

Chemical Analysis Report

SW-DIST-2023-12-08-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

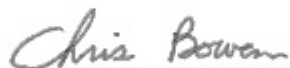
Event Description: **Payne Creek HA**
Request ID: **RQ-2023-12-04-48**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 22-DEC-2023 13:08



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: PAYNE CREEK IN STATE PARK

Collection Date/Time: 12/07/2023 13:00

Field ID: G3SW0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2455625	DEP SOP: NU-094-1	Color (true)	46	A	PCU	P438720	
	EPA 180.1 Rev. 2.0	Turbidity	2.8	A	NTU	P438725	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P439034	
		Sulfate	46		mg SO4/L	P439140	
	SM 2320 B-2011	Total Alkalinity	108		mg CaCO3/L	P438822	
	SM 2540 C-2015	TDS	205		mg/L	P439247	
	SM 2540 D-2015	TSS	2	I	mg/L	P439287	
2455628	SM 4500-F- C-2011	Fluoride	0.76		mg F/L	P438825	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P438985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P438760	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P439163	
	EPA 365.1 Rev. 2.0	Total-P	0.62		mg P/L	P438870	
2455631	SM 5310 B-2014	Organic Carbon	11		mg C/L	P438782	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.55		mg P/L	P438718	
2455639	EPA 200.7 Rev. 4.4	Calcium	36.5		mg/L	P438801	
		Iron	200		ug/L	P438801	
		Magnesium	19.7		mg/L	P438801	
		Potassium	4.6		mg/L	P438801	
		Sodium	13.6		mg/L	P438801	
		Strontium	175		ug/L	P438801	
		Tin	3.0	U	ug/L	P438801	
	EPA 200.8 Rev. 5.4	Titanium	1.2	I	ug/L	P438801	
		Vanadium	4.6	I	ug/L	P438801	
		Zinc	5.0	U	ug/L	P438801	
		Aluminum	77		ug/L	P438801	
		Antimony	0.20	I	ug/L	P438801	
		Arsenic	1.28		ug/L	P438801	
		Barium	3.79		ug/L	P438801	
		Beryllium	0.010	U	ug/L	P438801	
		Boron	47.1		ug/L	P438801	
		Cadmium	0.056	I	ug/L	P438801	
		Chromium	0.42	I	ug/L	P438801	
		Cobalt	0.162		ug/L	P438801	
		Copper	0.58	I	ug/L	P438801	
		Lead	0.20	U	ug/L	P438801	
		Manganese	11.5		ug/L	P438801	
		Molybdenum	3.64		ug/L	P438801	
		Nickel	0.84	I	ug/L	P438801	
		Selenium	0.44	I	ug/L	P438801	
		Silver	0.010	U	ug/L	P438801	
		Thallium	0.10	U	ug/L	P438801	
	SM 2340 B-2011	Hardness	172		mg/L	P438801	

Field ID: G3SW0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: PAYNES CRK AT HOBBS RD

