

Chemical Analysis Report

NW-DIST-2023-12-15-01

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

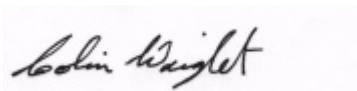
Event Description: **Navarre Run**
Request ID: **RQ-2023-10-30-44**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
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Pensacola, FL 32502-5794
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Certified by: Colin Wright, Program Administrator

Date Certified: 10-JAN-2024 11:14

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: 12/13/2023 10:37

Field ID: G4NW0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457419	EPA 8270E	Aldrin	0.71	U	ng/L	P439306	
		Alpha-BHC	0.11	U	ng/L	P439306	
		Alpha-Chlordane	0.22	U	ng/L	P439306	
		PCB-1016	2.2	U	ng/L	P439306	
		Beta-BHC	0.11	U	ng/L	P439306	
		PCB-1221	2.2	U	ng/L	P439306	
		Beta-Cyfluthrin	1.4	U	ng/L	P439306	
		PCB-1232	2.2	U	ng/L	P439306	
		Bifenthrin	0.54	U	ng/L	P439306	
		PCB-1242	2.2	U	ng/L	P439306	
		PCB-1248	2.2	U	ng/L	P439306	
		Chlorothalonil	3.9	U	ng/L	P439306	
		PCB-1254	2.2	U	ng/L	P439306	
		Cis-Nonachlor	0.22	U	ng/L	P439306	
		PCB-1260	2.2	U	ng/L	P439306	
		Cypermethrin	1.6	U	ng/L	P439306	
		Dacthal	0.16	U	ng/L	P439306	RPD
		DDD-p,p'	0.30	I	ng/L	P439306	
		DDE-p,p'	0.22	U	ng/L	P439306	
		DDT-p,p'	0.87	U	ng/L	P439306	
		Delta-BHC	0.44	U	ng/L	P439306	
		Deltamethrin	1.4	U	ng/L	P439306	
		Dichlobenil	0.27	U	ng/L	P439306	
		Dicofol	1.4	U	ng/L	P439306	
		Dieldrin	0.44	U	ng/L	P439306	
		Endosulfan I	0.44	U	ng/L	P439306	
		Endosulfan II	0.98	U	ng/L	P439306	
		Endosulfan Sulfate	0.33	U	ng/L	P439306	
		Endrin	0.98	U	ng/L	P439306	
		Endrin Aldehyde	0.82	U	ng/L	P439306	
		Endrin Ketone	0.44	U	ng/L	P439306	
		Esfenvalerate	0.82	U	ng/L	P439306	
		Ethalfuralin	0.16	U	ng/L	P439306	MS
		Fenpropathrin	0.27	U	ng/L	P439306	
		Gamma-BHC	0.14	U	ng/L	P439306	
		Gamma-Chlordane	0.22	U	ng/L	P439306	
		Heptachlor	0.22	U	ng/L	P439306	RPD
		Heptachlor Epoxide	0.27	U	ng/L	P439306	MS
		Hexachlorobenzene**	1.1	U	ng/L	P439306	
		Kepone	15	U	ng/L	P439306	
		Lambda-Cyhalothrin	0.82	U	ng/L	P439306	
		Methoprene	0.82	U	ng/L	P439306	MS
		Methoxychlor	0.33	U	ng/L	P439306	

Field ID: G4NW0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457419	EPA 8270E	MGK-264	0.22	UJ	ng/L	P439306	LCS
		Mirex	0.38	U	ng/L	P439306	
		Oxychlordane	0.33	U	ng/L	P439306	MS
		Permethrin	1.7	U	ng/L	P439306	
		Phenothrin	0.98	U	ng/L	P439306	
		Piperonyl Butoxide	0.16	U	ng/L	P439306	
		Prallethrin	2.2	U	ng/L	P439306	RPD
		Tau-Fluvalinate	0.27	U	ng/L	P439306	
		Tetramethrin	0.82	U	ng/L	P439306	
		Trans-Nonachlor	0.22	U	ng/L	P439306	
		Triclosan Methyl	0.16	UJ	ng/L	P439306	LCS
		Trifluralin	0.22	U	ng/L	P439306	
	EPA 8276	Chlordane	2.2	UJ	ng/L	P439306	SUR
		Toxaphene	16	UJ	ng/L	P439306	SUR

Ref. Method and Comment:
EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8276: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: WILLIAMS CREEK UPSTREAM OF HWY 98

Collection Date/Time: 12/13/2023 11:40

Field ID: G4NW0531

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457351	DEP SOP: NU-094-1	Color (true)	53		PCU	P439040	
	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P439074	
	EPA 300.0 Rev. 2.1	Chloride	62		mg Cl/L	P439206	
		Sulfate	14		mg SO4/L	P439410	
	SM 2320 B-2011	Total Alkalinity	8.4		mg CaCO3/L	P439371	
	SM 2540 C-2015	TDS	140		mg/L	P439433	
	SM 2540 D-2015	TSS	13		mg/L	P439348	
	SM 4500-F- C-2011	Fluoride	0.031	I	mg F/L	P439373	
2457352	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P439343	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P439241	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P439300	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P439254	
	SM 5310 B-2014	Organic Carbon	8.3		mg C/L	P439430	

Ref. Method and Comment:

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

Sample Location: EAST BAY RIV HWY 87 BRID

Collection Date/Time: 12/13/2023 11:05

Field ID: G4NW0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457421	EPA 200.7 Rev. 4.4	Calcium	12.9		mg/L	P439098	
		Iron	250		ug/L	P439098	
		Magnesium	37.8		mg/L	P439098	
		Potassium	10.7		mg/L	P439098	
		Sodium	274		mg/L	P439098	
		Strontium	205		ug/L	P439098	
		Tin	3.0	U	ug/L	P439098	
		Titanium	2.8	I	ug/L	P439098	
		Vanadium	2.0	U	ug/L	P439098	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P439098	
		Aluminum	246		ug/L	P439098	
		Antimony	0.050	U	ug/L	P439098	
		Arsenic	0.25		ug/L	P439098	
		Barium	8.51		ug/L	P439098	
		Beryllium	0.022	I	ug/L	P439098	
		Boron	135		ug/L	P439098	
		Cadmium	0.020	U	ug/L	P439098	
		Chromium	0.40	U	ug/L	P439098	
		Cobalt	0.139		ug/L	P439098	
		Copper	0.40	U	ug/L	P439098	
		Lead	0.29	I	ug/L	P439098	
		Manganese	8.72		ug/L	P439098	
		Molybdenum	0.45	I	ug/L	P439098	
		Nickel	0.50	U	ug/L	P439098	
		Selenium	0.20	U	ug/L	P439098	
		Silver	0.010	U	ug/L	P439098	
		Thallium	0.10	U	ug/L	P439098	
	SM 2340 B-2011	Hardness	188		mg/L	P439098	

