

Chemical Analysis Report

NW-DIST-2022-05-25-01

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

Event Description: **LVI Only**
Request ID: **RQ-2022-05-23-27**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda K Butler

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 17-JUN-2022 10:59

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Wright Basin

Collection Date/Time: 05/24/2022 13:15

Field ID: G4NW0028

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2329781	DEP SOP: NU-094-1	Color (true)**	34		PCU	P414373	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P414378	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P414632	
		Sulfate	3.9		mg SO4/L	P414635	
	SM 2320 B-2011	Total Alkalinity	2.1	I	mg CaCO3/L	P414539	
	SM 2540 C-2011	TDS	60		mg/L	P414669	
	SM 2540 D-2011	TSS	2	I	mg/L	P414673	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415141	
2329782	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P415146	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20		mg N/L	P414951	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.43		mg N/L	P414919	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P414410	
	SM 5310 B-2011	Organic Carbon	2.8		mg C/L	P414517	
2329783	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P414425	
2329785	EPA 8321B	2,4-D	0.012		ug/L	P414365	
		Acesulfame K	0.10	U	ug/L	P414386	
		2,4,5-T	0.0040	U	ug/L	P414365	
		AMPA	0.10	U	ug/L	P414386	
		Acetaminophen	0.0080	U	ug/L	P414365	
		Acetamiprid	0.0020	U	ug/L	P414365	
		Endothall	0.25	U	ug/L	P414386	
		Glufosinate	0.10	U	ug/L	P414386	
		Glyphosate	0.10	U	ug/L	P414386	
		Afidopyropen	0.0020	U	ug/L	P414365	
		Bentazon	9.8E-04	I	ug/L	P414365	
		Sucralose	0.054		ug/L	P414386	
		Benzovindiflupyr	0.0020	U	ug/L	P414365	
		Carbamazepine	8.0E-04	U	ug/L	P414365	
		Clothianidin	0.0020	U	ug/L	P414365	
		Dinotefuran	0.0020	U	ug/L	P414365	
		Diuron	0.0035	I	ug/L	P414365	
		Fenuron	0.032	U	ug/L	P414365	
		Fluridone	8.0E-04	U	ug/L	P414365	
		Imazapyr	0.0040	U	ug/L	P414365	
		Hydrocodone	0.0020	U	ug/L	P414365	
		Ibuprofen	0.020	U	ug/L	P414365	
		Imidacloprid	0.0021	I	ug/L	P414365	
		Linuron	0.0040	U	ug/L	P414365	
		Mandestrobin	0.0020	U	ug/L	P414365	
		MCPP	0.0040	U	ug/L	P414365	
		Naproxen	0.0080	U	ug/L	P414365	
		Primidone	0.0040	U	ug/L	P414365	
		Pyraclostrobin	0.0020	U	ug/L	P414365	

Field ID: G4NW0028

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2329785	EPA 8321B	Silvex	0.0040	U	ug/L	P414365	
		Thiamethoxam	0.0020	U	ug/L	P414365	
		Tolfenpyrad	0.0020	U	ug/L	P414365	
		Triclopyr	0.0040	U	ug/L	P414365	
2329786	EPA 200.7 Rev. 4.4	Calcium	1.60		mg/L	P414396	
		Iron	380		ug/L	P414396	
		Magnesium	2.51		mg/L	P414396	
		Potassium	0.91	I	mg/L	P414396	
		Sodium	16.1		mg/L	P414396	
		Strontium	16.4		ug/L	P414396	
		Tin	3.0	U	ug/L	P414396	
		Titanium	0.99	I	ug/L	P414396	
		Vanadium	2.0	U	ug/L	P414396	
		Zinc	5.0	U	ug/L	P414396	
	EPA 200.8 Rev. 5.4	Aluminum	106		ug/L	P414396	
		Antimony	0.050	U	ug/L	P414396	
		Arsenic	0.33		ug/L	P414396	
		Barium	17.2		ug/L	P414396	
		Beryllium	0.034	I	ug/L	P414396	
		Boron**	15.5		ug/L	P414396	
		Cadmium	0.020	U	ug/L	P414396	
		Chromium	0.40	U	ug/L	P414396	
		Cobalt	0.130		ug/L	P414396	
		Copper	0.40	U	ug/L	P414396	
	SM 2340 B-2011	Lead	0.20	U	ug/L	P414396	
		Manganese	7.83		ug/L	P414396	
		Molybdenum	0.15	U	ug/L	P414396	
		Nickel	0.50	U	ug/L	P414396	
		Selenium	0.20	U	ug/L	P414396	
		Silver	0.010	U	ug/L	P414396	
		Thallium	0.10	U	ug/L	P414396	
		Hardness	14.3		mg/L	P414396	

Ref. Method and Comment:

DEP SOP: NU-094-1: Batch relative percent difference is unavailable because of analytical difficulties.

