

Chemical Analysis Report

SO-DIST-2020-06-11-01

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

Event Description: **2020 SMP : DeSoto Cricks**
Request ID: **RQ-2020-06-08-39**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 02-JUL-2020 16:06



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: MyrtleSlough@PinelIsland

Collection Date/Time: 06/10/2020 09:45

Field ID: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175893	EPA 180.1 Rev. 2.0	Turbidity	6.3	A	NTU	P383092	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P383379	
		Sulfate	80		mg SO4/L	P383383	
	SM 2120 B-2011	Color (true)	72		PCU	P383101	
	SM 2320 B-2011	Total Alkalinity	243		mg CaCO3/L	P383248	
	SM 2540 C-2011	TDS	452		mg/L	P383567	
	SM 2540 D-2011	TSS	3	I	mg/L	P383518	
	SM 4500 F-C-2011	Fluoride	0.17		mg F/L	P383251	
2175894	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P383177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P383266	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.090		mg N/L	P383125	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P383229	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P383198	
2175895	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P383107	
2175905	EPA 8321B	2,4-D	0.0020	U	ug/L	P383083	
		Acesulfame K**	0.10	U	ug/L	P383201	MS
		AMPA**	0.10	U	ug/L	P383201	
		Sucralose**	0.010	U	ug/L	P383201	
		Acetaminophen**	0.0080	U	ug/L	P383083	
		Acetamidiprid**	0.0020	U	ug/L	P383083	
		Endothall**	0.25	U	ug/L	P383201	MS
		Glufosinate**	0.10	U	ug/L	P383201	
		Glyphosate**	0.10	U	ug/L	P383201	
		Afidopypropan**	0.0020	U	ug/L	P383083	
		Bentazon	8.0E-04	U	ug/L	P383083	
		Benzovindiflupyr**	0.0020	U	ug/L	P383083	
		Carbamazepine**	8.0E-04	U	ug/L	P383083	
		Clothianidin**	0.0020	U	ug/L	P383083	
		Dinotefuran**	0.0020	U	ug/L	P383083	
		Diuron	0.0020	U	ug/L	P383083	
		Fenuron	0.016	U	ug/L	P383083	
		Fluridone**	0.0086		ug/L	P383083	
		Imazapyr**	0.014	I	ug/L	P383083	
		Hydrocodone**	0.0020	U	ug/L	P383083	
		Ibuprofen**	0.020	U	ug/L	P383083	
		Imidacloprid	0.0020	U	ug/L	P383083	
		Linuron	0.0040	U	ug/L	P383083	
		Mandestrobin**	0.0020	U	ug/L	P383083	
		MCP	0.0020	U	ug/L	P383083	
		Naproxen**	0.0080	U	ug/L	P383083	
		Primidone**	0.0040	U	ug/L	P383083	
		Pyraclostrobin**	0.0020	U	ug/L	P383083	
		Thiamethoxam**	0.0020	U	ug/L	P383083	

Field ID: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175905	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P383083	
		Triclopyr**	0.0040	U	ug/L	P383083	

Ref. Method and Comment:

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

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

Sample Location: HawthorneCreek@Reynolds

Collection Date/Time: 06/10/2020 10:30

Field ID: G3SD0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175890	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P383091	
	EPA 300.0 Rev. 2.1	Chloride	190		mg Cl/L	P383379	
		Sulfate	170		mg SO4/L	P383383	
	SM 2120 B-2011	Color (true)	110		PCU	P383100	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P383248	
	SM 2540 C-2011	TDS	716		mg/L	P383567	
	SM 2540 D-2011	TSS	3	I	mg/L	P383518	
	SM 4500 F-C-2011	Fluoride	0.45		mg F/L	P383251	
2175891	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P383177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P383266	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.78		mg N/L	P383125	
	EPA 365.1 Rev. 2.0	Total-P	0.60		mg P/L	P383229	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P383198	
2175892	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.54		mg P/L	P383107	
2175904	EPA 8321B	2,4-D	0.11		ug/L	P383083	
		Acesulfame K**	0.10	UJ	ug/L	P383201	MS
		AMPA**	1.9		ug/L	P383201	
		Sucralose**	0.054		ug/L	P383201	
		Acetaminophen**	0.0080	U	ug/L	P383083	
		Acetamidiprid**	0.0020	U	ug/L	P383083	
		Endothall**	0.25	UJ	ug/L	P383201	MS
		Glufosinate**	0.10	U	ug/L	P383201	
		Glyphosate**	1.3		ug/L	P383201	
		Afidopyropen**	0.0020	U	ug/L	P383083	
		Bentazon	0.0014	I	ug/L	P383083	
		Benzovindiflupyr**	0.0020	U	ug/L	P383083	
		Carbamazepine**	8.0E-04	U	ug/L	P383083	
		Clothianidin**	0.25		ug/L	P383083	
		Dinotefuran**	0.014		ug/L	P383083	
		Diuron	0.038		ug/L	P383083	
		Fenuron	0.053	I	ug/L	P383083	
		Fluridone**	8.0E-04	U	ug/L	P383083	
		Imazapyr**	0.0091	I	ug/L	P383083	
		Hydrocodone**	0.0020	U	ug/L	P383083	
		Ibuprofen**	0.020	U	ug/L	P383083	
		Imidacloprid	1.7		ug/L	P383083	
		Linuron	0.0040	U	ug/L	P383083	
		Mandestrobin**	0.0020	U	ug/L	P383083	
		MCP	0.0020	U	ug/L	P383083	
		Naproxen**	0.0080	U	ug/L	P383083	
		Primidone**	0.0040	U	ug/L	P383083	
		Pyraclostrobin**	0.0020	U	ug/L	P383083	
		Thiamethoxam**	0.45		ug/L	P383083	

Field ID: G3SD0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2175904	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P383083	
		Triclopyr**	0.0040	U	ug/L	P383083	
2175906	EPA 200.7 Rev. 4.4	Barium	47.2		ug/L	P383241	
		Calcium	112		mg/L	P383241	
		Chromium	1.2	I	ug/L	P383241	
		Iron	650		ug/L	P383241	
		Magnesium	30.5		mg/L	P383241	
		Potassium	14.9		mg/L	P383241	
		Sodium	85.0		mg/L	P383241	
		Zinc	5.8	I	ug/L	P383241	
	EPA 200.8 Rev. 5.4	Aluminum	116		ug/L	P383241	
		Antimony	0.66		ug/L	P383241	
		Arsenic	2.92		ug/L	P383241	
		Boron**	89.3		ug/L	P383241	
		Cadmium	0.020	U	ug/L	P383846	
		Copper	1.70		ug/L	P383241	
		Lead	0.20	U	ug/L	P383846	
		Nickel	2.2		ug/L	P383241	
		Selenium	0.31	I	ug/L	P383241	
		Silver	0.010	U	ug/L	P383241	
		Thallium	0.10	U	ug/L	P383241	
	SM 2340B	Hardness	404		mg/L	P383241	

Ref. Method and Comment:

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

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

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383091

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383092

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383241

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/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: P383241

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
Copper	0.40	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383846

Component	Result	Code	Units
Cadmium	0.020	U	ug/L
Lead	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383379

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383383

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383383

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383177

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383266

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383125

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383229

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383107

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

Reference Method: EPA 8321B
Batch ID: P383083

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P383083

Component	Result	Code	Units
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCP	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: P383201

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-2011
Batch ID: P383100

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P383101

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P383248

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

Reference Method: SM 2540 C-2011
Batch ID: P383567

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P383518

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P383251

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P383198

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: P383241

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	102		P	85 - 115
Chromium	98.3		P	85 - 115
Iron	100		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	98.1		P	85 - 115
Sodium	99.3		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383241

