

Chemical Analysis Report

CEN-DIST-2022-01-20-02

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-2022-01-17-23**
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
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 11-FEB-2022 09:33

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

Case Narrative

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

Results for the following analytical groups are included in this report: 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: 01/19/2022 11:15

Field ID: G5CE0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300704	EPA 8321B	2,4-D	0.036		ug/L	P408736	
		Acesulfame K	0.10	U	ug/L	P408756	
		2,4,5-T	0.0040	U	ug/L	P408736	
		AMPA	10	U	ug/L	P408756	
		Acetaminophen	0.0080	U	ug/L	P408736	
		Acetamiprid	0.0020	U	ug/L	P408736	
		Endothall	0.25	U	ug/L	P408756	
		Glufosinate	10	U	ug/L	P408756	
		Glyphosate	10	U	ug/L	P408756	
		Afidopyropen	0.0020	U	ug/L	P408736	
		Bentazon	0.18		ug/L	P408736	
		Sucralose	1.1		ug/L	P408756	
		Benzovindiflupyr	0.0020	U	ug/L	P408736	
		Carbamazepine	0.0033		ug/L	P408736	
		Clothianidin	0.0031	I	ug/L	P408736	
		Dinotefuran	0.0020	U	ug/L	P408736	
		Diuron	0.0056	I	ug/L	P408736	RPD
		Fenuron	0.016	U	ug/L	P408736	
		Fluridone	0.0096		ug/L	P408736	
		Imazapyr	0.095		ug/L	P408736	
		Hydrocodone	0.0020	U	ug/L	P408736	
		Ibuprofen	0.020	U	ug/L	P408736	
		Imidacloprid	0.0062	I	ug/L	P408736	
		Linuron	0.0040	U	ug/L	P408736	
		Mandestrobin	0.0020	U	ug/L	P408736	
		MCPP	0.0040	U	ug/L	P408736	
		Naproxen	0.0080	U	ug/L	P408736	
		Primidone	0.012	I	ug/L	P408736	
		Pyraclostrobin	0.0020	U	ug/L	P408736	
		Silvex	0.0040	U	ug/L	P408736	
		Thiamethoxam	0.0020	U	ug/L	P408736	
		Tolfenpyrad	0.0020	U	ug/L	P408736	MS
		Triclopyr	0.0040	U	ug/L	P408736	
2300708	EPA 200.7 Rev. 4.4	Calcium	233		mg/L	P408834	
		Iron	170	I	ug/L	P408834	
		Magnesium	620		mg/L	P408834	
		Strontium	3.98E+03		ug/L	P408834	
		Tin	60	U	ug/L	P408834	
		Vanadium	6.0	U	ug/L	P408834	
		Zinc	15	U	ug/L	P408834	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P408834	
		Antimony	0.20	U	ug/L	P408834	
		Arsenic	1.37		ug/L	P408834	
		Beryllium	0.040	U	ug/L	P408834	

Field ID: G5CE0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300708	EPA 200.8 Rev. 5.4	Cadmium	0.080	U	ug/L	P408834	
		Chromium	1.6	U	ug/L	P408834	
		Cobalt	0.086	I	ug/L	P408834	
		Copper	1.6	U	ug/L	P408834	
		Lead	0.80	U	ug/L	P408834	
		Manganese	7.5		ug/L	P408834	
		Molybdenum	5.6		ug/L	P408834	
		Nickel	2.0	U	ug/L	P408834	
		Selenium	0.80	U	ug/L	P408834	
		Silver	0.040	U	ug/L	P408834	

Ref. Method and Comment:
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked 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: Turnbull Bay @ 350m NW of Turnbull Bay Road Collection Date/Time: 01/19/2022 11:40

Field ID: G5CE0157

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300682	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P408768	
	SM 2320 B-2011	Total Alkalinity	139		mg CaCO3/L	P408902	
	SM 2540 D-2011	TSS	7	I	mg/L	P409315	
	SM 4500 F-C-2011	Fluoride	0.73		mg F/L	P408905	
2300683	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P409228	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P409066	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P408786	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P408762	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P409300	
2300684	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P408742	
2300705	EPA 200.7 Rev. 4.4	Calcium	247		mg/L	P408834	
		Iron	180	I	ug/L	P408834	
		Magnesium	695		mg/L	P408834	
		Strontium	4.41E+03		ug/L	P408834	
		Tin	150	U	ug/L	P408834	
		Vanadium	6.0	U	ug/L	P408834	
		Zinc	15	U	ug/L	P408834	
	EPA 200.8 Rev. 5.4	Aluminum	150	I	ug/L	P408834	
		Antimony	0.20	U	ug/L	P408834	
		Arsenic	1.49		ug/L	P408834	
		Beryllium	0.040	U	ug/L	P408834	
		Cadmium	0.080	U	ug/L	P408834	
		Chromium	1.6	U	ug/L	P408834	
		Cobalt	0.083	I	ug/L	P408834	
		Copper	1.6	U	ug/L	P408834	
		Lead	0.80	U	ug/L	P408834	
		Manganese	7.2		ug/L	P408834	
		Molybdenum	6.8		ug/L	P408834	
		Nickel	2.0	U	ug/L	P408834	
		Selenium	0.80	U	ug/L	P408834	
		Silver	0.040	U	ug/L	P408834	

Ref. Method and Comment:

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

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

Sample Location: Rose Bay @ 125m NE of Boat Ramp

Collection Date/Time: 01/19/2022 12:45

Field ID: G5CE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300702	EPA 8321B	2,4-D	0.011		ug/L	P408736	
		Acesulfame K	0.10	U	ug/L	P408756	
		2,4,5-T	0.0040	U	ug/L	P408736	
		AMPA	10	U	ug/L	P408756	
		Acetaminophen	0.0080	U	ug/L	P408736	
		Acetamiprid	0.0020	U	ug/L	P408736	
		Endothall	0.25	U	ug/L	P408756	
		Glufosinate	10	U	ug/L	P408756	
		Glyphosate	10	U	ug/L	P408756	
		Afidopyropen	0.0020	U	ug/L	P408736	
		Bentazon	0.12		ug/L	P408736	
		Sucralose	0.84		ug/L	P408756	
		Benzovindiflupyr	0.0020	U	ug/L	P408736	
		Carbamazepine	0.0034		ug/L	P408736	
		Clothianidin	0.0024	I	ug/L	P408736	
		Dinotefuran	0.0020	U	ug/L	P408736	
		Diuron	0.0040	I	ug/L	P408736	RPD
		Fenuron	0.016	U	ug/L	P408736	
		Fluridone	0.011		ug/L	P408736	
		Imazapyr	0.062		ug/L	P408736	
		Hydrocodone	0.0020	U	ug/L	P408736	
		Ibuprofen	0.020	U	ug/L	P408736	
		Imidacloprid	0.0043	I	ug/L	P408736	
		Linuron	0.0040	U	ug/L	P408736	
		Mandestrobin	0.0020	U	ug/L	P408736	
		MCPP	0.0040	U	ug/L	P408736	
		Naproxen	0.0080	U	ug/L	P408736	
		Primidone	0.0079	I	ug/L	P408736	
		Pyraclostrobin	0.0020	U	ug/L	P408736	
		Silvex	0.0040	U	ug/L	P408736	
		Thiamethoxam	0.0020	U	ug/L	P408736	
		Tolfenpyrad	0.0020	U	ug/L	P408736	MS
		Triclopyr	0.0040	U	ug/L	P408736	

