

Chemical Analysis Report

SE-DIST-2024-06-06-04

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **SMP - Sugar**
Request ID: **RQ-2024-04-22-58**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Marek Topolski, Environmental Administrator

Date Certified: 26-JUN-2024 10:10

A handwritten signature in black ink, appearing to read "Marek Topolski", with a stylized flourish at the end.

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: PELICAN RIVER AT MCCLURE

Collection Date/Time: 06/05/2024 11:20

Field ID: G5SE0059					Matrix: W-SURF-FRH		
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492236	DEP SOP: NU-094-1	Color (true)	39	A	PCU	P446150	
	EPA 180.1 Rev. 2.0	Turbidity	7.2	A	NTU	P446161	
	EPA 300.0 Rev. 2.1	Chloride	66		mg Cl/L	P446971	
		Sulfate	31		mg SO4/L	P446498	
	SM 2320 B-2011	Total Alkalinity	117		mg CaCO3/L	P446468	
	SM 2540 C-2015	TDS	297		mg/L	P446640	
	SM 2540 D-2015	TSS	7	I	mg/L	P446635	
	SM 4500-F- C-2011	Fluoride	0.20		mg F/L	P446471	
2492237	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P446406	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P446257	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P446301	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P446335	
	SM 5310 B-2014	Organic Carbon	14		mg C/L	P446379	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FARM CANAL AT HWY 98 AND SR 717

Collection Date/Time: 06/05/2024 11:45

Field ID: G5SE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492238	DEP SOP: NU-094-1	Color (true)	75	J	PCU	P446150	
	EPA 180.1 Rev. 2.0	Turbidity	50		NTU	P446161	
	EPA 300.0 Rev. 2.1	Chloride	57		mg Cl/L	P446971	
		Sulfate	27		mg SO4/L	P446498	
	SM 2320 B-2011	Total Alkalinity	107		mg CaCO3/L	P446469	
	SM 2540 C-2015	TDS	286		mg/L	P446640	
	SM 2540 D-2015	TSS	50		mg/L	P446635	
	SM 4500-F- C-2011	Fluoride	0.19		mg F/L	P446472	
2492239	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P446406	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P446274	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P446301	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P446335	
	SM 5310 B-2014	Organic Carbon	13		mg C/L	P446379	
2492245	EPA 8270E	Aldrin	0.67	U	ng/L	P446276	
		Alpha-BHC	0.10	U	ng/L	P446276	
		Alpha-Chlordane	0.21	U	ng/L	P446276	
		PCB-1016	2.1	U	ng/L	P446276	
		Beta-BHC	0.10	U	ng/L	P446276	
		PCB-1221	2.1	U	ng/L	P446276	
		Beta-Cyfluthrin	1.3	U	ng/L	P446276	
		PCB-1232	2.1	U	ng/L	P446276	
		Bifenthrin	0.52	U	ng/L	P446276	
		PCB-1242	2.1	U	ng/L	P446276	
		PCB-1248	2.1	U	ng/L	P446276	
		Chlorothalonil	3.7	U	ng/L	P446276	
		PCB-1254	2.1	U	ng/L	P446276	
		Cis-Nonachlor	0.21	U	ng/L	P446276	
		PCB-1260	2.1	U	ng/L	P446276	
		Cypermethrin	1.5	U	ng/L	P446276	
		Dacthal	0.15	U	ng/L	P446276	MS, RPD
		DDD-p,p'	0.26	U	ng/L	P446276	
		DDE-p,p'	0.21	U	ng/L	P446276	
		DDT-p,p'	0.83	U	ng/L	P446276	
		Delta-BHC	0.41	U	ng/L	P446276	
		Deltamethrin	1.3	U	ng/L	P446276	
		Dichlobenil	0.26	U	ng/L	P446276	
		Dicofol	1.3	U	ng/L	P446276	
		Diieldrin	0.41	U	ng/L	P446276	
		Endosulfan I	0.41	U	ng/L	P446276	
		Endosulfan II	0.93	U	ng/L	P446276	
		Endosulfan Sulfate	0.31	U	ng/L	P446276	
		Endrin	0.93	U	ng/L	P446276	
		Endrin Aldehyde	0.77	U	ng/L	P446276	
		Endrin Ketone	0.41	U	ng/L	P446276	

