

Chemical Analysis Report

NW-DIST-2022-12-21-02

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

Event Description: **Navarre Run**
Request ID: **RQ-2022-12-12-16**
Customer: **NW-DIST**
Project ID: **SMP**

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

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

Certified by: Colin Wright, Program Administrator

Date Certified: 18-JAN-2023 16:22

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Tom King Creek

Collection Date/Time: 12/19/2022 12:10

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376944	DEP SOP: NU-094-1	Color (true)	41		PCU	P423837	
	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P423847	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P424205	
		Sulfate	8.8		mg SO4/L	P424208	
	SM 2320 B-2011	Total Alkalinity	8.5		mg CaCO3/L	P424044	
	SM 2540 C-2015	TDS	87		mg/L	P424227	
	SM 2540 D-2015	TSS	2	I	mg/L	P424117	
2376945	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P424392	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P424304	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29		mg N/L	P424048	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.73		mg N/L	P423977	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P424134	
2376961	EPA 8270E	SM 5310 B-2011	Organic Carbon	3.7	mg C/L	P424078	
		Aldrin	0.67	U	ng/L	P423901	
		Alpha-BHC	0.10	U	ng/L	P423901	
		Alpha-Chlordane	0.21	UJ	ng/L	P423901	MS
		PCB-1016	2.1	U	ng/L	P423901	
		Beta-BHC	0.10	U	ng/L	P423901	
		PCB-1221	2.1	U	ng/L	P423901	
		Beta-Cyfluthrin	1.3	U	ng/L	P423901	
		PCB-1232	2.1	U	ng/L	P423901	
		Bifenthrin	0.52	U	ng/L	P423901	
		PCB-1242	2.1	U	ng/L	P423901	
		Carbophenothion	0.93	U	ng/L	P423901	
		PCB-1248	2.1	U	ng/L	P423901	
		Chlorothalonil	1.3	U	ng/L	P423901	
		PCB-1254	2.1	U	ng/L	P423901	
		Cis-Nonachlor	0.21	UJ	ng/L	P423901	RPD
		PCB-1260	2.1	U	ng/L	P423901	
		Cypermethrin	1.6	U	ng/L	P423901	
		Dacthal	0.16	U	ng/L	P423901	
		DDD-p,p'	0.26	UJ	ng/L	P423901	MS
		DDE-p,p'	0.21	UJ	ng/L	P423901	MS
		DDT-p,p'	0.26	U	ng/L	P423901	
		Delta-BHC	0.41	U	ng/L	P423901	
		Deltamethrin	1.3	U	ng/L	P423901	
		Dichlobenil	0.26	U	ng/L	P423901	
		Dicofol	1.3	U	ng/L	P423901	
		Dieldrin	0.41	U	ng/L	P423901	
		Endosulfan I	0.41	U	ng/L	P423901	
		Endosulfan II	0.41	U	ng/L	P423901	
		Endosulfan Sulfate	0.31	UJ	ng/L	P423901	MS
		Endrin	0.41	UJ	ng/L	P423901	MS
		Endrin Aldehyde	0.78	U	ng/L	P423901	

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2376961	EPA 8270E	Endrin Ketone	0.41	UJ	ng/L	P423901	MS, RPD	
		Esfenvalerate	0.78	U	ng/L	P423901		
		Ethalfuralin	0.16	U	ng/L	P423901		
		Fenpropathrin	0.26	UJ	ng/L	P423901	RPD	
		Gamma-BHC	0.13	U	ng/L	P423901		
		Gamma-Chlordane	0.21	UJ	ng/L	P423901	MS, RPD	
		Heptachlor	0.21	U	ng/L	P423901		
		Heptachlor Epoxide	0.26	U	ng/L	P423901		
		Hexachlorobenzene**	1.0	U	ng/L	P423901		
		Kepone	5.2	U	ng/L	P423901		
		Lambda-Cyhalothrin	0.78	U	ng/L	P423901		
		Methoprene	0.78	UJ	ng/L	P423901	MS	
		Methoxychlor	0.31	UJ	ng/L	P423901	CCV, MS, RPD	
		MGK-264	0.21	U	ng/L	P423901		
		Mirex	0.36	U	ng/L	P423901		
		Oxychlordane	0.31	U	ng/L	P423901		
		Permethrin	1.7	U	ng/L	P423901		
		Phenothrin	0.93	U	ng/L	P423901		
		Piperonyl Butoxide	0.16	U	ng/L	P423901		
		Prallethrin	2.1	U	ng/L	P423901		
		Tau-Fluvalinate	0.26	U	ng/L	P423901		
		Tetramethrin	0.78	U	ng/L	P423901		
		Trans-Nonachlor	0.21	U	ng/L	P423901		
		Triclosan Methyl	0.16	UJ	ng/L	P423901	MS, RPD	
		Trifluralin	0.21	U	ng/L	P423901		
		EPA 8276	Chlordane	2.1	U	ng/L	P423901	
			Toxaphene	16	U	ng/L	P423901	
2376968	EPA 8321B	2,4-D	0.0020	U	ug/L	P423825		
		Acesulfame K	0.13	I	ug/L	P423755		
		2,4,5-T	0.0040	U	ug/L	P423825		
		AMPA	0.10	U	ug/L	P423755		
		Acetaminophen	0.0080	U	ug/L	P423825		
		Acetamiprid	0.0020	U	ug/L	P423825		
		Endothall	0.25	U	ug/L	P423755	MS	
		Glufosinate	0.10	U	ug/L	P423755		
		Glyphosate	0.10	U	ug/L	P423755		
		Afidopyropen	0.0020	U	ug/L	P423825		
		Bentazon	0.0014	I	ug/L	P423825		
		Sucralose	6.0		ug/L	P423755		
		Benzovindiflupyr	0.0020	U	ug/L	P423825		
		Carbamazepine	9.1E-04	I	ug/L	P423825		
		Clothianidin	0.010		ug/L	P423825		
		Dinotefuran	0.0020	U	ug/L	P423825		
		Diuron	0.0020	U	ug/L	P423825		

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376968	EPA 8321B	Fenuron	0.032	U	ug/L	P423825	
		Fluridone	8.0E-04	U	ug/L	P423825	
		Imazapyr	0.0047	I	ug/L	P423825	
		Hydrocodone	0.0020	U	ug/L	P423825	
		Ibuprofen	0.20	U	ug/L	P423825	
		Imidacloprid	0.023		ug/L	P423825	
		Linuron	0.0040	U	ug/L	P423825	
		Mandestrobin	0.0020	U	ug/L	P423825	
		MCP	0.0040	U	ug/L	P423825	
		Naproxen	0.0080	U	ug/L	P423825	
		Primidone	0.0054	I	ug/L	P423825	
		Pyraclostrobin	0.0020	U	ug/L	P423825	
		Silvex	0.0040	U	ug/L	P423825	
		Thiamethoxam	0.0020	U	ug/L	P423825	
		Tolfenpyrad	0.0020	U	ug/L	P423825	
		Triclopyr	0.0040	U	ug/L	P423825	

