

Chemical Analysis Report

SO-DIST-2021-10-29-02

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

Event Description: **2021 SMP: Joshua Creek**
Request ID: **RQ-2021-10-25-58**
Customer: **SO-DIST**
Project ID: **SMP**

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

Date Certified: 19-NOV-2021 18:05



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: JoshuaCreek@AirportAve

Collection Date/Time: 10/28/2021 13:00

Field ID: G3SD0184

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286686	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P405776	
	EPA 300.0 Rev. 2.1	Chloride	84		mg Cl/L	P406038	
		Sulfate	100		mg SO4/L	P406041	
	SM 2120 B-2011	Color (true)	110		PCU	P405767	
	SM 2320 B-2011	Total Alkalinity	65		mg CaCO3/L	P406012	
	SM 2540 C-2011	TDS	427	A	mg/L	P406285	
	SM 2540 D-2011	TSS	3	IA	mg/L	P406279	
2286687	SM 4500 F-C-2011	Fluoride	0.35		mg F/L	P406014	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P406066	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P406415	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.63		mg N/L	P405846	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P405911	
2286688	SM 5310 B-2011	Organic Carbon	18		mg C/L	P405838	
2286688	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P405768	
2286691	EPA 8276	Chlordane	2.6	U	ng/L	P405844	
		Toxaphene	16	U	ng/L	P405844	
2286692	EPA 8321B	2,4-D	0.031		ug/L	P405750	
		Acesulfame K	0.10	U	ug/L	P405602	
		2,4,5-T	0.0040	U	ug/L	P405750	
		AMPA	1.7		ug/L	P405602	
		Acetaminophen	0.0080	U	ug/L	P405750	
		Acetamiprid	0.0020	U	ug/L	P405750	
		Endothall	0.25	U	ug/L	P405602	
		Glufosinate	0.10	U	ug/L	P405602	
		Glyphosate	1.7		ug/L	P405602	
		Afidopyropen	0.0020	U	ug/L	P405750	
		Bentazon	8.0E-04	U	ug/L	P405750	
		Sucralose	0.23		ug/L	P405602	
		Benzovindiflupyr	0.0020	U	ug/L	P405750	
		Carbamazepine	0.0020	I	ug/L	P405750	
		Clothianidin	0.091		ug/L	P405750	
		Dinotefuran	0.0020	U	ug/L	P405750	
		Diuron	0.024		ug/L	P405750	
		Fenuron	0.016	U	ug/L	P405750	
		Fluridone	8.0E-04	U	ug/L	P405750	
		Imazapyr	0.13		ug/L	P405750	
		Hydrocodone	0.0020	U	ug/L	P405750	
		Ibuprofen	0.020	U	ug/L	P405750	
		Imidacloprid	0.31	J	ug/L	P405750	MS
		Linuron	0.0040	U	ug/L	P405750	
		Mandestrobin	0.0020	U	ug/L	P405750	
		MCP	0.0040	U	ug/L	P405750	
		Naproxen	0.0080	UJ	ug/L	P405750	MS

Field ID: G3SD0184

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286692	EPA 8321B	Primidone	0.0064	I	ug/L	P405750	
		Pyraclostrobin	0.0020	U	ug/L	P405750	
		Thiamethoxam	0.28		ug/L	P405750	
		Tolfenpyrad	0.0020	U	ug/L	P405750	
		Triclopyr	0.0040	U	ug/L	P405750	
2286693	EPA 200.7 Rev. 4.4	Calcium	55.2		mg/L	P405786	
		Iron	940		ug/L	P405786	
		Magnesium	21.3		mg/L	P405786	
		Potassium	13.0		mg/L	P405786	
		Sodium	33.2		mg/L	P405786	
	EPA 200.8 Rev. 5.4	Strontium	3.18E+03		ug/L	P405786	
		Tin	3.0	U	ug/L	P405786	
		Titanium	1.5	I	ug/L	P405786	
		Vanadium	5.7	I	ug/L	P405786	
		Zinc	9.7	I	ug/L	P405786	
		Aluminum	201		ug/L	P405786	
		Antimony	0.42		ug/L	P405786	
		Arsenic	1.04		ug/L	P405786	
		Barium	37.2		ug/L	P405786	
		Beryllium	0.021	I	ug/L	P405786	
		Boron**	60.8		ug/L	P405786	
		Cadmium	0.160		ug/L	P405786	
		Chromium	0.87	I	ug/L	P405786	
		Cobalt	0.234		ug/L	P405786	
		Copper	0.66	I	ug/L	P405786	
		Lead	0.24	I	ug/L	P405786	
		Manganese	37.0		ug/L	P405786	
		Molybdenum	0.75		ug/L	P405786	
		Nickel	1.2	I	ug/L	P405786	
		Selenium	0.23	I	ug/L	P405786	
	SM 2340B	Silver	0.010	U	ug/L	P405786	
		Thallium	0.10	U	ug/L	P405786	
		Hardness	226		mg/L	P405786	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405776

