

Chemical Analysis Report

NE-DIST-2019-11-21-02

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

Event Description: **LSJR Downtown Boat**

Request ID: **RQ-2019-11-11-14**

Customer: **NE-DIST**

Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 19-DEC-2019 08:53

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: Arlington River at Carlton oaks

Collection Date/Time: 11/20/2019 10:35

Field ID: G2NE1152

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138340	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P374657	
	EPA 300.0	Bromide	13		mg Br/L	P375024	
	SM 2320 B-97	Total Alkalinity	83		mg CaCO3/L	P374789	
	SM 2540 D-97	TSS	3	I	mg/L	P375131	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P374792	
2138342	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P374936	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P374963	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P374868	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P375124	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P374798	
2138344	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.049		mg P/L	P374599	
2138368	EPA 200.7 Rev. 4.4	Iron	160	I	ug/L	P374895	
		Manganese	9.8	I	ug/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Aluminum	54	I	ug/L	P374895	
		Antimony	0.50	U	ug/L	P374895	
		Arsenic	1.6	I	ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Selenium	0.80	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	
		Thallium	1.0	U	ug/L	P374895	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Little Pottsburg Creek at Atlantic Blvd

Collection Date/Time: 11/20/2019 10:55

Field ID: 20030679

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138341	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P374657	
	EPA 300.0	Bromide	13		mg Br/L	P375024	
	SM 2320 B-97	Total Alkalinity	92		mg CaCO3/L	P374789	
	SM 2540 D-97	TSS	2	I	mg/L	P375131	
	SM 4500 F-C-97	Fluoride	0.32		mg F/L	P374792	
2138343	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P374963	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P374869	
	EPA 365.1 Rev. 2.0	Total-P	0.093		mg P/L	P375124	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P374798	
2138345	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P374599	
2138369	EPA 200.7 Rev. 4.4	Iron	190	I	ug/L	P374895	
		Manganese	21		ug/L	P374895	
		Zinc	15	U	ug/L	P374895	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P374895	
		Antimony	0.50	U	ug/L	P374895	
		Arsenic	1.5	I	ug/L	P374895	
		Cadmium	0.20	U	ug/L	P374895	
		Chromium	4.0	U	ug/L	P374895	
		Copper	1.6	U	ug/L	P374895	
		Lead	2.0	U	ug/L	P374895	
		Nickel	5.0	U	ug/L	P374895	
		Selenium	0.80	U	ug/L	P374895	
		Silver	0.10	U	ug/L	P374895	
		Thallium	1.0	U	ug/L	P374895	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Big Pottsburg CR Atl Blvd

Collection Date/Time: 11/20/2019 09:55

Field ID: 20030072

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138346	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P374657	
	EPA 300.0	Bromide	5.8		mg Br/L	P375024	
	SM 2320 B-97	Total Alkalinity	79		mg CaCO3/L	P374989	
	SM 2540 D-97	TSS	4	I	mg/L	P375131	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P374994	
2138348	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P374963	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P374869	
	EPA 365.1 Rev. 2.0	Total-P	0.078		mg P/L	P375197	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P374798	
2138350	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.043		mg P/L	P374599	
2138365	EPA 8321B	2,4-D	0.048		ug/L	P374613	
		Acesulfame K**	0.10	UJ	ug/L	P374626	SUR
		AMPA**	0.10	U	ug/L	P374626	
		Sucralose**	0.24		ug/L	P374626	MS
		Acetaminophen**	0.0080	U	ug/L	P374613	
		Acetamiprid**	0.0020	U	ug/L	P374613	
		Endothall**	0.25	UJ	ug/L	P374626	SUR
		Glufosinate**	0.10	U	ug/L	P374626	
		Glyphosate**	0.10	U	ug/L	P374626	
		Afidopyropen**	0.0020	UJ	ug/L	P374613	
		Bentazon	0.028		ug/L	P374613	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374613	
		Carbamazepine**	8.0E-04	U	ug/L	P374613	
		Clothianidin**	0.0035	I	ug/L	P374613	
		Dinotefuran**	0.0020	U	ug/L	P374613	
		Diuron	0.025		ug/L	P374613	
		Fenuron	0.016	U	ug/L	P374613	
		Fluridone**	0.013		ug/L	P374613	
		Imazapyr**	0.28		ug/L	P374613	
		Hydrocodone**	0.0020	U	ug/L	P374613	
		Ibuprofen**	0.020	U	ug/L	P374613	
		Imidacloprid	0.032		ug/L	P374613	
		Linuron	0.0040	U	ug/L	P374613	
		Mandestrobin**	0.0020	UJ	ug/L	P374613	
		MCP	0.013		ug/L	P374613	
		Naproxen**	0.0080	U	ug/L	P374613	
		Primidone**	0.0040	U	ug/L	P374613	
		Pyraclostrobin**	0.0020	U	ug/L	P374613	
		Thiamethoxam**	0.0020	U	ug/L	P374613	
		Tolfenpyrad**	0.0020	U	ug/L	P374613	
		Triclopyr**	0.0040	U	ug/L	P374613	
2138370	EPA 200.7 Rev. 4.4	Iron	240		ug/L	P374877	

Field ID: 20030072

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138370	EPA 200.7 Rev. 4.4	Manganese	10.9		ug/L	P374877	
		Zinc	6.2	I	ug/L	P374877	
	EPA 200.8 Rev. 5.4	Aluminum	72		ug/L	P374877	
		Antimony	0.17	I	ug/L	P374877	
		Arsenic	1.27		ug/L	P374877	
		Cadmium	0.020	U	ug/L	P374877	
		Chromium	0.40	U	ug/L	P374877	
		Copper	2.00		ug/L	P375424	
		Lead	0.52		ug/L	P374877	
		Nickel	0.78	I	ug/L	P374877	
		Selenium	0.20	U	ug/L	P374877	
		Silver	0.010	U	ug/L	P374877	
		Thallium	0.10	U	ug/L	P374877	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon and imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Big Pottsburg CR Atl Blvd

