

Chemical Analysis Report

CEN-DIST-2022-08-24-02

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

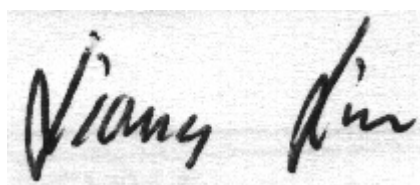
Event Description: **Jim and Second Creeks + Equipment Blank**
Request ID: **RQ-2022-06-27-13**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-SEP-2022 09:35

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: SECOND CREEK AT S.R. 520

Collection Date/Time: 08/23/2022 10:20

Field ID: G3CE0066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2351834	DEP SOP: NU-094-1	Color (true)	100		PCU	P418626	
	EPA 180.1 Rev. 2.0	Turbidity	0.65	I	NTU	P418621	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P419117	
		Sulfate	24		mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	121		mg CaCO3/L	P419054	
	SM 2540 C-2011	TDS	240	A	mg/L	P419110	
	SM 2540 D-2011	TSS	2	UA	mg/L	P419147	
2351836	SM 4500-F- C-2011	Fluoride	0.067	I	mg F/L	P418861	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P418808	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P418958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P418937	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P418717	
2351844	SM 5310 B-2011	Organic Carbon	19		mg C/L	P419026	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P418568	
		Acesulfame K	0.10	U	ug/L	P418299	
		2,4,5-T	0.0040	U	ug/L	P418568	
		AMPA	0.11	I	ug/L	P418299	
		Acetaminophen	0.0080	U	ug/L	P418568	
		Acetamiprid	0.0020	U	ug/L	P418568	
		Endothall	0.25	U	ug/L	P418299	
		Glufosinate	0.10	U	ug/L	P418299	
		Glyphosate	0.10	U	ug/L	P418299	
		Afidopyropen	0.0020	U	ug/L	P418568	
		Bentazon	8.0E-04	U	ug/L	P418568	
		Sucralose	0.010	U	ug/L	P418299	
		Benzovindiflupyr	0.0020	U	ug/L	P418568	
		Carbamazepine	8.0E-04	U	ug/L	P418568	
		Clothianidin	0.0020	U	ug/L	P418568	
		Dinotefuran	0.0020	U	ug/L	P418568	
		Diuron	0.0020	U	ug/L	P418568	
		Fenuron	0.032	U	ug/L	P418568	
		Fluridone	8.0E-04	U	ug/L	P418568	
		Imazapyr	0.0040	U	ug/L	P418568	
		Hydrocodone	0.0020	U	ug/L	P418568	
		Ibuprofen	0.080	U	ug/L	P418568	
		Imidacloprid	0.0020	U	ug/L	P418568	
		Linuron	0.0040	U	ug/L	P418568	
		Mandestrobin	0.0020	U	ug/L	P418568	
		MCPP	0.0040	U	ug/L	P418568	
		Naproxen	0.0080	U	ug/L	P418568	
		Primidone	0.0040	U	ug/L	P418568	
		Pyraclostrobin	0.0020	U	ug/L	P418568	
		Silvex	0.0040	U	ug/L	P418568	
		Thiamethoxam	0.0020	U	ug/L	P418568	

Field ID: G3CE0066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2351844	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P418568	
		Triclopyr	0.0040	U	ug/L	P418568	
2351847	EPA 200.7 Rev. 4.4	Calcium	60.5		mg/L	P418720	
		Iron	190		ug/L	P418720	
		Magnesium	2.39		mg/L	P418720	
		Potassium	1.3		mg/L	P418720	
		Sodium	12.7		mg/L	P418720	
		Strontium	309		ug/L	P418720	
		Tin	5.4	I	ug/L	P418720	
		Titanium	0.83	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	37		ug/L	P418720	
		Antimony	0.097	I	ug/L	P418720	
		Arsenic	1.00		ug/L	P418720	
		Barium	27.8		ug/L	P418720	
		Beryllium	0.010	U	ug/L	P418720	
		Boron	18.3		ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	0.41	I	ug/L	P418720	
		Cobalt	0.080		ug/L	P418720	
		Copper	0.40	U	ug/L	P418720	
		Lead	0.20	U	ug/L	P418720	
		Manganese	6.17		ug/L	P418720	
		Molybdenum	1.54		ug/L	P418720	
		Nickel	0.50	U	ug/L	P418720	
		Selenium	0.21	I	ug/L	P418720	
		Silver	0.010	U	ug/L	P418720	
		Thallium	0.10	U	ug/L	P418720	
	SM 2340 B-2011	Hardness	161		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: EQB

