

Chemical Analysis Report

SE-DIST-2023-12-01-01

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

Event Description: **Stuart Run**
Request ID: **RQ-2023-11-06-58**
Customer: **SE-DIST**
Project ID: **SMP**

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

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

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 21-DEC-2023 14:30



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: BESSEY CREEK AT MURPHY

Collection Date/Time: 11/30/2023 09:00

Field ID: G2SE0017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454025	EPA 8270E	Aldrin	0.67	U	ng/L	P438751	
		Alpha-BHC	0.10	U	ng/L	P438751	
		Alpha-Chlordane	0.20	U	ng/L	P438751	
		PCB-1016	2.0	U	ng/L	P438751	
		Beta-BHC	0.10	U	ng/L	P438751	
		PCB-1221	2.0	U	ng/L	P438751	
		Beta-Cyfluthrin	1.3	U	ng/L	P438751	
		PCB-1232	2.0	U	ng/L	P438751	
		Bifenthrin	0.51	U	ng/L	P438751	
		PCB-1242	2.0	U	ng/L	P438751	
		Carbophenothion	0.92	U	ng/L	P438751	MS
		PCB-1248	2.0	U	ng/L	P438751	
		Chlorothalonil	3.7	U	ng/L	P438751	
		PCB-1254	2.0	U	ng/L	P438751	
		Cis-Nonachlor	0.20	U	ng/L	P438751	
		PCB-1260	2.0	U	ng/L	P438751	
		Cypermethrin	1.5	U	ng/L	P438751	MS
		Dacthal	0.15	U	ng/L	P438751	
		DDD-p,p'	0.26	U	ng/L	P438751	
		DDE-p,p'	0.20	U	ng/L	P438751	
		DDT-p,p'	0.82	U	ng/L	P438751	
		Delta-BHC	0.41	U	ng/L	P438751	
		Deltamethrin	1.3	U	ng/L	P438751	
		Dichlobenil	0.26	U	ng/L	P438751	
		Dicofol	1.3	U	ng/L	P438751	
		Dieldrin	0.41	U	ng/L	P438751	
		Endosulfan I	0.41	U	ng/L	P438751	
		Endosulfan II	0.92	U	ng/L	P438751	
		Endosulfan Sulfate	0.31	U	ng/L	P438751	
		Endrin	0.92	U	ng/L	P438751	
		Endrin Aldehyde	0.77	U	ng/L	P438751	
		Endrin Ketone	0.41	U	ng/L	P438751	
		Esfenvalerate	0.77	U	ng/L	P438751	
		Ethalfuralin	0.15	U	ng/L	P438751	
		Fenpropathrin	0.26	U	ng/L	P438751	
		Gamma-BHC	0.13	U	ng/L	P438751	
		Gamma-Chlordane	0.20	U	ng/L	P438751	
		Heptachlor	0.20	U	ng/L	P438751	
		Heptachlor Epoxide	0.26	U	ng/L	P438751	
		Hexachlorobenzene**	1.0	U	ng/L	P438751	
		Kepone	14	U	ng/L	P438751	
		Lambda-Cyhalothrin	0.77	U	ng/L	P438751	
		Methoprene	0.77	U	ng/L	P438751	
		Methoxychlor	0.31	U	ng/L	P438751	

Field ID: G2SE0017

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454025	EPA 8270E	MGK-264	0.20	U	ng/L	P438751	
		Mirex	0.36	U	ng/L	P438751	
		Oxychlordane	0.31	U	ng/L	P438751	
		Permethrin	1.6	U	ng/L	P438751	
		Phenothrin	0.92	U	ng/L	P438751	
		Piperonyl Butoxide	0.72	I	ng/L	P438751	
		Prallethrin	2.0	U	ng/L	P438751	
		Tau-Fluvalinate	0.26	U	ng/L	P438751	
		Tetramethrin	0.77	U	ng/L	P438751	
		Trans-Nonachlor	0.20	U	ng/L	P438751	MS
		Triclosan Methyl	0.15	U	ng/L	P438751	
		Trifluralin	0.20	U	ng/L	P438751	RPD
		Chlordane	2.0	U	ng/L	P438751	
		Toxaphene	15	U	ng/L	P438751	
2454028	EPA 200.7 Rev. 4.4	Calcium	134		mg/L	P438455	
		Iron	500		ug/L	P438980	
		Magnesium	211		mg/L	P438455	
	EPA 200.8 Rev. 5.4	Potassium	67		mg/L	P438455	
		Sodium	1.69E+03		mg/L	P438455	
		Strontium	1.75E+03		ug/L	P438455	
		Tin	9.0	U	ug/L	P438455	
		Titanium	2.2	U	ug/L	P438455	
		Vanadium	6.0	U	ug/L	P438455	
		Zinc	15	U	ug/L	P438455	
		Aluminum	51	I	ug/L	P438455	
		Antimony	0.20	U	ug/L	P438455	
		Arsenic	2.86		ug/L	P438455	
		Barium	20.7		ug/L	P438455	
		Beryllium	0.040	U	ug/L	P438455	
		Boron	705		ug/L	P438455	
		Cadmium	0.080	U	ug/L	P438455	
		Chromium	4.0	U	ug/L	P438455	
		Cobalt	0.16	I	ug/L	P438455	
		Copper	1.6	U	ug/L	P438455	
		Lead	0.80	U	ug/L	P438455	
		Manganese	16.7		ug/L	P438455	
		Molybdenum	2.6		ug/L	P438455	
		Nickel	2.0	U	ug/L	P438455	
		Selenium	0.80	U	ug/L	P438455	
		Silver	0.040	U	ug/L	P438455	
		Thallium	0.40	U	ug/L	P438455	
	SM 2340 B-2011	Hardness	1.20E+03		mg/L	P438455	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: MAPPS CREEK TIDAL AT MAPP RD

Collection Date/Time: 11/30/2023 09:30

Field ID: G2SE0076

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454029	EPA 200.7 Rev. 4.4	Calcium	100		mg/L	P438453	
		Iron	700		ug/L	P438453	
		Magnesium	91.1		mg/L	P438453	
		Potassium	30		mg/L	P438453	
		Sodium	772		mg/L	P438453	
		Strontium	998		ug/L	P438453	
		Tin	3.0	U	ug/L	P438453	
		Titanium	0.89	I	ug/L	P438453	
		Vanadium	2.0	U	ug/L	P438453	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P438453	
		Aluminum	53		ug/L	P438453	
		Antimony	0.072	I	ug/L	P438453	
		Arsenic	1.24		ug/L	P438453	
		Barium	22.5		ug/L	P438453	
		Beryllium	0.010	U	ug/L	P438453	
		Boron	328		ug/L	P438453	
		Cadmium	0.020	U	ug/L	P438453	
		Chromium	0.44	I	ug/L	P438453	
		Cobalt	0.079	I	ug/L	P438453	
		Copper	0.72	I	ug/L	P438453	
		Lead	0.20	U	ug/L	P438453	
		Manganese	20.5		ug/L	P438453	
		Molybdenum	1.73		ug/L	P438453	
		Nickel	0.50	U	ug/L	P438453	
		Selenium	0.20	U	ug/L	P438453	
		Silver	0.010	U	ug/L	P438453	
		Thallium	0.10	U	ug/L	P438453	
	SM 2340 B-2011	Hardness	625		mg/L	P438453	

Sample Location: ST LUCIE CANAL NEAR I 95

Collection Date/Time: 11/30/2023 10:05

Field ID: G2SE0077

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453996	DEP SOP: NU-094-1	Color (true)	55		PCU	P438414	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P438423	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+03		mg Cl/L	P438810	
		Sulfate	200		mg SO4/L	P438814	
	SM 2320 B-2011	Total Alkalinity	201		mg CaCO3/L	P438548	
	SM 2540 C-2015	TDS	2.40E+03		mg/L	P438847	
	SM 2540 D-2015	TSS	4	I	mg/L	P438774	
2453997	SM 4500-F- C-2011	Fluoride	0.33		mg F/L	P438551	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.062		mg N/L	P438571	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P438466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P438598	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P438558	
2454030	SM 5310 B-2011	Organic Carbon	13		mg C/L	P438532	
	EPA 200.7 Rev. 4.4	Calcium	102		mg/L	P438453	
		Iron	150		ug/L	P438453	
		Magnesium	89.7		mg/L	P438453	
		Potassium	30		mg/L	P438453	
		Sodium	730		mg/L	P438453	
		Strontium	1.16E+03		ug/L	P438453	
		Tin	3.0	U	ug/L	P438453	
		Titanium	1.0	I	ug/L	P438453	
		Vanadium	2.0	U	ug/L	P438453	
		Zinc	5.0	U	ug/L	P438453	
	EPA 200.8 Rev. 5.4	Aluminum	69		ug/L	P438453	
		Antimony	0.083	I	ug/L	P438453	
		Arsenic	1.38		ug/L	P438453	
		Barium	24.0		ug/L	P438453	
		Beryllium	0.011	I	ug/L	P438453	
		Boron	325		ug/L	P438453	
		Cadmium	0.020	U	ug/L	P438453	
		Chromium	0.42	I	ug/L	P438453	
		Cobalt	0.079	I	ug/L	P438453	
		Copper	1.72		ug/L	P438453	
		Lead	0.20	U	ug/L	P438453	
		Manganese	19.6		ug/L	P438453	
		Molybdenum	2.79		ug/L	P438453	
		Nickel	0.50	U	ug/L	P438453	
		Selenium	0.20	U	ug/L	P438453	
		Silver	0.010	U	ug/L	P438453	
		Thallium	0.10	U	ug/L	P438453	
	SM 2340 B-2011	Hardness	625		mg/L	P438453	

