

Chemical Analysis Report

NE-DIST-2022-04-20-02

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

Event Description: **Nassau North 2**
Request ID: **RQ-2022-04-18-17**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

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

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 09-MAY-2022 11:24

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Mills CR @ CR 108

Collection Date/Time: 04/19/2022 13:00

Field ID: 19010096

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320776	EPA 200.7 Rev. 4.4	Calcium	1.94		mg/L	P412672	
		Iron	2.01E+03		ug/L	P412672	
		Magnesium	0.67		mg/L	P412672	
		Potassium	0.44	I	mg/L	P412672	
		Sodium	5.1		mg/L	P412672	
		Strontium	10.9		ug/L	P412672	
		Tin	3.0	U	ug/L	P412672	
		Titanium	1.8	I	ug/L	P412672	
		Vanadium	2.0	U	ug/L	P412672	
		Zinc	6.1	I	ug/L	P412672	
	EPA 200.8 Rev. 5.4	Aluminum	593		ug/L	P412672	
		Antimony	0.050	U	ug/L	P412672	
		Arsenic	0.49		ug/L	P412672	
		Barium	16.2		ug/L	P412672	
		Beryllium	0.043		ug/L	P412672	
		Boron**	13.8		ug/L	P412672	
		Cadmium	0.020	U	ug/L	P412672	
		Chromium	0.65	I	ug/L	P412672	
		Cobalt	0.298		ug/L	P412672	
		Copper	0.40	U	ug/L	P412672	
		Lead	0.68		ug/L	P412672	
		Manganese	12.0		ug/L	P412672	
		Molybdenum	0.15	U	ug/L	P412672	
		Nickel	0.71	I	ug/L	P412672	
		Selenium	0.20	U	ug/L	P412672	
		Silver	0.010	U	ug/L	P412672	
		Thallium	0.10	U	ug/L	P412672	
	SM 2340 B-2011	Hardness	7.6		mg/L	P412672	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/22/2022.

Sample Location: PIGEON CREEK @ ANDREWS RD

Collection Date/Time: 04/19/2022 11:25

Field ID: 19010098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320774	EPA 8321B	2,4-D	0.0020	U	ug/L	P412640	
		Acesulfame K	0.10	U	ug/L	P412696	
		2,4,5-T	0.0040	U	ug/L	P412640	
		AMPA	0.10	U	ug/L	P412696	
		Acetaminophen	0.0080	U	ug/L	P412640	
		Acetamiprid	0.0020	U	ug/L	P412640	
		Endothall	0.25	U	ug/L	P412696	
		Glufosinate	0.10	U	ug/L	P412696	
		Glyphosate	0.10	U	ug/L	P412696	
		Afidopyropen	0.0020	U	ug/L	P412640	
		Bentazon	8.0E-04	U	ug/L	P412640	
		Sucralose	0.028	I	ug/L	P412696	
		Benzovindiflupyr	0.0020	U	ug/L	P412640	
		Carbamazepine	8.0E-04	U	ug/L	P412640	
		Clothianidin	0.0020	U	ug/L	P412640	
		Dinotefuran	0.0020	U	ug/L	P412640	
		Diuron	0.0020	U	ug/L	P412640	
		Fenuron	0.032	U	ug/L	P412640	
		Fluridone	8.0E-04	U	ug/L	P412640	
		Imazapyr	0.23		ug/L	P412640	
		Hydrocodone	0.0020	U	ug/L	P412640	
		Ibuprofen	0.020	U	ug/L	P412640	
		Imidacloprid	0.0020	U	ug/L	P412640	MS
		Linuron	0.0040	U	ug/L	P412640	
		Mandestrobin	0.0020	U	ug/L	P412640	
		MCPP	0.0020	U	ug/L	P412640	
		Naproxen	0.0080	U	ug/L	P412640	
		Primidone	0.0040	U	ug/L	P412640	
		Pyraclostrobin	0.0020	U	ug/L	P412640	
		Silvex	0.0040	U	ug/L	P412640	
		Thiamethoxam	0.0020	U	ug/L	P412640	
		Tolfenpyrad	0.0020	U	ug/L	P412640	
		Triclopyr	0.0040	U	ug/L	P412640	
2320779	EPA 200.7 Rev. 4.4	Calcium	1.75		mg/L	P412672	
		Iron	1.94E+03		ug/L	P412672	
		Magnesium	0.66		mg/L	P412672	
		Potassium	0.62	I	mg/L	P412672	
		Sodium	5.6		mg/L	P412672	
		Strontium	10.0		ug/L	P412672	
		Tin	3.0	U	ug/L	P412672	
		Titanium	1.3	I	ug/L	P412672	
		Vanadium	2.0	U	ug/L	P412672	
		Zinc	5.0	U	ug/L	P412672	
	EPA 200.8 Rev. 5.4	Aluminum	477		ug/L	P412672	

Field ID: 19010098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320779	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P412672	
		Arsenic	0.51		ug/L	P412672	
		Barium	12.5		ug/L	P412672	
		Beryllium	0.030	I	ug/L	P412672	
		Boron**	15.9		ug/L	P412672	
		Cadmium	0.020	U	ug/L	P412672	
		Chromium	0.49	I	ug/L	P412672	
		Cobalt	0.200		ug/L	P412672	
		Copper	0.40	U	ug/L	P412672	
		Lead	0.84		ug/L	P412672	
		Manganese	10.1		ug/L	P412672	
		Molybdenum	0.15	U	ug/L	P412672	
		Nickel	0.52	I	ug/L	P412672	
		Selenium	0.20	U	ug/L	P412672	
		Silver	0.010	U	ug/L	P412672	
	SM 2340 B-2011	Thallium	0.10	U	ug/L	P412672	
		Hardness	7.1		mg/L	P412672	

Ref. Method and Comment:
 EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/22/2022.