Collection Date/Time: 11/20/2019 10:05

Field ID: FB 01102019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138352	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P374657	
	EPA 300.0	Bromide	0.013	U	mg Br/L	P375024	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P374989	
	SM 2540 D-97	TSS	2	U	mg/L	P375131	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P374994	
2138353	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P374934	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P374964	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P374757	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P375192	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P374798	
2138354	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374598	
2138367	EPA 8321B	2,4-D	0.0020	U	ug/L	P374613	
		Acesulfame K**	0.10	U	ug/L	P374626	
		AMPA**	0.10	U	ug/L	P374626	
		Sucralose**	0.010	U	ug/L	P374626	MS
		Acetaminophen**	0.0080	U	ug/L	P374613	
		Acetamiprid**	0.0020	U	ug/L	P374613	
		Endothall**	0.25	U	ug/L	P374626	
		Glufosinate**	0.10	U	ug/L	P374626	
		Glyphosate**	0.10	U	ug/L	P374626	
		Afidopyropen**	0.0020	UJ	ug/L	P374613	
		Bentazon	8.0E-04	U	ug/L	P374613	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374613	
		Carbamazepine**	8.0E-04	U	ug/L	P374613	
		Clothianidin**	0.0020	U	ug/L	P374613	
		Dinotefuran**	0.0020	U	ug/L	P374613	
		Diuron	0.0020	U	ug/L	P374613	
		Fenuron	0.016	U	ug/L	P374613	
		Fluridone**	8.0E-04	U	ug/L	P374613	
		Imazapyr**	0.0040	U	ug/L	P374613	
		Hydrocodone**	0.0020	U	ug/L	P374613	
		Ibuprofen**	0.020	U	ug/L	P374613	
		Imidacloprid	0.0020	U	ug/L	P374613	
		Linuron	0.0040	U	ug/L	P374613	
		Mandestrobin**	0.0020	UJ	ug/L	P374613	
		MCP	0.0020	U	ug/L	P374613	
		Naproxen**	0.0080	U	ug/L	P374613	
		Primidone**	0.0040	U	ug/L	P374613	
		Pyraclostrobin**	0.0020	U	ug/L	P374613	
		Thiamethoxam**	0.0020	U	ug/L	P374613	
		Tolfenpyrad**	0.0020	U	ug/L	P374613	
		Triclopyr**	0.0040	U	ug/L	P374613	
2138372	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P374877	

Field ID: FB 01102019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138372	EPA 200.7 Rev. 4.4	Manganese	1.0	U	ug/L	P374877	
		Zinc	5.0	U	ug/L	P374877	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P374877	
		Antimony	0.050	U	ug/L	P375445	
		Arsenic	0.050	U	ug/L	P374877	
		Cadmium	0.020	U	ug/L	P374877	
		Chromium	0.40	U	ug/L	P374877	
		Copper	0.40	U	ug/L	P374877	
		Lead	0.20	U	ug/L	P374877	
		Nickel	0.50	U	ug/L	P374877	
		Selenium	0.20	U	ug/L	P374877	
		Silver	0.010	U	ug/L	P374877	
		Thallium	0.10	U	ug/L	P374877	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 5310 B-00: The result was confirmed on 11/27/2019.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon and imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Big Pottsburg CR Atl Blvd

Collection Date/Time: 11/20/2019 10:00

Field ID: 20030072 DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138347	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P374657	
	EPA 300.0	Bromide	5.8		mg Br/L	P375024	
	SM 2320 B-97	Total Alkalinity	79		mg CaCO3/L	P374989	
	SM 2540 D-97	TSS	4	I	mg/L	P375131	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P374994	
2138349	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P374935	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P374963	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P374869	
	EPA 365.1 Rev. 2.0	Total-P	0.075		mg P/L	P375197	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P374798	
2138351	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.043		mg P/L	P374599	
2138366	EPA 8321B	2,4-D	0.054		ug/L	P374613	
		Acesulfame K**	0.10	UJ	ug/L	P374626	SUR
		AMPA**	0.10	U	ug/L	P374626	
		Sucralose**	0.28		ug/L	P374626	MS
		Acetaminophen**	0.0080	U	ug/L	P374613	
		Acetamiprid**	0.0020	U	ug/L	P374613	
		Endothall**	0.25	UJ	ug/L	P374626	SUR
		Glufosinate**	0.10	U	ug/L	P374626	
		Glyphosate**	0.10	U	ug/L	P374626	
		Afidopyropen**	0.0020	UJ	ug/L	P374613	
		Bentazon	0.031		ug/L	P374613	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374613	
		Carbamazepine**	8.0E-04	U	ug/L	P374613	
		Clothianidin**	0.0028	I	ug/L	P374613	
		Dinotefuran**	0.0020	U	ug/L	P374613	
		Diuron	0.025		ug/L	P374613	
		Fenuron	0.016	U	ug/L	P374613	
		Fluridone**	0.014		ug/L	P374613	
		Imazapyr**	0.30		ug/L	P374613	
		Hydrocodone**	0.0020	U	ug/L	P374613	
		Ibuprofen**	0.020	U	ug/L	P374613	
		Imidacloprid	0.032		ug/L	P374613	
		Linuron	0.0040	U	ug/L	P374613	
		Mandestrobin**	0.0020	UJ	ug/L	P374613	
		MCP	0.012		ug/L	P374613	
		Naproxen**	0.0080	U	ug/L	P374613	
		Primidone**	0.0040	U	ug/L	P374613	
		Pyraclostrobin**	0.0020	U	ug/L	P374613	
		Thiamethoxam**	0.0020	U	ug/L	P374613	
		Tolfenpyrad**	0.0020	U	ug/L	P374613	
		Triclopyr**	0.0040	U	ug/L	P374613	
2138371	EPA 200.7 Rev. 4.4	Iron	250		ug/L	P374877	

