

Chemical Analysis Report

NE-DIST-2019-10-18-01

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

Event Description: **LSJR Southside**
Request ID: **RQ-2019-10-14-16**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 08-NOV-2019 12:10



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: Big Pottsburg CR Bowden Rd

Collection Date/Time: 10/17/2019 08:35

Field ID: 20030068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129717	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P372752	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P373557	
		Sulfate	27		mg SO4/L	P373562	
	SM 2120 B	Color (true)	69		PCU	P372859	
	SM 2320 B-97	Total Alkalinity	76		mg CaCO3/L	P373040	
	SM 2540 C-97	TDS	163		mg/L	P373317	
	SM 2540 D-97	TSS	2	I	mg/L	P373288	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P373043	
2129718	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P373048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P372993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.084		mg N/L	P373066	
	EPA 365.1 Rev. 2.0	Total-P	0.083		mg P/L	P372963	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P373050	
2129719	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P372793	
2129748	EPA 8321B	2,4-D	0.053		ug/L	P372798	
		Acesulfame K**	0.10	U	ug/L	P372848	
		AMPA**	0.35	I	ug/L	P372848	MS
		Sucralose**	0.26		ug/L	P372848	
		Acetaminophen**	0.0080	U	ug/L	P372798	
		Acetamiprid**	0.0020	U	ug/L	P372798	
		Endothall**	0.25	U	ug/L	P372848	
		Glufosinate**	0.10	U	ug/L	P372848	
		Glyphosate**	0.39	I	ug/L	P372848	
		Afidopyropen**	0.0020	UJ	ug/L	P372798	
		Bentazon	0.035		ug/L	P372798	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372798	
		Carbamazepine**	8.0E-04	U	ug/L	P372798	
		Clothianidin**	0.0069	I	ug/L	P372798	
		Dinotefuran**	0.0020	U	ug/L	P372798	
		Diuron	0.0063	I	ug/L	P372798	
		Fenuron	0.016	U	ug/L	P372798	
		Fluridone**	0.037		ug/L	P372798	
		Imazapyr**	0.63		ug/L	P372798	
		Hydrocodone**	0.0020	U	ug/L	P372798	
		Ibuprofen**	0.020	U	ug/L	P372798	
		Imidacloprid	0.035		ug/L	P372798	
		Linuron	0.0040	U	ug/L	P372798	
		Mandestrobin**	0.0020	UJ	ug/L	P372798	
		MCPP	0.0020	U	ug/L	P372798	
		Naproxen**	0.0080	U	ug/L	P372798	
		Primidone**	0.0040	U	ug/L	P372798	
		Pyraclostrobin**	0.0020	U	ug/L	P372798	
		Thiamethoxam**	0.0020	U	ug/L	P372798	

Field ID: 20030068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129748	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372798	
		Triclopyr**	0.0040	U	ug/L	P372798	
2129753	EPA 200.7 Rev. 4.4	Barium	27.9		ug/L	P372926	
		Calcium	34.9		mg/L	P372926	
		Iron	560		ug/L	P372926	
		Magnesium	6.73		mg/L	P372926	
		Potassium	2.1		mg/L	P372926	
		Sodium	14.0		mg/L	P372926	
		Zinc	5.0	U	ug/L	P372926	
	EPA 200.8 Rev. 5.4	Aluminum	45		ug/L	P372926	
		Antimony	0.16	I	ug/L	P372926	
		Arsenic	0.87		ug/L	P372926	
		Boron**	26.6		ug/L	P372926	
		Cadmium	0.020	U	ug/L	P372926	
		Chromium	0.40	U	ug/L	P372926	
		Copper	1.50		ug/L	P372926	
		Lead	0.20	U	ug/L	P372926	
		Nickel	1.5	I	ug/L	P372926	
		Selenium	0.20	U	ug/L	P372926	
		Silver	0.010	U	ug/L	P372926	
		Thallium	0.10	U	ug/L	P372926	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for acetaminophen and imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Miller CR @ Schumacher

Collection Date/Time: 10/17/2019 09:05

Field ID: 20030794

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129726	EPA 180.1 Rev. 2.0	Turbidity	8.3		NTU	P372753	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P373557	
		Sulfate	55		mg SO4/L	P373562	
		Color (true)	32		PCU	P372859	
	SM 2320 B-97	Total Alkalinity	67		mg CaCO3/L	P373040	
	SM 2540 C-97	TDS	190		mg/L	P373318	
	SM 2540 D-97	TSS	5	I	mg/L	P373289	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P373043	
2129729	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P373185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P373080	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P373066	
	EPA 365.1 Rev. 2.0	Total-P	0.066		mg P/L	P372963	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P373050	
2129732	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P372793	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Miramar at Gadsden