Sample Location: PIGEON CREEK AT US 1

Collection Date/Time: 04/19/2022 10:55

Field ID: 19010099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320766	DEP SOP: NU-094-1	Color (true)**	240		PCU	P412747	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P412646	
	EPA 300.0 Rev. 2.1	Chloride	8.8		mg Cl/L	P413117	
		Sulfate	2.5		mg SO4/L	P413120	
	SM 2320 B-2011	Total Alkalinity	4.0		mg CaCO3/L	P413183	
	SM 2540 C-2011	TDS	71		mg/L	P413195	
	SM 2540 D-2011	TSS	2	U	mg/L	P413198	
2320767	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P413188	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P413066	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P413094	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.033		mg N/L	P412842	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P412896	
2320773	SM 5310 B-2011	Organic Carbon	17		mg C/L	P412815	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P412640	
		Acesulfame K	0.10	U	ug/L	P412696	
		2,4,5-T	0.0040	U	ug/L	P412640	
		AMPA	0.10	U	ug/L	P412696	
		Acetaminophen	0.0080	U	ug/L	P412640	
		Acetamiprid	0.0020	U	ug/L	P412640	
		Endothall	0.25	U	ug/L	P412696	
		Glufosinate	0.10	U	ug/L	P412696	
		Glyphosate	0.10	U	ug/L	P412696	
		Afidopyropen	0.0020	U	ug/L	P412640	
		Bentazon	8.0E-04	U	ug/L	P412640	
		Sucralose	0.092		ug/L	P412696	
		Benzovindiflupyr	0.0020	U	ug/L	P412640	
		Carbamazepine	8.0E-04	U	ug/L	P412640	
		Clothianidin	0.0020	U	ug/L	P412640	
		Dinotefuran	0.0020	U	ug/L	P412640	
		Diuron	0.0020	U	ug/L	P412640	
		Fenuron	0.032	U	ug/L	P412640	
		Fluridone	8.0E-04	U	ug/L	P412640	
		Imazapyr	0.16		ug/L	P412640	
		Hydrocodone	0.0020	U	ug/L	P412640	
		Ibuprofen	0.020	U	ug/L	P412640	
		Imidacloprid	0.0020	U	ug/L	P412640	MS
		Linuron	0.0040	U	ug/L	P412640	
		Mandestrobin	0.0020	U	ug/L	P412640	
		MCPP	0.0020	U	ug/L	P412640	
		Naproxen	0.0080	U	ug/L	P412640	
		Primidone	0.0040	U	ug/L	P412640	
		Pyraclostrobin	0.0020	U	ug/L	P412640	
		Silvex	0.0040	U	ug/L	P412640	
		Thiamethoxam	0.0020	U	ug/L	P412640	

Field ID: 19010099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320773	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P412640	
		Triclopyr	0.0040	U	ug/L	P412640	
2320778	EPA 200.7 Rev. 4.4	Calcium	3.97		mg/L	P412672	
		Iron	1.13E+03		ug/L	P412672	
		Magnesium	0.89		mg/L	P412672	
		Potassium	0.74	I	mg/L	P412672	
		Sodium	5.5		mg/L	P412672	
		Strontium	15.0		ug/L	P412672	
		Tin	3.0	U	ug/L	P412672	
		Titanium	1.4	I	ug/L	P412672	
		Vanadium	2.0	U	ug/L	P412672	
		Zinc	5.0	U	ug/L	P412672	
	EPA 200.8 Rev. 5.4	Aluminum	369		ug/L	P412672	
		Antimony	0.050	U	ug/L	P412672	
		Arsenic	0.43		ug/L	P412672	
		Barium	16.0		ug/L	P412672	
		Beryllium	0.025	I	ug/L	P412672	
		Boron**	16.3		ug/L	P412672	
		Cadmium	0.020	U	ug/L	P412672	
		Chromium	0.46	I	ug/L	P412672	
		Cobalt	0.130		ug/L	P412672	
		Copper	0.40	U	ug/L	P412672	
		Lead	0.51		ug/L	P412672	
		Manganese	9.01		ug/L	P412672	
		Molybdenum	0.15	U	ug/L	P412672	
		Nickel	0.50	U	ug/L	P412672	
		Selenium	0.20	U	ug/L	P412672	
		Silver	0.010	U	ug/L	P412672	
		Thallium	0.10	U	ug/L	P412672	
	SM 2340 B-2011	Hardness	13.6		mg/L	P412672	

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 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/22/2022.

