

Chemical Analysis Report

NE-DIST-2022-04-15-01

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

Event Description: **LSJR East**
Request ID: **RQ-2022-04-11-21**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 06-MAY-2022 10:17

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Jones Creek at Arboretum Trail

Collection Date/Time: 04/14/2022 12:30

Field ID: G2NE1190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319613	EPA 8321B	2,4-D	0.0059	I	ug/L	P412405	
		Acesulfame K	0.25	I	ug/L	P412505	
		2,4,5-T	0.0040	U	ug/L	P412405	
		AMPA	0.25	I	ug/L	P412505	
		Acetaminophen	0.0099	I	ug/L	P412405	
		Acetamiprid	0.0020	U	ug/L	P412405	
		Endothall	0.25	U	ug/L	P412505	
		Glufosinate	0.10	U	ug/L	P412505	
		Glyphosate	0.40	I	ug/L	P412505	
		Afidopyropen	0.0020	U	ug/L	P412405	
		Bentazon	0.030		ug/L	P412405	
		Sucralose	0.82		ug/L	P412505	
		Benzovindiflupyr	0.0020	U	ug/L	P412405	
		Carbamazepine	0.0015	I	ug/L	P412405	
		Clothianidin	0.0020	U	ug/L	P412405	
		Dinotefuran	0.0020	U	ug/L	P412405	
		Diuron	0.015		ug/L	P412405	
		Fenuron	0.016	U	ug/L	P412405	
		Fluridone	0.0014	I	ug/L	P412405	
		Imazapyr	0.15		ug/L	P412405	
		Hydrocodone	0.0020	U	ug/L	P412405	
		Ibuprofen	0.020	U	ug/L	P412405	
		Imidacloprid	0.0046	I	ug/L	P412405	MS
		Linuron	0.0040	U	ug/L	P412405	
		Mandestrobin	0.0020	U	ug/L	P412405	
		MCPP	0.0027	I	ug/L	P412405	
		Naproxen	0.0080	U	ug/L	P412405	RPD
		Primidone	0.0040	U	ug/L	P412405	
		Pyraclostrobin	0.0020	U	ug/L	P412405	
		Silvex	0.0040	U	ug/L	P412405	
		Thiamethoxam	0.0020	U	ug/L	P412405	MS
		Tolfenpyrad	0.0020	U	ug/L	P412405	
		Triclopyr	0.0040	U	ug/L	P412405	

Ref. Method and Comment:

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

Sample Location: GREENFIELD CREEK AT ATLANTIC BLVD.

Collection Date/Time: 04/14/2022 13:50

Field ID: 20030657

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319597	DEP SOP: NU-094-1	Color (true)**	54		PCU	P412435	
	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P412439	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P412952	
		Sulfate	47		mg SO4/L	P412955	
	SM 2320 B-2011	Total Alkalinity	88		mg CaCO3/L	P412806	
	SM 2540 C-2011	TDS	263		mg/L	P413060	
	SM 2540 D-2011	TSS	2	U	mg/L	P412987	
	SM 4500-F- C-2011	Fluoride	0.079	I	mg F/L	P412809	
2319599	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P412625	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P412927	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P412621	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P412668	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P412974	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: RED BAY BRANCH AT LONE STAR ROAD

Collection Date/Time: 04/14/2022 11:30

Field ID: 20030674

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319598	DEP SOP: NU-094-1	Color (true)**	11		PCU	P412435	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P412439	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P412952	
		Sulfate	49		mg SO4/L	P412955	
	SM 2320 B-2011	Total Alkalinity	55		mg CaCO3/L	P412806	
	SM 2540 C-2011	TDS	208		mg/L	P413060	
	SM 2540 D-2011	TSS	2	I	mg/L	P412987	
	SM 4500-F- C-2011	Fluoride	0.037	I	mg F/L	P412809	
2319600	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P412625	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P412836	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.9		mg N/L	P412621	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P412668	
	SM 5310 B-2011	Organic Carbon	3.2		mg C/L	P412974	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: OPEN CREEK AT SAN PABLO ROAD

