

Chemical Analysis Report

NW-DIST-2022-07-29-01

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

Event Description: **Twin Lakes Continuous Monitoring**
Request ID: **RQ-2022-07-25-45**
Customer: **NW-DIST**
Project ID: **SMP**

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Date Certified: 22-AUG-2022 11:08



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: Twin Lake south lobe

Collection Date/Time: 07/28/2022 11:20

Field ID: G3NW0448

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344526	DEP SOP: NU-094-1	Color (true)	51		PCU	P417425	
	EPA 180.1 Rev. 2.0	Turbidity	2.5	A	NTU	P417430	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P417881	
		Sulfate	11		mg SO4/L	P417886	
	SM 2320 B-2011	Total Alkalinity	58		mg CaCO3/L	P417548	
	SM 2540 C-2011	TDS	125		mg/L	P417811	
	SM 2540 D-2011	TSS	4	I	mg/L	P417804	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P417551	
2344528	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P417465	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417486	
	EPA 365.1 Rev. 2.0	Total-P	0.31		mg P/L	P417578	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P417698	

Sample Location: Twin Lake

Collection Date/Time: 07/28/2022 10:45

Field ID: G3NW0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344524	DEP SOP: NU-094-1	Color (true)	52		PCU	P417425	
	EPA 180.1 Rev. 2.0	Turbidity	9.2		NTU	P417430	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P417881	
		Sulfate	10		mg SO4/L	P417886	
	SM 2320 B-2011	Total Alkalinity	62		mg CaCO3/L	P417548	
	SM 2540 C-2011	TDS	152	A	mg/L	P417811	
	SM 2540 D-2011	TSS	122	A	mg/L	P417804	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P417551	
2344525	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P417421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P417570	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P417486	
	EPA 365.1 Rev. 2.0	Total-P	0.74		mg P/L	P417451	
	SM 5310 B-2011	Organic Carbon	9.7		mg C/L	P417698	
2344550	EPA 8321B	2,4-D	0.0038	I	ug/L	P417461	
		Acesulfame K	0.14	I	ug/L	P417296	
		2,4,5-T	0.0040	U	ug/L	P417461	
		AMPA	0.10	U	ug/L	P417296	
		Acetaminophen	0.0080	U	ug/L	P417461	
		Acetamiprid	0.020	U	ug/L	P417461	
		Endothall	0.25	U	ug/L	P417296	
		Glufosinate	0.10	U	ug/L	P417296	MS
		Glyphosate	0.10	U	ug/L	P417296	
		Afidopyropen	0.020	U	ug/L	P417461	
		Bentazon	0.0080	U	ug/L	P417461	
		Sucralose	10		ug/L	P417296	
		Benzovindiflupyr	0.020	U	ug/L	P417461	
		Carbamazepine	0.020		ug/L	P417461	
		Clothianidin	0.020	U	ug/L	P417461	
		Dinotefuran	0.020	U	ug/L	P417461	
		Diuron	0.038	I	ug/L	P417461	
		Fenuron	0.32	U	ug/L	P417461	
		Fluridone	0.0080	U	ug/L	P417461	
		Imazapyr	0.0040	U	ug/L	P417461	
		Hydrocodone	0.0020	U	ug/L	P417461	
		Ibuprofen	0.080	U	ug/L	P417461	
		Imidacloprid	0.029	I	ug/L	P417461	
		Linuron	0.040	U	ug/L	P417461	
		Mandestrobin	0.020	U	ug/L	P417461	
		MCP	0.0040	U	ug/L	P417461	
		Naproxen	0.0080	U	ug/L	P417461	
		Primidone	0.019		ug/L	P417461	
		Pyraclostrobin	0.020	U	ug/L	P417461	
		Silvex	0.0040	U	ug/L	P417461	
		Thiamethoxam	0.020	U	ug/L	P417461	

Field ID: G3NW0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344550	EPA 8321B	Tolfenpyrad	0.020	U	ug/L	P417461	
		Triclopyr	0.0040	U	ug/L	P417461	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample. MDL for some parameters elevated due to matrix interference.

Sample Location: Kell-Aire Lake

Collection Date/Time: 07/28/2022 12:15

Field ID: G3NW0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344532	DEP SOP: NU-094-1	Color (true)	35		PCU	P417428	
	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P417430	
	EPA 300.0 Rev. 2.1	Chloride	24	A	mg Cl/L	P417881	
		Sulfate	7.8	A	mg SO4/L	P417886	
	SM 2320 B-2011	Total Alkalinity	49		mg CaCO3/L	P417548	
	SM 2540 C-2011	TDS	103		mg/L	P417811	
	SM 2540 D-2011	TSS	10		mg/L	P417804	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P417551	
2344533	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P417421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P417786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P417487	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P417578	
	SM 5310 B-2011	Organic Carbon	7.3		mg C/L	P417602	
2344553	EPA 200.7 Rev. 4.4	Calcium	16.0		mg/L	P417476	
		Iron	30	U	ug/L	P417476	
		Magnesium	3.18		mg/L	P417476	
		Potassium	3.0		mg/L	P417476	
		Sodium	19.0		mg/L	P417476	
		Strontium	227		ug/L	P417476	
		Tin	3.0	U	ug/L	P417476	
		Titanium	0.85	I	ug/L	P417476	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P417476	
		Zinc	5.0	U	ug/L	P417476	
		Aluminum	57		ug/L	P417476	
		Antimony	0.11	I	ug/L	P417476	
		Arsenic	2.89		ug/L	P417476	
		Barium	2.49		ug/L	P417476	
		Beryllium	0.010	U	ug/L	P417476	
		Boron	59.5		ug/L	P417476	
		Cadmium	0.020	U	ug/L	P417476	
		Chromium	0.40	U	ug/L	P417476	
		Cobalt	0.032	I	ug/L	P417476	
		Copper	0.67	I	ug/L	P417476	
		Lead	0.20	U	ug/L	P417476	
		Manganese	7.44		ug/L	P417476	
		Molybdenum	0.33	I	ug/L	P417476	
		Nickel	0.50	U	ug/L	P417476	
		Selenium	0.20	U	ug/L	P417476	
		Silver	0.010	U	ug/L	P417476	
		Thallium	0.10	U	ug/L	P417476	
	SM 2340 B-2011	Hardness	53.1		mg/L	P417476	

