

Chemical Analysis Report

NW-DIST-2022-08-24-02

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

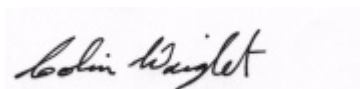
Event Description: **Jay Run**
Request ID: **RQ-2022-08-22-47**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
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Certified by: Colin Wright, Program Administrator

Date Certified: 14-SEP-2022 12:17

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray 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: Ates Creek upstream of Fish Hatchery Road

Collection Date/Time: 08/23/2022 09:45

Field ID: G4NW0525

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352135	EPA 200.7 Rev. 4.4	Calcium	2.83		mg/L	P418720	
		Iron	890		ug/L	P418720	
		Magnesium	1.34		mg/L	P418720	
		Potassium	1.5		mg/L	P418720	
		Sodium	7.3		mg/L	P418720	
		Strontium	63.5		ug/L	P418720	
		Tin	3.0	U	ug/L	P418720	
		Titanium	0.75	U	ug/L	P418720	
		Vanadium	2.0	U	ug/L	P418720	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P418720	
		Aluminum	57		ug/L	P418720	
		Antimony	0.050	U	ug/L	P418720	
		Arsenic	0.27		ug/L	P418720	
		Barium	10.9		ug/L	P418720	
		Beryllium	0.015	I	ug/L	P418720	
		Boron	16.2		ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	0.40	U	ug/L	P418720	
		Cobalt	0.110		ug/L	P418720	
		Copper	0.90		ug/L	P418720	
		Lead	0.20	U	ug/L	P418720	
		Manganese	37.8		ug/L	P418720	
		Molybdenum	0.15	U	ug/L	P418720	
		Nickel	0.50	U	ug/L	P418720	
		Selenium	0.26	I	ug/L	P418720	
		Silver	0.010	U	ug/L	P418720	
		Thallium	0.10	U	ug/L	P418720	
	SM 2340 B-2011	Hardness	12.6		mg/L	P418720	

Ref. Method and Comment:

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

Sample Location: Bear Creek 40m blw Lake Dam outfall

Collection Date/Time: 08/23/2022 10:30

Field ID: G4NW0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352113	DEP SOP: NU-094-1	Color (true)	22	A	PCU	P418626	
	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P419117	
		Sulfate	0.37	I	mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	4.8		mg CaCO3/L	P419054	
	SM 2540 C-2011	TDS	15	U	mg/L	P419110	
	SM 2540 D-2011	TSS	3	I	mg/L	P419147	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419281	
2352114	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P418811	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P418777	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P418996	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P418893	
	SM 5310 B-2011	Organic Carbon	4.3		mg C/L	P419026	
2352134	EPA 200.7 Rev. 4.4	Calcium	1.84		mg/L	P418720	
		Iron	1.00E+03		ug/L	P418720	
		Magnesium	0.77		mg/L	P418720	
		Potassium	0.30	U	mg/L	P418720	
		Sodium	1.6	I	mg/L	P418720	
		Strontium	3.7	I	ug/L	P418720	
		Tin	3.0	U	ug/L	P418720	
		Titanium	0.75	U	ug/L	P418720	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P418720	
		Zinc	5.0	U	ug/L	P418720	
		Aluminum	15	I	ug/L	P418720	
		Antimony	0.050	U	ug/L	P418720	
		Arsenic	0.46		ug/L	P418720	
		Barium	6.44		ug/L	P418720	
		Beryllium	0.010	U	ug/L	P418720	
		Boron	8.3		ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	0.40	U	ug/L	P418720	
		Cobalt	0.243		ug/L	P418720	
		Copper	0.40	U	ug/L	P418720	
		Lead	0.20	U	ug/L	P418720	
		Manganese	28.1		ug/L	P418720	
		Molybdenum	0.15	U	ug/L	P418720	
		Nickel	0.50	U	ug/L	P418720	
		Selenium	0.20	U	ug/L	P418720	
		Silver	0.010	U	ug/L	P418720	
		Thallium	0.10	U	ug/L	P418720	
	SM 2340 B-2011	Hardness	7.7		mg/L	P418720	

Field ID: G4NW0001

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-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Bear Creek @ Forest Rd. 0.7 Miles West of Bear Lake **Collection Date/Time: 08/23/2022 11:15**

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352136	EPA 200.7 Rev. 4.4	Calcium	1.31		mg/L	P418720	
		Iron	1.43E+03		ug/L	P418720	
		Magnesium	0.59		mg/L	P418720	
		Potassium	0.30	U	mg/L	P418720	
		Sodium	1.6	I	mg/L	P418720	
		Strontium	3.6	I	ug/L	P418720	
		Tin	3.0	U	ug/L	P418720	
		Titanium	0.89	I	ug/L	P418720	
		Vanadium	2.0	U	ug/L	P418720	
		Zinc	5.0	U	ug/L	P418720	
	EPA 200.8 Rev. 5.4	Aluminum	56		ug/L	P418720	
		Antimony	0.050	U	ug/L	P418720	
		Arsenic	0.53		ug/L	P418720	
		Barium	10.2		ug/L	P418720	
		Beryllium	0.014	I	ug/L	P418720	
		Boron	8.8		ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	0.40	U	ug/L	P418720	
		Cobalt	0.322		ug/L	P418720	
		Copper	0.40	U	ug/L	P418720	
		Lead	0.20	U	ug/L	P418720	
		Manganese	45.0		ug/L	P418720	
		Molybdenum	0.15	U	ug/L	P418720	
		Nickel	0.50	U	ug/L	P418720	
		Selenium	0.28	I	ug/L	P418720	
		Silver	0.010	U	ug/L	P418720	
		Thallium	0.10	U	ug/L	P418720	
	SM 2340 B-2011	Hardness	5.7		mg/L	P418720	