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

Sample Location: Williams Creek upstream of Hwy 98

Collection Date/Time: 12/19/2022 12:45

Field ID: G4NW0531

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376946	DEP SOP: NU-094-1	Color (true)	38		PCU	P423837	
	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P423847	
	EPA 300.0 Rev. 2.1	Chloride	350		mg Cl/L	P424205	
		Sulfate	52		mg SO4/L	P424208	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P424045	
	SM 2540 C-2015	TDS	674		mg/L	P424227	
	SM 2540 D-2015	TSS	2	U	mg/L	P424117	
2376947	SM 4500-F- C-2011	Fluoride	0.038	I	mg F/L	P424392	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P424304	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P424048	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P423977	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P424134	
2376975	SM 5310 B-2011	Organic Carbon	5.5		mg C/L	P424078	
	EPA 200.7 Rev. 4.4	Calcium	10.8		mg/L	P423890	
		Iron	280		ug/L	P423890	
		Magnesium	21.1		mg/L	P423890	
		Potassium	9.3		mg/L	P423890	
		Sodium	183		mg/L	P423890	
		Strontium	150		ug/L	P423890	
		Tin	3.0	U	ug/L	P423890	
		Titanium	3.0		ug/L	P423890	
		Vanadium	2.0	U	ug/L	P423890	
		Zinc	5.0	U	ug/L	P423890	
	EPA 200.8 Rev. 5.4	Aluminum	254		ug/L	P423890	
		Antimony	0.12	I	ug/L	P423890	
		Arsenic	0.58		ug/L	P423890	
		Barium	6.67		ug/L	P423890	
		Beryllium	0.010	U	ug/L	P423890	
		Boron	168		ug/L	P423890	
		Cadmium	0.020	U	ug/L	P423890	
		Chromium	0.40	U	ug/L	P423890	
		Cobalt	0.062	I	ug/L	P423890	
		Copper	0.66	I	ug/L	P423890	
		Lead	0.20	U	ug/L	P423890	
		Manganese	4.13		ug/L	P423890	
		Molybdenum	0.30	I	ug/L	P423890	
		Nickel	0.50	U	ug/L	P423890	
		Selenium	0.20	U	ug/L	P423890	
		Silver	0.010	U	ug/L	P423890	
		Thallium	0.10	U	ug/L	P423890	
	SM 2340 B-2011	Hardness	114		mg/L	P423890	

Sample Location: FB

Collection Date/Time: 12/19/2022 12:15

Field ID: FB_12192022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376962	EPA 8270E	Aldrin	0.66	U	ng/L	P423901	
		Alpha-BHC	0.10	U	ng/L	P423901	
		Alpha-Chlordane	0.20	U	ng/L	P423901	MS
		PCB-1016	2.0	U	ng/L	P423901	
		Beta-BHC	0.10	U	ng/L	P423901	
		PCB-1221	2.0	U	ng/L	P423901	
		Beta-Cyfluthrin	1.3	U	ng/L	P423901	
		PCB-1232	2.0	U	ng/L	P423901	
		Bifenthrin	0.51	U	ng/L	P423901	
		PCB-1242	2.0	U	ng/L	P423901	
		Carbophenothion	0.92	U	ng/L	P423901	
		PCB-1248	2.0	U	ng/L	P423901	
		Chlorothalonil	1.3	U	ng/L	P423901	
		PCB-1254	2.0	U	ng/L	P423901	
		Cis-Nonachlor	0.20	U	ng/L	P423901	RPD
		PCB-1260	2.0	U	ng/L	P423901	
		Cypermethrin	1.5	U	ng/L	P423901	
		Dacthal	0.15	U	ng/L	P423901	
		DDD-p,p'	0.26	U	ng/L	P423901	MS
		DDE-p,p'	0.20	U	ng/L	P423901	MS
		DDT-p,p'	0.26	U	ng/L	P423901	
		Delta-BHC	0.41	U	ng/L	P423901	
		Deltamethrin	1.3	U	ng/L	P423901	
		Dichlobenil	0.26	U	ng/L	P423901	
		Dicofol	1.3	U	ng/L	P423901	
		Dieldrin	0.41	U	ng/L	P423901	
		Endosulfan I	0.41	U	ng/L	P423901	
		Endosulfan II	0.41	U	ng/L	P423901	
		Endosulfan Sulfate	0.31	U	ng/L	P423901	MS
		Endrin	0.41	U	ng/L	P423901	MS
		Endrin Aldehyde	0.77	U	ng/L	P423901	
		Endrin Ketone	0.41	U	ng/L	P423901	MS, RPD
		Esfenvalerate	0.77	U	ng/L	P423901	
		Ethalfuralin	0.15	U	ng/L	P423901	
		Fenpropathrin	0.26	U	ng/L	P423901	RPD
		Gamma-BHC	0.13	U	ng/L	P423901	
		Gamma-Chlordane	0.20	U	ng/L	P423901	MS, RPD
		Heptachlor	0.20	U	ng/L	P423901	
		Heptachlor Epoxide	0.26	U	ng/L	P423901	
		Hexachlorobenzene**	1.0	U	ng/L	P423901	
		Kepone	5.1	U	ng/L	P423901	
		Lambda-Cyhalothrin	0.77	U	ng/L	P423901	
		Methoprene	0.77	U	ng/L	P423901	MS

Field ID: FB_12192022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2376962	EPA 8270E	Methoxychlor	0.31	UJ	ng/L	P423901	CCV, MS, RPD
		MGK-264	0.20	U	ng/L	P423901	
		Mirex	0.36	U	ng/L	P423901	
		Oxychlordane	0.31	U	ng/L	P423901	
		Permethrin	1.6	U	ng/L	P423901	
		Phenothrin	0.92	U	ng/L	P423901	
		Piperonyl Butoxide	0.15	U	ng/L	P423901	
		Prallethrin	2.0	U	ng/L	P423901	
		Tau-Fluvalinate	0.26	U	ng/L	P423901	
		Tetramethrin	0.77	U	ng/L	P423901	
		Trans-Nonachlor	0.20	U	ng/L	P423901	
		Triclosan Methyl	0.15	U	ng/L	P423901	
		Trifluralin	0.20	U	ng/L	P423901	
		Chlordane	2.0	U	ng/L	P423901	
		Toxaphene	15	U	ng/L	P423901	
	EPA 8276						

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P423837

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423847

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423890

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: P423890

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	E	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: P424205

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: P424208

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424304

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424048

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423977

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424134

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

Reference Method: EPA 8270E
Batch ID: P423901

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.90	U	ng/L
Carbophenothion	0.90	U	ng/L
Chlorothalonil	1.2	U	ng/L
Chlorothalonil	1.2	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P423901

Component	Result	Code	Units
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P423901

Component	Result	Code	Units
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P423901

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

Reference Method: EPA 8321B

Batch ID: P423755

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P423755

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: P423825

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	0.20	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	0.0040	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: P424044

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

Reference Method: SM 2320 B-2011

Batch ID: P424045

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: P424227

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P424117

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P424392

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P424078

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: P423837

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423847

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	94.3		P	85 - 115
Iron	97.6		P	85 - 115
Magnesium	99.7		P	85 - 115
Potassium	94.6		P	85 - 115
Sodium	96.4		P	85 - 115
Strontium	102		P	85 - 115
Tin	98.4		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	98.6		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.5		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	103		P	85 - 115
Barium	104		P	85 - 115
Beryllium	94.7		P	85 - 115
Boron	97.3		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	97.7		P	85 - 115
Cobalt	104		P	85 - 115
Copper	106		P	85 - 115
Lead	95.0		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	106		P	85 - 115
Selenium	106		P	85 - 115
Silver	103		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424205

