

Chemical Analysis Report

SE-DIST-2023-10-26-01

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

Event Description: **SMP - Highlands**
Request ID: **RQ-2023-10-02-67**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 16-NOV-2023 09:38



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: Indian Prairie Canal Upstream of SR 70

Collection Date/Time: 10/25/2023 09:35

Field ID: G4SE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447326	EPA 8270E	Aldrin	0.67	U	ng/L	P437200	
		Alpha-BHC	0.10	U	ng/L	P437200	MS
		Alpha-Chlordane	0.21	U	ng/L	P437200	
		PCB-1016	2.1	U	ng/L	P437200	
		Beta-BHC	0.11	I	ng/L	P437200	RPD
		PCB-1221	2.1	U	ng/L	P437200	
		Beta-Cyfluthrin	1.3	U	ng/L	P437200	
		PCB-1232	2.1	U	ng/L	P437200	
		Bifenthrin	0.51	U	ng/L	P437200	
		PCB-1242	2.1	U	ng/L	P437200	
		PCB-1248	2.1	U	ng/L	P437200	
		Chlorothalonil	3.7	U	ng/L	P437200	
		PCB-1254	2.1	U	ng/L	P437200	
		Cis-Nonachlor	0.21	U	ng/L	P437200	
		PCB-1260	2.1	U	ng/L	P437200	
		Cypermethrin	1.5	U	ng/L	P437200	
		Dacthal	0.15	U	ng/L	P437200	RPD
		DDD-p,p'	0.26	U	ng/L	P437200	
		DDE-p,p'	0.21	U	ng/L	P437200	
		DDT-p,p'	0.82	U	ng/L	P437200	
		Delta-BHC	0.41	U	ng/L	P437200	
		Deltamethrin	1.3	U	ng/L	P437200	
		Dichlobenil	0.26	U	ng/L	P437200	
		Dicofol	1.3	U	ng/L	P437200	
		Dieldrin	0.41	U	ng/L	P437200	
		Endosulfan I	0.41	U	ng/L	P437200	
		Endosulfan II	0.92	U	ng/L	P437200	
		Endosulfan Sulfate	0.31	U	ng/L	P437200	
		Endrin	0.92	U	ng/L	P437200	
		Endrin Aldehyde	0.77	U	ng/L	P437200	
		Endrin Ketone	0.41	U	ng/L	P437200	RPD
		Esfenvalerate	0.77	U	ng/L	P437200	
		Ethalfuralin	0.15	U	ng/L	P437200	MS
		Fenpropathrin	0.26	U	ng/L	P437200	
		Gamma-BHC	0.13	U	ng/L	P437200	
		Gamma-Chlordane	0.21	U	ng/L	P437200	
		Heptachlor	0.21	U	ng/L	P437200	
		Heptachlor Epoxide	0.26	U	ng/L	P437200	
		Hexachlorobenzene**	1.0	U	ng/L	P437200	
		Kepone	14	U	ng/L	P437200	
		Lambda-Cyhalothrin	0.77	U	ng/L	P437200	
		Methoprene	0.77	U	ng/L	P437200	
		Methoxychlor	0.31	U	ng/L	P437200	
		MGK-264	0.21	U	ng/L	P437200	

Field ID: G4SE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447326	EPA 8270E	Mirex	0.36	U	ng/L	P437200	
		Oxychlordane	0.31	U	ng/L	P437200	
		Permethrin	1.6	U	ng/L	P437200	
		Phenothrin	0.92	U	ng/L	P437200	
		Piperonyl Butoxide	0.18	I	ng/L	P437200	
		Prallethrin	2.1	U	ng/L	P437200	
		Tau-Fluvalinate	0.26	U	ng/L	P437200	
		Tetramethrin	0.77	U	ng/L	P437200	
		Trans-Nonachlor	0.21	U	ng/L	P437200	
		Triclosan Methyl	0.15	U	ng/L	P437200	
		Trifluralin	0.21	U	ng/L	P437200	
	EPA 8276	Chlordane	2.1	UJ	ng/L	P437200	MS
		Toxaphene	15	U	ng/L	P437200	
2447333	EPA 200.7 Rev. 4.4	Calcium	11.3		mg/L	P437091	
		Iron	400		ug/L	P437091	
		Magnesium	5.35		mg/L	P437091	
		Potassium	4.4		mg/L	P437091	
		Sodium	11.2		mg/L	P437091	
		Strontium	352		ug/L	P437091	
		Tin	3.0	U	ug/L	P437091	
		Titanium	0.75	U	ug/L	P437091	
		Vanadium	2.0	U	ug/L	P437091	
		Zinc	54		ug/L	P437091	
	EPA 200.8 Rev. 5.4	Aluminum	111		ug/L	P437091	
		Antimony	0.055	I	ug/L	P437091	
		Arsenic	0.61		ug/L	P437091	
		Barium	15.0		ug/L	P437091	
		Beryllium	0.019	I	ug/L	P437091	
		Boron	32.6		ug/L	P437091	
		Cadmium	0.020	U	ug/L	P437091	
		Chromium	0.40	U	ug/L	P437091	
		Cobalt	0.107		ug/L	P437091	
		Copper	0.40	U	ug/L	P437091	
		Lead	0.20	U	ug/L	P437091	
		Manganese	8.15		ug/L	P437091	
		Molybdenum	0.16	I	ug/L	P437091	
		Nickel	0.50	U	ug/L	P437091	
		Selenium	0.20	U	ug/L	P437091	
	SM 2340 B-2011	Silver	0.010	U	ug/L	P437091	
		Thallium	0.10	U	ug/L	P437091	
		Hardness	50.3		mg/L	P437091	

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

Sample Location: Jackson Creek at SR66

Collection Date/Time: 10/25/2023 10:15

Field ID: G4SE0187

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447309	DEP SOP: NU-094-1	Color (true)	120	A	PCU	P437053	
	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P437059	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P437503	
		Sulfate	17		mg SO4/L	P437507	
	SM 2320 B-2011	Total Alkalinity	4.7		mg CaCO3/L	P437158	
	SM 2540 C-2015	TDS	88		mg/L	P437565	
	SM 2540 D-2015	TSS	2	I	mg/L	P437416	
	SM 4500-F- C-2011	Fluoride	0.046	I	mg F/L	P437161	
2447310	EPA 350.1 Rev. 2.0	Ammonia-N	0.069		mg N/L	P437142	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P437064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.53		mg N/L	P437641	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P437068	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P437266	

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: Arbuckle Creek at US HWY 98

Collection Date/Time: 10/25/2023 10:45

Field ID: G4SE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447307	DEP SOP: NU-094-1	Color (true)	250		PCU	P437053	
	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P437059	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P437503	
		Sulfate	12		mg SO4/L	P437507	
	SM 2320 B-2011	Total Alkalinity	9.9		mg CaCO3/L	P437158	
	SM 2540 C-2015	TDS	95		mg/L	P437565	
	SM 2540 D-2015	TSS	8	I	mg/L	P437416	
	SM 4500-F- C-2011	Fluoride	0.062	I	mg F/L	P437161	
2447308	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P437142	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P437064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043		mg N/L	P437641	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P437068	
	SM 5310 B-2011	Organic Carbon	24		mg C/L	P437266	

