	Endrin Ketone	115	117	P/P	48 - 134
2303758	Esfenvalerate	127	80.2	P/P	10 - 199
2303758	Ethalfuralin	62.9	59.6	P/P	48 - 95.0
2303758	Fenpropathrin	85.0	57.4	P/P	37 - 121
2303758	Gamma-BHC	90.3	95.8	P/P	61 - 126
2303758	Gamma-Chlordane	59.8	55.7	P/P	39 - 105
2303758	Heptachlor	57.9	59.4	P/P	38 - 96.0
2303758	Heptachlor Epoxide	78.0	76.5	P/P	42 - 114
2303758	Hexachlorobenzene	65.7	57.2	P/P	39 - 93.0
2303758	Kepone	88.3	111	P/P	10 - 215
2303758	Lambda-Cyhalothrin	91.4	73.4	P/P	10 - 204
2303758	Methoprene	64.8	58.4	P/P	17 - 108
2303758	Methoxychlor	85.7	84.8	P/P	56 - 115
2303758	MGK-264	77.2	84.3	P/P	35 - 120
2303758	Mirex	47.6	38.6	P/P	10 - 178
2303758	Oxychlordane	86.7	79.9	P/P	47 - 91.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P409586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303758	Permethrin	181	159	F/P	27 - 170
2303758	Phenothrin	66.0	62.8	P/P	10 - 133
2303758	Piperonyl Butoxide	112	106	P/P	23 - 150
2303758	Prallethrin	67.9	68.3	P/P	21 - 113
2303758	Tau-Fluvalinate	100	64.0	P/P	16 - 158
2303758	Tetramethrin	82.7	89.7	P/P	22 - 132
2303758	Trans-Nonachlor	53.8	51.4	P/P	43 - 102
2303758	Triclosan Methyl	74.3	68.3	P/P	49 - 109
2303758	Trifluralin	55.1	52.6	P/P	48 - 93.0

Reference Method: EPA 8276

Batch ID: P409586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304434	Chlordane	85.5	80.2	P/P	55 - 128
2304434	Toxaphene	87.6	80.6	P/P	57 - 211

Reference Method: EPA 8321B

Batch ID: P409457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303298	Acesulfame K	90.8	101	P/P	40 - 150
2303298	AMPA	93.5	87.5	P/P	40 - 150
2303298	Endothall	92.3	86.3	P/P	40 - 150
2303298	Glufosinate	100	99.3	P/P	40 - 150
2303298	Glyphosate	89.1	90.5	P/P	40 - 150
2303298	Sucralose	82.1	92.1	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P409557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303655	2,4-D	105	93.0	P/P	40 - 150
2303655	2,4,5-T	43.0	45.7	P/P	40 - 150
2303655	Acetaminophen	91.7	96.6	P/P	30 - 150
2303655	Acetamiprid	114	101	P/P	40 - 150
2303655	Afidopyropen	96.2	100	P/P	40 - 150
2303655	Bentazon	63.4	77.2	P/P	30 - 150
2303655	Benzovindiflupyr	95.6	78.2	P/P	40 - 150
2303655	Carbamazepine	115	114	P/P	40 - 150
2303655	Clothianidin	103	96.4	P/P	40 - 150
2303655	Dinotefuran	132	117	P/P	40 - 150
2303655	Diuron	99.9	76.3	P/P	40 - 150
2303655	Fenuron	90.5	95.4	P/P	40 - 150
2303655	Fluridone	91.1	104	P/P	40 - 150
2303655	Hydrocodone	98.9	98.6	P/P	40 - 150
2303655	Ibuprofen	121	85.4	P/P	40 - 150
2303655	Imazapyr	136	141	P/P	40 - 150
2303655	Imidacloprid	114	120	P/P	40 - 150
2303655	Linuron	69.8	71.9	P/P	40 - 150
2303655	Mandestrobin	91.3	105	P/P	40 - 150
2303655	MCPP	118	104	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P409557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303655	Naproxen	71.5	85.6	P/P	40 - 150
2303655	Primidone	105	81.4	P/P	40 - 150
2303655	Pyraclostrobin	86.4	88.4	P/P	40 - 150
2303655	Silvex	38.8	44.0	F/P	40 - 150
2303655	Thiamethoxam	124	121	P/P	40 - 150
2303655	Tolfenpyrad	50.3	38.5	P/P	30 - 150
2303655	Triclopyr	48.9	37.5	P/F	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P409592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303702	Fluoride	97.5	98.3	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P410103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303360	Organic Carbon	95.2	98.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P410401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2303637	Organic Carbon	93.5	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P409468

