

Chemical Analysis Report

NW-DIST-2021-09-22-01

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

Event Description: **Pensacola Run**
Request ID: **RQ-2021-09-13-21**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda K Butler

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: 18-OCT-2021 10:55



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: Bayou Marcus Creek upstream of Mobile Hwy Bridge
Collection Date/Time: 09/21/2021 10:30

Field ID: G5NW0156

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277418	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P404066	
	EPA 300.0 Rev. 2.1	Chloride	5.5		mg Cl/L	P404146	
		Sulfate	3.1		mg SO4/L	P404147	
	SM 2120 B-2011	Color (true)	61		PCU	P404063	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P404208	
	SM 2540 C-2011	TDS	42		mg/L	P404556	
	SM 2540 D-2011	TSS	3	I	mg/L	P404548	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P404211	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P404168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P404123	
2277419	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P404162	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P404185	
	SM 5310 B-2011	Organic Carbon	5.1		mg C/L	P404200	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P404058	
	EPA 8270E	Aldrin	0.75	U	ng/L	P404251	
2277434		Alpha-BHC	0.11	U	ng/L	P404251	
		Alpha-Chlordane	0.23	U	ng/L	P404251	
		Beta-BHC	0.11	U	ng/L	P404251	
		Beta-Cyfluthrin**	1.4	U	ng/L	P404251	
		Bifenthrin**	0.57	U	ng/L	P404251	
		Carbophenothion	1.0	U	ng/L	P404251	
		Chlorothalonil	1.3	I	ng/L	P404251	
		Cis-Nonachlor**	0.23	U	ng/L	P404251	
		Cypermethrin	1.7	U	ng/L	P404251	
		Dacthal**	0.17	U	ng/L	P404251	
		DDD-p,p'	0.29	U	ng/L	P404251	
		DDE-p,p'	0.23	U	ng/L	P404251	
		DDT-p,p'	0.29	U	ng/L	P404251	
		Delta-BHC	0.46	U	ng/L	P404251	
		Deltamethrin**	1.4	U	ng/L	P404251	
		Dichlobenil**	0.11	U	ng/L	P404251	
		Dicofol	1.4	U	ng/L	P404251	
		Dieldrin	1.2	I	ng/L	P404251	
		Endosulfan I	0.46	U	ng/L	P404251	
		Endosulfan II	0.46	UJ	ng/L	P404251	LCS, MS
		Endosulfan Sulfate	0.34	U	ng/L	P404251	
		Endrin	0.46	U	ng/L	P404251	
		Endrin Aldehyde	0.86	U	ng/L	P404251	
		Endrin Ketone	0.46	U	ng/L	P404251	
		Esfenvalerate**	0.86	U	ng/L	P404251	
		Ethalfuralin**	0.17	U	ng/L	P404251	
		Fenpropathrin**	0.29	U	ng/L	P404251	

Field ID: G5NW0156

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277434	EPA 8270E	Gamma-BHC	0.14	U	ng/L	P404251	
		Gamma-Chlordane	0.23	U	ng/L	P404251	
		Heptachlor	0.23	U	ng/L	P404251	
		Heptachlor Epoxide	0.61	I	ng/L	P404251	
		Hexachlorobenzene	1.1	U	ng/L	P404251	
		Kepone**	5.7	UJ	ng/L	P404251	CCV
		Lambda-Cyhalothrin**	0.86	U	ng/L	P404251	
		Methoprene**	0.86	U	ng/L	P404251	
		Methoxychlor	0.34	U	ng/L	P404251	
		MGK-264**	0.23	U	ng/L	P404251	
		Mirex	0.80	U	ng/L	P404251	
		Oxychlordane**	0.34	U	ng/L	P404251	
		Permethrin	1.8	U	ng/L	P404251	
		Phenothrin**	1.0	U	ng/L	P404251	
		Piperonyl Butoxide**	0.17	U	ng/L	P404251	
		Prallethrin**	2.3	U	ng/L	P404251	
		Tau-Fluvalinate**	0.29	U	ng/L	P404251	
		Tetramethrin**	0.86	U	ng/L	P404251	
		Trans-Nonachlor**	0.23	U	ng/L	P404251	
		Triclosan Methyl**	0.17	U	ng/L	P404251	
		Trifluralin	0.23	U	ng/L	P404251	
	EPA 8276	Chlordane	2.9	U	ng/L	P404251	
		Toxaphene	17	U	ng/L	P404251	

Ref. Method and Comment:

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

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

Sample Location: McDavid Creek 100m upstream SR99

Collection Date/Time: 09/21/2021 12:40

Field ID: G5NW0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277424	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P404066	
	EPA 300.0 Rev. 2.1	Chloride	3.8		mg Cl/L	P404146	
		Sulfate	0.72		mg SO4/L	P404147	
	SM 2120 B-2011	Color (true)	88		PCU	P404063	
	SM 2320 B-2011	Total Alkalinity	0.99	I	mg CaCO3/L	P404208	
	SM 2540 C-2011	TDS	28		mg/L	P404556	
	SM 2540 D-2011	TSS	9	I	mg/L	P404548	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P404211	
2277425	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P404168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P404123	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P404162	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P404185	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P404200	
2277426	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P404058	

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: Carpenter Creek upstream of 9th Avenue