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: Arbuckle Branch at Arbuckle Creek Rd

Collection Date/Time: 10/25/2023 11:30

Field ID: G4SE0149

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447305	DEP SOP: NU-094-1	Color (true)	280		PCU	P437053	
	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P437059	
	EPA 300.0 Rev. 2.1	Chloride	24	A	mg Cl/L	P437503	
		Sulfate	13	A	mg SO4/L	P437507	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P437158	
	SM 2540 C-2015	TDS	141		mg/L	P437565	
	SM 2540 D-2015	TSS	9	I	mg/L	P437416	
2447306	SM 4500-F- C-2011	Fluoride	0.049	I	mg F/L	P437161	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P437142	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.6		mg N/L	P437064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047		mg N/L	P437641	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P437068	
2447331	SM 5310 B-2011	Organic Carbon	33		mg C/L	P437266	
	EPA 8321B	2,4-D	0.0027	I	ug/L	P437027	
		Acesulfame K	0.11	I	ug/L	P437019	
		2,4,5-T	0.0040	U	ug/L	P437027	
		AMPA	0.10	U	ug/L	P437019	
		Acetaminophen	0.0080	U	ug/L	P437027	
		Acetamiprid	0.0020	U	ug/L	P437027	
		Endothall	0.25	U	ug/L	P437019	
		Glufosinate	0.10	U	ug/L	P437019	
		Glyphosate	0.10	U	ug/L	P437019	
		Afidopyropen	0.0020	U	ug/L	P437027	
		Bentazon	0.0011	I	ug/L	P437027	
		Sucralose	0.079		ug/L	P437019	
		Benzovindiflupyr	0.0020	U	ug/L	P437027	
		Carbamazepine	8.0E-04	U	ug/L	P437027	
		Clothianidin	0.0020	U	ug/L	P437027	
		Dinotefuran	0.0020	U	ug/L	P437027	
		Diuron	0.0020	U	ug/L	P437027	
		Fenuron	0.032	U	ug/L	P437027	
		Fluridone	8.0E-04	U	ug/L	P437027	
		Imazapyr	0.0060	I	ug/L	P437027	
		Hydrocodone	0.0020	U	ug/L	P437027	
		Ibuprofen	0.080	U	ug/L	P437027	
		Imidacloprid	0.0034	I	ug/L	P437027	
		Linuron	0.0040	U	ug/L	P437027	
		Mandestrobin	0.0020	U	ug/L	P437027	
		MCPP	0.0020	U	ug/L	P437027	
		Naproxen	0.0080	U	ug/L	P437027	
		Primidone	0.0040	U	ug/L	P437027	
		Pyraclostrobin	0.0020	U	ug/L	P437027	
		Silvex	0.0040	U	ug/L	P437027	
		Thiamethoxam	0.0020	U	ug/L	P437027	

Field ID: G4SE0149

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447331	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P437027	
		Triclopyr	0.0040	U	ug/L	P437027	

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: Kissimmee Tributary at US 98 East of Buckhorn

Collection Date/Time: 10/25/2023 12:15

Field ID: G4SE0155

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2447332	EPA 8321B	2,4-D	0.0020	U	ug/L	P437027	
		Acesulfame K	0.10	U	ug/L	P437019	
		2,4,5-T	0.0040	U	ug/L	P437027	
		AMPA	0.10	U	ug/L	P437019	
		Acetaminophen	0.0080	U	ug/L	P437027	
		Acetamiprid	0.0020	U	ug/L	P437027	
		Endothall	0.25	U	ug/L	P437019	
		Glufosinate	0.10	U	ug/L	P437019	
		Glyphosate	0.10	U	ug/L	P437019	
		Afidopyropen	0.0020	U	ug/L	P437027	
		Bentazon	8.0E-04	U	ug/L	P437027	
		Sucralose	0.010	U	ug/L	P437019	
		Benzovindiflupyr	0.0020	U	ug/L	P437027	
		Carbamazepine	8.0E-04	U	ug/L	P437027	
		Clothianidin	0.033		ug/L	P437027	
		Dinotefuran	0.0020	U	ug/L	P437027	
		Diuron	0.0020	U	ug/L	P437027	
		Fenuron	0.032	U	ug/L	P437027	
		Fluridone	8.0E-04	U	ug/L	P437027	
		Imazapyr	0.0047	I	ug/L	P437027	
		Hydrocodone	0.0020	U	ug/L	P437027	
		Ibuprofen	0.080	U	ug/L	P437027	
		Imidacloprid	0.19		ug/L	P437027	
		Linuron	0.0040	U	ug/L	P437027	
		Mandestrobin	0.0020	U	ug/L	P437027	
		MCPP	0.0020	U	ug/L	P437027	
		Naproxen	0.0080	U	ug/L	P437027	
		Primidone	0.0040	U	ug/L	P437027	
		Pyraclostrobin	0.0020	U	ug/L	P437027	
		Silvex	0.0040	U	ug/L	P437027	
		Thiamethoxam	0.052		ug/L	P437027	
		Tolfenpyrad	0.0020	U	ug/L	P437027	
		Triclopyr	0.0040	U	ug/L	P437027	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P437053

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437059

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P437091

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437091

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

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: P437507

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437142

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437064

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437641

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437068

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

Reference Method: EPA 8270E
Batch ID: P437200

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P437200

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

Reference Method: EPA 8276

Batch ID: P437200

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

Reference Method: EPA 8321B

Batch ID: P437019

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P437027

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: P437158

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

Reference Method: SM 2540 C-2015

Batch ID: P437565

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P437416

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P437161

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P437266

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: P437053

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437059

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P437091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	112		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	103		P	85 - 115
Sodium	107		P	85 - 115
Strontium	99.9		P	85 - 115
Tin	98.7		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	101		P	85 - 115
Zinc	98.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.3		P	85 - 115
Antimony	97.3		P	85 - 115
Arsenic	97.1		P	85 - 115
Barium	101		P	85 - 115
Beryllium	93.8		P	85 - 115
Boron	102		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.9		P	85 - 115
Cobalt	95.2		P	85 - 115
Copper	93.9		P	85 - 115
Lead	91.9		P	85 - 115
Manganese	98.8		P	85 - 115
Molybdenum	96.9		P	85 - 115
Nickel	93.6		P	85 - 115
Selenium	99.2		P	85 - 115
Silver	105		P	85 - 115
Thallium	96.1		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437064

