

Chemical Analysis Report

NE-DIST-2023-11-14-01

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

Event Description: **LSJR Southside 2023**
Request ID: **RQ-2023-11-13-22**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 14-DEC-2023 12:40

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: GOODBY'S CREEK AT SANCHEZ RD

Collection Date/Time: 11/13/2023 08:45

Field ID: 20030594

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450986	EPA 8270E	Aldrin	0.71	U	ng/L	P437730	
		Alpha-BHC	0.11	U	ng/L	P437730	
		Alpha-Chlordane	0.22	U	ng/L	P437730	MS, RPD
		PCB-1016	2.2	U	ng/L	P437730	RPD
		Beta-BHC	0.11	U	ng/L	P437730	
		PCB-1221	2.2	U	ng/L	P437730	
		Beta-Cyfluthrin	1.4	U	ng/L	P437730	
		PCB-1232	2.2	U	ng/L	P437730	
		Bifenthrin	0.55	U	ng/L	P437730	
		PCB-1242	2.2	U	ng/L	P437730	
		PCB-1248	2.2	U	ng/L	P437730	
		Chlorothalonil	3.9	U	ng/L	P437730	
		PCB-1254	2.2	U	ng/L	P437730	
		Cis-Nonachlor	0.22	U	ng/L	P437730	
		PCB-1260	2.2	U	ng/L	P437730	RPD
		Cypermethrin	1.6	U	ng/L	P437730	
		Dacthal	0.16	U	ng/L	P437730	
		DDD-p,p'	0.27	U	ng/L	P437730	
		DDE-p,p'	0.22	U	ng/L	P437730	MS
		DDT-p,p'	0.88	U	ng/L	P437730	
		Delta-BHC	0.44	U	ng/L	P437730	
		Deltamethrin	1.4	U	ng/L	P437730	
		Dichlobenil	0.27	U	ng/L	P437730	
		Dicofol	1.4	U	ng/L	P437730	
		Dieldrin	0.46	I	ng/L	P437730	
		Endosulfan I	0.44	U	ng/L	P437730	
		Endosulfan II	0.98	U	ng/L	P437730	
		Endosulfan Sulfate	0.33	U	ng/L	P437730	
		Endrin	0.98	U	ng/L	P437730	
		Endrin Aldehyde	0.82	U	ng/L	P437730	
		Endrin Ketone	0.44	U	ng/L	P437730	
		Esfenvalerate	0.82	U	ng/L	P437730	
		Ethalfuralin	0.16	U	ng/L	P437730	MS
		Fenpropathrin	0.27	U	ng/L	P437730	
		Gamma-BHC	0.14	U	ng/L	P437730	
		Gamma-Chlordane	0.24	I	ng/L	P437730	MS
		Heptachlor	0.22	U	ng/L	P437730	
		Heptachlor Epoxide	0.27	U	ng/L	P437730	MS
		Hexachlorobenzene**	1.1	U	ng/L	P437730	
		Kepone	15	U	ng/L	P437730	
		Lambda-Cyhalothrin	0.82	U	ng/L	P437730	
		Methoprene	0.82	U	ng/L	P437730	
		Methoxychlor	0.33	U	ng/L	P437730	
		MGK-264	0.22	U	ng/L	P437730	MS

Field ID: 20030594

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450986	EPA 8270E	Mirex	0.38	U	ng/L	P437730	
		Oxychlordane	0.33	U	ng/L	P437730	
		Permethrin	1.8	U	ng/L	P437730	
		Phenothrin	0.98	U	ng/L	P437730	MS
		Piperonyl Butoxide	0.47	I	ng/L	P437730	
		Prallethrin	2.2	U	ng/L	P437730	
		Tau-Fluvalinate	0.27	U	ng/L	P437730	MS
		Tetramethrin	0.82	U	ng/L	P437730	MS
		Trans-Nonachlor	0.22	U	ng/L	P437730	MS
		Triclosan Methyl	0.16	U	ng/L	P437730	
		Trifluralin	0.22	U	ng/L	P437730	MS
	EPA 8276	Chlordane	2.2	UJ	ng/L	P437730	CCV, RPD
		Toxaphene	16	UJ	ng/L	P437730	CCV

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

Sample Location: BIG POTTSBURG CR BOWDEN RD

Collection Date/Time: 11/13/2023 10:20

Field ID: 20030068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450985	EPA 8270E	Aldrin	0.67	U	ng/L	P437730	
		Alpha-BHC	0.10	U	ng/L	P437730	
		Alpha-Chlordane	0.21	U	ng/L	P437730	MS, RPD
		PCB-1016	2.1	U	ng/L	P437730	RPD
		Beta-BHC	0.10	U	ng/L	P437730	
		PCB-1221	2.1	U	ng/L	P437730	
		Beta-Cyfluthrin	1.3	U	ng/L	P437730	
		PCB-1232	2.1	U	ng/L	P437730	
		Bifenthrin	0.52	U	ng/L	P437730	
		PCB-1242	2.1	U	ng/L	P437730	
		Carbophenothion	0.93	U	ng/L	P437730	
		PCB-1248	2.1	U	ng/L	P437730	
		Chlorothalonil	3.7	U	ng/L	P437730	
		PCB-1254	2.1	U	ng/L	P437730	
		Cis-Nonachlor	0.21	U	ng/L	P437730	
		PCB-1260	2.1	U	ng/L	P437730	RPD
		Cypermethrin	1.5	U	ng/L	P437730	
		Dacthal	0.15	U	ng/L	P437730	
		DDD-p,p'	0.26	U	ng/L	P437730	
		DDE-p,p'	0.21	U	ng/L	P437730	MS
		DDT-p,p'	0.83	U	ng/L	P437730	
		Delta-BHC	0.41	U	ng/L	P437730	
		Deltamethrin	1.3	U	ng/L	P437730	
		Dichlobenil	0.26	U	ng/L	P437730	
		Dicofol	1.3	U	ng/L	P437730	
		Dieldrin	0.41	U	ng/L	P437730	
		Endosulfan I	0.41	U	ng/L	P437730	
		Endosulfan II	0.93	U	ng/L	P437730	
		Endosulfan Sulfate	0.31	U	ng/L	P437730	
		Endrin	0.93	U	ng/L	P437730	
		Endrin Aldehyde	0.77	U	ng/L	P437730	
		Endrin Ketone	0.41	U	ng/L	P437730	
		Esfenvalerate	0.77	U	ng/L	P437730	
		Ethalfuralin	0.15	U	ng/L	P437730	MS
		Fenpropathrin	0.26	U	ng/L	P437730	
		Gamma-BHC	0.13	U	ng/L	P437730	
		Gamma-Chlordane	0.21	U	ng/L	P437730	MS
		Heptachlor	0.21	U	ng/L	P437730	
		Heptachlor Epoxide	0.26	U	ng/L	P437730	MS
		Hexachlorobenzene**	1.0	U	ng/L	P437730	
		Kepone	14	U	ng/L	P437730	
		Lambda-Cyhalothrin	0.77	U	ng/L	P437730	
		Methoprene	0.77	U	ng/L	P437730	
		Methoxychlor	0.31	U	ng/L	P437730	

