

Chemical Analysis Report

NE-DIST-2019-10-22-02

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-2019-10-14-18**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 15-NOV-2019 16:13



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: Butcher Pen CR at Confederate

Collection Date/Time: 10/21/2019 09:45

Field ID: 20030082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130329	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P372959	RPD
	EPA 300.0 Rev. 2.1	Chloride	470		mg Cl/L	P373692	
		Sulfate	79		mg SO4/L	P373695	
		Color (true)	67		PCU	P372943	
	SM 2120 B	Total Alkalinity	106		mg CaCO3/L	P373213	
	SM 2540 C-97	TDS	919		mg/L	P373592	
	SM 2540 D-97	TSS	18		mg/L	P373647	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P373218	
2130330	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P373266	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P373128	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P373123	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P373137	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P373167	
2130331	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.065		mg P/L	P372952	
2130348	EPA 200.7 Rev. 4.4	Barium	157		ug/L	P373007	
		Calcium	50.8		mg/L	P373007	
		Iron	590		ug/L	P373007	
		Magnesium	36.4		mg/L	P373007	
		Potassium	11.6		mg/L	P373007	
		Sodium	268		mg/L	P373007	
		Zinc	9.7	I	ug/L	P373007	
	EPA 200.8 Rev. 5.4	Aluminum	135		ug/L	P373007	
		Antimony	0.55		ug/L	P373007	
		Arsenic	1.92		ug/L	P373007	
		Boron**	155		ug/L	P373007	
		Cadmium	0.020	U	ug/L	P373007	
		Chromium	0.54	I	ug/L	P373007	
		Copper	1.58		ug/L	P373007	
		Lead	1.51		ug/L	P373007	
		Nickel	0.53	I	ug/L	P373007	
		Selenium	0.20	U	ug/L	P373007	
		Silver	0.010	U	ug/L	P373007	
		Thallium	0.10	U	ug/L	P373007	

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: 10/21/2019 10:30

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130347	EPA 8321B	2,4-D	0.21		ug/L	P372914	
		Acesulfame K**	0.15	I	ug/L	P373022	
		AMPA**	0.54		ug/L	P373022	
		Sucralose**	0.52		ug/L	P373022	
		Acetaminophen**	0.0080	U	ug/L	P372914	
		Acetamiprid**	0.0020	U	ug/L	P372914	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	0.10	U	ug/L	P373022	
		Glyphosate**	5.4		ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P372914	
		Bentazon	0.019		ug/L	P372914	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372914	
		Carbamazepine**	8.0E-04	U	ug/L	P372914	
		Clothianidin**	0.0020	U	ug/L	P372914	
		Dinotefuran**	0.0020	U	ug/L	P372914	
		Diuron	0.0055	I	ug/L	P372914	
		Fenuron	0.016	U	ug/L	P372914	
		Fluridone**	0.0098		ug/L	P372914	
		Imazapyr**	2.7		ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.017		ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCPP	0.040		ug/L	P372914	
		Naproxen**	0.0080	U	ug/L	P372914	
		Primidone**	0.0040	U	ug/L	P372914	
		Pyraclostrobin**	0.0020	U	ug/L	P372914	
		Thiamethoxam**	0.0020	U	ug/L	P372914	
		Tolfenpyrad**	0.0020	U	ug/L	P372914	
		Triclopyr**	0.0040	U	ug/L	P372914	

Ref. Method and Comment:

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

Sample Location: Craig CR. 100m Down From Footbridge in Park Collection Date/Time: 10/21/2019 10:40

