

Chemical Analysis Report

SE-DIST-2022-06-23-01

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

Event Description: **Port Mayaca 2022**

Request ID: **RQ-2022-06-20-57**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

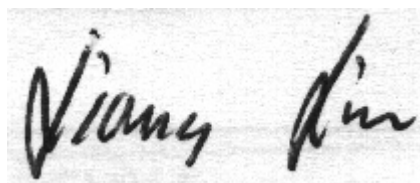
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-JUL-2022 10:33

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: Nubbin Slough 1.4 miles upstream of 710

Collection Date/Time: 06/22/2022 08:40

Field ID: G1SE0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336880	EPA 8321B	2,4-D	0.020		ug/L	P415828	
		Acesulfame K	0.10	U	ug/L	P415602	
		AMPA	0.10	U	ug/L	P415602	
		2,4,5-T	0.0040	U	ug/L	P415828	MS
		Acetaminophen	0.0080	U	ug/L	P415828	
		Acetamiprid	0.0020	U	ug/L	P415828	
		Endothall	0.25	U	ug/L	P415602	
		Glufosinate	0.10	U	ug/L	P415602	
		Glyphosate	0.10	U	ug/L	P415602	
		Afidopyropen	0.0020	U	ug/L	P415828	
		Bentazon	8.0E-04	U	ug/L	P415828	
		Sucralose	0.018	I	ug/L	P415602	
		Benzovindiflupyr	0.0020	U	ug/L	P415828	
		Carbamazepine	8.0E-04	U	ug/L	P415828	
		Clothianidin	0.0020	U	ug/L	P415828	
		Dinotefuran	0.0020	U	ug/L	P415828	
		Diuron	0.0020	U	ug/L	P415828	
		Fenuron	0.032	U	ug/L	P415828	
		Fluridone	8.0E-04	U	ug/L	P415828	
		Imazapyr	0.014	I	ug/L	P415828	
		Hydrocodone	0.0020	U	ug/L	P415828	
		Ibuprofen	0.080	U	ug/L	P415828	
		Imidacloprid	0.0020	U	ug/L	P415828	
		Linuron	0.0040	U	ug/L	P415828	
		Mandestrobin	0.0020	U	ug/L	P415828	
		MCPP	0.0040	U	ug/L	P415828	
		Naproxen	0.0080	U	ug/L	P415828	
		Primidone	0.0040	U	ug/L	P415828	
		Pyraclostrobin	0.0020	U	ug/L	P415828	
		Silvex	0.0040	U	ug/L	P415828	
		Thiamethoxam	0.0020	U	ug/L	P415828	
		Tolfenpyrad	0.0020	U	ug/L	P415828	
		Triclopyr	0.0040	U	ug/L	P415828	
2336885	EPA 200.7 Rev. 4.4	Calcium	24.4		mg/L	P415695	
		Iron	580		ug/L	P415695	
		Magnesium	11.0		mg/L	P415695	
		Potassium	41.1		mg/L	P415695	
		Sodium	52.5		mg/L	P415695	
		Strontium	675		ug/L	P415695	
		Tin	3.0	U	ug/L	P415695	
		Titanium	1.7	I	ug/L	P415695	
		Vanadium	2.0	U	ug/L	P415695	
		Zinc	5.0	U	ug/L	P415695	
	EPA 200.8 Rev. 5.4	Aluminum	430		ug/L	P415695	

Field ID: G1SE0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336885	EPA 200.8 Rev. 5.4	Antimony	0.060	I	ug/L	P415695	
		Arsenic	1.23		ug/L	P415695	
		Barium	17.4		ug/L	P415695	
		Beryllium	0.031	I	ug/L	P415695	
		Boron	74.4		ug/L	P415695	
		Cadmium	0.020	U	ug/L	P415695	
		Chromium	1.3	I	ug/L	P415695	
		Cobalt	0.402		ug/L	P415695	
		Copper	1.79		ug/L	P415695	
		Lead	0.20	U	ug/L	P415695	
		Manganese	12.1		ug/L	P415695	
		Molybdenum	0.33	I	ug/L	P415695	
		Nickel	0.80	I	ug/L	P415695	
		Selenium	0.29	I	ug/L	P415695	
		Silver	0.010	U	ug/L	P415695	
		Thallium	0.10	U	ug/L	P415695	
	SM 2340 B-2011	Hardness	106		mg/L	P415695	

Sample Location: Nubbin Slough upstream of STA

Collection Date/Time: 06/22/2022 08:50

Field ID: G1SE0004

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336884	EPA 200.7 Rev. 4.4	Calcium	17.3		mg/L	P415695	
		Iron	1.03E+03		ug/L	P415695	
		Magnesium	4.95		mg/L	P415695	
		Potassium	15.8		mg/L	P415695	
		Sodium	21.9		mg/L	P415695	
		Strontium	123		ug/L	P415695	
		Tin	3.0	U	ug/L	P415695	
		Titanium	2.1	I	ug/L	P415695	
		Vanadium	4.8	I	ug/L	P415695	
		Zinc	5.0	U	ug/L	P415695	
	EPA 200.8 Rev. 5.4	Aluminum	406		ug/L	P415695	
		Antimony	0.054	I	ug/L	P415695	
		Arsenic	1.60		ug/L	P415695	
		Barium	19.7		ug/L	P415695	
		Beryllium	0.032	I	ug/L	P415695	
		Boron	38.5		ug/L	P415695	
		Cadmium	0.020	U	ug/L	P415695	
		Chromium	2.2		ug/L	P415695	
		Cobalt	0.245		ug/L	P415695	
		Copper	0.40	U	ug/L	P415695	
		Lead	0.20	U	ug/L	P415695	
		Manganese	13.4		ug/L	P415695	
		Molybdenum	0.78		ug/L	P415695	
		Nickel	0.58	I	ug/L	P415695	
		Selenium	0.39	I	ug/L	P415695	
		Silver	0.010	U	ug/L	P415695	
		Thallium	0.10	U	ug/L	P415695	
	SM 2340 B-2011	Hardness	63.5		mg/L	P415695	