Collection Date/Time: 09/21/2021 09:50

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277421	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P404066	
	EPA 300.0 Rev. 2.1	Chloride	6.1		mg Cl/L	P404146	
		Sulfate	4.4		mg SO4/L	P404147	
	SM 2120 B-2011	Color (true)	32		PCU	P404063	
	SM 2320 B-2011	Total Alkalinity	26		mg CaCO3/L	P404208	
	SM 2540 C-2011	TDS	49		mg/L	P404556	
	SM 2540 D-2011	TSS	4	I	mg/L	P404548	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P404211	
2277422	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P404168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P404123	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.70		mg N/L	P404162	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P404185	
	SM 5310 B-2011	Organic Carbon	3.4		mg C/L	P404200	
2277423	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P404058	
2277435	EPA 8270E	Aldrin	0.70	U	ng/L	P404251	
		Alpha-BHC	0.11	U	ng/L	P404251	
		Alpha-Chlordane	0.28	I	ng/L	P404251	
		Beta-BHC	0.11	U	ng/L	P404251	
		Beta-Cyfluthrin**	1.3	U	ng/L	P404251	
		Bifenthrin**	0.54	U	ng/L	P404251	
		Carbophenothion	0.97	U	ng/L	P404251	
		Chlorothalonil	0.58	I	ng/L	P404251	
		Cis-Nonachlor**	0.21	U	ng/L	P404251	
		Cypermethrin	1.6	U	ng/L	P404251	
		Dacthal**	0.16	U	ng/L	P404251	
		DDD-p,p'	0.27	U	ng/L	P404251	
		DDE-p,p'	0.21	U	ng/L	P404251	
		DDT-p,p'	0.27	U	ng/L	P404251	
		Delta-BHC	0.43	U	ng/L	P404251	
		Deltamethrin**	1.3	U	ng/L	P404251	
		Dichlobenil**	0.11	U	ng/L	P404251	
		Dicofol	1.3	U	ng/L	P404251	
		Dieldrin	3.2		ng/L	P404251	
		Endosulfan I	0.43	U	ng/L	P404251	
		Endosulfan II	0.43	UJ	ng/L	P404251	LCS, MS
		Endosulfan Sulfate	0.32	U	ng/L	P404251	
		Endrin	0.43	U	ng/L	P404251	
		Endrin Aldehyde	0.80	U	ng/L	P404251	
		Endrin Ketone	0.43	U	ng/L	P404251	
		Esfenvalerate**	0.80	U	ng/L	P404251	
		Ethalfuralin**	0.16	U	ng/L	P404251	
		Fenpropathrin**	0.27	U	ng/L	P404251	
		Gamma-BHC	0.13	U	ng/L	P404251	

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277435	EPA 8270E	Gamma-Chlordane	0.21	U	ng/L	P404251	CCV
		Heptachlor	0.21	U	ng/L	P404251	
		Heptachlor Epoxide	2.3		ng/L	P404251	
		Hexachlorobenzene	1.1	U	ng/L	P404251	
		Kepone**	5.4	UJ	ng/L	P404251	
		Lambda-Cyhalothrin**	0.80	U	ng/L	P404251	
		Methoprene**	0.80	U	ng/L	P404251	
		Methoxychlor	0.32	U	ng/L	P404251	
		MGK-264**	0.21	U	ng/L	P404251	
		Mirex	0.75	U	ng/L	P404251	
		Oxychlordane**	0.32	U	ng/L	P404251	
		Permethrin	1.7	U	ng/L	P404251	
		Phenothrin**	0.97	U	ng/L	P404251	
		Piperonyl Butoxide**	0.19	I	ng/L	P404251	
		Prallethrin**	2.1	U	ng/L	P404251	
		Tau-Fluvalinate**	0.27	U	ng/L	P404251	
		Tetramethrin**	0.80	U	ng/L	P404251	
		Trans-Nonachlor**	0.21	U	ng/L	P404251	
		Triclosan Methyl**	0.16	U	ng/L	P404251	
		Trifluralin	0.21	U	ng/L	P404251	
	EPA 8276	Chlordane	2.7	U	ng/L	P404251	
		Toxaphene	16	U	ng/L	P404251	

Ref. Method and Comment:

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

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

Sample Location: Rest Area Run below Beaver Pond Creek

Collection Date/Time: 09/21/2021 11:15

Field ID: G5NW0068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2277415	EPA 180.1 Rev. 2.0	Turbidity	9.8	A	NTU	P404066	
	EPA 300.0 Rev. 2.1	Chloride	6.6		mg Cl/L	P404146	
		Sulfate	1.5		mg SO4/L	P404147	
	SM 2120 B-2011	Color (true)	140		PCU	P404063	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P404208	
	SM 2540 C-2011	TDS	55		mg/L	P404556	
	SM 2540 D-2011	TSS	5	I	mg/L	P404548	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P404211	
2277416	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P404168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P404123	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P404162	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P404185	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P404200	
2277417	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P404058	
2277436	EPA 200.7 Rev. 4.4	Calcium	5.13		mg/L	P404252	
		Iron	1.20E+03		ug/L	P404252	
		Magnesium	1.30		mg/L	P404252	
		Manganese	19.0		ug/L	P404252	
		Potassium	1.6		mg/L	P404252	
		Sodium	4.7		mg/L	P404252	
		Zinc	5.0	U	ug/L	P404252	
	EPA 200.8 Rev. 5.4	Aluminum	334		ug/L	P404252	
		Antimony	0.077	I	ug/L	P404252	
		Arsenic	0.86		ug/L	P404252	
		Barium	17.4		ug/L	P404252	
		Beryllium	0.024	I	ug/L	P404252	
		Boron**	27.2		ug/L	P404252	
		Cadmium	0.020	U	ug/L	P404252	
		Chromium	0.71	I	ug/L	P404252	
		Copper	0.43	I	ug/L	P404252	
		Lead	0.36	I	ug/L	P404252	
		Nickel	0.52	I	ug/L	P404252	
		Selenium	0.20	U	ug/L	P404252	
		Silver	0.010	U	ug/L	P404252	
		Thallium	0.10	U	ug/L	P404252	
	SM 2340B	Hardness	18.2		mg/L	P404252	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404066

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404252

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404252

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404146

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404147

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404168

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P404123

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P404162

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P404185

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P404058

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

Reference Method: EPA 8270E

Batch ID: P404251

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	0.50	U	ng/L
Chlorothalonil	0.50	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P404251

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P404251

Component	Result	Code	Units
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: P404251

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: SM 2120 B-2011

Batch ID: P404063

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P404208

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

Reference Method: SM 2540 C-2011

Batch ID: P404556

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P404548

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P404211

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P404200

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404252

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	106		P	85 - 115
Magnesium	106		P	85 - 115
Manganese	101		P	85 - 115
Potassium	99.7		P	85 - 115
Sodium	104		P	85 - 115
Zinc	99.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404252