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.7		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424208

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424048

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423977

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424134

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

Reference Method: EPA 8270E
Batch ID: P423901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	54.9		P	10 - 92.0
Alpha-BHC	77.6		P	75 - 107
Alpha-Chlordane	77.7		P	50 - 108
Beta-BHC	94.5		P	36 - 138
Beta-Cyfluthrin	66.3		P	20 - 161
Bifenthrin	47.7		P	10 - 119
Carbophenothion	65.2		P	19 - 94.0
Chlorothalonil	107		P	26 - 186
Cis-Nonachlor	54.0		P	42 - 119
Cypermethrin	48.6		P	22 - 150
Dacthal	77.4		P	72 - 119
DDD-p,p'	78.4		P	45 - 107
DDE-p,p'	69.9		P	48 - 106
DDT-p,p'	60.1		P	48 - 110
Delta-BHC	89.5		P	54 - 140
Deltamethrin	79.1		P	22 - 189
Dichlobenil	79.4		P	36 - 117
Dicofol	59.3		P	46 - 155
Dieldrin	72.4		P	54 - 110
Endosulfan I	76.0		P	59 - 105
Endosulfan II	57.8		P	51 - 118
Endosulfan Sulfate	60.7		P	57 - 121

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P423901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	75.9		P	10 - 120
Endrin Aldehyde	59.3		P	34 - 118
Endrin Ketone	92.0		P	69 - 177
Esfenvalerate	66.5		P	23 - 168
Ethalfuralin	55.5		P	49 - 99.0
Fenpropathrin	54.1		P	34 - 117
Gamma-BHC	77.6		P	72 - 117
Gamma-Chlordane	49.6		P	43 - 106
Heptachlor	59.3		P	41 - 98.0
Heptachlor Epoxide	71.8		P	57 - 106
Hexachlorobenzene	62.3		P	36 - 99.0
Kepone	35.0		P	16 - 215
Lambda-Cyhalothrin	43.2		P	21 - 177
Methoprene	58.5		P	10 - 119
Methoxychlor	61.9		P	60 - 112
MGK-264	58.6		P	26 - 122
Mirex	41.5		P	10 - 169
Oxychlordane	50.4		P	43 - 105
PCB-1016	67.4		P	48 - 112
PCB-1260	80.4		P	44 - 118
Permethrin	69.5		P	24 - 148
Phenothrin	40.5		P	10 - 106
Piperonyl Butoxide	62.2		P	10 - 139
Prallethrin	75.6		P	17 - 109
Tau-Fluvalinate	62.5		P	13 - 131
Tetramethrin	86.9		P	10 - 132
Trans-Nonachlor	67.5		P	44 - 106
Triclosan Methyl	62.5		P	59 - 109
Trifluralin	55.6		P	44 - 101

Reference Method: EPA 8276

Batch ID: P423901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	89.2		P	61 - 116
Toxaphene	94.1		P	48 - 124

Reference Method: EPA 8321B

Batch ID: P423755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	71.4		P	40 - 150
AMPA	90.8		P	40 - 150
Endothall	124		P	40 - 150
Glufosinate	106		P	40 - 150
Glyphosate	108		P	40 - 150
Sucralose	122		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P423825

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P423825

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.5		P	40 - 150
2,4,5-T	76.1		P	40 - 150
Acetaminophen	80.5		P	30 - 150
Acetamiprid	73.3		P	40 - 150
Afidopyropen	56.1		P	30 - 150
Bentazon	97.4		P	30 - 150
Benzovindiflupyr	79.9		P	40 - 150
Carbamazepine	90.0		P	40 - 150
Clothianidin	82.5		P	40 - 150
Dinotefuran	81.8		P	40 - 150
Diuron	90.9		P	40 - 150
Fenuron	93.9		P	40 - 150
Fluridone	89.2		P	40 - 150
Hydrocodone	86.1		P	40 - 150
Ibuprofen	91.6		P	40 - 150
Imazapyr	88.3		P	40 - 150
Imidacloprid	90.3		P	40 - 150
Linuron	68.5		P	40 - 150
Mandestrobin	88.3		P	40 - 150
MCPP	97.9		P	40 - 150
Naproxen	84.9		P	40 - 150
Primidone	85.2		P	40 - 150
Pyraclostrobin	76.5		P	40 - 150
Silvex	77.8		P	40 - 150
Thiamethoxam	87.8		P	40 - 150
Tolfenpyrad	48.0		P	30 - 150
Triclopyr	80.2		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P424044

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

Reference Method: SM 2320 B-2011

Batch ID: P424045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P424227

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.9		P	90 - 110

Reference Method: SM 2540 D-2015

Batch ID: P424117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	88.6		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P424392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P424078

