

Chemical Analysis Report

NW-DIST-2022-08-11-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Navarre Run**
Request ID: **RQ-2022-08-08-33**
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

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 01-SEP-2022 16:12

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: Discharge from Tiger Point Golf Course at
Maplewood Drive**

Collection Date/Time: 08/10/2022 10:00

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348149	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P418008	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P418313	
	SM 2540 D-2011	TSS	4	IA	mg/L	P418459	
	SM 4500-F- C-2011	Fluoride	0.042	I	mg F/L	P418316	
2348150	EPA 350.1 Rev. 2.0	Ammonia-N	0.26		mg N/L	P418160	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P418085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P418111	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P418190	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P418235	
2348158	EPA 200.7 Rev. 4.4	Calcium	9.37		mg/L	P418083	
		Iron	300		ug/L	P418083	
		Magnesium	3.41		mg/L	P418083	
		Potassium	2.6		mg/L	P418083	
		Sodium	13.6		mg/L	P418083	
		Strontium	35.5		ug/L	P418083	
		Tin	3.3	I	ug/L	P418083	
		Titanium	1.3	I	ug/L	P418083	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P418083	
		Zinc	5.0	U	ug/L	P418083	
		Aluminum	192		ug/L	P418083	
		Antimony	0.053	I	ug/L	P418083	
		Arsenic	3.76		ug/L	P418083	
		Barium	6.63		ug/L	P418083	
		Beryllium	0.010	U	ug/L	P418083	
		Boron	57.7		ug/L	P418083	
		Cadmium	0.020	U	ug/L	P418083	
		Chromium	0.72	I	ug/L	P418083	
		Cobalt	0.068	I	ug/L	P418083	
		Copper	0.59	I	ug/L	P418083	
		Lead	0.20	U	ug/L	P418083	
		Manganese	11.4		ug/L	P418083	
		Molybdenum	0.15	U	ug/L	P418083	
		Nickel	0.50	I	ug/L	P418083	
		Selenium	0.24	I	ug/L	P418083	
		Silver	0.010	U	ug/L	P418083	
		Thallium	0.10	U	ug/L	P418083	
	SM 2340 B-2011	Hardness	37.5		mg/L	P418083	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for manganese are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Tom King Creek

Collection Date/Time: 08/10/2022 09:45

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348147	DEP SOP: NU-094-1	Color (true)	23		PCU	P418006	
	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P418007	
	EPA 300.0 Rev. 2.1	Chloride	17	A	mg Cl/L	P418360	
		Sulfate	6.1	A	mg SO4/L	P418362	
	SM 2320 B-2011	Total Alkalinity	6.5		mg CaCO3/L	P418313	
	SM 2540 C-2011	TDS	59		mg/L	P418451	
	SM 2540 D-2011	TSS	22		mg/L	P418457	
2348148	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P418316	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P418160	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P418085	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.48		mg N/L	P418111	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P418512	
2348156	SM 5310 B-2011	Organic Carbon	5.8		mg C/L	P418235	
	EPA 8270E	Aldrin	0.70	U	ng/L	P418171	
		Alpha-BHC	0.11	UJ	ng/L	P418171	LCS, MS
		Alpha-Chlordane	0.21	U	ng/L	P418171	
		PCB-1016	2.1	U	ng/L	P418171	
		Beta-BHC	0.11	U	ng/L	P418171	
		PCB-1221	2.1	U	ng/L	P418171	
		Beta-Cyfluthrin	1.3	U	ng/L	P418171	
		PCB-1232	2.1	U	ng/L	P418171	
		Bifenthrin	2.0	I	ng/L	P418171	
		PCB-1242	2.1	U	ng/L	P418171	
		Carbophenothion	0.96	U	ng/L	P418171	
		PCB-1248	2.1	U	ng/L	P418171	
		Chlorothalonil	1.3	U	ng/L	P418171	
		PCB-1254	2.1	U	ng/L	P418171	
		Cis-Nonachlor	0.21	U	ng/L	P418171	
		PCB-1260	2.1	U	ng/L	P418171	
		Cypermethrin	1.7	I	ng/L	P418171	
		Dacthal	0.16	U	ng/L	P418171	
		DDD-p,p'	0.27	U	ng/L	P418171	
		DDE-p,p'	0.21	U	ng/L	P418171	
		DDT-p,p'	0.27	U	ng/L	P418171	
		Delta-BHC	0.43	U	ng/L	P418171	
		Deltamethrin	1.3	U	ng/L	P418171	
		Dichlobenil	0.27	U	ng/L	P418171	
		Dicofol	1.3	U	ng/L	P418171	
		Dieldrin	0.43	U	ng/L	P418171	
		Endosulfan I	0.43	U	ng/L	P418171	
		Endosulfan II	0.43	U	ng/L	P418171	
		Endosulfan Sulfate	0.32	U	ng/L	P418171	
		Endrin	0.43	U	ng/L	P418171	
		Endrin Aldehyde	0.80	U	ng/L	P418171	