Ref. Method and Comment:

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

Sample Location: Manning Creek at Whitfield Road (North Side) Collection Date/Time: 08/23/2022 11:40

Field ID: G4NW0200

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352119	DEP SOP: NU-094-1	Color (true)	41	A	PCU	P418627	
	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P419117	
		Sulfate	0.45	I	mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P419055	
	SM 2540 C-2011	TDS	24	I	mg/L	P419110	
	SM 2540 D-2011	TSS	3	I	mg/L	P419147	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419281	
2352121	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P418811	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P418908	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P418996	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P418893	
	SM 5310 B-2011	Organic Carbon	6.5		mg C/L	P419028	

Ref. Method and Comment:

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

Sample Location: Big Coldwater Creek upstream of HWY 4

Collection Date/Time: 08/23/2022 12:00

Field ID: G4NW0502

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352117	DEP SOP: NU-094-1	Color (true)	53		PCU	P418627	
	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	7.3		mg Cl/L	P419117	
		Sulfate	0.75		mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	2.8		mg CaCO3/L	P419054	
	SM 2540 C-2011	TDS	36		mg/L	P419110	
	SM 2540 D-2011	TSS	4	I	mg/L	P419147	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419281	
2352118	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P418811	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P418908	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.63		mg N/L	P418996	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P418893	
	SM 5310 B-2011	Organic Carbon	5.8		mg C/L	P419026	
2352137	EPA 200.7 Rev. 4.4	Calcium	2.01		mg/L	P418720	
		Iron	1.53E+03		ug/L	P418720	
		Magnesium	1.52		mg/L	P418720	
		Potassium	0.83	I	mg/L	P418720	
		Sodium	2.9		mg/L	P418720	
		Strontium	19.4		ug/L	P418720	
		Tin	3.0	U	ug/L	P418720	
	EPA 200.8 Rev. 5.4	Titanium	1.4	I	ug/L	P418720	
		Vanadium	2.0	U	ug/L	P418720	
		Zinc	5.0	U	ug/L	P418720	
		Aluminum	222		ug/L	P418720	
		Antimony	0.050	U	ug/L	P418720	
		Arsenic	0.58		ug/L	P418720	
		Barium	44.1		ug/L	P418720	
		Beryllium	0.081		ug/L	P418720	
		Boron	15.4		ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	0.40	U	ug/L	P418720	
		Cobalt	0.971		ug/L	P418720	
		Copper	0.40	U	ug/L	P418720	
		Lead	0.45		ug/L	P418720	
		Manganese	76.8		ug/L	P418720	
		Molybdenum	0.15	U	ug/L	P418720	
		Nickel	0.79	I	ug/L	P418720	
		Selenium	0.20	U	ug/L	P418720	
		Silver	0.010	U	ug/L	P418720	
		Thallium	0.10	U	ug/L	P418720	
	SM 2340 B-2011	Hardness	11.3		mg/L	P418720	

Ref. Method and Comment:

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

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

Sample Location: Manning Creek upstream of Manning Creek Rd Collection Date/Time: 08/23/2022 13:15

Field ID: G4NW0435

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352120	DEP SOP: NU-094-1	Color (true)	64		PCU	P418627	
	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	3.9		mg Cl/L	P419117	
		Sulfate	0.70		mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	2.6		mg CaCO3/L	P419055	
	SM 2540 C-2011	TDS	42		mg/L	P419110	
	SM 2540 D-2011	TSS	18		mg/L	P419147	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419281	
2352122	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P418811	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P418820	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.40		mg N/L	P418996	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P418893	
	SM 5310 B-2011	Organic Carbon	6.9		mg C/L	P419028	

Ref. Method and Comment:

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

Sample Location: Big Coldwater Creek West fork upstream of Walling Rd

Collection Date/Time: 08/23/2022 12:45

Field ID: G4NW0436

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352115	DEP SOP: NU-094-1	Color (true)	50		PCU	P418627	
	EPA 180.1 Rev. 2.0	Turbidity	7.9		NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	5.4		mg Cl/L	P419117	
		Sulfate	1.6		mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	4.0		mg CaCO3/L	P419054	
	SM 2540 C-2011	TDS	38		mg/L	P419110	
	SM 2540 D-2011	TSS	12		mg/L	P419147	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419281	
2352116	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P418811	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P418818	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.96		mg N/L	P418996	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P418893	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P419026	
2352133	EPA 8321B	2,4-D	0.0020	U	ug/L	P418690	
		Acesulfame K	0.10	U	ug/L	P418589	
		2,4,5-T	0.0040	U	ug/L	P418690	
		AMPA	0.10	U	ug/L	P418589	
		Acetaminophen	0.0080	U	ug/L	P418690	
		Acetamiprid	0.0020	U	ug/L	P418690	
		Endothall	0.25	U	ug/L	P418589	
		Glufosinate	0.10	U	ug/L	P418589	
		Glyphosate	0.10	U	ug/L	P418589	
		Afidopyropen	0.0020	U	ug/L	P418690	
		Bentazon	0.0018	I	ug/L	P418690	
		Sucralose	0.041		ug/L	P418589	
		Benzovindiflupyr	0.0020	U	ug/L	P418690	
		Carbamazepine	8.0E-04	U	ug/L	P418690	
		Clothianidin	0.0020	U	ug/L	P418690	
		Dinotefuran	0.0020	U	ug/L	P418690	
		Diuron	0.0021	I	ug/L	P418690	
		Fenuron	0.032	U	ug/L	P418690	
		Fluridone	8.0E-04	U	ug/L	P418690	
		Imazapyr	0.010	I	ug/L	P418690	
		Hydrocodone	0.0020	U	ug/L	P418690	
		Ibuprofen	0.080	U	ug/L	P418690	
		Imidacloprid	0.0082		ug/L	P418690	
		Linuron	0.0040	U	ug/L	P418690	
		Mandestrobin	0.0020	U	ug/L	P418690	
		MCP	0.0040	U	ug/L	P418690	
		Naproxen	0.0080	U	ug/L	P418690	
		Primidone	0.0040	U	ug/L	P418690	
		Pyraclostrobin	0.0020	U	ug/L	P418690	
		Silvex	0.0040	U	ug/L	P418690	

Field ID: G4NW0436

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2352133	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P418690	
		Tolfenpyrad	0.0020	U	ug/L	P418690	
		Triclopyr	0.0040	U	ug/L	P418690	

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

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P418626

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P418627

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418622

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418720

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: P418720

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: P419117

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419122

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418811

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418777

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418818

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418820

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418908

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418996

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418893

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P418589

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: P418690

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	0.0040	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: SM 2320 B-2011

Batch ID: P419054

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

Reference Method: SM 2320 B-2011

Batch ID: P419055

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P419110

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419147

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419281

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419026

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

Reference Method: SM 5310 B-2011
Batch ID: P419028

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: P418626

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P418627

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.7		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	108		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	100		P	85 - 115
Sodium	108		P	85 - 115
Strontium	105		P	85 - 115
Tin	106		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	101		P	85 - 115
Barium	102		P	85 - 115
Beryllium	94.6		P	85 - 115
Boron	100		P	85 - 115
Cadmium	96.1		P	85 - 115
Chromium	98.1		P	85 - 115
Cobalt	97.0		P	85 - 115
Copper	99.0		P	85 - 115
Lead	93.2		P	85 - 115
Manganese	98.5		P	85 - 115
Molybdenum	97.4		P	85 - 115
Nickel	99.6		P	85 - 115
Selenium	99.4		P	85 - 115
Silver	98.1		P	85 - 115
Thallium	98.6		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419117

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418811

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418777

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: P418818

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418820

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418996

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418893

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P418589

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	114		P	40 - 150
AMPA	112		P	40 - 150
Endothall	118		P	40 - 150
Glufosinate	124		P	40 - 150
Glyphosate	113		P	40 - 150
Sucralose	120		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P418690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.1		P	40 - 150
2,4,5-T	63.4		P	40 - 150
Acetaminophen	95.3		P	30 - 150
Acetamiprid	82.0		P	40 - 150
Afidopyropen	76.6		P	30 - 150
Bentazon	83.8		P	30 - 150
Benzovindiflupyr	96.5		P	40 - 150
Carbamazepine	85.0		P	40 - 150
Clothianidin	111		P	40 - 150
Dinotefuran	93.1		P	40 - 150
Diuron	100		P	40 - 150
Fenuron	97.4		P	40 - 150
Fluridone	91.2		P	40 - 150
Hydrocodone	87.3		P	40 - 150
Ibuprofen	89.4		P	40 - 150
Imazapyr	93.3		P	40 - 150
Imidacloprid	80.6		P	40 - 150
Linuron	95.1		P	40 - 150
Mandestrobin	89.4		P	40 - 150
MCPP	84.6		P	40 - 150
Naproxen	101		P	40 - 150
Primidone	83.4		P	40 - 150
Pyraclostrobin	83.0		P	40 - 150
Silvex	70.6		P	40 - 150
Thiamethoxam	102		P	40 - 150
Tolfenpyrad	41.0		P	30 - 150
Triclopyr	71.3		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P419054