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P423890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2377032	Calcium	104	102	P/P	80 - 120
2377032	Iron	92.7	94.9	P/P	80 - 120
2377032	Magnesium	94.0	96.0	P/P	80 - 120
2377032	Potassium	89.3	91.2	P/P	80 - 120
2377032	Sodium	89.3	91.3	P/P	80 - 120
2377032	Strontium	101	102	P/P	80 - 120
2377032	Tin	93.9	95.1	P/P	80 - 120
2377032	Titanium	97.1	102	P/P	80 - 120
2377032	Vanadium	93.7	94.6	P/P	80 - 120
2377032	Zinc	101	100	P/P	80 - 120
2377096	Calcium	103		P	80 - 120
2377096	Iron	104		P	80 - 120
2377096	Magnesium	107		P	80 - 120
2377096	Potassium	96.9		P	80 - 120
2377096	Sodium	105		P	80 - 120
2377096	Strontium	112		P	80 - 120
2377096	Tin	104		P	80 - 120
2377096	Titanium	99.0		P	80 - 120
2377096	Vanadium	104		P	80 - 120
2377096	Zinc	98.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P423890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2377032	Aluminum	98.4	102	P/P	80 - 120
2377032	Antimony	104	107	P/P	80 - 120
2377032	Arsenic	102	104	P/P	80 - 120
2377032	Barium	104	106	P/P	80 - 120
2377032	Beryllium	97.3	102	P/P	80 - 120
2377032	Boron	98.3	99.8	P/P	80 - 120
2377032	Cadmium	105	108	P/P	80 - 120
2377032	Chromium	99.2	102	P/P	80 - 120
2377032	Cobalt	102	106	P/P	80 - 120
2377032	Copper	106	108	P/P	80 - 120
2377032	Lead	96.0	98.4	P/P	80 - 120
2377032	Manganese	101	104	P/P	80 - 120
2377032	Molybdenum	102	105	P/P	80 - 120
2377032	Nickel	104	107	P/P	80 - 120
2377032	Selenium	106	108	P/P	80 - 120
2377032	Silver	103	105	P/P	80 - 120
2377032	Thallium	103	106	P/P	80 - 120
2377096	Aluminum	101		P	80 - 120
2377096	Antimony	107		P	80 - 120
2377096	Arsenic	102		P	80 - 120
2377096	Barium	107		P	80 - 120
2377096	Beryllium	100		P	80 - 120
2377096	Boron	102		P	80 - 120
2377096	Cadmium	107		P	80 - 120
2377096	Chromium	103		P	80 - 120
2377096	Cobalt	105		P	80 - 120
2377096	Copper	109		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2377096	Lead	98.6		P	80 - 120
2377096	Manganese	106		P	80 - 120
2377096	Molybdenum	105		P	80 - 120
2377096	Nickel	108		P	80 - 120
2377096	Selenium	109		P	80 - 120
2377096	Silver	105		P	80 - 120
2377096	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376906	Chloride	92.9		P	90 - 110
2376944	Chloride	93.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376906	Sulfate	94.8		P	90 - 110
2376944	Sulfate	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376934	Ammonia-N	98.8	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376909	Kjeldahl Nitrogen	96.5	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376902	NO2NO3-N	106	106	P/P	90 - 110
2376902	NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376934	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P423901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376961	Aldrin	57.9	39.6	P/P	20 - 82.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P423901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376961	Alpha-BHC	100	79.8	P/P	71 - 109
2376961	Alpha-Chlordane	119	88.1	F/P	42 - 106
2376961	Beta-BHC	140	120	P/P	69 - 180
2376961	Beta-Cyfluthrin	110	95.0	P/P	18 - 175
2376961	Bifenthrin	72.0	55.1	P/P	21 - 128
2376961	Carbophenothion	78.3	70.5	P/P	10 - 126
2376961	Chlorothalonil	139	115	P/P	10 - 300
2376961	Cis-Nonachlor	73.6	34.9	P/P	34 - 106
2376961	Cypermethrin	62.2	45.4	P/P	22 - 158
2376961	Dacthal	81.2	79.5	P/P	54 - 116
2376961	DDD-p,p'	113	89.7	F/P	34 - 107
2376961	DDE-p,p'	112	91.4	F/P	33 - 110
2376961	DDT-p,p'	65.0	60.0	P/P	50 - 122
2376961	Delta-BHC	136	103	P/P	77 - 193
2376961	Deltamethrin	135	115	P/P	10 - 195
2376961	Dichlobenil	55.6	61.1	P/P	25 - 113
2376961	Dicofol	69.4	55.8	P/P	38 - 247
2376961	Dieldrin	115	89.9	P/P	45 - 118
2376961	Endosulfan I	84.5	76.6	P/P	51 - 106
2376961	Endosulfan II	96.0	87.1	P/P	37 - 122
2376961	Endosulfan Sulfate	149	103	F/P	43 - 132
2376961	Endrin	116	87.9	F/P	29 - 101
2376961	Endrin Aldehyde	54.5	41.3	P/P	19 - 110
2376961	Endrin Ketone	103	52.4	P/F	60 - 140
2376961	Esfenvalerate	108	94.5	P/P	26 - 199
2376961	Ethalfuralin	66.8	57.1	P/P	45 - 99.0
2376961	Fenpropathrin	82.8	46.5	P/P	35 - 120
2376961	Gamma-BHC	70.8	76.2	P/P	63 - 128
2376961	Gamma-Chlordane	89.2	39.8	P/F	40 - 104
2376961	Heptachlor	60.2	53.5	P/P	36 - 97.0
2376961	Heptachlor Epoxide	71.2	68.0	P/P	49 - 184
2376961	Hexachlorobenzene	84.1	74.0	P/P	39 - 96.0
2376961	Kepone	64.5	31.3	P/P	10 - 217
2376961	Lambda-Cyhalothrin	60.7	45.1	P/P	21 - 193
2376961	Methoprene	110	98.0	F/P	20 - 106
2376961	Methoxychlor	126	73.8	F/P	53 - 118
2376961	MGK-264	101	92.2	P/P	40 - 118
2376961	Mirex	54.2	40.1	P/P	26 - 92.0
2376961	Oxychlordane	88.8	68.5	P/P	44 - 99.0
2376961	Permethrin	109	95.6	P/P	33 - 182
2376961	Phenothrin	61.1	48.1	P/P	10 - 129
2376961	Piperonyl Butoxide	80.0	52.8	P/P	10 - 211
2376961	Prallethrin	113	96.2	P/P	24 - 113
2376961	Tau-Fluvalinate	119	94.4	P/P	14 - 149
2376961	Tetramethrin	131	99.9	P/P	17 - 151
2376961	Trans-Nonachlor	68.0	64.0	P/P	42 - 102
2376961	Triclosan Methyl	84.6	42.5	P/F	48 - 108
2376961	Trifluralin	65.3	56.0	P/P	47 - 96.0
2376966	PCB-1016	72.0	72.3	P/P	46 - 111
2376966	PCB-1260	65.2	62.6	P/P	45 - 114

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P423901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376966	Chlordane	94.0	89.4	P/P	53 - 126
2376966	Toxaphene	120	124	P/P	56 - 211