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348156	EPA 8270E	Endrin Ketone	0.43	U	ng/L	P418171	
		Esfenvalerate	0.80	U	ng/L	P418171	
		Ethalfuralin	0.16	U	ng/L	P418171	
		Fenpropathrin	0.27	U	ng/L	P418171	
		Gamma-BHC	0.13	U	ng/L	P418171	
		Gamma-Chlordane	0.21	U	ng/L	P418171	
		Heptachlor	0.21	U	ng/L	P418171	
		Heptachlor Epoxide	0.27	U	ng/L	P418171	
		Hexachlorobenzene**	1.1	U	ng/L	P418171	
		Kepone	5.4	U	ng/L	P418171	
		Lambda-Cyhalothrin	0.80	U	ng/L	P418171	
		Methoprene	0.80	U	ng/L	P418171	
		Methoxychlor	0.32	U	ng/L	P418171	
		MGK-264	0.21	U	ng/L	P418171	
		Mirex	0.37	U	ng/L	P418171	
		Oxychlordane	0.32	U	ng/L	P418171	
		Permethrin	1.7	U	ng/L	P418171	
		Phenothrin	0.96	U	ng/L	P418171	
		Piperonyl Butoxide	0.70	I	ng/L	P418171	
		Prallethrin	2.1	U	ng/L	P418171	
		Tau-Fluvalinate	0.27	U	ng/L	P418171	
		Tetramethrin	0.80	U	ng/L	P418171	
		Trans-Nonachlor	0.21	U	ng/L	P418171	
		Triclosan Methyl	0.16	U	ng/L	P418171	
		Trifluralin	0.21	U	ng/L	P418171	
	EPA 8276	Chlordane	2.7	U	ng/L	P418171	
		Toxaphene	16	U	ng/L	P418171	
		2,4-D	0.0039	I	ug/L	P417968	
2348157	EPA 8321B	Acesulfame K	0.10	U	ug/L	P417966	
		2,4,5-T	0.0040	U	ug/L	P417968	
		AMPA	0.10	U	ug/L	P417966	
		Acetaminophen	0.0080	U	ug/L	P417968	
		Acetamiprid	0.0020	U	ug/L	P417968	
		Endothall	0.25	U	ug/L	P417966	
		Glufosinate	0.10	U	ug/L	P417966	
		Glyphosate	0.12	I	ug/L	P417966	
		Afidopyropen	0.0020	U	ug/L	P417968	
		Bentazon	0.0010	I	ug/L	P417968	
		Sucralose	1.1		ug/L	P417966	
		Benzovindiflupyr	0.0020	U	ug/L	P417968	
		Carbamazepine	8.0E-04	U	ug/L	P417968	
		Clothianidin	0.0085		ug/L	P417968	
		Dinotefuran	0.0020	U	ug/L	P417968	
		Diuron	0.0020	U	ug/L	P417968	
		Fenuron	0.032	U	ug/L	P417968	

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2348157	EPA 8321B	Fluridone	8.0E-04	U	ug/L	P417968	
		Imazapyr	0.0040	U	ug/L	P417968	
		Hydrocodone	0.0020	U	ug/L	P417968	
		Ibuprofen	0.080	U	ug/L	P417968	
		Imidacloprid	0.021		ug/L	P417968	
		Linuron	0.0040	U	ug/L	P417968	RPD
		Mandestrobin	0.0020	U	ug/L	P417968	
		MCPP	0.0040	U	ug/L	P417968	
		Naproxen	0.0080	U	ug/L	P417968	
		Primidone	0.0070	I	ug/L	P417968	
		Pyraclostrobin	0.0020	U	ug/L	P417968	
		Silvex	0.0040	U	ug/L	P417968	
		Thiamethoxam	0.0020	U	ug/L	P417968	
		Tolfenpyrad	0.0020	U	ug/L	P417968	
		Triclopyr	0.0040	U	ug/L	P417968	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
 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: P418006

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418007

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418008

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

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: P418083

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418360

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418362

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418160

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418085

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418111

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418190

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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

Reference Method: EPA 8270E
Batch ID: P418171

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P418171

Component	Result	Code	Units
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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P418171

Component	Result	Code	Units
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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276

Batch ID: P418171

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Chlordane	2.5	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: EPA 8321B

Batch ID: P417966

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: P417968

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	0.0040	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: P418313

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P418313

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

Reference Method: SM 2540 C-2011
Batch ID: P418451

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418457

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418459

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418316

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P418235

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: P418006

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418008

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	109		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	108		P	85 - 115
Sodium	103		P	85 - 115
Strontium	107		P	85 - 115
Tin	111		P	85 - 115
Titanium	107		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	98.5		P	85 - 115
Barium	104		P	85 - 115
Beryllium	91.7		P	85 - 115
Boron	102		P	85 - 115
Cadmium	97.2		P	85 - 115
Chromium	100		P	85 - 115
Cobalt	98.1		P	85 - 115
Copper	95.7		P	85 - 115
Lead	95.0		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	96.2		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	96.7		P	85 - 115
Silver	97.9		P	85 - 115
Thallium	94.0		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418360

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418160

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: P418085

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: P418111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	95.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418190

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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

Reference Method: EPA 8270E
Batch ID: P418171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	38.6		P	10 - 92.0
Alpha-BHC	74.6		F	75 - 107
Alpha-Chlordane	55.6		P	50 - 108
Beta-BHC	95.4		P	36 - 138
Beta-Cyfluthrin	45.1		P	20 - 161
Bifenthrin	45.6		P	10 - 119
Carbophenothion	35.1		P	19 - 94.0
Chlorothalonil	104		P	26 - 186
Cis-Nonachlor	47.7		P	42 - 119
Cypermethrin	47.1		P	22 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P418171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dacthal	72.1		P	72 - 119
DDD-p,p'	56.3		P	45 - 107
DDE-p,p'	54.4		P	48 - 106
DDT-p,p'	59.9		P	48 - 110
Delta-BHC	102		P	54 - 140
Deltamethrin	57.6		P	22 - 189
Dichlobenil	64.2		P	36 - 117
Dicofol	72.0		P	46 - 155
Dieldrin	60.7		P	54 - 110
Endosulfan I	68.6		P	59 - 105
Endosulfan II	59.3		P	51 - 118
Endosulfan Sulfate	68.5		P	57 - 121
Endrin	59.5		P	10 - 120
Endrin Aldehyde	63.9		P	34 - 118
Endrin Ketone	73.7		P	69 - 177
Esfenvalerate	42.9		P	23 - 168
Ethalfuralin	61.6		P	49 - 99.0
Fenpropathrin	46.7		P	34 - 117
Gamma-BHC	83.4		P	72 - 117
Gamma-Chlordane	53.1		P	43 - 106
Heptachlor	53.4		P	41 - 98.0
Heptachlor Epoxide	64.0		P	57 - 106
Hexachlorobenzene	58.7		P	36 - 99.0
Kepone	110		P	16 - 215
Lambda-Cyhalothrin	35.9		P	21 - 177
Methoprene	30.3		P	10 - 119
Methoxychlor	101		P	60 - 112
MGK-264	63.2		P	26 - 122
Mirex	37.4		P	10 - 169
Oxychlordane	63.6		P	43 - 105
PCB-1016	91.3		P	48 - 112
PCB-1260	91.2		P	44 - 118
Permethrin	44.4		P	24 - 148
Phenothrin	25.5		P	10 - 106
Piperonyl Butoxide	85.4		P	10 - 139
Prallethrin	56.2		P	17 - 109
Tau-Fluvalinate	35.1		P	13 - 131
Tetramethrin	77.7		P	10 - 132
Trans-Nonachlor	51.8		P	44 - 106
Triclosan Methyl	62.6		P	59 - 109
Trifluralin	62.5		P	44 - 101