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130323	EPA 180.1 Rev. 2.0	Turbidity	6.1		NTU	P372959	RPD
	EPA 300.0	Bromide	0.48		mg Br/L	P373399	
	SM 2320 B-97	Total Alkalinity	146		mg CaCO3/L	P373213	
	SM 2540 D-97	TSS	5	I	mg/L	P373651	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P373218	
2130324	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P373266	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P373128	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P373123	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P373137	
	SM 5310 B-00	Organic Carbon	9.8		mg C/L	P373167	
2130325	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.061		mg P/L	P372952	
2130345	EPA 8321B	2,4-D	0.19		ug/L	P372914	
		Acesulfame K**	0.12	I	ug/L	P373022	
		AMPA**	0.50		ug/L	P373022	
		Sucralose**	0.49		ug/L	P373022	
		Acetaminophen**	0.0080	U	ug/L	P372914	
		Acetamiprid**	0.0020	U	ug/L	P372914	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	0.10	U	ug/L	P373022	
		Glyphosate**	4.9		ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P372914	
		Bentazon	0.024		ug/L	P372914	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372914	
		Carbamazepine**	8.0E-04	U	ug/L	P372914	
		Clothianidin**	0.0020	I	ug/L	P372914	
		Dinotefuran**	0.0024	I	ug/L	P372914	
		Diuron	0.0069	I	ug/L	P372914	
		Fenuron	0.016	U	ug/L	P372914	
		Fluridone**	0.0071		ug/L	P372914	
		Imazapyr**	3.4		ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.021		ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCP	0.034		ug/L	P372914	
		Naproxen**	0.0080	U	ug/L	P372914	
		Primidone**	0.0040	U	ug/L	P372914	
		Pyraclostrobin**	0.0020	U	ug/L	P372914	
		Thiamethoxam**	0.0020	U	ug/L	P372914	
		Tolfenpyrad**	0.0020	U	ug/L	P372914	
		Triclopyr**	0.0040	U	ug/L	P372914	

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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: Goodbys CR Above West Branch at San Clerc Collection Date/Time: 10/21/2019 11:15

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130326	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P372959	RPD
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P373692	
		Sulfate	17		mg SO4/L	P373695	
	SM 2120 B	Color (true)	55		PCU	P372943	
	SM 2320 B-97	Total Alkalinity	126		mg CaCO3/L	P373213	
	SM 2540 C-97	TDS	188		mg/L	P373592	
	SM 2540 D-97	TSS	3	I	mg/L	P373647	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P373218	
2130327	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P373266	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P373128	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P373123	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P373137	
	SM 5310 B-00	Organic Carbon	8.4		mg C/L	P373167	
2130328	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.049		mg P/L	P372952	
2130346	EPA 8321B	2,4-D	0.078		ug/L	P372914	
		Acesulfame K**	0.10	U	ug/L	P373022	
		AMPA**	0.47		ug/L	P373022	
		Sucralose**	0.12		ug/L	P373022	
		Acetaminophen**	0.0080	U	ug/L	P372914	
		Acetamiprid**	0.0020	U	ug/L	P372914	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	0.10	U	ug/L	P373022	
		Glyphosate**	1.0		ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P372914	
		Bentazon	0.022		ug/L	P372914	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372914	
		Carbamazepine**	8.0E-04	U	ug/L	P372914	
		Clothianidin**	0.0031	I	ug/L	P372914	
		Dinotefuran**	0.0021	I	ug/L	P372914	
		Diuron	0.27		ug/L	P372914	
		Fenuron	0.028	I	ug/L	P372914	
		Fluridone**	0.026		ug/L	P372914	
		Imazapyr**	1.2		ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.020		ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCPP	0.0020	U	ug/L	P372914	
		Naproxen**	0.0080	U	ug/L	P372914	
		Primidone**	0.0040	U	ug/L	P372914	
		Pyraclostrobin**	0.0020	U	ug/L	P372914	
		Thiamethoxam**	0.0020	U	ug/L	P372914	

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130346	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372914	
		Triclopyr**	0.0040	U	ug/L	P372914	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372959

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373007

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: P373007

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: P373399

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373692

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373695

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P373266

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P373128

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373123

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373137

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P372952

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

Reference Method: EPA 8321B
 Batch ID: P372914

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P372914

Component	Result	Code	Units
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P373022

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: P372943

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373213

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

Reference Method: SM 2540 C-97
Batch ID: P373592

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373647

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373651

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373218

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P373167

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: P373007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.2		P	85 - 115
Calcium	106		P	85 - 115
Iron	104		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	104		P	85 - 115
Zinc	98.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P373007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.4		P	80 - 120
Antimony	102		P	85 - 115
Arsenic	102		P	85 - 115
Boron	106		P	85 - 115
Cadmium	98.8		P	85 - 115
Chromium	98.9		P	85 - 115
Copper	103		P	85 - 115
Lead	105		P	85 - 115
Nickel	102		P	85 - 115
Selenium	95.2		P	85 - 115
Silver	107		P	85 - 115
Thallium	106		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P373399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373692

