

Chemical Analysis Report

NE-DIST-2021-10-14-02

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

Event Description: **LSJR North**
Request ID: **RQ-2021-08-02-27**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 04-NOV-2021 11:17

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Tributary to Trout at Bessent Rd.

Collection Date/Time: 10/13/2021 09:50

Field ID: G2NE1207

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283604	EPA 180.1 Rev. 2.0	Turbidity	7.5	A	NTU	P405054	
	SM 2320 B-2011	Total Alkalinity	83		mg CaCO3/L	P405378	
	SM 2540 D-2011	TSS	5	I	mg/L	P405595	
	SM 4500 F-C-2011	Fluoride	0.15		mg F/L	P405382	
2283605	EPA 350.1 Rev. 2.0	Ammonia-N	0.099		mg N/L	P405560	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P405516	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P405457	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P405257	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P405421	
2283606	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P405080	

Ref. Method and Comment:

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

Sample Location: Tributary to Trout at Capper Rd.

Collection Date/Time: 10/13/2021 10:15

Field ID: G2NE1208

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283607	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P405054	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P405158	
		Sulfate	12		mg SO4/L	P405161	
	SM 2120 B-2011	Color (true)	93		PCU	P405057	
	SM 2320 B-2011	Total Alkalinity	79		mg CaCO3/L	P405378	
	SM 2540 C-2011	TDS	161		mg/L	P405597	
	SM 2540 D-2011	TSS	2	I	mg/L	P405593	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P405382	
2283608	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P405560	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P405516	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P405457	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P405256	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P405421	
2283609	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.072		mg P/L	P405080	

Ref. Method and Comment:

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

Sample Location: BLOCKHOUSE CR @ DUVAL RD

Collection Date/Time: 10/13/2021 10:55

Field ID: 20030746

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283619	EPA 200.7 Rev. 4.4	Barium	25.0		ug/L	P405135	
		Calcium	21.1		mg/L	P405135	
		Iron	1.42E+03		ug/L	P405135	
		Magnesium	5.01		mg/L	P405135	
		Manganese	21.5		ug/L	P405135	
		Potassium	1.6		mg/L	P405135	
		Sodium	10.1		mg/L	P405135	
	EPA 200.8 Rev. 5.4	Zinc	5.1	I	ug/L	P405135	
		Aluminum	120		ug/L	P405135	
		Antimony	0.096	I	ug/L	P405135	
		Arsenic	0.86		ug/L	P405135	
		Beryllium	0.028	I	ug/L	P405135	
		Boron**	23.9		ug/L	P405135	
		Cadmium	0.020	U	ug/L	P405135	
		Chromium	0.41	I	ug/L	P405135	
		Copper	0.68	I	ug/L	P405135	
		Lead	0.21	I	ug/L	P405135	
		Nickel	0.50	U	ug/L	P405135	
		Selenium	0.20	U	ug/L	P405135	
		Silver	0.010	U	ug/L	P405135	
		Thallium	0.10	U	ug/L	P405135	
	SM 2340B	Hardness	73.4		mg/L	P405135	

Sample Location: LONG BR AT EVERGREEN AVE.

