

Chemical Analysis Report

SW-DIST-2023-11-21-02

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

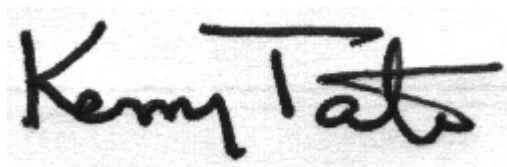
Event Description: **Run 14**
Request ID: **RQ-2023-11-06-45**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 11-DEC-2023 11:53

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the 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: LITTLE BULLFROG CR DOWNSTREAM OF US 301 BRIDGE **Collection Date/Time: 11/20/2023 09:15**

Field ID: G2SW0162

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452499	DEP SOP: NU-094-1	Color (true)	46		PCU	P438137	
	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P438141	
	EPA 300.0 Rev. 2.1	Chloride	44		mg Cl/L	P438358	
		Sulfate	43		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	64		mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	206		mg/L	P438381	
	SM 2540 D-2015	TSS	3	I	mg/L	P438371	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P438335	
2452504	EPA 350.1 Rev. 2.0	Ammonia-N	0.064		mg N/L	P438503	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P438171	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P438306	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P438211	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P438187	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

**Sample Location: MILLER MAC RD DITCH AT US 41 N OF DI
MERE PACKING**

Collection Date/Time: 11/20/2023 09:55

Field ID: G1SW0138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452500	DEP SOP: NU-094-1	Color (true)	55		PCU	P438137	
	EPA 180.1 Rev. 2.0	Turbidity	8.0		NTU	P438141	
	EPA 300.0 Rev. 2.1	Chloride	53		mg Cl/L	P438358	
		Sulfate	100		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	73		mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	318		mg/L	P438382	
	SM 2540 D-2015	TSS	6	I	mg/L	P438372	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P438335	
2452505	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P438503	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P438171	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P438211	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P438187	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: WOLF BRANCH AT 12TH STREET NE

Collection Date/Time: 11/20/2023 10:10

Field ID: G1SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452501	DEP SOP: NU-094-1	Color (true)	52	A	PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	6.2		NTU	P438141	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P438358	
		Sulfate	93		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	132	A	mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	465		mg/L	P438382	
	SM 2540 D-2015	TSS	8	I	mg/L	P438372	
	SM 4500-F- C-2011	Fluoride	0.44		mg F/L	P438335	
2452506	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P438503	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P438171	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P438211	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P438187	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: WOLF BRANCH AT 19TH AVE NE

Collection Date/Time: 11/20/2023 10:30

Field ID: G1SW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452502	DEP SOP: NU-094-1	Color (true)	160		PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P438358	
		Sulfate	58		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	27		mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	205	A	mg/L	P438382	
	SM 2540 D-2015	TSS	7	IA	mg/L	P438372	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P438335	
2452507	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P438503	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P438171	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P438211	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P438188	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

**Sample Location: WOLF BRANCH CANAL AT MANNS HARBOR
DR BOATLIFT**

Collection Date/Time: 11/20/2023 11:00

Field ID: G1SW0092

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452503	DEP SOP: NU-094-1	Color (true)	4.1	I	PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	1.5E+04		mg Cl/L	P438358	
		Sulfate	2.0E+03		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	114		mg CaCO3/L	P438223	
	SM 2540 C-2015	TDS	2.52E+04		mg/L	P438383	
	SM 2540 D-2015	TSS	3	I	mg/L	P438373	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P438552	
2452508	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P438501	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P438294	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.051		mg N/L	P438185	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P438323	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P438442	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: WOLF BRANCH CANAL AT MIDDLE OF LAKE Collection Date/Time: 11/20/2023 11:20

Field ID: G1SW0139

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452509	DEP SOP: NU-094-1	Color (true)	8.4		PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+04		mg Cl/L	P438358	
		Sulfate	1.7E+03		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	110		mg CaCO3/L	P438223	
	SM 2540 C-2015	TDS	2.08E+04		mg/L	P438383	
	SM 2540 D-2015	TSS	3	U	mg/L	P438373	
2452510	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P438552	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.29		mg N/L	P438501	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P438294	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037		mg N/L	P438185	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P438323	
2452547	SM 5310 B-2011	Organic Carbon	8.7		mg C/L	P438442	
	EPA 8321B	2,4-D	0.059		ug/L	P438135	
		Acesulfame K	0.10	U	ug/L	P438082	
		2,4,5-T	0.0040	U	ug/L	P438135	
		AMPA	1.0	U	ug/L	P438082	
		Acetaminophen	0.0080	U	ug/L	P438135	
		Acetamiprid	0.0020	U	ug/L	P438135	
		Endothall	0.25	U	ug/L	P438082	
		Glufosinate	1.0	U	ug/L	P438082	
		Glyphosate	1.0	U	ug/L	P438082	
		Afidopyropen	0.0020	U	ug/L	P438135	
		Bentazon	0.024		ug/L	P438135	
		Sucralose	1.0		ug/L	P438082	
		Benzovindiflupyr	0.0020	U	ug/L	P438135	
		Carbamazepine	8.0E-04	U	ug/L	P438135	
		Clothianidin	0.0020	U	ug/L	P438135	
		Dinotefuran	0.0020	U	ug/L	P438135	
		Diuron	0.0020	U	ug/L	P438135	
		Fenuron	0.032	U	ug/L	P438135	
		Fluridone	0.037		ug/L	P438135	
		Imazapyr	0.043		ug/L	P438135	
		Hydrocodone	0.0020	U	ug/L	P438135	
		Ibuprofen	0.080	U	ug/L	P438135	
		Imidacloprid	0.0079	I	ug/L	P438135	
		Linuron	0.0040	U	ug/L	P438135	
		Mandestrobin	0.0020	U	ug/L	P438135	
		MCP	0.014		ug/L	P438135	
		Naproxen	0.0080	U	ug/L	P438135	
		Primidone	0.0040	U	ug/L	P438135	
		Pyraclostrobin	0.0020	U	ug/L	P438135	
		Silvex	0.0040	U	ug/L	P438135	
		Thiamethoxam	0.0020	U	ug/L	P438135	