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

Collection Date/Time: 12/13/2023 10:25

Field ID: G4NW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457433	EPA 8270E	Aldrin	0.69	U	ng/L	P439306	
		Alpha-BHC	0.11	U	ng/L	P439306	
		Alpha-Chlordane	0.21	U	ng/L	P439306	
		PCB-1016	2.1	U	ng/L	P439306	
		Beta-BHC	0.11	U	ng/L	P439306	
		PCB-1221	2.1	U	ng/L	P439306	
		Beta-Cyfluthrin	1.3	U	ng/L	P439306	
		PCB-1232	2.1	U	ng/L	P439306	
		Bifenthrin	0.53	U	ng/L	P439306	
		PCB-1242	2.1	U	ng/L	P439306	
		Carbophenothion	0.96	U	ng/L	P439306	
		PCB-1248	2.1	U	ng/L	P439306	
		Chlorothalonil	3.8	U	ng/L	P439306	
		PCB-1254	2.1	U	ng/L	P439306	
		Cis-Nonachlor	0.21	U	ng/L	P439306	
		PCB-1260	2.1	U	ng/L	P439306	
		Cypermethrin	1.6	U	ng/L	P439306	
		Dacthal	0.16	U	ng/L	P439306	RPD
		DDD-p,p'	0.27	U	ng/L	P439306	
		DDE-p,p'	0.21	U	ng/L	P439306	
		DDT-p,p'	0.85	U	ng/L	P439306	
		Delta-BHC	0.42	U	ng/L	P439306	
		Deltamethrin	1.3	U	ng/L	P439306	
		Dichlobenil	0.27	U	ng/L	P439306	
		Dicofol	1.3	U	ng/L	P439306	
		Dieldrin	0.42	U	ng/L	P439306	
		Endosulfan I	0.42	U	ng/L	P439306	
		Endosulfan II	0.96	U	ng/L	P439306	
		Endosulfan Sulfate	0.32	U	ng/L	P439306	
		Endrin	0.96	U	ng/L	P439306	
		Endrin Aldehyde	0.80	U	ng/L	P439306	
		Endrin Ketone	0.42	U	ng/L	P439306	
		Esfenvalerate	0.80	U	ng/L	P439306	
		Ethalfuralin	0.16	U	ng/L	P439306	MS
		Fenpropathrin	0.27	U	ng/L	P439306	
		Gamma-BHC	0.13	U	ng/L	P439306	
		Gamma-Chlordane	0.21	U	ng/L	P439306	
		Heptachlor	0.21	U	ng/L	P439306	RPD
		Heptachlor Epoxide	0.27	U	ng/L	P439306	MS
		Hexachlorobenzene**	1.1	U	ng/L	P439306	
		Kepone	14	U	ng/L	P439306	
		Lambda-Cyhalothrin	0.80	U	ng/L	P439306	
		Methoprene	0.80	U	ng/L	P439306	MS

Field ID: G4NW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457433	EPA 8270E	Methoxychlor	0.32	U	ng/L	P439306	
		MGK-264	0.21	UJ	ng/L	P439306	LCS
		Mirex	0.37	U	ng/L	P439306	
		Oxychlordane	0.32	U	ng/L	P439306	MS
		Permethrin	1.7	U	ng/L	P439306	
		Phenothrin	0.96	U	ng/L	P439306	
		Piperonyl Butoxide	0.16	U	ng/L	P439306	
		Prallethrin	2.1	U	ng/L	P439306	RPD
		Tau-Fluvalinate	0.27	U	ng/L	P439306	
		Tetramethrin	0.80	U	ng/L	P439306	
		Trans-Nonachlor	0.21	U	ng/L	P439306	
		Triclosan Methyl	0.16	UJ	ng/L	P439306	LCS
		Trifluralin	0.21	U	ng/L	P439306	
	EPA 8276	Chlordane	2.1	U	ng/L	P439306	
		Toxaphene	16	U	ng/L	P439306	

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

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

Collection Date/Time: 12/13/2023 09:30

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457349	DEP SOP: NU-094-1	Color (true)	96	Q	PCU	P439040	
	EPA 180.1 Rev. 2.0	Turbidity	1.4	Q	NTU	P439074	
	EPA 300.0 Rev. 2.1	Chloride	19	A	mg Cl/L	P439206	
		Sulfate	7.4		mg SO4/L	P439410	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P439371	
	SM 2540 C-2015	TDS	81		mg/L	P439433	
	SM 2540 D-2015	TSS	3	I	mg/L	P439348	
2457350	SM 4500-F- C-2011	Fluoride	0.034	I	mg F/L	P439373	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.37		mg N/L	P439343	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P439241	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P439164	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P439254	
	SM 5310 B-2014	Organic Carbon	14		mg C/L	P439430	
2457418	EPA 8270E	Aldrin	0.70	U	ng/L	P439306	
		Alpha-BHC	0.11	U	ng/L	P439306	
		Alpha-Chlordane	0.22	U	ng/L	P439306	
		PCB-1016	2.2	U	ng/L	P439306	
		Beta-BHC	0.11	U	ng/L	P439306	
		PCB-1221	2.2	U	ng/L	P439306	
		Beta-Cyfluthrin	1.4	U	ng/L	P439306	
		PCB-1232	2.2	U	ng/L	P439306	
		Bifenthrin	0.54	U	ng/L	P439306	
		PCB-1242	2.2	U	ng/L	P439306	
		Carbophenothion	0.98	U	ng/L	P439306	
		PCB-1248	2.2	U	ng/L	P439306	
		Chlorothalonil	3.9	U	ng/L	P439306	
		PCB-1254	2.2	U	ng/L	P439306	
		Cis-Nonachlor	0.22	U	ng/L	P439306	
		PCB-1260	2.2	U	ng/L	P439306	
		Cypermethrin	1.6	U	ng/L	P439306	
		Dacthal	0.16	UJ	ng/L	P439306	RPD
		DDD-p,p'	0.27	U	ng/L	P439306	
		DDE-p,p'	0.22	U	ng/L	P439306	
		DDT-p,p'	0.87	U	ng/L	P439306	
		Delta-BHC	0.43	U	ng/L	P439306	
		Deltamethrin	1.4	U	ng/L	P439306	
		Dichlobenil	0.27	U	ng/L	P439306	
		Dicofol	1.4	U	ng/L	P439306	
		Dieldrin	0.43	U	ng/L	P439306	
		Endosulfan I	0.43	U	ng/L	P439306	
		Endosulfan II	0.98	U	ng/L	P439306	
		Endosulfan Sulfate	0.33	U	ng/L	P439306	
		Endrin	0.98	U	ng/L	P439306	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457418	EPA 8270E	Endrin Aldehyde	0.81	U	ng/L	P439306	
		Endrin Ketone	0.43	U	ng/L	P439306	
		Esfenvalerate	0.81	U	ng/L	P439306	
		Ethalfuralin	0.16	UJ	ng/L	P439306	MS
		Fenpropathrin	0.27	U	ng/L	P439306	
		Gamma-BHC	0.14	U	ng/L	P439306	
		Gamma-Chlordane	0.22	U	ng/L	P439306	
		Heptachlor	0.22	UJ	ng/L	P439306	RPD
		Heptachlor Epoxide	0.27	UJ	ng/L	P439306	MS
		Hexachlorobenzene**	1.1	U	ng/L	P439306	
		Kepone	15	U	ng/L	P439306	
		Lambda-Cyhalothrin	0.81	U	ng/L	P439306	
		Methoprene	0.81	UJ	ng/L	P439306	MS
		Methoxychlor	0.33	U	ng/L	P439306	
		MGK-264	0.22	UJ	ng/L	P439306	LCS
		Mirex	0.38	U	ng/L	P439306	
		Oxychlordane	0.33	UJ	ng/L	P439306	MS
		Permethrin	1.7	U	ng/L	P439306	
		Phenothrin	0.98	U	ng/L	P439306	
		Piperonyl Butoxide	0.16	U	ng/L	P439306	
		Prallethrin	2.2	UJ	ng/L	P439306	RPD
		Tau-Fluvalinate	0.27	U	ng/L	P439306	
		Tetramethrin	0.81	U	ng/L	P439306	
		Trans-Nonachlor	0.22	U	ng/L	P439306	
		Triclosan Methyl	0.16	UJ	ng/L	P439306	LCS
		Trifluralin	0.22	U	ng/L	P439306	
	EPA 8276	Chlordane	2.2	UJ	ng/L	P439306	SUR
		Toxaphene	16	UJ	ng/L	P439306	SUR
2457420	EPA 200.7 Rev. 4.4	Calcium	7.99		mg/L	P439098	
		Iron	200		ug/L	P439098	
		Magnesium	2.79		mg/L	P439098	
		Potassium	2.8		mg/L	P439098	
		Sodium	12.9		mg/L	P439098	
		Strontium	27.1		ug/L	P439098	
		Tin	3.0	U	ug/L	P439098	
		Titanium	1.6	I	ug/L	P439098	
		Vanadium	2.0	U	ug/L	P439098	
		Zinc	5.0	U	ug/L	P439098	
	EPA 200.8 Rev. 5.4	Aluminum	274		ug/L	P439098	
		Antimony	0.050	U	ug/L	P439098	
		Arsenic	3.04		ug/L	P439098	
		Barium	6.00		ug/L	P439098	
		Beryllium	0.013	I	ug/L	P439098	
		Boron	55.4		ug/L	P439098	
		Cadmium	0.020	U	ug/L	P439098	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457420	EPA 200.8 Rev. 5.4	Chromium	0.69	I	ug/L	P439098	
		Cobalt	0.088		ug/L	P439098	
		Copper	0.47	I	ug/L	P439098	
		Lead	0.20	U	ug/L	P439098	
		Manganese	12.2		ug/L	P439098	
		Molybdenum	0.15	U	ug/L	P439098	
		Nickel	0.57	I	ug/L	P439098	
		Selenium	0.20	I	ug/L	P439098	
		Silver	0.010	U	ug/L	P439098	
		Thallium	0.10	U	ug/L	P439098	
	SM 2340 B-2011	Hardness	31.4		mg/L	P439098	