Collection Date/Time: 10/13/2021 11:30

Field ID: G2NE0735

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283601	EPA 180.1 Rev. 2.0	Turbidity	9.6	A	NTU	P405053	
	SM 2320 B-2011	Total Alkalinity	119		mg CaCO3/L	P405378	
	SM 2540 D-2011	TSS	2	I	mg/L	P405595	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P405382	
2283602	EPA 350.1 Rev. 2.0	Ammonia-N	0.068		mg N/L	P405560	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P405516	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P405457	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P405257	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P405421	
2283603	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P405080	
2283617	EPA 8321B	Acesulfame K	0.24	I	ug/L	P405071	
		2,4-D	0.0028	I	ug/L	P405047	MS
		2,4,5-T	0.0040	U	ug/L	P405047	
		AMPA	0.13	I	ug/L	P405071	
		Acetaminophen	0.0080	U	ug/L	P405047	
		Acetamiprid	0.0020	U	ug/L	P405047	
		Endothall	0.25	U	ug/L	P405071	
		Glufosinate	0.10	U	ug/L	P405071	
		Glyphosate	0.10	U	ug/L	P405071	
		Afidopyropen	0.0020	U	ug/L	P405047	
		Bentazon	0.018		ug/L	P405047	
		Sucralose	0.30		ug/L	P405071	
		Benzovindiflupyr	0.0020	U	ug/L	P405047	
		Carbamazepine	0.0010	I	ug/L	P405047	
		Clothianidin	0.0020	U	ug/L	P405047	MS
		Dinotefuran	0.0020	U	ug/L	P405047	
		Diuron	0.0079	I	ug/L	P405047	
		Fenuron	0.016	U	ug/L	P405047	
		Fluridone	8.0E-04	U	ug/L	P405047	
		Imazapyr	0.044		ug/L	P405047	
		Hydrocodone	0.0020	U	ug/L	P405047	
		Ibuprofen	0.020	U	ug/L	P405047	
		Imidacloprid	0.056		ug/L	P405047	MS
		Linuron	0.0040	U	ug/L	P405047	
		Mandestrobin	0.0020	U	ug/L	P405047	
		MCP	0.0059	I	ug/L	P405047	MS
		Naproxen	0.0080	U	ug/L	P405047	
		Primidone	0.0040	U	ug/L	P405047	
		Pyraclostrobin	0.0020	U	ug/L	P405047	
		Thiamethoxam	0.0020	U	ug/L	P405047	MS
		Tolfenpyrad	0.0020	U	ug/L	P405047	
		Triclopyr	0.0040	U	ug/L	P405047	
2283618	EPA 200.7 Rev. 4.4	Calcium	50.5		mg/L	P405135	

Field ID: G2NE0735

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283618	EPA 200.7 Rev. 4.4	Iron	1.54E+03		ug/L	P405135	
		Magnesium	19.7		mg/L	P405135	
		Manganese	31.1		ug/L	P405135	
		Zinc	7.0	I	ug/L	P405135	
	EPA 200.8 Rev. 5.4	Aluminum	27		ug/L	P405135	
		Antimony	0.13	I	ug/L	P405135	
		Arsenic	1.05		ug/L	P405135	
		Beryllium	0.013	I	ug/L	P405135	
		Cadmium	0.020	U	ug/L	P405135	
		Chromium	0.40	U	ug/L	P405135	
		Copper	0.79	I	ug/L	P405135	
		Lead	0.37	I	ug/L	P405135	
		Nickel	0.55	I	ug/L	P405135	
		Selenium	0.21	I	ug/L	P405135	
		Silver	0.010	U	ug/L	P405135	
		Thallium	0.10	U	ug/L	P405135	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405053

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405054

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405135

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
Manganese	1.0	U	ug/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: P405135

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
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 Rev. 2.1
Batch ID: P405158

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405161

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: P405560

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P405516

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P405457

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P405256

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P405257

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P405080

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

Reference Method: EPA 8321B
 Batch ID: P405047

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P405047

Component	Result	Code	Units
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: P405071

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: P405057

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P405378

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

Reference Method: SM 2540 C-2011
Batch ID: P405597

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P405593

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P405595

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P405382

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405421

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: P405135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	107		P	85 - 115
Calcium	106		P	85 - 115
Iron	107		P	85 - 115
Magnesium	107		P	85 - 115
Manganese	106		P	85 - 115
Potassium	102		P	85 - 115
Sodium	105		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	113		P	85 - 115
Antimony	107		P	85 - 115
Arsenic	99.8		P	85 - 115
Beryllium	100		P	85 - 115
Boron	103		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	98.4		P	85 - 115
Copper	96.4		P	85 - 115
Lead	97.6		P	85 - 115
Nickel	95.9		P	85 - 115
Selenium	97.4		P	85 - 115
Silver	100		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405158