Field ID: 20030072 DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2138371	EPA 200.7 Rev. 4.4	Manganese	11.4		ug/L	P374877	
		Zinc	6.3	I	ug/L	P374877	
	EPA 200.8 Rev. 5.4	Aluminum	76		ug/L	P374877	
		Antimony	0.19	I	ug/L	P374877	
		Arsenic	1.29		ug/L	P374877	
		Cadmium	0.020	U	ug/L	P374877	
		Chromium	0.40	U	ug/L	P374877	
		Copper	1.65		ug/L	P375424	
		Lead	0.53		ug/L	P374877	
		Nickel	0.89	I	ug/L	P374877	
		Selenium	0.20	U	ug/L	P374877	
		Silver	0.010	U	ug/L	P374877	
		Thallium	0.10	U	ug/L	P374877	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon and imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374657

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374877

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374895

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374877

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	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: P374895

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375424

Component	Result	Code	Units
Copper	0.40	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375445

Component	Result	Code	Units
Antimony	0.050	U	ug/L

Reference Method: EPA 300.0
Batch ID: P375024

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374934

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374935

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374936

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374963

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374757

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375124

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375192

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374598

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374599

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

Reference Method: EPA 8321B
Batch ID: P374613

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyrophen	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P374613

Component	Result	Code	Units
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	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: P374626

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-97
Batch ID: P374789

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

Reference Method: SM 2320 B-97
Batch ID: P374989

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

Reference Method: SM 2540 D-97
Batch ID: P375131

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P374792

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P374798

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: P374877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	111		P	85 - 115
Manganese	99.3		P	85 - 115
Zinc	99.1		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115
Manganese	99.0		P	85 - 115
Zinc	98.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.8		P	85 - 115
Antimony	98.6		P	85 - 115
Arsenic	96.5		P	85 - 115
Cadmium	93.7		P	85 - 115
Chromium	96.7		P	85 - 115
Copper	96.1		P	85 - 115
Lead	99.1		P	85 - 115
Nickel	96.7		P	85 - 115
Selenium	93.4		P	85 - 115
Silver	102		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.5		P	85 - 115
Antimony	99.9		P	85 - 115
Arsenic	97.8		P	85 - 115
Cadmium	96.5		P	85 - 115
Chromium	95.3		P	85 - 115
Copper	95.9		P	85 - 115
Lead	100		P	85 - 115
Nickel	96.1		P	85 - 115
Selenium	95.0		P	85 - 115
Silver	98.4		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375424

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	98.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375445

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Antimony	105		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P375024

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374934

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374935

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374936

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374963

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375124

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375192

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374598

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374599

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

Reference Method: EPA 8321B
Batch ID: P374613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	152		P	40 - 160
Acetaminophen	80.7		P	30 - 160
Acetamiprid	103		P	40 - 160
Afidopyropen	112		P	40 - 160
Bentazon	83.4		P	30 - 160
Benzovindiflupyr	75.8		P	40 - 160
Carbamazepine	99.4		P	40 - 160
Clothianidin	90.1		P	40 - 160
Dinotefuran	96.3		P	40 - 160
Diuron	82.8		P	40 - 160
Fenuron	105		P	40 - 160
Fluridone	91.1		P	40 - 160
Hydrocodone	94.0		P	40 - 160
Ibuprofen	81.0		P	30 - 160
Imazapyr	102		P	40 - 160
Imidacloprid	111		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P374613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	83.3		P	40 - 160
Mandestrobin	85.0		P	40 - 160
MCPP	146		P	40 - 160
Naproxen	97.4		P	40 - 160
Primidone	84.7		P	40 - 160
Pyraclostrobin	83.2		P	30 - 160
Thiamethoxam	99.2		P	40 - 160
Tolfenpyrad	57.8		P	40 - 160
Triclopyr	91.4		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P374626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	92.4		P	40 - 150
AMPA	116		P	40 - 150
Endothall	98.2		P	40 - 150
Glufosinate	109		P	40 - 150
Glyphosate	133		P	40 - 140
Sucralose	111		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P374789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P374989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P374792

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P374798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138268	Iron	106		P	80 - 120
2138268	Manganese	95.2		P	80 - 120
2138268	Zinc	94.9		P	80 - 120
2138420	Iron	106	108	P/P	80 - 120
2138420	Manganese	98.4	99.9	P/P	80 - 120
2138420	Zinc	98.4	99.2	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138369	Iron	103		P	70 - 130
2138369	Manganese	96.5		P	70 - 130
2138369	Zinc	101		P	70 - 130
2138743	Iron	105	106	P/P	70 - 130
2138743	Manganese	93.8	96.2	P/P	70 - 130
2138743	Zinc	94.2	96.8	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138268	Aluminum	95.3		P	80 - 120
2138268	Antimony	100		P	80 - 120
2138268	Arsenic	96.7		P	80 - 120
2138268	Cadmium	95.9		P	80 - 120
2138268	Chromium	98.6		P	80 - 120
2138268	Copper	92.7		P	80 - 120
2138268	Lead	99.0		P	80 - 120
2138268	Nickel	93.5		P	80 - 120
2138268	Selenium	92.2		P	80 - 120
2138268	Silver	102		P	80 - 120
2138268	Thallium	104		P	80 - 120
2138420	Aluminum	99.3	95.2	P/P	80 - 120
2138420	Antimony	99.7	97.1	P/P	80 - 120
2138420	Arsenic	98.7	97.9	P/P	80 - 120
2138420	Cadmium	95.2	93.0	P/P	80 - 120
2138420	Chromium	100	97.5	P/P	80 - 120
2138420	Copper	96.6	94.9	P/P	80 - 120
2138420	Lead	101	98.4	P/P	80 - 120
2138420	Nickel	98.6	97.5	P/P	80 - 120
2138420	Selenium	91.9	90.3	P/P	80 - 120
2138420	Silver	103	100	P/P	80 - 120
2138420	Thallium	106	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138369	Aluminum	105		P	70 - 130
2138369	Antimony	105		P	70 - 130
2138369	Arsenic	109		P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138369	Cadmium	101		P	70 - 130
2138369	Chromium	92.2		P	70 - 130
2138369	Copper	104		P	70 - 130
2138369	Lead	106		P	70 - 130
2138369	Nickel	99.1		P	70 - 130
2138369	Selenium	92.2		P	70 - 130
2138369	Silver	94.8		P	70 - 130
2138369	Thallium	108		P	70 - 130
2138743	Aluminum	103	101	P/P	70 - 130
2138743	Antimony	107	106	P/P	70 - 130
2138743	Arsenic	109	110	P/P	70 - 130
2138743	Cadmium	103	105	P/P	70 - 130
2138743	Chromium	94.2	93.6	P/P	70 - 130
2138743	Copper	101	99.8	P/P	70 - 130
2138743	Lead	106	106	P/P	70 - 130
2138743	Nickel	98.0	98.0	P/P	70 - 130
2138743	Selenium	90.5	93.1	P/P	70 - 130
2138743	Silver	95.4	95.1	P/P	70 - 130
2138743	Thallium	109	110	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375424