Field ID: G5SE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492245	EPA 8270E	Esfenvalerate	0.77	U	ng/L	P446276	
		Ethalfuralin	0.15	U	ng/L	P446276	
		Fenpropathrin	0.26	U	ng/L	P446276	
		Gamma-BHC	0.13	U	ng/L	P446276	
		Gamma-Chlordane	0.21	U	ng/L	P446276	
		Heptachlor	0.21	U	ng/L	P446276	
		Heptachlor Epoxide	0.26	U	ng/L	P446276	
		Hexachlorobenzene**	1.0	U	ng/L	P446276	
		Kepone	14	U	ng/L	P446276	
		Lambda-Cyhalothrin	0.77	U	ng/L	P446276	
		Methoprene	0.77	U	ng/L	P446276	
		Methoxychlor	0.31	U	ng/L	P446276	
		MGK-264	0.21	U	ng/L	P446276	
		Mirex	0.36	U	ng/L	P446276	
		Oxychlordane	0.31	U	ng/L	P446276	
		Permethrin	1.7	U	ng/L	P446276	
		Phenothrin	0.93	U	ng/L	P446276	
		Piperonyl Butoxide	0.15	U	ng/L	P446276	
		Prallethrin	2.1	U	ng/L	P446276	
		Tau-Fluvalinate	0.26	U	ng/L	P446276	
		Tetramethrin	0.77	U	ng/L	P446276	
		Trans-Nonachlor	0.21	U	ng/L	P446276	
		Triclosan Methyl	0.15	U	ng/L	P446276	
		Trifluralin	0.21	U	ng/L	P446276	
	EPA 8276	Chlordane	2.1	U	ng/L	P446276	
		Toxaphene	15	U	ng/L	P446276	
2492246	EPA 200.7 Rev. 4.4	Calcium	49.0		mg/L	P446213	
		Iron	1.69E+03		ug/L	P446213	
		Magnesium	13.5		mg/L	P446213	
		Potassium	5.9		mg/L	P446213	
		Sodium	32.1		mg/L	P446213	
		Strontium	859		ug/L	P446213	
		Tin	3.0	U	ug/L	P446213	
		Titanium	11.6		ug/L	P446213	
		Vanadium	3.4	I	ug/L	P446213	
		Zinc	5.0	U	ug/L	P446213	
	EPA 200.8 Rev. 5.4	Aluminum	868		ug/L	P446213	
		Antimony	0.15	I	ug/L	P446213	
		Arsenic	2.16		ug/L	P446213	
		Barium	39.2		ug/L	P446213	
		Beryllium	0.081		ug/L	P446213	
		Boron	64.8		ug/L	P446213	
		Cadmium	0.021	I	ug/L	P446213	
		Chromium	1.9		ug/L	P446213	
		Cobalt	0.410		ug/L	P446213	

Field ID: G5SE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492246	EPA 200.8 Rev. 5.4	Copper	1.95		ug/L	P446213	
		Lead	1.18		ug/L	P446213	
		Manganese	38.3		ug/L	P446213	
		Molybdenum	0.86		ug/L	P446213	
		Nickel	1.4	I	ug/L	P446213	
		Selenium	0.34	I	ug/L	P446213	
		Silver	0.010	U	ug/L	P446213	
		Thallium	0.10	U	ug/L	P446213	
	SM 2340 B-2011	Hardness	178		mg/L	P446213	

Ref. Method and Comment:
DEP SOP: NU-094-1: The result may be biased high because of turbidity.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for manganese are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P446150

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P446161

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446213

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
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: P446213

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
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 300.0 Rev. 2.1
Batch ID: P446498

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446971

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446406

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446257

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446274

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446301

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446335

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

Reference Method: EPA 8270E
Batch ID: P446276

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.80	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P446276

Component	Result	Code	Units
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P446276

Component	Result	Code	Units
Chlordane	2.0	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: SM 2320 B-2011

Batch ID: P446468

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P446469

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

Reference Method: SM 2540 C-2015
Batch ID: P446640

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P446635

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P446471

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P446472

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P446379

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P446150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P446161

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.7		P	85 - 115
Iron	103		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	96.6		P	85 - 115
Sodium	103		P	85 - 115
Strontium	98.8		P	85 - 115
Tin	97.9		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	105		P	85 - 115
Zinc	99.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	107		P	85 - 115
Arsenic	103		P	85 - 115
Barium	104		P	85 - 115
Beryllium	104		P	85 - 115
Boron	109		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	103		P	85 - 115
Cobalt	102		P	85 - 115
Copper	102		P	85 - 115
Lead	102		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	102		P	85 - 115
Selenium	103		P	85 - 115
Silver	114		P	85 - 115
Thallium	94.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446498

