

Chemical Analysis Report

CEN-DIST-2022-04-12-01

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

Event Description: **Run 18**
Request ID: **RQ-2022-04-11-27**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matthew Bearden

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 29-APR-2022 16:26



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: Turnbull Bay 1.2 km S of Turnbull Bay Rd

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

Field ID: G5CE0130

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318257	EPA 8321B	2,4-D	0.086		ug/L	P412254	
		Acesulfame K	0.26	I	ug/L	P412342	
		2,4,5-T	0.0040	U	ug/L	P412254	
		AMPA	0.16	I	ug/L	P412342	
		Acetaminophen	0.0080	U	ug/L	P412254	
		Acetamiprid	0.0020	U	ug/L	P412254	
		Endothall	0.25	U	ug/L	P412342	
		Glufosinate	0.10	U	ug/L	P412342	
		Glyphosate	0.10	U	ug/L	P412342	
		Afidopyropen	0.0020	U	ug/L	P412254	
		Bentazon	0.37		ug/L	P412254	
		Sucralose	1.5		ug/L	P412342	
		Benzovindiflupyr	0.0020	U	ug/L	P412254	
		Carbamazepine	0.0046		ug/L	P412254	
		Clothianidin	0.0066	I	ug/L	P412254	
		Dinotefuran	0.0032	I	ug/L	P412254	
		Diuron	0.0094		ug/L	P412254	
		Fenuron	0.032	U	ug/L	P412254	MS
		Fluridone	0.017		ug/L	P412254	
		Imazapyr	0.14		ug/L	P412254	
		Hydrocodone	0.0020	U	ug/L	P412254	
		Ibuprofen	0.020	U	ug/L	P412254	
		Imidacloprid	0.021		ug/L	P412254	
		Linuron	0.0040	U	ug/L	P412254	
		Mandestrobin	0.0020	U	ug/L	P412254	
		MCPP	0.0040	I	ug/L	P412254	
		Naproxen	0.0080	U	ug/L	P412254	
		Primidone	0.019		ug/L	P412254	
		Pyraclostrobin	0.0020	U	ug/L	P412254	
		Silvex	0.0040	U	ug/L	P412254	
		Thiamethoxam	0.0020	U	ug/L	P412254	
		Tolfenpyrad	0.0020	U	ug/L	P412254	
		Triclopyr	0.0040	U	ug/L	P412254	
2318262	EPA 200.7 Rev. 4.4	Calcium	85.0		mg/L	P412351	
		Iron	690		ug/L	P412351	
		Magnesium	31.2		mg/L	P412351	
		Strontium	570		ug/L	P412351	
		Tin	15	U	ug/L	P412351	
		Titanium	9.7		ug/L	P412351	
		Vanadium	2.0	U	ug/L	P412351	
		Zinc	5.0	U	ug/L	P412351	
	EPA 200.8 Rev. 5.4	Aluminum	340		ug/L	P412351	
		Antimony	0.077	I	ug/L	P412351	
		Arsenic	1.52		ug/L	P412351	

Field ID: G5CE0130

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318262	EPA 200.8 Rev. 5.4	Beryllium	0.042		ug/L	P412351	
		Cadmium	0.020	U	ug/L	P412351	
		Chromium	1.0	I	ug/L	P412351	
		Cobalt	0.125		ug/L	P412351	
		Copper	2.01		ug/L	P412351	
		Lead	0.68		ug/L	P412351	
		Manganese	10.8		ug/L	P412351	
		Molybdenum	0.57	I	ug/L	P412351	
		Nickel	0.50	U	ug/L	P412351	
		Selenium	0.20	U	ug/L	P412351	
		Silver	0.010	U	ug/L	P412351	
		Thallium	0.10	U	ug/L	P412351	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for chromium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 04/11/2022 13:52

Field ID: FB_04112022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318264	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P412351	
		Iron	30	U	ug/L	P412351	
		Magnesium	0.040	U	mg/L	P412351	
		Strontium	2.0	U	ug/L	P412351	
		Tin	3.0	U	ug/L	P412351	
		Titanium	0.75	U	ug/L	P412351	
		Vanadium	2.0	U	ug/L	P412351	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P412351	
		Aluminum	5.0	U	ug/L	P412351	
		Antimony	0.050	U	ug/L	P412351	
		Arsenic	0.050	U	ug/L	P412351	
		Beryllium	0.010	U	ug/L	P412351	
		Cadmium	0.020	U	ug/L	P412351	
		Chromium	0.40	U	ug/L	P412351	
		Cobalt	0.020	U	ug/L	P412351	
		Copper	0.40	U	ug/L	P412351	
		Lead	0.20	U	ug/L	P412351	
		Manganese	0.10	U	ug/L	P412351	
		Molybdenum	0.15	U	ug/L	P412351	
		Nickel	0.50	U	ug/L	P412351	
		Selenium	0.20	U	ug/L	P412351	
		Silver	0.010	U	ug/L	P412351	
		Thallium	0.10	U	ug/L	P412351	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for chromium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 04/11/2022 13:52

Field ID: FB_04112022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318259	EPA 8321B	2,4-D	0.0020	U	ug/L	P412254	
		Acesulfame K	0.10	U	ug/L	P412342	
		2,4,5-T	0.0040	U	ug/L	P412254	
		AMPA	0.10	U	ug/L	P412342	
		Acetaminophen	0.0080	U	ug/L	P412254	
		Acetamiprid	0.0020	U	ug/L	P412254	
		Endothall	0.25	U	ug/L	P412342	
		Glufosinate	0.10	U	ug/L	P412342	
		Glyphosate	0.10	U	ug/L	P412342	
		Afidopyropen	0.0020	U	ug/L	P412254	
		Bentazon	8.0E-04	U	ug/L	P412254	
		Sucralose	0.010	U	ug/L	P412342	
		Benzovindiflupyr	0.0020	U	ug/L	P412254	
		Carbamazepine	8.0E-04	U	ug/L	P412254	
		Clothianidin	0.0020	U	ug/L	P412254	
		Dinotefuran	0.0020	U	ug/L	P412254	
		Diuron	0.0020	U	ug/L	P412254	
		Fenuron	0.032	U	ug/L	P412254	MS
		Fluridone	8.0E-04	U	ug/L	P412254	
		Imazapyr	0.0040	U	ug/L	P412254	
		Hydrocodone	0.0020	U	ug/L	P412254	
		Ibuprofen	0.020	U	ug/L	P412254	
		Imidacloprid	0.0020	U	ug/L	P412254	
		Linuron	0.0040	U	ug/L	P412254	
		Mandestrobin	0.0020	U	ug/L	P412254	
		MCPP	0.0040	U	ug/L	P412254	
		Naproxen	0.0080	U	ug/L	P412254	
		Primidone	0.0040	U	ug/L	P412254	
		Pyraclostrobin	0.0020	U	ug/L	P412254	
		Silvex	0.0040	U	ug/L	P412254	
		Thiamethoxam	0.0020	U	ug/L	P412254	
		Tolfenpyrad	0.0020	U	ug/L	P412254	
		Triclopyr	0.0040	U	ug/L	P412254	