Collection Date/Time: 10/17/2019 09:40

Field ID: 20030825

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129720	EPA 180.1 Rev. 2.0	Turbidity	4.3	A	NTU	P372753	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P373557	
		Sulfate	61		mg SO4/L	P373562	
		Color (true)	21		PCU	P372859	
	SM 2320 B-97	Total Alkalinity	88		mg CaCO3/L	P373040	
	SM 2540 C-97	TDS	214		mg/L	P373318	
	SM 2540 D-97	TSS	4	I	mg/L	P373289	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P373043	
2129722	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P373048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P372993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P373066	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P372963	
	SM 5310 B-00	Organic Carbon	5.8		mg C/L	P373050	
2129724	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P372793	
2129754	EPA 200.7 Rev. 4.4	Barium	51.2		ug/L	P372926	
		Calcium	41.4		mg/L	P372926	
		Iron	1.08E+03		ug/L	P372926	
		Magnesium	11.8		mg/L	P372926	
		Potassium	2.8		mg/L	P372926	
		Sodium	19.3		mg/L	P372926	
		Zinc	5.0	U	ug/L	P372926	
	EPA 200.8 Rev. 5.4	Aluminum	19	I	ug/L	P372926	
		Antimony	0.094	I	ug/L	P372926	
		Arsenic	0.52		ug/L	P372926	
		Boron**	50.9		ug/L	P372926	
		Cadmium	0.020	U	ug/L	P372926	
		Chromium	0.40	U	ug/L	P372926	
		Copper	0.56	I	ug/L	P372926	
		Lead	0.36	I	ug/L	P372926	
		Nickel	0.75	I	ug/L	P372926	
		Selenium	0.20	U	ug/L	P372926	
		Silver	0.010	U	ug/L	P372926	
		Thallium	0.10	U	ug/L	P372926	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Cormorant Branch @ Marbon Rd

Collection Date/Time: 10/17/2019 12:05

Field ID: 20030852

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129727	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P372753	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P373557	
		Sulfate	17		mg SO4/L	P373562	
	SM 2120 B	Color (true)	50	A	PCU	P372860	
	SM 2320 B-97	Total Alkalinity	77		mg CaCO3/L	P373040	
	SM 2540 C-97	TDS	134		mg/L	P373318	
	SM 2540 D-97	TSS	2	I	mg/L	P373289	
	SM 4500 F-C-97	Fluoride	0.092	I	mg F/L	P373043	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P373185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P373080	
2129730	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P373066	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P372963	
	SM 5310 B-00	Organic Carbon	7.9		mg C/L	P373050	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.029		mg P/L	P372793	
	dissolved						

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Deep Bottom Creek at Scott Mill Rd

Collection Date/Time: 10/17/2019 11:15

Field ID: 20030595

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129721	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P372753	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P373557	
		Sulfate	19		mg SO4/L	P373562	
		Color (true)	62		PCU	P372859	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P373040	
	SM 2540 C-97	TDS	154	A	mg/L	P373318	
	SM 2540 D-97	TSS	4	IA	mg/L	P373289	
	SM 4500 F-C-97	Fluoride	0.086	I	mg F/L	P373043	
2129723	EPA 350.1 Rev. 2.0	Ammonia-N	0.058		mg N/L	P373185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P372993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P373066	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P372963	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P373050	
2129725	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P372793	
2129755	EPA 200.7 Rev. 4.4	Barium	35.9		ug/L	P372926	
		Calcium	35.2		mg/L	P372926	
		Iron	1.47E+03		ug/L	P372926	
		Magnesium	5.19		mg/L	P372926	
		Potassium	2.0		mg/L	P372926	
		Sodium	16.2		mg/L	P372926	
		Zinc	5.0	U	ug/L	P372926	
	EPA 200.8 Rev. 5.4	Aluminum	51		ug/L	P372926	
		Antimony	0.19	I	ug/L	P372926	
		Arsenic	1.89		ug/L	P372926	
		Boron**	29.0		ug/L	P372926	
		Cadmium	0.020	U	ug/L	P372926	
		Chromium	0.41	I	ug/L	P372926	
		Copper	1.66		ug/L	P372926	
		Lead	0.20	U	ug/L	P372926	
		Nickel	0.50	U	ug/L	P372926	
		Selenium	0.20	U	ug/L	P372926	
		Silver	0.010	U	ug/L	P372926	
		Thallium	0.10	U	ug/L	P372926	

Ref. Method and Comment:

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

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Oldfield CR @ Julington Creek Road