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446971

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446406

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446257

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446274

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446301

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446335

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

Reference Method: EPA 8270E
Batch ID: P446276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	64.5		P	30 - 96.0
Alpha-BHC	84.1		P	70 - 109
Alpha-Chlordane	76.0		P	45 - 107
Beta-BHC	96.9		P	64 - 138
Beta-Cyfluthrin	83.9		P	17 - 141
Bifenthrin	41.2		P	10 - 113
Chlorothalonil	88.7		P	26 - 180
Cis-Nonachlor	74.2		P	37 - 102
Cypermethrin	83.1		P	20 - 133
Dacthal	79.9		P	69 - 114
DDD-p,p'	73.3		P	42 - 105
DDE-p,p'	76.9		P	42 - 106
DDT-p,p'	71.7		P	42 - 107
Delta-BHC	92.4		P	67 - 144
Deltamethrin	79.1		P	15 - 149
Dichlobenil	69.5		P	46 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P446276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dicofol	68.5		P	34 - 114
Dieldrin	85.6		P	50 - 108
Endosulfan I	67.3		P	55 - 104
Endosulfan II	82.9		P	51 - 111
Endosulfan Sulfate	80.6		P	56 - 121
Endrin	83.2		P	10 - 106
Endrin Aldehyde	73.5		P	34 - 114
Endrin Ketone	89.1		P	63 - 177
Esfenvalerate	71.8		P	29 - 143
Ethalfuralin	73.9		P	46 - 96.0
Fenpropathrin	73.1		P	28 - 115
Gamma-BHC	77.2		P	65 - 121
Gamma-Chlordane	65.9		P	39 - 103
Heptachlor	68.5		P	39 - 94.0
Heptachlor Epoxide	67.6		P	54 - 104
Hexachlorobenzene	66.7		P	36 - 100
Kepone	95.6		P	10 - 225
Lambda-Cyhalothrin	62.3		P	10 - 135
Methoprene	55.3		P	10 - 109
Methoxychlor	79.7		P	52 - 112
MGK-264	90.0		P	44 - 117
Mirex	62.2		P	20 - 90.0
Oxychlordane	70.0		P	44 - 102
PCB-1016	57.1		P	45 - 107
PCB-1260	64.2		P	40 - 118
Permethrin	54.3		P	18 - 135
Phenothrin	48.0		P	10 - 102
Piperonyl Butoxide	91.2		P	28 - 156
Prallethrin	89.3		P	28 - 113
Tau-Fluvalinate	68.4		P	10 - 123
Tetramethrin	83.2		P	18 - 158
Trans-Nonachlor	71.2		P	39 - 104
Triclosan Methyl	71.1		P	54 - 108
Trifluralin	68.9		P	46 - 97.0

Reference Method: EPA 8276

Batch ID: P446276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	79.0		P	52 - 117
Toxaphene	70.0		P	44 - 125

Reference Method: SM 2320 B-2011

Batch ID: P446468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	93 - 103

Reference Method: SM 2320 B-2011

Batch ID: P446469

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

Reference Method: SM 2320 B-2011
Batch ID: P446469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	93 - 103

Reference Method: SM 2540 C-2015
Batch ID: P446640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	104		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P446635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	106		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P446471

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	95 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P446472

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	95 - 106

Reference Method: SM 5310 B-2014
Batch ID: P446379

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489983	Calcium	100		P	80 - 120
2489983	Iron	105	104	P/P	80 - 120
2489983	Magnesium	106	104	P/P	80 - 120
2489983	Potassium	106	104	P/P	80 - 120
2489983	Sodium	104	102	P/P	80 - 120
2489983	Strontium	99.8	97.6	P/P	80 - 120
2489983	Tin	98.3	99.2	P/P	80 - 120
2489983	Titanium	99.8	102	P/P	80 - 120
2489983	Vanadium	107	109	P/P	80 - 120
2489983	Zinc	98.8	99.5	P/P	80 - 120
2492062	Calcium	98.5		P	80 - 120
2492062	Iron	103		P	80 - 120
2492062	Magnesium	104		P	80 - 120
2492062	Potassium	97.1		P	80 - 120
2492062	Sodium	99.3		P	80 - 120
2492062	Strontium	99.7		P	80 - 120
2492062	Tin	97.9		P	80 - 120
2492062	Titanium	102		P	80 - 120
2492062	Vanadium	109		P	80 - 120
2492062	Zinc	99.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2489983	Aluminum	102	102	P/P	80 - 120
2489983	Antimony	107	109	P/P	80 - 120
2489983	Arsenic	103	103	P/P	80 - 120
2489983	Barium	103	103	P/P	80 - 120
2489983	Beryllium	108	109	P/P	80 - 120
2489983	Boron	108	107	P/P	80 - 120
2489983	Cadmium	99.0	102	P/P	80 - 120
2489983	Chromium	105	104	P/P	80 - 120
2489983	Cobalt	102	101	P/P	80 - 120
2489983	Copper	101	100	P/P	80 - 120
2489983	Lead	102	102	P/P	80 - 120
2489983	Manganese	104	103	P/P	80 - 120
2489983	Molybdenum	103	103	P/P	80 - 120
2489983	Nickel	102	100	P/P	80 - 120
2489983	Selenium	101	102	P/P	80 - 120
2489983	Silver	114	118	P/P	80 - 120
2489983	Thallium	96.1	98.0	P/P	80 - 120
2492062	Aluminum	102		P	80 - 120
2492062	Antimony	107		P	80 - 120
2492062	Arsenic	103		P	80 - 120
2492062	Barium	103		P	80 - 120
2492062	Beryllium	106		P	80 - 120
2492062	Boron	109		P	80 - 120
2492062	Cadmium	101		P	80 - 120
2492062	Chromium	104		P	80 - 120
2492062	Cobalt	103		P	80 - 120
2492062	Copper	99.6		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492062	Lead	103		P	80 - 120
2492062	Molybdenum	103		P	80 - 120
2492062	Nickel	104		P	80 - 120
2492062	Selenium	101		P	80 - 120
2492062	Silver	113		P	80 - 120
2492062	Thallium	101		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492276	Sulfate	107		P	90 - 110
2492352	Sulfate	110		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492276	Chloride	99.0		P	90 - 110
2492352	Chloride	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446406