Ref. Method and Comment:

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

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

Sample Location: Rose Bay @ 200m E of Boat Ramp

Collection Date/Time: 01/19/2022 12:55

Field ID: G5CE0098

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300703	EPA 8321B	2,4-D	0.0096		ug/L	P408736	
		Acesulfame K	0.10	U	ug/L	P408756	
		2,4,5-T	0.0040	U	ug/L	P408736	
		AMPA	10	U	ug/L	P408756	
		Acetaminophen	0.0080	U	ug/L	P408736	
		Acetamiprid	0.0020	U	ug/L	P408736	
		Endothall	0.25	U	ug/L	P408756	
		Glufosinate	10	U	ug/L	P408756	
		Glyphosate	10	U	ug/L	P408756	
		Afidopyropen	0.0020	U	ug/L	P408736	
		Bentazon	0.091		ug/L	P408736	
		Sucralose	0.85		ug/L	P408756	
		Benzovindiflupyr	0.0020	U	ug/L	P408736	
		Carbamazepine	0.0037		ug/L	P408736	
		Clothianidin	0.0032	I	ug/L	P408736	
		Dinotefuran	0.0020	U	ug/L	P408736	
		Diuron	0.0027	I	ug/L	P408736	RPD
		Fenuron	0.016	U	ug/L	P408736	
		Fluridone	0.0097		ug/L	P408736	
		Imazapyr	0.038		ug/L	P408736	
		Hydrocodone	0.0020	U	ug/L	P408736	
		Ibuprofen	0.020	U	ug/L	P408736	
		Imidacloprid	0.0041	I	ug/L	P408736	
		Linuron	0.0040	U	ug/L	P408736	
		Mandestrobin	0.0020	U	ug/L	P408736	
		MCPP	0.0040	U	ug/L	P408736	
		Naproxen	0.0080	U	ug/L	P408736	
		Primidone	0.0076	I	ug/L	P408736	
		Pyraclostrobin	0.0020	U	ug/L	P408736	
		Silvex	0.0040	U	ug/L	P408736	
		Thiamethoxam	0.0020	U	ug/L	P408736	
		Tolfenpyrad	0.0020	U	ug/L	P408736	MS
		Triclopyr	0.0040	U	ug/L	P408736	

Ref. Method and Comment:

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

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

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

Collection Date/Time: 01/19/2022 12:00

Field ID: G5CE0100

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300685	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P408768	
	SM 2320 B-2011	Total Alkalinity	126		mg CaCO3/L	P408902	
	SM 2540 D-2011	TSS	5	I	mg/L	P409315	
	SM 4500 F-C-2011	Fluoride	0.95		mg F/L	P408905	
2300686	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P409228	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P409066	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P408860	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P408761	
	SM 5310 B-2011	Organic Carbon	5.5		mg C/L	P409300	
2300687	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P408742	
2300700	EPA 8321B	2,4-D	0.0083		ug/L	P408736	
		Acesulfame K	0.10	U	ug/L	P408755	MS
		2,4,5-T	0.0040	U	ug/L	P408736	
		AMPA	10	U	ug/L	P408755	
		Acetaminophen	0.0080	U	ug/L	P408736	
		Acetamiprid	0.0020	U	ug/L	P408736	
		Endothall	0.25	U	ug/L	P408755	
		Glufosinate	10	U	ug/L	P408755	
		Glyphosate	10	U	ug/L	P408755	
		Afidopyropen	0.0020	U	ug/L	P408736	
		Bentazon	0.074		ug/L	P408736	
		Sucralose	0.61		ug/L	P408755	
		Benzovindiflupyr	0.0020	U	ug/L	P408736	
		Carbamazepine	0.0024	I	ug/L	P408736	
		Clothianidin	0.0028	I	ug/L	P408736	
		Dinotefuran	0.0020	U	ug/L	P408736	
		Diuron	0.0036	I	ug/L	P408736	RPD
		Fenuron	0.016	U	ug/L	P408736	
		Fluridone	0.0091		ug/L	P408736	
		Imazapyr	0.032		ug/L	P408736	
		Hydrocodone	0.0020	U	ug/L	P408736	
		Ibuprofen	0.020	U	ug/L	P408736	
		Imidacloprid	0.0037	I	ug/L	P408736	
		Linuron	0.0040	U	ug/L	P408736	
		Mandestrobin	0.0020	U	ug/L	P408736	
		MCP	0.0040	U	ug/L	P408736	
		Naproxen	0.0080	U	ug/L	P408736	
		Primidone	0.0068	I	ug/L	P408736	
		Pyraclostrobin	0.0020	U	ug/L	P408736	
		Silvex	0.0040	U	ug/L	P408736	
		Thiamethoxam	0.0020	U	ug/L	P408736	
		Tolfenpyrad	0.0020	U	ug/L	P408736	MS
		Triclopyr	0.0040	U	ug/L	P408736	

Field ID: G5CE0100

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300706	EPA 200.7 Rev. 4.4	Calcium	316		mg/L	P408834	
		Iron	120	U	ug/L	P408834	
		Magnesium	987		mg/L	P408834	
		Strontium	5.99E+03		ug/L	P408834	
		Tin	150	U	ug/L	P408834	
		Vanadium	8.0	U	ug/L	P408834	
		Zinc	20	U	ug/L	P408834	
	EPA 200.8 Rev. 5.4	Aluminum	68	I	ug/L	P408834	
		Antimony	0.20	U	ug/L	P408834	
		Arsenic	1.73		ug/L	P408834	
		Beryllium	0.040	U	ug/L	P408834	
		Cadmium	0.080	U	ug/L	P408834	
		Chromium	1.6	U	ug/L	P408834	
		Cobalt	0.080	U	ug/L	P408834	
		Copper	1.6	U	ug/L	P408834	
		Lead	0.80	U	ug/L	P408834	
		Manganese	4.4		ug/L	P408834	
		Molybdenum	8.9		ug/L	P408834	
		Nickel	2.0	U	ug/L	P408834	
		Selenium	0.80	U	ug/L	P408834	
		Silver	0.040	U	ug/L	P408834	