Sample Location: UNNAMED TRIB TO MILLS CR @ CR 108 W of Minor Ln **Collection Date/Time: 04/19/2022 12:35**

Field ID: 19010159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320764	DEP SOP: NU-094-1	Color (true)**	280		PCU	P412747	
	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P412646	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P413117	
		Sulfate	0.33	I	mg SO4/L	P413120	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P413183	
	SM 2540 C-2011	TDS	56		mg/L	P413194	
	SM 2540 D-2011	TSS	2	I	mg/L	P413197	
2320765	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P413188	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P413066	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P413130	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P412842	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P412896	
2320775	SM 5310 B-2011	Organic Carbon	30		mg C/L	P412815	
	EPA 200.7 Rev. 4.4	Calcium	1.01		mg/L	P412672	
		Iron	2.18E+03		ug/L	P412672	
		Magnesium	0.52		mg/L	P412672	
		Potassium	0.30	U	mg/L	P412672	
		Sodium	4.6		mg/L	P412672	
		Strontium	6.8	I	ug/L	P412672	
		Tin	3.0	U	ug/L	P412672	
		Titanium	1.4	I	ug/L	P412672	
		Vanadium	2.0	U	ug/L	P412672	
		Zinc	5.0	U	ug/L	P412672	
	EPA 200.8 Rev. 5.4	Aluminum	729		ug/L	P412672	
		Antimony	0.050	U	ug/L	P412672	
		Arsenic	0.49		ug/L	P412672	
		Barium	10.0		ug/L	P412672	
		Beryllium	0.045		ug/L	P412672	
		Boron**	15.6		ug/L	P412672	
		Cadmium	0.020	U	ug/L	P412672	
		Chromium	0.74	I	ug/L	P412672	
		Cobalt	0.338		ug/L	P412672	
		Copper	0.40	U	ug/L	P412672	
		Lead	0.97		ug/L	P412672	
		Manganese	7.56		ug/L	P412672	
		Molybdenum	0.15	U	ug/L	P412672	
		Nickel	0.99	I	ug/L	P412672	
		Selenium	0.20	U	ug/L	P412672	
		Silver	0.010	U	ug/L	P412672	
		Thallium	0.10	U	ug/L	P412672	
	SM 2340 B-2011	Hardness	4.7		mg/L	P412672	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/22/2022.

Sample Location: MILLS CREEK AT US 301/US1

Collection Date/Time: 04/19/2022 14:45

Field ID: 19020048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320777	EPA 200.7 Rev. 4.4	Calcium	4.07		mg/L	P412672	
		Iron	1.61E+03		ug/L	P412672	
		Magnesium	1.25		mg/L	P412672	
		Potassium	0.82	I	mg/L	P412672	
		Sodium	6.1		mg/L	P412672	
		Strontium	19.2		ug/L	P412672	
		Tin	3.0	U	ug/L	P412672	
		Titanium	1.3	I	ug/L	P412672	
		Vanadium	2.0	U	ug/L	P412672	
		Zinc	5.0	U	ug/L	P412672	
	EPA 200.8 Rev. 5.4	Aluminum	498		ug/L	P412672	
		Antimony	0.050	U	ug/L	P412672	
		Arsenic	0.50		ug/L	P412672	
		Barium	16.8		ug/L	P412672	
		Beryllium	0.044		ug/L	P412672	
		Boron**	16.3		ug/L	P412672	
		Cadmium	0.020	U	ug/L	P412672	
		Chromium	0.63	I	ug/L	P412672	
		Cobalt	0.292		ug/L	P412672	
		Copper	0.40	U	ug/L	P412672	
		Lead	0.50		ug/L	P412672	
		Manganese	16.8		ug/L	P412672	
		Molybdenum	0.15	U	ug/L	P412672	
		Nickel	0.63	I	ug/L	P412672	
		Selenium	0.20	U	ug/L	P412672	
		Silver	0.010	U	ug/L	P412672	
		Thallium	0.10	U	ug/L	P412672	
	SM 2340 B-2011	Hardness	15.3		mg/L	P412672	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/22/2022.

Sample Location: Creek draining former Hampton lake 100m above rd

Collection Date/Time: 04/19/2022 10:25

Field ID: G4NE0292

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2320780	EPA 200.7 Rev. 4.4	Calcium	4.26		mg/L	P412672	
		Iron	1.10E+03		ug/L	P412672	
		Magnesium	0.98		mg/L	P412672	
		Potassium	0.75	I	mg/L	P412672	
		Sodium	5.5		mg/L	P412672	
		Strontium	16.1		ug/L	P412672	
		Tin	3.0	U	ug/L	P412672	
		Titanium	1.7	I	ug/L	P412672	
		Vanadium	2.0	U	ug/L	P412672	
		Zinc	5.0	U	ug/L	P412672	
	EPA 200.8 Rev. 5.4	Aluminum	380		ug/L	P412672	
		Antimony	0.050	U	ug/L	P412672	
		Arsenic	0.44		ug/L	P412672	
		Barium	17.0		ug/L	P412672	
		Beryllium	0.028	I	ug/L	P412672	
		Boron**	16.6		ug/L	P412672	
		Cadmium	0.020	U	ug/L	P412672	
		Chromium	0.47	I	ug/L	P412672	
		Cobalt	0.152		ug/L	P412672	
		Copper	0.40	U	ug/L	P412672	
		Lead	0.58		ug/L	P412672	
		Manganese	8.51		ug/L	P412672	
		Molybdenum	0.15	U	ug/L	P412672	
		Nickel	0.50	U	ug/L	P412672	
		Selenium	0.20	U	ug/L	P412672	
		Silver	0.010	U	ug/L	P412672	
		Thallium	0.10	U	ug/L	P412672	
	SM 2340 B-2011	Hardness	14.7		mg/L	P412672	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/22/2022.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P412747