Reference Method: EPA 8321B

Batch ID: P423755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376518	Acesulfame K	46.9	41.6	P/P	40 - 150
2376518	AMPA	87.8	90.6	P/P	40 - 150
2376518	Endothall	157	155	F/F	40 - 150
2376518	Glufosinate	124	124	P/P	40 - 150
2376518	Glyphosate	117	105	P/P	40 - 150
2376518	Sucralose	97.1	101	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P423825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376968	2,4-D	97.0	75.4	P/P	40 - 150
2376968	2,4,5-T	78.5	60.9	P/P	40 - 150
2376968	Acetaminophen	90.3	86.6	P/P	30 - 150
2376968	Acetamiprid	86.9	68.8	P/P	40 - 150
2376968	Afidopyropen	66.9	53.4	P/P	30 - 150
2376968	Bentazon	58.1	64.0	P/P	30 - 150
2376968	Benzovindiflupyr	92.2	79.0	P/P	40 - 150
2376968	Carbamazepine	84.1	77.4	P/P	40 - 150
2376968	Clothianidin	105	90.9	P/P	40 - 150
2376968	Dinotefuran	102	89.8	P/P	40 - 150
2376968	Diuron	85.1	73.9	P/P	40 - 150
2376968	Fenuron	93.1	83.3	P/P	40 - 150
2376968	Fluridone	81.6	78.4	P/P	40 - 150
2376968	Hydrocodone	98.1	84.1	P/P	40 - 150
2376968	Ibuprofen	92.2	80.3	P/P	40 - 150
2376968	Imazapyr	120	105	P/P	40 - 150
2376968	Imidacloprid	143	114	P/P	40 - 150
2376968	Linuron	78.9	71.1	P/P	40 - 150
2376968	Mandestrobin	96.1	85.6	P/P	40 - 150
2376968	MCPP	102	79.0	P/P	40 - 150
2376968	Naproxen	83.4	74.0	P/P	40 - 150
2376968	Primidone	114	98.2	P/P	40 - 150
2376968	Pyraclostrobin	85.3	76.7	P/P	40 - 150
2376968	Silvex	79.8	69.7	P/P	40 - 150
2376968	Thiamethoxam	116	98.4	P/P	40 - 150
2376968	Tolfenpyrad	56.2	52.1	P/P	30 - 150
2376968	Triclopyr	80.2	61.1	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P424392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2377380	Fluoride	96.4	97.0	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P424078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2376971	Organic Carbon	96.2	97.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P423837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376933	Color (true)	1.08	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2377016	Turbidity	2.18	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2377032	Calcium	1.86	Spike	P	0 - 20
2377032	Iron	2.26	Spike	P	0 - 20
2377032	Magnesium	1.88	Spike	P	0 - 20
2377032	Potassium	1.85	Spike	P	0 - 20
2377032	Sodium	1.62	Spike	P	0 - 20
2377032	Strontium	1.79	Spike	P	0 - 20
2377032	Tin	1.37	Spike	P	0 - 20
2377032	Titanium	5.15	Spike	P	0 - 20
2377032	Vanadium	1.04	Spike	P	0 - 20
2377032	Zinc	0.697	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2377032	Aluminum	2.65	Spike	P	0 - 20
2377032	Antimony	2.10	Spike	P	0 - 20
2377032	Arsenic	2.38	Spike	P	0 - 20
2377032	Barium	2.42	Spike	P	0 - 20
2377032	Beryllium	4.14	Spike	P	0 - 20
2377032	Boron	1.49	Spike	P	0 - 20
2377032	Cadmium	2.68	Spike	P	0 - 20
2377032	Chromium	2.71	Spike	P	0 - 20
2377032	Cobalt	3.35	Spike	P	0 - 20
2377032	Copper	1.89	Spike	P	0 - 20
2377032	Lead	2.47	Spike	P	0 - 20
2377032	Manganese	2.58	Spike	P	0 - 20
2377032	Molybdenum	2.81	Spike	P	0 - 20
2377032	Nickel	2.55	Spike	P	0 - 20
2377032	Selenium	2.31	Spike	P	0 - 20
2377032	Silver	1.55	Spike	P	0 - 20
2377032	Thallium	2.93	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376906	Chloride	0.371	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P424208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376906	Sulfate	0.805	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376934	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376909	Kjeldahl Nitrogen	6.07	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376902	NO2NO3-N	0.0	Spike	P	0 - 15

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376934	Total-P	0.0240	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P423901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376961	Aldrin	37.6	Spike	P	0 - 41
2376961	Alpha-BHC	22.9	Spike	P	0 - 25
2376961	Alpha-Chlordane	29.9	Spike	P	0 - 33
2376961	Beta-BHC	15.1	Spike	P	0 - 36
2376961	Beta-Cyfluthrin	14.7	Spike	P	0 - 42
2376961	Bifenthrin	26.6	Spike	P	0 - 53
2376961	Carbophenothion	10.5	Spike	P	0 - 49
2376961	Chlorothalonil	18.7	Spike	P	0 - 71
2376961	Cis-Nonachlor	71.5	Spike	F	0 - 29

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P423901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376961	Cypermethrin	31.3	Spike	P	0 - 40
2376961	Dacthal	2.13	Spike	P	0 - 26
2376961	DDD-p,p'	23.4	Spike	P	0 - 39
2376961	DDE-p,p'	20.5	Spike	P	0 - 33
2376961	DDT-p,p'	7.98	Spike	P	0 - 40
2376961	Delta-BHC	27.3	Spike	P	0 - 37
2376961	Deltamethrin	16.5	Spike	P	0 - 100
2376961	Dichlobenil	9.56	Spike	P	0 - 40
2376961	Dicofol	21.7	Spike	P	0 - 31
2376961	Dieldrin	24.3	Spike	P	0 - 27
2376961	Endosulfan I	9.82	Spike	P	0 - 23
2376961	Endosulfan II	9.72	Spike	P	0 - 28
2376961	Endosulfan Sulfate	36.1	Spike	P	0 - 38
2376961	Endrin	27.6	Spike	P	0 - 63
2376961	Endrin Aldehyde	27.5	Spike	P	0 - 60
2376961	Endrin Ketone	65.2	Spike	F	0 - 37
2376961	Esfenvalerate	13.2	Spike	P	0 - 52
2376961	Ethalfuralin	15.7	Spike	P	0 - 23
2376961	Fenpropathrin	56.1	Spike	F	0 - 32
2376961	Gamma-BHC	7.31	Spike	P	0 - 17
2376961	Gamma-Chlordane	76.5	Spike	F	0 - 40
2376961	Heptachlor	11.8	Spike	P	0 - 29
2376961	Heptachlor Epoxide	4.66	Spike	P	0 - 25
2376961	Hexachlorobenzene	12.7	Spike	P	0 - 36
2376961	Kepone	69.3	Spike	P	0 - 93
2376961	Lambda-Cyhalothrin	29.6	Spike	P	0 - 55
2376961	Methoprene	11.8	Spike	P	0 - 53
2376961	Methoxychlor	52.5	Spike	F	0 - 29
2376961	MGK-264	9.35	Spike	P	0 - 35
2376961	Mirex	29.9	Spike	P	0 - 46
2376961	Oxychlordane	25.8	Spike	P	0 - 29
2376961	Permethrin	13.4	Spike	P	0 - 44
2376961	Phenothrin	23.7	Spike	P	0 - 56
2376961	Piperonyl Butoxide	41.0	Spike	P	0 - 100
2376961	Prallethrin	16.0	Spike	P	0 - 42
2376961	Tau-Fluvalinate	23.0	Spike	P	0 - 54
2376961	Tetramethrin	26.8	Spike	P	0 - 51
2376961	Trans-Nonachlor	6.02	Spike	P	0 - 37
2376961	Triclosan Methyl	66.2	Spike	F	0 - 31
2376961	Trifluralin	15.3	Spike	P	0 - 30
2376966	PCB-1016	0.315	Spike	P	0 - 32
2376966	PCB-1260	3.92	Spike	P	0 - 31

Reference Method: EPA 8276
Batch ID: P423901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376966	Chlordane	4.96	Spike	P	0 - 25
2376966	Toxaphene	3.73	Spike	P	0 - 26

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P423755

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376518	Acesulfame K	11.9	Spike	P	0 - 30
2376518	AMPA	3.18	Spike	P	0 - 30
2376518	Endothall	0.989	Spike	P	0 - 30
2376518	Glufosinate	0.519	Spike	P	0 - 30
2376518	Glyphosate	10.6	Spike	P	0 - 30
2376518	Sucralose	4.08	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P423825

