

Chemical Analysis Report

NW-DIST-2020-06-23-02

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

Event Description: **Shoal River**
Request ID: **RQ-2020-06-22-50**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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Pensacola, FL 32502-5794
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Certified by: Colin Wright, Program Administrator

Date Certified: 13-JUL-2020 08:26

A handwritten signature in black ink, appearing to read "Colin Wright", is written over a light blue rectangular background.

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Yellow River below Nichols Creek Confluence Collection Date/Time: 06/22/2020 10:33

Field ID: G4NW0270

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177980	EPA 180.1 Rev. 2.0	Turbidity	9.2		NTU	P383578	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P383967	
		Sulfate	1.1		mg SO4/L	P383971	
		Color (true)	42		PCU	P383583	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P383852	
	SM 2540 C-2011	TDS	34		mg/L	P383859	
	SM 2540 D-2011	TSS	10		mg/L	P383822	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P383732	
2177982	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P383763	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P383660	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P383593	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P383808	
	SM 5310 B-2011	Organic Carbon	3.7		mg C/L	P383709	
2177984	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P383581	

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: Dead River upstream of Yellow River

Collection Date/Time: 06/22/2020 11:00

Field ID: G4NW0408

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177981	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P383578	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P383967	
		Sulfate	1.0		mg SO4/L	P383971	
	SM 2120 B-2011	Color (true)	37	A	PCU	P383583	
	SM 2320 B-2011	Total Alkalinity	9.9		mg CaCO3/L	P383852	
	SM 2540 C-2011	TDS	25		mg/L	P383859	
	SM 2540 D-2011	TSS	4	I	mg/L	P383822	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P383732	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P383763	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P383660	MS
2177983	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P383593	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P383808	
	SM 5310 B-2011	Organic Carbon	3.6		mg C/L	P383709	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P383581	

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: Yellow River downstream of Gin Hole Landing Collection Date/Time: 06/22/2020 13:17

Field ID: G4NW0494

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177977	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P383578	
	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P383967	
		Sulfate	1.2		mg SO4/L	P383971	
		Color (true)	37		PCU	P383583	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P383852	
	SM 2540 C-2011	TDS	27		mg/L	P383859	
	SM 2540 D-2011	TSS	7	I	mg/L	P383822	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P383732	
2177978	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P383763	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P383660	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P383593	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P383808	
	SM 5310 B-2011	Organic Carbon	3.3		mg C/L	P383709	
2177979	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P383581	
2178004	EPA 200.7 Rev. 4.4	Barium	17.2		ug/L	P383680	
		Calcium	5.92		mg/L	P383680	
		Iron	680		ug/L	P383680	
		Magnesium	1.40		mg/L	P383680	
		Potassium	0.50	I	mg/L	P383680	
		Sodium	2.0		mg/L	P383680	
		Zinc	5.0	U	ug/L	P383680	
	EPA 200.8 Rev. 5.4	Aluminum	221		ug/L	P383680	
		Antimony	0.050	U	ug/L	P383680	
		Arsenic	0.41		ug/L	P383680	
		Boron**	9.2		ug/L	P383680	
		Cadmium	0.020	U	ug/L	P384177	
		Chromium	0.41	I	ug/L	P383680	
		Copper	0.40	U	ug/L	P384177	
		Lead	0.29	I	ug/L	P384177	
		Nickel	0.50	U	ug/L	P383680	
		Selenium	0.20	U	ug/L	P383680	
		Silver	0.010	U	ug/L	P383680	
		Thallium	0.10	U	ug/L	P383680	
		Hardness	20.5		mg/L	P383680	

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: Shoal River near Rattlesnake Bluff

Collection Date/Time: 06/22/2020 13:35

Field ID: G4NW0493

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177974	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P383578	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P383967	
		Sulfate	1.2		mg SO4/L	P383971	
	SM 2120 B-2011	Color (true)	33		PCU	P383583	
	SM 2320 B-2011	Total Alkalinity	4.2		mg CaCO3/L	P383852	
	SM 2540 C-2011	TDS	17	I	mg/L	P383859	
	SM 2540 D-2011	TSS	6	I	mg/L	P383822	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P383732	
2177975	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P383763	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P383660	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P383593	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P383808	
	SM 5310 B-2011	Organic Carbon	2.7		mg C/L	P383709	
2177976	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P383581	
2178001	EPA 8321B	2,4-D	0.0024	I	ug/L	P383612	
		Acesulfame K**	0.10	U	ug/L	P383480	
		AMPA**	0.10	U	ug/L	P383480	MS
		Sucralose**	0.22		ug/L	P383480	
		Acetaminophen**	0.0080	U	ug/L	P383612	
		Acetamiprid**	0.0020	U	ug/L	P383612	
		Endothall**	0.25	U	ug/L	P383480	
		Glufosinate**	0.10	U	ug/L	P383480	
		Glyphosate**	0.10	U	ug/L	P383480	
		Afidopyropen**	0.0020	U	ug/L	P383612	
		Bentazon	8.4E-04	I	ug/L	P383612	
		Benzovindiflupyr**	0.0020	U	ug/L	P383612	
		Carbamazepine**	8.0E-04	U	ug/L	P383612	
		Clothianidin**	0.0020	U	ug/L	P383612	
		Dinotefuran**	0.0020	U	ug/L	P383612	
		Diuron	0.0020	U	ug/L	P383612	
		Fenuron	0.016	U	ug/L	P383612	
		Fluridone**	8.0E-04	U	ug/L	P383612	
		Imazapyr**	0.0058	I	ug/L	P383612	
		Hydrocodone**	0.0020	U	ug/L	P383612	
		Ibuprofen**	0.020	U	ug/L	P383612	
		Imidacloprid	0.0039	I	ug/L	P383612	
		Linuron	0.0040	U	ug/L	P383612	
		Mandestrobin**	0.0020	U	ug/L	P383612	
		MCP	0.0020	U	ug/L	P383612	
		Naproxen**	0.0080	U	ug/L	P383612	
		Primidone**	0.0040	U	ug/L	P383612	
		Pyraclostrobin**	0.0020	U	ug/L	P383612	
		Thiamethoxam**	0.0020	U	ug/L	P383612	