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140887	Copper	94.4	94.4	P/P	80 - 120
2140914	Copper	93.8		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375445

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131138	Antimony	103		P	80 - 120
21381019	Antimony	103	103	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P375024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138346	Bromide	94.4	94.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137261	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138668	Ammonia-N	101	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138286	Ammonia-N	105	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138286	Kjeldahl Nitrogen	107	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138185	Kjeldahl Nitrogen	97.1	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138185	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138098	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138388	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138280	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138452	Total-P	100	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138348	Total-P	106	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138031	O-Phosphate-P	101	96.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138293	O-Phosphate-P	95.4	95.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P374613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137732	2,4-D	136	128	P/P	40 - 160
2137732	Acetaminophen	86.1	83.2	P/P	30 - 160
2137732	Acetamiprid	106	100	P/P	40 - 160
2137732	Afidopyropen	118	105	P/P	40 - 160
2137732	Benzovindiflupyr	80.3	80.1	P/P	40 - 160
2137732	Carbamazepine	83.6	83.5	P/P	40 - 160
2137732	Clothianidin	101	100	P/P	40 - 160
2137732	Dinotefuran	124	123	P/P	40 - 160
2137732	Diuron	66.9	62.8	P/P	40 - 160
2137732	Fenuron	99.5	95.8	P/P	40 - 160
2137732	Fluridone	81.2	72.8	P/P	40 - 160
2137732	Hydrocodone	101	98.1	P/P	40 - 160
2137732	Ibuprofen	72.5	74.8	P/P	30 - 160
2137732	Imidacloprid	158	158	P/P	40 - 160
2137732	Linuron	70.4	72.1	P/P	40 - 160
2137732	Mandestrobin	83.9	79.9	P/P	40 - 160
2137732	MCP	137	127	P/P	40 - 160
2137732	Naproxen	103	85.4	P/P	40 - 160
2137732	Primidone	94.8	93.4	P/P	40 - 160
2137732	Pyraclostrobin	86.1	85.6	P/P	30 - 160
2137732	Thiamethoxam	138	134	P/P	40 - 160
2137732	Tolfenpyrad	58.9	59.3	P/P	40 - 160
2137732	Triclopyr	110	101	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P374626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138266	Acesulfame K	114	114	P/P	40 - 150
2138266	AMPA	119	132	P/P	40 - 150
2138266	Endothall	138	132	P/P	40 - 150
2138266	Glufosinate	97.5	94.1	P/P	40 - 150
2138266	Glyphosate	84.4	94.1	P/P	40 - 140
2138266	Sucralose	36.4	39.7	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P374792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137687	Fluoride	96.4	98.1	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P374994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138154	Fluoride	97.9	96.6	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P374798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2138185	Organic Carbon	95.0	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138340	Turbidity	5.27	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138420	Iron	1.93	Spike	P	0 - 20
2138420	Manganese	1.45	Spike	P	0 - 20
2138420	Zinc	0.823	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P374895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138743	Iron	1.23	Spike	P	0 - 20
2138743	Manganese	2.36	Spike	P	0 - 20
2138743	Zinc	2.74	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138420	Aluminum	3.58	Spike	P	0 - 20
2138420	Antimony	2.67	Spike	P	0 - 20
2138420	Arsenic	0.877	Spike	P	0 - 20
2138420	Cadmium	2.25	Spike	P	0 - 20
2138420	Chromium	2.82	Spike	P	0 - 20
2138420	Copper	1.79	Spike	P	0 - 20
2138420	Lead	2.99	Spike	P	0 - 20
2138420	Nickel	1.10	Spike	P	0 - 20
2138420	Selenium	1.79	Spike	P	0 - 20
2138420	Silver	2.95	Spike	P	0 - 20
2138420	Thallium	2.34	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138743	Aluminum	1.67	Spike	P	0 - 20
2138743	Antimony	0.523	Spike	P	0 - 20
2138743	Arsenic	0.569	Spike	P	0 - 20
2138743	Cadmium	1.87	Spike	P	0 - 20
2138743	Chromium	0.563	Spike	P	0 - 20
2138743	Copper	1.16	Spike	P	0 - 20
2138743	Lead	0.0293	Spike	P	0 - 20
2138743	Nickel	0.0225	Spike	P	0 - 20
2138743	Selenium	2.83	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P374895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138743	Silver	0.357	Spike	P	0 - 20
2138743	Thallium	0.659	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140887	Copper	0.0512	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
21381019	Antimony	0.476	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P375024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138346	Bromide	0.0655	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137261	Ammonia-N	1.35	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138668	Ammonia-N	1.72	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138286	Ammonia-N	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138286	Kjeldahl Nitrogen	3.74	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138185	Kjeldahl Nitrogen	5.00	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138185	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138098	NO2NO3-N	0.473	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138388	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138280	Total-P	0.929	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138452	Total-P	2.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138348	Total-P	0.603	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138031	O-Phosphate-P	4.45	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138293	O-Phosphate-P	0.164	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P374613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137732	2,4-D	4.48	Spike	P	0 - 30
2137732	Acetaminophen	3.41	Spike	P	0 - 30
2137732	Acetamiprid	5.31	Spike	P	0 - 30
2137732	Afidopyropen	11.2	Spike	P	0 - 30
2137732	Bentazon	3.15	Spike	P	0 - 30
2137732	Benzovindiflupyr	0.191	Spike	P	0 - 30
2137732	Carbamazepine	0.121	Spike	P	0 - 30
2137732	Clothianidin	0.802	Spike	P	0 - 30
2137732	Dinotefuran	0.273	Spike	P	0 - 30
2137732	Diuron	3.78	Spike	P	0 - 30
2137732	Fenuron	3.81	Spike	P	0 - 30
2137732	Fluridone	5.82	Spike	P	0 - 30
2137732	Hydrocodone	3.00	Spike	P	0 - 30
2137732	Ibuprofen	3.07	Spike	P	0 - 30
2137732	Imazapyr	4.08	Spike	P	0 - 30
2137732	Imidacloprid	0.135	Spike	P	0 - 30
2137732	Linuron	2.34	Spike	P	0 - 30
2137732	Mandestrobin	4.87	Spike	P	0 - 30
2137732	MCP	7.46	Spike	P	0 - 30
2137732	Naproxen	19.0	Spike	P	0 - 30
2137732	Primidone	1.52	Spike	P	0 - 30
2137732	Pyraclostrobin	0.541	Spike	P	0 - 30
2137732	Thiamethoxam	3.11	Spike	P	0 - 30
2137732	Tolfenpyrad	0.634	Spike	P	0 - 30
2137732	Triclopyr	7.65	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P374626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138266	Acesulfame K	0.411	Spike	P	0 - 30
2138266	AMPA	8.94	Spike	P	0 - 30
2138266	Endothall	4.62	Spike	P	0 - 30
2138266	Glufosinate	3.54	Spike	P	0 - 30
2138266	Glyphosate	7.89	Spike	P	0 - 30
2138266	Sucralose	8.77	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P374789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137687	Total Alkalinity	0.471	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
 Batch ID: P374989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138154	Total Alkalinity	0.125	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
 Batch ID: P374792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137687	Fluoride	1.01	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P374994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138154	Fluoride	0.960	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P374798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2138185	Organic Carbon	0.212	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2138365
Field Sample ID: 20030072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	120	P	30 - 160
EPA 8321B	Acetaminophen-d4	82.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.0	P	30 - 160
EPA 8321B	Diuron-d6	74.8	P	30 - 160
EPA 8321B	Endothall-d6	252	F	30 - 160
EPA 8321B	Endothall-d6	252	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	54.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	54.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.2	P	30 - 160
EPA 8321B	Primidone-d5	90.5	P	30 - 160
EPA 8321B	Sucralose-d6	63.8	P	30 - 160
EPA 8321B	Sucralose-d6	63.8	P	30 - 160