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405786

Component	Result	Code	Units
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
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405786

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P406038

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406041

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: P406066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406415

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405846

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405911

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405768

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

Reference Method: EPA 8276
Batch ID: P405844

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Chlordane	2.5	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: EPA 8321B
Batch ID: P405602

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: EPA 8321B
Batch ID: P405750

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P405750

Component	Result	Code	Units
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	0.0040	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: SM 2120 B-2011

Batch ID: P405767

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P406012

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

Reference Method: SM 2540 C-2011

Batch ID: P406285

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P406279

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405838

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: P405786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	111		P	85 - 115
Iron	108		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Strontium	104		P	85 - 115
Tin	106		P	85 - 115
Titanium	105		P	85 - 115
Vanadium	107		P	85 - 115
Zinc	109		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	105		P	85 - 115
Antimony	110		P	85 - 115
Arsenic	104		P	85 - 115
Barium	106		P	85 - 115
Beryllium	96.8		P	85 - 115
Boron	106		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	105		P	85 - 115
Cobalt	101		P	85 - 115
Copper	99.9		P	85 - 115
Lead	96.5		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	105		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	100		P	85 - 115
Thallium	108		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406038

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406041

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405846

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: P405911

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: P405768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.3		P	90 - 110

Reference Method: EPA 8276

Batch ID: P405844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	70.3	86.2	P/P	56 - 117
Toxaphene	69.3	82.1	P/P	45 - 116

Reference Method: EPA 8321B

Batch ID: P405602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	95.8		P	40 - 160
Endothall	82.9		P	40 - 150
Glufosinate	97.0		P	40 - 160
Glyphosate	95.6		P	40 - 160
Sucralose	94.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P405750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.0		P	40 - 150
2,4,5-T	89.5		P	40 - 150
Acetaminophen	82.9		P	30 - 150
Acetamiprid	84.3		P	40 - 150
Afidopyropen	68.8		P	40 - 150
Bentazon	88.0		P	30 - 150
Benzovindiflupyr	75.5		P	40 - 150
Carbamazepine	86.1		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	74.6		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P405750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	80.2		P	40 - 150
Fenuron	83.2		P	40 - 150
Fluridone	89.9		P	40 - 150
Hydrocodone	78.1		P	40 - 150
Ibuprofen	79.0		P	40 - 150
Imazapyr	92.9		P	40 - 150
Imidacloprid	80.8		P	40 - 150
Linuron	69.4		P	40 - 150
Mandestrobin	77.1		P	40 - 150
MCPP	88.2		P	40 - 150
Naproxen	95.5		P	40 - 150
Primidone	81.7		P	40 - 150
Pyraclostrobin	77.9		P	40 - 150
Thiamethoxam	81.6		P	40 - 150
Tolfenpyrad	50.2		P	30 - 150
Triclopyr	90.1		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P405767

