

Chemical Analysis Report

NE-DIST-2019-09-18-01

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

Event Description: **Bmap 1**
Request ID: **RQ-2019-09-16-14**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 10-OCT-2019 15:51

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: NW TRIBUTARY TO OPEN CR AT HODGES

Collection Date/Time: 09/17/2019 09:00

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120127	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P370989	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P371125	
		Sulfate	63		mg SO4/L	P371129	
	SM 2120 B	Color (true)	39		PCU	P370950	
	SM 2320 B-97	Total Alkalinity	68		mg CaCO3/L	P371114	
	SM 2540 C-97	TDS	227		mg/L	P371460	
	SM 2540 D-97	TSS	2	I	mg/L	P371393	
	SM 4500 F-C-97	Fluoride	0.092	I	mg F/L	P371118	
2120129	EPA 350.1 Rev. 2.0	Ammonia-N	0.067		mg N/L	P371193	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P370964	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P371145	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P370984	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P371109	
2120131	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P370907	
2120188	EPA 8321B	2,4-D	0.027		ug/L	P370771	
		Acesulfame K**	0.10	U	ug/L	P370917	
		AMPA**	0.25	I	ug/L	P370917	
		Sucralose**	0.69		ug/L	P370917	
		Acetaminophen**	0.0080	U	ug/L	P370771	
		Acetamiprid**	0.0020	U	ug/L	P370771	
		Endothall**	0.25	U	ug/L	P370917	
		Glufosinate**	0.10	U	ug/L	P370917	
		Glyphosate**	0.29	I	ug/L	P370917	
		Afidopyropen**	0.0020	UJ	ug/L	P370771	
		Bentazon	0.16		ug/L	P370771	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370771	
		Carbamazepine**	8.0E-04	U	ug/L	P370771	
		Clothianidin**	0.021		ug/L	P370771	
		Dinotefuran**	0.0037	I	ug/L	P370771	
		Diuron	0.0024	I	ug/L	P370771	
		Fenuron	0.016	U	ug/L	P370771	
		Fluridone**	0.81		ug/L	P370771	
		Imazapyr**	0.50		ug/L	P370771	
		Hydrocodone**	0.0020	U	ug/L	P370771	
		Ibuprofen**	0.020	U	ug/L	P370771	
		Imidacloprid	0.037		ug/L	P370771	
		Linuron	0.0040	U	ug/L	P370771	
		Mandestrobin**	0.0020	UJ	ug/L	P370771	
		MCP	0.0034	I	ug/L	P370771	
		Naproxen**	0.0080	U	ug/L	P370771	
		Primidone**	0.0040	U	ug/L	P370771	
		Pyraclostrobin**	0.0020	U	ug/L	P370771	
		Thiamethoxam**	0.0020	U	ug/L	P370771	

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120188	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P370771	
		Triclopyr**	0.0040	U	ug/L	P370771	

Ref. Method and Comment:
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.

Sample Location: TERRAPIN CR @ FAYE RD

Collection Date/Time: 09/17/2019 09:45

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120128	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P370990	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P371125	
		Sulfate	19		mg SO4/L	P371129	
	SM 2120 B	Color (true)	110		PCU	P370950	
	SM 2320 B-97	Total Alkalinity	33		mg CaCO3/L	P371114	
	SM 2540 C-97	TDS	125		mg/L	P371460	
	SM 2540 D-97	TSS	10	I	mg/L	P371393	
	SM 4500 F-C-97	Fluoride	0.053	I	mg F/L	P371118	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P371193	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P370964	
2120130	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P371145	
	EPA 365.1 Rev. 2.0	Total-P	0.087		mg P/L	P370984	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P371109	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P370907	
	EPA 8321B	2,4-D	12		ug/L	P370771	
2120189		Acesulfame K**	0.10	U	ug/L	P370917	
		AMPA**	0.10	U	ug/L	P370917	
		Sucralose**	0.010	U	ug/L	P370917	
		Acetaminophen**	0.0080	U	ug/L	P370771	
		Acetamiprid**	0.0020	U	ug/L	P370771	
		Endothall**	0.25	U	ug/L	P370917	
		Glufosinate**	0.10	U	ug/L	P370917	
		Glyphosate**	0.10	U	ug/L	P370917	
		Afidopyropen**	0.0020	UJ	ug/L	P370771	
		Bentazon	8.0E-04	U	ug/L	P370771	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370771	
		Carbamazepine**	8.0E-04	U	ug/L	P370771	
		Clothianidin**	0.0020	U	ug/L	P370771	
		Dinotefuran**	0.0020	U	ug/L	P370771	
		Diuron	0.44		ug/L	P370771	
		Fenuron	0.12		ug/L	P370771	
		Fluridone**	0.053		ug/L	P370771	
		Imazapyr**	0.22		ug/L	P370771	
		Hydrocodone**	0.0020	U	ug/L	P370771	
		Ibuprofen**	0.020	U	ug/L	P370771	
		Imidacloprid	0.0020	U	ug/L	P370771	
		Linuron	0.0040	U	ug/L	P370771	
		Mandestrobin**	0.0020	UJ	ug/L	P370771	
		MCP	0.0020	U	ug/L	P370771	
		Naproxen**	0.0080	U	ug/L	P370771	
		Primidone**	0.0040	U	ug/L	P370771	
		Pyraclostrobin**	0.0020	U	ug/L	P370771	
		Thiamethoxam**	0.0020	U	ug/L	P370771	

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120189	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P370771	
		Triclopyr**	0.004	U	ug/L	P370771	

Ref. Method and Comment:

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

EPA 8321B: The surrogate 2,4-D-d3 recovery could not be assessed due to an elevated level of 2,4-D in the sample matrix. J - second source check standards for some analytes were not available for analysis.