Collection Date/Time: 08/23/2022 10:15

Field ID: EB_08232022

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2351838	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P418626	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	0.68		mg Cl/L	P419117	
		Sulfate	0.20	U	mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P419054	
	SM 2540 C-2011	TDS	15	U	mg/L	P419110	
	SM 2540 D-2011	TSS	2	U	mg/L	P419147	
2351839	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P418861	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P418808	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P418958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418937	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P418717	
2351846	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P419026	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P418568	
		Acesulfame K	0.10	U	ug/L	P418299	
		2,4,5-T	0.0040	U	ug/L	P418568	
		AMPA	0.10	U	ug/L	P418299	
		Acetaminophen	0.0080	U	ug/L	P418568	
		Acetamiprid	0.0020	U	ug/L	P418568	
		Endothall	0.25	U	ug/L	P418299	
		Glufosinate	0.10	U	ug/L	P418299	
		Glyphosate	0.10	U	ug/L	P418299	
		Afidopyropen	0.0020	U	ug/L	P418568	
		Bentazon	8.0E-04	U	ug/L	P418568	
		Sucralose	0.010	U	ug/L	P418299	
		Benzovindiflupyr	0.0020	U	ug/L	P418568	
		Carbamazepine	8.0E-04	U	ug/L	P418568	
		Clothianidin	0.0020	U	ug/L	P418568	
		Dinotefuran	0.0020	U	ug/L	P418568	
		Diuron	0.0020	U	ug/L	P418568	
		Fenuron	0.032	U	ug/L	P418568	
		Fluridone	8.0E-04	U	ug/L	P418568	
		Imazapyr	0.0040	U	ug/L	P418568	
		Hydrocodone	0.0020	U	ug/L	P418568	
		Ibuprofen	0.080	U	ug/L	P418568	
		Imidacloprid	0.0020	U	ug/L	P418568	
		Linuron	0.0040	U	ug/L	P418568	
		Mandestrobin	0.0020	U	ug/L	P418568	
		MCPP	0.0040	U	ug/L	P418568	
		Naproxen	0.0080	U	ug/L	P418568	
		Primidone	0.0040	U	ug/L	P418568	
		Pyraclostrobin	0.0020	U	ug/L	P418568	
		Silvex	0.0040	U	ug/L	P418568	
		Thiamethoxam	0.0020	U	ug/L	P418568	

Field ID: EB_08232022

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2351846	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P418568	
		Triclopyr	0.0040	U	ug/L	P418568	
2351849	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P418720	
		Iron	30	U	ug/L	P418720	
		Magnesium	0.040	U	mg/L	P418720	
		Potassium	0.30	U	mg/L	P418720	
		Sodium	0.50	U	mg/L	P418720	
		Strontium	2.0	U	ug/L	P418720	
		Tin	3.0	U	ug/L	P418720	
		Titanium	0.75	U	ug/L	P418720	
		Vanadium	2.0	U	ug/L	P418720	
		Zinc	5.0	U	ug/L	P418720	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P418720	
		Antimony	0.050	U	ug/L	P418720	
		Arsenic	0.050	U	ug/L	P418720	
		Barium	0.20	U	ug/L	P418720	
		Beryllium	0.010	U	ug/L	P418720	
		Boron	2.0	U	ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	0.40	U	ug/L	P418720	
		Cobalt	0.020	U	ug/L	P418720	
		Copper	0.40	U	ug/L	P418720	
		Lead	0.20	U	ug/L	P418720	
		Manganese	0.10	U	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	0.35	U	mg/L	P418720	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: The result was confirmed on 09/14/2022.

