

Chemical Analysis Report

NE-DIST-2020-07-17-01

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

Event Description: **Pellicer Creek and Tribs**
Request ID: **RQ-2020-07-13-18**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-AUG-2020 14:53

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Cracker Branch @ Pellicer Creek campground Collection Date/Time: 07/16/2020 09:35

Field ID: G5NE0582

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183932	EPA 180.1 Rev. 2.0	Turbidity	2.8	A	NTU	P384796	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P385316	
		Sulfate	7.8		mg SO4/L	P385320	
	SM 2120 B-2011	Color (true)	410		PCU	P384809	
	SM 2320 B-2011	Total Alkalinity	45		mg CaCO3/L	P385002	
	SM 2540 C-2011	TDS	165		mg/L	P385457	
	SM 2540 D-2011	TSS	3	I	mg/L	P385463	
	SM 4500 F-C-2011	Fluoride	0.083	I	mg F/L	P385005	
2183935	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P384828	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P384936	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P384916	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P385035	
	SM 5310 B-2011	Organic Carbon	34		mg C/L	P385190	
2183938	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P384831	

Ref. Method and Comment:

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

Sample Location: Pellicer Creek downstream of RR tracks

Collection Date/Time: 07/16/2020 09:55

Field ID: G5NE0590

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183929	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P384796	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P385316	
		Sulfate	6.5		mg SO4/L	P385320	
		Color (true)	500		PCU	P384809	
	SM 2320 B-2011	Total Alkalinity	36		mg CaCO3/L	P385002	
	SM 2540 C-2011	TDS	159	A	mg/L	P385457	
	SM 2540 D-2011	TSS	5	IA	mg/L	P385463	
	SM 4500 F-C-2011	Fluoride	0.086	I	mg F/L	P385005	
2183930	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P384827	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P384934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P384916	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P385035	
	SM 5310 B-2011	Organic Carbon	42		mg C/L	P385190	
2183931	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P384831	

Ref. Method and Comment:

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

Sample Location: Stevens Branch S of Pellicer Cemetery off CR 204 **Collection Date/Time: 07/16/2020 10:25**

Field ID: 27010070

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183933	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P384796	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P385316	
		Sulfate	22		mg SO4/L	P385320	
	SM 2120 B-2011	Color (true)	300		PCU	P384809	
	SM 2320 B-2011	Total Alkalinity	90	A	mg CaCO3/L	P385002	
	SM 2540 C-2011	TDS	223		mg/L	P385457	
	SM 2540 D-2011	TSS	2	I	mg/L	P385463	
	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P385005	
2183936	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P384828	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P384936	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P384916	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P385035	
	SM 5310 B-2011	Organic Carbon	32		mg C/L	P385190	
2183939	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P384831	

Ref. Method and Comment:

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

Sample Location: Pringle BR Unnamed Dirt Rd 0.5mi S Dave BR Collection Date/Time: 07/16/2020 10:50

Field ID: 27010203

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183934	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P384796	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P385316	
		Sulfate	1.0		mg SO4/L	P385320	
	SM 2120 B-2011	Color (true)	620		PCU	P384809	
	SM 2320 B-2011	Total Alkalinity	12		mg CaCO3/L	P385002	
	SM 2540 C-2011	TDS	134		mg/L	P385457	
	SM 2540 D-2011	TSS	4	I	mg/L	P385463	
	SM 4500 F-C-2011	Fluoride	0.049	I	mg F/L	P385005	
2183937	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P384828	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P384936	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P384916	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P385035	
	SM 5310 B-2011	Organic Carbon	50		mg C/L	P385190	
2183940	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P384831	

Ref. Method and Comment:

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

Sample Location: Pellicer Creek @ Styles Creek

Collection Date/Time: 07/16/2020 12:20

Field ID: G5NE0592

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183941	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P384796	
	EPA 300.0 Rev. 2.1	Bromide	19		mg Br/L	P385583	MS
		Sulfate	740		mg SO4/L	P385320	
	SM 2320 B-2011	Total Alkalinity	75		mg CaCO3/L	P385003	
	SM 2540 D-2011	TSS	16		mg/L	P385468	
	SM 4500 F-C-2011	Fluoride	0.47		mg F/L	P385006	
2183942	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P384825	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P384937	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P384861	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P385034	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P385192	
2183968	EPA 8321B	2,4-D	0.28		ug/L	P384835	
		Acesulfame K**	0.10	UJ	ug/L	P384836	SUR
		AMPA**	1.0	U	ug/L	P384836	
		Sucralose**	0.11		ug/L	P384836	
		Acetaminophen**	0.0080	U	ug/L	P384835	
		Acetamiprid**	0.0020	U	ug/L	P384835	
		Endothall**	0.25	UJ	ug/L	P384836	SUR
		Glufosinate**	1.0	U	ug/L	P384836	
		Glyphosate**	1.0	U	ug/L	P384836	
		Afidopyropen**	0.0020	U	ug/L	P384835	
		Bentazon	0.0043		ug/L	P384835	
		Benzovindiflupyr**	0.0020	U	ug/L	P384835	
		Carbamazepine**	8.0E-04	U	ug/L	P384835	
		Clothianidin**	0.0020	U	ug/L	P384835	
		Dinotefuran**	0.0020	U	ug/L	P384835	
		Diuron	0.0020	U	ug/L	P384835	
		Fenuron	0.016	U	ug/L	P384835	
		Fluridone**	0.0047		ug/L	P384835	
		Imazapyr**	0.49		ug/L	P384835	
		Hydrocodone**	0.0020	U	ug/L	P384835	
		Ibuprofen**	0.020	U	ug/L	P384835	
		Imidacloprid	0.0058	I	ug/L	P384835	
		Linuron	0.0040	U	ug/L	P384835	
		Mandestrobin**	0.0020	U	ug/L	P384835	
		MCPD	0.0020	U	ug/L	P384835	
		Naproxen**	0.0080	U	ug/L	P384835	
		Primidone**	0.0040	U	ug/L	P384835	
		Pyraclostrobin**	0.0020	U	ug/L	P384835	
		Thiamethoxam**	0.0020	U	ug/L	P384835	
		Tolfenpyrad**	0.0020	U	ug/L	P384835	
		Triclopyr**	0.0040	U	ug/L	P384835	
2183969	EPA 200.7 Rev. 4.4	Chromium	4.4	I	ug/L	P385019	
		Iron	930		ug/L	P385019	

Field ID: G5NE0592

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183969	EPA 200.7 Rev. 4.4	Manganese	44		ug/L	P385019	
		Zinc	15	U	ug/L	P385019	
	EPA 200.8 Rev. 5.4	Aluminum	757		ug/L	P385019	
		Antimony	0.20	U	ug/L	P385019	
		Arsenic	2.72		ug/L	P385019	
		Cadmium	0.080	U	ug/L	P385019	
		Copper	1.6	U	ug/L	P385019	
		Lead	0.80	U	ug/L	P385019	
		Nickel	2.0	U	ug/L	P385019	
		Selenium	0.80	U	ug/L	P385019	
		Silver	0.040	U	ug/L	P385019	
		Thallium	0.40	U	ug/L	P385019	
		O-Phosphate-P	0.076		mg P/L	P384833	
2184036	EPA 365.1 Rev. 2.0 dissolved						

Ref. Method and Comment:

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

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

EPA 8321B: Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Pellicer 1.3 Mi Downstream of I95

Collection Date/Time: 07/16/2020 11:15

Field ID: G5NE0593

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183943	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P384796	
	EPA 300.0 Rev. 2.1	Bromide	0.24		mg Br/L	P385583	MS
	SM 2320 B-2011	Total Alkalinity	43		mg CaCO3/L	P385002	
	SM 2540 D-2011	TSS	3	I	mg/L	P385467	
	SM 4500 F-C-2011	Fluoride	0.083	I	mg F/L	P385005	
2183944	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P384828	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P384936	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P384916	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P385035	
	SM 5310 B-2011	Organic Carbon	38		mg C/L	P385190	
2183945	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.069		mg P/L	P384832	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384796

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385019

Component	Result	Code	Units
Chromium	1.0	U	ug/L
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385019

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	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: P385316

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385320

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385583

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384825

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384827

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384828

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384934

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384936

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384861

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384916

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385034

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385035

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384831

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384832

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384833

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

Reference Method: EPA 8321B
Batch ID: P384835

Component	Result	Code	Units
2,4-D	0.0020	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	0.016	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
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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P384836

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P384836

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B-2011
Batch ID: P384809

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P385002

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

Reference Method: SM 2320 B-2011
Batch ID: P385003

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

Reference Method: SM 2540 C-2011
Batch ID: P385457

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385463

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385467

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385468

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P385005

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P385006

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P385190

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

Reference Method: SM 5310 B-2011
Batch ID: P385192

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	101		P	85 - 115
Iron	106		P	85 - 115
Manganese	102		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	104		P	85 - 115
Cadmium	104		P	85 - 115
Copper	103		P	85 - 115
Lead	106		P	85 - 115
Nickel	103		P	85 - 115
Selenium	101		P	85 - 115
Silver	108		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385320