Reference Method: EPA 8276

Batch ID: P418171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	94.3		P	61 - 116
Toxaphene	90.9		P	48 - 124

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P417966

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.5		P	40 - 150
AMPA	101		P	40 - 150
Endothall	107		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	105		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417968

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	119		P	40 - 150
2,4,5-T	99.8		P	40 - 150
Acetaminophen	91.4		P	30 - 150
Acetamiprid	95.5		P	40 - 150
Afidopyropen	73.4		P	30 - 150
Bentazon	99.2		P	30 - 150
Benzovindiflupyr	108		P	40 - 150
Carbamazepine	108		P	40 - 150
Clothianidin	102		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	77.5		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	106		P	40 - 150
Hydrocodone	103		P	40 - 150
Ibuprofen	119		P	40 - 150
Imazapyr	110		P	40 - 150
Imidacloprid	100		P	40 - 150
Linuron	97.7		P	40 - 150
Mandestrobin	107		P	40 - 150
MCPP	111		P	40 - 150
Naproxen	84.4		P	40 - 150
Primidone	100		P	40 - 150
Pyraclostrobin	100		P	40 - 150
Silvex	111		P	40 - 150
Thiamethoxam	114		P	40 - 150
Tolfenpyrad	86.7		P	30 - 150
Triclopyr	96.0		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P418313

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

Reference Method: SM 4500-F- C-2011

Batch ID: P418316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P418235

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P418083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348158	Calcium	108		P	80 - 120
2348158	Iron	110		P	80 - 120
2348158	Magnesium	111		P	80 - 120
2348158	Potassium	106		P	80 - 120
2348158	Sodium	105		P	80 - 120
2348158	Strontium	109		P	80 - 120
2348158	Tin	109		P	80 - 120
2348158	Titanium	108		P	80 - 120
2348158	Vanadium	105		P	80 - 120
2348158	Zinc	106		P	80 - 120
2348752	Calcium	106		P	80 - 120
2348752	Iron	105	107	P/P	80 - 120
2348752	Magnesium	107	107	P/P	80 - 120
2348752	Potassium	104	106	P/P	80 - 120
2348752	Sodium	106		P	80 - 120
2348752	Strontium	106	107	P/P	80 - 120
2348752	Tin	109	108	P/P	80 - 120
2348752	Titanium	101	103	P/P	80 - 120
2348752	Vanadium	102	102	P/P	80 - 120
2348752	Zinc	104	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P418083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348158	Aluminum	103		P	80 - 120
2348158	Antimony	106		P	80 - 120
2348158	Arsenic	102		P	80 - 120
2348158	Barium	107		P	80 - 120
2348158	Beryllium	95.4		P	80 - 120
2348158	Boron	106		P	80 - 120
2348158	Cadmium	101		P	80 - 120
2348158	Chromium	102		P	80 - 120
2348158	Cobalt	99.5		P	80 - 120
2348158	Copper	97.9		P	80 - 120
2348158	Lead	99.5		P	80 - 120
2348158	Manganese	104		P	80 - 120
2348158	Molybdenum	102		P	80 - 120
2348158	Nickel	97.5		P	80 - 120
2348158	Selenium	97.8		P	80 - 120
2348158	Silver	98.4		P	80 - 120
2348158	Thallium	99.3		P	80 - 120
2348752	Aluminum	108	109	P/P	80 - 120
2348752	Antimony	100	99.4	P/P	80 - 120
2348752	Arsenic	98.5	98.4	P/P	80 - 120
2348752	Barium	104	104	P/P	80 - 120
2348752	Beryllium	92.7	92.7	P/P	80 - 120
2348752	Boron	103	104	P/P	80 - 120
2348752	Cadmium	99.3	98.8	P/P	80 - 120
2348752	Chromium	102	101	P/P	80 - 120
2348752	Cobalt	97.2	97.0	P/P	80 - 120
2348752	Copper	95.0	96.1	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P418083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348752	Lead	94.8	95.2	P/P	80 - 120
2348752	Molybdenum	96.2	97.3	P/P	80 - 120
2348752	Nickel	96.6	96.3	P/P	80 - 120
2348752	Selenium	93.0	93.7	P/P	80 - 120
2348752	Silver	97.4	97.9	P/P	80 - 120
2348752	Thallium	95.1	96.1	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P418360