Collection Date/Time: 04/14/2022 14:30

Field ID: 20030695

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319615	EPA 8321B	2,4-D	0.13		ug/L	P412405	
		Acesulfame K	0.10	U	ug/L	P412505	
		2,4,5-T	0.0040	U	ug/L	P412405	
		AMPA	0.28	I	ug/L	P412505	
		Acetaminophen	0.0080	U	ug/L	P412405	
		Acetamiprid	0.0020	U	ug/L	P412405	
		Endothall	0.25	U	ug/L	P412505	
		Glufosinate	0.10	U	ug/L	P412505	
		Glyphosate	0.80		ug/L	P412505	
		Afidopyropen	0.0020	U	ug/L	P412405	
		Bentazon	0.091		ug/L	P412405	
		Sucralose	0.58		ug/L	P412505	
		Benzovindiflupyr	0.0020	U	ug/L	P412405	
		Carbamazepine	8.0E-04	U	ug/L	P412405	
		Clothianidin	0.0027	I	ug/L	P412405	
		Dinotefuran	0.0022	I	ug/L	P412405	
		Diuron	0.0054	I	ug/L	P412405	
		Fenuron	0.016	U	ug/L	P412405	
		Fluridone	0.088		ug/L	P412405	
		Imazapyr	0.30		ug/L	P412405	
		Hydrocodone	0.0020	U	ug/L	P412405	
		Ibuprofen	0.020	U	ug/L	P412405	
		Imidacloprid	0.020		ug/L	P412405	MS
		Linuron	0.0040	U	ug/L	P412405	
		Mandestrobin	0.0020	U	ug/L	P412405	
		MCPP	0.014		ug/L	P412405	
		Naproxen	0.0080	U	ug/L	P412405	RPD
		Primidone	0.0040	U	ug/L	P412405	
		Pyraclostrobin	0.0020	U	ug/L	P412405	
		Silvex	0.0040	U	ug/L	P412405	
		Thiamethoxam	0.0020	U	ug/L	P412405	MS
		Tolfenpyrad	0.0020	U	ug/L	P412405	
		Triclopyr	0.0040	U	ug/L	P412405	

Ref. Method and Comment:

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

Sample Location: STRAWBERRY CR AT LONE STAR ROAD

Collection Date/Time: 04/14/2022 11:05

Field ID: 20030754

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319614	EPA 8321B	2,4-D	0.0022	I	ug/L	P412405	
		Acesulfame K	0.10	U	ug/L	P412505	
		2,4,5-T	0.0040	U	ug/L	P412405	
		AMPA	0.31	I	ug/L	P412505	
		Acetaminophen	0.0080	U	ug/L	P412405	
		Acetamiprid	0.0020	U	ug/L	P412405	
		Endothall	0.25	U	ug/L	P412505	
		Glufosinate	0.10	U	ug/L	P412505	
		Glyphosate	0.47		ug/L	P412505	
		Afidopyropen	0.0020	U	ug/L	P412405	
		Bentazon	0.22		ug/L	P412405	
		Sucralose	0.33		ug/L	P412505	
		Benzovindiflupyr	0.0020	U	ug/L	P412405	
		Carbamazepine	8.0E-04	U	ug/L	P412405	
		Clothianidin	0.0024	I	ug/L	P412405	
		Dinotefuran	0.0020	U	ug/L	P412405	
		Diuron	0.0027	I	ug/L	P412405	
		Fenuron	0.016	U	ug/L	P412405	
		Fluridone	0.0058		ug/L	P412405	
		Imazapyr	0.091		ug/L	P412405	
		Hydrocodone	0.0020	U	ug/L	P412405	
		Ibuprofen	0.020	U	ug/L	P412405	
		Imidacloprid	0.020		ug/L	P412405	MS
		Linuron	0.0040	U	ug/L	P412405	
		Mandestrobin	0.0020	U	ug/L	P412405	
		MCPP	0.0020	U	ug/L	P412405	
		Naproxen	0.0080	U	ug/L	P412405	RPD
		Primidone	0.0040	U	ug/L	P412405	
		Pyraclostrobin	0.0020	U	ug/L	P412405	
		Silvex	0.0040	U	ug/L	P412405	
		Thiamethoxam	0.0020	U	ug/L	P412405	MS
		Tolfenpyrad	0.0020	U	ug/L	P412405	
		Triclopyr	0.0040	U	ug/L	P412405	

Ref. Method and Comment:

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

Sample Location: GREENFIELD CREEK @ QUEENS HARBOUR BLVD.