Collection Date/Time: 10/17/2019 11:50

Field ID: 20030684

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129728	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P372753	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P373557	
		Sulfate	29		mg SO4/L	P373562	
		Color (true)	70		PCU	P372860	
	SM 2320 B-97	Total Alkalinity	82		mg CaCO3/L	P373040	
	SM 2540 C-97	TDS	179		mg/L	P373318	
	SM 2540 D-97	TSS	3	I	mg/L	P373289	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P373043	
2129731	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P373185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P373080	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P373066	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P372963	
	SM 5310 B-00	Organic Carbon	9.8		mg C/L	P373050	
2129734	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P372794	

Ref. Method and Comment:

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

SM 2540 D-97: 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: P372752

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372753

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P372926

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: P372926

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
Cadmium	0.020	U	ug/L
Chromium	0.40	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: P373557

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373562

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373048

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373185

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372993

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373080

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373066

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372963

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372793

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372794

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

Reference Method: EPA 8321B
Batch ID: P372798

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P372798

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	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: P372848

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

Reference Method: SM 2120 B
Batch ID: P372859

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P372860

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373040

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P373317

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P373318

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373288

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373289

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373043

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373050

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: P372926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	109		P	85 - 115
Iron	106		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	104		P	85 - 115
Sodium	105		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P372926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.2		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	98.4		P	85 - 115
Boron	95.9		P	85 - 115
Cadmium	97.1		P	85 - 115
Chromium	97.4		P	85 - 115
Copper	98.0		P	85 - 115
Lead	97.2		P	85 - 115
Nickel	98.8		P	85 - 115
Selenium	96.4		P	85 - 115
Silver	101		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373557

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373562

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373048

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373185

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373080

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373066

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372963

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372793

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: P372794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P372798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	127		P	40 - 160
Acetaminophen	67.3		P	30 - 160
Acetamiprid	82.9		P	40 - 160
Afidopyropen	75.4		P	40 - 160
Bentazon	70.7		P	30 - 160
Benzovindiflupyr	86.6		P	40 - 160
Carbamazepine	94.3		P	40 - 160
Clothianidin	77.1		P	40 - 160
Dinotefuran	77.4		P	40 - 160
Diuron	87.2		P	40 - 160
Fenuron	93.8		P	40 - 160
Fluridone	85.4		P	40 - 160
Hydrocodone	90.8		P	40 - 160
Ibuprofen	83.0		P	30 - 160
Imazapyr	86.7		P	40 - 160
Imidacloprid	95.4		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P372798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	64.6		P	40 - 160
Mandestrobin	81.6		P	40 - 160
MCP	95.6		P	40 - 160
Naproxen	71.8		P	40 - 160
Primidone	88.4		P	40 - 160
Pyraclostrobin	81.4		P	30 - 160
Thiamethoxam	90.3		P	40 - 160
Tolfenpyrad	51.0		P	40 - 160
Triclopyr	93.9		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P372848

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.4		P	40 - 150
AMPA	125		P	40 - 150
Endothall	84.8		P	40 - 150
Glufosinate	87.8		P	40 - 150
Glyphosate	106		P	40 - 140
Sucralose	95.9		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P372859

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P372860

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P373040

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373043

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P372926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129903	Barium	99.4		P	80 - 120
2129903	Calcium	103		P	80 - 120
2129903	Iron	101		P	80 - 120
2129903	Magnesium	103		P	80 - 120
2129903	Potassium	99.7		P	80 - 120
2129903	Sodium	97.4		P	80 - 120
2129903	Zinc	96.7		P	80 - 120
2130003	Barium	104	105	P/P	80 - 120
2130003	Calcium	109	110	P/P	80 - 120
2130003	Iron	105	107	P/P	80 - 120
2130003	Magnesium	109	111	P/P	80 - 120
2130003	Potassium	107	108	P/P	80 - 120
2130003	Sodium	105	106	P/P	80 - 120
2130003	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P372926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129903	Aluminum	97.9		P	80 - 120
2129903	Antimony	101		P	80 - 120
2129903	Arsenic	100		P	80 - 120
2129903	Boron	96.3		P	80 - 120
2129903	Cadmium	96.0		P	80 - 120
2129903	Chromium	99.3		P	80 - 120
2129903	Copper	102		P	80 - 120
2129903	Lead	99.6		P	80 - 120
2129903	Nickel	101		P	80 - 120
2129903	Selenium	95.5		P	80 - 120
2129903	Silver	101		P	80 - 120
2129903	Thallium	103		P	80 - 120
2130003	Aluminum	97.4	98.2	P/P	80 - 120
2130003	Antimony	102	102	P/P	80 - 120
2130003	Arsenic	100	102	P/P	80 - 120
2130003	Boron	95.8	96.0	P/P	80 - 120
2130003	Cadmium	98.5	99.7	P/P	80 - 120
2130003	Chromium	101	103	P/P	80 - 120
2130003	Copper	102	103	P/P	80 - 120
2130003	Lead	99.0	100	P/P	80 - 120
2130003	Nickel	101	102	P/P	80 - 120
2130003	Selenium	97.4	98.2	P/P	80 - 120
2130003	Silver	103	104	P/P	80 - 120
2130003	Thallium	103	107	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129517	Chloride	102		P	90 - 110
2129726	Chloride	102		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129517	Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129526	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129899	Ammonia-N	100	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129723	Kjeldahl Nitrogen	99.1	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129062	Kjeldahl Nitrogen	105	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129729	NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129574	Total-P	101	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372793