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.9		P	85 - 115
Antimony	99.6		P	85 - 115
Arsenic	101		P	85 - 115
Boron	102		P	85 - 115
Copper	98.4		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	94.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	98.2		P	85 - 115
Lead	97.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383379

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383383

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383177

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383266

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383266

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: P383125

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383229

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: P383107

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

Reference Method: EPA 8321B
Batch ID: P383083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	112		P	30 - 160
Acetaminophen	78.2		P	30 - 160
Acetamiprid	82.0		P	30 - 160
Afidopyropen	65.8		P	30 - 160
Bentazon	37.1		P	30 - 160
Benzovindiflupyr	53.6		P	30 - 160
Carbamazepine	54.6		P	30 - 160
Clothianidin	72.3		P	30 - 160
Dinotefuran	66.6		P	30 - 160
Diuron	41.7		P	30 - 160
Fenuron	95.9		P	30 - 160
Fluridone	82.2		P	30 - 160
Hydrocodone	69.6		P	30 - 160
Ibuprofen	61.7		P	30 - 160
Imazapyr	72.6		P	30 - 160
Imidacloprid	92.0		P	30 - 160
Linuron	43.7		P	30 - 160
Mandestrobin	64.3		P	30 - 160
MCPP	124		P	30 - 160
Naproxen	72.6		P	30 - 160
Primidone	78.0		P	30 - 160
Pyraclostrobin	59.2		P	30 - 160
Thiamethoxam	67.5		P	30 - 160
Tolfenpyrad	43.2		P	30 - 160
Triclopyr	108		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P383201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	73.0		P	40 - 150
AMPA	107		P	40 - 150
Endothall	128		P	40 - 150
Glufosinate	109		P	40 - 150
Glyphosate	109		P	40 - 140
Sucralose	68.1		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P383100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P383101

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

Reference Method: SM 2320 B-2011
Batch ID: P383248

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P383251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P383198

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175743	Barium	103		P	80 - 120
2175743	Calcium	102		P	80 - 120
2175743	Chromium	102		P	80 - 120
2175743	Iron	105		P	80 - 120
2175743	Magnesium	103		P	80 - 120
2175743	Potassium	99.5		P	80 - 120
2175743	Sodium	100		P	80 - 120
2175743	Zinc	105		P	80 - 120
2175929	Barium	103	103	P/P	80 - 120
2175929	Calcium	103		P	80 - 120
2175929	Chromium	101	101	P/P	80 - 120
2175929	Iron	102	101	P/P	80 - 120
2175929	Magnesium	100	99.6	P/P	80 - 120
2175929	Potassium	97.8	97.4	P/P	80 - 120
2175929	Sodium	97.7	97.4	P/P	80 - 120
2175929	Zinc	105	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175743	Aluminum	97.6		P	80 - 120
2175743	Antimony	99.8		P	80 - 120
2175743	Arsenic	101		P	80 - 120
2175743	Boron	101		P	80 - 120
2175743	Copper	98.5		P	80 - 120
2175743	Nickel	97.1		P	80 - 120
2175743	Selenium	96.5		P	80 - 120
2175743	Silver	101		P	80 - 120
2175743	Thallium	104		P	80 - 120
2175929	Aluminum	97.2	94.7	P/P	80 - 120
2175929	Antimony	100	97.6	P/P	80 - 120
2175929	Arsenic	100	99.4	P/P	80 - 120
2175929	Boron	99.4	98.1	P/P	80 - 120
2175929	Copper	103	97.1	P/P	80 - 120
2175929	Nickel	98.2	95.5	P/P	80 - 120
2175929	Selenium	96.1	94.4	P/P	80 - 120
2175929	Silver	101	99.3	P/P	80 - 120
2175929	Thallium	106	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175576	Cadmium	102	102	P/P	80 - 120
2175576	Lead	96.4	95.2	P/P	80 - 120
2175577	Cadmium	98.4		P	80 - 120
2175577	Lead	93.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383379

