

Chemical Analysis Report

NW-DIST-2023-07-26-01

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

Event Description: **Navarre Run**
Request ID: **RQ-2023-07-24-18**
Customer: **NW-DIST**
Project ID: **SMP**

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

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Certified by: Colin Wright, Program Administrator

Date Certified: 18-AUG-2023 09:16

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink rectangular background.

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: TOM KING CREEK SOUTH OF BAREFOOT CREEK CIR

Collection Date/Time: 07/24/2023 09:50

Field ID: G4NW0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426587	EPA 8270E	Aldrin	0.75	U	ng/L	P433117	
		Alpha-BHC	0.11	U	ng/L	P433117	
		Alpha-Chlordane	0.23	U	ng/L	P433117	
		PCB-1016	2.3	U	ng/L	P433117	
		Beta-BHC	0.11	U	ng/L	P433117	
		PCB-1221	2.3	U	ng/L	P433117	
		Beta-Cyfluthrin	1.4	U	ng/L	P433117	
		PCB-1232	2.3	U	ng/L	P433117	
		Bifenthrin	0.57	U	ng/L	P433117	
		PCB-1242	2.3	U	ng/L	P433117	
		PCB-1248	2.3	U	ng/L	P433117	
		Chlorothalonil	4.1	U	ng/L	P433117	
		PCB-1254	2.3	U	ng/L	P433117	
		Cis-Nonachlor	0.23	U	ng/L	P433117	
		PCB-1260	2.3	U	ng/L	P433117	
		Cypermethrin	1.7	U	ng/L	P433117	
		Dacthal	0.17	U	ng/L	P433117	
		DDD-p,p'	0.29	U	ng/L	P433117	
		DDE-p,p'	0.23	U	ng/L	P433117	
		DDT-p,p'	0.92	U	ng/L	P433117	
		Delta-BHC	0.46	U	ng/L	P433117	
		Deltamethrin	1.4	U	ng/L	P433117	
		Dichlobenil	0.29	U	ng/L	P433117	
		Dicofol	1.4	U	ng/L	P433117	
		Dieldrin	0.46	U	ng/L	P433117	
		Endosulfan I	0.46	U	ng/L	P433117	
		Endosulfan II	1.0	U	ng/L	P433117	
		Endosulfan Sulfate	0.34	U	ng/L	P433117	
		Endrin	1.0	U	ng/L	P433117	
		Endrin Aldehyde	0.86	U	ng/L	P433117	
		Endrin Ketone	0.46	U	ng/L	P433117	
		Esfenvalerate	0.86	U	ng/L	P433117	
		Ethalfuralin	0.17	U	ng/L	P433117	
		Fenpropathrin	0.29	U	ng/L	P433117	
		Gamma-BHC	0.14	U	ng/L	P433117	
		Gamma-Chlordane	0.23	U	ng/L	P433117	
		Heptachlor	0.23	U	ng/L	P433117	
		Heptachlor Epoxide	0.29	U	ng/L	P433117	
		Hexachlorobenzene**	1.1	U	ng/L	P433117	
		Kepone	15	U	ng/L	P433117	
		Lambda-Cyhalothrin	0.86	U	ng/L	P433117	
		Methoprene	0.86	U	ng/L	P433117	
		Methoxychlor	0.34	U	ng/L	P433117	

Field ID: G4NW0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426587	EPA 8270E	MGK-264	0.23	U	ng/L	P433117	
		Mirex	0.40	U	ng/L	P433117	
		Oxychlordane	0.34	U	ng/L	P433117	
		Permethrin	1.8	U	ng/L	P433117	
		Phenothrin	1.0	U	ng/L	P433117	
		Piperonyl Butoxide	0.17	U	ng/L	P433117	
		Prallethrin	2.3	U	ng/L	P433117	
		Tau-Fluvalinate	0.29	U	ng/L	P433117	
		Tetramethrin	0.86	U	ng/L	P433117	
		Trans-Nonachlor	0.23	U	ng/L	P433117	MS
		Triclosan Methyl	0.17	U	ng/L	P433117	
		Trifluralin	0.23	U	ng/L	P433117	
	EPA 8276	Chlordane	2.3	U	ng/L	P433117	
		Toxaphene	17	U	ng/L	P433117	

Sample Location: EAST BAY RIV HWY 87 BRID

Collection Date/Time: 07/24/2023 10:23

Field ID: G4NW0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426591	EPA 200.7 Rev. 4.4	Calcium	0.65		mg/L	P433098	
		Iron	130		ug/L	P433098	
		Magnesium	1.02		mg/L	P433098	
		Potassium	0.43	I	mg/L	P433098	
		Sodium	8.6		mg/L	P433098	
		Strontium	6.7	I	ug/L	P433098	
		Tin	3.0	U	ug/L	P433098	
		Titanium	1.9	I	ug/L	P433098	
		Vanadium	2.0	U	ug/L	P433098	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P433098	
		Aluminum	84		ug/L	P433098	
		Antimony	0.050	U	ug/L	P433098	MS
		Arsenic	0.14	I	ug/L	P433098	
		Barium	3.51		ug/L	P433098	
		Beryllium	0.010	U	ug/L	P433098	
		Boron	14.1		ug/L	P433098	
		Cadmium	0.020	U	ug/L	P433098	
		Chromium	0.40	U	ug/L	P433098	
		Cobalt	0.057	I	ug/L	P433098	
		Copper	0.40	U	ug/L	P433098	
		Lead	0.20	U	ug/L	P433098	
		Manganese	2.90		ug/L	P433098	
		Molybdenum	0.15	U	ug/L	P433098	
		Nickel	0.50	U	ug/L	P433098	
		Selenium	0.20	U	ug/L	P433098	
		Silver	0.010	U	ug/L	P433098	
		Thallium	0.10	U	ug/L	P433098	
	SM 2340 B-2011	Hardness	5.8		mg/L	P433098	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium, sodium, titanium and vanadium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for many elements are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: WILLIAMS CREEK UPSTREAM OF HWY 98

Collection Date/Time: 07/24/2023 10:45

Field ID: G4NW0531

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426572	DEP SOP: NU-094-1	Color (true)	71	Q	PCU	P433018	
	EPA 180.1 Rev. 2.0	Turbidity	3.5	Q	NTU	P433057	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P433206	
		Sulfate	31		mg SO4/L	P433409	
	SM 2320 B-2011	Total Alkalinity	12		mg CaCO3/L	P433491	
	SM 2540 C-2015	TDS	413	Q	mg/L	P433609	
	SM 2540 D-2015	TSS	3	IA	mg/L	P433238	
	SM 4500-F- C-2011	Fluoride	0.041	I	mg F/L	P433493	
2426573	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P433283	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P433317	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P433752	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P433072	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P433258	

Ref. Method and Comment:

DEP SOP: NU-094-1: The sample expired upon receipt.