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437641

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437068

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

Reference Method: EPA 8270E
Batch ID: P437200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	33.2		P	30 - 96.0
Alpha-BHC	75.0		P	70 - 109
Alpha-Chlordane	58.6		P	45 - 107
Beta-BHC	76.6		P	64 - 138
Beta-Cyfluthrin	42.7		P	17 - 141
Bifenthrin	32.7		P	10 - 113
Chlorothalonil	45.9		P	26 - 180
Cis-Nonachlor	44.2		P	37 - 102
Cypermethrin	44.8		P	20 - 133
Dacthal	74.9		P	69 - 114
DDD-p,p'	52.4		P	42 - 105
DDE-p,p'	55.8		P	42 - 106
DDT-p,p'	58.4		P	42 - 107
Delta-BHC	75.3		P	67 - 144
Deltamethrin	69.7		P	15 - 149
Dichlobenil	54.6		P	46 - 117
Dicofol	64.9		P	34 - 114
Dieldrin	59.3		P	50 - 108
Endosulfan I	61.8		P	55 - 104
Endosulfan II	70.9		P	51 - 111
Endosulfan Sulfate	58.0		P	56 - 121
Endrin	46.8		P	10 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P437200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin Aldehyde	44.2		P	34 - 114
Endrin Ketone	87.8		P	63 - 177
Esfenvalerate	46.4		P	29 - 143
Ethalfuralin	47.3		P	46 - 96.0
Fenpropathrin	35.9		P	28 - 115
Gamma-BHC	71.9		P	65 - 121
Gamma-Chlordane	56.7		P	39 - 103
Heptachlor	56.3		P	39 - 94.0
Heptachlor Epoxide	70.7		P	54 - 104
Hexachlorobenzene	39.5		P	36 - 100
Kepone	31.0		P	10 - 225
Lambda-Cyhalothrin	31.2		P	10 - 135
Methoprene	23.8		P	10 - 109
Methoxychlor	57.0		P	52 - 112
MGK-264	49.8		P	44 - 117
Mirex	39.6		P	20 - 90.0
Oxychlordane	62.8		P	44 - 102
PCB-1016	86.1		P	45 - 107
PCB-1260	76.8		P	40 - 118
Permethrin	43.1		P	18 - 135
Phenothrin	32.3		P	10 - 102
Piperonyl Butoxide	67.1		P	28 - 156
Prallethrin	48.2		P	28 - 113
Tau-Fluvalinate	38.0		P	10 - 123
Tetramethrin	53.1		P	18 - 158
Trans-Nonachlor	39.2		P	39 - 104
Triclosan Methyl	59.5		P	54 - 108
Trifluralin	46.7		P	46 - 97.0

Reference Method: EPA 8276

Batch ID: P437200

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	63.1		P	52 - 117
Toxaphene	68.2		P	44 - 125

Reference Method: EPA 8321B

Batch ID: P437019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	130		P	40 - 150
AMPA	98.6		P	40 - 160
Endothall	93.1		P	40 - 160
Glufosinate	101		P	40 - 160
Glyphosate	94.6		P	40 - 160
Sucralose	117		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P437027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	72.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P437027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	82.3		P	40 - 150
Acetaminophen	88.5		P	30 - 150
Acetamiprid	79.4		P	40 - 150
Afidopyropen	69.4		P	30 - 150
Bentazon	86.1		P	30 - 150
Benzovindiflupyr	81.5		P	40 - 150
Carbamazepine	79.8		P	40 - 150
Clothianidin	88.0		P	40 - 150
Dinotefuran	99.3		P	40 - 150
Diuron	80.8		P	40 - 150
Fenuron	89.9		P	40 - 150
Fluridone	83.6		P	40 - 150
Hydrocodone	90.4		P	40 - 150
Ibuprofen	62.8		P	40 - 150
Imazapyr	83.4		P	40 - 150
Imidacloprid	83.2		P	40 - 150
Linuron	76.9		P	40 - 150
Mandestrobin	86.3		P	40 - 150
MCPP	89.4		P	40 - 150
Naproxen	65.3		P	40 - 150
Primidone	83.6		P	40 - 150
Pyraclostrobin	81.7		P	40 - 150
Silvex	72.0		P	40 - 150
Thiamethoxam	84.8		P	40 - 150
Tolfenpyrad	51.2		P	30 - 150
Triclopyr	86.2		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P437158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P437565

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.8		P	85 - 115

Reference Method: SM 2540 D-2015

Batch ID: P437416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	109		P	85 - 115