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175754	Chloride	99.1		P	90 - 110
2175909	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175754	Sulfate	99.5		P	90 - 110
2175909	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175912	Ammonia-N	97.7	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175912	Kjeldahl Nitrogen	96.4	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175870	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175756	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175871	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P383083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175814	2,4-D	110	115	P/P	30 - 160
2175814	Acetaminophen	79.4	77.6	P/P	30 - 160
2175814	Acetamiprid	59.2	65.6	P/P	30 - 160
2175814	Afidopyropen	65.5	68.2	P/P	30 - 160
2175814	Benzovindiflupyr	54.3	57.6	P/P	30 - 160
2175814	Carbamazepine	42.3	42.1	P/P	30 - 160
2175814	Clothianidin	53.1	54.9	P/P	30 - 160
2175814	Dinotefuran	62.3	60.4	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P383083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175814	Diuron	33.9	33.8	P/P	30 - 160
2175814	Fenuron	61.5	62.3	P/P	30 - 160
2175814	Fluridone	81.0	80.2	P/P	30 - 160
2175814	Hydrocodone	53.7	53.8	P/P	30 - 160
2175814	Ibuprofen	49.5	52.9	P/P	30 - 160
2175814	Imidacloprid	99.9	106	P/P	30 - 160
2175814	Linuron	40.1	41.2	P/P	30 - 160
2175814	Mandestrobin	61.7	61.4	P/P	30 - 160
2175814	MCP	124	127	P/P	30 - 160
2175814	Naproxen	56.3	61.2	P/P	30 - 160
2175814	Primidone	53.3	51.5	P/P	30 - 160
2175814	Pyraclostrobin	63.4	64.8	P/P	30 - 160
2175814	Thiamethoxam	58.4	56.7	P/P	30 - 160
2175814	Tolfenpyrad	52.4	51.1	P/P	30 - 160
2175814	Triclopyr	101	130	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P383201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175904	Acesulfame K	30.8	31.9	F/F	40 - 150
2175904	AMPA	62.9	51.1	P/P	40 - 150
2175904	Endothall	159	168	F/F	40 - 150
2175904	Glufosinate	72.8	73.4	P/P	40 - 150
2175904	Glyphosate	89.9	55.9	P/P	40 - 140
2175904	Sucralose	59.6	66.0	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
 Batch ID: P383251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2176090	Fluoride	98.4	95.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
 Batch ID: P383198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2175869	Organic Carbon	108	104	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175832	Turbidity	1.16	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175893	Turbidity	0.478	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175929	Barium	0.222	Spike	P	0 - 20
2175929	Calcium	1.67	Spike	P	0 - 20
2175929	Chromium	0.129	Spike	P	0 - 20
2175929	Iron	0.921	Spike	P	0 - 20
2175929	Magnesium	0.488	Spike	P	0 - 20
2175929	Potassium	0.372	Spike	P	0 - 20
2175929	Sodium	0.194	Spike	P	0 - 20
2175929	Zinc	0.778	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175929	Aluminum	2.49	Spike	P	0 - 20
2175929	Antimony	2.57	Spike	P	0 - 20
2175929	Arsenic	0.685	Spike	P	0 - 20
2175929	Boron	1.17	Spike	P	0 - 20
2175929	Copper	5.40	Spike	P	0 - 20
2175929	Nickel	2.80	Spike	P	0 - 20
2175929	Selenium	1.78	Spike	P	0 - 20
2175929	Silver	1.47	Spike	P	0 - 20
2175929	Thallium	3.31	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175576	Cadmium	0.0792	Spike	P	0 - 20