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

Reference Method: SM 2320 B-2011

Batch ID: P406012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P406014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P405838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286611	Calcium	109	110	P/P	80 - 120
2286611	Iron	109	109	P/P	80 - 120
2286611	Magnesium	111	111	P/P	80 - 120
2286611	Potassium	109	108	P/P	80 - 120
2286611	Sodium	102		P	80 - 120
2286611	Strontium	103	104	P/P	80 - 120
2286611	Tin	112	114	P/P	80 - 120
2286611	Titanium	107	107	P/P	80 - 120
2286611	Vanadium	108	109	P/P	80 - 120
2286611	Zinc	113	115	P/P	80 - 120
2287005	Calcium	115		P	80 - 120
2287005	Iron	108		P	80 - 120
2287005	Magnesium	110		P	80 - 120
2287005	Potassium	101		P	80 - 120
2287005	Strontium	105		P	80 - 120
2287005	Tin	111		P	80 - 120
2287005	Titanium	109		P	80 - 120
2287005	Vanadium	110		P	80 - 120
2287005	Zinc	108		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286611	Aluminum	105	106	P/P	80 - 120
2286611	Antimony	112	114	P/P	80 - 120
2286611	Arsenic	105	105	P/P	80 - 120
2286611	Barium	106	109	P/P	80 - 120
2286611	Beryllium	97.9	94.3	P/P	80 - 120
2286611	Boron	109	109	P/P	80 - 120
2286611	Cadmium	105	104	P/P	80 - 120
2286611	Chromium	105	105	P/P	80 - 120
2286611	Cobalt	101	103	P/P	80 - 120
2286611	Copper	102	102	P/P	80 - 120
2286611	Lead	97.5	98.7	P/P	80 - 120
2286611	Manganese	102	101	P/P	80 - 120
2286611	Molybdenum	108	108	P/P	80 - 120
2286611	Nickel	104	104	P/P	80 - 120
2286611	Selenium	100	101	P/P	80 - 120
2286611	Silver	102	102	P/P	80 - 120
2286611	Thallium	109	111	P/P	80 - 120
2287005	Aluminum	104		P	80 - 120
2287005	Antimony	116		P	80 - 120
2287005	Arsenic	108		P	80 - 120
2287005	Barium	115		P	80 - 120
2287005	Beryllium	92.7		P	80 - 120
2287005	Cadmium	106		P	80 - 120
2287005	Chromium	102		P	80 - 120
2287005	Cobalt	97.4		P	80 - 120
2287005	Copper	101		P	80 - 120
2287005	Lead	100		P	80 - 120
2287005	Manganese	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287005	Molybdenum	114		P	80 - 120
2287005	Nickel	103		P	80 - 120
2287005	Selenium	92.7		P	80 - 120
2287005	Silver	98.0		P	80 - 120
2287005	Thallium	112		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406038

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286577	Chloride	99.9		P	90 - 110
2286670	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406041

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286577	Sulfate	101		P	90 - 110
2286670	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286609	Ammonia-N	95.2	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2288506	Kjeldahl Nitrogen	99.6	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286578	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286654	Total-P	108	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286699	O-Phosphate-P	97.7	97.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276

Batch ID: P405844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286752	Chlordane	86.7	103	P/P	47 - 128
2286752	Toxaphene	82.3	93.3	P/P	11 - 163

Reference Method: EPA 8321B

Batch ID: P405602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285918	Acesulfame K	150	142	P/P	40 - 150
2285918	AMPA	61.8	60.3	P/P	40 - 160
2285918	Endothall	96.3	89.5	P/P	40 - 150
2285918	Glufosinate	64.7	65.4	P/P	40 - 160
2285918	Glyphosate	106	107	P/P	40 - 160
2285918	Sucralose	94.5	96.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P405750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286692	2,4-D	110	95.7	P/P	40 - 150
2286692	2,4,5-T	109	113	P/P	40 - 150
2286692	Acetaminophen	115	102	P/P	30 - 150
2286692	Acetamiprid	84.1	85.6	P/P	40 - 150
2286692	Afidopyropen	79.4	74.3	P/P	40 - 150
2286692	Bentazon	58.9	62.3	P/P	30 - 150
2286692	Benzovindiflupyr	95.1	89.9	P/P	40 - 150
2286692	Carbamazepine	106	102	P/P	40 - 150
2286692	Clothianidin	124	103	P/P	40 - 150
2286692	Dinotefuran	131	115	P/P	40 - 150
2286692	Diuron	85.1	80.1	P/P	40 - 150
2286692	Fenuron	93.8	92.4	P/P	40 - 150
2286692	Fluridone	106	97.7	P/P	40 - 150
2286692	Hydrocodone	107	97.8	P/P	40 - 150
2286692	Ibuprofen	89.6	90.7	P/P	40 - 150
2286692	Imazapyr	135	93.1	P/P	40 - 150
2286692	Imidacloprid	166	160	F/F	40 - 150
2286692	Linuron	80.9	82.1	P/P	40 - 150
2286692	Mandestrobin	95.0	94.6	P/P	40 - 150
2286692	MCPP	110	114	P/P	40 - 150
2286692	Naproxen	156	121	F/P	40 - 150
2286692	Primidone	99.3	98.8	P/P	40 - 150
2286692	Pyraclostrobin	91.2	86.4	P/P	40 - 150
2286692	Thiamethoxam	126	146	P/P	40 - 150
2286692	Tolfenpyrad	57.4	53.8	P/P	30 - 150
2286692	Triclopyr	107	110	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P406014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286492	Fluoride	99.9	101	P/P	92 - 107