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376968	2,4-D	25.1	Spike	P	0 - 30
2376968	2,4,5-T	25.3	Spike	P	0 - 30
2376968	Acetaminophen	4.21	Spike	P	0 - 30
2376968	Acetamiprid	23.2	Spike	P	0 - 30
2376968	Afidopyropen	22.4	Spike	P	0 - 30
2376968	Bentazon	7.43	Spike	P	0 - 30
2376968	Benzovindiflupyr	15.4	Spike	P	0 - 30
2376968	Carbamazepine	7.84	Spike	P	0 - 30
2376968	Clothianidin	12.4	Spike	P	0 - 30
2376968	Dinotefuran	13.0	Spike	P	0 - 30
2376968	Diuron	14.0	Spike	P	0 - 30
2376968	Fenuron	11.1	Spike	P	0 - 30
2376968	Fluridone	3.90	Spike	P	0 - 30
2376968	Hydrocodone	15.5	Spike	P	0 - 30
2376968	Ibuprofen	13.8	Spike	P	0 - 30
2376968	Imazapyr	12.8	Spike	P	0 - 30
2376968	Imidacloprid	18.2	Spike	P	0 - 30
2376968	Linuron	10.3	Spike	P	0 - 30
2376968	Mandestrobin	11.5	Spike	P	0 - 30
2376968	MCPP	25.6	Spike	P	0 - 30
2376968	Naproxen	12.0	Spike	P	0 - 30
2376968	Primidone	14.2	Spike	P	0 - 30
2376968	Pyraclostrobin	10.7	Spike	P	0 - 30
2376968	Silvex	13.5	Spike	P	0 - 30
2376968	Thiamethoxam	16.5	Spike	P	0 - 30
2376968	Tolfenpyrad	7.49	Spike	P	0 - 30
2376968	Triclopyr	27.0	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P424044

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376295	Total Alkalinity	1.21	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P424045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376296	Total Alkalinity	0.484	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P424227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376970	TDS	5.76	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P424117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376970	TSS	6.06	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P424392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2377380	Fluoride	0.500	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P424078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2376971	Organic Carbon	0.885	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2376961

Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	92.0	P	29 - 130
EPA 8270E	Decachlorobiphenyl	90.9	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	70.1	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	67.9	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	95.2	P	30 - 101
EPA 8276	PCNB	85.7	P	48 - 121

Lab Sample ID: 2376962

Field Sample ID: FB_12192022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	71.0	P	29 - 130
EPA 8270E	Decachlorobiphenyl	49.5	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	71.9	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	74.0	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	71.4	P	30 - 101
EPA 8276	PCNB	81.9	P	48 - 121

Lab Sample ID: 2376968

Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	86.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.4	P	30 - 160
EPA 8321B	Diuron-d6	76.8	P	30 - 160
EPA 8321B	Endothall-d6	117	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	86.8	P	30 - 160
EPA 8321B	Primidone-d5	78.5	P	30 - 160
EPA 8321B	Sucralose-d6	67.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116599

Included Lab Sample IDs: 2376944, 2376946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116606

Included Lab Sample IDs: 2376944, 2376946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A116624

Included Lab Sample IDs: 2376968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.7	82.7	P/P	60 - 160
Sucralose	117	129	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A116625

Included Lab Sample IDs: 2376968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	100	104	P/P	60 - 160
Endothall	125	118	P/P	60 - 160
Glufosinate	97.9	92.8	P/P	60 - 160
Glyphosate	104	101	P/P	60 - 160

Reference Method: EPA 8276

Run ID: A116650

Included Lab Sample IDs: 2376961, 2376962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.0		P	80 - 120
Toxaphene	100		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116667

Included Lab Sample IDs: 2376945, 2376947

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

Reference Method: SM 2320 B-2011

Run ID: A116697

Included Lab Sample IDs: 2376944, 2376946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A116712

Included Lab Sample IDs: 2376945, 2376947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	98.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A116714

Included Lab Sample IDs: 2376968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	93.6	P/P	50 - 150
2,4,5-T	101	111	P/P	50 - 150
Acetaminophen	102	105	P/P	60 - 160
Acetamiprid	98.8	101	P/P	50 - 150
Afidopyropen	89.2	80.8	P/P	50 - 150
Bentazon	113	118	P/P	50 - 160
Benzovindiflupyr	103	97.5	P/P	50 - 150
Carbamazepine	111	113	P/P	60 - 150
Clothianidin	100	92.1	P/P	60 - 150
Dinotefuran	93.4	93.8	P/P	50 - 150
Diuron	113	119	P/P	60 - 160
Fenuron	102	94.9	P/P	60 - 150
Fluridone	103	102	P/P	60 - 160
Hydrocodone	100	105	P/P	60 - 150
Ibuprofen	120	147	P/P	50 - 160
Imazapyr	89.4	94.9	P/P	50 - 150
Imidacloprid	99.4	103	P/P	60 - 150
Linuron	95.4	93.8	P/P	60 - 150
Mandestrobin	116	106	P/P	50 - 150
MCPP	104	105	P/P	50 - 150
Naproxen	121	150	P/P	50 - 160
Primidone	106	112	P/P	60 - 150
Pyraclostrobin	111	112	P/P	60 - 150
Silvex	95.7	106	P/P	50 - 150
Thiamethoxam	95.5	94.6	P/P	50 - 150
Tolfenpyrad	103	103	P/P	60 - 150
Triclopyr	98.4	113	P/P	50 - 150

Reference Method: EPA 8270E

Run ID: A116715

Included Lab Sample IDs: 2376961, 2376962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	95.1		P	80 - 120
PCB-1260	98.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A116716

Included Lab Sample IDs: 2376944, 2376946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	94.7	98.0	P/P	90 - 110
Chloride	98.0	95.6	P/P	90 - 110
Sulfate	95.3	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A116716

Included Lab Sample IDs: 2376944, 2376946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	98.7	96.2	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A116717

Included Lab Sample IDs: 2376961, 2376962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	87.0		P	80 - 120
Alpha-BHC	98.5		P	80 - 120
Alpha-Chlordane	97.7		P	80 - 120
Beta-BHC	103		P	80 - 120
Beta-Cyfluthrin	87.7		P	80 - 120
Bifenthrin	87.3		P	80 - 120
Carbophenothion	91.0		P	80 - 120
Chlorothalonil	103		P	80 - 120
Cis-Nonachlor	112		P	80 - 120
Cypermethrin	102		P	80 - 120
Dacthal	81.6		P	80 - 120
DDD-p,p'	98.8		P	80 - 120
DDE-p,p'	95.6		P	80 - 120
DDT-p,p'	102		P	80 - 120
Delta-BHC	92.3		P	80 - 120
Deltamethrin	93.9		P	80 - 120
Dichlobenil	91.4		P	80 - 120
Dicofol	89.9		P	80 - 120
Dieldrin	92.5		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	102		P	80 - 120
Endosulfan Sulfate	93.0		P	80 - 120
Endrin	89.7		P	80 - 120
Endrin Aldehyde	87.0		P	80 - 120
Endrin Ketone	96.0		P	80 - 120
Esfenvalerate	92.7		P	80 - 120
Ethalfuralin	86.7		P	80 - 120
Fenpropathrin	109		P	80 - 120
Gamma-BHC	87.2		P	80 - 120
Gamma-Chlordane	110		P	80 - 120
Heptachlor	85.7		P	80 - 120
Heptachlor Epoxide	84.1		P	80 - 120
Hexachlorobenzene	92.8		P	80 - 120
Kepone	81.5		P	80 - 120
Lambda-Cyhalothrin	102		P	80 - 120
Methoprene	94.5		P	80 - 120
Methoxychlor	75.3*		F	80 - 120
MGK-264	96.3		P	80 - 120
Mirex	97.9		P	80 - 120
Oxychlordane	102		P	80 - 120
Permethrin	92.5		P	80 - 120
Phenothrin	102		P	80 - 120
Piperonyl Butoxide	95.3		P	80 - 120
Prallethrin	87.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A116717