2175576	Lead	1.22	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175909	Chloride	1.10	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175909	Sulfate	1.48	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175912	Ammonia-N	0.664	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175912	Kjeldahl Nitrogen	1.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175870	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175756	Total-P	0.778	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175871	O-Phosphate-P	0.200	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P383083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175814	2,4-D	4.98	Spike	P	0 - 30
2175814	Acetaminophen	2.30	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P383083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175814	Acetamiprid	10.3	Spike	P	0 - 30
2175814	Afidopyrophen	4.11	Spike	P	0 - 30
2175814	Bentazon	2.92	Spike	P	0 - 30
2175814	Benzovindiflupyr	5.94	Spike	P	0 - 30
2175814	Carbamazepine	0.371	Spike	P	0 - 30
2175814	Clothianidin	3.40	Spike	P	0 - 30
2175814	Dinotefuran	3.23	Spike	P	0 - 30
2175814	Diuron	0.238	Spike	P	0 - 30
2175814	Fenuron	1.17	Spike	P	0 - 30
2175814	Fluridone	0.881	Spike	P	0 - 30
2175814	Hydrocodone	0.333	Spike	P	0 - 30
2175814	Ibuprofen	5.07	Spike	P	0 - 30
2175814	Imazapyr	5.14	Spike	P	0 - 30
2175814	Imidacloprid	5.98	Spike	P	0 - 30
2175814	Linuron	2.80	Spike	P	0 - 30
2175814	Mandestrobin	0.625	Spike	P	0 - 30
2175814	MCPP	2.34	Spike	P	0 - 30
2175814	Naproxen	8.32	Spike	P	0 - 30
2175814	Primidone	3.45	Spike	P	0 - 30
2175814	Pyraclostrobin	2.22	Spike	P	0 - 30
2175814	Thiamethoxam	2.97	Spike	P	0 - 30
2175814	Tolfenpyrad	2.53	Spike	P	0 - 30
2175814	Triclopyr	24.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175904	Acesulfame K	3.56	Spike	P	0 - 30
2175904	AMPA	4.78	Spike	P	0 - 30
2175904	Endothall	5.88	Spike	P	0 - 30
2175904	Glufosinate	0.862	Spike	P	0 - 30
2175904	Glyphosate	16.6	Spike	P	0 - 30
2175904	Sucralose	9.84	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P383100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175734	Color (true)	0.00217	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P383101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175909	Color (true)	0.762	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P383248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2176090	Total Alkalinity	0.437	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P383567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175833	TDS	1.99	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P383251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2176090	Fluoride	2.37	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P383198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2175869	Organic Carbon	2.10	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2175904
Field Sample ID: G3SD0011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	63.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	48.3	P	30 - 160
EPA 8321B	Diuron-d6	44.1	P	30 - 160
EPA 8321B	Endothall-d6	147	P	50 - 160
EPA 8321B	Endothall-d6	147	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	75.9	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	75.9	P	50 - 160
EPA 8321B	Ibuprofen-d3	65.2	P	30 - 160
EPA 8321B	Primidone-d5	72.5	P	30 - 160
EPA 8321B	Sucralose-d6	81.8	P	50 - 160
EPA 8321B	Sucralose-d6	81.8	P	50 - 160