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: DEP SOP: NU-094-1
Batch ID: P414373

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414378

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414396

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: P414396

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: P414632

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414951

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414919

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414410

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

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

Reference Method: EPA 8321B
Batch ID: P414365

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	0.032	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: P414365

Component	Result	Code	Units
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
Silvex	0.0040	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: P414386

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 2320 B-2011

Batch ID: P414539

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

Reference Method: SM 2540 C-2011

Batch ID: P414669

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P414673

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P415141

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P414517

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P414373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.9		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	105		P	85 - 115
Sodium	103		P	85 - 115
Strontium	93.9		P	85 - 115
Tin	102		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	95.2		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.9		P	85 - 115
Antimony	96.8		P	85 - 115
Arsenic	97.7		P	85 - 115
Barium	99.4		P	85 - 115
Beryllium	95.3		P	85 - 115
Boron	103		P	85 - 115
Cadmium	94.7		P	85 - 115
Chromium	95.7		P	85 - 115
Cobalt	96.9		P	85 - 115
Copper	96.2		P	85 - 115
Lead	97.8		P	85 - 115
Manganese	96.4		P	85 - 115
Molybdenum	96.2		P	85 - 115
Nickel	97.6		P	85 - 115
Selenium	96.7		P	85 - 115
Silver	97.2		P	85 - 115
Thallium	98.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.3		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

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: P414951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414919

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414410

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

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

Reference Method: EPA 8321B
Batch ID: P414365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	91.6		P	40 - 150
2,4,5-T	80.7		P	40 - 150
Acetaminophen	66.4		P	30 - 150
Acetamiprid	90.5		P	40 - 150
Afidopyropen	68.7		P	30 - 150
Bentazon	117		P	30 - 150
Benzovindiflupyr	86.7		P	40 - 150
Carbamazepine	105		P	40 - 150
Clothianidin	100		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	87.8		P	40 - 150
Fenuron	99.1		P	40 - 150
Fluridone	82.0		P	40 - 150
Hydrocodone	91.2		P	40 - 150
Ibuprofen	70.2		P	40 - 150
Imazapyr	101		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P414365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	94.6		P	40 - 150
Linuron	71.9		P	40 - 150
Mandestrobin	84.6		P	40 - 150
MCPP	126		P	40 - 150
Naproxen	81.6		P	40 - 150
Primidone	97.3		P	40 - 150
Pyraclostrobin	94.8		P	40 - 150
Silvex	74.0		P	40 - 150
Thiamethoxam	97.6		P	40 - 150
Tolfenpyrad	50.9		P	30 - 150
Triclopyr	87.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P414386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	129		P	40 - 150
AMPA	97.7		P	40 - 150
Endothall	95.8		P	40 - 150
Glufosinate	97.7		P	40 - 150
Glyphosate	95.2		P	40 - 150
Sucralose	95.3		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P414539

