

Chemical Analysis Report

NE-DIST-2021-07-21-02

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

Event Description: **Bmap 1 SMP 2021**
Request ID: **RQ-2021-07-19-26**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 17-AUG-2021 13:33



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: BUTCHER PEN CR @ CONFEDERATE PT ROAD

Collection Date/Time: 07/20/2021 11:35

Field ID: 20030082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2263988	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P401343	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P401812	
		Sulfate	14	A	mg SO4/L	P402023	
	SM 2120 B-2011	Color (true)	52		PCU	P401340	
	SM 2320 B-2011	Total Alkalinity	55		mg CaCO3/L	P401516	
	SM 2540 C-2011	TDS	120		mg/L	P401798	
	SM 2540 D-2011	TSS	9	I	mg/L	P401803	
	SM 4500 F-C-2011	Fluoride	0.10		mg F/L	P401520	
2263989	EPA 350.1 Rev. 2.0	Ammonia-N	0.093		mg N/L	P401767	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P402272	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P401478	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P401591	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P401867	
2263990	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.081		mg P/L	P401308	

Ref. Method and Comment:

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

Sample Location: BUTCHER PEN CR AT WESCONNET

Collection Date/Time: 07/20/2021 11:55

Field ID: 20030760

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2263999	EPA 200.7 Rev. 4.4	Barium	37.3		ug/L	P401584	
		Calcium	42.4		mg/L	P401584	
		Iron	1.14E+03		ug/L	P401584	
		Magnesium	4.73		mg/L	P401584	
		Manganese	25.2		ug/L	P401584	
		Potassium	2.0		mg/L	P401584	
		Sodium	13.3		mg/L	P401584	
	EPA 200.8 Rev. 5.4	Zinc	15	I	ug/L	P401584	
		Aluminum	136		ug/L	P401584	
		Antimony	0.24		ug/L	P401584	
		Arsenic	1.46		ug/L	P401584	
		Beryllium	0.026	I	ug/L	P401584	
		Boron**	43.7		ug/L	P401584	
		Cadmium	0.020	U	ug/L	P401584	
		Chromium	0.81	I	ug/L	P401584	
		Copper	1.59		ug/L	P402150	
		Lead	0.92		ug/L	P401584	
		Nickel	0.93	I	ug/L	P401584	
		Selenium	0.20	U	ug/L	P401584	
		Silver	0.010	U	ug/L	P401584	
		Thallium	0.10	U	ug/L	P401584	
	SM 2340B	Hardness	125		mg/L	P401584	

Sample Location: CRAIG CR. 100m DOWN FROM FOOTBRIDGE IN PARK **Collection Date/Time: 07/20/2021 12:25**

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2263985	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P401343	
	SM 2320 B-2011	Total Alkalinity	125		mg CaCO3/L	P401516	
	SM 2540 D-2011	TSS	3	IA	mg/L	P401806	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P401520	
2263986	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P401767	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82	J	mg N/L	P402272	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.40		mg N/L	P401478	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P401591	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P401867	
2263987	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P401308	
2263998	EPA 200.7 Rev. 4.4	Calcium	55.5		mg/L	P401584	
		Iron	1.21E+03		ug/L	P401584	
		Magnesium	8.04		mg/L	P401584	
		Manganese	45.0		ug/L	P401584	
		Zinc	16	I	ug/L	P401584	
	EPA 200.8 Rev. 5.4	Aluminum	59		ug/L	P401584	
		Antimony	0.33		ug/L	P401584	
		Arsenic	2.45		ug/L	P401584	
		Beryllium	0.021	I	ug/L	P401584	
		Cadmium	0.021	I	ug/L	P401584	
		Chromium	0.74	I	ug/L	P401584	
		Copper	3.03		ug/L	P401584	
		Lead	0.69		ug/L	P401584	
		Nickel	0.98	I	ug/L	P401584	
		Selenium	0.20	U	ug/L	P401584	
		Silver	0.010	U	ug/L	P401584	
		Thallium	0.10	U	ug/L	P401584	

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: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Miramar at San Jose

Collection Date/Time: 07/20/2021 12:40

Field ID: G2NE1164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2263991	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P401343	
	EPA 300.0 Rev. 2.1	Chloride	26	A	mg Cl/L	P401812	
		Sulfate	52	A	mg SO4/L	P401815	
		Color (true)	33		PCU	P401340	
	SM 2120 B-2011	Total Alkalinity	87	A	mg CaCO3/L	P401516	
	SM 2540 C-2011	TDS	254		mg/L	P401798	
	SM 2540 D-2011	TSS	7	I	mg/L	P401803	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P401520	
2263992	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P401767	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P402272	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.81		mg N/L	P401478	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P401591	
	SM 5310 B-2011	Organic Carbon	7.3		mg C/L	P401867	
2263993	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P401308	
2264000	EPA 200.7 Rev. 4.4	Barium	42.4		ug/L	P401584	
		Calcium	44.1		mg/L	P401584	
		Iron	1.21E+03		ug/L	P401584	
		Magnesium	10.6		mg/L	P401584	
		Manganese	82.5		ug/L	P401584	
		Potassium	2.9		mg/L	P401584	
		Sodium	20.3		mg/L	P401584	
		Zinc	12	I	ug/L	P401584	
	EPA 200.8 Rev. 5.4	Aluminum	89		ug/L	P401584	
		Antimony	0.20		ug/L	P401584	
		Arsenic	1.46		ug/L	P401584	
		Beryllium	0.074		ug/L	P401584	
		Boron**	55.1		ug/L	P401584	
		Cadmium	0.027	I	ug/L	P401584	
		Chromium	0.46	I	ug/L	P401584	
		Copper	2.14		ug/L	P402150	
		Lead	1.94		ug/L	P401584	
		Nickel	1.0	I	ug/L	P401584	
		Selenium	0.20	U	ug/L	P401584	
		Silver	0.010	U	ug/L	P401584	
		Thallium	0.10	U	ug/L	P401584	
		Hardness	154		mg/L	P401584	
	EPA 8270E	Aldrin	0.68	U	ng/L	P401370	
		Alpha-BHC	0.10	U	ng/L	P401370	
		Alpha-Chlordane	0.90	I	ng/L	P401370	
		Beta-BHC	0.66		ng/L	P401370	
		Beta-Cyfluthrin**	1.3	U	ng/L	P401370	
		Bifenthrin**	0.52	U	ng/L	P401370	
		Carbophenothion	0.94	U	ng/L	P401370	