Collection Date/Time: 12/07/2023 13:30

Field ID: G3SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2455626	DEP SOP: NU-094-1	Color (true)	63		PCU	P438721	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P438725	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P439034	
		Sulfate	47		mg SO4/L	P439140	
	SM 2320 B-2011	Total Alkalinity	81		mg CaCO3/L	P438822	
	SM 2540 C-2015	TDS	212		mg/L	P439247	
	SM 2540 D-2015	TSS	2	U	mg/L	P439287	
2455629	SM 4500-F- C-2011	Fluoride	0.62		mg F/L	P438825	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P438985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P438760	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P439163	
	EPA 365.1 Rev. 2.0	Total-P	0.54		mg P/L	P438870	
2455638	SM 5310 B-2014	Organic Carbon	10		mg C/L	P438782	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P438805	
		Acesulfame K	0.10	U	ug/L	P438670	
		2,4,5-T	0.0040	U	ug/L	P438805	
		AMPA	0.12	I	ug/L	P438670	
		Acetaminophen	0.0080	U	ug/L	P438805	
		Acetamiprid	0.0020	U	ug/L	P438805	
		Endothall	0.25	U	ug/L	P438670	
		Glufosinate	0.10	U	ug/L	P438670	
		Glyphosate	0.11	I	ug/L	P438670	
		Afidopyropen	0.0020	U	ug/L	P438805	
		Bentazon	0.0037		ug/L	P438805	
		Sucralose	0.11		ug/L	P438670	
		Benzovindiflupyr	0.0020	U	ug/L	P438805	
		Carbamazepine	8.0E-04	U	ug/L	P438805	
		Clothianidin	0.022		ug/L	P438805	
		Dinotefuran	0.0020	U	ug/L	P438805	
		Diuron	0.0020	U	ug/L	P438805	
		Fenuron	0.032	U	ug/L	P438805	
		Fluridone	8.0E-04	U	ug/L	P438805	
		Imazapyr	0.068		ug/L	P438805	
		Hydrocodone	0.0020	U	ug/L	P438805	
		Ibuprofen	0.080	U	ug/L	P438805	
		Imidacloprid	0.042		ug/L	P438805	
		Linuron	0.0040	U	ug/L	P438805	
		Mandestrobin	0.0020	U	ug/L	P438805	
		MCP	0.0020	U	ug/L	P438805	
		Naproxen	0.0080	U	ug/L	P438805	
		Primidone	0.0040	U	ug/L	P438805	
		Pyraclostrobin	0.0020	U	ug/L	P438805	
		Silvex	0.0040	U	ug/L	P438805	
		Thiamethoxam	0.053		ug/L	P438805	

Field ID: G3SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2455638	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P438805	
		Triclopyr	0.0040	U	ug/L	P438805	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: UNNAMED DITCHES

Collection Date/Time: 12/07/2023 14:00

Field ID: G3SW0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2455627	DEP SOP: NU-094-1	Color (true)	150		PCU	P438721	
	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P438725	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P439034	
		Sulfate	15		mg SO4/L	P439140	
	SM 2320 B-2011	Total Alkalinity	99		mg CaCO3/L	P438822	
	SM 2540 C-2015	TDS	225		mg/L	P439247	
	SM 2540 D-2015	TSS	5	I	mg/L	P439287	
	SM 4500-F- C-2011	Fluoride	0.44		mg F/L	P438825	
2455630	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P438985	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P439050	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P438890	
	EPA 365.1 Rev. 2.0	Total-P	1.0		mg P/L	P438870	
	SM 5310 B-2014	Organic Carbon	25		mg C/L	P438782	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P438720

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P438721

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438725

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438801

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: P438801

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439034

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439140

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438985

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438760

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439050

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438890

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439163

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438870

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P438718

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P438670

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: P438805

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	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
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: SM 2320 B-2011

Batch ID: P438822

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

Reference Method: SM 2540 C-2015

Batch ID: P439247

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P439287

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438825

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P438782

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: P438720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P438721

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438725

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	102		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115
Strontium	103		P	85 - 115
Tin	102		P	85 - 115
Titanium	100		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438801

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	101		P	85 - 115
Barium	101		P	85 - 115
Beryllium	92.5		P	85 - 115
Boron	104		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	112		P	85 - 115
Cobalt	100		P	85 - 115
Copper	101		P	85 - 115
Lead	102		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	99.9		P	85 - 115
Nickel	103		P	85 - 115
Selenium	100		P	85 - 115
Silver	103		P	85 - 115
Thallium	101		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439034

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439140

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438760

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439050

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438870

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P438718

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P438670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	121		P	40 - 150
AMPA	78.7		P	40 - 160
Endothall	51.1		P	40 - 160
Glufosinate	73.4		P	40 - 160
Glyphosate	73.6		P	40 - 160
Sucralose	103		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P438805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	110		P	40 - 150
2,4,5-T	116		P	40 - 150
Acetaminophen	74.5		P	30 - 150
Acetamiprid	79.8		P	40 - 150
Afidopyropen	74.2		P	30 - 150
Bentazon	59.1		P	30 - 150
Benzovindiflupyr	81.3		P	40 - 150
Carbamazepine	64.9		P	40 - 150
Clothianidin	88.1		P	40 - 150
Dinotefuran	100		P	40 - 150
Diuron	65.6		P	40 - 150
Fenuron	93.7		P	40 - 150
Fluridone	78.1		P	40 - 150
Hydrocodone	94.9		P	40 - 150
Ibuprofen	65.6		P	40 - 150
Imazapyr	88.7		P	40 - 150
Imidacloprid	88.3		P	40 - 150
Linuron	62.9		P	40 - 150
Mandestrobin	88.3		P	40 - 150
MCPP	97.9		P	40 - 150
Naproxen	52.6		P	40 - 150
Primidone	85.6		P	40 - 150
Pyraclostrobin	72.1		P	40 - 150
Silvex	88.6		P	40 - 150
Thiamethoxam	87.0		P	40 - 150
Tolfenpyrad	45.2		P	30 - 150
Triclopyr	121		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P438822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P439247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P439287