Ref. Method and Comment:

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

Sample Location: Coleman Lake

Collection Date/Time: 07/28/2022 12:45

Field ID: G3NW0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344530	DEP SOP: NU-094-1	Color (true)	34	A	PCU	P417428	
	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P417430	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P417881	
		Sulfate	7.8		mg SO4/L	P417886	
	SM 2320 B-2011	Total Alkalinity	50		mg CaCO3/L	P417548	
	SM 2540 C-2011	TDS	109		mg/L	P417811	
	SM 2540 D-2011	TSS	10		mg/L	P417804	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P417551	
2344531	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P417786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417487	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P417578	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P417602	
2344551	EPA 8321B	2,4-D	0.0020	U	ug/L	P417461	
		Acesulfame K	0.11	I	ug/L	P417296	
		2,4,5-T	0.0040	U	ug/L	P417461	
		AMPA	0.10	U	ug/L	P417296	
		Acetaminophen	0.0080	U	ug/L	P417461	
		Acetamiprid	0.0020	U	ug/L	P417461	
		Endothall	0.25	U	ug/L	P417296	
		Glufosinate	0.10	U	ug/L	P417296	MS
		Glyphosate	0.10	U	ug/L	P417296	
		Afidopyropen	0.0020	U	ug/L	P417461	
		Bentazon	0.0010	I	ug/L	P417461	
		Sucralose	5.6		ug/L	P417296	
		Benzovindiflupyr	0.0020	U	ug/L	P417461	
		Carbamazepine	0.0085		ug/L	P417461	
		Clothianidin	0.0038	I	ug/L	P417461	
		Dinotefuran	0.0041	I	ug/L	P417461	
		Diuron	0.0080		ug/L	P417461	
		Fenuron	0.032	U	ug/L	P417461	
		Fluridone	8.0E-04	U	ug/L	P417461	
		Imazapyr	0.0040	U	ug/L	P417461	
		Hydrocodone	0.0020	U	ug/L	P417461	
		Ibuprofen	0.080	U	ug/L	P417461	
		Imidacloprid	0.020		ug/L	P417461	
		Linuron	0.0040	U	ug/L	P417461	
		Mandestrobin	0.0020	U	ug/L	P417461	
		MCP	0.0040	U	ug/L	P417461	
		Naproxen	0.0080	U	ug/L	P417461	
		Primidone	0.013	I	ug/L	P417461	
		Pyraclostrobin	0.0020	U	ug/L	P417461	
		Silvex	0.0040	U	ug/L	P417461	
		Thiamethoxam	0.0020	U	ug/L	P417461	

Field ID: G3NW0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344551	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P417461	
		Triclopyr	0.0040	U	ug/L	P417461	
2344552	EPA 200.7 Rev. 4.4	Calcium	16.7		mg/L	P417476	
		Iron	58	I	ug/L	P417476	
		Magnesium	2.98		mg/L	P417476	
		Potassium	2.9		mg/L	P417476	
		Sodium	18.3		mg/L	P417476	
		Strontium	227		ug/L	P417476	
		Tin	3.0	U	ug/L	P417476	
		Titanium	1.5	I	ug/L	P417476	
		Vanadium	2.0	U	ug/L	P417476	
		Zinc	5.0	U	ug/L	P417476	
	EPA 200.8 Rev. 5.4	Aluminum	113		ug/L	P417476	
		Antimony	0.12	I	ug/L	P417476	
		Arsenic	2.86		ug/L	P417476	
		Barium	2.87		ug/L	P417476	
		Beryllium	0.010	U	ug/L	P417476	
		Boron	57.1		ug/L	P417476	
		Cadmium	0.020	U	ug/L	P417476	
		Chromium	0.43	I	ug/L	P417476	
		Cobalt	0.038	I	ug/L	P417476	
		Copper	0.93		ug/L	P417476	
		Lead	0.20	U	ug/L	P417476	
		Manganese	6.50		ug/L	P417476	
		Molybdenum	0.35	I	ug/L	P417476	
		Nickel	0.50	U	ug/L	P417476	
		Selenium	0.20	U	ug/L	P417476	
		Silver	0.010	U	ug/L	P417476	
		Thallium	0.10	U	ug/L	P417476	
	SM 2340 B-2011	Hardness	53.9		mg/L	P417476	

Ref. Method and Comment:

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

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

Sample Location: Twin Lake eastern lake

Collection Date/Time: 07/28/2022 11:40

Field ID: G3NW0449

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2344527	DEP SOP: NU-094-1	Color (true)	30		PCU	P417425	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P417430	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P417636	
		Sulfate	6.1		mg SO4/L	P417641	
	SM 2320 B-2011	Total Alkalinity	48		mg CaCO3/L	P417548	
	SM 2540 C-2011	TDS	87		mg/L	P417811	
	SM 2540 D-2011	TSS	6	I	mg/L	P417804	
	SM 4500-F- C-2011	Fluoride	0.072	I	mg F/L	P417551	
2344529	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417421	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P417786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417487	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P417578	
	SM 5310 B-2011	Organic Carbon	7.6		mg C/L	P417602	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: 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: P417425