Field ID: G4NW0493

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178001	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P383612	
		Triclopyr**	0.0040	U	ug/L	P383612	
2178003	EPA 200.7 Rev. 4.4	Barium	14.8		ug/L	P383680	
		Calcium	1.95		mg/L	P383680	
		Iron	450		ug/L	P383680	
		Magnesium	0.89		mg/L	P383680	
		Potassium	0.46	I	mg/L	P383680	
		Sodium	1.9	I	mg/L	P383680	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P383680	
		Aluminum	148		ug/L	P383680	
		Antimony	0.050	U	ug/L	P383680	
		Arsenic	0.29		ug/L	P383680	
		Boron**	8.8		ug/L	P383680	
		Cadmium	0.020	U	ug/L	P384177	
		Chromium	0.40	U	ug/L	P383680	
		Copper	0.40	U	ug/L	P384177	
		Lead	0.24	I	ug/L	P384177	
		Nickel	0.50	U	ug/L	P383680	
		Selenium	0.20	U	ug/L	P383680	
		Silver	0.010	U	ug/L	P383680	
		Thallium	0.10	U	ug/L	P383680	
	SM 2340B	Hardness	8.5		mg/L	P383680	

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 bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Shoal River near Rattlesnake Bluff

Collection Date/Time: 06/22/2020 13:44

Field ID: FB_06222020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177986	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P383579	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P383967	
		Sulfate	0.20	U	mg SO4/L	P383971	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P383583	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P383852	
	SM 2540 C-2011	TDS	15	U	mg/L	P383857	
	SM 2540 D-2011	TSS	2	U	mg/L	P383820	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P383732	
2177987	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P383763	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P383660	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P383593	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P383808	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P383709	
2177988	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P383581	
2178002	EPA 8321B	2,4-D	0.0020	U	ug/L	P383612	
		Acesulfame K**	0.10	U	ug/L	P383480	
		AMPA**	0.10	U	ug/L	P383480	MS
		Sucralose**	0.010	U	ug/L	P383480	
		Acetaminophen**	0.0080	U	ug/L	P383612	
		Acetamiprid**	0.0020	U	ug/L	P383612	
		Endothall**	0.25	U	ug/L	P383480	
		Glufosinate**	0.10	U	ug/L	P383480	
		Glyphosate**	0.10	U	ug/L	P383480	
		Afidopyropen**	0.0020	U	ug/L	P383612	
		Bentazon	8.0E-04	U	ug/L	P383612	
		Benzovindiflupyr**	0.0020	U	ug/L	P383612	
		Carbamazepine**	8.0E-04	U	ug/L	P383612	
		Clothianidin**	0.0020	U	ug/L	P383612	
		Dinotefuran**	0.0020	U	ug/L	P383612	
		Diuron	0.0020	U	ug/L	P383612	
		Fenuron	0.016	U	ug/L	P383612	
		Fluridone**	8.0E-04	U	ug/L	P383612	
		Imazapyr**	0.0040	U	ug/L	P383612	
		Hydrocodone**	0.0020	U	ug/L	P383612	
		Ibuprofen**	0.020	U	ug/L	P383612	
		Imidacloprid	0.0020	U	ug/L	P383612	
		Linuron	0.0040	U	ug/L	P383612	
		Mandestrobin**	0.0020	U	ug/L	P383612	
		MCP	0.0020	U	ug/L	P383612	
		Naproxen**	0.0080	U	ug/L	P383612	
		Primidone**	0.0040	U	ug/L	P383612	
		Pyraclostrobin**	0.0020	U	ug/L	P383612	
		Thiamethoxam**	0.0020	U	ug/L	P383612	

