

Chemical Analysis Report

SO-DIST-2022-04-21-02

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

Event Description: **2022 SMP : Myakka Cricks**

Request ID: **RQ-2022-04-18-35**

Customer: **SO-DIST**

Project ID: **SMP**

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FLDEP South District Office
2295 Victoria Ave. Suite 364
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Date Certified: 10-MAY-2022 09:54



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: LITTLE ALLIGATOR CREEK @ MIDWAY BLVD Collection Date/Time: 04/20/2022 08:35

Field ID: G3SD0071

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321147	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P412724	
	SM 2320 B-2011	Total Alkalinity	122		mg CaCO3/L	P413143	
	SM 2540 D-2011	TSS	8	I	mg/L	P413124	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P413150	
2321150	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P413069	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P413133	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P412757	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P413334	
	SM 5310 B-2011	Organic Carbon	7.9		mg C/L	P412972	
2321199	EPA 200.7 Rev. 4.4	Calcium	350		mg/L	P412869	
		Iron	120	U	ug/L	P412869	
		Magnesium	1.02E+03		mg/L	P412869	
		Strontium	7.64E+03		ug/L	P412869	
		Tin	150	U	ug/L	P412869	
		Titanium	4.8	I	ug/L	P412869	
		Vanadium	8.0	U	ug/L	P412869	
		Zinc	20	U	ug/L	P412869	
	EPA 200.8 Rev. 5.4	Aluminum	100	U	ug/L	P412869	
		Antimony	0.29	I	ug/L	P412869	
		Arsenic	2.57		ug/L	P412869	
		Beryllium	0.040	U	ug/L	P412869	
		Cadmium	0.080	U	ug/L	P412869	
		Chromium	1.6	U	ug/L	P412869	
		Cobalt	0.20	U	ug/L	P412869	
		Copper	1.6	U	ug/L	P412869	
		Lead	2.0	U	ug/L	P412869	
		Manganese	10.6		ug/L	P412869	
		Molybdenum	9.4		ug/L	P412869	
		Nickel	2.0	U	ug/L	P412869	
		Selenium	0.80	U	ug/L	P412869	
		Silver	0.040	U	ug/L	P412869	
		Thallium	1.0	U	ug/L	P412869	

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: FlopbuckNearPearlSt

Collection Date/Time: 04/20/2022 09:05

Field ID: G3SD0185

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321148	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P412724	
	SM 2320 B-2011	Total Alkalinity	146		mg CaCO3/L	P413143	
	SM 2540 D-2011	TSS	10	I	mg/L	P413124	
	SM 4500-F- C-2011	Fluoride	0.98		mg F/L	P413150	
2321151	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P413069	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P413133	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P412757	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P413334	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P412972	
2321200	EPA 200.7 Rev. 4.4	Calcium	346		mg/L	P412869	
		Iron	110	I	ug/L	P412869	
		Magnesium	898		mg/L	P412869	
		Strontium	7.43E+03		ug/L	P412869	
		Tin	150	U	ug/L	P412869	
		Titanium	3.7	I	ug/L	P412869	
		Vanadium	6.0	U	ug/L	P412869	
		Zinc	15	U	ug/L	P412869	
		Aluminum	100	U	ug/L	P412869	
		Antimony	0.35	I	ug/L	P412869	
	EPA 200.8 Rev. 5.4	Arsenic	2.66		ug/L	P412869	
		Beryllium	0.040	U	ug/L	P412869	
		Cadmium	0.080	U	ug/L	P412869	
		Chromium	1.6	U	ug/L	P412869	
		Cobalt	0.17	I	ug/L	P412869	
		Copper	1.6	U	ug/L	P412869	
		Lead	0.80	U	ug/L	P412869	
		Manganese	15.4		ug/L	P412869	
		Molybdenum	9.4		ug/L	P412869	
		Nickel	2.0	U	ug/L	P412869	
		Selenium	0.80	U	ug/L	P412869	
		Silver	0.040	U	ug/L	P412869	
		Thallium	0.40	U	ug/L	P412869	

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: ROCK CREEK @ EISENHOWER DR

Collection Date/Time: 04/20/2022 09:35

Field ID: G3SD0070

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321149	EPA 180.1 Rev. 2.0	Turbidity	6.1		NTU	P412724	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P413143	
	SM 2540 D-2011	TSS	13		mg/L	P413124	
	SM 4500-F- C-2011	Fluoride	0.99		mg F/L	P413150	
2321152	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P413069	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P413212	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P412757	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P413334	
	SM 5310 B-2011	Organic Carbon	9.6		mg C/L	P412972	
2321201	EPA 200.7 Rev. 4.4	Calcium	363		mg/L	P412869	
		Iron	320	I	ug/L	P412869	
		Magnesium	960		mg/L	P412869	
		Strontium	9.35E+03		ug/L	P412869	
		Tin	150	U	ug/L	P412869	
		Titanium	4.4	I	ug/L	P412869	
		Vanadium	6.0	U	ug/L	P412869	
		Zinc	15	U	ug/L	P412869	
	EPA 200.8 Rev. 5.4	Aluminum	180	I	ug/L	P412869	
		Antimony	0.22	I	ug/L	P412869	
		Arsenic	1.86		ug/L	P412869	
		Beryllium	0.040	U	ug/L	P412869	
		Cadmium	0.080	U	ug/L	P412869	
		Chromium	1.6	U	ug/L	P412869	
		Cobalt	0.15	I	ug/L	P412869	
		Copper	1.6	U	ug/L	P412869	
		Lead	2.0	U	ug/L	P412869	
		Manganese	13.1		ug/L	P412869	
		Molybdenum	7.3		ug/L	P412869	
		Nickel	2.0	U	ug/L	P412869	
		Selenium	0.80	U	ug/L	P412869	
		Silver	0.040	U	ug/L	P412869	
		Thallium	1.0	U	ug/L	P412869	

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: MYAKKA RIVER (TIDAL) @ US 41

Collection Date/Time: 04/20/2022 10:10

Field ID: G3SD0068

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321153	EPA 180.1 Rev. 2.0	Turbidity	2.4	A	NTU	P412724	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P413143	
	SM 2540 D-2011	TSS	4	I	mg/L	P413124	
	SM 4500-F- C-2011	Fluoride	0.81		mg F/L	P413150	
2321154	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P413280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P413212	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P412757	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P413334	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P413059	

Ref. Method and Comment:

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

Sample Location: ALLIGATOR @JACARANDA

Collection Date/Time: 04/20/2022 10:45

Field ID: G2SD0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321169	EPA 8270E	Aldrin	0.68	U	ng/L	P412694	
		Alpha-BHC	0.10	U	ng/L	P412694	
		Alpha-Chlordane	0.21	U	ng/L	P412694	
		PCB-1016	2.1	U	ng/L	P412694	
		Beta-BHC	0.10	U	ng/L	P412694	
		PCB-1221	2.1	U	ng/L	P412694	
		Beta-Cyfluthrin**	1.3	U	ng/L	P412694	
		PCB-1232	2.1	U	ng/L	P412694	
		Bifenthrin**	0.52	U	ng/L	P412694	
		PCB-1242	2.1	U	ng/L	P412694	
		Carbophenothion	0.94	U	ng/L	P412694	
		PCB-1248	2.1	U	ng/L	P412694	
		Chlorothalonil	1.3	U	ng/L	P412694	
		PCB-1254	2.1	U	ng/L	P412694	
		Cis-Nonachlor**	0.21	U	ng/L	P412694	
		PCB-1260	2.1	U	ng/L	P412694	
		Cypermethrin	1.6	U	ng/L	P412694	
		Dacthal**	0.16	U	ng/L	P412694	
		DDD-p,p'	0.42	I	ng/L	P412694	
		DDE-p,p'	0.21	U	ng/L	P412694	
		DDT-p,p'	0.26	U	ng/L	P412694	
		Delta-BHC	0.42	U	ng/L	P412694	
		Deltamethrin**	1.3	U	ng/L	P412694	
		Dichlobenil**	0.26	U	ng/L	P412694	
		Dicofol	1.3	U	ng/L	P412694	
		Dieldrin	0.46	I	ng/L	P412694	
		Endosulfan I	0.42	U	ng/L	P412694	
		Endosulfan II	0.42	U	ng/L	P412694	
		Endosulfan Sulfate	0.31	U	ng/L	P412694	
		Endrin	0.42	U	ng/L	P412694	
		Endrin Aldehyde	0.78	U	ng/L	P412694	
		Endrin Ketone	0.42	U	ng/L	P412694	
		Esfenvalerate**	0.78	U	ng/L	P412694	
		Ethalfuralin**	0.16	U	ng/L	P412694	
		Fenpropathrin**	0.26	U	ng/L	P412694	
		Gamma-BHC	0.13	U	ng/L	P412694	
		Gamma-Chlordane	0.21	U	ng/L	P412694	
		Heptachlor	0.21	U	ng/L	P412694	
		Heptachlor Epoxide	0.26	U	ng/L	P412694	
		Hexachlorobenzene**	1.0	U	ng/L	P412694	RPD
		Kepone**	5.2	U	ng/L	P412694	
		Lambda-Cyhalothrin**	0.78	U	ng/L	P412694	
		Methoprene**	0.78	U	ng/L	P412694	
		Methoxychlor	0.31	U	ng/L	P412694	

Field ID: G2SD0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321169	EPA 8270E	MGK-264**	0.21	U	ng/L	P412694	
		Mirex	0.73	U	ng/L	P412694	
		Oxychlordane**	0.31	U	ng/L	P412694	
		Permethrin	1.7	U	ng/L	P412694	
		Phenothrin**	0.94	U	ng/L	P412694	
		Piperonyl Butoxide**	0.16	U	ng/L	P412694	
		Prallethrin**	2.1	U	ng/L	P412694	
		Tau-Fluvalinate**	0.26	U	ng/L	P412694	
		Tetramethrin**	0.78	U	ng/L	P412694	
		Trans-Nonachlor**	0.21	U	ng/L	P412694	
		Triclosan Methyl**	0.16	U	ng/L	P412694	
		Trifluralin	0.21	U	ng/L	P412694	
		Chlordane	2.6	U	ng/L	P412694	
2321191	EPA 8321B	Toxaphene	16	U	ng/L	P412694	
		2,4-D	0.84		ug/L	P412715	
		Acesulfame K	0.10	U	ug/L	P412698	
		2,4,5-T	0.0040	U	ug/L	P412715	
		AMPA	2.2	I	ug/L	P412698	
		Acetaminophen	0.0080	U	ug/L	P412715	
		Acetamiprid	0.0020	U	ug/L	P412715	
		Endothall	0.27	I	ug/L	P412698	
		Glufosinate	1.0	U	ug/L	P412698	
		Glyphosate	11		ug/L	P412698	
		Afidopyropen	0.0020	U	ug/L	P412715	
		Bentazon	0.034		ug/L	P412715	
		Sucralose	1.0		ug/L	P412698	
		Benzovindiflupyr	0.0020	U	ug/L	P412715	
		Carbamazepine	0.0035		ug/L	P412715	
		Clothianidin	0.0020	U	ug/L	P412715	
		Dinotefuran	0.0020	U	ug/L	P412715	
		Diuron	0.0020	U	ug/L	P412715	
		Fenuron	0.032	U	ug/L	P412715	
		Fluridone	0.013		ug/L	P412715	
		Imazapyr	0.22		ug/L	P412715	
		Hydrocodone	0.0020	U	ug/L	P412715	
		Ibuprofen	0.020	U	ug/L	P412715	
		Imidacloprid	0.0076	I	ug/L	P412715	
		Linuron	0.0040	U	ug/L	P412715	
		Mandestrobin	0.0020	U	ug/L	P412715	
		MCPP	0.0020	U	ug/L	P412715	
		Naproxen	0.0080	U	ug/L	P412715	
		Primidone	0.013	I	ug/L	P412715	
		Pyraclostrobin	0.0020	U	ug/L	P412715	
		Silvex	0.0040	U	ug/L	P412715	
		Thiamethoxam	0.0020	U	ug/L	P412715	
							RPD

Field ID: G2SD0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321191	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P412715	
		Triclopyr	0.0040	U	ug/L	P412715	

Ref. Method and Comment:
EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412724

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412869

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: P412869

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.012	I	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: P413069

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413133

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413212

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412757

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413334

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

Reference Method: EPA 8270E
Batch ID: P412694

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: P412694

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
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P412694

Component	Result	Code	Units
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	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
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: P412694

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: P412698

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: P412715

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P412715

Component	Result	Code	Units
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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
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
MCPP	0.0020	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: P413143

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

Reference Method: SM 2540 D-2011

Batch ID: P413124

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P413150

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P412972

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P413059

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: P412724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.8		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412869

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	102		P	85 - 115
Magnesium	101		P	85 - 115
Strontium	105		P	85 - 115
Tin	99.5		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	95.3		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412869

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.1		P	85 - 115
Antimony	98.1		P	85 - 115
Arsenic	97.7		P	85 - 115
Beryllium	91.8		P	85 - 115
Cadmium	96.2		P	85 - 115
Chromium	92.4		P	85 - 115
Cobalt	98.5		P	85 - 115
Copper	95.9		P	85 - 115
Lead	93.8		P	85 - 115
Manganese	97.7		P	85 - 115
Molybdenum	98.2		P	85 - 115
Nickel	97.6		P	85 - 115
Selenium	97.3		P	85 - 115
Silver	95.8		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P413212