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P417428

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417430

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417476

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417476

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417636

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417641

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417881

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417886

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417421

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417465

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417570

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417486

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417487

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417451

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417578

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

Reference Method: EPA 8321B
Batch ID: P417296

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: P417461

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P417461

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

Reference Method: SM 2320 B-2011

Batch ID: P417548

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

Reference Method: SM 2540 C-2011

Batch ID: P417811

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P417804

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P417551

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P417602

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

Reference Method: SM 5310 B-2011

Batch ID: P417698

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: P417425

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

Reference Method: DEP SOP: NU-094-1
 Batch ID: P417428

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: P417430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.1		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P417476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	109		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	105		P	85 - 115
Sodium	99.3		P	85 - 115
Strontium	106		P	85 - 115
Tin	107		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	106		P	85 - 115
Zinc	108		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P417476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.3		P	85 - 115
Antimony	98.6		P	85 - 115
Arsenic	98.0		P	85 - 115
Barium	102		P	85 - 115
Beryllium	91.4		P	85 - 115
Boron	98.5		P	85 - 115
Cadmium	96.4		P	85 - 115
Chromium	97.3		P	85 - 115
Cobalt	97.9		P	85 - 115
Copper	97.1		P	85 - 115
Lead	93.5		P	85 - 115
Manganese	97.4		P	85 - 115
Molybdenum	96.0		P	85 - 115
Nickel	98.7		P	85 - 115
Selenium	98.4		P	85 - 115
Silver	96.2		P	85 - 115
Thallium	99.3		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417636

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417881

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417886

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417421

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417465

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417570

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417486

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417487

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417451

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417578

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

Reference Method: EPA 8321B
Batch ID: P417296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	114		P	40 - 150
Endothall	96.8		P	40 - 150
Glufosinate	144		P	40 - 150
Glyphosate	115		P	40 - 150
Sucralose	98.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	101		P	40 - 150
2,4,5-T	73.7		P	40 - 150
Acetaminophen	94.3		P	30 - 150
Acetamiprid	110		P	40 - 150
Afidopyropen	77.3		P	30 - 150
Bentazon	88.7		P	30 - 150
Benzovindiflupyr	93.3		P	40 - 150
Carbamazepine	111		P	40 - 150
Clothianidin	111		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	93.1		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	94.0		P	40 - 150
Hydrocodone	104		P	40 - 150
Ibuprofen	92.7		P	40 - 150
Imazapyr	105		P	40 - 150
Imidacloprid	148		P	40 - 150
Linuron	112		P	40 - 150
Mandestrobin	102		P	40 - 150
MCPP	94.9		P	40 - 150
Naproxen	77.0		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	92.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P417461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silvex	63.2		P	40 - 150
Thiamethoxam	107		P	40 - 150
Tolfenpyrad	52.6		P	30 - 150
Triclopyr	80.6		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P417548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.6		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P417551

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417602

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

Reference Method: SM 5310 B-2011
Batch ID: P417698

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P417476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344552	Calcium	104		P	80 - 120
2344552	Iron	102	103	P/P	80 - 120
2344552	Magnesium	101	104	P/P	80 - 120
2344552	Potassium	101	104	P/P	80 - 120
2344552	Sodium	98.5		P	80 - 120
2344552	Strontium	105	107	P/P	80 - 120
2344552	Tin	102	104	P/P	80 - 120
2344552	Titanium	102	105	P/P	80 - 120
2344552	Vanadium	104	107	P/P	80 - 120
2344552	Zinc	106	110	P/P	80 - 120
2344553	Calcium	102		P	80 - 120
2344553	Iron	102		P	80 - 120
2344553	Magnesium	97.0		P	80 - 120
2344553	Potassium	98.2		P	80 - 120
2344553	Sodium	97.6		P	80 - 120
2344553	Strontium	103		P	80 - 120
2344553	Tin	102		P	80 - 120
2344553	Titanium	101		P	80 - 120
2344553	Vanadium	102		P	80 - 120
2344553	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344552	Aluminum	102	103	P/P	80 - 120
2344552	Antimony	99.8	100	P/P	80 - 120
2344552	Arsenic	98.3	99.5	P/P	80 - 120
2344552	Barium	100	101	P/P	80 - 120
2344552	Beryllium	94.1	93.0	P/P	80 - 120
2344552	Boron	105	104	P/P	80 - 120
2344552	Cadmium	96.7	98.2	P/P	80 - 120
2344552	Chromium	96.8	97.1	P/P	80 - 120
2344552	Cobalt	97.5	96.5	P/P	80 - 120
2344552	Copper	96.4	96.2	P/P	80 - 120
2344552	Lead	94.7	95.9	P/P	80 - 120
2344552	Manganese	97.8	99.0	P/P	80 - 120
2344552	Molybdenum	98.2	99.2	P/P	80 - 120
2344552	Nickel	97.5	97.2	P/P	80 - 120
2344552	Selenium	94.0	94.4	P/P	80 - 120
2344552	Silver	94.6	95.2	P/P	80 - 120
2344552	Thallium	101	103	P/P	80 - 120
2344553	Aluminum	101		P	80 - 120
2344553	Antimony	102		P	80 - 120
2344553	Arsenic	99.7		P	80 - 120
2344553	Barium	102		P	80 - 120
2344553	Beryllium	94.7		P	80 - 120
2344553	Boron	106		P	80 - 120
2344553	Cadmium	99.4		P	80 - 120
2344553	Chromium	101		P	80 - 120
2344553	Cobalt	98.2		P	80 - 120
2344553	Copper	97.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344553	Lead	97.4		P	80 - 120
2344553	Manganese	99.6		P	80 - 120
2344553	Molybdenum	99.5		P	80 - 120
2344553	Nickel	98.5		P	80 - 120
2344553	Selenium	95.7		P	80 - 120
2344553	Silver	96.4		P	80 - 120
2344553	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344433	Chloride	98.8		P	90 - 110
2344527	Chloride	95.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344433	Sulfate	98.0		P	90 - 110
2344527	Sulfate	95.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344532	Chloride	95.3		P	90 - 110
2344584	Chloride	96.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417886