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303701	Turbidity	4.16	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P409606

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303721	Calcium	0.136	Spike	P	0 - 20
2303721	Iron	2.03	Spike	P	0 - 20
2303721	Magnesium	1.63	Spike	P	0 - 20
2303721	Strontium	0.470	Spike	P	0 - 20
2303721	Tin	2.03	Spike	P	0 - 20
2303721	Titanium	2.45	Spike	P	0 - 20
2303721	Vanadium	0.812	Spike	P	0 - 20
2303721	Zinc	1.20	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P409606

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303721	Aluminum	8.68	Spike	P	0 - 20
2303721	Antimony	0.957	Spike	P	0 - 20
2303721	Arsenic	0.947	Spike	P	0 - 20
2303721	Beryllium	0.449	Spike	P	0 - 20
2303721	Cadmium	1.04	Spike	P	0 - 20
2303721	Chromium	0.616	Spike	P	0 - 20
2303721	Cobalt	1.55	Spike	P	0 - 20
2303721	Copper	0.355	Spike	P	0 - 20
2303721	Lead	0.163	Spike	P	0 - 20
2303721	Manganese	0.892	Spike	P	0 - 20
2303721	Molybdenum	0.165	Spike	P	0 - 20
2303721	Nickel	1.74	Spike	P	0 - 20
2303721	Selenium	1.47	Spike	P	0 - 20
2303721	Silver	0.0637	Spike	P	0 - 20
2303721	Thallium	1.69	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P409952

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303923	Ammonia-N	0.941	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P409540

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303703	Kjeldahl Nitrogen	0.596	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P409553

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303638	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409621

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303639	Total-P	0.450	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409624

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304113	Total-P	0.702	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409464

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303705	O-Phosphate-P	0.899	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P409586

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303758	Aldrin	5.06	Spike	P	0 - 37
2303758	Alpha-BHC	0.289	Spike	P	0 - 16
2303758	Alpha-Chlordane	3.43	Spike	P	0 - 28
2303758	Beta-BHC	33.5	Spike	F	0 - 32
2303758	Beta-Cyfluthrin	26.1	Spike	P	0 - 41
2303758	Bifenthrin	30.0	Spike	P	0 - 36
2303758	Carbophenothion	23.7	Spike	P	0 - 30
2303758	Chlorothalonil	26.0	Spike	P	0 - 54
2303758	Cis-Nonachlor	13.3	Spike	P	0 - 33
2303758	Cypermethrin	29.3	Spike	P	0 - 38
2303758	Dacthal	6.91	Spike	P	0 - 23
2303758	DDD-p,p'	5.45	Spike	P	0 - 35
2303758	DDE-p,p'	13.7	Spike	P	0 - 27
2303758	DDT-p,p'	13.9	Spike	P	0 - 31
2303758	Delta-BHC	12.2	Spike	P	0 - 30
2303758	Deltamethrin	34.9	Spike	P	0 - 76
2303758	Dichlobenil	21.8	Spike	P	0 - 33
2303758	Dicofol	12.9	Spike	P	0 - 24
2303758	Dieldrin	6.86	Spike	P	0 - 35
2303758	Endosulfan I	1.59	Spike	P	0 - 25
2303758	Endosulfan II	5.24	Spike	P	0 - 31
2303758	Endosulfan Sulfate	8.82	Spike	P	0 - 38
2303758	Endrin	8.15	Spike	P	0 - 53