Collection Date/Time: 04/14/2022 13:10

Field ID: 20030809

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2319595	DEP SOP: NU-094-1	Color (true)**	77		PCU	P412435	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P412439	
	SM 2320 B-2011	Total Alkalinity	82		mg CaCO3/L	P412806	
	SM 2540 D-2011	TSS	6	I	mg/L	P412991	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P412809	
2319596	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P412625	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P412927	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P412621	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P412668	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P412974	
2319616	EPA 200.7 Rev. 4.4	Calcium	57.4		mg/L	P412515	
		Iron	400		ug/L	P412515	
		Magnesium	56.0		mg/L	P412515	
		Strontium	611		ug/L	P412515	
		Tin	3.4	I	ug/L	P412515	
		Titanium	1.8	I	ug/L	P412515	
		Vanadium	2.0	U	ug/L	P412515	
		Zinc	5.0	U	ug/L	P412515	
		Aluminum	150		ug/L	P412515	
		Antimony	0.13	I	ug/L	P412515	
	EPA 200.8 Rev. 5.4	Arsenic	1.12		ug/L	P412515	
		Beryllium	0.026	I	ug/L	P412515	
		Cadmium	0.020	U	ug/L	P412515	
		Chromium	0.57	I	ug/L	P412515	
		Cobalt	0.088		ug/L	P412515	
		Copper	5.51		ug/L	P412515	
		Lead	0.20	I	ug/L	P412515	
		Manganese	24.0		ug/L	P412515	
		Molybdenum	0.59	I	ug/L	P412515	
		Nickel	0.50	U	ug/L	P412515	
		Selenium	0.20	U	ug/L	P412515	
		Silver	0.010	U	ug/L	P412515	
		Thallium	0.10	U	ug/L	P412515	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P412435

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412439

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412515

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	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: P412515

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412952

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412955

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412625

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412621

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412668

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

Reference Method: EPA 8321B
Batch ID: P412405

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	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P412405

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

Reference Method: EPA 8321B
Batch ID: P412505

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

Reference Method: SM 2320 B-2011
Batch ID: P412806

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

Reference Method: SM 2540 C-2011
Batch ID: P413060

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P412987

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P412991

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P412809

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412974

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: P412435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.3		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Strontium	106		P	85 - 115
Tin	97.8		P	85 - 115
Titanium	97.4		P	85 - 115
Vanadium	93.4		P	85 - 115
Zinc	99.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.8		P	85 - 115
Antimony	99.1		P	85 - 115
Arsenic	99.9		P	85 - 115
Beryllium	95.7		P	85 - 115
Cadmium	96.8		P	85 - 115
Chromium	98.4		P	85 - 115
Cobalt	101		P	85 - 115
Copper	97.4		P	85 - 115
Lead	99.9		P	85 - 115
Manganese	98.4		P	85 - 115
Molybdenum	99.2		P	85 - 115
Nickel	98.5		P	85 - 115
Selenium	99.2		P	85 - 115
Silver	103		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412952

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412955

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412625

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412668

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

Reference Method: EPA 8321B
Batch ID: P412405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	114		P	30 - 160
2,4,5-T	105		P	30 - 160
Acetaminophen	90.3		P	30 - 150
Acetamiprid	107		P	30 - 160
Afidopyropen	81.3		P	30 - 160
Bentazon	35.6		P	30 - 150
Benzovindiflupyr	80.4		P	30 - 160
Carbamazepine	108		P	30 - 160
Clothianidin	105		P	30 - 160
Dinotefuran	101		P	30 - 160
Diuron	86.9		P	30 - 160
Fenuron	97.8		P	30 - 160
Fluridone	101		P	30 - 160
Hydrocodone	93.1		P	30 - 160
Ibuprofen	80.2		P	30 - 160
Imazapyr	116		P	30 - 160
Imidacloprid	102		P	30 - 160
Linuron	73.9		P	30 - 160
Mandestrobin	97.6		P	30 - 160
MCPP	109		P	30 - 160
Naproxen	90.8		P	30 - 160
Primidone	90.3		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P412405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	80.7		P	30 - 160
Silvex	87.9		P	30 - 160
Thiamethoxam	102		P	30 - 160
Tolfenpyrad	52.9		P	30 - 160
Triclopyr	106		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P412505

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	98.9		P	40 - 150
Endothall	132		P	40 - 150
Glufosinate	93.2		P	40 - 150
Glyphosate	119		P	40 - 150
Sucralose	124		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P412806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P412809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P412974

