

Chemical Analysis Report

NE-DIST-2019-10-23-01

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

Event Description: **LSJR East**
Request ID: **RQ-2019-10-21-22**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 18-NOV-2019 09:57



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: Greenfield Creek @ Queens Harbour Blvd.

Collection Date/Time: 10/22/2019 09:05

Field ID: 20030809

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130600	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P373059	
	EPA 300.0 Rev. 2.1	Chloride	1.4E+03		mg Cl/L	P373693	
		Sulfate	220		mg SO4/L	P373696	
	SM 2120 B	Color (true)	97		PCU	P373099	
	SM 2320 B-97	Total Alkalinity	88		mg CaCO3/L	P373214	
	SM 2540 C-97	TDS	2.48E+03		mg/L	P373594	
	SM 2540 D-97	TSS	8	I	mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P373219	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P373268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P373238	
2130601	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P373126	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P373175	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P373030	
	EPA 8321B	2,4-D	0.18		ug/L	P373086	
2130602		Acesulfame K**	0.10	U	ug/L	P373023	
		AMPA**	1.0	U	ug/L	P373023	MS
		Sucralose**	0.87		ug/L	P373023	
		Acetaminophen**	0.0080	U	ug/L	P373086	
		Acetamiprid**	0.0020	U	ug/L	P373086	
		Endothall**	0.25	U	ug/L	P373023	
		Glufosinate**	1.0	U	ug/L	P373023	
		Glyphosate**	1.0	U	ug/L	P373023	
		Afidopyropen**	0.0020	UJ	ug/L	P373086	
		Bentazon	0.027		ug/L	P373086	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P373086	
		Carbamazepine**	8.0E-04	U	ug/L	P373086	
		Clothianidin**	0.010		ug/L	P373086	
		Dinotefuran**	0.0024	I	ug/L	P373086	
		Diuron	0.0093		ug/L	P373086	
		Fenuron	0.016	U	ug/L	P373086	
		Fluridone**	0.61		ug/L	P373086	
		Imazapyr**	0.39		ug/L	P373086	
		Hydrocodone**	0.0020	U	ug/L	P373086	
		Ibuprofen**	0.020	U	ug/L	P373086	
		Imidacloprid	0.026		ug/L	P373086	MS
		Linuron	0.0040	U	ug/L	P373086	
		Mandestrobin**	0.0020	UJ	ug/L	P373086	
		MCP	0.032		ug/L	P373086	
		Naproxen**	0.0080	U	ug/L	P373086	
		Primidone**	0.0040	U	ug/L	P373086	
		Pyraclostrobin**	0.0020	U	ug/L	P373086	
		Thiamethoxam**	0.0020	U	ug/L	P373086	

Field ID: 20030809

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130635	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P373086	
		Triclopyr**	0.0040	U	ug/L	P373086	
2130636	EPA 200.7 Rev. 4.4	Barium	34.0		ug/L	P373007	
		Calcium	71.4		mg/L	P373007	
		Iron	410		ug/L	P373007	
		Magnesium	95.6		mg/L	P373007	
		Potassium	28.7		mg/L	P373007	
		Sodium	748		mg/L	P373007	
		Zinc	30		ug/L	P373007	
	EPA 200.8 Rev. 5.4	Aluminum	210		ug/L	P373007	
		Antimony	0.14	I	ug/L	P373007	
		Arsenic	1.29		ug/L	P373007	
		Boron**	383		ug/L	P373007	
		Cadmium	0.026	I	ug/L	P373007	
		Chromium	0.51	I	ug/L	P373007	
		Copper	78.9		ug/L	P373007	
		Lead	0.89		ug/L	P373007	
		Nickel	0.50	U	ug/L	P373007	
		Selenium	0.20	U	ug/L	P373007	
		Silver	0.010	U	ug/L	P373007	
		Thallium	0.10	U	ug/L	P373007	

Ref. Method and Comment:

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.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 11/16/2019.

Sample Location: Miller Creek at Atlantic Blvd

Collection Date/Time: 10/22/2019 09:50

Field ID: G2NE0005

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130597	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P373059	
	EPA 300.0	Bromide	0.45		mg Br/L	P373399	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P373214	
	SM 2540 D-97	TSS	6	I	mg/L	P373651	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P373219	
2130598	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P373268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P373135	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P373126	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P373175	
2130599	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.074		mg P/L	P373031	
2130634	EPA 8321B	2,4-D	0.0070	I	ug/L	P373086	
		Acesulfame K**	0.18	I	ug/L	P373022	
		AMPA**	1.2		ug/L	P373022	
		Sucralose**	0.15		ug/L	P373022	
		Acetaminophen**	0.028	I	ug/L	P373086	
		Acetamiprid**	0.0020	U	ug/L	P373086	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	0.10	U	ug/L	P373022	
		Glyphosate**	2.1		ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P373086	
		Bentazon	0.0042		ug/L	P373086	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P373086	
		Carbamazepine**	0.0016	I	ug/L	P373086	
		Clothianidin**	0.0020	U	ug/L	P373086	
		Dinotefuran**	0.0020	U	ug/L	P373086	
		Diuron	0.0083		ug/L	P373086	
		Fenuron	0.016	U	ug/L	P373086	
		Fluridone**	8.0E-04	U	ug/L	P373086	
		Imazapyr**	0.0098	I	ug/L	P373086	
		Hydrocodone**	0.0020	U	ug/L	P373086	
		Ibuprofen**	0.020	U	ug/L	P373086	
		Imidacloprid	0.028	J	ug/L	P373086	MS
		Linuron	0.0040	U	ug/L	P373086	
		Mandestrobin**	0.0020	UJ	ug/L	P373086	
		MCP	0.0020	U	ug/L	P373086	
		Naproxen**	0.0080	U	ug/L	P373086	
		Primidone**	0.0056	I	ug/L	P373086	
		Pyraclostrobin**	0.0020	U	ug/L	P373086	
		Thiamethoxam**	0.0020	U	ug/L	P373086	
		Tolfenpyrad**	0.0020	U	ug/L	P373086	
		Triclopyr**	0.0040	U	ug/L	P373086	