Field ID: FB_06222020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2178002	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P383612	
		Triclopyr**	0.0040	U	ug/L	P383612	
2178005	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P383680	
		Calcium	0.075	U	mg/L	P383680	
		Iron	30	U	ug/L	P383680	
		Magnesium	0.040	U	mg/L	P383680	
		Potassium	0.30	U	mg/L	P383680	
		Sodium	0.50	U	mg/L	P383680	
		Zinc	5.0	U	ug/L	P383680	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P383680	
		Antimony	0.050	U	ug/L	P383680	
		Arsenic	0.050	U	ug/L	P383680	
		Boron**	2.0	U	ug/L	P383680	
		Cadmium	0.020	U	ug/L	P384177	
		Chromium	0.40	U	ug/L	P383680	
		Copper	0.49	I	ug/L	P384177	
		Lead	0.20	U	ug/L	P384177	
		Nickel	0.50	U	ug/L	P383680	
		Selenium	0.20	U	ug/L	P383680	
	SM 2340B	Silver	0.010	U	ug/L	P383680	
		Thallium	0.10	U	ug/L	P383680	
		Hardness	0.35	U	mg/L	P383680	

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 bentazon could not be assessed due to high concentration of parameter in the spiked sample.
EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 07/06/2020.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383578

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383579

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383680

Component	Result	Code	Units
Barium	1.0	U	ug/L
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
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383680

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Chromium	0.40	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 200.8 Rev. 5.4
Batch ID: P384177

Component	Result	Code	Units
Cadmium	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383967

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383971

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383971

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383763

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383660

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383593

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383808

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383581

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

Reference Method: EPA 8321B
Batch ID: P383480

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: P383612

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P383612

Component	Result	Code	Units
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: SM 2120 B-2011
Batch ID: P383583

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P383852

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P383857

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P383859

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P383820

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P383822

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P383732

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P383709

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: P383680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	107		P	85 - 115
Calcium	109		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	109		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.4		P	85 - 115
Antimony	97.8		P	85 - 115
Arsenic	101		P	85 - 115
Boron	93.7		P	85 - 115
Chromium	101		P	85 - 115
Nickel	101		P	85 - 115
Selenium	99.2		P	85 - 115
Silver	99.7		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384177

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	93.7		P	85 - 115
Copper	92.6		P	85 - 115
Lead	94.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383971

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383763

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383660

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

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383660

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383593

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383808

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383581

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

Reference Method: EPA 8321B
Batch ID: P383480

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.0		P	40 - 150
AMPA	90.1		P	40 - 150
Endothall	73.7		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	79.9		P	40 - 140
Sucralose	81.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P383612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	30 - 160
Acetaminophen	76.7		P	30 - 160
Acetamiprid	77.4		P	30 - 160
Afidopyropen	58.1		P	30 - 160
Bentazon	56.3		P	30 - 160
Benzovindiflupyr	58.9		P	30 - 160
Carbamazepine	62.1		P	30 - 160
Clothianidin	86.7		P	30 - 160
Dinotefuran	87.2		P	30 - 160
Diuron	56.4		P	30 - 160
Fenuron	103		P	30 - 160
Fluridone	73.6		P	30 - 160
Hydrocodone	89.8		P	30 - 160
Ibuprofen	55.9		P	30 - 160
Imazapyr	78.8		P	30 - 160
Imidacloprid	92.9		P	30 - 160
Linuron	54.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P383612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	66.7		P	30 - 160
MCP	110		P	30 - 160
Naproxen	58.2		P	30 - 160
Primidone	82.1		P	30 - 160
Pyraclostrobin	59.0		P	30 - 160
Thiamethoxam	78.9		P	30 - 160
Tolfenpyrad	44.7		P	30 - 160
Triclopyr	75.2		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P383583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P383852

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

Reference Method: SM 4500 F-C-2011
Batch ID: P383732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P383709

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178035	Barium	107	107	P/P	80 - 120
2178035	Calcium	108	109	P/P	80 - 120
2178035	Iron	105	105	P/P	80 - 120
2178035	Magnesium	107	107	P/P	80 - 120
2178035	Potassium	104	105	P/P	80 - 120
2178035	Sodium	102	103	P/P	80 - 120
2178035	Zinc	109	109	P/P	80 - 120
2178220	Barium	109		P	80 - 120
2178220	Calcium	104		P	80 - 120
2178220	Iron	108		P	80 - 120
2178220	Magnesium	107		P	80 - 120
2178220	Potassium	103		P	80 - 120
2178220	Sodium	100		P	80 - 120
2178220	Zinc	114		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178035	Aluminum	94.2	94.9	P/P	80 - 120
2178035	Antimony	96.8	96.1	P/P	80 - 120
2178035	Arsenic	99.5	99.5	P/P	80 - 120
2178035	Boron	92.9	92.9	P/P	80 - 120
2178035	Chromium	101	99.7	P/P	80 - 120
2178035	Nickel	101	99.9	P/P	80 - 120
2178035	Selenium	97.9	98.2	P/P	80 - 120
2178035	Silver	99.1	98.4	P/P	80 - 120
2178035	Thallium	102	102	P/P	80 - 120
2178220	Aluminum	94.8		P	80 - 120
2178220	Antimony	97.4		P	80 - 120
2178220	Arsenic	99.3		P	80 - 120
2178220	Boron	94.6		P	80 - 120
2178220	Chromium	99.6		P	80 - 120
2178220	Nickel	98.0		P	80 - 120
2178220	Selenium	96.4		P	80 - 120
2178220	Silver	95.7		P	80 - 120
2178220	Thallium	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178060	Cadmium	94.6	95.3	P/P	80 - 120
2178060	Copper	91.2	89.0	P/P	80 - 120
2178060	Lead	93.6	93.7	P/P	80 - 120
2178380	Cadmium	95.0		P	80 - 120
2178380	Copper	94.0		P	80 - 120
2178380	Lead	95.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177367	Chloride	105		P	90 - 110
2178018	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177367	Sulfate	108		P	90 - 110
2178018	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383763