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: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked 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: FB

Collection Date/Time: 01/19/2022 12:15

Field ID: FB_01192022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300688	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P408768	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P408901	
	SM 2540 D-2011	TSS	2	U	mg/L	P409311	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P408904	
2300689	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P409272	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P409067	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P408982	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P408764	MS
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P409633	
2300690	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P408740	
2300701	EPA 8321B	2,4-D	0.0020	U	ug/L	P408736	
		Acesulfame K	0.10	U	ug/L	P408756	
		2,4,5-T	0.0040	U	ug/L	P408736	
		AMPA	0.10	U	ug/L	P408756	
		Acetaminophen	0.0080	U	ug/L	P408736	
		Acetamiprid	0.0020	U	ug/L	P408736	
		Endothall	0.25	U	ug/L	P408756	
		Glufosinate	0.10	U	ug/L	P408756	
		Glyphosate	0.10	U	ug/L	P408756	
		Afidopyropen	0.0020	U	ug/L	P408736	
		Bentazon	8.0E-04	U	ug/L	P408736	
		Sucralose	0.010	U	ug/L	P408756	
		Benzovindiflupyr	0.0020	U	ug/L	P408736	
		Carbamazepine	8.0E-04	U	ug/L	P408736	
		Clothianidin	0.0020	U	ug/L	P408736	
		Dinotefuran	0.0020	U	ug/L	P408736	
		Diuron	0.0020	U	ug/L	P408736	RPD
		Fenuron	0.016	U	ug/L	P408736	
		Fluridone	8.0E-04	U	ug/L	P408736	
		Imazapyr	0.0040	U	ug/L	P408736	
		Hydrocodone	0.0020	U	ug/L	P408736	
		Ibuprofen	0.020	U	ug/L	P408736	
		Imidacloprid	0.0020	U	ug/L	P408736	
		Linuron	0.0040	U	ug/L	P408736	
		Mandestrobin	0.0020	U	ug/L	P408736	
		MCPP	0.0040	U	ug/L	P408736	
		Naproxen	0.0080	U	ug/L	P408736	
		Primidone	0.0040	U	ug/L	P408736	
		Pyraclostrobin	0.0020	U	ug/L	P408736	
		Silvex	0.0040	U	ug/L	P408736	
		Thiamethoxam	0.0020	U	ug/L	P408736	
		Tolfenpyrad	0.0020	U	ug/L	P408736	MS
		Triclopyr	0.0040	U	ug/L	P408736	

Field ID: FB_01192022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2300707	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P408754	
		Iron	30	U	ug/L	P408754	
		Magnesium	0.040	U	mg/L	P408754	
		Strontium	2.0	U	ug/L	P408754	
		Tin	3.0	U	ug/L	P408754	
		Vanadium	2.0	U	ug/L	P408754	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P408754	
		Aluminum	5.0	U	ug/L	P408754	
		Antimony	0.050	U	ug/L	P408754	
		Arsenic	0.050	U	ug/L	P408754	
		Beryllium	0.010	U	ug/L	P408754	
		Cadmium	0.020	U	ug/L	P408754	
		Chromium	0.40	U	ug/L	P408754	
		Cobalt	0.020	U	ug/L	P408754	
		Copper	0.40	U	ug/L	P408754	
		Lead	0.20	U	ug/L	P408754	
		Manganese	0.10	U	ug/L	P408754	
		Molybdenum	0.15	U	ug/L	P408754	
		Nickel	0.50	U	ug/L	P408754	
		Selenium	0.20	U	ug/L	P408754	
		Silver	0.010	U	ug/L	P408754	

Ref. Method and Comment:
 EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0**Batch ID: P408768**

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4**Batch ID: P408754**

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
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4**Batch ID: P408834**

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
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4**Batch ID: P408754**

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

Reference Method: EPA 200.8 Rev. 5.4**Batch ID: P408834**

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408834

Component	Result	Code	Units
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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409228

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409067

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408860

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408761

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408762

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408740

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408742

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

Reference Method: EPA 8321B
Batch ID: P408736

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P408736

Component	Result	Code	Units
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: P408755

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

Reference Method: EPA 8321B

Batch ID: P408756

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

Reference Method: SM 2320 B-2011

Batch ID: P408901

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

Reference Method: SM 2320 B-2011

Batch ID: P408902

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

Reference Method: SM 2540 D-2011

Batch ID: P409311

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P409315

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P408904

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P408905

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P409300

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

Reference Method: SM 5310 B-2011
Batch ID: P409633

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P408754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	109		P	85 - 115
Magnesium	105		P	85 - 115
Strontium	104		P	85 - 115
Tin	110		P	85 - 115
Vanadium	105		P	85 - 115
Zinc	110		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P408834

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	109		P	85 - 115
Magnesium	102		P	85 - 115
Strontium	106		P	85 - 115
Tin	107		P	85 - 115
Vanadium	106		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.5		P	85 - 115
Antimony	96.4		P	85 - 115
Arsenic	97.0		P	85 - 115
Beryllium	96.4		P	85 - 115
Cadmium	95.2		P	85 - 115
Chromium	97.2		P	85 - 115
Cobalt	96.8		P	85 - 115
Copper	97.8		P	85 - 115
Lead	92.3		P	85 - 115
Manganese	97.5		P	85 - 115
Molybdenum	98.1		P	85 - 115
Nickel	99.8		P	85 - 115
Selenium	98.2		P	85 - 115
Silver	97.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408834

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	101		P	85 - 115
Beryllium	97.1		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	103		P	85 - 115
Copper	101		P	85 - 115
Lead	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408834

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Manganese	100		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	102		P	85 - 115
Selenium	98.8		P	85 - 115
Silver	105		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409228

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409067

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408860

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408761

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

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408762

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408740

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408742

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

Reference Method: EPA 8321B
Batch ID: P408736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	113		P	40 - 150
2,4,5-T	77.3		P	40 - 150
Acetaminophen	92.5		P	30 - 150
Acetamiprid	95.8		P	40 - 150
Afidopyropen	89.7		P	40 - 150
Bentazon	112		P	30 - 150
Benzovindiflupyr	119		P	40 - 150
Carbamazepine	111		P	40 - 150
Clothianidin	115		P	40 - 150
Dinotefuran	100		P	40 - 150
Diuron	126		P	40 - 150
Fenuron	97.2		P	40 - 150
Fluridone	103		P	40 - 150
Hydrocodone	97.1		P	40 - 150
Ibuprofen	102		P	40 - 150
Imazapyr	113		P	40 - 150
Imidacloprid	91.5		P	40 - 150
Linuron	103		P	40 - 150
Mandestrobin	103		P	40 - 150
MCPP	112		P	40 - 150
Naproxen	71.7		P	40 - 150
Primidone	90.3		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P408736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	75.0		P	40 - 150
Silvex	88.2		P	40 - 150
Thiamethoxam	99.4		P	40 - 150
Tolfenpyrad	49.0		P	30 - 150
Triclopyr	97.4		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P408755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	109		P	40 - 150
AMPA	99.5		P	40 - 150
Endothall	125		P	40 - 150
Glufosinate	93.5		P	40 - 150
Glyphosate	88.8		P	40 - 150
Sucralose	97.5		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P408756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	91.4		P	40 - 150
Endothall	115		P	40 - 150
Glufosinate	95.7		P	40 - 150
Glyphosate	90.3		P	40 - 150
Sucralose	86.1		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P408901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	94 - 106