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2540 C-2015: The sample was reanalyzed out of holding time because of incorrect field conductivity. The reported result is consistent with the conductivity measured in the laboratory, 878 umhos/cm.

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

**Sample Location: DISCHARGE FROM TIGER POINT GOLF
COURSE AT MAPLEWOOD DRIVE**

Collection Date/Time: 07/24/2023 11:15

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426570	DEP SOP: NU-094-1	Color (true)	100	A	PCU	P433018	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P433057	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P433206	
		Sulfate	6.5		mg SO4/L	P433208	
	SM 2320 B-2011	Total Alkalinity	25		mg CaCO3/L	P433201	
	SM 2540 C-2015	TDS	88		mg/L	P433342	
	SM 2540 D-2015	TSS	3	I	mg/L	P433235	
2426571	SM 4500-F- C-2011	Fluoride	0.037	I	mg F/L	P433204	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.38		mg N/L	P433227	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P433100	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P433110	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P433069	
2426586	SM 5310 B-2011	Organic Carbon	14		mg C/L	P433257	
	EPA 8270E	Aldrin	0.75	U	ng/L	P433117	
		Alpha-BHC	0.11	U	ng/L	P433117	
		Alpha-Chlordane	0.26	I	ng/L	P433117	
		PCB-1016	2.3	U	ng/L	P433117	
		Beta-BHC	0.11	U	ng/L	P433117	
		PCB-1221	2.3	U	ng/L	P433117	
		Beta-Cyfluthrin	1.4	U	ng/L	P433117	
		PCB-1232	2.3	U	ng/L	P433117	
		Bifenthrin	0.57	U	ng/L	P433117	
		PCB-1242	2.3	U	ng/L	P433117	
		Carbophenothion	1.0	U	ng/L	P433117	
		PCB-1248	2.3	U	ng/L	P433117	
		Chlorothalonil	4.1	U	ng/L	P433117	
		PCB-1254	2.3	U	ng/L	P433117	
		Cis-Nonachlor	0.23	U	ng/L	P433117	
		PCB-1260	2.3	U	ng/L	P433117	
		Cypermethrin	1.7	U	ng/L	P433117	
		Dacthal	0.17	U	ng/L	P433117	
		DDD-p,p'	0.29	U	ng/L	P433117	
		DDE-p,p'	0.23	U	ng/L	P433117	
		DDT-p,p'	0.92	U	ng/L	P433117	
		Delta-BHC	0.46	U	ng/L	P433117	
		Deltamethrin	1.4	U	ng/L	P433117	
		Dichlobenil	0.29	U	ng/L	P433117	
		Dicofol	1.4	U	ng/L	P433117	
		Dieldrin	0.86	I	ng/L	P433117	
		Endosulfan I	0.46	U	ng/L	P433117	
		Endosulfan II	1.0	U	ng/L	P433117	
		Endosulfan Sulfate	0.34	U	ng/L	P433117	
		Endrin	1.0	U	ng/L	P433117	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426586	EPA 8270E	Endrin Aldehyde	0.86	U	ng/L	P433117	
		Endrin Ketone	0.46	U	ng/L	P433117	
		Esfenvalerate	0.86	U	ng/L	P433117	
		Ethalfuralin	0.17	U	ng/L	P433117	
		Fenpropathrin	0.29	U	ng/L	P433117	
		Gamma-BHC	0.14	U	ng/L	P433117	
		Gamma-Chlordane	0.23	U	ng/L	P433117	
		Heptachlor	0.23	U	ng/L	P433117	
		Heptachlor Epoxide	0.29	U	ng/L	P433117	
		Hexachlorobenzene**	1.1	U	ng/L	P433117	
		Kepone	15	U	ng/L	P433117	
		Lambda-Cyhalothrin	0.86	U	ng/L	P433117	
		Methoprene	0.86	U	ng/L	P433117	
		Methoxychlor	0.34	U	ng/L	P433117	
		MGK-264	0.23	U	ng/L	P433117	
		Mirex	0.40	U	ng/L	P433117	
		Oxychlordane	0.34	U	ng/L	P433117	
		Permethrin	1.8	U	ng/L	P433117	
		Phenothrin	1.0	U	ng/L	P433117	
		Piperonyl Butoxide	0.75	I	ng/L	P433117	
		Prallethrin	2.3	U	ng/L	P433117	
		Tau-Fluvalinate	0.29	U	ng/L	P433117	
		Tetramethrin	0.86	U	ng/L	P433117	
		Trans-Nonachlor	0.23	U	ng/L	P433117	MS
		Triclosan Methyl	0.17	U	ng/L	P433117	
		Trifluralin	0.23	U	ng/L	P433117	
	EPA 8276	Chlordane	2.3	U	ng/L	P433117	
		Toxaphene	17	U	ng/L	P433117	
2426590	EPA 200.7 Rev. 4.4	Calcium	8.80		mg/L	P433098	
		Iron	390		ug/L	P433098	
		Magnesium	2.67		mg/L	P433098	
		Potassium	2.4		mg/L	P433098	
		Sodium	12.3		mg/L	P433098	
		Strontium	29.8		ug/L	P433098	
		Tin	3.0	U	ug/L	P433098	
		Titanium	1.1	I	ug/L	P433098	
		Vanadium	2.0	U	ug/L	P433098	
		Zinc	5.0	U	ug/L	P433098	
	EPA 200.8 Rev. 5.4	Aluminum	219		ug/L	P433098	
		Antimony	0.050	U	ug/L	P433098	MS
		Arsenic	3.65		ug/L	P433098	
		Barium	6.04		ug/L	P433098	
		Beryllium	0.010	U	ug/L	P433098	
		Boron	55.4		ug/L	P433098	
		Cadmium	0.020	U	ug/L	P433098	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426590	EPA 200.8 Rev. 5.4	Chromium	0.83	I	ug/L	P433098	
		Cobalt	0.072	I	ug/L	P433098	
		Copper	0.40	U	ug/L	P433098	
		Lead	0.20	U	ug/L	P433098	
		Manganese	15.9		ug/L	P433098	
		Molybdenum	0.15	U	ug/L	P433098	
		Nickel	0.50	U	ug/L	P433098	
		Selenium	0.20	U	ug/L	P433098	
		Silver	0.010	U	ug/L	P433098	
		Thallium	0.10	U	ug/L	P433098	
	SM 2340 B-2011	Hardness	33.0		mg/L	P433098	