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129543	O-Phosphate-P	96.6	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129734	O-Phosphate-P	94.9	96.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P372798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129299	2,4-D	106	108	P/P	40 - 160
2129299	Acetamiprid	107	104	P/P	40 - 160
2129299	Afidopyropen	84.1	87.2	P/P	40 - 160
2129299	Bentazon	50.7	55.8	P/P	30 - 160
2129299	Benzovindiflupyr	88.4	87.5	P/P	40 - 160
2129299	Carbamazepine	87.6	85.3	P/P	40 - 160
2129299	Clothianidin	88.7	87.3	P/P	40 - 160
2129299	Dinotefuran	96.0	98.7	P/P	40 - 160
2129299	Diuron	74.9	74.6	P/P	40 - 160
2129299	Fenuron	90.6	91.9	P/P	40 - 160
2129299	Fluridone	84.0	83.2	P/P	40 - 160
2129299	Hydrocodone	107	102	P/P	40 - 160
2129299	Ibuprofen	75.3	72.4	P/P	30 - 160
2129299	Imazapyr	88.9	95.6	P/P	40 - 160
2129299	Linuron	62.8	59.9	P/P	40 - 160
2129299	Mandestrobin	94.6	91.5	P/P	40 - 160
2129299	MCCP	96.1	93.3	P/P	40 - 160
2129299	Naproxen	68.6	73.2	P/P	40 - 160
2129299	Primidone	85.4	95.3	P/P	40 - 160
2129299	Pyraclostrobin	93.8	89.3	P/P	30 - 160
2129299	Thiamethoxam	144	145	P/P	40 - 160
2129299	Tolfenpyrad	59.3	55.3	P/P	40 - 160
2129299	Triclopyr	97.7	84.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P372848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129670	Acesulfame K	51.2	54.2	P/P	40 - 150
2129670	AMPA	40.2	38.6	P/F	40 - 150
2129670	Endothall	64.5	64.4	P/P	40 - 150
2129670	Glufosinate	58.0	56.1	P/P	40 - 150
2129670	Glyphosate	79.9	64.2	P/P	40 - 140
2129670	Sucralose	91.5	95.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P373043

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129518	Fluoride	97.4	96.8	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P373050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129722	Organic Carbon	98.9	98.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129572	Turbidity	1.42	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129720	Turbidity	3.26	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P372926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130003	Barium	0.310	Spike	P	0 - 20
2130003	Calcium	1.19	Spike	P	0 - 20
2130003	Iron	1.91	Spike	P	0 - 20
2130003	Magnesium	1.78	Spike	P	0 - 20
2130003	Potassium	0.840	Spike	P	0 - 20
2130003	Sodium	0.613	Spike	P	0 - 20
2130003	Zinc	0.341	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P372926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130003	Aluminum	0.750	Spike	P	0 - 20
2130003	Antimony	0.552	Spike	P	0 - 20
2130003	Arsenic	1.88	Spike	P	0 - 20
2130003	Boron	0.242	Spike	P	0 - 20
2130003	Cadmium	1.28	Spike	P	0 - 20
2130003	Chromium	1.69	Spike	P	0 - 20
2130003	Copper	1.28	Spike	P	0 - 20
2130003	Lead	1.31	Spike	P	0 - 20
2130003	Nickel	1.73	Spike	P	0 - 20
2130003	Selenium	0.879	Spike	P	0 - 20
2130003	Silver	1.04	Spike	P	0 - 20
2130003	Thallium	4.11	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129517	Chloride	0.398	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129517	Sulfate	0.396	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129526	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129899	Ammonia-N	2.38	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129723	Kjeldahl Nitrogen	3.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129062	Kjeldahl Nitrogen	1.94	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129729	NO2NO3-N	0.310	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129574	Total-P	1.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129543	O-Phosphate-P	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129734	O-Phosphate-P	1.04	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P372798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129299	2,4-D	2.26	Spike	P	0 - 30
2129299	Acetaminophen	1.63	Spike	P	0 - 30
2129299	Acetamiprid	2.65	Spike	P	0 - 30
2129299	Afidopyropen	3.58	Spike	P	0 - 30
2129299	Bentazon	4.06	Spike	P	0 - 30
2129299	Benzovindiflupyr	0.983	Spike	P	0 - 30
2129299	Carbamazepine	2.55	Spike	P	0 - 30
2129299	Clothianidin	1.57	Spike	P	0 - 30
2129299	Dinotefuran	2.72	Spike	P	0 - 30
2129299	Diuron	0.325	Spike	P	0 - 30
2129299	Fenuron	1.43	Spike	P	0 - 30
2129299	Fluridone	0.916	Spike	P	0 - 30
2129299	Hydrocodone	4.91	Spike	P	0 - 30
2129299	Ibuprofen	4.00	Spike	P	0 - 30
2129299	Imazapyr	5.57	Spike	P	0 - 30
2129299	Imidacloprid	1.85	Spike	P	0 - 30
2129299	Linuron	4.71	Spike	P	0 - 30
2129299	Mandestrobin	3.25	Spike	P	0 - 30
2129299	MCPP	2.99	Spike	P	0 - 30
2129299	Naproxen	6.52	Spike	P	0 - 30
2129299	Primidone	11.0	Spike	P	0 - 30
2129299	Pyraclostrobin	4.98	Spike	P	0 - 30
2129299	Thiamethoxam	1.12	Spike	P	0 - 30
2129299	Tolfenpyrad	6.93	Spike	P	0 - 30
2129299	Triclopyr	14.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P372848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129670	Acesulfame K	5.67	Spike	P	0 - 30
2129670	AMPA	4.23	Spike	P	0 - 30
2129670	Endothall	0.0993	Spike	P	0 - 30
2129670	Glufosinate	3.37	Spike	P	0 - 30
2129670	Glyphosate	21.7	Spike	P	0 - 30
2129670	Sucralose	3.97	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P372859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129571	Color (true)	2.66	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P372860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129727	Color (true)	1.22	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P373040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129518	Total Alkalinity	0.751	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P373317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129514	TDS	4.12	Sample	P	0 - 10