Sample Location: Lettuce Creek @ 710

Collection Date/Time: 06/22/2022 09:15

Field ID: G1SE0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336863	DEP SOP: NU-094-1	Color (true)	400		PCU	P415685	
	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P415669	
	EPA 300.0 Rev. 2.1	Chloride	35		mg Cl/L	P415944	
		Sulfate	20		mg SO4/L	P415949	
	SM 2320 B-2011	Total Alkalinity	41		mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	243		mg/L	P416221	
	SM 2540 D-2011	TSS	4	I	mg/L	P416188	
2336864	SM 4500-F- C-2011	Fluoride	0.093	I	mg F/L	P415963	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.074		mg N/L	P415995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P415871	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P416344	
	EPA 365.1 Rev. 2.0	Total-P	0.54		mg P/L	P415935	
2336881	SM 5310 B-2011	Organic Carbon	41		mg C/L	P415856	
	EPA 8321B	2,4-D	0.0033	I	ug/L	P415828	
		Acesulfame K	0.10	U	ug/L	P415602	
		AMPA	0.19	I	ug/L	P415602	
		2,4,5-T	0.0040	U	ug/L	P415828	MS
		Acetaminophen	0.0080	U	ug/L	P415828	
		Acetamiprid	0.0020	U	ug/L	P415828	
		Endothall	0.25	U	ug/L	P415602	
		Glufosinate	0.10	U	ug/L	P415602	
		Glyphosate	0.38	I	ug/L	P415602	
		Afidopyropen	0.0020	U	ug/L	P415828	
		Bentazon	8.0E-04	U	ug/L	P415828	
		Sucralose	0.010	U	ug/L	P415602	
		Benzovindiflupyr	0.0020	U	ug/L	P415828	
		Carbamazepine	8.0E-04	U	ug/L	P415828	
		Clothianidin	0.0020	U	ug/L	P415828	
		Dinotefuran	0.0020	U	ug/L	P415828	
		Diuron	0.0020	U	ug/L	P415828	
		Fenuron	0.032	U	ug/L	P415828	
		Fluridone	8.0E-04	U	ug/L	P415828	
		Imazapyr	0.0040	U	ug/L	P415828	
		Hydrocodone	0.0020	U	ug/L	P415828	
		Ibuprofen	0.080	U	ug/L	P415828	
		Imidacloprid	0.0020	U	ug/L	P415828	
		Linuron	0.0040	U	ug/L	P415828	
		Mandestrobin	0.0020	U	ug/L	P415828	
		MCPP	0.0040	U	ug/L	P415828	
		Naproxen	0.0080	U	ug/L	P415828	
		Primidone	0.0040	U	ug/L	P415828	
		Pyraclostrobin	0.0020	U	ug/L	P415828	
		Silvex	0.0040	U	ug/L	P415828	
		Thiamethoxam	0.0020	U	ug/L	P415828	

Field ID: G1SE0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336881	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P415828	
		Triclopyr	0.0040	U	ug/L	P415828	
2336886	EPA 200.7 Rev. 4.4	Calcium	22.6		mg/L	P415695	
		Iron	930		ug/L	P415695	
		Magnesium	5.54		mg/L	P415695	
		Potassium	4.1		mg/L	P415695	
		Sodium	20.7		mg/L	P415695	
		Strontium	501		ug/L	P415695	
		Tin	3.0	U	ug/L	P415695	
		Titanium	2.3	I	ug/L	P415695	
		Vanadium	2.0	U	ug/L	P415695	
		Zinc	5.4	I	ug/L	P415695	
	EPA 200.8 Rev. 5.4	Aluminum	357		ug/L	P415695	
		Antimony	0.077	I	ug/L	P415695	
		Arsenic	1.49		ug/L	P415695	
		Barium	17.6		ug/L	P415695	
		Beryllium	0.036	I	ug/L	P415695	
		Boron	46.2		ug/L	P415695	
		Cadmium	0.020	U	ug/L	P415695	
		Chromium	0.79	I	ug/L	P415695	
		Cobalt	0.216		ug/L	P415695	
		Copper	0.94		ug/L	P415695	
		Lead	0.25	I	ug/L	P415695	
		Manganese	27.3		ug/L	P415695	
		Molybdenum	0.41	I	ug/L	P415695	
		Nickel	0.63	I	ug/L	P415695	
		Selenium	0.20	U	ug/L	P415695	
		Silver	0.010	U	ug/L	P415695	
		Thallium	0.10	U	ug/L	P415695	
	SM 2340 B-2011	Hardness	79.3		mg/L	P415695	

Ref. Method and Comment:

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

Sample Location: L-65 upstream of S-153

Collection Date/Time: 06/22/2022 10:00

Field ID: G1SE0050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336859	DEP SOP: NU-094-1	Color (true)	70	A	PCU	P415685	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P415669	
	EPA 300.0 Rev. 2.1	Chloride	140		mg Cl/L	P415944	
		Sulfate	23		mg SO4/L	P415949	
	SM 2320 B-2011	Total Alkalinity	170		mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	499		mg/L	P416221	
	SM 2540 D-2011	TSS	2	I	mg/L	P416188	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P415963	
2336861	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P415995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P415871	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P416344	
	EPA 365.1 Rev. 2.0	Total-P	0.075		mg P/L	P415935	
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P415856	
2336882	EPA 200.7 Rev. 4.4	Calcium	71.1		mg/L	P415695	
		Iron	51	I	ug/L	P415695	
		Magnesium	11.9		mg/L	P415695	
		Potassium	6.3		mg/L	P415695	
		Sodium	79.6		mg/L	P415695	
		Strontium	1.24E+03		ug/L	P415695	
		Tin	6.0	U	ug/L	P415695	
		Titanium	1.3	I	ug/L	P415695	
		Vanadium	2.0	U	ug/L	P415695	
		Zinc	5.0	U	ug/L	P415695	
	EPA 200.8 Rev. 5.4	Aluminum	65		ug/L	P415695	
		Antimony	0.054	I	ug/L	P415695	
		Arsenic	1.12		ug/L	P415695	
		Barium	24.2		ug/L	P415695	
		Beryllium	0.011	I	ug/L	P415695	
		Boron	81.3		ug/L	P415695	
		Cadmium	0.020	U	ug/L	P415695	
		Chromium	0.40	U	ug/L	P415695	
		Cobalt	0.083		ug/L	P415695	
		Copper	0.40	U	ug/L	P415695	
		Lead	0.20	U	ug/L	P415695	
		Manganese	10.5		ug/L	P415695	
		Molybdenum	0.73		ug/L	P415695	
		Nickel	0.50	U	ug/L	P415695	
		Selenium	0.20	U	ug/L	P415695	
		Silver	0.010	U	ug/L	P415695	
		Thallium	0.10	U	ug/L	P415695	
		Hardness	227		mg/L	P415695	