Lab Sample ID: 2138366
Field Sample ID: 20030072 DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.0	P	30 - 160
EPA 8321B	Diuron-d6	80.0	P	30 - 160
EPA 8321B	Endothall-d6	271	F	30 - 160
EPA 8321B	Endothall-d6	271	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.9	P	30 - 160
EPA 8321B	Primidone-d5	91.0	P	30 - 160
EPA 8321B	Sucralose-d6	79.2	P	30 - 160
EPA 8321B	Sucralose-d6	79.2	P	30 - 160

Lab Sample ID: 2138367
Field Sample ID: FB 01102019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.8	P	30 - 160
EPA 8321B	Diuron-d6	90.9	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.7	P	30 - 160
EPA 8321B	Primidone-d5	92.0	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95880

Included Lab Sample IDs: 2138344, 2138345, 2138350, 2138351, 2138354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110
O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95900

Included Lab Sample IDs: 2138340, 2138341, 2138346, 2138347, 2138352

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95937

Included Lab Sample IDs: 2138353

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

Reference Method: EPA 8321B

Run ID: A95944

Included Lab Sample IDs: 2138365, 2138366, 2138367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	118	101	P/P	60 - 160
Glufosinate	102	80.3	P/P	60 - 160
Glyphosate	113	90.6	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A95947

Included Lab Sample IDs: 2138340, 2138341

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

Reference Method: SM 4500 F-C-97

Run ID: A95947

Included Lab Sample IDs: 2138340, 2138341

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

Reference Method: SM 5310 B-00

Run ID: A95950

Included Lab Sample IDs: 2138342, 2138343, 2138348, 2138349, 2138353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	91.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A95960

Included Lab Sample IDs: 2138365, 2138366, 2138367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	82.2	88.2	P/P	60 - 160
Endothall	99.5	92.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95966

Included Lab Sample IDs: 2138342, 2138343, 2138348, 2138349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95997

Included Lab Sample IDs: 2138342, 2138343, 2138348, 2138349, 2138353

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96024

Included Lab Sample IDs: 2138368, 2138369, 2138370, 2138371, 2138372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Iron	103	102	P/P	95 - 105
Manganese	101	103	P/P	90 - 110
Manganese	103	101	P/P	90 - 110
Manganese	99.6	103	P/P	95 - 105
Zinc	100	100	P/P	90 - 110
Zinc	103	100	P/P	90 - 110
Zinc	97.6	103	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A96025

Included Lab Sample IDs: 2138346, 2138347, 2138352

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A96025

Included Lab Sample IDs: 2138346, 2138347, 2138352

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A96041

Included Lab Sample IDs: 2138340, 2138341, 2138346, 2138347, 2138352

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96051

Included Lab Sample IDs: 2138342, 2138343, 2138348, 2138349

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96052

Included Lab Sample IDs: 2138353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	99.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96086