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177912	Ammonia-N	98.5	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177912	Kjeldahl Nitrogen	112	104	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177912	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383808

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177964	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383581

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177913	O-Phosphate-P	98.2	99.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P383480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177768	Acesulfame K	44.0	47.0	P/P	40 - 150
2177768	AMPA	29.2	32.5	F/F	40 - 150
2177768	Endothall	58.2	64.4	P/P	40 - 150
2177768	Glufosinate	50.3	58.6	P/P	40 - 150
2177768	Glyphosate	54.7	62.4	P/P	40 - 140
2177768	Sucralose	87.9	90.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P383612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177972	2,4-D	117	106	P/P	30 - 160
2177972	Acetaminophen	107	97.5	P/P	30 - 160
2177972	Acetamiprid	85.6	75.7	P/P	30 - 160
2177972	Afidopyropen	69.1	62.5	P/P	30 - 160
2177972	Benzovindiflupyr	74.2	73.6	P/P	30 - 160
2177972	Carbamazepine	72.7	68.4	P/P	30 - 160
2177972	Clothianidin	111	99.8	P/P	30 - 160
2177972	Dinotefuran	111	104	P/P	30 - 160
2177972	Diuron	63.6	59.3	P/P	30 - 160
2177972	Fenuron	103	94.5	P/P	30 - 160
2177972	Fluridone	84.8	84.8	P/P	30 - 160
2177972	Hydrocodone	102	88.1	P/P	30 - 160
2177972	Ibuprofen	73.2	69.5	P/P	30 - 160
2177972	Imazapyr	103	95.6	P/P	30 - 160
2177972	Imidacloprid	150	143	P/P	30 - 160
2177972	Linuron	63.7	60.3	P/P	30 - 160
2177972	Mandestrobin	68.7	74.2	P/P	30 - 160
2177972	MCP	132	126	P/P	30 - 160
2177972	Naproxen	103	116	P/P	30 - 160
2177972	Primidone	94.8	83.8	P/P	30 - 160
2177972	Pyraclostrobin	75.1	67.7	P/P	30 - 160
2177972	Thiamethoxam	106	98.4	P/P	30 - 160
2177972	Tolfenpyrad	41.7	35.9	P/P	30 - 160
2177972	Triclopyr	106	103	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P383732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2178210	Fluoride	96.1	95.6	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P383709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177932	Organic Carbon	95.6	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177946	Turbidity	1.79	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178018	Turbidity	4.05	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178035	Barium	0.270	Spike	P	0 - 20
2178035	Calcium	0.616	Spike	P	0 - 20
2178035	Iron	0.250	Spike	P	0 - 20
2178035	Magnesium	0.308	Spike	P	0 - 20
2178035	Potassium	0.547	Spike	P	0 - 20
2178035	Sodium	0.926	Spike	P	0 - 20
2178035	Zinc	0.254	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178035	Aluminum	0.716	Spike	P	0 - 20
2178035	Antimony	0.718	Spike	P	0 - 20
2178035	Arsenic	0.0136	Spike	P	0 - 20
2178035	Boron	0.0333	Spike	P	0 - 20
2178035	Chromium	1.44	Spike	P	0 - 20
2178035	Nickel	1.09	Spike	P	0 - 20
2178035	Selenium	0.303	Spike	P	0 - 20
2178035	Silver	0.747	Spike	P	0 - 20
2178035	Thallium	0.432	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178060	Cadmium	0.786	Spike	P	0 - 20
2178060	Copper	1.65	Spike	P	0 - 20
2178060	Lead	0.174	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383967