Ref. Method and Comment:

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

Sample Location: FB

Collection Date/Time: 06/22/2022 10:15

Field ID: FB_06222022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336865	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P415685	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	I	NTU	P415669	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P416147	
		Sulfate	0.20	U	mg SO4/L	P416150	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	15	U	mg/L	P416221	
	SM 2540 D-2011	TSS	2	U	mg/L	P416188	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415963	
2336866	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P415995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P415871	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416344	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P415935	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P415856	
2336887	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P415695	
		Iron	30	U	ug/L	P415695	
		Magnesium	0.040	U	mg/L	P415695	
		Potassium	0.30	U	mg/L	P415695	
		Sodium	0.50	U	mg/L	P415695	
		Strontium	2.0	U	ug/L	P415695	
		Tin	3.0	U	ug/L	P415695	
		Titanium	0.75	U	ug/L	P415695	
		Vanadium	2.0	U	ug/L	P415695	
		Zinc	5.0	U	ug/L	P415695	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P415695	
		Antimony	0.050	U	ug/L	P415695	
		Arsenic	0.050	U	ug/L	P415695	
		Barium	0.20	U	ug/L	P415695	
		Beryllium	0.010	U	ug/L	P415695	
		Boron	143		ug/L	P415695	
		Cadmium	0.020	U	ug/L	P415695	
		Chromium	0.40	U	ug/L	P415695	
		Cobalt	0.020	U	ug/L	P415695	
		Copper	0.40	U	ug/L	P415695	
		Lead	0.20	U	ug/L	P415695	
		Manganese	0.10	U	ug/L	P415695	
		Molybdenum	0.15	U	ug/L	P415695	
		Nickel	0.50	U	ug/L	P415695	
		Selenium	0.20	U	ug/L	P415695	
		Silver	0.010	U	ug/L	P415695	
		Thallium	0.10	U	ug/L	P415695	
		Hardness	0.35	U	mg/L	P415695	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 06/23/2022.

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

EPA 200.8 Rev. 5.4: The boron result was confirmed in the undigested sample on 06/29/2022.

Sample Location: S-153 Unnamed Creek @ 710

Collection Date/Time: 06/22/2022 11:00

Field ID: G4SE0137

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2336860	DEP SOP: NU-094-1	Color (true)	91		PCU	P415685	
	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P415669	
	EPA 300.0 Rev. 2.1	Chloride	440		mg Cl/L	P415944	
		Sulfate	190		mg SO4/L	P415949	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	1.21E+03		mg/L	P416221	
	SM 2540 D-2011	TSS	6	I	mg/L	P416188	
2336862	SM 4500-F- C-2011	Fluoride	0.82		mg F/L	P415963	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P415995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P415874	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P416344	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P415935	
2336883	SM 5310 B-2011	Organic Carbon	14		mg C/L	P415856	
	EPA 200.7 Rev. 4.4	Calcium	53.4		mg/L	P415695	
		Iron	160		ug/L	P415695	
		Magnesium	51.0		mg/L	P415695	
		Potassium	11.4		mg/L	P415695	
		Sodium	259		mg/L	P415695	
		Strontium	1.15E+04		ug/L	P415695	
		Tin	3.0	U	ug/L	P415695	
		Titanium	1.5	I	ug/L	P415695	
		Vanadium	2.0	U	ug/L	P415695	
		Zinc	5.0	U	ug/L	P415695	
	EPA 200.8 Rev. 5.4	Aluminum	141		ug/L	P415695	
		Antimony	0.063	I	ug/L	P415695	
		Arsenic	0.41		ug/L	P415695	
		Barium	27.0		ug/L	P415695	
		Beryllium	0.012	I	ug/L	P415695	
		Boron	253		ug/L	P415695	
		Cadmium	0.020	U	ug/L	P415695	
		Chromium	0.40	U	ug/L	P415695	
		Cobalt	0.066	I	ug/L	P415695	
		Copper	0.40	U	ug/L	P415695	
		Lead	0.20	U	ug/L	P415695	
		Manganese	6.55		ug/L	P415695	
		Molybdenum	0.15	U	ug/L	P415695	
		Nickel	0.50	U	ug/L	P415695	
		Selenium	0.20	U	ug/L	P415695	
		Silver	0.010	U	ug/L	P415695	
		Thallium	0.10	U	ug/L	P415695	
	SM 2340 B-2011	Hardness	343		mg/L	P415695	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P415685

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415669

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415695

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: P415695

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415944

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415949

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416147

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416150

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415871

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415874

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416344

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415935

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

Reference Method: EPA 8321B
Batch ID: P415602

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P415602

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P415828

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
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: P415958

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

Reference Method: SM 2540 C-2011

Batch ID: P416221

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P416188

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415856

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: P415685

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415669

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	102		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	110		P	85 - 115
Sodium	102		P	85 - 115
Strontium	102		P	85 - 115
Tin	106		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	94.3		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.7		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	98.7		P	85 - 115
Barium	103		P	85 - 115
Beryllium	97.4		P	85 - 115
Boron	98.3		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.2		P	85 - 115
Cobalt	100		P	85 - 115
Copper	97.0		P	85 - 115
Lead	94.7		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	100		P	85 - 115
Nickel	98.8		P	85 - 115
Selenium	94.4		P	85 - 115
Silver	99.1		P	85 - 115
Thallium	98.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415944