Ref. Method and Comment:
 SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
 EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium, sodium, titanium and vanadium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.
 EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for many elements are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

**Sample Location: TRIBUTARY TO TOM KING CREEK
DOWNSTREAM OF VALLEY RD**

Collection Date/Time: 07/24/2023 10:00

Field ID: G4NW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426588	EPA 8270E	Aldrin	0.73	U	ng/L	P433117	
		Alpha-BHC	0.11	U	ng/L	P433117	
		Alpha-Chlordane	0.22	U	ng/L	P433117	
		PCB-1016	2.2	U	ng/L	P433117	
		Beta-BHC	0.11	U	ng/L	P433117	
		PCB-1221	2.2	U	ng/L	P433117	
		Beta-Cyfluthrin	1.4	U	ng/L	P433117	
		PCB-1232	2.2	U	ng/L	P433117	
		Bifenthrin	0.56	U	ng/L	P433117	
		PCB-1242	2.2	U	ng/L	P433117	
		PCB-1248	2.2	U	ng/L	P433117	
		Chlorothalonil	4.0	U	ng/L	P433117	
		PCB-1254	2.2	U	ng/L	P433117	
		Cis-Nonachlor	0.22	U	ng/L	P433117	
		PCB-1260	2.2	U	ng/L	P433117	
		Cypermethrin	1.7	U	ng/L	P433117	
		Dacthal	0.17	U	ng/L	P433117	
		DDD-p,p'	0.28	U	ng/L	P433117	
		DDE-p,p'	0.22	U	ng/L	P433117	
		DDT-p,p'	0.90	U	ng/L	P433117	
		Delta-BHC	0.45	U	ng/L	P433117	
		Deltamethrin	1.4	U	ng/L	P433117	
		Dichlobenil	0.28	U	ng/L	P433117	
		Dicofol	1.4	U	ng/L	P433117	
		Dieldrin	0.45	U	ng/L	P433117	
		Endosulfan I	0.45	U	ng/L	P433117	
		Endosulfan II	1.0	U	ng/L	P433117	
		Endosulfan Sulfate	0.34	U	ng/L	P433117	
		Endrin	1.0	U	ng/L	P433117	
		Endrin Aldehyde	0.84	U	ng/L	P433117	
		Endrin Ketone	0.45	U	ng/L	P433117	
		Esfenvalerate	0.84	U	ng/L	P433117	
		Ethalfuralin	0.17	U	ng/L	P433117	
		Fenpropathrin	0.28	U	ng/L	P433117	
		Gamma-BHC	0.14	U	ng/L	P433117	
		Gamma-Chlordane	0.22	U	ng/L	P433117	
		Heptachlor	0.22	U	ng/L	P433117	
		Heptachlor Epoxide	0.28	U	ng/L	P433117	
		Hexachlorobenzene**	1.1	U	ng/L	P433117	
		Kepone	15	U	ng/L	P433117	
		Lambda-Cyhalothrin	0.84	U	ng/L	P433117	
		Methoprene	0.84	U	ng/L	P433117	
		Methoxychlor	0.34	U	ng/L	P433117	

Field ID: G4NW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2426588	EPA 8270E	MGK-264	0.22	U	ng/L	P433117	
		Mirex	0.39	U	ng/L	P433117	
		Oxychlordane	0.34	U	ng/L	P433117	
		Permethrin	1.8	U	ng/L	P433117	
		Phenothrin	1.0	U	ng/L	P433117	
		Piperonyl Butoxide	0.17	U	ng/L	P433117	
		Prallethrin	2.2	U	ng/L	P433117	
		Tau-Fluvalinate	0.28	U	ng/L	P433117	
		Tetramethrin	0.84	U	ng/L	P433117	
		Trans-Nonachlor	0.22	U	ng/L	P433117	MS
		Triclosan Methyl	0.17	U	ng/L	P433117	
		Trifluralin	0.22	U	ng/L	P433117	
	EPA 8276	Chlordane	2.2	U	ng/L	P433117	
		Toxaphene	17	U	ng/L	P433117	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P433018

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433057

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433098

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: P433098

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: P433206

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433227

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433283

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433100

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433317

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433110

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433752

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433069

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433072

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Reference Method: EPA 8270E
Batch ID: P433117

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.90	U	ng/L
Carbophenothion	0.90	U	ng/L
Chlorothalonil	3.6	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.80	U	ng/L
DDT-p,p'	0.80	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin	0.90	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P433117

Component	Result	Code	Units
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P433117

Component	Result	Code	Units
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P433117

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

Reference Method: SM 2320 B-2011

Batch ID: P433201

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

Reference Method: SM 2320 B-2011

Batch ID: P433491

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

Reference Method: SM 2540 C-2015

Batch ID: P433342

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015

Batch ID: P433609

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P433235

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P433235

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P433238

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P433493

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P433257

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

Reference Method: SM 5310 B-2011
Batch ID: P433258

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: P433018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	95.9		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433057

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	100		P	85 - 115
Sodium	105		P	85 - 115
Strontium	95.5		P	85 - 115
Tin	99.5		P	85 - 115
Titanium	97.1		P	85 - 115
Vanadium	97.8		P	85 - 115
Zinc	98.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	99.4		P	85 - 115
Barium	102		P	85 - 115
Beryllium	94.7		P	85 - 115
Boron	109		P	85 - 115
Cadmium	99.1		P	85 - 115
Chromium	95.9		P	85 - 115
Cobalt	95.4		P	85 - 115
Copper	98.8		P	85 - 115
Lead	101		P	85 - 115
Manganese	98.7		P	85 - 115
Molybdenum	97.2		P	85 - 115
Nickel	96.4		P	85 - 115
Selenium	98.1		P	85 - 115
Silver	107		P	85 - 115
Thallium	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433206

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433227

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433283

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	91.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433317