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319463	Iron	104		P	80 - 120
2319463	Magnesium	107		P	80 - 120
2319463	Strontium	104		P	80 - 120
2319463	Tin	96.7		P	80 - 120
2319463	Titanium	95.3		P	80 - 120
2319463	Vanadium	94.2		P	80 - 120
2319463	Zinc	98.2		P	80 - 120
2319694	Calcium	106	109	P/P	80 - 120
2319694	Iron	107	109	P/P	80 - 120
2319694	Magnesium	109	112	P/P	80 - 120
2319694	Strontium	112	115	P/P	80 - 120
2319694	Tin	99.3	102	P/P	80 - 120
2319694	Titanium	96.3	98.6	P/P	80 - 120
2319694	Vanadium	95.1	97.7	P/P	80 - 120
2319694	Zinc	102	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319463	Aluminum	99.0		P	75 - 125
2319463	Antimony	104		P	75 - 125
2319463	Arsenic	102		P	75 - 125
2319463	Beryllium	97.4		P	75 - 125
2319463	Cadmium	101		P	75 - 125
2319463	Chromium	103		P	75 - 125
2319463	Cobalt	102		P	75 - 125
2319463	Copper	95.6		P	75 - 125
2319463	Lead	103		P	75 - 125
2319463	Manganese	103		P	75 - 125
2319463	Molybdenum	106		P	75 - 125
2319463	Nickel	98.4		P	75 - 125
2319463	Selenium	101		P	75 - 125
2319463	Silver	102		P	75 - 125
2319463	Thallium	109		P	75 - 125
2319694	Aluminum	97.2	105	P/P	80 - 120
2319694	Antimony	98.0	102	P/P	80 - 120
2319694	Arsenic	95.1	100	P/P	80 - 120
2319694	Beryllium	92.3	96.3	P/P	80 - 120
2319694	Cadmium	99.2	103	P/P	80 - 120
2319694	Chromium	97.1	102	P/P	80 - 120
2319694	Cobalt	95.0	100	P/P	80 - 120
2319694	Copper	93.0	97.5	P/P	80 - 120
2319694	Lead	98.6	104	P/P	80 - 120
2319694	Manganese	97.0	103	P/P	80 - 120
2319694	Molybdenum	96.9	102	P/P	80 - 120
2319694	Nickel	93.8	98.7	P/P	80 - 120
2319694	Selenium	94.2	97.8	P/P	80 - 120
2319694	Silver	102	104	P/P	80 - 120
2319694	Thallium	99.7	107	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412952

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319726	Chloride	96.9		P	90 - 110
2319765	Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319726	Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319555	Ammonia-N	96.8	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319360	Kjeldahl Nitrogen	97.3	93.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322111	Kjeldahl Nitrogen	101	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319574	NO2NO3-N	96.2	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319575	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P412405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319182	2,4-D	96.2	77.6	P/P	30 - 160
2319182	2,4,5-T	84.1	84.3	P/P	30 - 160
2319182	Acetaminophen	110	102	P/P	30 - 150
2319182	Acetamiprid	124	119	P/P	30 - 160
2319182	Afidopyropen	106	86.7	P/P	30 - 160
2319182	Benzovindiflupyr	85.9	77.3	P/P	30 - 160
2319182	Carbamazepine	109	103	P/P	30 - 160
2319182	Clothianidin	128	126	P/P	30 - 160
2319182	Dinotefuran	135	126	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P412405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319182	Diuron	73.5	71.9	P/P	30 - 160
2319182	Fenuron	92.9	86.6	P/P	30 - 160
2319182	Fluridone	98.3	96.4	P/P	30 - 160
2319182	Hydrocodone	104	92.8	P/P	30 - 160
2319182	Ibuprofen	66.5	69.3	P/P	30 - 160
2319182	Imidacloprid	183	176	F/F	30 - 160
2319182	Linuron	67.7	62.2	P/P	30 - 160
2319182	Mandestrobin	102	92.3	P/P	30 - 160
2319182	MCCPP	95.5	97.3	P/P	30 - 160
2319182	Naproxen	72.7	50.5	P/P	30 - 160
2319182	Primidone	121	113	P/P	30 - 160
2319182	Pyraclostrobin	90.1	82.9	P/P	30 - 160
2319182	Silvex	90.2	77.3	P/P	30 - 160
2319182	Thiamethoxam	163	156	F/P	30 - 160
2319182	Tolfenpyrad	48.9	57.3	P/P	30 - 160
2319182	Triclopyr	86.5	89.4	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P412505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319559	Acesulfame K	113	115	P/P	40 - 150
2319559	AMPA	81.6	85.9	P/P	40 - 150
2319559	Endothall	133	121	P/P	40 - 150
2319559	Glufosinate	108	101	P/P	40 - 150
2319559	Glyphosate	122	115	P/P	40 - 150
2319559	Sucralose	124	140	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P412809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319651	Fluoride	98.4	99.2	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P412974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319599	Organic Carbon	94.0	94.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P412435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319572	Color (true)	0.657	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319572	Turbidity	12.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319694	Calcium	1.77	Spike	P	0 - 20
2319694	Iron	2.54	Spike	P	0 - 20
2319694	Magnesium	2.31	Spike	P	0 - 20
2319694	Strontium	2.48	Spike	P	0 - 20
2319694	Tin	2.58	Spike	P	0 - 20
2319694	Titanium	2.12	Spike	P	0 - 20
2319694	Vanadium	2.76	Spike	P	0 - 20
2319694	Zinc	2.67	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319694	Aluminum	6.29	Spike	P	0 - 20
2319694	Antimony	4.16	Spike	P	0 - 20
2319694	Arsenic	5.21	Spike	P	0 - 20
2319694	Beryllium	3.90	Spike	P	0 - 20
2319694	Cadmium	3.33	Spike	P	0 - 20
2319694	Chromium	4.73	Spike	P	0 - 20
2319694	Cobalt	5.13	Spike	P	0 - 20
2319694	Copper	4.77	Spike	P	0 - 20
2319694	Lead	5.22	Spike	P	0 - 20
2319694	Manganese	4.16	Spike	P	0 - 20
2319694	Molybdenum	4.90	Spike	P	0 - 20
2319694	Nickel	5.04	Spike	P	0 - 20
2319694	Selenium	3.77	Spike	P	0 - 20
2319694	Silver	1.72	Spike	P	0 - 20
2319694	Thallium	6.57	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412952