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373695

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373266

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373128

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373123

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: P373137

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372952

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

Reference Method: EPA 8321B
Batch ID: P372914

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	126		P	40 - 160
Acetaminophen	81.3		P	30 - 160
Acetamiprid	88.8		P	40 - 160
Afidopyropen	74.1		P	40 - 160
Bentazon	78.8		P	30 - 160
Benzovindiflupyr	81.5		P	40 - 160
Carbamazepine	95.6		P	40 - 160
Clothianidin	74.0		P	40 - 160
Dinotefuran	88.1		P	40 - 160
Diuron	89.5		P	40 - 160
Fenuron	97.8		P	40 - 160
Fluridone	90.7		P	40 - 160
Hydrocodone	94.8		P	40 - 160
Ibuprofen	79.8		P	30 - 160
Imazapyr	97.7		P	40 - 160
Imidacloprid	89.4		P	40 - 160
Linuron	70.5		P	40 - 160
Mandestrobin	88.7		P	40 - 160
MCPP	101		P	40 - 160
Naproxen	76.2		P	40 - 160
Primidone	93.0		P	40 - 160
Pyraclostrobin	82.8		P	30 - 160
Thiamethoxam	96.4		P	40 - 160
Tolfenpyrad	52.0		P	40 - 160
Triclopyr	93.8		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P373022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	107		P	40 - 150
Endothall	96.7		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	111		P	40 - 140
Sucralose	80.7		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P372943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.1		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P373213

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

Reference Method: SM 4500 F-C-97
Batch ID: P373218

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130406	Barium	99.2	99.3	P/P	80 - 120
2130406	Calcium	104	106	P/P	80 - 120
2130406	Iron	103	105	P/P	80 - 120
2130406	Magnesium	106	109	P/P	80 - 120
2130406	Potassium	105	107	P/P	80 - 120
2130406	Sodium	102	101	P/P	80 - 120
2130406	Zinc	97.8	98.0	P/P	80 - 120
2130638	Barium	98.8		P	80 - 120
2130638	Calcium	100		P	80 - 120
2130638	Iron	104		P	80 - 120
2130638	Magnesium	101		P	80 - 120
2130638	Potassium	96.9		P	80 - 120
2130638	Sodium	97.5		P	80 - 120
2130638	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P373007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130406	Aluminum	92.4	91.6	P/P	80 - 120
2130406	Antimony	102	101	P/P	80 - 120
2130406	Arsenic	100	99.9	P/P	80 - 120
2130406	Boron	105	105	P/P	80 - 120
2130406	Cadmium	98.3	97.0	P/P	80 - 120
2130406	Chromium	97.6	98.6	P/P	80 - 120
2130406	Copper	104	103	P/P	80 - 120
2130406	Lead	103	104	P/P	80 - 120
2130406	Nickel	103	102	P/P	80 - 120
2130406	Selenium	96.8	94.7	P/P	80 - 120
2130406	Silver	106	107	P/P	80 - 120
2130406	Thallium	105	106	P/P	80 - 120
2130638	Aluminum	88.7		P	80 - 120
2130638	Antimony	102		P	80 - 120
2130638	Arsenic	98.0		P	80 - 120
2130638	Boron	104		P	80 - 120
2130638	Cadmium	97.3		P	80 - 120
2130638	Chromium	95.7		P	80 - 120
2130638	Copper	96.0		P	80 - 120
2130638	Lead	102		P	80 - 120
2130638	Nickel	94.6		P	80 - 120
2130638	Selenium	90.9		P	80 - 120
2130638	Silver	105		P	80 - 120
2130638	Thallium	104		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P373399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130885	Bromide	97.1	98.9	P/P	90 - 110
2131089	Bromide	94.3		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P373692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130301	Chloride	99.7	100	P/P	90 - 110
2130456	Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P373695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130301	Sulfate	98.4	99.4	P/P	90 - 110
2130456	Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P373266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130377	Ammonia-N	99.7	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P373128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130324	Kjeldahl Nitrogen	93.7	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130302	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130245	Total-P	98.2	96.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P372952