Included Lab Sample IDs: 2138365, 2138366, 2138367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.5	102	P/P	50 - 150
Acetaminophen	107	107	P/P	60 - 160
Acetamiprid	109	110	P/P	50 - 150
Afidopyropen	105	104	P/P	50 - 150
Bentazon	92.1	95.1	P/P	50 - 160
Benzovindiflupyr	103	105	P/P	50 - 150
Carbamazepine	105	99.1	P/P	60 - 150
Clothianidin	106	111	P/P	60 - 150
Dinotefuran	102	112	P/P	50 - 150
Diuron	93.4	91.4	P/P	60 - 150
Fenuron	118	116	P/P	60 - 150
Fluridone	104	103	P/P	60 - 160
Hydrocodone	101	97.5	P/P	60 - 150
Ibuprofen	74.1	100	P/P	50 - 160
Imazapyr	106	91.1	P/P	50 - 150
Imidacloprid	103	101	P/P	60 - 150
Linuron	101	89.2	P/P	60 - 150
Mandestrobin	115	119	P/P	50 - 150
MCP	116	111	P/P	50 - 150
Naproxen	112	75.6	P/P	50 - 160
Primidone	99.2	97.6	P/P	60 - 150
Pyraclostrobin	104	105	P/P	60 - 150
Thiamethoxam	107	109	P/P	50 - 150
Tolfenpyrad	115	114	P/P	60 - 150
Triclopyr	96.5	97.9	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A96127

Included Lab Sample IDs: 2138365, 2138366, 2138367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	117	135	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96131

Included Lab Sample IDs: 2138348, 2138349, 2138353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100		P	90 - 110
Total-P	99.5	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96141

Included Lab Sample IDs: 2138370, 2138371, 2138372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.3	94.2	P/P	90 - 110
Aluminum	94.8	94.3	P/P	90 - 110
Aluminum	96.1	94.8	P/P	90 - 110
Antimony	95.1	94.8	P/P	90 - 110
Antimony	96.2	95.1	P/P	90 - 110
Arsenic	95.9	96.8	P/P	90 - 110
Arsenic	96.8	98.4	P/P	90 - 110
Arsenic	98.4	97.5	P/P	90 - 110
Cadmium	94.9	95.0	P/P	90 - 110
Cadmium	95.3	95.4	P/P	90 - 110
Cadmium	95.4	94.9	P/P	90 - 110
Chromium	101	99.7	P/P	90 - 110
Chromium	98.8	101	P/P	90 - 110
Chromium	99.7	103	P/P	90 - 110
Copper	96.8	98.0	P/P	90 - 110
Lead	97.1	97.6	P/P	90 - 110
Lead	97.3	97.1	P/P	90 - 110
Lead	97.6	97.6	P/P	90 - 110
Nickel	96.9	98.0	P/P	90 - 110
Nickel	98.0	99.6	P/P	90 - 110
Nickel	99.6	99.6	P/P	90 - 110
Selenium	96.1	96.1	P/P	90 - 110
Selenium	96.2	97.4	P/P	90 - 110
Selenium	97.4	96.1	P/P	90 - 110
Silver	102	103	P/P	90 - 110
Silver	103	102	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	93.8	94.4	P/P	90 - 110
Thallium	94.4	95.1	P/P	90 - 110
Thallium	95.1	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96146

Included Lab Sample IDs: 2138342, 2138343

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96146

Included Lab Sample IDs: 2138342, 2138343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96267

Included Lab Sample IDs: 2138368, 2138369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.1	97.1	P/P	90 - 110
Antimony	93.7	96.2	P/P	90 - 110
Arsenic	96.9	98.8	P/P	90 - 110
Cadmium	94.3	96.8	P/P	90 - 110
Chromium	95.7	95.4	P/P	90 - 110
Lead	96.0	98.2	P/P	90 - 110
Nickel	97.4	97.4	P/P	90 - 110
Silver	95.9	98.0	P/P	90 - 110
Thallium	92.1	93.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96330

Included Lab Sample IDs: 2138368, 2138369, 2138370, 2138371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	92.6	92.7	P/P	90 - 110
Copper	95.0	92.7	P/P	90 - 110
Selenium	100	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96399

Included Lab Sample IDs: 2138372

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	100	99.3	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						5.27	
EPA 200.7 Rev. 4.4	Iron	111	106	106	108			1.93
	Iron	106	103	105	106			1.23
	Manganese	99.3	95.2	98.4	99.9			1.45
	Manganese	99.0	96.5	93.8	96.2			2.36
	Zinc	99.1	94.9	98.4	99.2			0.823
	Zinc	98.5	101	94.2	96.8			2.74
EPA 200.8 Rev. 5.4	Aluminum	97.8	95.3	99.3	95.2			3.58
	Aluminum	96.5	105	103	101			1.67
	Antimony	98.6	100	99.7	97.1			2.67
	Antimony	99.9	105	107	106			0.523
	Antimony	105	103	103	103			0.476
	Arsenic	96.5	96.7	98.7	97.9			0.877
	Arsenic	97.8	109	109	110			0.569
	Cadmium	93.7	95.9	95.2	93.0			2.25
	Cadmium	96.5	101	103	105			1.87
	Chromium	96.7	98.6	100	97.5			2.82
	Chromium	95.3	92.2	94.2	93.6			0.563
	Copper	96.1	92.7	96.6	94.9			1.79
	Copper	95.9	104	101	99.8			1.16
	Copper	98.6	94.4	94.4	93.8			0.0512
	Lead	99.1	99.0	101	98.4			2.99
	Lead	100	106	106	106			0.0293
	Nickel	96.7	93.5	98.6	97.5			1.10
	Nickel	96.1	99.1	98.0	98.0			0.0225
	Selenium	93.4	92.2	91.9	90.3			1.79
	Selenium	95.0	90.5	93.1	92.2			2.83
	Silver	102	102	103	100			2.95
	Silver	98.4	94.8	95.4	95.1			0.357
	Thallium	101	104	106	103			2.34
	Thallium	104	108	109	110			0.659
EPA 300.0	Bromide	98.3	94.4	94.3				0.0655
EPA 350.1 Rev. 2.0	Ammonia-N	103	102	104				1.35
	Ammonia-N	98.4	101	103				1.72
	Ammonia-N	101	105	106				1.08
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	107	103				3.74
	Kjeldahl Nitrogen	98.8	97.1	104				5.00
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0	99.0				0.0
	NO2NO3-N	100	102	101				0.473
	NO2NO3-N	102	102	102				0.491
EPA 365.1 Rev. 2.0	Total-P	103	105	104				0.929
	Total-P	104	100	103				2.31
	Total-P	106	106	107				0.603
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.1	101	96.7				4.45
	O-Phosphate-P	99.5	95.4	95.2				0.164
EPA 8321B	2,4-D	152	136	128				4.48
	Acesulfame K	92.4	114	114				0.411
	Acetaminophen	80.7	86.1	83.2				3.41
	Acetamiprid	103	106	100				5.31
	Afidopyropen	112	118	105				11.2
	AMPA	116	119	132				8.94
	Bentazon	83.4						3.15
	Benzovindiflupyr	75.8	80.3	80.1				0.191
	Carbamazepine	99.4	83.6	83.5				0.121