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P409586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303758	Endrin Aldehyde	7.84	Spike	P	0 - 81
2303758	Endrin Ketone	2.09	Spike	P	0 - 33
2303758	Esfenvalerate	45.2	Spike	P	0 - 46
2303758	Ethalfuralin	5.46	Spike	P	0 - 22
2303758	Fenpropathrin	38.7	Spike	F	0 - 29
2303758	Gamma-BHC	5.96	Spike	P	0 - 17
2303758	Gamma-Chlordane	7.06	Spike	P	0 - 28
2303758	Heptachlor	2.45	Spike	P	0 - 28
2303758	Heptachlor Epoxide	1.96	Spike	P	0 - 23
2303758	Hexachlorobenzene	13.9	Spike	P	0 - 22
2303758	Kepone	22.9	Spike	P	0 - 61
2303758	Lambda-Cyhalothrin	21.8	Spike	P	0 - 52
2303758	Methoprene	10.2	Spike	P	0 - 38
2303758	Methoxychlor	1.04	Spike	P	0 - 29
2303758	MGK-264	8.76	Spike	P	0 - 41
2303758	Mirex	20.9	Spike	P	0 - 39
2303758	Oxychlordane	8.21	Spike	P	0 - 33
2303758	Permethrin	12.7	Spike	P	0 - 39
2303758	Phenothrin	5.02	Spike	P	0 - 52
2303758	Piperonyl Butoxide	5.28	Spike	P	0 - 91
2303758	Prallethrin	0.514	Spike	P	0 - 34
2303758	Tau-Fluvalinate	44.4	Spike	F	0 - 41
2303758	Tetramethrin	8.15	Spike	P	0 - 43
2303758	Trans-Nonachlor	4.62	Spike	P	0 - 31
2303758	Triclosan Methyl	8.49	Spike	P	0 - 24
2303758	Trifluralin	4.64	Spike	P	0 - 23

Reference Method: EPA 8276

Batch ID: P409586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304434	Chlordane	6.43	Spike	P	0 - 25
2304434	Toxaphene	8.41	Spike	P	0 - 24

Reference Method: EPA 8321B

Batch ID: P409457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303298	Acesulfame K	10.5	Spike	P	0 - 30
2303298	AMPA	6.65	Spike	P	0 - 30
2303298	Endothall	6.68	Spike	P	0 - 30
2303298	Glufosinate	0.830	Spike	P	0 - 30
2303298	Glyphosate	1.42	Spike	P	0 - 30
2303298	Sucralose	9.21	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P409557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303655	2,4-D	11.7	Spike	P	0 - 30
2303655	2,4,5-T	6.20	Spike	P	0 - 30
2303655	Acetaminophen	5.18	Spike	P	0 - 30
2303655	Acetamiprid	12.8	Spike	P	0 - 30
2303655	Afidopyropen	4.19	Spike	P	0 - 30
2303655	Bentazon	11.3	Spike	P	0 - 30
2303655	Benzovindiflupyr	20.0	Spike	P	0 - 30
2303655	Carbamazepine	0.304	Spike	P	0 - 30
2303655	Clothianidin	6.40	Spike	P	0 - 30
2303655	Dinotefuran	12.2	Spike	P	0 - 30
2303655	Diuron	25.2	Spike	P	0 - 30
2303655	Fenuron	5.28	Spike	P	0 - 30
2303655	Fluridone	12.6	Spike	P	0 - 30
2303655	Hydrocodone	0.229	Spike	P	0 - 30
2303655	Ibuprofen	34.6	Spike	F	0 - 30
2303655	Imazapyr	3.09	Spike	P	0 - 30
2303655	Imidacloprid	5.12	Spike	P	0 - 30
2303655	Linuron	2.95	Spike	P	0 - 30
2303655	Mandestrobin	13.7	Spike	P	0 - 30
2303655	MCP	12.4	Spike	P	0 - 30
2303655	Naproxen	18.0	Spike	P	0 - 30
2303655	Primidone	25.0	Spike	P	0 - 30
2303655	Pyraclostrobin	2.21	Spike	P	0 - 30
2303655	Silvex	12.8	Spike	P	0 - 30
2303655	Thiamethoxam	2.62	Spike	P	0 - 30
2303655	Tolfenpyrad	26.5	Spike	P	0 - 30
2303655	Triclopyr	26.3	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P409590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303702	Total Alkalinity	1.67	Sample	P	0 - 5.2