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130325	O-Phosphate-P	97.2	98.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P372914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	2,4-D	140	136	P/P	40 - 160
2130063	Acetaminophen	89.5	83.5	P/P	30 - 160
2130063	Acetamiprid	115	109	P/P	40 - 160
2130063	Afidopyropen	91.1	87.0	P/P	40 - 160
2130063	Bentazon	76.5	74.6	P/P	30 - 160
2130063	Benzovindiflupyr	97.1	90.9	P/P	40 - 160
2130063	Carbamazepine	108	107	P/P	40 - 160
2130063	Clothianidin	99.7	99.5	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P372914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	Dinotefuran	114	112	P/P	40 - 160
2130063	Diuron	98.1	92.1	P/P	40 - 160
2130063	Fenuron	103	104	P/P	40 - 160
2130063	Fluridone	94.1	91.7	P/P	40 - 160
2130063	Hydrocodone	116	114	P/P	40 - 160
2130063	Ibuprofen	96.5	86.3	P/P	30 - 160
2130063	Imazapyr	122	124	P/P	40 - 160
2130063	Imidacloprid	166	158	F/P	40 - 160
2130063	Linuron	82.9	83.1	P/P	40 - 160
2130063	Mandestrobin	101	95.3	P/P	40 - 160
2130063	MCP	114	111	P/P	40 - 160
2130063	Naproxen	92.8	106	P/P	40 - 160
2130063	Primidone	98.0	111	P/P	40 - 160
2130063	Pyraclostrobin	96.4	94.7	P/P	30 - 160
2130063	Thiamethoxam	152	150	P/P	40 - 160
2130063	Tolfenpyrad	63.4	58.3	P/P	40 - 160
2130063	Triclopyr	116	110	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P373022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	Acesulfame K	52.8	59.7	P/P	40 - 150
2130063	AMPA	89.4	86.6	P/P	40 - 150
2130063	Endothall	95.4	96.1	P/P	40 - 150
2130063	Glufosinate	106	102	P/P	40 - 150
2130063	Glyphosate	97.7	93.5	P/P	40 - 140
2130063	Sucralose	102	123	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P373218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130203	Fluoride	96.7	95.9	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P373167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130327	Organic Carbon	95.6	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130247	Turbidity	34.4	Sample	F	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130406	Barium	0.133	Spike	P	0 - 20
2130406	Calcium	1.85	Spike	P	0 - 20
2130406	Iron	1.43	Spike	P	0 - 20
2130406	Magnesium	2.25	Spike	P	0 - 20
2130406	Potassium	1.98	Spike	P	0 - 20
2130406	Sodium	0.255	Spike	P	0 - 20
2130406	Zinc	0.171	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P373007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130406	Aluminum	0.754	Spike	P	0 - 20
2130406	Antimony	0.829	Spike	P	0 - 20
2130406	Arsenic	0.464	Spike	P	0 - 20
2130406	Boron	0.291	Spike	P	0 - 20
2130406	Cadmium	1.31	Spike	P	0 - 20
2130406	Chromium	0.964	Spike	P	0 - 20
2130406	Copper	1.05	Spike	P	0 - 20
2130406	Lead	0.770	Spike	P	0 - 20
2130406	Nickel	1.54	Spike	P	0 - 20
2130406	Selenium	2.14	Spike	P	0 - 20
2130406	Silver	1.18	Spike	P	0 - 20
2130406	Thallium	1.38	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P373399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130885	Bromide	1.78	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130301	Chloride	0.507	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130301	Sulfate	0.971	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130377	Ammonia-N	2.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130324	Kjeldahl Nitrogen	3.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130302	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130245	Total-P	0.877	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372952