Ref. Method and Comment:

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

Sample Location: FB

Collection Date/Time: 11/30/2023 10:20

Field ID: FB_11302023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453998	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P438414	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P438423	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P438810	
		Sulfate	0.20	U	mg SO4/L	P438814	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P438548	
	SM 2540 C-2015	TDS	15	U	mg/L	P438847	
	SM 2540 D-2015	TSS	2	U	mg/L	P438774	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P438551	
2453999	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P438570	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P438521	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P438475	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P438578	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P438532	

Ref. Method and Comment:

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

Sample Location: ROEBUCK CREEK AT LOCKS

Collection Date/Time: 11/30/2023 10:40

Field ID: G2SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454026	EPA 8321B	2,4-D	0.010		ug/L	P438413	
		Acesulfame K	0.78		ug/L	P438435	
		2,4,5-T	0.0040	U	ug/L	P438413	
		AMPA	1.5		ug/L	P438435	
		Acetaminophen	0.0080	U	ug/L	P438413	
		Acetamiprid	0.0020	U	ug/L	P438413	
		Endothall	0.25	U	ug/L	P438435	
		Glufosinate	0.10	U	ug/L	P438435	
		Glyphosate	0.21	I	ug/L	P438435	
		Afidopyropen	0.0020	U	ug/L	P438413	
		Bentazon	0.028		ug/L	P438413	
		Sucralose	2.5		ug/L	P438435	
		Benzovindiflupyr	0.0020	U	ug/L	P438413	
		Carbamazepine	0.0030	I	ug/L	P438413	
		Clothianidin	0.0086		ug/L	P438413	
		Dinotefuran	0.0020	U	ug/L	P438413	
		Diuron	0.0020	U	ug/L	P438413	
		Fenuron	0.032	U	ug/L	P438413	
		Fluridone	0.0017	I	ug/L	P438413	
		Imazapyr	0.39		ug/L	P438413	
		Hydrocodone	0.0020	U	ug/L	P438413	
		Ibuprofen	0.080	U	ug/L	P438413	
		Imidacloprid	0.0058	I	ug/L	P438413	
		Linuron	0.0040	U	ug/L	P438413	
		Mandestrobin	0.0020	U	ug/L	P438413	
		MCPP	0.0020	U	ug/L	P438413	
		Naproxen	0.0080	U	ug/L	P438413	
		Primidone	0.012	I	ug/L	P438413	
		Pyraclostrobin	0.0020	U	ug/L	P438413	
		Silvex	0.0040	U	ug/L	P438413	
		Thiamethoxam	0.0020	U	ug/L	P438413	
		Tolfenpyrad	0.0020	U	ug/L	P438413	
		Triclopyr	0.0040	U	ug/L	P438413	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: KRUEGER CREEK NEAR COMMISSIONERS PARK

Collection Date/Time: 11/30/2023 11:55

Field ID: G2SE0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2453994	DEP SOP: NU-094-1	Color (true)	28	A	PCU	P438427	
	EPA 180.1 Rev. 2.0	Turbidity	4.8	A	NTU	P438423	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P438810	
		Sulfate	1.6E+03		mg SO4/L	P438814	
	SM 2320 B-2011	Total Alkalinity	128		mg CaCO3/L	P438549	
	SM 2540 C-2015	TDS	2.02E+04		mg/L	P438848	
	SM 2540 D-2015	TSS	5	I	mg/L	P438776	
2453995	SM 4500-F- C-2011	Fluoride	0.84		mg F/L	P438552	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.077		mg N/L	P438571	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P438466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P438598	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P438558	
2454024	SM 5310 B-2011	Organic Carbon	7.7		mg C/L	P438533	
	EPA 8270E	Aldrin	0.68	U	ng/L	P438751	
		Alpha-BHC	0.10	U	ng/L	P438751	
		Alpha-Chlordane	0.21	U	ng/L	P438751	
		PCB-1016	2.1	U	ng/L	P438751	
		Beta-BHC	0.10	U	ng/L	P438751	
		PCB-1221	2.1	U	ng/L	P438751	
		Beta-Cyfluthrin	1.3	U	ng/L	P438751	
		PCB-1232	2.1	U	ng/L	P438751	
		Bifenthrin	0.52	U	ng/L	P438751	
		PCB-1242	2.1	U	ng/L	P438751	
		Carbophenothion	0.94	U	ng/L	P438751	MS
		PCB-1248	2.1	U	ng/L	P438751	
		Chlorothalonil	3.8	U	ng/L	P438751	
		PCB-1254	2.1	U	ng/L	P438751	
		Cis-Nonachlor	0.21	U	ng/L	P438751	
		PCB-1260	2.1	U	ng/L	P438751	
		Cypermethrin	1.6	U	ng/L	P438751	MS
		Dacthal	0.16	U	ng/L	P438751	
		DDD-p,p'	0.33	I	ng/L	P438751	
		DDE-p,p'	0.21	U	ng/L	P438751	
		DDT-p,p'	2.4	I	ng/L	P438751	
		Delta-BHC	0.42	U	ng/L	P438751	
		Deltamethrin	1.3	U	ng/L	P438751	
		Dichlobenil	0.26	U	ng/L	P438751	
		Dicofol	1.3	U	ng/L	P438751	
		Dieldrin	0.42	U	ng/L	P438751	
		Endosulfan I	0.42	U	ng/L	P438751	
		Endosulfan II	0.94	U	ng/L	P438751	
		Endosulfan Sulfate	0.31	U	ng/L	P438751	
		Endrin	0.94	U	ng/L	P438751	

Field ID: G2SE0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454024	EPA 8270E	Endrin Aldehyde	0.78	U	ng/L	P438751	
		Endrin Ketone	0.42	U	ng/L	P438751	
		Esfenvalerate	0.78	U	ng/L	P438751	
		Ethalfuralin	0.16	U	ng/L	P438751	
		Fenpropathrin	0.26	U	ng/L	P438751	
		Gamma-BHC	0.13	U	ng/L	P438751	
		Gamma-Chlordane	0.21	U	ng/L	P438751	
		Heptachlor	0.21	U	ng/L	P438751	
		Heptachlor Epoxide	0.26	U	ng/L	P438751	
		Hexachlorobenzene**	1.0	U	ng/L	P438751	
		Kepone	14	U	ng/L	P438751	
		Lambda-Cyhalothrin	0.78	U	ng/L	P438751	
		Methoprene	0.78	U	ng/L	P438751	
		Methoxychlor	0.31	U	ng/L	P438751	
		MGK-264	0.21	U	ng/L	P438751	
		Mirex	0.36	U	ng/L	P438751	
		Oxychlordane	0.31	U	ng/L	P438751	
		Permethrin	1.7	U	ng/L	P438751	
		Phenothrin	0.94	U	ng/L	P438751	
		Piperonyl Butoxide	0.16	U	ng/L	P438751	
		Prallethrin	2.1	U	ng/L	P438751	
		Tau-Fluvalinate	0.26	U	ng/L	P438751	
		Tetramethrin	0.78	U	ng/L	P438751	
		Trans-Nonachlor	0.21	U	ng/L	P438751	MS
		Triclosan Methyl	0.16	U	ng/L	P438751	
		Trifluralin	0.21	U	ng/L	P438751	RPD
	EPA 8276	Chlordane	2.1	U	ng/L	P438751	
		Toxaphene	16	U	ng/L	P438751	
2454027	EPA 200.7 Rev. 4.4	Calcium	256		mg/L	P438455	
		Iron	320	I	ug/L	P438980	
		Magnesium	726		mg/L	P438455	
		Potassium	227		mg/L	P438455	
		Sodium	5.71E+03		mg/L	P438455	
		Strontium	4.78E+03		ug/L	P438455	
		Tin	150	U	ug/L	P438455	
		Titanium	4.1	I	ug/L	P438455	
		Vanadium	6.0	U	ug/L	P438455	
		Zinc	15	U	ug/L	P438455	
	EPA 200.8 Rev. 5.4	Aluminum	315		ug/L	P438455	
		Antimony	0.20	U	ug/L	P438455	
		Arsenic	2.87		ug/L	P438455	
		Barium	16.6		ug/L	P438455	
		Beryllium	0.040	U	ug/L	P438455	
		Boron	2.52E+03		ug/L	P438455	
		Cadmium	0.080	U	ug/L	P438455	

Field ID: G2SE0069

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2454027	EPA 200.8 Rev. 5.4	Chromium	4.0	U	ug/L	P438455	
		Cobalt	1.10		ug/L	P438455	
		Copper	3.5		ug/L	P438455	
		Lead	0.80	U	ug/L	P438455	
		Manganese	12.3		ug/L	P438455	
		Molybdenum	7.6		ug/L	P438455	
		Nickel	2.0	U	ug/L	P438455	
		Selenium	0.80	U	ug/L	P438455	
		Silver	0.040	U	ug/L	P438455	
		Thallium	0.40	U	ug/L	P438455	
	SM 2340 B-2011	Hardness	3.63E+03		mg/L	P438455	

