

Chemical Analysis Report

SE-DIST-2024-01-11-01

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

Event Description: **SMP - Sugar**
Request ID: **RQ-2024-01-08-31**
Customer: **SE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 31-JAN-2024 15:59



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: FARM CANAL AT HWY 98 AND SR 717

Collection Date/Time: 01/10/2024 10:00

Field ID: G5SE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2460580	DEP SOP: NU-094-1	Color (true)	160		PCU	P439827	
	EPA 180.1 Rev. 2.0	Turbidity	24		NTU	P439829	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P440105	
		Sulfate	200		mg SO4/L	P440107	
	SM 2320 B-2011	Total Alkalinity	372		mg CaCO3/L	P440091	
	SM 2540 C-2015	TDS	908		mg/L	P440340	
	SM 2540 D-2015	TSS	30		mg/L	P440335	
	SM 4500-F- C-2011	Fluoride	0.49		mg F/L	P440094	
2460581	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P440063	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	4.0		mg N/L	P439857	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P439956	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P439938	
	SM 5310 B-2014	Organic Carbon	47		mg C/L	P440135	
2460603	EPA 8270E	Aldrin	0.67	U	ng/L	P439865	
		Alpha-BHC	0.10	U	ng/L	P439865	
		Alpha-Chlordane	0.21	U	ng/L	P439865	
		PCB-1016	2.1	U	ng/L	P439865	
		Beta-BHC	0.10	U	ng/L	P439865	
		PCB-1221	2.1	U	ng/L	P439865	
		Beta-Cyfluthrin	1.3	U	ng/L	P439865	
		PCB-1232	2.1	U	ng/L	P439865	
		Bifenthrin	0.51	U	ng/L	P439865	
		PCB-1242	2.1	U	ng/L	P439865	
		PCB-1248	2.1	U	ng/L	P439865	
		Chlorothalonil	3.7	U	ng/L	P439865	
		PCB-1254	2.1	U	ng/L	P439865	
		Cis-Nonachlor	0.21	U	ng/L	P439865	
		PCB-1260	2.1	U	ng/L	P439865	
		Cypermethrin	1.5	U	ng/L	P439865	
		Dacthal	0.15	U	ng/L	P439865	
		DDD-p,p'	0.31	I	ng/L	P439865	
		DDE-p,p'	0.96	I	ng/L	P439865	
		DDT-p,p'	0.82	U	ng/L	P439865	MS, RPD
		Delta-BHC	0.41	U	ng/L	P439865	
		Deltamethrin	1.3	U	ng/L	P439865	
		Dichlobenil	0.26	U	ng/L	P439865	
		Dicofol	1.3	U	ng/L	P439865	
		Diieldrin	0.72	I	ng/L	P439865	
		Endosulfan I	0.41	U	ng/L	P439865	
		Endosulfan II	0.93	U	ng/L	P439865	
		Endosulfan Sulfate	0.31	U	ng/L	P439865	
		Endrin	0.93	U	ng/L	P439865	
		Endrin Aldehyde	0.77	U	ng/L	P439865	
		Endrin Ketone	0.41	U	ng/L	P439865	

Field ID: G5SE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2460603	EPA 8270E	Esfenvalerate	0.77	U	ng/L	P439865		
		Ethalfuralin	0.15	U	ng/L	P439865		
		Fenpropathrin	0.26	U	ng/L	P439865		
		Gamma-BHC	0.13	U	ng/L	P439865		
		Gamma-Chlordane	0.24	I	ng/L	P439865		
		Heptachlor	0.21	U	ng/L	P439865		
		Heptachlor Epoxide	0.26	UJ	ng/L	P439865	LCS	
		Hexachlorobenzene**	1.0	U	ng/L	P439865		
		Kepone	14	U	ng/L	P439865		
		Lambda-Cyhalothrin	0.77	U	ng/L	P439865		
		Methoprene	0.77	U	ng/L	P439865		
		Methoxychlor	0.31	U	ng/L	P439865	MS	
		MGK-264	0.21	U	ng/L	P439865		
		Mirex	0.36	U	ng/L	P439865		
		Oxychlordane	0.31	U	ng/L	P439865		
		Permethrin	1.6	U	ng/L	P439865		
		Phenothrin	0.93	U	ng/L	P439865		
		Piperonyl Butoxide	3.2		ng/L	P439865		
		Prallethrin	2.1	U	ng/L	P439865		
		Tau-Fluvalinate	0.26	U	ng/L	P439865		
		Tetramethrin	0.77	U	ng/L	P439865		
		Trans-Nonachlor	0.21	U	ng/L	P439865		
		Triclosan Methyl	0.15	U	ng/L	P439865		
		Trifluralin	0.21	U	ng/L	P439865		
		EPA 8276	Chlordane	2.1	U	ng/L	P439865	
			Toxaphene	180		ng/L	P439865	
2460604	EPA 200.7 Rev. 4.4	Calcium	176		mg/L	P439893		
		Chromium	1.0	U	ug/L	P439893		
		Iron	520		ug/L	P439893		
		Magnesium	51.3		mg/L	P439893		
		Potassium	7.4		mg/L	P439893		
		Sodium	77.0		mg/L	P439893		
		Strontium	3.70E+03		ug/L	P439893		
		Tin	3.0	U	ug/L	P439893		
		Titanium	4.2		ug/L	P439893		
		Vanadium	2.0	I	ug/L	P439893		
		Zinc	9.8	I	ug/L	P439893		
		EPA 200.8 Rev. 5.4	Aluminum	267		ug/L	P439893	
		Antimony	0.12	I	ug/L	P439893		
		Arsenic	4.60		ug/L	P439893		
		Barium	129		ug/L	P439893		
		Beryllium	0.033	I	ug/L	P439893		
		Boron	138		ug/L	P439893		
		Cadmium	0.020	U	ug/L	P439893		
		Cobalt	0.309		ug/L	P440055		