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433110

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433069

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433072

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

Reference Method: EPA 8270E
Batch ID: P433117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	54.6		P	30 - 96.0
Alpha-BHC	84.3		P	70 - 109
Alpha-Chlordane	75.3		P	45 - 107
Beta-BHC	74.9		P	64 - 138
Beta-Cyfluthrin	100		P	17 - 141
Bifenthrin	77.2		P	10 - 113
Carbophenothion	48.8		P	24 - 91.0
Chlorothalonil	87.3		P	26 - 180
Cis-Nonachlor	81.9		P	37 - 102
Cypermethrin	110		P	20 - 133
Dacthal	112		P	69 - 114
DDD-p,p'	88.1		P	42 - 105
DDE-p,p'	63.5		P	42 - 106
DDT-p,p'	66.8		P	42 - 107
Delta-BHC	101		P	67 - 144
Deltamethrin	140		P	15 - 149
Dichlobenil	64.7		P	46 - 117
Dicofol	56.8		P	34 - 114
Dieldrin	69.2		P	50 - 108
Endosulfan I	76.6		P	55 - 104
Endosulfan II	68.0		P	51 - 111
Endosulfan Sulfate	71.4		P	56 - 121
Endrin	69.8		P	10 - 106
Endrin Aldehyde	64.2		P	34 - 114
Endrin Ketone	109		P	63 - 177
Esfenvalerate	117		P	29 - 143
Ethalfuralin	70.0		P	46 - 96.0
Fenpropathrin	88.9		P	28 - 115
Gamma-BHC	101		P	65 - 121
Gamma-Chlordane	58.9		P	39 - 103
Heptachlor	66.8		P	39 - 94.0
Heptachlor Epoxide	73.9		P	54 - 104
Hexachlorobenzene	69.4		P	36 - 100
Kepone	98.2		P	10 - 225
Lambda-Cyhalothrin	75.6		P	10 - 135
Methoprene	56.7		P	10 - 109
Methoxychlor	62.5		P	52 - 112
MGK-264	68.8		P	44 - 117
Mirex	53.5		P	20 - 90.0
Oxychlordane	65.7		P	44 - 102
PCB-1016	81.1		P	45 - 107
PCB-1260	74.1		P	40 - 118
Permethrin	85.9		P	18 - 135
Phenothrin	58.7		P	10 - 102
Piperonyl Butoxide	68.3		P	28 - 156
Prallethrin	79.1		P	28 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P433117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Tau-Fluvalinate	93.4		P	10 - 123
Tetramethrin	129		P	18 - 158
Trans-Nonachlor	58.2		P	39 - 104
Triclosan Methyl	63.1		P	54 - 108
Trifluralin	67.7		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P433117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	70.8		P	52 - 117
Toxaphene	66.8		P	44 - 125

Reference Method: SM 2320 B-2011
Batch ID: P433201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.0		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P433491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.2		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P433342

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

Reference Method: SM 2540 C-2015
Batch ID: P433609

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.1		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P433235

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.8		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P433238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.9		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433493

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P433258

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426108	Calcium	105		P	75 - 125
2426108	Iron	101		P	75 - 125
2426108	Magnesium	104		P	75 - 125
2426108	Strontium	95.6		P	75 - 125
2426108	Tin	75.7		P	75 - 125
2426108	Zinc	99.2		P	75 - 125
2426541	Calcium	105	104	P/P	80 - 120
2426541	Iron	103	103	P/P	80 - 120
2426541	Magnesium	102	103	P/P	80 - 120
2426541	Potassium	103	103	P/P	80 - 120
2426541	Sodium	104	103	P/P	80 - 120
2426541	Strontium	94.5	94.8	P/P	80 - 120
2426541	Tin	95.8	95.7	P/P	80 - 120
2426541	Titanium	97.2	98.9	P/P	80 - 120
2426541	Vanadium	97.3	98.5	P/P	80 - 120
2426541	Zinc	99.0	98.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426108	Antimony	74.6		F	80 - 120
2426108	Arsenic	99.6		P	75 - 125
2426108	Cadmium	87.1		P	75 - 125
2426108	Cobalt	79.0		P	75 - 125
2426108	Selenium	91.0		P	75 - 125
2426108	Silver	89.0		P	75 - 125
2426108	Thallium	107		P	80 - 120
2426541	Aluminum	101	101	P/P	80 - 120
2426541	Antimony	100	99.8	P/P	80 - 120
2426541	Arsenic	99.6	97.7	P/P	80 - 120
2426541	Barium	103	102	P/P	80 - 120
2426541	Beryllium	97.2	95.1	P/P	80 - 120
2426541	Boron	104	105	P/P	80 - 120
2426541	Cadmium	101	98.9	P/P	80 - 120
2426541	Chromium	96.7	95.2	P/P	80 - 120
2426541	Cobalt	96.8	95.3	P/P	80 - 120
2426541	Copper	101	100	P/P	80 - 120
2426541	Lead	102	101	P/P	80 - 120
2426541	Manganese	99.9	97.3	P/P	80 - 120
2426541	Molybdenum	98.4	97.3	P/P	80 - 120
2426541	Nickel	97.1	94.5	P/P	80 - 120
2426541	Selenium	98.6	99.2	P/P	80 - 120
2426541	Silver	105	105	P/P	80 - 120
2426541	Thallium	102	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P433206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426606	Chloride	94.2		P	90 - 110
2426737	Chloride	93.7		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426606	Sulfate	91.5		P	90 - 110
2426737	Sulfate	90.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427181	Sulfate	98.6		P	90 - 110
2427210	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426536	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426573	Ammonia-N	97.0	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427443	Kjeldahl Nitrogen	98.5	93.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426536	NO2NO3-N	100	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2428906	NO2NO3-N	99.4	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426689	Total-P	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426903	Total-P	104	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P433117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426854	Aldrin	46.1	53.0	P/P	24 - 81.0
2426854	Alpha-BHC	74.7	72.9	P/P	65 - 110
2426854	Alpha-Chlordane	53.6	60.8	P/P	43 - 119
2426854	Beta-BHC	55.4	56.8	P/P	54 - 165
2426854	Beta-Cyfluthrin	71.4	91.0	P/P	27 - 165
2426854	Bifenthrin	62.0	76.3	P/P	17 - 117
2426854	Carbophenothion	34.5	42.5	P/P	21 - 108
2426854	Chlorothalonil	83.2	83.4	P/P	10 - 255
2426854	Cis-Nonachlor	53.3	47.2	P/P	34 - 98.0
2426854	Cypermethrin	93.7	107	P/P	25 - 143
2426854	Dacthal	67.9	70.0	P/P	55 - 139
2426854	DDD-p,p'	54.0	53.5	P/P	30 - 109
2426854	DDE-p,p'	56.8	55.5	P/P	35 - 106
2426854	DDT-p,p'	53.7	52.5	P/P	41 - 101
2426854	Delta-BHC	86.2	89.8	P/P	58 - 165
2426854	Deltamethrin	93.4	118	P/P	10 - 194
2426854	Dichlobenil	52.4	55.5	P/P	22 - 114
2426854	Dicofol	51.3	56.7	P/P	17 - 133
2426854	Dieldrin	60.9	59.6	P/P	45 - 129
2426854	Endosulfan I	64.8	63.1	P/P	49 - 104
2426854	Endosulfan II	49.5	51.5	P/P	37 - 117
2426854	Endosulfan Sulfate	50.5	56.1	P/P	38 - 128
2426854	Endrin	57.3	62.8	P/P	35 - 116
2426854	Endrin Aldehyde	57.8	61.4	P/P	19 - 108
2426854	Endrin Ketone	73.8	66.8	P/P	44 - 134
2426854	Esfenvalerate	97.6	122	P/P	27 - 176
2426854	Ethalfuralin	52.6	65.3	P/P	49 - 100
2426854	Fenpropathrin	66.5	77.9	P/P	34 - 117
2426854	Gamma-BHC	69.5	64.2	P/P	59 - 129
2426854	Gamma-Chlordane	41.2	46.4	P/P	33 - 107
2426854	Heptachlor	50.3	49.0	P/P	37 - 94.0
2426854	Heptachlor Epoxide	58.9	62.1	P/P	38 - 118
2426854	Hexachlorobenzene	46.2	48.0	P/P	35 - 97.0
2426854	Kepone	103	101	P/P	10 - 221
2426854	Lambda-Cyhalothrin	54.4	68.6	P/P	23 - 190
2426854	Methoprene	42.7	43.1	P/P	21 - 109
2426854	Methoxychlor	57.0	65.1	P/P	46 - 118
2426854	MGK-264	51.2	58.5	P/P	39 - 122
2426854	Mirex	46.9	49.7	P/P	25 - 90.0
2426854	Oxychlordane	53.2	54.8	P/P	42 - 100
2426854	Permethrin	62.9	94.7	P/P	33 - 181
2426854	Phenothrin	52.2	71.4	P/P	12 - 125
2426854	Piperonyl Butoxide	54.5	57.2	P/P	10 - 178
2426854	Prallethrin	68.7	69.6	P/P	24 - 122
2426854	Tau-Fluvalinate	70.3	92.6	P/P	13 - 151
2426854	Tetramethrin	93.6	99.0	P/P	16 - 172
2426854	Trans-Nonachlor	36.4	44.3	F/P	39 - 100
2426854	Triclosan Methyl	59.7	58.1	P/P	43 - 110
2426854	Trifluralin	53.3	65.8	P/P	45 - 94.0
2426978	PCB-1016	67.0	56.0	P/P	45 - 107
2426978	PCB-1260	61.2	56.6	P/P	40 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P433117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426978	Chlordane	57.1	53.4	P/P	43 - 123
2426978	Toxaphene	60.2	46.7	P/P	27 - 156