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344532	Sulfate	94.1		P	90 - 110
2344584	Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P417421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344567	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P417465

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344528	Kjeldahl Nitrogen	108	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P417486

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344453	NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344529	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344510	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344564	Total-P	103	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P417296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344258	Acesulfame K	87.7	89.6	P/P	40 - 150
2344258	AMPA	49.1	47.7	P/P	40 - 150
2344258	Endothall	96.2	98.0	P/P	40 - 150
2344258	Glufosinate	35.9	39.2	F/F	40 - 150
2344258	Glyphosate	62.2	64.3	P/P	40 - 150
2344258	Sucralose	94.0	97.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344397	2,4-D	98.1	90.7	P/P	40 - 150
2344397	2,4,5-T	62.4	67.5	P/P	40 - 150
2344397	Acetaminophen	107	100	P/P	30 - 150
2344397	Acetamiprid	89.8	72.3	P/P	40 - 150
2344397	Afidopyropen	73.2	68.8	P/P	30 - 150
2344397	Benzovindiflupyr	102	94.4	P/P	40 - 150
2344397	Carbamazepine	98.1	93.7	P/P	40 - 150
2344397	Clothianidin	89.7	103	P/P	40 - 150
2344397	Dinotefuran	116	110	P/P	40 - 150
2344397	Diuron	81.3	89.2	P/P	40 - 150
2344397	Fenuron	89.8	84.3	P/P	40 - 150
2344397	Fluridone	80.0	79.7	P/P	40 - 150
2344397	Hydrocodone	101	99.4	P/P	40 - 150
2344397	Ibuprofen	83.2	65.0	P/P	40 - 150
2344397	Imazapyr	91.4	86.0	P/P	40 - 150
2344397	Imidacloprid	142	148	P/P	40 - 150
2344397	Linuron	95.1	87.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P417461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344397	Mandestrobin	92.7	87.6	P/P	40 - 150
2344397	MCP	85.4	79.1	P/P	40 - 150
2344397	Naproxen	70.6	83.6	P/P	40 - 150
2344397	Primidone	108	109	P/P	40 - 150
2344397	Pyraclostrobin	92.4	89.7	P/P	40 - 150
2344397	Silvex	74.9	62.5	P/P	40 - 150
2344397	Thiamethoxam	126	121	P/P	40 - 150
2344397	Tolfenpyrad	54.1	50.7	P/P	30 - 150
2344397	Triclopyr	60.2	71.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P417551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344733	Fluoride	97.2	97.2	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344697	Organic Carbon	98.0	97.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P417698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2344317	Organic Carbon	99.4	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344509	Color (true)	0.857	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P417428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344530	Color (true)	3.09	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344526	Turbidity	7.68	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344552	Calcium	3.87	Spike	P	0 - 20
2344552	Iron	0.820	Spike	P	0 - 20
2344552	Magnesium	1.60	Spike	P	0 - 20
2344552	Potassium	1.65	Spike	P	0 - 20
2344552	Sodium	2.44	Spike	P	0 - 20
2344552	Strontium	1.71	Spike	P	0 - 20
2344552	Tin	1.65	Spike	P	0 - 20
2344552	Titanium	2.73	Spike	P	0 - 20
2344552	Vanadium	3.32	Spike	P	0 - 20
2344552	Zinc	3.35	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344552	Aluminum	0.807	Spike	P	0 - 20
2344552	Antimony	0.282	Spike	P	0 - 20
2344552	Arsenic	1.18	Spike	P	0 - 20
2344552	Barium	0.750	Spike	P	0 - 20
2344552	Beryllium	1.18	Spike	P	0 - 20
2344552	Boron	0.453	Spike	P	0 - 20
2344552	Cadmium	1.53	Spike	P	0 - 20
2344552	Chromium	0.360	Spike	P	0 - 20
2344552	Cobalt	1.03	Spike	P	0 - 20
2344552	Copper	0.219	Spike	P	0 - 20
2344552	Lead	1.24	Spike	P	0 - 20
2344552	Manganese	1.01	Spike	P	0 - 20
2344552	Molybdenum	0.981	Spike	P	0 - 20
2344552	Nickel	0.245	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417476

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344552	Selenium	0.446	Spike	P	0 - 20
2344552	Silver	0.644	Spike	P	0 - 20
2344552	Thallium	2.38	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417636

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344433	Chloride	1.65	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417641

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344433	Sulfate	2.33	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417881

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344532	Chloride	0.678	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P417886

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344532	Sulfate	0.680	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P417421

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344567	Ammonia-N	2.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P417465

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344528	Kjeldahl Nitrogen	0.422	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P417786

Replicated

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P417786

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344531	Kjeldahl Nitrogen	1.97	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P417486

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344453	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P417487

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344529	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417451

