

Chemical Analysis Report

CEN-DIST-2023-10-19-01

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

Event Description: **Run 1**
Request ID: **RQ-2023-10-16-11**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 09-NOV-2023 13:07



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: 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: Reed Canal at Reed Canal Park

Collection Date/Time: 10/18/2023 11:20

Field ID: G5CE0156

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446042	DEP SOP: NU-094-1	Color (true)	34	A	PCU	P436769	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P436773	
	EPA 300.0 Rev. 2.1	Chloride	71		mg Cl/L	P437373	
		Sulfate	16		mg SO4/L	P437377	
	SM 2320 B-2011	Total Alkalinity	221		mg CaCO3/L	P436862	
	SM 2540 C-2015	TDS	383		mg/L	P437261	
	SM 2540 D-2015	TSS	4	I	mg/L	P437212	
2446043	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P436864	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.070		mg N/L	P436874	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P436781	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P436937	
	EPA 365.1 Rev. 2.0	Total-P	0.086		mg P/L	P436839	
2446060	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P437014	
	EPA 8321B	2,4-D	0.019		ug/L	P436749	
		Acesulfame K	0.17	I	ug/L	P436712	
		2,4,5-T	0.0040	U	ug/L	P436749	
		AMPA	0.10	U	ug/L	P436712	
		Acetaminophen	0.0080	U	ug/L	P436749	
		Acetamiprid	0.0020	U	ug/L	P436749	
		Endothall	0.25	U	ug/L	P436712	
		Glufosinate	0.10	U	ug/L	P436712	
		Glyphosate	0.32	I	ug/L	P436712	
		Afidopyropen	0.0020	U	ug/L	P436749	
		Bentazon	0.47		ug/L	P436749	
		Sucralose	0.76		ug/L	P436712	
		Benzovindiflupyr	0.0020	U	ug/L	P436749	
		Carbamazepine	0.0039		ug/L	P436749	
		Clothianidin	0.011		ug/L	P436749	
		Dinotefuran	0.0020	U	ug/L	P436749	
		Diuron	0.0020	U	ug/L	P436749	
		Fenuron	0.032	U	ug/L	P436749	
		Fluridone	0.0079		ug/L	P436749	
		Imazapyr	0.13		ug/L	P436749	
		Hydrocodone	0.0020	U	ug/L	P436749	
		Ibuprofen	0.080	U	ug/L	P436749	
		Imidacloprid	0.012		ug/L	P436749	
		Linuron	0.0040	U	ug/L	P436749	
		Mandestrobin	0.0020	U	ug/L	P436749	
		MCP	0.0044	I	ug/L	P436749	
		Naproxen	0.0080	U	ug/L	P436749	
		Primidone	0.0042	I	ug/L	P436749	
		Pyraclostrobin	0.0020	U	ug/L	P436749	
		Silvex	0.0046	I	ug/L	P436749	
		Thiamethoxam	0.0020	U	ug/L	P436749	

MS

Field ID: G5CE0156

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446060	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P436749	
		Triclopyr	0.0040	U	ug/L	P436749	

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: FB

Collection Date/Time: 10/18/2023 11:04

Field ID: FB_10182023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446044	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P436769	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P436773	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P437373	
		Sulfate	0.20	U	mg SO4/L	P437377	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P436862	
	SM 2540 C-2015	TDS	15	U	mg/L	P437261	
	SM 2540 D-2015	TSS	2	U	mg/L	P437212	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P436864	
2446045	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P436874	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P436781	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436937	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P436839	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P437014	

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: Unnamed Ditch at 100M US of Madeline Ave

Collection Date/Time: 10/18/2023 12:11

Field ID: G5CE0092

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446057	EPA 8270E	Aldrin	0.67	U	ng/L	P436746	
		Alpha-BHC	0.10	U	ng/L	P436746	
		Alpha-Chlordane	0.21	U	ng/L	P436746	
		PCB-1016	2.1	U	ng/L	P436746	
		Beta-BHC	0.10	U	ng/L	P436746	
		PCB-1221	2.1	U	ng/L	P436746	
		Beta-Cyfluthrin	1.3	U	ng/L	P436746	
		PCB-1232	2.1	U	ng/L	P436746	
		Bifenthrin	0.52	U	ng/L	P436746	
		PCB-1242	2.1	U	ng/L	P436746	
		PCB-1248	2.1	U	ng/L	P436746	
		Chlorothalonil	3.7	U	ng/L	P436746	
		PCB-1254	2.1	U	ng/L	P436746	
		Cis-Nonachlor	0.21	U	ng/L	P436746	
		PCB-1260	2.1	U	ng/L	P436746	
		Cypermethrin	1.5	U	ng/L	P436746	
		Dacthal	0.15	U	ng/L	P436746	
		DDD-p,p'	0.26	U	ng/L	P436746	
		DDE-p,p'	0.21	U	ng/L	P436746	
		DDT-p,p'	1.6	I	ng/L	P436746	
		Delta-BHC	0.41	U	ng/L	P436746	
		Deltamethrin	1.3	U	ng/L	P436746	
		Dichlobenil	0.26	U	ng/L	P436746	
		Dicofol	1.3	U	ng/L	P436746	
		Dieldrin	0.41	U	ng/L	P436746	
		Endosulfan I	0.41	U	ng/L	P436746	
		Endosulfan II	0.93	U	ng/L	P436746	
		Endosulfan Sulfate	0.31	U	ng/L	P436746	
		Endrin	0.93	U	ng/L	P436746	
		Endrin Aldehyde	0.77	U	ng/L	P436746	
		Endrin Ketone	0.41	U	ng/L	P436746	
		Esfenvalerate	0.77	U	ng/L	P436746	
		Ethalfuralin	0.15	U	ng/L	P436746	
		Fenpropathrin	0.26	U	ng/L	P436746	
		Gamma-BHC	0.13	U	ng/L	P436746	
		Gamma-Chlordane	0.21	U	ng/L	P436746	
		Heptachlor	0.21	U	ng/L	P436746	
		Heptachlor Epoxide	0.26	U	ng/L	P436746	
		Hexachlorobenzene**	1.0	U	ng/L	P436746	
		Kepone	14	U	ng/L	P436746	
		Lambda-Cyhalothrin	0.77	U	ng/L	P436746	
		Methoprene	0.77	U	ng/L	P436746	
		Methoxychlor	0.31	U	ng/L	P436746	
		MGK-264	0.21	U	ng/L	P436746	

