Chemical Analysis Report

NE-DIST-2018-11-02-01

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

Event Description: **LSJR Southside 2**
Request ID: **RQ-2018-11-05-16**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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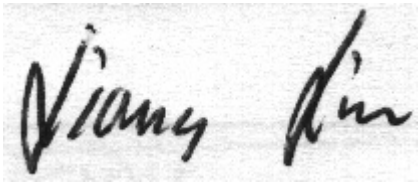
Certified by: Liang Lin, Environmental Administrator

Date Certified: 29-NOV-2018 10:38



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 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: CORMORANT BRANCH AT JULINGTON CREEK ROAD **Collection Date/Time: 11/01/2018 10:05**

Field ID: 20030685 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038703	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P354166	
	EPA 300.0 Rev. 2.1	Chloride	50		mg Cl/L	P354918	
		Sulfate	24		mg SO4/L	P354920	
	SM 2120 B	Color (true)	79	A	PCU	P354169	
	SM 2320 B-97	Total Alkalinity	72		mg CaCO3/L	P354554	
	SM 2540 C-97	TDS	214		mg/L	P354610	
	SM 2540 D-97	TSS	4	I	mg/L	P354531	
	SM 4500 F-C-97	Fluoride	0.087	I	mg F/L	P354934	MS
2038704	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P354629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P354424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P354376	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P354378	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P354400	
2038705	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.051		mg P/L	P354152	
2038742	EPA 8321B	2,4-D	0.0029	I	ug/L	P354119	
		Sucralose**	0.54		ug/L	P354052	
		Bentazon	0.019		ug/L	P354119	
		MCPP	0.0020	U	ug/L	P354119	MS
		Triclopyr**	0.0040	U	ug/L	P354119	
		Imidacloprid	0.030		ug/L	P354119	MS
		Diuron	0.0043	I	ug/L	P354119	
		Pyraclostrobin**	0.0020	U	ug/L	P354119	
		Primidone**	0.0061	I	ug/L	P354119	
		Linuron	0.0040	U	ug/L	P354119	
		Acetaminophen**	0.0080	U	ug/L	P354119	
		Fenuron	0.016	U	ug/L	P354119	
		Imazapyr**	0.33		ug/L	P354119	
		Carbamazepine**	8.0E-04	U	ug/L	P354119	
		Fluridone**	0.039		ug/L	P354119	
		Hydrocodone**	8.0E-04	U	ug/L	P354119	
		Naproxen**	0.0080	U	ug/L	P354119	
		Ibuprofen**	0.020	U	ug/L	P354119	
		Acesulfame K**	0.27	I	ug/L	P354052	

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

Sample Location: OLDFIELD CR @ LORETTO RD **Collection Date/Time: 11/01/2018 11:40**

Field ID: 20030563 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038706	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P354167	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P354918	
		Sulfate	24		mg SO4/L	P354920	
	SM 2120 B	Color (true)	32		PCU	P354170	
	SM 2320 B-97	Total Alkalinity	95		mg CaCO3/L	P354554	
	SM 2540 C-97	TDS	199		mg/L	P354610	
	SM 2540 D-97	TSS	3	I	mg/L	P354531	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P354934	MS
2038708	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P354629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P354424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P354376	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P354378	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P354400	
2038710	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P354152	
2038748	EPA 200.7 Rev. 4.4	Calcium	40.6		mg/L	P354281	
		Iron	1.0E+03		ug/L	P354281	
		Magnesium	5.88		mg/L	P354281	
		Potassium	2.0		mg/L	P354281	
		Sodium	15.5		mg/L	P354281	
		Zinc	5.0	U	ug/L	P354281	
	EPA 200.8 Rev. 5.4	Arsenic	0.86		ug/L	P354281	
		Cadmium	0.020	U	ug/L	P354281	
		Chromium	0.40	U	ug/L	P354281	
		Copper	0.92		ug/L	P354281	
		Lead	0.054	I	ug/L	P354281	
		Nickel	0.29	I	ug/L	P354281	
		Silver	0.010	U	ug/L	P354281	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: OLDFIELD CR @ JULINGTON CREEK ROAD **Collection Date/Time: 11/01/2018 11:00**

