

Chemical Analysis Report

SW-DIST-2023-10-18-01

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

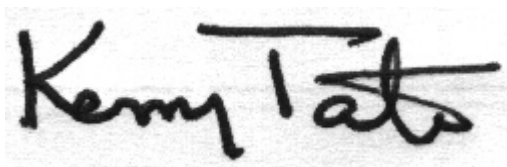
Event Description: **Run 6**
Request ID: **RQ-2023-10-16-52**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 07-NOV-2023 13:30

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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: 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: RECLAIMED MINE CUT LAKE SE

Collection Date/Time: 10/17/2023 09:10

Field ID: G3SW0074

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445607	DEP SOP: NU-094-1	Color (true)	8.0		PCU	P436703	
	EPA 180.1 Rev. 2.0	Turbidity	55		NTU	P436706	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P437371	
		Sulfate	0.20	U	mg SO4/L	P437375	
	SM 2320 B-2011	Total Alkalinity	52		mg CaCO3/L	P436799	
	SM 2540 C-2015	TDS	108		mg/L	P437082	
	SM 2540 D-2015	TSS	54		mg/L	P437021	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P436803	
2445609	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P436815	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P436729	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P436906	
	EPA 365.1 Rev. 2.0	Total-P	0.69		mg P/L	P436721	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P436850	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: LAKE GARFIELD DRAIN AT SNELL RD

Collection Date/Time: 10/17/2023 10:00

Field ID: G3SW0106

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445605	DEP SOP: NU-094-1	Color (true)	83		PCU	P436700	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P436706	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P437371	
		Sulfate	18		mg SO4/L	P437375	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P436799	
	SM 2540 C-2015	TDS	88		mg/L	P437082	
	SM 2540 D-2015	TSS	3	I	mg/L	P437021	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P436803	
2445606	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P436815	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P436729	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.65		mg N/L	P436906	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P436721	
	SM 5310 B-2011	Organic Carbon	9.9		mg C/L	P436850	
2445617	EPA 8321B	2,4-D	0.0020	U	ug/L	P436596	
		Acesulfame K	0.10	U	ug/L	P436574	
		2,4,5-T	0.0040	U	ug/L	P436596	
		AMPA	0.10	U	ug/L	P436574	MS
		Acetaminophen	0.0080	U	ug/L	P436596	
		Acetamiprid	0.0020	U	ug/L	P436596	
		Endothall	0.25	U	ug/L	P436574	
		Glufosinate	0.10	U	ug/L	P436574	
		Glyphosate	0.10	U	ug/L	P436574	
		Afidopyropen	0.0020	U	ug/L	P436596	
		Bentazon	8.0E-04	U	ug/L	P436596	
		Sucralose	0.058		ug/L	P436574	
		Benzovindiflupyr	0.0020	U	ug/L	P436596	
		Carbamazepine	8.0E-04	U	ug/L	P436596	
		Clothianidin	0.0020	U	ug/L	P436596	
		Dinotefuran	0.0020	U	ug/L	P436596	
		Diuron	0.0020	U	ug/L	P436596	
		Fenuron	0.032	U	ug/L	P436596	
		Fluridone	8.0E-04	U	ug/L	P436596	
		Imazapyr	0.0048	I	ug/L	P436596	
		Hydrocodone	0.0020	U	ug/L	P436596	
		Ibuprofen	0.080	U	ug/L	P436596	
		Imidacloprid	0.074		ug/L	P436596	
		Linuron	0.0040	U	ug/L	P436596	
		Mandestrobin	0.0020	U	ug/L	P436596	
		MCP	0.0020	U	ug/L	P436596	
		Naproxen	0.0080	U	ug/L	P436596	
		Primidone	0.0040	U	ug/L	P436596	
		Pyraclostrobin	0.0020	U	ug/L	P436596	
		Silvex	0.0040	U	ug/L	P436596	
		Thiamethoxam	0.0036	I	ug/L	P436596	

Field ID: G3SW0106

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445617	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P436596	
		Triclopyr	0.0040	U	ug/L	P436596	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: LAKE LEONORE AT CENTER

