

Chemical Analysis Report

NE-DIST-2020-02-04-01

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

Event Description: **Nassauwannee Lakes**
Request ID: **RQ-2020-01-27-11**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 28-FEB-2020 14:39

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Lake Sampson Center

Collection Date/Time: 02/03/2020 10:05

Field ID: G1NE0936

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154097	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P378311	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P378376	
		Sulfate	14		mg SO4/L	P378377	
	SM 2120 B-2011	Color (true)	22		PCU	P378343	
	SM 2320 B-2011	Total Alkalinity	20	A	mg CaCO3/L	P378547	
	SM 2540 C-2011	TDS	95		mg/L	P379335	
	SM 2540 D-2011	TSS	5	I	mg/L	P378616	
	SM 4500 F-C-2011	Fluoride	0.063	I	mg F/L	P378550	
2154099	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P378608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P378624	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P378591	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P379170	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P378522	
2154101	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378259	
2154110	EPA 8321B	2,4-D	0.0020	U	ug/L	P378223	
		Acesulfame K**	0.10	U	ug/L	P378368	MS
		AMPA**	0.10	U	ug/L	P378368	
		Sucralose**	0.53		ug/L	P378368	MS
		Acetaminophen**	0.0080	U	ug/L	P378223	
		Acetamiprid**	0.0020	U	ug/L	P378223	
		Endothall**	0.25	U	ug/L	P378368	
		Glufosinate**	0.10	U	ug/L	P378368	MS
		Glyphosate**	0.10	U	ug/L	P378368	MS
		Afidopyropen**	0.0020	UJ	ug/L	P378223	
		Bentazon	8.0E-04	U	ug/L	P378223	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378223	
		Carbamazepine**	0.0018	I	ug/L	P378223	
		Clothianidin**	0.0020	U	ug/L	P378223	
		Dinotefuran**	0.0020	U	ug/L	P378223	
		Diuron	0.0020	U	ug/L	P378223	
		Fenuron	0.016	U	ug/L	P378223	
		Fluridone**	0.049		ug/L	P378223	
		Imazapyr**	0.0040	U	ug/L	P378223	
		Hydrocodone**	0.0020	U	ug/L	P378223	
		Ibuprofen**	0.020	U	ug/L	P378223	
		Imidacloprid	0.0020	U	ug/L	P378223	
		Linuron	0.0040	U	ug/L	P378223	
		Mandestrobin**	0.0020	UJ	ug/L	P378223	
		MCP	0.0020	U	ug/L	P378223	
		Naproxen**	0.0080	U	ug/L	P378223	
		Primidone**	0.0040	U	ug/L	P378223	
		Pyraclostrobin**	0.0020	U	ug/L	P378223	
		Thiamethoxam**	0.0020	U	ug/L	P378223	

Field ID: G1NE0936

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154110	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P378223	
		Triclopyr**	0.0040	U	ug/L	P378223	

Ref. Method and Comment:

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

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

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

Sample Location: Palestine Lake Center

Collection Date/Time: 02/03/2020 11:25

Field ID: 19010044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154091	EPA 180.1 Rev. 2.0	Turbidity	6.4	A	NTU	P378311	
	EPA 300.0 Rev. 2.1	Chloride	8.0		mg Cl/L	P378376	
		Sulfate	3.5		mg SO4/L	P378377	
	SM 2120 B-2011	Color (true)	97		PCU	P378343	
	SM 2320 B-2011	Total Alkalinity	0.72	I	mg CaCO3/L	P378547	
	SM 2540 C-2011	TDS	46		mg/L	P379335	
	SM 2540 D-2011	TSS	4	I	mg/L	P378616	
2154093	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378550	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P378607	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P378624	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P378591	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P379122	
2154095	SM 5310 B-2011	Organic Carbon	12		mg C/L	P378521	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P378259	
2154113	EPA 200.7 Rev. 4.4	Barium	8.9		ug/L	P378297	
		Calcium	1.69		mg/L	P378297	
		Iron	240		ug/L	P378297	
		Magnesium	1.24		mg/L	P378297	
		Potassium	0.43	I	mg/L	P378297	
		Sodium	4.6		mg/L	P378297	
		Zinc	5.0	U	ug/L	P378297	
	EPA 200.8 Rev. 5.4	Aluminum	171		ug/L	P378297	
		Antimony	0.12	I	ug/L	P378297	
		Arsenic	0.34		ug/L	P378297	
		Boron**	21.1		ug/L	P378297	
		Cadmium	0.020	U	ug/L	P378297	
		Chromium	0.40	U	ug/L	P378297	
		Copper	0.40	U	ug/L	P378297	
		Lead	0.54		ug/L	P378297	
		Nickel	0.50	U	ug/L	P378297	
		Selenium	0.20	U	ug/L	P378297	
		Silver	0.010	U	ug/L	P378297	
		Thallium	0.10	U	ug/L	P378297	
	SM 2340B	Hardness	9.3		mg/L	P378297	

Ref. Method and Comment:

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

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 02/18/2020.