Sample Location: BUTCHER PEN CR AT CONFEDRATE

Collection Date/Time: 09/17/2019 11:00

Field ID: 20030082

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120133	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P370990	
	EPA 300.0 Rev. 2.1	Chloride	1.8E+03		mg Cl/L	P371125	
		Sulfate	260		mg SO4/L	P371129	
		Color (true)	71		PCU	P370950	
	SM 2320 B-97	Total Alkalinity	92		mg CaCO3/L	P371114	
	SM 2540 C-97	TDS	3.12E+03		mg/L	P371460	
	SM 2540 D-97	TSS	5	I	mg/L	P371393	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P371118	
2120134	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P371196	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P370960	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P371047	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P370985	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P371109	
2120135	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.086		mg P/L	P370902	
2120191	EPA 200.7 Rev. 4.4	Barium	47.5		ug/L	P371002	
		Calcium	78.8		mg/L	P371002	
		Iron	450		ug/L	P371002	
		Magnesium	108		mg/L	P371002	
		Potassium	33		mg/L	P371002	
		Sodium	902		mg/L	P371002	
		Zinc	6.2	I	ug/L	P371002	
	EPA 200.8 Rev. 5.4	Aluminum	92		ug/L	P371002	
		Antimony	0.32		ug/L	P371002	
		Arsenic	2.30		ug/L	P371002	
		Boron**	426		ug/L	P371002	
		Cadmium	0.020	U	ug/L	P371002	
		Chromium	0.43	I	ug/L	P371002	
		Copper	1.28		ug/L	P371002	
		Lead	0.80		ug/L	P371002	
		Nickel	0.55	I	ug/L	P371002	
		Selenium	0.20	U	ug/L	P371002	
		Silver	0.010	U	ug/L	P371002	
		Thallium	0.10	U	ug/L	P371002	

Ref. Method and Comment:

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

Sample Location: CRAIG CR @ HENDRICKS AVE

Collection Date/Time: 09/17/2019 11:40

Field ID: 20030793

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120190	EPA 8321B	2,4-D	0.013		ug/L	P370771	
		Acesulfame K**	1.0	U	ug/L	P370917	
		AMPA**	0.24	I	ug/L	P370917	
		Sucralose**	0.67		ug/L	P370917	
		Acetaminophen**	0.0086	I	ug/L	P370771	
		Acetamiprid**	0.0020	U	ug/L	P370771	
		Endothall**	2.5	U	ug/L	P370917	
		Glufosinate**	0.10	U	ug/L	P370917	
		Glyphosate**	0.35	I	ug/L	P370917	
		Afidopyropen**	0.0020	UJ	ug/L	P370771	
		Bentazon	0.028		ug/L	P370771	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370771	
		Carbamazepine**	8.0E-04	U	ug/L	P370771	
		Clothianidin**	0.0020	U	ug/L	P370771	
		Dinotefuran**	0.0020	U	ug/L	P370771	
		Diuron	0.016		ug/L	P370771	
		Fenuron	0.016	U	ug/L	P370771	
		Fluridone**	0.0080		ug/L	P370771	
		Imazapyr**	0.26		ug/L	P370771	
		Hydrocodone**	0.0020	U	ug/L	P370771	
		Ibuprofen**	0.020	U	ug/L	P370771	
		Imidacloprid	0.036		ug/L	P370771	
		Linuron	0.0040	U	ug/L	P370771	
		Mandestrobin**	0.0020	UJ	ug/L	P370771	
		MCPP	0.0020	U	ug/L	P370771	
		Naproxen**	0.0080	U	ug/L	P370771	
		Primidone**	0.0040	U	ug/L	P370771	
		Pyraclostrobin**	0.0020	U	ug/L	P370771	
		Thiamethoxam**	0.0020	U	ug/L	P370771	
		Tolfenpyrad**	0.0020	U	ug/L	P370771	
		Triclopyr**	0.0040	U	ug/L	P370771	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

**Sample Location: CRAIG CR 100M DOWN FROM FOOTBRIDGE
IN PARK**

Collection Date/Time: 09/17/2019 11:50

Field ID: 20030958

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2120124	EPA 180.1 Rev. 2.0	Turbidity	4.6	A	NTU	P370998	
	EPA 300.0	Bromide	8.1		mg Br/L	P371116	
	SM 2320 B-97	Total Alkalinity	104		mg CaCO3/L	P371114	
	SM 2540 D-97	TSS	6	I	mg/L	P371395	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P371118	
2120125	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P370994	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P370960	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P371047	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P370985	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P371109	
2120126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P370902	
2120187	EPA 8321B	2,4-D	0.014		ug/L	P370852	MS
		Acesulfame K**	0.10	UJ	ug/L	P370917	SUR
		AMPA**	2.1	I	ug/L	P370917	
		Sucralose**	0.85		ug/L	P370917	
		Acetaminophen**	0.0080	U	ug/L	P370852	
		Acetamiprid**	0.0020	U	ug/L	P370852	
		Endothall**	0.25	UJ	ug/L	P370917	SUR
		Glufosinate**	1.0	U	ug/L	P370917	
		Glyphosate**	1.0	U	ug/L	P370917	
		Afidopyropen**	0.0020	UJ	ug/L	P370852	
		Bentazon	0.017		ug/L	P370852	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370852	
		Carbamazepine**	9.4E-04	I	ug/L	P370852	
		Clothianidin**	0.0027	I	ug/L	P370852	
		Dinotefuran**	0.0020	U	ug/L	P370852	
		Diuron	0.042		ug/L	P370852	
		Fenuron	0.016	U	ug/L	P370852	
		Fluridone**	0.0053		ug/L	P370852	
		Imazapyr**	0.098		ug/L	P370852	
		Hydrocodone**	0.0020	U	ug/L	P370852	
		Ibuprofen**	0.020	U	ug/L	P370852	
		Imidacloprid	0.031		ug/L	P370852	MS
		Linuron	0.0040	U	ug/L	P370852	
		Mandestrobin**	0.0020	UJ	ug/L	P370852	
		MCP	0.0020	UJ	ug/L	P370852	LCS, MS
		Naproxen**	0.0080	U	ug/L	P370852	
		Primidone**	0.0040	U	ug/L	P370852	
		Pyraclostrobin**	0.0020	U	ug/L	P370852	
		Thiamethoxam**	0.0020	U	ug/L	P370852	
		Tolfenpyrad**	0.0020	U	ug/L	P370852	
		Triclopyr**	0.0040	U	ug/L	P370852	

