

Chemical Analysis Report

NW-DIST-2023-02-08-02

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

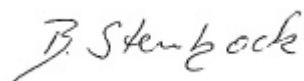
Event Description: **Navarre Run**
Request ID: **RQ-2023-02-06-36**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 03-MAR-2023 15:00



NON-CONFORMANCE REPORT INCLUDED

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: East Bay Riv Hwy 87 Brid

Collection Date/Time: 02/07/2023 10:50

Field ID: G4NW0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386004	EPA 200.7 Rev. 4.4	Calcium	19.0		mg/L	P425591	
		Chromium	1.0	U	ug/L	P425591	
		Iron	120	I	ug/L	P425591	
		Magnesium	58.5		mg/L	P425591	
		Potassium	17.8		mg/L	P425591	
		Sodium	503		mg/L	P425591	
		Strontium	355		ug/L	P425591	
		Tin	3.0	U	ug/L	P425591	
		Titanium	1.1	I	ug/L	P425591	
		Vanadium	2.0	U	ug/L	P425591	
		Zinc	5.0	U	ug/L	P425591	
	EPA 200.8 Rev. 5.4	Aluminum	81		ug/L	P425591	
		Antimony	0.050	U	ug/L	P425591	
		Arsenic	0.24		ug/L	P425591	
		Barium	5.91		ug/L	P425591	
		Beryllium	0.010	I	ug/L	P425591	
		Boron	202		ug/L	P425591	
		Cadmium	0.020	U	ug/L	P425591	
		Cobalt	0.070	I	ug/L	P425591	
		Copper	0.40	U	ug/L	P425591	
		Lead	0.20	U	ug/L	P425591	
		Manganese	4.27		ug/L	P425591	
		Molybdenum	0.60		ug/L	P425591	
		Nickel	0.50	U	ug/L	P425591	
		Selenium	0.20	U	ug/L	P425591	
		Silver	0.010	U	ug/L	P425591	
		Thallium	0.10	U	ug/L	P425591	
	SM 2340 B-2011	Hardness	289		mg/L	P425591	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Tom King Creek South of Barefoot Creek Cir

Collection Date/Time: 02/07/2023 11:35

Field ID: G4NW0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2385999	EPA 8270E	Aldrin	0.68	U	ng/L	P425547	LCS, MS
		Alpha-BHC	0.11	UJ	ng/L	P425547	
		Alpha-Chlordane	0.21	U	ng/L	P425547	
		PCB-1016	2.1	U	ng/L	P425547	
		Beta-BHC	0.11	U	ng/L	P425547	
		PCB-1221	2.1	U	ng/L	P425547	
		Beta-Cyfluthrin	1.3	U	ng/L	P425547	
		PCB-1232	2.1	U	ng/L	P425547	
		Bifenthrin	0.53	U	ng/L	P425547	
		PCB-1242	2.1	U	ng/L	P425547	
		PCB-1248	2.1	U	ng/L	P425547	
		Chlorothalonil	3.8	U	ng/L	P425547	
		PCB-1254	2.1	U	ng/L	P425547	
		Cis-Nonachlor	0.21	U	ng/L	P425547	
		PCB-1260	2.1	U	ng/L	P425547	MS
		Cypermethrin	1.6	U	ng/L	P425547	
		Dacthal	0.16	U	ng/L	P425547	
		DDD-p,p'	0.26	U	ng/L	P425547	
		DDE-p,p'	0.21	U	ng/L	P425547	
		DDT-p,p'	0.26	U	ng/L	P425547	
		Delta-BHC	0.42	U	ng/L	P425547	
		Deltamethrin	1.3	U	ng/L	P425547	
		Dichlobenil	0.26	U	ng/L	P425547	
		Dicofol	1.3	U	ng/L	P425547	
		Dieldrin	0.42	U	ng/L	P425547	MS
		Endosulfan I	0.42	U	ng/L	P425547	
		Endosulfan II	0.42	U	ng/L	P425547	
		Endosulfan Sulfate	0.32	U	ng/L	P425547	
		Endrin	0.42	U	ng/L	P425547	LCS
		Endrin Aldehyde	0.79	U	ng/L	P425547	
		Endrin Ketone	0.42	U	ng/L	P425547	
		Esfenvalerate	0.79	U	ng/L	P425547	
		Ethalfuralin	0.16	U	ng/L	P425547	
		Fenpropathrin	0.26	U	ng/L	P425547	
		Gamma-BHC	0.13	UJ	ng/L	P425547	
		Gamma-Chlordane	0.21	U	ng/L	P425547	
		Heptachlor	0.21	U	ng/L	P425547	
		Heptachlor Epoxide	0.26	U	ng/L	P425547	
		Hexachlorobenzene**	1.1	U	ng/L	P425547	
		Kepone	5.3	U	ng/L	P425547	
		Lambda-Cyhalothrin	0.79	U	ng/L	P425547	
		Methoprene	0.79	U	ng/L	P425547	
		Methoxychlor	0.32	U	ng/L	P425547	
		MGK-264	0.21	U	ng/L	P425547	

Field ID: G4NW0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2385999	EPA 8270E	Mirex	0.37	U	ng/L	P425547	
		Oxychlordane	0.32	U	ng/L	P425547	
		Permethrin	1.7	U	ng/L	P425547	
		Phenothrin	0.95	U	ng/L	P425547	
		Piperonyl Butoxide	0.16	U	ng/L	P425547	
		Prallethrin	2.1	U	ng/L	P425547	
		Tau-Fluvalinate	0.26	U	ng/L	P425547	
		Tetramethrin	0.79	U	ng/L	P425547	
		Trans-Nonachlor	0.21	U	ng/L	P425547	
		Triclosan Methyl	0.16	U	ng/L	P425547	
		Trifluralin	0.21	U	ng/L	P425547	
	EPA 8276	Chlordane	2.1	U	ng/L	P425547	
		Toxaphene	16	U	ng/L	P425547	

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

Sample Location: Tributary to Tom King Creek Downstream of Valley Rd.