Field ID: G2NE1164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264002	EPA 8270E	Chlorothalonil	0.52	U	ng/L	P401370	
		Cis-Nonachlor**	0.21	U	ng/L	P401370	
		Cypermethrin	1.6	U	ng/L	P401370	
		Dacthal**	0.16	U	ng/L	P401370	
		DDD-p,p'	0.26	U	ng/L	P401370	
		DDE-p,p'	0.21	U	ng/L	P401370	
		DDT-p,p'	0.26	U	ng/L	P401370	
		Delta-BHC	1.0	I	ng/L	P401370	
		Deltamethrin**	1.3	U	ng/L	P401370	
		Dichlobenil**	0.10	U	ng/L	P401370	
		Dicofol	1.3	U	ng/L	P401370	
		Dieldrin	14		ng/L	P401370	
		Endosulfan I	0.42	U	ng/L	P401370	
		Endosulfan II	0.42	U	ng/L	P401370	
		Endosulfan Sulfate	0.31	U	ng/L	P401370	
		Endrin	0.42	U	ng/L	P401370	
		Endrin Aldehyde	0.79	U	ng/L	P401370	
		Endrin Ketone	0.56	I	ng/L	P401370	
		Esfenvalerate**	0.79	U	ng/L	P401370	
		Ethalfuralin**	0.16	U	ng/L	P401370	
		Fenpropathrin**	0.26	U	ng/L	P401370	
		Gamma-BHC	0.15	I	ng/L	P401370	
		Gamma-Chlordane	0.74	I	ng/L	P401370	
		Heptachlor	0.21	U	ng/L	P401370	
		Heptachlor Epoxide	3.2		ng/L	P401370	
		Hexachlorobenzene	1.0	U	ng/L	P401370	
		Kepone**	5.2	U	ng/L	P401370	
		Lambda-Cyhalothrin**	1.0	I	ng/L	P401370	
		Methoxychlor	0.31	U	ng/L	P401370	
		MGK-264**	0.21	U	ng/L	P401370	
		Mirex	0.73	U	ng/L	P401370	MS
		Permethrin	2.7	I	ng/L	P401370	
		Phenothrin**	2.2	I	ng/L	P401370	
		Piperonyl Butoxide**	1.0		ng/L	P401370	
		Prallethrin**	2.1	U	ng/L	P401370	
		Tau-Fluvalinate**	0.26	U	ng/L	P401370	
		Tetramethrin**	0.79	U	ng/L	P401370	
		Trans-Nonachlor**	0.33	I	ng/L	P401370	
		Triclosan Methyl**	0.16	U	ng/L	P401370	
		Trifluralin	0.21	U	ng/L	P401370	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P401343

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P401584

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401584

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	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
Copper	0.40	U	ug/L
Lead	0.20	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: P402150

Component	Result	Code	Units
Copper	0.40	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401812

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401815

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402023

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401767

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402272

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401478

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401591

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401308

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8270E
Batch ID: P401370

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P401370

Component	Result	Code	Units
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	0.10	U	ng/L
Dichlobenil	0.10	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P401370

Component	Result	Code	Units
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	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	0.70	U	ng/L
Mirex	0.70	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: SM 2120 B-2011

Batch ID: P401340

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P401516

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

Reference Method: SM 2540 C-2011

Batch ID: P401798

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P401803

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P401806

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P401520

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P401867

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P401584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	93.9		P	85 - 115
Calcium	104		P	85 - 115
Iron	97.1		P	85 - 115
Magnesium	99.9		P	85 - 115
Manganese	93.6		P	85 - 115
Potassium	95.4		P	85 - 115
Sodium	93.0		P	85 - 115
Zinc	95.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.3		P	85 - 115
Antimony	95.4		P	85 - 115
Arsenic	94.0		P	85 - 115
Beryllium	95.8		P	85 - 115
Boron	94.0		P	85 - 115
Cadmium	91.8		P	85 - 115
Chromium	91.2		P	85 - 115
Copper	92.1		P	85 - 115
Lead	92.8		P	85 - 115
Nickel	94.3		P	85 - 115
Selenium	92.9		P	85 - 115
Silver	113		P	85 - 115
Thallium	95.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402150