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344510	Total-P	0.488	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417578

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344564	Total-P	0.801	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P417296

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344258	Acesulfame K	2.11	Spike	P	0 - 30
2344258	AMPA	2.42	Spike	P	0 - 30
2344258	Endothall	1.90	Spike	P	0 - 30
2344258	Glufosinate	8.74	Spike	P	0 - 30
2344258	Glyphosate	2.31	Spike	P	0 - 30
2344258	Sucralose	3.58	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P417461

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344397	2,4-D	7.79	Spike	P	0 - 30
2344397	2,4,5-T	7.91	Spike	P	0 - 30
2344397	Acetaminophen	6.19	Spike	P	0 - 30
2344397	Acetamidrid	21.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P417461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344397	Afidopyropen	6.24	Spike	P	0 - 30
2344397	Bentazon	14.5	Spike	P	0 - 30
2344397	Benzovindiflupyr	7.40	Spike	P	0 - 30
2344397	Carbamazepine	4.28	Spike	P	0 - 30
2344397	Clothianidin	14.1	Spike	P	0 - 30
2344397	Dinotefuran	5.05	Spike	P	0 - 30
2344397	Diuron	8.91	Spike	P	0 - 30
2344397	Fenuron	6.27	Spike	P	0 - 30
2344397	Fluridone	0.278	Spike	P	0 - 30
2344397	Hydrocodone	1.95	Spike	P	0 - 30
2344397	Ibuprofen	24.5	Spike	P	0 - 30
2344397	Imazapyr	6.07	Spike	P	0 - 30
2344397	Imidacloprid	3.84	Spike	P	0 - 30
2344397	Linuron	8.71	Spike	P	0 - 30
2344397	Mandestrobin	5.67	Spike	P	0 - 30
2344397	MCP	7.69	Spike	P	0 - 30
2344397	Naproxen	16.8	Spike	P	0 - 30
2344397	Primidone	0.718	Spike	P	0 - 30
2344397	Pyraclostrobin	2.93	Spike	P	0 - 30
2344397	Silvex	18.0	Spike	P	0 - 30
2344397	Thiamethoxam	3.92	Spike	P	0 - 30
2344397	Tolfenpyrad	6.46	Spike	P	0 - 30
2344397	Triclopyr	16.7	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P417548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344733	Total Alkalinity	0.601	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P417811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344524	TDS	5.26	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P417804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344524	TSS	3.92	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344733	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P417602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344697	Organic Carbon	0.0785	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P417698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2344317	Organic Carbon	0.363	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2344550

Field Sample ID: G3NW0215

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.9	P	30 - 160
EPA 8321B	Diuron-d6	67.1	P	30 - 160
EPA 8321B	Endothall-d6	95.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	124	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.9	P	30 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Sucralose-d6	99.9	P	30 - 160

Lab Sample ID: 2344551

Field Sample ID: G3NW0216

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	74.4	P	30 - 160
EPA 8321B	Endothall-d6	97.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.3	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113803

Included Lab Sample IDs: 2344525, 2344528, 2344529, 2344531, 2344533

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

Reference Method: DEP SOP: NU-094-1

Run ID: A113805

Included Lab Sample IDs: 2344524, 2344526, 2344527, 2344530, 2344532

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	90 - 110
Color (true)	103	105	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113809

Included Lab Sample IDs: 2344524, 2344526, 2344527, 2344530, 2344532

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

Reference Method: EPA 8321B

Run ID: A113832

Included Lab Sample IDs: 2344550, 2344551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	123	129	P/P	60 - 160
Endothall	88.3	80.0	P/P	60 - 160
Glufosinate	110	107	P/P	60 - 160
Glyphosate	115	104	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A113833

Included Lab Sample IDs: 2344550, 2344551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	100	P/P	60 - 160
Sucralose	104	99.4	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113846

Included Lab Sample IDs: 2344525, 2344528, 2344529, 2344531, 2344533

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113848

Included Lab Sample IDs: 2344525

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113866

Included Lab Sample IDs: 2344552, 2344553

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.1	98.1	P/P	90 - 110
Aluminum	98.1	97.9	P/P	90 - 110
Antimony	96.4	97.7	P/P	90 - 110
Antimony	97.7	98.6	P/P	90 - 110
Arsenic	98.0	97.9	P/P	90 - 110
Arsenic	98.6	98.0	P/P	90 - 110
Barium	97.7	97.9	P/P	90 - 110
Barium	98.3	97.7	P/P	90 - 110
Beryllium	93.3	93.9	P/P	90 - 110
Beryllium	94.4	93.3	P/P	90 - 110
Boron	95.2	99.7	P/P	90 - 110
Boron	99.7	101	P/P	90 - 110
Cadmium	98.1	99.0	P/P	90 - 110
Cadmium	99.0	99.8	P/P	90 - 110
Chromium	97.4	97.8	P/P	90 - 110
Chromium	97.8	98.5	P/P	90 - 110
Cobalt	97.1	98.1	P/P	90 - 110
Cobalt	98.1	97.7	P/P	90 - 110
Copper	97.5	97.6	P/P	90 - 110
Copper	97.6	97.1	P/P	90 - 110
Lead	92.4	93.4	P/P	90 - 110
Lead	93.4	93.8	P/P	90 - 110
Manganese	96.4	99.6	P/P	90 - 110
Manganese	99.6	98.7	P/P	90 - 110
Molybdenum	96.4	97.0	P/P	90 - 110
Molybdenum	97.0	96.4	P/P	90 - 110
Nickel	97.4	97.5	P/P	90 - 110
Nickel	97.5	97.1	P/P	90 - 110
Selenium	94.7	96.7	P/P	90 - 110
Selenium	96.7	95.8	P/P	90 - 110
Silver	97.5	98.7	P/P	90 - 110
Silver	98.7	98.7	P/P	90 - 110
Thallium	98.2	99.6	P/P	90 - 110
Thallium	99.6	99.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A113869