Ref. Method and Comment:
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P438414

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P438427

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438423

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438453

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 200.7 Rev. 4.4
Batch ID: P438455

Component	Result	Code	Units
Calcium	0.075	U	mg/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 200.7 Rev. 4.4
Batch ID: P438980

Component	Result	Code	Units
Iron	30	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438453

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438455

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438810

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438814

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438570

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438571

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438521

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438475

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438598

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438558

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438578

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

Reference Method: EPA 8270E
Batch ID: P438751

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P438751

Component	Result	Code	Units
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
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276

Batch ID: P438751

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

Reference Method: EPA 8321B

Batch ID: P438413

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

Reference Method: EPA 8321B

Batch ID: P438435

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: SM 2320 B-2011

Batch ID: P438548

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P438549

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

Reference Method: SM 2540 C-2015
Batch ID: P438847

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P438848

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438774

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438776

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438551

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P438532

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P438533

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: P438414

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P438427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438423

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	101		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	95.3		P	85 - 115
Strontium	95.2		P	85 - 115
Tin	96.6		P	85 - 115
Titanium	95.3		P	85 - 115
Vanadium	95.4		P	85 - 115
Zinc	94.8		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	97.4		P	85 - 115
Magnesium	97.5		P	85 - 115
Potassium	97.2		P	85 - 115
Sodium	94.4		P	85 - 115
Strontium	94.9		P	85 - 115
Tin	95.5		P	85 - 115
Titanium	94.7		P	85 - 115
Vanadium	93.6		P	85 - 115
Zinc	93.0		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.4		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	101		P	85 - 115
Barium	102		P	85 - 115
Beryllium	95.6		P	85 - 115
Boron	101		P	85 - 115
Cadmium	99.8		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	98.0		P	85 - 115
Copper	98.9		P	85 - 115
Lead	95.7		P	85 - 115
Manganese	99.7		P	85 - 115
Molybdenum	99.5		P	85 - 115
Nickel	98.5		P	85 - 115
Selenium	102		P	85 - 115
Silver	102		P	85 - 115
Thallium	97.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.7		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	98.4		P	85 - 115
Barium	101		P	85 - 115
Beryllium	89.6		P	85 - 115
Boron	105		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	95.3		P	85 - 115
Copper	93.8		P	85 - 115
Lead	94.9		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	97.7		P	85 - 115
Nickel	95.5		P	85 - 115
Selenium	99.3		P	85 - 115
Silver	100		P	85 - 115
Thallium	96.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P438810

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P438814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438570

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438571

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438521

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438475

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438598

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: P438558

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: P438578

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

Reference Method: EPA 8270E
Batch ID: P438751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	56.2		P	30 - 96.0
Alpha-BHC	88.3		P	70 - 109
Alpha-Chlordane	76.3		P	45 - 107
Beta-BHC	109		P	64 - 138

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P438751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Beta-Cyfluthrin	51.8		P	17 - 141
Bifenthrin	39.4		P	10 - 113
Carbophenothion	83.3		P	24 - 91.0
Chlorothalonil	76.3		P	26 - 180
Cis-Nonachlor	61.4		P	37 - 102
Cypermethrin	68.8		P	20 - 133
Dacthal	90.3		P	69 - 114
DDD-p,p'	72.6		P	42 - 105
DDE-p,p'	77.1		P	42 - 106
DDT-p,p'	73.3		P	42 - 107
Delta-BHC	108		P	67 - 144
Deltamethrin	71.2		P	15 - 149
Dichlobenil	81.5		P	46 - 117
Dicofol	71.7		P	34 - 114
Dieldrin	86.1		P	50 - 108
Endosulfan I	90.9		P	55 - 104
Endosulfan II	91.8		P	51 - 111
Endosulfan Sulfate	81.1		P	56 - 121
Endrin	74.7		P	10 - 106
Endrin Aldehyde	91.8		P	34 - 114
Endrin Ketone	86.8		P	63 - 177
Esfenvalerate	62.2		P	29 - 143
Ethalfuralin	69.4		P	46 - 96.0
Fenpropathrin	61.9		P	28 - 115
Gamma-BHC	90.3		P	65 - 121
Gamma-Chlordane	75.7		P	39 - 103
Heptachlor	86.1		P	39 - 94.0
Heptachlor Epoxide	91.0		P	54 - 104
Hexachlorobenzene	59.0		P	36 - 100
Kepone	142		P	10 - 225
Lambda-Cyhalothrin	45.1		P	10 - 135
Methoprene	46.0		P	10 - 109
Methoxychlor	78.9		P	52 - 112
MGK-264	82.4		P	44 - 117
Mirex	50.6		P	20 - 90.0
Oxychlordane	81.6		P	44 - 102
PCB-1016	77.6		P	45 - 107
PCB-1260	98.8		P	40 - 118
Permethrin	52.9		P	18 - 135
Phenothrin	42.2		P	10 - 102
Piperonyl Butoxide	91.2		P	28 - 156
Prallethrin	70.9		P	28 - 113
Tau-Fluvalinate	51.5		P	10 - 123
Tetramethrin	87.2		P	18 - 158
Trans-Nonachlor	85.5		P	39 - 104
Triclosan Methyl	85.3		P	54 - 108
Trifluralin	68.8		P	46 - 97.0

Reference Method: EPA 8276
Batch ID: P438751

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8276

Batch ID: P438751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	82.4		P	52 - 117
Toxaphene	94.3		P	44 - 125

Reference Method: EPA 8321B

Batch ID: P438413

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.5		P	40 - 150
2,4,5-T	110		P	40 - 150
Acetaminophen	88.9		P	30 - 150
Acetamiprid	90.0		P	40 - 150
Afidopyropen	83.0		P	30 - 150
Bentazon	68.3		P	30 - 150
Benzovindiflupyr	87.3		P	40 - 150
Carbamazepine	81.0		P	40 - 150
Clothianidin	88.3		P	40 - 150
Dinotefuran	101		P	40 - 150
Diuron	66.3		P	40 - 150
Fenuron	99.8		P	40 - 150
Fluridone	89.9		P	40 - 150
Hydrocodone	90.0		P	40 - 150
Ibuprofen	69.6		P	40 - 150
Imazapyr	90.0		P	40 - 150
Imidacloprid	86.1		P	40 - 150
Linuron	81.7		P	40 - 150
Mandestrobin	89.3		P	40 - 150
MCPP	92.5		P	40 - 150
Naproxen	67.6		P	40 - 150
Primidone	85.0		P	40 - 150
Pyraclostrobin	79.0		P	40 - 150
Silvex	91.3		P	40 - 150
Thiamethoxam	92.5		P	40 - 150
Tolfenpyrad	46.7		P	30 - 150
Triclopyr	114		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P438435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	134		P	40 - 150
AMPA	73.8		P	40 - 160
Endothall	114		P	40 - 160
Glufosinate	90.5		P	40 - 160
Glyphosate	87.9		P	40 - 160
Sucralose	101		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P438548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.7		P	92 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P438549

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P438847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	93.6		P	85 - 115

Reference Method: SM 2540 C-2015
Batch ID: P438848

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

Reference Method: SM 2540 D-2015
Batch ID: P438774

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.6		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438776

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.6		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438551