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492166	Ammonia-N	92.0	94.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492165	Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492270	Kjeldahl Nitrogen	101	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492017	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492271	Total-P	106	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P446276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492126	Aldrin	73.5	70.3	P/P	24 - 81.0
2492126	Alpha-BHC	90.9	85.8	P/P	65 - 110
2492126	Alpha-Chlordane	96.0	92.4	P/P	43 - 119
2492126	Beta-BHC	121	113	P/P	54 - 165
2492126	Beta-Cyfluthrin	107	102	P/P	27 - 165
2492126	Bifenthrin	57.0	69.4	P/P	17 - 117
2492126	Chlorothalonil	114	128	P/P	10 - 255
2492126	Cis-Nonachlor	81.6	69.9	P/P	34 - 98.0
2492126	Cypermethrin	102	96.9	P/P	25 - 143
2492126	Dacthal	89.9	41.6	P/F	55 - 139
2492126	DDD-p,p'	71.2	75.1	P/P	30 - 109
2492126	DDE-p,p'	77.4	75.2	P/P	35 - 106
2492126	DDT-p,p'	75.7	68.4	P/P	41 - 101
2492126	Delta-BHC	118	111	P/P	58 - 165
2492126	Deltamethrin	119	79.0	P/P	10 - 194
2492126	Dichlobenil	68.8	48.6	P/P	22 - 114
2492126	Dicofol	67.9	64.2	P/P	17 - 133
2492126	Dieldrin	96.7	77.2	P/P	45 - 129
2492126	Endosulfan I	82.9	85.8	P/P	49 - 104
2492126	Endosulfan II	92.7	71.8	P/P	37 - 117
2492126	Endosulfan Sulfate	101	70.9	P/P	38 - 128
2492126	Endrin	99.7	76.9	P/P	35 - 116
2492126	Endrin Aldehyde	83.0	67.8	P/P	19 - 108
2492126	Endrin Ketone	89.4	81.4	P/P	44 - 134
2492126	Esfenvalerate	95.0	101	P/P	27 - 176
2492126	Ethalfuralin	91.3	80.9	P/P	49 - 100
2492126	Fenpropathrin	78.7	73.0	P/P	34 - 117
2492126	Gamma-BHC	92.8	94.9	P/P	59 - 129
2492126	Gamma-Chlordane	92.0	75.6	P/P	33 - 107
2492126	Heptachlor	78.3	82.7	P/P	37 - 94.0
2492126	Heptachlor Epoxide	88.9	65.3	P/P	38 - 118
2492126	Hexachlorobenzene	71.6	60.8	P/P	35 - 97.0
2492126	Kepone	95.3	130	P/P	10 - 221
2492126	Lambda-Cyhalothrin	81.4	72.5	P/P	23 - 190
2492126	Methoprene	74.7	88.1	P/P	21 - 109
2492126	Methoxychlor	89.8	72.4	P/P	46 - 118
2492126	MGK-264	113	106	P/P	39 - 122
2492126	Mirex	82.3	62.2	P/P	25 - 90.0
2492126	Oxychlordane	91.2	83.7	P/P	42 - 100
2492126	Permethrin	76.1	114	P/P	33 - 181
2492126	Phenothrin	64.0	92.5	P/P	12 - 125
2492126	Piperonyl Butoxide	103	88.1	P/P	10 - 178
2492126	Prallethrin	98.9	77.2	P/P	24 - 122
2492126	Tau-Fluvalinate	92.3	101	P/P	13 - 151
2492126	Tetramethrin	96.8	83.9	P/P	16 - 172
2492126	Trans-Nonachlor	98.1	89.3	P/P	39 - 100
2492126	Triclosan Methyl	86.1	78.1	P/P	43 - 110
2492126	Trifluralin	79.9	80.7	P/P	45 - 94.0
2492344	PCB-1016	84.2	83.5	P/P	45 - 107
2492344	PCB-1260	95.9	93.0	P/P	40 - 112

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P446276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492344	Chlordane	91.6	83.0	P/P	43 - 123
2492344	Toxaphene	72.5	66.3	P/P	27 - 156

Reference Method: SM 4500-F- C-2011
Batch ID: P446471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492163	Fluoride	97.6	98.3	P/P	95 - 107

Reference Method: SM 4500-F- C-2011
Batch ID: P446472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492276	Fluoride	101	102	P/P	95 - 107