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384825

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384827

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384828

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384936

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384861

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384916

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385034

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385035

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384831

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384832

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384833

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

Reference Method: EPA 8321B
 Batch ID: P384835

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115		P	30 - 160
Acetaminophen	79.1		P	30 - 160
Acetamiprid	78.6		P	30 - 160
Afidopyropen	65.2		P	30 - 160
Bentazon	62.6		P	30 - 160
Benzovindiflupyr	69.9		P	30 - 160
Carbamazepine	66.9		P	30 - 160
Clothianidin	76.8		P	30 - 160
Dinotefuran	86.6		P	30 - 160
Diuron	58.2		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	90.5		P	30 - 160
Hydrocodone	82.3		P	30 - 160
Ibuprofen	79.6		P	30 - 160
Imazapyr	100		P	30 - 160
Imidacloprid	97.6		P	30 - 160
Linuron	67.0		P	30 - 160
Mandestrobin	75.5		P	30 - 160
MCPP	129		P	30 - 160
Naproxen	69.1		P	30 - 160
Primidone	77.2		P	30 - 160
Pyraclostrobin	74.1		P	30 - 160
Thiamethoxam	93.7		P	30 - 160
Tolfenpyrad	54.2		P	30 - 160
Triclopyr	95.7		P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P384836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	72.1		P	40 - 150
AMPA	86.1		P	40 - 150
Endothall	96.4		P	40 - 150
Glufosinate	94.9		P	40 - 150
Glyphosate	84.9		P	40 - 140
Sucralose	92.1		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P384809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P385002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P385003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P385005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P385006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P385190

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

Reference Method: SM 5310 B-2011
Batch ID: P385192

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P385019

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184386	Chromium	98.2	99.3	P/P	70 - 130
2184386	Iron	101	101	P/P	70 - 130
2184386	Manganese	98.5	101	P/P	70 - 130
2184386	Zinc	104	105	P/P	70 - 130
2184819	Chromium	97.8		P	70 - 130
2184819	Iron	107		P	70 - 130
2184819	Manganese	98.3		P	70 - 130
2184819	Zinc	105		P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P385019

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184386	Aluminum	101	101	P/P	80 - 120
2184386	Antimony	104	105	P/P	80 - 120
2184386	Arsenic	111	110	P/P	80 - 120
2184386	Cadmium	99.2	103	P/P	80 - 120
2184386	Copper	107	108	P/P	80 - 120
2184386	Lead	111	110	P/P	80 - 120
2184386	Nickel	101	103	P/P	80 - 120
2184386	Selenium	101	103	P/P	80 - 120
2184386	Silver	102	104	P/P	80 - 120
2184386	Thallium	109	109	P/P	80 - 120
2184819	Aluminum	103		P	80 - 120
2184819	Antimony	105		P	80 - 120
2184819	Arsenic	110		P	80 - 120
2184819	Cadmium	101		P	80 - 120
2184819	Copper	109		P	80 - 120
2184819	Lead	112		P	80 - 120
2184819	Nickel	102		P	80 - 120
2184819	Selenium	104		P	80 - 120
2184819	Silver	102		P	80 - 120
2184819	Thallium	110		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P385316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184037	Chloride	95.3		P	90 - 110
2184057	Chloride	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P385320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184037	Sulfate	92.5		P	90 - 110
2184057	Sulfate	96.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P385583

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385583

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183463	Bromide	90.8		P	90 - 110
2184296	Bromide	90.0	90.6	F/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183412	Ammonia-N	98.5	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384827

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183530	Ammonia-N	98.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184039	Ammonia-N	99.8	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183925	Kjeldahl Nitrogen	99.7	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184039	Kjeldahl Nitrogen	101	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184011	Kjeldahl Nitrogen	99.8	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183407	NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384916