Field ID: G5SE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2460604	EPA 200.8 Rev. 5.4	Copper	1.51		ug/L	P439893	
		Lead	0.36	I	ug/L	P439893	
		Manganese	18.3		ug/L	P439893	
		Molybdenum	2.61		ug/L	P439893	
		Nickel	0.98	I	ug/L	P440055	
		Selenium	0.28	I	ug/L	P439893	
		Silver	0.010	U	ug/L	P439893	
		Thallium	0.10	U	ug/L	P439893	
	SM 2340 B-2011	Hardness	651		mg/L	P439893	

Ref. Method and Comment:
SM 2540 D-2015: 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.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: PELICAN RIVER AT MCCLURE

Collection Date/Time: 01/10/2024 10:30

Field ID: G5SE0059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2460578	DEP SOP: NU-094-1	Color (true)	100	A	PCU	P439827	
	EPA 180.1 Rev. 2.0	Turbidity	20		NTU	P439829	
	EPA 300.0 Rev. 2.1	Chloride	510		mg Cl/L	P440105	
		Sulfate	280		mg SO4/L	P440107	
	SM 2320 B-2011	Total Alkalinity	458		mg CaCO3/L	P440091	
	SM 2540 C-2015	TDS	1.68E+03		mg/L	P440340	
	SM 2540 D-2015	TSS	26		mg/L	P440335	
	SM 4500-F- C-2011	Fluoride	0.73		mg F/L	P440094	
2460579	EPA 350.1 Rev. 2.0	Ammonia-N	2.2		mg N/L	P440063	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	5.1		mg N/L	P439857	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P439956	
	EPA 365.1 Rev. 2.0	Total-P	0.64		mg P/L	P439938	
	SM 5310 B-2014	Organic Carbon	31		mg C/L	P440135	

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

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P439827

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439829

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439893

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/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: P439893

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
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440055

Component	Result	Code	Units
Cobalt	0.020	U	ug/L
Nickel	0.50	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440105

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440107

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440063

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439857

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439938

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

Reference Method: EPA 8270E
Batch ID: P439865

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: P439865

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: P439865

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

Reference Method: SM 2320 B-2011

Batch ID: P440091

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P440340

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P440335

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P440135

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: P439827

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439829

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	104		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439893

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Chromium	98.7		P	85 - 115
Iron	110		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Strontium	99.3		P	85 - 115
Tin	94.7		P	85 - 115
Titanium	99.9		P	85 - 115
Vanadium	98.8		P	85 - 115
Zinc	96.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439893

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	104		P	85 - 115
Barium	103		P	85 - 115
Beryllium	98.0		P	85 - 115
Boron	106		P	85 - 115
Cadmium	104		P	85 - 115
Copper	101		P	85 - 115
Lead	99.6		P	85 - 115
Manganese	105		P	85 - 115
Molybdenum	102		P	85 - 115
Selenium	104		P	85 - 115
Silver	100		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cobalt	100		P	85 - 115
Nickel	101		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440107

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440063

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439938

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

Reference Method: EPA 8270E
Batch ID: P439865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	61.1		P	30 - 96.0
Alpha-BHC	88.8		P	70 - 109
Alpha-Chlordane	90.1		P	45 - 107
Beta-BHC	82.5		P	64 - 138
Beta-Cyfluthrin	70.6		P	17 - 141
Bifenthrin	46.1		P	10 - 113
Chlorothalonil	35.9		P	26 - 180
Cis-Nonachlor	67.6		P	37 - 102
Cypermethrin	77.0		P	20 - 133
Dacthal	89.8		P	69 - 114
DDD-p,p'	83.9		P	42 - 105
DDE-p,p'	85.5		P	42 - 106
DDT-p,p'	79.5		P	42 - 107
Delta-BHC	82.3		P	67 - 144
Deltamethrin	79.3		P	15 - 149
Dichlobenil	74.6		P	46 - 117