Reference Method: SM 5310 B-2014
Batch ID: P446379

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492229	Organic Carbon	97.9	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P446150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492236	Color (true)	0.867	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P446161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492236	Turbidity	0.699	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P446213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489983	Calcium	0.899	Spike	P	0 - 20
2489983	Iron	0.920	Spike	P	0 - 20
2489983	Magnesium	1.55	Spike	P	0 - 20
2489983	Potassium	1.71	Spike	P	0 - 20
2489983	Sodium	1.10	Spike	P	0 - 20
2489983	Strontium	2.18	Spike	P	0 - 20
2489983	Tin	0.839	Spike	P	0 - 20
2489983	Titanium	2.08	Spike	P	0 - 20
2489983	Vanadium	1.16	Spike	P	0 - 20
2489983	Zinc	0.705	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P446213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2489983	Aluminum	0.257	Spike	P	0 - 20
2489983	Antimony	1.63	Spike	P	0 - 20
2489983	Arsenic	0.656	Spike	P	0 - 20
2489983	Barium	0.378	Spike	P	0 - 20
2489983	Beryllium	0.367	Spike	P	0 - 20
2489983	Boron	0.304	Spike	P	0 - 20
2489983	Cadmium	3.35	Spike	P	0 - 20
2489983	Chromium	0.756	Spike	P	0 - 20
2489983	Cobalt	1.51	Spike	P	0 - 20
2489983	Copper	0.779	Spike	P	0 - 20
2489983	Lead	0.157	Spike	P	0 - 20
2489983	Manganese	1.21	Spike	P	0 - 20
2489983	Molybdenum	0.755	Spike	P	0 - 20
2489983	Nickel	1.42	Spike	P	0 - 20
2489983	Selenium	0.756	Spike	P	0 - 20
2489983	Silver	3.21	Spike	P	0 - 20
2489983	Thallium	1.93	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492276	Sulfate	1.99	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P446971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492276	Chloride	2.94	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492166	Ammonia-N	2.36	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492165	Kjeldahl Nitrogen	1.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492270	Kjeldahl Nitrogen	2.32	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492017	NO2NO3-N	0.682	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492271	Total-P	0.154	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P446276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492126	Aldrin	4.40	Spike	P	0 - 41
2492126	Alpha-BHC	5.76	Spike	P	0 - 25

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P446276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492126	Alpha-Chlordane	3.82	Spike	P	0 - 32
2492126	Beta-BHC	6.26	Spike	P	0 - 33
2492126	Beta-Cyfluthrin	5.21	Spike	P	0 - 43
2492126	Bifenthrin	19.6	Spike	P	0 - 52
2492126	Chlorothalonil	11.4	Spike	P	0 - 82
2492126	Cis-Nonachlor	15.5	Spike	P	0 - 33
2492126	Cypermethrin	4.79	Spike	P	0 - 51
2492126	Dacthal	73.6	Spike	F	0 - 27
2492126	DDD-p,p'	5.37	Spike	P	0 - 39
2492126	DDE-p,p'	2.89	Spike	P	0 - 31
2492126	DDT-p,p'	10.2	Spike	P	0 - 29
2492126	Delta-BHC	5.85	Spike	P	0 - 35
2492126	Deltamethrin	40.4	Spike	P	0 - 100
2492126	Dichlobenil	34.4	Spike	P	0 - 40
2492126	Dicofol	5.71	Spike	P	0 - 37
2492126	Dieldrin	22.4	Spike	P	0 - 27
2492126	Endosulfan I	3.48	Spike	P	0 - 23
2492126	Endosulfan II	25.4	Spike	P	0 - 34
2492126	Endosulfan Sulfate	35.0	Spike	P	0 - 36
2492126	Endrin	25.7	Spike	P	0 - 45
2492126	Endrin Aldehyde	20.1	Spike	P	0 - 76
2492126	Endrin Ketone	9.37	Spike	P	0 - 43
2492126	Esfenvalerate	5.71	Spike	P	0 - 51
2492126	Ethalfuralin	12.1	Spike	P	0 - 22
2492126	Fenpropathrin	7.50	Spike	P	0 - 49
2492126	Gamma-BHC	2.33	Spike	P	0 - 28
2492126	Gamma-Chlordane	19.5	Spike	P	0 - 40
2492126	Heptachlor	5.46	Spike	P	0 - 29
2492126	Heptachlor Epoxide	30.6	Spike	P	0 - 33
2492126	Hexachlorobenzene	16.3	Spike	P	0 - 36
2492126	Kepone	30.8	Spike	P	0 - 85
2492126	Lambda-Cyhalothrin	11.6	Spike	P	0 - 55
2492126	Methoprene	16.5	Spike	P	0 - 53
2492126	Methoxychlor	21.5	Spike	P	0 - 50
2492126	MGK-264	6.16	Spike	P	0 - 43
2492126	Mirex	27.8	Spike	P	0 - 40
2492126	Oxychlordane	8.62	Spike	P	0 - 31
2492126	Permethrin	39.6	Spike	P	0 - 50
2492126	Phenothrin	36.3	Spike	P	0 - 58
2492126	Piperonyl Butoxide	15.7	Spike	P	0 - 100
2492126	Prallethrin	24.7	Spike	P	0 - 39
2492126	Tau-Fluvalinate	8.97	Spike	P	0 - 54
2492126	Tetramethrin	14.3	Spike	P	0 - 51
2492126	Trans-Nonachlor	9.41	Spike	P	0 - 39
2492126	Triclosan Methyl	9.79	Spike	P	0 - 31
2492126	Trifluralin	1.04	Spike	P	0 - 22
2492344	PCB-1016	0.755	Spike	P	0 - 25
2492344	PCB-1260	3.08	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P446276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492344	Chlordane	9.90	Spike	P	0 - 28
2492344	Toxaphene	8.97	Spike	P	0 - 27