Lab Sample ID: 2175905
Field Sample ID: G3SD0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	45.1	P	30 - 160
EPA 8321B	Diuron-d6	39.3	P	30 - 160
EPA 8321B	Endothall-d6	141	P	50 - 160
EPA 8321B	Endothall-d6	141	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	74.3	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	74.3	P	50 - 160
EPA 8321B	Ibuprofen-d3	61.6	P	30 - 160
EPA 8321B	Primidone-d5	76.4	P	30 - 160
EPA 8321B	Sucralose-d6	92.2	P	50 - 160
EPA 8321B	Sucralose-d6	92.2	P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99273

Included Lab Sample IDs: 2175890, 2175893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A99274

Included Lab Sample IDs: 2175890, 2175893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115
Color (true)	98.8	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99275

Included Lab Sample IDs: 2175892, 2175895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99290

Included Lab Sample IDs: 2175891, 2175894

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99311

Included Lab Sample IDs: 2175891, 2175894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A99314

Included Lab Sample IDs: 2175891, 2175894

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

Reference Method: SM 2320 B-2011

Run ID: A99334

Included Lab Sample IDs: 2175890, 2175893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A99334

Included Lab Sample IDs: 2175890, 2175893

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

Reference Method: EPA 8321B

Run ID: A99344

Included Lab Sample IDs: 2175904, 2175905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.2	87.2	P/P	60 - 160
Endothall	118	147	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99345

Included Lab Sample IDs: 2175904, 2175905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	108	P/P	60 - 160
Glufosinate	109	110	P/P	60 - 160
Glyphosate	105	109	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99348

Included Lab Sample IDs: 2175904, 2175905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	68.0	81.4	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A99358

Included Lab Sample IDs: 2175906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	103	P/P	90 - 110
Calcium	104	104	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Iron	106	106	P/P	90 - 110
Magnesium	105	106	P/P	90 - 110
Potassium	99.0	99.4	P/P	90 - 110
Sodium	103	104	P/P	90 - 110
Zinc	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99360

Included Lab Sample IDs: 2175891

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99366

Included Lab Sample IDs: 2175894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99367

Included Lab Sample IDs: 2175904, 2175905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	108	P/P	50 - 150
Acetaminophen	124	125	P/P	60 - 160
Acetamiprid	120	119	P/P	50 - 150
Afidopyropen	94.7	90.0	P/P	50 - 150
Bentazon	107	92.2	P/P	50 - 160
Benzovindiflupyr	101	96.9	P/P	50 - 150
Carbamazepine	95.9	94.1	P/P	60 - 150
Clothianidin	113	94.7	P/P	60 - 150
Dinotefuran	109	110	P/P	50 - 150
Diuron	102	95.1	P/P	60 - 160
Fenuron	120	120	P/P	60 - 150
Fluridone	133	131	P/P	60 - 160
Hydrocodone	118	108	P/P	60 - 150
Ibuprofen	122	120	P/P	50 - 160
Imazapyr	136	111	P/P	50 - 150
Imidacloprid	118	122	P/P	60 - 150
Imidacloprid	122	116	P/P	60 - 150
Linuron	87.1	81.0	P/P	60 - 150
Mandestrobin	95.6	91.5	P/P	50 - 150
MCPP	132	135	P/P	50 - 150
Naproxen	89.5	132	P/P	50 - 160
Primidone	108	102	P/P	60 - 150
Pyraclostrobin	114	111	P/P	60 - 150
Thiamethoxam	113	112	P/P	50 - 150
Tolfenpyrad	109	112	P/P	60 - 150
Triclopyr	113	139	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99379

Included Lab Sample IDs: 2175891, 2175894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	96.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99401

Included Lab Sample IDs: 2175890, 2175893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.8	97.4	P/P	90 - 110
Sulfate	97.7	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99592

Included Lab Sample IDs: 2175906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.9	97.1	P/P	90 - 110
Antimony	95.8	95.0	P/P	90 - 110
Arsenic	97.7	95.7	P/P	90 - 110
Boron	98.3	99.1	P/P	90 - 110
Copper	96.0	95.1	P/P	90 - 110
Nickel	96.3	94.9	P/P	90 - 110
Selenium	98.1	95.6	P/P	90 - 110
Silver	98.2	96.4	P/P	90 - 110
Thallium	95.5	93.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99618