Sample Location: Ocean Pond Center

Collection Date/Time: 02/03/2020 12:05

Field ID: 21010011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154092	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P378311	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P378376	
		Sulfate	1.8		mg SO ₄ /L	P378377	
		Color (true)	100		PCU	P378343	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO ₃ /L	P378547	
	SM 2540 C-2011	TDS	45		mg/L	P379335	
	SM 2540 D-2011	TSS	2	U	mg/L	P378616	
2154094	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378550	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P378608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P378624	
	EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	0.004	I	mg N/L	P378591	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P379170	
2154096	SM 5310 B-2011	Organic Carbon	12		mg C/L	P378521	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P378259	
2154114	EPA 200.7 Rev. 4.4	Barium	8.1		ug/L	P378297	
		Calcium	1.52		mg/L	P378297	
		Iron	530		ug/L	P378297	
		Magnesium	0.84		mg/L	P378297	
		Potassium	0.30	U	mg/L	P378297	
		Sodium	4.3		mg/L	P378297	
		Zinc	5.0	U	ug/L	P378297	
	EPA 200.8 Rev. 5.4	Aluminum	293		ug/L	P378297	
		Antimony	0.084	I	ug/L	P378297	
		Arsenic	0.48		ug/L	P378297	
		Boron**	17.6		ug/L	P378297	
		Cadmium	0.020	U	ug/L	P378297	
		Chromium	0.40	U	ug/L	P378297	
		Copper	0.40	U	ug/L	P378297	
		Lead	0.56		ug/L	P378297	
		Nickel	0.50	U	ug/L	P378297	
		Selenium	0.20	U	ug/L	P378297	
		Silver	0.010	U	ug/L	P378297	
		Thallium	0.10	U	ug/L	P378297	
		Hardness	7.3		mg/L	P378297	

Ref. Method and Comment:

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

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 02/18/2020.

Sample Location: Lake Sampson Center duplicate

Collection Date/Time: 02/03/2020 10:10

Field ID: G1NE0936_Dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154098	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P378311	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P378376	
		Sulfate	14		mg SO4/L	P378377	
	SM 2120 B-2011	Color (true)	21		PCU	P378343	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P378547	
	SM 2540 C-2011	TDS	103		mg/L	P379335	
	SM 2540 D-2011	TSS	4	I	mg/L	P378616	
	SM 4500 F-C-2011	Fluoride	0.065	I	mg F/L	P378550	
2154100	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P378608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P378624	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P378591	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P379170	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P378522	
2154102	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378259	
2154111	EPA 8321B	2,4-D	0.0020	U	ug/L	P378223	
		Acesulfame K**	0.10	U	ug/L	P378368	MS
		AMPA**	0.10	U	ug/L	P378368	
		Sucralose**	0.45		ug/L	P378368	MS
		Acetaminophen**	0.0080	U	ug/L	P378223	
		Acetamiprid**	0.0020	U	ug/L	P378223	
		Endothall**	0.25	U	ug/L	P378368	
		Glufosinate**	0.10	U	ug/L	P378368	MS
		Glyphosate**	0.10	U	ug/L	P378368	MS
		Afidopyrophen**	0.0020	UJ	ug/L	P378223	
		Bentazon	8.0E-04	U	ug/L	P378223	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378223	
		Carbamazepine**	0.0016	I	ug/L	P378223	
		Clothianidin**	0.0020	U	ug/L	P378223	
		Dinotefuran**	0.0020	U	ug/L	P378223	
		Diuron	0.0020	U	ug/L	P378223	
		Fenuron	0.016	U	ug/L	P378223	
		Fluridone**	0.045		ug/L	P378223	
		Imazapyr**	0.0040	U	ug/L	P378223	
		Hydrocodone**	0.0020	U	ug/L	P378223	
		Ibuprofen**	0.020	U	ug/L	P378223	
		Imidacloprid	0.0020	U	ug/L	P378223	
		Linuron	0.0040	U	ug/L	P378223	
		Mandestrobin**	0.0020	UJ	ug/L	P378223	
		MCP	0.0020	U	ug/L	P378223	
		Naproxen**	0.0080	U	ug/L	P378223	
		Primidone**	0.0040	U	ug/L	P378223	
		Pyraclostrobin**	0.0020	U	ug/L	P378223	
		Thiamethoxam**	0.0020	U	ug/L	P378223	

Field ID: G1NE0936_Dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154111	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P378223	
		Triclopyr**	0.0040	U	ug/L	P378223	

Ref. Method and Comment:

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

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

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

Sample Location: Lake Sampson Center - Field Blank

Collection Date/Time: 02/03/2020 10:15

Field ID: FB 02032020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154103	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P378312	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P378376	
		Sulfate	0.20	U	mg SO4/L	P378377	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P378343	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P378547	
	SM 2540 C-2011	TDS	15	U	mg/L	P379335	
	SM 2540 D-2011	TSS	2	U	mg/L	P378616	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378550	
2154104	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P378608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P378624	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P378591	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P379386	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P378521	
2154105	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378259	
2154112	EPA 8321B	2,4-D	0.0020	U	ug/L	P378223	
		Acesulfame K**	0.10	U	ug/L	P378368	MS
		AMPA**	0.10	U	ug/L	P378368	
		Sucralose**	0.010	U	ug/L	P378368	MS
		Acetaminophen**	0.0080	U	ug/L	P378223	
		Acetamiprid**	0.0020	U	ug/L	P378223	
		Endothall**	0.25	U	ug/L	P378368	
		Glufosinate**	0.10	U	ug/L	P378368	MS
		Glyphosate**	0.10	U	ug/L	P378368	MS
		Afidopyropen**	0.0020	UJ	ug/L	P378223	
		Bentazon	8.0E-04	U	ug/L	P378223	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378223	
		Carbamazepine**	8.0E-04	U	ug/L	P378223	
		Clothianidin**	0.0020	U	ug/L	P378223	
		Dinotefuran**	0.0020	U	ug/L	P378223	
		Diuron	0.0020	U	ug/L	P378223	
		Fenuron	0.016	U	ug/L	P378223	
		Fluridone**	8.0E-04	U	ug/L	P378223	
		Imazapyr**	0.0040	U	ug/L	P378223	
		Hydrocodone**	0.0020	U	ug/L	P378223	
		Ibuprofen**	0.020	U	ug/L	P378223	
		Imidacloprid	0.0020	U	ug/L	P378223	
		Linuron	0.0040	U	ug/L	P378223	
		Mandestrobin**	0.0020	UJ	ug/L	P378223	
		MCP	0.0020	U	ug/L	P378223	
		Naproxen**	0.0080	U	ug/L	P378223	
		Primidone**	0.0040	U	ug/L	P378223	
		Pyraclostrobin**	0.0020	U	ug/L	P378223	
		Thiamethoxam**	0.0020	U	ug/L	P378223	

Field ID: FB 02032020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154112	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P378223	
		Triclopyr**	0.0040	U	ug/L	P378223	
2154115	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P378297	
		Calcium	0.075	U	mg/L	P378297	
		Iron	30	U	ug/L	P378297	
		Magnesium	0.040	U	mg/L	P378297	
		Potassium	0.30	U	mg/L	P378297	
		Sodium	0.50	U	mg/L	P378297	
		Zinc	5.0	U	ug/L	P378297	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P378297	
		Antimony	0.050	U	ug/L	P378297	
		Arsenic	0.050	U	ug/L	P378297	
		Boron**	2.0	U	ug/L	P378297	
		Cadmium	0.020	U	ug/L	P378297	
		Chromium	0.40	U	ug/L	P378297	
		Copper	0.40	U	ug/L	P378297	
		Lead	0.20	U	ug/L	P378297	
		Nickel	0.50	U	ug/L	P378297	
		Selenium	0.20	U	ug/L	P378297	
		Silver	0.010	U	ug/L	P378297	
		Thallium	0.10	U	ug/L	P378297	
	SM 2340B	Hardness	0.35	U	mg/L	P378297	

Ref. Method and Comment:

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

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

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378311

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378312

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P378297

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: P378297

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378376

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378377

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: P378607

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379122

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379170

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379386

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378259

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

Reference Method: EPA 8321B
Batch ID: P378223

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P378223

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

Reference Method: EPA 8321B
Batch ID: P378368

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

Reference Method: SM 2120 B-2011
Batch ID: P378343

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P378547

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

Reference Method: SM 2540 C-2011
Batch ID: P379335

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P378616

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P378521

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

Reference Method: SM 5310 B-2011
Batch ID: P378522

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: P378297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	103		P	85 - 115
Iron	101		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	99.9		P	85 - 115
Sodium	101		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P378297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	107		P	85 - 115
Arsenic	104		P	85 - 115
Boron	96.7		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	106		P	85 - 115
Copper	101		P	85 - 115
Lead	99.3		P	85 - 115
Nickel	99.0		P	85 - 115
Selenium	102		P	85 - 115
Silver	105		P	85 - 115
Thallium	93.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378376