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412757

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P413334

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

Reference Method: EPA 8270E

Batch ID: P412694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	59.1		P	10 - 93.0
Alpha-BHC	95.2		P	75 - 106
Alpha-Chlordane	68.4		P	50 - 109
Beta-BHC	103		P	36 - 138
Beta-Cyfluthrin	79.3		P	23 - 167
Bifenthrin	49.6		P	11 - 123
Carbophenothion	69.0		P	18 - 96.0
Chlorothalonil	145		P	27 - 190
Cis-Nonachlor	62.0		P	40 - 111
Cypermethrin	59.6		P	25 - 155
Dacthal	97.5		P	72 - 119
DDD-p,p'	68.2		P	47 - 108
DDE-p,p'	81.4		P	48 - 107
DDT-p,p'	69.8		P	49 - 111
Delta-BHC	112		P	54 - 138
Deltamethrin	82.8		P	22 - 189
Dichlobenil	86.0		P	32 - 113
Dicofol	69.3		P	50 - 108
Dieldrin	61.9		P	56 - 110
Endosulfan I	78.2		P	60 - 105
Endosulfan II	93.0		P	50 - 120
Endosulfan Sulfate	97.2		P	55 - 121
Endrin	97.3		P	31 - 119
Endrin Aldehyde	76.0		P	36 - 116
Endrin Ketone	80.2		P	69 - 177
Esfenvalerate	88.1		P	10 - 179
Ethalfuralin	75.9		P	49 - 99.0
Fenpropathrin	60.5		P	35 - 119
Gamma-BHC	92.2		P	69 - 120
Gamma-Chlordane	70.4		P	45 - 107
Heptachlor	55.5		P	41 - 100
Heptachlor Epoxide	64.1		P	58 - 106
Hexachlorobenzene	97.2		P	39 - 100
Kepone	74.2		P	10 - 191

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P412694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lambda-Cyhalothrin	51.4		P	21 - 206
Methoprene	69.8		P	10 - 129
Methoxychlor	79.9		P	61 - 111
MGK-264	88.3		P	20 - 123
Mirex	50.4		P	10 - 182
Oxychlordane	78.4		P	39 - 110
PCB-1016	78.3		P	49 - 111
PCB-1260	82.1		P	42 - 116
Permethrin	59.2		P	26 - 152
Phenothrin	53.1		P	10 - 109
Piperonyl Butoxide	70.3		P	19 - 147
Prallethrin	71.3		P	14 - 109
Tau-Fluvalinate	68.1		P	16 - 134
Tetramethrin	70.9		P	10 - 125
Trans-Nonachlor	83.4		P	45 - 107
Triclosan Methyl	72.0		P	60 - 110
Trifluralin	69.5		P	44 - 101

Reference Method: EPA 8276

Batch ID: P412694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	85.6		P	61 - 118
Toxaphene	87.9		P	51 - 122

Reference Method: EPA 8321B

Batch ID: P412698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.6		P	40 - 150
AMPA	109		P	40 - 150
Endothall	104		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	98.3		P	40 - 150
Sucralose	94.1		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P412715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	56.2		P	30 - 160
2,4,5-T	49.8		P	30 - 160
Acetaminophen	49.6		P	30 - 150
Acetamiprid	75.8		P	30 - 160
Afidopyropen	47.2		P	30 - 160
Bentazon	47.0		P	30 - 150
Benzovindiflupyr	76.8		P	30 - 160
Carbamazepine	80.8		P	30 - 160
Clothianidin	89.6		P	30 - 160
Dinotefuran	85.5		P	30 - 160
Diuron	86.3		P	30 - 160
Fenuron	110		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P412715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluridone	87.8		P	30 - 160
Hydrocodone	80.2		P	30 - 160
Ibuprofen	48.6		P	30 - 160
Imazapyr	81.8		P	30 - 160
Imidacloprid	90.8		P	30 - 160
Linuron	75.3		P	30 - 160
Mandestrobin	84.7		P	30 - 160
MCPP	71.3		P	30 - 160
Naproxen	76.0		P	30 - 160
Primidone	78.6		P	30 - 160
Pyraclostrobin	82.0		P	30 - 160
Silvex	48.1		P	30 - 160
Thiamethoxam	86.7		P	30 - 160
Tolfenpyrad	46.1		P	30 - 160
Triclopyr	48.2		P	30 - 160

Reference Method: SM 2320 B-2011

Batch ID: P413143

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.0		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P413150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P412972