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.5		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P415141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P414517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P414396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329260	Calcium	103		P	80 - 120
2329260	Iron	108	108	P/P	80 - 120
2329260	Magnesium	111	109	P/P	80 - 120
2329260	Potassium	102	102	P/P	80 - 120
2329260	Sodium	102		P	80 - 120
2329260	Strontium	94.1	99.4	P/P	80 - 120
2329260	Tin	101	103	P/P	80 - 120
2329260	Titanium	103	104	P/P	80 - 120
2329260	Vanadium	98.4	99.6	P/P	80 - 120
2329260	Zinc	102	104	P/P	80 - 120
2330030	Calcium	104		P	80 - 120
2330030	Iron	111		P	80 - 120
2330030	Magnesium	114		P	80 - 120
2330030	Potassium	105		P	80 - 120
2330030	Sodium	110		P	80 - 120
2330030	Strontium	111		P	80 - 120
2330030	Tin	104		P	80 - 120
2330030	Titanium	104		P	80 - 120
2330030	Vanadium	99.7		P	80 - 120
2330030	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P414396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329260	Aluminum	102	102	P/P	80 - 120
2329260	Antimony	101	101	P/P	80 - 120
2329260	Arsenic	100	99.7	P/P	80 - 120
2329260	Barium	103	102	P/P	80 - 120
2329260	Beryllium	86.1	98.1	P/P	80 - 120
2329260	Boron	107	107	P/P	80 - 120
2329260	Cadmium	100	97.9	P/P	80 - 120
2329260	Chromium	100	98.9	P/P	80 - 120
2329260	Cobalt	99.4	97.8	P/P	80 - 120
2329260	Copper	99.6	98.9	P/P	80 - 120
2329260	Lead	102	102	P/P	80 - 120
2329260	Manganese	101	98.5	P/P	80 - 120
2329260	Molybdenum	103	101	P/P	80 - 120
2329260	Nickel	99.1	98.5	P/P	80 - 120
2329260	Selenium	96.4	98.5	P/P	80 - 120
2329260	Silver	99.0	97.4	P/P	80 - 120
2329260	Thallium	104	107	P/P	80 - 120
2330030	Aluminum	103		P	80 - 120
2330030	Antimony	99.4		P	80 - 120
2330030	Arsenic	99.6		P	80 - 120
2330030	Barium	103		P	80 - 120
2330030	Beryllium	93.3		P	80 - 120
2330030	Boron	104		P	80 - 120
2330030	Cadmium	99.5		P	80 - 120
2330030	Chromium	98.0		P	80 - 120
2330030	Cobalt	98.3		P	80 - 120
2330030	Copper	98.6		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P414396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2330030	Lead	101		P	80 - 120
2330030	Manganese	104		P	80 - 120
2330030	Molybdenum	101		P	80 - 120
2330030	Nickel	99.8		P	80 - 120
2330030	Selenium	96.7		P	80 - 120
2330030	Silver	98.4		P	80 - 120
2330030	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P414632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329409	Chloride	95.6		P	90 - 110
2329911	Chloride	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P414635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329409	Sulfate	96.1		P	90 - 110
2329911	Sulfate	94.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P415146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329886	Ammonia-N	96.0	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P414951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329697	Kjeldahl Nitrogen	98.9	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P414919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329771	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P414410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329857	Total-P	103	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P414425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329783	O-Phosphate-P	99.0	99.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P414365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329830	2,4-D	96.3	109	P/P	40 - 150
2329830	2,4,5-T	87.3	93.5	P/P	40 - 150
2329830	Acetaminophen	97.5	98.2	P/P	30 - 150
2329830	Acetamiprid	91.6	103	P/P	40 - 150
2329830	Afidopyropen	77.2	85.1	P/P	30 - 150
2329830	Bentazon	107	102	P/P	30 - 150
2329830	Benzovindiflupyr	87.1	91.3	P/P	40 - 150
2329830	Carbamazepine	102	106	P/P	40 - 150
2329830	Clothianidin	99.6	103	P/P	40 - 150
2329830	Dinotefuran	119	122	P/P	40 - 150
2329830	Diuron	86.9	89.9	P/P	40 - 150
2329830	Fenuron	91.1	94.7	P/P	40 - 150
2329830	Fluridone	81.4	80.5	P/P	40 - 150
2329830	Hydrocodone	92.3	97.3	P/P	40 - 150
2329830	Ibuprofen	74.3	77.8	P/P	40 - 150
2329830	Imazapyr	111	104	P/P	40 - 150
2329830	Imidacloprid	105	104	P/P	40 - 150
2329830	Linuron	71.5	69.7	P/P	40 - 150
2329830	Mandestrobin	84.1	84.2	P/P	40 - 150
2329830	MCCP	123	133	P/P	40 - 150
2329830	Naproxen	71.7	78.9	P/P	40 - 150
2329830	Primidone	102	101	P/P	40 - 150
2329830	Pyraclostrobin	92.6	92.5	P/P	40 - 150
2329830	Silvex	77.9	84.8	P/P	40 - 150