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P439865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dicofol	81.1		P	34 - 114
Dieldrin	85.5		P	50 - 108
Endosulfan I	92.5		P	55 - 104
Endosulfan II	66.3		P	51 - 111
Endosulfan Sulfate	62.7		P	56 - 121
Endrin	90.4		P	10 - 106
Endrin Aldehyde	49.0		P	34 - 114
Endrin Ketone	64.2		P	63 - 177
Esfenvalerate	64.4		P	29 - 143
Ethalfuralin	78.4		P	46 - 96.0
Fenpropathrin	67.6		P	28 - 115
Gamma-BHC	99.6		P	65 - 121
Gamma-Chlordane	88.7		P	39 - 103
Heptachlor	73.9		P	39 - 94.0
Heptachlor Epoxide	115		F	54 - 104
Hexachlorobenzene	71.5		P	36 - 100
Kepone	76.3		P	10 - 225
Lambda-Cyhalothrin	33.4		P	10 - 135
Methoprene	60.6		P	10 - 109
Methoxychlor	109		P	52 - 112
MGK-264	81.9		P	44 - 117
Mirex	58.7		P	20 - 90.0
Oxychlordane	71.2		P	44 - 102
PCB-1016	80.1		P	45 - 107
PCB-1260	99.8		P	40 - 118
Permethrin	75.7		P	18 - 135
Phenothrin	39.8		P	10 - 102
Piperonyl Butoxide	94.4		P	28 - 156
Prallethrin	62.6		P	28 - 113
Tau-Fluvalinate	56.8		P	10 - 123
Tetramethrin	63.9		P	18 - 158
Trans-Nonachlor	80.7		P	39 - 104
Triclosan Methyl	99.1		P	54 - 108
Trifluralin	72.2		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P439865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	104		P	52 - 117
Toxaphene	120		P	44 - 125

Reference Method: SM 2320 B-2011
Batch ID: P440091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P440340

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

Reference Method: SM 2540 C-2015
Batch ID: P440340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	95.2		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P440335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.2		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P440135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460044	Calcium	98.1		P	80 - 120
2460044	Chromium	94.9	95.1	P/P	80 - 120
2460044	Iron	106	106	P/P	80 - 120
2460044	Magnesium	103		P	80 - 120
2460044	Potassium	99.0	100	P/P	80 - 120
2460044	Sodium	99.1		P	80 - 120
2460044	Strontium	95.8	95.2	P/P	80 - 120
2460044	Tin	89.7	90.0	P/P	80 - 120
2460044	Titanium	97.2	96.3	P/P	80 - 120
2460044	Vanadium	96.3	96.2	P/P	80 - 120
2460044	Zinc	91.5	90.2	P/P	80 - 120
2460502	Chromium	93.6		P	80 - 120
2460502	Iron	108		P	80 - 120
2460502	Magnesium	101		P	80 - 120
2460502	Potassium	102		P	80 - 120
2460502	Sodium	99.4		P	80 - 120
2460502	Strontium	95.2		P	80 - 120
2460502	Tin	89.9		P	80 - 120
2460502	Titanium	96.5		P	80 - 120
2460502	Vanadium	95.9		P	80 - 120
2460502	Zinc	92.8		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460044	Aluminum	98.6	97.6	P/P	80 - 120
2460044	Antimony	103	103	P/P	80 - 120
2460044	Arsenic	102	101	P/P	80 - 120
2460044	Barium	101	99.4	P/P	80 - 120
2460044	Beryllium	92.8	95.9	P/P	80 - 120
2460044	Boron	104	106	P/P	80 - 120
2460044	Cadmium	100	102	P/P	80 - 120
2460044	Copper	96.1	95.4	P/P	80 - 120
2460044	Lead	98.6	97.5	P/P	80 - 120
2460044	Manganese	103	103	P/P	80 - 120
2460044	Molybdenum	101	102	P/P	80 - 120
2460044	Selenium	98.4	99.0	P/P	80 - 120
2460044	Silver	94.8	95.1	P/P	80 - 120
2460044	Thallium	104	103	P/P	80 - 120
2460502	Aluminum	94.7		P	80 - 120
2460502	Antimony	104		P	80 - 120
2460502	Arsenic	100		P	80 - 120
2460502	Barium	99.7		P	80 - 120
2460502	Beryllium	95.4		P	80 - 120
2460502	Boron	107		P	80 - 120
2460502	Cadmium	103		P	80 - 120
2460502	Copper	92.4		P	80 - 120
2460502	Lead	97.0		P	80 - 120
2460502	Manganese	103		P	80 - 120
2460502	Molybdenum	102		P	80 - 120
2460502	Selenium	98.9		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460502	Silver	95.4		P	80 - 120
2460502	Thallium	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461344	Cobalt	99.8	99.4	P/P	80 - 120
2461344	Nickel	103	99.8	P/P	80 - 120
2461584	Cobalt	98.9		P	80 - 120
2461584	Nickel	97.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461007	Chloride	102		P	90 - 110
2461023	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461007	Sulfate	98.5		P	90 - 110
2461023	Sulfate	108		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440063