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	102		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438825

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P438782

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455552	Calcium	101	101	P/P	80 - 120
2455552	Iron	102	102	P/P	80 - 120
2455552	Magnesium	102	102	P/P	80 - 120
2455552	Potassium	102	101	P/P	80 - 120
2455552	Sodium	102		P	80 - 120
2455552	Strontium	102	102	P/P	80 - 120
2455552	Tin	102	103	P/P	80 - 120
2455552	Titanium	96.9	95.6	P/P	80 - 120
2455552	Vanadium	101	101	P/P	80 - 120
2455552	Zinc	103	104	P/P	80 - 120
2455734	Calcium	101		P	80 - 120
2455734	Iron	100		P	80 - 120
2455734	Magnesium	102		P	80 - 120
2455734	Potassium	101		P	80 - 120
2455734	Sodium	103		P	80 - 120
2455734	Strontium	97.1		P	80 - 120
2455734	Tin	99.8		P	80 - 120
2455734	Titanium	99.4		P	80 - 120
2455734	Vanadium	101		P	80 - 120
2455734	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455552	Aluminum	99.2	100	P/P	80 - 120
2455552	Antimony	103	104	P/P	80 - 120
2455552	Arsenic	101	101	P/P	80 - 120
2455552	Barium	101	102	P/P	80 - 120
2455552	Beryllium	94.3	91.7	P/P	80 - 120
2455552	Boron	102	104	P/P	80 - 120
2455552	Cadmium	101	102	P/P	80 - 120
2455552	Chromium	99.2	96.7	P/P	80 - 120
2455552	Cobalt	98.7	98.9	P/P	80 - 120
2455552	Copper	98.9	99.5	P/P	80 - 120
2455552	Lead	102	103	P/P	80 - 120
2455552	Manganese	98.2	103	P/P	80 - 120
2455552	Molybdenum	100	101	P/P	80 - 120
2455552	Nickel	97.4	96.9	P/P	80 - 120
2455552	Selenium	100	100	P/P	80 - 120
2455552	Silver	101	102	P/P	80 - 120
2455552	Thallium	102	103	P/P	80 - 120
2455734	Aluminum	99.8		P	80 - 120
2455734	Antimony	103		P	80 - 120
2455734	Arsenic	100		P	80 - 120
2455734	Barium	101		P	80 - 120
2455734	Beryllium	93.6		P	80 - 120
2455734	Boron	103		P	80 - 120
2455734	Cadmium	98.8		P	80 - 120
2455734	Chromium	101		P	80 - 120
2455734	Cobalt	98.4		P	80 - 120
2455734	Copper	99.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455734	Lead	102		P	80 - 120
2455734	Manganese	98.7		P	80 - 120
2455734	Molybdenum	99.3		P	80 - 120
2455734	Nickel	97.5		P	80 - 120
2455734	Selenium	99.2		P	80 - 120
2455734	Silver	102		P	80 - 120
2455734	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455515	Chloride	103		P	90 - 110
2455627	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455515	Sulfate	103		P	90 - 110
2455627	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455628	Ammonia-N	97.6	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455405	Kjeldahl Nitrogen	103	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455630	Kjeldahl Nitrogen	97.2	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455630	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2456054	NO2NO3-N	93.5	94.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P438718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455674	O-Phosphate-P	97.2	97.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P438670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455535	Acesulfame K	112	111	P/P	40 - 150
2455535	AMPA	71.4	75.6	P/P	40 - 160
2455535	Endothall	56.1	54.5	P/P	40 - 160
2455535	Glufosinate	68.4	78.0	P/P	40 - 160
2455535	Glyphosate	72.4	74.0	P/P	40 - 160
2455535	Sucralose	101	104	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P438805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455535	2,4-D	119	121	P/P	40 - 150
2455535	2,4,5-T	98.7	98.2	P/P	40 - 150
2455535	Acetaminophen	75.6	80.7	P/P	30 - 150