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401812

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401815

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402023

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P401767

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P402272

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P401478

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P401591

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P401308

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

Reference Method: EPA 8270E

Batch ID: P401370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	57.7	57.8	P/P	20 - 150
Alpha-BHC	98.3	96.0	P/P	50 - 150
Alpha-Chlordane	88.5	91.0	P/P	50 - 150
Beta-BHC	114	110	P/P	50 - 150
Beta-Cyfluthrin	92.2	83.6	P/P	50 - 150
Bifenthrin	53.4	52.3	P/P	40 - 150
Carbophenothion	60.7	56.9	P/P	20 - 150
Chlorothalonil	139	127	P/P	20 - 150
Cis-Nonachlor	74.4	68.6	P/P	50 - 150
Cypermethrin	81.3	74.9	P/P	50 - 150
Dacthal	101	102	P/P	50 - 150
DDD-p,p'	78.0	71.8	P/P	50 - 150
DDE-p,p'	84.3	87.1	P/P	50 - 150
DDT-p,p'	85.0	91.1	P/P	50 - 150
Delta-BHC	129	131	P/P	50 - 150
Deltamethrin	91.4	83.4	P/P	50 - 150
Dichlobenil	88.8	89.9	P/P	40 - 150
Dicofol	86.6	87.1	P/P	50 - 150
Dieldrin	90.4	92.8	P/P	50 - 150
Endosulfan I	92.2	92.6	P/P	50 - 150
Endosulfan II	90.6	84.1	P/P	50 - 150
Endosulfan Sulfate	87.2	81.1	P/P	50 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P401370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	80.2	72.7	P/P	50 - 150
Endrin Aldehyde	75.6	66.3	P/P	50 - 150
Endrin Ketone	96.0	86.2	P/P	50 - 150
Esfenvalerate	74.2	65.9	P/P	50 - 180
Ethalfuralin	80.9	78.8	P/P	50 - 150
Fenpropathrin	74.6	71.4	P/P	50 - 150
Gamma-BHC	108	106	P/P	50 - 150
Gamma-Chlordane	81.5	81.7	P/P	50 - 150
Heptachlor	77.6	77.8	P/P	50 - 150
Heptachlor Epoxide	85.1	86.0	P/P	50 - 150
Hexachlorobenzene	78.0	79.9	P/P	50 - 150
Kepone	124	113	P/P	30 - 180
Lambda-Cyhalothrin	76.1	69.6	P/P	50 - 200
Methoxychlor	97.6	97.5	P/P	50 - 150
MGK-264	94.5	101	P/P	30 - 150
Mirex	57.1	53.0	P/P	50 - 180
Permethrin	77.7	71.2	P/P	50 - 150
Phenothrin	54.8	48.5	P/P	20 - 150
Piperonyl Butoxide	98.7	90.6	P/P	50 - 150
Prallethrin	78.1	78.7	P/P	30 - 150
Tau-Fluvalinate	58.7	53.6	P/P	40 - 150
Tetramethrin	85.6	84.2	P/P	30 - 150
Trans-Nonachlor	81.3	81.8	P/P	50 - 150
Triclosan Methyl	92.9	96.0	P/P	50 - 150
Trifluralin	80.6	80.4	P/P	50 - 150

Reference Method: SM 2120 B-2011

Batch ID: P401340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.1		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P401516