Field ID: 20030958

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
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. Refer to the narrative for an explanation of QC Codes.
EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370989

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370990

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370998

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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 300.0
Batch ID: P371116

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371125

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371129

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371193

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371196

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370964

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371145

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370984

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370902

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370907

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

Reference Method: EPA 8321B
Batch ID: P370771

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P370852

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
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: P370917

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 2120 B
Batch ID: P370950

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P371114

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P371460

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371393

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371395

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371118

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371109

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: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	108		P	85 - 115
Iron	107		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	104		P	85 - 115
Sodium	107		P	85 - 115
Zinc	97.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.3		P	85 - 115
Antimony	99.7		P	85 - 115
Arsenic	102		P	85 - 115
Boron	101		P	85 - 115
Cadmium	96.3		P	85 - 115
Chromium	95.2		P	85 - 115
Copper	101		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	100		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	99.6		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P371116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371125

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371129

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371193

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371196

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371145

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370902

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P370771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	148		P	40 - 160
Acetaminophen	76.0		P	30 - 160
Acetamiprid	95.9		P	40 - 160
Afidopyropen	101		P	40 - 160
Bentazon	125		P	30 - 160
Benzovindiflupyr	94.1		P	40 - 160
Carbamazepine	103		P	40 - 160
Clothianidin	90.9		P	40 - 160
Dinotefuran	88.3		P	40 - 160
Diuron	107		P	40 - 160
Fenuron	101		P	40 - 160
Fluridone	97.3		P	40 - 160
Hydrocodone	93.1		P	40 - 160
Ibuprofen	96.4		P	30 - 160
Imazapyr	93.2		P	40 - 160
Imidacloprid	99.5		P	40 - 160
Linuron	84.6		P	40 - 160
Mandestrobin	92.2		P	40 - 160
MCPP	146		P	40 - 160
Naproxen	96.9		P	40 - 160
Primidone	93.5		P	40 - 160
Pyraclostrobin	91.9		P	30 - 160
Thiamethoxam	90.7		P	40 - 160
Tolfenpyrad	73.2		P	40 - 160
Triclopyr	120		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	137		P	40 - 160
Acetaminophen	82.5		P	30 - 160
Acetamiprid	101		P	40 - 160
Afidopyropen	103		P	40 - 160
Bentazon	114		P	30 - 160
Benzovindiflupyr	94.8		P	40 - 160
Carbamazepine	106		P	40 - 160
Clothianidin	94.7		P	40 - 160
Dinotefuran	88.9		P	40 - 160
Diuron	106		P	40 - 160
Fenuron	102		P	40 - 160
Fluridone	97.8		P	40 - 160
Hydrocodone	99.1		P	40 - 160
Ibuprofen	96.6		P	30 - 160
Imazapyr	89.4		P	40 - 160
Imidacloprid	106		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P370852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	82.1		P	40 - 160
Mandestrobin	94.5		P	40 - 160
MCPP	160		F	40 - 160
Naproxen	94.4		P	40 - 160
Primidone	92.1		P	40 - 160
Pyraclostrobin	92.8		P	30 - 160
Thiamethoxam	96.7		P	40 - 160
Tolfenpyrad	69.9		P	40 - 160
Triclopyr	139		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	74.5		P	40 - 150
AMPA	126		P	40 - 150
Endothall	145		P	40 - 150
Glufosinate	128		P	40 - 150
Glyphosate	126		P	40 - 140
Sucralose	138		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P370950