2455535	Acetamiprid	91.1	89.7	P/P	40 - 150
2455535	Afidopyrophen	86.4	67.9	P/P	30 - 150
2455535	Bentazon	59.9	59.8	P/P	30 - 150
2455535	Benzovindiflupyr	85.7	91.4	P/P	40 - 150
2455535	Carbamazepine	72.6	70.9	P/P	40 - 150
2455535	Clothianidin	96.8	96.6	P/P	40 - 150
2455535	Dinotefuran	110	113	P/P	40 - 150
2455535	Diuron	71.0	72.9	P/P	40 - 150
2455535	Fenuron	104	109	P/P	40 - 150
2455535	Fluridone	87.2	85.6	P/P	40 - 150
2455535	Hydrocodone	97.5	105	P/P	40 - 150
2455535	Ibuprofen	65.1	64.3	P/P	40 - 150
2455535	Imazapyr	90.0	94.6	P/P	40 - 150
2455535	Imidacloprid	95.0	98.4	P/P	40 - 150
2455535	Linuron	70.8	69.5	P/P	40 - 150
2455535	Mandestrobin	93.1	96.7	P/P	40 - 150
2455535	MCPP	102	113	P/P	40 - 150
2455535	Naproxen	46.8	54.9	P/P	40 - 150
2455535	Primidone	86.0	92.9	P/P	40 - 150
2455535	Pyraclostrobin	69.3	71.3	P/P	40 - 150
2455535	Silvex	93.0	90.1	P/P	40 - 150
2455535	Thiamethoxam	80.7	81.9	P/P	40 - 150
2455535	Tolfenpyrad	50.0	56.5	P/P	30 - 150
2455535	Triclopyr	110	103	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P438825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455777	Fluoride	102	102	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2014
Batch ID: P438782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2455518	Organic Carbon	98.6	98.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P438720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455625	Color (true)	0.374	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P438721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455684	Color (true)	1.71	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455625	Turbidity	15.4	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455552	Calcium	0.390	Spike	P	0 - 20
2455552	Iron	0.328	Spike	P	0 - 20
2455552	Magnesium	0.149	Spike	P	0 - 20
2455552	Potassium	1.17	Spike	P	0 - 20
2455552	Sodium	0.154	Spike	P	0 - 20
2455552	Strontium	0.274	Spike	P	0 - 20
2455552	Tin	0.515	Spike	P	0 - 20
2455552	Titanium	1.26	Spike	P	0 - 20
2455552	Vanadium	0.123	Spike	P	0 - 20
2455552	Zinc	1.26	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455552	Aluminum	0.733	Spike	P	0 - 20
2455552	Antimony	0.728	Spike	P	0 - 20
2455552	Arsenic	0.0579	Spike	P	0 - 20
2455552	Barium	0.279	Spike	P	0 - 20
2455552	Beryllium	2.44	Spike	P	0 - 20
2455552	Boron	1.53	Spike	P	0 - 20
2455552	Cadmium	1.93	Spike	P	0 - 20
2455552	Chromium	1.73	Spike	P	0 - 20
2455552	Cobalt	0.221	Spike	P	0 - 20
2455552	Copper	0.143	Spike	P	0 - 20
2455552	Lead	0.697	Spike	P	0 - 20
2455552	Manganese	3.95	Spike	P	0 - 20
2455552	Molybdenum	0.454	Spike	P	0 - 20
2455552	Nickel	0.447	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455552	Selenium	0.314	Spike	P	0 - 20
2455552	Silver	0.320	Spike	P	0 - 20
2455552	Thallium	1.53	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455515	Chloride	1.42	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455515	Sulfate	1.43	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455628	Ammonia-N	1.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455405	Kjeldahl Nitrogen	3.73	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455630	Kjeldahl Nitrogen	1.51	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455630	NO2NO3-N	1.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439163

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P439163

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2456054	NO2NO3-N	0.329	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438870