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319726	Chloride	0.748	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319726	Sulfate	1.37	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319555	Ammonia-N	0.361	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319360	Kjeldahl Nitrogen	3.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322111	Kjeldahl Nitrogen	1.15	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319574	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319575	Total-P	0.791	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P412405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319182	2,4-D	16.7	Spike	P	0 - 30
2319182	2,4,5-T	0.155	Spike	P	0 - 30
2319182	Acetaminophen	7.21	Spike	P	0 - 30
2319182	Acetamiprid	4.44	Spike	P	0 - 30
2319182	Afidopyropen	19.8	Spike	P	0 - 30
2319182	Bentazon	8.47	Spike	P	0 - 30
2319182	Benzovindiflupyr	10.6	Spike	P	0 - 30
2319182	Carbamazepine	6.26	Spike	P	0 - 30
2319182	Clothianidin	1.90	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P412405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319182	Dinotefuran	6.48	Spike	P	0 - 30
2319182	Diuron	1.95	Spike	P	0 - 30
2319182	Fenuron	7.05	Spike	P	0 - 30
2319182	Fluridone	1.65	Spike	P	0 - 30
2319182	Hydrocodone	11.0	Spike	P	0 - 30
2319182	Ibuprofen	4.01	Spike	P	0 - 30
2319182	Imazapyr	7.55	Spike	P	0 - 30
2319182	Imidacloprid	3.63	Spike	P	0 - 30
2319182	Linuron	8.51	Spike	P	0 - 30
2319182	Mandestrobin	9.61	Spike	P	0 - 30
2319182	MCPPP	1.82	Spike	P	0 - 30
2319182	Naproxen	36.0	Spike	F	0 - 30
2319182	Primidone	7.01	Spike	P	0 - 30
2319182	Pyraclostrobin	8.36	Spike	P	0 - 30
2319182	Silvex	15.4	Spike	P	0 - 30
2319182	Thiamethoxam	4.47	Spike	P	0 - 30
2319182	Tolfenpyrad	15.8	Spike	P	0 - 30
2319182	Triclopyr	3.28	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P412505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319559	Acesulfame K	1.93	Spike	P	0 - 30
2319559	AMPA	4.44	Spike	P	0 - 30
2319559	Endothall	9.11	Spike	P	0 - 30
2319559	Glufosinate	6.04	Spike	P	0 - 30
2319559	Glyphosate	4.75	Spike	P	0 - 30
2319559	Sucralose	5.27	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P412806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319651	Total Alkalinity	2.21	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P413060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319521	TDS	2.52	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P412809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319651	Fluoride	0.476	Spike	P	0 - 2.1

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P412974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319599	Organic Carbon	0.494	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2319613
Field Sample ID: G2NE1190

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	73.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.0	P	30 - 160
EPA 8321B	Diuron-d6	70.5	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.1	P	30 - 160
EPA 8321B	Primidone-d5	86.2	P	30 - 160
EPA 8321B	Sucralose-d6	138	P	30 - 160

Lab Sample ID: 2319614
Field Sample ID: 20030754

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Diuron-d6	86.2	P	30 - 160
EPA 8321B	Endothall-d6	115	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.4	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	135	P	30 - 160

Lab Sample ID: 2319615
Field Sample ID: 20030695

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	83.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	91.9	P	30 - 160
EPA 8321B	Diuron-d6	77.3	P	30 - 160
EPA 8321B	Endothall-d6	121	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.1	P	30 - 160
EPA 8321B	Primidone-d5	99.2	P	30 - 160
EPA 8321B	Sucralose-d6	138	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A111505

Included Lab Sample IDs: 2319595, 2319597, 2319598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.1	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111506

Included Lab Sample IDs: 2319595, 2319597, 2319598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111572