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

Reference Method: SM 4500 F-C-2011

Batch ID: P401520

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P401867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P401584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263597	Barium	90.4		P	80 - 120
2263597	Calcium	103		P	80 - 120
2263597	Iron	96.7		P	80 - 120
2263597	Magnesium	104		P	80 - 120
2263597	Manganese	90.5		P	80 - 120
2263597	Potassium	96.5		P	80 - 120
2263597	Sodium	106		P	80 - 120
2263597	Zinc	90.4		P	80 - 120
2264182	Barium	93.3	91.1	P/P	80 - 120
2264182	Calcium	102		P	80 - 120
2264182	Iron	96.9	95.5	P/P	80 - 120
2264182	Magnesium	95.4	93.7	P/P	80 - 120
2264182	Manganese	93.3	91.1	P/P	80 - 120
2264182	Potassium	94.4	93.2	P/P	80 - 120
2264182	Sodium	95.6	95.1	P/P	80 - 120
2264182	Zinc	93.4	91.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P401584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263597	Aluminum	93.3		P	80 - 120
2263597	Antimony	97.4		P	80 - 120
2263597	Arsenic	91.9		P	80 - 120
2263597	Beryllium	95.4		P	80 - 120
2263597	Boron	95.0		P	80 - 120
2263597	Cadmium	94.0		P	80 - 120
2263597	Chromium	93.0		P	80 - 120
2263597	Copper	88.2		P	80 - 120
2263597	Lead	92.3		P	80 - 120
2263597	Nickel	89.6		P	80 - 120
2263597	Selenium	89.7		P	80 - 120
2263597	Silver	113		P	80 - 120
2263597	Thallium	95.4		P	80 - 120
2264182	Aluminum	92.3	93.8	P/P	80 - 120
2264182	Antimony	95.4	96.5	P/P	80 - 120
2264182	Arsenic	90.5	91.3	P/P	80 - 120
2264182	Beryllium	96.6	96.9	P/P	80 - 120
2264182	Boron	93.9	94.0	P/P	80 - 120
2264182	Cadmium	91.4	91.5	P/P	80 - 120
2264182	Chromium	92.6	93.3	P/P	80 - 120
2264182	Copper	88.8	89.1	P/P	80 - 120
2264182	Lead	90.9	92.5	P/P	80 - 120
2264182	Nickel	89.9	91.4	P/P	80 - 120
2264182	Selenium	89.8	88.9	P/P	80 - 120
2264182	Silver	112	113	P/P	80 - 120
2264182	Thallium	94.6	97.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P402150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263999	Copper	95.6	97.6	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263862	Chloride	100		P	90 - 110
2263991	Chloride	97.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263862	Sulfate	101		P	90 - 110
2263991	Sulfate	94.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263988	Sulfate	97.1		P	90 - 110
2264579	Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263906	Ammonia-N	96.2	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263986	Kjeldahl Nitrogen	111	106	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263926	NO2NO3-N	97.0	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263989	Total-P	105	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263993	O-Phosphate-P	97.6	96.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P401370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264092	Aldrin	48.3	47.3	P/P	20 - 170
2264092	Alpha-BHC	91.2	87.6	P/P	50 - 170
2264092	Alpha-Chlordane	80.4	77.3	P/P	50 - 170
2264092	Beta-BHC	114	113	P/P	50 - 170
2264092	Beta-Cyfluthrin	94.3	93.6	P/P	50 - 170
2264092	Bifenthrin	57.7	54.0	P/P	40 - 170
2264092	Carbophenothion	57.8	56.9	P/P	20 - 170
2264092	Chlorothalonil	140	145	P/P	20 - 170
2264092	Cis-Nonachlor	63.7	60.9	P/P	50 - 170
2264092	Cypermethrin	80.8	81.0	P/P	50 - 170
2264092	Dacthal	89.1	86.3	P/P	50 - 170
2264092	DDD-p,p'	66.2	65.2	P/P	50 - 170
2264092	DDE-p,p'	74.8	73.3	P/P	50 - 170
2264092	DDT-p,p'	70.2	68.2	P/P	50 - 170
2264092	Delta-BHC	127	125	P/P	50 - 170
2264092	Deltamethrin	102	103	P/P	50 - 170
2264092	Dichlobenil	77.2	77.8	P/P	40 - 170
2264092	Dicofol	84.0	78.0	P/P	50 - 170
2264092	Dieldrin	79.9	78.7	P/P	50 - 170
2264092	Endosulfan I	80.7	80.7	P/P	50 - 170
2264092	Endosulfan II	75.0	74.0	P/P	50 - 170
2264092	Endosulfan Sulfate	72.8	71.2	P/P	50 - 170
2264092	Endrin	66.6	67.3	P/P	50 - 170
2264092	Endrin Aldehyde	61.6	57.0	P/P	50 - 170
2264092	Endrin Ketone	80.1	76.5	P/P	50 - 170
2264092	Esfenvalerate	80.8	80.8	P/P	50 - 180
2264092	Ethalfuralin	70.4	70.3	P/P	50 - 170
2264092	Fenpropathrin	68.7	65.5	P/P	50 - 170
2264092	Gamma-BHC	101	102	P/P	50 - 170
2264092	Gamma-Chlordane	71.8	70.1	P/P	50 - 170
2264092	Heptachlor	68.2	67.1	P/P	50 - 170
2264092	Heptachlor Epoxide	76.5	71.7	P/P	50 - 170
2264092	Hexachlorobenzene	74.5	74.6	P/P	50 - 170
2264092	Kepone	103	102	P/P	30 - 180
2264092	Lambda-Cyhalothrin	82.7	80.8	P/P	50 - 200
2264092	Methoxychlor	94.8	90.9	P/P	50 - 170
2264092	MGK-264	83.6	81.1	P/P	30 - 170
2264092	Mirex	47.1	47.9	F/F	50 - 180
2264092	Permethrin	83.5	83.7	P/P	50 - 170
2264092	Phenothrin	57.8	53.2	P/P	20 - 170
2264092	Piperonyl Butoxide	89.8	89.6	P/P	50 - 170
2264092	Prallethrin	65.5	68.4	P/P	30 - 170
2264092	Tau-Fluvalinate	66.8	66.1	P/P	40 - 170
2264092	Tetramethrin	83.5	71.9	P/P	30 - 170
2264092	Trans-Nonachlor	72.3	70.8	P/P	50 - 170
2264092	Triclosan Methyl	84.4	83.0	P/P	50 - 170
2264092	Trifluralin	69.4	68.8	P/P	50 - 170

Reference Method: SM 4500 F-C-2011
 Batch ID: P401520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P401520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263991	Fluoride	101	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P401867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263621	Organic Carbon	95.4	95.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P401343

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263920	Turbidity	2.35	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P401584

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264182	Barium	2.42	Spike	P	0 - 20
2264182	Calcium	0.568	Spike	P	0 - 20
2264182	Iron	1.44	Spike	P	0 - 20
2264182	Magnesium	0.956	Spike	P	0 - 20
2264182	Manganese	2.40	Spike	P	0 - 20
2264182	Potassium	1.23	Spike	P	0 - 20
2264182	Sodium	0.354	Spike	P	0 - 20
2264182	Zinc	2.54	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P401584

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264182	Aluminum	1.67	Spike	P	0 - 20
2264182	Antimony	1.15	Spike	P	0 - 20
2264182	Arsenic	0.906	Spike	P	0 - 20
2264182	Beryllium	0.373	Spike	P	0 - 20
2264182	Boron	0.141	Spike	P	0 - 20
2264182	Cadmium	0.155	Spike	P	0 - 20
2264182	Chromium	0.744	Spike	P	0 - 20
2264182	Copper	0.359	Spike	P	0 - 20
2264182	Lead	1.82	Spike	P	0 - 20
2264182	Nickel	1.60	Spike	P	0 - 20
2264182	Selenium	0.997	Spike	P	0 - 20
2264182	Silver	1.03	Spike	P	0 - 20
2264182	Thallium	2.71	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P402150

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263999	Copper	1.88	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P401812