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455628	Total-P	2.20	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P438718

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455674	O-Phosphate-P	0.513	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P438670

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455535	Acesulfame K	0.823	Spike	P	0 - 30
2455535	AMPA	5.69	Spike	P	0 - 30
2455535	Endothall	2.94	Spike	P	0 - 30
2455535	Glufosinate	13.0	Spike	P	0 - 30
2455535	Glyphosate	2.15	Spike	P	0 - 30
2455535	Sucralose	3.09	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P438805

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455535	2,4-D	1.81	Spike	P	0 - 30
2455535	2,4,5-T	0.574	Spike	P	0 - 30
2455535	Acetaminophen	6.57	Spike	P	0 - 30
2455535	Acetamiprid	1.55	Spike	P	0 - 30
2455535	Afidopyropen	24.0	Spike	P	0 - 30
2455535	Bentazon	0.197	Spike	P	0 - 30
2455535	Benzovindiflupyr	6.45	Spike	P	0 - 30
2455535	Carbamazepine	2.37	Spike	P	0 - 30
2455535	Clothianidin	0.161	Spike	P	0 - 30
2455535	Dinotefuran	2.88	Spike	P	0 - 30
2455535	Diuron	2.69	Spike	P	0 - 30
2455535	Fenuron	4.82	Spike	P	0 - 30
2455535	Fluridone	1.90	Spike	P	0 - 30
2455535	Hydrocodone	7.39	Spike	P	0 - 30
2455535	Ibuprofen	1.29	Spike	P	0 - 30
2455535	Imazapyr	4.99	Spike	P	0 - 30
2455535	Imidacloprid	3.57	Spike	P	0 - 30
2455535	Linuron	1.80	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P438805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455535	Mandestrobin	3.74	Spike	P	0 - 30
2455535	MCP	9.76	Spike	P	0 - 30
2455535	Naproxen	15.9	Spike	P	0 - 30
2455535	Primidone	7.69	Spike	P	0 - 30
2455535	Pyraclostrobin	2.89	Spike	P	0 - 30
2455535	Silvex	3.20	Spike	P	0 - 30
2455535	Thiamethoxam	1.55	Spike	P	0 - 30
2455535	Tolfenpyrad	12.2	Spike	P	0 - 30
2455535	Triclopyr	6.56	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P438822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455777	Total Alkalinity	0.100	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P439247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455264	TDS	4.16	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P438825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455777	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P438782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2455518	Organic Carbon	0.175	Spike	P	0 - 15

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

Quality Assurance Report Surrogates

Lab Sample ID: 2455638

Field Sample ID: G3SW0118

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.0	P	30 - 160
EPA 8321B	Diuron-d6	56.4	P	30 - 160
EPA 8321B	Endothall-d6	68.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	57.2	P	30 - 160
EPA 8321B	Primidone-d5	82.2	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A123105

Included Lab Sample IDs: 2455631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	99.4	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A123108

Included Lab Sample IDs: 2455625, 2455626, 2455627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 110
Color (true)	103	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A123111

Included Lab Sample IDs: 2455625, 2455626, 2455627

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123118

Included Lab Sample IDs: 2455625, 2455626, 2455627

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

Reference Method: SM 5310 B-2014

Run ID: A123141

Included Lab Sample IDs: 2455628, 2455629, 2455630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	100	P/P	85 - 115

Reference Method: SM 2320 B-2011

Run ID: A123158

Included Lab Sample IDs: 2455625, 2455626, 2455627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.6	96.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A123158