Collection Date/Time: 10/17/2023 10:45

Field ID: G4SW0117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445608	DEP SOP: NU-094-1	Color (true)	13	A	PCU	P436703	
	EPA 180.1 Rev. 2.0	Turbidity	20		NTU	P436706	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P437371	
		Sulfate	50		mg SO4/L	P437375	
	SM 2320 B-2011	Total Alkalinity	46		mg CaCO3/L	P436799	
	SM 2540 C-2015	TDS	185		mg/L	P437082	
	SM 2540 D-2015	TSS	13	I	mg/L	P437021	
	SM 4500-F- C-2011	Fluoride	0.077	I	mg F/L	P436803	
2445610	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P436815	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P436777	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.69		mg N/L	P436906	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P436721	
	SM 5310 B-2011	Organic Carbon	7.4		mg C/L	P436903	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: LAKE EFFIE AT CENTER

Collection Date/Time: 10/17/2023 12:40

Field ID: G3SW0050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2445602	DEP SOP: NU-094-1	Color (true)	89		PCU	P436700	
	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P436706	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P437371	
		Sulfate	7.5		mg SO4/L	P437375	
	SM 2320 B-2011	Total Alkalinity	101		mg CaCO3/L	P436799	
	SM 2540 C-2015	TDS	195		mg/L	P437082	
	SM 2540 D-2015	TSS	10		mg/L	P437021	
	SM 4500-F- C-2011	Fluoride	0.087	I	mg F/L	P436803	
2445603	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P436815	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P436777	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P436906	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P436721	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P436850	
2445604	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P436694	

Ref. Method and Comment:

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

SM 4500-F- C-2011: Batch matrix spike recoveries 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: P436700

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P436703

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436706

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437371

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437375

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436815

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436729

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436777

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436906

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P436721

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P436694

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

Reference Method: EPA 8321B

Batch ID: P436574

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P436596

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P436799

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

Reference Method: SM 2540 C-2015
Batch ID: P437082

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P437021

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P436803

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P436850

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

Reference Method: SM 5310 B-2011
Batch ID: P436903

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: P436700

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P436703

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436706

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437371

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437375

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436815

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436729

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436777

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436906

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P436721

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P436694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P436574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	107		P	40 - 150
AMPA	123		P	40 - 150
Endothall	87.3		P	40 - 150
Glufosinate	95.4		P	40 - 150
Glyphosate	88.2		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P436596

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	65.2		P	40 - 150
2,4,5-T	80.5		P	40 - 150
Acetaminophen	88.6		P	30 - 150
Acetamiprid	73.6		P	40 - 150
Afidopyropen	73.8		P	30 - 150
Bentazon	105		P	30 - 150
Benzovindiflupyr	73.8		P	40 - 150
Carbamazepine	75.9		P	40 - 150
Clothianidin	83.4		P	40 - 150
Dinotefuran	93.6		P	40 - 150
Diuron	68.1		P	40 - 150
Fenuron	88.5		P	40 - 150
Fluridone	74.0		P	40 - 150
Hydrocodone	90.2		P	40 - 150
Ibuprofen	74.8		P	40 - 150
Imazapyr	72.6		P	40 - 150
Imidacloprid	78.4		P	40 - 150
Linuron	61.4		P	40 - 150
Mandestrobin	79.1		P	40 - 150
MCPP	77.8		P	40 - 150
Naproxen	44.8		P	40 - 150
Primidone	78.2		P	40 - 150
Pyraclostrobin	69.6		P	40 - 150
Silvex	59.8		P	40 - 150
Thiamethoxam	84.0		P	40 - 150
Tolfenpyrad	49.3		P	30 - 150
Triclopyr	64.8		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P436799

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.1		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P437082

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

Reference Method: SM 2540 D-2015
Batch ID: P437021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.2		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P436803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.7		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P436850

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

Reference Method: SM 5310 B-2011
Batch ID: P436903

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445505	Chloride	100		P	90 - 110
2445607	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445505	Sulfate	100		P	90 - 110
2445607	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445603	Ammonia-N	98.8	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445708	Kjeldahl Nitrogen	108	113	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436777

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445603	Kjeldahl Nitrogen	99.9	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445180	NO2NO3-N	94.7	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436721