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 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 8276: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: FB

Collection Date/Time: 12/13/2023 09:40

Field ID: FB_12132023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2457353	DEP SOP: NU-094-1	Color (true)	2.5	UQ	PCU	P439042	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	UQ	NTU	P439074	
	EPA 300.0 Rev. 2.1	Sulfate	0.20	U	mg SO4/L	P439410	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P439371	
	SM 2540 C-2015	TDS	15	U	mg/L	P439432	
	SM 2540 D-2015	TSS	2	U	mg/L	P439347	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P439373	
2457354	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P439343	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P439241	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P439300	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P439254	
	SM 5310 B-2014	Organic Carbon	0.50	U	mg C/L	P439430	
2457422	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P439098	
		Iron	30	U	ug/L	P439098	
		Magnesium	0.040	U	mg/L	P439098	
		Potassium	0.30	U	mg/L	P439098	
		Sodium	0.50	U	mg/L	P439098	
		Strontium	2.0	U	ug/L	P439098	
		Tin	3.0	U	ug/L	P439098	
	EPA 200.8 Rev. 5.4	Titanium	0.75	U	ug/L	P439098	
		Vanadium	2.0	U	ug/L	P439098	
		Zinc	5.0	U	ug/L	P439098	
		Aluminum	5.0	U	ug/L	P439098	
		Antimony	0.050	U	ug/L	P439098	
		Arsenic	0.050	U	ug/L	P439098	
		Barium	0.20	U	ug/L	P439098	
		Beryllium	0.010	U	ug/L	P439098	
		Boron	2.0	U	ug/L	P439098	
		Cadmium	0.020	U	ug/L	P439098	
		Chromium	0.40	U	ug/L	P439098	
		Cobalt	0.020	U	ug/L	P439098	
		Copper	0.40	U	ug/L	P439098	
		Lead	0.20	U	ug/L	P439098	
		Manganese	0.10	U	ug/L	P439098	
		Molybdenum	0.15	U	ug/L	P439098	
		Nickel	0.50	U	ug/L	P439098	
		Selenium	0.20	U	ug/L	P439098	
		Silver	0.010	U	ug/L	P439098	
		Thallium	0.10	U	ug/L	P439098	

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 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: P439040

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P439042

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439074

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

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: P439098

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439206

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439410

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439343

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439241

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439164

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439300

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439254

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

Reference Method: EPA 8270E
Batch ID: P439306

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
Carbophenothion	0.90	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P439306

Component	Result	Code	Units
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
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: P439306

Component	Result	Code	Units
Chlordane	2.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276
Batch ID: P439306

Component	Result	Code	Units
Toxaphene	15	U	ng/L

Reference Method: SM 2320 B-2011
Batch ID: P439371

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

Reference Method: SM 2540 C-2015
Batch ID: P439432

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P439433

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P439347

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P439348

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P439373

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P439430

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: P439040

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P439042

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439074

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	103		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	98.4		P	85 - 115
Sodium	99.3		P	85 - 115
Strontium	96.5		P	85 - 115
Tin	96.4		P	85 - 115
Titanium	98.6		P	85 - 115
Vanadium	98.5		P	85 - 115
Zinc	95.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	103		P	85 - 115
Barium	103		P	85 - 115
Beryllium	97.2		P	85 - 115
Boron	105		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	106		P	85 - 115
Cobalt	102		P	85 - 115
Copper	101		P	85 - 115
Lead	97.9		P	85 - 115
Manganese	104		P	85 - 115
Molybdenum	100		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	103		P	85 - 115
Thallium	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439206

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439410

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439343

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: P439241

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439164

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439300

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439254

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

Reference Method: EPA 8270E
Batch ID: P439306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	47.6		P	30 - 96.0
Alpha-BHC	103		P	70 - 109
Alpha-Chlordane	53.0		P	45 - 107
Beta-BHC	112		P	64 - 138
Beta-Cyfluthrin	108		P	17 - 141
Bifenthrin	55.6		P	10 - 113
Carbophenothion	66.7		P	24 - 91.0
Chlorothalonil	72.6		P	26 - 180
Cis-Nonachlor	75.8		P	37 - 102
Cypermethrin	84.7		P	20 - 133