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460950	Ammonia-N	94.4	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460538	Kjeldahl Nitrogen	108	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460465	NO2NO3-N	92.0	91.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460482	Total-P	107	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P439865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460603	PCB-1016	61.3	66.3	P/P	45 - 107
2460603	PCB-1260	55.5	59.8	P/P	40 - 112
2461161	Aldrin	64.7	61.6	P/P	24 - 81.0
2461161	Alpha-BHC	77.2	82.4	P/P	65 - 110
2461161	Alpha-Chlordane	87.8	88.5	P/P	43 - 119
2461161	Beta-BHC	84.9	82.9	P/P	54 - 165
2461161	Beta-Cyfluthrin	117	113	P/P	27 - 165
2461161	Bifenthrin	63.6	106	P/P	17 - 117
2461161	Chlorothalonil	83.1	79.2	P/P	10 - 255
2461161	Cis-Nonachlor	77.5	70.0	P/P	34 - 98.0
2461161	Cypermethrin	123	122	P/P	25 - 143
2461161	Dacthal	84.0	87.6	P/P	55 - 139
2461161	DDD-p,p'	83.4	82.1	P/P	30 - 109
2461161	DDE-p,p'	88.6	90.2	P/P	35 - 106
2461161	DDT-p,p'	46.4	33.3	P/F	41 - 101
2461161	Delta-BHC	90.6	88.4	P/P	58 - 165
2461161	Deltamethrin	75.5	75.3	P/P	10 - 194
2461161	Dichlobenil	65.6	60.1	P/P	22 - 114
2461161	Dicofol	84.1	76.7	P/P	17 - 133
2461161	Dieldrin	94.7	90.2	P/P	45 - 129
2461161	Endosulfan I	92.2	89.6	P/P	49 - 104
2461161	Endosulfan II	82.2	83.3	P/P	37 - 117
2461161	Endosulfan Sulfate	72.8	75.6	P/P	38 - 128
2461161	Endrin	96.2	97.4	P/P	35 - 116
2461161	Endrin Aldehyde	49.0	46.8	P/P	19 - 108
2461161	Endrin Ketone	80.3	71.1	P/P	44 - 134
2461161	Esfenvalerate	114	111	P/P	27 - 176
2461161	Ethalfuralin	79.9	77.6	P/P	49 - 100
2461161	Fenpropathrin	96.9	84.4	P/P	34 - 117
2461161	Gamma-BHC	95.8	97.2	P/P	59 - 129
2461161	Gamma-Chlordane	91.8	96.3	P/P	33 - 107
2461161	Heptachlor	66.0	68.5	P/P	37 - 94.0
2461161	Heptachlor Epoxide	84.6	81.7	P/P	38 - 118
2461161	Hexachlorobenzene	62.1	65.3	P/P	35 - 97.0
2461161	Kepone	86.5	82.2	P/P	10 - 221
2461161	Lambda-Cyhalothrin	83.8	99.2	P/P	23 - 190
2461161	Methoprene	89.2	99.3	P/P	21 - 109
2461161	Methoxychlor	113	133	P/F	46 - 118
2461161	MGK-264	92.4	90.5	P/P	39 - 122
2461161	Mirex	69.4	63.8	P/P	25 - 90.0
2461161	Oxychlordane	95.2	87.8	P/P	42 - 100
2461161	Permethrin	106	103	P/P	33 - 181
2461161	Phenothrin	78.2	70.0	P/P	12 - 125
2461161	Piperonyl Butoxide	96.0	82.6	P/P	10 - 178
2461161	Prallethrin	72.2	83.3	P/P	24 - 122
2461161	Tau-Fluvalinate	103	105	P/P	13 - 151
2461161	Tetramethrin	40.0	46.0	P/P	16 - 172
2461161	Trans-Nonachlor	74.3	82.7	P/P	39 - 100
2461161	Triclosan Methyl	93.4	88.9	P/P	43 - 110
2461161	Trifluralin	73.4	79.6	P/P	45 - 94.0

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P439865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460603	Chlordane	67.2	83.2	P/P	43 - 123
2460603	Toxaphene	95.1	129	P/P	27 - 156

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461094	Fluoride	103	102	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P440135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461153	Organic Carbon	98.3	99.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460578	Color (true)	5.89	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460464	Turbidity	10.3	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460044	Calcium	2.32	Spike	P	0 - 20
2460044	Chromium	0.134	Spike	P	0 - 20
2460044	Iron	0.321	Spike	P	0 - 20
2460044	Magnesium	0.177	Spike	P	0 - 20
2460044	Potassium	0.849	Spike	P	0 - 20
2460044	Sodium	2.24	Spike	P	0 - 20
2460044	Strontium	0.644	Spike	P	0 - 20
2460044	Tin	0.396	Spike	P	0 - 20
2460044	Titanium	0.920	Spike	P	0 - 20
2460044	Vanadium	0.0448	Spike	P	0 - 20
2460044	Zinc	1.29	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460044	Aluminum	0.826	Spike	P	0 - 20
2460044	Antimony	0.271	Spike	P	0 - 20
2460044	Arsenic	0.954	Spike	P	0 - 20
2460044	Barium	1.07	Spike	P	0 - 20
2460044	Beryllium	2.83	Spike	P	0 - 20
2460044	Boron	1.41	Spike	P	0 - 20
2460044	Cadmium	1.77	Spike	P	0 - 20
2460044	Copper	0.692	Spike	P	0 - 20
2460044	Lead	1.07	Spike	P	0 - 20
2460044	Manganese	0.235	Spike	P	0 - 20
2460044	Molybdenum	0.567	Spike	P	0 - 20
2460044	Selenium	0.622	Spike	P	0 - 20
2460044	Silver	0.283	Spike	P	0 - 20
2460044	Thallium	0.439	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P440055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461344	Cobalt	0.373	Spike	P	0 - 20
2461344	Nickel	2.96	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461007	Chloride	1.33	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461007	Sulfate	1.68	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P440063