Field ID: 20030684 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038707	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P354167	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P354918	
		Sulfate	38		mg SO4/L	P354920	
	SM 2120 B	Color (true)	36		PCU	P354170	
	SM 2320 B-97	Total Alkalinity	74		mg CaCO3/L	P354554	
	SM 2540 C-97	TDS	216		mg/L	P354610	
	SM 2540 D-97	TSS	3	I	mg/L	P354531	
	SM 4500 F-C-97	Fluoride	0.097	I	mg F/L	P354934	MS
2038709	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P354629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P354424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P354376	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P354378	
	SM 5310 B-00	Organic Carbon	5.5		mg C/L	P354400	
2038711	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.045		mg P/L	P354152	
2038749	EPA 200.7 Rev. 4.4	Calcium	33.4		mg/L	P354281	
		Iron	670		ug/L	P354281	
		Magnesium	9.64		mg/L	P354281	
		Potassium	2.7		mg/L	P354281	
		Sodium	20.8		mg/L	P354281	
		Zinc	5.0	U	ug/L	P354281	
	EPA 200.8 Rev. 5.4	Arsenic	0.72		ug/L	P354281	
		Cadmium	0.020	U	ug/L	P354281	
		Chromium	0.40	U	ug/L	P354281	
		Copper	0.53	I	ug/L	P354281	
		Lead	0.069	I	ug/L	P354281	
		Nickel	0.25	I	ug/L	P354281	
		Silver	0.010	U	ug/L	P354281	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Cormorant Branch @ Marbon Rd **Collection Date/Time: 11/01/2018 10:40**

Field ID: 20030852DUP Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038745	EPA 8321B	2,4-D	0.0021	I	ug/L	P354119	
		Sucralose**	0.20		ug/L	P354052	
		Bentazon	0.033		ug/L	P354119	
		MCPP	0.0020	U	ug/L	P354119	MS
		Triclopyr**	0.0040	U	ug/L	P354119	
		Imidacloprid	0.057		ug/L	P354119	MS
		Diuron	0.012		ug/L	P354119	
		Pyraclostrobin**	0.0020	U	ug/L	P354119	
		Primidone**	0.0078	I	ug/L	P354119	
		Linuron	0.0040	U	ug/L	P354119	
		Acetaminophen**	0.0080	U	ug/L	P354119	
		Fenuron	0.016	U	ug/L	P354119	
		Imazapyr**	2.6		ug/L	P354119	
		Carbamazepine**	8.2E-04	I	ug/L	P354119	
		Fluridone**	0.052		ug/L	P354119	
		Hydrocodone**	8.0E-04	U	ug/L	P354119	
		Naproxen**	0.0080	U	ug/L	P354119	
		Ibuprofen**	0.020	U	ug/L	P354119	
		Acesulfame K**	0.19	I	ug/L	P354052	

Sample Location: Cormorant Branch @ Marbon Rd **Collection Date/Time: 11/01/2018 10:35**

Field ID: 20030852 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038746	EPA 8321B	2,4-D	0.0022	I	ug/L	P354119	
		Sucralose**	0.21		ug/L	P354052	
		Bentazon	0.034		ug/L	P354119	
		MCPP	0.0020	U	ug/L	P354119	MS
		Triclopyr**	0.0040	U	ug/L	P354119	
		Imidacloprid	0.048		ug/L	P354119	MS
		Diuron	0.010		ug/L	P354119	
		Pyraclostrobin**	0.0020	U	ug/L	P354119	
		Primidone**	0.0067	I	ug/L	P354119	
		Linuron	0.0040	U	ug/L	P354119	
		Acetaminophen**	0.0080	U	ug/L	P354119	
		Fenuron	0.016	U	ug/L	P354119	
		Imazapyr**	2.5		ug/L	P354119	
		Carbamazepine**	8.0E-04	U	ug/L	P354119	
		Fluridone**	0.045		ug/L	P354119	
		Hydrocodone**	8.0E-04	U	ug/L	P354119	
		Naproxen**	0.0080	U	ug/L	P354119	
		Ibuprofen**	0.020	U	ug/L	P354119	
		Acesulfame K**	0.18	I	ug/L	P354052	

Sample Location: DEEP BOTTOM CREEK At I-295 **Collection Date/Time: 11/01/2018 09:10**

Field ID: 20030596 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038712	EPA 180.1 Rev. 2.0	Turbidity	9.1	A	NTU	P354167	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P354918	
		Sulfate	23		mg SO4/L	P354920	
	SM 2120 B	Color (true)	52		PCU	P354170	
	SM 2320 B-97	Total Alkalinity	68	A	mg CaCO3/L	P354555	
	SM 2540 C-97	TDS	185		mg/L	P354610	
	SM 2540 D-97	TSS	4	I	mg/L	P354531	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P354933	
2038714	EPA 350.1 Rev. 2.0	Ammonia-N	0.083		mg N/L	P354629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P354424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P354376	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P354378	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P354400	
2038716	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P354152	
2038743	EPA 8321B	2,4-D	0.15		ug/L	P354119	
		Sucralose**	0.16		ug/L	P354052	
		Bentazon	0.026		ug/L	P354119	
		MCPP	0.016		ug/L	P354119	MS
		Triclopyr**	0.0040	U	ug/L	P354119	
		Imidacloprid	0.055		ug/L	P354119	MS
		Diuron	0.031		ug/L	P354119	
		Pyraclostrobin**	0.0020	U	ug/L	P354119	
		Primidone**	0.0040	U	ug/L	P354119	
		Linuron	0.0040	U	ug/L	P354119	
		Acetaminophen**	0.12		ug/L	P354119	
		Fenuron	0.033	I	ug/L	P354119	
		Imazapyr**	0.30		ug/L	P354119	
		Carbamazepine**	8.0E-04	U	ug/L	P354119	
		Fluridone**	0.056		ug/L	P354119	
		Hydrocodone**	0.0018	I	ug/L	P354119	
		Naproxen**	0.0080	U	ug/L	P354119	
		Ibuprofen**	0.020	U	ug/L	P354119	
		Acesulfame K**	0.44		ug/L	P354052	
2038750	EPA 200.7 Rev. 4.4	Calcium	28.3		mg/L	P354281	
		Iron	1.63E+03		ug/L	P354281	
		Magnesium	6.96		mg/L	P354281	
		Potassium	2.1		mg/L	P354281	
		Sodium	19.2		mg/L	P354281	
		Zinc	5.0	U	ug/L	P354281	
	EPA 200.8 Rev. 5.4	Arsenic	1.01		ug/L	P354281	
		Cadmium	0.020	U	ug/L	P354281	
		Chromium	0.40	U	ug/L	P354281	
		Copper	3.08		ug/L	P354281	