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P439306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dacthal	110		P	69 - 114
DDD-p,p'	76.0		P	42 - 105
DDE-p,p'	75.5		P	42 - 106
DDT-p,p'	68.3		P	42 - 107
Delta-BHC	68.6		P	67 - 144
Deltamethrin	140		P	15 - 149
Dichlobenil	90.5		P	46 - 117
Dicofol	74.3		P	34 - 114
Dieldrin	79.1		P	50 - 108
Endosulfan I	56.8		P	55 - 104
Endosulfan II	73.8		P	51 - 111
Endosulfan Sulfate	116		P	56 - 121
Endrin	67.8		P	10 - 106
Endrin Aldehyde	101		P	34 - 114
Endrin Ketone	94.7		P	63 - 177
Esfenvalerate	122		P	29 - 143
Ethalfuralin	87.9		P	46 - 96.0
Fenpropathrin	62.3		P	28 - 115
Gamma-BHC	115		P	65 - 121
Gamma-Chlordane	86.4		P	39 - 103
Heptachlor	56.2		P	39 - 94.0
Heptachlor Epoxide	92.5		P	54 - 104
Hexachlorobenzene	49.2		P	36 - 100
Kepone	157		P	10 - 225
Lambda-Cyhalothrin	68.6		P	10 - 135
Methoprene	62.0		P	10 - 109
Methoxychlor	83.7		P	52 - 112
MGK-264	119		F	44 - 117
Mirex	60.1		P	20 - 90.0
Oxychlordane	70.7		P	44 - 102
PCB-1016	76.9		P	45 - 107
PCB-1260	68.6		P	40 - 112
Permethrin	99.4		P	18 - 135
Phenothrin	81.5		P	10 - 102
Piperonyl Butoxide	96.2		P	28 - 156
Prallethrin	85.4		P	28 - 113
Tau-Fluvalinate	79.0		P	10 - 123
Tetramethrin	121		P	18 - 158
Trans-Nonachlor	51.8		P	39 - 104
Triclosan Methyl	48.0		F	54 - 108
Trifluralin	78.1		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P439306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	99.0		P	52 - 117
Toxaphene	95.9		P	44 - 125

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P439371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.8		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P439432

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Reference Method: SM 2540 C-2015
Batch ID: P439433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.4		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P439347

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

Reference Method: SM 2540 D-2015
Batch ID: P439348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	90.4		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P439373

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

Reference Method: SM 5310 B-2014
Batch ID: P439430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456988	Calcium	103		P	80 - 120
2456988	Iron	109	105	P/P	80 - 120
2456988	Magnesium	109	104	P/P	80 - 120
2456988	Potassium	104	100	P/P	80 - 120
2456988	Sodium	98.2		P	80 - 120
2456988	Strontium	97.8	97.9	P/P	80 - 120
2456988	Tin	99.9	99.4	P/P	80 - 120
2456988	Titanium	103	102	P/P	80 - 120
2456988	Vanadium	103	102	P/P	80 - 120
2456988	Zinc	99.4	98.9	P/P	80 - 120
2457243	Calcium	110		P	80 - 120
2457243	Iron	109		P	80 - 120
2457243	Magnesium	112		P	80 - 120
2457243	Potassium	101		P	80 - 120
2457243	Sodium	100		P	80 - 120
2457243	Strontium	99.1		P	80 - 120
2457243	Tin	101		P	80 - 120
2457243	Titanium	104		P	80 - 120
2457243	Vanadium	103		P	80 - 120
2457243	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456988	Aluminum	102	102	P/P	80 - 120
2456988	Antimony	106	106	P/P	80 - 120
2456988	Arsenic	104	105	P/P	80 - 120
2456988	Barium	104	105	P/P	80 - 120
2456988	Beryllium	98.5	98.8	P/P	80 - 120
2456988	Boron	105	106	P/P	80 - 120
2456988	Cadmium	107	104	P/P	80 - 120
2456988	Chromium	104	104	P/P	80 - 120
2456988	Cobalt	101	100	P/P	80 - 120
2456988	Copper	99.7	99.5	P/P	80 - 120
2456988	Lead	100	99.6	P/P	80 - 120
2456988	Manganese	101	101	P/P	80 - 120
2456988	Molybdenum	105	104	P/P	80 - 120
2456988	Nickel	101	101	P/P	80 - 120
2456988	Selenium	89.3	87.9	P/P	80 - 120
2456988	Silver	104	104	P/P	80 - 120
2456988	Thallium	106	106	P/P	80 - 120
2457243	Aluminum	102		P	80 - 120
2457243	Antimony	104		P	80 - 120
2457243	Arsenic	101		P	80 - 120
2457243	Barium	104		P	80 - 120
2457243	Beryllium	95.1		P	80 - 120
2457243	Boron	107		P	80 - 120
2457243	Cadmium	101		P	80 - 120
2457243	Chromium	106		P	80 - 120
2457243	Cobalt	99.9		P	80 - 120
2457243	Copper	99.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457243	Lead	98.8		P	80 - 120
2457243	Manganese	102		P	80 - 120
2457243	Molybdenum	101		P	80 - 120
2457243	Nickel	99.7		P	80 - 120
2457243	Selenium	101		P	80 - 120
2457243	Silver	103		P	80 - 120
2457243	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457349	Chloride	100		P	90 - 110
2457703	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457811	Sulfate	101		P	90 - 110
2457813	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457364	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457350	Kjeldahl Nitrogen	99.6	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456055	NO2NO3-N	96.4	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457352	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457323	Total-P	107	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P439306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456889	PCB-1016	64.8	61.1	P/P	45 - 107
2456889	PCB-1260	80.8	70.5	P/P	40 - 112
2457418	Aldrin	69.7	68.6	P/P	24 - 81.0
2457418	Alpha-BHC	74.4	72.2	P/P	65 - 110
2457418	Alpha-Chlordane	72.0	72.4	P/P	43 - 119
2457418	Beta-BHC	73.9	81.1	P/P	54 - 165
2457418	Beta-Cyfluthrin	122	129	P/P	27 - 165
2457418	Bifenthrin	87.3	89.6	P/P	17 - 117
2457418	Carbophenothion	68.0	80.7	P/P	21 - 108
2457418	Chlorothalonil	103	103	P/P	10 - 255
2457418	Cis-Nonachlor	82.7	78.8	P/P	34 - 98.0
2457418	Cypermethrin	101	81.6	P/P	25 - 143
2457418	Dacthal	100	70.7	P/P	55 - 139
2457418	DDD-p,p'	83.9	75.0	P/P	30 - 109
2457418	DDE-p,p'	85.0	73.2	P/P	35 - 106
2457418	DDT-p,p'	74.4	77.5	P/P	41 - 101
2457418	Delta-BHC	75.8	78.7	P/P	58 - 165
2457418	Deltamethrin	178	140	P/P	10 - 194
2457418	Dichlobenil	53.1	41.0	P/P	22 - 114
2457418	Dicofol	81.7	88.4	P/P	17 - 133
2457418	Dieldrin	90.4	78.4	P/P	45 - 129
2457418	Endosulfan I	71.5	83.2	P/P	49 - 104
2457418	Endosulfan II	71.3	77.3	P/P	37 - 117
2457418	Endosulfan Sulfate	67.5	67.0	P/P	38 - 128
2457418	Endrin	81.0	77.7	P/P	35 - 116
2457418	Endrin Aldehyde	54.6	55.4	P/P	19 - 108
2457418	Endrin Ketone	82.6	95.9	P/P	44 - 134
2457418	Esfenvalerate	137	135	P/P	27 - 176
2457418	Ethalfuralin	105	110	F/F	49 - 100
2457418	Fenpropathrin	67.9	91.6	P/P	34 - 117
2457418	Gamma-BHC	93.2	85.0	P/P	59 - 129
2457418	Gamma-Chlordane	82.9	105	P/P	33 - 107
2457418	Heptachlor	63.6	91.5	P/P	37 - 94.0
2457418	Heptachlor Epoxide	106	123	P/F	38 - 118
2457418	Hexachlorobenzene	55.5	57.2	P/P	35 - 97.0
2457418	Kepone	99.4	102	P/P	10 - 221
2457418	Lambda-Cyhalothrin	101	103	P/P	23 - 190
2457418	Methoprene	81.7	116	P/F	21 - 109
2457418	Methoxychlor	72.7	91.8	P/P	46 - 118
2457418	MGK-264	89.3	81.2	P/P	39 - 122
2457418	Mirex	80.5	84.8	P/P	25 - 90.0
2457418	Oxychlordane	76.7	102	P/F	42 - 100
2457418	Permethrin	126	121	P/P	33 - 181
2457418	Phenothrin	110	95.1	P/P	12 - 125
2457418	Piperonyl Butoxide	81.6	97.7	P/P	10 - 178
2457418	Prallethrin	77.4	47.3	P/P	24 - 122
2457418	Tau-Fluvalinate	119	99.0	P/P	13 - 151
2457418	Tetramethrin	103	111	P/P	16 - 172
2457418	Trans-Nonachlor	74.6	86.9	P/P	39 - 100
2457418	Triclosan Methyl	65.7	85.3	P/P	43 - 110
2457418	Trifluralin	74.3	71.6	P/P	45 - 94.0