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426550	Fluoride	98.2	98.8	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2428377	Fluoride	99.0	97.9	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426218	Organic Carbon	97.2	97.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P433258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2426573	Organic Carbon	94.2	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P433018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426570	Color (true)	1.21	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426551	Turbidity	6.34	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426541	Calcium	0.865	Spike	P	0 - 20
2426541	Iron	0.196	Spike	P	0 - 20
2426541	Magnesium	0.572	Spike	P	0 - 20
2426541	Potassium	0.0730	Spike	P	0 - 20
2426541	Sodium	0.387	Spike	P	0 - 20
2426541	Strontium	0.305	Spike	P	0 - 20
2426541	Tin	0.111	Spike	P	0 - 20
2426541	Titanium	1.79	Spike	P	0 - 20
2426541	Vanadium	1.19	Spike	P	0 - 20
2426541	Zinc	0.435	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426541	Aluminum	0.257	Spike	P	0 - 20
2426541	Antimony	0.411	Spike	P	0 - 20
2426541	Arsenic	1.93	Spike	P	0 - 20
2426541	Barium	0.884	Spike	P	0 - 20
2426541	Beryllium	2.17	Spike	P	0 - 20
2426541	Boron	1.58	Spike	P	0 - 20
2426541	Cadmium	1.69	Spike	P	0 - 20
2426541	Chromium	1.53	Spike	P	0 - 20
2426541	Cobalt	1.52	Spike	P	0 - 20
2426541	Copper	0.734	Spike	P	0 - 20
2426541	Lead	1.03	Spike	P	0 - 20
2426541	Manganese	2.18	Spike	P	0 - 20
2426541	Molybdenum	1.13	Spike	P	0 - 20
2426541	Nickel	2.71	Spike	P	0 - 20
2426541	Selenium	0.605	Spike	P	0 - 20
2426541	Silver	0.139	Spike	P	0 - 20
2426541	Thallium	0.642	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426606	Chloride	0.0950	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426606	Sulfate	0.422	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427181	Sulfate	0.839	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426536	Ammonia-N	1.39	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426573	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426607	Kjeldahl Nitrogen	8.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427443	Kjeldahl Nitrogen	4.22	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426536	NO2NO3-N	1.51	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P433752

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428906	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P433069

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426689	Total-P	0.363	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P433072

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426903	Total-P	0.399	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P433117