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177367	Chloride	0.765	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177367	Sulfate	0.882	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177912	Ammonia-N	2.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177912	Kjeldahl Nitrogen	3.56	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177912	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177964	Total-P	0.262	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177913	O-Phosphate-P	1.43	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P383480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177768	Acesulfame K	6.58	Spike	P	0 - 30
2177768	AMPA	2.70	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P383480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177768	Endothall	10.1	Spike	P	0 - 30
2177768	Glufosinate	15.3	Spike	P	0 - 30
2177768	Glyphosate	1.42	Spike	P	0 - 30
2177768	Sucralose	2.51	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P383612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177972	2,4-D	9.73	Spike	P	0 - 30
2177972	Acetaminophen	9.50	Spike	P	0 - 30
2177972	Acetamiprid	12.2	Spike	P	0 - 30
2177972	Afidopyropen	10.0	Spike	P	0 - 30
2177972	Bentazon	5.51	Spike	P	0 - 30
2177972	Benzovindiflupyr	0.733	Spike	P	0 - 30
2177972	Carbamazepine	6.17	Spike	P	0 - 30
2177972	Clothianidin	4.74	Spike	P	0 - 30
2177972	Dinotefuran	6.53	Spike	P	0 - 30
2177972	Diuron	6.97	Spike	P	0 - 30
2177972	Fenuron	8.96	Spike	P	0 - 30
2177972	Fluridone	0.0141	Spike	P	0 - 30
2177972	Hydrocodone	15.0	Spike	P	0 - 30
2177972	Ibuprofen	5.24	Spike	P	0 - 30
2177972	Imazapyr	6.62	Spike	P	0 - 30
2177972	Imidacloprid	3.59	Spike	P	0 - 30
2177972	Linuron	5.60	Spike	P	0 - 30
2177972	Mandestrobin	7.81	Spike	P	0 - 30
2177972	MCP	4.74	Spike	P	0 - 30
2177972	Naproxen	12.1	Spike	P	0 - 30
2177972	Primidone	11.3	Spike	P	0 - 30
2177972	Pyraclostrobin	10.3	Spike	P	0 - 30
2177972	Thiamethoxam	7.08	Spike	P	0 - 30
2177972	Tolfenpyrad	14.9	Spike	P	0 - 30
2177972	Triclopyr	2.37	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P383583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177981	Color (true)	0.964	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P383852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178210	Total Alkalinity	4.78	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P383857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177708	TDS	8.07	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P383859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177822	TDS	7.18	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P383732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2178210	Fluoride	0.519	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P383709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177932	Organic Carbon	0.214	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2178001
Field Sample ID: G4NW0493

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.2	P	30 - 160
EPA 8321B	Diuron-d6	80.5	P	30 - 160
EPA 8321B	Endothall-d6	73.4	P	50 - 160
EPA 8321B	Endothall-d6	73.4	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	89.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.9	P	30 - 160
EPA 8321B	Primidone-d5	84.9	P	30 - 160
EPA 8321B	Sucralose-d6	91.5	P	30 - 160
EPA 8321B	Sucralose-d6	91.5	P	30 - 160

Lab Sample ID: 2178002
Field Sample ID: FB_06222020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.5	P	30 - 160
EPA 8321B	Diuron-d6	81.7	P	30 - 160
EPA 8321B	Endothall-d6	77.8	P	50 - 160
EPA 8321B	Endothall-d6	77.8	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	88.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.7	P	30 - 160
EPA 8321B	Primidone-d5	83.6	P	30 - 160
EPA 8321B	Sucralose-d6	83.0	P	30 - 160
EPA 8321B	Sucralose-d6	83.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99472

Included Lab Sample IDs: 2177974, 2177977, 2177980, 2177981, 2177986

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99473

Included Lab Sample IDs: 2177976, 2177979, 2177984, 2177985, 2177988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	103	101	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A99474

Included Lab Sample IDs: 2177974, 2177977, 2177980, 2177981, 2177986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.6	99.6	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99479

Included Lab Sample IDs: 2177975, 2177978, 2177982, 2177983, 2177987

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

Reference Method: EPA 8321B

Run ID: A99501

Included Lab Sample IDs: 2178001, 2178002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	76.2	70.8	P/P	60 - 160
Endothall	76.5	79.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99502

Included Lab Sample IDs: 2178001, 2178002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.0	101	P/P	60 - 160
Glufosinate	100	102	P/P	60 - 160
Glyphosate	87.1	86.9	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99529

Included Lab Sample IDs: 2178001, 2178002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	70.4	84.4	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A99535

Included Lab Sample IDs: 2177975, 2177978, 2177982, 2177983, 2177987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	98.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99540

Included Lab Sample IDs: 2177974, 2177977, 2177980, 2177981, 2177986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110
Fluoride	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99553

Included Lab Sample IDs: 2177975, 2177978, 2177982, 2177983, 2177987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99556

Included Lab Sample IDs: 2177975, 2177978, 2177982, 2177983, 2177987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A99562

Included Lab Sample IDs: 2178003, 2178004, 2178005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	104	P/P	90 - 110
Calcium	102	103	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Potassium	99.6	100	P/P	90 - 110
Sodium	100	101	P/P	90 - 110
Zinc	103	105	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99572

Included Lab Sample IDs: 2178001, 2178002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	95.8	P/P	50 - 150
Acetaminophen	110	111	P/P	60 - 160
Acetamiprid	115	116	P/P	50 - 150
Afidopyropen	95.4	80.1	P/P	50 - 150
Bentazon	74.3	81.3	P/P	50 - 160
Benzovindiflupyr	94.9	111	P/P	50 - 150
Carbamazepine	110	105	P/P	60 - 150
Clothianidin	107	105	P/P	60 - 150
Dinotefuran	107	103	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99572