Reference Method: SM 2540 D-2011
Batch ID: P409973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303679	TSS	6.90	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P409592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303702	Fluoride	0.483	Spike	P	0 - 2.1

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P410103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303360	Organic Carbon	1.90	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P410401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2303637	Organic Carbon	1.72	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2303717
Field Sample ID: G5SE0079

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	61.7	P	31 - 118
EPA 8270E	Tetrachloro-m-xylene	57.3	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	63.9	P	30 - 97.0
EPA 8276	PCNB	75.4	P	45 - 119

Lab Sample ID: 2303718
Field Sample ID: G5SE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	68.2	P	31 - 118
EPA 8270E	Tetrachloro-m-xylene	75.5	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	67.3	P	30 - 97.0
EPA 8276	PCNB	73.6	P	45 - 119

Lab Sample ID: 2303719
Field Sample ID: G5SE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	123	P	30 - 160
EPA 8321B	Diuron-d6	98.4	P	30 - 160
EPA 8321B	Endothall-d6	50.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.0	P	30 - 160
EPA 8321B	Primidone-d5	125	P	30 - 160
EPA 8321B	Sucralose-d6	85.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A110244

Included Lab Sample IDs: 2303705, 2303706, 2303709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	100	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A110246

Included Lab Sample IDs: 2303701, 2303702, 2303707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110281

Included Lab Sample IDs: 2303703, 2303704, 2303708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A110292

Included Lab Sample IDs: 2303701, 2303702, 2303707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.7	96.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A110292

Included Lab Sample IDs: 2303701, 2303702, 2303707

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

Reference Method: EPA 8321B

Run ID: A110307

Included Lab Sample IDs: 2303719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	90.2	89.1	P/P	60 - 160
Endothall	75.5	61.6	P/P	60 - 160
Sucralose	75.6	80.5	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A110310

Included Lab Sample IDs: 2303719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	143	150	P/P	60 - 160
Glufosinate	107	105	P/P	60 - 160
Glyphosate	96.6	98.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110335

Included Lab Sample IDs: 2303703, 2303704, 2303708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.8	92.1	P/P	90 - 110
Kjeldahl Nitrogen	92.1	93.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110337

Included Lab Sample IDs: 2303703, 2303704, 2303708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	90 - 110
Total-P	103	102	P/P	90 - 110
Total-P	104	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110345

Included Lab Sample IDs: 2303720, 2303721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	95.8	98.0	P/P	90 - 110
Arsenic	103	105	P/P	90 - 110
Cadmium	99.9	101	P/P	90 - 110
Chromium	98.4	100	P/P	90 - 110
Cobalt	104	107	P/P	90 - 110
Copper	105	107	P/P	90 - 110
Lead	98.3	99.1	P/P	90 - 110
Manganese	100	102	P/P	90 - 110
Molybdenum	101	102	P/P	90 - 110
Nickel	106	109	P/P	90 - 110
Selenium	100	102	P/P	90 - 110
Silver	92.8	94.4	P/P	90 - 110
Thallium	107	107	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A110376

Included Lab Sample IDs: 2303717, 2303718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.5		P	80 - 120
Chlordane	98.1		P	80 - 120
Toxaphene	107		P	80 - 120
Toxaphene	98.2		P	80 - 120