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Clothianidin	90.1	101	100		0.802
	Dinotefuran	96.3	124	123		0.273
	Diuron	82.8	66.9	62.8		3.78
	Endothall	98.2	138	132		4.62
	Fenuron	105	99.5	95.8		3.81
	Fluridone	91.1	81.2	72.8		5.82
	Glufosinate	109	97.5	94.1		3.54
	Glyphosate	133	84.4	94.1		7.89
	Hydrocodone	94.0	101	98.1		3.00
	Ibuprofen	81.0	72.5	74.8		3.07
	Imazapyr	102				4.08
	Imidacloprid	111	158	158		0.135
	Linuron	83.3	70.4	72.1		2.34
	Mandestrobin	85.0	83.9	79.9		4.87
	MCPPP	146	137	127		7.46
	Naproxen	97.4	103	85.4		19.0
	Primidone	84.7	94.8	93.4		1.52
	Pyraclostrobin	83.2	86.1	85.6		0.541
	Sucralose	111	36.4	39.7		8.77
	Thiamethoxam	99.2	138	134		3.11
	Tolfenpyrad	57.8	58.9	59.3		0.634
	Triclopyr	91.4	110	101		7.65
SM 2320 B-97	Total Alkalinity	101				0.471
	Total Alkalinity	103				0.125
SM 4500 F-C-97	Fluoride	96.5	96.4	98.1		1.01
	Fluoride	97.2	97.9	96.6		0.960
SM 5310 B-00	Organic Carbon	101	95.0	95.3		0.212

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2138340, 2138341, 2138346, 2138347, 2138352
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2138368, 2138369, 2138370, 2138371, 2138372
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2138368, 2138369, 2138370, 2138371, 2138372
EPA 300.0 / E31780	Bromide in aqueous matrices	2138340, 2138341, 2138346, 2138347, 2138352
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2138342, 2138343, 2138348, 2138349, 2138353
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2138342, 2138343, 2138348, 2138349, 2138353
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2138342, 2138343, 2138348, 2138349, 2138353
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2138342, 2138343, 2138348, 2138349, 2138353
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2138344, 2138345, 2138350, 2138351, 2138354
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2138365, 2138366, 2138367
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2138365, 2138366, 2138367
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2138340, 2138341, 2138346, 2138347, 2138352
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2138340, 2138341, 2138346, 2138347, 2138352

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2138340, 2138341, 2138346, 2138347, 2138352
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2138342, 2138343, 2138348, 2138349, 2138353