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

Reference Method: SM 5310 B-2011

Batch ID: P413059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321057	Iron	99.8	103	P/P	70 - 130
2321057	Tin	79.4	77.6	P/P	70 - 130
2321057	Titanium	98.1	94.5	P/P	70 - 130
2321057	Vanadium	96.8	92.3	P/P	70 - 130
2321057	Zinc	96.5	90.6	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321057	Aluminum	107	107	P/P	70 - 130
2321057	Antimony	104	105	P/P	70 - 130
2321057	Arsenic	109	111	P/P	70 - 130
2321057	Beryllium	123	126	P/P	70 - 130
2321057	Cadmium	97.1	99.1	P/P	70 - 130
2321057	Chromium	101	102	P/P	70 - 130
2321057	Cobalt	106	107	P/P	70 - 130
2321057	Copper	110	111	P/P	70 - 130
2321057	Lead	96.8	95.4	P/P	70 - 130
2321057	Manganese	91.7	91.6	P/P	70 - 130
2321057	Molybdenum	109	111	P/P	70 - 130
2321057	Nickel	107	108	P/P	70 - 130
2321057	Selenium	100	101	P/P	70 - 130
2321057	Silver	86.9	87.3	P/P	70 - 130
2321057	Thallium	104	103	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P413069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321182	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P413280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322299	Ammonia-N	108	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P413133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321150	Kjeldahl Nitrogen	102	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P413212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321047	Kjeldahl Nitrogen	101	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321122	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P413334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321151	Total-P	97.6	94.6	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P412694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320549	PCB-1016	78.9	72.4	P/P	46 - 110
2320549	PCB-1260	85.3	69.1	P/P	42 - 111
2320641	Aldrin	56.0	49.9	P/P	10 - 89.0
2320641	Alpha-BHC	91.8	92.3	P/P	71 - 105
2320641	Alpha-Chlordane	69.5	67.2	P/P	43 - 107
2320641	Beta-BHC	100	136	P/P	57 - 152
2320641	Beta-Cyfluthrin	92.1	78.8	P/P	29 - 186
2320641	Bifenthrin	49.2	47.3	P/P	19 - 119
2320641	Carbophenothion	62.8	55.8	P/P	19 - 107
2320641	Chlorothalonil	164	118	P/P	10 - 245
2320641	Cis-Nonachlor	50.4	48.7	P/P	36 - 110
2320641	Cypermethrin	61.7	59.1	P/P	24 - 169
2320641	Dacthal	95.2	90.0	P/P	62 - 115
2320641	DDD-p,p'	53.5	58.8	P/P	36 - 109
2320641	DDE-p,p'	73.7	73.1	P/P	30 - 114
2320641	DDT-p,p'	58.6	62.0	P/P	42 - 108
2320641	Delta-BHC	114	143	P/P	60 - 164
2320641	Deltamethrin	110	92.5	P/P	10 - 210
2320641	Dichlobenil	69.1	85.4	P/P	23 - 108
2320641	Dicofol	59.9	61.6	P/P	44 - 109
2320641	Dieldrin	56.0	58.4	P/P	37 - 119
2320641	Endosulfan I	81.7	78.1	P/P	52 - 105
2320641	Endosulfan II	87.3	79.7	P/P	35 - 127
2320641	Endosulfan Sulfate	83.5	77.5	P/P	39 - 130
2320641	Endrin	81.8	75.8	P/P	30 - 116
2320641	Endrin Aldehyde	56.0	64.7	P/P	20 - 110
2320641	Endrin Ketone	78.0	73.2	P/P	48 - 134
2320641	Esfenvalerate	105	91.7	P/P	10 - 199
2320641	Ethalfuralin	57.8	69.2	P/P	48 - 95.0
2320641	Fenpropathrin	52.8	58.2	P/P	37 - 121
2320641	Gamma-BHC	108	106	P/P	61 - 126
2320641	Gamma-Chlordane	71.9	73.4	P/P	39 - 105
2320641	Heptachlor	43.6	44.4	P/P	38 - 96.0
2320641	Heptachlor Epoxide	54.0	57.1	P/P	42 - 114
2320641	Hexachlorobenzene	51.8	74.7	P/P	39 - 93.0
2320641	Kepone	81.8	78.3	P/P	10 - 215
2320641	Lambda-Cyhalothrin	60.0	52.6	P/P	10 - 204
2320641	Methoprene	78.0	66.6	P/P	17 - 108
2320641	Methoxychlor	67.1	75.1	P/P	56 - 115
2320641	MGK-264	91.4	78.9	P/P	35 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P412694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320641	Mirex	50.3	48.2	P/P	10 - 178
2320641	Oxychlordane	68.8	70.2	P/P	47 - 91.0
2320641	Permethrin	66.7	63.3	P/P	27 - 170
2320641	Phenothrin	70.8	85.0	P/P	10 - 133
2320641	Piperonyl Butoxide	71.5	69.4	P/P	23 - 150
2320641	Prallethrin	74.3	70.0	P/P	21 - 113
2320641	Tau-Fluvalinate	87.8	83.7	P/P	16 - 158
2320641	Tetramethrin	74.9	76.4	P/P	22 - 132
2320641	Trans-Nonachlor	74.9	74.9	P/P	43 - 102
2320641	Triclosan Methyl	74.9	76.8	P/P	49 - 109
2320641	Trifluralin	61.8	58.3	P/P	48 - 93.0

Reference Method: EPA 8276

Batch ID: P412694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320549	Chlordane	102	80.8	P/P	55 - 128
2320549	Toxaphene	113	95.4	P/P	57 - 211

Reference Method: EPA 8321B

Batch ID: P412698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321191	Acesulfame K	99.4	97.0	P/P	40 - 150
2321191	Endothall	99.1	99.4	P/P	40 - 150
2321191	Glufosinate	106	97.2	P/P	40 - 150
2321191	Sucralose	109	114	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P412715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321005	2,4-D	101	77.5	P/P	30 - 160
2321005	2,4,5-T	73.5	66.8	P/P	30 - 160
2321005	Acetaminophen	96.9	90.9	P/P	30 - 150
2321005	Acetamiprid	98.3	89.4	P/P	30 - 160
2321005	Afidopyropen	52.7	47.5	P/P	30 - 160
2321005	Benzovindiflupyr	76.7	78.9	P/P	30 - 160
2321005	Carbamazepine	82.3	78.8	P/P	30 - 160
2321005	Clothianidin	121	122	P/P	30 - 160
2321005	Dinotefuran	119	119	P/P	30 - 160
2321005	Diuron	75.0	72.5	P/P	30 - 160
2321005	Fenuron	87.6	85.3	P/P	30 - 160
2321005	Fluridone	80.6	73.1	P/P	30 - 160
2321005	Hydrocodone	90.2	86.8	P/P	30 - 160
2321005	Ibuprofen	62.5	42.1	P/P	30 - 160
2321005	Imidacloprid	158	156	P/P	30 - 160
2321005	Linuron	69.0	60.7	P/P	30 - 160
2321005	Mandestrobin	84.8	78.9	P/P	30 - 160
2321005	MCPP	95.3	87.5	P/P	30 - 160
2321005	Naproxen	52.1	56.8	P/P	30 - 160
2321005	Primidone	111	105	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P412715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321005	Pyraclostrobin	81.1	79.5	P/P	30 - 160
2321005	Silvex	69.6	66.1	P/P	30 - 160
2321005	Thiamethoxam	146	139	P/P	30 - 160
2321005	Tolfenpyrad	37.5	43.5	P/P	30 - 160
2321005	Triclopyr	75.2	67.9	P/P	30 - 160

Reference Method: SM 4500-F- C-2011

Batch ID: P413150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318659	Fluoride	96.8	97.7	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P412972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321150	Organic Carbon	91.1	93.1	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P413059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321154	Organic Carbon	88.6	87.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P412724

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321153	Turbidity	6.58	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412869

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321057	Calcium	3.38	Spike	P	0 - 20
2321057	Iron	3.13	Spike	P	0 - 20
2321057	Magnesium	3.16	Spike	P	0 - 20
2321057	Strontium	3.89	Spike	P	0 - 20
2321057	Tin	2.33	Spike	P	0 - 20
2321057	Titanium	3.45	Spike	P	0 - 20
2321057	Vanadium	4.77	Spike	P	0 - 20
2321057	Zinc	6.21	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412869

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321057	Aluminum	0.747	Spike	P	0 - 20
2321057	Antimony	0.704	Spike	P	0 - 20
2321057	Arsenic	1.81	Spike	P	0 - 20
2321057	Beryllium	2.58	Spike	P	0 - 20
2321057	Cadmium	2.04	Spike	P	0 - 20
2321057	Chromium	1.26	Spike	P	0 - 20
2321057	Cobalt	1.81	Spike	P	0 - 20
2321057	Copper	1.17	Spike	P	0 - 20
2321057	Lead	1.42	Spike	P	0 - 20
2321057	Manganese	0.0793	Spike	P	0 - 20
2321057	Molybdenum	1.70	Spike	P	0 - 20
2321057	Nickel	0.776	Spike	P	0 - 20
2321057	Selenium	0.488	Spike	P	0 - 20
2321057	Silver	0.444	Spike	P	0 - 20
2321057	Thallium	0.190	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P413069

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321182	Ammonia-N	1.20	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P413280