Included Lab Sample IDs: 2344524, 2344526, 2344527, 2344530, 2344532

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.0	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113869

Included Lab Sample IDs: 2344524, 2344526, 2344527, 2344530, 2344532

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A113874

Included Lab Sample IDs: 2344550, 2344551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.6	88.4	P/P	50 - 150
2,4,5-T	111	117	P/P	50 - 150
Acetaminophen	88.1	102	P/P	60 - 160
Acetamiprid	101	108	P/P	50 - 150
Acetamiprid	90.8	89.6	P/P	50 - 150
Afidopyropen	98.1	98.0	P/P	50 - 150
Afidopyropen	98.8	94.9	P/P	50 - 150
Bentazon	105	110	P/P	50 - 160
Bentazon	115	108	P/P	50 - 160
Benzovindiflupyr	111	94.1	P/P	50 - 150
Benzovindiflupyr	112	107	P/P	50 - 150
Carbamazepine	93.3	106	P/P	60 - 150
Clothianidin	112	106	P/P	60 - 150
Clothianidin	95.1	107	P/P	60 - 150
Dinotefuran	101	101	P/P	50 - 150
Dinotefuran	87.7	93.2	P/P	50 - 150
Diuron	114	115	P/P	60 - 160
Diuron	88.8	114	P/P	60 - 160
Fenuron	84.2	101	P/P	60 - 150
Fenuron	88.8	98.8	P/P	60 - 150
Fluridone	96.1	105	P/P	60 - 160
Fluridone	98.7	98.0	P/P	60 - 160
Hydrocodone	90.9	104	P/P	60 - 150
Ibuprofen	94.5	96.6	P/P	50 - 160
Imazapyr	101	107	P/P	50 - 150
Imidacloprid	88.6	97.6	P/P	60 - 150
Imidacloprid	95.1	102	P/P	60 - 150
Linuron	111	108	P/P	60 - 150
Linuron	91.7	103	P/P	60 - 150
Mandestrobin	101	109	P/P	50 - 150
Mandestrobin	102	102	P/P	50 - 150
MCP	96.1	96.4	P/P	50 - 150
Naproxen	80.3	88.7	P/P	50 - 160
Primidone	88.6	104	P/P	60 - 150
Pyraclostrobin	106	107	P/P	60 - 150
Pyraclostrobin	106	104	P/P	60 - 150
Silvex	75.7	91.3	P/P	50 - 150
Thiamethoxam	89.6	102	P/P	50 - 150
Thiamethoxam	99.2	109	P/P	50 - 150
Tolfenpyrad	104	104	P/P	60 - 150
Tolfenpyrad	104	103	P/P	60 - 150
Triclopyr	85.4	98.2	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113880

Included Lab Sample IDs: 2344528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A113884

Included Lab Sample IDs: 2344529, 2344531, 2344533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	98.0	P/P	90 - 110
Organic Carbon	98.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113896

Included Lab Sample IDs: 2344528, 2344529, 2344531, 2344533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	97.3	P/P	90 - 110
Total-P	99.8	98.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113902

Included Lab Sample IDs: 2344527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.7	96.0	P/P	90 - 110
Sulfate	97.7	94.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113903

Included Lab Sample IDs: 2344552, 2344553

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	104	P/P	90 - 110
Iron	98.3	99.0	P/P	90 - 110
Magnesium	99.4	100	P/P	90 - 110
Potassium	103	105	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Strontium	102	102	P/P	90 - 110
Tin	98.7	101	P/P	90 - 110
Titanium	99.4	99.7	P/P	90 - 110
Vanadium	100	101	P/P	90 - 110
Zinc	100	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113927

Included Lab Sample IDs: 2344525, 2344528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113964

Included Lab Sample IDs: 2344525

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114002

Included Lab Sample IDs: 2344524, 2344526, 2344530, 2344532

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	98.9	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114055