Reference Method: EPA 8321B

Run ID: A110380

Included Lab Sample IDs: 2303719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	101	P/P	50 - 150
2,4,5-T	75.2	81.4	P/P	50 - 150
Acetaminophen	118	103	P/P	60 - 160
Acetamiprid	102	115	P/P	50 - 150
Afidopyropen	87.5	105	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A110380
Included Lab Sample IDs: 2303719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	112	112	P/P	50 - 160
Benzovindiflupyr	111	93.9	P/P	50 - 150
Carbamazepine	93.1	103	P/P	60 - 150
Clothianidin	116	119	P/P	60 - 150
Dinotefuran	102	90.5	P/P	50 - 150
Diuron	113	120	P/P	60 - 160
Fenuron	94.3	104	P/P	60 - 150
Fluridone	106	98.4	P/P	60 - 160
Hydrocodone	102	102	P/P	60 - 150
Ibuprofen	101	159	P/P	50 - 160
Imazapyr	108	129	P/P	50 - 150
Imidacloprid	102	112	P/P	60 - 150
Linuron	113	92.8	P/P	60 - 150
Mandestrobin	105	113	P/P	50 - 150
MCPP	92.3	90.6	P/P	50 - 150
Naproxen	95.4	74.5	P/P	50 - 160
Primidone	103	126	P/P	60 - 150
Pyraclostrobin	108	104	P/P	60 - 150
Silvex	92.2	95.6	P/P	50 - 150
Thiamethoxam	96.5	109	P/P	50 - 150
Tolfenpyrad	95.9	79.7	P/P	60 - 150
Triclopyr	78.8	67.9	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A110389
Included Lab Sample IDs: 2303720, 2303721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	105	P/P	90 - 110
Beryllium	101	102	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A110407
Included Lab Sample IDs: 2303717, 2303718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.5		P	80 - 120
Alpha-BHC	113		P	80 - 120
Alpha-Chlordane	96.1		P	80 - 120
Beta-BHC	89.4		P	80 - 120
Beta-Cyfluthrin	92.3		P	80 - 120
Bifenthrin	84.1		P	80 - 120
Carbophenothion	91.5		P	80 - 120
Chlorothalonil	110		P	80 - 120
Cis-Nonachlor	99.4		P	80 - 120
Cypermethrin	90.2		P	80 - 120
Dacthal	93.1		P	80 - 120
DDD-p,p'	93.2		P	80 - 120
DDE-p,p'	92.2		P	80 - 120
DDT-p,p'	104		P	80 - 120
Delta-BHC	106		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A110407

Included Lab Sample IDs: 2303717, 2303718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Deltamethrin	82.0		P	80 - 120
Dichlobenil	100		P	80 - 120
Dicofol	66.9*		F	80 - 120
Dieldrin	96.3		P	80 - 120
Endosulfan I	97.2		P	80 - 120
Endosulfan II	94.6		P	80 - 120
Endosulfan Sulfate	92.8		P	80 - 120
Endrin	95.8		P	80 - 120
Endrin Aldehyde	101		P	80 - 120
Endrin Ketone	88.9		P	80 - 120
Esfenvalerate	93.1		P	80 - 120
Ethalfuralin	99.2		P	80 - 120
Fenpropathrin	77.1*		F	80 - 120
Gamma-BHC	113		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	103		P	80 - 120
Heptachlor Epoxide	98.3		P	80 - 120
Hexachlorobenzene	106		P	80 - 120
Kepone	82.5		P	80 - 120
Lambda-Cyhalothrin	82.7		P	80 - 120
Methoprene	96.5		P	80 - 120
Methoxychlor	92.7		P	80 - 120
MGK-264	91.5		P	80 - 120
Mirex	89.5		P	80 - 120
Oxychlordane	104		P	80 - 120
Permethrin	90.1		P	80 - 120
Phenothrin	80.0		P	80 - 120
Piperonyl Butoxide	71.6*		F	80 - 120
Prallethrin	93.5		P	80 - 120
Tau-Fluvalinate	82.8		P	80 - 120
Tetramethrin	81.4		P	80 - 120
Trans-Nonachlor	106		P	80 - 120
Triclosan Methyl	99.2		P	80 - 120
Trifluralin	90.5		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110454

Included Lab Sample IDs: 2303703, 2303704, 2303708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110510

Included Lab Sample IDs: 2303703

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110528

Included Lab Sample IDs: 2303720, 2303721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	100	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Strontium	99.9	102	P/P	90 - 110
Tin	102	105	P/P	90 - 110
Tin	105	103	P/P	90 - 110
Titanium	101	104	P/P	90 - 110
Vanadium	100	103	P/P	90 - 110
Zinc	100	104	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110642