Included Lab Sample IDs: 2175906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	102	101	P/P	90 - 110
Lead	99.4	97.7	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						1.16	
	Turbidity						0.478	
EPA 200.7 Rev. 4.4	Barium	100	103	103	103			0.222
	Calcium	102	102	103				1.67
	Chromium	98.3	102	101	101			0.129
	Iron	100	105	102	101			0.921
	Magnesium	102	103	100	99.6			0.488
	Potassium	98.1	99.5	97.8	97.4			0.372
	Sodium	99.3	100	97.7	97.4			0.194
	Zinc	101	105	105	106			0.778
EPA 200.8 Rev. 5.4	Aluminum	97.9	97.2	94.7	97.6			2.49
	Antimony	99.6	100	97.6	99.8			2.57
	Arsenic	101	100	99.4	101			0.685
	Boron	102	99.4	98.1	101			1.17
	Cadmium	98.2	102	102	98.4			0.0792
	Copper	98.4	103	97.1	98.5			5.40
	Lead	97.5	96.4	95.2	93.0			1.22
	Nickel	97.9	98.2	95.5	97.1			2.80
	Selenium	101	96.1	94.4	96.5			1.78
	Silver	101	101	99.3	101			1.47
	Thallium	94.2	106	103	104			3.31
EPA 300.0 Rev. 2.1	Chloride	99.6	104	99.1			1.10	
	Sulfate	101	102	99.5			1.48	
EPA 350.1 Rev. 2.0	Ammonia-N	100	97.7	98.4				0.664
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	96.4	99.7				1.89
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	100	100				0.499
EPA 365.1 Rev. 2.0	Total-P	103	103	104				0.778
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	108	100	100				0.200
EPA 8321B	2,4-D	112	110	115				4.98
	Acesulfame K	73.0	30.8	31.9				3.56
	Acetaminophen	78.2	79.4	77.6				2.30
	Acetamiprid	82.0	59.2	65.6				10.3
	Afidopyropen	65.8	65.5	68.2				4.11
	AMPA	107	62.9	51.1				4.78
	Bentazon	37.1						2.92
	Benzovindiflupyr	53.6	54.3	57.6				5.94
	Carbamazepine	54.6	42.3	42.1				0.371
	Clothianidin	72.3	53.1	54.9				3.40
	Dinotefuran	66.6	62.3	60.4				3.23
	Diuron	41.7	33.9	33.8				0.238
	Endothall	128	159	168				5.88
	Fenuron	95.9	61.5	62.3				1.17
	Fluridone	82.2	81.0	80.2				0.881
	Glufosinate	109	72.8	73.4				0.862
	Glyphosate	109	89.9	55.9				16.6
	Hydrocodone	69.6	53.7	53.8				0.333
	Ibuprofen	61.7	49.5	52.9				5.07
	Imazapyr	72.6						5.14
	Imidacloprid	92.0	99.9	106				5.98
	Linuron	43.7	40.1	41.2				2.80
	Mandestrobin	64.3	61.7	61.4				0.625
	MCPP	124	124	127				2.34
	Naproxen	72.6	56.3	61.2				8.32
	Primidone	78.0	53.3	51.5				3.45

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Pyraclostrobin	59.2	63.4	64.8		2.22
	Sucralose	68.1	59.6	66.0		9.84
	Thiamethoxam	67.5	58.4	56.7		2.97
	Tolfenpyrad	43.2	52.4	51.1		2.53
	Triclopyr	108	101	130		24.9
SM 2120 B-2011	Color (true)	102			0.0021	
	Color (true)	101			0.762	
SM 2320 B-2011	Total Alkalinity	101			0.437	
SM 2540 C-2011	TDS				1.99	
SM 4500 F-C-2011	Fluoride	99.5	98.4	95.2		2.37
SM 5310 B-2011	Organic Carbon	104	108	104		2.10

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2175890, 2175893
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2175906
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2175906
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2175890, 2175893
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2175890, 2175893
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2175891, 2175894
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2175891, 2175894
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2175891, 2175894
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2175891, 2175894
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2175892, 2175895
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2175904, 2175905
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2175904, 2175905
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2175890, 2175893
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2175890, 2175893
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2175906
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2175890, 2175893
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2175890, 2175893
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2175890, 2175893
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2175891, 2175894