Sample Location: Turnbull Bay @ 350M NW of Turnbull Bay Road Collection Date/Time: 04/11/2022 11:55

Field ID: G5CE0157

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318235	EPA 180.1 Rev. 2.0	Turbidity	22		NTU	P412261	
	SM 2320 B-2011	Total Alkalinity	184		mg CaCO3/L	P412679	
	SM 2540 D-2011	TSS	24		mg/L	P412559	
	SM 4500-F- C-2011	Fluoride	0.19		mg F/L	P412683	
2318236	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P412377	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P412525	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P412335	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P412448	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P412395	
2318260	EPA 200.7 Rev. 4.4	Calcium	91.3		mg/L	P412351	
		Iron	690		ug/L	P412351	
		Magnesium	83.7		mg/L	P412351	
		Strontium	833		ug/L	P412351	
		Tin	15	U	ug/L	P412351	
		Titanium	6.0		ug/L	P412351	
		Vanadium	2.6	I	ug/L	P412351	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P412351	
		Aluminum	299		ug/L	P412351	
		Antimony	0.096	I	ug/L	P412351	
		Arsenic	1.84		ug/L	P412351	
		Beryllium	0.046		ug/L	P412351	
		Cadmium	0.020	U	ug/L	P412351	
		Chromium	0.95	I	ug/L	P412351	
		Cobalt	0.128		ug/L	P412351	
		Copper	2.55		ug/L	P412351	
		Lead	0.88		ug/L	P412351	
		Manganese	11.1		ug/L	P412351	
		Molybdenum	1.18		ug/L	P412351	
		Nickel	0.57	I	ug/L	P412351	
		Selenium	0.20	U	ug/L	P412351	
		Silver	0.010	U	ug/L	P412351	
		Thallium	0.10	U	ug/L	P412351	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for chromium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Turnbull Bay @ 640m S of Divito Park

Collection Date/Time: 04/11/2022 12:22

Field ID: G5CE0100

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318237	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P412261	
	SM 2320 B-2011	Total Alkalinity	123	A	mg CaCO3/L	P412455	
	SM 2540 D-2011	TSS	14		mg/L	P412561	
	SM 4500-F- C-2011	Fluoride	0.44		mg F/L	P412531	
2318238	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P412302	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P412825	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P412398	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P412599	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P412477	
2318256	EPA 8321B	Acesulfame K	0.10	U	ug/L	P412342	
		2,4-D	0.44		ug/L	P412254	
		AMPA	1.0	U	ug/L	P412342	
		2,4,5-T	0.0040	U	ug/L	P412254	
		Acetaminophen	0.0080	U	ug/L	P412254	
		Endothall	0.25	U	ug/L	P412342	
		Acetamiprid	0.0020	U	ug/L	P412254	
		Glufosinate	1.0	U	ug/L	P412342	
		Glyphosate	1.0	U	ug/L	P412342	
		Afidopyropen	0.0020	U	ug/L	P412254	
		Sucralose	1.1		ug/L	P412342	
		Bentazon	0.27		ug/L	P412254	
		Benzovindiflupyr	0.0020	U	ug/L	P412254	
		Carbamazepine	0.0049		ug/L	P412254	
		Clothianidin	0.0043	I	ug/L	P412254	
		Dinotefuran	0.0065	I	ug/L	P412254	
		Diuron	0.023		ug/L	P412254	
		Fenuron	0.032	U	ug/L	P412254	MS
		Fluridone	0.029		ug/L	P412254	
		Imazapyr	0.093		ug/L	P412254	
		Hydrocodone	0.0020	U	ug/L	P412254	
		Ibuprofen	0.020	U	ug/L	P412254	
		Imidacloprid	0.033		ug/L	P412254	
		Linuron	0.0040	U	ug/L	P412254	
		Mandestrobin	0.0020	U	ug/L	P412254	
		MCP	0.0052	I	ug/L	P412254	
		Naproxen	0.0080	U	ug/L	P412254	
		Primidone	0.014	I	ug/L	P412254	
		Pyraclostrobin	0.0020	U	ug/L	P412254	
		Silvex	0.0040	U	ug/L	P412254	
		Thiamethoxam	0.0020	U	ug/L	P412254	
		Tolfenpyrad	0.0020	U	ug/L	P412254	
		Triclopyr	0.0040	U	ug/L	P412254	
2318261	EPA 200.7 Rev. 4.4	Calcium	169		mg/L	P412394	
		Iron	530		ug/L	P412394	

Field ID: G5CE0100

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318261	EPA 200.7 Rev. 4.4	Magnesium	408		mg/L	P412394	
		Strontium	2.51E+03		ug/L	P412394	
		Tin	60	U	ug/L	P412394	
		Titanium	12.3		ug/L	P412394	
		Vanadium	6.0	U	ug/L	P412394	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P412394	
		Aluminum	310		ug/L	P412394	
		Antimony	0.20	U	ug/L	P412394	
		Arsenic	2.06		ug/L	P412394	
		Beryllium	0.052	I	ug/L	P412394	
		Cadmium	0.080	U	ug/L	P412394	
		Chromium	1.6	U	ug/L	P412394	
		Cobalt	0.48		ug/L	P412394	
		Copper	2.0	I	ug/L	P412394	
		Lead	0.80	U	ug/L	P412394	
		Manganese	13.0		ug/L	P412394	
		Molybdenum	4.3		ug/L	P412394	
		Nickel	2.0	U	ug/L	P412394	
		Selenium	0.80	U	ug/L	P412394	
		Silver	0.040	U	ug/L	P412394	
		Thallium	0.40	U	ug/L	P412394	

Ref. Method and Comment:

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

EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Spruce Creek @ 0.68 miles upstream of RR bridge