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 2320 B-2011

Batch ID: P419055

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P419281

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P419028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P418720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352235	Calcium	99.0		P	80 - 120
2352235	Iron	106	103	P/P	80 - 120
2352235	Magnesium	104	99.9	P/P	80 - 120
2352235	Potassium	101		P	80 - 120
2352235	Sodium	105	102	P/P	80 - 120
2352235	Strontium	105	102	P/P	80 - 120
2352235	Tin	104	101	P/P	80 - 120
2352235	Titanium	102	100	P/P	80 - 120
2352235	Vanadium	102	100	P/P	80 - 120
2352235	Zinc	102	100	P/P	80 - 120
2352236	Iron	104		P	80 - 120
2352236	Magnesium	104		P	80 - 120
2352236	Potassium	104		P	80 - 120
2352236	Strontium	104		P	80 - 120
2352236	Tin	103		P	80 - 120
2352236	Titanium	103		P	80 - 120
2352236	Vanadium	104		P	80 - 120
2352236	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P418720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352235	Aluminum	98.7	98.4	P/P	80 - 120
2352235	Antimony	104	103	P/P	80 - 120
2352235	Arsenic	103	101	P/P	80 - 120
2352235	Barium	103	102	P/P	80 - 120
2352235	Beryllium	93.4	89.3	P/P	80 - 120
2352235	Boron	97.4	95.1	P/P	80 - 120
2352235	Cadmium	101	101	P/P	80 - 120
2352235	Chromium	101	101	P/P	80 - 120
2352235	Cobalt	97.8	96.2	P/P	80 - 120
2352235	Copper	98.3	96.4	P/P	80 - 120
2352235	Lead	93.5	93.7	P/P	80 - 120
2352235	Manganese	101	102	P/P	80 - 120
2352235	Molybdenum	102	101	P/P	80 - 120
2352235	Nickel	101	99.1	P/P	80 - 120
2352235	Selenium	100	99.9	P/P	80 - 120
2352235	Silver	98.2	98.6	P/P	80 - 120
2352235	Thallium	100	101	P/P	80 - 120
2352236	Aluminum	97.9		P	80 - 120
2352236	Antimony	104		P	80 - 120
2352236	Arsenic	99.9		P	80 - 120
2352236	Barium	104		P	80 - 120
2352236	Beryllium	91.3		P	80 - 120
2352236	Boron	96.0		P	80 - 120
2352236	Cadmium	98.6		P	80 - 120
2352236	Chromium	102		P	80 - 120
2352236	Cobalt	93.2		P	80 - 120
2352236	Copper	93.9		P	80 - 120
2352236	Lead	94.0		P	80 - 120
2352236	Manganese	102		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352236	Molybdenum	100		P	80 - 120
2352236	Nickel	96.2		P	80 - 120
2352236	Selenium	97.6		P	80 - 120
2352236	Silver	97.7		P	80 - 120
2352236	Thallium	100		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351743	Chloride	98.2		P	90 - 110
2351835	Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351743	Sulfate	93.7		P	90 - 110
2351835	Sulfate	94.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352114	Ammonia-N	97.4	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351514	Kjeldahl Nitrogen	93.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351604	Kjeldahl Nitrogen	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351474	Kjeldahl Nitrogen	108	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352121	NO2NO3-N	101	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352114	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P418589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352133	Acesulfame K	106	109	P/P	40 - 150
2352133	AMPA	117	113	P/P	40 - 150
2352133	Endothall	118	117	P/P	40 - 150
2352133	Glufosinate	122	97.9	P/P	40 - 150
2352133	Glyphosate	82.1	84.8	P/P	40 - 150
2352133	Sucralose	114	114	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351931	2,4-D	82.2	80.4	P/P	40 - 150
2351931	2,4,5-T	72.7	74.7	P/P	40 - 150
2351931	Acetaminophen	102	104	P/P	30 - 150
2351931	Acetamiprid	86.8	94.8	P/P	40 - 150
2351931	Afidopyrophen	70.6	82.2	P/P	30 - 150
2351931	Bentazon	86.0	102	P/P	30 - 150
2351931	Benzovindiflupyr	94.5	100	P/P	40 - 150
2351931	Carbamazepine	101	111	P/P	40 - 150
2351931	Clothianidin	102	106	P/P	40 - 150
2351931	Dinotefuran	101	102	P/P	40 - 150
2351931	Diuron	106	94.5	P/P	40 - 150
2351931	Fenuron	92.6	99.7	P/P	40 - 150
2351931	Fluridone	85.3	84.2	P/P	40 - 150
2351931	Hydrocodone	96.9	104	P/P	40 - 150
2351931	Ibuprofen	72.0	76.1	P/P	40 - 150
2351931	Imazapyr	96.2	92.4	P/P	40 - 150
2351931	Imidacloprid	88.4	97.0	P/P	40 - 150
2351931	Linuron	83.5	96.5	P/P	40 - 150
2351931	Mandestrobin	88.7	108	P/P	40 - 150
2351931	MCPP	89.5	94.8	P/P	40 - 150
2351931	Naproxen	98.0	90.2	P/P	40 - 150
2351931	Primidone	85.8	82.5	P/P	40 - 150
2351931	Pyraclostrobin	87.9	94.0	P/P	40 - 150
2351931	Silvex	74.8	81.8	P/P	40 - 150
2351931	Thiamethoxam	80.6	106	P/P	40 - 150
2351931	Tolfenpyrad	51.3	40.3	P/P	30 - 150
2351931	Triclopyr	74.5	75.8	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P419281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352991	Fluoride	102	102	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P419026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351836	Organic Carbon	92.6	96.2	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P419028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352443	Organic Carbon	96.7	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P418626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352113	Color (true)	3.88	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P418627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352119	Color (true)	4.89	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351992	Turbidity	16.9	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P418720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352235	Calcium	1.33	Spike	P	0 - 20
2352235	Iron	3.50	Spike	P	0 - 20
2352235	Magnesium	3.40	Spike	P	0 - 20
2352235	Potassium	1.68	Spike	P	0 - 20
2352235	Sodium	1.86	Spike	P	0 - 20
2352235	Strontium	2.63	Spike	P	0 - 20
2352235	Tin	2.22	Spike	P	0 - 20
2352235	Titanium	1.27	Spike	P	0 - 20
2352235	Vanadium	1.46	Spike	P	0 - 20
2352235	Zinc	1.77	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352235	Aluminum	0.272	Spike	P	0 - 20
2352235	Antimony	1.55	Spike	P	0 - 20
2352235	Arsenic	2.90	Spike	P	0 - 20
2352235	Barium	0.371	Spike	P	0 - 20
2352235	Beryllium	4.46	Spike	P	0 - 20
2352235	Boron	2.20	Spike	P	0 - 20
2352235	Cadmium	0.359	Spike	P	0 - 20
2352235	Chromium	0.211	Spike	P	0 - 20
2352235	Cobalt	1.64	Spike	P	0 - 20
2352235	Copper	1.95	Spike	P	0 - 20
2352235	Lead	0.230	Spike	P	0 - 20
2352235	Manganese	0.367	Spike	P	0 - 20
2352235	Molybdenum	0.511	Spike	P	0 - 20
2352235	Nickel	2.14	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P418720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352235	Selenium	0.527	Spike	P	0 - 20
2352235	Silver	0.415	Spike	P	0 - 20
2352235	Thallium	0.728	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351743	Chloride	0.0689	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351743	Sulfate	0.118	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352114	Ammonia-N	2.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351462	Kjeldahl Nitrogen	1.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351514	Kjeldahl Nitrogen	6.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351604	Kjeldahl Nitrogen	1.58	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418908