Field ID: G5CE0092

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446057	EPA 8270E	Mirex	0.36	U	ng/L	P436746	
		Oxychlordane	0.31	U	ng/L	P436746	
		Permethrin	1.6	U	ng/L	P436746	
		Phenothrin	0.93	U	ng/L	P436746	
		Piperonyl Butoxide	0.15	U	ng/L	P436746	
		Prallethrin	2.1	U	ng/L	P436746	
		Tau-Fluvalinate	0.26	U	ng/L	P436746	
		Tetramethrin	0.77	U	ng/L	P436746	
		Trans-Nonachlor	0.21	U	ng/L	P436746	
		Triclosan Methyl	0.15	U	ng/L	P436746	
		Trifluralin	0.21	U	ng/L	P436746	
	EPA 8276	Chlordane	2.1	U	ng/L	P436746	
		Toxaphene	15	U	ng/L	P436746	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P436769

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436773

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436874

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436781

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436937

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436839

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

Reference Method: EPA 8270E
Batch ID: P436746

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P436746

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276

Batch ID: P436746

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

Reference Method: EPA 8321B

Batch ID: P436712

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P436749

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P436862

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P437261

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P437212

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436864

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P437014

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: P436769

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436773

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436874

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436781

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	93.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436839

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

Reference Method: EPA 8270E
Batch ID: P436746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	51.2		P	30 - 96.0
Alpha-BHC	79.2		P	70 - 109
Alpha-Chlordane	93.5		P	45 - 107
Beta-BHC	133		P	64 - 138

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P436746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Beta-Cyfluthrin	74.8		P	17 - 141
Bifenthrin	42.2		P	10 - 113
Chlorothalonil	97.2		P	26 - 180
Cis-Nonachlor	56.2		P	37 - 102
Cypermethrin	54.3		P	20 - 133
Dacthal	110		P	69 - 114
DDD-p,p'	64.0		P	42 - 105
DDE-p,p'	89.9		P	42 - 106
DDT-p,p'	69.4		P	42 - 107
Delta-BHC	133		P	67 - 144
Deltamethrin	87.7		P	15 - 149
Dichlobenil	90.3		P	46 - 117
Dicofol	78.9		P	34 - 114
Dieldrin	66.4		P	50 - 108
Endosulfan I	95.3		P	55 - 104
Endosulfan II	99.6		P	51 - 111
Endosulfan Sulfate	117		P	56 - 121
Endrin	72.7		P	10 - 106
Endrin Aldehyde	89.8		P	34 - 114
Endrin Ketone	85.2		P	63 - 177
Esfenvalerate	81.4		P	29 - 143
Ethalfuralin	73.0		P	46 - 96.0
Fenpropathrin	59.7		P	28 - 115
Gamma-BHC	104		P	65 - 121
Gamma-Chlordane	98.0		P	39 - 103
Heptachlor	46.3		P	39 - 94.0
Heptachlor Epoxide	103		P	54 - 104
Hexachlorobenzene	65.5		P	36 - 100
Kepone	70.0		P	10 - 225
Lambda-Cyhalothrin	57.5		P	10 - 135
Methoprene	34.7		P	10 - 109
Methoxychlor	75.4		P	52 - 112
MGK-264	114		P	44 - 117
Mirex	69.0		P	20 - 90.0
Oxychlordane	71.5		P	44 - 102
PCB-1016	87.0		P	45 - 107
PCB-1260	87.9		P	40 - 118
Permethrin	70.0		P	18 - 135
Phenothrin	47.6		P	10 - 102
Piperonyl Butoxide	83.9		P	28 - 156
Prallethrin	73.8		P	28 - 113
Tau-Fluvalinate	76.1		P	10 - 123
Tetramethrin	69.9		P	18 - 158
Trans-Nonachlor	83.8		P	39 - 104
Triclosan Methyl	63.8		P	54 - 108
Trifluralin	70.2		P	46 - 97.0