2329830	Thiamethoxam	102	107	P/P	40 - 150
2329830	Tolfenpyrad	41.4	43.4	P/P	30 - 150
2329830	Triclopyr	90.2	95.2	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P414386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329414	Acesulfame K	115	90.8	P/P	40 - 150
2329414	AMPA	95.7	72.3	P/P	40 - 150
2329414	Endothall	93.7	73.5	P/P	40 - 150
2329414	Glufosinate	88.0	68.6	P/P	40 - 150
2329414	Glyphosate	85.1	68.8	P/P	40 - 150
2329414	Sucralose	96.4	73.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P415141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2328785	Fluoride	98.8	99.4	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P414517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329782	Organic Carbon	94.0	94.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329884	Turbidity	1.83	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329260	Calcium	0.719	Spike	P	0 - 20
2329260	Iron	0.126	Spike	P	0 - 20
2329260	Magnesium	0.675	Spike	P	0 - 20
2329260	Potassium	0.102	Spike	P	0 - 20
2329260	Sodium	1.48	Spike	P	0 - 20
2329260	Strontium	5.41	Spike	P	0 - 20
2329260	Tin	1.34	Spike	P	0 - 20
2329260	Titanium	1.19	Spike	P	0 - 20
2329260	Vanadium	1.22	Spike	P	0 - 20
2329260	Zinc	1.41	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329260	Aluminum	0.235	Spike	P	0 - 20
2329260	Antimony	0.545	Spike	P	0 - 20
2329260	Arsenic	0.655	Spike	P	0 - 20
2329260	Barium	0.534	Spike	P	0 - 20
2329260	Beryllium	13.1	Spike	P	0 - 20
2329260	Boron	0.398	Spike	P	0 - 20
2329260	Cadmium	2.64	Spike	P	0 - 20
2329260	Chromium	1.41	Spike	P	0 - 20
2329260	Cobalt	1.67	Spike	P	0 - 20
2329260	Copper	0.632	Spike	P	0 - 20
2329260	Lead	0.258	Spike	P	0 - 20
2329260	Manganese	1.84	Spike	P	0 - 20
2329260	Molybdenum	1.90	Spike	P	0 - 20
2329260	Nickel	0.622	Spike	P	0 - 20
2329260	Selenium	2.06	Spike	P	0 - 20
2329260	Silver	1.60	Spike	P	0 - 20
2329260	Thallium	2.72	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329409	Chloride	0.438	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P414635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329409	Sulfate	0.403	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329886	Ammonia-N	0.362	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329697	Kjeldahl Nitrogen	2.87	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329771	NO2NO3-N	0.957	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329857	Total-P	1.79	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P414425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329783	O-Phosphate-P	0.504	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P414365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329830	2,4-D	12.2	Spike	P	0 - 30
2329830	2,4,5-T	6.95	Spike	P	0 - 30
2329830	Acetaminophen	0.691	Spike	P	0 - 30
2329830	Acetamiprid	11.9	Spike	P	0 - 30
2329830	Afidopyropen	9.69	Spike	P	0 - 30
2329830	Bentazon	4.80	Spike	P	0 - 30
2329830	Benzovindiflupyr	4.70	Spike	P	0 - 30
2329830	Carbamazepine	3.18	Spike	P	0 - 30
2329830	Clothianidin	3.31	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P414365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329830	Dinotefuran	1.79	Spike	P	0 - 30
2329830	Diuron	3.44	Spike	P	0 - 30
2329830	Fenuron	3.95	Spike	P	0 - 30
2329830	Fluridone	1.08	Spike	P	0 - 30
2329830	Hydrocodone	5.32	Spike	P	0 - 30
2329830	Ibuprofen	4.53	Spike	P	0 - 30
2329830	Imazapyr	6.53	Spike	P	0 - 30
2329830	Imidacloprid	1.12	Spike	P	0 - 30
2329830	Linuron	2.58	Spike	P	0 - 30
2329830	Mandestrobin	0.146	Spike	P	0 - 30
2329830	MCPPP	7.83	Spike	P	0 - 30
2329830	Naproxen	9.58	Spike	P	0 - 30
2329830	Primidone	1.12	Spike	P	0 - 30
2329830	Pyraclostrobin	0.0307	Spike	P	0 - 30
2329830	Silvex	8.40	Spike	P	0 - 30
2329830	Thiamethoxam	4.95	Spike	P	0 - 30
2329830	Tolfenpyrad	4.60	Spike	P	0 - 30
2329830	Triclopyr	5.46	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P414386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329414	Acesulfame K	23.5	Spike	P	0 - 30
2329414	AMPA	27.8	Spike	P	0 - 30
2329414	Endothall	24.1	Spike	P	0 - 30
2329414	Glufosinate	24.8	Spike	P	0 - 30
2329414	Glyphosate	19.8	Spike	P	0 - 30
2329414	Sucralose	23.7	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P414539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2330089	Total Alkalinity	0.261	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P414669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329690	TDS	0.355	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2328785	Fluoride	0.495	Spike	P	0 - 1.6