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P439306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456889	Chlordane	91.2	113	P/P	43 - 123
2456889	Toxaphene	89.4	112	P/P	27 - 156

Reference Method: SM 4500-F- C-2011
Batch ID: P439373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457910	Fluoride	101	101	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P439430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457268	Organic Carbon	103	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457226	Color (true)	1.21	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P439042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457315	Color (true)	1.09	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457260	Turbidity	4.29	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456988	Calcium	1.03	Spike	P	0 - 20
2456988	Iron	2.97	Spike	P	0 - 20
2456988	Magnesium	2.64	Spike	P	0 - 20
2456988	Potassium	3.28	Spike	P	0 - 20
2456988	Sodium	0.517	Spike	P	0 - 20
2456988	Strontium	0.151	Spike	P	0 - 20
2456988	Tin	0.523	Spike	P	0 - 20
2456988	Titanium	0.650	Spike	P	0 - 20
2456988	Vanadium	0.876	Spike	P	0 - 20
2456988	Zinc	0.453	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456988	Aluminum	0.0377	Spike	P	0 - 20
2456988	Antimony	0.0544	Spike	P	0 - 20
2456988	Arsenic	1.42	Spike	P	0 - 20
2456988	Barium	0.537	Spike	P	0 - 20
2456988	Beryllium	0.269	Spike	P	0 - 20
2456988	Boron	0.752	Spike	P	0 - 20
2456988	Cadmium	2.79	Spike	P	0 - 20
2456988	Chromium	0.239	Spike	P	0 - 20
2456988	Cobalt	0.819	Spike	P	0 - 20
2456988	Copper	0.123	Spike	P	0 - 20
2456988	Lead	0.718	Spike	P	0 - 20
2456988	Manganese	0.262	Spike	P	0 - 20
2456988	Molybdenum	0.217	Spike	P	0 - 20
2456988	Nickel	0.549	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P439098

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456988	Selenium	1.58	Spike	P	0 - 20
2456988	Silver	0.480	Spike	P	0 - 20
2456988	Thallium	0.0550	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P439206

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457349	Chloride	0.696	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P439410

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457811	Sulfate	0.166	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P439343

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457364	Ammonia-N	0.897	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P439241

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457350	Kjeldahl Nitrogen	0.102	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P439164

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456055	NO2NO3-N	0.722	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P439300

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457352	NO2NO3-N	2.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P439254

Replicated

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P439254

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457323	Total-P	0.0211	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P439306

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456889	PCB-1016	5.95	Spike	P	0 - 25
2456889	PCB-1260	13.7	Spike	P	0 - 30
2457418	Aldrin	1.60	Spike	P	0 - 41
2457418	Alpha-BHC	3.09	Spike	P	0 - 25
2457418	Alpha-Chlordane	0.530	Spike	P	0 - 32
2457418	Beta-BHC	9.33	Spike	P	0 - 33
2457418	Beta-Cyfluthrin	6.33	Spike	P	0 - 43
2457418	Bifenthrin	2.49	Spike	P	0 - 52
2457418	Carbophenothion	17.1	Spike	P	0 - 49
2457418	Chlorothalonil	0.0174	Spike	P	0 - 82
2457418	Cis-Nonachlor	4.84	Spike	P	0 - 33
2457418	Cypermethrin	21.6	Spike	P	0 - 51
2457418	Dacthal	34.6	Spike	F	0 - 27
2457418	DDD-p,p'	11.3	Spike	P	0 - 39
2457418	DDE-p,p'	14.9	Spike	P	0 - 31
2457418	DDT-p,p'	4.12	Spike	P	0 - 29
2457418	Delta-BHC	3.64	Spike	P	0 - 35
2457418	Deltamethrin	23.8	Spike	P	0 - 100
2457418	Dichlobenil	25.8	Spike	P	0 - 40
2457418	Dicofol	7.87	Spike	P	0 - 37
2457418	Dieldrin	14.1	Spike	P	0 - 27
2457418	Endosulfan I	15.2	Spike	P	0 - 23
2457418	Endosulfan II	8.09	Spike	P	0 - 34
2457418	Endosulfan Sulfate	0.690	Spike	P	0 - 36
2457418	Endrin	4.15	Spike	P	0 - 45
2457418	Endrin Aldehyde	1.48	Spike	P	0 - 76
2457418	Endrin Ketone	15.0	Spike	P	0 - 43
2457418	Esfenvalerate	1.73	Spike	P	0 - 51
2457418	Ethalfuralin	4.40	Spike	P	0 - 22
2457418	Fenpropathrin	29.6	Spike	P	0 - 49
2457418	Gamma-BHC	9.20	Spike	P	0 - 28
2457418	Gamma-Chlordane	23.1	Spike	P	0 - 40
2457418	Heptachlor	35.9	Spike	F	0 - 29
2457418	Heptachlor Epoxide	14.1	Spike	P	0 - 33
2457418	Hexachlorobenzene	2.95	Spike	P	0 - 36
2457418	Kepone	2.52	Spike	P	0 - 85
2457418	Lambda-Cyhalothrin	2.07	Spike	P	0 - 55
2457418	Methoprene	34.2	Spike	P	0 - 53
2457418	Methoxychlor	23.2	Spike	P	0 - 50
2457418	MGK-264	9.51	Spike	P	0 - 43
2457418	Mirex	5.29	Spike	P	0 - 40
2457418	Oxychlordane	28.4	Spike	P	0 - 31
2457418	Permethrin	4.15	Spike	P	0 - 50
2457418	Phenothrin	14.4	Spike	P	0 - 58