Reference Method: EPA 8276

Batch ID: P436746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	70.9		P	52 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8276

Batch ID: P436746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Toxaphene	90.7		P	44 - 125

Reference Method: EPA 8321B

Batch ID: P436712

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	84.6		P	40 - 150
AMPA	88.4		P	40 - 160
Endothall	93.9		P	40 - 160
Glufosinate	96.5		P	40 - 160
Glyphosate	99.0		P	40 - 160
Sucralose	90.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P436749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	73.5		P	40 - 150
2,4,5-T	76.8		P	40 - 150
Acetaminophen	95.7		P	30 - 150
Acetamiprid	89.0		P	40 - 150
Afidopyropen	82.5		P	30 - 150
Bentazon	97.0		P	30 - 150
Benzovindiflupyr	87.8		P	40 - 150
Carbamazepine	84.6		P	40 - 150
Clothianidin	95.4		P	40 - 150
Dinotefuran	105		P	40 - 150
Diuron	80.7		P	40 - 150
Fenuron	98.5		P	40 - 150
Fluridone	95.8		P	40 - 150
Hydrocodone	100		P	40 - 150
Ibuprofen	84.3		P	40 - 150
Imazapyr	88.2		P	40 - 150
Imidacloprid	87.4		P	40 - 150
Linuron	82.0		P	40 - 150
Mandestrobin	86.4		P	40 - 150
MCPP	89.4		P	40 - 150
Naproxen	70.2		P	40 - 150
Primidone	94.0		P	40 - 150
Pyraclostrobin	87.9		P	40 - 150
Silvex	83.2		P	40 - 150
Thiamethoxam	95.3		P	40 - 150
Tolfenpyrad	62.5		P	30 - 150
Triclopyr	79.2		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P436862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.1		P	92 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P437261

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	107		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P437212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	92.0		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P436864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437014

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446031	Chloride	105		P	90 - 110
2446235	Chloride	107		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446031	Sulfate	105		P	90 - 110
2446235	Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446002	Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446021	Kjeldahl Nitrogen	103	110	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445929	NO2NO3-N	93.0	91.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446089	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P436746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445755	PCB-1016	87.4	86.2	P/P	45 - 107
2445755	PCB-1260	81.7	89.9	P/P	40 - 112
2446057	Aldrin	62.4	56.2	P/P	24 - 81.0
2446057	Alpha-BHC	69.6	72.1	P/P	65 - 110
2446057	Alpha-Chlordane	81.5	80.5	P/P	43 - 119
2446057	Beta-BHC	94.7	105	P/P	54 - 165
2446057	Beta-Cyfluthrin	109	110	P/P	27 - 165
2446057	Bifenthrin	83.7	86.9	P/P	17 - 117
2446057	Chlorothalonil	170	171	P/P	10 - 255
2446057	Cis-Nonachlor	80.3	82.2	P/P	34 - 98.0
2446057	Cypermethrin	112	108	P/P	25 - 143
2446057	Dacthal	87.9	103	P/P	55 - 139
2446057	DDD-p,p'	94.5	92.7	P/P	30 - 109
2446057	DDE-p,p'	69.8	75.4	P/P	35 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P436746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446057	DDT-p,p'	91.1	98.4	P/P	41 - 101
2446057	Delta-BHC	103	101	P/P	58 - 165
2446057	Deltamethrin	130	133	P/P	10 - 194
2446057	Dichlobenil	51.8	56.9	P/P	22 - 114
2446057	Dicofol	86.4	82.4	P/P	17 - 133
2446057	Dieldrin	80.4	74.3	P/P	45 - 129
2446057	Endosulfan I	77.7	86.3	P/P	49 - 104
2446057	Endosulfan II	77.2	74.0	P/P	37 - 117
2446057	Endosulfan Sulfate	72.4	86.0	P/P	38 - 128
2446057	Endrin	79.7	76.8	P/P	35 - 116
2446057	Endrin Aldehyde	49.7	58.9	P/P	19 - 108
2446057	Endrin Ketone	82.2	80.5	P/P	44 - 134
2446057	Esfenvalerate	112	124	P/P	27 - 176
2446057	Ethalfuralin	90.9	97.8	P/P	49 - 100
2446057	Fenpropathrin	85.4	89.2	P/P	34 - 117
2446057	Gamma-BHC	67.4	64.7	P/P	59 - 129
2446057	Gamma-Chlordane	86.3	98.9	P/P	33 - 107
2446057	Heptachlor	82.4	63.9	P/P	37 - 94.0
2446057	Heptachlor Epoxide	85.9	92.3	P/P	38 - 118
2446057	Hexachlorobenzene	63.3	63.5	P/P	35 - 97.0
2446057	Kepone	57.8	58.3	P/P	10 - 221
2446057	Lambda-Cyhalothrin	101	101	P/P	23 - 190
2446057	Methoprene	87.4	97.2	P/P	21 - 109
2446057	Methoxychlor	78.6	79.5	P/P	46 - 118
2446057	MGK-264	98.3	99.3	P/P	39 - 122
2446057	Mirex	60.4	64.3	P/P	25 - 90.0
2446057	Oxychlordane	97.2	96.5	P/P	42 - 100
2446057	Permethrin	91.2	99.6	P/P	33 - 181
2446057	Phenothrin	90.7	78.1	P/P	12 - 125
2446057	Piperonyl Butoxide	96.1	111	P/P	10 - 178
2446057	Prallethrin	67.1	69.4	P/P	24 - 122
2446057	Tau-Fluvalinate	107	131	P/P	13 - 151
2446057	Tetramethrin	105	97.5	P/P	16 - 172
2446057	Trans-Nonachlor	70.3	88.2	P/P	39 - 100
2446057	Triclosan Methyl	85.2	80.8	P/P	43 - 110
2446057	Trifluralin	77.8	78.3	P/P	45 - 94.0