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348147	Chloride	98.0		P	90 - 110
2348391	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P418362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348147	Sulfate	98.0		P	90 - 110
2348391	Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P418160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347938	Ammonia-N	97.4	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P418111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348120	NO2NO3-N	92.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P418190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348118	Total-P	105	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P418512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350479	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P418171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348185	PCB-1016	80.4	68.9	P/P	46 - 111
2348185	PCB-1260	78.7	69.6	P/P	45 - 114
2348248	Aldrin	47.3	51.5	P/P	20 - 82.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P418171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348248	Alpha-BHC	69.6	81.4	F/P	71 - 109
2348248	Alpha-Chlordane	42.9	45.5	P/P	42 - 106
2348248	Beta-BHC	99.7	110	P/P	69 - 180
2348248	Beta-Cyfluthrin	61.4	58.6	P/P	18 - 175
2348248	Bifenthrin	75.9	60.2	P/P	21 - 128
2348248	Carbophenothion	43.6	47.2	P/P	10 - 126
2348248	Chlorothalonil	166	190	P/P	10 - 300
2348248	Cis-Nonachlor	42.4	41.9	P/P	34 - 106
2348248	Cypermethrin	63.1	61.3	P/P	22 - 158
2348248	Dacthal	62.4	67.2	P/P	54 - 116
2348248	DDD-p,p'	44.2	43.2	P/P	34 - 107
2348248	DDE-p,p'	39.3	40.2	P/P	33 - 110
2348248	DDT-p,p'	56.7	59.5	P/P	50 - 122
2348248	Delta-BHC	115	126	P/P	77 - 193
2348248	Deltamethrin	80.3	75.5	P/P	10 - 195
2348248	Dichlobenil	42.1	41.3	P/P	25 - 113
2348248	Dicofol	105	90.5	P/P	38 - 247
2348248	Dieldrin	47.1	46.9	P/P	45 - 118
2348248	Endosulfan I	59.4	60.8	P/P	51 - 106
2348248	Endosulfan II	45.2	43.4	P/P	37 - 122
2348248	Endosulfan Sulfate	49.5	50.3	P/P	43 - 132
2348248	Endrin	50.8	49.6	P/P	29 - 101
2348248	Endrin Aldehyde	40.2	36.5	P/P	19 - 110
2348248	Endrin Ketone	81.2	76.7	P/P	60 - 140
2348248	Esfenvalerate	67.5	64.3	P/P	26 - 199
2348248	Ethalfuralin	64.0	68.8	P/P	45 - 99.0
2348248	Fenpropathrin	50.1	49.6	P/P	35 - 120
2348248	Gamma-BHC	94.0	110	P/P	63 - 128
2348248	Gamma-Chlordane	51.6	53.0	P/P	40 - 104
2348248	Heptachlor	54.2	58.0	P/P	36 - 97.0
2348248	Heptachlor Epoxide	58.5	59.4	P/P	49 - 184
2348248	Hexachlorobenzene	63.6	69.8	P/P	39 - 96.0
2348248	Kepone	83.7	74.4	P/P	10 - 217
2348248	Lambda-Cyhalothrin	62.6	62.0	P/P	21 - 193
2348248	Methoprene	50.1	61.1	P/P	20 - 106
2348248	Methoxychlor	103	80.8	P/P	53 - 118
2348248	MGK-264	57.7	66.3	P/P	40 - 118
2348248	Mirex	42.2	40.8	P/P	26 - 92.0
2348248	Oxychlordane	68.8	64.1	P/P	44 - 99.0
2348248	Permethrin	62.5	62.1	P/P	33 - 182
2348248	Phenothrin	52.3	56.0	P/P	10 - 129
2348248	Piperonyl Butoxide	77.0	83.5	P/P	10 - 211
2348248	Prallethrin	55.7	57.5	P/P	24 - 113
2348248	Tau-Fluvalinate	60.9	58.1	P/P	14 - 149
2348248	Tetramethrin	64.0	56.0	P/P	17 - 151
2348248	Trans-Nonachlor	47.3	48.0	P/P	42 - 102
2348248	Triclosan Methyl	50.2	51.3	P/P	48 - 108
2348248	Trifluralin	63.5	66.7	P/P	47 - 96.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P418171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348185	Chlordane	82.5	67.8	P/P	53 - 126
2348185	Toxaphene	89.5	77.1	P/P	56 - 211

Reference Method: EPA 8321B

Batch ID: P417966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348339	Acesulfame K	95.7	92.2	P/P	40 - 150
2348339	AMPA	79.7	82.1	P/P	40 - 150
2348339	Endothall	96.5	103	P/P	40 - 150
2348339	Glufosinate	101	97.9	P/P	40 - 150
2348339	Glyphosate	75.9	80.5	P/P	40 - 150
2348339	Sucralose	99.9	95.9	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348048	2,4-D	93.9	115	P/P	40 - 150
2348048	2,4,5-T	87.1	103	P/P	40 - 150
2348048	Acetaminophen	87.0	88.4	P/P	30 - 150
2348048	Acetamiprid	87.6	88.9	P/P	40 - 150
2348048	Afidopyropen	82.9	74.1	P/P	30 - 150
2348048	Bentazon	81.5	80.3	P/P	30 - 150
2348048	Benzovindiflupyr	103	104	P/P	40 - 150
2348048	Carbamazepine	112	115	P/P	40 - 150
2348048	Clothianidin	114	123	P/P	40 - 150
2348048	Dinotefuran	126	131	P/P	40 - 150
2348048	Diuron	87.4	92.4	P/P	40 - 150
2348048	Fenuron	99.2	98.4	P/P	40 - 150
2348048	Fluridone	96.4	117	P/P	40 - 150
2348048	Hydrocodone	108	121	P/P	40 - 150
2348048	Ibuprofen	70.2	92.7	P/P	40 - 150
2348048	Imazapyr	109	126	P/P	40 - 150
2348048	Imidacloprid	131	132	P/P	40 - 150
2348048	Linuron	136	92.0	P/P	40 - 150
2348048	Mandestrobin	100	104	P/P	40 - 150
2348048	MCPP	95.0	113	P/P	40 - 150
2348048	Naproxen	85.0	82.8	P/P	40 - 150
2348048	Primidone	99.1	99.4	P/P	40 - 150
2348048	Pyraclostrobin	97.7	104	P/P	40 - 150
2348048	Silvex	90.4	111	P/P	40 - 150
2348048	Thiamethoxam	137	140	P/P	40 - 150
2348048	Tolfenpyrad	62.5	59.2	P/P	30 - 150
2348048	Triclopyr	83.1	96.9	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P418316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2348883	Fluoride	98.2	98.9	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P418235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347940	Organic Carbon	95.8	96.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P418006

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347971	Color (true)	0.0627	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418007

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348082	Turbidity	6.01	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418008

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348204	Turbidity	1.59	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418083

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348752	Calcium	0.0171	Spike	P	0 - 20
2348752	Iron	1.47	Spike	P	0 - 20
2348752	Magnesium	0.137	Spike	P	0 - 20
2348752	Potassium	1.60	Spike	P	0 - 20
2348752	Sodium	0.314	Spike	P	0 - 20
2348752	Strontium	0.627	Spike	P	0 - 20
2348752	Tin	1.10	Spike	P	0 - 20
2348752	Titanium	1.19	Spike	P	0 - 20
2348752	Vanadium	0.174	Spike	P	0 - 20
2348752	Zinc	1.58	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348752	Aluminum	0.751	Spike	P	0 - 20
2348752	Antimony	0.612	Spike	P	0 - 20
2348752	Arsenic	0.0997	Spike	P	0 - 20
2348752	Barium	0.0882	Spike	P	0 - 20
2348752	Beryllium	0.0103	Spike	P	0 - 20
2348752	Boron	1.11	Spike	P	0 - 20
2348752	Cadmium	0.503	Spike	P	0 - 20
2348752	Chromium	0.326	Spike	P	0 - 20
2348752	Cobalt	0.244	Spike	P	0 - 20
2348752	Copper	1.10	Spike	P	0 - 20
2348752	Lead	0.411	Spike	P	0 - 20
2348752	Manganese	1.22	Spike	P	0 - 20
2348752	Molybdenum	1.13	Spike	P	0 - 20
2348752	Nickel	0.302	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348752	Selenium	0.780	Spike	P	0 - 20
2348752	Silver	0.491	Spike	P	0 - 20
2348752	Thallium	1.05	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418360