Included Lab Sample IDs: 2178001, 2178002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diuron	107	96.0	P/P	60 - 160
Fenuron	69.4	68.7	P/P	60 - 150
Fluridone	103	113	P/P	60 - 160
Hydrocodone	114	119	P/P	60 - 150
Ibuprofen	94.0	70.0	P/P	50 - 160
Imazapyr	97.0	97.8	P/P	50 - 150
Imidacloprid	103	104	P/P	60 - 150
Linuron	99.2	83.8	P/P	60 - 150
Mandestrobin	93.2	92.6	P/P	50 - 150
MCPP	114	93.3	P/P	50 - 150
Naproxen	85.3	83.0	P/P	50 - 160
Primidone	106	98.4	P/P	60 - 150
Pyraclostrobin	90.3	88.3	P/P	60 - 150
Thiamethoxam	106	107	P/P	50 - 150
Tolfenpyrad	82.3	77.4	P/P	60 - 150
Triclopyr	100	103	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A99591

Included Lab Sample IDs: 2177974, 2177977, 2177980, 2177981, 2177986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	100	P/P	90 - 110
Total Alkalinity	98.9	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99617

Included Lab Sample IDs: 2177975, 2177978, 2177982, 2177983, 2177987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	94.8	94.5	P/P	90 - 110
Total-P	96.0	94.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99640

Included Lab Sample IDs: 2177974, 2177977, 2177980, 2177981, 2177986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.5	99.4	P/P	90 - 110
Chloride	98.4	97.5	P/P	90 - 110
Sulfate	100	99.0	P/P	90 - 110
Sulfate	99.0	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99700

Included Lab Sample IDs: 2178003, 2178004, 2178005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.6	95.9	P/P	90 - 110
Aluminum	95.9	96.4	P/P	90 - 110
Antimony	96.5	96.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99700

Included Lab Sample IDs: 2178003, 2178004, 2178005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	97.0	96.5	P/P	90 - 110
Arsenic	100	99.9	P/P	90 - 110
Arsenic	99.9	98.9	P/P	90 - 110
Boron	91.9	93.5	P/P	90 - 110
Boron	93.5	98.1	P/P	90 - 110
Chromium	96.9	97.2	P/P	90 - 110
Chromium	97.4	96.9	P/P	90 - 110
Nickel	100	100	P/P	90 - 110
Nickel	100	98.0	P/P	90 - 110
Selenium	98.7	99.0	P/P	90 - 110
Selenium	99.0	99.0	P/P	90 - 110
Silver	96.3	97.3	P/P	90 - 110
Silver	97.3	98.5	P/P	90 - 110
Thallium	96.9	97.1	P/P	90 - 110
Thallium	97.1	97.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99751

Included Lab Sample IDs: 2178003, 2178004, 2178005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	101	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Copper	97.4	97.6	P/P	90 - 110
Copper	97.6	97.4	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Lead	103	102	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.79	
	Turbidity						4.05	
EPA 200.7 Rev. 4.4	Barium	107	107	107	109			0.270
	Calcium	109	108	109	104			0.616
	Iron	106	105	105	108			0.250
	Magnesium	108	107	107	107			0.308
	Potassium	102	104	105	103			0.547
	Sodium	103	102	103	100			0.926
	Zinc	109	109	109	114			0.254
EPA 200.8 Rev. 5.4	Aluminum	95.4	94.2	94.9	94.8			0.716
	Antimony	97.8	96.8	96.1	97.4			0.718
	Arsenic	101	99.5	99.5	99.3			0.0136
	Boron	93.7	92.9	92.9	94.6			0.0333
	Cadmium	93.7	94.6	95.3	95.0			0.786
	Chromium	101	101	99.7	99.6			1.44
	Copper	92.6	91.2	89.0	94.0			1.65
	Lead	94.7	93.6	93.7	95.4			0.174
	Nickel	101	101	99.9	98.0			1.09
	Selenium	99.2	97.9	98.2	96.4			0.303
	Silver	99.7	99.1	98.4	95.7			0.747
	Thallium	102	102	102	101			0.432
EPA 300.0 Rev. 2.1	Chloride	99.9	105	101			0.765	
	Sulfate	103	108	105			0.882	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.5	102				2.45
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	112	104				3.56
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100	100				0.499
EPA 365.1 Rev. 2.0	Total-P	101	102	102				0.262
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	106	98.2	99.7				1.43
EPA 8321B	2,4-D	104	117	106				9.73
	Acesulfame K	97.0	44.0	47.0				6.58
	Acetaminophen	76.7	107	97.5				9.50
	Acetamiprid	77.4	85.6	75.7				12.2
	Afidopyropen	58.1	69.1	62.5				10.0
	AMPA	90.1	29.2	32.5				2.70
	Bentazon	56.3						5.51
	Benzovindiflupyr	58.9	74.2	73.6				0.733
	Carbamazepine	62.1	72.7	68.4				6.17
	Clothianidin	86.7	111	99.8				4.74
	Dinotefuran	87.2	111	104				6.53
	Diuron	56.4	63.6	59.3				6.97
	Endothall	73.7	58.2	64.4				10.1
	Fenuron	103	103	94.5				8.96
	Fluridone	73.6	84.8	84.8				0.0141
	Glufosinate	102	50.3	58.6				15.3
	Glyphosate	79.9	54.7	62.4				1.42
	Hydrocodone	89.8	102	88.1				15.0
	Ibuprofen	55.9	73.2	69.5				5.24
	Imazapyr	78.8	103	95.6				6.62
	Imidacloprid	92.9	150	143				3.59
	Linuron	54.6	63.7	60.3				5.60
	Mandestrobin	66.7	68.7	74.2				7.81
	MCP	110	132	126				4.74
	Naproxen	58.2	103	116				12.1
	Primidone	82.1	94.8	83.8				11.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Pyraclostrobin	59.0	75.1	67.7		10.3
	Sucralose	81.0	87.9	90.1		2.51
	Thiamethoxam	78.9	106	98.4		7.08
	Tolfenpyrad	44.7	41.7	35.9		14.9
	Triclopyr	75.2	106	103		2.37
SM 2120 B-2011	Color (true)	96.8			0.964	
SM 2320 B-2011	Total Alkalinity	103			4.78	
SM 2540 C-2011	TDS				8.07	
	TDS				7.18	
SM 4500 F-C-2011	Fluoride	97.9	96.1	95.6		0.519
SM 5310 B-2011	Organic Carbon	97.6	95.6	95.8		0.214