Reference Method: SM 2320 B-2011

Batch ID: P408902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P408904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P408905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P409300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P409633

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P408754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299809	Calcium	105		P	80 - 120
2299809	Iron	107		P	80 - 120
2299809	Magnesium	104		P	80 - 120
2299809	Strontium	102		P	80 - 120
2299809	Tin	110		P	80 - 120
2299809	Vanadium	106		P	80 - 120
2299809	Zinc	106		P	80 - 120
2300558	Calcium	104		P	80 - 120
2300558	Iron	108	109	P/P	80 - 120
2300558	Magnesium	100		P	80 - 120
2300558	Strontium	102	102	P/P	80 - 120
2300558	Tin	109	107	P/P	80 - 120
2300558	Vanadium	107	106	P/P	80 - 120
2300558	Zinc	106	104	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P408834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299892	Iron	104	107	P/P	70 - 130
2299892	Tin	89.2	84.4	P/P	70 - 130
2299892	Vanadium	112	109	P/P	70 - 130
2299892	Zinc	103	102	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P408754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299809	Aluminum	96.2		P	80 - 120
2299809	Antimony	99.0		P	75 - 125
2299809	Arsenic	97.8		P	75 - 125
2299809	Beryllium	101		P	80 - 120
2299809	Cadmium	97.7		P	75 - 125
2299809	Chromium	98.6		P	80 - 120
2299809	Cobalt	94.3		P	80 - 120
2299809	Copper	94.7		P	75 - 125
2299809	Lead	98.5		P	75 - 125
2299809	Manganese	97.7		P	80 - 120
2299809	Molybdenum	99.4		P	75 - 125
2299809	Nickel	97.0		P	75 - 125
2299809	Selenium	96.0		P	75 - 125
2299809	Silver	94.6		P	75 - 125
2300558	Aluminum	96.3	96.2	P/P	80 - 120
2300558	Antimony	99.8	100	P/P	80 - 120
2300558	Arsenic	99.4	100	P/P	80 - 120
2300558	Beryllium	99.3	101	P/P	80 - 120
2300558	Cadmium	97.4	97.3	P/P	80 - 120
2300558	Chromium	98.9	99.5	P/P	80 - 120
2300558	Cobalt	97.2	97.7	P/P	80 - 120
2300558	Copper	97.1	96.5	P/P	80 - 120
2300558	Lead	100	99.5	P/P	80 - 120
2300558	Manganese	98.4	98.9	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300558	Molybdenum	102	101	P/P	80 - 120
2300558	Nickel	99.9	99.4	P/P	80 - 120
2300558	Selenium	97.1	99.8	P/P	80 - 120
2300558	Silver	94.7	94.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P408834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2299892	Aluminum	96.0	108	P/P	70 - 130
2299892	Antimony	96.8	89.4	P/P	70 - 130
2299892	Arsenic	104	95.7	P/P	70 - 130
2299892	Beryllium	102	94.1	P/P	70 - 130
2299892	Cadmium	91.1	84.2	P/P	70 - 130
2299892	Chromium	95.6	88.3	P/P	70 - 130
2299892	Cobalt	107	97.5	P/P	70 - 130
2299892	Copper	98.4	91.4	P/P	70 - 130
2299892	Lead	98.9	89.6	P/P	70 - 130
2299892	Manganese	90.0	80.0	P/P	70 - 130
2299892	Molybdenum	104	94.5	P/P	70 - 130
2299892	Nickel	104	96.5	P/P	70 - 130
2299892	Selenium	97.5	88.4	P/P	70 - 130
2299892	Silver	88.7	81.3	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300372	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P409272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300663	Ammonia-N	95.0	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300729	Kjeldahl Nitrogen	99.5	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409067

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300871	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300373	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408860

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300112	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300768	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300686	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300374	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300614	Total-P	111	114	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408740

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300719	O-Phosphate-P	98.2	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300734	O-Phosphate-P	98.8	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P408736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300481	2,4,5-T	88.7	88.4	P/P	40 - 150
2300481	Acetaminophen	125	111	P/P	30 - 150
2300481	Acetamiprid	122	125	P/P	40 - 150
2300481	Afidopyropen	64.7	83.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P408736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300481	Bentazon	56.7	62.1	P/P	30 - 150
2300481	Benzovindiflupyr	115	130	P/P	40 - 150
2300481	Carbamazepine	116	118	P/P	40 - 150
2300481	Dinotefuran	136	144	P/P	40 - 150
2300481	Fenuron	90.6	99.8	P/P	40 - 150
2300481	Fluridone	88.2	97.5	P/P	40 - 150
2300481	Hydrocodone	90.3	102	P/P	40 - 150
2300481	Ibuprofen	101	91.4	P/P	40 - 150
2300481	Imazapyr	99.6	121	P/P	40 - 150
2300481	Linuron	88.1	118	P/P	40 - 150
2300481	Mandestrobin	108	108	P/P	40 - 150
2300481	MCPP	111	119	P/P	40 - 150
2300481	Naproxen	103	119	P/P	40 - 150
2300481	Primidone	81.0	109	P/P	40 - 150
2300481	Pyraclostrobin	85.8	84.9	P/P	40 - 150
2300481	Silvex	109	96.9	P/P	40 - 150
2300481	Tolfenpyrad	38.7	29.5	P/F	30 - 150
2300481	Triclopyr	111	130	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P408755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300418	Acesulfame K	130	154	P/F	40 - 150
2300418	AMPA	79.9	84.8	P/P	40 - 150
2300418	Endothall	134	134	P/P	40 - 150
2300418	Glufosinate	87.7	96.1	P/P	40 - 150
2300418	Glyphosate	90.4	93.9	P/P	40 - 150
2300418	Sucralose	90.1	82.0	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P408756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300832	Acesulfame K	130	141	P/P	40 - 150
2300832	AMPA	71.5	72.6	P/P	40 - 150
2300832	Endothall	96.5	101	P/P	40 - 150
2300832	Glufosinate	76.8	76.8	P/P	40 - 150
2300832	Glyphosate	73.5	73.5	P/P	40 - 150
2300832	Sucralose	84.2	88.7	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P408904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300716	Fluoride	101	98.4	P/P	92 - 107