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348147	Chloride	2.16	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348147	Sulfate	2.37	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347938	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348227	Kjeldahl Nitrogen	4.88	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348120	NO2NO3-N	1.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348118	Total-P	1.35	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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: P418512

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350479	Total-P	0.165	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P418171

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348185	PCB-1016	15.4	Spike	P	0 - 32
2348185	PCB-1260	12.3	Spike	P	0 - 31
2348248	Aldrin	8.53	Spike	P	0 - 41
2348248	Alpha-BHC	15.7	Spike	P	0 - 25
2348248	Alpha-Chlordane	5.00	Spike	P	0 - 33
2348248	Beta-BHC	9.44	Spike	P	0 - 36
2348248	Beta-Cyfluthrin	4.65	Spike	P	0 - 42
2348248	Bifenthrin	23.0	Spike	P	0 - 53
2348248	Carbophenothion	7.89	Spike	P	0 - 49
2348248	Chlorothalonil	13.2	Spike	P	0 - 71
2348248	Cis-Nonachlor	1.10	Spike	P	0 - 29
2348248	Cypermethrin	2.93	Spike	P	0 - 40
2348248	Dacthal	7.47	Spike	P	0 - 26
2348248	DDD-p,p'	2.31	Spike	P	0 - 39
2348248	DDE-p,p'	1.96	Spike	P	0 - 33
2348248	DDT-p,p'	4.55	Spike	P	0 - 40
2348248	Delta-BHC	9.24	Spike	P	0 - 37
2348248	Deltamethrin	6.22	Spike	P	0 - 100
2348248	Dichlobenil	2.08	Spike	P	0 - 40
2348248	Dicofol	14.7	Spike	P	0 - 31
2348248	Dieldrin	0.407	Spike	P	0 - 27
2348248	Endosulfan I	2.34	Spike	P	0 - 23
2348248	Endosulfan II	4.02	Spike	P	0 - 28
2348248	Endosulfan Sulfate	1.59	Spike	P	0 - 38
2348248	Endrin	2.50	Spike	P	0 - 63
2348248	Endrin Aldehyde	9.74	Spike	P	0 - 60
2348248	Endrin Ketone	5.64	Spike	P	0 - 37
2348248	Esfenvalerate	4.98	Spike	P	0 - 52
2348248	Ethalfuralin	7.17	Spike	P	0 - 23
2348248	Fenpropathrin	1.18	Spike	P	0 - 32
2348248	Gamma-BHC	15.7	Spike	P	0 - 17
2348248	Gamma-Chlordane	2.66	Spike	P	0 - 40
2348248	Heptachlor	6.73	Spike	P	0 - 29
2348248	Heptachlor Epoxide	1.51	Spike	P	0 - 25
2348248	Hexachlorobenzene	9.37	Spike	P	0 - 36
2348248	Kepone	11.8	Spike	P	0 - 93
2348248	Lambda-Cyhalothrin	0.985	Spike	P	0 - 55
2348248	Methoprene	19.8	Spike	P	0 - 53
2348248	Methoxychlor	24.3	Spike	P	0 - 29
2348248	MGK-264	13.8	Spike	P	0 - 35
2348248	Mirex	3.46	Spike	P	0 - 46
2348248	Oxychlordane	7.12	Spike	P	0 - 29
2348248	Permethrin	0.592	Spike	P	0 - 44
2348248	Phenothrin	6.87	Spike	P	0 - 56

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P418171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348248	Piperonyl Butoxide	7.28	Spike	P	0 - 100
2348248	Prallethrin	3.21	Spike	P	0 - 42
2348248	Tau-Fluvalinate	4.69	Spike	P	0 - 54
2348248	Tetramethrin	13.3	Spike	P	0 - 51
2348248	Trans-Nonachlor	1.34	Spike	P	0 - 37
2348248	Triclosan Methyl	2.23	Spike	P	0 - 31
2348248	Trifluralin	4.86	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P418171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348185	Chlordane	19.6	Spike	P	0 - 25
2348185	Toxaphene	14.9	Spike	P	0 - 26

Reference Method: EPA 8321B
Batch ID: P417966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348339	Acesulfame K	3.75	Spike	P	0 - 30
2348339	AMPA	2.43	Spike	P	0 - 30
2348339	Endothall	6.38	Spike	P	0 - 30
2348339	Glufosinate	2.79	Spike	P	0 - 30
2348339	Glyphosate	4.12	Spike	P	0 - 30
2348339	Sucralose	1.98	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P417968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348048	2,4-D	20.4	Spike	P	0 - 30
2348048	2,4,5-T	16.5	Spike	P	0 - 30
2348048	Acetaminophen	1.60	Spike	P	0 - 30
2348048	Acetamiprid	1.57	Spike	P	0 - 30
2348048	Afidopyropen	11.2	Spike	P	0 - 30
2348048	Bentazon	1.55	Spike	P	0 - 30
2348048	Benzovindiflupyr	1.15	Spike	P	0 - 30
2348048	Carbamazepine	2.63	Spike	P	0 - 30
2348048	Clothianidin	7.87	Spike	P	0 - 30
2348048	Dinotefuran	3.63	Spike	P	0 - 30
2348048	Diuron	5.54	Spike	P	0 - 30
2348048	Fenuron	0.820	Spike	P	0 - 30
2348048	Fluridone	19.1	Spike	P	0 - 30
2348048	Hydrocodone	10.9	Spike	P	0 - 30
2348048	Ibuprofen	27.7	Spike	P	0 - 30
2348048	Imazapyr	14.0	Spike	P	0 - 30
2348048	Imidacloprid	1.39	Spike	P	0 - 30
2348048	Linuron	38.4	Spike	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P417968