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P418908

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351474	Kjeldahl Nitrogen	2.95	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P418996

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352121	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P418893

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352114	Total-P	0.668	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P418589

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352133	Acesulfame K	2.85	Spike	P	0 - 30
2352133	AMPA	3.28	Spike	P	0 - 30
2352133	Endothall	1.01	Spike	P	0 - 30
2352133	Glufosinate	22.3	Spike	P	0 - 30
2352133	Glyphosate	3.24	Spike	P	0 - 30
2352133	Sucralose	0.413	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P418690

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351931	2,4-D	2.26	Spike	P	0 - 30
2351931	2,4,5-T	2.73	Spike	P	0 - 30
2351931	Acetaminophen	1.37	Spike	P	0 - 30
2351931	Acetamiprid	8.71	Spike	P	0 - 30
2351931	Afidopyropen	15.2	Spike	P	0 - 30
2351931	Bentazon	17.3	Spike	P	0 - 30
2351931	Benzovindiflupyr	5.90	Spike	P	0 - 30
2351931	Carbamazepine	10.2	Spike	P	0 - 30
2351931	Clothianidin	3.37	Spike	P	0 - 30
2351931	Dinotefuran	0.756	Spike	P	0 - 30
2351931	Diuron	11.2	Spike	P	0 - 30
2351931	Fenuron	7.36	Spike	P	0 - 30
2351931	Fluridone	1.28	Spike	P	0 - 30
2351931	Hydrocodone	6.77	Spike	P	0 - 30
2351931	Ibuprofen	5.56	Spike	P	0 - 30
2351931	Imazapyr	4.11	Spike	P	0 - 30
2351931	Imidacloprid	9.21	Spike	P	0 - 30
2351931	Linuron	14.4	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P418690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351931	Mandestrobin	19.3	Spike	P	0 - 30
2351931	MCCP	5.71	Spike	P	0 - 30
2351931	Naproxen	8.25	Spike	P	0 - 30
2351931	Primidone	3.92	Spike	P	0 - 30
2351931	Pyraclostrobin	6.78	Spike	P	0 - 30
2351931	Silvex	8.98	Spike	P	0 - 30
2351931	Thiamethoxam	27.6	Spike	P	0 - 30
2351931	Tolfenpyrad	23.9	Spike	P	0 - 30
2351931	Triclopyr	1.68	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P419054

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351596	Total Alkalinity	0.281	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P419055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352218	Total Alkalinity	0.138	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351834	TDS	0.418	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P419281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352991	Fluoride	0.470	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P419026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351836	Organic Carbon	1.88	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P419028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352443	Organic Carbon	0.657	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2352133

Field Sample ID: G4NW0436

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	70.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.5	P	30 - 160
EPA 8321B	Diuron-d6	88.0	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.2	P	30 - 160
EPA 8321B	Primidone-d5	72.2	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114306

Included Lab Sample IDs: 2352113, 2352115, 2352117, 2352119, 2352120

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

Reference Method: DEP SOP: NU-094-1

Run ID: A114307

Included Lab Sample IDs: 2352113, 2352115, 2352117, 2352119, 2352120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 110
Color (true)	102	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114368

Included Lab Sample IDs: 2352133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	108	P/P	60 - 160
Sucralose	114	118	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114374

Included Lab Sample IDs: 2352133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	104	P/P	60 - 160
Endothall	116	99.2	P/P	60 - 160
Glufosinate	122	99.1	P/P	60 - 160
Glyphosate	104	106	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114390

Included Lab Sample IDs: 2352134, 2352135, 2352136, 2352137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.0	97.6	P/P	90 - 110
Aluminum	99.7	98.0	P/P	90 - 110
Antimony	98.3	98.5	P/P	90 - 110
Antimony	98.5	101	P/P	90 - 110
Arsenic	101	98.4	P/P	90 - 110
Arsenic	98.4	100	P/P	90 - 110
Barium	97.3	97.3	P/P	90 - 110
Barium	98.0	97.3	P/P	90 - 110
Beryllium	93.2	94.4	P/P	90 - 110
Beryllium	93.3	93.2	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Cadmium	102	104	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Cobalt	92.4	91.8	P/P	90 - 110
Cobalt	95.3	92.4	P/P	90 - 110
Copper	95.6	96.0	P/P	90 - 110
Copper	98.6	95.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114390