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

Reference Method: SM 2320 B-97
Batch ID: P371114

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371118

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

Reference Method: SM 5310 B-00
Batch ID: P371109

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Barium	103	99.8	P/P	80 - 120
2119832	Calcium	101		P	80 - 120
2119832	Iron	110	109	P/P	80 - 120
2119832	Magnesium	113	110	P/P	80 - 120
2119832	Potassium	109	108	P/P	80 - 120
2119832	Sodium	105	105	P/P	80 - 120
2119832	Zinc	101	97.6	P/P	80 - 120
2120147	Barium	95.2		P	80 - 120
2120147	Calcium	105		P	80 - 120
2120147	Iron	103		P	80 - 120
2120147	Magnesium	99.1		P	80 - 120
2120147	Potassium	97.1		P	80 - 120
2120147	Sodium	97.6		P	80 - 120
2120147	Zinc	95.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Aluminum	98.1	97.4	P/P	80 - 120
2119832	Antimony	101	100	P/P	80 - 120
2119832	Arsenic	102	102	P/P	80 - 120
2119832	Boron	104	105	P/P	80 - 120
2119832	Cadmium	99.2	97.6	P/P	80 - 120
2119832	Chromium	95.3	94.9	P/P	80 - 120
2119832	Copper	107	102	P/P	80 - 120
2119832	Lead	99.9	100	P/P	80 - 120
2119832	Nickel	102	101	P/P	80 - 120
2119832	Selenium	99.6	99.4	P/P	80 - 120
2119832	Silver	105	102	P/P	80 - 120
2119832	Thallium	103	103	P/P	80 - 120
2120147	Aluminum	96.0		P	80 - 120
2120147	Antimony	101		P	80 - 120
2120147	Arsenic	103		P	80 - 120
2120147	Boron	101		P	80 - 120
2120147	Cadmium	95.4		P	80 - 120
2120147	Chromium	95.4		P	80 - 120
2120147	Copper	101		P	80 - 120
2120147	Lead	99.5		P	80 - 120
2120147	Nickel	99.6		P	80 - 120
2120147	Selenium	98.6		P	80 - 120
2120147	Silver	99.8		P	80 - 120
2120147	Thallium	101		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P371116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120060	Bromide	95.7	96.1	P/P	90 - 110
2120064	Bromide	95.2		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120026	Chloride	99.8		P	90 - 110
2120087	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120026	Sulfate	101		P	90 - 110
2120087	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119787	Ammonia-N	97.2	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120090	Ammonia-N	97.9	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120134	Ammonia-N	98.1	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120260	Kjeldahl Nitrogen	98.8	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120122	Kjeldahl Nitrogen	102	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119777	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120090	NO2NO3-N	99.0	98.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120069	Total-P	94.3	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119787	Total-P	94.8	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120163	O-Phosphate-P	97.1	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120132	O-Phosphate-P	96.7	97.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P370771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119072	2,4-D	141	141	P/P	40 - 160
2119072	Acetaminophen	88.5	86.5	P/P	30 - 160
2119072	Acetamiprid	110	100	P/P	40 - 160
2119072	Afidopyropen	109	93.4	P/P	40 - 160
2119072	Bentazon	109	101	P/P	30 - 160
2119072	Benzovindiflupyr	96.0	93.5	P/P	40 - 160
2119072	Carbamazepine	108	102	P/P	40 - 160
2119072	Clothianidin	102	97.1	P/P	40 - 160
2119072	Dinotefuran	103	101	P/P	40 - 160
2119072	Diuron	106	103	P/P	40 - 160
2119072	Fenuron	100	98.4	P/P	40 - 160
2119072	Fluridone	94.4	92.7	P/P	40 - 160
2119072	Hydrocodone	103	95.6	P/P	40 - 160
2119072	Ibuprofen	92.9	93.2	P/P	30 - 160
2119072	Imazapyr	112	103	P/P	40 - 160
2119072	Imidacloprid	124	136	P/P	40 - 160
2119072	Linuron	82.3	81.0	P/P	40 - 160
2119072	Mandestrobin	95.2	95.3	P/P	40 - 160
2119072	MCP	151	147	P/P	40 - 160
2119072	Naproxen	97.8	95.8	P/P	40 - 160
2119072	Primidone	86.4	88.8	P/P	40 - 160
2119072	Pyraclostrobin	91.3	92.0	P/P	30 - 160
2119072	Thiamethoxam	118	115	P/P	40 - 160
2119072	Tolfenpyrad	71.1	73.6	P/P	40 - 160
2119072	Triclopyr	111	122	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P370852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120253	2,4-D	165	159	F/P	40 - 160
2120253	Acetaminophen	78.8	77.4	P/P	30 - 160
2120253	Acetamiprid	119	128	P/P	40 - 160
2120253	Afidopyropen	113	108	P/P	40 - 160
2120253	Bentazon	79.6	77.9	P/P	30 - 160
2120253	Benzovindiflupyr	101	102	P/P	40 - 160
2120253	Carbamazepine	101	103	P/P	40 - 160
2120253	Clothianidin	103	107	P/P	40 - 160
2120253	Dinotefuran	116	118	P/P	40 - 160
2120253	Diuron	93.5	88.0	P/P	40 - 160
2120253	Fenuron	97.5	96.4	P/P	40 - 160
2120253	Fluridone	100	98.4	P/P	40 - 160
2120253	Hydrocodone	92.9	110	P/P	40 - 160
2120253	Ibuprofen	103	97.1	P/P	30 - 160
2120253	Imazapyr	128	122	P/P	40 - 160
2120253	Imidacloprid	200	200	F/F	40 - 160
2120253	Linuron	81.8	83.5	P/P	40 - 160
2120253	Mandestrobin	96.7	96.4	P/P	40 - 160
2120253	MCP	171	167	F/F	40 - 160
2120253	Naproxen	97.9	81.4	P/P	40 - 160
2120253	Primidone	103	109	P/P	40 - 160
2120253	Pyraclostrobin	99.9	94.7	P/P	30 - 160
2120253	Thiamethoxam	144	148	P/P	40 - 160
2120253	Tolfenpyrad	80.6	75.4	P/P	40 - 160
2120253	Triclopyr	127	103	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119620	Acesulfame K	60.3	55.1	P/P	40 - 150
2119620	AMPA	115	108	P/P	40 - 150
2119620	Endothall	115	105	P/P	40 - 150
2119620	Glufosinate	115	116	P/P	40 - 150
2119620	Glyphosate	111	110	P/P	40 - 140
2119620	Sucralose	147	133	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P371118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120062	Fluoride	98.1	97.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120091	Organic Carbon	98.1	98.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P370989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120599	Turbidity	0.510	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P370990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120128	Turbidity	8.29	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P370998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120124	Turbidity	6.51	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Barium	3.34	Spike	P	0 - 20
2119832	Calcium	1.90	Spike	P	0 - 20
2119832	Iron	1.40	Spike	P	0 - 20
2119832	Magnesium	2.14	Spike	P	0 - 20
2119832	Potassium	0.782	Spike	P	0 - 20
2119832	Sodium	0.428	Spike	P	0 - 20
2119832	Zinc	3.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Aluminum	0.769	Spike	P	0 - 20
2119832	Antimony	0.464	Spike	P	0 - 20
2119832	Arsenic	0.280	Spike	P	0 - 20
2119832	Boron	0.307	Spike	P	0 - 20
2119832	Cadmium	1.63	Spike	P	0 - 20
2119832	Chromium	0.511	Spike	P	0 - 20
2119832	Copper	4.58	Spike	P	0 - 20
2119832	Lead	0.121	Spike	P	0 - 20
2119832	Nickel	1.21	Spike	P	0 - 20
2119832	Selenium	0.197	Spike	P	0 - 20
2119832	Silver	2.80	Spike	P	0 - 20
2119832	Thallium	0.0415	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0
Batch ID: P371116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120060	Bromide	0.450	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120026	Chloride	0.592	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120026	Sulfate	0.850	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119787	Ammonia-N	2.82	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120090	Ammonia-N	1.41	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120134	Ammonia-N	1.25	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120260	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120122	Kjeldahl Nitrogen	3.76	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119777	NO2NO3-N	0.458	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120090	NO2NO3-N	0.521	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120069	Total-P	3.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119787	Total-P	1.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120163	O-Phosphate-P	1.33	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120132	O-Phosphate-P	0.721	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P370771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119072	2,4-D	0.219	Spike	P	0 - 30
2119072	Acetaminophen	2.37	Spike	P	0 - 30
2119072	Acetamiprid	8.84	Spike	P	0 - 30
2119072	Afidopyropen	15.0	Spike	P	0 - 30
2119072	Bentazon	7.30	Spike	P	0 - 30
2119072	Benzovindiflupyr	2.61	Spike	P	0 - 30
2119072	Carbamazepine	5.56	Spike	P	0 - 30
2119072	Clothianidin	5.27	Spike	P	0 - 30
2119072	Dinotefuran	2.02	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P370771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119072	Diuron	2.37	Spike	P	0 - 30
2119072	Fenuron	1.65	Spike	P	0 - 30
2119072	Fluridone	1.79	Spike	P	0 - 30
2119072	Hydrocodone	7.85	Spike	P	0 - 30
2119072	Ibuprofen	0.280	Spike	P	0 - 30
2119072	Imazapyr	8.42	Spike	P	0 - 30
2119072	Imidacloprid	6.52	Spike	P	0 - 30
2119072	Linuron	1.66	Spike	P	0 - 30
2119072	Mandestrobin	0.115	Spike	P	0 - 30
2119072	MCPP	2.13	Spike	P	0 - 30
2119072	Naproxen	2.00	Spike	P	0 - 30
2119072	Primidone	2.79	Spike	P	0 - 30
2119072	Pyraclostrobin	0.692	Spike	P	0 - 30
2119072	Thiamethoxam	2.87	Spike	P	0 - 30
2119072	Tolfenpyrad	3.55	Spike	P	0 - 30
2119072	Triclopyr	9.27	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P370852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120253	2,4-D	3.54	Spike	P	0 - 30
2120253	Acetaminophen	1.85	Spike	P	0 - 30
2120253	Acetamiprid	6.75	Spike	P	0 - 30
2120253	Afidopyropen	3.85	Spike	P	0 - 30
2120253	Bentazon	1.54	Spike	P	0 - 30
2120253	Benzovindiflupyr	1.71	Spike	P	0 - 30
2120253	Carbamazepine	1.32	Spike	P	0 - 30
2120253	Clothianidin	2.98	Spike	P	0 - 30
2120253	Dinotefuran	2.24	Spike	P	0 - 30
2120253	Diuron	2.90	Spike	P	0 - 30
2120253	Fenuron	1.19	Spike	P	0 - 30
2120253	Fluridone	1.23	Spike	P	0 - 30
2120253	Hydrocodone	17.0	Spike	P	0 - 30
2120253	Ibuprofen	5.55	Spike	P	0 - 30
2120253	Imazapyr	3.29	Spike	P	0 - 30
2120253	Imidacloprid	0.125	Spike	P	0 - 30
2120253	Linuron	2.04	Spike	P	0 - 30
2120253	Mandestrobin	0.256	Spike	P	0 - 30
2120253	MCPP	2.62	Spike	P	0 - 30
2120253	Naproxen	18.5	Spike	P	0 - 30
2120253	Primidone	5.38	Spike	P	0 - 30
2120253	Pyraclostrobin	5.39	Spike	P	0 - 30
2120253	Thiamethoxam	3.06	Spike	P	0 - 30
2120253	Tolfenpyrad	6.67	Spike	P	0 - 30
2120253	Triclopyr	20.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P370917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119620	Acesulfame K	9.13	Spike	P	0 - 30
2119620	AMPA	6.30	Spike	P	0 - 30
2119620	Endothall	9.18	Spike	P	0 - 30
2119620	Glufosinate	0.610	Spike	P	0 - 30
2119620	Glyphosate	0.974	Spike	P	0 - 30
2119620	Sucralose	9.12	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P370950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120121	Color (true)	1.42	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120062	Total Alkalinity	0.468	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P371460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120116	TDS	8.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120062	Fluoride	0.476	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P371109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120091	Organic Carbon	0.717	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2120187
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	157	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.5	P	30 - 160
EPA 8321B	Diuron-d6	87.2	P	30 - 160
EPA 8321B	Endothall-d6	167	F	30 - 160
EPA 8321B	Endothall-d6	167	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	53.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	53.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	91.7	P	30 - 160
EPA 8321B	Primidone-d5	115	P	30 - 160
EPA 8321B	Sucralose-d6	142	P	30 - 160
EPA 8321B	Sucralose-d6	142	P	30 - 160