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378607

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

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: P379122

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379170

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379386

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378259

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

Reference Method: EPA 8321B
Batch ID: P378223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	121		P	30 - 160
Acetaminophen	85.2		P	30 - 160
Acetamiprid	83.5		P	30 - 160
Afidopyropen	86.4		P	30 - 160
Bentazon	68.5		P	30 - 160
Benzovindiflupyr	80.4		P	30 - 160
Carbamazepine	90.9		P	30 - 160
Clothianidin	83.3		P	30 - 160
Dinotefuran	87.9		P	30 - 160
Diuron	77.7		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	88.3		P	30 - 160
Hydrocodone	98.0		P	30 - 160
Ibuprofen	80.6		P	30 - 160
Imazapyr	91.5		P	30 - 160
Imidacloprid	95.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	68.7		P	30 - 160
Mandestrobin	90.8		P	30 - 160
MCP	126		P	30 - 160
Naproxen	66.8		P	30 - 160
Primidone	94.1		P	30 - 160
Pyraclostrobin	82.7		P	30 - 160
Thiamethoxam	92.6		P	30 - 160
Tolfenpyrad	49.0		P	30 - 160
Triclopyr	116		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P378368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	129		P	40 - 150
AMPA	105		P	40 - 150
Endothall	92.4		P	40 - 150
Glufosinate	124		P	40 - 150
Glyphosate	129		P	40 - 140
Sucralose	96.5		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P378343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.7		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P378547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P378521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P378297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154590	Barium	97.1	98.8	P/P	80 - 120
2154590	Calcium	96.0		P	80 - 120
2154590	Iron	97.4	99.3	P/P	80 - 120
2154590	Magnesium	97.6		P	80 - 120
2154590	Potassium	100	102	P/P	80 - 120
2154590	Sodium	96.0		P	80 - 120
2154590	Zinc	98.5	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P378297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154590	Aluminum	102	101	P/P	80 - 120
2154590	Antimony	112	110	P/P	80 - 120
2154590	Arsenic	107	107	P/P	80 - 120
2154590	Boron	98.2	94.3	P/P	80 - 120
2154590	Cadmium	111	105	P/P	80 - 120
2154590	Chromium	110	109	P/P	80 - 120
2154590	Copper	100	109	P/P	80 - 120
2154590	Lead	103	102	P/P	80 - 120
2154590	Nickel	99.5	99.1	P/P	80 - 120
2154590	Selenium	106	106	P/P	80 - 120
2154590	Silver	107	109	P/P	80 - 120
2154590	Thallium	99.4	99.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153710	Chloride	98.7		P	90 - 110
2154056	Chloride	95.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153710	Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154058	Ammonia-N	98.6	98.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154099	Ammonia-N	98.2	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P378624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154093	Kjeldahl Nitrogen	98.5	110	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P378591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154093	NO2NO3-N	99.0	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153736	Total-P	107	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154094	Total-P	108	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156672	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154155	O-Phosphate-P	95.2	91.0	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P378223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153997	2,4-D	102	104	P/P	30 - 160
2153997	Acetaminophen	85.6	94.2	P/P	30 - 160
2153997	Acetamiprid	75.6	66.5	P/P	30 - 160
2153997	Afidopyropen	87.7	84.2	P/P	30 - 160
2153997	Bentazon	32.4	33.9	P/P	30 - 160
2153997	Benzovindiflupyr	72.5	73.1	P/P	30 - 160
2153997	Carbamazepine	68.0	60.4	P/P	30 - 160
2153997	Clothianidin	69.4	73.3	P/P	30 - 160
2153997	Dinotefuran	97.1	112	P/P	30 - 160
2153997	Diuron	57.8	61.8	P/P	30 - 160
2153997	Fenuron	63.2	64.8	P/P	30 - 160
2153997	Fluridone	73.9	73.4	P/P	30 - 160
2153997	Hydrocodone	82.3	87.1	P/P	30 - 160
2153997	Ibuprofen	64.7	70.3	P/P	30 - 160
2153997	Imidacloprid	134	130	P/P	30 - 160
2153997	Linuron	60.3	63.1	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P378223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153997	Mandestrobin	80.2	80.1	P/P	30 - 160
2153997	MCCP	90.1	102	P/P	30 - 160
2153997	Naproxen	71.6	71.2	P/P	30 - 160
2153997	Primidone	78.7	80.2	P/P	30 - 160
2153997	Pyraclostrobin	79.1	84.5	P/P	30 - 160
2153997	Thiamethoxam	105	107	P/P	30 - 160
2153997	Tolfenpyrad	47.3	47.9	P/P	30 - 160
2153997	Triclopyr	88.0	98.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P378368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2153795	Acesulfame K	36.7	39.0	F/F	40 - 150
2153795	AMPA	95.7	95.4	P/P	40 - 150
2153795	Endothall	118	126	P/P	40 - 150
2153795	Glufosinate	139	156	P/F	40 - 150
2153795	Glyphosate	185	200	F/F	40 - 140
2153795	Sucralose	33.3	34.0	F/F	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2152630	Fluoride	94.8	95.9	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P378521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154059	Organic Carbon	103	104	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378522