Field ID: 20030596 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038750	EPA 200.8 Rev. 5.4	Lead	0.12	I	ug/L	P354281	
		Nickel	1.36		ug/L	P354281	
		Silver	0.010	U	ug/L	P354281	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: DEEP BOTTOM CREEK AT SCOTT MILL RD **Collection Date/Time: 11/01/2018 08:40**

Field ID: 20030595 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038713	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P354167	
	EPA 300.0 Rev. 2.1	Chloride	72		mg Cl/L	P354918	
		Sulfate	27		mg SO4/L	P354920	
	SM 2120 B	Color (true)	40		PCU	P354170	
	SM 2320 B-97	Total Alkalinity	129		mg CaCO3/L	P354554	
	SM 2540 C-97	TDS	300		mg/L	P354610	
	SM 2540 D-97	TSS	3	I	mg/L	P354531	
	SM 4500 F-C-97	Fluoride	0.096	I	mg F/L	P354934	MS
2038715	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P354629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P354424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P354376	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P354378	
	SM 5310 B-00	Organic Carbon	8.7		mg C/L	P354400	
2038717	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P354152	
2038744	EPA 8321B	2,4-D	0.0035	I	ug/L	P354119	
		Sucralose**	0.33		ug/L	P354052	
		Bentazon	0.013		ug/L	P354119	
		MCPP	0.0028	I	ug/L	P354119	MS
		Triclopyr**	0.0040	U	ug/L	P354119	
		Imidacloprid	0.080		ug/L	P354119	MS
		Diuron	0.0096		ug/L	P354119	
		Pyraclostrobin**	0.0020	U	ug/L	P354119	
		Primidone**	0.0040	U	ug/L	P354119	
		Linuron	0.0040	U	ug/L	P354119	
		Acetaminophen**	0.0080	U	ug/L	P354119	
		Fenuron	0.016	U	ug/L	P354119	
		Imazapyr**	0.047		ug/L	P354119	
		Carbamazepine**	0.0092		ug/L	P354119	
		Fluridone**	0.030		ug/L	P354119	
		Hydrocodone**	8.0E-04	U	ug/L	P354119	
		Naproxen**	0.0080	U	ug/L	P354119	
		Ibuprofen**	0.020	U	ug/L	P354119	
		Acesulfame K**	0.68		ug/L	P354052	
2038751	EPA 200.7 Rev. 4.4	Calcium	54.3		mg/L	P354281	
		Iron	720		ug/L	P354281	
		Magnesium	8.63		mg/L	P354281	
		Potassium	3.0		mg/L	P354281	
		Sodium	40.8		mg/L	P354281	
		Zinc	5.0	U	ug/L	P354281	
	EPA 200.8 Rev. 5.4	Arsenic	1.76		ug/L	P354281	
		Cadmium	0.020	U	ug/L	P354281	
		Chromium	0.40	U	ug/L	P354281	
		Copper	0.53	I	ug/L	P354281	

Field ID: 20030595 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2038751	EPA 200.8 Rev. 5.4	Lead	0.066	I	ug/L	P354281	
		Nickel	0.67	I	ug/L	P354281	
		Silver	0.010	U	ug/L	P354281	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P354166

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P354167

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P354281

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P354281

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354918

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354920

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354629

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354424

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P354376

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354378

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354152

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

Reference Method: EPA 8321B
Batch ID: P354052

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P354119

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P354169

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P354170

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P354554

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

Reference Method: SM 2320 B-97
Batch ID: P354555

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

Reference Method: SM 2540 C-97
Batch ID: P354610

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P354531

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P354933

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P354934

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P354400

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: P354281

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	103		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	102		P	85 - 115
Sodium	97.5		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P354281

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	100		P	85 - 115
Copper	97.9		P	85 - 115
Lead	93.0		P	85 - 115
Nickel	97.5		P	85 - 115
Silver	97.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354918