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183874	NO2NO3-N	98.2		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P385034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183171	Total-P	98.2	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P385035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183925	Total-P	107	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183855	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184009	O-Phosphate-P	97.9	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184012	O-Phosphate-P	98.4	99.0	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P384835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183089	Acetaminophen	93.3	85.9	P/P	30 - 160
2183089	Acetamiprid	73.3	69.5	P/P	30 - 160
2183089	Afidopyropen	63.4	57.7	P/P	30 - 160
2183089	Benzovindiflupyr	58.9	56.6	P/P	30 - 160
2183089	Carbamazepine	50.1	50.3	P/P	30 - 160
2183089	Clothianidin	76.7	74.8	P/P	30 - 160
2183089	Dinotefuran	96.0	91.4	P/P	30 - 160
2183089	Diuron	38.5	36.6	P/P	30 - 160
2183089	Fenuron	82.7	80.5	P/P	30 - 160
2183089	Fluridone	88.1	80.1	P/P	30 - 160
2183089	Hydrocodone	71.3	66.3	P/P	30 - 160
2183089	Ibuprofen	65.5	62.7	P/P	30 - 160
2183089	Imidacloprid	127	127	P/P	30 - 160
2183089	Linuron	50.4	52.2	P/P	30 - 160
2183089	Mandestrobin	70.9	66.5	P/P	30 - 160
2183089	MCP	122	122	P/P	30 - 160
2183089	Naproxen	76.0	61.5	P/P	30 - 160
2183089	Primidone	88.2	79.7	P/P	30 - 160
2183089	Pyraclostrobin	70.6	70.4	P/P	30 - 160
2183089	Thiamethoxam	101	103	P/P	30 - 160
2183089	Tolfenpyrad	47.2	44.5	P/P	30 - 160
2183089	Triclopyr	97.1	97.1	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183365	Acesulfame K	60.0	61.1	P/P	40 - 150
2183365	AMPA	60.8	51.5	P/P	40 - 150
2183365	Endothall	87.8	86.4	P/P	40 - 150
2183365	Glufosinate	69.8	71.1	P/P	40 - 150
2183365	Glyphosate	42.5	47.5	P/P	40 - 140
2183365	Sucralose	107	112	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P385005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183933	Fluoride	98.1	100	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P385006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183405	Fluoride	100	99.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P385190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184059	Organic Carbon	96.0	97.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P385192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184275	Organic Carbon	93.1	92.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183932	Turbidity	0.355	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184386	Chromium	1.10	Spike	P	0 - 20
2184386	Iron	0.328	Spike	P	0 - 20
2184386	Manganese	1.89	Spike	P	0 - 20
2184386	Zinc	1.80	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184386	Aluminum	0.0111	Spike	P	0 - 20
2184386	Antimony	1.10	Spike	P	0 - 20
2184386	Arsenic	0.301	Spike	P	0 - 20
2184386	Cadmium	3.51	Spike	P	0 - 20
2184386	Copper	1.58	Spike	P	0 - 20
2184386	Lead	0.772	Spike	P	0 - 20
2184386	Nickel	2.00	Spike	P	0 - 20
2184386	Selenium	2.24	Spike	P	0 - 20
2184386	Silver	2.01	Spike	P	0 - 20
2184386	Thallium	0.0250	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184037	Chloride	0.472	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184037	Sulfate	0.0571	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184296	Bromide	0.600	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183412	Ammonia-N	0.548	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183530	Ammonia-N	1.34	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184039	Ammonia-N	0.233	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183925	Kjeldahl Nitrogen	4.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184039	Kjeldahl Nitrogen	3.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184011	Kjeldahl Nitrogen	7.21	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183407	NO2NO3-N	0.990	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183874	NO2NO3-N	0.237	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183171	Total-P	0.218	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183925	Total-P	1.78	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183855	O-Phosphate-P	0.395	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184009	O-Phosphate-P	0.144	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184012	O-Phosphate-P	0.440	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P384835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183089	2,4-D	1.80	Spike	P	0 - 30
2183089	Acetaminophen	8.22	Spike	P	0 - 30
2183089	Acetamiprid	5.27	Spike	P	0 - 30
2183089	Afidopyropen	9.29	Spike	P	0 - 30
2183089	Bentazon	0.870	Spike	P	0 - 30
2183089	Benzovindiflupyr	4.00	Spike	P	0 - 30
2183089	Carbamazepine	0.389	Spike	P	0 - 30
2183089	Clothianidin	2.55	Spike	P	0 - 30
2183089	Dinotefuran	4.88	Spike	P	0 - 30
2183089	Diuron	4.00	Spike	P	0 - 30
2183089	Fenuron	2.69	Spike	P	0 - 30
2183089	Fluridone	7.74	Spike	P	0 - 30
2183089	Hydrocodone	7.24	Spike	P	0 - 30
2183089	Ibuprofen	4.32	Spike	P	0 - 30
2183089	Imazapyr	5.38	Spike	P	0 - 30
2183089	Imidacloprid	0.128	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P384835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183089	Linuron	3.57	Spike	P	0 - 30
2183089	Mandestrobin	6.38	Spike	P	0 - 30
2183089	MCP	0.692	Spike	P	0 - 30
2183089	Naproxen	21.1	Spike	P	0 - 30
2183089	Primidone	10.1	Spike	P	0 - 30
2183089	Pyraclostrobin	0.318	Spike	P	0 - 30
2183089	Thiamethoxam	1.10	Spike	P	0 - 30
2183089	Tolfenpyrad	5.84	Spike	P	0 - 30
2183089	Triclopyr	0.00865	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183365	Acesulfame K	1.80	Spike	P	0 - 30
2183365	AMPA	4.59	Spike	P	0 - 30
2183365	Endothall	1.57	Spike	P	0 - 30
2183365	Glufosinate	1.88	Spike	P	0 - 30
2183365	Glyphosate	1.59	Spike	P	0 - 30
2183365	Sucralose	4.01	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P384809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183849	Color (true)	0.595	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P385002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183933	Total Alkalinity	1.47	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P385003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183405	Total Alkalinity	1.99	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P385457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183929	TDS	6.29	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P385005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183933	Fluoride	1.38	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P385006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183405	Fluoride	0.460	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P385190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184059	Organic Carbon	1.45	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P385192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184275	Organic Carbon	0.202	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2183968
Field Sample ID: G5NE0592