Collection Date/Time: 02/07/2023 11:25

Field ID: G4NW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386000	EPA 8270E	Aldrin	0.69	U	ng/L	P425547	LCS, MS
		Alpha-BHC	0.11	UJ	ng/L	P425547	
		Alpha-Chlordane	0.21	U	ng/L	P425547	
		PCB-1016	2.1	U	ng/L	P425547	
		Beta-BHC	0.11	U	ng/L	P425547	
		PCB-1221	2.1	U	ng/L	P425547	
		Beta-Cyfluthrin	1.3	U	ng/L	P425547	
		PCB-1232	2.1	U	ng/L	P425547	
		Bifenthrin	0.53	U	ng/L	P425547	
		PCB-1242	2.1	U	ng/L	P425547	
		PCB-1248	2.1	U	ng/L	P425547	
		Chlorothalonil	3.8	U	ng/L	P425547	
		PCB-1254	2.1	U	ng/L	P425547	
		Cis-Nonachlor	0.21	U	ng/L	P425547	
		PCB-1260	2.1	U	ng/L	P425547	
		Cypermethrin	1.6	U	ng/L	P425547	MS
		Dacthal	0.16	U	ng/L	P425547	
		DDD-p,p'	0.26	U	ng/L	P425547	
		DDE-p,p'	0.21	U	ng/L	P425547	
		DDT-p,p'	0.26	U	ng/L	P425547	
		Delta-BHC	0.42	U	ng/L	P425547	
		Deltamethrin	1.3	U	ng/L	P425547	
		Dichlobenil	0.26	U	ng/L	P425547	
		Dicofol	1.3	U	ng/L	P425547	
		Dieldrin	0.42	U	ng/L	P425547	
		Endosulfan I	0.42	U	ng/L	P425547	MS
		Endosulfan II	0.42	U	ng/L	P425547	
		Endosulfan Sulfate	0.32	U	ng/L	P425547	
		Endrin	0.42	U	ng/L	P425547	LCS
		Endrin Aldehyde	0.79	U	ng/L	P425547	
		Endrin Ketone	0.42	U	ng/L	P425547	
		Esfenvalerate	0.79	U	ng/L	P425547	
		Ethalfuralin	0.16	U	ng/L	P425547	
		Fenpropathrin	0.26	U	ng/L	P425547	
		Gamma-BHC	0.13	UJ	ng/L	P425547	
		Gamma-Chlordane	0.21	U	ng/L	P425547	
		Heptachlor	0.21	U	ng/L	P425547	
		Heptachlor Epoxide	0.26	U	ng/L	P425547	
		Hexachlorobenzene**	1.1	U	ng/L	P425547	
		Kepone	5.3	U	ng/L	P425547	
		Lambda-Cyhalothrin	0.79	U	ng/L	P425547	
		Methoprene	0.79	U	ng/L	P425547	
		Methoxychlor	0.32	U	ng/L	P425547	

Field ID: G4NW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386000	EPA 8270E	MGK-264	0.21	U	ng/L	P425547	
		Mirex	0.37	U	ng/L	P425547	
		Oxychlordane	0.32	U	ng/L	P425547	
		Permethrin	1.7	U	ng/L	P425547	
		Phenothrin	0.95	U	ng/L	P425547	
		Piperonyl Butoxide	0.16	U	ng/L	P425547	
		Prallethrin	2.1	U	ng/L	P425547	
		Tau-Fluvalinate	0.26	U	ng/L	P425547	
		Tetramethrin	0.79	U	ng/L	P425547	
		Trans-Nonachlor	0.21	U	ng/L	P425547	
		Triclosan Methyl	0.16	U	ng/L	P425547	
		Trifluralin	0.21	U	ng/L	P425547	
	EPA 8276	Chlordane	2.1	U	ng/L	P425547	
		Toxaphene	16	U	ng/L	P425547	

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

Sample Location: Williams Creek Upstream of Hwy 98

Collection Date/Time: 02/07/2023 12:20

Field ID: G4NW0531

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2385986	DEP SOP: NU-094-1	Color (true)	38		PCU	P425783	
	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P425560	
	EPA 300.0 Rev. 2.1	Chloride	390		mg Cl/L	P426093	
		Sulfate	60		mg SO4/L	P426096	
	SM 2320 B-2011	Total Alkalinity	12		mg CaCO3/L	P425848	
	SM 2540 C-2015	TDS	704		mg/L	P426111	
	SM 2540 D-2015	TSS	2	I	mg/L	P426004	
2385987	SM 4500-F- C-2011	Fluoride	0.049	I	mg F/L	P425852	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.020	Y	mg N/L	P426102	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29	Y	mg N/L	P425807	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31	Y	mg N/L	P425774	
	EPA 365.1 Rev. 2.0	Total-P	0.14	Y	mg P/L	P425761	
	SM 5310 B-2011	Organic Carbon	6.0	Y	mg C/L	P425681	

Ref. Method and Comment:

DEP SOP: NU-094-1: Batch relative percent difference is unavailable because of analytical difficulties.

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 1586 umhos/cm.

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

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-2011: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