Field ID: 20030068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450985	EPA 8270E	MGK-264	0.21	U	ng/L	P437730	MS
		Mirex	0.36	U	ng/L	P437730	
		Oxychlordane	0.31	U	ng/L	P437730	
		Permethrin	1.7	U	ng/L	P437730	
		Phenothrin	0.93	U	ng/L	P437730	MS
		Piperonyl Butoxide	0.58	I	ng/L	P437730	
		Prallethrin	2.1	U	ng/L	P437730	
		Tau-Fluvalinate	0.26	U	ng/L	P437730	MS
		Tetramethrin	0.77	U	ng/L	P437730	MS
		Trans-Nonachlor	0.21	U	ng/L	P437730	MS
		Triclosan Methyl	0.15	U	ng/L	P437730	
		Trifluralin	0.21	U	ng/L	P437730	MS
	EPA 8276	Chlordane	2.1	U	ng/L	P437730	RPD
		Toxaphene	15	U	ng/L	P437730	

Sample Location: CHRISTOPHER CR AT SAN JOSE BLVD SR 13 Collection Date/Time: 11/13/2023 10:40

Field ID: 20030863

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450966	DEP SOP: NU-094-1	Color (true)	84		PCU	P437750	
	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P437755	
	EPA 300.0 Rev. 2.1	Chloride	1.4E+03		mg Cl/L	P437999	
		Sulfate	220		mg SO4/L	P438003	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P438013	
	SM 2540 C-2015	TDS	2.26E+03		mg/L	P438247	
	SM 2540 D-2015	TSS	13		mg/L	P438201	
	SM 4500-F- C-2011	Fluoride	0.20		mg F/L	P438017	
2450968	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P438134	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P437760	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P438409	
	EPA 365.1 Rev. 2.0	Total-P	0.078		mg P/L	P438045	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P437962	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: OLDFIELD CREEK AT TAR KILN RD

Collection Date/Time: 11/13/2023 09:40

Field ID: G2NE1174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450967	DEP SOP: NU-094-1	Color (true)	29	A	PCU	P437751	
	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P437754	
	EPA 300.0 Rev. 2.1	Chloride	40		mg Cl/L	P437999	
		Sulfate	38		mg SO4/L	P438003	
	SM 2320 B-2011	Total Alkalinity	76		mg CaCO3/L	P438013	
	SM 2540 C-2015	TDS	201		mg/L	P438247	
	SM 2540 D-2015	TSS	4	I	mg/L	P438201	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P438017	
2450969	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P438134	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P437760	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P438100	
	EPA 365.1 Rev. 2.0	Total-P	0.065		mg P/L	P438046	
	SM 5310 B-2011	Organic Carbon	5.8		mg C/L	P437962	
2450995	EPA 200.7 Rev. 4.4	Calcium	34.3		mg/L	P437800	
		Iron	680		ug/L	P437800	
		Magnesium	8.27		mg/L	P437800	
		Potassium	2.2		mg/L	P437800	
		Sodium	19.6		mg/L	P437800	
		Strontium	389		ug/L	P437800	
		Tin	3.0	U	ug/L	P437800	
		Titanium	0.75	U	ug/L	P437800	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P437800	
		Zinc	5.0	U	ug/L	P437800	
		Aluminum	34		ug/L	P437800	
		Antimony	0.050	U	ug/L	P437800	
		Arsenic	0.56		ug/L	P437800	
		Barium	50.6		ug/L	P437800	
		Beryllium	0.017	I	ug/L	P437800	
		Boron	30.5		ug/L	P437800	
		Cadmium	0.020	U	ug/L	P437800	
		Chromium	0.40	U	ug/L	P437800	
		Cobalt	0.124		ug/L	P437800	
		Copper	0.76	I	ug/L	P437800	
		Lead	0.20	U	ug/L	P437800	
		Manganese	34.8		ug/L	P437800	
		Molybdenum	0.15	U	ug/L	P437800	
		Nickel	0.50	U	ug/L	P437800	
		Selenium	0.20	U	ug/L	P437800	
		Silver	0.010	U	ug/L	P437800	
		Thallium	0.10	U	ug/L	P437800	
	SM 2340 B-2011	Hardness	120		mg/L	P437800	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: CORMORANT BRANCH AT MARBON RD

Collection Date/Time: 11/13/2023 09:20

Field ID: 20030852

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450964	DEP SOP: NU-094-1	Color (true)	34		PCU	P437750	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P437755	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P437999	
		Sulfate	21		mg SO4/L	P438003	
	SM 2320 B-2011	Total Alkalinity	72	A	mg CaCO3/L	P438013	
	SM 2540 C-2015	TDS	160		mg/L	P438247	
	SM 2540 D-2015	TSS	2	U	mg/L	P438201	
2450965	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P438017	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P438134	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P437760	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P438409	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P438045	
2450993	SM 5310 B-2011	Organic Carbon	5.7		mg C/L	P437962	
	EPA 8321B	2,4-D	0.0046	I	ug/L	P437727	
		Acesulfame K	0.16	I	ug/L	P437618	
		2,4,5-T	0.0040	U	ug/L	P437727	
		AMPA	0.17	I	ug/L	P437618	
		Acetaminophen	0.0080	U	ug/L	P437727	
		Acetamiprid	0.0020	U	ug/L	P437727	
		Endothall	0.25	U	ug/L	P437618	
		Glufosinate	0.10	U	ug/L	P437618	
		Glyphosate	0.14	I	ug/L	P437618	
		Afidopyropen	0.0020	U	ug/L	P437727	
		Bentazon	0.017		ug/L	P437727	
		Sucralose	0.19		ug/L	P437618	
		Benzovindiflupyr	0.0020	U	ug/L	P437727	
		Carbamazepine	0.0011	I	ug/L	P437727	
		Clothianidin	0.0022	I	ug/L	P437727	
		Dinotefuran	0.0020	U	ug/L	P437727	
		Diuron	0.011		ug/L	P437727	
		Fenuron	0.032	U	ug/L	P437727	
		Fluridone	0.010		ug/L	P437727	
		Imazapyr	0.28		ug/L	P437727	
		Hydrocodone	0.0020	U	ug/L	P437727	
		Ibuprofen	0.080	U	ug/L	P437727	
		Imidacloprid	0.021		ug/L	P437727	
		Linuron	0.0040	U	ug/L	P437727	
		Mandestrobin	0.0020	U	ug/L	P437727	
		MCPP	0.0020	U	ug/L	P437727	
		Naproxen	0.0080	U	ug/L	P437727	
		Primidone	0.0051	I	ug/L	P437727	
		Pyraclostrobin	0.0020	U	ug/L	P437727	
		Silvex	0.0040	U	ug/L	P437727	
		Thiamethoxam	0.0020	U	ug/L	P437727	

Field ID: 20030852

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450993	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P437727	
		Triclopyr	0.0040	U	ug/L	P437727	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P437750

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P437751

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437754

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437755

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P437800

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: P437800

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437800

Component	Result	Code	Units
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: P437999

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438003

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438134

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437760

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438100

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438409

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438045

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438046

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P437730

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.90	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.80	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.90	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.90	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	14	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P437730

Component	Result	Code	Units
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: P437730

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

Reference Method: EPA 8321B
Batch ID: P437618

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: P437727

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P437727

Component	Result	Code	Units
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P438013

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

Reference Method: SM 2540 C-2015
Batch ID: P438247

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438201

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438017

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P437962

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: P437750

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P437751

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437754

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437755

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P437800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	104		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	101		P	85 - 115
Sodium	100		P	85 - 115
Strontium	100		P	85 - 115
Tin	96.5		P	85 - 115
Titanium	97.1		P	85 - 115
Vanadium	97.5		P	85 - 115
Zinc	96.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	105		P	85 - 115
Arsenic	98.8		P	85 - 115
Barium	102		P	85 - 115
Beryllium	100		P	85 - 115
Boron	97.9		P	85 - 115
Cadmium	98.6		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	94.5		P	85 - 115
Copper	98.0		P	85 - 115
Lead	95.9		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	93.4		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	98.2		P	85 - 115
Selenium	100		P	85 - 115
Silver	108		P	85 - 115
Thallium	98.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437999