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405161

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405560

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405516

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405457

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405256

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405257

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405080

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P405047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	114		P	40 - 150
2,4,5-T	116		P	40 - 150
Acetaminophen	85.8		P	30 - 150
Acetamiprid	88.4		P	40 - 150
Afidopyropen	98.7		P	40 - 150
Bentazon	101		P	30 - 150
Benzovindiflupyr	98.8		P	40 - 150
Carbamazepine	110		P	40 - 150
Clothianidin	111		P	40 - 150
Dinotefuran	84.2		P	40 - 150
Diuron	87.1		P	40 - 150
Fenuron	95.0		P	40 - 150
Fluridone	96.1		P	40 - 150
Hydrocodone	95.0		P	40 - 150
Ibuprofen	60.1		P	40 - 150
Imazapyr	83.7		P	40 - 150
Imidacloprid	89.9		P	40 - 150
Linuron	86.7		P	40 - 150
Mandestrobin	101		P	40 - 150
MCPP	129		P	40 - 150
Naproxen	77.6		P	40 - 150
Primidone	97.7		P	40 - 150
Pyraclostrobin	91.2		P	40 - 150
Thiamethoxam	101		P	40 - 150
Tolfenpyrad	60.7		P	30 - 150
Triclopyr	105		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P405071

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	93.5		P	40 - 160
Endothall	81.0		P	40 - 150
Glufosinate	108		P	40 - 160
Glyphosate	86.1		P	40 - 160
Sucralose	114		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P405057

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P405378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.0		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P405382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P405421

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283515	Barium	107	104	P/P	80 - 120
2283515	Calcium	104	103	P/P	80 - 120
2283515	Iron	104	105	P/P	80 - 120
2283515	Magnesium	105	106	P/P	80 - 120
2283515	Manganese	104	104	P/P	80 - 120
2283515	Potassium	107	106	P/P	80 - 120
2283515	Sodium	103	102	P/P	80 - 120
2283515	Zinc	101	103	P/P	80 - 120
2283652	Barium	107		P	80 - 120
2283652	Calcium	104		P	80 - 120
2283652	Iron	106		P	80 - 120
2283652	Magnesium	106		P	80 - 120
2283652	Manganese	105		P	80 - 120
2283652	Potassium	99.9		P	80 - 120
2283652	Sodium	101		P	80 - 120
2283652	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283515	Aluminum	105	104	P/P	80 - 120
2283515	Antimony	110	110	P/P	80 - 120
2283515	Arsenic	97.9	97.8	P/P	80 - 120
2283515	Beryllium	98.0	97.5	P/P	80 - 120
2283515	Boron	105	110	P/P	80 - 120
2283515	Cadmium	108	104	P/P	80 - 120
2283515	Chromium	101	100	P/P	80 - 120
2283515	Copper	96.9	96.0	P/P	80 - 120
2283515	Lead	98.9	98.8	P/P	80 - 120
2283515	Nickel	95.4	94.6	P/P	80 - 120
2283515	Selenium	95.7	93.3	P/P	80 - 120
2283515	Silver	101	102	P/P	80 - 120
2283515	Thallium	104	105	P/P	80 - 120
2283652	Aluminum	108		P	80 - 120
2283652	Antimony	108		P	80 - 120
2283652	Arsenic	101		P	80 - 120
2283652	Beryllium	95.9		P	80 - 120
2283652	Boron	106		P	80 - 120
2283652	Cadmium	102		P	80 - 120
2283652	Chromium	98.7		P	80 - 120
2283652	Copper	97.3		P	80 - 120
2283652	Lead	97.5		P	80 - 120
2283652	Nickel	98.2		P	80 - 120
2283652	Selenium	100		P	80 - 120
2283652	Silver	101		P	80 - 120
2283652	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405158