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130325	O-Phosphate-P	0.694	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P372914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130063	2,4-D	3.19	Spike	P	0 - 30
2130063	Acetaminophen	6.98	Spike	P	0 - 30
2130063	Acetamiprid	5.18	Spike	P	0 - 30
2130063	Afidopyropen	4.65	Spike	P	0 - 30
2130063	Bentazon	2.34	Spike	P	0 - 30
2130063	Benzovindiflupyr	6.66	Spike	P	0 - 30
2130063	Carbamazepine	0.602	Spike	P	0 - 30
2130063	Clothianidin	0.195	Spike	P	0 - 30
2130063	Dinotefuran	1.54	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P372914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130063	Diuron	6.41	Spike	P	0 - 30
2130063	Fenuron	1.17	Spike	P	0 - 30
2130063	Fluridone	2.65	Spike	P	0 - 30
2130063	Hydrocodone	1.46	Spike	P	0 - 30
2130063	Ibuprofen	11.2	Spike	P	0 - 30
2130063	Imazapyr	1.74	Spike	P	0 - 30
2130063	Imidacloprid	3.65	Spike	P	0 - 30
2130063	Linuron	0.212	Spike	P	0 - 30
2130063	Mandestrobin	5.37	Spike	P	0 - 30
2130063	MCP	3.00	Spike	P	0 - 30
2130063	Naproxen	13.6	Spike	P	0 - 30
2130063	Primidone	12.1	Spike	P	0 - 30
2130063	Pyraclostrobin	1.86	Spike	P	0 - 30
2130063	Thiamethoxam	1.36	Spike	P	0 - 30
2130063	Tolfenpyrad	8.44	Spike	P	0 - 30
2130063	Triclopyr	5.62	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P373022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130063	Acesulfame K	12.3	Spike	P	0 - 30
2130063	AMPA	3.19	Spike	P	0 - 30
2130063	Endothall	0.692	Spike	P	0 - 30
2130063	Glufosinate	4.38	Spike	P	0 - 30
2130063	Glyphosate	4.31	Spike	P	0 - 30
2130063	Sucralose	17.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P372943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130301	Color (true)	2.46	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P373213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130203	Total Alkalinity	0.276	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P373592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130389	TDS	2.88	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P373218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130203	Fluoride	0.520	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P373167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130327	Organic Carbon	5.17	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2130345
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.7	P	30 - 160
EPA 8321B	Bentazon-d7	57.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.8	P	30 - 160
EPA 8321B	Diuron-d6	73.6	P	30 - 160
EPA 8321B	Endothall-d6	145	P	30 - 160
EPA 8321B	Endothall-d6	145	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.5	P	30 - 160
EPA 8321B	Primidone-d5	82.3	P	30 - 160
EPA 8321B	Sucralose-d6	90.1	P	30 - 160
EPA 8321B	Sucralose-d6	90.1	P	30 - 160

Lab Sample ID: 2130346
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	69.6	P	30 - 160
EPA 8321B	Bentazon-d7	57.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.7	P	30 - 160
EPA 8321B	Diuron-d6	73.5	P	30 - 160
EPA 8321B	Endothall-d6	94.7	P	30 - 160
EPA 8321B	Endothall-d6	94.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.6	P	30 - 160
EPA 8321B	Primidone-d5	94.6	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	30 - 160

Lab Sample ID: 2130347
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	37.3	P	30 - 160
EPA 8321B	Bentazon-d7	55.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.2	P	30 - 160
EPA 8321B	Diuron-d6	78.4	P	30 - 160
EPA 8321B	Endothall-d6	92.8	P	30 - 160
EPA 8321B	Endothall-d6	92.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.7	P	30 - 160
EPA 8321B	Primidone-d5	89.9	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A95155

Included Lab Sample IDs: 2130326, 2130329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.1	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95157