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426854	Aldrin	13.9	Spike	P	0 - 41
2426854	Alpha-BHC	2.40	Spike	P	0 - 25
2426854	Alpha-Chlordane	12.5	Spike	P	0 - 32
2426854	Beta-BHC	2.47	Spike	P	0 - 33
2426854	Beta-Cyfluthrin	24.1	Spike	P	0 - 43
2426854	Bifenthrin	20.7	Spike	P	0 - 52
2426854	Carbophenothion	20.9	Spike	P	0 - 49
2426854	Chlorothalonil	0.254	Spike	P	0 - 82
2426854	Cis-Nonachlor	12.2	Spike	P	0 - 33
2426854	Cypermethrin	13.7	Spike	P	0 - 51
2426854	Dacthal	3.10	Spike	P	0 - 27
2426854	DDD-p,p'	1.08	Spike	P	0 - 39
2426854	DDE-p,p'	2.28	Spike	P	0 - 31
2426854	DDT-p,p'	2.28	Spike	P	0 - 29
2426854	Delta-BHC	4.07	Spike	P	0 - 35
2426854	Deltamethrin	22.8	Spike	P	0 - 100
2426854	Dichlobenil	5.82	Spike	P	0 - 40
2426854	Dicofol	9.94	Spike	P	0 - 37
2426854	Dieldrin	2.15	Spike	P	0 - 27
2426854	Endosulfan I	2.65	Spike	P	0 - 23
2426854	Endosulfan II	3.98	Spike	P	0 - 34
2426854	Endosulfan Sulfate	10.6	Spike	P	0 - 36
2426854	Endrin	9.17	Spike	P	0 - 45
2426854	Endrin Aldehyde	6.16	Spike	P	0 - 76
2426854	Endrin Ketone	10.0	Spike	P	0 - 43
2426854	Esfenvalerate	22.5	Spike	P	0 - 51
2426854	Ethalfuralin	21.6	Spike	P	0 - 22
2426854	Fenpropathrin	15.9	Spike	P	0 - 49
2426854	Gamma-BHC	7.93	Spike	P	0 - 28
2426854	Gamma-Chlordane	11.8	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P433117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426854	Heptachlor	2.59	Spike	P	0 - 29
2426854	Heptachlor Epoxide	5.37	Spike	P	0 - 33
2426854	Hexachlorobenzene	3.63	Spike	P	0 - 36
2426854	Kepone	2.17	Spike	P	0 - 85
2426854	Lambda-Cyhalothrin	23.1	Spike	P	0 - 55
2426854	Methoprene	1.03	Spike	P	0 - 53
2426854	Methoxychlor	13.2	Spike	P	0 - 50
2426854	MGK-264	13.2	Spike	P	0 - 43
2426854	Mirex	5.74	Spike	P	0 - 40
2426854	Oxychlordane	2.98	Spike	P	0 - 31
2426854	Permethrin	40.3	Spike	P	0 - 50
2426854	Phenothrin	30.9	Spike	P	0 - 58
2426854	Piperonyl Butoxide	4.84	Spike	P	0 - 100
2426854	Prallethrin	1.24	Spike	P	0 - 39
2426854	Tau-Fluvalinate	27.4	Spike	P	0 - 54
2426854	Tetramethrin	5.61	Spike	P	0 - 51
2426854	Trans-Nonachlor	19.7	Spike	P	0 - 39
2426854	Triclosan Methyl	2.71	Spike	P	0 - 31
2426854	Trifluralin	21.1	Spike	P	0 - 22
2426978	PCB-1016	17.8	Spike	P	0 - 25
2426978	PCB-1260	7.79	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P433117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426978	Chlordane	6.76	Spike	P	0 - 28
2426978	Toxaphene	25.2	Spike	P	0 - 27

Reference Method: SM 2320 B-2011
Batch ID: P433201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426550	Total Alkalinity	1.04	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P433491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428377	Total Alkalinity	1.31	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P433342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426224	TDS	0.797	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P433609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427563	TDS	7.23	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P433204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426550	Fluoride	0.483	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P433493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428377	Fluoride	0.984	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P433257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426218	Organic Carbon	0.564	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P433258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2426573	Organic Carbon	0.0	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2426586
Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	86.5	P	37 - 129
EPA 8270E	Decachlorobiphenyl	67.1	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	66.9	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	63.7	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	65.4	P	28 - 102
EPA 8276	PCNB	93.1	P	49 - 115

Lab Sample ID: 2426587
Field Sample ID: G4NW0019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	59.1	P	37 - 129
EPA 8270E	Decachlorobiphenyl	47.9	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	45.3	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	54.8	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	49.2	P	28 - 102
EPA 8276	PCNB	79.9	P	49 - 115

Lab Sample ID: 2426588
Field Sample ID: G4NW0020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	60.6	P	37 - 129
EPA 8270E	Decachlorobiphenyl	49.8	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	43.2	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	51.5	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	37.8	P	28 - 102
EPA 8276	PCNB	76.8	P	49 - 115

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A120642

Included Lab Sample IDs: 2426570, 2426572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.8	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120655

Included Lab Sample IDs: 2426570, 2426572

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120682

Included Lab Sample IDs: 2426571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120686

Included Lab Sample IDs: 2426570, 2426572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Chloride	99.8	100	P/P	90 - 110
Sulfate	99.6	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120700

Included Lab Sample IDs: 2426571, 2426573

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120717

Included Lab Sample IDs: 2426590, 2426591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.0	96.2	P/P	90 - 110
Antimony	96.3	93.4	P/P	90 - 110
Arsenic	96.2	93.1	P/P	90 - 110
Barium	98.4	93.3	P/P	90 - 110
Boron	96.7	104	P/P	90 - 110
Cadmium	96.2	93.9	P/P	90 - 110
Lead	95.9	95.2	P/P	90 - 110
Molybdenum	93.7	91.9	P/P	90 - 110
Selenium	97.5	92.6	P/P	90 - 110
Silver	97.8	95.9	P/P	90 - 110
Thallium	95.2	94.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A120725

Included Lab Sample IDs: 2426570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	93.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120725

Included Lab Sample IDs: 2426570

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120737

Included Lab Sample IDs: 2426571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120746

Included Lab Sample IDs: 2426571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.6	99.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120750

Included Lab Sample IDs: 2426590, 2426591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	97.9	98.5	P/P	90 - 110
Chromium	98.9	102	P/P	90 - 110
Cobalt	97.5	99.3	P/P	90 - 110
Copper	97.7	98.1	P/P	90 - 110
Manganese	99.9	104	P/P	90 - 110
Nickel	98.5	99.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120752

Included Lab Sample IDs: 2426571, 2426573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	96.6	P/P	90 - 110
Organic Carbon	96.6	93.8	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A120755

Included Lab Sample IDs: 2426586, 2426587, 2426588

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	109		P	80 - 120
Alpha-BHC	104		P	80 - 120
Alpha-Chlordane	108		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A120755

Included Lab Sample IDs: 2426586, 2426587, 2426588

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beta-BHC	98.8		P	80 - 120
Beta-Cyfluthrin	108		P	80 - 120
Bifenthrin	102		P	80 - 120
Carbophenothion	104		P	80 - 120
Chlorothalonil	115		P	80 - 120
Cis-Nonachlor	118		P	80 - 120
Cypermethrin	112		P	80 - 120
Dacthal	113		P	80 - 120
DDD-p,p'	114		P	80 - 120
DDE-p,p'	104		P	80 - 120
DDT-p,p'	98.3		P	80 - 120
Delta-BHC	115		P	80 - 120
Deltamethrin	112		P	80 - 120
Dichlobenil	116		P	80 - 120
Dicofol	94.7		P	80 - 120
Dieldrin	108		P	80 - 120
Endosulfan I	110		P	80 - 120
Endosulfan II	102		P	80 - 120
Endosulfan Sulfate	96.5		P	80 - 120
Endrin	111		P	80 - 120
Endrin Aldehyde	114		P	80 - 120
Endrin Ketone	112		P	80 - 120
Esfenvalerate	112		P	80 - 120
Ethalfuralin	117		P	80 - 120
Fenpropathrin	115		P	80 - 120
Gamma-BHC	114		P	80 - 120
Gamma-Chlordane	96.8		P	80 - 120
Heptachlor	104		P	80 - 120
Heptachlor Epoxide	101		P	80 - 120
Hexachlorobenzene	98.2		P	80 - 120
Kepone	102		P	80 - 120
Lambda-Cyhalothrin	94.6		P	80 - 120
Methoprene	92.4		P	80 - 120
Methoxychlor	91.7		P	80 - 120
MGK-264	97.5		P	80 - 120
Mirex	94.4		P	80 - 120
Oxychlordane	104		P	80 - 120
Permethrin	98.3		P	80 - 120
Phenothrin	95.0		P	80 - 120
Piperonyl Butoxide	98.3		P	80 - 120
Prallethrin	110		P	80 - 120
Tau-Fluvalinate	103		P	80 - 120
Tetramethrin	107		P	80 - 120
Trans-Nonachlor	101		P	80 - 120
Triclosan Methyl	101		P	80 - 120
Trifluralin	111		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120763