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	80 - 120
Antimony	106		P	80 - 120
Arsenic	104		P	85 - 115
Barium	104		P	80 - 120
Beryllium	101		P	80 - 120
Boron	101		P	80 - 120
Cadmium	103		P	85 - 115
Chromium	97.9		P	80 - 120
Copper	98.8		P	80 - 120
Lead	105		P	80 - 120
Nickel	98.9		P	80 - 120
Selenium	103		P	80 - 120
Silver	105		P	80 - 120
Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404146

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404147

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404168

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404123

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P404162

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P404185

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P404058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.7		P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P404251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	49.8	60.3	P/P	20 - 83.0
Alpha-BHC	79.4	93.2	P/P	74 - 108
Alpha-Chlordane	71.8	83.1	P/P	53 - 109
Beta-BHC	97.3	105	P/P	64 - 139
Beta-Cyfluthrin	100	106	P/P	27 - 171
Bifenthrin	51.0	59.1	P/P	20 - 124
Carbophenothion	58.5	60.5	P/P	20 - 94.0
Chlorothalonil	101	109	P/P	20 - 182
Cis-Nonachlor	62.0	70.3	P/P	46 - 110
Cypermethrin	80.4	86.1	P/P	35 - 160
Dacthal	82.4	97.7	P/P	70 - 115
DDD-p,p'	58.8	70.5	P/P	51 - 108
DDE-p,p'	72.6	85.0	P/P	51 - 104
DDT-p,p'	83.8	99.2	P/P	52 - 107
Delta-BHC	91.7	96.1	P/P	73 - 146
Deltamethrin	92.8	111	P/P	20 - 190
Dichlobenil	83.4	96.0	P/P	30 - 100
Dicofol	69.2	74.7	P/P	52 - 110
Dieldrin	70.8	84.8	P/P	57 - 111
Endosulfan I	69.2	84.6	P/P	61 - 106
Endosulfan II	55.8	64.4	F/P	57 - 122
Endosulfan Sulfate	70.4	82.5	P/P	58 - 122
Endrin	51.7	60.0	P/P	34 - 125
Endrin Aldehyde	60.7	72.3	P/P	40 - 120
Endrin Ketone	86.0	98.1	P/P	51 - 138
Esfenvalerate	78.7	86.9	P/P	20 - 193
Ethalfuralin	65.8	79.8	P/P	51 - 99.0
Fenpropathrin	69.6	72.3	P/P	40 - 116
Gamma-BHC	84.6	95.7	P/P	74 - 116
Gamma-Chlordane	64.9	76.8	P/P	49 - 105
Heptachlor	68.4	83.4	P/P	45 - 98.0
Heptachlor Epoxide	68.5	80.4	P/P	61 - 106
Hexachlorobenzene	67.4	77.0	P/P	41 - 96.0
Kepone	29.6	35.5	P/P	27 - 179

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P404251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lambda-Cyhalothrin	82.8	83.6	P/P	20 - 199
Methoprene	61.0	72.8	P/P	50 - 150
Methoxychlor	82.3	93.1	P/P	61 - 111
MGK-264	76.0	81.4	P/P	20 - 124
Mirex	48.6	58.8	P/P	20 - 199
Oxychlordane	63.4	77.6	P/P	50 - 150
Permethrin	74.4	79.3	P/P	31 - 155
Phenothrin	52.6	64.6	P/P	20 - 100
Piperonyl Butoxide	102	115	P/P	20 - 144
Prallethrin	71.4	70.7	P/P	20 - 103
Tau-Fluvalinate	69.2	85.2	P/P	24 - 133
Tetramethrin	81.5	88.8	P/P	20 - 116
Trans-Nonachlor	68.0	81.6	P/P	49 - 105
Triclosan Methyl	72.0	85.3	P/P	60 - 111
Trifluralin	67.4	77.1	P/P	53 - 97.0

Reference Method: EPA 8276

Batch ID: P404251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	72.7	74.5	P/P	56 - 117
Toxaphene	76.5	77.1	P/P	45 - 116

Reference Method: SM 2120 B-2011

Batch ID: P404063

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.7		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P404208

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P404211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P404200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P404252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277452	Calcium	106		P	80 - 120
2277452	Iron	110		P	80 - 120
2277452	Magnesium	110		P	80 - 120
2277452	Manganese	102		P	80 - 120
2277452	Potassium	107		P	80 - 120
2277452	Sodium	104		P	80 - 120
2277452	Zinc	103		P	80 - 120
2278063	Calcium	107	108	P/P	80 - 120
2278063	Iron	108	108	P/P	80 - 120
2278063	Magnesium	109	108	P/P	80 - 120
2278063	Manganese	101	104	P/P	80 - 120
2278063	Potassium	108	108	P/P	80 - 120
2278063	Sodium	104	106	P/P	80 - 120
2278063	Zinc	100	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P404252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277452	Aluminum	106		P	80 - 120
2277452	Antimony	106		P	80 - 120
2277452	Arsenic	96.5		P	80 - 120
2277452	Barium	105		P	80 - 120
2277452	Beryllium	97.9		P	80 - 120
2277452	Boron	106		P	80 - 120
2277452	Cadmium	98.0		P	80 - 120
2277452	Chromium	100		P	80 - 120
2277452	Copper	102		P	80 - 120
2277452	Lead	107		P	80 - 120
2277452	Nickel	98.9		P	80 - 120
2277452	Selenium	103		P	80 - 120
2277452	Silver	105		P	80 - 120
2277452	Thallium	103		P	80 - 120
2278063	Aluminum	103	99.0	P/P	80 - 120
2278063	Antimony	108	103	P/P	80 - 120
2278063	Arsenic	100	96.0	P/P	80 - 120
2278063	Barium	107	101	P/P	80 - 120
2278063	Beryllium	98.5	95.9	P/P	80 - 120
2278063	Boron	103	96.8	P/P	80 - 120
2278063	Cadmium	98.6	94.5	P/P	80 - 120
2278063	Chromium	99.7	96.8	P/P	80 - 120
2278063	Copper	91.8	88.8	P/P	80 - 120
2278063	Lead	101	95.9	P/P	80 - 120
2278063	Nickel	99.2	95.4	P/P	80 - 120
2278063	Selenium	104	101	P/P	80 - 120
2278063	Silver	106	101	P/P	80 - 120
2278063	Thallium	104	99.6	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404146