Included Lab Sample IDs: 2455625, 2455626, 2455627

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

Reference Method: EPA 8321B

Run ID: A123176

Included Lab Sample IDs: 2455638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A123176
Included Lab Sample IDs: 2455638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	116	116	P/P	60 - 160
Sucralose	99.8	113	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A123188
Included Lab Sample IDs: 2455630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A123193
Included Lab Sample IDs: 2455628, 2455629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	109	P/P	90 - 110
Kjeldahl Nitrogen	108	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A123205
Included Lab Sample IDs: 2455639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	101	P/P	90 - 110
Antimony	102	103	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Barium	100	101	P/P	90 - 110
Beryllium	97.3	96.3	P/P	90 - 110
Boron	101	100	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Cobalt	101	99.9	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Molybdenum	101	102	P/P	90 - 110
Nickel	101	100	P/P	90 - 110
Selenium	102	101	P/P	90 - 110
Silver	104	104	P/P	90 - 110
Thallium	103	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A123212
Included Lab Sample IDs: 2455638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	109	P/P	50 - 150
2,4,5-T	107	104	P/P	50 - 150
Acetaminophen	112	107	P/P	60 - 160
Acetamiprid	111	110	P/P	50 - 150
Afidopyropen	94.5	110	P/P	50 - 150
Bentazon	97.2	92.1	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A123212
Included Lab Sample IDs: 2455638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Benzovindiflupyr	110	109	P/P	50 - 150
Carbamazepine	104	104	P/P	60 - 150
Clothianidin	104	108	P/P	60 - 150
Dinotefuran	116	114	P/P	50 - 150
Diuron	116	113	P/P	60 - 160
Fenuron	107	107	P/P	60 - 150
Fluridone	111	115	P/P	60 - 160
Hydrocodone	116	118	P/P	60 - 150
Ibuprofen	100	82.5	P/P	50 - 160
Imazapyr	93.0	90.3	P/P	50 - 150
Imidacloprid	99.7	98.6	P/P	60 - 150
Linuron	102	114	P/P	60 - 150
Mandestrobin	115	111	P/P	50 - 150
MCPP	105	102	P/P	50 - 150
Naproxen	60.8	104	P/P	50 - 160
Primidone	103	101	P/P	60 - 150
Pyraclostrobin	101	103	P/P	60 - 150
Silvex	106	102	P/P	50 - 150
Thiamethoxam	115	113	P/P	50 - 150
Tolfenpyrad	97.8	99.4	P/P	60 - 150
Triclopyr	111	108	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A123220
Included Lab Sample IDs: 2455639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.7	P/P	90 - 110
Iron	99.8	98.5	P/P	90 - 110
Magnesium	100	98.6	P/P	90 - 110
Potassium	99.8	99.6	P/P	90 - 110
Sodium	101	100	P/P	90 - 110
Strontium	106	106	P/P	90 - 110
Tin	105	104	P/P	90 - 110
Titanium	103	103	P/P	90 - 110
Vanadium	103	103	P/P	90 - 110
Zinc	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123224
Included Lab Sample IDs: 2455628, 2455629, 2455630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.0	P/P	90 - 110
Total-P	101	96.5	P/P	90 - 110
Total-P	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123230

Included Lab Sample IDs: 2455628, 2455629, 2455630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	97.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123244

Included Lab Sample IDs: 2455639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	96.8	97.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A123245

Included Lab Sample IDs: 2455638

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	139	121	P/P	60 - 160
Endothall	97.5	83.4	P/P	60 - 160
Glufosinate	135	112	P/P	60 - 160
Glyphosate	121	113	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123254