Field ID: G1SW0139

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452547	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P438135	
		Triclopyr	0.0040	U	ug/L	P438135	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Sample Location: HERITAGE PARK CREEK

Collection Date/Time: 11/20/2023 12:20

Field ID: G2SW0138

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452511	DEP SOP: NU-094-1	Color (true)	38		PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	7.5E+03		mg Cl/L	P438358	
		Sulfate	1.1E+03		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	75	A	mg CaCO3/L	P438223	
	SM 2540 C-2015	TDS	1.28E+04		mg/L	P438383	
	SM 2540 D-2015	TSS	3	U	mg/L	P438373	
2452512	SM 4500-F- C-2011	Fluoride	0.70		mg F/L	P438552	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.087		mg N/L	P438501	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P438294	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P438185	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P438323	
	SM 5310 B-2011	Organic Carbon	8.6		mg C/L	P438690	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: BUFFALO CANAL PAST THE WW DISCHARGE Collection Date/Time: 11/20/2023 13:20

Field ID: G1SW0140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452513	DEP SOP: NU-094-1	Color (true)	20		PCU	P438140	
	EPA 180.1 Rev. 2.0	Turbidity	45		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	79		mg Cl/L	P438358	
		Sulfate	95		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	165		mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	431		mg/L	P438382	
	SM 2540 D-2015	TSS	68		mg/L	P438372	
2452514	SM 4500-F- C-2011	Fluoride	0.74		mg F/L	P438335	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P438503	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P438274	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.81		mg P/L	P438324	
2452548	SM 5310 B-2011	Organic Carbon	12		mg C/L	P438188	
	EPA 8321B	2,4-D	0.023		ug/L	P438135	
		Acesulfame K	0.20	I	ug/L	P438082	
		2,4,5-T	0.0040	U	ug/L	P438135	
		AMPA	2.1		ug/L	P438082	
		Acetaminophen	0.0080	U	ug/L	P438135	
		Acetamiprid	0.0020	U	ug/L	P438135	
		Endothall	0.25	U	ug/L	P438082	
		Glufosinate	0.10	U	ug/L	P438082	
		Glyphosate	1.5		ug/L	P438082	
		Afidopyropen	0.0020	U	ug/L	P438135	
		Bentazon	0.029		ug/L	P438135	
		Sucralose	5.5		ug/L	P438082	
		Benzovindiflupyr	0.0020	U	ug/L	P438135	
		Carbamazepine	0.0043		ug/L	P438135	
		Clothianidin	0.0020	U	ug/L	P438135	
		Dinotefuran	0.0020	U	ug/L	P438135	
		Diuron	0.0020	U	ug/L	P438135	
		Fenuron	0.032	U	ug/L	P438135	
		Fluridone	3.1		ug/L	P438135	
		Imazapyr	0.22		ug/L	P438135	
		Hydrocodone	0.0020	U	ug/L	P438135	
		Ibuprofen	0.080	U	ug/L	P438135	
		Imidacloprid	0.0084		ug/L	P438135	
		Linuron	0.0040	U	ug/L	P438135	
		Mandestrobin	0.0020	U	ug/L	P438135	
		MCPP	0.0020	U	ug/L	P438135	
		Naproxen	0.0080	U	ug/L	P438135	
		Primidone	0.022		ug/L	P438135	
		Pyraclostrobin	0.0020	U	ug/L	P438135	
		Silvex	0.0040	U	ug/L	P438135	
		Thiamethoxam	0.0020	U	ug/L	P438135	

Field ID: G1SW0140

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452548	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P438135	
		Triclopyr	0.0040	U	ug/L	P438135	
2452558	EPA 200.7 Rev. 4.4	Calcium	80.5		mg/L	P438174	
		Iron	1.22E+03		ug/L	P438174	
		Magnesium	26.4		mg/L	P438174	
		Potassium	7.4		mg/L	P438174	
		Sodium	45.2		mg/L	P438174	
		Strontium	734		ug/L	P438174	
		Tin	3.0	U	ug/L	P438174	
		Titanium	3.1		ug/L	P438174	
		Vanadium	4.5	I	ug/L	P438174	
		Zinc	26		ug/L	P438174	
	EPA 200.8 Rev. 5.4	Aluminum	852		ug/L	P438174	
		Antimony	0.39		ug/L	P438174	
		Arsenic	3.98		ug/L	P438174	
		Barium	31.6		ug/L	P438174	
		Beryllium	0.049		ug/L	P438174	
		Boron	98.7		ug/L	P438174	
		Cadmium	0.020	U	ug/L	P438174	
		Chromium	1.8		ug/L	P438174	
		Cobalt	0.329		ug/L	P438174	
		Copper	2.22		ug/L	P438174	
		Lead	1.05		ug/L	P438174	
		Manganese	52.7		ug/L	P438174	
		Molybdenum	3.88		ug/L	P438174	
		Nickel	2.8		ug/L	P438174	
		Selenium	0.43	I	ug/L	P438174	
		Silver	0.010	U	ug/L	P438174	
		Thallium	0.10	U	ug/L	P438174	
	SM 2340 B-2011	Hardness	310		mg/L	P438174	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P438137

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P438138

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P438140

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438141

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438142

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438174

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: P438174

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Component	Result	Code	Units
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: P438358

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438503

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438171

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438294

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438185

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438323

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438324

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

Reference Method: EPA 8321B
Batch ID: P438082

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

Reference Method: EPA 8321B
Batch ID: P438135

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P438135

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P438222

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

Reference Method: SM 2320 B-2011

Batch ID: P438223

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

Reference Method: SM 2540 C-2015

Batch ID: P438381

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015

Batch ID: P438382

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015

Batch ID: P438383

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P438371

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438372

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438373

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P438187

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

Reference Method: SM 5310 B-2011
Batch ID: P438188

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

Reference Method: SM 5310 B-2011
Batch ID: P438442

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

Reference Method: SM 5310 B-2011
Batch ID: P438690

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: P438137

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P438138

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P438140

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.6		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438141