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

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

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

Reference Method: SM 5310 B-2011
Batch ID: P438532

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

Reference Method: SM 5310 B-2011
Batch ID: P438533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454047	Calcium	98.2	98.9	P/P	80 - 120
2454047	Iron	98.9	95.9	P/P	80 - 120
2454047	Magnesium	101	97.7	P/P	80 - 120
2454047	Potassium	94.4	95.3	P/P	80 - 120
2454047	Sodium	93.6		P	80 - 120
2454047	Strontium	93.4	94.3	P/P	80 - 120
2454047	Tin	95.7	95.9	P/P	80 - 120
2454047	Titanium	93.5	93.9	P/P	80 - 120
2454047	Vanadium	94.7	95.1	P/P	80 - 120
2454047	Zinc	93.1	92.6	P/P	80 - 120
2454148	Calcium	96.9		P	80 - 120
2454148	Iron	98.2		P	80 - 120
2454148	Magnesium	97.8		P	80 - 120
2454148	Potassium	95.6		P	80 - 120
2454148	Sodium	85.2		P	80 - 120
2454148	Strontium	92.2		P	80 - 120
2454148	Tin	94.0		P	80 - 120
2454148	Titanium	92.7		P	80 - 120
2454148	Vanadium	92.4		P	80 - 120
2454148	Zinc	92.2		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454028	Strontium	89.4	84.1	P/P	80 - 120
2454028	Tin	86.1	83.4	P/P	80 - 120
2454028	Titanium	96.9	95.3	P/P	80 - 120
2454028	Vanadium	95.6	94.1	P/P	80 - 120
2454028	Zinc	92.2	90.0	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453486	Iron	97.4	101	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454047	Aluminum	99.3	98.7	P/P	80 - 120
2454047	Antimony	103	104	P/P	80 - 120
2454047	Arsenic	98.2	97.9	P/P	80 - 120
2454047	Barium	102	102	P/P	80 - 120
2454047	Beryllium	91.1	95.6	P/P	80 - 120
2454047	Boron	103	102	P/P	80 - 120
2454047	Cadmium	100	103	P/P	80 - 120
2454047	Chromium	101	102	P/P	80 - 120
2454047	Cobalt	96.4	96.3	P/P	80 - 120
2454047	Copper	96.3	96.3	P/P	80 - 120
2454047	Lead	96.1	96.3	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454047	Manganese	102	103	P/P	80 - 120
2454047	Molybdenum	98.6	98.4	P/P	80 - 120
2454047	Nickel	96.7	96.1	P/P	80 - 120
2454047	Selenium	95.4	97.1	P/P	80 - 120
2454047	Silver	102	102	P/P	80 - 120
2454047	Thallium	98.9	99.7	P/P	80 - 120
2454148	Aluminum	97.6		P	80 - 120
2454148	Antimony	102		P	80 - 120
2454148	Arsenic	98.7		P	80 - 120
2454148	Barium	99.8		P	80 - 120
2454148	Beryllium	91.5		P	80 - 120
2454148	Boron	106		P	80 - 120
2454148	Cadmium	99.3		P	80 - 120
2454148	Chromium	102		P	80 - 120
2454148	Cobalt	95.2		P	80 - 120
2454148	Copper	94.3		P	80 - 120
2454148	Lead	94.9		P	80 - 120
2454148	Manganese	102		P	80 - 120
2454148	Molybdenum	98.4		P	80 - 120
2454148	Nickel	95.6		P	80 - 120
2454148	Selenium	98.9		P	80 - 120
2454148	Silver	102		P	80 - 120
2454148	Thallium	97.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454028	Aluminum	100	103	P/P	70 - 130
2454028	Antimony	101	101	P/P	70 - 130
2454028	Arsenic	109	112	P/P	70 - 130
2454028	Barium	101	101	P/P	70 - 130
2454028	Beryllium	96.4	98.0	P/P	70 - 130
2454028	Boron	93.8	103	P/P	70 - 130
2454028	Cadmium	98.7	95.1	P/P	70 - 130
2454028	Chromium	97.7	99.6	P/P	70 - 130
2454028	Cobalt	90.6	104	P/P	70 - 130
2454028	Copper	97.0	112	P/P	70 - 130
2454028	Lead	98.6	99.5	P/P	70 - 130
2454028	Manganese	95.5	95.9	P/P	70 - 130
2454028	Molybdenum	108	109	P/P	70 - 130
2454028	Nickel	92.5	93.2	P/P	70 - 130
2454028	Selenium	102	103	P/P	70 - 130
2454028	Silver	95.2	92.8	P/P	70 - 130
2454028	Thallium	99.6	101	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P438810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454116	Chloride	101		P	90 - 110
2454156	Chloride	98.5		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454116	Sulfate	99.4		P	90 - 110
2454156	Sulfate	95.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438570

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453944	Ammonia-N	95.8	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453982	Ammonia-N	94.4	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453744	Kjeldahl Nitrogen	102	94.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454056	Kjeldahl Nitrogen	108	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453798	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453742	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454066	Total-P	96.7	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454043	Total-P	104	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P438751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454003	PCB-1016	67.0	82.2	P/P	45 - 107
2454003	PCB-1260	104	107	P/P	40 - 112
2454159	Aldrin	61.6	48.5	P/P	24 - 81.0
2454159	Alpha-BHC	93.0	89.7	P/P	65 - 110
2454159	Alpha-Chlordane	72.4	81.9	P/P	43 - 119
2454159	Beta-BHC	96.3	106	P/P	54 - 165
2454159	Beta-Cyfluthrin	103	94.1	P/P	27 - 165
2454159	Bifenthrin	80.7	66.0	P/P	17 - 117
2454159	Carbophenothion	110	111	F/F	21 - 108
2454159	Chlorothalonil	138	133	P/P	10 - 255
2454159	Cis-Nonachlor	60.5	43.7	P/P	34 - 98.0
2454159	Cypermethrin	133	143	P/F	25 - 143
2454159	Dacthal	82.7	68.9	P/P	55 - 139
2454159	DDD-p,p'	69.6	61.1	P/P	30 - 109
2454159	DDE-p,p'	77.7	70.0	P/P	35 - 106
2454159	DDT-p,p'	89.1	87.4	P/P	41 - 101
2454159	Delta-BHC	115	117	P/P	58 - 165
2454159	Deltamethrin	115	94.5	P/P	10 - 194
2454159	Dichlobenil	58.1	44.5	P/P	22 - 114
2454159	Dicofol	75.6	69.6	P/P	17 - 133
2454159	Dieldrin	88.1	78.7	P/P	45 - 129
2454159	Endosulfan I	86.1	92.2	P/P	49 - 104
2454159	Endosulfan II	90.5	83.5	P/P	37 - 117
2454159	Endosulfan Sulfate	87.4	62.2	P/P	38 - 128
2454159	Endrin	73.7	71.0	P/P	35 - 116
2454159	Endrin Aldehyde	80.1	66.8	P/P	19 - 108
2454159	Endrin Ketone	88.3	71.4	P/P	44 - 134
2454159	Esfenvalerate	126	111	P/P	27 - 176
2454159	Ethalfuralin	86.9	72.6	P/P	49 - 100
2454159	Fenpropathrin	81.8	68.9	P/P	34 - 117
2454159	Gamma-BHC	83.3	90.1	P/P	59 - 129
2454159	Gamma-Chlordane	71.6	52.0	P/P	33 - 107
2454159	Heptachlor	92.3	86.1	P/P	37 - 94.0
2454159	Heptachlor Epoxide	92.0	111	P/P	38 - 118
2454159	Hexachlorobenzene	54.5	43.1	P/P	35 - 97.0
2454159	Kepone	155	140	P/P	10 - 221
2454159	Lambda-Cyhalothrin	85.8	62.3	P/P	23 - 190
2454159	Methoprene	63.2	52.5	P/P	21 - 109
2454159	Methoxychlor	85.5	66.6	P/P	46 - 118
2454159	MGK-264	90.7	97.4	P/P	39 - 122
2454159	Mirex	58.8	45.9	P/P	25 - 90.0
2454159	Oxychlordane	86.5	81.5	P/P	42 - 100
2454159	Permethrin	89.9	87.6	P/P	33 - 181
2454159	Phenothrin	85.8	87.7	P/P	12 - 125
2454159	Piperonyl Butoxide	96.8	105	P/P	10 - 178
2454159	Prallethrin	72.3	64.5	P/P	24 - 122
2454159	Tau-Fluvalinate	117	107	P/P	13 - 151
2454159	Tetramethrin	111	94.3	P/P	16 - 172
2454159	Trans-Nonachlor	90.0	114	P/F	39 - 100
2454159	Triclosan Methyl	69.1	64.8	P/P	43 - 110
2454159	Trifluralin	78.1	62.3	P/P	45 - 94.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P438751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454003	Chlordane	91.7	95.3	P/P	43 - 123
2454003	Toxaphene	113	112	P/P	27 - 156

Reference Method: EPA 8321B
Batch ID: P438413

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453787	2,4-D	105	80.3	P/P	40 - 150
2453787	2,4,5-T	94.1	79.0	P/P	40 - 150
2453787	Acetaminophen	106	91.7	P/P	30 - 150
2453787	Acetamiprid	77.4	67.6	P/P	40 - 150
2453787	Afidopyropen	81.6	73.4	P/P	30 - 150
2453787	Benzovindiflupyr	98.0	82.0	P/P	40 - 150
2453787	Carbamazepine	81.9	72.5	P/P	40 - 150
2453787	Clothianidin	113	98.1	P/P	40 - 150
2453787	Dinotefuran	112	95.3	P/P	40 - 150
2453787	Diuron	75.0	65.4	P/P	40 - 150
2453787	Fenuron	86.4	79.7	P/P	40 - 150
2453787	Fluridone	94.5	81.1	P/P	40 - 150
2453787	Hydrocodone	90.5	79.4	P/P	40 - 150
2453787	Ibuprofen	70.9	58.7	P/P	40 - 150
2453787	Imidacloprid	141	120	P/P	40 - 150
2453787	Linuron	82.4	68.2	P/P	40 - 150
2453787	Mandestrobin	98.8	84.8	P/P	40 - 150
2453787	MCPP	103	86.8	P/P	40 - 150
2453787	Naproxen	90.0	69.1	P/P	40 - 150
2453787	Primidone	109	94.2	P/P	40 - 150
2453787	Pyraclostrobin	91.3	79.9	P/P	40 - 150
2453787	Silvex	101	81.7	P/P	40 - 150
2453787	Thiamethoxam	101	89.0	P/P	40 - 150
2453787	Tolfenpyrad	64.4	55.4	P/P	30 - 150
2453787	Triclopyr	100	84.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P438435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453829	Acesulfame K	127	129	P/P	40 - 150
2453829	AMPA	75.3	82.9	P/P	40 - 160
2453829	Endothall	127	126	P/P	40 - 160
2453829	Glufosinate	82.1	81.9	P/P	40 - 160
2453829	Glyphosate	86.3	92.1	P/P	40 - 160
2453829	Sucralose	54.8	70.4	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P438551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453938	Fluoride	102	102	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454084	Fluoride	103	99.8	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P438532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453721	Organic Carbon	96.6	95.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P438533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2453982	Organic Carbon	94.2	91.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P438414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453972	Color (true)	0.429	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P438427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453994	Color (true)	0.141	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453994	Turbidity	0.631	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454047	Calcium	0.453	Spike	P	0 - 20
2454047	Iron	2.21	Spike	P	0 - 20
2454047	Magnesium	2.54	Spike	P	0 - 20
2454047	Potassium	0.614	Spike	P	0 - 20
2454047	Sodium	0.0429	Spike	P	0 - 20
2454047	Strontium	0.935	Spike	P	0 - 20
2454047	Tin	0.196	Spike	P	0 - 20
2454047	Titanium	0.345	Spike	P	0 - 20
2454047	Vanadium	0.450	Spike	P	0 - 20
2454047	Zinc	0.566	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454028	Calcium	4.83	Spike	P	0 - 20
2454028	Magnesium	3.89	Spike	P	0 - 20
2454028	Potassium	1.16	Spike	P	0 - 20
2454028	Sodium	1.13	Spike	P	0 - 20
2454028	Strontium	3.08	Spike	P	0 - 20
2454028	Tin	3.08	Spike	P	0 - 20
2454028	Titanium	1.66	Spike	P	0 - 20
2454028	Vanadium	1.66	Spike	P	0 - 20
2454028	Zinc	2.33	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438980