Included Lab Sample IDs: 2455625, 2455626, 2455627

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123294

Included Lab Sample IDs: 2455630

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123302

Included Lab Sample IDs: 2455628, 2455629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.5	95.5	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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	100				0.374	
	Color (true)	102				1.71	
EPA 180.1 Rev. 2.0	Turbidity	103				15.4	
EPA 200.7 Rev. 4.4	Calcium	104	101	101	101		0.390
	Iron	102	102	102	100		0.328
	Magnesium	103	102	102	102		0.149
	Potassium	101	102	101	101		1.17
	Sodium	101	102	103			0.154
	Strontium	103	102	102	97.1		0.274
	Tin	102	102	103	99.8		0.515
	Titanium	100	96.9	95.6	99.4		1.26
	Vanadium	102	101	101	101		0.123
	Zinc	102	103	104	101		1.26
EPA 200.8 Rev. 5.4	Aluminum	101	99.2	100	99.8		0.733
	Antimony	103	103	104	103		0.728
	Arsenic	101	101	101	100		0.0579
	Barium	101	101	102	101		0.279
	Beryllium	92.5	94.3	91.7	93.6		2.44
	Boron	104	102	104	103		1.53
	Cadmium	99.0	101	102	98.8		1.93
	Chromium	112	101	99.2	96.7		1.73
	Cobalt	100	98.7	98.9	98.4		0.221
	Copper	101	98.9	99.5	99.1		0.143
	Lead	102	102	103	102		0.697
	Manganese	101	98.2	103	98.7		3.95
	Molybdenum	99.9	100	101	99.3		0.454
	Nickel	103	97.4	96.9	97.5		0.447
	Selenium	100	100	100	99.2		0.314
	Silver	103	101	102	102		0.320
	Thallium	101	102	103	103		1.53
EPA 300.0 Rev. 2.1	Chloride	102	103	98.8		1.42	
	Sulfate	102	103	98.2		1.43	
EPA 350.1 Rev. 2.0	Ammonia-N	95.8	97.6	99.4			1.41
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	103	109			3.73
	Kjeldahl Nitrogen	103	97.2	100			1.51
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.2				1.26
	NO2NO3-N	98.5	93.5	94.0			0.329
EPA 365.1 Rev. 2.0	Total-P	105					2.20
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	97.2	97.7			0.513
EPA 8321B	2,4-D	110	121	119			1.81
	2,4,5-T	116	98.2	98.7			0.574
	Acesulfame K	121	112	111			0.823
	Acetaminophen	74.5	75.6	80.7			6.57
	Acetamiprid	79.8	89.7	91.1			1.55
	Afidopyropen	74.2	67.9	86.4			24.0
	AMPA	78.7	71.4	75.6			5.69
	Bentazon	59.1	59.8	59.9			0.197
	Benzovindiflupyr	81.3	91.4	85.7			6.45
	Carbamazepine	64.9	70.9	72.6			2.37
	Clothianidin	88.1	96.6	96.8			0.161
	Dinotefuran	100	110	113			2.88
	Diuron	65.6	72.9	71.0			2.69
	Endothall	51.1	56.1	54.5			2.94
	Fenuron	93.7	104	109			4.82

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
			LCS	SMP	MS	
EPA 8321B	Fluridone	78.1	85.6	87.2		1.90
	Glufosinate	73.4	68.4	78.0		13.0
	Glyphosate	73.6	72.4	74.0		2.15
	Hydrocodone	94.9	97.5	105		7.39
	Ibuprofen	65.6	64.3	65.1		1.29
	Imazapyr	88.7	94.6	90.0		4.99
	Imidacloprid	88.3	98.4	95.0		3.57
	Linuron	62.9	69.5	70.8		1.80
	Mandestrobin	88.3	96.7	93.1		3.74
	MCPP	97.9	113	102		9.76
	Naproxen	52.6	54.9	46.8		15.9
	Primidone	85.6	86.0	92.9		7.69
	Pyraclostrobin	72.1	71.3	69.3		2.89
	Silvex	88.6	90.1	93.0		3.20
	Sucralose	103	101	104		3.09
	Thiamethoxam	87.0	80.7	81.9		1.55
	Tolfenpyrad	45.2	56.5	50.0		12.2
	Triclopyr	121	103	110		6.56
SM 2320 B-2011	Total Alkalinity	98.7			0.100	
SM 2540 C-2015	TDS	96.4			4.16	
SM 2540 D-2015	TSS	102				
SM 4500-F- C-2011	Fluoride	103	102	102		0.0
SM 5310 B-2014	Organic Carbon	101	98.6	98.5		0.175

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2455625, 2455626, 2455627
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2455625, 2455626, 2455627
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2455639
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2455639
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2455625, 2455626, 2455627
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2455625, 2455626, 2455627
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2455628, 2455629, 2455630
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2455628, 2455629, 2455630
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2455628, 2455629, 2455630
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2455628, 2455629, 2455630
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2455631
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2455638
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2455625, 2455626, 2455627
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2455639
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2455625, 2455626, 2455627
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2455625, 2455626, 2455627
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2455625, 2455626, 2455627
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2455628, 2455629, 2455630