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: Jim Creek 95m US of 520

Collection Date/Time: 08/23/2022 10:46

Field ID: G3CE0047

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2351835	DEP SOP: NU-094-1	Color (true)	520		PCU	P418626	
	EPA 180.1 Rev. 2.0	Turbidity	0.95	I	NTU	P418622	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P419117	
		Sulfate	16		mg SO4/L	P419122	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P419054	
	SM 2540 C-2011	TDS	195		mg/L	P419110	
	SM 2540 D-2011	TSS	2	U	mg/L	P419147	
2351837	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P418861	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P418808	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.4		mg N/L	P418958	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P419212	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P418717	
2351845	SM 5310 B-2011	Organic Carbon	54		mg C/L	P419026	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P418568	
		Acesulfame K	0.10	U	ug/L	P418299	
		2,4,5-T	0.0040	U	ug/L	P418568	
		AMPA	0.10	U	ug/L	P418299	
		Acetaminophen	0.0080	U	ug/L	P418568	
		Acetamiprid	0.0020	U	ug/L	P418568	
		Endothall	0.25	U	ug/L	P418299	
		Glufosinate	0.10	U	ug/L	P418299	
		Glyphosate	0.10	U	ug/L	P418299	
		Afidopyropen	0.0020	U	ug/L	P418568	
		Bentazon	8.0E-04	U	ug/L	P418568	
		Sucralose	0.010	U	ug/L	P418299	
		Benzovindiflupyr	0.0020	U	ug/L	P418568	
		Carbamazepine	8.0E-04	U	ug/L	P418568	
		Clothianidin	0.0020	U	ug/L	P418568	
		Dinotefuran	0.0020	U	ug/L	P418568	
		Diuron	0.0020	U	ug/L	P418568	
		Fenuron	0.032	U	ug/L	P418568	
		Fluridone	8.0E-04	U	ug/L	P418568	
		Imazapyr	0.0040	U	ug/L	P418568	
		Hydrocodone	0.0020	U	ug/L	P418568	
		Ibuprofen	0.080	U	ug/L	P418568	
		Imidacloprid	0.0020	U	ug/L	P418568	
		Linuron	0.0040	U	ug/L	P418568	
		Mandestrobin	0.0020	U	ug/L	P418568	
		MCPP	0.0040	U	ug/L	P418568	
		Naproxen	0.0080	U	ug/L	P418568	
		Primidone	0.0040	U	ug/L	P418568	
		Pyraclostrobin	0.0020	U	ug/L	P418568	
		Silvex	0.0040	U	ug/L	P418568	
		Thiamethoxam	0.0020	U	ug/L	P418568	

Field ID: G3CE0047

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2351845	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P418568	
		Triclopyr	0.0040	U	ug/L	P418568	
2351848	EPA 200.7 Rev. 4.4	Calcium	20.1		mg/L	P418720	
		Iron	720		ug/L	P418720	
		Magnesium	2.93		mg/L	P418720	
		Potassium	2.2		mg/L	P418720	
		Sodium	12.6		mg/L	P418720	
		Strontium	112		ug/L	P418720	
		Tin	3.0	U	ug/L	P418720	
		Titanium	2.0	I	ug/L	P418720	
		Vanadium	2.0	U	ug/L	P418720	
		Zinc	8.6	I	ug/L	P418720	
	EPA 200.8 Rev. 5.4	Aluminum	578		ug/L	P418720	
		Antimony	0.070	I	ug/L	P418720	
		Arsenic	0.69		ug/L	P418720	
		Barium	16.3		ug/L	P418720	
		Beryllium	0.038	I	ug/L	P418720	
		Boron	29.0		ug/L	P418720	
		Cadmium	0.020	U	ug/L	P418720	
		Chromium	1.0	I	ug/L	P418720	
		Cobalt	0.140		ug/L	P418720	
		Copper	0.90		ug/L	P418720	
		Lead	0.45		ug/L	P418720	
		Manganese	12.5		ug/L	P418720	
		Molybdenum	0.15	U	ug/L	P418720	
		Nickel	0.84	I	ug/L	P418720	
		Selenium	0.35	I	ug/L	P418720	
		Silver	0.010	U	ug/L	P418720	
		Thallium	0.10	U	ug/L	P418720	
	SM 2340 B-2011	Hardness	62.2		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.