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412646

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412672

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: P412672

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413117

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413120

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413094

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413130

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412842

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412896

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

Reference Method: EPA 8321B
Batch ID: P412640

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P412640

Component	Result	Code	Units
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P412696

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P413183

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

Reference Method: SM 2540 C-2011

Batch ID: P413194

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011

Batch ID: P413195

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P413197

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P413198

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P413188

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412815

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: P412747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412646

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.2		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	109		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	105		P	85 - 115
Sodium	101		P	85 - 115
Strontium	103		P	85 - 115
Tin	102		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	96.3		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.0		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	101		P	85 - 115
Barium	103		P	85 - 115
Beryllium	98.8		P	85 - 115
Boron	99.4		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	103		P	85 - 115
Copper	99.8		P	85 - 115
Lead	99.0		P	85 - 115
Manganese	99.0		P	85 - 115
Molybdenum	99.9		P	85 - 115
Nickel	101		P	85 - 115
Selenium	99.4		P	85 - 115
Silver	103		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413117

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413094

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413130

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412842

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412896

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

Reference Method: EPA 8321B
Batch ID: P412640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.1		P	30 - 160
2,4,5-T	65.1		P	30 - 160
Acetaminophen	48.9		P	30 - 150
Acetamiprid	89.6		P	30 - 160
Afidopyropen	58.7		P	30 - 160
Bentazon	46.5		P	30 - 150
Benzovindiflupyr	79.1		P	30 - 160
Carbamazepine	81.1		P	30 - 160
Clothianidin	88.6		P	30 - 160
Dinotefuran	76.6		P	30 - 160
Diuron	79.7		P	30 - 160
Fenuron	102		P	30 - 160
Fluridone	84.0		P	30 - 160
Hydrocodone	87.5		P	30 - 160
Ibuprofen	75.0		P	30 - 160
Imazapyr	85.1		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P412640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	88.1		P	30 - 160
Linuron	68.0		P	30 - 160
Mandestrobin	78.2		P	30 - 160
MCPP	82.2		P	30 - 160
Naproxen	55.2		P	30 - 160
Primidone	83.6		P	30 - 160
Pyraclostrobin	83.9		P	30 - 160
Silvex	65.0		P	30 - 160
Thiamethoxam	85.9		P	30 - 160
Tolfenpyrad	48.7		P	30 - 160
Triclopyr	73.0		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P412696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	108		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	108		P	40 - 150
Glyphosate	97.9		P	40 - 150
Sucralose	96.1		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P413183

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.9		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P413188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P412815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320778	Calcium	107	106	P/P	80 - 120
2320778	Iron	107	107	P/P	80 - 120
2320778	Magnesium	106	107	P/P	80 - 120
2320778	Potassium	104	115	P/P	80 - 120
2320778	Sodium	103		P	80 - 120
2320778	Strontium	102	110	P/P	80 - 120
2320778	Tin	103	101	P/P	80 - 120
2320778	Titanium	104	104	P/P	80 - 120
2320778	Vanadium	98.9	98.8	P/P	80 - 120
2320778	Zinc	105	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320778	Aluminum	99.6	104	P/P	80 - 120
2320778	Antimony	98.8	99.7	P/P	80 - 120
2320778	Arsenic	99.7	101	P/P	80 - 120
2320778	Barium	103	104	P/P	80 - 120
2320778	Beryllium	95.8	96.8	P/P	80 - 120
2320778	Boron	99.4	101	P/P	80 - 120
2320778	Cadmium	98.7	96.9	P/P	80 - 120
2320778	Chromium	96.2	96.6	P/P	80 - 120
2320778	Cobalt	101	102	P/P	80 - 120
2320778	Copper	101	101	P/P	80 - 120
2320778	Lead	98.5	99.7	P/P	80 - 120
2320778	Manganese	98.0	98.5	P/P	80 - 120
2320778	Molybdenum	99.3	99.9	P/P	80 - 120
2320778	Nickel	101	102	P/P	80 - 120
2320778	Selenium	98.1	99.7	P/P	80 - 120
2320778	Silver	100	100	P/P	80 - 120
2320778	Thallium	103	104	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P413117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320637	Chloride	98.1		P	90 - 110
2320700	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P413120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320637	Sulfate	92.3		P	90 - 110
2320700	Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P413066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320765	Ammonia-N	100	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P413130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320368	Kjeldahl Nitrogen	102	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P412842