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P405838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286687	Organic Carbon	99.6	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286670	Turbidity	0.686	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286611	Calcium	0.352	Spike	P	0 - 20
2286611	Iron	0.294	Spike	P	0 - 20
2286611	Magnesium	0.312	Spike	P	0 - 20
2286611	Potassium	1.20	Spike	P	0 - 20
2286611	Sodium	1.41	Spike	P	0 - 20
2286611	Strontium	0.768	Spike	P	0 - 20
2286611	Tin	1.48	Spike	P	0 - 20
2286611	Titanium	0.513	Spike	P	0 - 20
2286611	Vanadium	0.677	Spike	P	0 - 20
2286611	Zinc	2.17	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286611	Aluminum	1.01	Spike	P	0 - 20
2286611	Antimony	1.20	Spike	P	0 - 20
2286611	Arsenic	0.145	Spike	P	0 - 20
2286611	Barium	2.55	Spike	P	0 - 20
2286611	Beryllium	3.38	Spike	P	0 - 20
2286611	Boron	0.216	Spike	P	0 - 20
2286611	Cadmium	1.09	Spike	P	0 - 20
2286611	Chromium	0.246	Spike	P	0 - 20
2286611	Cobalt	1.21	Spike	P	0 - 20
2286611	Copper	0.195	Spike	P	0 - 20
2286611	Lead	1.27	Spike	P	0 - 20
2286611	Manganese	1.05	Spike	P	0 - 20
2286611	Molybdenum	0.0110	Spike	P	0 - 20
2286611	Nickel	0.0596	Spike	P	0 - 20
2286611	Selenium	0.811	Spike	P	0 - 20
2286611	Silver	0.378	Spike	P	0 - 20
2286611	Thallium	1.38	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286577	Chloride	3.30	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406066

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286609	Ammonia-N	1.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406415

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2288506	Kjeldahl Nitrogen	2.51	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405846

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286578	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405911

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286654	Total-P	0.781	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405768

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286699	O-Phosphate-P	0.102	Spike	P	0 - 20

Reference Method: EPA 8276

Batch ID: P405844

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286752	Chlordane	17.5	Spike	P	0 - 30
2286752	Toxaphene	12.6	Spike	P	0 - 30
LFB	Chlordane	20.3	LCS	P	0 - 30
LFB	Toxaphene	17.0	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P405602

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285918	Acesulfame K	5.21	Spike	P	0 - 30
2285918	AMPA	2.38	Spike	P	0 - 30
2285918	Endothall	7.33	Spike	P	0 - 30
2285918	Glufosinate	1.06	Spike	P	0 - 30
2285918	Glyphosate	0.379	Spike	P	0 - 30
2285918	Sucralose	1.28	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P405750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286692	2,4-D	9.82	Spike	P	0 - 30
2286692	2,4,5-T	3.75	Spike	P	0 - 30
2286692	Acetaminophen	12.2	Spike	P	0 - 30
2286692	Acetamiprid	1.74	Spike	P	0 - 30
2286692	Afidopyropen	6.75	Spike	P	0 - 30
2286692	Bentazon	5.56	Spike	P	0 - 30
2286692	Benzovindiflupyr	5.66	Spike	P	0 - 30
2286692	Carbamazepine	3.54	Spike	P	0 - 30
2286692	Clothianidin	9.41	Spike	P	0 - 30
2286692	Dinotefuran	13.2	Spike	P	0 - 30
2286692	Diuron	4.48	Spike	P	0 - 30
2286692	Fenuron	1.47	Spike	P	0 - 30
2286692	Fluridone	8.48	Spike	P	0 - 30
2286692	Hydrocodone	9.38	Spike	P	0 - 30
2286692	Ibuprofen	1.29	Spike	P	0 - 30
2286692	Imazapyr	15.0	Spike	P	0 - 30
2286692	Imidacloprid	1.03	Spike	P	0 - 30
2286692	Linuron	1.49	Spike	P	0 - 30
2286692	Mandestrobin	0.469	Spike	P	0 - 30
2286692	MCPP	3.81	Spike	P	0 - 30
2286692	Naproxen	25.1	Spike	P	0 - 30
2286692	Primidone	0.473	Spike	P	0 - 30
2286692	Pyraclostrobin	5.36	Spike	P	0 - 30
2286692	Thiamethoxam	4.21	Spike	P	0 - 30
2286692	Tolfenpyrad	6.37	Spike	P	0 - 30
2286692	Triclopyr	3.04	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P405767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286675	Color (true)	0.982	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P406012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286492	Total Alkalinity	2.24	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P406285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286686	TDS	2.81	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P406014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286492	Fluoride	0.483	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286687	Organic Carbon	0.367	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2286691
Field Sample ID: G3SD0184