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348048	Mandestrobin	3.60	Spike	P	0 - 30
2348048	MCP	17.1	Spike	P	0 - 30
2348048	Naproxen	2.61	Spike	P	0 - 30
2348048	Primidone	0.312	Spike	P	0 - 30
2348048	Pyraclostrobin	6.64	Spike	P	0 - 30
2348048	Silvex	20.9	Spike	P	0 - 30
2348048	Thiamethoxam	2.01	Spike	P	0 - 30
2348048	Tolfenpyrad	5.46	Spike	P	0 - 30
2348048	Triclopyr	15.3	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P418313

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348883	Total Alkalinity	0.267	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P418451

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348225	TDS	4.33	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P418316

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2348883	Fluoride	0.476	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P418235

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347940	Organic Carbon	0.637	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2348156

Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	78.5	P	29 - 130
EPA 8270E	Decachlorobiphenyl	61.2	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	53.7	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	54.4	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	62.7	P	30 - 101
EPA 8276	PCNB	67.9	P	48 - 121

Lab Sample ID: 2348157

Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.2	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	31.4	P	30 - 160

Quality Assurance Report

Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A114038

Included Lab Sample IDs: 2348147

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114039

Included Lab Sample IDs: 2348147, 2348149

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114090

Included Lab Sample IDs: 2348148, 2348150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.5	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114095

Included Lab Sample IDs: 2348157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	97.3	P/P	60 - 160
Endothall	97.7	102	P/P	60 - 160
Glufosinate	90.6	98.8	P/P	60 - 160
Glyphosate	99.0	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114121

Included Lab Sample IDs: 2348157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	90.0	105	P/P	50 - 150
2,4,5-T	87.1	122	P/P	50 - 150
Acetaminophen	109	110	P/P	60 - 160
Acetamiprid	73.9	75.0	P/P	50 - 150
Afidopyropen	96.3	86.3	P/P	50 - 150
Bentazon	94.8	102	P/P	50 - 160
Benzovindiflupyr	113	113	P/P	50 - 150
Carbamazepine	106	116	P/P	60 - 150
Clothianidin	99.0	79.8	P/P	60 - 150
Dinotefuran	104	104	P/P	50 - 150
Diuron	105	105	P/P	60 - 160
Fenuron	99.5	75.0	P/P	60 - 150
Fluridone	96.6	107	P/P	60 - 160
Hydrocodone	104	85.2	P/P	60 - 150
Ibuprofen	90.2	73.5	P/P	50 - 160
Imazapyr	100	76.3	P/P	50 - 150
Imidacloprid	77.3	84.3	P/P	60 - 150
Linuron	141	125	P/P	60 - 150
Mandestrobin	106	109	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114121
Included Lab Sample IDs: 2348157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCPD	101	108	P/P	50 - 150
Naproxen	74.3	98.4	P/P	50 - 160
Primidone	107	92.7	P/P	60 - 150
Pyraclostrobin	108	116	P/P	60 - 150
Silvex	98.5	112	P/P	50 - 150
Thiamethoxam	103	79.7	P/P	50 - 150
Tolfenpyrad	106	105	P/P	60 - 150
Triclopyr	103	94.1	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114127
Included Lab Sample IDs: 2348148, 2348150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	99.4	P/P	90 - 110
Ammonia-N	99.5	99.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114134
Included Lab Sample IDs: 2348158

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	101	P/P	90 - 110
Antimony	99.7	101	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Barium	99.7	100	P/P	90 - 110
Beryllium	94.7	94.7	P/P	90 - 110
Boron	100	101	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Cobalt	98.3	99.3	P/P	90 - 110
Copper	97.8	98.1	P/P	90 - 110
Lead	93.8	93.6	P/P	90 - 110
Manganese	102	103	P/P	90 - 110
Molybdenum	96.6	96.6	P/P	90 - 110
Nickel	97.7	99.2	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Silver	97.1	97.9	P/P	90 - 110
Thallium	98.6	98.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A114138
Included Lab Sample IDs: 2348157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.5	92.9	P/P	60 - 160
Sucralose	99.7	97.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114142

Included Lab Sample IDs: 2348147

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	99.6	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114155

Included Lab Sample IDs: 2348148, 2348150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114160

Included Lab Sample IDs: 2348148, 2348150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.7	98.4	P/P	90 - 110
Kjeldahl Nitrogen	98.4	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114163

Included Lab Sample IDs: 2348150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.5	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A114183

Included Lab Sample IDs: 2348156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.9		P	80 - 120
PCB-1260	98.3		P	80 - 120

Reference Method: SM 2320 B-2011

Run ID: A114186

Included Lab Sample IDs: 2348147, 2348149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.1	99.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114186

Included Lab Sample IDs: 2348147, 2348149

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276
Run ID: A114201
Included Lab Sample IDs: 2348156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	101		P	80 - 120
Toxaphene	106		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A114225
Included Lab Sample IDs: 2348158

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	102	101	P/P	90 - 110
Sodium	99.7	99.8	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Tin	102	101	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A114245
Included Lab Sample IDs: 2348156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.6		P	80 - 120
Alpha-BHC	85.0		P	80 - 120
Alpha-Chlordane	111		P	80 - 120
Beta-BHC	86.9		P	80 - 120
Beta-Cyfluthrin	101		P	80 - 120
Bifenthrin	98.1		P	80 - 120
Carbophenothion	104		P	80 - 120
Chlorothalonil	95.9		P	80 - 120
Cis-Nonachlor	114		P	80 - 120
Cypermethrin	99.8		P	80 - 120
Dacthal	114		P	80 - 120
DDD-p,p'	98.8		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	89.0		P	80 - 120
Deltamethrin	113		P	80 - 120
Dichlobenil	90.8		P	80 - 120
Dicofol	115		P	80 - 120
Dieldrin	105		P	80 - 120
Endosulfan I	96.9		P	80 - 120
Endosulfan II	107		P	80 - 120
Endosulfan Sulfate	89.1		P	80 - 120
Endrin	102		P	80 - 120
Endrin Aldehyde	115		P	80 - 120
Endrin Ketone	93.7		P	80 - 120
Esfenvalerate	93.8		P	80 - 120
Ethalfuralin	90.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A114245
Included Lab Sample IDs: 2348156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenpropathrin	112		P	80 - 120
Gamma-BHC	86.3		P	80 - 120
Gamma-Chlordane	114		P	80 - 120
Heptachlor	99.9		P	80 - 120
Heptachlor Epoxide	108		P	80 - 120
Hexachlorobenzene	101		P	80 - 120
Kepone	94.9		P	80 - 120
Lambda-Cyhalothrin	91.1		P	80 - 120
Methoprene	103		P	80 - 120
Methoxychlor	103		P	80 - 120
MGK-264	96.5		P	80 - 120
Mirex	99.7		P	80 - 120
Oxychlordane	89.7		P	80 - 120
Permethrin	96.1		P	80 - 120
Phenothrin	92.8		P	80 - 120
Piperonyl Butoxide	90.2		P	80 - 120
Prallethrin	107		P	80 - 120
Tau-Fluvalinate	101		P	80 - 120
Tetramethrin	93.0		P	80 - 120
Trans-Nonachlor	102		P	80 - 120
Triclosan Methyl	111		P	80 - 120
Trifluralin	93.2		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114342
Included Lab Sample IDs: 2348148