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P414517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329782	Organic Carbon	0.739	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2329785

Field Sample ID: G4NW0028

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	82.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	99.1	P	30 - 160
EPA 8321B	Diuron-d6	65.9	P	30 - 160
EPA 8321B	Endothall-d6	95.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.1	P	30 - 160
EPA 8321B	Primidone-d5	91.0	P	30 - 160
EPA 8321B	Sucralose-d6	132	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A112402

Included Lab Sample IDs: 2329781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112403

Included Lab Sample IDs: 2329781

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A112422

Included Lab Sample IDs: 2329783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112457

Included Lab Sample IDs: 2329786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.3	P/P	90 - 110
Antimony	98.6	97.4	P/P	90 - 110
Arsenic	98.4	98.3	P/P	90 - 110
Barium	98.5	97.6	P/P	90 - 110
Beryllium	94.3	92.7	P/P	90 - 110
Boron	102	100	P/P	90 - 110
Cadmium	98.3	98.1	P/P	90 - 110
Chromium	98.4	97.7	P/P	90 - 110
Cobalt	97.0	97.5	P/P	90 - 110
Copper	97.7	97.9	P/P	90 - 110
Lead	98.9	98.4	P/P	90 - 110
Manganese	98.1	97.9	P/P	90 - 110
Molybdenum	98.1	98.4	P/P	90 - 110
Nickel	98.0	98.3	P/P	90 - 110
Selenium	95.7	95.7	P/P	90 - 110
Silver	98.8	99.4	P/P	90 - 110
Thallium	97.8	98.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112492

Included Lab Sample IDs: 2329782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	94.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A112498

Included Lab Sample IDs: 2329785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A112498
Included Lab Sample IDs: 2329785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.0	95.2	P/P	60 - 160
Endothall	93.7	92.3	P/P	60 - 160
Glufosinate	104	99.8	P/P	60 - 160
Glyphosate	99.5	95.9	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A112499
Included Lab Sample IDs: 2329785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	133	140	P/P	60 - 160
Sucralose	99.7	103	P/P	60 - 160

Reference Method: SM 2320 B-2011
Run ID: A112501
Included Lab Sample IDs: 2329781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.6	94.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A112515
Included Lab Sample IDs: 2329785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.3	103	P/P	50 - 150
2,4,5-T	102	96.5	P/P	50 - 150
Acetaminophen	106	106	P/P	60 - 160
Acetamiprid	105	105	P/P	50 - 150
Afidopyropen	103	102	P/P	50 - 150
Bentazon	110	108	P/P	50 - 160
Benzovindiflupyr	109	111	P/P	50 - 150
Carbamazepine	102	106	P/P	60 - 150
Clothianidin	101	102	P/P	60 - 150
Dinotefuran	99.0	102	P/P	50 - 150
Diuron	116	101	P/P	60 - 160
Fenuron	99.4	101	P/P	60 - 150
Fluridone	106	106	P/P	60 - 160
Hydrocodone	99.2	99.4	P/P	60 - 150
Ibuprofen	95.9	86.8	P/P	50 - 160
Imazapyr	100	98.8	P/P	50 - 150
Imidacloprid	97.7	101	P/P	60 - 150
Linuron	96.5	95.9	P/P	60 - 150
Mandestrobin	107	105	P/P	50 - 150
MCPP	99.8	103	P/P	50 - 150
Naproxen	91.4	113	P/P	50 - 160
Primidone	96.5	100	P/P	60 - 150
Pyraclostrobin	110	111	P/P	60 - 150
Silvex	103	99.6	P/P	50 - 150
Thiamethoxam	98.1	101	P/P	50 - 150
Tolfenpyrad	101	101	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A112515
Included Lab Sample IDs: 2329785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	100	100	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A112531
Included Lab Sample IDs: 2329782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	97.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A112541
Included Lab Sample IDs: 2329786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	103	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Potassium	102	104	P/P	90 - 110
Sodium	103	104	P/P	90 - 110
Tin	103	99.6	P/P	90 - 110
Titanium	102	101	P/P	90 - 110
Vanadium	103	101	P/P	90 - 110
Zinc	103	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A112552
Included Lab Sample IDs: 2329781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.4	98.3	P/P	90 - 110
Sulfate	99.2	99.1	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A112599
Included Lab Sample IDs: 2329786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Strontium	91.6	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A112683
Included Lab Sample IDs: 2329782