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	52.3	P	29 - 92.0
EPA 8276	PCNB	53.6	P	43 - 134

Lab Sample ID: 2286692
Field Sample ID: G3SD0184

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.9	P	30 - 160
EPA 8321B	Diuron-d6	86.4	P	30 - 160
EPA 8321B	Endothall-d6	86.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	96.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.5	P	30 - 160
EPA 8321B	Primidone-d5	95.4	P	30 - 160
EPA 8321B	Sucralose-d6	82.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A108618
Included Lab Sample IDs: 2286692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.7	93.8	P/P	60 - 160
Endothall	80.5	76.9	P/P	60 - 160
Sucralose	87.9	94.0	P/P	60 - 160

Reference Method: SM 2120 B-2011
Run ID: A108619
Included Lab Sample IDs: 2286686

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	101	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A108620
Included Lab Sample IDs: 2286688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	97.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A108623
Included Lab Sample IDs: 2286686

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

Reference Method: EPA 8321B
Run ID: A108641
Included Lab Sample IDs: 2286692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	100	96.0	P/P	60 - 160
Glufosinate	97.9	93.6	P/P	60 - 160
Glyphosate	105	104	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A108656
Included Lab Sample IDs: 2286687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A108660
Included Lab Sample IDs: 2286687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	98.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108702

Included Lab Sample IDs: 2286693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	105	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	104	105	P/P	90 - 110
Potassium	99.5	96.7	P/P	90 - 110
Sodium	103	100	P/P	90 - 110
Strontium	103	103	P/P	90 - 110
Tin	103	104	P/P	90 - 110
Titanium	101	99.3	P/P	90 - 110
Vanadium	104	103	P/P	90 - 110
Zinc	105	105	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A108714

Included Lab Sample IDs: 2286686

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108714

Included Lab Sample IDs: 2286686

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108724

Included Lab Sample IDs: 2286687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A108733

Included Lab Sample IDs: 2286686

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 350.1 Rev. 2.0

Run ID: A108743

Included Lab Sample IDs: 2286687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.2	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A108750
Included Lab Sample IDs: 2286692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	110	P/P	50 - 150
2,4,5-T	95.8	101	P/P	50 - 150
Acetaminophen	116	91.7	P/P	60 - 160
Acetamiprid	105	102	P/P	50 - 150
Afidopyropen	105	98.4	P/P	50 - 150
Bentazon	110	105	P/P	50 - 160
Benzovindiflupyr	105	110	P/P	50 - 150
Carbamazepine	101	100	P/P	60 - 150
Clothianidin	100	109	P/P	60 - 150
Dinotefuran	105	96.5	P/P	50 - 150
Diuron	105	96.9	P/P	60 - 160
Fenuron	98.3	97.0	P/P	60 - 150
Fluridone	106	105	P/P	60 - 160
Hydrocodone	99.4	96.4	P/P	60 - 150
Ibuprofen	97.2	127	P/P	50 - 160
Imazapyr	110	105	P/P	50 - 150
Imidacloprid	104	96.1	P/P	60 - 150
Linuron	101	107	P/P	60 - 150
Mandestrobin	101	104	P/P	50 - 150
MCPP	93.7	89.6	P/P	50 - 150
Naproxen	107	109	P/P	50 - 160
Primidone	119	109	P/P	60 - 150
Pyraclostrobin	103	102	P/P	60 - 150
Thiamethoxam	94.2	96.2	P/P	50 - 150
Tolfenpyrad	116	106	P/P	60 - 150
Triclopyr	93.1	102	P/P	50 - 150