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	103	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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	103				0.0627	
EPA 180.1 Rev. 2.0	Turbidity	96.7				6.01	
	Turbidity	96.2				1.59	
EPA 200.7 Rev. 4.4	Calcium	106	108	106			0.0171
	Iron	109	110	105	107		1.47
	Magnesium	109	111	107	107		0.137
	Potassium	108	106	104	106		1.60
	Sodium	103	105	106			0.314
	Strontium	107	109	106	107		0.627
	Tin	111	109	109	108		1.10
	Titanium	107	108	101	103		1.19
	Vanadium	102	105	102	102		0.174
	Zinc	104	106	104	102		1.58
EPA 200.8 Rev. 5.4	Aluminum	101	103	108	109		0.751
	Antimony	102	100	99.4	106		0.612
	Arsenic	98.5	98.5	98.4	102		0.0997
	Barium	104	104	104	107		0.0882
	Beryllium	91.7	92.7	92.7	95.4		0.0103
	Boron	102	106	103	104		1.11
	Cadmium	97.2	99.3	98.8	101		0.503
	Chromium	100	102	101	102		0.326
	Cobalt	98.1	97.2	97.0	99.5		0.244
	Copper	95.7	95.0	96.1	97.9		1.10
	Lead	95.0	94.8	95.2	99.5		0.411
	Manganese	101	104				1.22
	Molybdenum	96.2	96.2	97.3	102		1.13
	Nickel	97.9	96.6	96.3	97.5		0.302
	Selenium	96.7	93.0	93.7	97.8		0.780
	Silver	97.9	97.4	97.9	98.4		0.491
	Thallium	94.0	95.1	96.1	99.3		1.05
EPA 300.0 Rev. 2.1	Chloride	98.9	98.0	98.1		2.16	
	Sulfate	98.6	98.0	97.9		2.37	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	97.4	97.4			0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108					4.88
EPA 353.2 Rev. 2.0	NO2NO3-N	95.5	92.2				1.44
EPA 365.1 Rev. 2.0	Total-P	105	105	107			1.35
	Total-P	103	104	104			0.165
EPA 8270E	Aldrin	38.6	47.3	51.5			8.53
	Alpha-BHC	74.6	69.6	81.4			15.7
	Alpha-Chlordane	55.6	42.9	45.5			5.00
	Beta-BHC	95.4	99.7	110			9.44
	Beta-Cyfluthrin	45.1	61.4	58.6			4.65
	Bifenthrin	45.6	75.9	60.2			23.0
	Carbophenothion	35.1	43.6	47.2			7.89
	Chlorothalonil	104	166	190			13.2
	Cis-Nonachlor	47.7	42.4	41.9			1.10
	Cypermethrin	47.1	63.1	61.3			2.93
	Dacthal	72.1	62.4	67.2			7.47
	DDD-p,p'	56.3	44.2	43.2			2.31
	DDE-p,p'	54.4	39.3	40.2			1.96
	DDT-p,p'	59.9	56.7	59.5			4.55
	Delta-BHC	102	115	126			9.24
	Deltamethrin	57.6	80.3	75.5			6.22
	Dichlobenil	64.2	42.1	41.3			2.08

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Dicofol	72.0	105	90.5			14.7
	Dieldrin	60.7	47.1	46.9			0.407
	Endosulfan I	68.6	59.4	60.8			2.34
	Endosulfan II	59.3	45.2	43.4			4.02
	Endosulfan Sulfate	68.5	49.5	50.3			1.59
	Endrin	59.5	50.8	49.6			2.50
	Endrin Aldehyde	63.9	40.2	36.5			9.74
	Endrin Ketone	73.7	81.2	76.7			5.64
	Esfenvalerate	42.9	67.5	64.3			4.98
	Ethalfuralin	61.6	64.0	68.8			7.17
	Fenpropathrin	46.7	50.1	49.6			1.18
	Gamma-BHC	83.4	94.0	110			15.7
	Gamma-Chlordane	53.1	51.6	53.0			2.66
	Heptachlor	53.4	54.2	58.0			6.73
	Heptachlor Epoxide	64.0	58.5	59.4			1.51
	Hexachlorobenzene	58.7	63.6	69.8			9.37
	Kepone	110	83.7	74.4			11.8
	Lambda-Cyhalothrin	35.9	62.6	62.0			0.985
	Methoprene	30.3	50.1	61.1			19.8
	Methoxychlor	101	103	80.8			24.3
	MGK-264	63.2	57.7	66.3			13.8
	Mirex	37.4	42.2	40.8			3.46
	Oxychlordane	63.6	68.8	64.1			7.12
	PCB-1016	91.3	80.4	68.9			15.4
	PCB-1260	91.2	78.7	69.6			12.3
	Permethrin	44.4	62.5	62.1			0.592
	Phenothrin	25.5	52.3	56.0			6.87
	Piperonyl Butoxide	85.4	77.0	83.5			7.28
	Prallethrin	56.2	55.7	57.5			3.21
	Tau-Fluvalinate	35.1	60.9	58.1			4.69
	Tetramethrin	77.7	64.0	56.0			13.3
	Trans-Nonachlor	51.8	47.3	48.0			1.34
	Triclosan Methyl	62.6	50.2	51.3			2.23
	Trifluralin	62.5	63.5	66.7			4.86
EPA 8276	Chlordane	94.3	82.5	67.8			19.6
	Toxaphene	90.9	89.5	77.1			14.9
EPA 8321B	2,4-D	119	93.9	115			20.4
	2,4,5-T	99.8	87.1	103			16.5
	Acesulfame K	99.5	95.7	92.2			3.75
	Acetaminophen	91.4	87.0	88.4			1.60
	Acetamiprid	95.5	87.6	88.9			1.57
	Afidopyropen	73.4	82.9	74.1			11.2
	AMPA	101	79.7	82.1			2.43
	Bentazon	99.2	81.5	80.3			1.55
	Benzovindiflupyr	108	103	104			1.15
	Carbamazepine	108	112	115			2.63
	Clothianidin	102	114	123			7.87
	Dinotefuran	108	126	131			3.63
	Diuron	77.5	87.4	92.4			5.54
	Endothall	107	96.5	103			6.38
	Fenuron	104	99.2	98.4			0.820
	Fluridone	106	96.4	117			19.1
	Glufosinate	101	101	97.9			2.79
	Glyphosate	105	75.9	80.5			4.12