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438142

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	109		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	101		P	85 - 115
Sodium	106		P	85 - 115
Strontium	97.9		P	85 - 115
Tin	96.8		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	99.5		P	85 - 115
Zinc	97.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	99.2		P	85 - 115
Barium	101		P	85 - 115
Beryllium	89.9		P	85 - 115
Boron	101		P	85 - 115
Cadmium	98.5		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	107		P	85 - 115
Cobalt	93.3		P	85 - 115
Copper	98.5		P	85 - 115
Lead	94.6		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	96.7		P	85 - 115
Nickel	100		P	85 - 115
Selenium	99.7		P	85 - 115
Silver	97.8		P	85 - 115
Thallium	98.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438503

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438171

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438294

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438185

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: P438302

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438306

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438323

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438324

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

Reference Method: EPA 8321B
Batch ID: P438082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.2		P	40 - 150
AMPA	98.8		P	40 - 160
Endothall	102		P	40 - 160
Glufosinate	105		P	40 - 160
Glyphosate	103		P	40 - 160
Sucralose	99.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P438135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.8		P	40 - 150
2,4,5-T	98.4		P	40 - 150
Acetaminophen	95.5		P	30 - 150
Acetamiprid	92.3		P	40 - 150
Afidopyropen	82.1		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P438135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	70.0		P	30 - 150
Benzovindiflupyr	85.3		P	40 - 150
Carbamazepine	79.1		P	40 - 150
Clothianidin	86.7		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	76.1		P	40 - 150
Fenuron	124		P	40 - 150
Fluridone	86.3		P	40 - 150
Hydrocodone	99.4		P	40 - 150
Ibuprofen	64.1		P	40 - 150
Imazapyr	89.2		P	40 - 150
Imidacloprid	86.9		P	40 - 150
Linuron	72.4		P	40 - 150
Mandestrobin	84.2		P	40 - 150
MCPP	92.9		P	40 - 150
Naproxen	76.2		P	40 - 150
Primidone	85.2		P	40 - 150
Pyraclostrobin	80.9		P	40 - 150
Silvex	85.5		P	40 - 150
Thiamethoxam	92.7		P	40 - 150
Tolfenpyrad	60.7		P	30 - 150
Triclopyr	107		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P438222

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.5		P	92 - 105

Reference Method: SM 2320 B-2011

Batch ID: P438223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P438381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.2		P	85 - 115

Reference Method: SM 2540 C-2015

Batch ID: P438382

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

Reference Method: SM 2540 C-2015

Batch ID: P438383

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.2		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P438371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	92.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.6		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

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

Reference Method: SM 5310 B-2011
Batch ID: P438187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P438188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.6		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P438442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P438690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452360	Calcium	110	109	P/P	80 - 120
2452360	Iron	110	109	P/P	80 - 120
2452360	Magnesium	111	109	P/P	80 - 120
2452360	Potassium	103	102	P/P	80 - 120
2452360	Sodium	108	108	P/P	80 - 120
2452360	Strontium	102	101	P/P	80 - 120
2452360	Tin	98.1	99.1	P/P	80 - 120
2452360	Titanium	102	102	P/P	80 - 120
2452360	Vanadium	101	101	P/P	80 - 120
2452360	Zinc	98.4	98.3	P/P	80 - 120
2452610	Calcium	106		P	80 - 120
2452610	Iron	108		P	80 - 120
2452610	Magnesium	105		P	80 - 120
2452610	Potassium	99.7		P	80 - 120
2452610	Sodium	105		P	80 - 120
2452610	Strontium	99.1		P	80 - 120
2452610	Tin	94.5		P	80 - 120
2452610	Titanium	101		P	80 - 120
2452610	Vanadium	101		P	80 - 120
2452610	Zinc	98.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452360	Aluminum	99.4	98.1	P/P	80 - 120
2452360	Antimony	99.2	99.8	P/P	80 - 120
2452360	Arsenic	98.2	97.7	P/P	80 - 120
2452360	Barium	100	100	P/P	80 - 120
2452360	Beryllium	89.5	87.4	P/P	80 - 120
2452360	Boron	104	103	P/P	80 - 120
2452360	Cadmium	97.9	98.2	P/P	80 - 120
2452360	Chromium	97.6	95.1	P/P	80 - 120
2452360	Cobalt	91.8	91.6	P/P	80 - 120
2452360	Copper	99.0	97.5	P/P	80 - 120
2452360	Lead	94.4	93.9	P/P	80 - 120
2452360	Manganese	100	100	P/P	80 - 120
2452360	Molybdenum	99.2	97.9	P/P	80 - 120
2452360	Nickel	95.8	95.1	P/P	80 - 120
2452360	Selenium	99.1	95.9	P/P	80 - 120
2452360	Silver	96.8	96.8	P/P	80 - 120
2452360	Thallium	99.9	98.7	P/P	80 - 120
2452610	Aluminum	99.6		P	80 - 120
2452610	Antimony	99.9		P	80 - 120
2452610	Arsenic	97.2		P	80 - 120
2452610	Barium	98.7		P	80 - 120
2452610	Beryllium	90.4		P	80 - 120
2452610	Boron	101		P	80 - 120
2452610	Cadmium	98.2		P	80 - 120
2452610	Chromium	96.2		P	80 - 120
2452610	Cobalt	89.4		P	80 - 120
2452610	Copper	98.7		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452610	Lead	94.6		P	80 - 120
2452610	Manganese	91.7		P	80 - 120
2452610	Molybdenum	99.3		P	80 - 120
2452610	Nickel	94.7		P	80 - 120
2452610	Selenium	95.3		P	80 - 120
2452610	Silver	96.2		P	80 - 120
2452610	Thallium	98.4		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452492	Chloride	101		P	90 - 110
2452502	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452492	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452160	Ammonia-N	99.6	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452505	Ammonia-N	97.4	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452496	Kjeldahl Nitrogen	95.2	111	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452569	Kjeldahl Nitrogen	111	111	F/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452510	Kjeldahl Nitrogen	99.6	99.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452200	NO2NO3-N	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452507	NO2NO3-N	97.2	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452496	NO2NO3-N	94.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452601	Total-P	100	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452644	Total-P	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452772	Total-P	109	108	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P438082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452355	Acesulfame K	112	95.6	P/P	40 - 150
2452355	AMPA	96.0	97.6	P/P	40 - 160
2452355	Endothall	106	103	P/P	40 - 160
2452355	Glufosinate	96.0	104	P/P	40 - 160
2452355	Glyphosate	97.1	96.0	P/P	40 - 160
2452355	Sucralose	105	91.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P438135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452547	2,4-D	93.3	94.6	P/P	40 - 150
2452547	2,4,5-T	85.2	79.2	P/P	40 - 150
2452547	Acetaminophen	78.4	78.3	P/P	30 - 150
2452547	Acetamiprid	66.5	66.0	P/P	40 - 150
2452547	Afidopyropen	83.0	76.1	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P438135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452547	Benzovindiflupyr	82.6	81.4	P/P	40 - 150
2452547	Carbamazepine	55.7	54.9	P/P	40 - 150
2452547	Clothianidin	70.1	70.7	P/P	40 - 150
2452547	Dinotefuran	56.0	55.6	P/P	40 - 150
2452547	Diuron	57.6	57.3	P/P	40 - 150
2452547	Fenuron	57.0	56.8	P/P	40 - 150
2452547	Fluridone	87.5	81.3	P/P	40 - 150
2452547	Hydrocodone	58.4	59.5	P/P	40 - 150
2452547	Ibuprofen	70.6	67.4	P/P	40 - 150
2452547	Imazapyr	90.0	82.7	P/P	40 - 150
2452547	Imidacloprid	99.2	97.3	P/P	40 - 150
2452547	Linuron	64.1	65.3	P/P	40 - 150
2452547	Mandestrobin	79.3	77.6	P/P	40 - 150
2452547	MCPP	88.0	85.4	P/P	40 - 150
2452547	Naproxen	84.9	70.7	P/P	40 - 150
2452547	Primidone	74.4	75.8	P/P	40 - 150
2452547	Pyraclostrobin	80.6	77.9	P/P	40 - 150
2452547	Silvex	101	92.9	P/P	40 - 150
2452547	Thiamethoxam	63.5	61.9	P/P	40 - 150
2452547	Tolfenpyrad	52.4	53.7	P/P	30 - 150
2452547	Triclopyr	89.2	81.6	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P438335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452499	Fluoride	101	103	P/P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P438552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2454084	Fluoride	103	99.8	P/P	94 - 106