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460950	Ammonia-N	1.64	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460538	Kjeldahl Nitrogen	1.91	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460465	NO2NO3-N	0.285	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460482	Total-P	5.00	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P439865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460603	PCB-1016	7.82	Spike	P	0 - 25

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P439865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460603	PCB-1260	7.56	Spike	P	0 - 30
2461161	Aldrin	4.91	Spike	P	0 - 41
2461161	Alpha-BHC	6.53	Spike	P	0 - 25
2461161	Alpha-Chlordane	0.709	Spike	P	0 - 32
2461161	Beta-BHC	2.47	Spike	P	0 - 33
2461161	Beta-Cyfluthrin	3.18	Spike	P	0 - 43
2461161	Bifenthrin	49.7	Spike	P	0 - 52
2461161	Chlorothalonil	4.79	Spike	P	0 - 82
2461161	Cis-Nonachlor	10.2	Spike	P	0 - 33
2461161	Cypermethrin	0.0574	Spike	P	0 - 51
2461161	Dacthal	4.19	Spike	P	0 - 27
2461161	DDD-p,p'	1.60	Spike	P	0 - 39
2461161	DDE-p,p'	1.78	Spike	P	0 - 31
2461161	DDT-p,p'	32.9	Spike	F	0 - 29
2461161	Delta-BHC	2.46	Spike	P	0 - 35
2461161	Deltamethrin	0.240	Spike	P	0 - 100
2461161	Dichlobenil	8.64	Spike	P	0 - 40
2461161	Dicofol	9.19	Spike	P	0 - 37
2461161	Dieldrin	4.86	Spike	P	0 - 27
2461161	Endosulfan I	2.80	Spike	P	0 - 23
2461161	Endosulfan II	1.33	Spike	P	0 - 34
2461161	Endosulfan Sulfate	3.71	Spike	P	0 - 36
2461161	Endrin	1.24	Spike	P	0 - 45
2461161	Endrin Aldehyde	4.59	Spike	P	0 - 76
2461161	Endrin Ketone	12.2	Spike	P	0 - 43
2461161	Esfenvalerate	3.14	Spike	P	0 - 51
2461161	Ethalfuralin	2.84	Spike	P	0 - 22
2461161	Fenpropathrin	13.7	Spike	P	0 - 49
2461161	Gamma-BHC	1.53	Spike	P	0 - 28
2461161	Gamma-Chlordane	4.76	Spike	P	0 - 40
2461161	Heptachlor	3.68	Spike	P	0 - 29
2461161	Heptachlor Epoxide	3.49	Spike	P	0 - 33
2461161	Hexachlorobenzene	5.01	Spike	P	0 - 36
2461161	Kepone	5.11	Spike	P	0 - 85
2461161	Lambda-Cyhalothrin	16.8	Spike	P	0 - 55
2461161	Methoprene	10.7	Spike	P	0 - 53
2461161	Methoxychlor	16.5	Spike	P	0 - 50
2461161	MGK-264	2.00	Spike	P	0 - 43
2461161	Mirex	8.33	Spike	P	0 - 40
2461161	Oxychlordane	8.09	Spike	P	0 - 31
2461161	Permethrin	3.46	Spike	P	0 - 50
2461161	Phenothrin	11.0	Spike	P	0 - 58
2461161	Piperonyl Butoxide	14.3	Spike	P	0 - 100
2461161	Prallethrin	14.3	Spike	P	0 - 39
2461161	Tau-Fluvalinate	2.00	Spike	P	0 - 54
2461161	Tetramethrin	13.9	Spike	P	0 - 51
2461161	Trans-Nonachlor	10.8	Spike	P	0 - 39
2461161	Triclosan Methyl	4.92	Spike	P	0 - 31
2461161	Trifluralin	8.20	Spike	P	0 - 22

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P439865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460603	Chlordane	21.4	Spike	P	0 - 28
2460603	Toxaphene	19.8	Spike	P	0 - 27

Reference Method: SM 2320 B-2011
Batch ID: P440091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461094	Total Alkalinity	1.52	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P440340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460404	TDS	7.85	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461094	Fluoride	0.980	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P440135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461153	Organic Carbon	0.920	Spike	P	0 - 15