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: EPA 180.1 Rev. 2.0
Batch ID: P418621

Component	Result	Code	Units
Turbidity	0.10	U	NTU

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: P418808

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418958

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419212

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418717

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

Reference Method: EPA 8321B
Batch ID: P418299

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P418568

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 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: P418861

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

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

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: EPA 180.1 Rev. 2.0
Batch ID: P418621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.5		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: P418808

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: P418958

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419212

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418717

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

Reference Method: EPA 8321B
Batch ID: P418299

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.5		P	40 - 150
AMPA	112		P	40 - 150
Endothall	120		P	40 - 150
Glufosinate	125		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	113		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P418568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	63.3		P	40 - 150
2,4,5-T	60.3		P	40 - 150
Acetaminophen	75.8		P	30 - 150
Acetamiprid	76.4		P	40 - 150
Afidopyropen	64.6		P	30 - 150
Bentazon	98.0		P	30 - 150
Benzovindiflupyr	95.6		P	40 - 150
Carbamazepine	89.5		P	40 - 150
Clothianidin	74.5		P	40 - 150
Dinotefuran	82.1		P	40 - 150
Diuron	91.7		P	40 - 150
Fenuron	90.4		P	40 - 150
Fluridone	90.0		P	40 - 150
Hydrocodone	81.0		P	40 - 150
Ibuprofen	92.3		P	40 - 150
Imazapyr	71.9		P	40 - 150
Imidacloprid	76.5		P	40 - 150
Linuron	89.4		P	40 - 150
Mandestrobin	84.3		P	40 - 150
MCPP	82.6		P	40 - 150
Naproxen	127		P	40 - 150
Primidone	83.5		P	40 - 150
Pyraclostrobin	75.6		P	40 - 150
Silvex	62.9		P	40 - 150
Thiamethoxam	78.0		P	40 - 150
Tolfenpyrad	44.7		P	30 - 150
Triclopyr	57.1		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 4500-F- C-2011

Batch ID: P418861

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		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

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: P418808

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351744	Ammonia-N	99.4	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351599	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351746	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353106	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351951	Total-P	103	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P418299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350857	Acesulfame K	93.6	93.1	P/P	40 - 150
2350857	AMPA	98.0	103	P/P	40 - 150
2350857	Endothall	137	133	P/P	40 - 150
2350857	Glufosinate	107	107	P/P	40 - 150
2350857	Glyphosate	94.3	86.2	P/P	40 - 150
2350857	Sucralose	112	112	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P418568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350906	2,4-D	69.7	86.2	P/P	40 - 150
2350906	2,4,5-T	56.4	64.9	P/P	40 - 150
2350906	Acetaminophen	74.2	82.2	P/P	30 - 150
2350906	Acetamiprid	60.7	78.2	P/P	40 - 150
2350906	Afidopyropen	72.4	84.3	P/P	30 - 150
2350906	Bentazon	101	113	P/P	30 - 150
2350906	Benzovindiflupyr	75.5	100	P/P	40 - 150
2350906	Carbamazepine	92.7	114	P/P	40 - 150
2350906	Clothianidin	77.2	81.5	P/P	40 - 150
2350906	Dinotefuran	86.7	101	P/P	40 - 150
2350906	Diuron	84.6	98.0	P/P	40 - 150
2350906	Fenuron	85.9	96.1	P/P	40 - 150
2350906	Fluridone	109	128	P/P	40 - 150
2350906	Hydrocodone	93.6	92.3	P/P	40 - 150
2350906	Ibuprofen	53.3	68.8	P/P	40 - 150
2350906	Imazapyr	61.9	70.6	P/P	40 - 150
2350906	Imidacloprid	66.6	72.3	P/P	40 - 150
2350906	Linuron	94.2	92.0	P/P	40 - 150
2350906	Mandestrobin	85.9	100	P/P	40 - 150
2350906	MCPP	75.9	85.5	P/P	40 - 150
2350906	Naproxen	116	97.8	P/P	40 - 150
2350906	Primidone	46.2	62.3	P/P	40 - 150
2350906	Pyraclostrobin	82.5	89.1	P/P	40 - 150
2350906	Silvex	59.5	74.6	P/P	40 - 150
2350906	Thiamethoxam	83.2	90.8	P/P	40 - 150
2350906	Tolfenpyrad	50.5	52.9	P/P	30 - 150
2350906	Triclopyr	62.3	83.0	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P418861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2351596	Fluoride	100	99.6	P/P	94 - 104

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

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: EPA 180.1 Rev. 2.0
Batch ID: P418621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351676	Turbidity	1.22	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: P418808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351744	Ammonia-N	0.266	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351599	Kjeldahl Nitrogen	1.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351746	NO2NO3-N	0.741	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353106	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418717

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P418717

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351951	Total-P	0.124	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P418299