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	06/11/2020			06/11/2020 15:04	Yen Ta	2175890, 2175893
EPA 200.7 Rev. 4.4	06/11/2020	06/15/2020 17:30	Elliott D. Healy	06/16/2020 14:42	Betina Topolski	2175906
EPA 200.8 Rev. 5.4	06/11/2020	06/15/2020 17:30	Elliott D. Healy	06/29/2020 15:16	Justin Cutchin	2175906
	06/11/2020	06/29/2020 11:09	Justin Cutchin	06/30/2020 18:23	Justin Cutchin	2175906
EPA 300.0 Rev. 2.1	06/11/2020			06/16/2020 19:47	Elliott Rodriguez	2175890
	06/11/2020			06/16/2020 20:00	Elliott Rodriguez	2175893
EPA 350.1 Rev. 2.0	06/11/2020			06/14/2020 10:52	Ping Hua	2175891
	06/11/2020			06/14/2020 10:54	Ping Hua	2175894
EPA 351.2 Rev. 2.0	06/11/2020	06/16/2020 11:50	Sima Feizi	06/17/2020 11:29	Jhamieka S. Greenwood	2175891
	06/11/2020	06/16/2020 11:50	Sima Feizi	06/17/2020 11:30	Jhamieka S. Greenwood	2175894
EPA 353.2 Rev. 2.0	06/11/2020			06/12/2020 09:11	Beverly Y. Sanders	2175891
	06/11/2020			06/12/2020 09:12	Beverly Y. Sanders	2175894
EPA 365.1 Rev. 2.0	06/11/2020	06/15/2020 15:28	Yen Ta	06/16/2020 13:19	Lipi Saha	2175891
	06/11/2020	06/15/2020 15:28	Yen Ta	06/17/2020 08:26	Lipi Saha	2175894
EPA 365.1 Rev. 2.0 dissolved	06/11/2020			06/11/2020 17:20	Julia Storbeck	2175892
	06/11/2020			06/11/2020 17:26	Julia Storbeck	2175895
EPA 8321B	06/11/2020	06/15/2020 10:10	Hoor Shaik	06/16/2020 04:36	Juyoung Kim	2175904
	06/11/2020	06/15/2020 10:10	Hoor Shaik	06/16/2020 05:11	Juyoung Kim	2175905
	06/11/2020	06/15/2020 10:10	Hoor Shaik	06/16/2020 10:57	Juyoung Kim	2175904
	06/11/2020	06/15/2020 10:15	Rebecca Ware	06/15/2020 13:13	Rebecca Ware	2175904
	06/11/2020	06/15/2020 10:15	Rebecca Ware	06/15/2020 13:27	Rebecca Ware	2175905
	06/11/2020	06/15/2020 10:15	Rebecca Ware	06/15/2020 17:50	Rebecca Ware	2175904
	06/11/2020	06/15/2020 10:15	Rebecca Ware	06/15/2020 18:00	Rebecca Ware	2175905
	06/11/2020	06/15/2020 10:15	Rebecca Ware	06/16/2020 11:04	Rebecca Ware	2175904
	06/11/2020	06/15/2020 10:15	Rebecca Ware	06/16/2020 11:16	Rebecca Ware	2175905
SM 2120 B-2011	06/11/2020			06/11/2020 16:15	Benjamin T. Nordmann	2175890
	06/11/2020			06/11/2020 16:20	Benjamin T. Nordmann	2175893
SM 2320 B-2011	06/11/2020			06/16/2020 01:35	Dale L. Simmons	2175893
	06/11/2020			06/16/2020 03:00	Dale L. Simmons	2175890
SM 2340B	06/11/2020			06/16/2020 14:42	Betina Topolski	2175906
SM 2540 C-2011	06/11/2020			06/16/2020 14:02	Yijie Li	2175890, 2175893
SM 2540 D-2011	06/11/2020			06/16/2020 14:22	Yijie Li	2175890, 2175893
SM 4500 F-C-2011	06/11/2020			06/16/2020 01:35	Dale L. Simmons	2175893
	06/11/2020			06/16/2020 03:00	Dale L. Simmons	2175890
SM 5310 B-2011	06/11/2020			06/12/2020 14:24	David Boose	2175891
	06/11/2020			06/12/2020 17:13	David Boose	2175894