Field ID: G2NE0005

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
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. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Newcastle CR @ Ft Caroline Hills Rd

Collection Date/Time: 10/22/2019 12:20

Field ID: 20030872

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130606	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P373059	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P373693	
		Sulfate	34		mg SO4/L	P373696	
		Color (true)	13		PCU	P373099	
	SM 2320 B-97	Total Alkalinity	38		mg CaCO3/L	P373214	
	SM 2540 C-97	TDS	157		mg/L	P373594	
	SM 2540 D-97	TSS	2	I	mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P373219	
2130608	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P373268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P373238	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P373126	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	2.8		mg C/L	P373176	
2130610	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P373031	
2130638	EPA 200.7 Rev. 4.4	Barium	53.1		ug/L	P373007	
		Calcium	25.5		mg/L	P373007	
		Iron	230		ug/L	P373007	
		Magnesium	6.30		mg/L	P373007	
		Potassium	1.8		mg/L	P373007	
		Sodium	19.3		mg/L	P373007	
		Zinc	5.0	U	ug/L	P373007	
	EPA 200.8 Rev. 5.4	Aluminum	68		ug/L	P373007	
		Antimony	0.089	I	ug/L	P373007	
		Arsenic	0.27		ug/L	P373007	
		Boron**	29.9		ug/L	P373007	
		Cadmium	0.020	U	ug/L	P373007	
		Chromium	0.40	U	ug/L	P373007	
		Copper	0.40	U	ug/L	P373007	
		Lead	0.25	I	ug/L	P373007	
		Nickel	0.50	U	ug/L	P373007	
		Selenium	0.20	U	ug/L	P373007	
		Silver	0.010	U	ug/L	P373007	
		Thallium	0.10	U	ug/L	P373007	

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: Strawberry CR at End of Bowlan Rd

Collection Date/Time: 10/22/2019 10:20

Field ID: 20030579

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130607	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P373059	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P373693	
		Sulfate	29		mg SO4/L	P373696	
		Color (true)	38		PCU	P373099	
	SM 2120 B	Total Alkalinity	76		mg CaCO3/L	P373214	
	SM 2540 C-97	TDS	203		mg/L	P373594	
	SM 2540 D-97	TSS	2	I	mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.059	I	mg F/L	P373219	
2130609	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P373269	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P373238	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P373126	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	8.1		mg C/L	P373176	
2130611	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P373031	
2130639	EPA 200.7 Rev. 4.4	Barium	30.6		ug/L	P373007	
		Calcium	39.0		mg/L	P373007	
		Iron	360		ug/L	P373007	
		Magnesium	5.31		mg/L	P373007	
		Potassium	1.8		mg/L	P373007	
		Sodium	23.6		mg/L	P373007	
		Zinc	6.1	I	ug/L	P373007	
	EPA 200.8 Rev. 5.4	Aluminum	71		ug/L	P373007	
		Antimony	0.11	I	ug/L	P373007	
		Arsenic	0.49		ug/L	P373007	
		Boron**	49.5		ug/L	P373007	
		Cadmium	0.020	U	ug/L	P373007	
		Chromium	0.44	I	ug/L	P373007	
		Copper	1.17		ug/L	P373007	
		Lead	0.48		ug/L	P373007	
		Nickel	0.50	U	ug/L	P373007	
		Selenium	0.20	U	ug/L	P373007	
		Silver	0.010	U	ug/L	P373007	
		Thallium	0.10	U	ug/L	P373007	

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: Puncheon above Point Meadows Dr

Collection Date/Time: 10/22/2019 12:50

Field ID: G2NE1181

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130603	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P373059	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P373693	
		Sulfate	39		mg SO4/L	P373696	
		Color (true)	100		PCU	P373099	
	SM 2320 B-97	Total Alkalinity	62		mg CaCO3/L	P373214	
	SM 2540 C-97	TDS	206		mg/L	P373594	
	SM 2540 D-97	TSS	3	I	mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.069	I	mg F/L	P373219	
2130604	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P373268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P373238	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.058		mg N/L	P373126	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P373175	
2130605	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P373031	
2130637	EPA 200.7 Rev. 4.4	Barium	26.5		ug/L	P373007	
		Calcium	36.9		mg/L	P373007	
		Iron	240		ug/L	P373007	
		Magnesium	8.15		mg/L	P373007	
		Potassium	3.0		mg/L	P373007	
		Sodium	20.0		mg/L	P373007	
		Zinc	5.0	U	ug/L	P373007	
	EPA 200.8 Rev. 5.4	Aluminum	189		ug/L	P373007	
		Antimony	0.077	I	ug/L	P373007	
		Arsenic	0.77		ug/L	P373007	
		Boron**	33.2		ug/L	P373007	
		Cadmium	0.020	U	ug/L	P373007	
		Chromium	0.40	U	ug/L	P373007	
		Copper	2.26		ug/L	P373007	
		Lead	0.20	U	ug/L	P373007	
		Nickel	0.65	I	ug/L	P373007	
		Selenium	0.20	U	ug/L	P373007	
		Silver	0.010	U	ug/L	P373007	
		Thallium	0.10	U	ug/L	P373007	