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322299	Ammonia-N	0.303	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321150	Kjeldahl Nitrogen	2.51	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321047	Kjeldahl Nitrogen	4.57	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321122	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321151	Total-P	2.43	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P412694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320549	PCB-1016	8.58	Spike	P	0 - 32
2320549	PCB-1260	21.0	Spike	P	0 - 31
2320641	Aldrin	11.5	Spike	P	0 - 37
2320641	Alpha-BHC	0.621	Spike	P	0 - 16
2320641	Alpha-Chlordane	3.38	Spike	P	0 - 28
2320641	Beta-BHC	30.7	Spike	P	0 - 32
2320641	Beta-Cyfluthrin	15.5	Spike	P	0 - 41
2320641	Bifenthrin	3.95	Spike	P	0 - 36
2320641	Carbophenothion	11.9	Spike	P	0 - 30
2320641	Chlorothalonil	32.6	Spike	P	0 - 54
2320641	Cis-Nonachlor	3.48	Spike	P	0 - 33
2320641	Cypermethrin	4.35	Spike	P	0 - 38
2320641	Dacthal	5.65	Spike	P	0 - 23
2320641	DDD-p,p'	9.54	Spike	P	0 - 35
2320641	DDE-p,p'	0.762	Spike	P	0 - 27
2320641	DDT-p,p'	5.61	Spike	P	0 - 31
2320641	Delta-BHC	22.4	Spike	P	0 - 30
2320641	Deltamethrin	17.7	Spike	P	0 - 76
2320641	Dichlobenil	21.1	Spike	P	0 - 33
2320641	Dicofol	2.80	Spike	P	0 - 24
2320641	Dieldrin	4.25	Spike	P	0 - 35
2320641	Endosulfan I	4.56	Spike	P	0 - 25
2320641	Endosulfan II	9.07	Spike	P	0 - 31

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P412694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320641	Endosulfan Sulfate	7.40	Spike	P	0 - 38
2320641	Endrin	7.66	Spike	P	0 - 53
2320641	Endrin Aldehyde	14.5	Spike	P	0 - 81
2320641	Endrin Ketone	6.39	Spike	P	0 - 33
2320641	Esfenvalerate	13.3	Spike	P	0 - 46
2320641	Ethalfuralin	18.0	Spike	P	0 - 22
2320641	Fenpropathrin	9.70	Spike	P	0 - 29
2320641	Gamma-BHC	1.70	Spike	P	0 - 17
2320641	Gamma-Chlordane	2.01	Spike	P	0 - 28
2320641	Heptachlor	1.98	Spike	P	0 - 28
2320641	Heptachlor Epoxide	5.67	Spike	P	0 - 23
2320641	Hexachlorobenzene	36.2	Spike	F	0 - 22
2320641	Kepone	4.37	Spike	P	0 - 61
2320641	Lambda-Cyhalothrin	13.2	Spike	P	0 - 52
2320641	Methoprene	15.8	Spike	P	0 - 38
2320641	Methoxychlor	11.2	Spike	P	0 - 29
2320641	MGK-264	14.8	Spike	P	0 - 41
2320641	Mirex	4.30	Spike	P	0 - 39
2320641	Oxychlordane	2.02	Spike	P	0 - 33
2320641	Permethrin	5.31	Spike	P	0 - 39
2320641	Phenothrin	18.3	Spike	P	0 - 52
2320641	Piperonyl Butoxide	2.99	Spike	P	0 - 91
2320641	Prallethrin	6.08	Spike	P	0 - 34
2320641	Tau-Fluvalinate	4.86	Spike	P	0 - 41
2320641	Tetramethrin	1.96	Spike	P	0 - 43
2320641	Trans-Nonachlor	0.0876	Spike	P	0 - 31
2320641	Triclosan Methyl	2.55	Spike	P	0 - 24
2320641	Trifluralin	5.84	Spike	P	0 - 23

Reference Method: EPA 8276

Batch ID: P412694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320549	Chlordane	23.3	Spike	P	0 - 25
2320549	Toxaphene	17.1	Spike	P	0 - 24

Reference Method: EPA 8321B

Batch ID: P412698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321191	Acesulfame K	2.49	Spike	P	0 - 30
2321191	AMPA	7.24	Spike	P	0 - 30
2321191	Endothall	0.311	Spike	P	0 - 30
2321191	Glufosinate	8.85	Spike	P	0 - 30
2321191	Glyphosate	1.11	Spike	P	0 - 30
2321191	Sucralose	3.42	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P412715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321005	2,4-D	17.6	Spike	P	0 - 30
2321005	2,4,5-T	9.54	Spike	P	0 - 30
2321005	Acetaminophen	6.44	Spike	P	0 - 30
2321005	Acetamiprid	9.55	Spike	P	0 - 30
2321005	Afidopyropen	10.4	Spike	P	0 - 30
2321005	Bentazon	10.6	Spike	P	0 - 30
2321005	Benzovindiflupyr	2.81	Spike	P	0 - 30
2321005	Carbamazepine	3.93	Spike	P	0 - 30
2321005	Clothianidin	0.673	Spike	P	0 - 30
2321005	Dinotefuran	0.299	Spike	P	0 - 30
2321005	Diuron	3.32	Spike	P	0 - 30
2321005	Fenuron	2.64	Spike	P	0 - 30
2321005	Fluridone	6.21	Spike	P	0 - 30
2321005	Hydrocodone	3.93	Spike	P	0 - 30
2321005	Ibuprofen	39.0	Spike	F	0 - 30
2321005	Imazapyr	4.14	Spike	P	0 - 30
2321005	Imidacloprid	1.45	Spike	P	0 - 30
2321005	Linuron	12.8	Spike	P	0 - 30
2321005	Mandestrobin	7.33	Spike	P	0 - 30
2321005	MCP	8.52	Spike	P	0 - 30
2321005	Naproxen	8.56	Spike	P	0 - 30
2321005	Primidone	5.28	Spike	P	0 - 30
2321005	Pyraclostrobin	1.98	Spike	P	0 - 30
2321005	Silvex	5.18	Spike	P	0 - 30
2321005	Thiamethoxam	5.15	Spike	P	0 - 30
2321005	Tolfenpyrad	14.8	Spike	P	0 - 30
2321005	Triclopyr	10.2	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P413143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320394	Total Alkalinity	0.806	Sample	P	0 - 5.2

Reference Method: SM 4500-F- C-2011
Batch ID: P413150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318659	Fluoride	0.520	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P412972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321150	Organic Carbon	2.01	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P413059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321154	Organic Carbon	0.998	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2321169

Field Sample ID: G2SD0026

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	95.4	P	38 - 115
EPA 8270E	Decachlorobiphenyl	76.9	P	31 - 118
EPA 8270E	Tetrachloro-m-xylene	67.9	P	29 - 98.0
EPA 8270E	Tetrachloro-m-xylene	65.4	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	56.3	P	30 - 97.0
EPA 8276	PCNB	78.6	P	45 - 119