Included Lab Sample IDs: 2319596, 2319599, 2319600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.5	P/P	90 - 110
NO2NO3-N	98.5	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111574

Included Lab Sample IDs: 2319596, 2319599, 2319600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.9	97.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111585

Included Lab Sample IDs: 2319616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.7	101	P/P	90 - 110
Antimony	100	99.6	P/P	90 - 110
Arsenic	97.5	101	P/P	90 - 110
Beryllium	94.8	98.8	P/P	90 - 110
Cadmium	100	98.9	P/P	90 - 110
Chromium	98.5	99.1	P/P	90 - 110
Cobalt	97.3	102	P/P	90 - 110
Copper	95.2	101	P/P	90 - 110
Lead	97.3	98.2	P/P	90 - 110
Manganese	100	100	P/P	90 - 110
Molybdenum	97.7	98.8	P/P	90 - 110
Nickel	95.6	102	P/P	90 - 110
Selenium	100	99.6	P/P	90 - 110
Silver	104	103	P/P	90 - 110
Thallium	96.7	96.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111606

Included Lab Sample IDs: 2319613, 2319614, 2319615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	93.1	92.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A111606

Included Lab Sample IDs: 2319613, 2319614, 2319615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	105	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111608

Included Lab Sample IDs: 2319613, 2319614, 2319615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	80.6	82.4	P/P	60 - 160
AMPA	82.4	87.4	P/P	60 - 160
Endothall	100	102	P/P	60 - 160
Endothall	102	103	P/P	60 - 160
Glufosinate	79.5	89.7	P/P	60 - 160
Glufosinate	81.3	79.5	P/P	60 - 160
Glyphosate	110	113	P/P	60 - 160
Glyphosate	113	110	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A111656

Included Lab Sample IDs: 2319595, 2319597, 2319598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	97.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A111656

Included Lab Sample IDs: 2319595, 2319597, 2319598

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111672

Included Lab Sample IDs: 2319596, 2319599

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111687

Included Lab Sample IDs: 2319616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.1	98.8	P/P	90 - 110
Iron	100	101	P/P	90 - 110
Magnesium	99.9	100	P/P	90 - 110
Strontium	107	106	P/P	90 - 110
Tin	97.9	100	P/P	90 - 110
Titanium	98.3	99.6	P/P	90 - 110
Vanadium	99.4	101	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111701

Included Lab Sample IDs: 2319600

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A111715

Included Lab Sample IDs: 2319597, 2319598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.5	99.6	P/P	90 - 110
Sulfate	99.7	99.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111730

Included Lab Sample IDs: 2319596, 2319599, 2319600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	95.7	P/P	90 - 110
Organic Carbon	97.4	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111767

Included Lab Sample IDs: 2319613, 2319614, 2319615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	72.5	79.8	P/P	50 - 150
2,4,5-T	93.8	85.1	P/P	50 - 150
Acetaminophen	83.6	83.5	P/P	60 - 160
Acetamiprid	97.1	95.2	P/P	50 - 150
Afidopyropen	74.5	74.8	P/P	50 - 150
Bentazon	95.5	82.9	P/P	50 - 160
Bentazon	98.4	104	P/P	50 - 160
Benzovindiflupyr	95.4	88.7	P/P	50 - 150
Carbamazepine	88.5	90.4	P/P	60 - 150
Clothianidin	107	88.1	P/P	60 - 150
Dinotefuran	87.3	68.2	P/P	50 - 150
Diuron	99.4	96.4	P/P	60 - 160
Fenuron	98.5	98.2	P/P	60 - 150
Fluridone	103	101	P/P	60 - 160
Hydrocodone	92.5	90.1	P/P	60 - 150
Ibuprofen	135	91.1	P/P	50 - 160
Imazapyr	84.9	88.8	P/P	50 - 150
Imidacloprid	90.6	86.9	P/P	60 - 150
Linuron	80.7	90.3	P/P	60 - 150
Mandestrobin	92.9	100	P/P	50 - 150
MCPP	73.8	79.1	P/P	50 - 150
Naproxen	90.2	79.1	P/P	50 - 160
Primidone	83.2	90.7	P/P	60 - 150
Pyraclostrobin	101	100	P/P	60 - 150
Silvex	78.8	91.1	P/P	50 - 150
Thiamethoxam	87.9	89.7	P/P	50 - 150
Tolfenpyrad	89.3	86.3	P/P	60 - 150
Triclopyr	89.2	78.4	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111794