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320767	NO2NO3-N	93.0	93.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P412896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320852	Total-P	104	103	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P412640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320526	2,4-D	76.1	88.7	P/P	30 - 160
2320526	2,4,5-T	67.4	69.8	P/P	30 - 160
2320526	Acetaminophen	93.0	98.0	P/P	30 - 150
2320526	Acetamiprid	85.5	92.5	P/P	30 - 160
2320526	Afidopyropen	52.7	56.1	P/P	30 - 160
2320526	Bentazon	43.8	58.3	P/P	30 - 150
2320526	Benzovindiflupyr	78.2	78.1	P/P	30 - 160
2320526	Carbamazepine	80.4	83.9	P/P	30 - 160
2320526	Clothianidin	110	116	P/P	30 - 160
2320526	Dinotefuran	106	123	P/P	30 - 160
2320526	Diuron	71.7	76.4	P/P	30 - 160
2320526	Fenuron	88.2	96.1	P/P	30 - 160
2320526	Fluridone	75.5	82.7	P/P	30 - 160
2320526	Hydrocodone	92.9	98.2	P/P	30 - 160
2320526	Ibuprofen	57.8	60.1	P/P	30 - 160
2320526	Imazapyr	122	111	P/P	30 - 160
2320526	Imidacloprid	151	166	P/F	30 - 160
2320526	Linuron	59.7	68.6	P/P	30 - 160
2320526	Mandestrobin	76.2	84.4	P/P	30 - 160
2320526	MCPP	86.9	102	P/P	30 - 160
2320526	Naproxen	79.9	78.8	P/P	30 - 160
2320526	Primidone	96.5	109	P/P	30 - 160
2320526	Pyraclostrobin	83.3	94.1	P/P	30 - 160
2320526	Silvex	62.8	67.8	P/P	30 - 160
2320526	Thiamethoxam	137	150	P/P	30 - 160
2320526	Tolfenpyrad	44.5	49.0	P/P	30 - 160
2320526	Triclopyr	71.4	71.6	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P412696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320528	Acesulfame K	94.5	92.1	P/P	40 - 150
2320528	AMPA	73.6	71.0	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P412696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320528	Endothall	99.8	96.4	P/P	40 - 150
2320528	Glufosinate	80.6	82.3	P/P	40 - 150
2320528	Glyphosate	68.3	68.5	P/P	40 - 150
2320528	Sucralose	105	100	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P413188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321325	Fluoride	103	102	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P412815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320851	Organic Carbon	98.4	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P412747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320848	Color (true)	2.16	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320848	Turbidity	14.6	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320778	Calcium	0.815	Spike	P	0 - 20
2320778	Iron	0.667	Spike	P	0 - 20
2320778	Magnesium	0.709	Spike	P	0 - 20
2320778	Potassium	8.17	Spike	P	0 - 20
2320778	Sodium	7.57	Spike	P	0 - 20
2320778	Strontium	7.16	Spike	P	0 - 20
2320778	Tin	1.76	Spike	P	0 - 20
2320778	Titanium	0.141	Spike	P	0 - 20
2320778	Vanadium	0.0421	Spike	P	0 - 20
2320778	Zinc	0.470	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320778	Aluminum	2.88	Spike	P	0 - 20
2320778	Antimony	0.902	Spike	P	0 - 20
2320778	Arsenic	1.78	Spike	P	0 - 20
2320778	Barium	1.24	Spike	P	0 - 20
2320778	Beryllium	0.910	Spike	P	0 - 20
2320778	Boron	1.50	Spike	P	0 - 20
2320778	Cadmium	1.84	Spike	P	0 - 20
2320778	Chromium	0.413	Spike	P	0 - 20
2320778	Cobalt	0.209	Spike	P	0 - 20
2320778	Copper	0.0849	Spike	P	0 - 20
2320778	Lead	1.24	Spike	P	0 - 20
2320778	Manganese	0.397	Spike	P	0 - 20
2320778	Molybdenum	0.610	Spike	P	0 - 20
2320778	Nickel	0.738	Spike	P	0 - 20
2320778	Selenium	1.70	Spike	P	0 - 20
2320778	Silver	0.424	Spike	P	0 - 20
2320778	Thallium	1.32	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320637	Chloride	1.55	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320637	Sulfate	0.337	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320765	Ammonia-N	5.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320130	Kjeldahl Nitrogen	9.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320368	Kjeldahl Nitrogen	2.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412842

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320767	NO2NO3-N	0.456	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320852	Total-P	0.495	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P412640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320526	2,4-D	9.65	Spike	P	0 - 30
2320526	2,4,5-T	3.37	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P412640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320526	Acetaminophen	5.17	Spike	P	0 - 30
2320526	Acetamiprid	7.84	Spike	P	0 - 30
2320526	Afidopyropen	6.27	Spike	P	0 - 30
2320526	Bentazon	4.42	Spike	P	0 - 30
2320526	Benzovindiflupyr	0.157	Spike	P	0 - 30
2320526	Carbamazepine	4.00	Spike	P	0 - 30
2320526	Clothianidin	4.69	Spike	P	0 - 30
2320526	Dinotefuran	14.7	Spike	P	0 - 30
2320526	Diuron	5.83	Spike	P	0 - 30
2320526	Fenuron	8.55	Spike	P	0 - 30
2320526	Fluridone	8.00	Spike	P	0 - 30
2320526	Hydrocodone	5.60	Spike	P	0 - 30
2320526	Ibuprofen	3.91	Spike	P	0 - 30
2320526	Imazapyr	2.40	Spike	P	0 - 30
2320526	Imidacloprid	9.24	Spike	P	0 - 30
2320526	Linuron	13.9	Spike	P	0 - 30
2320526	Mandestrobin	10.2	Spike	P	0 - 30
2320526	MCPP	16.1	Spike	P	0 - 30
2320526	Naproxen	1.36	Spike	P	0 - 30
2320526	Primidone	12.0	Spike	P	0 - 30
2320526	Pyraclostrobin	12.3	Spike	P	0 - 30
2320526	Silvex	7.58	Spike	P	0 - 30
2320526	Thiamethoxam	8.91	Spike	P	0 - 30
2320526	Tolfenpyrad	9.58	Spike	P	0 - 30
2320526	Triclopyr	0.317	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P412696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320528	Acesulfame K	2.65	Spike	P	0 - 30
2320528	AMPA	2.48	Spike	P	0 - 30
2320528	Endothall	3.55	Spike	P	0 - 30
2320528	Glufosinate	2.17	Spike	P	0 - 30
2320528	Glyphosate	0.137	Spike	P	0 - 30
2320528	Sucralose	3.90	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P413183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321325	Total Alkalinity	0.129	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P413194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320637	TDS	3.20	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P413195