Included Lab Sample IDs: 2426572

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120767

Included Lab Sample IDs: 2426573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	98.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120773

Included Lab Sample IDs: 2426590, 2426591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Potassium	97.4	96.3	P/P	90 - 110
Sodium	100	96.9	P/P	90 - 110
Strontium	93.7	98.7	P/P	90 - 110
Tin	95.2	101	P/P	90 - 110
Titanium	94.7	100	P/P	90 - 110
Vanadium	95.2	101	P/P	90 - 110
Zinc	98.2	103	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A120815

Included Lab Sample IDs: 2426586, 2426587, 2426588

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.8		P	80 - 120
PCB-1260	91.6		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120832

Included Lab Sample IDs: 2426573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	99.8	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A120845

Included Lab Sample IDs: 2426586, 2426587, 2426588

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	90.2		P	80 - 120
Toxaphene	84.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A120868

Included Lab Sample IDs: 2426572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.8	93.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120868

Included Lab Sample IDs: 2426572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120985

Included Lab Sample IDs: 2426573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	106	106	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	95.9					1.21	
EPA 180.1 Rev. 2.0	Turbidity	100					6.34	
EPA 200.7 Rev. 4.4	Calcium	104	105	105	104			0.865
	Iron	105	101	103	103			0.196
	Magnesium	105	104	102	103			0.572
	Potassium	100	103	103				0.0730
	Sodium	105	104	103				0.387
	Strontium	95.5	95.6	94.5	94.8			0.305
	Tin	99.5	75.7	95.8	95.7			0.111
	Titanium	97.1	97.2	98.9				1.79
	Vanadium	97.8	97.3	98.5				1.19
	Zinc	98.4	99.2	99.0	98.6			0.435
EPA 200.8 Rev. 5.4	Aluminum	101	101	101				0.257
	Antimony	101	100	99.8	74.6			0.411
	Arsenic	99.4	99.6	97.7	99.6			1.93
	Barium	102	103	102				0.884
	Beryllium	94.7	97.2	95.1				2.17
	Boron	109	104	105				1.58
	Cadmium	99.1	101	98.9	87.1			1.69
	Chromium	95.9	96.7	95.2				1.53
	Cobalt	95.4	96.8	95.3	79.0			1.52
	Copper	98.8	101	100				0.734
	Lead	101	102	101				1.03
	Manganese	98.7	99.9	97.3				2.18
	Molybdenum	97.2	98.4	97.3				1.13
	Nickel	96.4	97.1	94.5				2.71
	Selenium	98.1	98.6	99.2	91.0			0.605
	Silver	107	105	105	89.0			0.139
	Thallium	98.3	102	102	107			0.642
EPA 300.0 Rev. 2.1	Chloride	99.5	94.2	93.7			0.0950	
	Sulfate	95.9	91.5	90.9			0.422	
	Sulfate	99.7	98.6	99.7			0.839	
EPA 350.1 Rev. 2.0	Ammonia-N	94.4	101	100				1.39
	Ammonia-N	91.8	97.0	99.2				1.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8						8.82
	Kjeldahl Nitrogen	101	98.5	93.4				4.22
EPA 353.2 Rev. 2.0	NO2NO3-N	102	100	98.5				1.51
	NO2NO3-N	106	99.4	99.4				0.0
EPA 365.1 Rev. 2.0	Total-P	103	106	105				0.363
	Total-P	104	104	104				0.399
EPA 8270E	Aldrin	54.6	46.1	53.0				13.9
	Alpha-BHC	84.3	74.7	72.9				2.40
	Alpha-Chlordane	75.3	53.6	60.8				12.5
	Beta-BHC	74.9	55.4	56.8				2.47
	Beta-Cyfluthrin	100	71.4	91.0				24.1
	Bifenthrin	77.2	62.0	76.3				20.7
	Carbophenothion	48.8	34.5	42.5				20.9
	Chlorothalonil	87.3	83.2	83.4				0.254
	Cis-Nonachlor	81.9	53.3	47.2				12.2
	Cypermethrin	110	93.7	107				13.7
	Dacthal	112	67.9	70.0				3.10
	DDD-p,p'	88.1	54.0	53.5				1.08
	DDE-p,p'	63.5	56.8	55.5				2.28
	DDT-p,p'	66.8	53.7	52.5				2.28