Collection Date/Time: 04/11/2022 13:01

Field ID: G5CE0099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318265	EPA 200.7 Rev. 4.4	Calcium	35.1		mg/L	P412351	
		Iron	1.19E+03		ug/L	P412351	
		Magnesium	15.1		mg/L	P412351	
		Strontium	231		ug/L	P412351	
		Tin	3.0	U	ug/L	P412351	
		Titanium	7.1		ug/L	P412351	
		Vanadium	2.0	U	ug/L	P412351	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P412351	
		Aluminum	582		ug/L	P412351	
		Antimony	0.11	I	ug/L	P412351	
		Arsenic	1.34		ug/L	P412351	
		Beryllium	0.057		ug/L	P412351	
		Cadmium	0.020	U	ug/L	P412351	
		Chromium	0.98	I	ug/L	P412351	
		Cobalt	0.207		ug/L	P412351	
		Copper	2.10		ug/L	P412351	
		Lead	0.72		ug/L	P412351	
		Manganese	13.5		ug/L	P412351	
		Molybdenum	0.71		ug/L	P412351	
		Nickel	0.72	I	ug/L	P412351	
		Selenium	0.25	I	ug/L	P412351	
		Silver	0.010	U	ug/L	P412351	
		Thallium	0.10	U	ug/L	P412351	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for chromium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Spruce Creek @ 500m Upstream of RR Bridge Collection Date/Time: 04/11/2022 16:00

Field ID: G5CE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318258	EPA 8321B	2,4-D	0.18		ug/L	P412254	
		Acesulfame K	0.10	U	ug/L	P412342	
		2,4,5-T	0.0040	U	ug/L	P412254	
		AMPA	0.30	I	ug/L	P412342	
		Acetaminophen	0.0080	U	ug/L	P412254	
		Acetamiprid	0.0034	I	ug/L	P412254	
		Endothall	0.25	U	ug/L	P412342	
		Glufosinate	0.10	U	ug/L	P412342	
		Glyphosate	0.48		ug/L	P412342	
		Afidopyropen	0.0020	U	ug/L	P412254	
		Bentazon	0.44		ug/L	P412254	
		Sucralose	2.1		ug/L	P412342	
		Benzovindiflupyr	0.0020	U	ug/L	P412254	
		Carbamazepine	0.0053		ug/L	P412254	
		Clothianidin	0.0067	I	ug/L	P412254	
		Dinotefuran	0.014		ug/L	P412254	
		Diuron	0.047		ug/L	P412254	
		Fenuron	0.032	U	ug/L	P412254	MS
		Fluridone	0.049		ug/L	P412254	
		Imazapyr	0.10		ug/L	P412254	
		Hydrocodone	0.0020	U	ug/L	P412254	
		Ibuprofen	0.020	U	ug/L	P412254	
		Imidacloprid	0.086		ug/L	P412254	
		Linuron	0.0040	U	ug/L	P412254	
		Mandestrobin	0.0020	U	ug/L	P412254	
		MCPP	0.0084	I	ug/L	P412254	
		Naproxen	0.0080	U	ug/L	P412254	
		Primidone	0.021		ug/L	P412254	
		Pyraclostrobin	0.0020	U	ug/L	P412254	
		Silvex	0.0040	U	ug/L	P412254	
		Thiamethoxam	0.0020	U	ug/L	P412254	
		Tolfenpyrad	0.0020	U	ug/L	P412254	
		Triclopyr	0.0040	U	ug/L	P412254	
2318263	EPA 200.7 Rev. 4.4	Calcium	37.2		mg/L	P412351	
		Iron	1.09E+03		ug/L	P412351	
		Magnesium	24.4		mg/L	P412351	
		Strontium	279		ug/L	P412351	
		Tin	3.0	U	ug/L	P412351	
		Titanium	2.9	I	ug/L	P412351	
		Vanadium	2.0	U	ug/L	P412351	
		Zinc	5.0	U	ug/L	P412351	
	EPA 200.8 Rev. 5.4	Aluminum	496		ug/L	P412351	
		Antimony	0.12	I	ug/L	P412351	
		Arsenic	1.38		ug/L	P412351	

Field ID: G5CE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318263	EPA 200.8 Rev. 5.4	Beryllium	0.053		ug/L	P412351	
		Cadmium	0.020	U	ug/L	P412351	
		Chromium	0.90	I	ug/L	P412351	
		Cobalt	0.202		ug/L	P412351	
		Copper	2.07		ug/L	P412351	
		Lead	0.69		ug/L	P412351	
		Manganese	13.2		ug/L	P412351	
		Molybdenum	0.81		ug/L	P412351	
		Nickel	0.69	I	ug/L	P412351	
		Selenium	0.20	U	ug/L	P412351	
		Silver	0.010	U	ug/L	P412351	
		Thallium	0.10	U	ug/L	P412351	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for chromium 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: EPA 180.1 Rev. 2.0
Batch ID: P412261

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412351

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 200.7 Rev. 4.4
Batch ID: P412394

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: P412351

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 200.8 Rev. 5.4
Batch ID: P412394

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412394

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 350.1 Rev. 2.0
Batch ID: P412302

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412377

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412525

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412825

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412335

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412398

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412448

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412599

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

Reference Method: EPA 8321B
Batch ID: P412254

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	0.020	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	0.0040	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: EPA 8321B
Batch ID: P412342

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P412455

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

Reference Method: SM 2320 B-2011
Batch ID: P412679

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

Reference Method: SM 2540 D-2011
Batch ID: P412559

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P412561

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P412531

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P412683

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412395

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

Reference Method: SM 5310 B-2011
Batch ID: P412477

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P412261

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.1		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412351

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	107		P	85 - 115
Magnesium	108		P	85 - 115
Strontium	104		P	85 - 115
Tin	101		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	95.2		P	85 - 115
Zinc	97.8		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412394

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	110		P	85 - 115
Magnesium	104		P	85 - 115
Strontium	104		P	85 - 115
Tin	102		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	99.1		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412351

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	105		P	85 - 115
Beryllium	104		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	106		P	85 - 115
Copper	101		P	85 - 115
Lead	104		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	104		P	85 - 115
Nickel	104		P	85 - 115
Selenium	101		P	85 - 115
Silver	104		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412394

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

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412394

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	102		P	85 - 115
Beryllium	94.0		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.4		P	85 - 115
Cobalt	103		P	85 - 115
Copper	98.6		P	85 - 115
Lead	103		P	85 - 115
Manganese	99.6		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	100		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	105		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P412302

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P412377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P412525