Lab Sample ID: 2120188
Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	152	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.2	P	30 - 160
EPA 8321B	Diuron-d6	81.3	P	30 - 160
EPA 8321B	Endothall-d6	118	P	30 - 160
EPA 8321B	Endothall-d6	118	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	89.3	P	30 - 160
EPA 8321B	Primidone-d5	107	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160

Lab Sample ID: 2120189
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	63.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.7	P	30 - 160
EPA 8321B	Diuron-d6	77.9	P	30 - 160
EPA 8321B	Endothall-d6	128	P	30 - 160
EPA 8321B	Endothall-d6	128	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.7	P	30 - 160
EPA 8321B	Primidone-d5	90.8	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	30 - 160

Lab Sample ID: 2120190
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	154	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.4	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2120190
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbamazepine-d10	86.5	P	30 - 160
EPA 8321B	Diuron-d6	82.9	P	30 - 160
EPA 8321B	Endothall-d6	155	P	30 - 160
EPA 8321B	Endothall-d6	155	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	45.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	45.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.0	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94268

Included Lab Sample IDs: 2120127, 2120128, 2120133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Sulfate	105	104	P/P	90 - 110
Sulfate	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94319

Included Lab Sample IDs: 2120126, 2120135

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94320

Included Lab Sample IDs: 2120131, 2120132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	100	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A94336

Included Lab Sample IDs: 2120127, 2120128, 2120133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	98.9	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94339

Included Lab Sample IDs: 2120127, 2120128, 2120133

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94340

Included Lab Sample IDs: 2120125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	96.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94341

Included Lab Sample IDs: 2120124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.5	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94371

Included Lab Sample IDs: 2120125, 2120134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94380