Reference Method: SM 4500-F- C-2011

Batch ID: P437161

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P437266

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P437091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446928	Calcium	102		P	80 - 120
2446928	Iron	110	109	P/P	80 - 120
2446928	Magnesium	103		P	80 - 120
2446928	Potassium	102	101	P/P	80 - 120
2446928	Sodium	106	105	P/P	80 - 120
2446928	Strontium	98.2	97.4	P/P	80 - 120
2446928	Tin	95.5	95.4	P/P	80 - 120
2446928	Titanium	101	101	P/P	80 - 120
2446928	Vanadium	99.5	99.5	P/P	80 - 120
2446928	Zinc	94.0	94.0	P/P	80 - 120
2447188	Calcium	98.7		P	80 - 120
2447188	Iron	109		P	80 - 120
2447188	Magnesium	103		P	80 - 120
2447188	Potassium	102		P	80 - 120
2447188	Sodium	106		P	80 - 120
2447188	Strontium	98.0		P	80 - 120
2447188	Tin	95.2		P	80 - 120
2447188	Titanium	101		P	80 - 120
2447188	Vanadium	100		P	80 - 120
2447188	Zinc	97.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P437091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446928	Aluminum	96.6	97.7	P/P	80 - 120
2446928	Antimony	98.0	99.5	P/P	80 - 120
2446928	Arsenic	96.3	98.9	P/P	80 - 120
2446928	Barium	100	101	P/P	80 - 120
2446928	Beryllium	94.0	93.9	P/P	80 - 120
2446928	Boron	101	104	P/P	80 - 120
2446928	Cadmium	99.7	101	P/P	80 - 120
2446928	Chromium	99.2	100	P/P	80 - 120
2446928	Cobalt	91.3	93.1	P/P	80 - 120
2446928	Copper	91.4	92.3	P/P	80 - 120
2446928	Lead	90.6	92.8	P/P	80 - 120
2446928	Manganese	97.7	99.6	P/P	80 - 120
2446928	Molybdenum	97.2	100	P/P	80 - 120
2446928	Nickel	89.7	91.2	P/P	80 - 120
2446928	Selenium	97.3	98.0	P/P	80 - 120
2446928	Silver	105	106	P/P	80 - 120
2446928	Thallium	97.4	100	P/P	80 - 120
2447188	Aluminum	96.7		P	80 - 120
2447188	Antimony	99.5		P	80 - 120
2447188	Arsenic	95.8		P	80 - 120
2447188	Barium	99.7		P	80 - 120
2447188	Beryllium	94.9		P	80 - 120
2447188	Boron	105		P	80 - 120
2447188	Cadmium	101		P	80 - 120
2447188	Chromium	98.8		P	80 - 120
2447188	Cobalt	92.4		P	80 - 120
2447188	Copper	89.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447188	Lead	93.2		P	80 - 120
2447188	Manganese	96.1		P	80 - 120
2447188	Molybdenum	98.8		P	80 - 120
2447188	Nickel	90.4		P	80 - 120
2447188	Selenium	96.5		P	80 - 120
2447188	Silver	105		P	80 - 120
2447188	Thallium	100		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447305	Chloride	103		P	90 - 110
2447362	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447305	Sulfate	103		P	90 - 110
2447362	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447283	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447181	Kjeldahl Nitrogen	100	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446744	NO2NO3-N	100	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447218	Total-P	106	107	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P437200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447326	PCB-1016	55.8	65.4	P/P	45 - 107
2447326	PCB-1260	52.0	61.6	P/P	40 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P437200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447431	Aldrin	40.6	32.7	P/P	24 - 81.0
2447431	Alpha-BHC	67.0	62.7	P/F	65 - 110
2447431	Alpha-Chlordane	59.8	48.8	P/P	43 - 119
2447431	Beta-BHC	84.7	60.5	P/P	54 - 165
2447431	Beta-Cyfluthrin	80.5	64.7	P/P	27 - 165
2447431	Bifenthrin	61.2	58.9	P/P	17 - 117
2447431	Chlorothalonil	68.3	60.0	P/P	10 - 255
2447431	Cis-Nonachlor	50.7	44.8	P/P	34 - 98.0
2447431	Cypermethrin	83.9	60.4	P/P	25 - 143
2447431	Dacthal	83.0	63.2	P/P	55 - 139
2447431	DDD-p,p'	49.5	54.7	P/P	30 - 109
2447431	DDE-p,p'	48.0	42.5	P/P	35 - 106
2447431	DDT-p,p'	67.8	65.2	P/P	41 - 101
2447431	Delta-BHC	93.1	67.9	P/P	58 - 165
2447431	Deltamethrin	133	103	P/P	10 - 194
2447431	Dichlobenil	34.6	42.9	P/P	22 - 114
2447431	Dicofol	69.0	64.1	P/P	17 - 133
2447431	Dieldrin	53.9	46.4	P/P	45 - 129
2447431	Endosulfan I	66.2	62.9	P/P	49 - 104
2447431	Endosulfan II	76.6	66.4	P/P	37 - 117
2447431	Endosulfan Sulfate	78.7	57.6	P/P	38 - 128
2447431	Endrin	52.5	46.0	P/P	35 - 116
2447431	Endrin Aldehyde	41.3	34.5	P/P	19 - 108
2447431	Endrin Ketone	94.7	56.8	P/P	44 - 134
2447431	Esfenvalerate	99.2	79.1	P/P	27 - 176
2447431	Ethalfuralin	46.1	45.9	F/F	49 - 100
2447431	Fenpropathrin	59.1	49.0	P/P	34 - 117
2447431	Gamma-BHC	77.1	60.6	P/P	59 - 129
2447431	Gamma-Chlordane	78.0	52.7	P/P	33 - 107
2447431	Heptachlor	67.8	51.2	P/P	37 - 94.0
2447431	Heptachlor Epoxide	81.4	60.4	P/P	38 - 118
2447431	Hexachlorobenzene	39.2	42.2	P/P	35 - 97.0
2447431	Kepone	31.3	15.4	P/P	10 - 221
2447431	Lambda-Cyhalothrin	70.8	52.6	P/P	23 - 190
2447431	Methoprene	49.0	44.8	P/P	21 - 109
2447431	Methoxychlor	55.8	52.3	P/P	46 - 118
2447431	MGK-264	58.4	53.3	P/P	39 - 122
2447431	Mirex	44.9	40.8	P/P	25 - 90.0
2447431	Oxychlordane	44.9	43.5	P/P	42 - 100
2447431	Permethrin	63.3	55.3	P/P	33 - 181
2447431	Phenothrin	51.2	56.0	P/P	12 - 125
2447431	Piperonyl Butoxide	97.1	70.5	P/P	10 - 178
2447431	Prallethrin	77.8	65.6	P/P	24 - 122
2447431	Tau-Fluvalinate	97.6	77.0	P/P	13 - 151
2447431	Tetramethrin	72.6	61.8	P/P	16 - 172
2447431	Trans-Nonachlor	46.3	40.3	P/P	39 - 100
2447431	Triclosan Methyl	59.1	56.6	P/P	43 - 110
2447431	Trifluralin	49.4	51.8	P/P	45 - 94.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P437200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447326	Chlordane	31.4	34.7	F/F	43 - 123
2447326	Toxaphene	32.9	36.9	P/P	27 - 156

Reference Method: EPA 8321B

Batch ID: P437019

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447226	Acesulfame K	146	147	P/P	40 - 150
2447226	AMPA	78.5	80.0	P/P	40 - 160
2447226	Endothall	88.9	86.1	P/P	40 - 160
2447226	Glufosinate	81.2	89.8	P/P	40 - 160
2447226	Glyphosate	90.5	86.7	P/P	40 - 160
2447226	Sucralose	115	117	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P437027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447187	2,4-D	84.6	69.7	P/P	40 - 150
2447187	2,4,5-T	108	96.8	P/P	40 - 150
2447187	Acetaminophen	85.4	84.3	P/P	30 - 150
2447187	Acetamiprid	75.1	70.2	P/P	40 - 150
2447187	Afidopyropen	67.1	68.3	P/P	30 - 150
2447187	Bentazon	88.5	71.2	P/P	30 - 150
2447187	Benzovindiflupyr	80.8	75.1	P/P	40 - 150
2447187	Carbamazepine	77.7	72.5	P/P	40 - 150
2447187	Clothianidin	91.2	82.2	P/P	40 - 150
2447187	Dinotefuran	101	94.2	P/P	40 - 150
2447187	Diuron	70.8	67.3	P/P	40 - 150
2447187	Fenuron	81.1	75.0	P/P	40 - 150
2447187	Fluridone	72.9	79.3	P/P	40 - 150
2447187	Hydrocodone	89.1	84.3	P/P	40 - 150
2447187	Ibuprofen	61.2	63.7	P/P	40 - 150
2447187	Imazapyr	93.1	87.1	P/P	40 - 150
2447187	Imidacloprid	92.4	86.8	P/P	40 - 150
2447187	Linuron	63.5	65.4	P/P	40 - 150
2447187	Mandestrobin	84.3	78.2	P/P	40 - 150
2447187	MCPP	98.7	81.3	P/P	40 - 150
2447187	Naproxen	64.5	53.2	P/P	40 - 150
2447187	Primidone	84.0	77.1	P/P	40 - 150
2447187	Pyraclostrobin	80.6	73.4	P/P	40 - 150
2447187	Silvex	83.8	71.0	P/P	40 - 150
2447187	Thiamethoxam	81.7	80.0	P/P	40 - 150
2447187	Tolfenpyrad	55.9	53.3	P/P	30 - 150
2447187	Triclopyr	100	90.6	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P437161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447213	Fluoride	102	101	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P437266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447283	Organic Carbon	93.7	95.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447309	Color (true)	2.77	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447192	Turbidity	4.13	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P437091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446928	Calcium	0.333	Spike	P	0 - 20
2446928	Iron	0.731	Spike	P	0 - 20
2446928	Magnesium	0.573	Spike	P	0 - 20
2446928	Potassium	0.824	Spike	P	0 - 20
2446928	Sodium	0.284	Spike	P	0 - 20
2446928	Strontium	0.749	Spike	P	0 - 20
2446928	Tin	0.0875	Spike	P	0 - 20
2446928	Titanium	0.0360	Spike	P	0 - 20
2446928	Vanadium	0.0142	Spike	P	0 - 20
2446928	Zinc	0.00372	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446928	Aluminum	1.12	Spike	P	0 - 20
2446928	Antimony	1.42	Spike	P	0 - 20
2446928	Arsenic	2.62	Spike	P	0 - 20
2446928	Barium	0.792	Spike	P	0 - 20
2446928	Beryllium	0.176	Spike	P	0 - 20
2446928	Boron	2.46	Spike	P	0 - 20
2446928	Cadmium	1.48	Spike	P	0 - 20
2446928	Chromium	1.02	Spike	P	0 - 20
2446928	Cobalt	2.00	Spike	P	0 - 20
2446928	Copper	1.02	Spike	P	0 - 20
2446928	Lead	2.41	Spike	P	0 - 20
2446928	Manganese	1.91	Spike	P	0 - 20
2446928	Molybdenum	2.64	Spike	P	0 - 20
2446928	Nickel	1.68	Spike	P	0 - 20
2446928	Selenium	0.691	Spike	P	0 - 20
2446928	Silver	1.23	Spike	P	0 - 20
2446928	Thallium	2.80	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447305	Chloride	0.800	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447305	Sulfate	0.628	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447283	Ammonia-N	0.396	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447181	Kjeldahl Nitrogen	4.31	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446744	NO2NO3-N	0.404	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447218	Total-P	1.34	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P437200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447326	PCB-1016	15.8	Spike	P	0 - 25
2447326	PCB-1260	16.9	Spike	P	0 - 30
2447431	Aldrin	21.4	Spike	P	0 - 41
2447431	Alpha-BHC	6.72	Spike	P	0 - 25
2447431	Alpha-Chlordane	20.3	Spike	P	0 - 32
2447431	Beta-BHC	33.4	Spike	F	0 - 33
2447431	Beta-Cyfluthrin	21.8	Spike	P	0 - 43
2447431	Bifenthrin	3.89	Spike	P	0 - 52
2447431	Chlorothalonil	12.9	Spike	P	0 - 82