**Sample Location: Discharge from Tiger Point Golf Course at
Maplewood Drive**

Collection Date/Time: 02/07/2023 13:15

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2385984	DEP SOP: NU-094-1	Color (true)	87		PCU	P425783	
	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P425560	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P426093	
		Sulfate	7.8		mg SO4/L	P426096	
	SM 2320 B-2011	Total Alkalinity	32		mg CaCO3/L	P425849	
	SM 2540 C-2015	TDS	98		mg/L	P426111	
	SM 2540 D-2015	TSS	2	I	mg/L	P426004	
	SM 4500-F- C-2011	Fluoride	0.045	I	mg F/L	P425853	
2385985	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P426102	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P425807	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.079		mg N/L	P425774	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P425760	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P425681	
2385998	EPA 8270E	Aldrin	0.70	U	ng/L	P425547	
		Alpha-BHC	0.11	UJ	ng/L	P425547	LCS, MS
		Alpha-Chlordane	0.22	U	ng/L	P425547	
		PCB-1016	2.2	U	ng/L	P425547	
		Beta-BHC	0.11	U	ng/L	P425547	
		PCB-1221	2.2	U	ng/L	P425547	
		Beta-Cyfluthrin	1.3	U	ng/L	P425547	
		PCB-1232	2.2	U	ng/L	P425547	
		Bifenthrin	0.54	U	ng/L	P425547	
		PCB-1242	2.2	U	ng/L	P425547	
		Carbophenothion	0.97	U	ng/L	P425547	
		PCB-1248	2.2	U	ng/L	P425547	
		Chlorothalonil	3.9	U	ng/L	P425547	
		PCB-1254	2.2	U	ng/L	P425547	
		Cis-Nonachlor	0.22	U	ng/L	P425547	
		PCB-1260	2.2	U	ng/L	P425547	
		Cypermethrin	1.6	U	ng/L	P425547	
		Dacthal	0.16	U	ng/L	P425547	
		DDD-p,p'	0.27	U	ng/L	P425547	
		DDE-p,p'	0.22	U	ng/L	P425547	
		DDT-p,p'	0.27	U	ng/L	P425547	MS
		Delta-BHC	0.43	U	ng/L	P425547	
		Deltamethrin	1.3	U	ng/L	P425547	
		Dichlobenil	0.55	I	ng/L	P425547	
		Dicofol	1.3	U	ng/L	P425547	
		Dieldrin	0.43	U	ng/L	P425547	
		Endosulfan I	0.43	U	ng/L	P425547	MS
		Endosulfan II	0.43	U	ng/L	P425547	
		Endosulfan Sulfate	0.32	U	ng/L	P425547	
		Endrin	0.43	U	ng/L	P425547	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2385998	EPA 8270E	Endrin Aldehyde	0.81	U	ng/L	P425547	
		Endrin Ketone	0.43	U	ng/L	P425547	
		Esfenvalerate	0.81	U	ng/L	P425547	
		Ethalfuralin	0.16	U	ng/L	P425547	
		Fenpropathrin	0.27	U	ng/L	P425547	
		Gamma-BHC	0.13	UJ	ng/L	P425547	LCS
		Gamma-Chlordane	0.22	U	ng/L	P425547	
		Heptachlor	0.22	U	ng/L	P425547	
		Heptachlor Epoxide	0.27	U	ng/L	P425547	
		Hexachlorobenzene**	1.1	U	ng/L	P425547	
		Kepone	5.4	U	ng/L	P425547	
		Lambda-Cyhalothrin	0.81	U	ng/L	P425547	
		Methoprene	0.81	U	ng/L	P425547	
		Methoxychlor	0.32	U	ng/L	P425547	
		MGK-264	0.22	U	ng/L	P425547	
		Mirex	0.38	U	ng/L	P425547	
		Oxychlordane	0.32	U	ng/L	P425547	
		Permethrin	1.7	U	ng/L	P425547	
		Phenothrin	0.97	U	ng/L	P425547	
		Piperonyl Butoxide	0.16	U	ng/L	P425547	
		Prallethrin	2.2	U	ng/L	P425547	
		Tau-Fluvalinate	0.27	U	ng/L	P425547	
		Tetramethrin	0.81	U	ng/L	P425547	
		Trans-Nonachlor	0.22	U	ng/L	P425547	
		Triclosan Methyl	0.16	U	ng/L	P425547	
		Trifluralin	0.22	U	ng/L	P425547	
	EPA 8276	Chlordane	2.2	U	ng/L	P425547	
		Toxaphene	16	U	ng/L	P425547	
2386003	EPA 200.7 Rev. 4.4	Calcium	8.19		mg/L	P425591	
		Chromium	1.1	I	ug/L	P425591	
		Iron	210		ug/L	P425591	
		Magnesium	4.06		mg/L	P425591	
		Potassium	3.4		mg/L	P425591	
		Sodium	16.4		mg/L	P425591	
		Strontium	32.6		ug/L	P425591	
		Tin	3.0	U	ug/L	P425591	
		Titanium	1.7	I	ug/L	P425591	
		Vanadium	2.0	U	ug/L	P425591	
		Zinc	5.0	U	ug/L	P425591	
	EPA 200.8 Rev. 5.4	Aluminum	225		ug/L	P425591	
		Antimony	0.058	I	ug/L	P425591	
		Arsenic	3.76		ug/L	P425591	
		Barium	5.69		ug/L	P425591	
		Beryllium	0.010	U	ug/L	P425591	
		Boron	76.6		ug/L	P425591	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386003	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P425591	
		Cobalt	0.074	I	ug/L	P425591	
		Copper	1.05		ug/L	P425591	
		Lead	0.20	U	ug/L	P425591	
		Manganese	8.31		ug/L	P425591	
		Molybdenum	0.23	I	ug/L	P425591	
		Nickel	0.65	I	ug/L	P425591	
		Selenium	0.24	I	ug/L	P425591	
		Silver	0.010	U	ug/L	P425591	
		Thallium	0.10	U	ug/L	P425591	
	SM 2340 B-2011	Hardness	37.2		mg/L	P425591	

Ref. Method and Comment:
 DEP SOP: NU-094-1: Batch relative percent difference is unavailable because of analytical difficulties.
 SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.
 EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Non-Conformance Report

NCR ID: 9743

Event(s)

NW-DIST-2023-02-08-02

Job(s)

TLH-2023-02-08-99

Sample(s)

2385987

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory.

H2SO4 Lot# SA2145160 | Expiration Date: 06/02/2023

Authorized by/Date: Kyle Klug 2/9/2023

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P425783

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425560

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P425591

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P425591

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
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: P426093

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: P426096

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425774

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425760

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425761

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

Reference Method: EPA 8270E
Batch ID: P425547

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P425547

Component	Result	Code	Units
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
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	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P425547

Component	Result	Code	Units
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
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: P425547

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276
Batch ID: P425547

Component	Result	Code	Units
Toxaphene	15	U	ng/L

Reference Method: SM 2320 B-2011
Batch ID: P425848

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

Reference Method: SM 2320 B-2011
Batch ID: P425849

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

Reference Method: SM 2540 C-2015
Batch ID: P426111

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426004

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425852

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425853

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P425681

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: P425783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425560

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P425591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.7		P	85 - 115
Chromium	100		P	85 - 115
Iron	105		P	85 - 115
Magnesium	99.6		P	85 - 115
Potassium	103		P	85 - 115
Sodium	103		P	85 - 115
Strontium	104		P	85 - 115
Tin	101		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P425591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	104		P	85 - 115
Barium	105		P	85 - 115
Beryllium	95.6		P	85 - 115
Boron	107		P	85 - 115
Cadmium	105		P	85 - 115
Cobalt	101		P	85 - 115
Copper	103		P	85 - 115
Lead	97.5		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	104		P	85 - 115
Nickel	103		P	85 - 115
Selenium	102		P	85 - 115
Silver	102		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.2		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426096