Reference Method: SM 2320 B-2011
Batch ID: P446468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492163	Total Alkalinity	0.417	Sample	P	0 - 4.1

Reference Method: SM 2320 B-2011
Batch ID: P446469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492276	Total Alkalinity	3.88	Sample	P	0 - 4.1

Reference Method: SM 2540 C-2015
Batch ID: P446640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2491579	TDS	5.41	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P446471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492163	Fluoride	0.513	Spike	P	0 - 1.7

Reference Method: SM 4500-F- C-2011
Batch ID: P446472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492276	Fluoride	0.946	Spike	P	0 - 1.7

Reference Method: SM 5310 B-2014
Batch ID: P446379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492229	Organic Carbon	2.45	Spike	P	0 - 15

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2492245
Field Sample ID: G5SE0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	76.7	P	37 - 129
EPA 8270E	Decachlorobiphenyl	89.6	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	46.9	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	40.9	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	59.1	P	23 - 110
EPA 8276	PCNB	68.1	P	51 - 130

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: NU-094-1
Run ID: A126027
Included Lab Sample IDs: 2492236, 2492238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	99.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A126034
Included Lab Sample IDs: 2492236, 2492238

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A126076
Included Lab Sample IDs: 2492237, 2492239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A126077
Included Lab Sample IDs: 2492236, 2492238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	95.2	98.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A126078
Included Lab Sample IDs: 2492246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.6	102	P/P	90 - 110
Iron	99.9	102	P/P	90 - 110
Magnesium	101	103	P/P	90 - 110
Potassium	99.1	101	P/P	90 - 110
Sodium	99.8	101	P/P	90 - 110
Strontium	102	101	P/P	90 - 110
Tin	103	103	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	107	108	P/P	90 - 110
Zinc	104	104	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A126107
Included Lab Sample IDs: 2492237, 2492239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	129	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A126110
Included Lab Sample IDs: 2492237, 2492239

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A126110
Included Lab Sample IDs: 2492237, 2492239

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A126119
Included Lab Sample IDs: 2492237, 2492239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.2	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A126130
Included Lab Sample IDs: 2492246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	101	P/P	90 - 110
Antimony	99.4	100	P/P	90 - 110
Arsenic	100	100	P/P	90 - 110
Barium	101	99.8	P/P	90 - 110
Beryllium	102	102	P/P	90 - 110
Boron	103	104	P/P	90 - 110
Cadmium	99.1	99.9	P/P	90 - 110
Chromium	100	99.1	P/P	90 - 110
Cobalt	98.9	99.3	P/P	90 - 110
Copper	99.6	101	P/P	90 - 110
Lead	99.3	99.6	P/P	90 - 110
Manganese	100	100	P/P	90 - 110
Molybdenum	99.4	101	P/P	90 - 110
Nickel	99.1	99.3	P/P	90 - 110
Selenium	99.3	99.8	P/P	90 - 110
Silver	98.3	99.1	P/P	90 - 110
Thallium	92.4	90.9	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A126140
Included Lab Sample IDs: 2492236, 2492238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	98.3	P/P	90 - 110
Total Alkalinity	98.4	97.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A126140
Included Lab Sample IDs: 2492236, 2492238

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

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A126167
Included Lab Sample IDs: 2492239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A126186
Included Lab Sample IDs: 2492237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	105	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A126234
Included Lab Sample IDs: 2492245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.4		P	80 - 120
Toxaphene	104		P	80 - 120

Reference Method: EPA 8270E
Run ID: A126265
Included Lab Sample IDs: 2492245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	107		P	80 - 120
PCB-1260	109		P	80 - 120