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283279	Chloride	102		P	90 - 110
2283352	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283279	Sulfate	105		P	90 - 110
2283352	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283637	Ammonia-N	97.4	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283282	Kjeldahl Nitrogen	96.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283602	NO2NO3-N	95.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283608	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281506	Total-P	101	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283557	O-Phosphate-P	98.1	96.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P405047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283302	2,4-D	152	139	F/P	40 - 150
2283302	2,4,5-T	137	135	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P405047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283302	Acetaminophen	129	118	P/P	30 - 150
2283302	Acetamiprid	118	109	P/P	40 - 150
2283302	Afidopyropen	130	110	P/P	40 - 150
2283302	Bentazon	75.1	62.6	P/P	30 - 150
2283302	Benzovindiflupyr	126	98.0	P/P	40 - 150
2283302	Carbamazepine	132	114	P/P	40 - 150
2283302	Clothianidin	160	146	F/P	40 - 150
2283302	Dinotefuran	144	120	P/P	40 - 150
2283302	Diuron	89.7	78.9	P/P	40 - 150
2283302	Fenuron	108	95.2	P/P	40 - 150
2283302	Fluridone	108	94.9	P/P	40 - 150
2283302	Hydrocodone	130	110	P/P	40 - 150
2283302	Ibuprofen	91.3	86.1	P/P	40 - 150
2283302	Imazapyr	131	94.9	P/P	40 - 150
2283302	Imidacloprid	214	198	F/F	40 - 150
2283302	Linuron	95.3	78.9	P/P	40 - 150
2283302	Mandestrobin	111	96.9	P/P	40 - 150
2283302	MCPP	152	136	F/P	40 - 150
2283302	Naproxen	78.0	74.7	P/P	40 - 150
2283302	Primidone	96.4	127	P/P	40 - 150
2283302	Pyraclostrobin	100	96.6	P/P	40 - 150
2283302	Thiamethoxam	203	183	F/F	40 - 150
2283302	Tolfenpyrad	71.2	64.4	P/P	30 - 150
2283302	Triclopyr	136	137	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P405071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283617	Acesulfame K	117	139	P/P	40 - 150
2283617	AMPA	62.1	58.2	P/P	40 - 160
2283617	Endothall	85.3	87.0	P/P	40 - 150
2283617	Glufosinate	77.9	72.3	P/P	40 - 160
2283617	Glyphosate	47.9	51.4	P/P	40 - 160
2283617	Sucralose	109	113	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P405382

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283923	Fluoride	99.8	98.7	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P405421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283506	Organic Carbon	97.7	96.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405053

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283601	Turbidity	0.311	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405054

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283604	Turbidity	2.25	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405135

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283515	Barium	2.82	Spike	P	0 - 20
2283515	Calcium	0.925	Spike	P	0 - 20
2283515	Iron	0.568	Spike	P	0 - 20
2283515	Magnesium	0.697	Spike	P	0 - 20
2283515	Manganese	0.182	Spike	P	0 - 20
2283515	Potassium	1.56	Spike	P	0 - 20
2283515	Sodium	1.13	Spike	P	0 - 20
2283515	Zinc	2.15	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405135

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283515	Aluminum	0.272	Spike	P	0 - 20
2283515	Antimony	0.0234	Spike	P	0 - 20
2283515	Arsenic	0.152	Spike	P	0 - 20
2283515	Beryllium	0.532	Spike	P	0 - 20
2283515	Boron	4.19	Spike	P	0 - 20
2283515	Cadmium	3.59	Spike	P	0 - 20
2283515	Chromium	0.705	Spike	P	0 - 20
2283515	Copper	0.921	Spike	P	0 - 20
2283515	Lead	0.0924	Spike	P	0 - 20
2283515	Nickel	0.816	Spike	P	0 - 20
2283515	Selenium	2.46	Spike	P	0 - 20
2283515	Silver	0.958	Spike	P	0 - 20
2283515	Thallium	0.682	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405158