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445606	Total-P	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P436694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445591	O-Phosphate-P	97.5	98.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P436574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445134	Acesulfame K	112	111	P/P	40 - 150
2445134	AMPA	186	190	F/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P436574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445134	Endothall	83.0	78.3	P/P	40 - 150
2445134	Glufosinate	89.4	84.6	P/P	40 - 150
2445134	Glyphosate	75.9	74.8	P/P	40 - 150
2445134	Sucralose	105	98.2	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P436596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445134	2,4-D	77.7	74.4	P/P	40 - 150
2445134	2,4,5-T	86.1	90.4	P/P	40 - 150
2445134	Acetaminophen	94.8	94.4	P/P	30 - 150
2445134	Acetamiprid	55.9	56.6	P/P	40 - 150
2445134	Afidopyropen	64.5	66.7	P/P	30 - 150
2445134	Bentazon	135	133	P/P	30 - 150
2445134	Benzovindiflupyr	62.1	66.4	P/P	40 - 150
2445134	Carbamazepine	60.2	62.5	P/P	40 - 150
2445134	Clothianidin	79.6	81.7	P/P	40 - 150
2445134	Dinotefuran	78.3	80.2	P/P	40 - 150
2445134	Diuron	48.2	49.5	P/P	40 - 150
2445134	Fenuron	51.4	53.3	P/P	40 - 150
2445134	Fluridone	59.0	59.4	P/P	40 - 150
2445134	Hydrocodone	68.0	69.8	P/P	40 - 150
2445134	Ibuprofen	77.3	66.6	P/P	40 - 150
2445134	Imazapyr	88.4	88.1	P/P	40 - 150
2445134	Imidacloprid	97.3	103	P/P	40 - 150
2445134	Linuron	51.7	57.2	P/P	40 - 150
2445134	Mandestrobin	75.7	73.1	P/P	40 - 150
2445134	MCP	91.2	88.5	P/P	40 - 150
2445134	Naproxen	45.4	50.8	P/P	40 - 150
2445134	Primidone	70.4	75.9	P/P	40 - 150
2445134	Pyraclostrobin	69.7	71.9	P/P	40 - 150
2445134	Silvex	75.7	74.6	P/P	40 - 150
2445134	Thiamethoxam	84.6	88.7	P/P	40 - 150
2445134	Tolfenpyrad	58.1	58.8	P/P	30 - 150
2445134	Triclopyr	72.0	78.7	P/P	40 - 150

Reference Method: SM 5310 B-2011

Batch ID: P436850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445180	Organic Carbon	96.0	96.3	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P436903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445610	Organic Carbon	97.2	99.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P436700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445491	Color (true)	13.9	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P436703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445608	Color (true)	2.18	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445503	Turbidity	2.30	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445505	Chloride	0.435	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445505	Sulfate	6.33	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445603	Ammonia-N	3.25	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445708	Kjeldahl Nitrogen	3.36	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445603	Kjeldahl Nitrogen	0.233	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P436906

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445180	NO2NO3-N	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P436721

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445606	Total-P	0.634	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P436694

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445591	O-Phosphate-P	0.856	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P436574

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445134	Acesulfame K	0.251	Spike	P	0 - 30
2445134	AMPA	2.06	Spike	P	0 - 30
2445134	Endothall	5.81	Spike	P	0 - 30
2445134	Glufosinate	5.53	Spike	P	0 - 30
2445134	Glyphosate	1.42	Spike	P	0 - 30
2445134	Sucralose	6.30	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P436596

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445134	2,4-D	4.27	Spike	P	0 - 30
2445134	2,4,5-T	4.88	Spike	P	0 - 30
2445134	Acetaminophen	0.454	Spike	P	0 - 30
2445134	Acetamiprid	1.14	Spike	P	0 - 30
2445134	Afidopyropen	3.33	Spike	P	0 - 30
2445134	Bentazon	1.55	Spike	P	0 - 30
2445134	Benzovindiflupyr	6.76	Spike	P	0 - 30
2445134	Carbamazepine	3.63	Spike	P	0 - 30
2445134	Clothianidin	2.70	Spike	P	0 - 30
2445134	Dinotefuran	2.33	Spike	P	0 - 30
2445134	Diuron	2.55	Spike	P	0 - 30
2445134	Fenuron	3.67	Spike	P	0 - 30
2445134	Fluridone	0.534	Spike	P	0 - 30
2445134	Hydrocodone	2.68	Spike	P	0 - 30
2445134	Ibuprofen	14.9	Spike	P	0 - 30
2445134	Imazapyr	0.247	Spike	P	0 - 30
2445134	Imidacloprid	5.72	Spike	P	0 - 30
2445134	Linuron	10.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P436596