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354920

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354629

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354424

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: P354376

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354152

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

Reference Method: EPA 8321B
Batch ID: P354052

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	83.2		P	40 - 150
Sucralose	88.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P354119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.5		P	40 - 150
Acetaminophen	94.2		P	30 - 150
Bentazon	71.6		P	30 - 150
Carbamazepine	85.4		P	40 - 150
Diuron	74.5		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	115		P	40 - 150
Hydrocodone	101		P	40 - 150
Ibuprofen	89.6		P	40 - 150
Imazapyr	91.8		P	40 - 150
Imidacloprid	111		P	40 - 160
Linuron	87.3		P	40 - 150
MCPP	108		P	40 - 150
Naproxen	91.3		P	40 - 150
Primidone	100		P	40 - 150
Pyraclostrobin	62.4		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P354169

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P354170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P354554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P354555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P354933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P354934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P354400

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P354281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038195	Iron	99.4		P	80 - 120
2038195	Magnesium	104		P	80 - 120
2038195	Potassium	97.3		P	80 - 120
2038195	Sodium	100		P	80 - 120
2038195	Zinc	102		P	80 - 120
2038694	Calcium	97.3		P	80 - 120
2038694	Iron	107	107	P/P	80 - 120
2038694	Magnesium	101		P	80 - 120
2038694	Potassium	101		P	80 - 120
2038694	Sodium	96.2		P	80 - 120
2038694	Zinc	98.1	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P354281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038195	Arsenic	105		P	80 - 120
2038195	Cadmium	103		P	80 - 120
2038195	Chromium	98.6		P	80 - 120
2038195	Copper	96.8		P	80 - 120
2038195	Lead	94.5		P	80 - 120
2038195	Nickel	95.5		P	80 - 120
2038195	Silver	95.3		P	80 - 120
2038694	Arsenic	105	105	P/P	80 - 120
2038694	Cadmium	102	103	P/P	80 - 120
2038694	Chromium	99.7	99.5	P/P	80 - 120
2038694	Copper	101	101	P/P	80 - 120
2038694	Lead	97.0	94.8	P/P	80 - 120
2038694	Nickel	99.0	98.5	P/P	80 - 120
2038694	Silver	98.6	98.7	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038308	Chloride	90.9		P	90 - 110
2038703	Chloride	90.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038308	Sulfate	94.2		P	90 - 110
2038703	Sulfate	91.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038708	Ammonia-N	92.8	102	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354424

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038709	Kjeldahl Nitrogen	92.0	96.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P354376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038704	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038704	Total-P	101	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038705	O-Phosphate-P	96.8	97.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P354052

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038088	Acesulfame K	106	108	P/P	40 - 150
2038088	Sucralose	81.4	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P354119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038797	2,4-D	124	118	P/P	40 - 150
2038797	Acetaminophen	109	103	P/P	30 - 150
2038797	Bentazon	44.6	43.8	P/P	30 - 150
2038797	Carbamazepine	77.5	82.0	P/P	40 - 150
2038797	Diuron	59.4	63.8	P/P	40 - 150
2038797	Fenuron	108	126	P/P	40 - 150
2038797	Fluridone	117	123	P/P	40 - 150
2038797	Hydrocodone	125	134	P/P	40 - 150
2038797	Ibuprofen	71.6	68.7	P/P	40 - 150
2038797	Imazapyr	130	143	P/P	40 - 150
2038797	Imidacloprid	175	200	F/F	40 - 160
2038797	Linuron	80.2	81.4	P/P	40 - 150
2038797	MCPP	152	129	F/P	40 - 150
2038797	Naproxen	90.3	104	P/P	40 - 150
2038797	Primidone	105	106	P/P	40 - 150
2038797	Pyraclostrobin	64.8	67.2	P/P	40 - 150
2038797	Triclopyr	136	133	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P354934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038777	Fluoride	105	105	F/F	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P354400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2038699	Organic Carbon	100	98.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P354166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038662	Turbidity	1.09	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P354167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038712	Turbidity	3.40	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P354281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038694	Calcium	0.715	Spike	P	0 - 20
2038694	Iron	0.175	Spike	P	0 - 20
2038694	Magnesium	0.881	Spike	P	0 - 20
2038694	Potassium	0.748	Spike	P	0 - 20
2038694	Sodium	0.280	Spike	P	0 - 20
2038694	Zinc	2.82	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P354281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038694	Arsenic	0.133	Spike	P	0 - 20
2038694	Cadmium	1.26	Spike	P	0 - 20
2038694	Chromium	0.121	Spike	P	0 - 20
2038694	Copper	0.0198	Spike	P	0 - 20
2038694	Lead	2.13	Spike	P	0 - 20
2038694	Nickel	0.420	Spike	P	0 - 20
2038694	Silver	0.0380	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038308	Chloride	1.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P354920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038308	Sulfate	2.12	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038708	Ammonia-N	4.73	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038709	Kjeldahl Nitrogen	3.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P354376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038704	NO2NO3-N	0.457	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038704	Total-P	2.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038705	O-Phosphate-P	0.337	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P354052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038088	Acesulfame K	0.918	Spike	P	0 - 30
2038088	Sucralose	16.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P354119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038797	2,4-D	4.98	Spike	P	0 - 30
2038797	Acetaminophen	5.37	Spike	P	0 - 30
2038797	Bentazon	1.82	Spike	P	0 - 30
2038797	Carbamazepine	5.63	Spike	P	0 - 30
2038797	Diuron	7.05	Spike	P	0 - 30
2038797	Fenuron	15.7	Spike	P	0 - 30
2038797	Fluridone	4.74	Spike	P	0 - 30
2038797	Hydrocodone	6.83	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P354119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038797	Ibuprofen	4.11	Spike	P	0 - 30
2038797	Imazapyr	9.15	Spike	P	0 - 30
2038797	Imidacloprid	13.4	Spike	P	0 - 30
2038797	Linuron	1.53	Spike	P	0 - 30
2038797	MCPP	16.4	Spike	P	0 - 30
2038797	Naproxen	13.9	Spike	P	0 - 30
2038797	Primidone	1.06	Spike	P	0 - 30
2038797	Pyraclostrobin	3.70	Spike	P	0 - 30
2038797	Triclopyr	2.46	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P354169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038703	Color (true)	1.75	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P354170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038790	Color (true)	1.35	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P354554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038777	Total Alkalinity	0.322	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P354555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038712	Total Alkalinity	0.586	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P354610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038662	TDS	5.13	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P354933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038698	Fluoride	1.43	Spike	P	0 - 3.5