Included Lab Sample IDs: 2352134, 2352135, 2352136, 2352137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	91.3	90.6	P/P	90 - 110
Lead	91.7	91.3	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Manganese	101	103	P/P	90 - 110
Molybdenum	96.0	97.1	P/P	90 - 110
Molybdenum	96.4	96.0	P/P	90 - 110
Nickel	95.0	94.6	P/P	90 - 110
Nickel	97.1	95.0	P/P	90 - 110
Selenium	102	99.5	P/P	90 - 110
Selenium	99.5	99.7	P/P	90 - 110
Silver	95.9	96.1	P/P	90 - 110
Silver	96.1	95.8	P/P	90 - 110
Thallium	102	102	P/P	90 - 110
Thallium	102	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114406

Included Lab Sample IDs: 2352114, 2352116, 2352118, 2352121, 2352122

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114444

Included Lab Sample IDs: 2352114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114447

Included Lab Sample IDs: 2352133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.2	90.5	P/P	50 - 150
2,4,5-T	92.9	86.8	P/P	50 - 150
Acetaminophen	113	113	P/P	60 - 160
Acetamiprid	111	97.8	P/P	50 - 150
Afidopyropen	101	107	P/P	50 - 150
Bentazon	86.1	92.1	P/P	50 - 160
Benzovindiflupyr	108	111	P/P	50 - 150
Carbamazepine	105	124	P/P	60 - 150
Clothianidin	108	124	P/P	60 - 150
Dinotefuran	104	112	P/P	50 - 150
Diuron	122	105	P/P	60 - 160
Fenuron	101	100	P/P	60 - 150
Fluridone	107	109	P/P	60 - 160
Hydrocodone	96.0	111	P/P	60 - 150
Ibuprofen	92.0	133	P/P	50 - 160
Imazapyr	95.3	93.1	P/P	50 - 150
Imidacloprid	89.7	96.5	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114447
Included Lab Sample IDs: 2352133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	76.1	92.3	P/P	60 - 150
Mandestrobin	100	103	P/P	50 - 150
MCPD	106	117	P/P	50 - 150
Naproxen	90.9	68.7	P/P	50 - 160
Primidone	116	122	P/P	60 - 150
Pyraclostrobin	102	110	P/P	60 - 150
Silvex	113	86.8	P/P	50 - 150
Thiamethoxam	117	114	P/P	50 - 150
Tolfenpyrad	110	108	P/P	60 - 150
Triclopyr	101	102	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114451
Included Lab Sample IDs: 2352134, 2352135, 2352136, 2352137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	92.4	92.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114469
Included Lab Sample IDs: 2352116, 2352122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	106	P/P	90 - 110
Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A114485
Included Lab Sample IDs: 2352114, 2352116, 2352118, 2352121, 2352122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114488
Included Lab Sample IDs: 2352114, 2352118, 2352121, 2352122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.2	97.8	P/P	90 - 110
Total-P	99.0	97.2	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A114498
Included Lab Sample IDs: 2352114, 2352116, 2352118

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A114499

Included Lab Sample IDs: 2352121, 2352122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	97.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114513

Included Lab Sample IDs: 2352113, 2352115, 2352117, 2352119, 2352120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.3	P/P	90 - 110
Total Alkalinity	97.3	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114515

Included Lab Sample IDs: 2352118, 2352121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.5	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114523

Included Lab Sample IDs: 2352116

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114542

Included Lab Sample IDs: 2352113, 2352115, 2352117, 2352119, 2352120

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A114588

Included Lab Sample IDs: 2352134, 2352135, 2352136, 2352137

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A114588

Included Lab Sample IDs: 2352134, 2352135, 2352136, 2352137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Titanium	97.4	97.1	P/P	90 - 110
Titanium	98.1	97.4	P/P	90 - 110
Vanadium	96.2	97.8	P/P	90 - 110
Vanadium	97.8	97.3	P/P	90 - 110
Zinc	99.4	99.4	P/P	90 - 110
Zinc	99.4	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114599