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P437200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447431	Cis-Nonachlor	12.2	Spike	P	0 - 33
2447431	Cypermethrin	32.5	Spike	P	0 - 51
2447431	Dacthal	27.1	Spike	F	0 - 27
2447431	DDD-p,p'	10.1	Spike	P	0 - 39
2447431	DDE-p,p'	12.1	Spike	P	0 - 31
2447431	DDT-p,p'	3.88	Spike	P	0 - 29
2447431	Delta-BHC	31.4	Spike	P	0 - 35
2447431	Deltamethrin	25.2	Spike	P	0 - 100
2447431	Dichlobenil	21.5	Spike	P	0 - 40
2447431	Dicofol	7.37	Spike	P	0 - 37
2447431	Dieldrin	15.1	Spike	P	0 - 27
2447431	Endosulfan I	4.97	Spike	P	0 - 23
2447431	Endosulfan II	14.3	Spike	P	0 - 34
2447431	Endosulfan Sulfate	31.0	Spike	P	0 - 36
2447431	Endrin	13.1	Spike	P	0 - 45
2447431	Endrin Aldehyde	17.7	Spike	P	0 - 76
2447431	Endrin Ketone	50.1	Spike	F	0 - 43
2447431	Esfenvalerate	22.5	Spike	P	0 - 51
2447431	Ethalfuralin	0.462	Spike	P	0 - 22
2447431	Fenpropathrin	18.8	Spike	P	0 - 49
2447431	Gamma-BHC	24.0	Spike	P	0 - 28
2447431	Gamma-Chlordane	38.8	Spike	P	0 - 40
2447431	Heptachlor	27.9	Spike	P	0 - 29
2447431	Heptachlor Epoxide	25.1	Spike	P	0 - 33
2447431	Hexachlorobenzene	7.46	Spike	P	0 - 36
2447431	Kepone	68.1	Spike	P	0 - 85
2447431	Lambda-Cyhalothrin	29.5	Spike	P	0 - 55
2447431	Methoprene	8.98	Spike	P	0 - 53
2447431	Methoxychlor	6.47	Spike	P	0 - 50
2447431	MGK-264	9.09	Spike	P	0 - 43
2447431	Mirex	9.56	Spike	P	0 - 40
2447431	Oxychlordane	3.31	Spike	P	0 - 31
2447431	Permethrin	13.4	Spike	P	0 - 50
2447431	Phenothrin	8.84	Spike	P	0 - 58
2447431	Piperonyl Butoxide	31.7	Spike	P	0 - 100
2447431	Prallethrin	17.1	Spike	P	0 - 39
2447431	Tau-Fluvalinate	23.6	Spike	P	0 - 54
2447431	Tetramethrin	16.1	Spike	P	0 - 51
2447431	Trans-Nonachlor	14.0	Spike	P	0 - 39
2447431	Triclosan Methyl	4.31	Spike	P	0 - 31
2447431	Trifluralin	4.72	Spike	P	0 - 22

Reference Method: EPA 8276
Batch ID: P437200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447326	Chlordane	10.1	Spike	P	0 - 28
2447326	Toxaphene	11.3	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P437019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447226	Acesulfame K	0.686	Spike	P	0 - 30
2447226	AMPA	1.90	Spike	P	0 - 30
2447226	Endothall	3.27	Spike	P	0 - 30
2447226	Glufosinate	10.0	Spike	P	0 - 30
2447226	Glyphosate	4.28	Spike	P	0 - 30
2447226	Sucralose	1.92	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P437027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447187	2,4-D	19.3	Spike	P	0 - 30
2447187	2,4,5-T	10.6	Spike	P	0 - 30
2447187	Acetaminophen	1.24	Spike	P	0 - 30
2447187	Acetamiprid	6.68	Spike	P	0 - 30
2447187	Afidopyropen	1.79	Spike	P	0 - 30
2447187	Bentazon	18.5	Spike	P	0 - 30
2447187	Benzovindiflupyr	7.25	Spike	P	0 - 30
2447187	Carbamazepine	6.92	Spike	P	0 - 30
2447187	Clothianidin	10.3	Spike	P	0 - 30
2447187	Dinotefuran	6.65	Spike	P	0 - 30
2447187	Diuron	5.09	Spike	P	0 - 30
2447187	Fenuron	7.77	Spike	P	0 - 30
2447187	Fluridone	8.35	Spike	P	0 - 30
2447187	Hydrocodone	5.44	Spike	P	0 - 30
2447187	Ibuprofen	4.05	Spike	P	0 - 30
2447187	Imazapyr	6.74	Spike	P	0 - 30
2447187	Imidacloprid	6.20	Spike	P	0 - 30
2447187	Linuron	2.85	Spike	P	0 - 30
2447187	Mandestrobin	7.51	Spike	P	0 - 30
2447187	MCPP	19.4	Spike	P	0 - 30
2447187	Naproxen	19.2	Spike	P	0 - 30
2447187	Primidone	8.64	Spike	P	0 - 30
2447187	Pyraclostrobin	9.39	Spike	P	0 - 30
2447187	Silvex	16.4	Spike	P	0 - 30
2447187	Thiamethoxam	2.02	Spike	P	0 - 30
2447187	Tolfenpyrad	4.69	Spike	P	0 - 30
2447187	Triclopyr	10.0	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P437158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447213	Total Alkalinity	1.30	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P437565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447397	TDS	1.70	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P437161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447213	Fluoride	0.467	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447283	Organic Carbon	1.86	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2447326
Field Sample ID: G4SE0152