Reference Method: SM 2540 C-97
 Batch ID: P373318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129721	TDS	5.83	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P373043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129518	Fluoride	0.482	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P373050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129722	Organic Carbon	0.549	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2129748
Field Sample ID: 20030068

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	64.0	P	30 - 160
EPA 8321B	Bentazon-d7	53.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.6	P	30 - 160
EPA 8321B	Diuron-d6	69.8	P	30 - 160
EPA 8321B	Endothall-d6	88.6	P	30 - 160
EPA 8321B	Endothall-d6	88.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.1	P	30 - 160
EPA 8321B	Primidone-d5	95.0	P	30 - 160
EPA 8321B	Sucralose-d6	97.9	P	30 - 160
EPA 8321B	Sucralose-d6	97.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95071

Included Lab Sample IDs: 2129717, 2129720, 2129721, 2129726, 2129727, 2129728

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.0	P/P	95 - 105
Turbidity	98.0	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95090

Included Lab Sample IDs: 2129719, 2129724, 2129725, 2129732, 2129733, 2129734

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.5	P/P	90 - 110
O-Phosphate-P	99.1	99.7	P/P	90 - 110
O-Phosphate-P	99.5	98.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A95126

Included Lab Sample IDs: 2129717, 2129720, 2129721, 2129726, 2129727, 2129728

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115
Color (true)	101	100	P/P	90 - 115

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A95190

Included Lab Sample IDs: 2129753, 2129754, 2129755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	101	P/P	90 - 110
Calcium	101	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	99.8	100	P/P	90 - 110
Zinc	102	99.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A95197

Included Lab Sample IDs: 2129717, 2129720, 2129721, 2129726, 2129727, 2129728

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

Reference Method: SM 4500 F-C-97

Run ID: A95197

Included Lab Sample IDs: 2129717, 2129720, 2129721, 2129726, 2129727, 2129728

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95203

Included Lab Sample IDs: 2129718, 2129722

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

Reference Method: SM 5310 B-00

Run ID: A95204

Included Lab Sample IDs: 2129718, 2129722, 2129723, 2129729, 2129730, 2129731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	103	P/P	90 - 110
Organic Carbon	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95207

Included Lab Sample IDs: 2129718, 2129729, 2129730, 2129731

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95211

Included Lab Sample IDs: 2129718, 2129722, 2129723, 2129729, 2129730, 2129731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95212

Included Lab Sample IDs: 2129748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.3	89.6	P/P	60 - 160
Endothall	89.3	88.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A95214

Included Lab Sample IDs: 2129748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	96.3	97.4	P/P	60 - 160
Glufosinate	85.3	92.7	P/P	60 - 160
Glyphosate	101	111	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95222