Included Lab Sample IDs: 2120125, 2120130, 2120134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.6	99.6	P/P	90 - 110
Total-P	99.6	98.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94386

Included Lab Sample IDs: 2120191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.3	98.8	P/P	90 - 110
Thallium	93.0	94.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94387

Included Lab Sample IDs: 2120191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	96.3	P/P	90 - 110
Calcium	105	100	P/P	90 - 110
Iron	107	102	P/P	90 - 110
Magnesium	106	101	P/P	90 - 110
Potassium	107	103	P/P	90 - 110
Sodium	108	105	P/P	90 - 110
Zinc	100	93.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94398

Included Lab Sample IDs: 2120124, 2120127, 2120128, 2120133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A94398

Included Lab Sample IDs: 2120124, 2120127, 2120128, 2120133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A94399

Included Lab Sample IDs: 2120125, 2120129, 2120130, 2120134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	105	93.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A94401

Included Lab Sample IDs: 2120124

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94408

Included Lab Sample IDs: 2120129, 2120130

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

Reference Method: EPA 8321B

Run ID: A94410

Included Lab Sample IDs: 2120187, 2120188, 2120189, 2120190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	114	87.9	P/P	50 - 150
2,4-D	89.6	90.8	P/P	50 - 150
2,4-D	91.6	79.2	P/P	50 - 150
Acetaminophen	112	96.5	P/P	60 - 160
Acetaminophen	115	106	P/P	60 - 160
Acetamiprid	110	116	P/P	50 - 150
Acetamiprid	115	114	P/P	50 - 150
Afidopyropen	101	102	P/P	50 - 150
Afidopyropen	95.9	113	P/P	50 - 150
Bentazon	109	117	P/P	50 - 160
Bentazon	110	114	P/P	50 - 160
Bentazon	117	111	P/P	50 - 160
Benzovindiflupyr	107	106	P/P	50 - 150
Benzovindiflupyr	112	116	P/P	50 - 150
Carbamazepine	104	108	P/P	60 - 150
Carbamazepine	105	107	P/P	60 - 150
Clothianidin	102	103	P/P	60 - 150
Clothianidin	99.7	101	P/P	60 - 150
Dinotefuran	103	101	P/P	50 - 150
Dinotefuran	99.3	105	P/P	50 - 150
Diuron	110	113	P/P	60 - 150
Diuron	112	113	P/P	60 - 150
Fenuron	110	112	P/P	60 - 150
Fenuron	112	112	P/P	60 - 150
Fluridone	105	108	P/P	60 - 160
Fluridone	107	111	P/P	60 - 160
Fluridone	112	110	P/P	60 - 160
Hydrocodone	103	103	P/P	60 - 150
Hydrocodone	112	114	P/P	60 - 150
Ibuprofen	107	74.3	P/P	50 - 160
Ibuprofen	121	117	P/P	50 - 160
Imazapyr	101	101	P/P	50 - 150
Imazapyr	106	98.2	P/P	50 - 150
Imidacloprid	108	102	P/P	60 - 150
Imidacloprid	96.0	101	P/P	60 - 150
Linuron	105	107	P/P	60 - 150
Linuron	106	108	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94410

Included Lab Sample IDs: 2120187, 2120188, 2120189, 2120190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mandestrobin	110	113	P/P	50 - 150
Mandestrobin	113	115	P/P	50 - 150
MCP	104	104	P/P	50 - 150
MCP	92.6	98.1	P/P	50 - 150
Naproxen	113	79.8	P/P	50 - 160
Naproxen	87.7	141	P/P	50 - 160
Primidone	102	107	P/P	60 - 150
Primidone	99.9	89.0	P/P	60 - 150
Pyraclostrobin	112	115	P/P	60 - 150
Pyraclostrobin	122	119	P/P	60 - 150
Thiamethoxam	103	101	P/P	50 - 150
Thiamethoxam	98.6	105	P/P	50 - 150
Tolfenpyrad	113	113	P/P	60 - 150
Tolfenpyrad	127	128	P/P	60 - 150
Triclopyr	108	113	P/P	50 - 150
Triclopyr	92.6	87.9	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94411

Included Lab Sample IDs: 2120129, 2120130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94412

Included Lab Sample IDs: 2120125, 2120134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94415

Included Lab Sample IDs: 2120129

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

Reference Method: EPA 8321B

Run ID: A94421

Included Lab Sample IDs: 2120187, 2120188, 2120189, 2120190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	120	123	P/P	60 - 160
AMPA	123	125	P/P	60 - 160
Glufosinate	124	126	P/P	60 - 160
Glufosinate	126	136	P/P	60 - 160
Glyphosate	131	143	P/P	60 - 160
Glyphosate	135	131	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94423

Included Lab Sample IDs: 2120187, 2120188, 2120189, 2120190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	60.0	60.6	P/P	60 - 160
Acesulfame K	60.6	61.3	P/P	60 - 160
Endothall	134	147	P/P	60 - 160
Endothall	147	141	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94434

Included Lab Sample IDs: 2120129, 2120130, 2120134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	101	P/P	90 - 110
Ammonia-N	99.9	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94533

Included Lab Sample IDs: 2120187, 2120188, 2120189, 2120190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	131	137	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A9471

Included Lab Sample IDs: 2120191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	95.8	96.3	P/P	90 - 110
Nickel	102	101	P/P	90 - 110
Selenium	99.4	99.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94722

Included Lab Sample IDs: 2120191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	96.3	95.1	P/P	90 - 110
Chromium	96.0	96.2	P/P	90 - 110
Copper	101	102	P/P	90 - 110
Lead	101	100	P/P	90 - 110
Silver	98.3	98.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94803