Reference Method: EPA 8276

Batch ID: P436746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445755	Chlordane	72.4	66.4	P/P	43 - 123
2445755	Toxaphene	73.9	71.9	P/P	27 - 156

Reference Method: EPA 8321B

Batch ID: P436712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445805	Acesulfame K	103	110	P/P	40 - 150
2445805	AMPA	52.7	49.7	P/P	40 - 160
2445805	Endothall	96.6	98.0	P/P	40 - 160
2445805	Glufosinate	83.4	81.9	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P436712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445805	Glyphosate	102	101	P/P	40 - 160
2445805	Sucralose	99.5	100	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P436749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445740	2,4-D	90.0	92.7	P/P	40 - 150
2445740	2,4,5-T	104	107	P/P	40 - 150
2445740	Acetaminophen	76.6	81.4	P/P	30 - 150
2445740	Acetamiprid	57.2	58.4	P/P	40 - 150
2445740	Afidopyropen	77.5	71.8	P/P	30 - 150
2445740	Bentazon	41.4	31.5	P/P	30 - 150
2445740	Benzovindiflupyr	75.8	75.4	P/P	40 - 150
2445740	Carbamazepine	59.0	55.9	P/P	40 - 150
2445740	Clothianidin	62.6	66.0	P/P	40 - 150
2445740	Dinotefuran	64.2	67.6	P/P	40 - 150
2445740	Diuron	44.7	49.6	P/P	40 - 150
2445740	Fenuron	39.8	39.5	F/F	40 - 150
2445740	Fluridone	60.8	57.5	P/P	40 - 150
2445740	Hydrocodone	62.7	64.0	P/P	40 - 150
2445740	Ibuprofen	64.3	70.7	P/P	40 - 150
2445740	Imazapyr	68.6	58.3	P/P	40 - 150
2445740	Imidacloprid	89.3	89.2	P/P	40 - 150
2445740	Linuron	59.9	60.2	P/P	40 - 150
2445740	Mandestrobin	78.2	79.2	P/P	40 - 150
2445740	MCPP	101	108	P/P	40 - 150
2445740	Naproxen	61.2	62.3	P/P	40 - 150
2445740	Primidone	57.5	59.8	P/P	40 - 150
2445740	Pyraclostrobin	73.5	74.7	P/P	40 - 150
2445740	Silvex	96.9	103	P/P	40 - 150
2445740	Thiamethoxam	71.8	74.1	P/P	40 - 150
2445740	Tolfenpyrad	52.0	52.0	P/P	30 - 150
2445740	Triclopyr	98.9	110	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P436864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445705	Fluoride	100	99.8	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446089	Organic Carbon	96.5	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P436769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446042	Color (true)	5.28	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445948	Turbidity	11.4	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446031	Chloride	0.646	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446031	Sulfate	1.02	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446002	Ammonia-N	0.651	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446021	Kjeldahl Nitrogen	4.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445929	NO2NO3-N	2.17	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446089	Total-P	1.46	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P436746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445755	PCB-1016	1.40	Spike	P	0 - 25
2445755	PCB-1260	9.50	Spike	P	0 - 30
2446057	Aldrin	10.4	Spike	P	0 - 41
2446057	Alpha-BHC	3.47	Spike	P	0 - 25
2446057	Alpha-Chlordane	1.23	Spike	P	0 - 32
2446057	Beta-BHC	10.3	Spike	P	0 - 33
2446057	Beta-Cyfluthrin	1.03	Spike	P	0 - 43
2446057	Bifenthrin	3.76	Spike	P	0 - 52
2446057	Chlorothalonil	0.959	Spike	P	0 - 82
2446057	Cis-Nonachlor	2.31	Spike	P	0 - 33
2446057	Cypermethrin	3.35	Spike	P	0 - 51
2446057	Dacthal	15.5	Spike	P	0 - 27
2446057	DDD-p,p'	1.85	Spike	P	0 - 39
2446057	DDE-p,p'	7.73	Spike	P	0 - 31
2446057	DDT-p,p'	6.17	Spike	P	0 - 29
2446057	Delta-BHC	1.94	Spike	P	0 - 35
2446057	Deltamethrin	2.22	Spike	P	0 - 100
2446057	Dichlobenil	9.41	Spike	P	0 - 40
2446057	Dicofol	4.70	Spike	P	0 - 37
2446057	Dieldrin	7.86	Spike	P	0 - 27
2446057	Endosulfan I	10.5	Spike	P	0 - 23
2446057	Endosulfan II	4.26	Spike	P	0 - 34
2446057	Endosulfan Sulfate	17.1	Spike	P	0 - 36
2446057	Endrin	3.69	Spike	P	0 - 45
2446057	Endrin Aldehyde	16.9	Spike	P	0 - 76
2446057	Endrin Ketone	2.09	Spike	P	0 - 43
2446057	Esfenvalerate	10.0	Spike	P	0 - 51
2446057	Ethalfuralin	7.37	Spike	P	0 - 22
2446057	Fenpropathrin	4.36	Spike	P	0 - 49
2446057	Gamma-BHC	4.08	Spike	P	0 - 28
2446057	Gamma-Chlordane	13.6	Spike	P	0 - 40
2446057	Heptachlor	25.4	Spike	P	0 - 29
2446057	Heptachlor Epoxide	7.13	Spike	P	0 - 33
2446057	Hexachlorobenzene	0.410	Spike	P	0 - 36
2446057	Kepone	0.825	Spike	P	0 - 85
2446057	Lambda-Cyhalothrin	0.0607	Spike	P	0 - 55
2446057	Methoprene	10.6	Spike	P	0 - 53
2446057	Methoxychlor	1.19	Spike	P	0 - 50
2446057	MGK-264	0.958	Spike	P	0 - 43
2446057	Mirex	6.23	Spike	P	0 - 40
2446057	Oxychlordane	0.650	Spike	P	0 - 31
2446057	Permethrin	8.88	Spike	P	0 - 50
2446057	Phenothrin	14.9	Spike	P	0 - 58
2446057	Piperonyl Butoxide	14.8	Spike	P	0 - 100
2446057	Prallethrin	3.48	Spike	P	0 - 39
2446057	Tau-Fluvalinate	19.5	Spike	P	0 - 54
2446057	Tetramethrin	7.55	Spike	P	0 - 51
2446057	Trans-Nonachlor	22.6	Spike	P	0 - 39
2446057	Triclosan Methyl	5.34	Spike	P	0 - 31
2446057	Trifluralin	0.727	Spike	P	0 - 22