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453486	Iron	3.32	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438453

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454047	Aluminum	0.477	Spike	P	0 - 20
2454047	Antimony	0.910	Spike	P	0 - 20
2454047	Arsenic	0.304	Spike	P	0 - 20
2454047	Barium	0.0809	Spike	P	0 - 20
2454047	Beryllium	4.48	Spike	P	0 - 20
2454047	Boron	0.762	Spike	P	0 - 20
2454047	Cadmium	2.17	Spike	P	0 - 20
2454047	Chromium	0.374	Spike	P	0 - 20
2454047	Cobalt	0.0864	Spike	P	0 - 20
2454047	Copper	0.0117	Spike	P	0 - 20
2454047	Lead	0.183	Spike	P	0 - 20
2454047	Manganese	1.01	Spike	P	0 - 20
2454047	Molybdenum	0.216	Spike	P	0 - 20
2454047	Nickel	0.571	Spike	P	0 - 20
2454047	Selenium	1.71	Spike	P	0 - 20
2454047	Silver	0.135	Spike	P	0 - 20
2454047	Thallium	0.867	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438455

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454028	Aluminum	2.14	Spike	P	0 - 20
2454028	Antimony	0.155	Spike	P	0 - 20
2454028	Arsenic	1.85	Spike	P	0 - 20
2454028	Barium	0.497	Spike	P	0 - 20
2454028	Beryllium	1.66	Spike	P	0 - 20
2454028	Boron	2.08	Spike	P	0 - 20
2454028	Cadmium	3.69	Spike	P	0 - 20
2454028	Chromium	1.92	Spike	P	0 - 20
2454028	Cobalt	13.5	Spike	P	0 - 20
2454028	Copper	14.1	Spike	P	0 - 20
2454028	Lead	0.915	Spike	P	0 - 20
2454028	Manganese	0.401	Spike	P	0 - 20
2454028	Molybdenum	0.727	Spike	P	0 - 20
2454028	Nickel	0.763	Spike	P	0 - 20
2454028	Selenium	1.01	Spike	P	0 - 20
2454028	Silver	2.54	Spike	P	0 - 20
2454028	Thallium	1.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454116	Chloride	0.861	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454116	Sulfate	0.0679	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453944	Ammonia-N	0.592	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453982	Ammonia-N	1.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453744	Kjeldahl Nitrogen	6.98	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454056	Kjeldahl Nitrogen	1.27	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453798	NO2NO3-N	0.368	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453742	NO2NO3-N	0.980	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438558

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454066	Total-P	1.84	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438578

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454043	Total-P	2.66	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P438751

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454003	PCB-1016	20.3	Spike	P	0 - 25
2454003	PCB-1260	2.87	Spike	P	0 - 30
2454159	Aldrin	23.8	Spike	P	0 - 41
2454159	Alpha-BHC	3.63	Spike	P	0 - 25
2454159	Alpha-Chlordane	12.4	Spike	P	0 - 32
2454159	Beta-BHC	9.57	Spike	P	0 - 33
2454159	Beta-Cyfluthrin	9.38	Spike	P	0 - 43
2454159	Bifenthrin	20.0	Spike	P	0 - 52
2454159	Carbophenothion	0.589	Spike	P	0 - 30
2454159	Chlorothalonil	3.45	Spike	P	0 - 82
2454159	Cis-Nonachlor	32.2	Spike	P	0 - 33
2454159	Cypermethrin	7.17	Spike	P	0 - 51
2454159	Dacthal	18.2	Spike	P	0 - 27
2454159	DDD-p,p'	13.1	Spike	P	0 - 39
2454159	DDE-p,p'	10.4	Spike	P	0 - 31
2454159	DDT-p,p'	1.88	Spike	P	0 - 29
2454159	Delta-BHC	1.58	Spike	P	0 - 35
2454159	Deltamethrin	19.2	Spike	P	0 - 100
2454159	Dichlobenil	26.5	Spike	P	0 - 40
2454159	Dicofol	8.30	Spike	P	0 - 37
2454159	Dieldrin	11.2	Spike	P	0 - 27
2454159	Endosulfan I	6.77	Spike	P	0 - 23
2454159	Endosulfan II	8.01	Spike	P	0 - 34
2454159	Endosulfan Sulfate	33.7	Spike	P	0 - 36
2454159	Endrin	3.63	Spike	P	0 - 45
2454159	Endrin Aldehyde	18.1	Spike	P	0 - 76
2454159	Endrin Ketone	21.2	Spike	P	0 - 43
2454159	Esfenvalerate	12.9	Spike	P	0 - 51
2454159	Ethalfuralin	18.0	Spike	P	0 - 22
2454159	Fenpropathrin	17.1	Spike	P	0 - 49
2454159	Gamma-BHC	7.93	Spike	P	0 - 28
2454159	Gamma-Chlordane	31.7	Spike	P	0 - 40
2454159	Heptachlor	6.91	Spike	P	0 - 29
2454159	Heptachlor Epoxide	19.0	Spike	P	0 - 33
2454159	Hexachlorobenzene	23.2	Spike	P	0 - 36
2454159	Kepone	9.70	Spike	P	0 - 85
2454159	Lambda-Cyhalothrin	31.7	Spike	P	0 - 55

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P438751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454159	Methoprene	18.5	Spike	P	0 - 53
2454159	Methoxychlor	24.8	Spike	P	0 - 50
2454159	MGK-264	7.15	Spike	P	0 - 43
2454159	Mirex	24.7	Spike	P	0 - 40
2454159	Oxychlordane	5.90	Spike	P	0 - 31
2454159	Permethrin	2.52	Spike	P	0 - 50
2454159	Phenothrin	2.21	Spike	P	0 - 58
2454159	Piperonyl Butoxide	7.28	Spike	P	0 - 100
2454159	Prallethrin	11.5	Spike	P	0 - 39
2454159	Tau-Fluvalinate	8.43	Spike	P	0 - 54
2454159	Tetramethrin	16.5	Spike	P	0 - 51
2454159	Trans-Nonachlor	23.4	Spike	P	0 - 39
2454159	Triclosan Methyl	6.48	Spike	P	0 - 31
2454159	Trifluralin	22.6	Spike	F	0 - 22

Reference Method: EPA 8276

Batch ID: P438751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454003	Chlordane	3.53	Spike	P	0 - 28
2454003	Toxaphene	0.493	Spike	P	0 - 27

Reference Method: EPA 8321B

Batch ID: P438413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453787	2,4-D	18.8	Spike	P	0 - 30
2453787	2,4,5-T	17.4	Spike	P	0 - 30
2453787	Acetaminophen	14.6	Spike	P	0 - 30
2453787	Acetamiprid	13.5	Spike	P	0 - 30
2453787	Afidopyropen	10.7	Spike	P	0 - 30
2453787	Bentazon	13.8	Spike	P	0 - 30
2453787	Benzovindiflupyr	17.7	Spike	P	0 - 30
2453787	Carbamazepine	10.2	Spike	P	0 - 30
2453787	Clothianidin	12.1	Spike	P	0 - 30
2453787	Dinotefuran	15.9	Spike	P	0 - 30
2453787	Diuron	13.6	Spike	P	0 - 30
2453787	Fenuron	8.07	Spike	P	0 - 30
2453787	Fluridone	9.31	Spike	P	0 - 30
2453787	Hydrocodone	13.0	Spike	P	0 - 30
2453787	Ibuprofen	18.9	Spike	P	0 - 30
2453787	Imazapyr	17.3	Spike	P	0 - 30
2453787	Imidacloprid	14.4	Spike	P	0 - 30
2453787	Linuron	18.8	Spike	P	0 - 30
2453787	Mandestrobin	15.2	Spike	P	0 - 30
2453787	MCP	16.4	Spike	P	0 - 30
2453787	Naproxen	26.2	Spike	P	0 - 30
2453787	Primidone	13.6	Spike	P	0 - 30
2453787	Pyraclostrobin	13.4	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P438413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453787	Silvex	21.6	Spike	P	0 - 30
2453787	Thiamethoxam	12.7	Spike	P	0 - 30
2453787	Tolfenpyrad	15.0	Spike	P	0 - 30
2453787	Triclopyr	17.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P438435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453829	Acesulfame K	1.79	Spike	P	0 - 30
2453829	AMPA	9.72	Spike	P	0 - 30
2453829	Endothall	1.16	Spike	P	0 - 30
2453829	Glufosinate	0.333	Spike	P	0 - 30
2453829	Glyphosate	6.48	Spike	P	0 - 30
2453829	Sucralose	25.0	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P438548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453938	Total Alkalinity	2.51	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P438549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454084	Total Alkalinity	0.552	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453694	TDS	4.48	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P438848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454086	TDS	9.07	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P438776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454067	TSS	9.30	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P438551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453938	Fluoride	0.490	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454084	Fluoride	1.43	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P438532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453721	Organic Carbon	0.817	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P438533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2453982	Organic Carbon	2.62	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2454024
Field Sample ID: G2SE0069