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

Quality Assurance Report Surrogates

Lab Sample ID: 2460603
Field Sample ID: G5SE0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	79.9	P	37 - 129
EPA 8270E	Decachlorobiphenyl	86.9	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	56.2	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	64.9	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	95.4	P	23 - 110
EPA 8276	PCNB	97.2	P	51 - 130

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: NU-094-1
Run ID: A123590
Included Lab Sample IDs: 2460578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A123591
Included Lab Sample IDs: 2460578, 2460580

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

Reference Method: DEP SOP: NU-094-1
Run ID: A123592
Included Lab Sample IDs: 2460580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A123638
Included Lab Sample IDs: 2460579, 2460581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	96.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A123642
Included Lab Sample IDs: 2460604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.3	96.0	P/P	90 - 110
Antimony	101	98.3	P/P	90 - 110
Arsenic	94.9	96.2	P/P	90 - 110
Barium	95.7	94.1	P/P	90 - 110
Beryllium	97.5	95.3	P/P	90 - 110
Boron	102	100	P/P	90 - 110
Cadmium	98.1	95.8	P/P	90 - 110
Copper	90.3	90.6	P/P	90 - 110
Lead	94.7	93.6	P/P	90 - 110
Manganese	96.5	95.1	P/P	90 - 110
Molybdenum	97.8	96.1	P/P	90 - 110
Selenium	96.2	96.1	P/P	90 - 110
Silver	97.2	95.9	P/P	90 - 110
Thallium	97.3	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123653
Included Lab Sample IDs: 2460579, 2460581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.1	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A123656
Included Lab Sample IDs: 2460604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Chromium	99.8	100	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Sodium	99.4	99.7	P/P	90 - 110
Strontium	98.5	98.9	P/P	90 - 110
Tin	97.4	97.6	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	99.4	100	P/P	90 - 110
Zinc	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A123674
Included Lab Sample IDs: 2460581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A123689
Included Lab Sample IDs: 2460579, 2460581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A123690
Included Lab Sample IDs: 2460579

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	107	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A123698
Included Lab Sample IDs: 2460578, 2460580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.1	95.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A123698
Included Lab Sample IDs: 2460578, 2460580

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123702

Included Lab Sample IDs: 2460578, 2460580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	108	108	P/P	90 - 110
Sulfate	106	107	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A123709

Included Lab Sample IDs: 2460603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	101		P	80 - 120
Toxaphene	108		P	80 - 120

Reference Method: SM 5310 B-2014

Run ID: A123713

Included Lab Sample IDs: 2460579, 2460581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	96.0	P/P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123740

Included Lab Sample IDs: 2460604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cobalt	95.6	93.5	P/P	90 - 110
Nickel	96.1	93.3	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A123759

Included Lab Sample IDs: 2460603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.0		P	80 - 120
Alpha-BHC	98.6		P	80 - 120
Alpha-Chlordane	104		P	80 - 120
Beta-BHC	105		P	80 - 120
Beta-Cyfluthrin	86.1		P	80 - 120
Bifenthrin	116		P	80 - 120
Chlorothalonil	97.7		P	80 - 120
Cis-Nonachlor	94.1		P	80 - 120
Cypermethrin	96.9		P	80 - 120
Dacthal	98.5		P	80 - 120
DDD-p,p'	106		P	80 - 120
DDE-p,p'	105		P	80 - 120
DDT-p,p'	81.0		P	80 - 120
Delta-BHC	99.8		P	80 - 120
Deltamethrin	94.6		P	80 - 120
Dichlobenil	99.5		P	80 - 120
Dicofol	97.5		P	80 - 120
Dieldrin	99.4		P	80 - 120
Endosulfan I	103		P	80 - 120
Endosulfan II	97.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A123759
Included Lab Sample IDs: 2460603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan Sulfate	102		P	80 - 120
Endrin	102		P	80 - 120
Endrin Aldehyde	99.2		P	80 - 120
Endrin Ketone	98.6		P	80 - 120
Esfenvalerate	94.1		P	80 - 120
Ethalfuralin	102		P	80 - 120
Fenpropathrin	97.1		P	80 - 120
Gamma-BHC	91.3		P	80 - 120
Gamma-Chlordane	91.2		P	80 - 120
Heptachlor	96.7		P	80 - 120
Heptachlor Epoxide	99.9		P	80 - 120
Hexachlorobenzene	101		P	80 - 120
Kepone	89.2		P	80 - 120
Lambda-Cyhalothrin	98.4		P	80 - 120
Methoprene	97.7		P	80 - 120
Methoxychlor	115		P	80 - 120
MGK-264	103		P	80 - 120
Mirex	96.7		P	80 - 120
Oxychlordane	111		P	80 - 120
Permethrin	101		P	80 - 120
Phenothrin	101		P	80 - 120
Piperonyl Butoxide	92.9		P	80 - 120
Prallethrin	98.1		P	80 - 120
Tau-Fluvalinate	93.2		P	80 - 120
Tetramethrin	104		P	80 - 120
Trans-Nonachlor	91.2		P	80 - 120
Triclosan Methyl	90.4		P	80 - 120
Trifluralin	96.3		P	80 - 120