Included Lab Sample IDs: 2129722, 2129723

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A95233

Included Lab Sample IDs: 2129748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	87.1	93.1	P/P	50 - 150
Acetaminophen	97.7	66.1	P/P	60 - 160
Acetamiprid	104	97.2	P/P	50 - 150
Afidopyropen	97.8	95.9	P/P	50 - 150
Bentazon	100	97.5	P/P	50 - 160
Benzovindiflupyr	103	100	P/P	50 - 150
Carbamazepine	99.9	103	P/P	60 - 150
Clothianidin	98.0	92.1	P/P	60 - 150
Dinotefuran	84.6	83.7	P/P	50 - 150
Diuron	107	105	P/P	60 - 150
Fenuron	101	97.8	P/P	60 - 150
Fluridone	108	105	P/P	60 - 160
Hydrocodone	103	103	P/P	60 - 150
Ibuprofen	79.4	78.3	P/P	50 - 160
Imazapyr	96.9	95.6	P/P	50 - 150
Imidacloprid	92.0	98.5	P/P	60 - 150
Linuron	103	103	P/P	60 - 150
Mandestrobin	105	107	P/P	50 - 150
MCPP	86.1	96.6	P/P	50 - 150
Naproxen	86.1	114	P/P	50 - 160
Primidone	106	98.9	P/P	60 - 150
Pyraclostrobin	101	103	P/P	60 - 150
Thiamethoxam	97.3	98.8	P/P	50 - 150
Tolfenpyrad	97.4	99.7	P/P	60 - 150
Triclopyr	102	101	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95266

Included Lab Sample IDs: 2129723, 2129729, 2129730, 2129731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.2	P/P	90 - 110
Ammonia-N	99.9	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95278

Included Lab Sample IDs: 2129718, 2129722, 2129723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	93.7	P/P	90 - 110
Kjeldahl Nitrogen	96.8	96.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95287

Included Lab Sample IDs: 2129729, 2129730, 2129731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	93.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95307

Included Lab Sample IDs: 2129717, 2129720, 2129721, 2129726, 2129727, 2129728

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

Reference Method: EPA 8321B

Run ID: A95380

Included Lab Sample IDs: 2129748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	111	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95493

Included Lab Sample IDs: 2129753, 2129754, 2129755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	101	P/P	90 - 110
Antimony	103	102	P/P	90 - 110
Arsenic	104	104	P/P	90 - 110
Boron	99.8	99.8	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	105	104	P/P	90 - 110
Copper	104	104	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	105	105	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	106	104	P/P	90 - 110
Thallium	99.5	98.7	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					1.42	
	Turbidity					3.26	
EPA 200.7 Rev. 4.4	Barium	103	99.4	104	105		0.310
	Calcium	109	103	109	110		1.19
	Iron	106	101	105	107		1.91
	Magnesium	110	103	109	111		1.78
	Potassium	104	99.7	107	108		0.840
	Sodium	105	97.4	105	106		0.613
	Zinc	100	96.7	102	102		0.341
EPA 200.8 Rev. 5.4	Aluminum	98.2	97.9	97.4	98.2		0.750
	Antimony	101	101	102	102		0.552
	Arsenic	98.4	100	100	102		1.88
	Boron	95.9	96.3	95.8	96.0		0.242
	Cadmium	97.1	96.0	98.5	99.7		1.28
	Chromium	97.4	99.3	101	103		1.69
	Copper	98.0	102	102	103		1.28
	Lead	97.2	99.6	99.0	100		1.31
	Nickel	98.8	101	101	102		1.73
	Selenium	96.4	95.5	97.4	98.2		0.879
	Silver	101	101	103	104		1.04
	Thallium	101	103	103	107		4.11
EPA 300.0 Rev. 2.1	Chloride	102	102	102		0.398	
	Sulfate	100	99.9			0.396	
EPA 350.1 Rev. 2.0	Ammonia-N	99.3	101	102			1.50
	Ammonia-N	98.3	100	97.4			2.38
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.8	99.1	104			3.45
	Kjeldahl Nitrogen	102	105	109			1.94
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.0	98.5			0.310
EPA 365.1 Rev. 2.0	Total-P	98.4	101	99.3			1.54
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	96.6	96.6			0.0
	O-Phosphate-P	97.7	94.9	96.5			1.04
EPA 8321B	2,4-D	127	106	108			2.26
	Acesulfame K	89.4	51.2	54.2			5.67
	Acetaminophen	67.3					1.63
	Acetamiprid	82.9	104	107			2.65
	Afidopyropen	75.4	84.1	87.2			3.58
	AMPA	125	40.2	38.6			4.23
	Bentazon	70.7	50.7	55.8			4.06
	Benzovindiflupyr	86.6	88.4	87.5			0.983
	Carbamazepine	94.3	85.3	87.6			2.55
	Clothianidin	77.1	87.3	88.7			1.57
	Dinotefuran	77.4	98.7	96.0			2.72
	Diuron	87.2	74.9	74.6			0.325
	Endothall	84.8	64.5	64.4			0.0993
	Fenuron	93.8	91.9	90.6			1.43
	Fluridone	85.4	84.0	83.2			0.916
	Glufosinate	87.8	58.0	56.1			3.37
	Glyphosate	106	79.9	64.2			21.7
	Hydrocodone	90.8	102	107			4.91
	Ibuprofen	83.0	75.3	72.4			4.00
	Imazapyr	86.7	88.9	95.6			5.57
	Imidacloprid	95.4					1.85
	Linuron	64.6	62.8	59.9			4.71
	Mandestrobin	81.6	94.6	91.5			3.25