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263991	Chloride	0.779	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263991	Sulfate	1.35	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263988	Sulfate	0.672	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263906	Ammonia-N	0.651	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263986	Kjeldahl Nitrogen	3.32	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263926	NO2NO3-N	0.615	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263989	Total-P	0.830	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263993	O-Phosphate-P	0.963	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P401370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264092	Aldrin	2.14	Spike	P	0 - 30
2264092	Alpha-BHC	4.01	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P401370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264092	Alpha-Chlordane	3.96	Spike	P	0 - 30
2264092	Beta-BHC	1.41	Spike	P	0 - 30
2264092	Beta-Cyfluthrin	0.724	Spike	P	0 - 30
2264092	Bifenthrin	6.57	Spike	P	0 - 30
2264092	Carbophenothion	1.59	Spike	P	0 - 30
2264092	Chlorothalonil	3.52	Spike	P	0 - 50
2264092	Cis-Nonachlor	4.51	Spike	P	0 - 30
2264092	Cypermethrin	0.318	Spike	P	0 - 30
2264092	Dacthal	3.10	Spike	P	0 - 30
2264092	DDD-p,p'	1.54	Spike	P	0 - 30
2264092	DDE-p,p'	2.07	Spike	P	0 - 30
2264092	DDT-p,p'	2.71	Spike	P	0 - 30
2264092	Delta-BHC	1.87	Spike	P	0 - 30
2264092	Deltamethrin	1.05	Spike	P	0 - 30
2264092	Dichlobenil	0.710	Spike	P	0 - 30
2264092	Dicofol	7.35	Spike	P	0 - 30
2264092	Dieldrin	1.51	Spike	P	0 - 30
2264092	Endosulfan I	0.0528	Spike	P	0 - 30
2264092	Endosulfan II	1.30	Spike	P	0 - 30
2264092	Endosulfan Sulfate	2.23	Spike	P	0 - 30
2264092	Endrin	0.979	Spike	P	0 - 30
2264092	Endrin Aldehyde	7.77	Spike	P	0 - 30
2264092	Endrin Ketone	4.52	Spike	P	0 - 30
2264092	Esfenvalerate	0.0696	Spike	P	0 - 30
2264092	Ethalfuralin	0.158	Spike	P	0 - 30
2264092	Fenpropathrin	4.83	Spike	P	0 - 30
2264092	Gamma-BHC	0.268	Spike	P	0 - 30
2264092	Gamma-Chlordane	2.46	Spike	P	0 - 30
2264092	Heptachlor	1.61	Spike	P	0 - 30
2264092	Heptachlor Epoxide	6.43	Spike	P	0 - 30
2264092	Hexachlorobenzene	0.102	Spike	P	0 - 30
2264092	Kepone	0.616	Spike	P	0 - 30
2264092	Lambda-Cyhalothrin	2.43	Spike	P	0 - 30
2264092	Methoxychlor	4.22	Spike	P	0 - 30
2264092	MGK-264	3.06	Spike	P	0 - 30
2264092	Mirex	1.61	Spike	P	0 - 30
2264092	Permethrin	0.340	Spike	P	0 - 30
2264092	Phenothrin	8.36	Spike	P	0 - 30
2264092	Piperonyl Butoxide	0.251	Spike	P	0 - 30
2264092	Prallethrin	4.25	Spike	P	0 - 30
2264092	Tau-Fluvalinate	1.03	Spike	P	0 - 30
2264092	Tetramethrin	14.9	Spike	P	0 - 30
2264092	Trans-Nonachlor	2.08	Spike	P	0 - 30
2264092	Triclosan Methyl	1.69	Spike	P	0 - 30
2264092	Trifluralin	0.909	Spike	P	0 - 30
LFB	Aldrin	0.157	LCS	P	0 - 30
LFB	Alpha-BHC	2.36	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.77	LCS	P	0 - 30
LFB	Beta-BHC	3.84	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	9.81	LCS	P	0 - 30
LFB	Bifenthrin	2.16	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P401370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Carbophenothion	6.46	LCS	P	0 - 30
LFB	Chlorothalonil	9.37	LCS	P	0 - 50
LFB	Cis-Nonachlor	8.02	LCS	P	0 - 30
LFB	Cypermethrin	8.21	LCS	P	0 - 30
LFB	Dacthal	0.775	LCS	P	0 - 30
LFB	DDD-p,p'	8.20	LCS	P	0 - 30
LFB	DDE-p,p'	3.21	LCS	P	0 - 30
LFB	DDT-p,p'	6.94	LCS	P	0 - 30
LFB	Delta-BHC	1.65	LCS	P	0 - 30
LFB	Deltamethrin	9.21	LCS	P	0 - 30
LFB	Dichlobenil	1.22	LCS	P	0 - 30
LFB	Dicofol	0.582	LCS	P	0 - 30
LFB	Dieldrin	2.58	LCS	P	0 - 30
LFB	Endosulfan I	0.438	LCS	P	0 - 30
LFB	Endosulfan II	7.53	LCS	P	0 - 30
LFB	Endosulfan Sulfate	7.34	LCS	P	0 - 30
LFB	Endrin	9.83	LCS	P	0 - 30
LFB	Endrin Aldehyde	13.1	LCS	P	0 - 30
LFB	Endrin Ketone	10.8	LCS	P	0 - 30
LFB	Esfenvalerate	11.9	LCS	P	0 - 30
LFB	Ethalfuralin	2.59	LCS	P	0 - 30
LFB	Fenpropathrin	4.28	LCS	P	0 - 30
LFB	Gamma-BHC	1.27	LCS	P	0 - 30
LFB	Gamma-Chlordane	0.228	LCS	P	0 - 30
LFB	Heptachlor	0.288	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.961	LCS	P	0 - 30
LFB	Hexachlorobenzene	2.38	LCS	P	0 - 30
LFB	Kepone	9.27	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	8.95	LCS	P	0 - 30
LFB	Methoxychlor	0.0801	LCS	P	0 - 30
LFB	MGK-264	6.91	LCS	P	0 - 30
LFB	Mirex	7.42	LCS	P	0 - 30
LFB	Permethrin	8.69	LCS	P	0 - 30
LFB	Phenothrin	12.2	LCS	P	0 - 30
LFB	Piperonyl Butoxide	8.62	LCS	P	0 - 30
LFB	Prallethrin	0.731	LCS	P	0 - 30
LFB	Tau-Fluvalinate	9.11	LCS	P	0 - 30
LFB	Tetramethrin	1.58	LCS	P	0 - 30
LFB	Trans-Nonachlor	0.611	LCS	P	0 - 30
LFB	Triclosan Methyl	3.28	LCS	P	0 - 30
LFB	Trifluralin	0.171	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P401340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263959	Color (true)	0.703	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P401516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263991	Total Alkalinity	2.31	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P401798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263920	TDS	4.56	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P401520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263991	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P401867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263621	Organic Carbon	0.219	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2264002
Field Sample ID: G2NE1164