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415949

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416147

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415871

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415874

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416344

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415935

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

Reference Method: EPA 8321B
Batch ID: P415602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	82.0		P	40 - 150
AMPA	110		P	40 - 150
Endothall	64.1		P	40 - 150
Glufosinate	104		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P415602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	97.3		P	40 - 150
Sucralose	103		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P415828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	52.9		P	40 - 150
2,4,5-T	44.6		P	40 - 150
Acetaminophen	83.1		P	30 - 150
Acetamiprid	78.4		P	40 - 150
Afidopyropen	45.0		P	30 - 150
Bentazon	70.8		P	30 - 150
Benzovindiflupyr	87.2		P	40 - 150
Carbamazepine	83.5		P	40 - 150
Clothianidin	89.4		P	40 - 150
Dinotefuran	90.8		P	40 - 150
Diuron	66.8		P	40 - 150
Fenuron	90.2		P	40 - 150
Fluridone	80.6		P	40 - 150
Hydrocodone	81.9		P	40 - 150
Ibuprofen	60.5		P	40 - 150
Imazapyr	88.0		P	40 - 150
Imidacloprid	87.9		P	40 - 150
Linuron	66.8		P	40 - 150
Mandestrobin	72.4		P	40 - 150
MCPP	69.4		P	40 - 150
Naproxen	42.9		P	40 - 150
Primidone	92.2		P	40 - 150
Pyraclostrobin	72.5		P	40 - 150
Silvex	42.7		P	40 - 150
Thiamethoxam	83.8		P	40 - 150
Tolfenpyrad	43.0		P	30 - 150
Triclopyr	51.2		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P415958

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

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415856

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P415695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336741	Calcium	103	102	P/P	80 - 120
2336741	Iron	104	104	P/P	80 - 120
2336741	Magnesium	105	104	P/P	80 - 120
2336741	Potassium	113	112	P/P	80 - 120
2336741	Sodium	103	102	P/P	80 - 120
2336741	Strontium	102	103	P/P	80 - 120
2336741	Tin	104	104	P/P	80 - 120
2336741	Titanium	103	103	P/P	80 - 120
2336741	Vanadium	94.6	93.9	P/P	80 - 120
2336741	Zinc	103	99.4	P/P	80 - 120
2336854	Calcium	98.6		P	80 - 120
2336854	Iron	106		P	80 - 120
2336854	Magnesium	103		P	80 - 120
2336854	Potassium	105		P	80 - 120
2336854	Sodium	101		P	80 - 120
2336854	Strontium	104		P	80 - 120
2336854	Tin	103		P	80 - 120
2336854	Titanium	102		P	80 - 120
2336854	Vanadium	95.2		P	80 - 120
2336854	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P415695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336741	Aluminum	96.3	96.2	P/P	80 - 120
2336741	Antimony	98.4	98.7	P/P	80 - 120
2336741	Arsenic	94.4	95.2	P/P	80 - 120
2336741	Barium	100	100	P/P	80 - 120
2336741	Beryllium	96.0	95.7	P/P	80 - 120
2336741	Boron	100	101	P/P	80 - 120
2336741	Cadmium	95.7	98.2	P/P	80 - 120
2336741	Chromium	95.2	94.6	P/P	80 - 120
2336741	Cobalt	96.2	97.0	P/P	80 - 120
2336741	Copper	96.6	97.5	P/P	80 - 120
2336741	Lead	93.0	93.8	P/P	80 - 120
2336741	Manganese	95.8	97.2	P/P	80 - 120
2336741	Molybdenum	96.8	97.8	P/P	80 - 120
2336741	Nickel	94.1	94.0	P/P	80 - 120
2336741	Selenium	92.8	93.1	P/P	80 - 120
2336741	Silver	94.6	96.3	P/P	80 - 120
2336741	Thallium	96.8	98.3	P/P	80 - 120
2336854	Aluminum	100		P	80 - 120
2336854	Antimony	101		P	80 - 120
2336854	Arsenic	98.9		P	80 - 120
2336854	Barium	102		P	80 - 120
2336854	Beryllium	100		P	80 - 120
2336854	Boron	104		P	80 - 120
2336854	Cadmium	99.3		P	80 - 120
2336854	Chromium	98.7		P	80 - 120
2336854	Cobalt	99.4		P	80 - 120
2336854	Copper	96.5		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P415695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336854	Lead	96.3		P	80 - 120
2336854	Manganese	99.4		P	80 - 120
2336854	Molybdenum	99.8		P	80 - 120
2336854	Nickel	97.1		P	80 - 120
2336854	Selenium	98.1		P	80 - 120
2336854	Silver	96.0		P	80 - 120
2336854	Thallium	101		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P415944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336699	Chloride	99.7		P	90 - 110
2336766	Chloride	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P415949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336699	Sulfate	100		P	90 - 110
2336766	Sulfate	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P416147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336966	Chloride	95.8		P	90 - 110
2337151	Chloride	95.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P416150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336966	Sulfate	97.0		P	90 - 110
2337151	Sulfate	94.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P415995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336817	Ammonia-N	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P415871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336737	Kjeldahl Nitrogen	108	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P415874

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336580	Kjeldahl Nitrogen	98.0	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416344