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	12/08/2023			12/08/2023 14:29	Samantha L Bates	2455625
	12/08/2023			12/08/2023 14:33	Samantha L Bates	2455626
	12/08/2023			12/08/2023 14:34	Samantha L Bates	2455627
EPA 180.1 Rev. 2.0	12/08/2023			12/08/2023 14:00	Anna M. Plaviak	2455625
	12/08/2023			12/08/2023 14:45	Anna M. Plaviak	2455626
	12/08/2023			12/08/2023 14:48	Anna M. Plaviak	2455627
EPA 200.7 Rev. 4.4	12/08/2023	12/12/2023 11:45	George D Taylor	12/13/2023 16:28	McKinley C Carter	2455639
EPA 200.8 Rev. 5.4	12/08/2023	12/12/2023 11:45	George D Taylor	12/13/2023 19:57	Conrad Hartmann	2455639
	12/08/2023	12/12/2023 11:45	George D Taylor	12/14/2023 23:50	Emily M Philpot	2455639
EPA 300.0 Rev. 2.1	12/08/2023			12/13/2023 08:20	Anna M. Plaviak	2455627
	12/08/2023			12/13/2023 11:21	Anna M. Plaviak	2455625
	12/08/2023			12/13/2023 11:36	Anna M. Plaviak	2455626
	12/08/2023			12/16/2023 03:33	James L Waggeberby	2455627
	12/08/2023			12/16/2023 06:34	James L Waggeberby	2455625
EPA 350.1 Rev. 2.0	12/08/2023			12/16/2023 06:49	James L Waggeberby	2455626
	12/08/2023			12/14/2023 10:59	Khloe J Berg	2455628
	12/08/2023			12/14/2023 11:03	Khloe J Berg	2455629
	12/08/2023			12/14/2023 11:04	Khloe J Berg	2455630
EPA 351.2 Rev. 2.0	12/08/2023	12/12/2023 10:36	Ping Hua	12/13/2023 13:22	Ping Hua	2455628
	12/08/2023	12/12/2023 10:36	Ping Hua	12/13/2023 13:41	Ping Hua	2455629
	12/08/2023	12/15/2023 13:03	Simonne.V. Calhoun	12/18/2023 14:12	Samantha L Bates	2455630
EPA 353.2 Rev. 2.0	12/08/2023			12/12/2023 13:29	Fadila Guebre	2455630
	12/08/2023			12/18/2023 13:39	Anna M. Plaviak	2455628
	12/08/2023			12/18/2023 13:40	Anna M. Plaviak	2455629
EPA 365.1 Rev. 2.0	12/08/2023	12/13/2023 13:13	Adam P Silver	12/14/2023 11:04	James L Waggeberby	2455628
	12/08/2023	12/13/2023 13:13	Adam P Silver	12/14/2023 11:13	James L Waggeberby	2455629
	12/08/2023	12/13/2023 13:13	Adam P Silver	12/14/2023 12:00	James L Waggeberby	2455630
EPA 365.1 Rev. 2.0 dissolved	12/08/2023			12/08/2023 14:11	Elise M. Gillis	2455631
EPA 8321B	12/08/2023	12/12/2023 14:00	Hana Lee	12/12/2023 18:43	Tae K Lee	2455638
	12/08/2023	12/12/2023 14:00	Hana Lee	12/14/2023 11:34	Tae K Lee	2455638
	12/08/2023	12/13/2023 09:00	Hoor Shaik	12/13/2023 21:32	Juyoung Kim	2455638
SM 2320 B-2011	12/08/2023			12/11/2023 23:09	Adam P Silver	2455625
	12/08/2023			12/11/2023 23:23	Adam P Silver	2455626
	12/08/2023			12/11/2023 23:36	Adam P Silver	2455627
SM 2340 B-2011	12/08/2023			12/13/2023 16:28	McKinley C Carter	2455639
SM 2540 C-2015	12/08/2023			12/12/2023 15:24	Yijie Li	2455625, 2455626, 2455627
SM 2540 D-2015	12/08/2023			12/12/2023 15:24	Yijie Li	2455625, 2455626, 2455627
SM 4500-F- C-2011	12/08/2023			12/11/2023 23:09	Adam P Silver	2455625
	12/08/2023			12/11/2023 23:23	Adam P Silver	2455626
	12/08/2023			12/11/2023 23:36	Adam P Silver	2455627

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2014	12/08/2023			12/11/2023 19:22	Kenneth H Lee	2455628
	12/08/2023			12/11/2023 19:36	Kenneth H Lee	2455629
	12/08/2023			12/11/2023 19:49	Kenneth H Lee	2455630