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P439306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457418	Piperonyl Butoxide	17.9	Spike	P	0 - 100
2457418	Prallethrin	48.2	Spike	F	0 - 39
2457418	Tau-Fluvalinate	18.2	Spike	P	0 - 54
2457418	Tetramethrin	7.50	Spike	P	0 - 51
2457418	Trans-Nonachlor	15.2	Spike	P	0 - 39
2457418	Triclosan Methyl	25.9	Spike	P	0 - 31
2457418	Trifluralin	3.73	Spike	P	0 - 22

Reference Method: EPA 8276
Batch ID: P439306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456889	Chlordane	21.7	Spike	P	0 - 28
2456889	Toxaphene	22.7	Spike	P	0 - 27

Reference Method: SM 2320 B-2011
Batch ID: P439371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457910	Total Alkalinity	3.48	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P439432

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456919	TDS	0.766	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P439433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457313	TDS	2.43	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P439373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457910	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P439430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457268	Organic Carbon	0.143	Spike	P	0 - 15

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2457418

Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	96.7	P	37 - 129
EPA 8270E	Decachlorobiphenyl	85.7	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	56.1	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	56.5	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	125	F	28 - 102
EPA 8276	PCNB	112	P	49 - 115

Lab Sample ID: 2457419

Field Sample ID: G4NW0019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	78.8	P	37 - 129
EPA 8270E	Decachlorobiphenyl	106	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	48.6	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	81.7	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	110	F	28 - 102
EPA 8276	PCNB	117	F	49 - 115

Lab Sample ID: 2457433

Field Sample ID: G4NW0020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	71.3	P	37 - 129
EPA 8270E	Decachlorobiphenyl	79.0	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	49.9	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	67.2	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	98.4	P	28 - 102
EPA 8276	PCNB	111	P	49 - 115

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A123259

Included Lab Sample IDs: 2457349, 2457351, 2457353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	100	P/P	90 - 110
Color (true)	99.8	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A123267

Included Lab Sample IDs: 2457349, 2457351, 2457353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123302

Included Lab Sample IDs: 2457350

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123321

Included Lab Sample IDs: 2457349, 2457351

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123332

Included Lab Sample IDs: 2457420, 2457421, 2457422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	95 - 105
Calcium	104	104	P/P	90 - 110
Iron	101	101	P/P	95 - 105
Iron	105	105	P/P	90 - 110
Magnesium	101	100	P/P	95 - 105
Magnesium	104	105	P/P	90 - 110
Potassium	101	99.8	P/P	90 - 110
Potassium	98.7	98.5	P/P	95 - 105
Sodium	98.4	97.1	P/P	95 - 105
Sodium	99.5	98.2	P/P	90 - 110
Strontium	101	100	P/P	95 - 105
Strontium	98.2	96.1	P/P	90 - 110
Tin	102	99.6	P/P	90 - 110
Tin	99.1	99.1	P/P	95 - 105
Titanium	101	101	P/P	95 - 105
Titanium	102	100	P/P	90 - 110
Vanadium	100	100	P/P	95 - 105
Vanadium	102	99.8	P/P	90 - 110
Zinc	101	100	P/P	95 - 105
Zinc	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123335

Included Lab Sample IDs: 2457420, 2457421, 2457422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.1	98.5	P/P	90 - 110
Aluminum	99.9	102	P/P	90 - 110
Antimony	101	102	P/P	90 - 110
Antimony	99.8	101	P/P	90 - 110
Arsenic	98.6	99.5	P/P	90 - 110
Arsenic	99.0	99.1	P/P	90 - 110
Barium	99.3	100	P/P	90 - 110
Barium	99.4	100	P/P	90 - 110
Beryllium	98.9	98.7	P/P	90 - 110
Beryllium	98.9	99.7	P/P	90 - 110
Boron	96.8	99.5	P/P	90 - 110
Boron	99.4	102	P/P	90 - 110
Cadmium	97.5	98.8	P/P	90 - 110
Cadmium	99.4	99.7	P/P	90 - 110
Chromium	100	100	P/P	90 - 110
Chromium	97.5	98.1	P/P	90 - 110
Cobalt	96.1	95.9	P/P	90 - 110
Cobalt	97.5	97.7	P/P	90 - 110
Copper	97.1	97.9	P/P	90 - 110
Copper	97.3	97.0	P/P	90 - 110
Lead	95.5	96.7	P/P	90 - 110
Lead	96.4	97.4	P/P	90 - 110
Manganese	96.4	97.4	P/P	90 - 110
Manganese	99.8	100	P/P	90 - 110
Molybdenum	98.3	100	P/P	90 - 110
Nickel	96.9	96.8	P/P	90 - 110
Nickel	97.3	97.8	P/P	90 - 110
Selenium	101	98.0	P/P	90 - 110
Selenium	98.3	99.1	P/P	90 - 110
Silver	101	101	P/P	90 - 110
Silver	102	103	P/P	90 - 110
Thallium	100	102	P/P	90 - 110
Thallium	102	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123338

Included Lab Sample IDs: 2457349, 2457351, 2457353

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123355

Included Lab Sample IDs: 2457352, 2457354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123358

Included Lab Sample IDs: 2457350, 2457352

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123364

Included Lab Sample IDs: 2457420, 2457421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molybdenum	99.1	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123369

Included Lab Sample IDs: 2457354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123372

Included Lab Sample IDs: 2457350, 2457352, 2457354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.7	99.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A123386

Included Lab Sample IDs: 2457349, 2457351, 2457353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.2	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A123386

Included Lab Sample IDs: 2457349, 2457351, 2457353

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

Reference Method: SM 5310 B-2014

Run ID: A123406

Included Lab Sample IDs: 2457350, 2457352, 2457354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	125	99.4	P/P	70 - 130

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123416

Included Lab Sample IDs: 2457350, 2457352, 2457354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.5	99.1	P/P	90 - 110
Kjeldahl Nitrogen	99.1	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A123442

Included Lab Sample IDs: 2457418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.7		P	80 - 120
Toxaphene	94.7		P	80 - 120