Lab Sample ID: 2321191

Field Sample ID: G2SD0026

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.2	P	30 - 160
EPA 8321B	Diuron-d6	80.0	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.4	P	30 - 160
EPA 8321B	Primidone-d5	98.8	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111613

Included Lab Sample IDs: 2321147, 2321148, 2321149, 2321153

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111628

Included Lab Sample IDs: 2321150, 2321151, 2321152, 2321154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111654

Included Lab Sample IDs: 2321191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.5	97.6	P/P	60 - 160
Sucralose	98.7	96.5	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111655

Included Lab Sample IDs: 2321191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	113	98.3	P/P	60 - 160
Endothall	103	92.1	P/P	60 - 160
Glufosinate	96.8	95.2	P/P	60 - 160
Glyphosate	93.3	92.5	P/P	60 - 160

Reference Method: EPA 8270E

Run ID: A111710

Included Lab Sample IDs: 2321169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.1		P	80 - 120
Alpha-BHC	98.0		P	80 - 120
Alpha-Chlordane	98.2		P	80 - 120
Beta-BHC	110		P	80 - 120
Beta-Cyfluthrin	107		P	80 - 120
Bifenthrin	99.9		P	80 - 120
Carbophenothion	90.4		P	80 - 120
Chlorothalonil	94.0		P	80 - 120
Cis-Nonachlor	93.7		P	80 - 120
Cypermethrin	90.6		P	80 - 120
Dacthal	109		P	80 - 120
DDD-p,p'	88.9		P	80 - 120
DDE-p,p'	95.3		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	109		P	80 - 120
Deltamethrin	101		P	80 - 120
Dichlobenil	116		P	80 - 120
Dicofol	104		P	80 - 120
Dieldrin	88.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A111710
Included Lab Sample IDs: 2321169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan I	103		P	80 - 120
Endosulfan II	101		P	80 - 120
Endosulfan Sulfate	96.1		P	80 - 120
Endrin	105		P	80 - 120
Endrin Aldehyde	96.8		P	80 - 120
Endrin Ketone	108		P	80 - 120
Esfenvalerate	103		P	80 - 120
Ethalfuralin	114		P	80 - 120
Fenpropathrin	103		P	80 - 120
Gamma-BHC	98.5		P	80 - 120
Gamma-Chlordane	100		P	80 - 120
Heptachlor	105		P	80 - 120
Heptachlor Epoxide	85.5		P	80 - 120
Hexachlorobenzene	106		P	80 - 120
Kepone	83.6		P	80 - 120
Lambda-Cyhalothrin	96.9		P	80 - 120
Methoprene	116		P	80 - 120
Methoxychlor	106		P	80 - 120
MGK-264	99.3		P	80 - 120
Mirex	95.8		P	80 - 120
Oxychlordane	102		P	80 - 120
Permethrin	100		P	80 - 120
Phenothrin	92.8		P	80 - 120
Piperonyl Butoxide	102		P	80 - 120
Prallethrin	92.8		P	80 - 120
Tau-Fluvalinate	98.6		P	80 - 120
Tetramethrin	99.1		P	80 - 120
Trans-Nonachlor	101		P	80 - 120
Triclosan Methyl	96.1		P	80 - 120
Trifluralin	107		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A111725
Included Lab Sample IDs: 2321150, 2321151, 2321152

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	96.1	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A111748
Included Lab Sample IDs: 2321169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.4		P	80 - 120
Toxaphene	97.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A111749
Included Lab Sample IDs: 2321199, 2321200, 2321201

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111749

Included Lab Sample IDs: 2321199, 2321200, 2321201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	101	100	P/P	90 - 110
Beryllium	103	105	P/P	90 - 110
Cadmium	98.4	98.0	P/P	90 - 110
Cobalt	102	103	P/P	90 - 110
Copper	105	106	P/P	90 - 110
Lead	92.4	92.5	P/P	90 - 110
Lead	92.5	95.0	P/P	90 - 110
Manganese	101	100	P/P	90 - 110
Nickel	104	105	P/P	90 - 110
Silver	98.7	98.8	P/P	90 - 110
Thallium	95.9	95.5	P/P	90 - 110
Thallium	96.3	95.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111765

Included Lab Sample IDs: 2321150, 2321151, 2321152

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	97.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111767

Included Lab Sample IDs: 2321191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.0	86.5	P/P	50 - 150
2,4,5-T	101	90.1	P/P	50 - 150
Acetaminophen	68.8	89.1	P/P	60 - 160
Acetamiprid	97.2	96.1	P/P	50 - 150
Afidopyropen	77.8	62.6	P/P	50 - 150
Bentazon	92.9	103	P/P	50 - 160
Benzovindiflupyr	93.6	69.1	P/P	50 - 150
Carbamazepine	85.7	84.3	P/P	60 - 150
Clothianidin	92.1	89.1	P/P	60 - 150
Dinotefuran	73.5	84.8	P/P	50 - 150
Diuron	97.3	92.5	P/P	60 - 160
Fenuron	99.3	97.4	P/P	60 - 150
Fluridone	99.2	95.9	P/P	60 - 160
Hydrocodone	86.4	88.1	P/P	60 - 150
Ibuprofen	106	64.7	P/P	50 - 160
Imazapyr	82.8	86.1	P/P	50 - 150
Imidacloprid	85.0	84.3	P/P	60 - 150
Linuron	90.2	106	P/P	60 - 150
Mandestrobin	94.5	85.3	P/P	50 - 150
MCPP	79.5	74.5	P/P	50 - 150
Naproxen	66.6	78.9	P/P	50 - 160
Primidone	79.9	88.6	P/P	60 - 150
Pyraclostrobin	105	78.2	P/P	60 - 150
Silvex	81.2	80.2	P/P	50 - 150
Thiamethoxam	89.2	82.8	P/P	50 - 150
Tolfenpyrad	86.3	66.8	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A111767
Included Lab Sample IDs: 2321191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	87.8	76.2	P/P	50 - 150

Reference Method: SM 5310 B-2011
Run ID: A111772
Included Lab Sample IDs: 2321154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	99.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A111785
Included Lab Sample IDs: 2321199, 2321200, 2321201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.1	98.9	P/P	90 - 110
Chromium	96.0	94.7	P/P	90 - 110
Cobalt	101	100	P/P	90 - 110
Molybdenum	95.3	94.8	P/P	90 - 110
Selenium	96.6	97.4	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A111807
Included Lab Sample IDs: 2321147, 2321148, 2321149, 2321153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	98.5	P/P	90 - 110
Total Alkalinity	98.5	95.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A111807
Included Lab Sample IDs: 2321147, 2321148, 2321149, 2321153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110
Fluoride	101	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A111821
Included Lab Sample IDs: 2321199, 2321200, 2321201

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A111857
Included Lab Sample IDs: 2321199, 2321200