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445134	Mandestrobin	3.44	Spike	P	0 - 30
2445134	MCP	3.00	Spike	P	0 - 30
2445134	Naproxen	11.3	Spike	P	0 - 30
2445134	Primidone	7.55	Spike	P	0 - 30
2445134	Pyraclostrobin	3.01	Spike	P	0 - 30
2445134	Silvex	1.52	Spike	P	0 - 30
2445134	Thiamethoxam	4.80	Spike	P	0 - 30
2445134	Tolfenpyrad	1.21	Spike	P	0 - 30
2445134	Triclopyr	8.92	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P436799

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445672	Total Alkalinity	1.03	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P437082

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445187	TDS	5.22	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P436803

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445672	Fluoride	0.947	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011

Batch ID: P436850

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445180	Organic Carbon	0.212	Spike	P	0 - 20

Reference Method: SM 5310 B-2011

Batch ID: P436903

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445610	Organic Carbon	1.74	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2445617

Field Sample ID: G3SW0106

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	51.7	P	30 - 160
EPA 8321B	Diuron-d6	35.8	P	30 - 160
EPA 8321B	Endothall-d6	87.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.0	P	30 - 160
EPA 8321B	Primidone-d5	57.9	P	30 - 160
EPA 8321B	Sucralose-d6	91.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A122179
Included Lab Sample IDs: 2445617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	117	113	P/P	60 - 160
Sucralose	96.2	98.0	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A122222
Included Lab Sample IDs: 2445604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.3	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A122223
Included Lab Sample IDs: 2445602, 2445605, 2445607, 2445608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 110
Color (true)	99.8	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A122224
Included Lab Sample IDs: 2445602, 2445605, 2445607, 2445608

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122258
Included Lab Sample IDs: 2445603, 2445606, 2445609

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

Reference Method: SM 2320 B-2011
Run ID: A122259
Included Lab Sample IDs: 2445602, 2445605, 2445607, 2445608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.8	95.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A122259
Included Lab Sample IDs: 2445602, 2445605, 2445607, 2445608

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122263

Included Lab Sample IDs: 2445603, 2445606, 2445609, 2445610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	98.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122276

Included Lab Sample IDs: 2445603, 2445606, 2445609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122287

Included Lab Sample IDs: 2445606, 2445609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122291

Included Lab Sample IDs: 2445610

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122299

Included Lab Sample IDs: 2445603, 2445606, 2445609, 2445610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	96.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122308

Included Lab Sample IDs: 2445610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122309

Included Lab Sample IDs: 2445603, 2445610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.9	90.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122336