Included Lab Sample IDs: 2120191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	101	99.5	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	MS
									SMP	
EPA 180.1 Rev. 2.0	Turbidity								0.510	
	Turbidity								8.29	
	Turbidity								6.51	
EPA 200.7 Rev. 4.4	Barium	100			103	99.8	95.2			3.34
	Calcium	108			101	105				1.90
	Iron	107			110	109	103			1.40
	Magnesium	110			113	110	99.1			2.14
	Potassium	104			109	108	97.1			0.782
	Sodium	107			105	105	97.6			0.428
	Zinc	97.4			101	97.6	95.5			3.27
EPA 200.8 Rev. 5.4	Aluminum	97.3			98.1	97.4	96.0			0.769
	Antimony	99.7			101	100	101			0.464
	Arsenic	102			102	102	103			0.280
	Boron	101			104	105	101			0.307
	Cadmium	96.3			99.2	97.6	95.4			1.63
	Chromium	95.2			95.3	94.9	95.4			0.511
	Copper	101			107	102	101			4.58
	Lead	98.7			99.9	100	99.5			0.121
	Nickel	100			102	101	99.6			1.21
	Selenium	100			99.6	99.4	98.6			0.197
	Silver	101			105	102	99.8			2.80
	Thallium	99.6			103	103	101			0.0415
EPA 300.0	Bromide	98.2			95.7	96.1	95.2			0.450
EPA 300.0 Rev. 2.1	Chloride	99.2			99.8	101			0.592	
	Sulfate	101			101	103			0.850	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6			97.2	100				2.82
	Ammonia-N	98.6			97.9	96.4				1.41
	Ammonia-N	99.2			98.1	99.5				1.25
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8			98.8	102				2.54
	Kjeldahl Nitrogen	99.7			102	108				3.76
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100			103	103				0.458
	NO ₂ NO ₃ -N	100			99.0	98.0				0.521
EPA 365.1 Rev. 2.0	Total-P	96.5			94.3	98.2				3.66
	Total-P	97.2			94.8	96.5				1.76
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100			97.1	98.4				1.33
	O-Phosphate-P	99.3			96.7	97.6				0.721
EPA 8321B	2,4-D	148			141	141				0.219
	2,4-D	137			165	159				3.54
	Acesulfame K	74.5			60.3	55.1				9.13
	Acetaminophen	76.0			88.5	86.5				2.37
	Acetaminophen	82.5			78.8	77.4				1.85
	Acetamiprid	95.9			110	100				8.84
	Acetamiprid	101			119	128				6.75
	Afidopyropen	101			109	93.4				15.0
	Afidopyropen	103			113	108				3.85
	AMPA	126			115	108				6.30
	Bentazon	125			109	101				7.30
	Bentazon	114			79.6	77.9				1.54
	Benzovindiflupyr	94.1			96.0	93.5				2.61
	Benzovindiflupyr	94.8			101	102				1.71
	Carbamazepine	103			108	102				5.56
	Carbamazepine	106			101	103				1.32
	Clothianidin	90.9			102	97.1				5.27
	Clothianidin	94.7			103	107				2.98

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Dinotefuran	88.3	103	101			2.02
	Dinotefuran	88.9	116	118			2.24
	Diuron	107	106	103			2.37
	Diuron	106	93.5	88.0			2.90
	Endothall	145	115	105			9.18
	Fenuron	101	100	98.4			1.65
	Fenuron	102	97.5	96.4			1.19
	Fluridone	97.3	94.4	92.7			1.79
	Fluridone	97.8	100	98.4			1.23
	Glufosinate	128	115	116			0.610
	Glyphosate	126	111	110			0.974
	Hydrocodone	93.1	103	95.6			7.85
	Hydrocodone	99.1	92.9	110			17.0
	Ibuprofen	96.4	92.9	93.2			0.280
	Ibuprofen	96.6	103	97.1			5.55
	Imazapyr	93.2	112	103			8.42
	Imazapyr	89.4	128	122			3.29
	Imidacloprid	99.5	124	136			6.52
	Imidacloprid	106	200	200			0.125
	Linuron	84.6	82.3	81.0			1.66
	Linuron	82.1	81.8	83.5			2.04
	Mandestrobin	92.2	95.2	95.3			0.115
	Mandestrobin	94.5	96.7	96.4			0.256
	MCPP	146	151	147			2.13
	MCPP	160	171	167			2.62
	Naproxen	96.9	97.8	95.8			2.00
	Naproxen	94.4	97.9	81.4			18.5
	Primidone	93.5	86.4	88.8			2.79
	Primidone	92.1	103	109			5.38
	Pyraclostrobin	91.9	91.3	92.0			0.692
	Pyraclostrobin	92.8	99.9	94.7			5.39
	Sucralose	138	147	133			9.12
	Thiamethoxam	90.7	118	115			2.87
	Thiamethoxam	96.7	144	148			3.06
	Tolfenpyrad	73.2	71.1	73.6			3.55
	Tolfenpyrad	69.9	80.6	75.4			6.67
	Triclopyr	120	111	122			9.27
	Triclopyr	139	127	103			20.8
SM 2120 B	Color (true)	101				1.42	
SM 2320 B-97	Total Alkalinity	104				0.468	
SM 2540 C-97	TDS					8.30	
SM 4500 F-C-97	Fluoride	97.2	98.1	97.4			0.476
SM 5310 B-00	Organic Carbon	98.7	98.1	98.9			0.717

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2120124, 2120127, 2120128, 2120133
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2120191
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2120191

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 / E31780	Bromide in aqueous matrices	2120124
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2120127, 2120128, 2120133
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2120127, 2120128, 2120133
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2120125, 2120129, 2120130, 2120134
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2120125, 2120129, 2120130, 2120134
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2120125, 2120129, 2120130, 2120134
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2120125, 2120129, 2120130, 2120134
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2120126, 2120131, 2120132, 2120135
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2120187, 2120188, 2120189, 2120190
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2120187, 2120188, 2120189, 2120190
SM 2120 B / E31780	True Color measured at 450 nm	2120127, 2120128, 2120133
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2120124, 2120127, 2120128, 2120133
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2120127, 2120128, 2120133
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2120124, 2120127, 2120128, 2120133
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2120124, 2120127, 2120128, 2120133
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2120125, 2120129, 2120130, 2120134