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154483	Organic Carbon	97.6	99.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154091	Turbidity	4.04	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154179	Turbidity	8.30	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P378297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154590	Barium	1.69	Spike	P	0 - 20
2154590	Calcium	1.14	Spike	P	0 - 20
2154590	Iron	1.83	Spike	P	0 - 20
2154590	Magnesium	2.30	Spike	P	0 - 20
2154590	Potassium	1.50	Spike	P	0 - 20
2154590	Sodium	1.44	Spike	P	0 - 20
2154590	Zinc	1.54	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P378297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154590	Aluminum	0.404	Spike	P	0 - 20
2154590	Antimony	1.40	Spike	P	0 - 20
2154590	Arsenic	0.213	Spike	P	0 - 20
2154590	Boron	3.49	Spike	P	0 - 20
2154590	Cadmium	4.95	Spike	P	0 - 20
2154590	Chromium	0.805	Spike	P	0 - 20
2154590	Copper	8.19	Spike	P	0 - 20
2154590	Lead	0.916	Spike	P	0 - 20
2154590	Nickel	0.351	Spike	P	0 - 20
2154590	Selenium	0.545	Spike	P	0 - 20
2154590	Silver	1.28	Spike	P	0 - 20
2154590	Thallium	0.196	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154056	Chloride	0.00253	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154058	Ammonia-N	0.215	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154099	Ammonia-N	2.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154093	Kjeldahl Nitrogen	7.29	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P378591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154093	NO2NO3-N	0.460	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153736	Total-P	1.84	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154094	Total-P	2.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156672	Total-P	0.162	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154155	O-Phosphate-P	3.87	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P378223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153997	2,4-D	1.98	Spike	P	0 - 30
2153997	Acetaminophen	9.58	Spike	P	0 - 30
2153997	Acetamiprid	12.8	Spike	P	0 - 30
2153997	Afidopyropen	4.01	Spike	P	0 - 30
2153997	Bentazon	4.42	Spike	P	0 - 30
2153997	Benzovindiflupyr	0.721	Spike	P	0 - 30
2153997	Carbamazepine	11.9	Spike	P	0 - 30
2153997	Clothianidin	5.42	Spike	P	0 - 30
2153997	Dinotefuran	14.0	Spike	P	0 - 30
2153997	Diuron	6.60	Spike	P	0 - 30
2153997	Fenuron	2.60	Spike	P	0 - 30
2153997	Fluridone	0.627	Spike	P	0 - 30
2153997	Hydrocodone	5.71	Spike	P	0 - 30
2153997	Ibuprofen	8.33	Spike	P	0 - 30
2153997	Imazapyr	9.08	Spike	P	0 - 30
2153997	Imidacloprid	3.33	Spike	P	0 - 30
2153997	Linuron	4.49	Spike	P	0 - 30
2153997	Mandestrobin	0.0228	Spike	P	0 - 30
2153997	MCPP	12.3	Spike	P	0 - 30
2153997	Naproxen	0.539	Spike	P	0 - 30
2153997	Primidone	1.90	Spike	P	0 - 30
2153997	Pyraclostrobin	6.61	Spike	P	0 - 30
2153997	Thiamethoxam	2.03	Spike	P	0 - 30
2153997	Tolfenpyrad	1.12	Spike	P	0 - 30
2153997	Triclopyr	11.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P378368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2153795	Acesulfame K	6.10	Spike	P	0 - 30
2153795	AMPA	0.234	Spike	P	0 - 30
2153795	Endothall	6.34	Spike	P	0 - 30
2153795	Glufosinate	11.1	Spike	P	0 - 30
2153795	Glyphosate	6.59	Spike	P	0 - 30
2153795	Sucralose	2.22	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P378343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154147	Color (true)	6.63	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P378547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154097	Total Alkalinity	0.437	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P379335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154056	TDS	0.919	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P378550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2152630	Fluoride	0.470	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P378521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154059	Organic Carbon	0.668	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P378522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154483	Organic Carbon	1.27	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2154110
Field Sample ID: G1NE0936

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	131	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.0	P	30 - 160
EPA 8321B	Diuron-d6	79.0	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	130	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	130	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.9	P	30 - 160
EPA 8321B	Primidone-d5	83.5	P	30 - 160
EPA 8321B	Sucralose-d6	39.2	P	30 - 160
EPA 8321B	Sucralose-d6	39.2	P	30 - 160

Lab Sample ID: 2154111
Field Sample ID: G1NE0936_Dup

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	123	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.2	P	30 - 160
EPA 8321B	Diuron-d6	78.8	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.8	P	30 - 160
EPA 8321B	Primidone-d5	86.8	P	30 - 160
EPA 8321B	Sucralose-d6	46.7	P	30 - 160
EPA 8321B	Sucralose-d6	46.7	P	30 - 160

Lab Sample ID: 2154112
Field Sample ID: FB 02032020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	108	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	106	P	30 - 160
EPA 8321B	Endothall-d6	93.9	P	30 - 160
EPA 8321B	Endothall-d6	93.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.1	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	97.6	P	30 - 160
EPA 8321B	Sucralose-d6	97.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97311

Included Lab Sample IDs: 2154095, 2154096, 2154101, 2154102, 2154105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.3	P/P	90 - 110
O-Phosphate-P	99.6	98.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97327

Included Lab Sample IDs: 2154091, 2154092, 2154097, 2154098, 2154103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	99.2	P/P	90 - 110
Chloride	99.2	99.4	P/P	90 - 110
Sulfate	98.9	99.2	P/P	90 - 110
Sulfate	99.2	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97328

Included Lab Sample IDs: 2154091, 2154092, 2154097, 2154098, 2154103

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

Reference Method: SM 2120 B-2011

Run ID: A97335

Included Lab Sample IDs: 2154091, 2154092, 2154097, 2154098, 2154103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.6	103	P/P	90 - 115

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A97360

Included Lab Sample IDs: 2154113, 2154114, 2154115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	101	P/P	90 - 110
Barium	99.3	100	P/P	95 - 105
Calcium	101	99.2	P/P	95 - 105
Calcium	99.2	98.5	P/P	90 - 110
Iron	102	99.5	P/P	95 - 105
Iron	99.5	98.3	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Magnesium	102	100	P/P	95 - 105
Potassium	98.5	98.8	P/P	90 - 110
Potassium	100	98.5	P/P	95 - 105
Sodium	97.7	97.8	P/P	90 - 110
Sodium	99.6	97.7	P/P	95 - 105
Zinc	98.6	101	P/P	90 - 110
Zinc	98.9	98.6	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A97392

Included Lab Sample IDs: 2154093, 2154094, 2154099, 2154100, 2154104

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

Reference Method: SM 2320 B-2011

Run ID: A97403

Included Lab Sample IDs: 2154091, 2154092, 2154097, 2154098, 2154103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97403

Included Lab Sample IDs: 2154091, 2154092, 2154097, 2154098, 2154103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97411