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320886	TDS	6.71	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P413188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321325	Fluoride	0.960	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P412815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320851	Organic Carbon	0.333	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2320773
Field Sample ID: 19010099

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Diuron-d6	84.8	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	65.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.4	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	88.9	P	30 - 160

Lab Sample ID: 2320774
Field Sample ID: 19010098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.7	P	30 - 160
EPA 8321B	Diuron-d6	74.7	P	30 - 160
EPA 8321B	Endothall-d6	99.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	44.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.4	P	30 - 160
EPA 8321B	Primidone-d5	86.1	P	30 - 160
EPA 8321B	Sucralose-d6	93.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111579

Included Lab Sample IDs: 2320764, 2320766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111617

Included Lab Sample IDs: 2320775, 2320776, 2320777, 2320778, 2320779, 2320780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	101	P/P	90 - 110
Aluminum	101	101	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Antimony	101	102	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Barium	100	101	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Beryllium	97.6	98.7	P/P	90 - 110
Beryllium	98.7	98.6	P/P	90 - 110
Boron	95.9	97.8	P/P	90 - 110
Boron	97.8	99.8	P/P	90 - 110
Cadmium	99.1	99.3	P/P	90 - 110
Cadmium	99.3	101	P/P	90 - 110
Chromium	98.8	99.0	P/P	90 - 110
Chromium	99.0	100	P/P	90 - 110
Cobalt	103	103	P/P	90 - 110
Cobalt	103	103	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Copper	102	101	P/P	90 - 110
Lead	98.2	98.5	P/P	90 - 110
Lead	98.5	98.4	P/P	90 - 110
Manganese	99.0	99.5	P/P	90 - 110
Manganese	99.5	101	P/P	90 - 110
Molybdenum	100	99.4	P/P	90 - 110
Molybdenum	99.4	99.1	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Nickel	102	101	P/P	90 - 110
Selenium	101	99.9	P/P	90 - 110
Selenium	99.0	101	P/P	90 - 110
Silver	105	105	P/P	90 - 110
Silver	105	105	P/P	90 - 110
Thallium	98.1	98.8	P/P	90 - 110
Thallium	98.8	101	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A111624

Included Lab Sample IDs: 2320764, 2320766

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A111654

Included Lab Sample IDs: 2320773, 2320774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.2	97.7	P/P	60 - 160
Sucralose	93.9	96.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111655

Included Lab Sample IDs: 2320773, 2320774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	109	110	P/P	60 - 160
Endothall	102	104	P/P	60 - 160
Glufosinate	104	107	P/P	60 - 160
Glyphosate	97.7	101	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111657

Included Lab Sample IDs: 2320775, 2320776, 2320777, 2320778, 2320779, 2320780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	101	P/P	90 - 110
Calcium	99.7	100	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Potassium	102	103	P/P	90 - 110
Potassium	103	102	P/P	90 - 110
Strontium	100	101	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Tin	100	101	P/P	90 - 110
Tin	101	103	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Titanium	102	101	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Vanadium	102	103	P/P	90 - 110
Zinc	100	102	P/P	90 - 110
Zinc	102	104	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111659

Included Lab Sample IDs: 2320765, 2320767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111666

Included Lab Sample IDs: 2320765, 2320767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111705

Included Lab Sample IDs: 2320775, 2320776, 2320777, 2320778, 2320779, 2320780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	100	102	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A111715

Included Lab Sample IDs: 2320764, 2320766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	99.1	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111765

Included Lab Sample IDs: 2320765, 2320767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	98.0	P/P	90 - 110
Ammonia-N	98.2	97.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111767

Included Lab Sample IDs: 2320773, 2320774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	83.5	72.4	P/P	50 - 150
2,4,5-T	78.6	82.4	P/P	50 - 150
Acetaminophen	74.3	73.4	P/P	60 - 160
Acetamiprid	95.2	95.1	P/P	50 - 150
Afidopyropen	77.0	64.0	P/P	50 - 150
Bentazon	93.5	82.4	P/P	50 - 160
Benzovindiflupyr	93.4	95.0	P/P	50 - 150
Carbamazepine	90.0	88.5	P/P	60 - 150
Clothianidin	90.6	95.9	P/P	60 - 150
Dinotefuran	79.7	88.0	P/P	50 - 150
Diuron	103	96.5	P/P	60 - 160
Fenuron	95.0	94.8	P/P	60 - 150
Fluridone	102	97.7	P/P	60 - 160
Hydrocodone	93.8	88.3	P/P	60 - 150
Ibuprofen	75.7	73.3	P/P	50 - 160
Imazapyr	76.1	76.1	P/P	50 - 150
Imidacloprid	92.7	90.4	P/P	60 - 150
Linuron	90.6	94.1	P/P	60 - 150
Mandestrobin	93.7	99.6	P/P	50 - 150
MCPP	79.9	71.5	P/P	50 - 150
Naproxen	66.1	66.5	P/P	50 - 160
Primidone	89.9	96.7	P/P	60 - 150
Pyraclostrobin	98.6	98.4	P/P	60 - 150
Silvex	77.2	82.1	P/P	50 - 150
Thiamethoxam	86.3	85.9	P/P	50 - 150
Tolfenpyrad	91.7	89.3	P/P	60 - 150
Triclopyr	83.4	83.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A111826