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	09/18/2019			09/18/2019 15:12	Rosalyn Ballman	2120124
	09/18/2019			09/18/2019 17:19	Samantha Davila	2120127, 2120128, 2120133
EPA 200.7 Rev. 4.4	09/18/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 17:39	Alexander Thompson	2120191
	09/18/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 17:47	Alexander Thompson	2120191
EPA 200.8 Rev. 5.4	09/18/2019	09/19/2019 16:45	Elliott D. Healy	09/21/2019 06:30	Justin Cutchin	2120191
	09/18/2019	09/19/2019 16:45	Elliott D. Healy	10/04/2019 04:53	Justin Cutchin	2120191
	09/18/2019	09/19/2019 16:45	Elliott D. Healy	10/05/2019 07:32	Justin Cutchin	2120191
	09/18/2019	09/19/2019 16:45	Elliott D. Healy	10/07/2019 16:52	Justin Cutchin	2120191
	09/18/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 23:56	Jhamieka S. Greenwood	2120124
EPA 300.0	09/18/2019			09/21/2019 03:36	Jhamieka S. Greenwood	2120127
	09/18/2019			09/21/2019 04:12	Jhamieka S. Greenwood	2120128
EPA 300.0 Rev. 2.1	09/18/2019			09/21/2019 04:24	Jhamieka S. Greenwood	2120133
	09/18/2019			09/19/2019 12:16	Ping Hua	2120125
	09/18/2019			09/23/2019 12:02	Ping Hua	2120129
	09/18/2019			09/23/2019 12:03	Ping Hua	2120130
	09/18/2019			09/23/2019 13:17	Ping Hua	2120134
EPA 350.1 Rev. 2.0	09/18/2019	09/19/2019 12:30	Sima Feizi	09/20/2019 13:30	Julia Storbeck	2120129
	09/18/2019	09/19/2019 12:30	Sima Feizi	09/20/2019 13:31	Julia Storbeck	2120130
	09/18/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 16:56	Julia Storbeck	2120125
	09/18/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 16:57	Julia Storbeck	2120134
EPA 351.2 Rev. 2.0	09/18/2019			09/20/2019 09:48	Beverly Y. Sanders	2120125
	09/18/2019			09/20/2019 09:49	Beverly Y. Sanders	2120134
	09/18/2019			09/23/2019 10:30	Beverly Y. Sanders	2120129
	09/18/2019			09/23/2019 10:32	Beverly Y. Sanders	2120130
EPA 353.2 Rev. 2.0	09/18/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 13:29	Rosalyn Ballman	2120130
	09/18/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 13:40	Rosalyn Ballman	2120125
	09/18/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 13:41	Rosalyn Ballman	2120134
	09/18/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 17:26	Rosalyn Ballman	2120129
EPA 365.1 Rev. 2.0	09/18/2019			09/18/2019 15:36	Jhamieka S. Greenwood	2120126, 2120135
	09/18/2019			09/18/2019 18:09	Jhamieka S. Greenwood	2120132
	09/18/2019			09/18/2019 18:11	Jhamieka S. Greenwood	2120131
EPA 365.1 Rev. 2.0 dissolved	09/18/2019	09/19/2019 12:00	Hoor Shaik	09/19/2019 10:13	Juyoung Kim	2120188
	09/18/2019	09/18/2019 12:00	Hoor Shaik	09/19/2019 10:48	Juyoung Kim	2120189
	09/18/2019	09/18/2019 12:00	Hoor Shaik	09/19/2019 11:22	Juyoung Kim	2120190
	09/18/2019	09/18/2019 12:00	Hoor Shaik	09/19/2019 17:26	Juyoung Kim	2120188
	09/18/2019	09/18/2019 12:00	Hoor Shaik	09/19/2019 18:01	Juyoung Kim	2120189
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/19/2019 13:48	Rebecca Ware	2120187
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/19/2019 14:02	Rebecca Ware	2120188
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/19/2019 14:16	Rebecca Ware	2120189
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/19/2019 16:35	Rebecca Ware	2120190

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/20/2019 12:44	Rebecca Ware	2120188
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/20/2019 12:54	Rebecca Ware	2120189
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/20/2019 13:05	Rebecca Ware	2120190
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/20/2019 14:32	Rebecca Ware	2120187
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/25/2019 18:21	Rebecca Ware	2120187
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/25/2019 18:32	Rebecca Ware	2120188
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/25/2019 18:44	Rebecca Ware	2120189
	09/18/2019	09/19/2019 10:30	Rebecca Ware	09/25/2019 18:56	Rebecca Ware	2120190
	09/18/2019	09/19/2019 12:00	Hoor Shaik	09/20/2019 11:53	Juyoung Kim	2120187
SM 2120 B	09/18/2019			09/18/2019 18:31	Madeline Funaro	2120127
	09/18/2019			09/18/2019 18:32	Madeline Funaro	2120128
	09/18/2019			09/18/2019 18:33	Madeline Funaro	2120133
SM 2320 B-97	09/18/2019			09/20/2019 15:18	Dale L. Simmons	2120127
	09/18/2019			09/20/2019 15:30	Dale L. Simmons	2120128
	09/18/2019			09/20/2019 16:22	Dale L. Simmons	2120133
	09/18/2019			09/20/2019 17:03	Dale L. Simmons	2120124
SM 2540 C-97	09/18/2019			09/20/2019 15:02	Yijie Li	2120127, 2120128, 2120133
SM 2540 D-97	09/18/2019			09/20/2019 15:02	Yijie Li	2120124, 2120127, 2120128, 2120133
SM 4500 F-C-97	09/18/2019			09/20/2019 15:18	Dale L. Simmons	2120127
	09/18/2019			09/20/2019 15:30	Dale L. Simmons	2120128
	09/18/2019			09/20/2019 16:22	Dale L. Simmons	2120133
	09/18/2019			09/20/2019 17:03	Dale L. Simmons	2120124
SM 5310 B-00	09/18/2019			09/20/2019 23:32	Madeline Funaro	2120125
	09/18/2019			09/20/2019 23:46	Madeline Funaro	2120129
	09/18/2019			09/20/2019 23:58	Madeline Funaro	2120130
	09/18/2019			09/21/2019 00:11	Madeline Funaro	2120134