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

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: P425774

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425760

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425761

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

Reference Method: EPA 8270E
Batch ID: P425547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	64.0		P	10 - 92.0
Alpha-BHC	62.7		F	75 - 107
Alpha-Chlordane	74.3		P	50 - 108
Beta-BHC	88.2		P	36 - 138
Beta-Cyfluthrin	69.4		P	20 - 161
Bifenthrin	41.9		P	10 - 119
Carbophenothion	63.6		P	19 - 94.0
Chlorothalonil	40.6		P	26 - 186
Cis-Nonachlor	65.8		P	42 - 119
Cypermethrin	63.3		P	22 - 150
Dacthal	82.0		P	72 - 119
DDD-p,p'	53.8		P	45 - 107
DDE-p,p'	53.4		P	48 - 106
DDT-p,p'	62.5		P	48 - 110
Delta-BHC	79.1		P	54 - 140
Deltamethrin	52.1		P	22 - 189

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P425547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dichlobenil	63.8		P	36 - 117
Dicofol	56.4		P	46 - 155
Dieldrin	56.8		P	54 - 110
Endosulfan I	59.5		P	59 - 105
Endosulfan II	58.8		P	51 - 118
Endosulfan Sulfate	80.6		P	57 - 121
Endrin	70.1		P	10 - 120
Endrin Aldehyde	54.0		P	34 - 118
Endrin Ketone	76.1		P	69 - 177
Esfenvalerate	45.1		P	23 - 168
Ethalfuralin	53.3		P	49 - 99.0
Fenpropathrin	48.1		P	34 - 117
Gamma-BHC	68.9		F	72 - 117
Gamma-Chlordane	64.1		P	43 - 106
Heptachlor	60.0		P	41 - 98.0
Heptachlor Epoxide	73.4		P	57 - 106
Hexachlorobenzene	66.3		P	36 - 99.0
Kepone	32.0		P	16 - 215
Lambda-Cyhalothrin	43.3		P	21 - 177
Methoprene	52.4		P	10 - 119
Methoxychlor	65.9		P	60 - 112
MGK-264	54.9		P	26 - 122
Mirex	49.6		P	10 - 169
Oxychlordane	54.5		P	43 - 105
PCB-1016	84.9		P	48 - 112
PCB-1260	88.0		P	44 - 118
Permethrin	82.3		P	24 - 148
Phenothrin	48.9		P	10 - 106
Piperonyl Butoxide	74.3		P	10 - 139
Prallethrin	57.1		P	17 - 109
Tau-Fluvalinate	34.4		P	13 - 131
Tetramethrin	63.1		P	10 - 132
Trans-Nonachlor	52.3		P	44 - 106
Triclosan Methyl	82.1		P	59 - 109
Trifluralin	60.9		P	44 - 101

Reference Method: EPA 8276

Batch ID: P425547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	107		P	61 - 116
Toxaphene	117		P	48 - 124

Reference Method: SM 2320 B-2011

Batch ID: P425848

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P425849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.0		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.9		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P426004

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.5		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P425852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P425853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P425591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385859	Calcium	101		P	80 - 120
2385859	Chromium	96.7	98.4	P/P	80 - 120
2385859	Iron	103	103	P/P	80 - 120
2385859	Magnesium	103		P	80 - 120
2385859	Potassium	100	101	P/P	80 - 120
2385859	Sodium	103		P	80 - 120
2385859	Strontium	102	105	P/P	80 - 120
2385859	Tin	98.6	99.1	P/P	80 - 120
2385859	Titanium	98.7	100	P/P	80 - 120
2385859	Vanadium	99.4	101	P/P	80 - 120
2385859	Zinc	101	103	P/P	80 - 120
2385934	Chromium	99.0		P	80 - 120
2385934	Iron	103		P	80 - 120
2385934	Magnesium	101		P	80 - 120
2385934	Potassium	110		P	80 - 120
2385934	Sodium	106		P	80 - 120
2385934	Strontium	104		P	80 - 120
2385934	Tin	98.8		P	80 - 120
2385934	Titanium	103		P	80 - 120
2385934	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P425591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385859	Aluminum	101	102	P/P	80 - 120
2385859	Antimony	103	103	P/P	80 - 120
2385859	Arsenic	103	102	P/P	80 - 120
2385859	Barium	105	104	P/P	80 - 120
2385859	Beryllium	93.8	94.5	P/P	80 - 120
2385859	Boron	107	105	P/P	80 - 120
2385859	Cadmium	105	103	P/P	80 - 120
2385859	Cobalt	99.1	98.8	P/P	80 - 120
2385859	Copper	102	102	P/P	80 - 120
2385859	Lead	98.8	98.8	P/P	80 - 120
2385859	Manganese	102	102	P/P	80 - 120
2385859	Molybdenum	104	104	P/P	80 - 120
2385859	Nickel	100	99.6	P/P	80 - 120
2385859	Selenium	102	100	P/P	80 - 120
2385859	Silver	100	98.6	P/P	80 - 120
2385859	Thallium	103	102	P/P	80 - 120
2385934	Aluminum	97.8		P	80 - 120
2385934	Antimony	105		P	80 - 120
2385934	Arsenic	107		P	80 - 120
2385934	Barium	105		P	80 - 120
2385934	Beryllium	88.6		P	80 - 120
2385934	Boron	102		P	80 - 120
2385934	Cadmium	106		P	80 - 120
2385934	Cobalt	102		P	80 - 120
2385934	Copper	100		P	80 - 120
2385934	Lead	98.3		P	80 - 120
2385934	Manganese	104		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P425591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385934	Molybdenum	110		P	80 - 120
2385934	Nickel	105		P	80 - 120
2385934	Selenium	103		P	80 - 120
2385934	Silver	99.7		P	80 - 120
2385934	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385924	Chloride	93.5		P	90 - 110
2385928	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385924	Sulfate	94.6		P	90 - 110
2385928	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385100	Ammonia-N	97.2	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385927	Kjeldahl Nitrogen	95.0	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385927	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385960	Total-P	103	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385987	Total-P	104	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P425547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385140	Aldrin	74.7	61.5	P/P	20 - 82.0
2385140	Alpha-BHC	74.1	70.2	P/F	71 - 109
2385140	Alpha-Chlordane	75.6	62.8	P/P	42 - 106
2385140	Beta-BHC	102	79.9	P/P	69 - 180
2385140	Beta-Cyfluthrin	112	113	P/P	18 - 175
2385140	Bifenthrin	34.4	38.0	P/P	21 - 128
2385140	Carbophenothion	83.9	84.5	P/P	10 - 126
2385140	Chlorothalonil	183	157	P/P	10 - 300
2385140	Cis-Nonachlor	49.6	49.7	P/P	34 - 106
2385140	Cypermethrin	89.7	85.3	P/P	22 - 158
2385140	Dacthal	66.5	63.7	P/P	54 - 116
2385140	DDD-p,p'	39.3	36.6	P/P	34 - 107
2385140	DDE-p,p'	35.0	35.1	P/P	33 - 110
2385140	DDT-p,p'	48.9	60.4	F/P	50 - 122
2385140	Delta-BHC	103	91.9	P/P	77 - 193
2385140	Deltamethrin	82.3	79.9	P/P	10 - 195
2385140	Dichlobenil	39.7	42.5	P/P	25 - 113
2385140	Dicofol	57.2	61.8	P/P	38 - 247
2385140	Dieldrin	62.3	68.6	P/P	45 - 118
2385140	Endosulfan I	51.2	47.0	P/F	51 - 106
2385140	Endosulfan II	39.0	37.3	P/P	37 - 122
2385140	Endosulfan Sulfate	91.9	102	P/P	43 - 132
2385140	Endrin	50.5	47.3	P/P	29 - 101
2385140	Endrin Aldehyde	47.0	41.8	P/P	19 - 110
2385140	Endrin Ketone	66.7	69.3	P/P	60 - 140
2385140	Esfenvalerate	74.6	72.9	P/P	26 - 199
2385140	Ethalfuralin	57.1	51.9	P/P	45 - 99.0
2385140	Fenpropathrin	47.3	52.8	P/P	35 - 120
2385140	Gamma-BHC	75.0	71.2	P/P	63 - 128
2385140	Gamma-Chlordane	53.8	44.4	P/P	40 - 104
2385140	Heptachlor	55.8	48.2	P/P	36 - 97.0
2385140	Heptachlor Epoxide	70.8	61.5	P/P	49 - 184
2385140	Hexachlorobenzene	61.9	56.4	P/P	39 - 96.0
2385140	Kepone	25.5	21.6	P/P	10 - 217
2385140	Lambda-Cyhalothrin	61.0	64.6	P/P	21 - 193
2385140	Methoprene	64.8	54.1	P/P	20 - 106
2385140	Methoxychlor	69.9	81.1	P/P	53 - 118
2385140	MGK-264	45.5	52.3	P/P	40 - 118
2385140	Mirex	37.4	42.6	P/P	26 - 92.0
2385140	Oxychlordane	51.9	44.0	P/P	44 - 99.0
2385140	Permethrin	105	111	P/P	33 - 182
2385140	Phenothrin	60.9	59.5	P/P	10 - 129
2385140	Piperonyl Butoxide	73.3	78.6	P/P	10 - 211
2385140	Prallethrin	52.7	46.5	P/P	24 - 113
2385140	Tau-Fluvalinate	69.8	67.0	P/P	14 - 149
2385140	Tetramethrin	64.3	66.9	P/P	17 - 151
2385140	Trans-Nonachlor	55.3	52.8	P/P	42 - 102
2385140	Triclosan Methyl	78.1	64.4	P/P	48 - 108
2385140	Trifluralin	53.1	52.9	P/P	47 - 96.0
2385998	PCB-1016	87.9	85.5	P/P	46 - 111
2385998	PCB-1260	84.0	87.4	P/P	45 - 114