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	80.0	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	63.1	P	30 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106743

Included Lab Sample IDs: 2263987, 2263990, 2263993

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.4	P/P	90 - 110
O-Phosphate-P	99.4	99.6	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106751

Included Lab Sample IDs: 2263988, 2263991

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.7	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106752

Included Lab Sample IDs: 2263985, 2263988, 2263991

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106796

Included Lab Sample IDs: 2263986, 2263989, 2263992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106814

Included Lab Sample IDs: 2263985, 2263988, 2263991

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	99.9	P/P	90 - 110
Total Alkalinity	99.6	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106814

Included Lab Sample IDs: 2263985, 2263988, 2263991

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

Reference Method: EPA 8270E

Run ID: A106867

Included Lab Sample IDs: 2264002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	93.8		P	80 - 120
Alpha-BHC	97.8		P	80 - 120
Alpha-Chlordane	102		P	80 - 120
Beta-BHC	98.3		P	80 - 120
Beta-Cyfluthrin	93.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A106867
 Included Lab Sample IDs: 2264002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bifenthrin	99.0		P	80 - 120
Carbophenothion	89.3		P	80 - 120
Chlorothalonil	99.0		P	80 - 120
Cis-Nonachlor	90.7		P	80 - 120
Cypermethrin	92.5		P	80 - 120
Dacthal	95.6		P	80 - 120
DDD-p,p'	88.7		P	80 - 120
DDE-p,p'	95.3		P	80 - 120
DDT-p,p'	95.0		P	80 - 120
Delta-BHC	101		P	80 - 120
Deltamethrin	89.3		P	80 - 120
Dichlobenil	99.5		P	80 - 120
Dicofol	103		P	80 - 120
Dieldrin	99.0		P	80 - 120
Endosulfan I	93.2		P	80 - 120
Endosulfan II	99.2		P	80 - 120
Endosulfan Sulfate	89.8		P	80 - 120
Endrin	89.7		P	80 - 120
Endrin Aldehyde	87.5		P	80 - 120
Endrin Ketone	94.3		P	80 - 120
Esfenvalerate	92.1		P	80 - 120
Ethalfuralin	96.8		P	80 - 120
Fenpropathrin	93.8		P	80 - 120
Gamma-BHC	97.7		P	80 - 120
Gamma-Chlordane	93.9		P	80 - 120
Heptachlor	101		P	80 - 120
Heptachlor Epoxide	93.7		P	80 - 120
Hexachlorobenzene	99.6		P	80 - 120
Kepone	80.6		P	80 - 120
Lambda-Cyhalothrin	101		P	80 - 120
Methoxychlor	107		P	80 - 120
MGK-264	102		P	80 - 120
Mirex	86.5		P	80 - 120
Permethrin	93.8		P	80 - 120
Phenothrin	91.6		P	80 - 120
Piperonyl Butoxide	91.3		P	80 - 120
Prallethrin	99.3		P	80 - 120
Tau-Fluvalinate	90.5		P	80 - 120
Tetramethrin	99.8		P	80 - 120
Trans-Nonachlor	94.6		P	80 - 120
Triclosan Methyl	96.0		P	80 - 120
Trifluralin	93.8		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A106868
 Included Lab Sample IDs: 2263986, 2263989, 2263992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	106	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106905

Included Lab Sample IDs: 2263988, 2263991

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Chloride	101	102	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106946

Included Lab Sample IDs: 2263986, 2263989, 2263992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	98.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106995

Included Lab Sample IDs: 2263986, 2263989, 2263992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107025

Included Lab Sample IDs: 2263988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	98.4	99.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107048

Included Lab Sample IDs: 2263998, 2263999, 2264000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	105	P/P	90 - 110
Aluminum	105	105	P/P	90 - 110
Antimony	103	106	P/P	90 - 110
Antimony	106	105	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Arsenic	104	101	P/P	90 - 110
Beryllium	101	102	P/P	90 - 110
Beryllium	102	103	P/P	90 - 110
Boron	105	105	P/P	90 - 110
Cadmium	101	103	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	102	103	P/P	90 - 110
Chromium	103	102	P/P	90 - 110
Lead	103	103	P/P	90 - 110
Lead	103	104	P/P	90 - 110
Nickel	102	101	P/P	90 - 110
Nickel	105	102	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Selenium	102	99.8	P/P	90 - 110
Silver	95.8	95.9	P/P	90 - 110
Silver	96.1	95.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107048

Included Lab Sample IDs: 2263998, 2263999, 2264000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	107	107	P/P	90 - 110
Thallium	107	108	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107070

Included Lab Sample IDs: 2263998

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107071

Included Lab Sample IDs: 2263998, 2263999, 2264000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.2	101	P/P	90 - 110
Calcium	102	103	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Manganese	102	104	P/P	90 - 110
Potassium	105	106	P/P	90 - 110
Sodium	106	106	P/P	90 - 110
Zinc	105	106	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107128