Reference Method: SM 5310 B-2011

Batch ID: P438187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452346	Organic Carbon	93.5	93.5	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P438188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452507	Organic Carbon	98.8		P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P438442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452508	Organic Carbon	87.6	90.7	P/P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P438690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452512	Organic Carbon	90.4	89.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P438137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452458	Color (true)	5.40	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P438138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452501	Color (true)	6.43	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P438140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452568	Color (true)	3.31	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452403	Turbidity	1.13	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452502	Turbidity	7.27	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452360	Calcium	0.826	Spike	P	0 - 20
2452360	Iron	1.35	Spike	P	0 - 20
2452360	Magnesium	1.02	Spike	P	0 - 20
2452360	Potassium	0.746	Spike	P	0 - 20
2452360	Sodium	0.319	Spike	P	0 - 20
2452360	Strontium	0.764	Spike	P	0 - 20
2452360	Tin	0.922	Spike	P	0 - 20
2452360	Titanium	0.140	Spike	P	0 - 20
2452360	Vanadium	0.457	Spike	P	0 - 20
2452360	Zinc	0.120	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

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

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452360	Aluminum	1.25	Spike	P	0 - 20
2452360	Antimony	0.610	Spike	P	0 - 20
2452360	Arsenic	0.485	Spike	P	0 - 20
2452360	Barium	0.104	Spike	P	0 - 20
2452360	Beryllium	2.34	Spike	P	0 - 20
2452360	Boron	1.46	Spike	P	0 - 20
2452360	Cadmium	0.394	Spike	P	0 - 20
2452360	Chromium	2.54	Spike	P	0 - 20
2452360	Cobalt	0.169	Spike	P	0 - 20
2452360	Copper	1.52	Spike	P	0 - 20
2452360	Lead	0.477	Spike	P	0 - 20
2452360	Manganese	0.118	Spike	P	0 - 20
2452360	Molybdenum	1.36	Spike	P	0 - 20
2452360	Nickel	0.727	Spike	P	0 - 20
2452360	Selenium	3.34	Spike	P	0 - 20
2452360	Silver	0.00468	Spike	P	0 - 20
2452360	Thallium	1.25	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P438358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452492	Chloride	2.72	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P438361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452492	Sulfate	3.40	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P438501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452160	Ammonia-N	1.69	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P438503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452505	Ammonia-N	0.227	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P438171

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452496	Kjeldahl Nitrogen	8.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452569	Kjeldahl Nitrogen	0.0634	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452510	Kjeldahl Nitrogen	0.212	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452200	NO2NO3-N	2.14	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452507	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452496	NO2NO3-N	1.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452601	Total-P	0.408	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452644	Total-P	0.896	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P438324

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452772	Total-P	1.21	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P438082

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452355	Acesulfame K	15.6	Spike	P	0 - 30
2452355	AMPA	1.66	Spike	P	0 - 30
2452355	Endothall	2.88	Spike	P	0 - 30
2452355	Glufosinate	7.87	Spike	P	0 - 30
2452355	Glyphosate	1.14	Spike	P	0 - 30
2452355	Sucralose	13.5	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P438135