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2177974, 2177977, 2177980, 2177981, 2177986
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2178003, 2178004, 2178005
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2178003, 2178004, 2178005
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2177974, 2177977, 2177980, 2177981, 2177986
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2177974, 2177977, 2177980, 2177981, 2177986
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2177975, 2177978, 2177982, 2177983, 2177987
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2177975, 2177978, 2177982, 2177983, 2177987
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2177975, 2177978, 2177982, 2177983, 2177987
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2177975, 2177978, 2177982, 2177983, 2177987
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2177976, 2177979, 2177984, 2177985, 2177988
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2178001, 2178002
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2178001, 2178002
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2177974, 2177977, 2177980, 2177981, 2177986
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2177974, 2177977, 2177980, 2177981, 2177986
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2178003, 2178004, 2178005
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2177974, 2177977, 2177980, 2177981, 2177986
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2177974, 2177977, 2177980, 2177981, 2177986
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2177974, 2177977, 2177980, 2177981, 2177986
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2177975, 2177978, 2177982, 2177983, 2177987

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	06/23/2020			06/23/2020 15:02	Yen Ta	2177974, 2177977, 2177980, 2177981, 2177986
EPA 200.7 Rev. 4.4	06/23/2020	06/25/2020 14:10	Elliott D. Healy	06/26/2020 14:47	Betina Topolski	2178005
	06/23/2020	06/25/2020 14:10	Elliott D. Healy	06/26/2020 15:30	Betina Topolski	2178003
	06/23/2020	06/25/2020 14:10	Elliott D. Healy	06/26/2020 15:36	Betina Topolski	2178004
EPA 200.8 Rev. 5.4	06/23/2020	06/25/2020 14:10	Elliott D. Healy	07/06/2020 15:48	Alexander Thompson	2178005
	06/23/2020	06/25/2020 14:10	Elliott D. Healy	07/06/2020 17:05	Alexander Thompson	2178003
	06/23/2020	06/25/2020 14:10	Elliott D. Healy	07/06/2020 17:12	Alexander Thompson	2178004
	06/23/2020	07/08/2020 08:45	Alexander Thompson	07/08/2020 19:02	Alexander Thompson	2178005
	06/23/2020	07/08/2020 08:45	Alexander Thompson	07/08/2020 20:05	Alexander Thompson	2178003
	06/23/2020	07/08/2020 08:45	Alexander Thompson	07/08/2020 20:10	Alexander Thompson	2178004
EPA 300.0 Rev. 2.1	06/23/2020			06/29/2020 21:18	Julia Storbeck	2177974
	06/23/2020			06/29/2020 21:54	Julia Storbeck	2177977
	06/23/2020			06/29/2020 22:06	Julia Storbeck	2177980
	06/23/2020			06/29/2020 22:18	Julia Storbeck	2177981
	06/23/2020			06/29/2020 22:30	Julia Storbeck	2177986
EPA 350.1 Rev. 2.0	06/23/2020			06/27/2020 14:22	Ping Hua	2177975
	06/23/2020			06/27/2020 14:24	Ping Hua	2177978
	06/23/2020			06/27/2020 14:25	Ping Hua	2177982
	06/23/2020			06/27/2020 14:27	Ping Hua	2177983
	06/23/2020			06/27/2020 14:28	Ping Hua	2177987
EPA 351.2 Rev. 2.0	06/23/2020	06/25/2020 09:40	Sima Feizi	06/26/2020 10:56	Jhamieka S. Greenwood	2177975
	06/23/2020	06/25/2020 09:40	Sima Feizi	06/26/2020 10:58	Jhamieka S. Greenwood	2177978
	06/23/2020	06/25/2020 09:40	Sima Feizi	06/26/2020 10:59	Jhamieka S. Greenwood	2177982
	06/23/2020	06/25/2020 09:40	Sima Feizi	06/26/2020 11:01	Jhamieka S. Greenwood	2177983
	06/23/2020	06/25/2020 09:40	Sima Feizi	06/26/2020 11:02	Jhamieka S. Greenwood	2177987
EPA 353.2 Rev. 2.0	06/23/2020			06/24/2020 08:12	Beverly Y. Sanders	2177975
	06/23/2020			06/24/2020 08:14	Beverly Y. Sanders	2177978
	06/23/2020			06/24/2020 08:15	Beverly Y. Sanders	2177982
	06/23/2020			06/24/2020 08:16	Beverly Y. Sanders	2177983
	06/23/2020			06/24/2020 08:17	Beverly Y. Sanders	2177987
EPA 365.1 Rev. 2.0	06/23/2020	06/29/2020 13:17	Yen Ta	07/01/2020 07:53	Lipi Saha	2177975
	06/23/2020	06/29/2020 13:17	Yen Ta	07/01/2020 07:54	Lipi Saha	2177978
	06/23/2020	06/29/2020 13:17	Yen Ta	07/01/2020 07:55	Lipi Saha	2177982
	06/23/2020	06/29/2020 13:17	Yen Ta	07/01/2020 07:56	Lipi Saha	2177983
	06/23/2020	06/29/2020 13:17	Yen Ta	07/01/2020 08:03	Lipi Saha	2177987
EPA 365.1 Rev. 2.0 dissolved	06/23/2020			06/23/2020 16:27	Carlos Miranda	2177976
	06/23/2020			06/23/2020 16:28	Carlos Miranda	2177979, 2177984
	06/23/2020			06/23/2020 16:29	Carlos Miranda	2177985
	06/23/2020			06/23/2020 16:30	Carlos Miranda	2177988