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	90.3	P	37 - 129
EPA 8270E	Decachlorobiphenyl	88.7	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	55.0	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	55.4	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	83.0	P	28 - 102
EPA 8276	PCNB	108	P	49 - 115

Lab Sample ID: 2454025
Field Sample ID: G2SE0017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	75.7	P	37 - 129
EPA 8270E	Decachlorobiphenyl	88.8	P	26 - 115
EPA 8270E	Tetrachloro-m-xylene	61.9	P	30 - 101
EPA 8270E	Tetrachloro-m-xylene	60.7	P	29 - 95.0
EPA 8276	Decachlorobiphenyl	83.2	P	28 - 102
EPA 8276	PCNB	111	P	49 - 115

Lab Sample ID: 2454026
Field Sample ID: G2SE0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.4	P	30 - 160
EPA 8321B	Diuron-d6	55.9	P	30 - 160
EPA 8321B	Endothall-d6	99.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	86.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.5	P	30 - 160
EPA 8321B	Primidone-d5	94.3	P	30 - 160
EPA 8321B	Sucralose-d6	74.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122980

Included Lab Sample IDs: 2453996, 2453998

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122985

Included Lab Sample IDs: 2453994, 2453996, 2453998

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.0	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A122987

Included Lab Sample IDs: 2453994

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123014

Included Lab Sample IDs: 2453999

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A123034

Included Lab Sample IDs: 2453995, 2453997, 2453999

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	95.4	P/P	90 - 110
Organic Carbon	97.5	98.4	P/P	90 - 110
Organic Carbon	98.4	96.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A123035

Included Lab Sample IDs: 2454026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	160	156	P/P	60 - 160
Sucralose	119	116	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A123037

Included Lab Sample IDs: 2454026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.7	85.8	P/P	60 - 160
Endothall	120	103	P/P	60 - 160
Glufosinate	86.9	84.9	P/P	60 - 160
Glyphosate	95.7	91.9	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123042

Included Lab Sample IDs: 2454027, 2454028, 2454029, 2454030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.6	99.5	P/P	90 - 110
Aluminum	99.7	99.4	P/P	90 - 110
Antimony	103	100	P/P	90 - 110
Antimony	99.3	98.9	P/P	90 - 110
Arsenic	99.3	100	P/P	90 - 110
Arsenic	99.4	99.0	P/P	90 - 110
Barium	100	98.3	P/P	90 - 110
Barium	98.3	99.9	P/P	90 - 110
Beryllium	96.5	96.3	P/P	90 - 110
Beryllium	96.7	98.4	P/P	90 - 110
Boron	100	101	P/P	90 - 110
Boron	101	98.8	P/P	90 - 110
Boron	98.8	96.4	P/P	90 - 110
Cadmium	102	100	P/P	90 - 110
Cadmium	99.3	98.0	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Chromium	102	100	P/P	90 - 110
Cobalt	95.5	96.1	P/P	90 - 110
Cobalt	96.6	96.2	P/P	90 - 110
Copper	95.7	96.1	P/P	90 - 110
Copper	96.4	97.3	P/P	90 - 110
Lead	94.3	94.5	P/P	90 - 110
Lead	96.0	94.1	P/P	90 - 110
Manganese	100	99.2	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Molybdenum	98.3	98.0	P/P	90 - 110
Molybdenum	100	98.8	P/P	90 - 110
Nickel	96.7	96.4	P/P	90 - 110
Nickel	97.0	97.9	P/P	90 - 110
Selenium	100	99.7	P/P	90 - 110
Selenium	98.9	97.8	P/P	90 - 110
Silver	97.6	97.3	P/P	90 - 110
Silver	99.3	98.1	P/P	90 - 110
Thallium	95.5	96.0	P/P	90 - 110
Thallium	97.6	95.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A123047

Included Lab Sample IDs: 2453994, 2453996, 2453998

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.3	98.1	P/P	90 - 110
Total Alkalinity	97.6	95.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A123047

Included Lab Sample IDs: 2453994, 2453996, 2453998

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	103	P/P	90 - 110
Fluoride	103	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A123047

Included Lab Sample IDs: 2453994, 2453996, 2453998

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	105	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123049

Included Lab Sample IDs: 2453995, 2453997

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.6	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123057

Included Lab Sample IDs: 2453995, 2453997, 2453999

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.0	95.3	P/P	90 - 110
Ammonia-N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123063

Included Lab Sample IDs: 2453995, 2453997

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

Reference Method: EPA 8321B

Run ID: A123073

Included Lab Sample IDs: 2454026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	96.2	P/P	50 - 150
2,4,5-T	94.3	89.5	P/P	50 - 150
Acetaminophen	105	105	P/P	60 - 160
Acetamiprid	106	107	P/P	50 - 150
Afidopyropen	98.9	99.7	P/P	50 - 150
Bentazon	92.0	89.7	P/P	50 - 160
Benzovindiflupyr	105	107	P/P	50 - 150
Carbamazepine	108	109	P/P	60 - 150
Clothianidin	103	105	P/P	60 - 150
Dinotefuran	113	112	P/P	50 - 150
Diuron	103	105	P/P	60 - 160
Fenuron	103	105	P/P	60 - 150
Fluridone	105	112	P/P	60 - 160
Hydrocodone	108	109	P/P	60 - 150
Ibuprofen	93.8	95.9	P/P	50 - 160
Imazapyr	88.9	86.3	P/P	50 - 150
Imidacloprid	99.1	96.0	P/P	60 - 150
Linuron	102	100	P/P	60 - 150
Mandestrobin	105	108	P/P	50 - 150
MCPP	97.0	102	P/P	50 - 150
Naproxen	103	125	P/P	50 - 160
Primidone	99.6	97.7	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A123073
Included Lab Sample IDs: 2454026

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	103	102	P/P	60 - 150
Silvex	104	107	P/P	50 - 150
Thiamethoxam	113	112	P/P	50 - 150
Tolfenpyrad	95.6	98.3	P/P	60 - 150
Triclopyr	92.7	95.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123082
Included Lab Sample IDs: 2453997

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123085
Included Lab Sample IDs: 2453995, 2453999

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	98.0	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A123101
Included Lab Sample IDs: 2453999

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	109	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A123118
Included Lab Sample IDs: 2453994, 2453996, 2453998

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	P/P	90 - 110
Sulfate	101	99.5	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A123145
Included Lab Sample IDs: 2454024, 2454025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	97.3		P	80 - 120
PCB-1260	105		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A123155
Included Lab Sample IDs: 2454027, 2454028, 2454029, 2454030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.7	96.7	P/P	90 - 110
Calcium	98.0	98.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123155

Included Lab Sample IDs: 2454027, 2454028, 2454029, 2454030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	97.2	96.9	P/P	90 - 110
Magnesium	97.6	96.7	P/P	90 - 110
Magnesium	99.0	98.5	P/P	90 - 110
Potassium	100	99.9	P/P	90 - 110
Potassium	96.3	97.1	P/P	90 - 110
Potassium	98.5	100	P/P	90 - 110
Sodium	94.3	94.0	P/P	90 - 110
Sodium	94.9	95.0	P/P	90 - 110
Sodium	95.6	94.3	P/P	90 - 110
Strontium	98.8	102	P/P	90 - 110
Strontium	99.4	98.3	P/P	90 - 110
Tin	98.3	98.8	P/P	90 - 110
Tin	99.8	101	P/P	90 - 110
Titanium	99.3	98.9	P/P	90 - 110
Titanium	99.9	101	P/P	90 - 110
Vanadium	98.0	97.7	P/P	90 - 110
Vanadium	99.0	99.3	P/P	90 - 110
Zinc	96.6	96.4	P/P	90 - 110
Zinc	98.0	98.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123297

Included Lab Sample IDs: 2454027, 2454028

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	99.3	99.2	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A123313

Included Lab Sample IDs: 2454024, 2454025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	111		P	80 - 120
Alpha-BHC	91.0		P	80 - 120
Alpha-Chlordane	87.0		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	101		P	80 - 120
Bifenthrin	102		P	80 - 120
Carbophenothion	96.4		P	80 - 120
Chlorothalonil	109		P	80 - 120
Cis-Nonachlor	96.7		P	80 - 120
Cypermethrin	102		P	80 - 120
Dacthal	112		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	88.1		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	98.3		P	80 - 120
Deltamethrin	100		P	80 - 120
Dichlobenil	108		P	80 - 120
Dicofol	98.7		P	80 - 120
Dieldrin	96.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A123313