Quality Assurance Report Precision

Reference Method: EPA 8276

Batch ID: P436746

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445755	Chlordane	8.53	Spike	P	0 - 28
2445755	Toxaphene	2.84	Spike	P	0 - 27

Reference Method: EPA 8321B

Batch ID: P436712

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445805	Acesulfame K	6.67	Spike	P	0 - 30
2445805	AMPA	3.71	Spike	P	0 - 30
2445805	Endothall	1.39	Spike	P	0 - 30
2445805	Glufosinate	1.78	Spike	P	0 - 30
2445805	Glyphosate	0.240	Spike	P	0 - 30
2445805	Sucralose	0.810	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P436749

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445740	2,4-D	2.01	Spike	P	0 - 30
2445740	2,4,5-T	2.99	Spike	P	0 - 30
2445740	Acetaminophen	6.04	Spike	P	0 - 30
2445740	Acetamiprid	2.11	Spike	P	0 - 30
2445740	Afidopyropen	7.54	Spike	P	0 - 30
2445740	Bentazon	4.38	Spike	P	0 - 30
2445740	Benzovindiflupyr	0.636	Spike	P	0 - 30
2445740	Carbamazepine	5.47	Spike	P	0 - 30
2445740	Clothianidin	5.28	Spike	P	0 - 30
2445740	Dinotefuran	5.11	Spike	P	0 - 30
2445740	Diuron	8.10	Spike	P	0 - 30
2445740	Fenuron	0.765	Spike	P	0 - 30
2445740	Fluridone	4.13	Spike	P	0 - 30
2445740	Hydrocodone	2.11	Spike	P	0 - 30
2445740	Ibuprofen	9.52	Spike	P	0 - 30
2445740	Imazapyr	6.38	Spike	P	0 - 30
2445740	Imidacloprid	0.116	Spike	P	0 - 30
2445740	Linuron	0.396	Spike	P	0 - 30
2445740	Mandestrobin	1.34	Spike	P	0 - 30
2445740	MCPP	6.35	Spike	P	0 - 30
2445740	Naproxen	1.79	Spike	P	0 - 30
2445740	Primidone	3.90	Spike	P	0 - 30
2445740	Pyraclostrobin	1.60	Spike	P	0 - 30
2445740	Silvex	6.26	Spike	P	0 - 30
2445740	Thiamethoxam	3.19	Spike	P	0 - 30
2445740	Tolfenpyrad	0.113	Spike	P	0 - 30
2445740	Triclopyr	11.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P436862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445705	Total Alkalinity	1.99	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P437261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446029	TDS	7.64	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P436864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445705	Fluoride	0.480	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446089	Organic Carbon	1.81	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2446057
Field Sample ID: G5CE0092

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	75.6	P	37 - 129
EPA 8270E	Decachlorobiphenyl	64.6	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	45.2	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	52.5	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	58.7	P	28 - 102
EPA 8276	PCNB	79.3	P	49 - 115

Lab Sample ID: 2446060
Field Sample ID: G5CE0156

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.2	P	30 - 160
EPA 8321B	Diuron-d6	46.1	P	30 - 160
EPA 8321B	Endothall-d6	77.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.6	P	30 - 160
EPA 8321B	Primidone-d5	67.3	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122250