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P425547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385998	Chlordane	104	106	P/P	53 - 126
2385998	Toxaphene	126	123	P/P	56 - 211

Reference Method: SM 4500-F- C-2011
Batch ID: P425852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385867	Fluoride	102	103	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P425853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2385842	Fluoride	101	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386245	Organic Carbon	96.6	98.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P425560

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385879	Turbidity	0.953	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P425591

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385859	Calcium	1.67	Spike	P	0 - 20
2385859	Chromium	1.74	Spike	P	0 - 20
2385859	Iron	0.289	Spike	P	0 - 20
2385859	Magnesium	0.521	Spike	P	0 - 20
2385859	Potassium	0.711	Spike	P	0 - 20
2385859	Sodium	1.36	Spike	P	0 - 20
2385859	Strontium	2.86	Spike	P	0 - 20
2385859	Tin	0.485	Spike	P	0 - 20
2385859	Titanium	1.59	Spike	P	0 - 20
2385859	Vanadium	1.54	Spike	P	0 - 20
2385859	Zinc	2.28	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P425591

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385859	Aluminum	1.02	Spike	P	0 - 20
2385859	Antimony	0.250	Spike	P	0 - 20
2385859	Arsenic	0.640	Spike	P	0 - 20
2385859	Barium	0.932	Spike	P	0 - 20
2385859	Beryllium	0.691	Spike	P	0 - 20
2385859	Boron	1.63	Spike	P	0 - 20
2385859	Cadmium	1.07	Spike	P	0 - 20
2385859	Cobalt	0.294	Spike	P	0 - 20
2385859	Copper	0.0452	Spike	P	0 - 20
2385859	Lead	0.0453	Spike	P	0 - 20
2385859	Manganese	0.216	Spike	P	0 - 20
2385859	Molybdenum	0.0313	Spike	P	0 - 20
2385859	Nickel	0.419	Spike	P	0 - 20
2385859	Selenium	1.62	Spike	P	0 - 20
2385859	Silver	1.66	Spike	P	0 - 20
2385859	Thallium	0.277	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P426093

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385924	Chloride	3.43	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385924	Sulfate	3.25	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385100	Ammonia-N	0.942	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385927	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385927	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385960	Total-P	2.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385987	Total-P	2.68	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P425547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385140	Aldrin	19.3	Spike	P	0 - 41
2385140	Alpha-BHC	5.46	Spike	P	0 - 25
2385140	Alpha-Chlordane	18.4	Spike	P	0 - 33
2385140	Beta-BHC	24.6	Spike	P	0 - 36
2385140	Beta-Cyfluthrin	1.05	Spike	P	0 - 42
2385140	Bifenthrin	6.91	Spike	P	0 - 53
2385140	Carbophenothion	0.768	Spike	P	0 - 30
2385140	Chlorothalonil	15.1	Spike	P	0 - 71
2385140	Cis-Nonachlor	0.107	Spike	P	0 - 29