Reference Method: EPA 8276

Run ID: A123443

Included Lab Sample IDs: 2457419, 2457433

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

Reference Method: EPA 8270E

Run ID: A123446

Included Lab Sample IDs: 2457418, 2457419, 2457433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	105		P	80 - 120
Alpha-BHC	115		P	80 - 120
Alpha-Chlordane	106		P	80 - 120
Beta-BHC	106		P	80 - 120
Beta-Cyfluthrin	103		P	80 - 120
Bifenthrin	111		P	80 - 120
Carbophenothion	98.1		P	80 - 120
Chlorothalonil	98.8		P	80 - 120
Cis-Nonachlor	106		P	80 - 120
Cypermethrin	101		P	80 - 120
Dacthal	113		P	80 - 120
DDD-p,p'	116		P	80 - 120
DDE-p,p'	104		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	97.2		P	80 - 120
Deltamethrin	102		P	80 - 120
Dichlobenil	96.9		P	80 - 120
Dicofol	96.3		P	80 - 120
Dieldrin	96.2		P	80 - 120
Endosulfan I	98.1		P	80 - 120
Endosulfan II	96.0		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	101		P	80 - 120
Endrin Aldehyde	102		P	80 - 120
Endrin Ketone	98.8		P	80 - 120
Esfenvalerate	103		P	80 - 120
Ethalfuralin	101		P	80 - 120
Fenpropathrin	100		P	80 - 120
Gamma-BHC	100		P	80 - 120
Gamma-Chlordane	89.1		P	80 - 120
Heptachlor	91.2		P	80 - 120
Heptachlor Epoxide	87.2		P	80 - 120
Hexachlorobenzene	96.4		P	80 - 120
Kepone	95.5		P	80 - 120
Lambda-Cyhalothrin	98.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A123446

Included Lab Sample IDs: 2457418, 2457419, 2457433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Methoprene	98.7		P	80 - 120
Methoxychlor	98.5		P	80 - 120
MGK-264	115		P	80 - 120
Mirex	105		P	80 - 120
Oxychlordane	106		P	80 - 120
Permethrin	101		P	80 - 120
Phenothrin	100		P	80 - 120
Piperonyl Butoxide	95.5		P	80 - 120
Prallethrin	102		P	80 - 120
Tau-Fluvalinate	105		P	80 - 120
Tetramethrin	98.5		P	80 - 120
Trans-Nonachlor	104		P	80 - 120
Triclosan Methyl	96.3		P	80 - 120
Trifluralin	99.5		P	80 - 120

Reference Method: EPA 8270E

Run ID: A123481

Included Lab Sample IDs: 2457418, 2457419, 2457433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	92.8		P	80 - 120
PCB-1260	83.2		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)	99.1				1.21	
	Color (true)	101				1.09	
EPA 180.1 Rev. 2.0	Turbidity	103				4.29	
EPA 200.7 Rev. 4.4	Calcium	104	103	110			1.03
	Iron	103	109	105	109		2.97
	Magnesium	105	109	104	112		2.64
	Potassium	98.4	104	100	101		3.28
	Sodium	99.3	98.2	100			0.517
	Strontium	96.5	97.8	97.9	99.1		0.151
	Tin	96.4	99.9	99.4	101		0.523
	Titanium	98.6	103	102	104		0.650
	Vanadium	98.5	103	102	103		0.876
	Zinc	95.5	99.4	98.9	101		0.453
EPA 200.8 Rev. 5.4	Aluminum	103	102	102	102		0.0377
	Antimony	103	106	106	104		0.0544
	Arsenic	103	104	105	101		1.42
	Barium	103	104	105	104		0.537
	Beryllium	97.2	98.5	98.8	95.1		0.269
	Boron	105	105	106	107		0.752
	Cadmium	102	107	104	101		2.79
	Chromium	106	104	104	106		0.239
	Cobalt	102	101	100	99.9		0.819
	Copper	101	99.7	99.5	99.2		0.123
	Lead	97.9	100	99.6	98.8		0.718
	Manganese	104	101	101	102		0.262
	Molybdenum	100	105	104	101		0.217
	Nickel	102	101	101	99.7		0.549
	Selenium	101	89.3	87.9	101		1.58
	Silver	103	104	104	103		0.480
	Thallium	102	106	106	104		0.0550
EPA 300.0 Rev. 2.1	Chloride	107	100	104		0.696	
	Sulfate	105	101	101		0.166	
EPA 350.1 Rev. 2.0	Ammonia-N	91.8	102	104			0.897
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	99.6	99.4			0.102
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	96.4	97.4			0.722
	NO2NO3-N	99.0	98.2				2.53
EPA 365.1 Rev. 2.0	Total-P	107	107	107			0.0211
EPA 8270E	Aldrin	47.6	69.7	68.6			1.60
	Alpha-BHC	103	74.4	72.2			3.09
	Alpha-Chlordane	53.0	72.0	72.4			0.530
	Beta-BHC	112	73.9	81.1			9.33
	Beta-Cyfluthrin	108	122	129			6.33
	Bifenthrin	55.6	87.3	89.6			2.49
	Carbophenothion	66.7	68.0	80.7			17.1
	Chlorothalonil	72.6	103	103			0.0174
	Cis-Nonachlor	75.8	82.7	78.8			4.84
	Cypermethrin	84.7	101	81.6			21.6
	Dacthal	110	100	70.7			34.6
	DDD-p,p'	76.0	83.9	75.0			11.3
	DDE-p,p'	75.5	85.0	73.2			14.9
	DDT-p,p'	68.3	74.4	77.5			4.12
	Delta-BHC	68.6	75.8	78.7			3.64
	Deltamethrin	140	178	140			23.8
	Dichlobenil	90.5	53.1	41.0			25.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Dicofol	74.3	81.7	88.4			7.87
	Dieldrin	79.1	90.4	78.4			14.1
	Endosulfan I	56.8	71.5	83.2			15.2
	Endosulfan II	73.8	71.3	77.3			8.09
	Endosulfan Sulfate	116	67.5	67.0			0.690
	Endrin	67.8	81.0	77.7			4.15
	Endrin Aldehyde	101	54.6	55.4			1.48
	Endrin Ketone	94.7	82.6	95.9			15.0
	Esfenvalerate	122	137	135			1.73
	Ethalfuralin	87.9	105	110			4.40
	Fenpropathrin	62.3	67.9	91.6			29.6
	Gamma-BHC	115	93.2	85.0			9.20
	Gamma-Chlordane	86.4	82.9	105			23.1
	Heptachlor	56.2	63.6	91.5			35.9
	Heptachlor Epoxide	92.5	106	123			14.1
	Hexachlorobenzene	49.2	55.5	57.2			2.95
	Kepone	157	99.4	102			2.52
	Lambda-Cyhalothrin	68.6	101	103			2.07
	Methoprene	62.0	81.7	116			34.2
	Methoxychlor	83.7	72.7	91.8			23.2
	MGK-264	119	89.3	81.2			9.51
	Mirex	60.1	80.5	84.8			5.29
	Oxychlordane	70.7	76.7	102			28.4
	PCB-1016	76.9	61.1	64.8			5.95
	PCB-1260	68.6	70.5	80.8			13.7
	Permethrin	99.4	126	121			4.15
	Phenothrin	81.5	110	95.1			14.4
	Piperonyl Butoxide	96.2	81.6	97.7			17.9
	Prallethrin	85.4	77.4	47.3			48.2
	Tau-Fluvalinate	79.0	119	99.0			18.2
	Tetramethrin	121	103	111			7.50
	Trans-Nonachlor	51.8	74.6	86.9			15.2
	Triclosan Methyl	48.0	65.7	85.3			25.9
	Trifluralin	78.1	74.3	71.6			3.73
EPA 8276	Chlordane	99.0	91.2	113			21.7
	Toxaphene	95.9	89.4	112			22.7
SM 2320 B-2011	Total Alkalinity	96.8				3.48	
SM 2540 C-2015	TDS	96.4				0.766	
	TDS	94.4				2.43	
SM 2540 D-2015	TSS	95.2					
	TSS	90.4					
SM 4500-F- C-2011	Fluoride	101	101	101			0.0
SM 5310 B-2014	Organic Carbon	105	103	103			0.143