Included Lab Sample IDs: 2446042, 2446044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.9	99.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122251

Included Lab Sample IDs: 2446042, 2446044

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

Reference Method: SM 2320 B-2011

Run ID: A122285

Included Lab Sample IDs: 2446042, 2446044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.0	95.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122285

Included Lab Sample IDs: 2446042, 2446044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122292

Included Lab Sample IDs: 2446043, 2446045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	97.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122307

Included Lab Sample IDs: 2446060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.0	97.3	P/P	60 - 160
Sucralose	101	95.8	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122310

Included Lab Sample IDs: 2446043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.9	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122313

Included Lab Sample IDs: 2446043, 2446045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.0	92.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122322

Included Lab Sample IDs: 2446043, 2446045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	95.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122336

Included Lab Sample IDs: 2446060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	93.0	91.0	P/P	60 - 160
Endothall	85.0	85.6	P/P	60 - 160
Glufosinate	88.4	86.0	P/P	60 - 160
Glyphosate	95.2	92.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A122346

Included Lab Sample IDs: 2446060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.2	76.9	P/P	50 - 150
2,4,5-T	91.1	87.1	P/P	50 - 150
Acetaminophen	110	105	P/P	60 - 160
Acetamiprid	111	110	P/P	50 - 150
Afidopyropen	125	114	P/P	50 - 150
Bentazon	128	93.0	P/P	50 - 160
Benzovindiflupyr	107	106	P/P	50 - 150
Carbamazepine	103	105	P/P	60 - 150
Clothianidin	109	112	P/P	60 - 150
Dinotefuran	107	111	P/P	50 - 150
Diuron	108	109	P/P	60 - 160
Fenuron	111	113	P/P	60 - 150
Fluridone	117	123	P/P	60 - 160
Hydrocodone	116	117	P/P	60 - 150
Ibuprofen	111	121	P/P	50 - 160
Imazapyr	95.4	93.6	P/P	50 - 150
Imidacloprid	103	99.0	P/P	60 - 150
Linuron	116	109	P/P	60 - 150
Mandestrobin	104	107	P/P	50 - 150
MCPP	88.8	92.1	P/P	50 - 150
Naproxen	60.7	76.6	P/P	50 - 160
Primidone	101	96.9	P/P	60 - 150
Pyraclostrobin	106	108	P/P	60 - 150
Silvex	84.5	86.5	P/P	50 - 150
Thiamethoxam	113	113	P/P	50 - 150
Tolfenpyrad	102	101	P/P	60 - 150
Triclopyr	96.4	88.2	P/P	50 - 150

Reference Method: SM 5310 B-2011

Run ID: A122369

Included Lab Sample IDs: 2446043, 2446045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A122429
Included Lab Sample IDs: 2446057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	92.4		P	80 - 120
PCB-1260	93.7		P	80 - 120

Reference Method: EPA 8276
Run ID: A122438
Included Lab Sample IDs: 2446057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	105		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122451
Included Lab Sample IDs: 2446045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122479
Included Lab Sample IDs: 2446042, 2446044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A122570
Included Lab Sample IDs: 2446057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.5		P	80 - 120
Alpha-BHC	92.1		P	80 - 120
Alpha-Chlordane	104		P	80 - 120
Beta-BHC	95.9		P	80 - 120
Beta-Cyfluthrin	89.7		P	80 - 120
Bifenthrin	89.3		P	80 - 120
Chlorothalonil	95.4		P	80 - 120
Cis-Nonachlor	80.0		P	80 - 120
Cypermethrin	84.5		P	80 - 120
Dacthal	96.2		P	80 - 120
DDD-p,p'	90.6		P	80 - 120
DDE-p,p'	96.0		P	80 - 120
Delta-BHC	92.5		P	80 - 120
Deltamethrin	91.0		P	80 - 120
Dichlobenil	102		P	80 - 120
Dicofol	99.7		P	80 - 120
Dieldrin	80.4		P	80 - 120
Endosulfan I	105		P	80 - 120
Endosulfan II	88.8		P	80 - 120
Endosulfan Sulfate	95.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A122570
Included Lab Sample IDs: 2446057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin	90.2		P	80 - 120
Endrin Aldehyde	91.6		P	80 - 120
Endrin Ketone	86.5		P	80 - 120
Esfenvalerate	90.4		P	80 - 120
Ethalfuralin	103		P	80 - 120
Fenpropathrin	90.8		P	80 - 120
Gamma-BHC	99.5		P	80 - 120
Gamma-Chlordane	108		P	80 - 120
Heptachlor	92.3		P	80 - 120
Heptachlor Epoxide	111		P	80 - 120
Hexachlorobenzene	92.4		P	80 - 120
Kepone	84.4		P	80 - 120
Lambda-Cyhalothrin	94.8		P	80 - 120
Methoprene	80.2		P	80 - 120
Methoxychlor	90.8		P	80 - 120
MGK-264	110		P	80 - 120
Mirex	95.9		P	80 - 120
Oxychlordane	88.3		P	80 - 120
Permethrin	94.1		P	80 - 120
Phenothrin	89.3		P	80 - 120
Piperonyl Butoxide	85.9		P	80 - 120
Prallethrin	88.1		P	80 - 120
Tau-Fluvalinate	92.6		P	80 - 120
Tetramethrin	88.4		P	80 - 120
Trans-Nonachlor	107		P	80 - 120
Triclosan Methyl	84.7		P	80 - 120
Trifluralin	102		P	80 - 120