Ref. Method and Comment:

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: P373059

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373007

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: P373007

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
Batch ID: P373399

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373693

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373696

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: P373268

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373269

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373238

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373126

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373142

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373030

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373031

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

Reference Method: EPA 8321B
Batch ID: P373022

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P373022

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

Reference Method: EPA 8321B
Batch ID: P373023

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

Reference Method: EPA 8321B
Batch ID: P373086

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P373099

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P373214

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

Reference Method: SM 2540 C-97
Batch ID: P373594

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373649

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373651

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373175

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

Reference Method: SM 5310 B-00
Batch ID: P373176

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: P373007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.2		P	85 - 115
Calcium	106		P	85 - 115
Iron	104		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	104		P	85 - 115
Zinc	98.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P373007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.4		P	80 - 120
Antimony	102		P	85 - 115
Arsenic	102		P	85 - 115
Boron	106		P	85 - 115
Cadmium	98.8		P	85 - 115
Chromium	98.9		P	85 - 115
Copper	103		P	85 - 115
Lead	105		P	85 - 115
Nickel	102		P	85 - 115
Selenium	95.2		P	85 - 115
Silver	107		P	85 - 115
Thallium	106		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P373399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373693

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373696

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373268

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373238

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373126

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373030

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: P373031

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

Reference Method: EPA 8321B
Batch ID: P373022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	107		P	40 - 150
Endothall	96.7		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	111		P	40 - 140
Sucralose	80.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P373023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.0		P	40 - 150
AMPA	113		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	108		P	40 - 150
Glyphosate	118		P	40 - 140
Sucralose	89.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P373086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	140		P	40 - 160
Acetaminophen	83.5		P	30 - 160
Acetamiprid	97.2		P	40 - 160
Afidopyropen	87.8		P	40 - 160
Bentazon	82.4		P	30 - 160
Benzovindiflupyr	89.4		P	40 - 160
Carbamazepine	99.5		P	40 - 160
Clothianidin	88.7		P	40 - 160
Dinotefuran	92.6		P	40 - 160
Diuron	91.0		P	40 - 160
Fenuron	98.4		P	40 - 160
Fluridone	89.1		P	40 - 160
Hydrocodone	91.0		P	40 - 160
Ibuprofen	94.1		P	30 - 160
Imazapyr	101		P	40 - 160
Imidacloprid	92.4		P	40 - 160
Linuron	78.0		P	40 - 160
Mandestrobin	94.1		P	40 - 160
MCPP	118		P	40 - 160
Naproxen	86.6		P	40 - 160
Primidone	77.0		P	40 - 160
Pyraclostrobin	82.8		P	30 - 160
Thiamethoxam	103		P	40 - 160
Tolfenpyrad	50.7		P	40 - 160
Triclopyr	117		P	30 - 160

Reference Method: SM 2120 B
Batch ID: P373099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P373214

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373175

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373176

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130406	Barium	99.2	99.3	P/P	80 - 120
2130406	Calcium	104	106	P/P	80 - 120
2130406	Iron	103	105	P/P	80 - 120
2130406	Magnesium	106	109	P/P	80 - 120
2130406	Potassium	105	107	P/P	80 - 120
2130406	Sodium	102	101	P/P	80 - 120
2130406	Zinc	97.8	98.0	P/P	80 - 120
2130638	Barium	98.8		P	80 - 120
2130638	Calcium	100		P	80 - 120
2130638	Iron	104		P	80 - 120
2130638	Magnesium	101		P	80 - 120
2130638	Potassium	96.9		P	80 - 120
2130638	Sodium	97.5		P	80 - 120
2130638	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P373007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130406	Aluminum	92.4	91.6	P/P	80 - 120
2130406	Antimony	102	101	P/P	80 - 120
2130406	Arsenic	100	99.9	P/P	80 - 120
2130406	Boron	105	105	P/P	80 - 120
2130406	Cadmium	98.3	97.0	P/P	80 - 120
2130406	Chromium	97.6	98.6	P/P	80 - 120
2130406	Copper	104	103	P/P	80 - 120
2130406	Lead	103	104	P/P	80 - 120
2130406	Nickel	103	102	P/P	80 - 120
2130406	Selenium	96.8	94.7	P/P	80 - 120
2130406	Silver	106	107	P/P	80 - 120
2130406	Thallium	105	106	P/P	80 - 120
2130638	Aluminum	88.7		P	80 - 120
2130638	Antimony	102		P	80 - 120
2130638	Arsenic	98.0		P	80 - 120
2130638	Boron	104		P	80 - 120
2130638	Cadmium	97.3		P	80 - 120
2130638	Chromium	95.7		P	80 - 120
2130638	Copper	96.0		P	80 - 120
2130638	Lead	102		P	80 - 120
2130638	Nickel	94.6		P	80 - 120
2130638	Selenium	90.9		P	80 - 120
2130638	Silver	105		P	80 - 120
2130638	Thallium	104		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P373399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130885	Bromide	97.1	98.9	P/P	90 - 110
2131089	Bromide	94.3		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P373693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130490	Chloride	102		P	90 - 110
2130539	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P373696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130490	Sulfate	101		P	90 - 110
2130539	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P373268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130540	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P373269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130649	Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P373135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130541	Kjeldahl Nitrogen	96.8	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P373238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130608	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373126