Reference Method: SM 4500 F-C-2011

Batch ID: P408905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300728	Fluoride	96.9	97.6	P/P	92 - 107

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P409300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300730	Organic Carbon	90.0	90.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P409633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2300717	Organic Carbon	96.6	94.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P408768

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300659	Turbidity	0.366	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P408754

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300558	Calcium	0.288	Spike	P	0 - 20
2300558	Iron	1.07	Spike	P	0 - 20
2300558	Magnesium	1.56	Spike	P	0 - 20
2300558	Strontium	0.337	Spike	P	0 - 20
2300558	Tin	1.68	Spike	P	0 - 20
2300558	Vanadium	1.06	Spike	P	0 - 20
2300558	Zinc	1.44	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P408834

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299892	Calcium	4.16	Spike	P	0 - 20
2299892	Iron	2.74	Spike	P	0 - 20
2299892	Magnesium	1.49	Spike	P	0 - 20
2299892	Strontium	3.81	Spike	P	0 - 20
2299892	Tin	5.56	Spike	P	0 - 20
2299892	Vanadium	3.00	Spike	P	0 - 20
2299892	Zinc	0.885	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P408754

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300558	Aluminum	0.114	Spike	P	0 - 20
2300558	Antimony	0.226	Spike	P	0 - 20
2300558	Arsenic	0.843	Spike	P	0 - 20
2300558	Beryllium	1.51	Spike	P	0 - 20
2300558	Cadmium	0.0208	Spike	P	0 - 20
2300558	Chromium	0.584	Spike	P	0 - 20
2300558	Cobalt	0.482	Spike	P	0 - 20
2300558	Copper	0.623	Spike	P	0 - 20
2300558	Lead	0.722	Spike	P	0 - 20
2300558	Manganese	0.335	Spike	P	0 - 20
2300558	Molybdenum	0.645	Spike	P	0 - 20
2300558	Nickel	0.436	Spike	P	0 - 20
2300558	Selenium	2.71	Spike	P	0 - 20
2300558	Silver	0.624	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P408834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2299892	Aluminum	11.0	Spike	P	0 - 20
2299892	Antimony	7.93	Spike	P	0 - 20
2299892	Arsenic	8.22	Spike	P	0 - 20
2299892	Beryllium	7.99	Spike	P	0 - 20
2299892	Cadmium	7.98	Spike	P	0 - 20
2299892	Chromium	7.95	Spike	P	0 - 20
2299892	Cobalt	9.10	Spike	P	0 - 20
2299892	Copper	7.44	Spike	P	0 - 20
2299892	Lead	9.78	Spike	P	0 - 20
2299892	Manganese	8.24	Spike	P	0 - 20
2299892	Molybdenum	8.15	Spike	P	0 - 20
2299892	Nickel	7.53	Spike	P	0 - 20
2299892	Selenium	9.69	Spike	P	0 - 20
2299892	Silver	8.75	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P409228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300372	Ammonia-N	1.92	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P409272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300663	Ammonia-N	1.57	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P409066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300729	Kjeldahl Nitrogen	1.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P409067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300871	Kjeldahl Nitrogen	0.186	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P408786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300373	NO2NO3-N	0.428	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300112	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P408982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300768	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300686	Total-P	1.88	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300374	Total-P	0.122	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P408764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300614	Total-P	2.33	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300719	O-Phosphate-P	2.51	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P408742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300734	O-Phosphate-P	1.04	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P408736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300481	2,4-D	17.3	Spike	P	0 - 30
2300481	2,4,5-T	0.317	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P408736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300481	Acetaminophen	11.8	Spike	P	0 - 30
2300481	Acetamiprid	2.47	Spike	P	0 - 30
2300481	Afidopyropen	24.8	Spike	P	0 - 30
2300481	Bentazon	6.97	Spike	P	0 - 30
2300481	Benzovindiflupyr	12.9	Spike	P	0 - 30
2300481	Carbamazepine	1.31	Spike	P	0 - 30
2300481	Clothianidin	12.4	Spike	P	0 - 30
2300481	Dinotefuran	5.25	Spike	P	0 - 30
2300481	Diuron	46.6	Spike	F	0 - 30
2300481	Fenuron	5.05	Spike	P	0 - 30
2300481	Fluridone	10.1	Spike	P	0 - 30
2300481	Hydrocodone	12.1	Spike	P	0 - 30
2300481	Ibuprofen	10.2	Spike	P	0 - 30
2300481	Imazapyr	12.0	Spike	P	0 - 30
2300481	Imidacloprid	8.25	Spike	P	0 - 30
2300481	Linuron	29.2	Spike	P	0 - 30
2300481	Mandestrobin	0.142	Spike	P	0 - 30
2300481	MCPP	6.39	Spike	P	0 - 30
2300481	Naproxen	14.7	Spike	P	0 - 30
2300481	Primidone	26.1	Spike	P	0 - 30
2300481	Pyraclostrobin	1.07	Spike	P	0 - 30
2300481	Silvex	11.3	Spike	P	0 - 30
2300481	Thiamethoxam	2.92	Spike	P	0 - 30
2300481	Tolfenpyrad	27.0	Spike	P	0 - 30
2300481	Triclopyr	15.7	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P408755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300418	Acesulfame K	16.9	Spike	P	0 - 30
2300418	AMPA	6.03	Spike	P	0 - 30
2300418	Endothall	0.0913	Spike	P	0 - 30
2300418	Glufosinate	9.19	Spike	P	0 - 30
2300418	Glyphosate	3.74	Spike	P	0 - 30
2300418	Sucralose	9.06	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P408756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300832	Acesulfame K	8.14	Spike	P	0 - 30
2300832	AMPA	1.10	Spike	P	0 - 30
2300832	Endothall	4.55	Spike	P	0 - 30
2300832	Glufosinate	0.0479	Spike	P	0 - 30
2300832	Glyphosate	0.0447	Spike	P	0 - 30
2300832	Sucralose	4.88	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P408901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300716	Total Alkalinity	0.0427	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011
Batch ID: P408902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300728	Total Alkalinity	0.0105	Sample	P	0 - 5.2

Reference Method: SM 2540 D-2011
Batch ID: P409311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300764	TSS	7.69	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P408904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300716	Fluoride	2.03	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011
Batch ID: P408905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300728	Fluoride	0.487	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P409300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300730	Organic Carbon	0.463	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P409633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2300717	Organic Carbon	1.82	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2300700
Field Sample ID: G5CE0100