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	11/21/2019			11/21/2019 17:41	Samantha Davila	2138340, 2138341, 2138346, 2138347, 2138352
EPA 200.7 Rev. 4.4	11/21/2019	11/26/2019 15:05	Elliott D. Healy	11/27/2019 12:25	Betina Topolski	2138372
	11/21/2019	11/26/2019 15:05	Elliott D. Healy	11/27/2019 14:11	Betina Topolski	2138370
	11/21/2019	11/26/2019 15:05	Elliott D. Healy	11/27/2019 14:19	Betina Topolski	2138371
	11/21/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 19:21	Betina Topolski	2138368
	11/21/2019	11/26/2019 17:50	Elliott D. Healy	11/27/2019 19:29	Betina Topolski	2138369
EPA 200.8 Rev. 5.4	11/21/2019	11/26/2019 15:05	Elliott D. Healy	12/05/2019 20:43	Alexander Thompson	2138372
	11/21/2019	11/26/2019 15:05	Elliott D. Healy	12/05/2019 23:29	Alexander Thompson	2138370
	11/21/2019	11/26/2019 15:05	Elliott D. Healy	12/06/2019 00:38	Alexander Thompson	2138371
	11/21/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 19:55	Martin Acosta	2138368
	11/21/2019	11/26/2019 17:50	Elliott D. Healy	12/11/2019 20:14	Martin Acosta	2138369
	11/21/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 09:13	Alexander Thompson	2138368
	11/21/2019	11/26/2019 17:50	Elliott D. Healy	12/14/2019 09:32	Alexander Thompson	2138369
	11/21/2019	12/09/2019 13:55	Elliott D. Healy	12/14/2019 00:33	Alexander Thompson	2138370
	11/21/2019	12/09/2019 13:55	Elliott D. Healy	12/14/2019 00:43	Alexander Thompson	2138371
	11/21/2019	12/09/2019 16:35	Elliott D. Healy	12/17/2019 17:28	Alexander Thompson	2138372
	11/21/2019			11/27/2019 00:44	Julia Storbeck	2138346
EPA 300.0	11/21/2019			11/27/2019 02:09	Julia Storbeck	2138340
	11/21/2019			11/27/2019 02:27	Julia Storbeck	2138341
	11/21/2019			11/27/2019 02:44	Julia Storbeck	2138347
	11/21/2019			11/27/2019 03:01	Julia Storbeck	2138352
	11/21/2019			11/26/2019 11:32	Ping Hua	2138353
EPA 350.1 Rev. 2.0	11/21/2019			11/26/2019 11:47	Ping Hua	2138343
	11/21/2019			11/26/2019 11:49	Ping Hua	2138348
	11/21/2019			11/26/2019 11:50	Ping Hua	2138349
	11/21/2019			11/26/2019 12:32	Ping Hua	2138342
	11/21/2019	11/27/2019 11:30	Sima Feizi	12/02/2019 16:27	Jhamieka S. Greenwood	2138342
EPA 351.2 Rev. 2.0	11/21/2019	11/27/2019 11:30	Sima Feizi	12/02/2019 16:28	Jhamieka S. Greenwood	2138343
	11/21/2019	11/27/2019 11:30	Sima Feizi	12/02/2019 16:30	Jhamieka S. Greenwood	2138348
	11/21/2019	11/27/2019 11:30	Sima Feizi	12/02/2019 16:31	Jhamieka S. Greenwood	2138349
	11/21/2019	11/27/2019 11:45	Sima Feizi	12/02/2019 18:24	Jhamieka S. Greenwood	2138353
	11/21/2019			11/25/2019 10:46	Beverly Y. Sanders	2138353
EPA 353.2 Rev. 2.0	11/21/2019			11/26/2019 11:14	Beverly Y. Sanders	2138342
	11/21/2019			11/26/2019 11:27	Beverly Y. Sanders	2138343
	11/21/2019			11/26/2019 11:28	Beverly Y. Sanders	2138348
	11/21/2019			11/26/2019 11:29	Beverly Y. Sanders	2138349
	11/21/2019	12/03/2019 13:30	Lipi Saha	12/05/2019 22:01	Julia Storbeck	2138342
EPA 365.1 Rev. 2.0	11/21/2019	12/03/2019 13:30	Lipi Saha	12/05/2019 22:02	Julia Storbeck	2138343
	11/21/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:18	Benjamin T. Nordmann	2138353

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	11/21/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:33	Benjamin T. Nordmann	2138348
	11/21/2019	12/04/2019 12:29	Yen Ta	12/05/2019 15:34	Benjamin T. Nordmann	2138349
EPA 365.1 Rev. 2.0 dissolved	11/21/2019			11/21/2019 13:47	Lipi Saha	2138344
	11/21/2019			11/21/2019 13:53	Lipi Saha	2138345, 2138350
	11/21/2019			11/21/2019 13:54	Lipi Saha	2138351
	11/21/2019			11/21/2019 13:55	Lipi Saha	2138354
EPA 8321B	11/21/2019	11/22/2019 10:15	Rebecca Ware	11/22/2019 14:07	Rebecca Ware	2138365
	11/21/2019	11/22/2019 10:15	Rebecca Ware	11/22/2019 14:20	Rebecca Ware	2138366
	11/21/2019	11/22/2019 10:15	Rebecca Ware	11/22/2019 14:34	Rebecca Ware	2138367
	11/21/2019	11/22/2019 10:15	Rebecca Ware	11/23/2019 14:00	Rebecca Ware	2138365
	11/21/2019	11/22/2019 10:15	Rebecca Ware	11/23/2019 14:11	Rebecca Ware	2138366
	11/21/2019	11/22/2019 10:15	Rebecca Ware	11/23/2019 14:22	Rebecca Ware	2138367
	11/21/2019	11/22/2019 10:15	Rebecca Ware	12/03/2019 22:51	Rebecca Ware	2138365
	11/21/2019	11/22/2019 10:15	Rebecca Ware	12/03/2019 23:02	Rebecca Ware	2138366
	11/21/2019	11/22/2019 10:15	Rebecca Ware	12/03/2019 23:14	Rebecca Ware	2138367
	11/21/2019	11/25/2019 09:00	Hoor Shaik	11/26/2019 15:54	Juyoung Kim	2138365
	11/21/2019	11/25/2019 09:00	Hoor Shaik	11/26/2019 16:29	Juyoung Kim	2138366
	11/21/2019	11/25/2019 09:00	Hoor Shaik	11/26/2019 17:04	Juyoung Kim	2138367
SM 2320 B-97	11/21/2019			11/25/2019 00:39	Dale L. Simmons	2138340
	11/21/2019			11/25/2019 00:51	Dale L. Simmons	2138341
	11/21/2019			11/27/2019 13:08	Dale L. Simmons	2138352
	11/21/2019			11/27/2019 15:27	Dale L. Simmons	2138346
	11/21/2019			11/27/2019 15:40	Dale L. Simmons	2138347
SM 2540 D-97	11/21/2019			11/25/2019 15:56	Yijie Li	2138340, 2138341, 2138346, 2138347, 2138352
SM 4500 F-C-97	11/21/2019			11/24/2019 22:17	Dale L. Simmons	2138340
	11/21/2019			11/24/2019 22:21	Dale L. Simmons	2138341
	11/21/2019			11/27/2019 13:08	Dale L. Simmons	2138352
	11/21/2019			11/27/2019 15:27	Dale L. Simmons	2138346
	11/21/2019			11/27/2019 15:40	Dale L. Simmons	2138347
SM 5310 B-00	11/21/2019			11/25/2019 06:24	Lauren Lees	2138342
	11/21/2019			11/25/2019 06:37	Lauren Lees	2138343
	11/21/2019			11/25/2019 06:51	Lauren Lees	2138348
	11/21/2019			11/25/2019 07:04	Lauren Lees	2138349
	11/21/2019			11/25/2019 07:17	Lauren Lees	2138353