Included Lab Sample IDs: 2352113, 2352115, 2352117, 2352119, 2352120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	102	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)	103				3.88	
	Color (true)	104				4.89	
EPA 180.1 Rev. 2.0	Turbidity	97.7				16.9	
EPA 200.7 Rev. 4.4	Calcium	101		99.0			1.33
	Iron	108	106	103	104		3.50
	Magnesium	107	104	99.9	104		3.40
	Potassium	100	101	104			1.68
	Sodium	108	105	102			1.86
	Strontium	105	105	102	104		2.63
	Tin	106	104	101	103		2.22
	Titanium	103	102	100	103		1.27
	Vanadium	103	102	100	104		1.46
	Zinc	104	102	100	102		1.77
EPA 200.8 Rev. 5.4	Aluminum	101	98.7	98.4	97.9		0.272
	Antimony	100	104	103	104		1.55
	Arsenic	101	103	101	99.9		2.90
	Barium	102	103	102	104		0.371
	Beryllium	94.6	93.4	89.3	91.3		4.46
	Boron	100	97.4	95.1	96.0		2.20
	Cadmium	96.1	101	101	98.6		0.359
	Chromium	98.1	101	101	102		0.211
	Cobalt	97.0	97.8	96.2	93.2		1.64
	Copper	99.0	98.3	96.4	93.9		1.95
	Lead	93.2	93.5	93.7	94.0		0.230
	Manganese	98.5	101	102	102		0.367
	Molybdenum	97.4	102	101	100		0.511
	Nickel	99.6	101	99.1	96.2		2.14
	Selenium	99.4	100	99.9	97.6		0.527
	Silver	98.1	98.2	98.6	97.7		0.415
	Thallium	98.6	100	101	100		0.728
EPA 300.0 Rev. 2.1	Chloride	101	98.2	98.5		0.0689	
	Sulfate	98.6	93.7	94.3		0.118	
EPA 350.1 Rev. 2.0	Ammonia-N	100	97.4	101			2.74
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105					1.47
	Kjeldahl Nitrogen	102	93.2	101			6.74
	Kjeldahl Nitrogen	106	103	102			1.58
	Kjeldahl Nitrogen	107	108	104			2.95
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	100			0.971
EPA 365.1 Rev. 2.0	Total-P	103	105	104			0.668
EPA 8321B	2,4-D	81.1	82.2	80.4			2.26
	2,4,5-T	63.4	72.7	74.7			2.73
	Acesulfame K	114	106	109			2.85
	Acetaminophen	95.3	102	104			1.37
	Acetamiprid	82.0	86.8	94.8			8.71
	Afidopyropen	76.6	70.6	82.2			15.2
	AMPA	112	117	113			3.28
	Bentazon	83.8	86.0	102			17.3
	Benzovindiflupyr	96.5	94.5	100			5.90
	Carbamazepine	85.0	101	111			10.2
	Clothianidin	111	102	106			3.37
	Dinotefuran	93.1	101	102			0.756
	Diuron	100	106	94.5			11.2
	Endothall	118	118	117			1.01
	Fenuron	97.4	92.6	99.7			7.36

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Fluridone	91.2	85.3	84.2		1.28
	Glufosinate	124	122	97.9		22.3
	Glyphosate	113	82.1	84.8		3.24
	Hydrocodone	87.3	96.9	104		6.77
	Ibuprofen	89.4	72.0	76.1		5.56
	Imazapyr	93.3	96.2	92.4		4.11
	Imidacloprid	80.6	88.4	97.0		9.21
	Linuron	95.1	83.5	96.5		14.4
	Mandestrobin	89.4	88.7	108		19.3
	MCPP	84.6	89.5	94.8		5.71
	Naproxen	101	98.0	90.2		8.25
	Primidone	83.4	85.8	82.5		3.92
	Pyraclostrobin	83.0	87.9	94.0		6.78
	Silvex	70.6	74.8	81.8		8.98
	Sucralose	120	114	114		0.413
	Thiamethoxam	102	80.6	106		27.6
	Tolfenpyrad	41.0	51.3	40.3		23.9
	Triclopyr	71.3	74.5	75.8		1.68
SM 2320 B-2011	Total Alkalinity	100			0.281	
	Total Alkalinity	101			0.138	
SM 2540 C-2011	TDS				0.418	
SM 4500-F- C-2011	Fluoride	101	102	102		0.470
SM 5310 B-2011	Organic Carbon	95.8	92.6	96.2		1.88
	Organic Carbon	95.9	96.7	97.4		0.657

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2352113, 2352115, 2352117, 2352119, 2352120
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2352113, 2352115, 2352117, 2352119, 2352120
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2352134, 2352135, 2352136, 2352137
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2352134, 2352135, 2352136, 2352137
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2352113, 2352115, 2352117, 2352119, 2352120
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2352113, 2352115, 2352117, 2352119, 2352120
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2352114, 2352116, 2352118, 2352121, 2352122
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2352114, 2352116, 2352118, 2352121, 2352122
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2352114, 2352116, 2352118, 2352121, 2352122
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2352114, 2352116, 2352118, 2352121, 2352122
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2352133
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2352113, 2352115, 2352117, 2352119, 2352120
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2352134, 2352135, 2352136, 2352137
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2352113, 2352115, 2352117, 2352119, 2352120
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2352113, 2352115, 2352117, 2352119, 2352120

Reference Method Descriptions

Method	Description	Associated Samples
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2352113, 2352115, 2352117, 2352119, 2352120
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2352114, 2352116, 2352118, 2352121, 2352122