Reference Method: EPA 8270E
Run ID: A123761
Included Lab Sample IDs: 2460603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	103		P	80 - 120
PCB-1260	97.8		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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	100				5.89	
EPA 180.1 Rev. 2.0	Turbidity	104				10.3	
EPA 200.7 Rev. 4.4	Calcium	104	98.1				2.32
	Chromium	98.7	94.9	95.1	93.6		0.134
	Iron	110	106	106	108		0.321
	Magnesium	104	103	101			0.177
	Potassium	103	99.0	100	102		0.849
	Sodium	102	99.1	99.4			2.24
	Strontium	99.3	95.8	95.2	95.2		0.644
	Tin	94.7	89.7	90.0	89.9		0.396
	Titanium	99.9	97.2	96.3	96.5		0.920
	Vanadium	98.8	96.3	96.2	95.9		0.0448
	Zinc	96.8	91.5	90.2	92.8		1.29
EPA 200.8 Rev. 5.4	Aluminum	103	98.6	97.6	94.7		0.826
	Antimony	104	103	103	104		0.271
	Arsenic	104	102	101	100		0.954
	Barium	103	101	99.4	99.7		1.07
	Beryllium	98.0	92.8	95.9	95.4		2.83
	Boron	106	104	106	107		1.41
	Cadmium	104	100	102	103		1.77
	Cobalt	100	99.8	99.4	98.9		0.373
	Copper	101	96.1	95.4	92.4		0.692
	Lead	99.6	98.6	97.5	97.0		1.07
	Manganese	105	103	103	103		0.235
	Molybdenum	102	101	102	102		0.567
	Nickel	101	103	99.8	97.6		2.96
	Selenium	104	98.4	99.0	98.9		0.622
	Silver	100	94.8	95.1	95.4		0.283
	Thallium	103	104	103	103		0.439
EPA 300.0 Rev. 2.1	Chloride	104	102	96.8		1.33	
	Sulfate	101	98.5	108		1.68	
EPA 350.1 Rev. 2.0	Ammonia-N	96.6	94.4	96.2			1.64
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	108	105			1.91
EPA 353.2 Rev. 2.0	NO2NO3-N	96.5	92.0	91.5			0.285
EPA 365.1 Rev. 2.0	Total-P	103	107	101			5.00
EPA 8270E	Aldrin	61.1	64.7	61.6			4.91
	Alpha-BHC	88.8	77.2	82.4			6.53
	Alpha-Chlordane	90.1	87.8	88.5			0.709
	Beta-BHC	82.5	84.9	82.9			2.47
	Beta-Cyfluthrin	70.6	117	113			3.18
	Bifenthrin	46.1	63.6	106			49.7
	Chlorothalonil	35.9	83.1	79.2			4.79
	Cis-Nonachlor	67.6	77.5	70.0			10.2
	Cypermethrin	77.0	123	122			0.0574
	Dacthal	89.8	84.0	87.6			4.19
	DDD-p,p'	83.9	83.4	82.1			1.60
	DDE-p,p'	85.5	88.6	90.2			1.78
	DDT-p,p'	79.5	46.4	33.3			32.9
	Delta-BHC	82.3	90.6	88.4			2.46
	Deltamethrin	79.3	75.5	75.3			0.240
	Dichlobenil	74.6	65.6	60.1			8.64
	Dicofol	81.1	84.1	76.7			9.19
	Dieldrin	85.5	94.7	90.2			4.86
	Endosulfan I	92.5	92.2	89.6			2.80

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
			LCS	SMP	MS	
EPA 8270E	Endosulfan II	66.3	82.2	83.3		1.33
	Endosulfan Sulfate	62.7	72.8	75.6		3.71
	Endrin	90.4	96.2	97.4		1.24
	Endrin Aldehyde	49.0	49.0	46.8		4.59
	Endrin Ketone	64.2	80.3	71.1		12.2
	Esfenvalerate	64.4	114	111		3.14
	Ethalfuralin	78.4	79.9	77.6		2.84
	Fenpropathrin	67.6	96.9	84.4		13.7
	Gamma-BHC	99.6	95.8	97.2		1.53
	Gamma-Chlordane	88.7	91.8	96.3		4.76
	Heptachlor	73.9	66.0	68.5		3.68
	Heptachlor Epoxide	115	84.6	81.7		3.49
	Hexachlorobenzene	71.5	62.1	65.3		5.01
	Kepone	76.3	86.5	82.2		5.11
	Lambda-Cyhalothrin	33.4	83.8	99.2		16.8
	Methoprene	60.6	89.2	99.3		10.7
	Methoxychlor	109	113	133		16.5
	MGK-264	81.9	92.4	90.5		2.00
	Mirex	58.7	69.4	63.8		8.33
	Oxychlordane	71.2	95.2	87.8		8.09
	PCB-1016	80.1	61.3	66.3		7.82
	PCB-1260	99.8	55.5	59.8		7.56
	Permethrin	75.7	106	103		3.46
	Phenothrin	39.8	78.2	70.0		11.0
	Piperonyl Butoxide	94.4	96.0	82.6		14.3
	Prallethrin	62.6	72.2	83.3		14.3
	Tau-Fluvalinate	56.8	103	105		2.00
	Tetramethrin	63.9	40.0	46.0		13.9
	Trans-Nonachlor	80.7	74.3	82.7		10.8
	Triclosan Methyl	99.1	93.4	88.9		4.92
	Trifluralin	72.2	73.4	79.6		8.20
EPA 8276	Chlordane	104	83.2	67.2		21.4
	Toxaphene	120	129	95.1		19.8
SM 2320 B-2011	Total Alkalinity	98.4			1.52	
SM 2540 C-2015	TDS	95.2			7.85	
SM 2540 D-2015	TSS	95.2				
SM 4500-F- C-2011	Fluoride	101	103	102		0.980
SM 5310 B-2014	Organic Carbon	99.0	98.3	99.4		0.920