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	53.4	P	37 - 129
EPA 8270E	Decachlorobiphenyl	46.0	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	40.8	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	36.0	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	35.0	P	28 - 102
EPA 8276	PCNB	52.5	P	49 - 115

Lab Sample ID: 2447331
Field Sample ID: G4SE0149

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	60.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	49.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	46.0	P	30 - 160
EPA 8321B	Diuron-d6	34.8	P	30 - 160
EPA 8321B	Endothall-d6	87.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.7	P	30 - 160
EPA 8321B	Primidone-d5	30.2	P	30 - 160
EPA 8321B	Sucralose-d6	96.9	P	30 - 160

Lab Sample ID: 2447332
Field Sample ID: G4SE0155

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	86.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.5	P	30 - 160
EPA 8321B	Diuron-d6	44.1	P	30 - 160
EPA 8321B	Endothall-d6	80.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.3	P	30 - 160
EPA 8321B	Primidone-d5	55.5	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122390

Included Lab Sample IDs: 2447305, 2447307, 2447309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122392

Included Lab Sample IDs: 2447305, 2447307, 2447309

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

Reference Method: EPA 8321B

Run ID: A122422

Included Lab Sample IDs: 2447331, 2447332

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	152	156	P/P	60 - 160
Sucralose	115	111	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122432

Included Lab Sample IDs: 2447306, 2447308, 2447310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122434

Included Lab Sample IDs: 2447306, 2447308

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122439

Included Lab Sample IDs: 2447306, 2447308, 2447310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122440

Included Lab Sample IDs: 2447331, 2447332

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	96.9	100	P/P	60 - 160
Endothall	90.0	91.5	P/P	60 - 160
Glufosinate	94.1	89.4	P/P	60 - 160
Glyphosate	93.2	96.4	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A122444

Included Lab Sample IDs: 2447305, 2447307, 2447309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	97.8	P/P	90 - 110
Total Alkalinity	98.2	95.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122444

Included Lab Sample IDs: 2447305, 2447307, 2447309

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122451

Included Lab Sample IDs: 2447310

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A122477

Included Lab Sample IDs: 2447333

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	99.5	100	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Strontium	98.7	98.4	P/P	90 - 110
Tin	100	100	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	99.9	99.9	P/P	90 - 110
Zinc	99.5	99.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122489

Included Lab Sample IDs: 2447331, 2447332

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.5	87.0	P/P	50 - 150
2,4,5-T	86.4	79.4	P/P	50 - 150
Acetaminophen	108	106	P/P	60 - 160
Acetamiprid	106	106	P/P	50 - 150
Afidopyropen	94.3	119	P/P	50 - 150
Bentazon	103	99.2	P/P	50 - 160
Benzovindiflupyr	108	106	P/P	50 - 150
Carbamazepine	104	97.4	P/P	60 - 150
Clothianidin	109	107	P/P	60 - 150
Dinotefuran	113	114	P/P	50 - 150
Diuron	109	117	P/P	60 - 160
Fenuron	109	109	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A122489

Included Lab Sample IDs: 2447331, 2447332

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	106	117	P/P	60 - 160
Hydrocodone	117	114	P/P	60 - 150
Ibuprofen	90.4	108	P/P	50 - 160
Imazapyr	94.7	98.5	P/P	50 - 150
Imidacloprid	99.8	99.8	P/P	60 - 150
Linuron	102	106	P/P	60 - 150
Mandestrobin	105	107	P/P	50 - 150
MCPP	92.8	89.2	P/P	50 - 150
Naproxen	97.8	89.2	P/P	50 - 160
Primidone	94.7	94.5	P/P	60 - 150
Pyraclostrobin	115	115	P/P	60 - 150
Silvex	90.9	85.2	P/P	50 - 150
Thiamethoxam	113	112	P/P	50 - 150
Tolfenpyrad	107	105	P/P	60 - 150
Triclopyr	87.0	82.6	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122498

Included Lab Sample IDs: 2447333

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	97.9	P/P	90 - 110
Antimony	98.7	97.7	P/P	90 - 110
Arsenic	96.0	95.7	P/P	90 - 110
Barium	98.8	99.2	P/P	90 - 110
Beryllium	99.1	96.8	P/P	90 - 110
Boron	104	102	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Cobalt	94.6	94.4	P/P	90 - 110
Copper	93.1	92.6	P/P	90 - 110
Lead	94.2	94.4	P/P	90 - 110
Manganese	102	102	P/P	90 - 110
Molybdenum	98.2	97.5	P/P	90 - 110
Nickel	93.6	93.1	P/P	90 - 110
Selenium	98.7	99.7	P/P	90 - 110
Silver	99.5	99.4	P/P	90 - 110
Thallium	98.4	99.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122507

Included Lab Sample IDs: 2447306, 2447308, 2447310

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

Reference Method: EPA 8276

Run ID: A122577

Included Lab Sample IDs: 2447326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8276
Run ID: A122577
Included Lab Sample IDs: 2447326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.7		P	80 - 120
Toxaphene	95.8		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122610
Included Lab Sample IDs: 2447305, 2447307, 2447309

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A122667
Included Lab Sample IDs: 2447306, 2447308, 2447310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A122676
Included Lab Sample IDs: 2447326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	89.1		P	80 - 120
Alpha-BHC	91.1		P	80 - 120
Alpha-Chlordane	113		P	80 - 120
Beta-BHC	99.4		P	80 - 120
Beta-Cyfluthrin	93.3		P	80 - 120
Bifenthrin	99.6		P	80 - 120
Chlorothalonil	93.9		P	80 - 120
Cis-Nonachlor	105		P	80 - 120
Cypermethrin	90.9		P	80 - 120
Dacthal	84.5		P	80 - 120
DDD-p,p'	106		P	80 - 120
DDE-p,p'	99.9		P	80 - 120
DDT-p,p'	104		P	80 - 120
Delta-BHC	103		P	80 - 120
Deltamethrin	89.0		P	80 - 120
Dichlobenil	115		P	80 - 120
Dicofol	98.5		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	98.6		P	80 - 120
Endosulfan II	100		P	80 - 120
Endosulfan Sulfate	86.5		P	80 - 120
Endrin	113		P	80 - 120
Endrin Aldehyde	108		P	80 - 120
Endrin Ketone	103		P	80 - 120
Esfenvalerate	93.9		P	80 - 120
Ethalfuralin	102		P	80 - 120
Fenpropathrin	97.0		P	80 - 120
Gamma-BHC	95.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A122676
Included Lab Sample IDs: 2447326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Gamma-Chlordane	110		P	80 - 120
Heptachlor	103		P	80 - 120
Heptachlor Epoxide	102		P	80 - 120
Hexachlorobenzene	99.0		P	80 - 120
Kepone	81.5		P	80 - 120
Lambda-Cyhalothrin	94.3		P	80 - 120
Methoprene	98.9		P	80 - 120
Methoxychlor	97.6		P	80 - 120
MGK-264	103		P	80 - 120
Mirex	104		P	80 - 120
Oxychlordane	97.2		P	80 - 120
Permethrin	113		P	80 - 120
Phenothrin	95.5		P	80 - 120
Piperonyl Butoxide	99.5		P	80 - 120
Prallethrin	93.7		P	80 - 120
Tau-Fluvalinate	89.7		P	80 - 120
Tetramethrin	90.9		P	80 - 120
Trans-Nonachlor	106		P	80 - 120
Triclosan Methyl	99.8		P	80 - 120
Trifluralin	99.0		P	80 - 120