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350857	Acesulfame K	0.483	Spike	P	0 - 30
2350857	AMPA	5.24	Spike	P	0 - 30
2350857	Endothall	2.47	Spike	P	0 - 30
2350857	Glufosinate	0.528	Spike	P	0 - 30
2350857	Glyphosate	8.95	Spike	P	0 - 30
2350857	Sucralose	0.163	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P418568

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350906	2,4-D	17.5	Spike	P	0 - 30
2350906	2,4,5-T	14.0	Spike	P	0 - 30
2350906	Acetaminophen	10.2	Spike	P	0 - 30
2350906	Acetamiprid	25.3	Spike	P	0 - 30
2350906	Afidopyropen	15.1	Spike	P	0 - 30
2350906	Bentazon	10.1	Spike	P	0 - 30
2350906	Benzovindiflupyr	28.1	Spike	P	0 - 30
2350906	Carbamazepine	20.5	Spike	P	0 - 30
2350906	Clothianidin	5.49	Spike	P	0 - 30
2350906	Dinotefuran	15.3	Spike	P	0 - 30
2350906	Diuron	14.2	Spike	P	0 - 30
2350906	Fenuron	11.1	Spike	P	0 - 30
2350906	Fluridone	12.0	Spike	P	0 - 30
2350906	Hydrocodone	1.41	Spike	P	0 - 30
2350906	Ibuprofen	25.3	Spike	P	0 - 30
2350906	Imazapyr	12.0	Spike	P	0 - 30
2350906	Imidacloprid	8.26	Spike	P	0 - 30
2350906	Linuron	2.28	Spike	P	0 - 30
2350906	Mandestrobin	15.5	Spike	P	0 - 30
2350906	MCP	11.9	Spike	P	0 - 30
2350906	Naproxen	16.7	Spike	P	0 - 30
2350906	Primidone	25.2	Spike	P	0 - 30
2350906	Pyraclostrobin	7.62	Spike	P	0 - 30
2350906	Silvex	22.6	Spike	P	0 - 30
2350906	Thiamethoxam	8.73	Spike	P	0 - 30
2350906	Tolfenpyrad	4.53	Spike	P	0 - 30
2350906	Triclopyr	28.5	Spike	P	0 - 30

Quality Assurance Report Precision

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 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: P418861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2351596	Fluoride	0.484	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

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

Quality Assurance Report Surrogates

Lab Sample ID: 2351844

Field Sample ID: G3CE0066

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	66.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	70.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.2	P	30 - 160
EPA 8321B	Diuron-d6	86.2	P	30 - 160
EPA 8321B	Endothall-d6	142	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	85.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	35.9	P	30 - 160
EPA 8321B	Primidone-d5	37.4	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160

Lab Sample ID: 2351845

Field Sample ID: G3CE0047

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	50.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.0	P	30 - 160
EPA 8321B	Diuron-d6	97.3	P	30 - 160
EPA 8321B	Endothall-d6	155	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	53.9	P	30 - 160
EPA 8321B	Primidone-d5	30.6	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	30 - 160

Lab Sample ID: 2351846

Field Sample ID: EB_08232022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	110	P	30 - 160
EPA 8321B	Endothall-d6	122	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.2	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114306

Included Lab Sample IDs: 2351834, 2351835, 2351838

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

Reference Method: DEP SOP: NU-094-1

Run ID: A114307

Included Lab Sample IDs: 2351834, 2351835, 2351838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 110
Color (true)	104	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114368

Included Lab Sample IDs: 2351844, 2351845, 2351846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	113	113	P/P	60 - 160
Sucralose	120	121	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114369