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCP	95.6	96.1	93.3		2.99
	Naproxen	71.8	68.6	73.2		6.52
	Primidone	88.4	95.3	85.4		11.0
	Pyraclostrobin	81.4	93.8	89.3		4.98
	Sucralose	95.9	91.5	95.5		3.97
	Thiamethoxam	90.3	145	144		1.12
	Tolfenpyrad	51.0	59.3	55.3		6.93
	Triclopyr	93.9	97.7	84.9		14.0
SM 2120 B	Color (true)	98.9			2.66	
	Color (true)	98.8			1.22	
SM 2320 B-97	Total Alkalinity	104			0.751	
SM 2540 C-97	TDS				4.12	
	TDS				5.83	
SM 4500 F-C-97	Fluoride	96.9	97.4	96.8		0.482
SM 5310 B-00	Organic Carbon	98.9	98.9	98.2		0.549

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2129753, 2129754, 2129755
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2129753, 2129754, 2129755
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2129718, 2129722, 2129723, 2129729, 2129730, 2129731
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2129718, 2129722, 2129723, 2129729, 2129730, 2129731
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2129718, 2129722, 2129723, 2129729, 2129730, 2129731
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2129718, 2129722, 2129723, 2129729, 2129730, 2129731
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2129719, 2129724, 2129725, 2129732, 2129733, 2129734
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2129748
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2129748
SM 2120 B / E31780	True Color measured at 450 nm	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2129718, 2129722, 2129723, 2129729, 2129730, 2129731

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	10/18/2019			10/18/2019 15:49	Samantha Davila	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
EPA 200.7 Rev. 4.4	10/18/2019	10/22/2019 17:30	Elliott D. Healy	10/23/2019 21:56	Alexander Thompson	2129753
	10/18/2019	10/22/2019 17:30	Elliott D. Healy	10/23/2019 22:04	Alexander Thompson	2129754
	10/18/2019	10/22/2019 17:30	Elliott D. Healy	10/23/2019 22:11	Alexander Thompson	2129755
EPA 200.8 Rev. 5.4	10/18/2019	10/22/2019 17:30	Elliott D. Healy	11/06/2019 00:38	Robert K Palmer	2129753
	10/18/2019	10/22/2019 17:30	Elliott D. Healy	11/06/2019 00:48	Robert K Palmer	2129754
	10/18/2019	10/22/2019 17:30	Elliott D. Healy	11/06/2019 00:58	Robert K Palmer	2129755
EPA 300.0 Rev. 2.1	10/18/2019			10/31/2019 06:23	Julia Storbeck	2129726
	10/18/2019			10/31/2019 08:24	Julia Storbeck	2129717
	10/18/2019			10/31/2019 08:36	Julia Storbeck	2129720
	10/18/2019			10/31/2019 08:48	Julia Storbeck	2129721
	10/18/2019			10/31/2019 09:00	Julia Storbeck	2129727
	10/18/2019			10/31/2019 09:12	Julia Storbeck	2129728
EPA 350.1 Rev. 2.0	10/18/2019			10/23/2019 13:27	Ping Hua	2129718
	10/18/2019			10/23/2019 13:29	Ping Hua	2129722
	10/18/2019			10/24/2019 11:36	Ping Hua	2129723
	10/18/2019			10/24/2019 11:43	Ping Hua	2129729
	10/18/2019			10/24/2019 11:45	Ping Hua	2129730
	10/18/2019			10/24/2019 11:46	Ping Hua	2129731
EPA 351.2 Rev. 2.0	10/18/2019	10/23/2019 12:50	Sima Feizi	10/25/2019 19:06	Jhamieka S. Greenwood	2129723
	10/18/2019	10/23/2019 12:50	Sima Feizi	10/25/2019 19:25	Jhamieka S. Greenwood	2129718
	10/18/2019	10/23/2019 12:50	Sima Feizi	10/25/2019 19:27	Jhamieka S. Greenwood	2129722
	10/18/2019	10/24/2019 13:16	Sima Feizi	10/28/2019 17:04	Jhamieka S. Greenwood	2129729
	10/18/2019	10/24/2019 13:16	Sima Feizi	10/28/2019 17:05	Jhamieka S. Greenwood	2129730
	10/18/2019	10/24/2019 13:16	Sima Feizi	10/28/2019 17:07	Jhamieka S. Greenwood	2129731
EPA 353.2 Rev. 2.0	10/18/2019			10/24/2019 11:02	Beverly Y. Sanders	2129729
	10/18/2019			10/24/2019 11:13	Beverly Y. Sanders	2129718
	10/18/2019			10/24/2019 11:14	Beverly Y. Sanders	2129722
	10/18/2019			10/24/2019 11:15	Beverly Y. Sanders	2129723
	10/18/2019			10/24/2019 11:17	Beverly Y. Sanders	2129730
	10/18/2019			10/24/2019 11:18	Beverly Y. Sanders	2129731
EPA 365.1 Rev. 2.0	10/18/2019	10/23/2019 14:30	Lipi Saha	10/24/2019 10:40	Lipi Saha	2129718
	10/18/2019	10/23/2019 14:30	Lipi Saha	10/24/2019 10:46	Lipi Saha	2129729
	10/18/2019	10/23/2019 14:30	Lipi Saha	10/24/2019 10:47	Lipi Saha	2129730
	10/18/2019	10/23/2019 14:30	Lipi Saha	10/24/2019 10:48	Lipi Saha	2129731
	10/18/2019	10/23/2019 14:30	Lipi Saha	10/24/2019 15:59	Lipi Saha	2129722
	10/18/2019	10/23/2019 14:30	Lipi Saha	10/24/2019 16:00	Lipi Saha	2129723
EPA 365.1 Rev. 2.0 dissolved	10/18/2019			10/18/2019 16:05	Virginia P. Brown	2129734
	10/18/2019			10/18/2019 16:36	Virginia P. Brown	2129719