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: P412825

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412335

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412398

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P412448

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P412599

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

Reference Method: EPA 8321B
 Batch ID: P412254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.5		P	40 - 150
2,4,5-T	74.5		P	40 - 150
Acetaminophen	65.9		P	30 - 150
Acetamiprid	102		P	40 - 150
Afidopyropen	99.0		P	40 - 150
Bentazon	93.7		P	30 - 150
Benzovindiflupyr	101		P	40 - 150
Carbamazepine	115		P	40 - 150
Clothianidin	104		P	40 - 150
Dinotefuran	101		P	40 - 150
Diuron	76.7		P	40 - 150
Fenuron	114		P	40 - 150
Fluridone	95.3		P	40 - 150
Hydrocodone	97.9		P	40 - 150
Ibuprofen	108		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	94.3		P	40 - 150
Linuron	78.3		P	40 - 150
Mandestrobin	108		P	40 - 150
MCPP	110		P	40 - 150
Naproxen	81.0		P	40 - 150
Primidone	116		P	40 - 150
Pyraclostrobin	86.0		P	40 - 150
Silvex	66.9		P	40 - 150
Thiamethoxam	113		P	40 - 150
Tolfenpyrad	48.5		P	30 - 150
Triclopyr	71.2		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P412342

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.8		P	40 - 150
AMPA	87.4		P	40 - 150
Endothall	110		P	40 - 150
Glufosinate	93.1		P	40 - 150
Glyphosate	107		P	40 - 150
Sucralose	83.8		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P412455

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

Reference Method: SM 2320 B-2011
Batch ID: P412679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P412531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	93 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P412683

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

Reference Method: SM 5310 B-2011
Batch ID: P412395

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

Reference Method: SM 5310 B-2011
Batch ID: P412477

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318392	Calcium	106		P	80 - 120
2318392	Iron	108	108	P/P	80 - 120
2318392	Magnesium	108	107	P/P	80 - 120
2318392	Strontium	104	106	P/P	80 - 120
2318392	Tin	97.8	102	P/P	80 - 120
2318392	Titanium	100	102	P/P	80 - 120
2318392	Vanadium	95.7	97.1	P/P	80 - 120
2318392	Zinc	96.3	97.9	P/P	80 - 120
2318567	Calcium	103		P	80 - 120
2318567	Iron	102		P	80 - 120
2318567	Magnesium	108		P	80 - 120
2318567	Strontium	106		P	80 - 120
2318567	Tin	102		P	80 - 120
2318567	Titanium	104		P	80 - 120
2318567	Vanadium	98.8		P	80 - 120
2318567	Zinc	98.5		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318261	Iron	104	105	P/P	70 - 130
2318261	Tin	77.6	89.5	P/P	70 - 130
2318261	Titanium	86.0	90.4	P/P	70 - 130
2318261	Vanadium	101	101	P/P	70 - 130
2318261	Zinc	100	101	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318392	Aluminum	105	102	P/P	80 - 120
2318392	Antimony	106	106	P/P	80 - 120
2318392	Arsenic	105	104	P/P	80 - 120
2318392	Beryllium	100	99.3	P/P	80 - 120
2318392	Cadmium	105	107	P/P	80 - 120
2318392	Chromium	103	102	P/P	80 - 120
2318392	Cobalt	106	104	P/P	80 - 120
2318392	Copper	100	98.9	P/P	80 - 120
2318392	Lead	106	105	P/P	80 - 120
2318392	Manganese	104	101	P/P	80 - 120
2318392	Molybdenum	107	106	P/P	80 - 120
2318392	Nickel	101	100	P/P	80 - 120
2318392	Selenium	100	101	P/P	80 - 120
2318392	Silver	105	103	P/P	80 - 120
2318392	Thallium	111	111	P/P	80 - 120
2318567	Aluminum	104		P	80 - 120
2318567	Antimony	107		P	80 - 120
2318567	Arsenic	106		P	80 - 120
2318567	Beryllium	104		P	80 - 120
2318567	Cadmium	104		P	80 - 120
2318567	Cobalt	106		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318567	Copper	98.4		P	80 - 120
2318567	Lead	106		P	80 - 120
2318567	Manganese	101		P	80 - 120
2318567	Molybdenum	83.5		P	80 - 120
2318567	Nickel	101		P	80 - 120
2318567	Selenium	103		P	80 - 120
2318567	Silver	105		P	80 - 120
2318567	Thallium	110		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318261	Aluminum	119	126	P/P	70 - 130
2318261	Antimony	101	101	P/P	70 - 130
2318261	Arsenic	115	117	P/P	70 - 130
2318261	Beryllium	108	105	P/P	70 - 130
2318261	Cadmium	94.9	94.6	P/P	70 - 130
2318261	Chromium	103	102	P/P	70 - 130
2318261	Cobalt	114	115	P/P	70 - 130
2318261	Copper	109	110	P/P	70 - 130
2318261	Lead	110	111	P/P	70 - 130
2318261	Manganese	98.5	98.6	P/P	70 - 130
2318261	Molybdenum	115	116	P/P	70 - 130
2318261	Nickel	119	120	P/P	70 - 130
2318261	Selenium	103	103	P/P	70 - 130
2318261	Silver	95.7	95.2	P/P	70 - 130
2318261	Thallium	111	112	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P412302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318298	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P412377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318227	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P412525

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2317902	Kjeldahl Nitrogen	94.6	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P412825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318238	Kjeldahl Nitrogen	102	108	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318198	NO2NO3-N	97.0	96.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412398