Included Lab Sample IDs: 2319596, 2319599

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111850

Included Lab Sample IDs: 2319600

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.1	102	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 SMP	MS
DEP SOP: NU-094-1	Color (true)	99.0					0.657	
EPA 180.1 Rev. 2.0	Turbidity	96.3					12.0	
EPA 200.7 Rev. 4.4	Calcium	103	106	109				1.77
	Iron	106	104	107	109			2.54
	Magnesium	108	107	109	112			2.31
	Strontium	106	104	112	115			2.48
	Tin	97.8	96.7	99.3	102			2.58
	Titanium	97.4	95.3	96.3	98.6			2.12
	Vanadium	93.4	94.2	95.1	97.7			2.76
	Zinc	99.1	98.2	102	104			2.67
EPA 200.8 Rev. 5.4	Aluminum	99.8	99.0	97.2	105			6.29
	Antimony	99.1	104	98.0	102			4.16
	Arsenic	99.9	102	95.1	100			5.21
	Beryllium	95.7	97.4	92.3	96.3			3.90
	Cadmium	96.8	101	99.2	103			3.33
	Chromium	98.4	103	97.1	102			4.73
	Cobalt	101	102	95.0	100			5.13
	Copper	97.4	95.6	93.0	97.5			4.77
	Lead	99.9	98.6	104	103			5.22
	Manganese	98.4	103	97.0	103			4.16
	Molybdenum	99.2	106	96.9	102			4.90
	Nickel	98.5	98.4	93.8	98.7			5.04
	Selenium	99.2	101	94.2	97.8			3.77
	Silver	103	102	102	104			1.72
	Thallium	102	109	99.7	107			6.57
EPA 300.0 Rev. 2.1	Chloride	98.4	96.9	96.6			0.748	
	Sulfate	97.0	96.8				1.37	
EPA 350.1 Rev. 2.0	Ammonia-N	94.4	96.8	96.4				0.361
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.6	97.3	93.0				3.52
	Kjeldahl Nitrogen	100	101	99.4				1.15
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.2	96.2				0.0
EPA 365.1 Rev. 2.0	Total-P	103	103	102				0.791
EPA 8321B	2,4-D	114	96.2	77.6				16.7
	2,4,5-T	105	84.1	84.3				0.155
	Acesulfame K	115	113	115				1.93
	Acetaminophen	90.3	110	102				7.21
	Acetamiprid	107	124	119				4.44
	Afidopyropen	81.3	106	86.7				19.8
	AMPA	98.9	81.6	85.9				4.44
	Bentazon	35.6						8.47
	Benzovindiflupyr	80.4	85.9	77.3				10.6
	Carbamazepine	108	109	103				6.26
	Clothianidin	105	128	126				1.90
	Dinotefuran	101	135	126				6.48
	Diuron	86.9	73.5	71.9				1.95
	Endothall	132	133	121				9.11
	Fenuron	97.8	92.9	86.6				7.05
	Fluridone	101	98.3	96.4				1.65
	Glufosinate	93.2	108	101				6.04
	Glyphosate	119	122	115				4.75
	Hydrocodone	93.1	104	92.8				11.0
	Ibuprofen	80.2	66.5	69.3				4.01
	Imazapyr	116						7.55
	Imidacloprid	102	183	176				3.63

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Linuron	73.9	67.7	62.2		8.51
	Mandestrobin	97.6	102	92.3		9.61
	MCCP	109	95.5	97.3		1.82
	Naproxen	90.8	72.7	50.5		36.0
	Primidone	90.3	121	113		7.01
	Pyraclostrobin	80.7	90.1	82.9		8.36
	Silvex	87.9	90.2	77.3		15.4
	Sucralose	124	124	140		5.27
	Thiamethoxam	102	163	156		4.47
	Tolfenpyrad	52.9	48.9	57.3		15.8
	Triclopyr	106	86.5	89.4		3.28
	Total Alkalinity	96.6			2.21	
SM 2320 B-2011	TDS				2.52	
SM 2540 C-2011	Fluoride	98.5	99.2	98.4		0.476
SM 4500-F- C-2011	Organic Carbon	96.0	94.0	94.8		0.494

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2319595, 2319597, 2319598
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2319595, 2319597, 2319598
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2319616
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2319616
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2319597, 2319598
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2319597, 2319598
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2319596, 2319599, 2319600
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2319596, 2319599, 2319600
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2319596, 2319599, 2319600
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2319596, 2319599, 2319600
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2319613, 2319614, 2319615
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2319595, 2319597, 2319598
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2319597, 2319598
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2319595, 2319597, 2319598
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2319595, 2319597, 2319598
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2319596, 2319599, 2319600