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/23/2020	06/24/2020 11:00	Mohammad Ghaffari	06/24/2020 14:43	Mohammad Ghaffari	2178001
	06/23/2020	06/24/2020 11:00	Mohammad Ghaffari	06/24/2020 14:57	Mohammad Ghaffari	2178002
	06/23/2020	06/24/2020 11:00	Mohammad Ghaffari	06/24/2020 20:12	Mohammad Ghaffari	2178001
	06/23/2020	06/24/2020 11:00	Mohammad Ghaffari	06/24/2020 20:23	Mohammad Ghaffari	2178002
	06/23/2020	06/24/2020 11:00	Mohammad Ghaffari	06/25/2020 13:58	Mohammad Ghaffari	2178001
	06/23/2020	06/24/2020 11:00	Mohammad Ghaffari	06/25/2020 14:10	Mohammad Ghaffari	2178002
	06/23/2020	06/26/2020 14:00	Hoor Shaik	06/27/2020 09:07	Juyoung Kim	2178001
	06/23/2020	06/26/2020 14:00	Hoor Shaik	06/27/2020 09:42	Juyoung Kim	2178002
SM 2120 B-2011	06/23/2020			06/23/2020 16:22	Madeline Gruver	2177974
	06/23/2020			06/23/2020 16:23	Madeline Gruver	2177977, 2177980
	06/23/2020			06/23/2020 16:25	Madeline Gruver	2177981
	06/23/2020			06/23/2020 16:26	Madeline Gruver	2177986
SM 2320 B-2011	06/23/2020			06/30/2020 02:07	Dale L. Simmons	2177974
	06/23/2020			06/30/2020 02:17	Dale L. Simmons	2177977
	06/23/2020			06/30/2020 03:00	Dale L. Simmons	2177980
	06/23/2020			06/30/2020 03:10	Dale L. Simmons	2177981
	06/23/2020			06/30/2020 03:16	Dale L. Simmons	2177986
SM 2340B	06/23/2020			06/26/2020 14:47	Betina Topolski	2178005
	06/23/2020			06/26/2020 15:30	Betina Topolski	2178003
	06/23/2020			06/26/2020 15:36	Betina Topolski	2178004
SM 2540 C-2011	06/23/2020			06/24/2020 13:02	Yijie Li	2177974, 2177977, 2177980, 2177981, 2177986
SM 2540 D-2011	06/23/2020			06/24/2020 13:02	Yijie Li	2177974, 2177977, 2177980, 2177981, 2177986
SM 4500 F-C-2011	06/23/2020			06/25/2020 19:01	Dale L. Simmons	2177974
	06/23/2020			06/25/2020 19:14	Dale L. Simmons	2177977
	06/23/2020			06/25/2020 19:27	Dale L. Simmons	2177980
	06/23/2020			06/25/2020 20:14	Dale L. Simmons	2177981
	06/23/2020			06/25/2020 20:23	Dale L. Simmons	2177986
SM 5310 B-2011	06/23/2020			06/26/2020 00:29	David Boose	2177975
	06/23/2020			06/26/2020 00:41	David Boose	2177978
	06/23/2020			06/26/2020 00:53	David Boose	2177982
	06/23/2020			06/26/2020 01:05	David Boose	2177983
	06/23/2020			06/26/2020 01:17	David Boose	2177987