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.0	P	30 - 160
EPA 8321B	Diuron-d6	49.0	P	30 - 160
EPA 8321B	Endothall-d6	420	F	30 - 160
EPA 8321B	Endothall-d6	420	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	128	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.1	P	30 - 160
EPA 8321B	Primidone-d5	64.4	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100012

Included Lab Sample IDs: 2183968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	84.5	83.9	P/P	60 - 160
Glufosinate	97.0	101	P/P	60 - 160
Glyphosate	91.5	93.1	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A100019

Included Lab Sample IDs: 2183929, 2183932, 2183933, 2183934, 2183941, 2183943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	101	P/P	90 - 110
Total Alkalinity	105	100	P/P	90 - 110
Total Alkalinity	98.8	99.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100019

Included Lab Sample IDs: 2183929, 2183932, 2183933, 2183934, 2183941, 2183943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	105	P/P	90 - 110
Fluoride	105	105	P/P	90 - 110
Fluoride	105	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100051

Included Lab Sample IDs: 2183969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	102	101	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Manganese	103	103	P/P	90 - 110
Zinc	107	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100056

Included Lab Sample IDs: 2183930, 2183935, 2183936, 2183937, 2183942, 2183944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	102	P/P	90 - 110
Total-P	99.2	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100098

Included Lab Sample IDs: 2183930, 2183935, 2183936, 2183937, 2183942, 2183944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	93.8	P/P	90 - 110
Organic Carbon	95.1	93.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100109

Included Lab Sample IDs: 2183930, 2183935, 2183936, 2183937, 2183942, 2183944

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100111

Included Lab Sample IDs: 2183969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	101	P/P	90 - 110
Antimony	98.6	101	P/P	90 - 110
Arsenic	99.7	98.9	P/P	90 - 110
Cadmium	100	99.6	P/P	90 - 110
Copper	97.9	98.2	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Nickel	97.7	96.6	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	95.1	95.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100141

Included Lab Sample IDs: 2183968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.4	91.8	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100152

Included Lab Sample IDs: 2183929, 2183932, 2183933, 2183934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.7	P/P	90 - 110
Chloride	99.7	99.7	P/P	90 - 110
Sulfate	99.4	98.9	P/P	90 - 110
Sulfate	99.9	99.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100250

Included Lab Sample IDs: 2183941, 2183943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	108	97.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99945

Included Lab Sample IDs: 2183929, 2183932, 2183933, 2183934, 2183941, 2183943

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A99949

Included Lab Sample IDs: 2183929, 2183932, 2183933, 2183934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	106	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99955

Included Lab Sample IDs: 2183930, 2183935, 2183936, 2183937, 2183942, 2183944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	101	98.7	P/P	90 - 110
Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99958

Included Lab Sample IDs: 2183931, 2183938, 2183939, 2183940, 2183945, 2184036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.1	96.7	P/P	90 - 110
O-Phosphate-P	96.9	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99968