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.6	P	30 - 160
EPA 8321B	Diuron-d6	84.4	P	30 - 160
EPA 8321B	Endothall-d6	86.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.5	P	30 - 160
EPA 8321B	Primidone-d5	76.4	P	30 - 160
EPA 8321B	Sucralose-d6	81.1	P	30 - 160

Lab Sample ID: 2300701
Field Sample ID: FB_01192022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	66.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	69.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.5	P	30 - 160
EPA 8321B	Diuron-d6	98.0	P	30 - 160
EPA 8321B	Endothall-d6	91.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.5	P	30 - 160
EPA 8321B	Primidone-d5	43.7	P	30 - 160
EPA 8321B	Sucralose-d6	68.8	P	30 - 160

Lab Sample ID: 2300702
Field Sample ID: G5CE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.4	P	30 - 160
EPA 8321B	Diuron-d6	120	P	30 - 160
EPA 8321B	Endothall-d6	80.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	89.1	P	30 - 160
EPA 8321B	Primidone-d5	79.8	P	30 - 160
EPA 8321B	Sucralose-d6	59.1	P	30 - 160

Lab Sample ID: 2300703
Field Sample ID: G5CE0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	119	P	30 - 160
EPA 8321B	Endothall-d6	84.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	99.4	P	30 - 160
EPA 8321B	Primidone-d5	59.9	P	30 - 160
EPA 8321B	Sucralose-d6	63.4	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2300704

Field Sample ID: G5CE0130

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	97.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	127	P	30 - 160
EPA 8321B	Diuron-d6	114	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	86.9	P	30 - 160
EPA 8321B	Primidone-d5	77.6	P	30 - 160
EPA 8321B	Sucralose-d6	65.4	P	30 - 160

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8321B

Run ID: A109920

Included Lab Sample IDs: 2300700, 2300701, 2300702, 2300703, 2300704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	117	P/P	50 - 150
2,4-D	65.6	108	P/P	50 - 150
2,4,5-T	119	108	P/P	50 - 150
2,4,5-T	84.7	119	P/P	50 - 150
Acetaminophen	61.3	62.4	P/P	60 - 160
Acetaminophen	62.4	68.5	P/P	60 - 160
Acetamiprid	103	109	P/P	50 - 150
Acetamiprid	84.0	103	P/P	50 - 150
Afidopyropen	110	96.8	P/P	50 - 150
Afidopyropen	115	110	P/P	50 - 150
Bentazon	84.4	130	P/P	50 - 160
Bentazon	84.6	110	P/P	50 - 160
Benzovindiflupyr	125	67.5	P/P	50 - 150
Benzovindiflupyr	67.5	104	P/P	50 - 150
Carbamazepine	111	95.9	P/P	60 - 150
Carbamazepine	95.9	88.7	P/P	60 - 150
Clothianidin	100	113	P/P	60 - 150
Clothianidin	113	92.4	P/P	60 - 150
Dinotefuran	94.0	95.7	P/P	50 - 150
Dinotefuran	95.7	91.3	P/P	50 - 150
Diuron	108	99.7	P/P	60 - 160
Diuron	99.7	134	P/P	60 - 160
Fenuron	97.2	97.2	P/P	60 - 150
Fenuron	97.2	102	P/P	60 - 150
Fluridone	97.9	92.0	P/P	60 - 160
Fluridone	99.9	97.9	P/P	60 - 160
Hydrocodone	83.8	99.1	P/P	60 - 150
Hydrocodone	91.6	83.8	P/P	60 - 150
Ibuprofen	123	139	P/P	50 - 160
Ibuprofen	139	67.6	P/P	50 - 160
Imazapyr	121	101	P/P	50 - 150
Imazapyr	88.2	121	P/P	50 - 150
Imidacloprid	111	72.1	P/P	60 - 150
Imidacloprid	93.0	111	P/P	60 - 150
Linuron	130	118	P/P	60 - 150
Linuron	90.7	130	P/P	60 - 150
Mandestrobin	109	112	P/P	50 - 150
Mandestrobin	132	109	P/P	50 - 150
MCPP	104	95.8	P/P	50 - 150
MCPP	95.8	107	P/P	50 - 150
Naproxen	102	76.6	P/P	50 - 160
Naproxen	116	102	P/P	50 - 160
Primidone	119	64.2	P/P	60 - 150
Primidone	64.2	87.4	P/P	60 - 150
Pyraclostrobin	101	115	P/P	60 - 150
Pyraclostrobin	109	101	P/P	60 - 150
Silvex	89.4	99.9	P/P	50 - 150
Silvex	99.9	96.9	P/P	50 - 150
Thiamethoxam	100	91.5	P/P	50 - 150
Thiamethoxam	91.5	102	P/P	50 - 150
Tolfenpyrad	71.9	91.2	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A109920

Included Lab Sample IDs: 2300700, 2300701, 2300702, 2300703, 2300704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tolfenpyrad	87.0	71.9	P/P	60 - 150
Triclopyr	102	95.2	P/P	50 - 150
Triclopyr	95.2	138	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A109950

Included Lab Sample IDs: 2300684, 2300687, 2300690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	100	P/P	90 - 110
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A109963

Included Lab Sample IDs: 2300682, 2300685, 2300688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A109970

Included Lab Sample IDs: 2300683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A109990

Included Lab Sample IDs: 2300707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.8	96.9	P/P	90 - 110
Antimony	98.6	97.5	P/P	90 - 110
Arsenic	99.5	98.8	P/P	90 - 110
Beryllium	99.0	96.5	P/P	90 - 110
Cadmium	96.9	95.9	P/P	90 - 110
Chromium	97.8	96.6	P/P	90 - 110
Cobalt	95.2	94.6	P/P	90 - 110
Copper	98.5	98.3	P/P	90 - 110
Lead	91.8	90.1	P/P	90 - 110
Manganese	98.2	97.5	P/P	90 - 110
Molybdenum	98.2	97.4	P/P	90 - 110
Nickel	99.2	99.1	P/P	90 - 110
Selenium	98.9	96.9	P/P	90 - 110
Silver	97.8	96.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A109991

Included Lab Sample IDs: 2300700, 2300701, 2300702, 2300703, 2300704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A109991

Included Lab Sample IDs: 2300700, 2300701, 2300702, 2300703, 2300704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	75.7	76.7	P/P	60 - 160
Acesulfame K	76.7	81.5	P/P	60 - 160
Endothall	74.4	66.6	P/P	60 - 160
Endothall	80.5	74.4	P/P	60 - 160
Sucralose	85.8	95.2	P/P	60 - 160
Sucralose	95.2	96.6	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110002