Included Lab Sample IDs: 2130325, 2130328, 2130331

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95160

Included Lab Sample IDs: 2130323, 2130326, 2130329

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

Reference Method: EPA 8321B

Run ID: A95233

Included Lab Sample IDs: 2130345, 2130346, 2130347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.2	88.6	P/P	50 - 150
Acetaminophen	94.3	89.3	P/P	60 - 160
Acetamiprid	102	103	P/P	50 - 150
Afidopyropen	97.3	94.1	P/P	50 - 150
Bentazon	99.4	101	P/P	50 - 160
Benzovindiflupyr	99.7	101	P/P	50 - 150
Carbamazepine	105	102	P/P	60 - 150
Clothianidin	95.5	97.1	P/P	60 - 150
Dinotefuran	91.9	98.3	P/P	50 - 150
Diuron	105	106	P/P	60 - 150
Fenuron	104	104	P/P	60 - 150
Fluridone	109	110	P/P	60 - 160
Hydrocodone	105	101	P/P	60 - 150
Ibuprofen	87.3	84.6	P/P	50 - 160
Imazapyr	101	99.5	P/P	50 - 150
Imidacloprid	91.1	96.2	P/P	60 - 150
Linuron	102	108	P/P	60 - 150
Mandestrobin	99.1	94.0	P/P	50 - 150
MCP	83.9	90.6	P/P	50 - 150
Naproxen	103	110	P/P	50 - 160
Primidone	94.3	100	P/P	60 - 150
Pyraclostrobin	107	97.1	P/P	60 - 150
Thiamethoxam	91.9	94.1	P/P	50 - 150
Tolfenpyrad	96.0	96.2	P/P	60 - 150
Triclopyr	98.5	102	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95239

Included Lab Sample IDs: 2130324, 2130327, 2130330

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A95253

Included Lab Sample IDs: 2130348

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.6	101	P/P	90 - 110
Calcium	103	101	P/P	90 - 110
Iron	102	100	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	100	99.2	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Zinc	102	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95256

Included Lab Sample IDs: 2130324, 2130327, 2130330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	106	110	P/P	90 - 110
Organic Carbon	110	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95270

Included Lab Sample IDs: 2130345, 2130346, 2130347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	106	99.6	P/P	60 - 160
AMPA	109	106	P/P	60 - 160
Glufosinate	103	92.5	P/P	60 - 160
Glufosinate	113	103	P/P	60 - 160
Glyphosate	106	107	P/P	60 - 160
Glyphosate	128	106	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A95273

Included Lab Sample IDs: 2130345, 2130346, 2130347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.9	95.6	P/P	60 - 160
Acesulfame K	95.6	93.3	P/P	60 - 160
Endothall	111	114	P/P	60 - 160
Endothall	96.1	111	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A95274

Included Lab Sample IDs: 2130323, 2130326, 2130329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A95274

Included Lab Sample IDs: 2130323, 2130326, 2130329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95286

Included Lab Sample IDs: 2130324, 2130327, 2130330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	96.3	P/P	90 - 110
Kjeldahl Nitrogen	94.8	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95288

Included Lab Sample IDs: 2130324, 2130327, 2130330

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95305

Included Lab Sample IDs: 2130324, 2130327, 2130330

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

Reference Method: EPA 300.0

Run ID: A95332

Included Lab Sample IDs: 2130323

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95482

Included Lab Sample IDs: 2130326, 2130329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	103	P/P	90 - 110
Sulfate	103	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95575

Included Lab Sample IDs: 2130345, 2130346, 2130347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	131	P/P	60 - 160
Sucralose	131	98.8	P/P	60 - 160
Sucralose	97.0	87.9	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95605