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336799	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336861	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P415602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336740	Acesulfame K	78.8	79.6	P/P	40 - 150
2336740	AMPA	102	105	P/P	40 - 150
2336740	Endothall	63.7	62.7	P/P	40 - 150
2336740	Glufosinate	107	113	P/P	40 - 150
2336740	Glyphosate	83.2	90.5	P/P	40 - 150
2336740	Sucralose	101	101	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P415828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336740	2,4-D	50.1	66.5	P/P	40 - 150
2336740	2,4,5-T	39.2	39.5	F/F	40 - 150
2336740	Acetaminophen	92.2	98.3	P/P	30 - 150
2336740	Acetamiprid	69.3	82.3	P/P	40 - 150
2336740	Afidopyropen	50.1	63.1	P/P	30 - 150
2336740	Bentazon	47.7	47.0	P/P	30 - 150
2336740	Benzovindiflupyr	84.4	89.3	P/P	40 - 150
2336740	Carbamazepine	79.4	85.7	P/P	40 - 150
2336740	Clothianidin	96.5	111	P/P	40 - 150
2336740	Dinotefuran	120	133	P/P	40 - 150
2336740	Diuron	58.7	56.6	P/P	40 - 150
2336740	Fenuron	79.6	89.6	P/P	40 - 150
2336740	Fluridone	68.0	79.9	P/P	40 - 150
2336740	Hydrocodone	90.6	95.8	P/P	40 - 150
2336740	Ibuprofen	72.4	67.9	P/P	40 - 150
2336740	Imazapyr	73.0	79.6	P/P	40 - 150
2336740	Imidacloprid	121	127	P/P	40 - 150
2336740	Linuron	68.2	77.1	P/P	40 - 150
2336740	Mandestrobin	68.2	75.2	P/P	40 - 150
2336740	MCP	63.8	69.1	P/P	40 - 150
2336740	Naproxen	51.3	60.8	P/P	40 - 150
2336740	Primidone	94.7	110	P/P	40 - 150
2336740	Pyraclostrobin	74.5	82.8	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P415828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336740	Silvex	49.3	47.4	P/P	40 - 150
2336740	Thiamethoxam	115	127	P/P	40 - 150
2336740	Tolfenpyrad	44.9	46.7	P/P	30 - 150
2336740	Triclopyr	48.1	50.0	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337006	Fluoride	102	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336489	Organic Carbon	96.5	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336859	Color (true)	3.91	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336796	Turbidity	0.991	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336741	Calcium	1.12	Spike	P	0 - 20
2336741	Iron	0.142	Spike	P	0 - 20
2336741	Magnesium	0.222	Spike	P	0 - 20
2336741	Potassium	0.532	Spike	P	0 - 20
2336741	Sodium	0.934	Spike	P	0 - 20
2336741	Strontium	1.15	Spike	P	0 - 20
2336741	Tin	0.156	Spike	P	0 - 20
2336741	Titanium	0.303	Spike	P	0 - 20
2336741	Vanadium	0.750	Spike	P	0 - 20
2336741	Zinc	3.85	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336741	Aluminum	0.135	Spike	P	0 - 20
2336741	Antimony	0.300	Spike	P	0 - 20
2336741	Arsenic	0.813	Spike	P	0 - 20
2336741	Barium	0.509	Spike	P	0 - 20
2336741	Beryllium	0.334	Spike	P	0 - 20
2336741	Boron	0.151	Spike	P	0 - 20
2336741	Cadmium	2.55	Spike	P	0 - 20
2336741	Chromium	0.631	Spike	P	0 - 20
2336741	Cobalt	0.805	Spike	P	0 - 20
2336741	Copper	0.959	Spike	P	0 - 20
2336741	Lead	0.894	Spike	P	0 - 20
2336741	Manganese	1.18	Spike	P	0 - 20
2336741	Molybdenum	0.991	Spike	P	0 - 20
2336741	Nickel	0.125	Spike	P	0 - 20
2336741	Selenium	0.306	Spike	P	0 - 20
2336741	Silver	1.86	Spike	P	0 - 20
2336741	Thallium	1.56	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336699	Chloride	1.07	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336699	Sulfate	0.438	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336966	Chloride	0.102	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336966	Sulfate	0.163	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336817	Ammonia-N	2.76	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336737	Kjeldahl Nitrogen	6.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336580	Kjeldahl Nitrogen	1.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336799	NO2NO3-N	0.494	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P415935

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336861	Total-P	0.651	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P415602

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336740	Acesulfame K	1.01	Spike	P	0 - 30
2336740	AMPA	3.23	Spike	P	0 - 30
2336740	Endothall	1.50	Spike	P	0 - 30
2336740	Glufosinate	5.87	Spike	P	0 - 30
2336740	Glyphosate	8.35	Spike	P	0 - 30
2336740	Sucralose	0.0700	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P415828

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336740	2,4-D	24.9	Spike	P	0 - 30
2336740	2,4,5-T	0.782	Spike	P	0 - 30
2336740	Acetaminophen	6.40	Spike	P	0 - 30
2336740	Acetamiprid	17.2	Spike	P	0 - 30
2336740	Afidopyropen	23.0	Spike	P	0 - 30
2336740	Bentazon	1.60	Spike	P	0 - 30
2336740	Benzovindiflupyr	5.59	Spike	P	0 - 30
2336740	Carbamazepine	7.66	Spike	P	0 - 30
2336740	Clothianidin	13.6	Spike	P	0 - 30
2336740	Dinotefuran	10.5	Spike	P	0 - 30
2336740	Diuron	3.77	Spike	P	0 - 30
2336740	Fenuron	11.8	Spike	P	0 - 30
2336740	Fluridone	16.0	Spike	P	0 - 30
2336740	Hydrocodone	5.66	Spike	P	0 - 30
2336740	Ibuprofen	6.46	Spike	P	0 - 30
2336740	Imazapyr	8.65	Spike	P	0 - 30
2336740	Imidacloprid	4.87	Spike	P	0 - 30
2336740	Linuron	12.3	Spike	P	0 - 30
2336740	Mandestrobin	9.76	Spike	P	0 - 30
2336740	MCPP	7.99	Spike	P	0 - 30
2336740	Naproxen	16.9	Spike	P	0 - 30
2336740	Primidone	14.9	Spike	P	0 - 30
2336740	Pyraclostrobin	10.5	Spike	P	0 - 30
2336740	Silvex	3.94	Spike	P	0 - 30
2336740	Thiamethoxam	10.0	Spike	P	0 - 30
2336740	Tolfenpyrad	3.87	Spike	P	0 - 30
2336740	Triclopyr	3.81	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P415958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337006	Total Alkalinity	0.0833	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P416221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336797	TDS	1.86	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337006	Fluoride	0.483	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336489	Organic Carbon	1.08	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2336880
Field Sample ID: G1SE0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	65.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.1	P	30 - 160
EPA 8321B	Diuron-d6	55.0	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	46.7	P	30 - 160
EPA 8321B	Primidone-d5	76.4	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2336881
Field Sample ID: G1SE0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	65.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.5	P	30 - 160
EPA 8321B	Diuron-d6	51.5	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	59.1	P	30 - 160
EPA 8321B	Primidone-d5	79.7	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113019

Included Lab Sample IDs: 2336859, 2336860, 2336863, 2336865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105
Turbidity	101	101	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A113022

Included Lab Sample IDs: 2336859, 2336860, 2336863, 2336865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115
Color (true)	102	100	P/P	85 - 115

Reference Method: EPA 8321B

Run ID: A113088

Included Lab Sample IDs: 2336880, 2336881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.3	85.2	P/P	60 - 160
Acesulfame K	86.7	86.3	P/P	60 - 160
Sucralose	103	101	P/P	60 - 160
Sucralose	103	103	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A113094

Included Lab Sample IDs: 2336880, 2336881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	104	104	P/P	60 - 160
Endothall	62.2	61.9	P/P	60 - 160
Glufosinate	91.3	94.6	P/P	60 - 160
Glyphosate	99.0	94.9	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A113129