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2317701	NO2NO3-N	98.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318319	Total-P	92.1	91.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318318	Total-P	96.6	95.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P412254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318087	2,4-D	77.0	93.1	P/P	40 - 150
2318087	2,4,5-T	72.1	75.2	P/P	40 - 150
2318087	Acetaminophen	102	97.5	P/P	30 - 150
2318087	Acetamiprid	85.8	74.4	P/P	40 - 150
2318087	Afidopyropen	80.8	74.7	P/P	40 - 150
2318087	Bentazon	81.3	79.8	P/P	30 - 150
2318087	Benzovindiflupyr	108	98.8	P/P	40 - 150
2318087	Carbamazepine	112	110	P/P	40 - 150
2318087	Clothianidin	95.4	96.2	P/P	40 - 150
2318087	Dinotefuran	112	110	P/P	40 - 150
2318087	Diuron	94.1	93.8	P/P	40 - 150
2318087	Fenuron	142	156	P/F	40 - 150
2318087	Fluridone	93.2	91.5	P/P	40 - 150
2318087	Hydrocodone	94.9	104	P/P	40 - 150
2318087	Ibuprofen	127	130	P/P	40 - 150
2318087	Imazapyr	102	90.8	P/P	40 - 150
2318087	Imidacloprid	115	98.9	P/P	40 - 150
2318087	Linuron	75.8	59.2	P/P	40 - 150
2318087	Mandestrobin	93.0	101	P/P	40 - 150
2318087	MCPP	115	94.7	P/P	40 - 150
2318087	Naproxen	70.5	55.6	P/P	40 - 150
2318087	Primidone	140	138	P/P	40 - 150
2318087	Pyraclostrobin	87.1	86.0	P/P	40 - 150
2318087	Silvex	61.0	59.7	P/P	40 - 150
2318087	Thiamethoxam	116	115	P/P	40 - 150
2318087	Tolfenpyrad	45.0	46.8	P/P	30 - 150
2318087	Triclopyr	74.1	65.8	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P412342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318087	Acesulfame K	94.1	93.8	P/P	40 - 150
2318087	AMPA	86.9	83.6	P/P	40 - 150
2318087	Endothall	118	116	P/P	40 - 150
2318087	Glufosinate	90.0	89.2	P/P	40 - 150
2318087	Glyphosate	125	117	P/P	40 - 150
2318087	Sucralose	87.0	78.8	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P412531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318237	Fluoride	96.3	97.1	P/P	92 - 107

Reference Method: SM 4500-F- C-2011
Batch ID: P412683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319288	Fluoride	98.4	96.8	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P412395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318226	Organic Carbon	100	98.0	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P412477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318660	Organic Carbon	87.1	88.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P412261

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318224	Turbidity	1.16	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412351

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318392	Calcium	0.844	Spike	P	0 - 20
2318392	Iron	0.225	Spike	P	0 - 20
2318392	Magnesium	0.267	Spike	P	0 - 20
2318392	Strontium	1.27	Spike	P	0 - 20
2318392	Tin	4.07	Spike	P	0 - 20
2318392	Titanium	2.01	Spike	P	0 - 20
2318392	Vanadium	1.38	Spike	P	0 - 20
2318392	Zinc	1.62	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412394

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318261	Calcium	1.90	Spike	P	0 - 20
2318261	Iron	0.366	Spike	P	0 - 20
2318261	Magnesium	1.35	Spike	P	0 - 20
2318261	Strontium	1.36	Spike	P	0 - 20
2318261	Tin	14.2	Spike	P	0 - 20
2318261	Titanium	3.70	Spike	P	0 - 20
2318261	Vanadium	0.135	Spike	P	0 - 20
2318261	Zinc	0.786	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412351

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318392	Aluminum	1.87	Spike	P	0 - 20
2318392	Antimony	0.101	Spike	P	0 - 20
2318392	Arsenic	0.411	Spike	P	0 - 20
2318392	Beryllium	0.966	Spike	P	0 - 20
2318392	Cadmium	2.52	Spike	P	0 - 20
2318392	Chromium	0.880	Spike	P	0 - 20
2318392	Cobalt	1.88	Spike	P	0 - 20
2318392	Copper	1.30	Spike	P	0 - 20
2318392	Lead	1.08	Spike	P	0 - 20
2318392	Manganese	1.98	Spike	P	0 - 20
2318392	Molybdenum	0.595	Spike	P	0 - 20
2318392	Nickel	0.999	Spike	P	0 - 20
2318392	Selenium	0.795	Spike	P	0 - 20
2318392	Silver	2.01	Spike	P	0 - 20
2318392	Thallium	0.287	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318261	Aluminum	5.23	Spike	P	0 - 20
2318261	Antimony	0.132	Spike	P	0 - 20
2318261	Arsenic	1.40	Spike	P	0 - 20
2318261	Beryllium	2.97	Spike	P	0 - 20
2318261	Cadmium	0.257	Spike	P	0 - 20
2318261	Chromium	0.0921	Spike	P	0 - 20
2318261	Cobalt	0.851	Spike	P	0 - 20
2318261	Copper	1.06	Spike	P	0 - 20
2318261	Lead	0.719	Spike	P	0 - 20
2318261	Manganese	0.138	Spike	P	0 - 20
2318261	Molybdenum	1.08	Spike	P	0 - 20
2318261	Nickel	0.597	Spike	P	0 - 20
2318261	Selenium	0.317	Spike	P	0 - 20
2318261	Silver	0.538	Spike	P	0 - 20
2318261	Thallium	1.09	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P412302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318298	Ammonia-N	0.343	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P412377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318227	Ammonia-N	0.710	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P412525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2317902	Kjeldahl Nitrogen	1.25	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P412825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318238	Kjeldahl Nitrogen	3.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318198	NO2NO3-N	0.482	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412398

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2317701	NO2NO3-N	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P412448

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318319	Total-P	1.14	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P412599

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318318	Total-P	0.794	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P412254

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318087	2,4-D	19.0	Spike	P	0 - 30
2318087	2,4,5-T	4.17	Spike	P	0 - 30
2318087	Acetaminophen	4.53	Spike	P	0 - 30
2318087	Acetamiprid	14.3	Spike	P	0 - 30
2318087	Afidopyropen	7.90	Spike	P	0 - 30
2318087	Bentazon	1.89	Spike	P	0 - 30
2318087	Benzovindiflupyr	8.82	Spike	P	0 - 30
2318087	Carbamazepine	2.45	Spike	P	0 - 30
2318087	Clothianidin	0.793	Spike	P	0 - 30
2318087	Dinotefuran	1.89	Spike	P	0 - 30
2318087	Diuron	0.255	Spike	P	0 - 30
2318087	Fenuron	9.54	Spike	P	0 - 30
2318087	Fluridone	1.85	Spike	P	0 - 30
2318087	Hydrocodone	8.98	Spike	P	0 - 30
2318087	Ibuprofen	1.80	Spike	P	0 - 30
2318087	Imazapyr	11.2	Spike	P	0 - 30
2318087	Imidacloprid	14.9	Spike	P	0 - 30
2318087	Linuron	24.7	Spike	P	0 - 30
2318087	Mandestrobin	8.33	Spike	P	0 - 30
2318087	MCPP	19.7	Spike	P	0 - 30
2318087	Naproxen	23.6	Spike	P	0 - 30
2318087	Primidone	1.73	Spike	P	0 - 30
2318087	Pyraclostrobin	1.32	Spike	P	0 - 30
2318087	Silvex	2.26	Spike	P	0 - 30
2318087	Thiamethoxam	0.550	Spike	P	0 - 30
2318087	Tolfenpyrad	3.91	Spike	P	0 - 30
2318087	Triclopyr	11.9	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P412342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318087	Acesulfame K	0.303	Spike	P	0 - 30
2318087	AMPA	3.91	Spike	P	0 - 30
2318087	Endothall	1.64	Spike	P	0 - 30
2318087	Glufosinate	0.838	Spike	P	0 - 30
2318087	Glyphosate	6.42	Spike	P	0 - 30
2318087	Sucralose	9.70	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P412455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318237	Total Alkalinity	2.25	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011