Included Lab Sample IDs: 2303704, 2303708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.2	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	96.2				4.16	
EPA 200.7 Rev. 4.4	Calcium	104					0.136
	Iron	107	108	106			2.03
	Magnesium	103					1.63
	Strontium	101					0.470
	Tin	105	99.4	101			2.03
	Titanium	103	106	104			2.45
	Vanadium	95.7	101	100			0.812
	Zinc	101	104	103			1.20
EPA 200.8 Rev. 5.4	Aluminum	104	97.6	106			8.68
	Antimony	103	105	106			0.957
	Arsenic	101	117	116			0.947
	Beryllium	95.2	117	117			0.449
	Cadmium	103	101	99.7			1.04
	Chromium	101	101	101			0.616
	Cobalt	103	119	117			1.55
	Copper	100	110	110			0.355
	Lead	99.8	107	107			0.163
	Manganese	103	102	101			0.892
	Molybdenum	102	115	116			0.165
	Nickel	103	121	119			1.74
	Selenium	99.4	106	108			1.47
	Silver	102	93.7	93.8			0.0637
	Thallium	107	113	115			1.69
EPA 350.1 Rev. 2.0	Ammonia-N	100	98.6	100			0.941
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	99.5	98.7			0.596
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	99.5	99.5			0.0
EPA 365.1 Rev. 2.0	Total-P	103	92.9	93.3			0.450
	Total-P	102	99.1	98.4			0.702
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	96.9	98.0			0.899
EPA 8270E	Aldrin	52.2	43.0	40.9			5.06
	Alpha-BHC	90.3	88.2	87.9			0.289
	Alpha-Chlordane	69.0	57.5	55.5			3.43
	Beta-BHC	91.1	72.6	102			33.5
	Beta-Cyfluthrin	98.2	107	82.4			26.1
	Bifenthrin	55.5	67.4	49.8			30.0
	Carbophenothion	51.3	68.0	53.6			23.7
	Chlorothalonil	103	114	148			26.0
	Cis-Nonachlor	68.6	57.9	50.7			13.3
	Cypermethrin	84.7	111	82.2			29.3
	Dacthal	88.0	89.9	83.9			6.91
	DDD-p,p'	56.1	49.7	47.0			5.45
	DDE-p,p'	66.4	53.4	46.6			13.7
	DDT-p,p'	80.7	69.1	60.1			13.9
	Delta-BHC	102	100	113			12.2
	Deltamethrin	70.1	77.6	54.5			34.9
	Dichlobenil	80.9	46.6	57.9			21.8
	Dicofol	47.0	45.1	39.6			12.9
	Dieldrin	70.5	61.6	57.5			6.86
	Endosulfan I	75.2	64.9	63.9			1.59
	Endosulfan II	70.9	62.5	65.9			5.24
	Endosulfan Sulfate	88.5	88.0	96.1			8.82
	Endrin	66.4	59.7	55.0			8.15
	Endrin Aldehyde	58.2	48.2	52.1			7.84