Included Lab Sample IDs: 2130348

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.9	97.6	P/P	90 - 110
Antimony	95.6	95.0	P/P	90 - 110
Arsenic	96.5	93.7	P/P	90 - 110
Boron	101	101	P/P	90 - 110
Cadmium	95.7	95.5	P/P	90 - 110
Chromium	96.7	94.9	P/P	90 - 110
Copper	98.6	94.4	P/P	90 - 110
Lead	97.7	96.6	P/P	90 - 110
Nickel	97.8	93.0	P/P	90 - 110
Selenium	93.9	92.7	P/P	90 - 110
Silver	101	99.7	P/P	90 - 110
Thallium	91.5	91.1	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						34.4	
EPA 200.7 Rev. 4.4	Barium	99.2	99.2	99.3	98.8			0.133
	Calcium	106	104	106	100			1.85
	Iron	104	103	105	104			1.43
	Magnesium	107	106	109	101			2.25
	Potassium	99.4	105	107	96.9			1.98
	Sodium	104	102	101	97.5			0.255
	Zinc	98.4	97.8	98.0	102			0.171
EPA 200.8 Rev. 5.4	Aluminum	94.4	92.4	91.6	88.7			0.754
	Antimony	102	102	101	102			0.829
	Arsenic	102	100	99.9	98.0			0.464
	Boron	106	105	105	104			0.291
	Cadmium	98.8	98.3	97.0	97.3			1.31
	Chromium	98.9	97.6	98.6	95.7			0.964
	Copper	103	104	103	96.0			1.05
	Lead	105	103	104	102			0.770
	Nickel	102	103	102	94.6			1.54
	Selenium	95.2	96.8	94.7	90.9			2.14
	Silver	107	106	107	105			1.18
	Thallium	106	105	106	104			1.38
EPA 300.0	Bromide	97.3	97.1	98.9	94.3			1.78
EPA 300.0 Rev. 2.1	Chloride	99.3	99.7	100	99.7			0.507
	Sulfate	98.6	98.4	99.4	98.7			0.971
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	99.7	102				2.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	93.7	99.2				3.39
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	99.5	99.5				0.0
EPA 365.1 Rev. 2.0	Total-P	103	98.2	96.9				0.877
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.7	97.2	98.3				0.694
EPA 8321B	2,4-D	126	140	136				3.19
	Acesulfame K	103	52.8	59.7				12.3
	Acetaminophen	81.3	89.5	83.5				6.98
	Acetamiprid	88.8	115	109				5.18
	Afidopyropen	74.1	91.1	87.0				4.65
	AMPA	107	89.4	86.6				3.19
	Bentazon	78.8	76.5	74.6				2.34
	Benzovindiflupyr	81.5	97.1	90.9				6.66
	Carbamazepine	95.6	108	107				0.602
	Clothianidin	74.0	99.7	99.5				0.195
	Dinotefuran	88.1	114	112				1.54
	Diuron	89.5	98.1	92.1				6.41
	Endothall	96.7	95.4	96.1				0.692
	Fenuron	97.8	103	104				1.17
	Fluridone	90.7	94.1	91.7				2.65
	Glufosinate	101	106	102				4.38
	Glyphosate	111	97.7	93.5				4.31
	Hydrocodone	94.8	116	114				1.46
	Ibuprofen	79.8	96.5	86.3				11.2
	Imazapyr	97.7	122	124				1.74
	Imidacloprid	89.4	166	158				3.65
	Linuron	70.5	82.9	83.1				0.212
	Mandestrobin	88.7	101	95.3				5.37
	MCPP	101	114	111				3.00
	Naproxen	76.2	92.8	106				13.6
	Primidone	93.0	98.0	111				12.1

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Pyraclostrobin	82.8	96.4	94.7		1.86
	Sucralose	80.7	102	123		17.1
	Thiamethoxam	96.4	152	150		1.36
	Tolfenpyrad	52.0	63.4	58.3		8.44
	Triclopyr	93.8	116	110		5.62
SM 2120 B	Color (true)	99.1			2.46	
SM 2320 B-97	Total Alkalinity	103			0.276	
SM 2540 C-97	TDS				2.88	
SM 4500 F-C-97	Fluoride	94.8	96.7	95.9		0.520
SM 5310 B-00	Organic Carbon	98.8	95.6	103		5.17

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2130323, 2130326, 2130329
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2130348
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2130348
EPA 300.0 / E31780	Bromide in aqueous matrices	2130323
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2130326, 2130329
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2130326, 2130329
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2130324, 2130327, 2130330
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2130324, 2130327, 2130330
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2130324, 2130327, 2130330
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2130324, 2130327, 2130330
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2130325, 2130328, 2130331
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2130345, 2130346, 2130347
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2130345, 2130346, 2130347
SM 2120 B / E31780	True Color measured at 450 nm	2130326, 2130329
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2130323, 2130326, 2130329
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2130326, 2130329
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2130323, 2130326, 2130329
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2130323, 2130326, 2130329
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2130324, 2130327, 2130330