Batch ID: P412679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319288	Total Alkalinity	0.409	Sample	P	0 - 5.2

Reference Method: SM 4500-F- C-2011

Batch ID: P412531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318237	Fluoride	0.520	Spike	P	0 - 2.1

Reference Method: SM 4500-F- C-2011

Batch ID: P412683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319288	Fluoride	1.50	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P412395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318226	Organic Carbon	1.15	Spike	P	0 - 20

Reference Method: SM 5310 B-2011

Batch ID: P412477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318660	Organic Carbon	1.12	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2318256
Field Sample ID: G5CE0100

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	144	P	30 - 160
EPA 8321B	Acetaminophen-d4	132	P	30 - 160
EPA 8321B	Carbamazepine-d10	153	P	30 - 160
EPA 8321B	Diuron-d6	84.8	P	30 - 160
EPA 8321B	Endothall-d6	98.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	57.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	118	P	30 - 160
EPA 8321B	Primidone-d5	133	P	30 - 160
EPA 8321B	Sucralose-d6	73.3	P	30 - 160

Lab Sample ID: 2318257
Field Sample ID: G5CE0130

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	123	P	30 - 160
EPA 8321B	Acetaminophen-d4	115	P	30 - 160
EPA 8321B	Carbamazepine-d10	147	P	30 - 160
EPA 8321B	Diuron-d6	73.1	P	30 - 160
EPA 8321B	Endothall-d6	93.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.7	P	30 - 160
EPA 8321B	Primidone-d5	124	P	30 - 160
EPA 8321B	Sucralose-d6	69.8	P	30 - 160

Lab Sample ID: 2318258
Field Sample ID: G5CE0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	137	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	145	P	30 - 160
EPA 8321B	Diuron-d6	95.1	P	30 - 160
EPA 8321B	Endothall-d6	98.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	54.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	113	P	30 - 160
EPA 8321B	Primidone-d5	124	P	30 - 160
EPA 8321B	Sucralose-d6	77.4	P	30 - 160

Lab Sample ID: 2318259
Field Sample ID: FB_04112022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	55.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	136	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	99.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	128	P	30 - 160
EPA 8321B	Primidone-d5	85.6	P	30 - 160
EPA 8321B	Sucralose-d6	79.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111434

Included Lab Sample IDs: 2318235, 2318237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111449

Included Lab Sample IDs: 2318238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111459

Included Lab Sample IDs: 2318236

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111476

Included Lab Sample IDs: 2318236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	99.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111488

Included Lab Sample IDs: 2318236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111492

Included Lab Sample IDs: 2318238

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111511

Included Lab Sample IDs: 2318260, 2318262, 2318263, 2318264, 2318265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	104	P/P	90 - 110
Aluminum	104	107	P/P	90 - 110
Antimony	103	105	P/P	90 - 110
Antimony	105	106	P/P	90 - 110
Arsenic	104	104	P/P	90 - 110
Arsenic	104	104	P/P	90 - 110
Beryllium	102	102	P/P	90 - 110
Beryllium	102	102	P/P	90 - 110
Cadmium	102	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111511

Included Lab Sample IDs: 2318260, 2318262, 2318263, 2318264, 2318265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	104	106	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Chromium	99.1	101	P/P	90 - 110
Cobalt	102	103	P/P	90 - 110
Cobalt	103	104	P/P	90 - 110
Copper	101	102	P/P	90 - 110
Copper	102	103	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Lead	102	104	P/P	90 - 110
Manganese	102	103	P/P	90 - 110
Manganese	98.6	102	P/P	90 - 110
Molybdenum	102	103	P/P	90 - 110
Molybdenum	103	105	P/P	90 - 110
Nickel	102	103	P/P	90 - 110
Nickel	102	102	P/P	90 - 110
Selenium	100	104	P/P	90 - 110
Selenium	104	103	P/P	90 - 110
Silver	102	104	P/P	90 - 110
Silver	104	107	P/P	90 - 110
Thallium	101	104	P/P	90 - 110
Thallium	104	105	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A111512

Included Lab Sample IDs: 2318237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.1	95.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111518

Included Lab Sample IDs: 2318238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	94.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111539

Included Lab Sample IDs: 2318261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	98.6	P/P	90 - 110
Antimony	98.2	98.5	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Cadmium	96.7	97.2	P/P	90 - 110
Chromium	96.7	95.7	P/P	90 - 110
Copper	103	103	P/P	90 - 110
Lead	98.7	98.0	P/P	90 - 110
Manganese	97.8	96.4	P/P	90 - 110
Molybdenum	98.1	97.8	P/P	90 - 110
Nickel	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111539

Included Lab Sample IDs: 2318261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	97.3	97.4	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	97.5	96.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A111549

Included Lab Sample IDs: 2318237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111562

Included Lab Sample IDs: 2318261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	101	104	P/P	90 - 110
Cobalt	101	105	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111583

Included Lab Sample IDs: 2318260, 2318262, 2318263, 2318264, 2318265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Calcium	102	103	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Strontium	103	103	P/P	90 - 110
Strontium	103	104	P/P	90 - 110
Strontium	106	103	P/P	90 - 110
Tin	96.6	98.4	P/P	90 - 110
Tin	98.0	96.6	P/P	90 - 110
Tin	98.9	98.0	P/P	90 - 110
Titanium	100	101	P/P	90 - 110
Titanium	101	100	P/P	90 - 110
Titanium	101	100	P/P	90 - 110
Vanadium	100	99.8	P/P	90 - 110
Vanadium	99.8	99.9	P/P	90 - 110
Vanadium	99.9	100	P/P	90 - 110
Zinc	97.1	98.1	P/P	90 - 110
Zinc	97.8	97.1	P/P	90 - 110
Zinc	99.0	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A111591

Included Lab Sample IDs: 2318235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.0	96.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A111591