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277057	Chloride	95.3		P	90 - 110
2277424	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277057	Sulfate	95.8		P	90 - 110
2277424	Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277408	Ammonia-N	97.0	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277408	Kjeldahl Nitrogen	98.4	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277419	NO2NO3-N	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277253	Total-P	108	110	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277420	O-Phosphate-P	97.7	97.6	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P404251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277535	Aldrin	63.7	61.4	P/P	10 - 94.0
2277535	Alpha-BHC	80.5	80.7	P/P	71 - 108
2277535	Alpha-Chlordane	75.4	81.8	P/P	42 - 115
2277535	Beta-BHC	110	123	P/P	56 - 161
2277535	Beta-Cyfluthrin	122	150	P/P	46 - 190
2277535	Bifenthrin	72.6	78.2	P/P	19 - 126
2277535	Carbophenothion	73.0	80.9	P/P	18 - 108
2277535	Chlorothalonil	107	119	P/P	10 - 262

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P404251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277535	Cis-Nonachlor	87.0	86.5	P/P	44 - 112
2277535	Cypermethrin	98.3	116	P/P	40 - 178
2277535	Dacthal	84.6	88.2	P/P	60 - 119
2277535	DDD-p,p'	71.0	72.0	P/P	40 - 114
2277535	DDE-p,p'	73.9	76.8	P/P	22 - 125
2277535	DDT-p,p'	95.1	104	P/P	39 - 110
2277535	Delta-BHC	97.4	113	P/P	64 - 174
2277535	Deltamethrin	134	154	P/P	10 - 227
2277535	Dichlobenil	84.4	73.3	P/P	20 - 99.0
2277535	Dicofol	79.8	88.3	P/P	43 - 115
2277535	Dieldrin	76.5	84.8	P/P	31 - 131
2277535	Endosulfan I	72.4	77.5	P/P	52 - 110
2277535	Endosulfan II	52.9	53.3	F/P	53 - 127
2277535	Endosulfan Sulfate	74.6	86.7	P/P	44 - 135
2277535	Endrin	51.5	51.5	P/P	36 - 122
2277535	Endrin Aldehyde	74.5	69.1	P/P	23 - 115
2277535	Endrin Ketone	92.0	92.4	P/P	46 - 147
2277535	Esfenvalerate	110	115	P/P	25 - 217
2277535	Ethalfuralin	71.5	66.8	P/P	46 - 99.0
2277535	Fenpropathrin	88.6	98.8	P/P	42 - 121
2277535	Gamma-BHC	90.4	93.4	P/P	63 - 131
2277535	Gamma-Chlordane	72.8	75.3	P/P	40 - 108
2277535	Heptachlor	78.7	77.9	P/P	38 - 98.0
2277535	Heptachlor Epoxide	72.9	79.4	P/P	39 - 124
2277535	Hexachlorobenzene	74.1	71.7	P/P	37 - 96.0
2277535	Kepone	24.0	23.0	P/P	10 - 216
2277535	Lambda-Cyhalothrin	111	120	P/P	21 - 220
2277535	Methoprene	82.4	86.2	P/P	50 - 170
2277535	Methoxychlor	89.6	96.1	P/P	56 - 118
2277535	MGK-264	80.2	85.6	P/P	28 - 125
2277535	Mirex	54.7	57.5	P/P	10 - 203
2277535	Oxychlordane	70.1	72.6	P/P	50 - 170
2277535	Permethrin	106	113	P/P	42 - 173
2277535	Phenothrin	93.5	103	P/P	10 - 140
2277535	Piperonyl Butoxide	102	107	P/P	10 - 158
2277535	Prallethrin	74.9	83.3	P/P	19 - 119
2277535	Tau-Fluvalinate	106	119	P/P	27 - 164
2277535	Tetramethrin	94.1	88.1	P/P	16 - 130
2277535	Trans-Nonachlor	76.4	79.0	P/P	43 - 105
2277535	Triclosan Methyl	72.8	77.4	P/P	50 - 113
2277535	Trifluralin	69.9	68.3	P/P	48 - 98.0

Reference Method: EPA 8276
Batch ID: P404251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277574	Chlordane	88.8	91.2	P/P	47 - 128
2277574	Toxaphene	92.9	89.4	P/P	11 - 163

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P404211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2277537	Fluoride	98.8	99.8	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P404200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276976	Organic Carbon	98.4	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P404066

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277415	Turbidity	2.35	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P404252

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2278063	Calcium	0.393	Spike	P	0 - 20
2278063	Iron	0.261	Spike	P	0 - 20
2278063	Magnesium	0.700	Spike	P	0 - 20
2278063	Manganese	2.51	Spike	P	0 - 20
2278063	Potassium	0.492	Spike	P	0 - 20
2278063	Sodium	1.92	Spike	P	0 - 20
2278063	Zinc	3.85	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P404252

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2278063	Aluminum	3.90	Spike	P	0 - 20
2278063	Antimony	4.50	Spike	P	0 - 20
2278063	Arsenic	4.28	Spike	P	0 - 20
2278063	Barium	5.17	Spike	P	0 - 20
2278063	Beryllium	2.62	Spike	P	0 - 20
2278063	Boron	5.33	Spike	P	0 - 20
2278063	Cadmium	4.30	Spike	P	0 - 20
2278063	Chromium	2.93	Spike	P	0 - 20
2278063	Copper	3.11	Spike	P	0 - 20
2278063	Lead	5.34	Spike	P	0 - 20
2278063	Nickel	3.92	Spike	P	0 - 20
2278063	Selenium	2.51	Spike	P	0 - 20
2278063	Silver	4.52	Spike	P	0 - 20
2278063	Thallium	4.69	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404146

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277057	Chloride	0.286	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404147

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277057	Sulfate	0.485	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P404168

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277408	Ammonia-N	1.18	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P404123

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277408	Kjeldahl Nitrogen	0.00777	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P404162

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277419	NO2NO3-N	0.223	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P404185

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277253	Total-P	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P404058

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277420	O-Phosphate-P	0.0960	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P404251