Included Lab Sample IDs: 2445617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.4	90.0	P/P	60 - 160
Endothall	94.7	88.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A122336
Included Lab Sample IDs: 2445617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	95.8	90.5	P/P	60 - 160
Glyphosate	99.4	93.3	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A122342
Included Lab Sample IDs: 2445617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	75.4	74.2	P/P	50 - 150
2,4,5-T	68.7	84.0	P/P	50 - 150
Acetaminophen	115	111	P/P	60 - 160
Acetamiprid	109	112	P/P	50 - 150
Afidopyropen	110	116	P/P	50 - 150
Bentazon	108	103	P/P	50 - 160
Benzovindiflupyr	101	104	P/P	50 - 150
Carbamazepine	108	109	P/P	60 - 150
Clothianidin	104	115	P/P	60 - 150
Dinotefuran	108	103	P/P	50 - 150
Diuron	112	113	P/P	60 - 160
Fenuron	112	112	P/P	60 - 150
Fluridone	111	108	P/P	60 - 160
Hydrocodone	113	120	P/P	60 - 150
Ibuprofen	104	105	P/P	50 - 160
Imazapyr	79.3	77.2	P/P	50 - 150
Imidacloprid	97.5	99.7	P/P	60 - 150
Linuron	93.7	101	P/P	60 - 150
Mandestrobin	108	112	P/P	50 - 150
MCPP	79.3	77.3	P/P	50 - 150
Naproxen	61.5	96.3	P/P	50 - 160
Primidone	98.3	108	P/P	60 - 150
Pyraclostrobin	114	111	P/P	60 - 150
Silvex	76.8	74.9	P/P	50 - 150
Thiamethoxam	108	110	P/P	50 - 150
Tolfenpyrad	119	118	P/P	60 - 150
Triclopyr	64.4	67.1	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122479
Included Lab Sample IDs: 2445602, 2445605, 2445607, 2445608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.5	99.9	P/P	90 - 110
Chloride	99.9	100	P/P	90 - 110
Sulfate	98.3	99.9	P/P	90 - 110
Sulfate	99.9	100	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	
DEP SOP: NU-094-1	Color (true)	100				13.9	
	Color (true)	102				2.18	
EPA 180.1 Rev. 2.0	Turbidity	104				2.30	
EPA 300.0 Rev. 2.1	Chloride	99.8	100	105		0.435	
	Sulfate	100	100	104		6.33	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	98.8	102			3.25
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	108	113			3.36
	Kjeldahl Nitrogen	107	99.9	99.5			0.233
EPA 353.2 Rev. 2.0	NO2NO3-N	97.0	94.7	95.7			1.02
EPA 365.1 Rev. 2.0	Total-P	103	104	103			0.634
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	97.5	98.4			0.856
EPA 8321B	2,4-D	65.2	74.4	77.7			4.27
	2,4,5-T	80.5	90.4	86.1			4.88
	Acesulfame K	107	112	111			0.251
	Acetaminophen	88.6	94.8	94.4			0.454
	Acetamiprid	73.6	55.9	56.6			1.14
	Afidopyropen	73.8	64.5	66.7			3.33
	AMPA	123	186	190			2.06
	Bentazon	105	133	135			1.55
	Benzovindiflupyr	73.8	62.1	66.4			6.76
	Carbamazepine	75.9	60.2	62.5			3.63
	Clothianidin	83.4	79.6	81.7			2.70
	Dinotefuran	93.6	78.3	80.2			2.33
	Diuron	68.1	48.2	49.5			2.55
	Endothall	87.3	83.0	78.3			5.81
	Fenuron	88.5	51.4	53.3			3.67
	Fluridone	74.0	59.0	59.4			0.534
	Glufosinate	95.4	89.4	84.6			5.53
	Glyphosate	88.2	75.9	74.8			1.42
	Hydrocodone	90.2	68.0	69.8			2.68
	Ibuprofen	74.8	66.6	77.3			14.9
	Imazapyr	72.6	88.1	88.4			0.247
	Imidacloprid	78.4	97.3	103			5.72
	Linuron	61.4	51.7	57.2			10.0
	Mandestrobin	79.1	75.7	73.1			3.44
	MCPP	77.8	88.5	91.2			3.00
	Naproxen	44.8	50.8	45.4			11.3
	Primidone	78.2	70.4	75.9			7.55
	Pyraclostrobin	69.6	69.7	71.9			3.01
	Silvex	59.8	74.6	75.7			1.52
	Sucralose	102	105	98.2			6.30
	Thiamethoxam	84.0	84.6	88.7			4.80
	Tolfenpyrad	49.3	58.1	58.8			1.21
	Triclopyr	64.8	78.7	72.0			8.92
SM 2320 B-2011	Total Alkalinity	97.1				1.03	
SM 2540 C-2015	TDS	93.2				5.22	
SM 2540 D-2015	TSS	95.2					
SM 4500-F- C-2011	Fluoride	99.7					0.947
SM 5310 B-2011	Organic Carbon	94.2	96.0	96.3			0.212
	Organic Carbon	95.3	97.2	99.6			1.74

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2445602, 2445605, 2445607, 2445608
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2445602, 2445605, 2445607, 2445608
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2445602, 2445605, 2445607, 2445608
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2445602, 2445605, 2445607, 2445608
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2445603, 2445606, 2445609, 2445610
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2445603, 2445606, 2445609, 2445610
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2445603, 2445606, 2445609, 2445610
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2445603, 2445606, 2445609, 2445610
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2445604
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2445617
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2445602, 2445605, 2445607, 2445608
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2445602, 2445605, 2445607, 2445608
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2445602, 2445605, 2445607, 2445608
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2445602, 2445605, 2445607, 2445608
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2445603, 2445606, 2445609, 2445610