Reference Method: EPA 8270E
Run ID: A122686
Included Lab Sample IDs: 2447326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	106		P	80 - 120
PCB-1260	103		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			LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	101					2.77	
EPA 180.1 Rev. 2.0	Turbidity	104					4.13	
EPA 200.7 Rev. 4.4	Calcium	106	102	98.7				0.333
	Iron	112	110	109	109			0.731
	Magnesium	105	103	103				0.573
	Potassium	103	102	101	102			0.824
	Sodium	107	106	105	106			0.284
	Strontium	99.9	98.2	97.4	98.0			0.749
	Tin	98.7	95.5	95.4	95.2			0.0875
	Titanium	102	101	101	101			0.0360
	Vanadium	101	99.5	99.5	100			0.0142
	Zinc	98.2	94.0	94.0	97.5			0.0037
EPA 200.8 Rev. 5.4	Aluminum	99.3	96.7	96.6	97.7			1.12
	Antimony	97.3	99.5	98.0	99.5			1.42
	Arsenic	97.1	95.8	96.3	98.9			2.62
	Barium	101	99.7	100	101			0.792
	Beryllium	93.8	94.9	94.0	93.9			0.176
	Boron	102	105	101	104			2.46
	Cadmium	100	101	99.7	101			1.48
	Chromium	98.9	98.8	99.2	100			1.02
	Cobalt	95.2	92.4	91.3	93.1			2.00
	Copper	93.9	89.0	91.4	92.3			1.02
	Lead	91.9	93.2	90.6	92.8			2.41
	Manganese	98.8	96.1	97.7	99.6			1.91
	Molybdenum	96.9	98.8	97.2	100			2.64
	Nickel	93.6	90.4	89.7	91.2			1.68
	Selenium	99.2	96.5	97.3	98.0			0.691
	Silver	105	105	105	106			1.23
	Thallium	96.1	100	97.4	100			2.80
EPA 300.0 Rev. 2.1	Chloride	102	103	101			0.800	
	Sulfate	101	103	103			0.628	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	101	101				0.396
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	100	95.8				4.31
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	99.8				0.404
EPA 365.1 Rev. 2.0	Total-P	103	106	107				1.34
EPA 8270E	Aldrin	33.2	40.6	32.7				21.4
	Alpha-BHC	75.0	67.0	62.7				6.72
	Alpha-Chlordane	58.6	59.8	48.8				20.3
	Beta-BHC	76.6	84.7	60.5				33.4
	Beta-Cyfluthrin	42.7	80.5	64.7				21.8
	Bifenthrin	32.7	61.2	58.9				3.89
	Chlorothalonil	45.9	68.3	60.0				12.9
	Cis-Nonachlor	44.2	50.7	44.8				12.2
	Cypermethrin	44.8	83.9	60.4				32.5
	Dacthal	74.9	83.0	63.2				27.1
	DDD-p,p'	52.4	49.5	54.7				10.1
	DDE-p,p'	55.8	48.0	42.5				12.1
	DDT-p,p'	58.4	67.8	65.2				3.88
	Delta-BHC	75.3	93.1	67.9				31.4
	Deltamethrin	69.7	133	103				25.2
	Dichlobenil	54.6	34.6	42.9				21.5
	Dicofol	64.9	69.0	64.1				7.37
	Dieldrin	59.3	53.9	46.4				15.1
	Endosulfan I	61.8	66.2	62.9				4.97

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Endosulfan II	70.9	76.6	66.4			14.3
	Endosulfan Sulfate	58.0	78.7	57.6			31.0
	Endrin	46.8	52.5	46.0			13.1
	Endrin Aldehyde	44.2	41.3	34.5			17.7
	Endrin Ketone	87.8	94.7	56.8			50.1
	Esfenvalerate	46.4	99.2	79.1			22.5
	Ethalfuralin	47.3	46.1	45.9			0.462
	Fenpropathrin	35.9	59.1	49.0			18.8
	Gamma-BHC	71.9	77.1	60.6			24.0
	Gamma-Chlordane	56.7	78.0	52.7			38.8
	Heptachlor	56.3	67.8	51.2			27.9
	Heptachlor Epoxide	70.7	81.4	60.4			25.1
	Hexachlorobenzene	39.5	39.2	42.2			7.46
	Kepone	31.0	31.3	15.4			68.1
	Lambda-Cyhalothrin	31.2	70.8	52.6			29.5
	Methoprene	23.8	49.0	44.8			8.98
	Methoxychlor	57.0	55.8	52.3			6.47
	MGK-264	49.8	58.4	53.3			9.09
	Mirex	39.6	44.9	40.8			9.56
	Oxychlordane	62.8	44.9	43.5			3.31
	PCB-1016	86.1	55.8	65.4			15.8
	PCB-1260	76.8	52.0	61.6			16.9
	Permethrin	43.1	63.3	55.3			13.4
	Phenothrin	32.3	51.2	56.0			8.84
	Piperonyl Butoxide	67.1	97.1	70.5			31.7
	Prallethrin	48.2	77.8	65.6			17.1
	Tau-Fluvalinate	38.0	97.6	77.0			23.6
	Tetramethrin	53.1	72.6	61.8			16.1
	Trans-Nonachlor	39.2	46.3	40.3			14.0
	Triclosan Methyl	59.5	59.1	56.6			4.31
	Trifluralin	46.7	49.4	51.8			4.72
EPA 8276	Chlordane	63.1	31.4	34.7			10.1
	Toxaphene	68.2	32.9	36.9			11.3
EPA 8321B	2,4-D	72.5	84.6	69.7			19.3
	2,4,5-T	82.3	108	96.8			10.6
	Acesulfame K	130	146	147			0.686
	Acetaminophen	88.5	85.4	84.3			1.24
	Acetamiprid	79.4	75.1	70.2			6.68
	Afidopyropen	69.4	67.1	68.3			1.79
	AMPA	98.6	78.5	80.0			1.90
	Bentazon	86.1	88.5	71.2			18.5
	Benzovindiflupyr	81.5	80.8	75.1			7.25
	Carbamazepine	79.8	77.7	72.5			6.92
	Clothianidin	88.0	91.2	82.2			10.3
	Dinotefuran	99.3	101	94.2			6.65
	Diuron	80.8	70.8	67.3			5.09
	Endothall	93.1	88.9	86.1			3.27
	Fenuron	89.9	81.1	75.0			7.77
	Fluridone	83.6	72.9	79.3			8.35
	Glufosinate	101	81.2	89.8			10.0
	Glyphosate	94.6	90.5	86.7			4.28
	Hydrocodone	90.4	89.1	84.3			5.44
	Ibuprofen	62.8	61.2	63.7			4.05
	Imazapyr	83.4	93.1	87.1			6.74