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283279	Chloride	0.442	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283279	Sulfate	0.610	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283637	Ammonia-N	0.410	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283282	Kjeldahl Nitrogen	1.47	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283602	NO2NO3-N	0.242	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283608	Total-P	0.470	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281506	Total-P	2.20	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283557	O-Phosphate-P	1.47	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P405047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283302	2,4-D	8.00	Spike	P	0 - 30
2283302	2,4,5-T	1.93	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P405047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283302	Acetaminophen	9.18	Spike	P	0 - 30
2283302	Acetamiprid	7.75	Spike	P	0 - 30
2283302	Afidopyropen	16.4	Spike	P	0 - 30
2283302	Bentazon	5.74	Spike	P	0 - 30
2283302	Benzovindiflupyr	23.9	Spike	P	0 - 30
2283302	Carbamazepine	13.3	Spike	P	0 - 30
2283302	Clothianidin	9.15	Spike	P	0 - 30
2283302	Dinotefuran	13.4	Spike	P	0 - 30
2283302	Diuron	8.39	Spike	P	0 - 30
2283302	Fenuron	13.0	Spike	P	0 - 30
2283302	Fluridone	11.5	Spike	P	0 - 30
2283302	Hydrocodone	16.0	Spike	P	0 - 30
2283302	Ibuprofen	5.89	Spike	P	0 - 30
2283302	Imazapyr	21.6	Spike	P	0 - 30
2283302	Imidacloprid	7.05	Spike	P	0 - 30
2283302	Linuron	18.9	Spike	P	0 - 30
2283302	Mandestrobin	13.8	Spike	P	0 - 30
2283302	MCPP	11.0	Spike	P	0 - 30
2283302	Naproxen	4.26	Spike	P	0 - 30
2283302	Primidone	27.1	Spike	P	0 - 30
2283302	Pyraclostrobin	3.51	Spike	P	0 - 30
2283302	Thiamethoxam	10.2	Spike	P	0 - 30
2283302	Tolfenpyrad	10.1	Spike	P	0 - 30
2283302	Triclopyr	0.958	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P405071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283617	Acesulfame K	15.5	Spike	P	0 - 30
2283617	AMPA	6.06	Spike	P	0 - 30
2283617	Endothall	1.98	Spike	P	0 - 30
2283617	Glufosinate	7.51	Spike	P	0 - 30
2283617	Glyphosate	6.99	Spike	P	0 - 30
2283617	Sucralose	3.26	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P405057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283533	Color (true)	0.112	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P405378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283923	Total Alkalinity	0.277	Sample	P	0 - 5.2

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P405597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283347	TDS	1.06	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P405382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283923	Fluoride	1.03	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283506	Organic Carbon	0.507	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2283617

Field Sample ID: G2NE0735

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	139	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	128	P	30 - 160
EPA 8321B	Diuron-d6	91.9	P	30 - 160
EPA 8321B	Endothall-d6	87.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	47.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	88.4	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A108279

Included Lab Sample IDs: 2283607

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

Reference Method: EPA 8321B

Run ID: A108335

Included Lab Sample IDs: 2283617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.2	91.7	P/P	60 - 160
Glufosinate	98.7	112	P/P	60 - 160
Glyphosate	81.4	86.3	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108337

Included Lab Sample IDs: 2283601, 2283604, 2283607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A108338

Included Lab Sample IDs: 2283607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108345

Included Lab Sample IDs: 2283603, 2283606, 2283609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	98.1	P/P	90 - 110
O-Phosphate-P	99.9	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108384

Included Lab Sample IDs: 2283617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	109	112	P/P	60 - 160
Endothall	81.0	78.1	P/P	60 - 160
Sucralose	116	112	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108417

Included Lab Sample IDs: 2283618, 2283619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	107	108	P/P	90 - 110
Antimony	108	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108417