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P354934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038777	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P354400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2038699	Organic Carbon	1.31	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report
Surrogates

Lab Sample ID: 2038742
Field Sample ID: 20030685

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	126	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.3	P	30 - 160
EPA 8321B	Diuron-d6	76.6	P	30 - 160
EPA 8321B	Endothall-d6	126	P	40 - 160
EPA 8321B	Endothall-d6	126	P	40 - 160
EPA 8321B	Ibuprofen-d3	95.0	P	30 - 160
EPA 8321B	Primidone-d5	94.7	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	40 - 160
EPA 8321B	Sucralose-d6	117	P	40 - 160

Lab Sample ID: 2038743
Field Sample ID: 20030596

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.6	P	30 - 160
EPA 8321B	Diuron-d6	76.3	P	30 - 160
EPA 8321B	Endothall-d6	120	P	40 - 160
EPA 8321B	Endothall-d6	120	P	40 - 160
EPA 8321B	Ibuprofen-d3	112	P	30 - 160
EPA 8321B	Primidone-d5	97.6	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	40 - 160
EPA 8321B	Sucralose-d6	119	P	40 - 160

Lab Sample ID: 2038744
Field Sample ID: 20030595

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.6	P	30 - 160
EPA 8321B	Diuron-d6	75.8	P	30 - 160
EPA 8321B	Endothall-d6	123	P	40 - 160
EPA 8321B	Endothall-d6	123	P	40 - 160
EPA 8321B	Ibuprofen-d3	68.9	P	30 - 160
EPA 8321B	Primidone-d5	95.2	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160

Lab Sample ID: 2038745
Field Sample ID: 20030852DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.2	P	30 - 160
EPA 8321B	Diuron-d6	78.8	P	30 - 160
EPA 8321B	Endothall-d6	119	P	40 - 160
EPA 8321B	Endothall-d6	119	P	40 - 160
EPA 8321B	Ibuprofen-d3	90.9	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2038745
Field Sample ID: 20030852DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Primidone-d5	99.6	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2038746
Field Sample ID: 20030852

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.2	P	30 - 160
EPA 8321B	Diuron-d6	73.5	P	30 - 160
EPA 8321B	Endothall-d6	115	P	40 - 160
EPA 8321B	Endothall-d6	115	P	40 - 160
EPA 8321B	Ibuprofen-d3	96.5	P	30 - 160
EPA 8321B	Primidone-d5	97.5	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A87497
Included Lab Sample IDs: 2038705, 2038710, 2038711, 2038716, 2038717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A87501
Included Lab Sample IDs: 2038703, 2038706, 2038707, 2038712, 2038713

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

Reference Method: SM 2120 B
Run ID: A87502
Included Lab Sample IDs: 2038703, 2038706, 2038707, 2038712, 2038713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	99.1	P/P	90 - 115
Color (true)	99.1	102	P/P	90 - 115

Reference Method: EPA 8321B
Run ID: A87510
Included Lab Sample IDs: 2038742, 2038743, 2038744, 2038745, 2038746

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	79.9	80.5	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A87535
Included Lab Sample IDs: 2038742, 2038743, 2038744, 2038745, 2038746