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452547	2,4-D	0.800	Spike	P	0 - 30
2452547	2,4,5-T	7.33	Spike	P	0 - 30
2452547	Acetaminophen	0.116	Spike	P	0 - 30
2452547	Acetamiprid	0.679	Spike	P	0 - 30
2452547	Afidopyropen	8.69	Spike	P	0 - 30
2452547	Bentazon	1.49	Spike	P	0 - 30
2452547	Benzovindiflupyr	1.38	Spike	P	0 - 30
2452547	Carbamazepine	1.51	Spike	P	0 - 30
2452547	Clothianidin	0.898	Spike	P	0 - 30
2452547	Dinotefuran	0.745	Spike	P	0 - 30
2452547	Diuron	0.535	Spike	P	0 - 30
2452547	Fenuron	0.348	Spike	P	0 - 30
2452547	Fluridone	2.28	Spike	P	0 - 30
2452547	Hydrocodone	1.94	Spike	P	0 - 30
2452547	Ibuprofen	4.54	Spike	P	0 - 30
2452547	Imazapyr	5.15	Spike	P	0 - 30
2452547	Imidacloprid	1.70	Spike	P	0 - 30
2452547	Linuron	1.79	Spike	P	0 - 30
2452547	Mandestrobin	2.13	Spike	P	0 - 30
2452547	MCPP	2.48	Spike	P	0 - 30
2452547	Naproxen	18.2	Spike	P	0 - 30
2452547	Primidone	1.85	Spike	P	0 - 30
2452547	Pyraclostrobin	3.35	Spike	P	0 - 30
2452547	Silvex	8.37	Spike	P	0 - 30
2452547	Thiamethoxam	2.57	Spike	P	0 - 30
2452547	Tolfenpyrad	2.56	Spike	P	0 - 30
2452547	Triclopyr	8.87	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P438222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452501	Total Alkalinity	0.210	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P438223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452511	Total Alkalinity	0.0800	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452047	TDS	1.17	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P438382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452502	TDS	2.93	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P438383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452190	TDS	4.66	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452499	Fluoride	0.947	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P438552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2454084	Fluoride	1.43	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P438187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452346	Organic Carbon	0.0478	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P438188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452507	Organic Carbon	0.284	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P438442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452508	Organic Carbon	3.18	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P438690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452512	Organic Carbon	0.627	Spike	P	0 - 15

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

Quality Assurance Report Surrogates

Lab Sample ID: 2452547

Field Sample ID: G1SW0139

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	89.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.8	P	30 - 160
EPA 8321B	Diuron-d6	51.4	P	30 - 160
EPA 8321B	Endothall-d6	80.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.0	P	30 - 160
EPA 8321B	Primidone-d5	66.6	P	30 - 160
EPA 8321B	Sucralose-d6	61.1	P	30 - 160

Lab Sample ID: 2452548

Field Sample ID: G1SW0140

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	59.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	47.5	P	30 - 160
EPA 8321B	Diuron-d6	43.6	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.2	P	30 - 160
EPA 8321B	Primidone-d5	56.1	P	30 - 160
EPA 8321B	Sucralose-d6	73.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A122870

Included Lab Sample IDs: 2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 110
Color (true)	98.8	98.4	P/P	90 - 110
Color (true)	99.0	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122871

Included Lab Sample IDs: 2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105
Turbidity	99.0	99.5	P/P	95 - 105
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A122875

Included Lab Sample IDs: 2452547, 2452548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	123	111	P/P	60 - 160
Sucralose	103	92.5	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A122878

Included Lab Sample IDs: 2452547, 2452548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.9	102	P/P	60 - 160
Endothall	98.1	109	P/P	60 - 160
Glufosinate	104	97.9	P/P	60 - 160
Glyphosate	98.7	100	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122891

Included Lab Sample IDs: 2452508, 2452510, 2452512

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

Reference Method: SM 5310 B-2011

Run ID: A122895

Included Lab Sample IDs: 2452504, 2452505, 2452506, 2452507, 2452514

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.7	95.3	P/P	90 - 110
Organic Carbon	95.3	94.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A122907

Included Lab Sample IDs: 2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513

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

Reference Method: SM 2320 B-2011

Run ID: A122907

Included Lab Sample IDs: 2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	98.1	P/P	90 - 110
Total Alkalinity	95.8	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122916

Included Lab Sample IDs: 2452504, 2452505, 2452506, 2452507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	92.2	98.7	P/P	90 - 110
Total-P	97.9	92.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122924

Included Lab Sample IDs: 2452558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	101	P/P	90 - 110
Antimony	100	99.8	P/P	90 - 110
Arsenic	99.2	98.6	P/P	90 - 110
Barium	101	100	P/P	90 - 110
Boron	102	104	P/P	90 - 110
Cadmium	99.3	99.4	P/P	90 - 110
Chromium	101	99.4	P/P	90 - 110
Cobalt	93.0	91.1	P/P	90 - 110
Copper	97.1	96.6	P/P	90 - 110
Lead	95.0	95.3	P/P	90 - 110
Manganese	101	98.6	P/P	90 - 110
Molybdenum	98.8	99.3	P/P	90 - 110
Nickel	97.9	97.3	P/P	90 - 110
Selenium	99.6	100	P/P	90 - 110
Silver	94.4	94.7	P/P	90 - 110
Thallium	96.5	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122935

Included Lab Sample IDs: 2452504, 2452505, 2452506, 2452507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	95.7	P/P	90 - 110
Kjeldahl Nitrogen	95.3	93.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122945

Included Lab Sample IDs: 2452504, 2452505, 2452506, 2452507, 2452514

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.0	P/P	90 - 110
NO2NO3-N	99.0	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122949

Included Lab Sample IDs: 2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	97.1	101	P/P	90 - 110
Sulfate	97.1	99.5	P/P	90 - 110
Sulfate	99.5	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122950

Included Lab Sample IDs: 2452499, 2452500, 2452501, 2452502, 2452513

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122952

Included Lab Sample IDs: 2452558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	93.5	93.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122958

Included Lab Sample IDs: 2452508, 2452510, 2452512, 2452514

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	98.6	P/P	90 - 110
Kjeldahl Nitrogen	97.2	105	P/P	90 - 110
Kjeldahl Nitrogen	99.4	97.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122960