Included Lab Sample IDs: 2336861, 2336862, 2336864, 2336866

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113150

Included Lab Sample IDs: 2336882, 2336883, 2336884, 2336885, 2336886, 2336887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.0	97.7	P/P	90 - 110
Aluminum	95.1	95.0	P/P	90 - 110
Aluminum	97.7	97.7	P/P	90 - 110
Antimony	98.8	98.8	P/P	90 - 110
Antimony	98.8	98.9	P/P	90 - 110
Antimony	98.9	99.2	P/P	90 - 110
Arsenic	97.8	98.2	P/P	90 - 110
Arsenic	98.2	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113150

Included Lab Sample IDs: 2336882, 2336883, 2336884, 2336885, 2336886, 2336887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.5	96.3	P/P	90 - 110
Barium	96.6	98.3	P/P	90 - 110
Barium	97.2	97.7	P/P	90 - 110
Barium	98.3	97.2	P/P	90 - 110
Beryllium	97.8	96.9	P/P	90 - 110
Beryllium	98.0	97.8	P/P	90 - 110
Beryllium	98.0	98.0	P/P	90 - 110
Boron	93.3	94.9	P/P	90 - 110
Boron	94.9	97.9	P/P	90 - 110
Boron	97.9	98.7	P/P	90 - 110
Cadmium	97.0	98.3	P/P	90 - 110
Cadmium	98.1	97.9	P/P	90 - 110
Cadmium	98.3	98.1	P/P	90 - 110
Chromium	95.5	98.1	P/P	90 - 110
Chromium	97.0	99.7	P/P	90 - 110
Chromium	98.1	97.0	P/P	90 - 110
Cobalt	96.8	98.0	P/P	90 - 110
Cobalt	98.0	98.2	P/P	90 - 110
Cobalt	98.2	99.2	P/P	90 - 110
Copper	95.2	96.5	P/P	90 - 110
Copper	96.4	98.0	P/P	90 - 110
Copper	96.5	96.4	P/P	90 - 110
Lead	91.9	91.5	P/P	90 - 110
Lead	92.3	92.5	P/P	90 - 110
Lead	92.5	91.9	P/P	90 - 110
Manganese	96.4	99.5	P/P	90 - 110
Manganese	98.9	99.7	P/P	90 - 110
Manganese	99.5	98.9	P/P	90 - 110
Molybdenum	96.8	96.2	P/P	90 - 110
Molybdenum	98.5	96.8	P/P	90 - 110
Molybdenum	98.5	98.5	P/P	90 - 110
Nickel	96.6	97.8	P/P	90 - 110
Nickel	97.2	97.8	P/P	90 - 110
Nickel	97.8	97.2	P/P	90 - 110
Selenium	95.3	98.3	P/P	90 - 110
Selenium	97.2	96.6	P/P	90 - 110
Selenium	98.3	97.2	P/P	90 - 110
Silver	96.8	96.5	P/P	90 - 110
Silver	97.2	96.8	P/P	90 - 110
Silver	98.5	97.2	P/P	90 - 110
Thallium	94.1	94.6	P/P	90 - 110
Thallium	94.3	92.9	P/P	90 - 110
Thallium	94.6	94.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113155

Included Lab Sample IDs: 2336880, 2336881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	95.6	P/P	50 - 150
2,4,5-T	92.8	97.3	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A113155

Included Lab Sample IDs: 2336880, 2336881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	106	104	P/P	60 - 160
Acetamiprid	103	106	P/P	50 - 150
Afidopyropen	92.8	105	P/P	50 - 150
Bentazon	101	112	P/P	50 - 160
Benzovindiflupyr	102	104	P/P	50 - 150
Carbamazepine	109	106	P/P	60 - 150
Clothianidin	104	97.8	P/P	60 - 150
Dinotefuran	103	109	P/P	50 - 150
Diuron	69.3	95.4	P/P	60 - 160
Fenuron	98.8	98.6	P/P	60 - 150
Fluridone	115	104	P/P	60 - 160
Hydrocodone	97.6	106	P/P	60 - 150
Ibuprofen	88.3	120	P/P	50 - 160
Imazapyr	84.9	83.4	P/P	50 - 150
Imidacloprid	91.8	95.7	P/P	60 - 150
Linuron	106	90.3	P/P	60 - 150
Mandestrobin	102	101	P/P	50 - 150
MCPP	109	112	P/P	50 - 150
Naproxen	120	118	P/P	50 - 160
Primidone	106	104	P/P	60 - 150
Pyraclostrobin	104	102	P/P	60 - 150
Silvex	88.4	82.9	P/P	50 - 150
Thiamethoxam	101	101	P/P	50 - 150
Tolfenpyrad	99.6	96.0	P/P	60 - 150
Triclopyr	98.5	111	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113156

Included Lab Sample IDs: 2336859, 2336860, 2336863, 2336865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	98.7	99.6	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110
Sulfate	99.3	99.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A113157

Included Lab Sample IDs: 2336859, 2336860, 2336863, 2336865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.3	P/P	90 - 110
Total Alkalinity	98.3	99.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113157

Included Lab Sample IDs: 2336859, 2336860, 2336863, 2336865

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113171

Included Lab Sample IDs: 2336861, 2336862, 2336864, 2336866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	96.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113174

Included Lab Sample IDs: 2336882, 2336883, 2336884, 2336885, 2336886, 2336887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	97.5	P/P	90 - 110
Calcium	98.6	101	P/P	90 - 110
Calcium	99.6	97.6	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Iron	103	101	P/P	90 - 110
Magnesium	101	103	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	103	100	P/P	90 - 110
Potassium	101	104	P/P	90 - 110
Potassium	103	102	P/P	90 - 110
Potassium	104	101	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Sodium	101	104	P/P	90 - 110
Sodium	104	102	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Strontium	102	101	P/P	90 - 110
Strontium	99.9	100	P/P	90 - 110
Tin	99.2	97.8	P/P	90 - 110
Tin	99.3	99.2	P/P	90 - 110
Tin	99.3	97.8	P/P	90 - 110
Titanium	100	98.7	P/P	90 - 110
Titanium	98.5	97.5	P/P	90 - 110
Titanium	98.7	97.1	P/P	90 - 110
Vanadium	98.8	97.7	P/P	90 - 110
Vanadium	98.9	99.2	P/P	90 - 110
Vanadium	99.2	99.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113217

Included Lab Sample IDs: 2336882, 2336883, 2336884, 2336885, 2336886, 2336887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	98.7	99.4	P/P	90 - 110
Zinc	99.4	100	P/P	90 - 110
Zinc	99.7	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113221