Included Lab Sample IDs: 2300686

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110020

Included Lab Sample IDs: 2300707

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	103	P/P	95 - 105
Iron	102	102	P/P	95 - 105
Magnesium	101	102	P/P	95 - 105
Strontium	102	103	P/P	95 - 105
Tin	101	104	P/P	95 - 105
Vanadium	100	103	P/P	95 - 105
Zinc	99.3	105	P/P	95 - 105

Reference Method: SM 2320 B-2011

Run ID: A110022

Included Lab Sample IDs: 2300682, 2300685, 2300688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	97.3	P/P	90 - 110
Total Alkalinity	98.9	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A110022

Included Lab Sample IDs: 2300682, 2300685, 2300688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	103	P/P	90 - 110
Fluoride	103	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110023

Included Lab Sample IDs: 2300700, 2300701, 2300702, 2300703, 2300704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	104	P/P	60 - 160
AMPA	95.4	106	P/P	60 - 160
Glufosinate	94.1	93.6	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A110023

Included Lab Sample IDs: 2300700, 2300701, 2300702, 2300703, 2300704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	94.4	98.3	P/P	60 - 160
Glyphosate	93.3	93.2	P/P	60 - 160
Glyphosate	94.9	87.7	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110031

Included Lab Sample IDs: 2300683, 2300686, 2300689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	99.2	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110039

Included Lab Sample IDs: 2300705, 2300706, 2300708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	100	P/P	90 - 110
Antimony	99.4	102	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Beryllium	104	109	P/P	90 - 110
Cadmium	97.6	98.5	P/P	90 - 110
Chromium	98.3	101	P/P	90 - 110
Cobalt	103	105	P/P	90 - 110
Copper	102	104	P/P	90 - 110
Lead	93.5	93.7	P/P	90 - 110
Manganese	99.3	102	P/P	90 - 110
Molybdenum	97.8	98.1	P/P	90 - 110
Nickel	104	106	P/P	90 - 110
Selenium	99.0	101	P/P	90 - 110
Silver	101	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110045

Included Lab Sample IDs: 2300705, 2300706, 2300708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.4	96.5	P/P	90 - 110
Iron	99.9	97.8	P/P	90 - 110
Magnesium	99.2	96.7	P/P	90 - 110
Strontium	104	105	P/P	90 - 110
Tin	102	103	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Zinc	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110046

Included Lab Sample IDs: 2300689

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110089

Included Lab Sample IDs: 2300705, 2300706

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.0	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110134

Included Lab Sample IDs: 2300683, 2300686

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	95.7	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110152

Included Lab Sample IDs: 2300683, 2300686, 2300689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	P/P	90 - 110
Kjeldahl Nitrogen	95.1	95.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110168

Included Lab Sample IDs: 2300683, 2300686

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110312

Included Lab Sample IDs: 2300689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	99.9	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						0.366	
EPA 200.7 Rev. 4.4	Calcium	107	105	104				0.288
	Calcium	102						4.16
	Iron	109	107	108	109			1.07
	Iron	109	104	107				2.74
	Magnesium	105	104	100				1.56
	Magnesium	102						1.49
	Strontium	104	102	102	102			0.337
	Strontium	106						3.81
	Tin	110	110	109	107			1.68
	Tin	107	89.2	84.4				5.56
	Vanadium	105	106	107	106			1.06
	Vanadium	106	112	109				3.00
	Zinc	110	106	106	104			1.44
	Zinc	106	103	102				0.885
EPA 200.8 Rev. 5.4	Aluminum	98.5	96.3	96.2	96.2			0.114
	Aluminum	102	96.0	108				11.0
	Antimony	96.4	99.8	100	99.0			0.226
	Antimony	101	96.8	89.4				7.93
	Arsenic	97.0	99.4	100	97.8			0.843
	Arsenic	101	104	95.7				8.22
	Beryllium	96.4	99.3	101	101			1.51
	Beryllium	97.1	102	94.1				7.99
	Cadmium	95.2	97.4	97.3	97.7			0.0208
	Cadmium	102	91.1	84.2				7.98
	Chromium	97.2	98.9	99.5	98.6			0.584
	Chromium	102	95.6	88.3				7.95
	Cobalt	96.8	97.2	97.7	94.3			0.482
	Cobalt	103	107	97.5				9.10
	Copper	97.8	97.1	96.5	94.7			0.623
	Copper	101	98.4	91.4				7.44
	Lead	92.3	100	99.5	98.5			0.722
	Lead	100	98.9	89.6				9.78
	Manganese	97.5	98.4	98.9	97.7			0.335
	Manganese	100	90.0	80.0				8.24
	Molybdenum	98.1	102	101	99.4			0.645
	Molybdenum	102	104	94.5				8.15
	Nickel	99.8	99.9	99.4	97.0			0.436
	Nickel	102	104	96.5				7.53
	Selenium	98.2	97.1	99.8	96.0			2.71
	Selenium	98.8	97.5	88.4				9.69
	Silver	97.2	94.7	94.1	94.6			0.624
	Silver	105	88.7	81.3				8.75
EPA 350.1 Rev. 2.0	Ammonia-N	94.8	101	103				1.92
	Ammonia-N	96.0	95.0	97.0				1.57
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.0	99.5	97.8				1.54
	Kjeldahl Nitrogen	97.6	106	106				0.186
EPA 353.2 Rev. 2.0	NO2NO3-N	104	103	104				0.428
	NO2NO3-N	104	104	104				0.0
	NO2NO3-N	101	100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	108	104	106				1.88
	Total-P	110	102	102				0.122
	Total-P	110	111	114				2.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.2	101				2.51

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.8	100			1.04
EPA 8321B	2,4-D	113					17.3
	2,4,5-T	77.3	88.7	88.4			0.317
	Acesulfame K	109	130	154			16.9
	Acesulfame K	112	130	141			8.14
	Acetaminophen	92.5	125	111			11.8
	Acetamiprid	95.8	122	125			2.47
	Afidopyropen	89.7	64.7	83.0			24.8
	AMPA	99.5	79.9	84.8			6.03
	AMPA	91.4	71.5	72.6			1.10
	Bentazon	112	56.7	62.1			6.97
	Benzovindiflupyr	119	115	130			12.9
	Carbamazepine	111	116	118			1.31
	Clothianidin	115					12.4
	Dinotefuran	100	136	144			5.25
	Diuron	126					46.6
	Endothall	125	134	134			0.0913
	Endothall	115	96.5	101			4.55
	Fenuron	97.2	90.6	99.8			5.05
	Fluridone	103	88.2	97.5			10.1
	Glufosinate	93.5	87.7	96.1			9.19
	Glufosinate	95.7	76.8	76.8			0.0479
	Glyphosate	88.8	90.4	93.9			3.74
	Glyphosate	90.3	73.5	73.5			0.0447
	Hydrocodone	97.1	90.3	102			12.1
	Ibuprofen	102	101	91.4			10.2
	Imazapyr	113	99.6	121			12.0
	Imidacloprid	91.5					8.25
	Linuron	103	88.1	118			29.2
	Mandestrobin	103	108	108			0.142
	MCPP	112	111	119			6.39
	Naproxen	71.7	103	119			14.7
	Primidone	90.3	81.0	109			26.1
	Pyraclostrobin	75.0	85.8	84.9			1.07
	Silvex	88.2	109	96.9			11.3
	Sucralose	97.5	90.1	82.0			9.06
	Sucralose	86.1	84.2	88.7			4.88
	Thiamethoxam	99.4					2.92
	Tolfenpyrad	49.0	38.7	29.5			27.0
	Triclopyr	97.4	111	130			15.7
SM 2320 B-2011	Total Alkalinity	99.3				0.0427	
	Total Alkalinity	98.2				0.0105	
SM 2540 D-2011	TSS					7.69	
SM 4500 F-C-2011	Fluoride	99.0	101	98.4			2.03
	Fluoride	99.5	96.9	97.6			0.487
SM 5310 B-2011	Organic Carbon	93.8	90.0	90.4			0.463
	Organic Carbon	95.2	96.6	94.1			1.82