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130598	NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130543	Total-P	99.8	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P373030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130572	O-Phosphate-P	99.6	99.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P373031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130611	O-Phosphate-P	97.1	97.8	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P373022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	Acesulfame K	52.8	59.7	P/P	40 - 150
2130063	AMPA	89.4	86.6	P/P	40 - 150
2130063	Endothall	95.4	96.1	P/P	40 - 150
2130063	Glufosinate	106	102	P/P	40 - 150
2130063	Glyphosate	97.7	93.5	P/P	40 - 140
2130063	Sucralose	102	123	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P373023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130718	Acesulfame K	60.4	56.7	P/P	40 - 150
2130718	AMPA	37.6	38.8	F/F	40 - 150
2130718	Endothall	90.7	91.3	P/P	40 - 150
2130718	Glufosinate	72.4	69.4	P/P	40 - 150
2130718	Glyphosate	80.6	84.8	P/P	40 - 140
2130718	Sucralose	55.3	47.7	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P373086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130634	2,4-D	125	118	P/P	40 - 160
2130634	Acetaminophen	74.1	74.6	P/P	30 - 160
2130634	Acetamiprid	114	112	P/P	40 - 160
2130634	Afidopyropen	94.7	88.1	P/P	40 - 160
2130634	Bentazon	51.8	50.6	P/P	30 - 160
2130634	Benzovindiflupyr	88.1	84.6	P/P	40 - 160
2130634	Carbamazepine	91.1	92.1	P/P	40 - 160
2130634	Clothianidin	93.4	91.1	P/P	40 - 160
2130634	Dinotefuran	112	107	P/P	40 - 160
2130634	Diuron	78.5	80.7	P/P	40 - 160
2130634	Fenuron	94.3	89.3	P/P	40 - 160
2130634	Fluridone	84.2	84.0	P/P	40 - 160
2130634	Hydrocodone	113	111	P/P	40 - 160
2130634	Ibuprofen	81.8	77.0	P/P	30 - 160
2130634	Imazapyr	91.5	86.9	P/P	40 - 160
2130634	Imidacloprid	173	161	F/F	40 - 160
2130634	Linuron	65.8	63.8	P/P	40 - 160
2130634	Mandestrobin	98.9	97.2	P/P	40 - 160
2130634	MCP	106	111	P/P	40 - 160
2130634	Naproxen	89.1	92.1	P/P	40 - 160
2130634	Primidone	109	105	P/P	40 - 160
2130634	Pyraclostrobin	82.7	80.7	P/P	30 - 160
2130634	Thiamethoxam	157	151	P/P	40 - 160
2130634	Tolfenpyrad	61.2	60.2	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P373086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130634	Triclopyr	121	99.0	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130536	Fluoride	95.2	94.7	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P373175