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P425547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385140	Cypermethrin	5.13	Spike	P	0 - 40
2385140	Dacthal	4.21	Spike	P	0 - 26
2385140	DDD-p,p'	7.10	Spike	P	0 - 39
2385140	DDE-p,p'	0.406	Spike	P	0 - 33
2385140	DDT-p,p'	21.1	Spike	P	0 - 40
2385140	Delta-BHC	11.7	Spike	P	0 - 37
2385140	Deltamethrin	2.97	Spike	P	0 - 100
2385140	Dichlobenil	6.85	Spike	P	0 - 40
2385140	Dicofol	7.82	Spike	P	0 - 31
2385140	Dieldrin	9.62	Spike	P	0 - 27
2385140	Endosulfan I	8.57	Spike	P	0 - 23
2385140	Endosulfan II	4.51	Spike	P	0 - 28
2385140	Endosulfan Sulfate	10.9	Spike	P	0 - 38
2385140	Endrin	6.43	Spike	P	0 - 63
2385140	Endrin Aldehyde	11.8	Spike	P	0 - 60
2385140	Endrin Ketone	3.85	Spike	P	0 - 37
2385140	Esfenvalerate	2.31	Spike	P	0 - 52
2385140	Ethalfuralin	9.53	Spike	P	0 - 23
2385140	Fenpropathrin	11.0	Spike	P	0 - 32
2385140	Gamma-BHC	5.25	Spike	P	0 - 17
2385140	Gamma-Chlordane	19.0	Spike	P	0 - 40
2385140	Heptachlor	14.7	Spike	P	0 - 29
2385140	Heptachlor Epoxide	14.0	Spike	P	0 - 25
2385140	Hexachlorobenzene	9.41	Spike	P	0 - 36
2385140	Kepone	16.7	Spike	P	0 - 93
2385140	Lambda-Cyhalothrin	5.62	Spike	P	0 - 55
2385140	Methoprene	18.0	Spike	P	0 - 53
2385140	Methoxychlor	14.9	Spike	P	0 - 29
2385140	MGK-264	13.7	Spike	P	0 - 35
2385140	Mirex	13.0	Spike	P	0 - 46
2385140	Oxychlordane	16.4	Spike	P	0 - 29
2385140	Permethrin	5.35	Spike	P	0 - 44
2385140	Phenothrin	2.29	Spike	P	0 - 56
2385140	Piperonyl Butoxide	6.92	Spike	P	0 - 100
2385140	Prallethrin	12.5	Spike	P	0 - 42
2385140	Tau-Fluvalinate	4.15	Spike	P	0 - 54
2385140	Tetramethrin	3.88	Spike	P	0 - 51
2385140	Trans-Nonachlor	4.73	Spike	P	0 - 37
2385140	Triclosan Methyl	19.2	Spike	P	0 - 31
2385140	Trifluralin	0.305	Spike	P	0 - 30
2385998	PCB-1016	2.77	Spike	P	0 - 32
2385998	PCB-1260	3.94	Spike	P	0 - 31

Reference Method: EPA 8276
Batch ID: P425547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385998	Chlordane	1.67	Spike	P	0 - 25
2385998	Toxaphene	2.05	Spike	P	0 - 26

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P425848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385867	Total Alkalinity	1.64	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P425849

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385842	Total Alkalinity	2.50	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P426111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385790	TDS	7.87	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P425852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385867	Fluoride	0.467	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P425853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2385842	Fluoride	0.506	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P425681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386245	Organic Carbon	1.49	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2385998

Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	79.3	P	29 - 130
EPA 8270E	Decachlorobiphenyl	81.8	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	75.1	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	63.2	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	59.3	P	30 - 101
EPA 8276	PCNB	89.5	P	48 - 121

Lab Sample ID: 2385999

Field Sample ID: G4NW0019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	89.6	P	29 - 130
EPA 8270E	Decachlorobiphenyl	115	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	69.4	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	59.8	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	58.8	P	30 - 101
EPA 8276	PCNB	82.0	P	48 - 121

Lab Sample ID: 2386000

Field Sample ID: G4NW0020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	102	P	29 - 130
EPA 8270E	Decachlorobiphenyl	111	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	77.4	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	62.0	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	65.9	P	30 - 101
EPA 8276	PCNB	88.3	P	48 - 121

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A117332

Included Lab Sample IDs: 2385984, 2385986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 110
Color (true)	104	104	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117333

Included Lab Sample IDs: 2385984, 2385986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A117394

Included Lab Sample IDs: 2385985, 2385987

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A117420

Included Lab Sample IDs: 2386003, 2386004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.1	97.1	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	99.6	100	P/P	90 - 110
Potassium	100	102	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Strontium	106	106	P/P	90 - 110
Tin	101	101	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	100	101	P/P	90 - 110
Zinc	105	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117421

Included Lab Sample IDs: 2386003, 2386004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	101	P/P	90 - 110
Aluminum	99.2	101	P/P	90 - 110
Antimony	101	99.1	P/P	90 - 110
Antimony	104	103	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Arsenic	103	103	P/P	90 - 110
Barium	100	99.9	P/P	90 - 110
Barium	104	102	P/P	90 - 110
Beryllium	95.1	94.8	P/P	90 - 110
Beryllium	99.5	91.9	P/P	90 - 110
Boron	101	101	P/P	90 - 110
Boron	105	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A117421

Included Lab Sample IDs: 2386003, 2386004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	103	103	P/P	90 - 110
Cadmium	99.7	98.4	P/P	90 - 110
Cobalt	97.2	97.9	P/P	90 - 110
Cobalt	99.0	98.4	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Copper	102	103	P/P	90 - 110
Lead	94.8	98.2	P/P	90 - 110
Lead	99.3	101	P/P	90 - 110
Manganese	104	101	P/P	90 - 110
Manganese	99.2	98.9	P/P	90 - 110
Molybdenum	101	99.0	P/P	90 - 110
Molybdenum	103	103	P/P	90 - 110
Nickel	100	101	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Selenium	99.8	99.8	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Silver	98.2	97.4	P/P	90 - 110
Thallium	101	101	P/P	90 - 110
Thallium	97.0	97.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117426

Included Lab Sample IDs: 2385984, 2385986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.9	98.7	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A117428

Included Lab Sample IDs: 2385998, 2385999, 2386000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.9		P	80 - 120
PCB-1260	108		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117432

Included Lab Sample IDs: 2385985, 2385987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A117439

Included Lab Sample IDs: 2386003

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	102	108	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A117452

Included Lab Sample IDs: 2385984, 2385986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.8	99.4	P/P	90 - 110
Total Alkalinity	96.9	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117452

Included Lab Sample IDs: 2385984, 2385986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	103	P/P	90 - 110
Fluoride	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117466