Included Lab Sample IDs: 2454024, 2454025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan I	97.5		P	80 - 120
Endosulfan II	96.1		P	80 - 120
Endosulfan Sulfate	105		P	80 - 120
Endrin	105		P	80 - 120
Endrin Aldehyde	98.7		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	100		P	80 - 120
Ethalfuralin	107		P	80 - 120
Fenpropathrin	97.7		P	80 - 120
Gamma-BHC	98.4		P	80 - 120
Gamma-Chlordane	97.5		P	80 - 120
Heptachlor	118		P	80 - 120
Heptachlor Epoxide	106		P	80 - 120
Hexachlorobenzene	96.9		P	80 - 120
Kepone	87.5		P	80 - 120
Lambda-Cyhalothrin	100		P	80 - 120
Methoprene	90.1		P	80 - 120
Methoxychlor	103		P	80 - 120
MGK-264	85.1		P	80 - 120
Mirex	99.1		P	80 - 120
Oxychlordane	92.0		P	80 - 120
Permethrin	96.9		P	80 - 120
Phenothrin	101		P	80 - 120
Piperonyl Butoxide	97.1		P	80 - 120
Prallethrin	105		P	80 - 120
Tau-Fluvalinate	106		P	80 - 120
Tetramethrin	99.8		P	80 - 120
Trans-Nonachlor	100		P	80 - 120
Triclosan Methyl	100		P	80 - 120
Trifluralin	102		P	80 - 120

Reference Method: EPA 8276

Run ID: A123319

Included Lab Sample IDs: 2454024, 2454025

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	105		P	80 - 120

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	99.2				0.429	
	Color (true)	99.0				0.141	
EPA 180.1 Rev. 2.0	Turbidity	103				0.631	
EPA 200.7 Rev. 4.4	Calcium	102	98.2	98.9	96.9		0.453
	Calcium	97.4					4.83
	Iron	101	98.9	95.9	98.2		2.21
	Iron	105	97.4	101			3.32
	Magnesium	103	101	97.7	97.8		2.54
	Magnesium	97.5					3.89
	Potassium	99.4	94.4	95.3	95.6		0.614
	Potassium	97.2					1.16
	Sodium	95.3	93.6	85.2			0.0429
	Sodium	94.4					1.13
	Strontium	95.2	93.4	94.3	92.2		0.935
	Strontium	94.9	89.4	84.1			3.08
	Tin	96.6	95.7	95.9	94.0		0.196
	Tin	95.5	86.1	83.4			3.08
	Titanium	95.3	93.5	93.9	92.7		0.345
	Titanium	94.7	96.9	95.3			1.66
	Vanadium	95.4	94.7	95.1	92.4		0.450
	Vanadium	93.6	95.6	94.1			1.66
	Zinc	94.8	93.1	92.6	92.2		0.566
	Zinc	93.0	92.2	90.0			2.33
EPA 200.8 Rev. 5.4	Aluminum	99.4	99.3	98.7	97.6		0.477
	Aluminum	99.7	100	103			2.14
	Antimony	102	103	104	102		0.910
	Antimony	101	101	101			0.155
	Arsenic	101	98.2	97.9	98.7		0.304
	Arsenic	98.4	109	112			1.85
	Barium	102	102	102	99.8		0.0809
	Barium	101	101	101			0.497
	Beryllium	95.6	91.1	95.6	91.5		4.48
	Beryllium	89.6	96.4	98.0			1.66
	Boron	101	103	102	106		0.762
	Boron	105	93.8	103			2.08
	Cadmium	99.8	100	103	99.3		2.17
	Cadmium	99.5	98.7	95.1			3.69
	Chromium	102	101	102	102		0.374
	Chromium	101	97.7	99.6			1.92
	Cobalt	98.0	96.4	96.3	95.2		0.0864
	Cobalt	95.3	90.6	104			13.5
	Copper	98.9	96.3	96.3	94.3		0.0117
	Copper	93.8	97.0	112			14.1
	Lead	95.7	96.1	96.3	94.9		0.183
	Lead	94.9	98.6	99.5			0.915
	Manganese	99.7	102	103	102		1.01
	Manganese	101	95.5	95.9			0.401
	Molybdenum	99.5	98.6	98.4	98.4		0.216
	Molybdenum	97.7	108	109			0.727
	Nickel	98.5	96.7	96.1	95.6		0.571
	Nickel	95.5	92.5	93.2			0.763
	Selenium	102	95.4	97.1	98.9		1.71
	Selenium	99.3	102	103			1.01
	Silver	102	102	102	102		0.135

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 200.8 Rev. 5.4	Silver	100	95.2	92.8	97.4		2.54
	Thallium	97.9	98.9	99.7			0.867
	Thallium	96.7	99.6	101			1.13
EPA 300.0 Rev. 2.1	Chloride	100	101	98.5		0.861	
	Sulfate	99.4	99.4	95.6		0.0679	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	95.8	96.4			0.592
	Ammonia-N	97.8	94.4	96.6			1.41
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	102	94.5			6.98
	Kjeldahl Nitrogen	110	108	109			1.27
EPA 353.2 Rev. 2.0	NO2NO3-N	101	101	100			0.368
	NO2NO3-N	99.5	102	102			0.980
EPA 365.1 Rev. 2.0	Total-P	104	96.7	98.5			1.84
	Total-P	105	104	107			2.66
EPA 8270E	Aldrin	56.2	61.6	48.5			23.8
	Alpha-BHC	88.3	93.0	89.7			3.63
	Alpha-Chlordane	76.3	72.4	81.9			12.4
	Beta-BHC	109	96.3	106			9.57
	Beta-Cyfluthrin	51.8	103	94.1			9.38
	Bifenthrin	39.4	80.7	66.0			20.0
	Carbophenothion	83.3	110	111			0.589
	Chlorothalonil	76.3	138	133			3.45
	Cis-Nonachlor	61.4	60.5	43.7			32.2
	Cypermethrin	68.8	133	143			7.17
	Dacthal	90.3	82.7	68.9			18.2
	DDD-p,p'	72.6	69.6	61.1			13.1
	DDE-p,p'	77.1	77.7	70.0			10.4
	DDT-p,p'	73.3	89.1	87.4			1.88
	Delta-BHC	108	115	117			1.58
	Deltamethrin	71.2	115	94.5			19.2
	Dichlobenil	81.5	58.1	44.5			26.5
	Dicofol	71.7	75.6	69.6			8.30
	Dieldrin	86.1	88.1	78.7			11.2
	Endosulfan I	90.9	86.1	92.2			6.77
	Endosulfan II	91.8	90.5	83.5			8.01
	Endosulfan Sulfate	81.1	87.4	62.2			33.7
	Endrin	74.7	73.7	71.0			3.63
	Endrin Aldehyde	91.8	80.1	66.8			18.1
	Endrin Ketone	86.8	88.3	71.4			21.2
	Esfenvalerate	62.2	126	111			12.9
	Ethalfuralin	69.4	86.9	72.6			18.0
	Fenpropathrin	61.9	68.9	81.8			17.1
	Gamma-BHC	90.3	90.1	83.3			7.93
	Gamma-Chlordane	75.7	52.0	71.6			31.7
	Heptachlor	86.1	86.1	92.3			6.91
	Heptachlor Epoxide	91.0	111	92.0			19.0
	Hexachlorobenzene	59.0	43.1	54.5			23.2
	Kepone	142	140	155			9.70
	Lambda-Cyhalothrin	45.1	62.3	85.8			31.7
	Methoprene	46.0	52.5	63.2			18.5
	Methoxychlor	78.9	66.6	85.5			24.8
	MGK-264	82.4	97.4	90.7			7.15
	Mirex	50.6	45.9	58.8			24.7
	Oxychlordane	81.6	81.5	86.5			5.90
	PCB-1016	77.6	67.0	82.2			20.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	PCB-1260	98.8	104	107			2.87
	Permethrin	52.9	87.6	89.9			2.52
	Phenothrin	42.2	87.7	85.8			2.21
	Piperonyl Butoxide	91.2	105	96.8			7.28
	Prallethrin	70.9	64.5	72.3			11.5
	Tau-Fluvalinate	51.5	107	117			8.43
	Tetramethrin	87.2	94.3	111			16.5
	Trans-Nonachlor	85.5	114	90.0			23.4
	Triclosan Methyl	85.3	64.8	69.1			6.48
	Trifluralin	68.8	62.3	78.1			22.6
EPA 8276	Chlordane	82.4	91.7	95.3			3.53
	Toxaphene	94.3	113	112			0.493
EPA 8321B	2,4-D	98.5	105	80.3			18.8
	2,4,5-T	110	94.1	79.0			17.4
	Acesulfame K	134	127	129			1.79
	Acetaminophen	88.9	91.7	106			14.6
	Acetamiprid	90.0	77.4	67.6			13.5
	Afidopyropen	83.0	81.6	73.4			10.7
	AMPA	73.8	75.3	82.9			9.72
	Bentazon	68.3					13.8
	Benzovindiflupyr	87.3	98.0	82.0			17.7
	Carbamazepine	81.0	81.9	72.5			10.2
	Clothianidin	88.3	113	98.1			12.1
	Dinotefuran	101	95.3	112			15.9
	Diuron	66.3	75.0	65.4			13.6
	Endothall	114	127	126			1.16
	Fenuron	99.8	86.4	79.7			8.07
	Fluridone	89.9	94.5	81.1			9.31
	Glufosinate	90.5	82.1	81.9			0.333
	Glyphosate	87.9	86.3	92.1			6.48
	Hydrocodone	90.0	79.4	90.5			13.0
	Ibuprofen	69.6	70.9	58.7			18.9
	Imazapyr	90.0					17.3
	Imidacloprid	86.1	141	120			14.4
	Linuron	81.7	82.4	68.2			18.8
	Mandestrobin	89.3	98.8	84.8			15.2
	MCPP	92.5	103	86.8			16.4
	Naproxen	67.6	90.0	69.1			26.2
	Primidone	85.0	94.2	109			13.6
	Pyraclostrobin	79.0	91.3	79.9			13.4
	Silvex	91.3	101	81.7			21.6
	Sucralose	101	54.8	70.4			25.0
	Thiamethoxam	92.5	89.0	101			12.7
	Tolfenpyrad	46.7	64.4	55.4			15.0
	Triclopyr	114	100	84.0			17.4
SM 2320 B-2011	Total Alkalinity	95.7				2.51	
	Total Alkalinity	98.7				0.552	
SM 2540 C-2015	TDS	93.6				4.48	
	TDS	96.4				9.07	
SM 2540 D-2015	TSS	97.6					
	TSS	97.6				9.30	
SM 4500-F- C-2011	Fluoride	101	102	102			0.490
	Fluoride	102	103	99.8			1.43
SM 5310 B-2011	Organic Carbon	95.6	96.6	95.6			0.817