Included Lab Sample IDs: 2283618, 2283619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	97.4	98.0	P/P	90 - 110
Arsenic	99.2	97.4	P/P	90 - 110
Beryllium	95.1	95.0	P/P	90 - 110
Beryllium	97.5	95.1	P/P	90 - 110
Cadmium	101	103	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	97.1	97.3	P/P	90 - 110
Chromium	97.3	95.3	P/P	90 - 110
Copper	93.4	93.2	P/P	90 - 110
Copper	95.6	93.4	P/P	90 - 110
Lead	93.6	94.3	P/P	90 - 110
Lead	94.3	94.2	P/P	90 - 110
Nickel	92.2	92.9	P/P	90 - 110
Nickel	94.8	92.2	P/P	90 - 110
Selenium	100	101	P/P	90 - 110
Selenium	101	100	P/P	90 - 110
Silver	97.5	98.5	P/P	90 - 110
Silver	98.5	98.2	P/P	90 - 110
Thallium	100	99.8	P/P	90 - 110
Thallium	99.4	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108421

Included Lab Sample IDs: 2283617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	104	P/P	50 - 150
2,4,5-T	101	128	P/P	50 - 150
Acetaminophen	111	109	P/P	60 - 160
Acetamiprid	109	117	P/P	50 - 150
Afidopyropen	112	133	P/P	50 - 150
Bentazon	121	122	P/P	50 - 160
Benzovindiflupyr	130	133	P/P	50 - 150
Carbamazepine	116	134	P/P	60 - 150
Clothianidin	127	126	P/P	60 - 150
Dinotefuran	109	108	P/P	50 - 150
Diuron	125	123	P/P	60 - 160
Fenuron	104	104	P/P	60 - 150
Fluridone	121	125	P/P	60 - 160
Hydrocodone	108	108	P/P	60 - 150
Ibuprofen	113	74.5	P/P	50 - 160
Imazapyr	85.2	99.9	P/P	50 - 150
Imidacloprid	113	116	P/P	60 - 150
Linuron	120	124	P/P	60 - 150
Mandestrobin	119	126	P/P	50 - 150
MCPP	111	122	P/P	50 - 150
Naproxen	123	85.3	P/P	50 - 160
Primidone	113	105	P/P	60 - 150
Pyraclostrobin	132	134	P/P	60 - 150
Thiamethoxam	115	111	P/P	50 - 150
Tolfenpyrad	116	120	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A108421
Included Lab Sample IDs: 2283617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	117	116	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A108424
Included Lab Sample IDs: 2283618, 2283619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Iron	100	99.9	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Potassium	96.0	96.8	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Zinc	97.1	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A108435
Included Lab Sample IDs: 2283602, 2283605, 2283608

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

Reference Method: SM 2320 B-2011
Run ID: A108459
Included Lab Sample IDs: 2283601, 2283604, 2283607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	100	P/P	90 - 110
Total Alkalinity	99.4	95.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A108459
Included Lab Sample IDs: 2283601, 2283604, 2283607

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

Reference Method: SM 5310 B-2011
Run ID: A108471
Included Lab Sample IDs: 2283602, 2283605, 2283608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.4	P/P	90 - 110
Organic Carbon	96.4	95.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108475

Included Lab Sample IDs: 2283618, 2283619

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108480

Included Lab Sample IDs: 2283602, 2283605, 2283608

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108519

Included Lab Sample IDs: 2283602, 2283605, 2283608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	96.4	P/P	90 - 110
Ammonia-N	98.4	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108536