Included Lab Sample IDs: 2385985, 2385987

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

Reference Method: EPA 8270E

Run ID: A117509

Included Lab Sample IDs: 2385998, 2385999, 2386000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	111		P	80 - 120
Alpha-BHC	84.3		P	80 - 120
Alpha-Chlordane	99.9		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	109		P	80 - 120
Bifenthrin	91.9		P	80 - 120
Carbophenothion	119		P	80 - 120
Chlorothalonil	89.8		P	80 - 120
Cis-Nonachlor	95.9		P	80 - 120
Cypermethrin	115		P	80 - 120
Dacthal	108		P	80 - 120
DDD-p,p'	88.5		P	80 - 120
DDE-p,p'	107		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	95.2		P	80 - 120
Deltamethrin	88.7		P	80 - 120
Dichlobenil	98.5		P	80 - 120
Dicofol	93.9		P	80 - 120
Dieldrin	111		P	80 - 120
Endosulfan I	113		P	80 - 120
Endosulfan II	113		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	102		P	80 - 120
Endrin Aldehyde	102		P	80 - 120
Endrin Ketone	103		P	80 - 120
Esfenvalerate	87.3		P	80 - 120
Ethalfuralin	110		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A117509

Included Lab Sample IDs: 2385998, 2385999, 2386000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenpropathrin	86.4		P	80 - 120
Gamma-BHC	98.7		P	80 - 120
Gamma-Chlordane	98.0		P	80 - 120
Heptachlor	96.2		P	80 - 120
Heptachlor Epoxide	93.1		P	80 - 120
Hexachlorobenzene	108		P	80 - 120
Kepone	91.6		P	80 - 120
Lambda-Cyhalothrin	96.4		P	80 - 120
Methoprene	90.5		P	80 - 120
Methoxychlor	93.0		P	80 - 120
MGK-264	91.9		P	80 - 120
Mirex	103		P	80 - 120
Oxychlordane	92.7		P	80 - 120
Permethrin	91.8		P	80 - 120
Phenothrin	83.8		P	80 - 120
Piperonyl Butoxide	84.8		P	80 - 120
Prallethrin	82.1		P	80 - 120
Tau-Fluvalinate	84.4		P	80 - 120
Tetramethrin	85.3		P	80 - 120
Trans-Nonachlor	103		P	80 - 120
Triclosan Methyl	104		P	80 - 120
Trifluralin	99.0		P	80 - 120

Reference Method: EPA 8276

Run ID: A117513

Included Lab Sample IDs: 2385998, 2385999, 2386000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	104		P	80 - 120
Chlordane	98.9		P	80 - 120
Toxaphene	112		P	80 - 120
Toxaphene	96.6		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117528

Included Lab Sample IDs: 2385985, 2385987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	97.6	P/P	90 - 110
Kjeldahl Nitrogen	97.6	98.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117546

Included Lab Sample IDs: 2385985, 2385987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	99.2	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)	102						
EPA 180.1 Rev. 2.0	Turbidity	100					0.953	
EPA 200.7 Rev. 4.4	Calcium	99.7	101					1.67
	Chromium	100	96.7	98.4	99.0			1.74
	Iron	105	103	103	103			0.289
	Magnesium	99.6	103	101				0.521
	Potassium	103	100	101	110			0.711
	Sodium	103	103	106				1.36
	Strontium	104	102	105	104			2.86
	Tin	101	98.6	99.1	98.8			0.485
	Titanium	102	98.7	100	103			1.59
	Vanadium	100	99.4	101				1.54
	Zinc	103	101	103	101			2.28
EPA 200.8 Rev. 5.4	Aluminum	104	101	102	97.8			1.02
	Antimony	104	103	103	105			0.250
	Arsenic	104	103	102	107			0.640
	Barium	105	105	104	105			0.932
	Beryllium	95.6	93.8	94.5	88.6			0.691
	Boron	107	107	105	102			1.63
	Cadmium	105	105	103	106			1.07
	Cobalt	101	99.1	98.8	102			0.294
	Copper	103	102	102	100			0.0452
	Lead	97.5	98.8	98.8	98.3			0.0453
	Manganese	103	102	102	104			0.216
	Molybdenum	104	104	104	110			0.0313
	Nickel	103	100	99.6	105			0.419
	Selenium	102	102	100	103			1.62
	Silver	102	100	98.6	99.7			1.66
	Thallium	100	103	102	104			0.277
EPA 300.0 Rev. 2.1	Chloride	99.2	93.5	96.8			3.43	
	Sulfate	102	94.6	99.4			3.25	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	97.2	98.4				0.942
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	95.0	99.6				2.54
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	101				0.494
EPA 365.1 Rev. 2.0	Total-P	101	100	103				2.37
	Total-P	102	104	101				2.68
EPA 8270E	Aldrin	64.0	61.5	74.7				19.3
	Alpha-BHC	62.7	70.2	74.1				5.46
	Alpha-Chlordane	74.3	62.8	75.6				18.4
	Beta-BHC	88.2	79.9	102				24.6
	Beta-Cyfluthrin	69.4	113	112				1.05
	Bifenthrin	41.9	38.0	34.4				6.91
	Carbophenothion	63.6	84.5	83.9				0.768
	Chlorothalonil	40.6	157	183				15.1
	Cis-Nonachlor	65.8	49.7	49.6				0.107
	Cypermethrin	63.3	85.3	89.7				5.13
	Dacthal	82.0	63.7	66.5				4.21
	DDD-p,p'	53.8	36.6	39.3				7.10
	DDE-p,p'	53.4	35.1	35.0				0.406
	DDT-p,p'	62.5	60.4	48.9				21.1
	Delta-BHC	79.1	91.9	103				11.7
	Deltamethrin	52.1	79.9	82.3				2.97
	Dichlobenil	63.8	42.5	39.7				6.85
	Dicofol	56.4	61.8	57.2				7.82