Included Lab Sample IDs: 2344529, 2344531, 2344533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	94.0	P/P	90 - 110
Kjeldahl Nitrogen	95.1	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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	101				0.857	
	Color (true)	102				3.09	
EPA 180.1 Rev. 2.0	Turbidity	97.1				7.68	
EPA 200.7 Rev. 4.4	Calcium	105	104	102			3.87
	Iron	109	102	103	102		0.820
	Magnesium	103	101	104	97.0		1.60
	Potassium	105	101	104	98.2		1.65
	Sodium	99.3	98.5	97.6			2.44
	Strontium	106	105	107	103		1.71
	Tin	107	102	104	102		1.65
	Titanium	106	102	105	101		2.73
	Vanadium	106	104	107	102		3.32
	Zinc	108	106	110	104		3.35
EPA 200.8 Rev. 5.4	Aluminum	97.3	102	103	101		0.807
	Antimony	98.6	99.8	100	102		0.282
	Arsenic	98.0	98.3	99.5	99.7		1.18
	Barium	102	100	101	102		0.750
	Beryllium	91.4	94.1	93.0	94.7		1.18
	Boron	98.5	105	104	106		0.453
	Cadmium	96.4	96.7	98.2	99.4		1.53
	Chromium	97.3	96.8	97.1	101		0.360
	Cobalt	97.9	97.5	96.5	98.2		1.03
	Copper	97.1	96.4	96.2	97.1		0.219
	Lead	93.5	94.7	95.9	97.4		1.24
	Manganese	97.4	97.8	99.0	99.6		1.01
	Molybdenum	96.0	98.2	99.2	99.5		0.981
	Nickel	98.7	97.5	97.2	98.5		0.245
	Selenium	98.4	94.0	94.4	95.7		0.446
	Silver	96.2	94.6	95.2	96.4		0.644
	Thallium	99.3	101	103	104		2.38
EPA 300.0 Rev. 2.1	Chloride	97.3	98.8	95.9		1.65	
	Chloride	100	95.3	96.5		0.678	
	Sulfate	97.2	98.0	95.5		2.33	
	Sulfate	97.9	94.1	96.8		0.680	
EPA 350.1 Rev. 2.0	Ammonia-N	94.0	102	100			2.17
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110	108	108			0.422
	Kjeldahl Nitrogen	104					
	Kjeldahl Nitrogen	102					1.97
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.0	100			1.01
	NO2NO3-N	99.5	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	100	102	101			0.488
	Total-P	102	103	101			0.801
EPA 8321B	2,4-D	101	98.1	90.7			7.79
	2,4,5-T	73.7	62.4	67.5			7.91
	Acesulfame K	101	87.7	89.6			2.11
	Acetaminophen	94.3	107	100			6.19
	Acetamiprid	110	89.8	72.3			21.6
	Afidopyropen	77.3	73.2	68.8			6.24
	AMPA	114	49.1	47.7			2.42
	Bentazon	88.7					14.5
	Benzovindiflupyr	93.3	102	94.4			7.40
	Carbamazepine	111	98.1	93.7			4.28
	Clothianidin	111	89.7	103			14.1
	Dinotefuran	102	116	110			5.05

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Diuron	93.1	81.3	89.2		8.91
	Endothall	96.8	96.2	98.0		1.90
	Fenuron	113	89.8	84.3		6.27
	Fluridone	94.0	80.0	79.7		0.278
	Glufosinate	144	35.9	39.2		8.74
	Glyphosate	115	62.2	64.3		2.31
	Hydrocodone	104	101	99.4		1.95
	Ibuprofen	92.7	83.2	65.0		24.5
	Imazapyr	105	91.4	86.0		6.07
	Imidacloprid	148	142	148		3.84
	Linuron	112	95.1	87.1		8.71
	Mandestrobin	102	92.7	87.6		5.67
	MCPP	94.9	85.4	79.1		7.69
	Naproxen	77.0	70.6	83.6		16.8
	Primidone	107	108	109		0.718
	Pyraclostrobin	92.6	92.4	89.7		2.93
	Silvex	63.2	74.9	62.5		18.0
	Sucralose	98.5	94.0	97.6		3.58
	Thiamethoxam	107	126	121		3.92
	Tolfenpyrad	52.6	54.1	50.7		6.46
	Triclopyr	80.6	60.2	71.2		16.7
SM 2320 B-2011	Total Alkalinity	98.6			0.601	
SM 2540 C-2011	TDS				5.26	
SM 2540 D-2011	TSS				3.92	
SM 4500-F- C-2011	Fluoride	101	97.2	97.2		0.0
SM 5310 B-2011	Organic Carbon	96.4	98.0	97.8		0.0785
	Organic Carbon	96.3	99.4	100		0.363

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2344524, 2344526, 2344527, 2344530, 2344532
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2344524, 2344526, 2344527, 2344530, 2344532
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2344552, 2344553
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2344552, 2344553
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2344524, 2344526, 2344527, 2344530, 2344532
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2344524, 2344526, 2344527, 2344530, 2344532
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2344525, 2344528, 2344529, 2344531, 2344533
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2344525, 2344528, 2344529, 2344531, 2344533
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2344525, 2344528, 2344529, 2344531, 2344533
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2344525, 2344528, 2344529, 2344531, 2344533
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2344550, 2344551
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2344524, 2344526, 2344527, 2344530, 2344532
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2344552, 2344553

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2344524, 2344526, 2344527, 2344530, 2344532
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2344524, 2344526, 2344527, 2344530, 2344532
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2344524, 2344526, 2344527, 2344530, 2344532
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2344525, 2344528, 2344529, 2344531, 2344533