Included Lab Sample IDs: 2318235

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

Reference Method: EPA 8321B

Run ID: A111604

Included Lab Sample IDs: 2318256, 2318257, 2318258, 2318259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	85.1	77.3	P/P	60 - 160
Sucralose	71.9	77.5	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111607

Included Lab Sample IDs: 2318256, 2318257, 2318258, 2318259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	76.2	79.6	P/P	60 - 160
AMPA	85.6	80.7	P/P	60 - 160
AMPA	86.7	76.2	P/P	60 - 160
Endothall	102	100	P/P	60 - 160
Endothall	103	102	P/P	60 - 160
Glufosinate	107	84.2	P/P	60 - 160
Glufosinate	92.7	95.8	P/P	60 - 160
Glufosinate	95.8	93.2	P/P	60 - 160
Glyphosate	105	108	P/P	60 - 160
Glyphosate	107	109	P/P	60 - 160
Glyphosate	108	109	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111618

Included Lab Sample IDs: 2318261

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111625

Included Lab Sample IDs: 2318236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111634

Included Lab Sample IDs: 2318236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	110	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111642

Included Lab Sample IDs: 2318256, 2318257, 2318258, 2318259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	104	P/P	50 - 150
2,4,5-T	117	128	P/P	50 - 150
Acetaminophen	83.9	99.5	P/P	60 - 160
Acetamiprid	96.7	96.8	P/P	50 - 150
Afidopyropen	130	110	P/P	50 - 150
Bentazon	106	88.6	P/P	50 - 160
Bentazon	107	112	P/P	50 - 160
Benzovindiflupyr	123	105	P/P	50 - 150
Carbamazepine	104	111	P/P	60 - 150
Clothianidin	116	75.3	P/P	60 - 150
Dinotefuran	102	102	P/P	50 - 150
Diuron	97.5	125	P/P	60 - 160
Fenuron	91.5	88.9	P/P	60 - 150
Fluridone	115	95.3	P/P	60 - 160
Hydrocodone	103	101	P/P	60 - 150
Ibuprofen	127	137	P/P	50 - 160
Imazapyr	110	125	P/P	50 - 150
Imidacloprid	86.8	94.8	P/P	60 - 150
Linuron	113	60.7	P/P	60 - 150
Mandestrobin	113	97.4	P/P	50 - 150
MCPP	129	111	P/P	50 - 150
Naproxen	107	66.0	P/P	50 - 160
Primidone	115	87.4	P/P	60 - 150
Pyraclostrobin	101	99.8	P/P	60 - 150
Silvex	111	120	P/P	50 - 150
Thiamethoxam	98.8	90.9	P/P	50 - 150
Tolfenpyrad	112	105	P/P	60 - 150
Triclopyr	104	105	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111648

Included Lab Sample IDs: 2318238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.9	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111752

Included Lab Sample IDs: 2318238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	98.6	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
EPA 180.1 Rev. 2.0	Turbidity	96.1					1.16	
EPA 200.7 Rev. 4.4	Calcium	106	106	103				0.844
	Calcium	107						1.90
	Iron	107	108	108	102			0.225
	Iron	110	104	105				0.366
	Magnesium	108	108	107	108			0.267
	Magnesium	104						1.35
	Strontium	104	104	106	106			1.27
	Strontium	104						1.36
	Tin	101	97.8	102	102			4.07
	Tin	102	77.6	89.5				14.2
	Titanium	102	100	102	104			2.01
	Titanium	106	86.0	90.4				3.70
	Vanadium	95.2	95.7	97.1	98.8			1.38
	Vanadium	99.1	101	101				0.135
	Zinc	97.8	96.3	97.9	98.5			1.62
	Zinc	105	100	101				0.786
EPA 200.8 Rev. 5.4	Aluminum	104	104	105	102			1.87
	Aluminum	103	119	126				5.23
	Antimony	104	107	106	106			0.101
	Antimony	101	101	101				0.132
	Arsenic	105	106	105	104			0.411
	Arsenic	102	115	117				1.40
	Beryllium	104	104	100	99.3			0.966
	Beryllium	94.0	108	105				2.97
	Cadmium	103	104	105	107			2.52
	Cadmium	100	94.9	94.6				0.257
	Chromium	101	103	102				0.880
	Chromium	98.4	103	102				0.0921
	Cobalt	106	106	106	104			1.88
	Cobalt	103	114	115				0.851
	Copper	101	98.4	100	98.9			1.30
	Copper	98.6	109	110				1.06
	Lead	104	106	106	105			1.08
	Lead	103	110	111				0.719
	Manganese	101	101	104	101			1.98
	Manganese	99.6	98.5	98.6				0.138
	Molybdenum	104	83.5	107	106			0.595
	Molybdenum	101	115	116				1.08
	Nickel	104	101	101	100			0.999
	Nickel	100	119	120				0.597
	Selenium	101	103	100	101			0.795
	Selenium	99.0	103	103				0.317
	Silver	104	105	105	103			2.01
	Silver	105	95.7	95.2				0.538
	Thallium	107	110	111	111			0.287
	Thallium	105	111	112				1.09
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	100	100				0.343
	Ammonia-N	98.6	103	102				0.710
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	94.6	96.0				1.25
	Kjeldahl Nitrogen	95.1	102	108				3.64
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	97.0	96.6				0.482
	NO2NO3-N	100	98.5	97.5				1.02
EPA 365.1 Rev. 2.0	Total-P	98.4	92.1	91.0				1.14