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277535	Aldrin	3.76	Spike	P	0 - 30
2277535	Alpha-BHC	0.312	Spike	P	0 - 30
2277535	Alpha-Chlordane	8.12	Spike	P	0 - 30
2277535	Beta-BHC	11.5	Spike	P	0 - 30
2277535	Beta-Cyfluthrin	21.1	Spike	P	0 - 30
2277535	Bifenthrin	7.44	Spike	P	0 - 30
2277535	Carbophenothion	10.2	Spike	P	0 - 30
2277535	Chlorothalonil	9.39	Spike	P	0 - 50
2277535	Cis-Nonachlor	0.657	Spike	P	0 - 30
2277535	Cypermethrin	16.4	Spike	P	0 - 30
2277535	Dacthal	4.16	Spike	P	0 - 30
2277535	DDD-p,p'	1.38	Spike	P	0 - 30
2277535	DDE-p,p'	3.91	Spike	P	0 - 30
2277535	DDT-p,p'	8.75	Spike	P	0 - 30
2277535	Delta-BHC	14.6	Spike	P	0 - 30
2277535	Deltamethrin	13.5	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P404251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277535	Dichlobenil	14.0	Spike	P	0 - 30
2277535	Dicofol	10.0	Spike	P	0 - 30
2277535	Dieldrin	10.3	Spike	P	0 - 30
2277535	Endosulfan I	6.80	Spike	P	0 - 30
2277535	Endosulfan II	0.741	Spike	P	0 - 30
2277535	Endosulfan Sulfate	14.9	Spike	P	0 - 30
2277535	Endrin	0.149	Spike	P	0 - 30
2277535	Endrin Aldehyde	7.51	Spike	P	0 - 30
2277535	Endrin Ketone	0.383	Spike	P	0 - 30
2277535	Esfenvalerate	5.24	Spike	P	0 - 30
2277535	Ethalfuralin	6.89	Spike	P	0 - 30
2277535	Fenpropathrin	10.9	Spike	P	0 - 30
2277535	Gamma-BHC	3.24	Spike	P	0 - 30
2277535	Gamma-Chlordane	3.47	Spike	P	0 - 30
2277535	Heptachlor	1.02	Spike	P	0 - 30
2277535	Heptachlor Epoxide	8.61	Spike	P	0 - 30
2277535	Hexachlorobenzene	3.32	Spike	P	0 - 30
2277535	Kepone	4.05	Spike	P	0 - 30
2277535	Lambda-Cyhalothrin	7.68	Spike	P	0 - 30
2277535	Methoprene	4.49	Spike	P	0 - 30
2277535	Methoxychlor	7.01	Spike	P	0 - 30
2277535	MGK-264	6.50	Spike	P	0 - 30
2277535	Mirex	4.92	Spike	P	0 - 30
2277535	Oxychlordane	3.47	Spike	P	0 - 30
2277535	Permethrin	6.68	Spike	P	0 - 30
2277535	Phenothrin	9.59	Spike	P	0 - 30
2277535	Piperonyl Butoxide	5.11	Spike	P	0 - 30
2277535	Prallethrin	10.5	Spike	P	0 - 30
2277535	Tau-Fluvalinate	11.9	Spike	P	0 - 30
2277535	Tetramethrin	6.60	Spike	P	0 - 30
2277535	Trans-Nonachlor	3.45	Spike	P	0 - 30
2277535	Triclosan Methyl	6.14	Spike	P	0 - 30
2277535	Trifluralin	2.28	Spike	P	0 - 30
LFB	Aldrin	19.1	LCS	P	0 - 30
LFB	Alpha-BHC	16.0	LCS	P	0 - 30
LFB	Alpha-Chlordane	14.7	LCS	P	0 - 30
LFB	Beta-BHC	7.46	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	6.04	LCS	P	0 - 30
LFB	Bifenthrin	14.7	LCS	P	0 - 30
LFB	Carbophenothion	3.30	LCS	P	0 - 30
LFB	Chlorothalonil	7.95	LCS	P	0 - 50
LFB	Cis-Nonachlor	12.4	LCS	P	0 - 30
LFB	Cypermethrin	6.83	LCS	P	0 - 30
LFB	Dacthal	17.1	LCS	P	0 - 30
LFB	DDD-p,p'	18.1	LCS	P	0 - 30
LFB	DDE-p,p'	15.7	LCS	P	0 - 30
LFB	DDT-p,p'	16.8	LCS	P	0 - 30
LFB	Delta-BHC	4.68	LCS	P	0 - 30
LFB	Deltamethrin	17.9	LCS	P	0 - 30
LFB	Dichlobenil	14.0	LCS	P	0 - 30
LFB	Dicofol	7.62	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P404251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Dieldrin	18.0	LCS	P	0 - 30
LFB	Endosulfan I	20.1	LCS	P	0 - 30
LFB	Endosulfan II	14.4	LCS	P	0 - 30
LFB	Endosulfan Sulfate	15.9	LCS	P	0 - 30
LFB	Endrin	14.8	LCS	P	0 - 30
LFB	Endrin Aldehyde	17.5	LCS	P	0 - 30
LFB	Endrin Ketone	13.1	LCS	P	0 - 30
LFB	Esfenvalerate	9.96	LCS	P	0 - 30
LFB	Ethalfuralin	19.2	LCS	P	0 - 30
LFB	Fenpropathrin	3.81	LCS	P	0 - 30
LFB	Gamma-BHC	12.3	LCS	P	0 - 30
LFB	Gamma-Chlordane	16.9	LCS	P	0 - 30
LFB	Heptachlor	19.7	LCS	P	0 - 30
LFB	Heptachlor Epoxide	16.1	LCS	P	0 - 30
LFB	Hexachlorobenzene	13.2	LCS	P	0 - 30
LFB	Kepone	18.2	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	1.06	LCS	P	0 - 30
LFB	Methoprene	17.5	LCS	P	0 - 30
LFB	Methoxychlor	12.2	LCS	P	0 - 30
LFB	MGK-264	6.94	LCS	P	0 - 30
LFB	Mirex	19.0	LCS	P	0 - 30
LFB	Oxychlordane	20.1	LCS	P	0 - 30
LFB	Permethrin	6.36	LCS	P	0 - 30
LFB	Phenothrin	20.5	LCS	P	0 - 30
LFB	Piperonyl Butoxide	12.0	LCS	P	0 - 30
LFB	Prallethrin	0.959	LCS	P	0 - 30
LFB	Tau-Fluvalinate	20.8	LCS	P	0 - 30
LFB	Tetramethrin	8.52	LCS	P	0 - 30
LFB	Trans-Nonachlor	18.1	LCS	P	0 - 30
LFB	Triclosan Methyl	16.9	LCS	P	0 - 30
LFB	Trifluralin	13.4	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P404251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277574	Chlordane	1.90	Spike	P	0 - 30
2277574	Toxaphene	1.70	Spike	P	0 - 30
LFB	Chlordane	2.48	LCS	P	0 - 30
LFB	Toxaphene	0.764	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P404063