Included Lab Sample IDs: 2351844, 2351845, 2351846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.3	92.4	P/P	50 - 150
2,4,5-T	114	118	P/P	50 - 150
Acetaminophen	87.2	88.5	P/P	60 - 160
Acetamiprid	110	110	P/P	50 - 150
Afidopyropen	116	119	P/P	50 - 150
Bentazon	70.9	95.8	P/P	50 - 160
Benzovindiflupyr	105	108	P/P	50 - 150
Carbamazepine	93.8	103	P/P	60 - 150
Clothianidin	96.4	98.4	P/P	60 - 150
Dinotefuran	99.0	96.4	P/P	50 - 150
Diuron	104	98.7	P/P	60 - 160
Fenuron	88.6	93.1	P/P	60 - 150
Fluridone	125	102	P/P	60 - 160
Hydrocodone	110	108	P/P	60 - 150
Ibuprofen	85.9	110	P/P	50 - 160
Imazapyr	79.8	88.7	P/P	50 - 150
Imidacloprid	97.9	88.9	P/P	60 - 150
Linuron	103	86.2	P/P	60 - 150
Mandestrobin	99.5	108	P/P	50 - 150
MCPP	106	106	P/P	50 - 150
Naproxen	145	74.1	P/P	50 - 160
Primidone	105	105	P/P	60 - 150
Pyraclostrobin	104	105	P/P	60 - 150
Silvex	91.0	86.9	P/P	50 - 150
Thiamethoxam	98.7	97.9	P/P	50 - 150
Tolfenpyrad	105	100	P/P	60 - 150
Triclopyr	74.6	91.6	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A114374

Included Lab Sample IDs: 2351844, 2351845, 2351846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	114	111	P/P	60 - 160
Endothall	116	116	P/P	60 - 160
Glufosinate	113	125	P/P	60 - 160
Glyphosate	108	115	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114390

Included Lab Sample IDs: 2351847, 2351848, 2351849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.6	99.7	P/P	90 - 110
Aluminum	99.7	98.0	P/P	90 - 110
Antimony	97.8	98.3	P/P	90 - 110
Antimony	98.3	98.5	P/P	90 - 110
Arsenic	101	98.4	P/P	90 - 110
Arsenic	105	101	P/P	90 - 110
Barium	98.0	97.3	P/P	90 - 110
Barium	99.6	98.0	P/P	90 - 110
Beryllium	93.3	93.2	P/P	90 - 110
Beryllium	95.3	93.3	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Chromium	101	100	P/P	90 - 110
Cobalt	101	95.3	P/P	90 - 110
Cobalt	95.3	92.4	P/P	90 - 110
Copper	105	98.6	P/P	90 - 110
Copper	98.6	95.6	P/P	90 - 110
Lead	91.7	91.3	P/P	90 - 110
Lead	93.0	91.7	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Molybdenum	96.4	96.0	P/P	90 - 110
Molybdenum	98.7	96.4	P/P	90 - 110
Nickel	104	97.1	P/P	90 - 110
Nickel	97.1	95.0	P/P	90 - 110
Selenium	102	99.5	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	95.9	96.1	P/P	90 - 110
Silver	98.0	95.9	P/P	90 - 110
Thallium	102	102	P/P	90 - 110
Thallium	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114406

Included Lab Sample IDs: 2351836, 2351837, 2351839

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114407

Included Lab Sample IDs: 2351837

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

Reference Method: SM 4500-F- C-2011

Run ID: A114426

Included Lab Sample IDs: 2351834, 2351835, 2351838

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114435

Included Lab Sample IDs: 2351836, 2351839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114451

Included Lab Sample IDs: 2351847, 2351848, 2351849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	92.4	92.4	P/P	90 - 110
Boron	92.9	92.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114456

Included Lab Sample IDs: 2351836, 2351839

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

Reference Method: SM 5310 B-2011

Run ID: A114498

Included Lab Sample IDs: 2351836, 2351837, 2351839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.3	P/P	90 - 110
Organic Carbon	96.3	95.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114513

Included Lab Sample IDs: 2351834, 2351835, 2351838

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114532

Included Lab Sample IDs: 2351836, 2351837, 2351839

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114532

Included Lab Sample IDs: 2351836, 2351837, 2351839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	102	P/P	90 - 110
Kjeldahl Nitrogen	98.4	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114542