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	108		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	108		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437760

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438100

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438409

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438045

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438046

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P437730

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	55.6		P	30 - 96.0
Alpha-BHC	75.2		P	70 - 109
Alpha-Chlordane	65.2		P	45 - 107
Beta-BHC	94.7		P	64 - 138
Beta-Cyfluthrin	103		P	17 - 141
Bifenthrin	70.6		P	10 - 113
Carbophenothion	67.1		P	24 - 91.0
Chlorothalonil	71.5		P	26 - 180
Cis-Nonachlor	67.3		P	37 - 102
Cypermethrin	85.6		P	20 - 133
Dacthal	87.2		P	69 - 114
DDD-p,p'	63.2		P	42 - 105
DDE-p,p'	71.6		P	42 - 106
DDT-p,p'	68.2		P	42 - 107
Delta-BHC	97.0		P	67 - 144
Deltamethrin	120		P	15 - 149
Dichlobenil	81.8		P	46 - 117
Dicofol	69.5		P	34 - 114
Dieldrin	65.5		P	50 - 108
Endosulfan I	72.4		P	55 - 104
Endosulfan II	89.0		P	51 - 111
Endosulfan Sulfate	79.7		P	56 - 121
Endrin	71.4		P	10 - 106
Endrin Aldehyde	70.3		P	34 - 114
Endrin Ketone	102		P	63 - 177
Esfenvalerate	98.2		P	29 - 143
Ethalfuralin	72.6		P	46 - 96.0
Fenpropathrin	86.0		P	28 - 115
Gamma-BHC	95.8		P	65 - 121
Gamma-Chlordane	69.4		P	39 - 103
Heptachlor	52.5		P	39 - 94.0
Heptachlor Epoxide	74.7		P	54 - 104
Hexachlorobenzene	55.1		P	36 - 100
Kepone	104		P	10 - 225
Lambda-Cyhalothrin	90.8		P	10 - 135
Methoprene	65.4		P	10 - 109
Methoxychlor	96.7		P	52 - 112
MGK-264	91.7		P	44 - 117
Mirex	56.6		P	20 - 90.0
Oxychlordane	58.2		P	44 - 102
PCB-1016	80.6		P	45 - 107
PCB-1260	83.2		P	40 - 118
Permethrin	88.5		P	18 - 135
Phenothrin	84.3		P	10 - 102
Piperonyl Butoxide	137		P	28 - 156
Prallethrin	97.1		P	28 - 113
Tau-Fluvalinate	87.8		P	10 - 123
Tetramethrin	125		P	18 - 158
Trans-Nonachlor	62.5		P	39 - 104
Triclosan Methyl	64.0		P	54 - 108
Trifluralin	73.9		P	46 - 97.0

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8276
Batch ID: P437730

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	52.6		P	52 - 117
Toxaphene	49.5		P	44 - 125

Reference Method: EPA 8321B
Batch ID: P437618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	111		P	40 - 150
AMPA	102		P	40 - 160
Endothall	113		P	40 - 160
Glufosinate	101		P	40 - 160
Glyphosate	101		P	40 - 160
Sucralose	101		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P437727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.2		P	40 - 150
2,4,5-T	77.9		P	40 - 150
Acetaminophen	91.2		P	30 - 150
Acetamiprid	80.0		P	40 - 150
Afidopyropen	64.1		P	30 - 150
Bentazon	82.7		P	30 - 150
Benzovindiflupyr	81.2		P	40 - 150
Carbamazepine	74.5		P	40 - 150
Clothianidin	86.2		P	40 - 150
Dinotefuran	100		P	40 - 150
Diuron	73.5		P	40 - 150
Fenuron	85.5		P	40 - 150
Fluridone	88.7		P	40 - 150
Hydrocodone	87.6		P	40 - 150
Ibuprofen	72.9		P	40 - 150
Imazapyr	81.8		P	40 - 150
Imidacloprid	80.8		P	40 - 150
Linuron	81.9		P	40 - 150
Mandestrobin	82.1		P	40 - 150
MCPP	83.6		P	40 - 150
Naproxen	84.9		P	40 - 150
Primidone	86.7		P	40 - 150
Pyraclostrobin	73.6		P	40 - 150
Silvex	89.0		P	40 - 150
Thiamethoxam	79.1		P	40 - 150
Tolfenpyrad	47.7		P	30 - 150
Triclopyr	99.5		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P438013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.6		P	92 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P438247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	93.2		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438201