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277407	Color (true)	1.20	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P404208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277537	Total Alkalinity	2.94	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P404556

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276887	TDS	1.77	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P404211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2277537	Fluoride	0.948	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P404200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276976	Organic Carbon	0.270	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2277434
Field Sample ID: G5NW0156

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	73.5	P	29 - 123
EPA 8270E	Tetrachloro-m-xylene	56.1	P	24 - 97.0
EPA 8276	Decachlorobiphenyl	53.4	P	29 - 92.0
EPA 8276	PCNB	59.9	P	43 - 134

Lab Sample ID: 2277435
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	78.4	P	29 - 123
EPA 8270E	Tetrachloro-m-xylene	68.9	P	24 - 97.0
EPA 8276	Decachlorobiphenyl	59.0	P	29 - 92.0
EPA 8276	PCNB	62.2	P	43 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107938

Included Lab Sample IDs: 2277417, 2277420, 2277423, 2277426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.1	P/P	90 - 110
O-Phosphate-P	99.6	98.0	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A107943

Included Lab Sample IDs: 2277415, 2277418, 2277421, 2277424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	98.8	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107944

Included Lab Sample IDs: 2277415, 2277418, 2277421, 2277424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107953

Included Lab Sample IDs: 2277415, 2277418, 2277421, 2277424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.0	99.6	P/P	90 - 110
Chloride	99.6	99.9	P/P	90 - 110
Sulfate	99.0	99.6	P/P	90 - 110
Sulfate	99.6	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107976

Included Lab Sample IDs: 2277416, 2277419, 2277422, 2277425

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107977

Included Lab Sample IDs: 2277416, 2277419, 2277422, 2277425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107981

Included Lab Sample IDs: 2277416, 2277419, 2277422, 2277425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A107995

Included Lab Sample IDs: 2277416, 2277419, 2277422, 2277425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A107996

Included Lab Sample IDs: 2277415, 2277418, 2277421, 2277424

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

Reference Method: SM 4500 F-C-2011

Run ID: A107996

Included Lab Sample IDs: 2277415, 2277418, 2277421, 2277424

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108031

Included Lab Sample IDs: 2277416, 2277419, 2277422, 2277425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108048

Included Lab Sample IDs: 2277436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	107	108	P/P	90 - 110
Barium	103	102	P/P	90 - 110
Beryllium	98.8	99.2	P/P	90 - 110
Boron	101	102	P/P	90 - 110
Chromium	97.0	98.7	P/P	90 - 110
Copper	99.0	98.3	P/P	90 - 110
Lead	103	102	P/P	90 - 110
Nickel	99.1	97.9	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	105	104	P/P	90 - 110
Thallium	104	104	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108062

Included Lab Sample IDs: 2277436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	100	P/P	95 - 105
Iron	102	101	P/P	95 - 105
Magnesium	102	100	P/P	95 - 105
Manganese	102	102	P/P	95 - 105
Potassium	99.8	98.5	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108062

Included Lab Sample IDs: 2277436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	101	100	P/P	95 - 105
Zinc	103	101	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108068

Included Lab Sample IDs: 2277436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	103	P/P	90 - 110
Cadmium	99.3	102	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A108128

Included Lab Sample IDs: 2277434, 2277435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.5		P	80 - 120
Toxaphene	107		P	80 - 120

Reference Method: EPA 8270E

Run ID: A108132

Included Lab Sample IDs: 2277434, 2277435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	102		P	80 - 120
Alpha-BHC	98.8		P	80 - 120
Alpha-Chlordane	105		P	80 - 120
Beta-BHC	104		P	80 - 120
Beta-Cyfluthrin	98.3		P	80 - 120
Bifenthrin	102		P	80 - 120
Carbophenothion	99.9		P	80 - 120
Chlorothalonil	98.2		P	80 - 120
Cis-Nonachlor	119		P	80 - 120
Cypermethrin	98.6		P	80 - 120
Dacthal	100		P	80 - 120
DDD-p,p'	119		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	99.4		P	80 - 120
Delta-BHC	101		P	80 - 120
Deltamethrin	101		P	80 - 120
Dichlobenil	97.7		P	80 - 120
Dicofol	106		P	80 - 120
Dieldrin	105		P	80 - 120
Endosulfan I	99.7		P	80 - 120
Endosulfan II	102		P	80 - 120
Endosulfan Sulfate	95.6		P	80 - 120
Endrin	99.9		P	80 - 120
Endrin Aldehyde	107		P	80 - 120
Endrin Ketone	102		P	80 - 120
Esfenvalerate	102		P	80 - 120
Ethalfuralin	97.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A108132

Included Lab Sample IDs: 2277434, 2277435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenpropathrin	97.0		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	103		P	80 - 120
Heptachlor Epoxide	100		P	80 - 120
Hexachlorobenzene	102		P	80 - 120
Kepone	74.7*		F	80 - 120
Lambda-Cyhalothrin	103		P	80 - 120
Methoprene	100		P	80 - 120
Methoxychlor	100		P	80 - 120
MGK-264	100		P	80 - 120
Mirex	100		P	80 - 120
Oxychlordane	99.6		P	80 - 120
Permethrin	100		P	80 - 120
Phenothrin	97.9		P	80 - 120
Piperonyl Butoxide	101		P	80 - 120
Prallethrin	95.7		P	80 - 120
Tau-Fluvalinate	99.8		P	80 - 120
Tetramethrin	96.8		P	80 - 120
Trans-Nonachlor	102		P	80 - 120
Triclosan Methyl	99.4		P	80 - 120
Trifluralin	94.9		P	80 - 120