Included Lab Sample IDs: 2283602, 2283605, 2283608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	98.9	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.311	
	Turbidity						2.25	
EPA 200.7 Rev. 4.4	Barium	107	107	104	107			2.82
	Calcium	106	104	103	104			0.925
	Iron	107	104	105	106			0.568
	Magnesium	107	105	106	106			0.697
	Manganese	106	104	104	105			0.182
	Potassium	102	107	106	99.9			1.56
	Sodium	105	103	102	101			1.13
	Zinc	103	101	103	103			2.15
EPA 200.8 Rev. 5.4	Aluminum	113	108	105	104			0.272
	Antimony	107	108	110	110			0.0234
	Arsenic	99.8	101	97.9	97.8			0.152
	Beryllium	100	95.9	98.0	97.5			0.532
	Boron	103	105	110	106			4.19
	Cadmium	103	102	108	104			3.59
	Chromium	98.4	98.7	101	100			0.705
	Copper	96.4	97.3	96.9	96.0			0.921
	Lead	97.6	97.5	98.9	98.8			0.0924
	Nickel	95.9	98.2	95.4	94.6			0.816
	Selenium	97.4	100	95.7	93.3			2.46
	Silver	100	101	101	102			0.958
	Thallium	102	103	104	105			0.682
EPA 300.0 Rev. 2.1	Chloride	102	102	101			0.442	
	Sulfate	102	105	102			0.610	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	97.4	97.8				0.410
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	96.0	98.0				1.47
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	95.8					0.242
EPA 365.1 Rev. 2.0	Total-P	105	105	104				0.470
	Total-P	106	101	105				2.20
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	98.1	96.6				1.47
EPA 8321B	2,4-D	114	152	139				8.00
	2,4,5-T	116	137	135				1.93
	Acesulfame K	101	117	139				15.5
	Acetaminophen	85.8	129	118				9.18
	Acetamiprid	88.4	118	109				7.75
	Afidopyropen	98.7	130	110				16.4
	AMPA	93.5	62.1	58.2				6.06
	Bentazon	101	75.1	62.6				5.74
	Benzovindiflupyr	98.8	126	98.0				23.9
	Carbamazepine	110	132	114				13.3
	Clothianidin	111	160	146				9.15
	Dinotefuran	84.2	144	120				13.4
	Diuron	87.1	89.7	78.9				8.39
	Endothall	81.0	85.3	87.0				1.98
	Fenuron	95.0	108	95.2				13.0
	Fluridone	96.1	108	94.9				11.5
	Glufosinate	108	77.9	72.3				7.51
	Glyphosate	86.1	47.9	51.4				6.99
	Hydrocodone	95.0	130	110				16.0
	Ibuprofen	60.1	91.3	86.1				5.89
	Imazapyr	83.7	131	94.9				21.6
	Imidacloprid	89.9	214	198				7.05
	Linuron	86.7	95.3	78.9				18.9

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Mandestrobin	101	111	96.9		13.8
	MCCP	129	152	136		11.0
	Naproxen	77.6	78.0	74.7		4.26
	Primidone	97.7	96.4	127		27.1
	Pyraclostrobin	91.2	100	96.6		3.51
	Sucralose	114	109	113		3.26
	Thiamethoxam	101	203	183		10.2
	Tolfenpyrad	60.7	71.2	64.4		10.1
	Triclopyr	105	136	137		0.958
	Color (true)	99.7			0.112	
SM 2120 B-2011	Total Alkalinity	98.0			0.277	
SM 2320 B-2011	TDS				1.06	
SM 2540 C-2011	Fluoride	99.8	99.8	98.7		1.03
SM 4500 F-C-2011	Organic Carbon	97.6	97.7	96.8		0.507

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2283601, 2283604, 2283607
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2283618, 2283619
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2283618, 2283619
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2283607
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2283607
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2283602, 2283605, 2283608
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2283602, 2283605, 2283608
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2283602, 2283605, 2283608
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2283602, 2283605, 2283608
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2283603, 2283606, 2283609
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2283617
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2283607
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2283601, 2283604, 2283607
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2283619
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2283607
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2283601, 2283604, 2283607
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2283601, 2283604, 2283607
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2283602, 2283605, 2283608