Included Lab Sample IDs: 2320764, 2320766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.0	97.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A111826

Included Lab Sample IDs: 2320764, 2320766

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111862

Included Lab Sample IDs: 2320767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111864

Included Lab Sample IDs: 2320765, 2320767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111911

Included Lab Sample IDs: 2320765

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	99.2				2.16	
EPA 180.1 Rev. 2.0	Turbidity	96.2				14.6	
EPA 200.7 Rev. 4.4	Calcium	107	107	106			0.815
	Iron	109	107	107			0.667
	Magnesium	109	106	107			0.709
	Potassium	105	104	115			8.17
	Sodium	101	103				7.57
	Strontium	103	102	110			7.16
	Tin	102	103	101			1.76
	Titanium	102	104	104			0.141
	Vanadium	96.3	98.9	98.8			0.0421
	Zinc	102	105	106			0.470
EPA 200.8 Rev. 5.4	Aluminum	99.0	99.6	104			2.88
	Antimony	100	98.8	99.7			0.902
	Arsenic	101	99.7	101			1.78
	Barium	103	103	104			1.24
	Beryllium	98.8	95.8	96.8			0.910
	Boron	99.4	99.4	101			1.50
	Cadmium	100	98.7	96.9			1.84
	Chromium	98.0	96.2	96.6			0.413
	Cobalt	103	101	102			0.209
	Copper	99.8	101	101			0.0849
	Lead	99.0	98.5	99.7			1.24
	Manganese	99.0	98.0	98.5			0.397
	Molybdenum	99.9	99.3	99.9			0.610
	Nickel	101	101	102			0.738
	Selenium	99.4	98.1	99.7			1.70
	Silver	103	100	100			0.424
	Thallium	101	103	104			1.32
EPA 300.0 Rev. 2.1	Chloride	98.6	98.1	98.4		1.55	
	Sulfate	98.1	92.3	97.2		0.337	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	100	107			5.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.9					9.97
	Kjeldahl Nitrogen	101	102	99.4			2.10
EPA 353.2 Rev. 2.0	NO2NO3-N	96.5	93.0	93.6			0.456
EPA 365.1 Rev. 2.0	Total-P	105	104	103			0.495
EPA 8321B	2,4-D	74.1	76.1	88.7			9.65
	2,4,5-T	65.1	67.4	69.8			3.37
	Acesulfame K	103	94.5	92.1			2.65
	Acetaminophen	48.9	93.0	98.0			5.17
	Acetamiprid	89.6	85.5	92.5			7.84
	Afidopyropen	58.7	52.7	56.1			6.27
	AMPA	108	73.6	71.0			2.48
	Bentazon	46.5	43.8	58.3			4.42
	Benzovindiflupyr	79.1	78.2	78.1			0.157
	Carbamazepine	81.1	80.4	83.9			4.00
	Clothianidin	88.6	110	116			4.69
	Dinotefuran	76.6	106	123			14.7
	Diuron	79.7	71.7	76.4			5.83
	Endothall	101	99.8	96.4			3.55
	Fenuron	102	88.2	96.1			8.55
	Fluridone	84.0	75.5	82.7			8.00
	Glufosinate	108	80.6	82.3			2.17
	Glyphosate	97.9	68.3	68.5			0.137

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	87.5	92.9	98.2		5.60
	Ibuprofen	75.0	57.8	60.1		3.91
	Imazapyr	85.1	122	111		2.40
	Imidacloprid	88.1	151	166		9.24
	Linuron	68.0	59.7	68.6		13.9
	Mandestrobin	78.2	76.2	84.4		10.2
	MCPP	82.2	86.9	102		16.1
	Naproxen	55.2	79.9	78.8		1.36
	Primidone	83.6	96.5	109		12.0
	Pyraclostrobin	83.9	83.3	94.1		12.3
	Silvex	65.0	62.8	67.8		7.58
	Sucralose	96.1	105	100		3.90
	Thiamethoxam	85.9	137	150		8.91
	Tolfenpyrad	48.7	44.5	49.0		9.58
	Triclopyr	73.0	71.4	71.6		0.317
SM 2320 B-2011	Total Alkalinity	95.9			0.129	
SM 2540 C-2011	TDS				3.20	
	TDS				6.71	
SM 4500-F- C-2011	Fluoride	102	103	102		0.960
SM 5310 B-2011	Organic Carbon	95.1	98.4	97.8		0.333