Reference Method: EPA 8276
Run ID: A108850
Included Lab Sample IDs: 2286691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.4		P	80 - 120
Toxaphene	107		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A108884
Included Lab Sample IDs: 2286693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	103	P/P	90 - 110
Arsenic	102	100	P/P	90 - 110
Barium	100	103	P/P	90 - 110
Beryllium	92.1	91.9	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Copper	95.5	95.4	P/P	90 - 110
Lead	93.6	92.8	P/P	90 - 110
Manganese	97.6	97.7	P/P	90 - 110
Molybdenum	102	103	P/P	90 - 110
Nickel	97.3	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108884

Included Lab Sample IDs: 2286693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	104	101	P/P	90 - 110
Silver	91.9	91.9	P/P	90 - 110
Thallium	102	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108912

Included Lab Sample IDs: 2286693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	103	103	P/P	90 - 110
Boron	103	104	P/P	90 - 110
Cobalt	94.9	93.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108965

Included Lab Sample IDs: 2286687

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.6	94.4	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							0.686	
EPA 200.7 Rev. 4.4	Calcium	111		109	110	115			0.352
	Iron	108		109	109	108			0.294
	Magnesium	111		111	111	110			0.312
	Potassium	103		109	108	101			1.20
	Sodium	102		102					1.41
	Strontium	104		103	104	105			0.768
	Tin	106		112	114	111			1.48
	Titanium	105		107	107	109			0.513
	Vanadium	107		108	109	110			0.677
	Zinc	109		108	113	115			2.17
EPA 200.8 Rev. 5.4	Aluminum	105		105	106	104			1.01
	Antimony	110		112	114	116			1.20
	Arsenic	104		105	105	108			0.145
	Barium	106		106	109	115			2.55
	Beryllium	96.8		97.9	94.3	92.7			3.38
	Boron	106		109	109				0.216
	Cadmium	102		105	104	106			1.09
	Chromium	105		105	105	102			0.246
	Cobalt	101		101	103	97.4			1.21
	Copper	99.9		102	102	101			0.195
	Lead	96.5		97.5	98.7	100			1.27
	Manganese	100		102	101	101			1.05
	Molybdenum	105		108	108	114			0.0110
	Nickel	102		104	104	103			0.0596
	Selenium	101		100	101	92.7			0.811
	Silver	100		102	102	98.0			0.378
	Thallium	108		109	111	112			1.38
EPA 300.0 Rev. 2.1	Chloride	99.4		99.9	100			3.30	
	Sulfate	101		101	102				
EPA 350.1 Rev. 2.0	Ammonia-N	95.0		95.2	97.0				1.87
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.3		99.6	104				2.51
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		99.0	99.0				0.0
EPA 365.1 Rev. 2.0	Total-P	106		108	109				0.781
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.3		97.7	97.6				0.102
EPA 8276	Chlordane	70.3	86.2	86.7	103		20.3		17.5
	Toxaphene	69.3	82.1	82.3	93.3		17.0		12.6
EPA 8321B	2,4-D	89.0		110	95.7				9.82
	2,4,5-T	89.5		109	113				3.75
	Acesulfame K	104		150	142				5.21
	Acetaminophen	82.9		115	102				12.2
	Acetamiprid	84.3		84.1	85.6				1.74
	Afidopyropen	68.8		79.4	74.3				6.75
	AMPA	95.8		61.8	60.3				2.38
	Bentazon	88.0		58.9	62.3				5.56
	Benzovindiflupyr	75.5		95.1	89.9				5.66
	Carbamazepine	86.1		106	102				3.54
	Clothianidin	88.8		124	103				9.41
	Dinotefuran	74.6		131	115				13.2
	Diuron	80.2		85.1	80.1				4.48
	Endothall	82.9		96.3	89.5				7.33
	Fenuron	83.2		93.8	92.4				1.47
	Fluridone	89.9		106	97.7				8.48
	Glufosinate	97.0		64.7	65.4				1.06