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130496	Organic Carbon	99.3	100	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130647	Organic Carbon	96.7	93.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130563	Turbidity	4.44	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P373007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130406	Barium	0.133	Spike	P	0 - 20
2130406	Calcium	1.85	Spike	P	0 - 20
2130406	Iron	1.43	Spike	P	0 - 20
2130406	Magnesium	2.25	Spike	P	0 - 20
2130406	Potassium	1.98	Spike	P	0 - 20
2130406	Sodium	0.255	Spike	P	0 - 20
2130406	Zinc	0.171	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P373007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130406	Aluminum	0.754	Spike	P	0 - 20
2130406	Antimony	0.829	Spike	P	0 - 20
2130406	Arsenic	0.464	Spike	P	0 - 20
2130406	Boron	0.291	Spike	P	0 - 20
2130406	Cadmium	1.31	Spike	P	0 - 20
2130406	Chromium	0.964	Spike	P	0 - 20
2130406	Copper	1.05	Spike	P	0 - 20
2130406	Lead	0.770	Spike	P	0 - 20
2130406	Nickel	1.54	Spike	P	0 - 20
2130406	Selenium	2.14	Spike	P	0 - 20
2130406	Silver	1.18	Spike	P	0 - 20
2130406	Thallium	1.38	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P373399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130885	Bromide	1.78	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130490	Chloride	0.664	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130490	Sulfate	0.730	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130540	Ammonia-N	0.823	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130649	Ammonia-N	1.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130541	Kjeldahl Nitrogen	7.42	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130608	Kjeldahl Nitrogen	2.34	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130598	NO2NO3-N	0.436	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130543	Total-P	1.08	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130572	O-Phosphate-P	0.301	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130611	O-Phosphate-P	0.570	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P373022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130063	Acesulfame K	12.3	Spike	P	0 - 30
2130063	AMPA	3.19	Spike	P	0 - 30
2130063	Endothall	0.692	Spike	P	0 - 30
2130063	Glufosinate	4.38	Spike	P	0 - 30
2130063	Glyphosate	4.31	Spike	P	0 - 30
2130063	Sucralose	17.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P373023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130718	Acesulfame K	5.81	Spike	P	0 - 30
2130718	AMPA	1.72	Spike	P	0 - 30
2130718	Endothall	0.656	Spike	P	0 - 30
2130718	Glufosinate	4.28	Spike	P	0 - 30
2130718	Glyphosate	2.16	Spike	P	0 - 30
2130718	Sucralose	14.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P373086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130634	2,4-D	5.38	Spike	P	0 - 30
2130634	Acetaminophen	0.457	Spike	P	0 - 30
2130634	Acetamiprid	1.39	Spike	P	0 - 30
2130634	Afidopyropen	7.19	Spike	P	0 - 30
2130634	Bentazon	1.64	Spike	P	0 - 30
2130634	Benzovindiflupyr	4.05	Spike	P	0 - 30
2130634	Carbamazepine	0.956	Spike	P	0 - 30
2130634	Clothianidin	2.49	Spike	P	0 - 30
2130634	Dinotefuran	4.38	Spike	P	0 - 30
2130634	Diuron	2.43	Spike	P	0 - 30
2130634	Fenuron	5.44	Spike	P	0 - 30
2130634	Fluridone	0.190	Spike	P	0 - 30
2130634	Hydrocodone	2.36	Spike	P	0 - 30
2130634	Ibuprofen	6.09	Spike	P	0 - 30
2130634	Imazapyr	4.54	Spike	P	0 - 30
2130634	Imidacloprid	5.63	Spike	P	0 - 30
2130634	Linuron	3.04	Spike	P	0 - 30
2130634	Mandestrobin	1.76	Spike	P	0 - 30
2130634	MCP	4.34	Spike	P	0 - 30
2130634	Naproxen	3.36	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P373086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130634	Primidone	4.00	Spike	P	0 - 30
2130634	Pyraclostrobin	2.50	Spike	P	0 - 30
2130634	Thiamethoxam	3.93	Spike	P	0 - 30
2130634	Tolfenpyrad	1.68	Spike	P	0 - 30
2130634	Triclopyr	20.1	Spike	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P373099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130538	Color (true)	3.18	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P373214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130536	Total Alkalinity	0.201	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
 Batch ID: P373594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130538	TDS	3.65	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P373219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130536	Fluoride	0.477	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P373175

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130496	Organic Carbon	0.892	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P373176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130647	Organic Carbon	2.57	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2130634
Field Sample ID: G2NE0005

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	133	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.0	P	30 - 160
EPA 8321B	Bentazon-d7	54.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.5	P	30 - 160
EPA 8321B	Diuron-d6	71.4	P	30 - 160
EPA 8321B	Endothall-d6	153	P	30 - 160
EPA 8321B	Endothall-d6	153	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.0	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	35.2	P	30 - 160
EPA 8321B	Sucralose-d6	35.2	P	30 - 160

Lab Sample ID: 2130635
Field Sample ID: 20030809

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	69.9	P	30 - 160
EPA 8321B	Bentazon-d7	41.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.5	P	30 - 160
EPA 8321B	Diuron-d6	71.4	P	30 - 160
EPA 8321B	Endothall-d6	124	P	30 - 160
EPA 8321B	Endothall-d6	124	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	90.5	P	30 - 160
EPA 8321B	Primidone-d5	93.9	P	30 - 160
EPA 8321B	Sucralose-d6	92.4	P	30 - 160
EPA 8321B	Sucralose-d6	92.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95195

Included Lab Sample IDs: 2130599, 2130602, 2130605, 2130610, 2130611

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	99.2	P/P	90 - 110
O-Phosphate-P	99.2	98.5	P/P	90 - 110
O-Phosphate-P	99.2	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95209

Included Lab Sample IDs: 2130597, 2130600, 2130603, 2130606, 2130607

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

Reference Method: SM 2120 B

Run ID: A95227

Included Lab Sample IDs: 2130600, 2130603, 2130606, 2130607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	100	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95239

Included Lab Sample IDs: 2130598, 2130601, 2130604, 2130608, 2130609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A95253

Included Lab Sample IDs: 2130636, 2130637, 2130638, 2130639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	102	P/P	90 - 110
Calcium	101	103	P/P	90 - 110
Iron	100	101	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Potassium	99.2	99.6	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Zinc	103	105	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95259

Included Lab Sample IDs: 2130598, 2130601, 2130604, 2130608, 2130609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	99.0	P/P	90 - 110
Organic Carbon	99.6	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95270

Included Lab Sample IDs: 2130634, 2130635

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

Reference Method: EPA 8321B

Run ID: A95270

Included Lab Sample IDs: 2130634, 2130635

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	106	99.6	P/P	60 - 160
AMPA	96.7	103	P/P	60 - 160
Glufosinate	103	92.5	P/P	60 - 160
Glufosinate	100	107	P/P	60 - 160
Glyphosate	105	118	P/P	60 - 160
Glyphosate	106	107	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A95273

Included Lab Sample IDs: 2130634, 2130635

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	93.3	93.1	P/P	60 - 160
Acesulfame K	95.6	93.3	P/P	60 - 160
Endothall	111	114	P/P	60 - 160
Endothall	114	114	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A95274