Included Lab Sample IDs: 2336862

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	96.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113232

Included Lab Sample IDs: 2336861, 2336864, 2336866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113235

Included Lab Sample IDs: 2336861, 2336864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113252

Included Lab Sample IDs: 2336882, 2336885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	98.0	101	P/P	95 - 105
Tin	102	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113279

Included Lab Sample IDs: 2336862, 2336866

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113374

Included Lab Sample IDs: 2336861, 2336862, 2336864, 2336866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	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)	101					3.91	
EPA 180.1 Rev. 2.0	Turbidity	97.2					0.991	
EPA 200.7 Rev. 4.4	Calcium	104	103	102	98.6			1.12
	Iron	102	104	104	106			0.142
	Magnesium	104	105	104	103			0.222
	Potassium	110	113	112	105			0.532
	Sodium	102	103	102	101			0.934
	Strontium	102	102	103	104			1.15
	Tin	106	104	104	103			0.156
	Titanium	103	103	103	102			0.303
	Vanadium	94.3	94.6	93.9	95.2			0.750
	Zinc	103	103	99.4	101			3.85
EPA 200.8 Rev. 5.4	Aluminum	97.7	100	96.3	96.2			0.135
	Antimony	101	101	98.4	98.7			0.300
	Arsenic	98.7	98.9	94.4	95.2			0.813
	Barium	103	102	100	100			0.509
	Beryllium	97.4	100	96.0	95.7			0.334
	Boron	98.3	104	100	101			0.151
	Cadmium	101	99.3	95.7	98.2			2.55
	Chromium	97.2	98.7	95.2	94.6			0.631
	Cobalt	100	99.4	96.2	97.0			0.805
	Copper	97.0	96.5	96.6	97.5			0.959
	Lead	94.7	96.3	93.0	93.8			0.894
	Manganese	101	99.4	95.8	97.2			1.18
	Molybdenum	100	99.8	96.8	97.8			0.991
	Nickel	98.8	97.1	94.1	94.0			0.125
	Selenium	94.4	98.1	92.8	93.1			0.306
	Silver	99.1	96.0	94.6	96.3			1.86
	Thallium	98.2	101	96.8	98.3			1.56
EPA 300.0 Rev. 2.1	Chloride	101	99.7	97.9			1.07	
	Chloride	98.3	95.8	95.5			0.102	
	Sulfate	100	100	97.8			0.438	
	Sulfate	97.7	97.0	94.9			0.163	
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	104				2.76
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	108	98.9				6.17
	Kjeldahl Nitrogen	99.5	98.0	99.8				1.49
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	102				0.494
EPA 365.1 Rev. 2.0	Total-P	101	104	105				0.651
EPA 8321B	2,4-D	52.9	50.1	66.5				24.9
	2,4,5-T	44.6	39.2	39.5				0.782
	Acesulfame K	82.0	78.8	79.6				1.01
	Acetaminophen	83.1	92.2	98.3				6.40
	Acetamiprid	78.4	69.3	82.3				17.2
	Afidopyropen	45.0	50.1	63.1				23.0
	AMPA	110	102	105				3.23
	Bentazon	70.8	47.7	47.0				1.60
	Benzovindiflupyr	87.2	84.4	89.3				5.59
	Carbamazepine	83.5	79.4	85.7				7.66
	Clothianidin	89.4	96.5	111				13.6
	Dinotefuran	90.8	120	133				10.5
	Diuron	66.8	58.7	56.6				3.77
	Endothall	64.1	63.7	62.7				1.50
	Fenuron	90.2	79.6	89.6				11.8
	Fluridone	80.6	68.0	79.9				16.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glufosinate	104	107	113		5.87
	Glyphosate	97.3	83.2	90.5		8.35
	Hydrocodone	81.9	90.6	95.8		5.66
	Ibuprofen	60.5	72.4	67.9		6.46
	Imazapyr	88.0	73.0	79.6		8.65
	Imidacloprid	87.9	121	127		4.87
	Linuron	66.8	68.2	77.1		12.3
	Mandestrobin	72.4	68.2	75.2		9.76
	MCPP	69.4	63.8	69.1		7.99
	Naproxen	42.9	51.3	60.8		16.9
	Primidone	92.2	94.7	110		14.9
	Pyraclostrobin	72.5	74.5	82.8		10.5
	Silvex	42.7	49.3	47.4		3.94
	Sucralose	103	101	101		0.0700
	Thiamethoxam	83.8	115	127		10.0
	Tolfenpyrad	43.0	44.9	46.7		3.87
	Triclopyr	51.2	48.1	50.0		3.81
SM 2320 B-2011	Total Alkalinity	101			0.0833	
SM 2540 C-2011	TDS				1.86	
SM 4500-F- C-2011	Fluoride	99.3	102	102		0.483
SM 5310 B-2011	Organic Carbon	96.6	96.5	98.0		1.08

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2336859, 2336860, 2336863, 2336865
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2336859, 2336860, 2336863, 2336865
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2336882, 2336883, 2336884, 2336885, 2336886, 2336887
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2336882, 2336883, 2336884, 2336885, 2336886, 2336887
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2336859, 2336860, 2336863, 2336865
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2336859, 2336860, 2336863, 2336865
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2336861, 2336862, 2336864, 2336866
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2336861, 2336862, 2336864, 2336866
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2336861, 2336862, 2336864, 2336866
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2336861, 2336862, 2336864, 2336866
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2336880, 2336881
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2336859, 2336860, 2336863, 2336865
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2336882, 2336883, 2336884, 2336885, 2336886, 2336887
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2336859, 2336860, 2336863, 2336865
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2336859, 2336860, 2336863, 2336865
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2336859, 2336860, 2336863, 2336865
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2336861, 2336862, 2336864, 2336866