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							2.35	
EPA 200.7 Rev. 4.4	Calcium	104		106	107	108			0.393
	Iron	106		110	108	108			0.261
	Magnesium	106		110	109	108			0.700
	Manganese	101		102	101	104			2.51
	Potassium	99.7		107	108	108			0.492
	Sodium	104		104	104	106			1.92
	Zinc	99.6		103	100	104			3.85
EPA 200.8 Rev. 5.4	Aluminum	102		103	99.0	106			3.90
	Antimony	106		108	103	106			4.50
	Arsenic	104		100	96.0	96.5			4.28
	Barium	104		107	101	105			5.17
	Beryllium	101		98.5	95.9	97.9			2.62
	Boron	101		103	96.8	106			5.33
	Cadmium	103		98.6	94.5	98.0			4.30
	Chromium	97.9		100	99.7	96.8			2.93
	Copper	98.8		91.8	88.8	102			3.11
	Lead	105		101	95.9	107			5.34
	Nickel	98.9		99.2	95.4	98.9			3.92
	Selenium	103		104	101	103			2.51
	Silver	105		106	101	105			4.52
	Thallium	102		104	99.6	103			4.69
EPA 300.0 Rev. 2.1	Chloride	97.8		95.3	99.0			0.286	
	Sulfate	97.3		95.8	98.1			0.485	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0		97.0	98.2				1.18
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.9		98.4	98.4				0.0077
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		97.2					0.223
EPA 365.1 Rev. 2.0	Total-P	108		108	110				1.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7		97.7	97.6				0.0960
EPA 8270E	Aldrin	49.8	60.3	63.7	61.4		19.1		3.76
	Alpha-BHC	79.4	93.2	80.5	80.7		16.0		0.312
	Alpha-Chlordane	71.8	83.1	75.4	81.8		14.7		8.12
	Beta-BHC	97.3	105	110	123		7.46		11.5
	Beta-Cyfluthrin	100	106	122	150		6.04		21.1
	Bifenthrin	51.0	59.1	72.6	78.2		14.7		7.44
	Carbophenothion	58.5	60.5	73.0	80.9		3.30		10.2
	Chlorothalonil	101	109	107	119		7.95		9.39
	Cis-Nonachlor	62.0	70.3	87.0	86.5		12.4		0.657
	Cypermethrin	80.4	86.1	98.3	116		6.83		16.4
	Dacthal	82.4	97.7	84.6	88.2		17.1		4.16
	DDD-p,p'	58.8	70.5	71.0	72.0		18.1		1.38
	DDE-p,p'	72.6	85.0	73.9	76.8		15.7		3.91
	DDT-p,p'	83.8	99.2	95.1	104		16.8		8.75
	Delta-BHC	91.7	96.1	97.4	113		4.68		14.6
	Deltamethrin	92.8	111	134	154		17.9		13.5
	Dichlobenil	83.4	96.0	84.4	73.3		14.0		14.0
	Dicofol	69.2	74.7	79.8	88.3		7.62		10.0
	Dieldrin	70.8	84.8	76.5	84.8		18.0		10.3
	Endosulfan I	69.2	84.6	72.4	77.5		20.1		6.80
	Endosulfan II	55.8	64.4	52.9	53.3		14.4		0.741
	Endosulfan Sulfate	70.4	82.5	74.6	86.7		15.9		14.9
	Endrin	51.7	60.0	51.5	51.5		14.8		0.149
	Endrin Aldehyde	60.7	72.3	74.5	69.1		17.5		7.51
	Endrin Ketone	86.0	98.1	92.0	92.4		13.1		0.383

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Esfenvalerate	78.7	86.9	110	115	9.96	5.24
	Ethalfuralin	65.8	79.8	71.5	66.8	19.2	6.89
	Fenpropathrin	69.6	72.3	88.6	98.8	3.81	10.9
	Gamma-BHC	84.6	95.7	90.4	93.4	12.3	3.24
	Gamma-Chlordane	64.9	76.8	72.8	75.3	16.9	3.47
	Heptachlor	68.4	83.4	78.7	77.9	19.7	1.02
	Heptachlor Epoxide	68.5	80.4	72.9	79.4	16.1	8.61
	Hexachlorobenzene	67.4	77.0	74.1	71.7	13.2	3.32
	Kepone	29.6	35.5	24.0	23.0	18.2	4.05
	Lambda-Cyhalothrin	82.8	83.6	111	120	1.06	7.68
	Methoprene	61.0	72.8	82.4	86.2	17.5	4.49
	Methoxychlor	82.3	93.1	89.6	96.1	12.2	7.01
	MGK-264	76.0	81.4	80.2	85.6	6.94	6.50
	Mirex	48.6	58.8	54.7	57.5	19.0	4.92
	Oxychlordane	63.4	77.6	70.1	72.6	20.1	3.47
	Permethrin	74.4	79.3	106	113	6.36	6.68
	Phenothrin	52.6	64.6	93.5	103	20.5	9.59
	Piperonyl Butoxide	102	115	102	107	12.0	5.11
	Prallethrin	71.4	70.7	74.9	83.3	0.959	10.5
	Tau-Fluvalinate	69.2	85.2	106	119	20.8	11.9
	Tetramethrin	81.5	88.8	94.1	88.1	8.52	6.60
	Trans-Nonachlor	68.0	81.6	76.4	79.0	18.1	3.45
	Triclosan Methyl	72.0	85.3	72.8	77.4	16.9	6.14
	Trifluralin	67.4	77.1	69.9	68.3	13.4	2.28
EPA 8276	Chlordane	72.7	74.5	88.8	91.2	2.48	1.90
	Toxaphene	76.5	77.1	92.9	89.4	0.764	1.70
SM 2120 B-2011	Color (true)	98.7				1.20	
SM 2320 B-2011	Total Alkalinity	102				2.94	
SM 2540 C-2011	TDS					1.77	
SM 4500 F-C-2011	Fluoride	97.8		98.8	99.8		0.948
SM 5310 B-2011	Organic Carbon	98.9		98.4	98.8		0.270