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	10/18/2023			10/18/2023 14:31	Chandler E Cox	2445602
	10/18/2023			10/18/2023 14:32	Chandler E Cox	2445605
	10/18/2023			10/18/2023 14:58	Chandler E Cox	2445608
	10/18/2023			10/18/2023 14:59	Chandler E Cox	2445607
EPA 180.1 Rev. 2.0	10/18/2023			10/18/2023 13:45	Samantha L Bates	2445602
	10/18/2023			10/18/2023 13:46	Samantha L Bates	2445605
	10/18/2023			10/18/2023 13:50	Samantha L Bates	2445608
	10/18/2023			10/18/2023 14:50	Samantha L Bates	2445607
EPA 300.0 Rev. 2.1	10/18/2023			11/01/2023 16:41	James L Waggeberby	2445607
	10/18/2023			11/01/2023 20:13	James L Waggeberby	2445602
	10/18/2023			11/01/2023 20:28	James L Waggeberby	2445605
	10/18/2023			11/01/2023 20:43	James L Waggeberby	2445608
EPA 350.1 Rev. 2.0	10/18/2023			10/20/2023 13:31	Ping Hua	2445603
	10/18/2023			10/20/2023 13:36	Ping Hua	2445606
	10/18/2023			10/20/2023 13:38	Ping Hua	2445609
	10/18/2023			10/20/2023 13:39	Ping Hua	2445610
EPA 351.2 Rev. 2.0	10/18/2023	10/19/2023 15:24	Samantha L Bates	10/23/2023 11:11	Samantha L Bates	2445606
	10/18/2023	10/19/2023 15:24	Samantha L Bates	10/23/2023 11:13	Samantha L Bates	2445609
	10/18/2023	10/20/2023 15:38	Simonne.V. Calhoun	10/24/2023 11:39	Samantha L Bates	2445603
	10/18/2023	10/20/2023 15:38	Simonne.V. Calhoun	10/24/2023 11:44	Samantha L Bates	2445610
EPA 353.2 Rev. 2.0	10/18/2023			10/20/2023 15:23	Fadila Guebre	2445603
	10/18/2023			10/20/2023 15:24	Fadila Guebre	2445606
	10/18/2023			10/20/2023 15:25	Fadila Guebre	2445609
	10/18/2023			10/20/2023 15:27	Fadila Guebre	2445610
EPA 365.1 Rev. 2.0	10/18/2023	10/19/2023 12:30	Simonne.V. Calhoun	10/20/2023 10:14	James L Waggeberby	2445606
	10/18/2023	10/19/2023 12:30	Simonne.V. Calhoun	10/20/2023 10:24	James L Waggeberby	2445603
	10/18/2023	10/19/2023 12:30	Simonne.V. Calhoun	10/20/2023 10:25	James L Waggeberby	2445609
	10/18/2023	10/19/2023 12:30	Simonne.V. Calhoun	10/23/2023 12:38	Chandler E Cox	2445610
EPA 365.1 Rev. 2.0 dissolved	10/18/2023			10/18/2023 13:40	Elise M. Gillis	2445604
EPA 8321B	10/18/2023	10/18/2023 13:00	Hoor Shaik	10/21/2023 03:18	Juyoung Kim	2445617
	10/18/2023	10/18/2023 14:00	Tae K Lee	10/19/2023 03:09	Hana Lee	2445617
	10/18/2023	10/18/2023 14:00	Tae K Lee	10/23/2023 18:46	Tae K Lee	2445617
SM 2320 B-2011	10/18/2023			10/20/2023 01:46	Dale L. Simmons	2445602
	10/18/2023			10/20/2023 01:58	Dale L. Simmons	2445605
	10/18/2023			10/20/2023 02:11	Dale L. Simmons	2445607
	10/18/2023			10/20/2023 02:22	Dale L. Simmons	2445608
SM 2540 C-2015	10/18/2023			10/20/2023 16:03	Yijie Li	2445602, 2445605, 2445607, 2445608
SM 2540 D-2015	10/18/2023			10/20/2023 16:03	Yijie Li	2445602, 2445605, 2445607, 2445608
SM 4500-F- C-2011	10/18/2023			10/20/2023 01:46	Dale L. Simmons	2445602
	10/18/2023			10/20/2023 01:58	Dale L. Simmons	2445605

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	10/18/2023			10/20/2023 02:11	Dale L. Simmons	2445607
	10/18/2023			10/20/2023 02:22	Dale L. Simmons	2445608
SM 5310 B-2011	10/18/2023			10/20/2023 04:50	Elise M. Gillis	2445603
	10/18/2023			10/20/2023 05:04	Elise M. Gillis	2445606
	10/18/2023			10/20/2023 05:17	Elise M. Gillis	2445609
	10/18/2023			10/23/2023 17:41	Elise M. Gillis	2445610