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Dieldrin	56.8	62.3	68.6			9.62
	Endosulfan I	59.5	47.0	51.2			8.57
	Endosulfan II	58.8	37.3	39.0			4.51
	Endosulfan Sulfate	80.6	91.9	102			10.9
	Endrin	70.1	47.3	50.5			6.43
	Endrin Aldehyde	54.0	41.8	47.0			11.8
	Endrin Ketone	76.1	66.7	69.3			3.85
	Esfenvalerate	45.1	72.9	74.6			2.31
	Ethalfuralin	53.3	51.9	57.1			9.53
	Fenpropathrin	48.1	52.8	47.3			11.0
	Gamma-BHC	68.9	71.2	75.0			5.25
	Gamma-Chlordane	64.1	44.4	53.8			19.0
	Heptachlor	60.0	48.2	55.8			14.7
	Heptachlor Epoxide	73.4	61.5	70.8			14.0
	Hexachlorobenzene	66.3	56.4	61.9			9.41
	Kepone	32.0	21.6	25.5			16.7
	Lambda-Cyhalothrin	43.3	64.6	61.0			5.62
	Methoprene	52.4	54.1	64.8			18.0
	Methoxychlor	65.9	69.9	81.1			14.9
	MGK-264	54.9	52.3	45.5			13.7
	Mirex	49.6	42.6	37.4			13.0
	Oxychlordane	54.5	51.9	44.0			16.4
	PCB-1016	84.9	87.9	85.5			2.77
	PCB-1260	88.0	84.0	87.4			3.94
	Permethrin	82.3	105	111			5.35
	Phenothrin	48.9	60.9	59.5			2.29
	Piperonyl Butoxide	74.3	73.3	78.6			6.92
	Prallethrin	57.1	52.7	46.5			12.5
	Tau-Fluvalinate	34.4	69.8	67.0			4.15
	Tetramethrin	63.1	64.3	66.9			3.88
	Trans-Nonachlor	52.3	55.3	52.8			4.73
	Triclosan Methyl	82.1	78.1	64.4			19.2
	Trifluralin	60.9	53.1	52.9			0.305
EPA 8276	Chlordane	107	104	106			1.67
	Toxaphene	117	126	123			2.05
SM 2320 B-2011	Total Alkalinity	99.1				1.64	
	Total Alkalinity	99.0				2.50	
SM 2540 C-2015	TDS	98.9				7.87	
SM 2540 D-2015	TSS	96.5					
SM 4500-F- C-2011	Fluoride	101	102	103			0.467
	Fluoride	102	101	102			0.506
SM 5310 B-2011	Organic Carbon	99.8	96.6	98.1			1.49

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2385984, 2385986
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2385984, 2385986
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2386003, 2386004
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2386003, 2386004
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2385984, 2385986

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2385984, 2385986
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2385985, 2385987
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2385985, 2385987
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2385985, 2385987
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2385985, 2385987
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2385998, 2385999, 2386000
EPA 8270E	PCBs in water matrices by GC/MS/MS	2385998, 2385999, 2386000
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2385998, 2385999, 2386000
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2385984, 2385986
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2386003, 2386004
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2385984, 2385986
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2385984, 2385986
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2385984, 2385986
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2385985, 2385987

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	02/08/2023			02/08/2023 15:05	Alexis Price	2385984
	02/08/2023			02/08/2023 15:33	Alexis Price	2385986
EPA 180.1 Rev. 2.0	02/08/2023			02/08/2023 14:36	Khloe J Berg	2385984
	02/08/2023			02/08/2023 14:37	Khloe J Berg	2385986
EPA 200.7 Rev. 4.4	02/08/2023	02/09/2023 12:20	George D Taylor	02/14/2023 00:59	McKinley C Carter	2386003
	02/08/2023	02/09/2023 12:20	George D Taylor	02/14/2023 01:07	McKinley C Carter	2386004
	02/08/2023	02/09/2023 12:20	George D Taylor	02/14/2023 01:14	McKinley C Carter	2386004
	02/08/2023	02/09/2023 12:20	George D Taylor	02/14/2023 13:09	McKinley C Carter	2386003
EPA 200.8 Rev. 5.4	02/08/2023	02/09/2023 12:20	George D Taylor	02/13/2023 16:39	Megan Whitefoot	2386004
	02/08/2023	02/09/2023 12:20	George D Taylor	02/14/2023 00:39	Megan Whitefoot	2386003
EPA 300.0 Rev. 2.1	02/08/2023			02/17/2023 09:36	Anna M. Plaviak	2385984
	02/08/2023			02/17/2023 09:52	Anna M. Plaviak	2385986
EPA 350.1 Rev. 2.0	02/08/2023			02/20/2023 10:41	Ping Hua	2385985
	02/08/2023			02/20/2023 10:42	Ping Hua	2385987
EPA 351.2 Rev. 2.0	02/08/2023	02/15/2023 11:46	Samantha L Bates	02/17/2023 15:15	Samantha L Bates	2385985
	02/08/2023	02/15/2023 11:46	Samantha L Bates	02/17/2023 15:20	Samantha L Bates	2385987
EPA 353.2 Rev. 2.0	02/08/2023			02/14/2023 10:43	Beverly Y. Sanders	2385985
	02/08/2023			02/14/2023 10:44	Beverly Y. Sanders	2385987
EPA 365.1 Rev. 2.0	02/08/2023	02/14/2023 13:21	Adam P Silver	02/15/2023 14:07	Simonne.V. Calhoun	2385987
	02/08/2023	02/14/2023 13:21	Adam P Silver	02/15/2023 15:10	Simonne.V. Calhoun	2385985
EPA 8270E	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/13/2023 19:02	Vandana T. Nagar	2385998
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/13/2023 23:33	Vandana T. Nagar	2385999
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/14/2023 00:03	Vandana T. Nagar	2386000
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/14/2023 09:02	Julie Wi	2385998
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/14/2023 09:34	Julie Wi	2385999
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/14/2023 10:07	Julie Wi	2386000
EPA 8276	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/15/2023 07:45	Lipi Saha	2385998
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/15/2023 17:01	Lipi Saha	2385999
	02/08/2023	02/10/2023 08:30	Rasheda Ghaffari	02/15/2023 17:56	Lipi Saha	2386000
SM 2320 B-2011	02/08/2023			02/14/2023 22:17	Dale L. Simmons	2385986
	02/08/2023			02/15/2023 03:54	Dale L. Simmons	2385984
SM 2340 B-2011	02/08/2023			02/14/2023 00:59	McKinley C Carter	2386003
	02/08/2023			02/14/2023 01:07	McKinley C Carter	2386004
SM 2540 C-2015	02/08/2023			02/10/2023 16:01	Yijie Li	2385984, 2385986
SM 2540 D-2015	02/08/2023			02/10/2023 16:01	Yijie Li	2385984, 2385986
SM 4500-F- C-2011	02/08/2023			02/14/2023 22:17	Dale L. Simmons	2385986
	02/08/2023			02/15/2023 03:54	Dale L. Simmons	2385984
SM 5310 B-2011	02/08/2023			02/10/2023 23:31	Elise M. Gillis	2385985
	02/08/2023			02/10/2023 23:45	Elise M. Gillis	2385987