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	08/24/2022			08/24/2022 17:44	Anna M. Plaviak	2352113
	08/24/2022			08/24/2022 17:48	Anna M. Plaviak	2352115
	08/24/2022			08/24/2022 17:49	Anna M. Plaviak	2352117
	08/24/2022			08/24/2022 17:50	Anna M. Plaviak	2352119
	08/24/2022			08/24/2022 17:51	Anna M. Plaviak	2352120
EPA 180.1 Rev. 2.0	08/24/2022			08/24/2022 15:33	Khloe J Berg	2352113
	08/24/2022			08/24/2022 15:34	Khloe J Berg	2352115
	08/24/2022			08/24/2022 15:36	Khloe J Berg	2352117, 2352119
	08/24/2022			08/24/2022 15:38	Khloe J Berg	2352120
EPA 200.7 Rev. 4.4	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/08/2022 00:26	McKinley C Carter	2352134
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/08/2022 00:31	McKinley C Carter	2352135
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/08/2022 01:07	McKinley C Carter	2352136
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/08/2022 01:13	McKinley C Carter	2352137
EPA 200.8 Rev. 5.4	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 22:01	Emily M Philpot	2352134
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 22:59	Emily M Philpot	2352135
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 23:09	Emily M Philpot	2352136
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 23:18	Emily M Philpot	2352137
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 05:52	Emily M Philpot	2352134
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 05:59	Emily M Philpot	2352135
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 06:06	Emily M Philpot	2352136
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 06:13	Emily M Philpot	2352137
EPA 300.0 Rev. 2.1	08/24/2022			09/03/2022 04:54	Anna M. Plaviak	2352113
	08/24/2022			09/03/2022 05:09	Anna M. Plaviak	2352115
	08/24/2022			09/03/2022 05:24	Anna M. Plaviak	2352117
	08/24/2022			09/03/2022 05:39	Anna M. Plaviak	2352119
	08/24/2022			09/03/2022 05:55	Anna M. Plaviak	2352120
EPA 350.1 Rev. 2.0	08/24/2022			08/29/2022 15:18	Ping Hua	2352114
	08/24/2022			08/29/2022 15:23	Ping Hua	2352116
	08/24/2022			08/29/2022 15:24	Ping Hua	2352118
	08/24/2022			08/29/2022 15:26	Ping Hua	2352121
	08/24/2022			08/29/2022 15:27	Ping Hua	2352122
EPA 351.2 Rev. 2.0	08/24/2022	08/30/2022 09:19	Samantha L Bates	08/30/2022 14:41	Alexandra J Mattheus	2352114
	08/24/2022	08/30/2022 14:31	Samantha L Bates	08/31/2022 16:15	Alexandra J Mattheus	2352116
	08/24/2022	08/30/2022 14:31	Samantha L Bates	08/31/2022 17:02	Alexandra J Mattheus	2352122
	08/24/2022	08/31/2022 14:32	Samantha L Bates	09/02/2022 11:53	Alexandra J Mattheus	2352118
	08/24/2022	08/31/2022 14:32	Samantha L Bates	09/02/2022 11:55	Alexandra J Mattheus	2352121
EPA 353.2 Rev. 2.0	08/24/2022			09/01/2022 11:18	Beverly Y. Sanders	2352114
	08/24/2022			09/01/2022 11:19	Beverly Y. Sanders	2352118
	08/24/2022			09/01/2022 11:20	Beverly Y. Sanders	2352121
	08/24/2022			09/01/2022 11:21	Beverly Y. Sanders	2352122

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	08/24/2022			09/01/2022 12:37	Beverly Y. Sanders	2352116
EPA 365.1 Rev. 2.0	08/24/2022	08/30/2022 16:33	Adam P Silver	09/01/2022 14:42	James L Waggeberby	2352114
	08/24/2022	08/30/2022 16:33	Adam P Silver	09/01/2022 14:50	James L Waggeberby	2352118
	08/24/2022	08/30/2022 16:33	Adam P Silver	09/01/2022 14:51	James L Waggeberby	2352121, 2352122
	08/24/2022	08/30/2022 16:33	Adam P Silver	09/02/2022 14:46	James L Waggeberby	2352116
EPA 8321B	08/24/2022	08/25/2022 10:30	Umesh Chiluwal	08/25/2022 11:58	Umesh Chiluwal	2352133
	08/24/2022	08/25/2022 10:30	Umesh Chiluwal	08/25/2022 20:21	Umesh Chiluwal	2352133
	08/24/2022	08/30/2022 09:30	June Rhew	08/30/2022 21:12	Juyoung Kim	2352133
SM 2320 B-2011	08/24/2022			08/31/2022 21:46	Dale L. Simmons	2352113
	08/24/2022			08/31/2022 21:54	Dale L. Simmons	2352115
	08/24/2022			08/31/2022 22:01	Dale L. Simmons	2352117
	08/24/2022			08/31/2022 23:59	Dale L. Simmons	2352119
	08/24/2022			09/01/2022 00:06	Dale L. Simmons	2352120
SM 2340 B-2011	08/24/2022			09/08/2022 00:26	McKinley C Carter	2352134
	08/24/2022			09/08/2022 00:31	McKinley C Carter	2352135
	08/24/2022			09/08/2022 01:07	McKinley C Carter	2352136
	08/24/2022			09/08/2022 01:13	McKinley C Carter	2352137
SM 2540 C-2011	08/24/2022			08/29/2022 16:08	Yijie Li	2352113, 2352115, 2352117, 2352119, 2352120
SM 2540 D-2011	08/24/2022			08/29/2022 16:08	Yijie Li	2352113, 2352115, 2352117, 2352119, 2352120
SM 4500-F- C-2011	08/24/2022			09/08/2022 07:11	Adam P Silver	2352113
	08/24/2022			09/08/2022 07:17	Adam P Silver	2352115
	08/24/2022			09/08/2022 07:22	Adam P Silver	2352117
	08/24/2022			09/08/2022 07:27	Adam P Silver	2352119
	08/24/2022			09/08/2022 07:32	Adam P Silver	2352120
SM 5310 B-2011	08/24/2022			09/01/2022 16:25	Khloe J Berg	2352121
	08/24/2022			09/01/2022 16:45	Khloe J Berg	2352122
	08/24/2022			09/01/2022 20:09	Khloe J Berg	2352114
	08/24/2022			09/01/2022 20:26	Khloe J Berg	2352116
	08/24/2022			09/01/2022 20:39	Khloe J Berg	2352118