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	80.8	84.2	P/P	60 - 160
Sucralose	85.5	80.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A87603
Included Lab Sample IDs: 2038704, 2038708, 2038709, 2038714, 2038715

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

Reference Method: SM 5310 B-00
Run ID: A87614
Included Lab Sample IDs: 2038704, 2038708, 2038709, 2038714, 2038715

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	96.5	P/P	90 - 110
Organic Carbon	97.6	97.1	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A87626
Included Lab Sample IDs: 2038742, 2038743, 2038744, 2038745, 2038746

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.0	83.0	P/P	50 - 150
Bentazon	112	104	P/P	50 - 160
Ibuprofen	72.0	104	P/P	50 - 160
MCPP	98.9	103	P/P	50 - 150
Naproxen	87.7	110	P/P	50 - 160
Triclopyr	103	95.7	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A87640
Included Lab Sample IDs: 2038704, 2038708, 2038709, 2038714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	99.7	P/P	90 - 110
Total-P	99.7	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A87648
Included Lab Sample IDs: 2038748, 2038749, 2038750, 2038751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	98.9	101	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	96.1	96.1	P/P	90 - 110
Nickel	99.8	100	P/P	90 - 110
Silver	93.9	95.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A87652
Included Lab Sample IDs: 2038748, 2038749, 2038750, 2038751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	96.4	P/P	90 - 110
Calcium	96.4	99.1	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	104	101	P/P	90 - 110
Potassium	97.8	98.4	P/P	90 - 110
Potassium	98.4	98.0	P/P	90 - 110
Sodium	95.5	96.9	P/P	90 - 110
Sodium	99.6	95.5	P/P	90 - 110
Zinc	102	104	P/P	90 - 110
Zinc	107	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A87656
Included Lab Sample IDs: 2038715

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A87691
Included Lab Sample IDs: 2038704, 2038708, 2038709, 2038714, 2038715

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	99.6	P/P	90 - 110
Kjeldahl Nitrogen	99.6	104	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A87701
Included Lab Sample IDs: 2038703, 2038706, 2038707, 2038712, 2038713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.4	P/P	90 - 110
Total Alkalinity	99.1	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A87708
Included Lab Sample IDs: 2038742, 2038743, 2038744, 2038745, 2038746

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	110	101	P/P	60 - 160
Carbamazepine	110	106	P/P	60 - 160
Diuron	108	110	P/P	60 - 150
Fenuron	121	122	P/P	60 - 150
Fluridone	124	127	P/P	60 - 160
Hydrocodone	100	109	P/P	60 - 150
Imazapyr	82.3	98.7	P/P	50 - 150
Imazapyr	86.1	94.5	P/P	50 - 150
Imidacloprid	111	105	P/P	60 - 160
Linuron	121	125	P/P	60 - 150
Primidone	99.2	111	P/P	60 - 160
Pyraclostrobin	99.2	94.8	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A87735
Included Lab Sample IDs: 2038704, 2038708, 2038709, 2038714, 2038715

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A87809
Included Lab Sample IDs: 2038703, 2038706, 2038707, 2038712, 2038713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	104	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Chloride	103	102	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110
Sulfate	101	99.6	P/P	90 - 110
Sulfate	99.6	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A87869
Included Lab Sample IDs: 2038703, 2038706, 2038707, 2038712, 2038713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A87873
Included Lab Sample IDs: 2038748, 2038749, 2038750, 2038751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.8	99.7	P/P	90 - 110
Chromium	99.7	99.1	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		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.09	
	Turbidity						3.40	
EPA 200.7 Rev. 4.4	Calcium	100	97.3					0.715
	Iron	103	99.4	107	107			0.175
	Magnesium	104	104	101				0.881
	Potassium	102	97.3	101				0.748
	Sodium	97.5	100	96.2				0.280
	Zinc	103	102	98.1	102			2.82
EPA 200.8 Rev. 5.4	Arsenic	102	105	105	105			0.133
	Cadmium	102	103	102	103			1.26
	Chromium	100	98.6	99.7	99.5			0.121
	Copper	97.9	96.8	101	101			0.0198
	Lead	93.0	94.5	97.0	94.8			2.13
	Nickel	97.5	95.5	99.0	98.5			0.420
	Silver	97.6	95.3	98.6	98.7			0.0380
EPA 300.0 Rev. 2.1	Chloride	100	90.9	90.2			1.61	
	Sulfate	98.5	94.2	91.4			2.12	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	92.8	102				4.73
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	92.0	96.6				3.67
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101					0.457
EPA 365.1 Rev. 2.0	Total-P	96.9	101	98.4				2.22
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	96.8	97.3				0.337
EPA 8321B	2,4-D	94.5	124	118				4.98
	Acesulfame K	83.2	106	108				0.918
	Acetaminophen	94.2	109	103				5.37
	Bentazon	71.6	44.6	43.8				1.82
	Carbamazepine	85.4	77.5	82.0				5.63
	Diuron	74.5	59.4	63.8				7.05
	Fenuron	120	108	126				15.7
	Fluridone	115	117	123				4.74
	Hydrocodone	101	125	134				6.83
	Ibuprofen	89.6	71.6	68.7				4.11
	Imazapyr	91.8	130	143				9.15
	Imidacloprid	111	175	200				13.4
	Linuron	87.3	80.2	81.4				1.53
	MCPP	108	152	129				16.4
	Naproxen	91.3	90.3	104				13.9
	Primidone	100	105	106				1.06
	Pyraclostrobin	62.4	64.8	67.2				3.70
	Sucralose	88.1	81.4	103				16.7
	Triclopyr	105	136	133				2.46
SM 2120 B	Color (true)	103					1.75	
	Color (true)	103					1.35	
SM 2320 B-97	Total Alkalinity	102					0.322	
	Total Alkalinity	102					0.586	
SM 2540 C-97	TDS						5.13	
SM 4500 F-C-97	Fluoride	98.5						1.43
	Fluoride	98.0	105	105				0.0
SM 5310 B-00	Organic Carbon	98.2	100	98.6				1.31