Included Lab Sample IDs: 2154093, 2154094, 2154099, 2154100, 2154104

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

Reference Method: EPA 8321B

Run ID: A97412

Included Lab Sample IDs: 2154110, 2154111, 2154112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.1	108	P/P	50 - 150
Acetaminophen	97.3	100	P/P	60 - 160
Acetamiprid	99.8	108	P/P	50 - 150
Afidopyropen	96.7	94.6	P/P	50 - 150
Bentazon	91.5	97.1	P/P	50 - 160
Benzovindiflupyr	96.2	100	P/P	50 - 150
Carbamazepine	93.8	92.1	P/P	60 - 150
Clothianidin	93.7	93.7	P/P	60 - 150
Dinotefuran	91.7	103	P/P	50 - 150
Diuron	83.6	115	P/P	60 - 150
Fenuron	102	103	P/P	60 - 150
Fluridone	103	105	P/P	60 - 160
Hydrocodone	97.2	99.5	P/P	60 - 150
Ibuprofen	91.4	83.8	P/P	50 - 160
Imazapyr	98.5	94.8	P/P	50 - 150
Imidacloprid	98.1	97.1	P/P	60 - 150
Linuron	83.0	96.2	P/P	60 - 150
Mandestrobin	105	105	P/P	50 - 150
MCPP	88.6	89.0	P/P	50 - 150
Naproxen	81.1	98.5	P/P	50 - 160
Primidone	100	92.1	P/P	60 - 150
Pyraclostrobin	111	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97412

Included Lab Sample IDs: 2154110, 2154111, 2154112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thiamethoxam	95.0	101	P/P	50 - 150
Tolfenpyrad	91.8	92.8	P/P	60 - 150
Triclopyr	84.6	97.4	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97416

Included Lab Sample IDs: 2154093, 2154094, 2154099, 2154100, 2154104

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 8321B

Run ID: A97473

Included Lab Sample IDs: 2154110, 2154111, 2154112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	107	84.3	P/P	60 - 160
Acesulfame K	84.3	130	P/P	60 - 160
Endothall	95.3	97.4	P/P	60 - 160
Endothall	97.4	95.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97477

Included Lab Sample IDs: 2154110, 2154111, 2154112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	121	99.1	P/P	60 - 160
AMPA	90.5	121	P/P	60 - 160
Glufosinate	109	132	P/P	60 - 160
Glufosinate	132	125	P/P	60 - 160
Glyphosate	129	137	P/P	60 - 160
Glyphosate	138	129	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97484

Included Lab Sample IDs: 2154093, 2154094, 2154099, 2154100, 2154104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.7	95.0	P/P	90 - 110
Kjeldahl Nitrogen	95.0	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97560

Included Lab Sample IDs: 2154113, 2154114, 2154115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	98.5	P/P	90 - 110
Aluminum	103	101	P/P	90 - 110
Antimony	105	107	P/P	90 - 110
Antimony	107	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97560

Included Lab Sample IDs: 2154113, 2154114, 2154115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	103	P/P	90 - 110
Arsenic	104	103	P/P	90 - 110
Boron	103	98.9	P/P	90 - 110
Boron	98.9	97.4	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	103	102	P/P	90 - 110
Chromium	104	103	P/P	90 - 110
Copper	97.2	96.0	P/P	90 - 110
Copper	98.0	97.2	P/P	90 - 110
Lead	97.9	99.7	P/P	90 - 110
Lead	99.7	99.0	P/P	90 - 110
Nickel	97.1	95.9	P/P	90 - 110
Nickel	98.4	97.1	P/P	90 - 110
Selenium	104	105	P/P	90 - 110
Selenium	105	102	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	95.4	97.6	P/P	90 - 110
Thallium	97.6	96.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97686

Included Lab Sample IDs: 2154093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97752

Included Lab Sample IDs: 2154094, 2154099, 2154100

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

Reference Method: EPA 8321B

Run ID: A97796

Included Lab Sample IDs: 2154110, 2154111, 2154112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	92.6	97.9	P/P	60 - 160
Sucralose	97.9	93.2	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97846