Included Lab Sample IDs: 2452547, 2452548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	108	P/P	50 - 150
2,4-D	108	103	P/P	50 - 150
2,4,5-T	110	99.7	P/P	50 - 150
2,4,5-T	99.7	97.5	P/P	50 - 150
Acetaminophen	110	114	P/P	60 - 160
Acetaminophen	116	110	P/P	60 - 160
Acetamiprid	108	108	P/P	50 - 150
Acetamiprid	108	108	P/P	50 - 150
Afidopyropen	101	95.2	P/P	50 - 150
Afidopyropen	95.2	100	P/P	50 - 150
Bentazon	89.8	90.7	P/P	50 - 160
Bentazon	97.8	89.8	P/P	50 - 160
Benzovindiflupyr	105	103	P/P	50 - 150
Benzovindiflupyr	107	105	P/P	50 - 150
Carbamazepine	106	109	P/P	60 - 150
Carbamazepine	109	109	P/P	60 - 150
Clothianidin	106	99.6	P/P	60 - 150
Clothianidin	99.6	99.7	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A122960

Included Lab Sample IDs: 2452547, 2452548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dinotefuran	112	114	P/P	50 - 150
Dinotefuran	114	110	P/P	50 - 150
Diuron	104	112	P/P	60 - 160
Diuron	109	104	P/P	60 - 160
Fenuron	105	104	P/P	60 - 150
Fenuron	105	105	P/P	60 - 150
Fluridone	108	113	P/P	60 - 160
Fluridone	108	111	P/P	60 - 160
Hydrocodone	111	116	P/P	60 - 150
Hydrocodone	116	113	P/P	60 - 150
Ibuprofen	79.9	83.8	P/P	50 - 160
Ibuprofen	83.8	88.4	P/P	50 - 160
Imazapyr	101	107	P/P	50 - 150
Imazapyr	99.4	101	P/P	50 - 150
Imidacloprid	96.4	96.6	P/P	60 - 150
Imidacloprid	96.6	96.1	P/P	60 - 150
Linuron	109	103	P/P	60 - 150
Linuron	115	109	P/P	60 - 150
Mandestrobin	110	99.3	P/P	50 - 150
Mandestrobin	99.3	106	P/P	50 - 150
MCPP	101	106	P/P	50 - 150
MCPP	110	101	P/P	50 - 150
Naproxen	122	112	P/P	50 - 160
Naproxen	64.9	122	P/P	50 - 160
Primidone	103	97.3	P/P	60 - 150
Primidone	89.5	103	P/P	60 - 150
Pyraclostrobin	106	105	P/P	60 - 150
Pyraclostrobin	108	106	P/P	60 - 150
Silvex	102	93.8	P/P	50 - 150
Silvex	93.8	93.2	P/P	50 - 150
Thiamethoxam	109	108	P/P	50 - 150
Thiamethoxam	110	109	P/P	50 - 150
Tolfenpyrad	97.3	99.5	P/P	60 - 150
Tolfenpyrad	98.8	97.3	P/P	60 - 150
Triclopyr	111	99.0	P/P	50 - 150
Triclopyr	99.0	103	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122981

Included Lab Sample IDs: 2452508, 2452510, 2452512, 2452514

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	P/P	90 - 110
Total-P	98.9	98.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A122996

Included Lab Sample IDs: 2452508, 2452510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.6	94.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A122996

Included Lab Sample IDs: 2452508, 2452510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	92.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123027

Included Lab Sample IDs: 2452504, 2452505, 2452506, 2452507, 2452508, 2452510, 2452512, 2452514

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	97.9	P/P	90 - 110
Ammonia-N	98.9	98.4	P/P	90 - 110
Ammonia-N	99.6	99.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123039

Included Lab Sample IDs: 2452558

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

Reference Method: SM 4500-F- C-2011

Run ID: A123047

Included Lab Sample IDs: 2452503, 2452509, 2452511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	105	P/P	90 - 110
Fluoride	105	106	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A123093

Included Lab Sample IDs: 2452512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	108	P/P	85 - 115

* 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	MS
			LCS	SMP	MS		
DEP SOP: NU-094-1	Color (true)	97.9				5.40	
	Color (true)	98.2				6.43	
	Color (true)	98.6				3.31	
EPA 180.1 Rev. 2.0	Turbidity	103				1.13	
	Turbidity	103				7.27	
EPA 200.7 Rev. 4.4	Calcium	108	110	109	106		0.826
	Iron	109	110	109	108		1.35
	Magnesium	110	111	109	105		1.02
	Potassium	101	103	102	99.7		0.746
	Sodium	106	108	108	105		0.319
	Strontium	97.9	102	101	99.1		0.764
	Tin	96.8	98.1	99.1	94.5		0.922
	Titanium	101	102	102	101		0.140
	Vanadium	99.5	101	101	101		0.457
	Zinc	97.1	98.4	98.3	98.4		0.120
EPA 200.8 Rev. 5.4	Aluminum	100	99.4	98.1	99.6		1.25
	Antimony	100	99.2	99.8	99.9		0.610
	Arsenic	99.2	98.2	97.7	97.2		0.485
	Barium	101	100	100	98.7		0.104
	Beryllium	89.9	89.5	87.4	90.4		2.34
	Boron	101	104	103	101		1.46
	Cadmium	98.5	97.9	98.2	98.2		0.394
	Chromium	107	97.6	95.1	96.2		2.54
	Cobalt	93.3	91.8	91.6	89.4		0.169
	Copper	98.5	99.0	97.5	98.7		1.52
	Lead	94.6	94.4	93.9	94.6		0.477
	Manganese	100	100	100	91.7		0.118
	Molybdenum	96.7	99.2	97.9	99.3		1.36
	Nickel	100	95.8	95.1	94.7		0.727
	Selenium	99.7	99.1	95.9	95.3		3.34
	Silver	97.8	96.8	96.8	96.2		0.0046
	Thallium	98.6	99.9	98.7	98.4		1.25
EPA 300.0 Rev. 2.1	Chloride	99.3	101	106		2.72	
	Sulfate	98.8	101			3.40	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	99.6	102			1.69
	Ammonia-N	95.2	97.4	97.8			0.227
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	95.2	111			8.27
	Kjeldahl Nitrogen	104	111	111			0.0634
	Kjeldahl Nitrogen	99.3	99.6	99.3			0.212
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	104			2.14
	NO2NO3-N	99.0	97.2	98.2			0.971
	NO2NO3-N	98.0	94.5	96.5			1.27
EPA 365.1 Rev. 2.0	Total-P	102	100	99.6			0.408
	Total-P	105	100	101			0.896
	Total-P	105	109	108			1.21
EPA 8321B	2,4-D	97.8	93.3	94.6			0.800
	2,4,5-T	98.4	85.2	79.2			7.33
	Acesulfame K	95.2	112	95.6			15.6
	Acetaminophen	95.5	78.4	78.3			0.116
	Acetamiprid	92.3	66.5	66.0			0.679
	Afidopyropen	82.1	83.0	76.1			8.69
	AMPA	98.8	96.0	97.6			1.66
	Bentazon	70.0					1.49
	Benzovindiflupyr	85.3	82.6	81.4			1.38