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2038703, 2038706, 2038707, 2038712, 2038713
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2038748, 2038749, 2038750, 2038751
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2038748, 2038749, 2038750, 2038751
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2038703, 2038706, 2038707, 2038712, 2038713
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2038703, 2038706, 2038707, 2038712, 2038713
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2038704, 2038708, 2038709, 2038714, 2038715
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2038704, 2038708, 2038709, 2038714, 2038715
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2038704, 2038708, 2038709, 2038714, 2038715
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2038704, 2038708, 2038709, 2038714, 2038715
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2038705, 2038710, 2038711, 2038716, 2038717
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2038742, 2038743, 2038744, 2038745, 2038746
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2038742, 2038743, 2038744, 2038745, 2038746
SM 2120 B / E31780	True Color measured at 450 nm	2038703, 2038706, 2038707, 2038712, 2038713
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2038703, 2038706, 2038707, 2038712, 2038713
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2038703, 2038706, 2038707, 2038712, 2038713
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2038703, 2038706, 2038707, 2038712, 2038713
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2038703, 2038706, 2038707, 2038712, 2038713
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2038704, 2038708, 2038709, 2038714, 2038715

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	11/02/2018			11/02/2018 16:00	Megan Treadwell	2038703, 2038706, 2038707, 2038712, 2038713
EPA 200.7 Rev. 4.4	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 18:21	Betina Topolski	2038748
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 18:29	Betina Topolski	2038749
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 19:00	Betina Topolski	2038750
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 19:08	Betina Topolski	2038751
EPA 200.8 Rev. 5.4	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 20:24	Robert K Palmer	2038748
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 20:33	Robert K Palmer	2038749
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 20:43	Robert K Palmer	2038750
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/08/2018 20:52	Robert K Palmer	2038751
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/19/2018 20:14	Robert K Palmer	2038748
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/19/2018 20:20	Robert K Palmer	2038749
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/19/2018 20:26	Robert K Palmer	2038750
	11/02/2018	11/06/2018 14:45	Elliott D. Healy	11/19/2018 20:44	Robert K Palmer	2038751
EPA 300.0 Rev. 2.1	11/02/2018			11/17/2018 04:21	Julia Storbeck	2038703
	11/02/2018			11/17/2018 07:22	Julia Storbeck	2038713
	11/02/2018			11/17/2018 07:34	Julia Storbeck	2038712
	11/02/2018			11/17/2018 07:46	Julia Storbeck	2038707
	11/02/2018			11/17/2018 08:34	Julia Storbeck	2038706
EPA 350.1 Rev. 2.0	11/02/2018			11/09/2018 11:01	Ping Hua	2038708
	11/02/2018			11/09/2018 11:16	Ping Hua	2038704
	11/02/2018			11/09/2018 11:17	Ping Hua	2038709
	11/02/2018			11/09/2018 11:19	Ping Hua	2038714
	11/02/2018			11/09/2018 11:20	Ping Hua	2038715
EPA 351.2 Rev. 2.0	11/02/2018	11/08/2018 10:45	Adrian Shelby	11/09/2018 12:24	Joseph Suarez	2038704
	11/02/2018	11/08/2018 10:45	Adrian Shelby	11/09/2018 12:25	Joseph Suarez	2038708
	11/02/2018	11/08/2018 10:45	Adrian Shelby	11/09/2018 12:30	Joseph Suarez	2038709
	11/02/2018	11/08/2018 10:45	Adrian Shelby	11/09/2018 12:35	Joseph Suarez	2038714
	11/02/2018	11/08/2018 10:45	Adrian Shelby	11/09/2018 12:36	Joseph Suarez	2038715
EPA 353.2 Rev. 2.0	11/02/2018			11/07/2018 13:10	Lauren Bottorf	2038704
	11/02/2018			11/07/2018 13:16	Lauren Bottorf	2038708
	11/02/2018			11/07/2018 13:18	Lauren Bottorf	2038709
	11/02/2018			11/07/2018 13:19	Lauren Bottorf	2038714
	11/02/2018			11/07/2018 13:20	Lauren Bottorf	2038715
EPA 365.1 Rev. 2.0	11/02/2018	11/07/2018 14:05	Sima Feizi	11/08/2018 10:34	Beverly Y. Sanders	2038704
	11/02/2018	11/07/2018 14:05	Sima Feizi	11/08/2018 10:44	Beverly Y. Sanders	2038708
	11/02/2018	11/07/2018 14:05	Sima Feizi	11/08/2018 10:45	Beverly Y. Sanders	2038709
	11/02/2018	11/07/2018 14:05	Sima Feizi	11/08/2018 10:47	Beverly Y. Sanders	2038714
	11/02/2018	11/07/2018 14:05	Sima Feizi	11/08/2018 13:04	Beverly Y. Sanders	2038715
EPA 365.1 Rev. 2.0 dissolved	11/02/2018			11/02/2018 14:33	Lipi Saha	2038705