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Endrin Ketone	99.2	115	117			2.09
	Esfenvalerate	86.1	127	80.2			45.2
	Ethalfuralin	65.1	62.9	59.6			5.46
	Fenpropathrin	64.5	85.0	57.4			38.7
	Gamma-BHC	90.6	90.3	95.8			5.96
	Gamma-Chlordane	69.1	59.8	55.7			7.06
	Heptachlor	64.8	57.9	59.4			2.45
	Heptachlor Epoxide	80.0	78.0	76.5			1.96
	Hexachlorobenzene	73.9	65.7	57.2			13.9
	Kepone	144	88.3	111			22.9
	Lambda-Cyhalothrin	65.0	91.4	73.4			21.8
	Methoprene	56.7	64.8	58.4			10.2
	Methoxychlor	87.9	85.7	84.8			1.04
	MGK-264	74.8	77.2	84.3			8.76
	Mirex	46.3	47.6	38.6			20.9
	Oxychlordane	76.6	86.7	79.9			8.21
	Permethrin	137	181	159			12.7
	Phenothrin	41.3	66.0	62.8			5.02
	Piperonyl Butoxide	64.3	112	106			5.28
	Prallethrin	66.5	67.9	68.3			0.514
	Tau-Fluvalinate	64.0	100	64.0			44.4
	Tetramethrin	67.8	82.7	89.7			8.15
	Trans-Nonachlor	74.4	53.8	51.4			4.62
	Triclosan Methyl	94.3	74.3	68.3			8.49
	Trifluralin	59.9	55.1	52.6			4.64
EPA 8276	Chlordane	79.2	85.5	80.2			6.43
	Toxaphene	65.8	87.6	80.6			8.41
EPA 8321B	2,4-D	86.8	105	93.0			11.7
	2,4,5-T	63.9	43.0	45.7			6.20
	Acesulfame K	76.7	90.8	101			10.5
	Acetaminophen	62.7	91.7	96.6			5.18
	Acetamiprid	83.8	114	101			12.8
	Afidopyropen	49.6	96.2	100			4.19
	AMPA	109	93.5	87.5			6.65
	Bentazon	83.1	63.4	77.2			11.3
	Benzovindiflupyr	66.9	95.6	78.2			20.0
	Carbamazepine	96.6	115	114			0.304
	Clothianidin	81.7	103	96.4			6.40
	Dinotefuran	98.9	132	117			12.2
	Diuron	98.1	99.9	76.3			25.2
	Endothall	68.2	92.3	86.3			6.68
	Fenuron	86.1	90.5	95.4			5.28
	Fluridone	89.1	91.1	104			12.6
	Glufosinate	103	100	99.3			0.830
	Glyphosate	96.0	89.1	90.5			1.42
	Hydrocodone	85.0	98.9	98.6			0.229
	Ibuprofen	101	121	85.4			34.6
	Imazapyr	101	136	141			3.09
	Imidacloprid	79.8	114	120			5.12
	Linuron	59.2	69.8	71.9			2.95
	Mandestrobin	93.4	91.3	105			13.7
	MCPP	102	118	104			12.4
	Naproxen	64.8	71.5	85.6			18.0
	Primidone	109	105	81.4			25.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Pyraclostrobin	70.6	86.4	88.4		2.21
	Silvex	76.7	38.8	44.0		12.8
	Sucralose	81.7	82.1	92.1		9.21
	Thiamethoxam	103	124	121		2.62
	Tolfenpyrad	40.4	50.3	38.5		26.5
	Triclopyr	55.8	48.9	37.5		26.3
SM 2320 B-2011	Total Alkalinity	100			1.67	
SM 2540 D-2011	TSS				6.90	
SM 4500 F-C-2011	Fluoride	98.8	97.5	98.3		0.483
SM 5310 B-2011	Organic Carbon	91.8	95.2	98.6		1.90
	Organic Carbon	96.6	93.5	95.3		1.72

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2303701, 2303702, 2303707
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2303720, 2303721
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2303720, 2303721
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2303703, 2303704, 2303708
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2303703, 2303704, 2303708
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2303703, 2303704, 2303708
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2303703, 2303704, 2303708
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2303705, 2303706, 2303709
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2303717, 2303718
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2303717, 2303718
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2303719
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2303701, 2303702, 2303707
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2303701, 2303702, 2303707
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2303701, 2303702, 2303707
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2303703, 2303704, 2303708