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	06/23/2022			06/23/2022 16:13	Anna M. Plaviak	2336859
	06/23/2022			06/23/2022 16:14	Anna M. Plaviak	2336860
	06/23/2022			06/23/2022 16:15	Anna M. Plaviak	2336865
	06/23/2022			06/23/2022 16:21	Anna M. Plaviak	2336863
EPA 180.1 Rev. 2.0	06/23/2022			06/23/2022 14:28	Khloe J Berg	2336859
	06/23/2022			06/23/2022 14:29	Khloe J Berg	2336860
	06/23/2022			06/23/2022 14:30	Khloe J Berg	2336863
	06/23/2022			06/23/2022 14:33	Khloe J Berg	2336865
EPA 200.7 Rev. 4.4	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/29/2022 23:06	McKinley C Carter	2336887
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 02:26	McKinley C Carter	2336882
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 02:34	McKinley C Carter	2336883
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 02:42	McKinley C Carter	2336883
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 02:50	McKinley C Carter	2336884
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 02:58	McKinley C Carter	2336885
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 03:33	McKinley C Carter	2336886
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 14:50	McKinley C Carter	2336887
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 17:08	McKinley C Carter	2336882
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 17:14	McKinley C Carter	2336883
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 17:24	McKinley C Carter	2336884
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 17:31	McKinley C Carter	2336885
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/30/2022 17:57	McKinley C Carter	2336886
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	07/01/2022 16:46	McKinley C Carter	2336882
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	07/01/2022 16:54	McKinley C Carter	2336885
EPA 200.8 Rev. 5.4	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/28/2022 15:00	Emily M Philpot	2336887
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/28/2022 17:25	Emily M Philpot	2336882
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/28/2022 18:28	Emily M Philpot	2336883
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/28/2022 18:37	Emily M Philpot	2336884
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/28/2022 18:46	Emily M Philpot	2336885
	06/23/2022	06/24/2022 09:52	Mackenzie Hunt	06/28/2022 18:55	Emily M Philpot	2336886
EPA 300.0 Rev. 2.1	06/23/2022			06/29/2022 03:52	Anna M. Plaviak	2336859
	06/23/2022			06/29/2022 04:04	Anna M. Plaviak	2336860
	06/23/2022			06/29/2022 04:16	Anna M. Plaviak	2336863
	06/23/2022			07/01/2022 14:23	Anna M. Plaviak	2336865
EPA 350.1 Rev. 2.0	06/23/2022			06/29/2022 16:59	Judith K. Clark	2336861
	06/23/2022			06/29/2022 17:01	Judith K. Clark	2336862
	06/23/2022			06/29/2022 17:02	Judith K. Clark	2336864
	06/23/2022			06/29/2022 17:03	Judith K. Clark	2336866
EPA 351.2 Rev. 2.0	06/23/2022	06/29/2022 14:44	Samantha L Bates	07/01/2022 11:10	Alexandra J Mattheus	2336861
	06/23/2022	06/29/2022 14:44	Samantha L Bates	07/01/2022 11:12	Alexandra J Mattheus	2336864
	06/23/2022	06/29/2022 14:44	Samantha L Bates	07/01/2022 11:14	Alexandra J Mattheus	2336866

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 351.2 Rev. 2.0	06/23/2022	06/29/2022 14:45	Samantha L Bates	06/30/2022 15:07	Alexandra J Mattheus	2336862
EPA 353.2 Rev. 2.0	06/23/2022			07/08/2022 10:13	Judith K. Clark	2336861
	06/23/2022			07/08/2022 10:14	Judith K. Clark	2336862
	06/23/2022			07/08/2022 10:16	Judith K. Clark	2336864
	06/23/2022			07/08/2022 10:17	Judith K. Clark	2336866
EPA 365.1 Rev. 2.0	06/23/2022	06/30/2022 14:54	Adam P Silver	07/01/2022 12:52	James L Waggeberby	2336861
	06/23/2022	06/30/2022 14:54	Adam P Silver	07/01/2022 13:00	James L Waggeberby	2336864
	06/23/2022	06/30/2022 14:54	Adam P Silver	07/05/2022 13:33	Simonne.V. Calhoun	2336866
	06/23/2022	06/30/2022 14:54	Adam P Silver	07/05/2022 13:34	Simonne.V. Calhoun	2336862
EPA 8321B	06/23/2022	06/24/2022 12:00	Umesh Chiluwal	06/25/2022 02:12	Umesh Chiluwal	2336880
	06/23/2022	06/24/2022 12:00	Umesh Chiluwal	06/25/2022 02:25	Umesh Chiluwal	2336881
	06/23/2022	06/24/2022 12:00	Umesh Chiluwal	06/25/2022 10:04	Umesh Chiluwal	2336880
	06/23/2022	06/24/2022 12:00	Umesh Chiluwal	06/25/2022 10:34	Umesh Chiluwal	2336881
	06/23/2022	06/28/2022 09:30	June Rhew	06/29/2022 02:41	Juyoung Kim	2336880
	06/23/2022	06/28/2022 09:30	June Rhew	06/29/2022 03:02	Juyoung Kim	2336881
SM 2320 B-2011	06/23/2022			06/29/2022 01:42	Dale L. Simmons	2336859
	06/23/2022			06/29/2022 01:55	Dale L. Simmons	2336863
	06/23/2022			06/29/2022 02:41	Dale L. Simmons	2336865
	06/23/2022			06/29/2022 04:52	Dale L. Simmons	2336860
SM 2340 B-2011	06/23/2022			06/29/2022 23:06	McKinley C Carter	2336887
	06/23/2022			06/30/2022 02:26	McKinley C Carter	2336882
	06/23/2022			06/30/2022 02:34	McKinley C Carter	2336883
	06/23/2022			06/30/2022 02:50	McKinley C Carter	2336884
	06/23/2022			06/30/2022 02:58	McKinley C Carter	2336885
	06/23/2022			06/30/2022 03:33	McKinley C Carter	2336886
SM 2540 C-2011	06/23/2022			06/28/2022 16:31	Yijie Li	2336859, 2336860, 2336863, 2336865
SM 2540 D-2011	06/23/2022			06/28/2022 16:31	Yijie Li	2336859, 2336860, 2336863, 2336865
SM 4500-F- C-2011	06/23/2022			06/29/2022 01:42	Dale L. Simmons	2336859
	06/23/2022			06/29/2022 01:55	Dale L. Simmons	2336863
	06/23/2022			06/29/2022 02:41	Dale L. Simmons	2336865
	06/23/2022			06/29/2022 04:52	Dale L. Simmons	2336860
SM 5310 B-2011	06/23/2022			06/27/2022 21:13	Khloe J Berg	2336861
	06/23/2022			06/27/2022 21:27	Khloe J Berg	2336862
	06/23/2022			06/27/2022 21:41	Khloe J Berg	2336864
	06/23/2022			06/27/2022 21:55	Khloe J Berg	2336866