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	103	108	121		10.9
	Ibuprofen	119	70.2	92.7		27.7
	Imazapyr	110	109	126		14.0
	Imidacloprid	100	131	132		1.39
	Linuron	97.7	136	92.0		38.4
	Mandestrobin	107	100	104		3.60
	MCCP	111	95.0	113		17.1
	Naproxen	84.4	85.0	82.8		2.61
	Primidone	100	99.1	99.4		0.312
	Pyraclostrobin	100	97.7	104		6.64
	Silvex	111	90.4	111		20.9
	Sucralose	102	99.9	95.9		1.98
	Thiamethoxam	114	137	140		2.01
	Tolfenpyrad	86.7	62.5	59.2		5.46
	Triclopyr	96.0	83.1	96.9		15.3
SM 2320 B-2011	Total Alkalinity	101			0.267	
SM 2540 C-2011	TDS				4.33	
SM 4500-F- C-2011	Fluoride	100	98.2	98.9		0.476
SM 5310 B-2011	Organic Carbon	96.2	95.8	96.5		0.637

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2348147
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2348147, 2348149
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2348158
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2348158
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2348147
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2348147
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2348148, 2348150
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2348148, 2348150
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2348148, 2348150
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2348148, 2348150
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2348156
EPA 8270E	PCBs in water matrices by GC/MS/MS	2348156
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2348156
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2348157
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2348147, 2348149
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2348158
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2348147
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2348147, 2348149
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2348147, 2348149
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2348148, 2348150

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	08/11/2022			08/11/2022 16:25	Anna M. Plaviak	2348147
EPA 180.1 Rev. 2.0	08/11/2022			08/11/2022 14:59	Khloe J Berg	2348147
	08/11/2022			08/11/2022 15:32	Khloe J Berg	2348149
EPA 200.7 Rev. 4.4	08/11/2022	08/15/2022 09:31	Mackenzie Hunt	08/20/2022 04:34	McKinley C Carter	2348158
EPA 200.8 Rev. 5.4	08/11/2022	08/15/2022 09:31	Mackenzie Hunt	08/16/2022 21:25	Emily M Philpot	2348158
EPA 300.0 Rev. 2.1	08/11/2022			08/18/2022 13:20	Anna M. Plaviak	2348147
EPA 350.1 Rev. 2.0	08/11/2022			08/16/2022 12:52	Ping Hua	2348148
	08/11/2022			08/16/2022 13:59	Ping Hua	2348150
EPA 351.2 Rev. 2.0	08/11/2022	08/16/2022 13:42	Samantha L Bates	08/17/2022 13:02	Alexandra J Mattheus	2348148
	08/11/2022	08/16/2022 13:42	Samantha L Bates	08/17/2022 13:07	Alexandra J Mattheus	2348150
EPA 353.2 Rev. 2.0	08/11/2022			08/15/2022 11:20	Beverly Y. Sanders	2348148
	08/11/2022			08/15/2022 11:21	Beverly Y. Sanders	2348150
EPA 365.1 Rev. 2.0	08/11/2022	08/17/2022 08:50	Simonne.V. Calhoun	08/17/2022 14:56	James L Waggeberby	2348150
	08/11/2022	08/24/2022 15:20	Simonne.V. Calhoun	08/25/2022 10:21	James L Waggeberby	2348148
EPA 8270E	08/11/2022	08/15/2022 08:30	Rasheda Ghaffari	08/18/2022 01:11	Julie Wi	2348156
	08/11/2022	08/15/2022 08:30	Rasheda Ghaffari	08/18/2022 21:07	Vandana T. Nagar	2348156
EPA 8276	08/11/2022	08/15/2022 08:30	Rasheda Ghaffari	08/18/2022 11:30	Arthur Maknenko	2348156
EPA 8321B	08/11/2022	08/12/2022 11:00	June Rhew	08/12/2022 23:29	Umesh Chiluwal	2348157
	08/11/2022	08/12/2022 11:00	June Rhew	08/13/2022 17:23	Umesh Chiluwal	2348157
	08/11/2022	08/15/2022 09:00	Hoor Shaik	08/16/2022 04:42	Juyoung Kim	2348157
SM 2320 B-2011	08/11/2022			08/18/2022 04:19	Dale L. Simmons	2348147
	08/11/2022			08/18/2022 04:32	Dale L. Simmons	2348149
SM 2340 B-2011	08/11/2022			08/20/2022 04:34	McKinley C Carter	2348158
SM 2540 C-2011	08/11/2022			08/16/2022 16:02	Yijie Li	2348147
SM 2540 D-2011	08/11/2022			08/16/2022 16:02	Yijie Li	2348147, 2348149
SM 4500-F- C-2011	08/11/2022			08/18/2022 04:19	Dale L. Simmons	2348147
	08/11/2022			08/18/2022 04:32	Dale L. Simmons	2348149
SM 5310 B-2011	08/11/2022			08/17/2022 01:12	Khloe J Berg	2348148
	08/11/2022			08/17/2022 01:28	Khloe J Berg	2348150