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

Reference Method: SM 4500-F- C-2011
Batch ID: P438017

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

Reference Method: SM 5310 B-2011
Batch ID: P437962

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P437800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450840	Calcium	100		P	80 - 120
2450840	Iron	101	101	P/P	80 - 120
2450840	Magnesium	103	102	P/P	80 - 120
2450840	Potassium	96.8	97.7	P/P	80 - 120
2450840	Sodium	99.6		P	80 - 120
2450840	Strontium	97.7	98.2	P/P	80 - 120
2450840	Tin	96.3	96.3	P/P	80 - 120
2450840	Titanium	99.5	99.8	P/P	80 - 120
2450840	Vanadium	101	101	P/P	80 - 120
2450840	Zinc	98.5	98.3	P/P	80 - 120
2451014	Calcium	106		P	80 - 120
2451014	Iron	105		P	80 - 120
2451014	Magnesium	106		P	80 - 120
2451014	Potassium	103		P	80 - 120
2451014	Sodium	103		P	80 - 120
2451014	Strontium	102		P	80 - 120
2451014	Tin	99.5		P	80 - 120
2451014	Titanium	102		P	80 - 120
2451014	Vanadium	103		P	80 - 120
2451014	Zinc	99.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P437800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450840	Aluminum	98.2	97.7	P/P	80 - 120
2450840	Antimony	106	106	P/P	80 - 120
2450840	Arsenic	99.8	100	P/P	80 - 120
2450840	Barium	103	103	P/P	80 - 120
2450840	Beryllium	104	102	P/P	80 - 120
2450840	Boron	94.6	94.5	P/P	80 - 120
2450840	Cadmium	99.2	99.7	P/P	80 - 120
2450840	Chromium	96.0	96.4	P/P	80 - 120
2450840	Cobalt	96.4	96.7	P/P	80 - 120
2450840	Copper	100	99.7	P/P	80 - 120
2450840	Lead	94.5	94.7	P/P	80 - 120
2450840	Manganese	108	99.4	P/P	80 - 120
2450840	Molybdenum	96.9	98.0	P/P	80 - 120
2450840	Nickel	96.4	96.9	P/P	80 - 120
2450840	Selenium	100	99.8	P/P	80 - 120
2450840	Silver	106	108	P/P	80 - 120
2450840	Thallium	96.9	98.0	P/P	80 - 120
2451014	Aluminum	95.7		P	80 - 120
2451014	Antimony	107		P	80 - 120
2451014	Arsenic	98.5		P	80 - 120
2451014	Barium	101		P	80 - 120
2451014	Beryllium	98.4		P	80 - 120
2451014	Boron	102		P	80 - 120
2451014	Cadmium	96.7		P	80 - 120
2451014	Chromium	95.2		P	80 - 120
2451014	Cobalt	92.1		P	80 - 120
2451014	Copper	96.5		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451014	Lead	94.3		P	80 - 120
2451014	Manganese	99.5		P	80 - 120
2451014	Molybdenum	97.4		P	80 - 120
2451014	Nickel	94.8		P	80 - 120
2451014	Selenium	98.9		P	80 - 120
2451014	Silver	106		P	80 - 120
2451014	Thallium	96.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451002	Chloride	108		P	90 - 110
2451143	Chloride	109		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451002	Sulfate	107		P	90 - 110
2451143	Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450965	Ammonia-N	94.2	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450969	Kjeldahl Nitrogen	102	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451144	NO2NO3-N	95.8	96.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452773	NO2NO3-N	99.6	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450892	Total-P	109	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P437730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450844	Aldrin	56.4	60.4	P/P	24 - 81.0
2450844	Alpha-BHC	90.6	87.7	P/P	65 - 110
2450844	Alpha-Chlordane	90.8	135	P/F	43 - 119
2450844	Beta-BHC	133	137	P/P	54 - 165
2450844	Beta-Cyfluthrin	122	165	P/P	27 - 165
2450844	Bifenthrin	72.1	76.9	P/P	17 - 117
2450844	Carbophenothion	32.1	29.6	P/P	21 - 108
2450844	Chlorothalonil	106	124	P/P	10 - 255
2450844	Cis-Nonachlor	65.9	72.0	P/P	34 - 98.0
2450844	Cypermethrin	95.2	107	P/P	25 - 143
2450844	Dacthal	89.2	86.7	P/P	55 - 139
2450844	DDD-p,p'	60.0	67.8	P/P	30 - 109
2450844	DDE-p,p'	95.1	130	P/F	35 - 106
2450844	DDT-p,p'	73.6	79.5	P/P	41 - 101
2450844	Delta-BHC	128	142	P/P	58 - 165
2450844	Deltamethrin	129	171	P/P	10 - 194
2450844	Dichlobenil	72.9	73.1	P/P	22 - 114
2450844	Dicofol	71.7	73.2	P/P	17 - 133
2450844	Dieldrin	68.6	73.2	P/P	45 - 129
2450844	Endosulfan I	86.9	85.3	P/P	49 - 104
2450844	Endosulfan II	93.9	92.9	P/P	37 - 117
2450844	Endosulfan Sulfate	103	113	P/P	38 - 128
2450844	Endrin	75.1	77.8	P/P	35 - 116
2450844	Endrin Aldehyde	62.1	54.6	P/P	19 - 108
2450844	Endrin Ketone	88.5	87.7	P/P	44 - 134
2450844	Esfenvalerate	133	174	P/P	27 - 176
2450844	Ethalfuralin	94.2	114	P/F	49 - 100
2450844	Fenpropathrin	87.1	74.1	P/P	34 - 117
2450844	Gamma-BHC	109	105	P/P	59 - 129
2450844	Gamma-Chlordane	109	128	F/F	33 - 107
2450844	Heptachlor	53.3	52.9	P/P	37 - 94.0
2450844	Heptachlor Epoxide	102	122	P/F	38 - 118
2450844	Hexachlorobenzene	67.8	72.8	P/P	35 - 97.0
2450844	Kepone	134	141	P/P	10 - 221
2450844	Lambda-Cyhalothrin	111	123	P/P	23 - 190
2450844	Methoprene	67.7	78.5	P/P	21 - 109
2450844	Methoxychlor	103	113	P/P	46 - 118
2450844	MGK-264	129	155	F/F	39 - 122
2450844	Mirex	63.2	68.6	P/P	25 - 90.0
2450844	Oxychlordane	76.8	85.5	P/P	42 - 100
2450844	Permethrin	110	152	P/P	33 - 181
2450844	Phenothrin	110	150	P/F	12 - 125
2450844	Piperonyl Butoxide	132	143	P/P	10 - 178
2450844	Prallethrin	96.9	108	P/P	24 - 122
2450844	Tau-Fluvalinate	129	194	P/F	13 - 151
2450844	Tetramethrin	146	191	P/F	16 - 172
2450844	Trans-Nonachlor	87.2	112	P/F	39 - 100
2450844	Triclosan Methyl	66.3	75.0	P/P	43 - 110
2450844	Trifluralin	95.8	83.6	F/P	45 - 94.0
2450943	PCB-1016	62.8	88.4	P/P	45 - 107
2450943	PCB-1260	54.2	89.1	P/P	40 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P437730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450943	Chlordane	58.3	43.6	P/P	43 - 123
2450943	Toxaphene	58.4	45.1	P/P	27 - 156

Reference Method: EPA 8321B

Batch ID: P437618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450389	Acesulfame K	146	145	P/P	40 - 150
2450389	AMPA	91.7	88.9	P/P	40 - 160
2450389	Endothall	104	98.5	P/P	40 - 160
2450389	Glufosinate	95.2	96.8	P/P	40 - 160
2450389	Glyphosate	97.0	94.4	P/P	40 - 160
2450389	Sucralose	107	111	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P437727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450837	2,4-D	111	112	P/P	40 - 150
2450837	2,4,5-T	94.4	83.4	P/P	40 - 150
2450837	Acetaminophen	116	114	P/P	30 - 150
2450837	Acetamiprid	79.5	68.6	P/P	40 - 150
2450837	Afidopyropen	62.7	58.9	P/P	30 - 150
2450837	Bentazon	44.0	41.2	P/P	30 - 150
2450837	Benzovindiflupyr	84.1	83.6	P/P	40 - 150
2450837	Carbamazepine	65.4	64.3	P/P	40 - 150
2450837	Clothianidin	115	111	P/P	40 - 150
2450837	Dinotefuran	106	102	P/P	40 - 150
2450837	Diuron	67.1	65.5	P/P	40 - 150
2450837	Fenuron	68.7	66.9	P/P	40 - 150
2450837	Fluridone	83.3	83.4	P/P	40 - 150
2450837	Hydrocodone	81.4	81.0	P/P	40 - 150
2450837	Ibuprofen	70.3	68.7	P/P	40 - 150
2450837	Imazapyr	116	114	P/P	40 - 150
2450837	Imidacloprid	137	133	P/P	40 - 150
2450837	Linuron	82.1	72.1	P/P	40 - 150
2450837	Mandestrobin	82.0	83.1	P/P	40 - 150
2450837	MCPP	87.4	85.6	P/P	40 - 150
2450837	Naproxen	79.8	66.8	P/P	40 - 150
2450837	Primidone	96.6	96.0	P/P	40 - 150
2450837	Pyraclostrobin	81.2	82.0	P/P	40 - 150
2450837	Silvex	96.2	88.3	P/P	40 - 150
2450837	Thiamethoxam	102	99.4	P/P	40 - 150
2450837	Tolfenpyrad	55.7	58.5	P/P	30 - 150
2450837	Triclopyr	97.6	99.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P438017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450964	Fluoride	101	101	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P437962