Reference Method: EPA 8270E
Run ID: A122572
Included Lab Sample IDs: 2446057

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
DDT-p,p'	95.5		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	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	99.5			5.28	
EPA 180.1 Rev. 2.0	Turbidity	104			11.4	
EPA 300.0 Rev. 2.1	Chloride	105	105	107	0.646	
	Sulfate	106	105	106	1.02	
EPA 350.1 Rev. 2.0	Ammonia-N	100	99.4	100		0.651
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.8	103	110		4.29
EPA 353.2 Rev. 2.0	NO2NO3-N	93.5	93.0	91.0		2.17
EPA 365.1 Rev. 2.0	Total-P	104	105	103		1.46
EPA 8270E	Aldrin	51.2	62.4	56.2		10.4
	Alpha-BHC	79.2	69.6	72.1		3.47
	Alpha-Chlordane	93.5	81.5	80.5		1.23
	Beta-BHC	133	94.7	105		10.3
	Beta-Cyfluthrin	74.8	109	110		1.03
	Bifenthrin	42.2	83.7	86.9		3.76
	Chlorothalonil	97.2	170	171		0.959
	Cis-Nonachlor	56.2	80.3	82.2		2.31
	Cypermethrin	54.3	112	108		3.35
	Dacthal	110	87.9	103		15.5
	DDD-p,p'	64.0	94.5	92.7		1.85
	DDE-p,p'	89.9	69.8	75.4		7.73
	DDT-p,p'	69.4	91.1	98.4		6.17
	Delta-BHC	133	103	101		1.94
	Deltamethrin	87.7	130	133		2.22
	Dichlobenil	90.3	51.8	56.9		9.41
	Dicofol	78.9	86.4	82.4		4.70
	Dieldrin	66.4	80.4	74.3		7.86
	Endosulfan I	95.3	77.7	86.3		10.5
	Endosulfan II	99.6	77.2	74.0		4.26
	Endosulfan Sulfate	117	72.4	86.0		17.1
	Endrin	72.7	79.7	76.8		3.69
	Endrin Aldehyde	89.8	49.7	58.9		16.9
	Endrin Ketone	85.2	82.2	80.5		2.09
	Esfenvalerate	81.4	112	124		10.0
	Ethalfuralin	73.0	90.9	97.8		7.37
	Fenpropathrin	59.7	85.4	89.2		4.36
	Gamma-BHC	104	67.4	64.7		4.08
	Gamma-Chlordane	98.0	86.3	98.9		13.6
	Heptachlor	46.3	82.4	63.9		25.4
	Heptachlor Epoxide	103	85.9	92.3		7.13
	Hexachlorobenzene	65.5	63.3	63.5		0.410
	Kepone	70.0	57.8	58.3		0.825
	Lambda-Cyhalothrin	57.5	101	101		0.0607
	Methoprene	34.7	87.4	97.2		10.6
	Methoxychlor	75.4	78.6	79.5		1.19
	MGK-264	114	98.3	99.3		0.958
	Mirex	69.0	60.4	64.3		6.23
	Oxychlordane	71.5	97.2	96.5		0.650
	PCB-1016	87.0	87.4	86.2		1.40
	PCB-1260	87.9	81.7	89.9		9.50
	Permethrin	70.0	91.2	99.6		8.88
	Phenothrin	47.6	90.7	78.1		14.9
	Piperonyl Butoxide	83.9	96.1	111		14.8
	Prallethrin	73.8	67.1	69.4		3.48
	Tau-Fluvalinate	76.1	107	131		19.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8270E	Tetramethrin	69.9	105	97.5		7.55
	Trans-Nonachlor	83.8	70.3	88.2		22.6
	Triclosan Methyl	63.8	85.2	80.8		5.34
	Trifluralin	70.2	77.8	78.3		0.727
EPA 8276	Chlordane	70.9	72.4	66.4		8.53
	Toxaphene	90.7	73.9	71.9		2.84
EPA 8321B	2,4-D	73.5	90.0	92.7		2.01
	2,4,5-T	76.8	104	107		2.99
	Acesulfame K	84.6	103	110		6.67
	Acetaminophen	95.7	76.6	81.4		6.04
	Acetamiprid	89.0	57.2	58.4		2.11
	Afidopyropen	82.5	77.5	71.8		7.54
	AMPA	88.4	52.7	49.7		3.71
	Bentazon	97.0	41.4	31.5		4.38
	Benzovindiflupyr	87.8	75.8	75.4		0.636
	Carbamazepine	84.6	59.0	55.9		5.47
	Clothianidin	95.4	62.6	66.0		5.28
	Dinotefuran	105	64.2	67.6		5.11
	Diuron	80.7	44.7	49.6		8.10
	Endothall	93.9	96.6	98.0		1.39
	Fenuron	98.5	39.8	39.5		0.765
	Fluridone	95.8	60.8	57.5		4.13
	Glufosinate	96.5	83.4	81.9		1.78
	Glyphosate	99.0	102	101		0.240
	Hydrocodone	100	62.7	64.0		2.11
	Ibuprofen	84.3	64.3	70.7		9.52
	Imazapyr	88.2	68.6	58.3		6.38
	Imidacloprid	87.4	89.3	89.2		0.116
	Linuron	82.0	59.9	60.2		0.396
	Mandestrobin	86.4	78.2	79.2		1.34
	MCPP	89.4	101	108		6.35
	Naproxen	70.2	61.2	62.3		1.79
	Primidone	94.0	57.5	59.8		3.90
	Pyraclostrobin	87.9	73.5	74.7		1.60
	Silvex	83.2	96.9	103		6.26
	Sucralose	90.8	99.5	100		0.810
	Thiamethoxam	95.3	71.8	74.1		3.19
	Tolfenpyrad	62.5	52.0	52.0		0.113
	Triclopyr	79.2	98.9	110		11.0
SM 2320 B-2011	Total Alkalinity	97.1				1.99
SM 2540 C-2015	TDS	107				7.64
SM 2540 D-2015	TSS	92.0				
SM 4500-F- C-2011	Fluoride	99.6	100	99.8		0.480
SM 5310 B-2011	Organic Carbon	96.4	96.5	98.8		1.81