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	99.2	P/P	90 - 110
Iron	98.3	96.6	P/P	90 - 110
Magnesium	98.4	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111857

Included Lab Sample IDs: 2321199, 2321200

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Strontium	107	108	P/P	90 - 110
Tin	102	101	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Zinc	102	101	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A111863

Included Lab Sample IDs: 2321169

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.1		P	80 - 120
PCB-1260	101		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111875

Included Lab Sample IDs: 2321154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111897

Included Lab Sample IDs: 2321201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.5	98.9	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Strontium	99.5	101	P/P	90 - 110
Tin	103	99.6	P/P	90 - 110
Titanium	101	99.0	P/P	90 - 110
Vanadium	103	101	P/P	90 - 110
Zinc	106	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111911

Included Lab Sample IDs: 2321150, 2321151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111940

Included Lab Sample IDs: 2321150, 2321151, 2321152, 2321154

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111960

Included Lab Sample IDs: 2321152, 2321154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	106	P/P	90 - 110
Kjeldahl Nitrogen	106	107	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	95.8				6.58	
EPA 200.7 Rev. 4.4	Calcium	103					3.38
	Iron	102	99.8	103			3.13
	Magnesium	101					3.16
	Strontium	105					3.89
	Tin	99.5	77.6	79.4			2.33
	Titanium	102	98.1	94.5			3.45
	Vanadium	95.3	96.8	92.3			4.77
	Zinc	100	96.5	90.6			6.21
EPA 200.8 Rev. 5.4	Aluminum	98.1	107	107			0.747
	Antimony	98.1	104	105			0.704
	Arsenic	97.7	109	111			1.81
	Beryllium	91.8	123	126			2.58
	Cadmium	96.2	97.1	99.1			2.04
	Chromium	92.4	101	102			1.26
	Cobalt	98.5	106	107			1.81
	Copper	95.9	110	111			1.17
	Lead	93.8	96.8	95.4			1.42
	Manganese	97.7	91.7	91.6			0.0793
	Molybdenum	98.2	109	111			1.70
	Nickel	97.6	107	108			0.776
	Selenium	97.3	100	101			0.488
	Silver	95.8	86.9	87.3			0.444
	Thallium	101	104	103			0.190
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	103	105			1.20
	Ammonia-N	98.4	108	107			0.303
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	102	98.4			2.51
	Kjeldahl Nitrogen	102	101	107			4.57
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	103	97.6	94.6			2.43
EPA 8270E	Aldrin	59.1	56.0	49.9			11.5
	Alpha-BHC	95.2	91.8	92.3			0.621
	Alpha-Chlordane	68.4	69.5	67.2			3.38
	Beta-BHC	103	100	136			30.7
	Beta-Cyfluthrin	79.3	92.1	78.8			15.5
	Bifenthrin	49.6	49.2	47.3			3.95
	Carbophenothion	69.0	62.8	55.8			11.9
	Chlorothalonil	145	164	118			32.6
	Cis-Nonachlor	62.0	50.4	48.7			3.48
	Cypermethrin	59.6	61.7	59.1			4.35
	Dacthal	97.5	95.2	90.0			5.65
	DDD-p,p'	68.2	53.5	58.8			9.54
	DDE-p,p'	81.4	73.7	73.1			0.762
	DDT-p,p'	69.8	58.6	62.0			5.61
	Delta-BHC	112	114	143			22.4
	Deltamethrin	82.8	110	92.5			17.7
	Dichlobenil	86.0	69.1	85.4			21.1
	Dicofol	69.3	59.9	61.6			2.80
	Dieldrin	61.9	56.0	58.4			4.25
	Endosulfan I	78.2	81.7	78.1			4.56
	Endosulfan II	93.0	87.3	79.7			9.07
	Endosulfan Sulfate	97.2	83.5	77.5			7.40
	Endrin	97.3	81.8	75.8			7.66
	Endrin Aldehyde	76.0	56.0	64.7			14.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Endrin Ketone	80.2	78.0	73.2			6.39
	Esfenvalerate	88.1	105	91.7			13.3
	Ethalfuralin	75.9	57.8	69.2			18.0
	Fenpropathrin	60.5	52.8	58.2			9.70
	Gamma-BHC	92.2	108	106			1.70
	Gamma-Chlordane	70.4	71.9	73.4			2.01
	Heptachlor	55.5	43.6	44.4			1.98
	Heptachlor Epoxide	64.1	54.0	57.1			5.67
	Hexachlorobenzene	97.2	51.8	74.7			36.2
	Kepone	74.2	81.8	78.3			4.37
	Lambda-Cyhalothrin	51.4	60.0	52.6			13.2
	Methoprene	69.8	78.0	66.6			15.8
	Methoxychlor	79.9	67.1	75.1			11.2
	MGK-264	88.3	91.4	78.9			14.8
	Mirex	50.4	50.3	48.2			4.30
	Oxychlordane	78.4	68.8	70.2			2.02
	PCB-1016	78.3	78.9	72.4			8.58
	PCB-1260	82.1	85.3	69.1			21.0
	Permethrin	59.2	66.7	63.3			5.31
	Phenothrin	53.1	70.8	85.0			18.3
	Piperonyl Butoxide	70.3	71.5	69.4			2.99
	Prallethrin	71.3	74.3	70.0			6.08
	Tau-Fluvalinate	68.1	87.8	83.7			4.86
	Tetramethrin	70.9	74.9	76.4			1.96
	Trans-Nonachlor	83.4	74.9	74.9			0.0876
	Triclosan Methyl	72.0	74.9	76.8			2.55
	Trifluralin	69.5	61.8	58.3			5.84
EPA 8276	Chlordane	85.6	102	80.8			23.3
	Toxaphene	87.9	113	95.4			17.1
	2,4-D	56.2	101	77.5			17.6
EPA 8321B	2,4,5-T	49.8	73.5	66.8			9.54
	Acesulfame K	98.6	99.4	97.0			2.49
	Acetaminophen	49.6	96.9	90.9			6.44
	Acetamiprid	75.8	98.3	89.4			9.55
	Afidopyropen	47.2	52.7	47.5			10.4
	AMPA	109					7.24
	Bentazon	47.0					10.6
	Benzovindiflupyr	76.8	76.7	78.9			2.81
	Carbamazepine	80.8	82.3	78.8			3.93
	Clothianidin	89.6	121	122			0.673
	Dinotefuran	85.5	119	119			0.299
	Diuron	86.3	75.0	72.5			3.32
	Endothall	104	99.1	99.4			0.311
	Fenuron	110	87.6	85.3			2.64
	Fluridone	87.8	80.6	73.1			6.21
	Glufosinate	110	106	97.2			8.85
	Glyphosate	98.3					1.11
	Hydrocodone	80.2	90.2	86.8			3.93
	Ibuprofen	48.6	62.5	42.1			39.0
	Imazapyr	81.8					4.14
	Imidacloprid	90.8	158	156			1.45
	Linuron	75.3	69.0	60.7			12.8
	Mandestrobin	84.7	84.8	78.9			7.33
	MCPP	71.3	95.3	87.5			8.52