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2457349, 2457351, 2457353
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2457349, 2457351, 2457353
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2457420, 2457421, 2457422
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2457420, 2457421, 2457422

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2457349, 2457351
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2457349, 2457351, 2457353
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2457350, 2457352, 2457354
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2457350, 2457352, 2457354
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2457350, 2457352, 2457354
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2457350, 2457352, 2457354
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2457418, 2457419, 2457433
EPA 8270E	PCBs in water matrices by GC/MS/MS	2457418, 2457419, 2457433
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2457418, 2457419, 2457433
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2457349, 2457351, 2457353
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2457420, 2457421
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2457349, 2457351, 2457353
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2457349, 2457351, 2457353
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2457349, 2457351, 2457353
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2457350, 2457352, 2457354

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	12/15/2023			12/15/2023 10:44	Anna M. Plaviak	2457351
	12/15/2023			12/15/2023 10:45	Anna M. Plaviak	2457349
	12/15/2023			12/15/2023 11:25	Anna M. Plaviak	2457353
EPA 180.1 Rev. 2.0	12/15/2023			12/15/2023 10:53	Khloe J Berg	2457351
	12/15/2023			12/15/2023 10:54	Khloe J Berg	2457349
	12/15/2023			12/15/2023 11:35	Khloe J Berg	2457353
EPA 200.7 Rev. 4.4	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 10:56	Samatha Luckman	2457422
	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 15:21	Samatha Luckman	2457420
	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 15:28	Samatha Luckman	2457421
EPA 200.8 Rev. 5.4	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 15:37	Samatha Luckman	2457421
	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 15:16	Emily M Philpot	2457422
	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 19:24	Emily M Philpot	2457420
EPA 300.0 Rev. 2.1	12/15/2023	12/18/2023 11:15	George D Taylor	12/19/2023 19:33	Emily M Philpot	2457421
	12/15/2023	12/18/2023 11:15	George D Taylor	12/20/2023 14:43	Emily M Philpot	2457420
	12/15/2023	12/18/2023 11:15	George D Taylor	12/20/2023 14:53	Emily M Philpot	2457421
EPA 350.1 Rev. 2.0	12/15/2023			12/19/2023 08:10	James L Waggeberby	2457349
	12/15/2023			12/19/2023 10:41	James L Waggeberby	2457351
	12/15/2023			12/22/2023 04:57	James L Waggeberby	2457349
EPA 351.2 Rev. 2.0	12/15/2023			12/22/2023 05:12	James L Waggeberby	2457351
	12/15/2023			12/22/2023 05:27	James L Waggeberby	2457353
	12/15/2023			12/20/2023 14:13	Khloe J Berg	2457350
EPA 353.2 Rev. 2.0	12/15/2023			12/20/2023 14:14	Khloe J Berg	2457352
	12/15/2023			12/20/2023 14:15	Khloe J Berg	2457354
	12/15/2023	12/20/2023 13:42	Simonne.V. Calhoun	12/22/2023 15:50	Samantha L Bates	2457350
EPA 365.1 Rev. 2.0	12/15/2023	12/20/2023 13:42	Simonne.V. Calhoun	12/22/2023 15:55	Samantha L Bates	2457352
	12/15/2023	12/20/2023 13:42	Simonne.V. Calhoun	12/22/2023 16:00	Samantha L Bates	2457354
	12/15/2023			12/18/2023 12:37	Anna M. Plaviak	2457350
EPA 8270E	12/15/2023			12/20/2023 12:52	Fadila Guebre	2457352
	12/15/2023			12/20/2023 12:59	Fadila Guebre	2457354
	12/15/2023	12/20/2023 12:07	Adam P Silver	12/20/2023 16:59	James L Waggeberby	2457350
EPA 8276	12/15/2023	12/20/2023 12:07	Adam P Silver	12/20/2023 17:00	James L Waggeberby	2457352
	12/15/2023	12/20/2023 12:07	Adam P Silver	12/21/2023 10:06	Chandler E Cox	2457354
	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	01/03/2024 16:34	Lipi Saha	2457418
EPA 8276	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	01/03/2024 17:04	Lipi Saha	2457419
	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	01/03/2024 17:34	Lipi Saha	2457433
	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	12/28/2023 03:17	Julie Wi	2457418
EPA 8276	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	12/28/2023 07:11	Julie Wi	2457419
	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	12/28/2023 07:40	Julie Wi	2457433
	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	12/23/2023 11:46	Kenedi Mills	2457418
	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	12/28/2023 02:55	Kenedi Mills	2457419

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8276	12/15/2023	12/20/2023 08:00	Fe-Val Siddell	12/28/2023 03:53	Kenedi Mills	2457433
SM 2320 B-2011	12/15/2023			12/20/2023 23:18	Dale L. Simmons	2457349
	12/15/2023			12/20/2023 23:29	Dale L. Simmons	2457351
	12/15/2023			12/20/2023 23:39	Dale L. Simmons	2457353
SM 2340 B-2011	12/15/2023	12/15/2023		12/19/2023 15:21	Samatha Luckman	2457420
	12/15/2023			12/19/2023 15:28	Samatha Luckman	2457421
SM 2540 C-2015	12/15/2023			12/19/2023 15:26	Yijie Li	2457349, 2457351, 2457353
SM 2540 D-2015	12/15/2023			12/19/2023 15:26	Yijie Li	2457349, 2457351, 2457353
SM 4500-F- C-2011	12/15/2023	12/15/2023		12/20/2023 23:18	Dale L. Simmons	2457349
	12/15/2023			12/20/2023 23:29	Dale L. Simmons	2457351
	12/15/2023			12/20/2023 23:39	Dale L. Simmons	2457353
	12/15/2023			12/22/2023 11:04	Kenneth H Lee	2457350
SM 5310 B-2014	12/15/2023	12/15/2023		12/22/2023 11:18	Kenneth H Lee	2457352
	12/15/2023			12/22/2023 11:31	Kenneth H Lee	2457354