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450900	Organic Carbon	95.0	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450886	Color (true)	2.11	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P437751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450967	Color (true)	4.17	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450735	Turbidity	4.57	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450884	Turbidity	11.6	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P437800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450840	Calcium	0.206	Spike	P	0 - 20
2450840	Iron	0.188	Spike	P	0 - 20
2450840	Magnesium	0.448	Spike	P	0 - 20
2450840	Potassium	0.574	Spike	P	0 - 20
2450840	Sodium	0.268	Spike	P	0 - 20
2450840	Strontium	0.409	Spike	P	0 - 20
2450840	Tin	0.0198	Spike	P	0 - 20
2450840	Titanium	0.328	Spike	P	0 - 20
2450840	Vanadium	0.126	Spike	P	0 - 20
2450840	Zinc	0.168	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P437800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450840	Aluminum	0.457	Spike	P	0 - 20
2450840	Antimony	0.347	Spike	P	0 - 20
2450840	Arsenic	0.573	Spike	P	0 - 20
2450840	Barium	0.412	Spike	P	0 - 20
2450840	Beryllium	2.18	Spike	P	0 - 20
2450840	Boron	0.0274	Spike	P	0 - 20
2450840	Cadmium	0.534	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P437800

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450840	Chromium	0.492	Spike	P	0 - 20
2450840	Cobalt	0.274	Spike	P	0 - 20
2450840	Copper	0.287	Spike	P	0 - 20
2450840	Lead	0.224	Spike	P	0 - 20
2450840	Manganese	1.91	Spike	P	0 - 20
2450840	Molybdenum	1.04	Spike	P	0 - 20
2450840	Nickel	0.541	Spike	P	0 - 20
2450840	Selenium	0.658	Spike	P	0 - 20
2450840	Silver	1.76	Spike	P	0 - 20
2450840	Thallium	1.18	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P437999

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451002	Chloride	0.185	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P438134

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450965	Ammonia-N	2.37	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P437760

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450969	Kjeldahl Nitrogen	1.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P438100

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451144	NO2NO3-N	0.980	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P438409

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452773	NO2NO3-N	1.91	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438045

Replicated

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438045

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450892	Total-P	4.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438046

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451003	Total-P	0.627	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P437730

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450844	Aldrin	6.86	Spike	P	0 - 41
2450844	Alpha-BHC	3.28	Spike	P	0 - 25
2450844	Alpha-Chlordane	39.0	Spike	F	0 - 32
2450844	Beta-BHC	2.93	Spike	P	0 - 33
2450844	Beta-Cyfluthrin	29.5	Spike	P	0 - 43
2450844	Bifenthrin	6.44	Spike	P	0 - 52
2450844	Carbophenothion	8.05	Spike	P	0 - 30
2450844	Chlorothalonil	16.0	Spike	P	0 - 82
2450844	Cis-Nonachlor	8.90	Spike	P	0 - 33
2450844	Cypermethrin	12.0	Spike	P	0 - 51
2450844	Dacthal	2.83	Spike	P	0 - 27
2450844	DDD-p,p'	12.2	Spike	P	0 - 39
2450844	DDE-p,p'	30.8	Spike	P	0 - 31
2450844	DDT-p,p'	7.68	Spike	P	0 - 29
2450844	Delta-BHC	10.7	Spike	P	0 - 35
2450844	Deltamethrin	27.8	Spike	P	0 - 100
2450844	Dichlobenil	0.306	Spike	P	0 - 40
2450844	Dicofol	2.15	Spike	P	0 - 37
2450844	Dieldrin	6.51	Spike	P	0 - 27
2450844	Endosulfan I	1.79	Spike	P	0 - 23
2450844	Endosulfan II	1.10	Spike	P	0 - 34
2450844	Endosulfan Sulfate	9.79	Spike	P	0 - 36
2450844	Endrin	3.49	Spike	P	0 - 45
2450844	Endrin Aldehyde	12.9	Spike	P	0 - 76
2450844	Endrin Ketone	0.905	Spike	P	0 - 43
2450844	Esfenvalerate	26.7	Spike	P	0 - 51
2450844	Ethalfuralin	19.2	Spike	P	0 - 22
2450844	Fenpropathrin	16.2	Spike	P	0 - 49
2450844	Gamma-BHC	3.40	Spike	P	0 - 28
2450844	Gamma-Chlordane	16.0	Spike	P	0 - 40
2450844	Heptachlor	0.865	Spike	P	0 - 29
2450844	Heptachlor Epoxide	18.1	Spike	P	0 - 33
2450844	Hexachlorobenzene	7.17	Spike	P	0 - 36
2450844	Kepone	5.64	Spike	P	0 - 85
2450844	Lambda-Cyhalothrin	10.2	Spike	P	0 - 55
2450844	Methoprene	14.7	Spike	P	0 - 53
2450844	Methoxychlor	9.39	Spike	P	0 - 50

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P437730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450844	MGK-264	18.6	Spike	P	0 - 43
2450844	Mirex	8.26	Spike	P	0 - 40
2450844	Oxychlordane	10.8	Spike	P	0 - 31
2450844	Permethrin	32.1	Spike	P	0 - 50
2450844	Phenothrin	30.8	Spike	P	0 - 58
2450844	Piperonyl Butoxide	7.30	Spike	P	0 - 100
2450844	Prallethrin	10.9	Spike	P	0 - 39
2450844	Tau-Fluvalinate	40.3	Spike	P	0 - 54
2450844	Tetramethrin	26.5	Spike	P	0 - 51
2450844	Trans-Nonachlor	25.0	Spike	P	0 - 39
2450844	Triclosan Methyl	12.2	Spike	P	0 - 31
2450844	Trifluralin	13.6	Spike	P	0 - 22
2450943	PCB-1016	33.9	Spike	F	0 - 25
2450943	PCB-1260	48.6	Spike	F	0 - 30

Reference Method: EPA 8276
Batch ID: P437730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450943	Chlordane	28.7	Spike	F	0 - 28
2450943	Toxaphene	25.8	Spike	P	0 - 27

Reference Method: EPA 8321B
Batch ID: P437618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450389	Acesulfame K	0.482	Spike	P	0 - 30
2450389	AMPA	3.10	Spike	P	0 - 30
2450389	Endothall	5.79	Spike	P	0 - 30
2450389	Glufosinate	1.67	Spike	P	0 - 30
2450389	Glyphosate	2.69	Spike	P	0 - 30
2450389	Sucralose	3.55	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P437727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450837	2,4-D	1.03	Spike	P	0 - 30
2450837	2,4,5-T	12.3	Spike	P	0 - 30
2450837	Acetaminophen	1.87	Spike	P	0 - 30
2450837	Acetamiprid	14.6	Spike	P	0 - 30
2450837	Afidopyropen	6.22	Spike	P	0 - 30
2450837	Bentazon	6.63	Spike	P	0 - 30
2450837	Benzovindiflupyr	0.648	Spike	P	0 - 30
2450837	Carbamazepine	1.79	Spike	P	0 - 30
2450837	Clothianidin	3.70	Spike	P	0 - 30
2450837	Dinotefuran	3.32	Spike	P	0 - 30
2450837	Diuron	2.43	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P437727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450837	Fenuron	2.61	Spike	P	0 - 30
2450837	Fluridone	0.0854	Spike	P	0 - 30
2450837	Hydrocodone	0.445	Spike	P	0 - 30
2450837	Ibuprofen	2.31	Spike	P	0 - 30
2450837	Imazapyr	2.21	Spike	P	0 - 30
2450837	Imidacloprid	2.91	Spike	P	0 - 30
2450837	Linuron	13.0	Spike	P	0 - 30
2450837	Mandestrobin	1.41	Spike	P	0 - 30
2450837	MCCP	2.06	Spike	P	0 - 30
2450837	Naproxen	17.8	Spike	P	0 - 30
2450837	Primidone	0.713	Spike	P	0 - 30
2450837	Pyraclostrobin	0.942	Spike	P	0 - 30
2450837	Silvex	8.52	Spike	P	0 - 30
2450837	Thiamethoxam	2.78	Spike	P	0 - 30
2450837	Tolfenpyrad	4.85	Spike	P	0 - 30
2450837	Triclopyr	1.70	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P438013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450964	Total Alkalinity	1.18	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450787	TDS	3.75	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P438017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450964	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437962