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 365.1 Rev. 2.0 EPA 8321B	Total-P	102	96.6	95.8		0.794
	2,4-D	98.5	77.0	93.1		19.0
	2,4,5-T	74.5	72.1	75.2		4.17
	Acesulfame K	93.8	94.1	93.8		0.303
	Acetaminophen	65.9	102	97.5		4.53
	Acetamiprid	102	85.8	74.4		14.3
	Afidopyropen	99.0	80.8	74.7		7.90
	AMPA	87.4	86.9	83.6		3.91
	Bentazon	93.7	81.3	79.8		1.89
	Benzovindiflupyr	101	108	98.8		8.82
	Carbamazepine	115	112	110		2.45
	Clothianidin	104	95.4	96.2		0.793
	Dinotefuran	101	112	110		1.89
	Diuron	76.7	94.1	93.8		0.255
	Endothall	110	118	116		1.64
	Fenuron	114	142	156		9.54
	Fluridone	95.3	93.2	91.5		1.85
	Glufosinate	93.1	90.0	89.2		0.838
	Glyphosate	107	125	117		6.42
	Hydrocodone	97.9	94.9	104		8.98
	Ibuprofen	108	127	130		1.80
	Imazapyr	107	102	90.8		11.2
	Imidacloprid	94.3	115	98.9		14.9
	Linuron	78.3	75.8	59.2		24.7
	Mandestrobin	108	93.0	101		8.33
	MCPP	110	115	94.7		19.7
	Naproxen	81.0	70.5	55.6		23.6
	Primidone	116	140	138		1.73
	Pyraclostrobin	86.0	87.1	86.0		1.32
	Silvex	66.9	61.0	59.7		2.26
	Sucralose	83.8	87.0	78.8		9.70
	Thiamethoxam	113	116	115		0.550
	Tolfenpyrad	48.5	45.0	46.8		3.91
	Triclopyr	71.2	74.1	65.8		11.9
SM 2320 B-2011	Total Alkalinity	96.6			2.25	
	Total Alkalinity	98.1			0.409	
SM 4500-F- C-2011	Fluoride	97.5	96.3	97.1		0.520
	Fluoride	98.5	98.4	96.8		1.50
SM 5310 B-2011	Organic Carbon	94.2	100	98.0		1.15
	Organic Carbon	97.6	87.1	88.4		1.12

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2318235, 2318237
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2318260, 2318261, 2318262, 2318263, 2318264, 2318265
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2318260, 2318261, 2318262, 2318263, 2318264, 2318265
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2318236, 2318238
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2318236, 2318238
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2318236, 2318238
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2318236, 2318238

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2318256, 2318257, 2318258, 2318259
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2318235, 2318237
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2318235, 2318237
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2318235, 2318237
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2318236, 2318238

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	04/12/2022			04/12/2022 14:08	Khloe J Berg	2318235
	04/12/2022			04/12/2022 14:10	Khloe J Berg	2318237
EPA 200.7 Rev. 4.4	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/20/2022 21:04	Josef B Mick	2318264
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/20/2022 22:44	Josef B Mick	2318260
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/20/2022 22:52	Josef B Mick	2318260
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/20/2022 23:00	Josef B Mick	2318262
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/20/2022 23:08	Josef B Mick	2318262
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/20/2022 23:48	Josef B Mick	2318263
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/21/2022 00:03	Josef B Mick	2318265
	04/12/2022	04/15/2022 09:45	Megan Whitefoot	04/21/2022 22:19	Josef B Mick	2318261
	04/12/2022	04/15/2022 09:45	Megan Whitefoot	04/21/2022 23:22	Josef B Mick	2318261
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/15/2022 13:40	Alexander Thompson	2318264
EPA 200.8 Rev. 5.4	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/15/2022 15:45	Alexander Thompson	2318260
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/15/2022 15:55	Alexander Thompson	2318262
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/15/2022 16:05	Alexander Thompson	2318263
	04/12/2022	04/14/2022 10:32	Megan Whitefoot	04/15/2022 16:14	Alexander Thompson	2318265
	04/12/2022	04/15/2022 09:45	Megan Whitefoot	04/18/2022 19:14	Alexander Thompson	2318261
	04/12/2022	04/15/2022 09:45	Megan Whitefoot	04/18/2022 21:09	Alexander Thompson	2318261
	04/12/2022	04/15/2022 09:45	Megan Whitefoot	04/19/2022 13:47	Alexander Thompson	2318261
EPA 350.1 Rev. 2.0	04/12/2022			04/13/2022 12:39	Ping Hua	2318238
	04/12/2022			04/14/2022 14:43	Judith K. Clark	2318236
EPA 351.2 Rev. 2.0	04/12/2022	04/20/2022 14:26	Samantha L Bates	04/22/2022 11:14	Alexandra J Mattheus	2318236
	04/12/2022	04/26/2022 16:44	Samantha L Bates	04/27/2022 13:15	Samantha L Bates	2318238
EPA 353.2 Rev. 2.0	04/12/2022			04/13/2022 16:07	Nathaniel J Jones	2318236
	04/12/2022			04/14/2022 16:11	Nathaniel J Jones	2318238
EPA 365.1 Rev. 2.0	04/12/2022	04/19/2022 14:35	Simonne.V. Calhoun	04/20/2022 18:49	Sarah A Nixon	2318236
	04/12/2022	04/21/2022 17:55	Simonne.V. Calhoun	04/22/2022 13:53	Sarah A Nixon	2318238
EPA 8321B	04/12/2022	04/14/2022 08:30	June Rhew	04/15/2022 20:13	Juyoung Kim	2318256
	04/12/2022	04/14/2022 08:30	June Rhew	04/15/2022 20:48	Juyoung Kim	2318257
	04/12/2022	04/14/2022 08:30	June Rhew	04/15/2022 21:23	Juyoung Kim	2318258
	04/12/2022	04/14/2022 08:30	June Rhew	04/15/2022 21:57	Juyoung Kim	2318259
	04/12/2022	04/14/2022 08:30	June Rhew	04/18/2022 10:56	Juyoung Kim	2318256
	04/12/2022	04/14/2022 08:30	June Rhew	04/18/2022 12:40	Juyoung Kim	2318257
	04/12/2022	04/14/2022 08:30	June Rhew	04/18/2022 13:15	Juyoung Kim	2318258
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/15/2022 15:31	Manjita Shrestha	2318256
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/15/2022 15:46	Manjita Shrestha	2318257
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/15/2022 16:01	Manjita Shrestha	2318258
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/15/2022 16:15	Manjita Shrestha	2318259
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/15/2022 20:00	Manjita Shrestha	2318256
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/16/2022 00:42	Manjita Shrestha	2318256

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/16/2022 00:55	Manjita Shrestha	2318257
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/16/2022 01:21	Manjita Shrestha	2318258
	04/12/2022	04/14/2022 10:00	Manjita Shrestha	04/16/2022 01:34	Manjita Shrestha	2318259
SM 2320 B-2011	04/12/2022			04/14/2022 23:08	Dale L. Simmons	2318237
	04/12/2022			04/20/2022 10:16	Dale L. Simmons	2318235
SM 2540 D-2011	04/12/2022			04/13/2022 14:26	Yijie Li	2318235, 2318237
SM 4500-F- C-2011	04/12/2022			04/19/2022 02:18	Dale L. Simmons	2318237
	04/12/2022			04/20/2022 10:16	Dale L. Simmons	2318235
SM 5310 B-2011	04/12/2022			04/14/2022 20:48	Khloe J Berg	2318236
	04/12/2022			04/16/2022 00:05	Judith K. Clark	2318238