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	07/29/2022			07/29/2022 14:47	Anna M. Plaviak	2344524, 2344526
	07/29/2022			07/29/2022 14:48	Anna M. Plaviak	2344527
	07/29/2022			07/29/2022 15:13	Anna M. Plaviak	2344530
	07/29/2022			07/29/2022 15:14	Anna M. Plaviak	2344532
EPA 180.1 Rev. 2.0	07/29/2022			07/29/2022 13:40	Khloe J Berg	2344526
	07/29/2022			07/29/2022 13:45	Khloe J Berg	2344524
	07/29/2022			07/29/2022 13:46	Khloe J Berg	2344527
	07/29/2022			07/29/2022 13:47	Khloe J Berg	2344530
EPA 200.7 Rev. 4.4	07/29/2022			07/29/2022 13:48	Khloe J Berg	2344532
	07/29/2022	08/02/2022 10:00	Megan Whitefoot	08/03/2022 19:36	McKinley C Carter	2344552
	07/29/2022	08/02/2022 10:00	Megan Whitefoot	08/03/2022 20:07	McKinley C Carter	2344553
	07/29/2022	08/02/2022 10:00	Megan Whitefoot	08/02/2022 18:38	Emily M Philpot	2344552
EPA 200.8 Rev. 5.4	07/29/2022	08/02/2022 10:00	Megan Whitefoot	08/02/2022 20:18	Emily M Philpot	2344553
	07/29/2022			08/04/2022 02:20	Anna M. Plaviak	2344527
	07/29/2022			08/08/2022 18:32	Anna M. Plaviak	2344532
	07/29/2022			08/08/2022 20:08	Anna M. Plaviak	2344524
EPA 300.0 Rev. 2.1	07/29/2022			08/08/2022 20:20	Anna M. Plaviak	2344526
	07/29/2022			08/08/2022 20:32	Anna M. Plaviak	2344530
	07/29/2022			07/29/2022 12:32	Ping Hua	2344525
	07/29/2022			07/29/2022 12:34	Ping Hua	2344528
EPA 350.1 Rev. 2.0	07/29/2022			07/29/2022 12:35	Ping Hua	2344529
	07/29/2022			07/29/2022 12:36	Ping Hua	2344531
	07/29/2022			07/29/2022 12:38	Ping Hua	2344533
	07/29/2022	08/02/2022 13:37	Samantha L Bates	08/03/2022 11:59	Samantha L Bates	2344528
EPA 351.2 Rev. 2.0	07/29/2022	08/04/2022 15:38	Samantha L Bates	08/08/2022 13:59	Samantha L Bates	2344525
	07/29/2022	08/09/2022 15:02	Alexandra J Mattheus	08/12/2022 09:52	Alexandra J Mattheus	2344529
	07/29/2022	08/09/2022 15:02	Alexandra J Mattheus	08/12/2022 09:54	Alexandra J Mattheus	2344531
	07/29/2022	08/09/2022 15:02	Alexandra J Mattheus	08/12/2022 10:02	Alexandra J Mattheus	2344533
EPA 353.2 Rev. 2.0	07/29/2022			08/02/2022 09:12	Beverly Y. Sanders	2344525
	07/29/2022			08/02/2022 09:14	Beverly Y. Sanders	2344528
	07/29/2022			08/02/2022 09:21	Beverly Y. Sanders	2344529
	07/29/2022			08/02/2022 09:26	Beverly Y. Sanders	2344531
EPA 365.1 Rev. 2.0	07/29/2022			08/02/2022 09:28	Beverly Y. Sanders	2344533
	07/29/2022	08/01/2022 14:20	Simonne.V. Calhoun	08/02/2022 09:36	Simonne.V. Calhoun	2344525
	07/29/2022	08/03/2022 17:35	Adam P Silver	08/04/2022 09:53	James L Waggeberby	2344528
	07/29/2022	08/03/2022 17:35	Adam P Silver	08/04/2022 09:54	James L Waggeberby	2344529
EPA 8321B	07/29/2022	08/03/2022 17:35	Adam P Silver	08/04/2022 09:57	James L Waggeberby	2344531
	07/29/2022	08/03/2022 17:35	Adam P Silver	08/04/2022 09:58	James L Waggeberby	2344533
	07/29/2022	08/01/2022 09:30	Umesh Chiluwal	08/01/2022 13:12	Umesh Chiluwal	2344550
	07/29/2022	08/01/2022 09:30	Umesh Chiluwal	08/01/2022 13:25	Umesh Chiluwal	2344551

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/29/2022	08/01/2022 09:30	Umesh Chiluwal	08/02/2022 00:19	Umesh Chiluwal	2344550
	07/29/2022	08/01/2022 09:30	Umesh Chiluwal	08/02/2022 00:34	Umesh Chiluwal	2344551
	07/29/2022	08/02/2022 09:30	June Rhew	08/03/2022 04:48	Juyoung Kim	2344550
	07/29/2022	08/02/2022 09:30	June Rhew	08/03/2022 05:08	Juyoung Kim	2344551
	07/29/2022	08/02/2022 09:30	June Rhew	08/03/2022 11:19	Juyoung Kim	2344550
SM 2320 B-2011	07/29/2022			08/03/2022 02:16	Dale L. Simmons	2344524
	07/29/2022			08/03/2022 02:30	Dale L. Simmons	2344526
	07/29/2022			08/03/2022 02:43	Dale L. Simmons	2344527
	07/29/2022			08/03/2022 02:57	Dale L. Simmons	2344530
	07/29/2022			08/03/2022 03:10	Dale L. Simmons	2344532
SM 2340 B-2011	07/29/2022			08/03/2022 19:36	McKinley C Carter	2344552
	07/29/2022			08/03/2022 20:07	McKinley C Carter	2344553
SM 2540 C-2011	07/29/2022			08/02/2022 15:05	Yijie Li	2344524, 2344526, 2344527, 2344530, 2344532
SM 2540 D-2011	07/29/2022			08/02/2022 15:05	Yijie Li	2344524, 2344526, 2344527, 2344530, 2344532
SM 4500-F- C-2011	07/29/2022			08/03/2022 02:16	Dale L. Simmons	2344524
	07/29/2022			08/03/2022 02:30	Dale L. Simmons	2344526
	07/29/2022			08/03/2022 02:43	Dale L. Simmons	2344527
	07/29/2022			08/03/2022 02:57	Dale L. Simmons	2344530
	07/29/2022			08/03/2022 03:10	Dale L. Simmons	2344532
SM 5310 B-2011	07/29/2022			08/02/2022 19:54	Khloe J Berg	2344529
	07/29/2022			08/02/2022 20:14	Khloe J Berg	2344531
	07/29/2022			08/02/2022 21:02	Khloe J Berg	2344533
	07/29/2022			08/04/2022 03:07	Khloe J Berg	2344525
	07/29/2022			08/04/2022 03:25	Khloe J Berg	2344528