Included Lab Sample IDs: 2183942

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

Reference Method: EPA 8321B

Run ID: A99981

Included Lab Sample IDs: 2183968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	129	112	P/P	50 - 150
Acetaminophen	109	117	P/P	60 - 160
Acetamiprid	118	117	P/P	50 - 150
Afidopyropen	101	120	P/P	50 - 150
Bentazon	102	125	P/P	50 - 160
Benzovindiflupyr	120	118	P/P	50 - 150
Carbamazepine	110	112	P/P	60 - 150
Clothianidin	101	97.2	P/P	60 - 150
Dinotefuran	102	89.9	P/P	50 - 150
Diuron	111	114	P/P	60 - 160
Fenuron	114	111	P/P	60 - 150
Fluridone	120	126	P/P	60 - 160
Hydrocodone	107	105	P/P	60 - 150
Ibuprofen	103	115	P/P	50 - 160
Imazapyr	103	126	P/P	50 - 150
Imidacloprid	92.4	89.6	P/P	60 - 150
Linuron	115	121	P/P	60 - 150
Mandestrobin	121	123	P/P	50 - 150
MCPP	128	110	P/P	50 - 150
Naproxen	114	111	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99981

Included Lab Sample IDs: 2183968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Primidone	88.5	93.9	P/P	60 - 150
Pyraclostrobin	117	123	P/P	60 - 150
Thiamethoxam	95.4	89.0	P/P	50 - 150
Tolfenpyrad	108	116	P/P	60 - 150
Triclopyr	103	103	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A99984

Included Lab Sample IDs: 2183968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	81.7	76.2	P/P	60 - 160
Endothall	97.4	95.1	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99985

Included Lab Sample IDs: 2183930, 2183935, 2183936, 2183937, 2183944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	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
EPA 180.1 Rev. 2.0	Turbidity						0.355	
EPA 200.7 Rev. 4.4	Chromium	101	98.2	99.3	97.8			1.10
	Iron	106	101	101	107			0.328
	Manganese	102	98.5	101	98.3			1.89
	Zinc	106	104	105	105			1.80
EPA 200.8 Rev. 5.4	Aluminum	100	101	101	103			0.0111
	Antimony	102	104	105	105			1.10
	Arsenic	104	111	110	110			0.301
	Cadmium	104	99.2	103	101			3.51
	Copper	103	107	108	109			1.58
	Lead	106	111	110	112			0.772
	Nickel	103	101	103	102			2.00
	Selenium	101	101	103	104			2.24
	Silver	108	102	104	102			2.01
	Thallium	105	109	109	110			0.0250
EPA 300.0 Rev. 2.1	Bromide	95.0	90.0	90.6	90.8			0.600
	Chloride	98.3	95.3	97.9			0.472	
	Sulfate	96.4	92.5	96.1			0.0571	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.5	99.2				0.548
	Ammonia-N	98.4	98.8	100				1.34
	Ammonia-N	100	99.8	99.5				0.233
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	99.7	108				4.79
	Kjeldahl Nitrogen	98.4	101	105				3.01
	Kjeldahl Nitrogen	105	99.8	109				7.21
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	102	100				0.990
	NO ₂ NO ₃ -N	102	98.2					0.237
EPA 365.1 Rev. 2.0	Total-P	104	98.2	98.0				0.218
	Total-P	105	107	105				1.78
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	101	101				0.395
	O-Phosphate-P	102	97.9	98.1				0.144
	O-Phosphate-P	100	98.4	99.0				0.440
EPA 8321B	2,4-D	115						1.80
	Acesulfame K	72.1	60.0	61.1				1.80
	Acetaminophen	79.1	93.3	85.9				8.22
	Acetamiprid	78.6	73.3	69.5				5.27
	Afidopyropen	65.2	63.4	57.7				9.29
	AMPA	86.1	60.8	51.5				4.59
	Bentazon	62.6						0.870
	Benzovindiflupyr	69.9	58.9	56.6				4.00
	Carbamazepine	66.9	50.1	50.3				0.389
	Clothianidin	76.8	76.7	74.8				2.55
	Dinotefuran	86.6	96.0	91.4				4.88
	Diuron	58.2	38.5	36.6				4.00
	Endothall	96.4	87.8	86.4				1.57
	Fenuron	101	82.7	80.5				2.69
	Fluridone	90.5	88.1	80.1				7.74
	Glufosinate	94.9	69.8	71.1				1.88
	Glyphosate	84.9	42.5	47.5				1.59
	Hydrocodone	82.3	71.3	66.3				7.24
	Ibuprofen	79.6	65.5	62.7				4.32
	Imazapyr	100						5.38
	Imidacloprid	97.6	127	127				0.128
	Linuron	67.0	50.4	52.2				3.57
	Mandestrobin	75.5	70.9	66.5				6.38