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2460578, 2460580
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2460578, 2460580
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2460604
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2460604
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2460578, 2460580
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2460578, 2460580
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2460579, 2460581
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2460579, 2460581
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2460579, 2460581

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2460579, 2460581
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2460603
EPA 8270E	PCBs in water matrices by GC/MS/MS	2460603
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2460603
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2460578, 2460580
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2460604
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2460578, 2460580
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2460578, 2460580
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2460578, 2460580
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2460579, 2460581

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	01/11/2024			01/11/2024 15:43	Chandler E Cox	2460578
	01/11/2024			01/11/2024 16:11	Chandler E Cox	2460580
EPA 180.1 Rev. 2.0	01/11/2024			01/11/2024 14:21	Khloe J Berg	2460578
	01/11/2024			01/11/2024 14:24	Khloe J Berg	2460580
EPA 200.7 Rev. 4.4	01/11/2024	01/12/2024 12:30	George D Taylor	01/16/2024 21:36	Chase Roberts	2460604
EPA 200.8 Rev. 5.4	01/11/2024	01/12/2024 12:30	George D Taylor	01/16/2024 18:39	Emily M Philpot	2460604
EPA 300.0 Rev. 2.1	01/11/2024	01/18/2024 13:30	George D Taylor	01/19/2024 17:05	Emily M Philpot	2460604
	01/11/2024			01/19/2024 02:40	Samantha L Bates	2460578
EPA 350.1 Rev. 2.0	01/11/2024			01/19/2024 02:55	Samantha L Bates	2460580
	01/11/2024			01/18/2024 12:58	Khloe J Berg	2460579
EPA 351.2 Rev. 2.0	01/11/2024			01/18/2024 13:00	Khloe J Berg	2460581
	01/11/2024	01/12/2024 16:37	Simonne.V. Calhoun	01/16/2024 17:33	Ping Hua	2460581
EPA 353.2 Rev. 2.0	01/11/2024	01/12/2024 16:37	Simonne.V. Calhoun	01/18/2024 12:15	Ping Hua	2460579
	01/11/2024			01/16/2024 13:39	Fadila Guebre	2460579
EPA 365.1 Rev. 2.0	01/11/2024			01/16/2024 13:40	Fadila Guebre	2460581
	01/11/2024	01/16/2024 15:37	Adam P Silver	01/17/2024 11:04	Elise M. Gillis	2460579
EPA 8270E	01/11/2024	01/16/2024 15:37	Adam P Silver	01/17/2024 11:05	Elise M. Gillis	2460581
	01/11/2024	01/16/2024 08:30	Rasheda Ghaffari	01/19/2024 22:17	Lipi Saha	2460603
EPA 8276	01/11/2024	01/16/2024 08:30	Rasheda Ghaffari	01/22/2024 23:27	Julie Wi	2460603
	01/11/2024	01/16/2024 08:30	Rasheda Ghaffari	01/19/2024 03:43	Kenedi Mills	2460603
SM 2320 B-2011	01/11/2024			01/18/2024 11:03	Dale L. Simmons	2460580
	01/11/2024			01/18/2024 11:19	Dale L. Simmons	2460578
SM 2340 B-2011	01/11/2024			01/16/2024 21:36	Chase Roberts	2460604
SM 2540 C-2015	01/11/2024			01/16/2024 16:17	Yijie Li	2460578, 2460580
SM 2540 D-2015	01/11/2024			01/16/2024 16:07	Yijie Li	2460578, 2460580
SM 4500-F- C-2011	01/11/2024			01/18/2024 11:03	Dale L. Simmons	2460580
	01/11/2024			01/18/2024 11:19	Dale L. Simmons	2460578
SM 5310 B-2014	01/11/2024			01/17/2024 21:23	Kenneth H Lee	2460579
	01/11/2024			01/17/2024 21:39	Kenneth H Lee	2460581