Included Lab Sample IDs: 2263999, 2264000

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107191

Included Lab Sample IDs: 2263986, 2263989, 2263992

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	104	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision	MS
								SMP	
EPA 180.1 Rev. 2.0	Turbidity							2.35	
EPA 200.7 Rev. 4.4	Barium	93.9		90.4	93.3	91.1			2.42
	Calcium	104		103	102				0.568
	Iron	97.1		96.7	96.9	95.5			1.44
	Magnesium	99.9		104	95.4	93.7			0.956
	Manganese	93.6		90.5	93.3	91.1			2.40
	Potassium	95.4		96.5	94.4	93.2			1.23
	Sodium	93.0		106	95.6	95.1			0.354
	Zinc	95.1		90.4	93.4	91.0			2.54
EPA 200.8 Rev. 5.4	Aluminum	94.3		92.3	93.8	93.3			1.67
	Antimony	95.4		95.4	96.5	97.4			1.15
	Arsenic	94.0		90.5	91.3	91.9			0.906
	Beryllium	95.8		96.6	96.9	95.4			0.373
	Boron	94.0		93.9	94.0	95.0			0.141
	Cadmium	91.8		91.4	91.5	94.0			0.155
	Chromium	91.2		92.6	93.3	93.0			0.744
	Copper	92.1		88.8	89.1	88.2			0.359
	Copper	95.6		95.6	97.6				1.88
	Lead	92.8		90.9	92.5	92.3			1.82
	Nickel	94.3		89.9	91.4	89.6			1.60
	Selenium	92.9		89.8	88.9	89.7			0.997
	Silver	113		112	113	113			1.03
	Thallium	95.2		94.6	97.2	95.4			2.71
EPA 300.0 Rev. 2.1	Chloride	100		97.0	100			0.779	
	Sulfate	99.5		94.0	101			1.35	
	Sulfate	98.4		97.1	97.3			0.672	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6		96.2	97.2				0.651
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106		111	106				3.32
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101		97.0	96.0				0.615
EPA 365.1 Rev. 2.0	Total-P	104		105	106				0.830
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		97.6	96.4				0.963
EPA 8270E	Aldrin	57.7	57.8	48.3	47.3	0.157			2.14
	Alpha-BHC	98.3	96.0	91.2	87.6	2.36			4.01
	Alpha-Chlordane	88.5	91.0	80.4	77.3	2.77			3.96
	Beta-BHC	114	110	114	113	3.84			1.41
	Beta-Cyfluthrin	92.2	83.6	94.3	93.6	9.81			0.724
	Bifenthrin	53.4	52.3	57.7	54.0	2.16			6.57
	Carbophenothion	60.7	56.9	57.8	56.9	6.46			1.59
	Chlorothalonil	139	127	140	145	9.37			3.52
	Cis-Nonachlor	74.4	68.6	63.7	60.9	8.02			4.51
	Cypermethrin	81.3	74.9	80.8	81.0	8.21			0.318
	Dacthal	101	102	89.1	86.3	0.775			3.10
	DDD-p,p'	78.0	71.8	66.2	65.2	8.20			1.54
	DDE-p,p'	84.3	87.1	74.8	73.3	3.21			2.07
	DDT-p,p'	85.0	91.1	70.2	68.2	6.94			2.71
	Delta-BHC	129	131	127	125	1.65			1.87
	Deltamethrin	91.4	83.4	102	103	9.21			1.05
	Dichlobenil	88.8	89.9	77.2	77.8	1.22			0.710
	Dicofol	86.6	87.1	84.0	78.0	0.582			7.35
	Dieldrin	90.4	92.8	79.9	78.7	2.58			1.51
	Endosulfan I	92.2	92.6	80.7	80.7	0.438			0.0528
	Endosulfan II	90.6	84.1	75.0	74.0	7.53			1.30
	Endosulfan Sulfate	87.2	81.1	72.8	71.2	7.34			2.23
	Endrin	80.2	72.7	66.6	67.3	9.83			0.979

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Endrin Aldehyde	75.6	66.3	61.6	57.0	13.1	7.77
	Endrin Ketone	96.0	86.2	80.1	76.5	10.8	4.52
	Esfenvalerate	74.2	65.9	80.8	80.8	11.9	0.0696
	Ethalfuralin	80.9	78.8	70.4	70.3	2.59	0.158
	Fenpropathrin	74.6	71.4	68.7	65.5	4.28	4.83
	Gamma-BHC	108	106	101	102	1.27	0.268
	Gamma-Chlordane	81.5	81.7	71.8	70.1	0.228	2.46
	Heptachlor	77.6	77.8	68.2	67.1	0.288	1.61
	Heptachlor Epoxide	85.1	86.0	76.5	71.7	0.961	6.43
	Hexachlorobenzene	78.0	79.9	74.5	74.6	2.38	0.102
	Kepone	124	113	103	102	9.27	0.616
	Lambda-Cyhalothrin	76.1	69.6	82.7	80.8	8.95	2.43
	Methoxychlor	97.6	97.5	94.8	90.9	0.0801	4.22
	MGK-264	94.5	101	83.6	81.1	6.91	3.06
	Mirex	57.1	53.0	47.1	47.9	7.42	1.61
	Permethrin	77.7	71.2	83.5	83.7	8.69	0.340
	Phenothrin	54.8	48.5	57.8	53.2	12.2	8.36
	Piperonyl Butoxide	98.7	90.6	89.8	89.6	8.62	0.251
	Prallethrin	78.1	78.7	65.5	68.4	0.731	4.25
	Tau-Fluvalinate	58.7	53.6	66.8	66.1	9.11	1.03
	Tetramethrin	85.6	84.2	83.5	71.9	1.58	14.9
	Trans-Nonachlor	81.3	81.8	72.3	70.8	0.611	2.08
	Triclosan Methyl	92.9	96.0	84.4	83.0	3.28	1.69
	Trifluralin	80.6	80.4	69.4	68.8	0.171	0.909
SM 2120 B-2011	Color (true)	99.1					0.703
SM 2320 B-2011	Total Alkalinity	102					2.31
SM 2540 C-2011	TDS						4.56
SM 4500 F-C-2011	Fluoride	100		101	101		0.0
SM 5310 B-2011	Organic Carbon	95.1		95.4	95.7		0.219