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	02/04/2022			02/04/2022 15:01	Khloe J Berg	2303701
	02/04/2022			02/04/2022 15:14	Khloe J Berg	2303702
	02/04/2022			02/04/2022 15:15	Khloe J Berg	2303707
EPA 200.7 Rev. 4.4	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/21/2022 18:16	Josef B Mick	2303720
	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/21/2022 18:31	Josef B Mick	2303721
	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/21/2022 19:35	Josef B Mick	2303721
EPA 200.8 Rev. 5.4	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/11/2022 01:38	Alexander Thompson	2303720
	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/11/2022 01:48	Alexander Thompson	2303721
	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/11/2022 13:17	McKinley C Carter	2303720
	02/04/2022	02/09/2022 10:35	Vijayalakshmi Reddy	02/11/2022 13:23	McKinley C Carter	2303721
EPA 350.1 Rev. 2.0	02/04/2022			02/16/2022 13:29	Ping Hua	2303703
	02/04/2022			02/16/2022 13:33	Ping Hua	2303704
	02/04/2022			02/16/2022 13:34	Ping Hua	2303708
EPA 351.2 Rev. 2.0	02/04/2022	02/09/2022 15:02	Samantha L Bates	02/10/2022 13:24	Alexandra J Mattheus	2303703
	02/04/2022	02/09/2022 15:02	Samantha L Bates	02/10/2022 13:32	Alexandra J Mattheus	2303704
	02/04/2022	02/09/2022 15:02	Samantha L Bates	02/10/2022 13:34	Alexandra J Mattheus	2303708
EPA 353.2 Rev. 2.0	02/04/2022			02/08/2022 09:45	Beverly Y. Sanders	2303703
	02/04/2022			02/08/2022 09:47	Beverly Y. Sanders	2303704
	02/04/2022			02/08/2022 09:48	Beverly Y. Sanders	2303708
EPA 365.1 Rev. 2.0	02/04/2022	02/09/2022 16:20	Simonne.V. Calhoun	02/10/2022 14:32	Shengyu Ding	2303704
	02/04/2022	02/09/2022 16:20	Simonne.V. Calhoun	02/10/2022 15:02	Shengyu Ding	2303708
	02/04/2022	02/09/2022 16:20	Simonne.V. Calhoun	02/10/2022 15:23	Shengyu Ding	2303703
EPA 365.1 Rev. 2.0 dissolved	02/04/2022			02/04/2022 14:30	James L Waggeberby	2303705
	02/04/2022			02/04/2022 14:37	James L Waggeberby	2303706
	02/04/2022			02/04/2022 14:38	James L Waggeberby	2303709
EPA 8270E	02/04/2022	02/09/2022 08:00	Fe-Val Siddell	02/14/2022 23:33	Vandana T. Nagar	2303717
	02/04/2022	02/09/2022 08:00	Fe-Val Siddell	02/15/2022 00:02	Vandana T. Nagar	2303718
EPA 8276	02/04/2022	02/09/2022 08:00	Fe-Val Siddell	02/11/2022 09:12	Arthur Maknenko	2303717
	02/04/2022	02/09/2022 08:00	Fe-Val Siddell	02/11/2022 20:16	Arthur Maknenko	2303718
EPA 8321B	02/04/2022	02/08/2022 10:00	Manjita Shrestha	02/08/2022 17:06	Manjita Shrestha	2303719
	02/04/2022	02/08/2022 10:00	Manjita Shrestha	02/08/2022 19:42	Manjita Shrestha	2303719
	02/04/2022	02/09/2022 13:30	June Rhew	02/11/2022 03:56	Juyoung Kim	2303719
SM 2320 B-2011	02/04/2022			02/09/2022 01:02	Dale L. Simmons	2303702
	02/04/2022			02/09/2022 01:16	Dale L. Simmons	2303701
	02/04/2022			02/09/2022 01:29	Dale L. Simmons	2303707
SM 2540 D-2011	02/04/2022			02/09/2022 14:36	Yijie Li	2303701, 2303702, 2303707
SM 4500 F-C-2011	02/04/2022			02/08/2022 23:42	Dale L. Simmons	2303702
	02/04/2022			02/08/2022 23:56	Dale L. Simmons	2303701
	02/04/2022			02/09/2022 00:01	Dale L. Simmons	2303707
SM 5310 B-2011	02/04/2022			02/19/2022 01:38	Khloe J Berg	2303703

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	02/04/2022			02/27/2022 18:19	Touraj Touran	2303708
	02/04/2022			02/27/2022 19:00	Touraj Touran	2303704