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	10/22/2019			10/22/2019 17:00	Rosalyn Ballman	2130323, 2130326, 2130329
EPA 200.7 Rev. 4.4	10/22/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 12:37	Alexander Thompson	2130348
	10/22/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 12:45	Alexander Thompson	2130348
EPA 200.8 Rev. 5.4	10/22/2019	10/23/2019 17:30	Elliott D. Healy	11/10/2019 20:19	Robert K Palmer	2130348
EPA 300.0	10/22/2019			10/30/2019 04:55	Julia Storbeck	2130323
EPA 300.0 Rev. 2.1	10/22/2019			11/01/2019 03:36	Jhamieka S. Greenwood	2130326
	10/22/2019			11/01/2019 03:48	Jhamieka S. Greenwood	2130329
EPA 350.1 Rev. 2.0	10/22/2019			10/28/2019 12:40	Ping Hua	2130324
	10/22/2019			10/28/2019 12:41	Ping Hua	2130327
	10/22/2019			10/28/2019 12:43	Ping Hua	2130330
EPA 351.2 Rev. 2.0	10/22/2019	10/25/2019 10:55	Sima Feizi	10/28/2019 12:49	Jhamieka S. Greenwood	2130324
	10/22/2019	10/25/2019 10:55	Sima Feizi	10/28/2019 13:01	Jhamieka S. Greenwood	2130327
	10/22/2019	10/25/2019 10:55	Sima Feizi	10/28/2019 13:03	Jhamieka S. Greenwood	2130330
EPA 353.2 Rev. 2.0	10/22/2019			10/25/2019 10:30	Beverly Y. Sanders	2130324
	10/22/2019			10/25/2019 10:31	Beverly Y. Sanders	2130327
	10/22/2019			10/25/2019 10:32	Beverly Y. Sanders	2130330
EPA 365.1 Rev. 2.0	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 10:47	Lipi Saha	2130324
	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 10:48	Lipi Saha	2130327
	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 10:49	Lipi Saha	2130330
EPA 365.1 Rev. 2.0 dissolved	10/22/2019			10/22/2019 15:01	Virginia P. Brown	2130325
	10/22/2019			10/22/2019 15:42	Virginia P. Brown	2130328
	10/22/2019			10/22/2019 15:43	Virginia P. Brown	2130331
EPA 8321B	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 01:23	Juyoung Kim	2130345
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 01:58	Juyoung Kim	2130346
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 02:33	Juyoung Kim	2130347
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 08:53	Juyoung Kim	2130345
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 09:28	Juyoung Kim	2130346
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 10:02	Juyoung Kim	2130347
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 14:10	Rebecca Ware	2130345
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 14:24	Rebecca Ware	2130346
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 14:58	Rebecca Ware	2130347
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 11:58	Rebecca Ware	2130345
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 12:09	Rebecca Ware	2130346
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 12:35	Rebecca Ware	2130347
	10/22/2019	10/24/2019 11:00	Rebecca Ware	11/06/2019 21:44	Rebecca Ware	2130346
	10/22/2019	10/24/2019 11:00	Rebecca Ware	11/07/2019 09:40	Rebecca Ware	2130347
	10/22/2019	10/24/2019 11:00	Rebecca Ware	11/09/2019 14:20	Rebecca Ware	2130345
SM 2120 B	10/22/2019			10/22/2019 18:24	Madeline Funaro	2130326, 2130329
SM 2320 B-97	10/22/2019			10/26/2019 03:01	Dale L. Simmons	2130326
	10/22/2019			10/26/2019 03:56	Dale L. Simmons	2130323

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	10/22/2019			10/26/2019 04:09	Dale L. Simmons	2130329
SM 2540 C-97	10/22/2019			10/25/2019 14:21	Yijie Li	2130326, 2130329
SM 2540 D-97	10/22/2019			10/25/2019 14:21	Yijie Li	2130323, 2130326, 2130329
SM 4500 F-C-97	10/22/2019			10/26/2019 03:01	Dale L. Simmons	2130326
	10/22/2019			10/26/2019 03:56	Dale L. Simmons	2130323
	10/22/2019			10/26/2019 04:09	Dale L. Simmons	2130329
	10/22/2019			10/24/2019 22:17	Madeline Funaro	2130327
SM 5310 B-00	10/22/2019			10/25/2019 01:12	Madeline Funaro	2130324
	10/22/2019			10/25/2019 01:26	Madeline Funaro	2130330