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2300682, 2300685, 2300688

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2300705, 2300706, 2300707, 2300708
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2300705, 2300706, 2300707, 2300708
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2300683, 2300686, 2300689
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2300683, 2300686, 2300689
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2300683, 2300686, 2300689
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2300683, 2300686, 2300689
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2300684, 2300687, 2300690
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2300700, 2300701, 2300702, 2300703, 2300704
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2300682, 2300685, 2300688
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2300682, 2300685, 2300688
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2300682, 2300685, 2300688
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2300683, 2300686, 2300689

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	01/20/2022			01/20/2022 17:34	Sarah A Nixon	2300682, 2300685, 2300688
EPA 200.7 Rev. 4.4	01/20/2022	01/21/2022 09:47	Emily M Philpot	01/24/2022 15:22	Josef B Mick	2300707
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:09	Josef B Mick	2300705
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:17	Josef B Mick	2300705
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:25	Josef B Mick	2300706
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:33	Josef B Mick	2300706
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:41	Josef B Mick	2300708
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:49	Josef B Mick	2300708
EPA 200.8 Rev. 5.4	01/20/2022	01/21/2022 09:47	Emily M Philpot	01/21/2022 15:53	Alexander Thompson	2300707
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 20:17	McKinley C Carter	2300708
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:11	McKinley C Carter	2300705
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:21	McKinley C Carter	2300706
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/25/2022 22:31	McKinley C Carter	2300708
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/27/2022 14:23	Emily M Philpot	2300705
	01/20/2022	01/24/2022 09:56	Emily M Philpot	01/27/2022 14:29	Emily M Philpot	2300706
EPA 350.1 Rev. 2.0	01/20/2022			01/31/2022 15:38	Roberta Tatti	2300683
	01/20/2022			01/31/2022 15:40	Roberta Tatti	2300686
	01/20/2022			02/01/2022 16:01	Roberta Tatti	2300689
EPA 351.2 Rev. 2.0	01/20/2022	01/28/2022 11:05	Samantha L Bates	02/01/2022 13:10	Virginia P. Brown	2300689
	01/20/2022	01/28/2022 11:05	Samantha L Bates	02/01/2022 14:05	Virginia P. Brown	2300683
	01/20/2022	01/28/2022 11:05	Samantha L Bates	02/01/2022 14:06	Virginia P. Brown	2300686
EPA 353.2 Rev. 2.0	01/20/2022			01/21/2022 11:50	Beverly Y. Sanders	2300683
	01/20/2022			01/24/2022 10:41	Beverly Y. Sanders	2300686
	01/20/2022			01/25/2022 14:01	Nathaniel J Jones	2300689
EPA 365.1 Rev. 2.0	01/20/2022	01/21/2022 15:10	Simonne.V. Calhoun	01/25/2022 14:01	Shengyu Ding	2300683
	01/20/2022	01/21/2022 15:10	Simonne.V. Calhoun	01/25/2022 14:25	Shengyu Ding	2300689
	01/20/2022	01/21/2022 15:10	Simonne.V. Calhoun	01/25/2022 14:31	Shengyu Ding	2300686
EPA 365.1 Rev. 2.0 dissolved	01/20/2022			01/20/2022 14:58	James L Waggeberby	2300690
	01/20/2022			01/20/2022 15:35	James L Waggeberby	2300684
	01/20/2022			01/20/2022 15:36	James L Waggeberby	2300687
EPA 8321B	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/22/2022 07:23	Juyoung Kim	2300700
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/22/2022 07:58	Juyoung Kim	2300701
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/22/2022 09:07	Juyoung Kim	2300702
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/22/2022 09:42	Juyoung Kim	2300703
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/22/2022 10:17	Juyoung Kim	2300704
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/25/2022 00:47	Juyoung Kim	2300700
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/25/2022 01:22	Juyoung Kim	2300702
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/25/2022 01:56	Juyoung Kim	2300703
	01/20/2022	01/21/2022 09:00	Hoor Shaik	01/25/2022 02:31	Juyoung Kim	2300704
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 15:24	Manjita Shrestha	2300701

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 16:57	Manjita Shrestha	2300700
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 17:56	Manjita Shrestha	2300701
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 18:11	Manjita Shrestha	2300702
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 18:26	Manjita Shrestha	2300703
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 18:56	Manjita Shrestha	2300704
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 19:09	Manjita Shrestha	2300700
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 19:20	Manjita Shrestha	2300702
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 19:30	Manjita Shrestha	2300703
	01/20/2022	01/21/2022 09:00	Manjita Shrestha	01/21/2022 19:41	Manjita Shrestha	2300704
	01/20/2022			01/22/2022 00:20	Dale L. Simmons	2300688
SM 2320 B-2011	01/20/2022			01/22/2022 06:24	Dale L. Simmons	2300682
	01/20/2022			01/22/2022 06:37	Dale L. Simmons	2300685
	01/20/2022			01/25/2022 16:02	Yijie Li	2300682, 2300685, 2300688
SM 2540 D-2011	01/20/2022			01/22/2022 00:20	Dale L. Simmons	2300688
SM 4500 F-C-2011	01/20/2022			01/22/2022 04:47	Dale L. Simmons	2300682
	01/20/2022			01/22/2022 04:52	Dale L. Simmons	2300685
	01/20/2022			02/01/2022 15:06	Nathaniel J Jones	2300683
SM 5310 B-2011	01/20/2022			02/01/2022 16:00	Nathaniel J Jones	2300686
	01/20/2022			02/08/2022 23:53	Touraj Touran	2300689