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	76.0	52.1	56.8		8.56
	Primidone	78.6	111	105		5.28
	Pyraclostrobin	82.0	81.1	79.5		1.98
	Silvex	48.1	69.6	66.1		5.18
	Sucralose	94.1	109	114		3.42
	Thiamethoxam	86.7	146	139		5.15
	Tolfenpyrad	46.1	37.5	43.5		14.8
	Triclopyr	48.2	75.2	67.9		10.2
SM 2320 B-2011	Total Alkalinity	99.0			0.806	
SM 4500-F- C-2011	Fluoride	99.6	96.8	97.7		0.520
SM 5310 B-2011	Organic Carbon	96.6	91.1	93.1		2.01
	Organic Carbon	99.2	88.6	87.5		0.998

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2321147, 2321148, 2321149, 2321153
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2321199, 2321200, 2321201
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2321199, 2321200, 2321201
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2321150, 2321151, 2321152, 2321154
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2321150, 2321151, 2321152, 2321154
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2321150, 2321151, 2321152, 2321154
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2321150, 2321151, 2321152, 2321154
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2321169
EPA 8270E	PCBs in water matrices by GC/MS/MS	2321169
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2321169
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2321191
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2321147, 2321148, 2321149, 2321153
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2321147, 2321148, 2321149, 2321153
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2321147, 2321148, 2321149, 2321153
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2321150, 2321151, 2321152, 2321154

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	04/21/2022			04/21/2022 15:08	Khloe J Berg	2321153
	04/21/2022			04/21/2022 15:13	Khloe J Berg	2321147
	04/21/2022			04/21/2022 15:14	Khloe J Berg	2321148
	04/21/2022			04/21/2022 15:15	Khloe J Berg	2321149
EPA 200.7 Rev. 4.4	04/21/2022	04/26/2022 10:05	Megan Whitefoot	05/02/2022 23:42	Josef B Mick	2321199
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	05/02/2022 23:50	Josef B Mick	2321199
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	05/02/2022 23:58	Josef B Mick	2321200
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	05/03/2022 00:06	Josef B Mick	2321200
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	05/03/2022 20:30	Josef B Mick	2321201
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	05/03/2022 20:38	Josef B Mick	2321201
EPA 200.8 Rev. 5.4	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 00:50	Emily M Philpot	2321199
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 01:08	Emily M Philpot	2321201
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 03:15	Emily M Philpot	2321199
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 03:24	Emily M Philpot	2321200
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 03:33	Emily M Philpot	2321201
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 20:24	Alexander Thompson	2321199
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 20:30	Alexander Thompson	2321200
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/28/2022 20:37	Alexander Thompson	2321201
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/29/2022 11:15	Alexander Thompson	2321199
	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/29/2022 11:20	Alexander Thompson	2321200
EPA 350.1 Rev. 2.0	04/21/2022	04/26/2022 10:05	Megan Whitefoot	04/29/2022 11:25	Alexander Thompson	2321201
	04/21/2022			04/28/2022 14:32	Judith K. Clark	2321150
	04/21/2022			04/28/2022 14:33	Judith K. Clark	2321151
	04/21/2022			04/28/2022 14:34	Judith K. Clark	2321152
EPA 351.2 Rev. 2.0	04/21/2022			05/03/2022 12:22	Ping Hua	2321154
	04/21/2022	05/02/2022 14:56	Samantha L Bates	05/04/2022 14:26	Samantha L Bates	2321150
	04/21/2022	05/02/2022 14:56	Samantha L Bates	05/04/2022 14:31	Samantha L Bates	2321151
	04/21/2022	05/03/2022 16:44	Samantha L Bates	05/05/2022 12:27	Samantha L Bates	2321152
EPA 353.2 Rev. 2.0	04/21/2022	05/03/2022 16:44	Samantha L Bates	05/05/2022 12:32	Samantha L Bates	2321154
	04/21/2022			04/22/2022 10:48	Beverly Y. Sanders	2321150
	04/21/2022			04/22/2022 10:49	Beverly Y. Sanders	2321151
	04/21/2022			04/22/2022 10:51	Beverly Y. Sanders	2321152
EPA 365.1 Rev. 2.0	04/21/2022			04/22/2022 10:52	Beverly Y. Sanders	2321154
	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/05/2022 11:39	Sarah A Nixon	2321151
	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/05/2022 11:47	Sarah A Nixon	2321150
	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/05/2022 11:48	Sarah A Nixon	2321152
EPA 8270E	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/05/2022 11:49	Sarah A Nixon	2321154
	04/21/2022	04/25/2022 08:00	Fe-Val Siddell	04/26/2022 19:02	Vandana T. Nagar	2321169
	04/21/2022	04/25/2022 08:00	Fe-Val Siddell	05/03/2022 02:52	Julie Wi	2321169
EPA 8276	04/21/2022	04/25/2022 08:00	Fe-Val Siddell	04/27/2022 11:14	Arthur Maknenko	2321169

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	04/21/2022	04/22/2022 09:00	June Rhew	04/23/2022 15:58	Juyoung Kim	2321191
	04/21/2022	04/22/2022 12:00	Manjita Shrestha	04/23/2022 03:25	Manjita Shrestha	2321191
	04/21/2022	04/22/2022 12:00	Manjita Shrestha	04/23/2022 13:23	Manjita Shrestha	2321191
	04/21/2022	04/22/2022 12:00	Manjita Shrestha	04/24/2022 02:46	Manjita Shrestha	2321191
SM 2320 B-2011	04/21/2022			04/29/2022 05:37	Dale L. Simmons	2321147
	04/21/2022			04/29/2022 05:51	Dale L. Simmons	2321148
	04/21/2022			04/29/2022 06:46	Dale L. Simmons	2321149
	04/21/2022			04/29/2022 07:00	Dale L. Simmons	2321153
SM 2540 D-2011	04/21/2022			04/22/2022 15:36	Yijie Li	2321147, 2321148, 2321149, 2321153
SM 4500-F- C-2011	04/21/2022			04/29/2022 02:27	Dale L. Simmons	2321147
	04/21/2022			04/29/2022 02:33	Dale L. Simmons	2321148
	04/21/2022			04/29/2022 03:12	Dale L. Simmons	2321149
	04/21/2022			04/29/2022 03:18	Dale L. Simmons	2321153
SM 5310 B-2011	04/21/2022			04/26/2022 22:23	Khloe J Berg	2321150
	04/21/2022			04/26/2022 23:53	Khloe J Berg	2321151
	04/21/2022			04/27/2022 00:11	Khloe J Berg	2321152
	04/21/2022			04/28/2022 07:56	Khloe J Berg	2321154