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450900	Organic Carbon	0.159	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2450985
Field Sample ID: 20030068

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	71.7	P	37 - 129
EPA 8270E	Decachlorobiphenyl	93.7	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	69.7	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	64.9	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	77.0	P	28 - 102
EPA 8276	PCNB	91.6	P	49 - 115

Lab Sample ID: 2450986
Field Sample ID: 20030594

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	65.2	P	37 - 129
EPA 8270E	Decachlorobiphenyl	85.6	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	50.4	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	46.3	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	72.8	P	28 - 102
EPA 8276	PCNB	81.0	P	49 - 115

Lab Sample ID: 2450993
Field Sample ID: 20030852

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.5	P	30 - 160
EPA 8321B	Diuron-d6	47.9	P	30 - 160
EPA 8321B	Endothall-d6	105	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	65.2	P	30 - 160
EPA 8321B	Primidone-d5	70.8	P	30 - 160
EPA 8321B	Sucralose-d6	96.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122707

Included Lab Sample IDs: 2450964, 2450966, 2450967

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 110
Color (true)	102	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122708

Included Lab Sample IDs: 2450964, 2450966, 2450967

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

Reference Method: EPA 8321B

Run ID: A122711

Included Lab Sample IDs: 2450993

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	97.6	P/P	60 - 160
Endothall	116	118	P/P	60 - 160
Glufosinate	105	103	P/P	60 - 160
Glyphosate	95.0	97.2	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A122733

Included Lab Sample IDs: 2450993

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	130	P/P	60 - 160
Sucralose	103	94.3	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122736

Included Lab Sample IDs: 2450964, 2450966, 2450967

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	103	P/P	90 - 110
Sulfate	105	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122776

Included Lab Sample IDs: 2450965, 2450968, 2450969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	106	P/P	90 - 110
Kjeldahl Nitrogen	99.4	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122783

Included Lab Sample IDs: 2450995

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.8	98.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122783

Included Lab Sample IDs: 2450995

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.1	98.8	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Beryllium	108	103	P/P	90 - 110
Boron	93.7	97.3	P/P	90 - 110
Cadmium	98.2	98.6	P/P	90 - 110
Chromium	97.6	98.3	P/P	90 - 110
Cobalt	94.3	93.4	P/P	90 - 110
Copper	98.1	97.3	P/P	90 - 110
Lead	96.4	96.9	P/P	90 - 110
Manganese	101	99.4	P/P	90 - 110
Molybdenum	94.4	95.2	P/P	90 - 110
Nickel	97.6	98.2	P/P	90 - 110
Selenium	99.9	99.7	P/P	90 - 110
Thallium	95.8	94.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122791

Included Lab Sample IDs: 2450965, 2450968, 2450969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	95.9	P/P	90 - 110
Organic Carbon	95.4	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122793

Included Lab Sample IDs: 2450993

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.7	100	P/P	50 - 150
2,4,5-T	87.9	93.3	P/P	50 - 150
Acetaminophen	108	111	P/P	60 - 160
Acetamiprid	105	104	P/P	50 - 150
Afidopyropen	98.0	89.6	P/P	50 - 150
Bentazon	107	102	P/P	50 - 160
Benzovindiflupyr	102	100	P/P	50 - 150
Carbamazepine	101	99.8	P/P	60 - 150
Clothianidin	102	101	P/P	60 - 150
Dinotefuran	110	110	P/P	50 - 150
Diuron	106	106	P/P	60 - 160
Fenuron	100	101	P/P	60 - 150
Fluridone	110	107	P/P	60 - 160
Hydrocodone	107	107	P/P	60 - 150
Ibuprofen	84.9	78.8	P/P	50 - 160
Imazapyr	90.6	99.7	P/P	50 - 150
Imidacloprid	94.7	92.6	P/P	60 - 150
Linuron	109	110	P/P	60 - 150
Mandestrobin	104	98.9	P/P	50 - 150
MCPP	103	96.3	P/P	50 - 150
Naproxen	91.4	130	P/P	50 - 160
Primidone	99.0	99.2	P/P	60 - 150
Pyraclostrobin	103	103	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A122793
Included Lab Sample IDs: 2450993

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silvex	94.6	96.7	P/P	50 - 150
Thiamethoxam	103	102	P/P	50 - 150
Tolfenpyrad	97.7	95.6	P/P	60 - 150
Triclopyr	99.0	103	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A122813
Included Lab Sample IDs: 2450995

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	97.7	103	P/P	90 - 110
Silver	94.5	100	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A122815
Included Lab Sample IDs: 2450964, 2450966, 2450967

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.7	97.2	P/P	90 - 110
Total Alkalinity	97.2	95.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A122815
Included Lab Sample IDs: 2450964, 2450966, 2450967

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A122817
Included Lab Sample IDs: 2450995

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.1	95.5	P/P	90 - 110
Iron	98.7	95.8	P/P	90 - 110
Magnesium	98.0	95.4	P/P	90 - 110
Potassium	96.8	93.4	P/P	90 - 110
Sodium	97.4	94.1	P/P	90 - 110
Strontium	98.1	96.4	P/P	90 - 110
Tin	96.5	96.9	P/P	90 - 110
Titanium	97.1	96.1	P/P	90 - 110
Vanadium	97.6	96.4	P/P	90 - 110
Zinc	99.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122846
Included Lab Sample IDs: 2450968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.3	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122849

Included Lab Sample IDs: 2450969

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122860

Included Lab Sample IDs: 2450969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122865

Included Lab Sample IDs: 2450965

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122869

Included Lab Sample IDs: 2450965, 2450968, 2450969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.6	96.7	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A122961

Included Lab Sample IDs: 2450985, 2450986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.3		P	80 - 120
PCB-1260	96.5		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122966

Included Lab Sample IDs: 2450965, 2450968

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

Reference Method: EPA 8270E

Run ID: A123058

Included Lab Sample IDs: 2450985, 2450986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	99.7		P	80 - 120
Alpha-Chlordane	86.1		P	80 - 120
Beta-BHC	95.9		P	80 - 120
Beta-Cyfluthrin	98.4		P	80 - 120
Bifenthrin	114		P	80 - 120
Carbophenothion	97.0		P	80 - 120
Chlorothalonil	95.1		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A123058