Included Lab Sample IDs: 2154104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.5	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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					4.04	
	Turbidity					8.30	
EPA 200.7 Rev. 4.4	Barium	101	97.1	98.8			1.69
	Calcium	103	96.0				1.14
	Iron	101	97.4	99.3			1.83
	Magnesium	103	97.6				2.30
	Potassium	99.9	100	102			1.50
	Sodium	101	96.0				1.44
	Zinc	100	98.5	100			1.54
EPA 200.8 Rev. 5.4	Aluminum	101	102	101			0.404
	Antimony	107	112	110			1.40
	Arsenic	104	107	107			0.213
	Boron	96.7	98.2	94.3			3.49
	Cadmium	104	111	105			4.95
	Chromium	106	110	109			0.805
	Copper	101	100	109			8.19
	Lead	99.3	103	102			0.916
	Nickel	99.0	99.5	99.1			0.351
	Selenium	102	106	106			0.545
	Silver	105	107	109			1.28
	Thallium	93.4	99.4	99.2			0.196
EPA 300.0 Rev. 2.1	Chloride	98.9	95.4	98.7		0.0025	
	Sulfate	99.5	98.7				
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.6	98.3			0.215
	Ammonia-N	101	98.2	101			2.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.6	98.5	110			7.29
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0	99.4			0.460
EPA 365.1 Rev. 2.0	Total-P	106	107	109			1.84
	Total-P	105	108	106			2.40
	Total-P	105	105	105			0.162
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	95.2	91.0			3.87
EPA 8321B	2,4-D	121	102	104			1.98
	Acesulfame K	129	36.7	39.0			6.10
	Acetaminophen	85.2	85.6	94.2			9.58
	Acetamiprid	83.5	75.6	66.5			12.8
	Afidopyropen	86.4	87.7	84.2			4.01
	AMPA	105	95.7	95.4			0.234
	Bentazon	68.5	32.4	33.9			4.42
	Benzovindiflupyr	80.4	72.5	73.1			0.721
	Carbamazepine	90.9	68.0	60.4			11.9
	Clothianidin	83.3	69.4	73.3			5.42
	Dinotefuran	87.9	97.1	112			14.0
	Diuron	77.7	57.8	61.8			6.60
	Endothall	92.4	118	126			6.34
	Fenuron	101	63.2	64.8			2.60
	Fluridone	88.3	73.9	73.4			0.627
	Glufosinate	124	139	156			11.1
	Glyphosate	129	185	200			6.59
	Hydrocodone	98.0	82.3	87.1			5.71
	Ibuprofen	80.6	64.7	70.3			8.33
	Imazapyr	91.5					9.08
	Imidacloprid	95.6	134	130			3.33
	Linuron	68.7	60.3	63.1			4.49
	Mandestrobin	90.8	80.2	80.1			0.0228

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCPP	126	90.1	102		12.3
	Naproxen	66.8	71.6	71.2		0.539
	Primidone	94.1	78.7	80.2		1.90
	Pyraclostrobin	82.7	79.1	84.5		6.61
	Sucralose	96.5	33.3	34.0		2.22
	Thiamethoxam	92.6	105	107		2.03
	Tolfenpyrad	49.0	47.3	47.9		1.12
	Triclopyr	116	88.0	98.9		11.6
SM 2120 B-2011	Color (true)	98.7			6.63	
SM 2320 B-2011	Total Alkalinity	102			0.437	
SM 2540 C-2011	TDS				0.919	
SM 4500 F-C-2011	Fluoride	97.6	94.8	95.9		0.470
SM 5310 B-2011	Organic Carbon	102	103	104		0.668
	Organic Carbon	96.8	97.6	99.8		1.27

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2154091, 2154092, 2154097, 2154098, 2154103
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2154113, 2154114, 2154115
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2154113, 2154114, 2154115
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2154091, 2154092, 2154097, 2154098, 2154103
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2154091, 2154092, 2154097, 2154098, 2154103
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2154093, 2154094, 2154099, 2154100, 2154104
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2154093, 2154094, 2154099, 2154100, 2154104
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2154093, 2154094, 2154099, 2154100, 2154104
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2154093, 2154094, 2154099, 2154100, 2154104
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2154095, 2154096, 2154101, 2154102, 2154105
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2154110, 2154111, 2154112
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2154110, 2154111, 2154112
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2154091, 2154092, 2154097, 2154098, 2154103
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2154091, 2154092, 2154097, 2154098, 2154103
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2154113, 2154114, 2154115
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2154091, 2154092, 2154097, 2154098, 2154103
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2154091, 2154092, 2154097, 2154098, 2154103
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2154091, 2154092, 2154097, 2154098, 2154103
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2154093, 2154094, 2154099, 2154100, 2154104