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCCP	129	122	122		0.692
	Naproxen	69.1	76.0	61.5		21.1
	Primidone	77.2	88.2	79.7		10.1
	Pyraclostrobin	74.1	70.6	70.4		0.318
	Sucralose	92.1	107	112		4.01
	Thiamethoxam	93.7	101	103		1.10
	Tolfenpyrad	54.2	47.2	44.5		5.84
	Triclopyr	95.7	97.1	97.1		0.0086
SM 2120 B-2011	Color (true)	104			0.595	
SM 2320 B-2011	Total Alkalinity	103			1.47	
	Total Alkalinity	100			1.99	
SM 2540 C-2011	TDS				6.29	
SM 4500 F-C-2011	Fluoride	103	98.1	100		1.38
	Fluoride	102	100	99.2		0.460
SM 5310 B-2011	Organic Carbon	97.4	96.0	97.4		1.45
	Organic Carbon	94.0	93.1	92.9		0.202

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2183929, 2183932, 2183933, 2183934, 2183941, 2183943
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2183969
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2183969
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2183941, 2183943
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2183929, 2183932, 2183933, 2183934
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2183929, 2183932, 2183933, 2183934, 2183941
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2183930, 2183935, 2183936, 2183937, 2183942, 2183944
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2183930, 2183935, 2183936, 2183937, 2183942, 2183944
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2183930, 2183935, 2183936, 2183937, 2183942, 2183944
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2183930, 2183935, 2183936, 2183937, 2183942, 2183944
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2183931, 2183938, 2183939, 2183940, 2183945, 2184036
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2183968
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2183968
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2183929, 2183932, 2183933, 2183934
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2183929, 2183932, 2183933, 2183934, 2183941, 2183943
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2183929, 2183932, 2183933, 2183934
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2183929, 2183932, 2183933, 2183934, 2183941, 2183943
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2183929, 2183932, 2183933, 2183934, 2183941, 2183943
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2183930, 2183935, 2183936, 2183937, 2183942, 2183944

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/17/2020			07/17/2020 15:49	Yen Ta	2183929, 2183932, 2183933, 2183934, 2183941, 2183943
EPA 200.7 Rev. 4.4	07/17/2020	07/22/2020 16:25	Elliott D. Healy	07/23/2020 21:41	Betina Topolski	2183969
EPA 200.8 Rev. 5.4	07/17/2020	07/22/2020 16:25	Elliott D. Healy	07/27/2020 20:58	Alexander Thompson	2183969
EPA 300.0 Rev. 2.1	07/17/2020			07/28/2020 14:37	Julia Storbeck	2183941
	07/17/2020			07/28/2020 14:50	Julia Storbeck	2183929
	07/17/2020			07/28/2020 15:02	Julia Storbeck	2183932
	07/17/2020			07/28/2020 15:38	Julia Storbeck	2183933
	07/17/2020			07/28/2020 15:50	Julia Storbeck	2183934
	07/17/2020			07/29/2020 02:28	Julia Storbeck	2183941
	07/17/2020			07/29/2020 02:46	Julia Storbeck	2183943
EPA 350.1 Rev. 2.0	07/17/2020			07/19/2020 11:05	Ping Hua	2183942
	07/17/2020			07/19/2020 12:05	Ping Hua	2183930
	07/17/2020			07/19/2020 12:21	Ping Hua	2183935
	07/17/2020			07/19/2020 12:23	Ping Hua	2183936
	07/17/2020			07/19/2020 12:24	Ping Hua	2183937
	07/17/2020			07/19/2020 12:26	Ping Hua	2183944
EPA 351.2 Rev. 2.0	07/17/2020	07/21/2020 15:30	Sima Feizi	07/22/2020 13:58	Julia Storbeck	2183930
	07/17/2020	07/21/2020 15:30	Sima Feizi	07/22/2020 14:11	Julia Storbeck	2183935
	07/17/2020	07/21/2020 15:30	Sima Feizi	07/22/2020 14:12	Julia Storbeck	2183936
	07/17/2020	07/21/2020 15:30	Sima Feizi	07/22/2020 14:14	Julia Storbeck	2183937
	07/17/2020	07/21/2020 15:30	Sima Feizi	07/22/2020 14:15	Julia Storbeck	2183944
	07/17/2020	07/21/2020 15:30	Sima Feizi	07/22/2020 14:36	Julia Storbeck	2183942
EPA 353.2 Rev. 2.0	07/17/2020			07/20/2020 10:15	Beverly Y. Sanders	2183942
	07/17/2020			07/21/2020 09:39	Beverly Y. Sanders	2183930
	07/17/2020			07/21/2020 09:41	Beverly Y. Sanders	2183935
	07/17/2020			07/21/2020 09:42	Beverly Y. Sanders	2183936
	07/17/2020			07/21/2020 09:43	Beverly Y. Sanders	2183937
	07/17/2020			07/21/2020 09:44	Beverly Y. Sanders	2183944
EPA 365.1 Rev. 2.0	07/17/2020	07/23/2020 10:00	Lipi Saha	07/24/2020 08:23	Lipi Saha	2183942
	07/17/2020	07/23/2020 10:00	Lipi Saha	07/24/2020 08:33	Lipi Saha	2183930
	07/17/2020	07/23/2020 10:00	Lipi Saha	07/24/2020 08:34	Lipi Saha	2183935
	07/17/2020	07/23/2020 10:00	Lipi Saha	07/24/2020 08:35	Lipi Saha	2183936
	07/17/2020	07/23/2020 10:00	Lipi Saha	07/24/2020 08:36	Lipi Saha	2183937
	07/17/2020	07/23/2020 10:00	Lipi Saha	07/24/2020 08:37	Lipi Saha	2183944
EPA 365.1 Rev. 2.0 dissolved	07/17/2020			07/17/2020 18:25	Virginia P. Brown	2183931
	07/17/2020			07/17/2020 18:26	Virginia P. Brown	2183938
	07/17/2020			07/17/2020 18:27	Virginia P. Brown	2183939, 2183940
	07/17/2020			07/17/2020 18:32	Virginia P. Brown	2183945
	07/17/2020			07/17/2020 18:53	Virginia P. Brown	2184036