Included Lab Sample IDs: 2130597, 2130600, 2130603, 2130606, 2130607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95274

Included Lab Sample IDs: 2130597, 2130600, 2130603, 2130606, 2130607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110
Fluoride	99.1	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95283

Included Lab Sample IDs: 2130634, 2130635

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	102	P/P	50 - 150
Acetaminophen	95.8	99.0	P/P	60 - 160
Acetamiprid	104	105	P/P	50 - 150
Afidopyropen	104	99.3	P/P	50 - 150
Bentazon	98.1	98.8	P/P	50 - 160
Benzovindiflupyr	104	100	P/P	50 - 150
Carbamazepine	103	104	P/P	60 - 150
Clothianidin	100	97.6	P/P	60 - 150
Dinotefuran	99.8	98.6	P/P	50 - 150
Diuron	103	105	P/P	60 - 150
Fenuron	104	105	P/P	60 - 150
Fluridone	107	109	P/P	60 - 160
Fluridone	112	113	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A95283

Included Lab Sample IDs: 2130634, 2130635

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	67.9	92.6	P/P	60 - 150
Ibuprofen	103	88.2	P/P	50 - 160
Imazapyr	100	95.7	P/P	50 - 150
Imidacloprid	101	101	P/P	60 - 150
Linuron	104	98.1	P/P	60 - 150
Mandestrobin	109	114	P/P	50 - 150
MCP	91.4	92.5	P/P	50 - 150
Naproxen	106	102	P/P	50 - 160
Primidone	98.5	94.1	P/P	60 - 150
Pyraclostrobin	96.0	106	P/P	60 - 150
Thiamethoxam	102	101	P/P	50 - 150
Tolfenpyrad	101	94.2	P/P	60 - 150
Triclopyr	94.2	94.9	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95287

Included Lab Sample IDs: 2130598

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95288

Included Lab Sample IDs: 2130598, 2130601, 2130604, 2130608, 2130609

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
Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95305

Included Lab Sample IDs: 2130598, 2130601, 2130604

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95312

Included Lab Sample IDs: 2130608, 2130609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.8	P/P	90 - 110
Total-P	99.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95324

Included Lab Sample IDs: 2130601, 2130604, 2130608, 2130609

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95324

Included Lab Sample IDs: 2130601, 2130604, 2130608, 2130609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A95332

Included Lab Sample IDs: 2130597

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95482

Included Lab Sample IDs: 2130600, 2130603, 2130606, 2130607

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

Reference Method: EPA 8321B

Run ID: A95575

Included Lab Sample IDs: 2130634, 2130635

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	131	98.8	P/P	60 - 160
Sucralose	97.0	87.9	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95605

Included Lab Sample IDs: 2130636, 2130637, 2130638, 2130639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.6	97.1	P/P	90 - 110
Aluminum	97.9	97.6	P/P	90 - 110
Antimony	95.0	93.0	P/P	90 - 110
Antimony	95.6	95.0	P/P	90 - 110
Arsenic	93.7	93.2	P/P	90 - 110
Arsenic	96.5	93.7	P/P	90 - 110
Boron	101	103	P/P	90 - 110
Boron	101	101	P/P	90 - 110
Cadmium	95.5	93.3	P/P	90 - 110
Cadmium	95.7	95.5	P/P	90 - 110
Chromium	94.9	91.2	P/P	90 - 110
Chromium	96.7	94.9	P/P	90 - 110
Copper	94.4	94.2	P/P	90 - 110
Copper	98.6	94.4	P/P	90 - 110
Lead	96.6	95.7	P/P	90 - 110
Lead	97.7	96.6	P/P	90 - 110
Nickel	93.0	93.4	P/P	90 - 110
Nickel	97.8	93.0	P/P	90 - 110
Selenium	92.7	91.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95605

Included Lab Sample IDs: 2130636, 2130637, 2130638, 2130639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	93.9	92.7	P/P	90 - 110
Silver	101	99.7	P/P	90 - 110
Silver	99.7	97.6	P/P	90 - 110
Thallium	91.5	91.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A95608