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	10/18/2019			10/18/2019 16:41	Virginia P. Brown	2129724
	10/18/2019			10/18/2019 16:42	Virginia P. Brown	2129725
	10/18/2019			10/18/2019 16:43	Virginia P. Brown	2129732
	10/18/2019			10/18/2019 16:44	Virginia P. Brown	2129733
EPA 8321B	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 17:21	Juyoung Kim	2129748
	10/18/2019	10/22/2019 11:00	Rebecca Ware	10/22/2019 18:05	Rebecca Ware	2129748
	10/18/2019	10/22/2019 11:00	Rebecca Ware	10/23/2019 15:05	Rebecca Ware	2129748
	10/18/2019	10/22/2019 11:00	Rebecca Ware	10/31/2019 09:41	Rebecca Ware	2129748
SM 2120 B	10/18/2019			10/18/2019 18:11	Madeline Funaro	2129717
	10/18/2019			10/18/2019 18:12	Madeline Funaro	2129720
	10/18/2019			10/18/2019 18:13	Madeline Funaro	2129721, 2129726
	10/18/2019			10/18/2019 18:18	Madeline Funaro	2129727
SM 2320 B-97	10/18/2019			10/18/2019 18:19	Madeline Funaro	2129728
	10/18/2019			10/24/2019 05:48	Dale L. Simmons	2129717
	10/18/2019			10/24/2019 06:01	Dale L. Simmons	2129720
	10/18/2019			10/24/2019 06:14	Dale L. Simmons	2129721
	10/18/2019			10/24/2019 06:55	Dale L. Simmons	2129726
	10/18/2019			10/24/2019 07:08	Dale L. Simmons	2129727
SM 2540 C-97	10/18/2019			10/24/2019 07:21	Dale L. Simmons	2129728
	10/18/2019			10/23/2019 14:58	Yijie Li	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 2540 D-97	10/18/2019			10/23/2019 14:58	Yijie Li	2129717, 2129720, 2129721, 2129726, 2129727, 2129728
SM 4500 F-C-97	10/18/2019			10/24/2019 05:48	Dale L. Simmons	2129717
	10/18/2019			10/24/2019 06:01	Dale L. Simmons	2129720
	10/18/2019			10/24/2019 06:14	Dale L. Simmons	2129721
	10/18/2019			10/24/2019 06:55	Dale L. Simmons	2129726
	10/18/2019			10/24/2019 07:08	Dale L. Simmons	2129727
SM 5310 B-00	10/18/2019			10/24/2019 07:21	Dale L. Simmons	2129728
	10/18/2019			10/23/2019 22:35	Madeline Funaro	2129722
	10/18/2019			10/24/2019 00:41	Madeline Funaro	2129718
	10/18/2019			10/24/2019 00:59	Madeline Funaro	2129723
	10/18/2019			10/24/2019 01:14	Madeline Funaro	2129729
	10/18/2019			10/24/2019 01:29	Madeline Funaro	2129730
	10/18/2019			10/24/2019 01:46	Madeline Funaro	2129731