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 5310 B-2011	Organic Carbon	98.1	94.2	91.5	SMP	2.62

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2453994, 2453996, 2453998
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2453994, 2453996, 2453998
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2454027, 2454028, 2454029, 2454030
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2454027, 2454028, 2454029, 2454030
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2453994, 2453996, 2453998
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2453994, 2453996, 2453998
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2453995, 2453997, 2453999
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2453995, 2453997, 2453999
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2453995, 2453997, 2453999
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2453995, 2453997, 2453999
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2454024, 2454025
EPA 8270E	PCBs in water matrices by GC/MS/MS	2454024, 2454025
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2454024, 2454025
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2454026
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2453994, 2453996, 2453998
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2454027, 2454028, 2454029, 2454030
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2453994, 2453996, 2453998
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2453994, 2453996, 2453998
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2453994, 2453996, 2453998
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2453995, 2453997, 2453999

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	12/01/2023			12/01/2023 12:13	Blanca Fach	2453998
	12/01/2023			12/01/2023 12:14	Blanca Fach	2453996
	12/01/2023			12/01/2023 14:40	Anna M. Plaviak	2453994
EPA 180.1 Rev. 2.0	12/01/2023			12/01/2023 11:29	Anna M. Plaviak	2453994
	12/01/2023			12/01/2023 11:31	Anna M. Plaviak	2453996
	12/01/2023			12/01/2023 11:38	Anna M. Plaviak	2453998
EPA 200.7 Rev. 4.4	12/01/2023	12/04/2023 13:55	George D Taylor	12/12/2023 04:58	McKinley C Carter	2454029
	12/01/2023	12/04/2023 13:55	George D Taylor	12/12/2023 05:05	McKinley C Carter	2454029
	12/01/2023	12/04/2023 13:55	George D Taylor	12/12/2023 05:13	McKinley C Carter	2454030
	12/01/2023	12/04/2023 13:55	George D Taylor	12/12/2023 05:21	McKinley C Carter	2454030
	12/01/2023	12/04/2023 14:05	George D Taylor	12/12/2023 09:40	McKinley C Carter	2454027
	12/01/2023	12/04/2023 14:05	George D Taylor	12/12/2023 09:48	McKinley C Carter	2454027
	12/01/2023	12/04/2023 14:05	George D Taylor	12/12/2023 09:55	McKinley C Carter	2454028
	12/01/2023	12/04/2023 14:05	George D Taylor	12/12/2023 10:49	McKinley C Carter	2454028
	12/01/2023	12/14/2023 13:40	George D Taylor	12/18/2023 20:06	Samatha Luckman	2454027
EPA 200.8 Rev. 5.4	12/01/2023	12/14/2023 13:40	George D Taylor	12/18/2023 20:30	Samatha Luckman	2454028
	12/01/2023	12/04/2023 13:55	George D Taylor	12/05/2023 18:32	Emily M Philpot	2454029
	12/01/2023	12/04/2023 13:55	George D Taylor	12/05/2023 18:42	Emily M Philpot	2454030
	12/01/2023	12/04/2023 14:05	George D Taylor	12/05/2023 21:14	Emily M Philpot	2454027
	12/01/2023	12/04/2023 14:05	George D Taylor	12/05/2023 21:23	Emily M Philpot	2454028
	12/01/2023	12/04/2023 14:05	George D Taylor	12/05/2023 23:18	Emily M Philpot	2454027
	12/01/2023	12/04/2023 14:05	George D Taylor	12/05/2023 23:27	Emily M Philpot	2454028
EPA 300.0 Rev. 2.1	12/01/2023			12/08/2023 15:51	Anna M. Plaviak	2453994
	12/01/2023			12/08/2023 16:06	Anna M. Plaviak	2453996
	12/01/2023			12/08/2023 16:21	Anna M. Plaviak	2453998
EPA 350.1 Rev. 2.0	12/01/2023			12/06/2023 12:44	Ping Hua	2453999
	12/01/2023			12/06/2023 13:05	Ping Hua	2453995
	12/01/2023			12/06/2023 13:07	Ping Hua	2453997
EPA 351.2 Rev. 2.0	12/01/2023	12/05/2023 11:47	Simonne.V. Calhoun	12/06/2023 11:18	Samantha L Bates	2453995
	12/01/2023	12/05/2023 11:47	Simonne.V. Calhoun	12/06/2023 11:19	Samantha L Bates	2453997
	12/01/2023	12/06/2023 11:57	Simonne.V. Calhoun	12/07/2023 16:32	Ping Hua	2453999
EPA 353.2 Rev. 2.0	12/01/2023			12/04/2023 14:24	Fadila Guebre	2453999
	12/01/2023			12/06/2023 14:00	Fadila Guebre	2453995
	12/01/2023			12/06/2023 14:02	Fadila Guebre	2453997
EPA 365.1 Rev. 2.0	12/01/2023	12/06/2023 13:01	Adam P Silver	12/07/2023 10:39	Chandler E Cox	2453997
	12/01/2023	12/06/2023 13:01	Adam P Silver	12/07/2023 11:50	Chandler E Cox	2453995
	12/01/2023	12/06/2023 13:01	Adam P Silver	12/07/2023 12:22	Chandler E Cox	2453999
EPA 8270E	12/01/2023	12/06/2023 08:30	Rasheda Ghaffari	12/11/2023 21:58	Lipi Saha	2454024
	12/01/2023	12/06/2023 08:30	Rasheda Ghaffari	12/11/2023 22:28	Lipi Saha	2454025
	12/01/2023	12/06/2023 08:30	Rasheda Ghaffari	12/15/2023 23:15	Julie Wi	2454024

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8270E	12/01/2023	12/06/2023 08:30	Rasheda Ghaffari	12/15/2023 23:48	Julie Wi	2454025
EPA 8276	12/01/2023	12/06/2023 08:30	Rasheda Ghaffari	12/19/2023 07:41	Arthur Maknenko	2454024
	12/01/2023	12/06/2023 08:30	Rasheda Ghaffari	12/19/2023 08:37	Arthur Maknenko	2454025
	12/01/2023	12/05/2023 08:30	Tae K Lee	12/05/2023 12:30	Hana Lee	2454026
EPA 8321B	12/01/2023	12/05/2023 08:30	Tae K Lee	12/05/2023 15:16	Hana Lee	2454026
	12/01/2023	12/05/2023 09:00	Hoor Shaik	12/06/2023 18:25	Juyoung Kim	2454026
	12/01/2023			12/05/2023 20:28	Chandler E Cox	2453998
SM 2320 B-2011	12/01/2023			12/05/2023 21:34	Chandler E Cox	2453996
	12/01/2023			12/05/2023 23:44	Chandler E Cox	2453994
	12/01/2023			12/12/2023 04:58	McKinley C Carter	2454029
SM 2340 B-2011	12/01/2023			12/12/2023 05:13	McKinley C Carter	2454030
	12/01/2023			12/12/2023 09:48	McKinley C Carter	2454027
	12/01/2023			12/12/2023 09:55	McKinley C Carter	2454028
SM 2540 C-2015	12/01/2023			12/05/2023 16:11	Yijie Li	2453994, 2453996, 2453998
SM 2540 D-2015	12/01/2023			12/05/2023 16:11	Yijie Li	2453994, 2453996, 2453998
SM 4500-F- C-2011	12/01/2023			12/05/2023 20:28	Chandler E Cox	2453998
	12/01/2023			12/05/2023 21:34	Chandler E Cox	2453996
	12/01/2023			12/06/2023 02:51	Chandler E Cox	2453994
SM 5310 B-2011	12/01/2023			12/05/2023 19:53	Kenneth H Lee	2453997
	12/01/2023			12/05/2023 20:37	Kenneth H Lee	2453999
	12/01/2023			12/06/2023 00:17	Kenneth H Lee	2453995