Reference Method: EPA 8270E
Run ID: A126277
Included Lab Sample IDs: 2492245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	91.4		P	80 - 120
Alpha-BHC	99.5		P	80 - 120
Alpha-Chlordane	90.2		P	80 - 120
Beta-BHC	95.2		P	80 - 120
Beta-Cyfluthrin	99.4		P	80 - 120
Bifenthrin	104		P	80 - 120
Chlorothalonil	82.6		P	80 - 120
Cis-Nonachlor	90.6		P	80 - 120
Cypermethrin	92.8		P	80 - 120
Dacthal	89.2		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	105		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	86.8		P	80 - 120
Deltamethrin	92.6		P	80 - 120
Dichlobenil	94.6		P	80 - 120
Dicofol	95.8		P	80 - 120
Dieldrin	102		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	96.4		P	80 - 120
Endosulfan Sulfate	92.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A126277
Included Lab Sample IDs: 2492245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin	103		P	80 - 120
Endrin Aldehyde	94.0		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	92.5		P	80 - 120
Ethalfuralin	94.5		P	80 - 120
Fenpropathrin	111		P	80 - 120
Gamma-BHC	93.3		P	80 - 120
Gamma-Chlordane	82.5		P	80 - 120
Heptachlor	98.2		P	80 - 120
Heptachlor Epoxide	105		P	80 - 120
Hexachlorobenzene	91.7		P	80 - 120
Kepone	82.8		P	80 - 120
Lambda-Cyhalothrin	99.4		P	80 - 120
Methoprene	98.1		P	80 - 120
Methoxychlor	100		P	80 - 120
MGK-264	92.8		P	80 - 120
Mirex	112		P	80 - 120
Oxychlordane	89.8		P	80 - 120
Permethrin	93.4		P	80 - 120
Phenothrin	103		P	80 - 120
Piperonyl Butoxide	99.6		P	80 - 120
Prallethrin	104		P	80 - 120
Tau-Fluvalinate	93.9		P	80 - 120
Tetramethrin	98.9		P	80 - 120
Trans-Nonachlor	97.7		P	80 - 120
Triclosan Methyl	104		P	80 - 120
Trifluralin	106		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A126324
Included Lab Sample IDs: 2492236, 2492238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	100	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			Precision	MS
			LCS	SMP	MS		
DEP SOP: NU-094-1	Color (true)	97.7				0.867	
EPA 180.1 Rev. 2.0	Turbidity	101				0.699	
EPA 200.7 Rev. 4.4	Calcium	99.7	100	98.5			0.899
	Iron	103	105	104	103		0.920
	Magnesium	105	106	104	104		1.55
	Potassium	96.6	106	104	97.1		1.71
	Sodium	103	104	102	99.3		1.10
	Strontium	98.8	99.8	97.6	99.7		2.18
	Tin	97.9	98.3	99.2	97.9		0.839
	Titanium	101	99.8	102	102		2.08
	Vanadium	105	107	109	109		1.16
	Zinc	99.7	98.8	99.5	99.9		0.705
EPA 200.8 Rev. 5.4	Aluminum	102	102	102	102		0.257
	Antimony	107	107	107	109		1.63
	Arsenic	103	103	103	103		0.656
	Barium	104	103	103	103		0.378
	Beryllium	104	106	108	109		0.367
	Boron	109	109	108	107		0.304
	Cadmium	100	101	99.0	102		3.35
	Chromium	103	104	105	104		0.756
	Cobalt	102	103	102	101		1.51
	Copper	102	99.6	101	100		0.779
	Lead	102	103	102	102		0.157
	Manganese	103	104	103			1.21
	Molybdenum	102	103	103	103		0.755
	Nickel	102	104	102	100		1.42
	Selenium	103	101	101	102		0.756
	Silver	114	113	114	118		3.21
	Thallium	94.4	101	96.1	98.0		1.93
EPA 300.0 Rev. 2.1	Chloride	99.7	99.0	102		2.94	
	Sulfate	108	107	110		1.99	
EPA 350.1 Rev. 2.0	Ammonia-N	94.2	92.0	94.6			2.36
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	105	103			1.41
	Kjeldahl Nitrogen	107	101	98.2			2.32
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	96.2				0.682
EPA 365.1 Rev. 2.0	Total-P	103	106	106			0.154
EPA 8270E	Aldrin	64.5	70.3	73.5			4.40
	Alpha-BHC	84.1	85.8	90.9			5.76
	Alpha-Chlordane	76.0	92.4	96.0			3.82
	Beta-BHC	96.9	113	121			6.26
	Beta-Cyfluthrin	83.9	102	107			5.21
	Bifenthrin	41.2	69.4	57.0			19.6
	Chlorothalonil	88.7	128	114			11.4
	Cis-Nonachlor	74.2	69.9	81.6			15.5
	Cypermethrin	83.1	96.9	102			4.79
	Dacthal	79.9	41.6	89.9			73.6
	DDD-p,p'	73.3	75.1	71.2			5.37
	DDE-p,p'	76.9	75.2	77.4			2.89
	DDT-p,p'	71.7	68.4	75.7			10.2
	Delta-BHC	92.4	111	118			5.85
	Deltamethrin	79.1	79.0	119			40.4
	Dichlobenil	69.5	48.6	68.8			34.4
	Dicofol	68.5	64.2	67.9			5.71
	Dieldrin	85.6	77.2	96.7			22.4