Included Lab Sample IDs: 2351834, 2351835, 2351838

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114574

Included Lab Sample IDs: 2351837

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A114588

Included Lab Sample IDs: 2351847, 2351848, 2351849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Iron	103	101	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	102	103	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	101	P/P	90 - 110
Strontium	99.8	101	P/P	90 - 110
Tin	101	101	P/P	90 - 110
Tin	102	101	P/P	90 - 110
Titanium	96.9	98.1	P/P	90 - 110
Titanium	98.1	97.4	P/P	90 - 110
Vanadium	96.2	97.8	P/P	90 - 110
Vanadium	97.3	96.2	P/P	90 - 110
Zinc	98.7	99.4	P/P	90 - 110
Zinc	99.4	99.4	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	103				3.88	
EPA 180.1 Rev. 2.0	Turbidity	96.5				1.22	
	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	99.4	99.0			0.266
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	105	104			1.17
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	103			0.741
	NO2NO3-N	104	104	105			0.477
EPA 365.1 Rev. 2.0	Total-P	106	103	103			0.124
EPA 8321B	2,4-D	63.3	69.7	86.2			17.5
	2,4,5-T	60.3	56.4	64.9			14.0
	Acesulfame K	99.5	93.6	93.1			0.483
	Acetaminophen	75.8	74.2	82.2			10.2
	Acetamiprid	76.4	60.7	78.2			25.3
	Afidopyropen	64.6	72.4	84.3			15.1
	AMPA	112	98.0	103			5.24
	Bentazon	98.0	101	113			10.1
	Benzovindiflupyr	95.6	75.5	100			28.1
	Carbamazepine	89.5	92.7	114			20.5
	Clothianidin	74.5	77.2	81.5			5.49
	Dinotefuran	82.1	86.7	101			15.3
	Diuron	91.7	84.6	98.0			14.2
	Endothall	120	137	133			2.47
	Fenuron	90.4	85.9	96.1			11.1
	Fluridone	90.0	109	128			12.0
	Glufosinate	125	107	107			0.528

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glyphosate	103	94.3	86.2		8.95
	Hydrocodone	81.0	93.6	92.3		1.41
	Ibuprofen	92.3	53.3	68.8		25.3
	Imazapyr	71.9	61.9	70.6		12.0
	Imidacloprid	76.5	66.6	72.3		8.26
	Linuron	89.4	94.2	92.0		2.28
	Mandestrobin	84.3	85.9	100		15.5
	MCP	82.6	75.9	85.5		11.9
	Naproxen	127	116	97.8		16.7
	Primidone	83.5	46.2	62.3		25.2
	Pyraclostrobin	75.6	82.5	89.1		7.62
	Silvex	62.9	59.5	74.6		22.6
	Sucralose	113	112	112		0.163
	Thiamethoxam	78.0	83.2	90.8		8.73
	Tolfenpyrad	44.7	50.5	52.9		4.53
	Triclopyr	57.1	62.3	83.0		28.5
SM 2320 B-2011	Total Alkalinity	100			0.281	
SM 2540 C-2011	TDS				0.418	
SM 4500-F- C-2011	Fluoride	102	100	99.6		0.484
SM 5310 B-2011	Organic Carbon	95.8	92.6	96.2		1.88

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2351834, 2351835, 2351838
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2351834, 2351835, 2351838
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2351847, 2351848, 2351849
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2351847, 2351848, 2351849
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2351834, 2351835, 2351838
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2351834, 2351835, 2351838
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2351836, 2351837, 2351839
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2351836, 2351837, 2351839
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2351836, 2351837, 2351839
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2351836, 2351837, 2351839
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2351844, 2351845, 2351846
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2351834, 2351835, 2351838
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2351847, 2351848, 2351849
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2351834, 2351835, 2351838
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2351834, 2351835, 2351838
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2351834, 2351835, 2351838
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2351836, 2351837, 2351839