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2277415, 2277418, 2277421, 2277424
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2277436
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2277436
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2277415, 2277418, 2277421, 2277424
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2277415, 2277418, 2277421, 2277424
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2277416, 2277419, 2277422, 2277425
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2277416, 2277419, 2277422, 2277425
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2277416, 2277419, 2277422, 2277425
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2277416, 2277419, 2277422, 2277425
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2277417, 2277420, 2277423, 2277426
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2277434, 2277435
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2277434, 2277435
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2277415, 2277418, 2277421, 2277424
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2277415, 2277418, 2277421, 2277424
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2277436

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2277415, 2277418, 2277421, 2277424
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2277415, 2277418, 2277421, 2277424
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2277415, 2277418, 2277421, 2277424
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2277416, 2277419, 2277422, 2277425

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	09/22/2021			09/22/2021 15:01	Khloe J Berg	2277415, 2277418, 2277421, 2277424
EPA 200.7 Rev. 4.4	09/22/2021	09/28/2021 10:40	Emily M Philpot	09/29/2021 16:30	Josef B Mick	2277436
EPA 200.8 Rev. 5.4	09/22/2021	09/28/2021 10:40	Emily M Philpot	09/28/2021 17:43	McKinley C Carter	2277436
	09/22/2021	09/28/2021 10:40	Emily M Philpot	09/29/2021 18:04	McKinley C Carter	2277436
EPA 300.0 Rev. 2.1	09/22/2021			09/23/2021 14:59	Roberta Tatti	2277424
	09/22/2021			09/23/2021 16:36	Roberta Tatti	2277415
	09/22/2021			09/23/2021 16:48	Roberta Tatti	2277418
	09/22/2021			09/23/2021 17:24	Roberta Tatti	2277421
EPA 350.1 Rev. 2.0	09/22/2021			09/24/2021 11:34	Ping Hua	2277416
	09/22/2021			09/24/2021 11:36	Ping Hua	2277419
	09/22/2021			09/24/2021 11:37	Ping Hua	2277422
	09/22/2021			09/24/2021 11:38	Ping Hua	2277425
EPA 351.2 Rev. 2.0	09/22/2021	09/23/2021 12:39	Benjamin T. Nordmann	09/24/2021 10:49	Alexandra J Mattheus	2277416
	09/22/2021	09/23/2021 12:39	Benjamin T. Nordmann	09/24/2021 10:51	Alexandra J Mattheus	2277419
	09/22/2021	09/23/2021 12:39	Benjamin T. Nordmann	09/24/2021 10:53	Alexandra J Mattheus	2277422
	09/22/2021	09/23/2021 12:39	Benjamin T. Nordmann	09/24/2021 10:54	Alexandra J Mattheus	2277425
EPA 353.2 Rev. 2.0	09/22/2021			09/24/2021 10:26	Beverly Y. Sanders	2277419
	09/22/2021			09/24/2021 10:39	Beverly Y. Sanders	2277416
	09/22/2021			09/24/2021 10:40	Beverly Y. Sanders	2277422
	09/22/2021			09/24/2021 10:42	Beverly Y. Sanders	2277425
EPA 365.1 Rev. 2.0	09/22/2021	09/24/2021 16:21	Madeline Gruver	09/28/2021 11:40	Lipi Saha	2277416
	09/22/2021	09/24/2021 16:21	Madeline Gruver	09/28/2021 11:41	Lipi Saha	2277419
	09/22/2021	09/24/2021 16:21	Madeline Gruver	09/28/2021 11:42	Lipi Saha	2277422
	09/22/2021	09/24/2021 16:21	Madeline Gruver	09/28/2021 11:43	Lipi Saha	2277425
EPA 365.1 Rev. 2.0 dissolved	09/22/2021			09/22/2021 14:07	James L Waggeberby	2277417
	09/22/2021			09/22/2021 14:08	James L Waggeberby	2277423, 2277426
	09/22/2021			09/22/2021 14:30	James L Waggeberby	2277420
EPA 8270E	09/22/2021	09/24/2021 08:00	Rasheda Ghaffari	09/29/2021 01:42	Arthur Maknenko	2277434
	09/22/2021	09/24/2021 08:00	Rasheda Ghaffari	09/29/2021 02:13	Arthur Maknenko	2277435
EPA 8276	09/22/2021	09/24/2021 08:00	Rasheda Ghaffari	09/30/2021 06:55	Julie Wi	2277434
	09/22/2021	09/24/2021 08:00	Rasheda Ghaffari	09/30/2021 07:50	Julie Wi	2277435
SM 2120 B-2011	09/22/2021			09/22/2021 15:34	Benjamin T. Nordmann	2277415
	09/22/2021			09/22/2021 15:35	Benjamin T. Nordmann	2277418
	09/22/2021			09/22/2021 15:36	Benjamin T. Nordmann	2277421
	09/22/2021			09/22/2021 15:37	Benjamin T. Nordmann	2277424
SM 2320 B-2011	09/22/2021			09/23/2021 18:06	Dale L. Simmons	2277415
	09/22/2021			09/23/2021 18:19	Dale L. Simmons	2277418
	09/22/2021			09/23/2021 18:32	Dale L. Simmons	2277421
	09/22/2021			09/23/2021 18:41	Dale L. Simmons	2277424
SM 2340B	09/22/2021			09/29/2021 16:30	Josef B Mick	2277436

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2011	09/22/2021			09/23/2021 14:25	Yijie Li	2277415, 2277418, 2277421, 2277424
SM 2540 D-2011	09/22/2021			09/23/2021 14:36	Yijie Li	2277415, 2277418, 2277421, 2277424
SM 4500 F-C-2011	09/22/2021			09/23/2021 18:06	Dale L. Simmons	2277415
	09/22/2021			09/23/2021 18:19	Dale L. Simmons	2277418
	09/22/2021			09/23/2021 18:32	Dale L. Simmons	2277421
	09/22/2021			09/23/2021 18:41	Dale L. Simmons	2277424
SM 5310 B-2011	09/22/2021			09/24/2021 21:37	Khloe J Berg	2277416
	09/22/2021			09/24/2021 21:50	Khloe J Berg	2277419
	09/22/2021			09/24/2021 22:05	Khloe J Berg	2277422
	09/22/2021			09/24/2021 22:20	Khloe J Berg	2277425