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8270E	Endosulfan I	67.3	85.8	82.9		
	Endosulfan II	82.9	71.8	92.7		
	Endosulfan Sulfate	80.6	70.9	101		
	Endrin	83.2	76.9	99.7		
	Endrin Aldehyde	73.5	67.8	83.0		
	Endrin Ketone	89.1	81.4	89.4		
	Esfenvalerate	71.8	101	95.0		
	Ethalfuralin	73.9	80.9	91.3		
	Fenpropathrin	73.1	73.0	78.7		
	Gamma-BHC	77.2	94.9	92.8		
	Gamma-Chlordane	65.9	75.6	92.0		
	Heptachlor	68.5	82.7	78.3		
	Heptachlor Epoxide	67.6	65.3	88.9		
	Hexachlorobenzene	66.7	60.8	71.6		
	Kepone	95.6	130	95.3		
	Lambda-Cyhalothrin	62.3	72.5	81.4		
	Methoprene	55.3	88.1	74.7		
	Methoxychlor	79.7	72.4	89.8		
	MGK-264	90.0	106	113		
	Mirex	62.2	62.2	82.3		
	Oxychlordane	70.0	83.7	91.2		
	PCB-1016	57.1	84.2	83.5		
	PCB-1260	64.2	95.9	93.0		
	Permethrin	54.3	114	76.1		
	Phenothrin	48.0	92.5	64.0		
	Piperonyl Butoxide	91.2	88.1	103		
	Prallethrin	89.3	77.2	98.9		
	Tau-Fluvalinate	68.4	101	92.3		
	Tetramethrin	83.2	96.8	83.9		
	Trans-Nonachlor	71.2	98.1	89.3		
	Triclosan Methyl	71.1	86.1	78.1		
	Trifluralin	68.9	79.9	80.7		
EPA 8276	Chlordane	79.0	91.6	83.0		
	Toxaphene	70.0	72.5	66.3		
SM 2320 B-2011	Total Alkalinity	99.6				0.417
	Total Alkalinity	98.6				3.88
SM 2540 C-2015	TDS	104				5.41
SM 2540 D-2015	TSS	106				
SM 4500-F- C-2011	Fluoride	98.7	97.6	98.3		0.513
	Fluoride	101	101	102		0.946
SM 5310 B-2014	Organic Carbon	101	97.9	101		2.45

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2492236, 2492238
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2492236, 2492238
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2492246
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2492246
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2492236, 2492238
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2492236, 2492238

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2492237, 2492239
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2492237, 2492239
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2492237, 2492239
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2492237, 2492239
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2492245
EPA 8270E	PCBs in water matrices by GC/MS/MS	2492245
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2492245
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2492236, 2492238
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2492246
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2492236, 2492238
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2492236, 2492238
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2492236, 2492238
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2492237, 2492239

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/06/2024			06/06/2024 14:23	Jessica K Wilks	2492236, 2492238
EPA 180.1 Rev. 2.0	06/06/2024			06/06/2024 14:22	Samantha L Bates	2492236
	06/06/2024			06/06/2024 14:26	Samantha L Bates	2492238
EPA 200.7 Rev. 4.4	06/06/2024	06/07/2024 13:30	George D Taylor	06/10/2024 18:07	Conrad Hartmann	2492246
EPA 200.8 Rev. 5.4	06/06/2024	06/07/2024 13:30	George D Taylor	06/12/2024 21:41	Emily M Philpot	2492246
EPA 300.0 Rev. 2.1	06/06/2024			06/13/2024 05:18	James L Waggeberby	2492236
	06/06/2024			06/13/2024 05:33	James L Waggeberby	2492238
	06/06/2024			06/21/2024 19:20	James L Waggeberby	2492236
	06/06/2024			06/21/2024 19:35	James L Waggeberby	2492238
EPA 350.1 Rev. 2.0	06/06/2024			06/12/2024 14:30	Khloe J Berg	2492237
	06/06/2024			06/12/2024 14:32	Khloe J Berg	2492239
EPA 351.2 Rev. 2.0	06/06/2024	06/11/2024 09:29	Robyn Blevins	06/14/2024 13:18	Samantha L Bates	2492239
	06/06/2024	06/11/2024 09:29	Robyn Blevins	06/17/2024 11:05	Samantha L Bates	2492237
EPA 353.2 Rev. 2.0	06/06/2024			06/10/2024 14:20	Fadila Guebre	2492237
	06/06/2024			06/10/2024 14:21	Fadila Guebre	2492239
EPA 365.1 Rev. 2.0	06/06/2024	06/11/2024 15:03	Josephine W Gitau	06/12/2024 11:15	Chandler E Cox	2492237
	06/06/2024	06/11/2024 15:03	Josephine W Gitau	06/12/2024 11:16	Chandler E Cox	2492239
EPA 8270E	06/06/2024	06/07/2024 08:00	Fe-Val Siddell	06/15/2024 01:52	Kenedi Mills	2492245
	06/06/2024	06/07/2024 08:00	Fe-Val Siddell	06/19/2024 23:52	Lipi Saha	2492245
EPA 8276	06/06/2024	06/07/2024 08:00	Fe-Val Siddell	06/14/2024 21:49	Arthur Maknenko	2492245
SM 2320 B-2011	06/06/2024			06/11/2024 22:43	Chandler E Cox	2492236
	06/06/2024			06/12/2024 01:45	Chandler E Cox	2492238
SM 2340 B-2011	06/06/2024			06/10/2024 18:07	Conrad Hartmann	2492246
SM 2540 C-2015	06/06/2024			06/10/2024 14:37	Yijie Li	2492236, 2492238
SM 2540 D-2015	06/06/2024			06/10/2024 14:37	Yijie Li	2492236, 2492238
SM 4500-F- C-2011	06/06/2024			06/11/2024 22:43	Chandler E Cox	2492236
	06/06/2024			06/12/2024 01:45	Chandler E Cox	2492238
SM 5310 B-2014	06/06/2024			06/12/2024 00:15	Jessica K Wilks	2492237
	06/06/2024			06/12/2024 00:29	Jessica K Wilks	2492239