Included Lab Sample IDs: 2376961, 2376962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tau-Fluvalinate	94.2		P	80 - 120
Tetramethrin	88.8		P	80 - 120
Trans-Nonachlor	93.2		P	80 - 120
Triclosan Methyl	112		P	80 - 120
Trifluralin	85.6		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116770

Included Lab Sample IDs: 2376947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116772

Included Lab Sample IDs: 2376945, 2376947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116779

Included Lab Sample IDs: 2376945

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

Reference Method: EPA 8270E

Run ID: A116798

Included Lab Sample IDs: 2376962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Gamma-BHC	102		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116809

Included Lab Sample IDs: 2376945, 2376947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	98.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116836

Included Lab Sample IDs: 2376944, 2376946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A116904

Included Lab Sample IDs: 2376975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.5	100	P/P	90 - 110
Iron	101	105	P/P	90 - 110
Magnesium	101	104	P/P	90 - 110
Potassium	103	108	P/P	90 - 110
Sodium	100	105	P/P	90 - 110
Strontium	97.5	99.2	P/P	90 - 110
Tin	94.4	97.2	P/P	90 - 110
Titanium	97.0	100	P/P	90 - 110
Vanadium	95.2	97.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116912

Included Lab Sample IDs: 2376975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	102	P/P	90 - 110
Antimony	109	109	P/P	90 - 110
Barium	105	105	P/P	90 - 110
Beryllium	106	106	P/P	90 - 110
Boron	96.7	101	P/P	90 - 110
Cadmium	108	107	P/P	90 - 110
Chromium	103	102	P/P	90 - 110
Cobalt	106	104	P/P	90 - 110
Copper	109	107	P/P	90 - 110
Lead	98.3	98.1	P/P	90 - 110
Manganese	106	104	P/P	90 - 110
Molybdenum	106	106	P/P	90 - 110
Nickel	108	106	P/P	90 - 110
Selenium	110	110	P/P	90 - 110
Silver	108	108	P/P	90 - 110
Thallium	107	106	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A116924

Included Lab Sample IDs: 2376975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	97.4	99.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116934

Included Lab Sample IDs: 2376975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	97.3	95.4	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	98.3					1.08	
EPA 180.1 Rev. 2.0	Turbidity	102					2.18	
EPA 200.7 Rev. 4.4	Calcium	94.3	104	102	103			1.86
	Iron	97.6	92.7	94.9	104			2.26
	Magnesium	99.7	94.0	96.0	107			1.88
	Potassium	94.6	96.9	89.3	91.2			1.85
	Sodium	96.4	89.3	91.3	105			1.62
	Strontium	102	101	102	112			1.79
	Tin	98.4	93.9	95.1	104			1.37
	Titanium	103	99.0	97.1	102			5.15
	Vanadium	98.6	93.7	94.6	104			1.04
	Zinc	102	101	100	98.5			0.697
EPA 200.8 Rev. 5.4	Aluminum	98.5	98.4	102	101			2.65
	Antimony	104	104	107	107			2.10
	Arsenic	103	102	104	102			2.38
	Barium	104	104	106	107			2.42
	Beryllium	94.7	97.3	102	100			4.14
	Boron	97.3	98.3	99.8	102			1.49
	Cadmium	103	105	108	107			2.68
	Chromium	97.7	99.2	102	103			2.71
	Cobalt	104	102	106	105			3.35
	Copper	106	106	108	109			1.89
	Lead	95.0	96.0	98.4	98.6			2.47
	Manganese	100	101	104	106			2.58
	Molybdenum	102	102	105	105			2.81
	Nickel	106	104	107	108			2.55
	Selenium	106	106	108	109			2.31
	Silver	103	103	105	105			1.55
	Thallium	101	103	106	104			2.93
EPA 300.0 Rev. 2.1	Chloride	97.7	92.9	93.6			0.371	
	Sulfate	97.0	94.8	95.0			0.805	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	98.8	97.2				1.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	96.5	106				6.07
EPA 353.2 Rev. 2.0	NO2NO3-N	107	106	106	106			0.0 RSD
EPA 365.1 Rev. 2.0	Total-P	102	104	104				0.0240
EPA 8270E	Aldrin	54.9	57.9	39.6				37.6
	Alpha-BHC	77.6	100	79.8				22.9
	Alpha-Chlordane	77.7	119	88.1				29.9
	Beta-BHC	94.5	140	120				15.1
	Beta-Cyfluthrin	66.3	110	95.0				14.7
	Bifenthrin	47.7	72.0	55.1				26.6
	Carbophenothion	65.2	78.3	70.5				10.5
	Chlorothalonil	107	139	115				18.7
	Cis-Nonachlor	54.0	73.6	34.9				71.5
	Cypermethrin	48.6	62.2	45.4				31.3
	Dacthal	77.4	81.2	79.5				2.13
	DDD-p,p'	78.4	113	89.7				23.4
	DDE-p,p'	69.9	112	91.4				20.5
	DDT-p,p'	60.1	65.0	60.0				7.98
	Delta-BHC	89.5	136	103				27.3
	Deltamethrin	79.1	135	115				16.5
	Dichlobenil	79.4	55.6	61.1				9.56
	Dicofol	59.3	69.4	55.8				21.7
	Dieldrin	72.4	115	89.9				24.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Endosulfan I	76.0	84.5	76.6		9.82
	Endosulfan II	57.8	96.0	87.1		9.72
	Endosulfan Sulfate	60.7	149	103		36.1
	Endrin	75.9	116	87.9		27.6
	Endrin Aldehyde	59.3	54.5	41.3		27.5
	Endrin Ketone	92.0	103	52.4		65.2
	Esfenvalerate	66.5	108	94.5		13.2
	Ethalfuralin	55.5	66.8	57.1		15.7
	Fenpropathrin	54.1	82.8	46.5		56.1
	Gamma-BHC	77.6	70.8	76.2		7.31
	Gamma-Chlordane	49.6	89.2	39.8		76.5
	Heptachlor	59.3	60.2	53.5		11.8
	Heptachlor Epoxide	71.8	71.2	68.0		4.66
	Hexachlorobenzene	62.3	84.1	74.0		12.7
	Kepone	35.0	64.5	31.3		69.3
	Lambda-Cyhalothrin	43.2	60.7	45.1		29.6
	Methoprene	58.5	110	98.0		11.8
	Methoxychlor	61.9	126	73.8		52.5
	MGK-264	58.6	101	92.2		9.35
	Mirex	41.5	54.2	40.1		29.9
	Oxychlordane	50.4	88.8	68.5		25.8
	PCB-1016	67.4	72.0	72.3		0.315
	PCB-1260	80.4	65.2	62.6		3.92
	Permethrin	69.5	109	95.6		13.4
	Phenothrin	40.5	61.1	48.1		23.7
	Piperonyl Butoxide	62.2	80.0	52.8		41.0
	Prallethrin	75.6	113	96.2		16.0
	Tau-Fluvalinate	62.5	119	94.4		23.0
	Tetramethrin	86.9	131	99.9		26.8
	Trans-Nonachlor	67.5	68.0	64.0		6.02
	Triclosan Methyl	62.5	84.6	42.5		66.2
	Trifluralin	55.6	65.3	56.0		15.3
EPA 8276	Chlordane	89.2	94.0	89.4		4.96
	Toxaphene	94.1	120	124		3.73
EPA 8321B	2,4-D	89.5	97.0	75.4		25.1
	2,4,5-T	76.1	78.5	60.9		25.3
	Acesulfame K	71.4	46.9	41.6		11.9
	Acetaminophen	80.5	90.3	86.6		4.21
	Acetamiprid	73.3	86.9	68.8		23.2
	Afidopyropen	56.1	66.9	53.4		22.4
	AMPA	90.8	87.8	90.6		3.18
	Bentazon	97.4	58.1	64.0		7.43
	Benzovindiflupyr	79.9	92.2	79.0		15.4
	Carbamazepine	90.0	84.1	77.4		7.84
	Clothianidin	82.5	105	90.9		12.4
	Dinotefuran	81.8	102	89.8		13.0
	Diuron	90.9	85.1	73.9		14.0
	Endothall	124	157	155		0.989
	Fenuron	93.9	93.1	83.3		11.1
	Fluridone	89.2	81.6	78.4		3.90
	Glufosinate	106	124	124		0.519
	Glyphosate	108	117	105		10.6
	Hydrocodone	86.1	98.1	84.1		15.5
	Ibuprofen	91.6	92.2	80.3		13.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imazapyr	88.3	120	105		12.8
	Imidacloprid	90.3	143	114		18.2
	Linuron	68.5	78.9	71.1		10.3
	Mandestrobin	88.3	96.1	85.6		11.5
	MCP	97.9	102	79.0		25.6
	Naproxen	84.9	83.4	74.0		12.0
	Primidone	85.2	114	98.2		14.2
	Pyraclostrobin	76.5	85.3	76.7		10.7
	Silvex	77.8	79.8	69.7		13.5
	Sucralose	122	97.1	101		4.08
	Thiamethoxam	87.8	116	98.4		16.5
	Tolfenpyrad	48.0	56.2	52.1		7.49
	Triclopyr	80.2	80.2	61.1		27.0
SM 2320 B-2011	Total Alkalinity	99.0			1.21	
	Total Alkalinity	98.6			0.484	
SM 2540 C-2015	TDS	96.9			5.76	
SM 2540 D-2015	TSS	88.6			6.06	
SM 4500-F- C-2011	Fluoride	95.9	96.4	97.0		0.500
SM 5310 B-2011	Organic Carbon	98.8	96.2	97.6		0.885