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imidacloprid	83.2	92.4	86.8		6.20
	Linuron	76.9	63.5	65.4		2.85
	Mandestrobin	86.3	84.3	78.2		7.51
	MCP	89.4	98.7	81.3		19.4
	Naproxen	65.3	64.5	53.2		19.2
	Primidone	83.6	84.0	77.1		8.64
	Pyraclostrobin	81.7	80.6	73.4		9.39
	Silvex	72.0	83.8	71.0		16.4
	Sucralose	117	115	117		1.92
	Thiamethoxam	84.8	81.7	80.0		2.02
	Tolfenpyrad	51.2	55.9	53.3		4.69
	Triclopyr	86.2	100	90.6		10.0
SM 2320 B-2011	Total Alkalinity	98.8			1.30	
SM 2540 C-2015	TDS	94.8			1.70	
SM 2540 D-2015	TSS	109				
SM 4500-F- C-2011	Fluoride	102	102	101		0.467
SM 5310 B-2011	Organic Carbon	94.4	93.7	95.6		1.86

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2447305, 2447307, 2447309
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2447305, 2447307, 2447309
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2447333
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2447333
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2447305, 2447307, 2447309
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2447305, 2447307, 2447309
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2447306, 2447308, 2447310
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2447306, 2447308, 2447310
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2447306, 2447308, 2447310
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2447306, 2447308, 2447310
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2447326
EPA 8270E	PCBs in water matrices by GC/MS/MS	2447326
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2447326
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2447331, 2447332
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2447305, 2447307, 2447309
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2447333
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2447305, 2447307, 2447309
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2447305, 2447307, 2447309
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2447305, 2447307, 2447309
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2447306, 2447308, 2447310

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	10/26/2023			10/26/2023 15:47	Chandler E Cox	2447305, 2447307
	10/26/2023			10/26/2023 15:49	Chandler E Cox	2447309
	10/26/2023			10/26/2023 14:28	Khloe J Berg	2447305
EPA 180.1 Rev. 2.0	10/26/2023			10/26/2023 14:29	Khloe J Berg	2447307
	10/26/2023			10/26/2023 14:32	Khloe J Berg	2447309
	10/26/2023	10/27/2023 13:55	George D Taylor	10/31/2023 17:55	Chase Roberts	2447333
EPA 200.7 Rev. 4.4	10/26/2023	10/27/2023 13:55	George D Taylor	11/01/2023 19:28	Conrad Hartmann	2447333
EPA 200.8 Rev. 5.4	10/26/2023			11/07/2023 05:21	James L Waggeberby	2447305
	10/26/2023			11/07/2023 07:37	James L Waggeberby	2447307
	10/26/2023			11/07/2023 07:52	James L Waggeberby	2447309
EPA 300.0 Rev. 2.1	10/26/2023			10/30/2023 13:42	Ping Hua	2447306
	10/26/2023			10/30/2023 13:43	Ping Hua	2447308
	10/26/2023			10/30/2023 13:45	Ping Hua	2447310
EPA 350.1 Rev. 2.0	10/26/2023	10/27/2023 09:39	Samantha L Bates	10/30/2023 10:56	Samantha L Bates	2447306
	10/26/2023	10/27/2023 09:39	Samantha L Bates	10/30/2023 10:58	Samantha L Bates	2447308
	10/26/2023	10/27/2023 09:39	Samantha L Bates	10/30/2023 11:00	Samantha L Bates	2447310
EPA 351.2 Rev. 2.0	10/26/2023			11/09/2023 13:20	Fadila Guebre	2447306
	10/26/2023			11/09/2023 13:21	Fadila Guebre	2447308
	10/26/2023			11/09/2023 13:22	Fadila Guebre	2447310
EPA 353.2 Rev. 2.0	10/26/2023	10/27/2023 12:52	Adam P Silver	10/30/2023 11:32	Chandler E Cox	2447306
	10/26/2023	10/27/2023 12:52	Adam P Silver	10/30/2023 11:33	Chandler E Cox	2447308
	10/26/2023	10/27/2023 12:52	Adam P Silver	10/31/2023 10:51	James L Waggeberby	2447310
EPA 8270E	10/26/2023	10/31/2023 08:30	Rasheda Ghaffari	11/06/2023 04:03	Julie Wi	2447326
	10/26/2023	10/31/2023 08:30	Rasheda Ghaffari	11/11/2023 20:18	Lipi Saha	2447326
EPA 8276	10/26/2023	10/31/2023 08:30	Rasheda Ghaffari	11/04/2023 07:17	Arthur Maknenko	2447326
EPA 8321B	10/26/2023	10/27/2023 14:00	Hana Lee	10/27/2023 19:53	Tae K Lee	2447331
	10/26/2023	10/27/2023 14:00	Hana Lee	10/27/2023 20:07	Tae K Lee	2447332
	10/26/2023	10/27/2023 14:00	Hana Lee	10/30/2023 14:23	Tae K Lee	2447331
	10/26/2023	10/27/2023 14:00	Hana Lee	10/30/2023 14:36	Tae K Lee	2447332
	10/26/2023	10/31/2023 09:00	Hoor Shaik	10/31/2023 21:04	Juyoung Kim	2447331
	10/26/2023	10/31/2023 09:00	Hoor Shaik	10/31/2023 21:22	Juyoung Kim	2447332
	10/26/2023			10/30/2023 21:52	Adam P Silver	2447305
	10/26/2023			10/30/2023 22:04	Adam P Silver	2447307
SM 2320 B-2011	10/26/2023			10/30/2023 22:52	Adam P Silver	2447309
	10/26/2023			10/31/2023 17:55	Chase Roberts	2447333
	10/26/2023			10/31/2023 14:50	Yijie Li	2447305, 2447307, 2447309
SM 2340 B-2011	10/26/2023			10/31/2023 14:50	Yijie Li	2447305, 2447307, 2447309
SM 2540 C-2015	10/26/2023			10/30/2023 21:52	Adam P Silver	2447305
SM 2540 D-2015	10/26/2023			10/30/2023 22:04	Adam P Silver	2447307
SM 4500-F- C-2011	10/26/2023			10/30/2023 22:52	Adam P Silver	2447309
	10/26/2023					

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	10/26/2023			11/01/2023 16:08	Elise M. Gillis	2447306
	10/26/2023			11/01/2023 16:22	Elise M. Gillis	2447308
	10/26/2023			11/01/2023 16:36	Elise M. Gillis	2447310