Included Lab Sample IDs: 2130639

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	94.8	92.0	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						4.44	
EPA 200.7 Rev. 4.4	Barium	99.2	99.2	99.3	98.8			0.133
	Calcium	106	104	106	100			1.85
	Iron	104	103	105	104			1.43
	Magnesium	107	106	109	101			2.25
	Potassium	99.4	105	107	96.9			1.98
	Sodium	104	102	101	97.5			0.255
	Zinc	98.4	97.8	98.0	102			0.171
EPA 200.8 Rev. 5.4	Aluminum	94.4	92.4	91.6	88.7			0.754
	Antimony	102	102	101	102			0.829
	Arsenic	102	100	99.9	98.0			0.464
	Boron	106	105	105	104			0.291
	Cadmium	98.8	98.3	97.0	97.3			1.31
	Chromium	98.9	97.6	98.6	95.7			0.964
	Copper	103	104	103	96.0			1.05
	Lead	105	103	104	102			0.770
	Nickel	102	103	102	94.6			1.54
	Selenium	95.2	96.8	94.7	90.9			2.14
	Silver	107	106	107	105			1.18
	Thallium	106	105	106	104			1.38
EPA 300.0	Bromide	97.3	97.1	98.9	94.3			1.78
EPA 300.0 Rev. 2.1	Chloride	102	102	102			0.664	
	Sulfate	101	101	100			0.730	
EPA 350.1 Rev. 2.0	Ammonia-N	100	100	101				0.823
	Ammonia-N	98.9	100	102				1.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	96.8	109				7.42
	Kjeldahl Nitrogen	98.6	102	105				2.34
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	98.5					0.436
EPA 365.1 Rev. 2.0	Total-P	97.8	99.8	98.5				1.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	99.6	99.9				0.301
	O-Phosphate-P	99.0	97.1	97.8				0.570
EPA 8321B	2,4-D	140	125	118				5.38
	Acesulfame K	103	52.8	59.7				12.3
	Acesulfame K	96.0	60.4	56.7				5.81
	Acetaminophen	83.5	74.1	74.6				0.457
	Acetamiprid	97.2	114	112				1.39
	Afidopyropen	87.8	94.7	88.1				7.19
	AMPA	107	89.4	86.6				3.19
	AMPA	113	37.6	38.8				1.72
	Bentazon	82.4	51.8	50.6				1.64
	Benzovindiflupyr	89.4	88.1	84.6				4.05
	Carbamazepine	99.5	91.1	92.1				0.956
	Clothianidin	88.7	93.4	91.1				2.49
	Dinotefuran	92.6	112	107				4.38
	Diuron	91.0	78.5	80.7				2.43
	Endothall	96.7	95.4	96.1				0.692
	Endothall	108	90.7	91.3				0.656
	Fenuron	98.4	94.3	89.3				5.44
	Fluridone	89.1	84.2	84.0				0.190
	Glufosinate	101	106	102				4.38
	Glufosinate	108	72.4	69.4				4.28
	Glyphosate	111	97.7	93.5				4.31
	Glyphosate	118	80.6	84.8				2.16
	Hydrocodone	91.0	113	111				2.36

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Ibuprofen	94.1	81.8	77.0		6.09
	Imazapyr	101	91.5	86.9		4.54
	Imidacloprid	92.4	173	161		5.63
	Linuron	78.0	65.8	63.8		3.04
	Mandestrobin	94.1	98.9	97.2		1.76
	MCPP	118	106	111		4.34
	Naproxen	86.6	89.1	92.1		3.36
	Primidone	77.0	109	105		4.00
	Pyraclostrobin	82.8	82.7	80.7		2.50
	Sucralose	80.7	102	123		17.1
	Sucralose	89.6	55.3	47.7		14.2
	Thiamethoxam	103	157	151		3.93
	Tolfenpyrad	50.7	61.2	60.2		1.68
	Triclopyr	117	121	99.0		20.1
SM 2120 B	Color (true)	99.5			3.18	
SM 2320 B-97	Total Alkalinity	104			0.201	
SM 2540 C-97	TDS				3.65	
SM 4500 F-C-97	Fluoride	95.3	95.2	94.7		0.477
SM 5310 B-00	Organic Carbon	103	99.3	100		0.892
	Organic Carbon	94.0	96.7	93.8		2.57

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2130597, 2130600, 2130603, 2130606, 2130607
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2130636, 2130637, 2130638, 2130639
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2130636, 2130637, 2130638, 2130639
EPA 300.0 / E31780	Bromide in aqueous matrices	2130597
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2130600, 2130603, 2130606, 2130607
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2130600, 2130603, 2130606, 2130607
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2130598, 2130601, 2130604, 2130608, 2130609
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2130598, 2130601, 2130604, 2130608, 2130609
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2130598, 2130601, 2130604, 2130608, 2130609
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2130598, 2130601, 2130604, 2130608, 2130609
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2130599, 2130602, 2130605, 2130610, 2130611
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2130634, 2130635
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2130634, 2130635
SM 2120 B / E31780	True Color measured at 450 nm	2130600, 2130603, 2130606, 2130607
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2130597, 2130600, 2130603, 2130606, 2130607
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2130600, 2130603, 2130606, 2130607
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2130597, 2130600, 2130603, 2130606, 2130607
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2130597, 2130600, 2130603, 2130606, 2130607

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2130598, 2130601, 2130604, 2130608, 2130609