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 17:40	Anna M. Plaviak	2351834
	08/24/2022			08/24/2022 17:42	Anna M. Plaviak	2351838
	08/24/2022			08/24/2022 18:04	Anna M. Plaviak	2351835
EPA 180.1 Rev. 2.0	08/24/2022			08/24/2022 15:10	Khloe J Berg	2351834
	08/24/2022			08/24/2022 15:21	Khloe J Berg	2351835, 2351838
EPA 200.7 Rev. 4.4	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/07/2022 22:14	McKinley C Carter	2351849
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/08/2022 00:10	McKinley C Carter	2351847
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	09/08/2022 00:18	McKinley C Carter	2351848
EPA 200.8 Rev. 5.4	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 19:08	Emily M Philpot	2351849
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 21:42	Emily M Philpot	2351847
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/28/2022 21:52	Emily M Philpot	2351848
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 04:03	Emily M Philpot	2351849
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 05:38	Emily M Philpot	2351847
	08/24/2022	08/26/2022 10:10	Megan Whitefoot	08/31/2022 05:45	Emily M Philpot	2351848
EPA 300.0 Rev. 2.1	08/24/2022			09/03/2022 00:53	Anna M. Plaviak	2351835
	08/24/2022			09/03/2022 03:54	Anna M. Plaviak	2351834
	08/24/2022			09/03/2022 04:09	Anna M. Plaviak	2351838
EPA 350.1 Rev. 2.0	08/24/2022			08/29/2022 14:07	Ping Hua	2351836
	08/24/2022			08/29/2022 14:08	Ping Hua	2351837
	08/24/2022			08/29/2022 14:10	Ping Hua	2351839
EPA 351.2 Rev. 2.0	08/24/2022	09/01/2022 13:42	Samantha L Bates	09/02/2022 15:34	Alexandra J Mattheus	2351836
	08/24/2022	09/01/2022 13:42	Samantha L Bates	09/02/2022 15:36	Alexandra J Mattheus	2351837
	08/24/2022	09/01/2022 13:42	Samantha L Bates	09/02/2022 15:41	Alexandra J Mattheus	2351839
EPA 353.2 Rev. 2.0	08/24/2022			08/31/2022 12:01	Beverly Y. Sanders	2351836
	08/24/2022			08/31/2022 12:02	Beverly Y. Sanders	2351839
	08/24/2022			09/07/2022 10:35	Beverly Y. Sanders	2351837
EPA 365.1 Rev. 2.0	08/24/2022	08/26/2022 08:28	Simonne.V. Calhoun	08/29/2022 15:25	James L Waggeberby	2351837
	08/24/2022	08/26/2022 08:28	Simonne.V. Calhoun	08/30/2022 14:45	Simonne.V. Calhoun	2351839
	08/24/2022	08/26/2022 08:28	Simonne.V. Calhoun	08/30/2022 14:48	Simonne.V. Calhoun	2351836
EPA 8321B	08/24/2022	08/24/2022 13:00	Umesh Chiluwal	08/24/2022 18:53	Umesh Chiluwal	2351844
	08/24/2022	08/24/2022 13:00	Umesh Chiluwal	08/24/2022 19:08	Umesh Chiluwal	2351845
	08/24/2022	08/24/2022 13:00	Umesh Chiluwal	08/24/2022 19:23	Umesh Chiluwal	2351846
	08/24/2022	08/24/2022 13:00	Umesh Chiluwal	08/25/2022 02:33	Umesh Chiluwal	2351844
	08/24/2022	08/24/2022 13:00	Umesh Chiluwal	08/25/2022 02:46	Umesh Chiluwal	2351845
	08/24/2022	08/24/2022 13:00	Umesh Chiluwal	08/25/2022 02:59	Umesh Chiluwal	2351846
	08/24/2022	08/25/2022 09:30	June Rhew	08/26/2022 23:53	Juyoung Kim	2351844
	08/24/2022	08/25/2022 09:30	June Rhew	08/27/2022 00:14	Juyoung Kim	2351845
	08/24/2022	08/25/2022 09:30	June Rhew	08/27/2022 00:35	Juyoung Kim	2351846
SM 2320 B-2011	08/24/2022			08/31/2022 21:04	Dale L. Simmons	2351834
	08/24/2022			08/31/2022 21:14	Dale L. Simmons	2351835

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	08/24/2022			08/31/2022 21:20	Dale L. Simmons	2351838
SM 2340 B-2011	08/24/2022			09/07/2022 22:14	McKinley C Carter	2351849
	08/24/2022			09/08/2022 00:10	McKinley C Carter	2351847
	08/24/2022			09/08/2022 00:18	McKinley C Carter	2351848
SM 2540 C-2011	08/24/2022			08/29/2022 16:08	Yijie Li	2351834, 2351835, 2351838
SM 2540 D-2011	08/24/2022			08/29/2022 16:08	Yijie Li	2351834, 2351835, 2351838
SM 4500-F- C-2011	08/24/2022			08/30/2022 03:41	Adam P Silver	2351834
	08/24/2022			08/30/2022 03:54	Adam P Silver	2351835
	08/24/2022			08/30/2022 04:12	Adam P Silver	2351838
SM 5310 B-2011	08/24/2022			09/01/2022 14:09	Khloe J Berg	2351836
	08/24/2022			09/01/2022 17:53	Khloe J Berg	2351837
	08/24/2022			09/01/2022 18:08	Khloe J Berg	2351839