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2263985, 2263988, 2263991
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2263998, 2263999, 2264000
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2263998, 2263999, 2264000
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2263988, 2263991
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2263988, 2263991
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2263986, 2263989, 2263992
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2263986, 2263989, 2263992
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2263986, 2263989, 2263992
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2263986, 2263989, 2263992
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2263987, 2263990, 2263993
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2264002
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2263988, 2263991
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2263985, 2263988, 2263991
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2263999, 2264000
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2263988, 2263991
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2263985, 2263988, 2263991
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2263985, 2263988, 2263991

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2263986, 2263989, 2263992

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/21/2021			07/21/2021 16:04	Sarah A Nixon	2263985, 2263988, 2263991
EPA 200.7 Rev. 4.4	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/05/2021 19:54	Betina Topolski	2263998
	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/05/2021 20:02	Betina Topolski	2263999
	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/05/2021 20:09	Betina Topolski	2264000
EPA 200.8 Rev. 5.4	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/04/2021 19:28	Alexander Thompson	2263998
	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/04/2021 20:35	Alexander Thompson	2263999
	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/04/2021 20:45	Alexander Thompson	2264000
	07/21/2021	07/27/2021 13:50	Elliott D. Healy	08/05/2021 14:32	Alexander Thompson	2263998
	07/21/2021	08/09/2021 07:30	Alexander Thompson	08/09/2021 16:09	McKinley C Carter	2263999
	07/21/2021	08/09/2021 07:30	Alexander Thompson	08/09/2021 16:48	McKinley C Carter	2264000
EPA 300.0 Rev. 2.1	07/21/2021			07/30/2021 15:03	Lipi Saha	2263991
	07/21/2021			07/30/2021 17:53	Lipi Saha	2263988
	07/21/2021			08/04/2021 16:02	Lipi Saha	2263988
EPA 350.1 Rev. 2.0	07/21/2021			07/30/2021 14:26	Roberta Tatti	2263986
	07/21/2021			07/30/2021 14:28	Roberta Tatti	2263992
	07/21/2021			07/30/2021 14:29	Roberta Tatti	2263989
EPA 351.2 Rev. 2.0	07/21/2021	08/10/2021 16:25	Madeline Gruver	08/11/2021 14:02	Virginia P. Brown	2263986
	07/21/2021	08/10/2021 16:25	Madeline Gruver	08/11/2021 14:07	Virginia P. Brown	2263989
	07/21/2021	08/10/2021 16:25	Madeline Gruver	08/11/2021 14:09	Virginia P. Brown	2263992
EPA 353.2 Rev. 2.0	07/21/2021			07/23/2021 09:23	Beverly Y. Sanders	2263986
	07/21/2021			07/23/2021 09:24	Beverly Y. Sanders	2263989
	07/21/2021			07/23/2021 10:02	Beverly Y. Sanders	2263992
EPA 365.1 Rev. 2.0	07/21/2021	07/27/2021 15:15	Simonne.V. Calhoun	07/28/2021 09:14	Shengyu Ding	2263986
	07/21/2021	07/27/2021 15:15	Simonne.V. Calhoun	07/28/2021 09:15	Shengyu Ding	2263989
	07/21/2021	07/27/2021 15:15	Simonne.V. Calhoun	07/28/2021 09:18	Shengyu Ding	2263992
EPA 365.1 Rev. 2.0 dissolved	07/21/2021			07/21/2021 13:53	Lipi Saha	2263993
	07/21/2021			07/21/2021 14:04	Lipi Saha	2263987, 2263990
EPA 8270E	07/21/2021	07/23/2021 08:30	Rasheda Ghaffari	07/27/2021 21:41	Arthur Maknenko	2264002
SM 2120 B-2011	07/21/2021			07/21/2021 17:03	Sarah A Nixon	2263988
	07/21/2021			07/21/2021 17:04	Sarah A Nixon	2263991
SM 2320 B-2011	07/21/2021			07/24/2021 00:05	Dale L. Simmons	2263991
	07/21/2021			07/24/2021 02:03	Dale L. Simmons	2263985
	07/21/2021			07/24/2021 02:18	Dale L. Simmons	2263988
SM 2340B	07/21/2021			08/05/2021 20:02	Betina Topolski	2263999
	07/21/2021			08/05/2021 20:09	Betina Topolski	2264000
SM 2540 C-2011	07/21/2021			07/23/2021 15:22	Yijie Li	2263988, 2263991
SM 2540 D-2011	07/21/2021			07/23/2021 15:22	Yijie Li	2263985, 2263988, 2263991
SM 4500 F-C-2011	07/21/2021			07/23/2021 23:53	Dale L. Simmons	2263991
	07/21/2021			07/24/2021 02:03	Dale L. Simmons	2263985
	07/21/2021			07/24/2021 02:18	Dale L. Simmons	2263988

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	07/21/2021			08/02/2021 17:54	Madeline Gruver	2263986
	07/21/2021			08/02/2021 18:06	Madeline Gruver	2263989
	07/21/2021			08/02/2021 18:19	Madeline Gruver	2263992