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	10/23/2019			10/23/2019 15:29	Blanca Fach	2130597, 2130600, 2130603, 2130606, 2130607
EPA 200.7 Rev. 4.4	10/23/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 14:09	Alexander Thompson	2130636
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 14:17	Alexander Thompson	2130636
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 14:24	Alexander Thompson	2130637
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 14:32	Alexander Thompson	2130638
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	10/25/2019 14:51	Alexander Thompson	2130639
EPA 200.8 Rev. 5.4	10/23/2019	10/23/2019 17:30	Elliott D. Healy	11/10/2019 21:08	Robert K Palmer	2130636
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	11/10/2019 21:18	Robert K Palmer	2130637
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	11/10/2019 21:28	Robert K Palmer	2130638
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	11/10/2019 22:17	Robert K Palmer	2130639
	10/23/2019	10/23/2019 17:30	Elliott D. Healy	11/11/2019 14:28	Robert K Palmer	2130639
EPA 300.0	10/23/2019			10/30/2019 06:54	Julia Storbeck	2130597
EPA 300.0 Rev. 2.1	10/23/2019			11/01/2019 10:39	Jhamieka S. Greenwood	2130600
	10/23/2019			11/01/2019 10:51	Jhamieka S. Greenwood	2130603
	10/23/2019			11/01/2019 11:03	Jhamieka S. Greenwood	2130606
	10/23/2019			11/01/2019 11:39	Jhamieka S. Greenwood	2130607
EPA 350.1 Rev. 2.0	10/23/2019			10/28/2019 13:56	Ping Hua	2130604
	10/23/2019			10/28/2019 13:58	Ping Hua	2130608
	10/23/2019			10/28/2019 14:13	Ping Hua	2130609
	10/23/2019			10/28/2019 14:41	Ping Hua	2130598
	10/23/2019			10/28/2019 14:43	Ping Hua	2130601
EPA 351.2 Rev. 2.0	10/23/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 16:47	Jhamieka S. Greenwood	2130598
	10/23/2019	10/28/2019 13:27	Sima Feizi	10/29/2019 18:02	Jhamieka S. Greenwood	2130608
	10/23/2019	10/28/2019 13:27	Sima Feizi	10/29/2019 18:12	Jhamieka S. Greenwood	2130601
	10/23/2019	10/28/2019 13:27	Sima Feizi	10/29/2019 18:14	Jhamieka S. Greenwood	2130604
	10/23/2019	10/28/2019 13:27	Sima Feizi	10/29/2019 18:15	Jhamieka S. Greenwood	2130609
EPA 353.2 Rev. 2.0	10/23/2019			10/25/2019 11:28	Beverly Y. Sanders	2130598
	10/23/2019			10/25/2019 11:34	Beverly Y. Sanders	2130601
	10/23/2019			10/25/2019 11:35	Beverly Y. Sanders	2130604
	10/23/2019			10/25/2019 11:36	Beverly Y. Sanders	2130608
	10/23/2019			10/25/2019 11:37	Beverly Y. Sanders	2130609
EPA 365.1 Rev. 2.0	10/23/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 12:13	Lipi Saha	2130598
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 12:14	Lipi Saha	2130601
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 12:15	Lipi Saha	2130604
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/29/2019 14:44	Lipi Saha	2130608
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/29/2019 14:52	Lipi Saha	2130609
EPA 365.1 Rev. 2.0 dissolved	10/23/2019			10/23/2019 14:54	Virginia P. Brown	2130611
	10/23/2019			10/23/2019 15:18	Virginia P. Brown	2130602
	10/23/2019			10/23/2019 15:20	Virginia P. Brown	2130599, 2130605

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	10/23/2019			10/23/2019 15:37	Virginia P. Brown	2130610
EPA 8321B	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 16:35	Rebecca Ware	2130634
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 18:12	Rebecca Ware	2130635
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 13:50	Rebecca Ware	2130634
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 16:59	Rebecca Ware	2130635
	10/23/2019	10/24/2019 11:00	Rebecca Ware	11/07/2019 11:03	Rebecca Ware	2130634
	10/23/2019	10/24/2019 11:00	Rebecca Ware	11/09/2019 14:55	Rebecca Ware	2130635
	10/23/2019	10/25/2019 14:00	Hoor Shaik	10/26/2019 01:06	Juyoung Kim	2130634
	10/23/2019	10/25/2019 14:00	Hoor Shaik	10/26/2019 01:41	Juyoung Kim	2130635
	10/23/2019	10/25/2019 14:00	Hoor Shaik	10/28/2019 10:35	Juyoung Kim	2130635
SM 2120 B	10/23/2019			10/23/2019 17:00	Madeline Funaro	2130600, 2130603
	10/23/2019			10/23/2019 17:01	Madeline Funaro	2130606
	10/23/2019			10/23/2019 17:02	Madeline Funaro	2130607
SM 2320 B-97	10/23/2019			10/26/2019 08:35	Dale L. Simmons	2130603
	10/23/2019			10/26/2019 08:48	Dale L. Simmons	2130606
	10/23/2019			10/26/2019 09:00	Dale L. Simmons	2130607
	10/23/2019			10/26/2019 10:57	Dale L. Simmons	2130597
	10/23/2019			10/26/2019 11:35	Dale L. Simmons	2130600
SM 2540 C-97	10/23/2019			10/25/2019 14:21	Yijie Li	2130600, 2130603, 2130606, 2130607
SM 2540 D-97	10/23/2019			10/25/2019 14:21	Yijie Li	2130597, 2130600, 2130603, 2130606, 2130607
SM 4500 F-C-97	10/23/2019			10/26/2019 08:35	Dale L. Simmons	2130603
	10/23/2019			10/26/2019 08:48	Dale L. Simmons	2130606
	10/23/2019			10/26/2019 09:00	Dale L. Simmons	2130607
	10/23/2019			10/26/2019 10:57	Dale L. Simmons	2130597
	10/23/2019			10/26/2019 11:35	Dale L. Simmons	2130600
SM 5310 B-00	10/23/2019			10/26/2019 00:48	Madeline Funaro	2130598
	10/23/2019			10/26/2019 01:01	Madeline Funaro	2130601
	10/23/2019			10/26/2019 01:15	Madeline Funaro	2130604
	10/23/2019			10/26/2019 03:33	Madeline Funaro	2130608
	10/23/2019			10/26/2019 03:46	Madeline Funaro	2130609