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2320764, 2320766
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2320764, 2320766
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2320775, 2320776, 2320777, 2320778, 2320779, 2320780
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2320775, 2320776, 2320777, 2320778, 2320779, 2320780
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2320764, 2320766
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2320764, 2320766
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2320765, 2320767
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2320765, 2320767
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2320765, 2320767
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2320765, 2320767
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2320773, 2320774
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2320764, 2320766
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2320775, 2320776, 2320777, 2320778, 2320779, 2320780
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2320764, 2320766
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2320764, 2320766
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2320764, 2320766
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2320765, 2320767

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	04/20/2022			04/20/2022 16:33	Blanca Fach	2320764
	04/20/2022			04/20/2022 16:34	Blanca Fach	2320766
EPA 180.1 Rev. 2.0	04/20/2022			04/20/2022 15:07	Anna M. Plaviak	2320764
	04/20/2022			04/20/2022 15:08	Anna M. Plaviak	2320766
EPA 200.7 Rev. 4.4	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/22/2022 16:38	Josef B Mick	2320775
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/22/2022 16:46	Josef B Mick	2320776
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/22/2022 16:54	Josef B Mick	2320777
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/22/2022 17:33	Josef B Mick	2320778
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/22/2022 18:01	Josef B Mick	2320779
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/22/2022 18:09	Josef B Mick	2320780
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/26/2022 16:36	Josef B Mick	2320775
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/26/2022 16:43	Josef B Mick	2320776
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/26/2022 16:51	Josef B Mick	2320777
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/26/2022 16:59	Josef B Mick	2320778
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/26/2022 17:07	Josef B Mick	2320779
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/26/2022 17:14	Josef B Mick	2320780
EPA 200.8 Rev. 5.4	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/21/2022 15:45	Alexander Thompson	2320775
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/21/2022 15:55	Alexander Thompson	2320776
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/21/2022 16:05	Alexander Thompson	2320777
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/21/2022 16:14	Alexander Thompson	2320778
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/21/2022 17:12	Alexander Thompson	2320779
	04/20/2022	04/21/2022 09:42	Megan Whitefoot	04/21/2022 17:22	Alexander Thompson	2320780
EPA 300.0 Rev. 2.1	04/20/2022			04/27/2022 14:58	James L Waggeberby	2320764
	04/20/2022			04/27/2022 15:10	James L Waggeberby	2320766
EPA 350.1 Rev. 2.0	04/20/2022			04/28/2022 13:37	Judith K. Clark	2320767
	04/20/2022			04/28/2022 15:17	Judith K. Clark	2320765
EPA 351.2 Rev. 2.0	04/20/2022	04/29/2022 09:35	Samantha L Bates	05/02/2022 16:11	Alexandra J Mattheus	2320767
	04/20/2022	05/02/2022 16:54	Samantha L Bates	05/04/2022 13:20	Samantha L Bates	2320765
EPA 353.2 Rev. 2.0	04/20/2022			04/25/2022 11:36	Beverly Y. Sanders	2320767
	04/20/2022			04/25/2022 11:43	Beverly Y. Sanders	2320765
EPA 365.1 Rev. 2.0	04/20/2022	04/27/2022 15:50	Simonne.V. Calhoun	04/29/2022 16:54	James L Waggeberby	2320765
	04/20/2022	04/27/2022 15:50	Simonne.V. Calhoun	04/29/2022 16:55	James L Waggeberby	2320767
EPA 8321B	04/20/2022	04/21/2022 09:00	June Rhew	04/23/2022 03:14	Juyoung Kim	2320773
	04/20/2022	04/21/2022 09:00	June Rhew	04/23/2022 03:49	Juyoung Kim	2320774
	04/20/2022	04/22/2022 10:00	Manjita Shrestha	04/22/2022 23:05	Manjita Shrestha	2320773
	04/20/2022	04/22/2022 10:00	Manjita Shrestha	04/22/2022 23:18	Manjita Shrestha	2320774
	04/20/2022	04/22/2022 10:00	Manjita Shrestha	04/23/2022 21:46	Manjita Shrestha	2320773
	04/20/2022	04/22/2022 10:00	Manjita Shrestha	04/23/2022 22:01	Manjita Shrestha	2320774
SM 2320 B-2011	04/20/2022			04/30/2022 14:17	Dale L. Simmons	2320764
	04/20/2022			04/30/2022 14:27	Dale L. Simmons	2320766

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2340 B-2011	04/20/2022			04/22/2022 16:38	Josef B Mick	2320775
	04/20/2022			04/22/2022 16:46	Josef B Mick	2320776
	04/20/2022			04/22/2022 16:54	Josef B Mick	2320777
	04/20/2022			04/22/2022 17:33	Josef B Mick	2320778
	04/20/2022			04/22/2022 18:01	Josef B Mick	2320779
	04/20/2022			04/22/2022 18:09	Josef B Mick	2320780
	04/20/2022			04/22/2022 15:36	Yijie Li	2320764, 2320766
SM 2540 C-2011	04/20/2022			04/22/2022 15:36	Yijie Li	2320764, 2320766
SM 2540 D-2011	04/20/2022			04/30/2022 14:17	Dale L. Simmons	2320764
SM 4500-F- C-2011	04/20/2022			04/30/2022 14:27	Dale L. Simmons	2320766
	04/20/2022			04/23/2022 01:27	Khloe J Berg	2320765
SM 5310 B-2011	04/20/2022			04/23/2022 01:40	Khloe J Berg	2320767
	04/20/2022					