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	10/14/2021			10/14/2021 16:12	Khloe J Berg	2283601, 2283604, 2283607
EPA 200.7 Rev. 4.4	10/14/2021	10/18/2021 10:00	Emily M Philpot	10/19/2021 19:45	Josef B Mick	2283618
	10/14/2021	10/18/2021 10:00	Emily M Philpot	10/19/2021 19:53	Josef B Mick	2283619
EPA 200.8 Rev. 5.4	10/14/2021	10/18/2021 10:00	Emily M Philpot	10/19/2021 23:43	Alexander Thompson	2283618
	10/14/2021	10/18/2021 10:00	Emily M Philpot	10/20/2021 00:51	Alexander Thompson	2283619
	10/14/2021	10/18/2021 10:00	Emily M Philpot	10/21/2021 15:43	Alexander Thompson	2283618
	10/14/2021	10/18/2021 10:00	Emily M Philpot	10/21/2021 15:50	Alexander Thompson	2283619
EPA 300.0 Rev. 2.1	10/14/2021			10/16/2021 04:16	Roberta Tatti	2283607
EPA 350.1 Rev. 2.0	10/14/2021			10/22/2021 12:02	Ping Hua	2283605
	10/14/2021			10/22/2021 12:04	Ping Hua	2283608
	10/14/2021			10/22/2021 14:10	Ping Hua	2283602
EPA 351.2 Rev. 2.0	10/14/2021	10/25/2021 11:51	Benjamin T. Nordmann	10/26/2021 10:58	Alexandra J Mattheus	2283602
	10/14/2021	10/25/2021 11:51	Benjamin T. Nordmann	10/26/2021 10:59	Alexandra J Mattheus	2283605
	10/14/2021	10/25/2021 11:51	Benjamin T. Nordmann	10/26/2021 11:01	Alexandra J Mattheus	2283608
EPA 353.2 Rev. 2.0	10/14/2021			10/21/2021 10:07	Beverly Y. Sanders	2283602
	10/14/2021			10/21/2021 10:13	Beverly Y. Sanders	2283605
	10/14/2021			10/21/2021 10:14	Beverly Y. Sanders	2283608
EPA 365.1 Rev. 2.0	10/14/2021	10/19/2021 16:46	Simonne.V. Calhoun	10/20/2021 12:58	Lipi Saha	2283608
	10/14/2021	10/19/2021 16:46	Simonne.V. Calhoun	10/20/2021 13:23	Lipi Saha	2283602
	10/14/2021	10/19/2021 16:46	Simonne.V. Calhoun	10/20/2021 13:24	Lipi Saha	2283605
EPA 365.1 Rev. 2.0 dissolved	10/14/2021			10/14/2021 15:05	Blanca Fach	2283603
	10/14/2021			10/14/2021 15:07	Blanca Fach	2283609
	10/14/2021			10/14/2021 15:46	Blanca Fach	2283606
EPA 8321B	10/14/2021	10/15/2021 09:30	Juyoung Kim	10/15/2021 10:29	Juyoung Kim	2283617
	10/14/2021	10/15/2021 09:30	Juyoung Kim	10/15/2021 18:32	Manjita Shrestha	2283617
	10/14/2021	10/15/2021 14:00	Hoor Shaik	10/19/2021 01:16	Juyoung Kim	2283617
SM 2120 B-2011	10/14/2021			10/14/2021 16:43	Benjamin T. Nordmann	2283607
SM 2320 B-2011	10/14/2021			10/19/2021 21:43	Dale L. Simmons	2283601
	10/14/2021			10/19/2021 21:56	Dale L. Simmons	2283607
	10/14/2021			10/20/2021 00:34	Dale L. Simmons	2283604
SM 2340B	10/14/2021			10/19/2021 19:53	Josef B Mick	2283619
SM 2540 C-2011	10/14/2021			10/19/2021 15:08	Yijie Li	2283607
SM 2540 D-2011	10/14/2021			10/19/2021 15:08	Yijie Li	2283601, 2283604, 2283607
SM 4500 F-C-2011	10/14/2021			10/19/2021 21:43	Dale L. Simmons	2283601
	10/14/2021			10/19/2021 21:56	Dale L. Simmons	2283607
	10/14/2021			10/20/2021 00:34	Dale L. Simmons	2283604
SM 5310 B-2011	10/14/2021			10/21/2021 07:11	Khloe J Berg	2283602
	10/14/2021			10/21/2021 07:24	Khloe J Berg	2283605
	10/14/2021			10/21/2021 08:02	Khloe J Berg	2283608