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2376944, 2376946
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2376944, 2376946
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2376975
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2376975
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2376944, 2376946
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2376944, 2376946
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2376945, 2376947
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2376945, 2376947
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2376945, 2376947
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2376945, 2376947
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2376961, 2376962
EPA 8270E	PCBs in water matrices by GC/MS/MS	2376961, 2376962
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2376961, 2376962
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2376968
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2376944, 2376946
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2376975
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2376944, 2376946
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2376944, 2376946
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2376944, 2376946
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2376945, 2376947

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	12/21/2022			12/21/2022 11:21	Alexis Price	2376944, 2376946
EPA 180.1 Rev. 2.0	12/21/2022			12/21/2022 11:18	Anna M. Plaviak	2376946
	12/21/2022			12/21/2022 11:19	Anna M. Plaviak	2376944
EPA 200.7 Rev. 4.4	12/21/2022	12/22/2022 10:55	George D Taylor	01/13/2023 19:47	McKinley C Carter	2376975
	12/21/2022	12/22/2022 10:55	George D Taylor	01/17/2023 13:50	McKinley C Carter	2376975
EPA 200.8 Rev. 5.4	12/21/2022	12/22/2022 10:55	George D Taylor	01/14/2023 04:05	Emily M Philpot	2376975
	12/21/2022	12/22/2022 10:55	George D Taylor	01/17/2023 15:11	Megan Whitefoot	2376975
EPA 300.0 Rev. 2.1	12/21/2022			01/05/2023 12:34	Anna M. Plaviak	2376944
	12/21/2022			01/05/2023 17:36	Anna M. Plaviak	2376946
EPA 350.1 Rev. 2.0	12/21/2022			01/09/2023 14:49	Ping Hua	2376945
	12/21/2022			01/09/2023 14:50	Ping Hua	2376947
EPA 351.2 Rev. 2.0	12/21/2022	01/03/2023 13:30	Simonne.V. Calhoun	01/06/2023 10:58	Samantha L Bates	2376945
	12/21/2022	01/03/2023 13:30	Simonne.V. Calhoun	01/06/2023 11:00	Samantha L Bates	2376947
EPA 353.2 Rev. 2.0	12/21/2022			12/28/2022 12:12	Beverly Y. Sanders	2376945
	12/21/2022			12/28/2022 12:14	Beverly Y. Sanders	2376947
EPA 365.1 Rev. 2.0	12/21/2022	01/05/2023 13:37	Adam P Silver	01/06/2023 09:57	James L Waggeberby	2376947
	12/21/2022	01/05/2023 13:37	Adam P Silver	01/06/2023 14:53	James L Waggeberby	2376945
EPA 8270E	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	01/06/2023 22:41	Julie Wi	2376962
	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	12/29/2022 16:59	Vandana T. Nagar	2376961
	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	12/29/2022 17:28	Vandana T. Nagar	2376962
	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	12/29/2022 18:42	Vandana T. Nagar	2376961
	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	12/29/2022 19:13	Vandana T. Nagar	2376962
EPA 8276	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	12/24/2022 08:39	Arthur Maknenko	2376961
	12/21/2022	12/22/2022 08:00	Fe-Val Siddell	12/24/2022 09:34	Arthur Maknenko	2376962
EPA 8321B	12/21/2022	12/21/2022 13:45	Umesh Chiluwal	12/21/2022 18:00	Umesh Chiluwal	2376968
	12/21/2022	12/21/2022 13:45	Umesh Chiluwal	12/22/2022 04:14	Umesh Chiluwal	2376968
	12/21/2022	12/22/2022 09:30	June Rhew	01/03/2023 19:46	Juyoung Kim	2376968
SM 2320 B-2011	12/21/2022			12/29/2022 21:02	Dale L. Simmons	2376944
	12/21/2022			12/29/2022 22:19	Dale L. Simmons	2376946
SM 2340 B-2011	12/21/2022			01/13/2023 19:47	McKinley C Carter	2376975
SM 2540 C-2015	12/21/2022			12/22/2022 16:12	Yijie Li	2376944, 2376946
SM 2540 D-2015	12/21/2022			12/22/2022 16:12	Yijie Li	2376944, 2376946
SM 4500-F- C-2011	12/21/2022			01/10/2023 18:31	Dale L. Simmons	2376944
	12/21/2022			01/10/2023 18:47	Dale L. Simmons	2376946
SM 5310 B-2011	12/21/2022			01/03/2023 23:38	Khloe J Berg	2376945
	12/21/2022			01/03/2023 23:52	Khloe J Berg	2376947