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glyphosate	95.6	106	107		0.379
	Hydrocodone	78.1	107	97.8		9.38
	Ibuprofen	79.0	89.6	90.7		1.29
	Imazapyr	92.9	135	93.1		15.0
	Imidacloprid	80.8	166	160		1.03
	Linuron	69.4	80.9	82.1		1.49
	Mandestrobin	77.1	95.0	94.6		0.469
	MCPP	88.2	110	114		3.81
	Naproxen	95.5	156	121		25.1
	Primidone	81.7	99.3	98.8		0.473
	Pyraclostrobin	77.9	91.2	86.4		5.36
	Sucralose	94.8	94.5	96.6		1.28
	Thiamethoxam	81.6	126	146		4.21
	Tolfenpyrad	50.2	57.4	53.8		6.37
	Triclopyr	90.1	107	110		3.04
SM 2120 B-2011	Color (true)	102			0.982	
SM 2320 B-2011	Total Alkalinity	101			2.24	
SM 2540 C-2011	TDS				2.81	
SM 4500 F-C-2011	Fluoride	100	99.9	101		0.483
SM 5310 B-2011	Organic Carbon	99.4	99.6	98.8		0.367

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2286686
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2286693
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2286693
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2286686
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2286686
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2286687
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2286687
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2286687
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2286687
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2286688
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2286691
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2286692
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2286686
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2286686
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2286693
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2286686
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2286686
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2286686
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2286687

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	10/29/2021			10/29/2021 15:26	Khloe J Berg	2286686
EPA 200.7 Rev. 4.4	10/29/2021	11/01/2021 11:00	Emily M Philpot	11/03/2021 16:31	Josef B Mick	2286693
EPA 200.8 Rev. 5.4	10/29/2021	11/01/2021 11:00	Emily M Philpot	11/12/2021 18:44	Alexander Thompson	2286693
	10/29/2021	11/01/2021 11:00	Emily M Philpot	11/15/2021 16:00	Alexander Thompson	2286693
EPA 300.0 Rev. 2.1	10/29/2021			11/04/2021 01:50	Roberta Tatti	2286686
EPA 350.1 Rev. 2.0	10/29/2021			11/04/2021 13:02	Ping Hua	2286687
EPA 351.2 Rev. 2.0	10/29/2021	11/17/2021 12:10	Benjamin T. Nordmann	11/18/2021 10:34	Alexandra J Mattheus	2286687
EPA 353.2 Rev. 2.0	10/29/2021			11/02/2021 11:21	Beverly Y. Sanders	2286687
EPA 365.1 Rev. 2.0	10/29/2021	11/03/2021 16:35	Simonne.V. Calhoun	11/04/2021 14:22	Lipi Saha	2286687
EPA 365.1 Rev. 2.0 dissolved	10/29/2021			10/29/2021 14:48	James L Waggeberby	2286688
EPA 8276	10/29/2021	11/02/2021 09:00	Julie Wi	11/10/2021 08:29	Michael Poppell	2286691
EPA 8321B	10/29/2021	10/29/2021 10:35	Mohammad Ghaffari	10/29/2021 12:32	Mohammad Ghaffari	2286692
	10/29/2021	10/29/2021 10:35	Mohammad Ghaffari	10/29/2021 14:05	Manjita Shrestha	2286692
	10/29/2021	10/29/2021 14:00	Hoor Shaik	11/03/2021 03:35	Juyoung Kim	2286692
SM 2120 B-2011	10/29/2021			10/29/2021 15:19	Benjamin T. Nordmann	2286686
SM 2320 B-2011	10/29/2021			11/02/2021 20:12	Dale L. Simmons	2286686
SM 2340B	10/29/2021			11/03/2021 16:31	Josef B Mick	2286693
SM 2540 C-2011	10/29/2021			11/01/2021 14:21	Yijie Li	2286686
SM 2540 D-2011	10/29/2021			11/01/2021 14:21	Yijie Li	2286686
SM 4500 F-C-2011	10/29/2021			11/02/2021 20:12	Dale L. Simmons	2286686
SM 5310 B-2011	10/29/2021			11/02/2021 01:01	Khloe J Berg	2286687