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2446042, 2446044
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2446042, 2446044
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2446042, 2446044
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2446042, 2446044
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2446043, 2446045

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2446043, 2446045
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2446043, 2446045
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2446043, 2446045
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2446057
EPA 8270E	PCBs in water matrices by GC/MS/MS	2446057
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2446057
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2446060
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2446042, 2446044
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2446042, 2446044
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2446042, 2446044
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2446042, 2446044
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2446043, 2446045

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	10/19/2023			10/19/2023 14:44	Anna M. Plaviak	2446042, 2446044
EPA 180.1 Rev. 2.0	10/19/2023			10/19/2023 13:54	Samantha L Bates	2446042
	10/19/2023			10/19/2023 13:56	Samantha L Bates	2446044
EPA 300.0 Rev. 2.1	10/19/2023			11/02/2023 09:03	James L Waggeberby	2446042
	10/19/2023			11/02/2023 09:18	James L Waggeberby	2446044
EPA 350.1 Rev. 2.0	10/19/2023			10/23/2023 13:30	Ping Hua	2446043
	10/19/2023			10/23/2023 13:31	Ping Hua	2446045
EPA 351.2 Rev. 2.0	10/19/2023	10/20/2023 11:17	Simonne.V. Calhoun	10/24/2023 15:58	Samantha L Bates	2446043
	10/19/2023	10/20/2023 11:17	Simonne.V. Calhoun	10/24/2023 16:00	Samantha L Bates	2446045
EPA 353.2 Rev. 2.0	10/19/2023			10/23/2023 16:13	Fadila Guebre	2446043
	10/19/2023			10/23/2023 16:14	Fadila Guebre	2446045
EPA 365.1 Rev. 2.0	10/19/2023	10/23/2023 13:55	Simonne.V. Calhoun	10/24/2023 12:18	Simonne.V. Calhoun	2446043
	10/19/2023	10/23/2023 13:55	Simonne.V. Calhoun	10/31/2023 10:24	James L Waggeberby	2446045
EPA 8270E	10/19/2023	10/20/2023 08:30	Rasheda Ghaffari	10/26/2023 21:38	Lipi Saha	2446057
	10/19/2023	10/20/2023 08:30	Rasheda Ghaffari	10/29/2023 05:20	Julie Wi	2446057
	10/19/2023	10/20/2023 08:30	Rasheda Ghaffari	11/02/2023 23:52	Julie Wi	2446057
EPA 8276	10/19/2023	10/20/2023 08:30	Rasheda Ghaffari	10/28/2023 08:54	Arthur Maknenko	2446057
EPA 8321B	10/19/2023	10/20/2023 12:00	Hana Lee	10/23/2023 12:47	Tae K Lee	2446060
	10/19/2023	10/20/2023 12:00	Hana Lee	10/24/2023 02:42	Tae K Lee	2446060
	10/19/2023	10/24/2023 08:30	Hoor Shaik	10/24/2023 23:16	Juyoung Kim	2446060
	10/19/2023	10/24/2023 08:30	Hoor Shaik	10/25/2023 12:11	Juyoung Kim	2446060
SM 2320 B-2011	10/19/2023			10/21/2023 00:56	Chandler E Cox	2446042
	10/19/2023			10/21/2023 01:05	Chandler E Cox	2446044
SM 2540 C-2015	10/19/2023			10/24/2023 15:22	Yijie Li	2446042, 2446044
SM 2540 D-2015	10/19/2023			10/24/2023 15:22	Yijie Li	2446042, 2446044
SM 4500-F- C-2011	10/19/2023			10/21/2023 00:56	Chandler E Cox	2446042
	10/19/2023			10/21/2023 01:05	Chandler E Cox	2446044
SM 5310 B-2011	10/19/2023			10/25/2023 18:03	Elise M. Gillis	2446043
	10/19/2023			10/25/2023 18:16	Elise M. Gillis	2446045