Included Lab Sample IDs: 2450985, 2450986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cis-Nonachlor	92.4		P	80 - 120
Cypermethrin	97.4		P	80 - 120
Dacthal	95.1		P	80 - 120
DDD-p,p'	92.6		P	80 - 120
DDE-p,p'	94.2		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	96.9		P	80 - 120
Deltamethrin	104		P	80 - 120
Dichlobenil	113		P	80 - 120
Dicofol	89.5		P	80 - 120
Dieldrin	97.7		P	80 - 120
Endosulfan I	101		P	80 - 120
Endosulfan II	99.9		P	80 - 120
Endosulfan Sulfate	92.6		P	80 - 120
Endrin	104		P	80 - 120
Endrin Aldehyde	99.9		P	80 - 120
Endrin Ketone	110		P	80 - 120
Esfenvalerate	102		P	80 - 120
Ethalfuralin	95.7		P	80 - 120
Fenpropathrin	118		P	80 - 120
Gamma-BHC	102		P	80 - 120
Gamma-Chlordane	89.7		P	80 - 120
Heptachlor	96.6		P	80 - 120
Heptachlor Epoxide	88.8		P	80 - 120
Hexachlorobenzene	98.1		P	80 - 120
Kepone	103		P	80 - 120
Lambda-Cyhalothrin	104		P	80 - 120
Methoprene	103		P	80 - 120
Methoxychlor	109		P	80 - 120
MGK-264	90.2		P	80 - 120
Mirex	110		P	80 - 120
Oxychlordane	96.3		P	80 - 120
Permethrin	102		P	80 - 120
Phenothrin	103		P	80 - 120
Piperonyl Butoxide	109		P	80 - 120
Prallethrin	102		P	80 - 120
Tau-Fluvalinate	102		P	80 - 120
Tetramethrin	103		P	80 - 120
Trans-Nonachlor	88.7		P	80 - 120
Triclosan Methyl	89.9		P	80 - 120
Trifluralin	110		P	80 - 120

Reference Method: EPA 8276

Run ID: A123157

Included Lab Sample IDs: 2450985, 2450986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	77.5*		F	80 - 120
Chlordane	98.8		P	80 - 120
Toxaphene	100		P	80 - 120
Toxaphene	66.9*		F	80 - 120

Quality Assurance Report

Calibration Verification

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	MS
			LCS	SMP	MS		
DEP SOP: NU-094-1	Color (true)	101				2.11	
	Color (true)	102				4.17	
EPA 180.1 Rev. 2.0	Turbidity	104				4.57	
	Turbidity	105				11.6	
EPA 200.7 Rev. 4.4	Calcium	100	100	106			0.206
	Iron	104	101	101	105		0.188
	Magnesium	105	103	102	106		0.448
	Potassium	101	96.8	97.7	103		0.574
	Sodium	100	99.6	103			0.268
	Strontium	100	97.7	98.2	102		0.409
	Tin	96.5	96.3	96.3	99.5		0.0198
	Titanium	97.1	99.5	99.8	102		0.328
	Vanadium	97.5	101	101	103		0.126
	Zinc	96.1	98.5	98.3	99.5		0.168
	Aluminum	100	98.2	97.7	95.7		0.457
	Antimony	105	106	106	107		0.347
	Arsenic	98.8	99.8	100	98.5		0.573
EPA 200.8 Rev. 5.4	Barium	102	103	103	101		0.412
	Beryllium	100	104	102	98.4		2.18
	Boron	97.9	94.6	94.5	102		0.0274
	Cadmium	98.6	99.2	99.7	96.7		0.534
	Chromium	98.0	96.0	96.4	95.2		0.492
	Cobalt	94.5	96.4	96.7	92.1		0.274
	Copper	98.0	100	99.7	96.5		0.287
	Lead	95.9	94.5	94.7	94.3		0.224
	Manganese	101	108	99.4	99.5		1.91
	Molybdenum	93.4	96.9	98.0	97.4		1.04
	Nickel	98.2	96.4	96.9	94.8		0.541
	Selenium	100	100	99.8	98.9		0.658
	Silver	108	106	108	106		1.76
	Thallium	98.2	96.9	98.0	96.5		1.18
EPA 300.0 Rev. 2.1	Chloride	108	108	109		0.185	
	Sulfate	108	107	107			
EPA 350.1 Rev. 2.0	Ammonia-N	94.4	94.2	97.2			2.37
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	102	100			1.39
EPA 353.2 Rev. 2.0	NO2NO3-N	100	95.8	96.8			0.980
	NO2NO3-N	99.5	99.6	102			1.91
EPA 365.1 Rev. 2.0	Total-P	104	109	103			4.44
	Total-P	102					0.627
EPA 8270E	Aldrin	55.6	56.4	60.4			6.86
	Alpha-BHC	75.2	90.6	87.7			3.28
	Alpha-Chlordane	65.2	90.8	135			39.0
	Beta-BHC	94.7	133	137			2.93
	Beta-Cyfluthrin	103	122	165			29.5
	Bifenthrin	70.6	72.1	76.9			6.44
	Carbophenothion	67.1	32.1	29.6			8.05
	Chlorothalonil	71.5	106	124			16.0
	Cis-Nonachlor	67.3	65.9	72.0			8.90
	Cypermethrin	85.6	95.2	107			12.0
	Dacthal	87.2	89.2	86.7			2.83
	DDD-p,p'	63.2	60.0	67.8			12.2
	DDE-p,p'	71.6	95.1	130			30.8
	DDT-p,p'	68.2	73.6	79.5			7.68
	Delta-BHC	97.0	128	142			10.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Deltamethrin	120	129	171			27.8
	Dichlobenil	81.8	72.9	73.1			0.306
	Dicofol	69.5	71.7	73.2			2.15
	Dieldrin	65.5	68.6	73.2			6.51
	Endosulfan I	72.4	86.9	85.3			1.79
	Endosulfan II	89.0	93.9	92.9			1.10
	Endosulfan Sulfate	79.7	103	113			9.79
	Endrin	71.4	75.1	77.8			3.49
	Endrin Aldehyde	70.3	62.1	54.6			12.9
	Endrin Ketone	102	88.5	87.7			0.905
	Esfenvalerate	98.2	133	174			26.7
	Ethalfuralin	72.6	94.2	114			19.2
	Fenpropathrin	86.0	87.1	74.1			16.2
	Gamma-BHC	95.8	109	105			3.40
	Gamma-Chlordane	69.4	109	128			16.0
	Heptachlor	52.5	53.3	52.9			0.865
	Heptachlor Epoxide	74.7	102	122			18.1
	Hexachlorobenzene	55.1	67.8	72.8			7.17
	Kepone	104	134	141			5.64
	Lambda-Cyhalothrin	90.8	111	123			10.2
	Methoprene	65.4	67.7	78.5			14.7
	Methoxychlor	96.7	103	113			9.39
	MGK-264	91.7	129	155			18.6
	Mirex	56.6	63.2	68.6			8.26
	Oxychlordane	58.2	76.8	85.5			10.8
	PCB-1016	80.6	62.8	88.4			33.9
	PCB-1260	83.2	54.2	89.1			48.6
	Permethrin	88.5	110	152			32.1
	Phenothrin	84.3	110	150			30.8
	Piperonyl Butoxide	137	132	143			7.30
	Prallethrin	97.1	96.9	108			10.9
	Tau-Fluvalinate	87.8	129	194			40.3
	Tetramethrin	125	146	191			26.5
	Trans-Nonachlor	62.5	87.2	112			25.0
	Triclosan Methyl	64.0	66.3	75.0			12.2
	Trifluralin	73.9	95.8	83.6			13.6
EPA 8276	Chlordane	52.6	58.3	43.6			28.7
	Toxaphene	49.5	58.4	45.1			25.8
EPA 8321B	2,4-D	86.2	111	112			1.03
	2,4,5-T	77.9	94.4	83.4			12.3
	Acesulfame K	111	146	145			0.482
	Acetaminophen	91.2	116	114			1.87
	Acetamiprid	80.0	79.5	68.6			14.6
	Afidopyropen	64.1	62.7	58.9			6.22
	AMPA	102	91.7	88.9			3.10
	Bentazon	82.7	44.0	41.2			6.63
	Benzovindiflupyr	81.2	84.1	83.6			0.648
	Carbamazepine	74.5	65.4	64.3			1.79
	Clothianidin	86.2	115	111			3.70
	Dinotefuran	100	106	102			3.32
	Diuron	73.5	67.1	65.5			2.43
	Endothall	113	104	98.5			5.79
	Fenuron	85.5	68.7	66.9			2.61
	Fluridone	88.7	83.3	83.4			0.0854