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Delta-BHC	101	86.2	89.8			4.07
	Deltamethrin	140	93.4	118			22.8
	Dichlobenil	64.7	52.4	55.5			5.82
	Dicofol	56.8	51.3	56.7			9.94
	Dieldrin	69.2	60.9	59.6			2.15
	Endosulfan I	76.6	64.8	63.1			2.65
	Endosulfan II	68.0	49.5	51.5			3.98
	Endosulfan Sulfate	71.4	50.5	56.1			10.6
	Endrin	69.8	57.3	62.8			9.17
	Endrin Aldehyde	64.2	57.8	61.4			6.16
	Endrin Ketone	109	73.8	66.8			10.0
	Esfenvalerate	117	97.6	122			22.5
	Ethalfuralin	70.0	52.6	65.3			21.6
	Fenpropathrin	88.9	66.5	77.9			15.9
	Gamma-BHC	101	69.5	64.2			7.93
	Gamma-Chlordane	58.9	41.2	46.4			11.8
	Heptachlor	66.8	50.3	49.0			2.59
	Heptachlor Epoxide	73.9	58.9	62.1			5.37
	Hexachlorobenzene	69.4	46.2	48.0			3.63
	Kepone	98.2	103	101			2.17
	Lambda-Cyhalothrin	75.6	54.4	68.6			23.1
	Methoprene	56.7	42.7	43.1			1.03
	Methoxychlor	62.5	57.0	65.1			13.2
	MGK-264	68.8	51.2	58.5			13.2
	Mirex	53.5	46.9	49.7			5.74
	Oxychlordane	65.7	53.2	54.8			2.98
	PCB-1016	81.1	67.0	56.0			17.8
	PCB-1260	74.1	61.2	56.6			7.79
	Permethrin	85.9	62.9	94.7			40.3
	Phenothrin	58.7	52.2	71.4			30.9
	Piperonyl Butoxide	68.3	54.5	57.2			4.84
	Prallethrin	79.1	68.7	69.6			1.24
	Tau-Fluvalinate	93.4	70.3	92.6			27.4
	Tetramethrin	129	93.6	99.0			5.61
	Trans-Nonachlor	58.2	36.4	44.3			19.7
	Triclosan Methyl	63.1	59.7	58.1			2.71
	Trifluralin	67.7	53.3	65.8			21.1
EPA 8276	Chlordane	70.8	57.1	53.4			6.76
	Toxaphene	66.8	60.2	46.7			25.2
SM 2320 B-2011	Total Alkalinity	95.0				1.04	
	Total Alkalinity	97.2				1.31	
SM 2540 C-2015	TDS	97.4				0.797	
	TDS	97.1				7.23	
SM 2540 D-2015	TSS	95.8					
	TSS	94.9					
SM 4500-F- C-2011	Fluoride	98.1	98.2	98.8			0.483
	Fluoride	99.3	99.0	97.9			0.984
SM 5310 B-2011	Organic Carbon	96.2	97.2	97.8			0.564
	Organic Carbon	95.3	94.2	94.2			0.0

Reference Method Descriptions

Method	Description	Associated Samples
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Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2426570, 2426572
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2426570, 2426572
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2426590, 2426591
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2426590, 2426591
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2426570, 2426572
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2426570, 2426572
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2426571, 2426573
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2426571, 2426573
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2426571, 2426573
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2426571, 2426573
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2426586, 2426587, 2426588
EPA 8270E	PCBs in water matrices by GC/MS/MS	2426586, 2426587, 2426588
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2426586, 2426587, 2426588
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2426570, 2426572
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2426590, 2426591
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2426570, 2426572
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2426570, 2426572
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2426570, 2426572
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2426571, 2426573

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	07/26/2023			07/26/2023 11:00	Samantha L Bates	2426570, 2426572
EPA 180.1 Rev. 2.0	07/26/2023			07/26/2023 11:08	Anna M. Plaviak	2426570
	07/26/2023			07/26/2023 11:09	Anna M. Plaviak	2426572
EPA 200.7 Rev. 4.4	07/26/2023	07/27/2023 12:10	George D Taylor	08/01/2023 21:18	Chase Roberts	2426590
	07/26/2023	07/27/2023 12:10	George D Taylor	08/01/2023 21:25	Chase Roberts	2426591
EPA 200.8 Rev. 5.4	07/26/2023	07/27/2023 12:10	George D Taylor	07/28/2023 17:36	Emily M Philpot	2426590
	07/26/2023	07/27/2023 12:10	George D Taylor	07/28/2023 17:45	Emily M Philpot	2426591
	07/26/2023	07/27/2023 12:10	George D Taylor	07/31/2023 11:11	Conrad Hartmann	2426590
	07/26/2023	07/27/2023 12:10	George D Taylor	07/31/2023 11:20	Conrad Hartmann	2426591
EPA 300.0 Rev. 2.1	07/26/2023			07/28/2023 14:40	Anna M. Plaviak	2426572
	07/26/2023			07/28/2023 17:32	Anna M. Plaviak	2426570
	07/26/2023			08/02/2023 11:38	James L Waggeberby	2426572
EPA 350.1 Rev. 2.0	07/26/2023			07/31/2023 13:38	Ping Hua	2426571
	07/26/2023			08/01/2023 12:22	Ping Hua	2426573
EPA 351.2 Rev. 2.0	07/26/2023	07/27/2023 12:39	Dana G. Hughes	07/31/2023 15:52	Samantha L Bates	2426571
	07/26/2023	08/02/2023 10:37	Dana G. Hughes	08/03/2023 14:07	Samantha L Bates	2426573
EPA 353.2 Rev. 2.0	07/26/2023			07/27/2023 11:02	Beverly Y. Sanders	2426571
	07/26/2023			08/10/2023 16:10	Anna M. Plaviak	2426573
EPA 365.1 Rev. 2.0	07/26/2023	07/27/2023 14:45	Simonne.V. Calhoun	07/28/2023 09:49	Chandler E Cox	2426571
	07/26/2023	07/27/2023 14:45	Simonne.V. Calhoun	07/28/2023 10:31	Chandler E Cox	2426573
EPA 8270E	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	07/31/2023 19:56	Michael Poppell	2426586
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	07/31/2023 20:25	Michael Poppell	2426587
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	07/31/2023 20:54	Michael Poppell	2426588
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	08/03/2023 00:45	Julie Wi	2426586
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	08/03/2023 01:15	Julie Wi	2426587
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	08/03/2023 01:45	Julie Wi	2426588
EPA 8276	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	08/03/2023 17:34	Arthur Maknenko	2426586
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	08/03/2023 18:32	Arthur Maknenko	2426587
	07/26/2023	07/28/2023 08:00	Fe-Val Siddell	08/03/2023 19:29	Arthur Maknenko	2426588
SM 2320 B-2011	07/26/2023			07/28/2023 03:31	Dale L. Simmons	2426570
	07/26/2023			08/04/2023 22:12	Dale L. Simmons	2426572
SM 2340 B-2011	07/26/2023			08/01/2023 21:18	Chase Roberts	2426590
	07/26/2023			08/01/2023 21:25	Chase Roberts	2426591
SM 2540 C-2015	07/26/2023			07/27/2023 16:02	Yijie Li	2426570
	07/26/2023			07/31/2023 14:17	Yijie Li	2426572
SM 2540 D-2015	07/26/2023			07/27/2023 16:02	Yijie Li	2426570, 2426572
SM 4500-F- C-2011	07/26/2023			07/28/2023 03:31	Dale L. Simmons	2426570
	07/26/2023			08/04/2023 22:12	Dale L. Simmons	2426572
SM 5310 B-2011	07/26/2023			07/31/2023 19:14	Elise M. Gillis	2426571
	07/26/2023			07/31/2023 21:32	Elise M. Gillis	2426573