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	04/15/2022			04/15/2022 16:06	Anna M. Plaviak	2319595, 2319597
	04/15/2022			04/15/2022 16:07	Anna M. Plaviak	2319598
EPA 180.1 Rev. 2.0	04/15/2022			04/15/2022 13:50	Khloe J Berg	2319595
	04/15/2022			04/15/2022 13:52	Khloe J Berg	2319597
	04/15/2022			04/15/2022 13:53	Khloe J Berg	2319598
EPA 200.7 Rev. 4.4	04/15/2022	04/19/2022 10:55	Megan Whitefoot	04/25/2022 20:54	McKinley C Carter	2319616
EPA 200.8 Rev. 5.4	04/15/2022	04/19/2022 10:55	Megan Whitefoot	04/20/2022 18:32	Alexander Thompson	2319616
EPA 300.0 Rev. 2.1	04/15/2022			04/26/2022 14:22	Anna M. Plaviak	2319597
	04/15/2022			04/26/2022 14:34	Anna M. Plaviak	2319598
EPA 350.1 Rev. 2.0	04/15/2022			04/20/2022 10:32	Ping Hua	2319596
	04/15/2022			04/20/2022 10:33	Ping Hua	2319599
	04/15/2022			04/20/2022 10:34	Ping Hua	2319600
EPA 351.2 Rev. 2.0	04/15/2022	04/27/2022 17:18	Alexandra J Mattheus	04/28/2022 14:57	Alexandra J Mattheus	2319596
	04/15/2022	04/27/2022 17:18	Alexandra J Mattheus	04/28/2022 14:58	Alexandra J Mattheus	2319599
	04/15/2022	04/28/2022 09:58	Samantha L Bates	05/02/2022 11:58	Alexandra J Mattheus	2319600
EPA 353.2 Rev. 2.0	04/15/2022			04/19/2022 16:18	Nathaniel J Jones	2319596
	04/15/2022			04/19/2022 16:19	Nathaniel J Jones	2319599
	04/15/2022			04/19/2022 16:53	Nathaniel J Jones	2319600
EPA 365.1 Rev. 2.0	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/25/2022 14:16	Sarah A Nixon	2319596
	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/25/2022 14:17	Sarah A Nixon	2319599
	04/15/2022	04/22/2022 16:40	Simonne.V. Calhoun	04/26/2022 15:55	James L Waggeberby	2319600
EPA 8321B	04/15/2022	04/18/2022 09:00	Hoor Shaik	04/22/2022 16:49	Juyoung Kim	2319613
	04/15/2022	04/18/2022 09:00	Hoor Shaik	04/22/2022 17:23	Juyoung Kim	2319614
	04/15/2022	04/18/2022 09:00	Hoor Shaik	04/22/2022 17:58	Juyoung Kim	2319615
	04/15/2022	04/18/2022 09:00	Hoor Shaik	04/25/2022 11:56	Juyoung Kim	2319614
	04/15/2022	04/19/2022 10:00	Umesh Chiluwal	04/19/2022 12:23	Manjita Shrestha	2319613
	04/15/2022	04/19/2022 10:00	Umesh Chiluwal	04/19/2022 12:36	Manjita Shrestha	2319614
	04/15/2022	04/19/2022 10:00	Umesh Chiluwal	04/19/2022 13:02	Manjita Shrestha	2319615
	04/15/2022	04/19/2022 10:00	Umesh Chiluwal	04/20/2022 02:21	Manjita Shrestha	2319613
	04/15/2022	04/19/2022 10:00	Umesh Chiluwal	04/20/2022 02:36	Manjita Shrestha	2319614
	04/15/2022	04/19/2022 10:00	Umesh Chiluwal	04/20/2022 02:50	Manjita Shrestha	2319615
SM 2320 B-2011	04/15/2022			04/22/2022 00:59	Sarah A Nixon	2319597
	04/15/2022			04/22/2022 01:10	Sarah A Nixon	2319598
	04/15/2022			04/22/2022 01:31	Sarah A Nixon	2319595
SM 2540 C-2011	04/15/2022			04/20/2022 15:36	Yijie Li	2319597, 2319598
SM 2540 D-2011	04/15/2022			04/20/2022 15:36	Yijie Li	2319595, 2319597, 2319598
SM 4500-F- C-2011	04/15/2022			04/22/2022 00:59	Sarah A Nixon	2319597
	04/15/2022			04/22/2022 01:10	Sarah A Nixon	2319598
	04/15/2022			04/22/2022 01:31	Sarah A Nixon	2319595
SM 5310 B-2011	04/15/2022			04/19/2022 19:51	Judith K. Clark	2319599

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	04/15/2022			04/19/2022 20:48	Judith K. Clark	2319600
	04/15/2022			04/20/2022 02:23	Judith K. Clark	2319596