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

Reference Method: SM 4500-F- C-2011
Run ID: A112796
Included Lab Sample IDs: 2329781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A112796

Included Lab Sample IDs: 2329781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112802

Included Lab Sample IDs: 2329782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	97.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112803

Included Lab Sample IDs: 2329782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.4	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
DEP SOP: NU-094-1	Color (true)	99.8						
EPA 180.1 Rev. 2.0	Turbidity	96.9					1.83	
EPA 200.7 Rev. 4.4	Calcium	104	103	104				0.719
	Iron	107	108	108	111			0.126
	Magnesium	110	111	109	114			0.675
	Potassium	105	102	102	105			0.102
	Sodium	103	102	110				1.48
	Strontium	93.9	94.1	99.4	111			5.41
	Tin	102	101	103	104			1.34
	Titanium	102	103	104	104			1.19
	Vanadium	95.2	98.4	99.6	99.7			1.22
	Zinc	100	102	104	102			1.41
EPA 200.8 Rev. 5.4	Aluminum	97.9	102	102	103			0.235
	Antimony	96.8	101	101	99.4			0.545
	Arsenic	97.7	100	99.7	99.6			0.655
	Barium	99.4	103	102	103			0.534
	Beryllium	95.3	86.1	98.1	93.3			13.1
	Boron	103	107	107	104			0.398
	Cadmium	94.7	100	97.9	99.5			2.64
	Chromium	95.7	100	98.9	98.0			1.41
	Cobalt	96.9	99.4	97.8	98.3			1.67
	Copper	96.2	99.6	98.9	98.6			0.632
	Lead	97.8	102	102	101			0.258
	Manganese	96.4	101	98.5	104			1.84
	Molybdenum	96.2	103	101	101			1.90
	Nickel	97.6	99.1	98.5	99.8			0.622
	Selenium	96.7	96.4	98.5	96.7			2.06
	Silver	97.2	99.0	97.4	98.4			1.60
	Thallium	98.7	104	107	103			2.72
EPA 300.0 Rev. 2.1	Chloride	95.3	95.6	94.8			0.438	
	Sulfate	97.1	96.1	94.4			0.403	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	96.0	95.6				0.362
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	98.9	102				2.87
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	102				0.957
EPA 365.1 Rev. 2.0	Total-P	102	103	105				1.79
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	99.0	99.5				0.504
EPA 8321B	2,4-D	91.6	96.3	109				12.2
	2,4,5-T	80.7	87.3	93.5				6.95
	Acesulfame K	129	115	90.8				23.5
	Acetaminophen	66.4	97.5	98.2				0.691
	Acetamiprid	90.5	91.6	103				11.9
	Afidopyropen	68.7	77.2	85.1				9.69
	AMPA	97.7	95.7	72.3				27.8
	Bentazon	117	107	102				4.80
	Benzovindiflupyr	86.7	87.1	91.3				4.70
	Carbamazepine	105	102	106				3.18
	Clothianidin	100	99.6	103				3.31
	Dinotefuran	102	119	122				1.79
	Diuron	87.8	86.9	89.9				3.44
	Endothall	95.8	93.7	73.5				24.1
	Fenuron	99.1	91.1	94.7				3.95
	Fluridone	82.0	81.4	80.5				1.08
	Glufosinate	97.7	88.0	68.6				24.8
	Glyphosate	95.2	85.1	68.8				19.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	MS
			LCS	SMP		
EPA 8321B	Hydrocodone	91.2	92.3	97.3		5.32
	Ibuprofen	70.2	74.3	77.8		4.53
	Imazapyr	101	111	104		6.53
	Imidacloprid	94.6	105	104		1.12
	Linuron	71.9	71.5	69.7		2.58
	Mandestrobin	84.6	84.1	84.2		0.146
	MCPP	126	123	133		7.83
	Naproxen	81.6	71.7	78.9		9.58
	Primidone	97.3	102	101		1.12
	Pyraclostrobin	94.8	92.6	92.5		0.0307
	Silvex	74.0	77.9	84.8		8.40
	Sucralose	95.3	96.4	73.2		23.7
	Thiamethoxam	97.6	102	107		4.95
	Tolfenpyrad	50.9	41.4	43.4		4.60
	Triclopyr	87.6	90.2	95.2		5.46
SM 2320 B-2011	Total Alkalinity	94.5			0.261	
SM 2540 C-2011	TDS				0.355	
SM 4500-F- C-2011	Fluoride	96.2	98.8	99.4		0.495
SM 5310 B-2011	Organic Carbon	94.6	94.0	94.8		0.739