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/17/2020	07/20/2020 09:30	Rebecca Ware	07/20/2020 19:51	Rebecca Ware	2183968
	07/17/2020	07/20/2020 09:30	Rebecca Ware	07/21/2020 12:10	Rebecca Ware	2183968
	07/17/2020	07/20/2020 09:30	Rebecca Ware	07/29/2020 01:54	Mohammad Ghaffari	2183968
	07/17/2020	07/21/2020 09:00	Hoor Shaik	07/21/2020 23:05	Juyoung Kim	2183968
SM 2120 B-2011	07/17/2020			07/17/2020 16:56	Benjamin T. Nordmann	2183929
	07/17/2020			07/17/2020 16:57	Benjamin T. Nordmann	2183932
	07/17/2020			07/17/2020 16:58	Benjamin T. Nordmann	2183933, 2183934
SM 2320 B-2011	07/17/2020			07/22/2020 02:05	Dale L. Simmons	2183933
	07/17/2020			07/22/2020 03:27	Dale L. Simmons	2183929
	07/17/2020			07/22/2020 03:40	Dale L. Simmons	2183932
	07/17/2020			07/22/2020 03:53	Dale L. Simmons	2183934
	07/17/2020			07/22/2020 04:05	Dale L. Simmons	2183943
	07/17/2020			07/22/2020 09:24	Dale L. Simmons	2183941
SM 2540 C-2011	07/17/2020			07/22/2020 14:56	Yijie Li	2183929, 2183932, 2183933, 2183934
SM 2540 D-2011	07/17/2020			07/22/2020 14:56	Yijie Li	2183929, 2183932, 2183933, 2183934, 2183941, 2183943
SM 4500 F-C-2011	07/17/2020			07/22/2020 01:54	Dale L. Simmons	2183933
	07/17/2020			07/22/2020 03:27	Dale L. Simmons	2183929
	07/17/2020			07/22/2020 03:40	Dale L. Simmons	2183932
	07/17/2020			07/22/2020 03:53	Dale L. Simmons	2183934
	07/17/2020			07/22/2020 04:05	Dale L. Simmons	2183943
	07/17/2020			07/22/2020 07:38	Dale L. Simmons	2183941
SM 5310 B-2011	07/17/2020			07/24/2020 16:27	David Boose	2183930
	07/17/2020			07/24/2020 16:39	David Boose	2183935
	07/17/2020			07/24/2020 16:51	David Boose	2183936
	07/17/2020			07/24/2020 17:03	David Boose	2183937
	07/17/2020			07/24/2020 17:16	David Boose	2183944
	07/17/2020			07/25/2020 03:35	David Boose	2183942