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	11/02/2018			11/02/2018 14:37	Lipi Saha	2038710
	11/02/2018			11/02/2018 14:38	Lipi Saha	2038711, 2038716
	11/02/2018			11/02/2018 14:39	Lipi Saha	2038717
EPA 8321B	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/02/2018 16:30	Rebecca Ware	2038742
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/02/2018 16:44	Rebecca Ware	2038743
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/02/2018 16:59	Rebecca Ware	2038744
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/02/2018 17:14	Rebecca Ware	2038745
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/02/2018 17:28	Rebecca Ware	2038746
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/05/2018 16:03	Mohammad Ghaffari	2038742
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/05/2018 16:18	Mohammad Ghaffari	2038743
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/05/2018 16:47	Mohammad Ghaffari	2038744
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/05/2018 17:02	Mohammad Ghaffari	2038745
	11/02/2018	11/02/2018 12:30	Rebecca Ware	11/05/2018 17:16	Mohammad Ghaffari	2038746
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/08/2018 21:21	Juyoung Kim	2038742
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/08/2018 21:56	Juyoung Kim	2038743
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/08/2018 22:30	Juyoung Kim	2038744
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/08/2018 23:05	Juyoung Kim	2038745
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/08/2018 23:40	Juyoung Kim	2038746
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/10/2018 05:14	Juyoung Kim	2038742
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/10/2018 05:49	Juyoung Kim	2038743
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/10/2018 06:23	Juyoung Kim	2038744
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/10/2018 06:58	Juyoung Kim	2038745
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/10/2018 07:33	Juyoung Kim	2038746
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/13/2018 09:16	Juyoung Kim	2038745
	11/02/2018	11/07/2018 10:00	Hoor Shaik	11/13/2018 09:51	Juyoung Kim	2038746
SM 2120 B	11/02/2018			11/02/2018 15:40	Chelsea Hernandez	2038703
	11/02/2018			11/02/2018 15:44	Chelsea Hernandez	2038706
	11/02/2018			11/02/2018 15:45	Chelsea Hernandez	2038707, 2038712
	11/02/2018			11/02/2018 15:46	Chelsea Hernandez	2038713
SM 2320 B-97	11/02/2018			11/09/2018 01:54	Dale L. Simmons	2038703
	11/02/2018			11/09/2018 02:04	Dale L. Simmons	2038706
	11/02/2018			11/09/2018 02:14	Dale L. Simmons	2038707
	11/02/2018			11/09/2018 02:24	Dale L. Simmons	2038713
	11/02/2018			11/09/2018 04:58	Dale L. Simmons	2038712
SM 2540 C-97	11/02/2018			11/06/2018 15:10	Yijie Li	2038703, 2038706, 2038707, 2038712, 2038713
SM 2540 D-97	11/02/2018			11/06/2018 15:10	Yijie Li	2038703, 2038706, 2038707, 2038712, 2038713
SM 4500 F-C-97	11/02/2018			11/15/2018 03:24	Dale L. Simmons	2038712
	11/02/2018			11/15/2018 06:37	Dale L. Simmons	2038703

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	11/02/2018			11/15/2018 06:41	Dale L. Simmons	2038706
	11/02/2018			11/15/2018 06:46	Dale L. Simmons	2038707
	11/02/2018			11/15/2018 06:50	Dale L. Simmons	2038713
SM 5310 B-00	11/02/2018			11/07/2018 03:12	Megan Treadwell	2038704
	11/02/2018			11/07/2018 03:37	Megan Treadwell	2038708
	11/02/2018			11/07/2018 03:49	Megan Treadwell	2038709
	11/02/2018			11/07/2018 04:29	Megan Treadwell	2038714
	11/02/2018			11/07/2018 04:41	Megan Treadwell	2038715