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glufosinate	101	95.2	96.8		1.67
	Glyphosate	101	97.0	94.4		2.69
	Hydrocodone	87.6	81.4	81.0		0.445
	Ibuprofen	72.9	70.3	68.7		2.31
	Imazapyr	81.8	116	114		2.21
	Imidacloprid	80.8	137	133		2.91
	Linuron	81.9	82.1	72.1		13.0
	Mandestrobin	82.1	82.0	83.1		1.41
	MCP	83.6	87.4	85.6		2.06
	Naproxen	84.9	79.8	66.8		17.8
	Primidone	86.7	96.6	96.0		0.713
	Pyraclostrobin	73.6	81.2	82.0		0.942
	Silvex	89.0	96.2	88.3		8.52
	Sucralose	101	107	111		3.55
	Thiamethoxam	79.1	102	99.4		2.78
	Tolfenpyrad	47.7	55.7	58.5		4.85
	Triclopyr	99.5	97.6	99.2		1.70
SM 2320 B-2011	Total Alkalinity	97.6			1.18	
SM 2540 C-2015	TDS	93.2			3.75	
SM 2540 D-2015	TSS	109				
SM 4500-F- C-2011	Fluoride	101	101	101		0.0
SM 5310 B-2011	Organic Carbon	95.6	95.0	95.3		0.159

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2450964, 2450966, 2450967
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2450964, 2450966, 2450967
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2450995
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2450995
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2450964, 2450966, 2450967
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2450964, 2450966, 2450967
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2450965, 2450968, 2450969
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2450965, 2450968, 2450969
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2450965, 2450968, 2450969
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2450965, 2450968, 2450969
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2450985, 2450986
EPA 8270E	PCBs in water matrices by GC/MS/MS	2450985, 2450986
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2450985, 2450986
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2450993
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2450964, 2450966, 2450967
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2450995
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2450964, 2450966, 2450967
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2450964, 2450966, 2450967
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2450964, 2450966, 2450967
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2450965, 2450968, 2450969

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	11/14/2023			11/14/2023 15:13	Chandler E Cox	2450964
	11/14/2023			11/14/2023 15:14	Chandler E Cox	2450966
	11/14/2023			11/14/2023 15:20	Chandler E Cox	2450967
EPA 180.1 Rev. 2.0	11/14/2023			11/14/2023 13:22	Samantha L Bates	2450967
	11/14/2023			11/14/2023 14:11	Samantha L Bates	2450964
	11/14/2023			11/14/2023 14:14	Samantha L Bates	2450966
EPA 200.7 Rev. 4.4	11/14/2023	11/15/2023 12:50	George D Taylor	11/17/2023 15:37	Samatha Luckman	2450995
EPA 200.8 Rev. 5.4	11/14/2023	11/15/2023 12:50	George D Taylor	11/16/2023 19:23	Conrad Hartmann	2450995
	11/14/2023	11/15/2023 12:50	George D Taylor	11/17/2023 16:05	Emily M Philpot	2450995
EPA 300.0 Rev. 2.1	11/14/2023			11/18/2023 07:56	James L Waggeberby	2450964
	11/14/2023			11/18/2023 08:11	James L Waggeberby	2450966
	11/14/2023			11/18/2023 08:26	James L Waggeberby	2450967
EPA 350.1 Rev. 2.0	11/14/2023			11/21/2023 13:56	Khloe J Berg	2450965
	11/14/2023			11/21/2023 14:04	Khloe J Berg	2450968
	11/14/2023			11/21/2023 14:05	Khloe J Berg	2450969
EPA 351.2 Rev. 2.0	11/14/2023	11/15/2023 16:54	Simonne.V. Calhoun	11/16/2023 13:08	Samantha L Bates	2450965
	11/14/2023	11/15/2023 16:54	Simonne.V. Calhoun	11/16/2023 13:09	Samantha L Bates	2450968
	11/14/2023	11/15/2023 16:54	Simonne.V. Calhoun	11/16/2023 13:14	Samantha L Bates	2450969
EPA 353.2 Rev. 2.0	11/14/2023			11/20/2023 14:07	Anna M. Plaviak	2450969
	11/14/2023			11/30/2023 14:18	Fadila Guebre	2450965
	11/14/2023			11/30/2023 14:19	Fadila Guebre	2450968
EPA 365.1 Rev. 2.0	11/14/2023	11/20/2023 12:58	Adam P Silver	11/20/2023 18:54	Simonne.V. Calhoun	2450968
	11/14/2023	11/20/2023 12:58	Adam P Silver	11/21/2023 10:38	Simonne.V. Calhoun	2450969
	11/14/2023	11/20/2023 12:58	Adam P Silver	11/21/2023 13:17	Simonne.V. Calhoun	2450965
EPA 8270E	11/14/2023	11/17/2023 08:00	Fe-Val Siddell	11/28/2023 03:12	Lipi Saha	2450985
	11/14/2023	11/17/2023 08:00	Fe-Val Siddell	11/28/2023 03:44	Lipi Saha	2450986
	11/14/2023	11/17/2023 08:00	Fe-Val Siddell	11/29/2023 02:50	Julie Wi	2450985
EPA 8276	11/14/2023	11/17/2023 08:00	Fe-Val Siddell	11/29/2023 03:23	Julie Wi	2450986
	11/14/2023	11/17/2023 08:00	Fe-Val Siddell	12/12/2023 08:49	Arthur Maknenko	2450985
	11/14/2023	11/17/2023 08:00	Fe-Val Siddell	12/12/2023 10:43	Arthur Maknenko	2450986
EPA 8321B	11/14/2023	11/14/2023 12:00	Tae K Lee	11/14/2023 14:51	Hana Lee	2450993
	11/14/2023	11/14/2023 12:00	Tae K Lee	11/14/2023 20:14	Hana Lee	2450993
	11/14/2023	11/15/2023 09:00	Hoor Shaik	11/16/2023 19:13	Juyoung Kim	2450993
SM 2320 B-2011	11/14/2023			11/18/2023 05:59	Adam P Silver	2450964
	11/14/2023			11/18/2023 07:09	Adam P Silver	2450967
	11/14/2023			11/18/2023 10:40	Adam P Silver	2450966
SM 2340 B-2011	11/14/2023			11/17/2023 15:37	Samatha Luckman	2450995
SM 2540 C-2015	11/14/2023			11/16/2023 15:42	Yijie Li	2450964, 2450966, 2450967
SM 2540 D-2015	11/14/2023			11/16/2023 15:42	Yijie Li	2450964, 2450966, 2450967
SM 4500-F- C-2011	11/14/2023			11/18/2023 05:49	Adam P Silver	2450964

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	11/14/2023			11/18/2023 07:09	Adam P Silver	2450967
	11/14/2023			11/18/2023 10:40	Adam P Silver	2450966
SM 5310 B-2011	11/14/2023			11/16/2023 13:14	Khloe J Berg	2450965
	11/14/2023			11/16/2023 14:33	Khloe J Berg	2450968
	11/14/2023			11/16/2023 14:46	Khloe J Berg	2450969