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	
						SMP	MS
EPA 8321B	Carbamazepine	79.1	55.7	54.9			1.51
	Clothianidin	86.7	70.1	70.7			0.898
	Dinotefuran	102	56.0	55.6			0.745
	Diuron	76.1	57.6	57.3			0.535
	Endothall	102	106	103			2.88
	Fenuron	124	57.0	56.8			0.348
	Fluridone	86.3	87.5	81.3			2.28
	Glufosinate	105	96.0	104			7.87
	Glyphosate	103	97.1	96.0			1.14
	Hydrocodone	99.4	58.4	59.5			1.94
	Ibuprofen	64.1	70.6	67.4			4.54
	Imazapyr	89.2	90.0	82.7			5.15
	Imidacloprid	86.9	99.2	97.3			1.70
	Linuron	72.4	64.1	65.3			1.79
	Mandestrobin	84.2	79.3	77.6			2.13
	MCPP	92.9	88.0	85.4			2.48
	Naproxen	76.2	84.9	70.7			18.2
	Primidone	85.2	74.4	75.8			1.85
	Pyraclostrobin	80.9	80.6	77.9			3.35
	Silvex	85.5	101	92.9			8.37
	Sucralose	99.3	105	91.2			13.5
	Thiamethoxam	92.7	63.5	61.9			2.57
	Tolfenpyrad	60.7	52.4	53.7			2.56
	Triclopyr	107	89.2	81.6			8.87
SM 2320 B-2011	Total Alkalinity	97.5				0.210	
	Total Alkalinity	98.1				0.0800	
SM 2540 C-2015	TDS	97.2				1.17	
	TDS	96.4				2.93	
	TDS	97.2				4.66	
SM 2540 D-2015	TSS	92.8					
	TSS	96.8					
	TSS	97.6					
SM 4500-F- C-2011	Fluoride	99.1	101	103			0.947
	Fluoride	102	103	99.8			1.43
SM 5310 B-2011	Organic Carbon	94.2	93.5	93.5			0.0478
	Organic Carbon	93.6	98.8				0.284
	Organic Carbon	98.1	87.6	90.7			3.18
	Organic Carbon	95.0	90.4	89.7			0.627

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2452558
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2452558
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2452504, 2452505, 2452506, 2452507, 2452508, 2452510, 2452512, 2452514
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2452504, 2452505, 2452506, 2452507, 2452508, 2452510, 2452512, 2452514
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2452504, 2452505, 2452506, 2452507, 2452508, 2452510, 2452512, 2452514
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2452504, 2452505, 2452506, 2452507, 2452508, 2452510, 2452512, 2452514
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2452547, 2452548
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2452558
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2452504, 2452505, 2452506, 2452507, 2452508, 2452510, 2452512, 2452514

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	11/21/2023			11/21/2023 14:41	Chandler E Cox	2452499
	11/21/2023			11/21/2023 14:42	Chandler E Cox	2452500
	11/21/2023			11/21/2023 14:47	Chandler E Cox	2452501
	11/21/2023			11/21/2023 14:48	Chandler E Cox	2452503
	11/21/2023			11/21/2023 14:49	Chandler E Cox	2452509
	11/21/2023			11/21/2023 14:50	Chandler E Cox	2452511
	11/21/2023			11/21/2023 15:10	Chandler E Cox	2452513
	11/21/2023			11/21/2023 15:14	Chandler E Cox	2452502
EPA 180.1 Rev. 2.0	11/21/2023			11/21/2023 14:26	Anna M. Plaviak	2452499
	11/21/2023			11/21/2023 14:27	Anna M. Plaviak	2452500
	11/21/2023			11/21/2023 14:28	Anna M. Plaviak	2452501
	11/21/2023			11/21/2023 14:32	Anna M. Plaviak	2452502
	11/21/2023			11/21/2023 14:33	Anna M. Plaviak	2452503
	11/21/2023			11/21/2023 14:35	Anna M. Plaviak	2452509, 2452511
	11/21/2023			11/21/2023 14:54	Anna M. Plaviak	2452513
	11/21/2023			12/05/2023 17:04	Chase Roberts	2452558
EPA 200.7 Rev. 4.4	11/21/2023	11/27/2023 13:20	George D Taylor	11/28/2023 17:37	Conrad Hartmann	2452558
EPA 200.8 Rev. 5.4	11/21/2023	11/27/2023 13:20	George D Taylor	11/29/2023 18:48	Emily M Philpot	2452558
EPA 300.0 Rev. 2.1	11/21/2023			11/29/2023 17:58	James L Waggeberby	2452502
	11/21/2023			11/29/2023 21:44	James L Waggeberby	2452499
	11/21/2023			11/29/2023 21:59	James L Waggeberby	2452500
	11/21/2023			11/29/2023 22:14	James L Waggeberby	2452501
	11/21/2023			11/29/2023 22:29	James L Waggeberby	2452503
	11/21/2023			11/29/2023 22:45	James L Waggeberby	2452509
	11/21/2023			11/29/2023 23:00	James L Waggeberby	2452511
	11/21/2023			11/29/2023 23:15	James L Waggeberby	2452513
EPA 350.1 Rev. 2.0	11/21/2023			12/05/2023 12:41	Ping Hua	2452508
	11/21/2023			12/05/2023 12:42	Ping Hua	2452510
	11/21/2023			12/05/2023 12:43	Ping Hua	2452512
	11/21/2023			12/05/2023 13:35	Ping Hua	2452504
	11/21/2023			12/05/2023 13:37	Ping Hua	2452505
	11/21/2023			12/05/2023 13:38	Ping Hua	2452506
	11/21/2023			12/05/2023 13:39	Ping Hua	2452507
	11/21/2023			12/05/2023 14:53	Ping Hua	2452514
EPA 351.2 Rev. 2.0	11/21/2023	11/27/2023 13:33	Simonne.V. Calhoun	11/29/2023 12:42	Ping Hua	2452504
	11/21/2023	11/27/2023 13:33	Simonne.V. Calhoun	11/29/2023 12:47	Ping Hua	2452505
	11/21/2023	11/27/2023 13:33	Simonne.V. Calhoun	11/29/2023 12:48	Ping Hua	2452506
	11/21/2023	11/27/2023 13:33	Simonne.V. Calhoun	11/29/2023 12:50	Ping Hua	2452507
	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:20	Ping Hua	2452514
	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:45	Ping Hua	2452508