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2329781
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2329781
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2329786
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2329786
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2329781
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2329781
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2329782
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2329782
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2329782
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2329782
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2329783
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2329785
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2329781
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2329786
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2329781
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2329781
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2329781
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2329782

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	05/25/2022			05/25/2022 15:20	Samantha L Bates	2329781
EPA 180.1 Rev. 2.0	05/25/2022			05/25/2022 14:51	Khloe J Berg	2329781
EPA 200.7 Rev. 4.4	05/25/2022	05/26/2022 10:15	Megan Whitefoot	05/31/2022 22:24	McKinley C Carter	2329786
	05/25/2022	05/26/2022 10:15	Megan Whitefoot	06/02/2022 19:45	McKinley C Carter	2329786
EPA 200.8 Rev. 5.4	05/25/2022	05/26/2022 10:15	Megan Whitefoot	05/26/2022 18:34	Alexander Thompson	2329786
EPA 300.0 Rev. 2.1	05/25/2022			06/01/2022 19:48	Anna M. Plaviak	2329781
EPA 350.1 Rev. 2.0	05/25/2022			06/14/2022 09:58	Ping Hua	2329782
EPA 351.2 Rev. 2.0	05/25/2022	06/10/2022 11:23	Samantha L Bates	06/13/2022 18:15	Alexandra J Mattheus	2329782
EPA 353.2 Rev. 2.0	05/25/2022			06/08/2022 17:07	Nathaniel J Jones	2329782
EPA 365.1 Rev. 2.0	05/25/2022	05/27/2022 16:17	Adam P Silver	05/31/2022 16:19	James L Waggeberby	2329782
EPA 365.1 Rev. 2.0 dissolved	05/25/2022			05/25/2022 18:18	Nathaniel J Jones	2329783
EPA 8321B	05/25/2022	05/26/2022 09:30	June Rhew	05/28/2022 14:11	Juyoung Kim	2329785
	05/25/2022	05/26/2022 10:00	Umesh Chiluwal	05/26/2022 13:03	Umesh Chiluwal	2329785
	05/25/2022	05/26/2022 10:00	Umesh Chiluwal	05/27/2022 19:28	Umesh Chiluwal	2329785
SM 2320 B-2011	05/25/2022			05/27/2022 10:10	Dale L. Simmons	2329781
SM 2340 B-2011	05/25/2022			05/31/2022 22:24	McKinley C Carter	2329786
SM 2540 C-2011	05/25/2022			05/27/2022 14:56	Yijie Li	2329781
SM 2540 D-2011	05/25/2022			05/27/2022 14:56	Yijie Li	2329781
SM 4500-F- C-2011	05/25/2022			06/14/2022 06:11	Dale L. Simmons	2329781
SM 5310 B-2011	05/25/2022			05/27/2022 23:52	Khloe J Berg	2329782