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 351.2 Rev. 2.0	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:46	Ping Hua	2452510
	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:54	Ping Hua	2452512
EPA 353.2 Rev. 2.0	11/21/2023			11/27/2023 13:40	Fadila Guebre	2452508
	11/21/2023			11/27/2023 13:42	Fadila Guebre	2452510
	11/21/2023			11/27/2023 13:43	Fadila Guebre	2452512
	11/21/2023			11/29/2023 11:44	Fadila Guebre	2452505
	11/21/2023			11/29/2023 11:50	Fadila Guebre	2452506
	11/21/2023			11/29/2023 11:51	Fadila Guebre	2452507
	11/21/2023			11/29/2023 11:52	Fadila Guebre	2452514
	11/21/2023			11/29/2023 14:24	Fadila Guebre	2452504
	11/21/2023			11/28/2023 15:06	James L Waggeberby	2452504
EPA 365.1 Rev. 2.0	11/21/2023	11/28/2023 10:59	Adam P Silver	11/28/2023 15:09	James L Waggeberby	2452505
	11/21/2023	11/28/2023 10:59	Adam P Silver	11/28/2023 15:10	James L Waggeberby	2452506
	11/21/2023	11/28/2023 10:59	Adam P Silver	11/28/2023 15:11	James L Waggeberby	2452507
	11/21/2023	11/30/2023 12:55	Adam P Silver	12/01/2023 12:19	James L Waggeberby	2452508
	11/21/2023	11/30/2023 12:55	Adam P Silver	12/01/2023 12:20	James L Waggeberby	2452510
	11/21/2023	11/30/2023 12:55	Adam P Silver	12/01/2023 12:21	James L Waggeberby	2452512
	11/21/2023	11/30/2023 12:55	Adam P Silver	12/01/2023 12:35	James L Waggeberby	2452514
	11/21/2023	11/21/2023 12:00	Tae K Lee	11/21/2023 15:23	Hana Lee	2452547
EPA 8321B	11/21/2023	11/21/2023 12:00	Tae K Lee	11/21/2023 15:37	Hana Lee	2452548
	11/21/2023	11/21/2023 12:00	Tae K Lee	11/21/2023 16:18	Hana Lee	2452547
	11/21/2023	11/21/2023 12:00	Tae K Lee	11/21/2023 22:52	Hana Lee	2452547
	11/21/2023	11/21/2023 12:00	Tae K Lee	11/21/2023 23:06	Hana Lee	2452548
	11/21/2023	11/27/2023 09:00	Hoor Shaik	11/29/2023 14:26	Juyoung Kim	2452547
	11/21/2023	11/27/2023 09:00	Hoor Shaik	11/29/2023 16:12	Juyoung Kim	2452548
	11/21/2023	11/27/2023 09:00	Hoor Shaik	11/30/2023 10:55	Juyoung Kim	2452548
	11/21/2023			11/28/2023 02:07	Adam P Silver	2452501
SM 2320 B-2011	11/21/2023			11/28/2023 02:28	Adam P Silver	2452499
	11/21/2023			11/28/2023 02:40	Adam P Silver	2452500
	11/21/2023			11/28/2023 02:53	Adam P Silver	2452502
	11/21/2023			11/28/2023 03:07	Adam P Silver	2452513
	11/21/2023			11/28/2023 08:26	Adam P Silver	2452511
	11/21/2023			11/28/2023 08:40	Adam P Silver	2452503
	11/21/2023			11/28/2023 08:53	Adam P Silver	2452509
	11/21/2023			12/05/2023 17:04	Chase Roberts	2452558
SM 2340 B-2011	11/21/2023			11/21/2023 16:31	Yijie Li	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
SM 2540 C-2015	11/21/2023					
SM 2540 D-2015	11/21/2023			11/21/2023 16:31	Yijie Li	2452499, 2452500, 2452501, 2452502, 2452503, 2452509, 2452511, 2452513
SM 4500-F- C-2011	11/21/2023			11/30/2023 06:00	Chandler E Cox	2452499

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	11/21/2023			11/30/2023 06:25	Chandler E Cox	2452500
	11/21/2023			11/30/2023 06:30	Chandler E Cox	2452501
	11/21/2023			11/30/2023 06:35	Chandler E Cox	2452502
	11/21/2023			11/30/2023 06:41	Chandler E Cox	2452513
	11/21/2023			12/06/2023 01:59	Chandler E Cox	2452511
	11/21/2023			12/06/2023 02:56	Chandler E Cox	2452509
	11/21/2023			12/06/2023 03:14	Chandler E Cox	2452503
	11/21/2023			11/27/2023 19:48	Kenneth H Lee	2452504
SM 5310 B-2011	11/21/2023			11/27/2023 20:02	Kenneth H Lee	2452505
	11/21/2023			11/27/2023 20:15	Kenneth H Lee	2452506
	11/21/2023			11/27/2023 21:22	Kenneth H Lee	2452507
	11/21/2023			11/27/2023 22:18	Kenneth H Lee	2452514
	11/21/2023			12/02/2023 01:05	Kenneth H Lee	2452508
	11/21/2023			12/02/2023 04:46	Kenneth H Lee	2452510
	11/21/2023			12/08/2023 03:56	Kenneth H Lee	2452512