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	02/04/2020			02/04/2020 17:21	Yen Ta	2154091, 2154092, 2154097, 2154098, 2154103
EPA 200.7 Rev. 4.4	02/04/2020	02/05/2020 14:40	Elliott D. Healy	02/06/2020 12:48	Betina Topolski	2154115
	02/04/2020	02/05/2020 14:40	Elliott D. Healy	02/06/2020 13:56	Betina Topolski	2154113
	02/04/2020	02/05/2020 14:40	Elliott D. Healy	02/06/2020 14:04	Betina Topolski	2154114
EPA 200.8 Rev. 5.4	02/04/2020	02/05/2020 14:40	Elliott D. Healy	02/15/2020 04:30	Justin Cutchin	2154115
	02/04/2020	02/05/2020 14:40	Elliott D. Healy	02/15/2020 05:46	Justin Cutchin	2154113
	02/04/2020	02/05/2020 14:40	Elliott D. Healy	02/15/2020 06:14	Justin Cutchin	2154114
EPA 300.0 Rev. 2.1	02/04/2020			02/05/2020 15:09	Elliott Rodriguez	2154091
	02/04/2020			02/05/2020 15:21	Elliott Rodriguez	2154092
	02/04/2020			02/05/2020 15:33	Elliott Rodriguez	2154097
	02/04/2020			02/05/2020 15:45	Elliott Rodriguez	2154098
	02/04/2020			02/05/2020 16:21	Elliott Rodriguez	2154103
EPA 350.1 Rev. 2.0	02/04/2020			02/10/2020 12:53	Ping Hua	2154093
	02/04/2020			02/10/2020 13:09	Ping Hua	2154099
	02/04/2020			02/10/2020 13:14	Ping Hua	2154100
	02/04/2020			02/10/2020 13:15	Ping Hua	2154094
	02/04/2020			02/10/2020 13:18	Ping Hua	2154104
EPA 351.2 Rev. 2.0	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 14:46	Jhamieka S. Greenwood	2154093
	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 14:53	Jhamieka S. Greenwood	2154094
	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 14:55	Jhamieka S. Greenwood	2154099
	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 14:56	Jhamieka S. Greenwood	2154100
	02/04/2020	02/10/2020 11:25	Jhamieka S. Greenwood	02/11/2020 15:01	Jhamieka S. Greenwood	2154104
EPA 353.2 Rev. 2.0	02/04/2020			02/10/2020 11:28	Beverly Y. Sanders	2154093
	02/04/2020			02/10/2020 11:29	Beverly Y. Sanders	2154094
	02/04/2020			02/10/2020 11:30	Beverly Y. Sanders	2154099
	02/04/2020			02/10/2020 11:32	Beverly Y. Sanders	2154100
	02/04/2020			02/10/2020 11:33	Beverly Y. Sanders	2154104
EPA 365.1 Rev. 2.0	02/04/2020	02/18/2020 13:46	Yen Ta	02/20/2020 13:59	Benjamin T. Nordmann	2154093
	02/04/2020	02/19/2020 14:04	Yen Ta	02/21/2020 15:36	Benjamin T. Nordmann	2154094
	02/04/2020	02/19/2020 14:04	Yen Ta	02/21/2020 15:37	Benjamin T. Nordmann	2154099
	02/04/2020	02/19/2020 14:04	Yen Ta	02/21/2020 15:38	Benjamin T. Nordmann	2154100
	02/04/2020	02/21/2020 14:16	Yen Ta	02/26/2020 15:15	Benjamin T. Nordmann	2154104
EPA 365.1 Rev. 2.0 dissolved	02/04/2020			02/04/2020 16:47	Carlos Miranda	2154105
	02/04/2020			02/04/2020 16:51	Carlos Miranda	2154101
	02/04/2020			02/04/2020 16:56	Carlos Miranda	2154102
	02/04/2020			02/04/2020 17:00	Carlos Miranda	2154095
	02/04/2020			02/04/2020 17:01	Carlos Miranda	2154096
EPA 8321B	02/04/2020	02/05/2020 12:10	Hoor Shaik	02/08/2020 00:03	Juyoung Kim	2154110
	02/04/2020	02/05/2020 12:10	Hoor Shaik	02/08/2020 00:37	Juyoung Kim	2154111

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/04/2020	02/05/2020 12:10	Hoor Shaik	02/08/2020 01:12	Juyoung Kim	2154112
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 14:47	Rebecca Ware	2154110
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 15:22	Rebecca Ware	2154111
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 15:33	Rebecca Ware	2154112
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 20:42	Rebecca Ware	2154111
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/07/2020 20:56	Rebecca Ware	2154112
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/08/2020 14:23	Rebecca Ware	2154110
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/21/2020 19:05	Rebecca Ware	2154110
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/21/2020 19:33	Rebecca Ware	2154111
	02/04/2020	02/06/2020 11:00	Rebecca Ware	02/21/2020 19:47	Rebecca Ware	2154112
SM 2120 B-2011	02/04/2020			02/04/2020 17:27	Madeline Funaro	2154091
	02/04/2020			02/04/2020 17:28	Madeline Funaro	2154092, 2154097
	02/04/2020			02/04/2020 17:29	Madeline Funaro	2154098
SM 2320 B-2011	02/04/2020			02/04/2020 17:30	Madeline Funaro	2154103
	02/04/2020			02/07/2020 00:19	Dale L. Simmons	2154097
	02/04/2020			02/07/2020 00:30	Dale L. Simmons	2154091
	02/04/2020			02/07/2020 00:40	Dale L. Simmons	2154092
	02/04/2020			02/07/2020 00:52	Dale L. Simmons	2154098
SM 2340B	02/04/2020			02/07/2020 01:06	Dale L. Simmons	2154103
	02/04/2020			02/06/2020 12:48	Betina Topolski	2154115
	02/04/2020			02/06/2020 13:56	Betina Topolski	2154113
SM 2540 C-2011	02/04/2020			02/06/2020 14:04	Betina Topolski	2154114
	02/04/2020			02/06/2020 15:50	Sima Feizi	2154091, 2154092, 2154097, 2154098, 2154103
SM 2540 D-2011	02/04/2020			02/06/2020 15:50	Sima Feizi	2154091, 2154092, 2154097, 2154098, 2154103
SM 4500 F-C-2011	02/04/2020			02/07/2020 00:10	Dale L. Simmons	2154097
	02/04/2020			02/07/2020 00:30	Dale L. Simmons	2154091
	02/04/2020			02/07/2020 00:40	Dale L. Simmons	2154092
	02/04/2020			02/07/2020 00:52	Dale L. Simmons	2154098
	02/04/2020			02/07/2020 01:06	Dale L. Simmons	2154103
SM 5310 B-2011	02/04/2020			02/06/2020 23:36	Madeline Funaro	2154093
	02/04/2020			02/06/2020 23:49	Madeline Funaro	2154094
	02/04/2020			02/07/2020 00:01	Madeline Funaro	2154104
	02/04/2020			02/07/2020 01:57	Madeline Funaro	2154099
	02/04/2020			02/07/2020 02:10	Madeline Funaro	2154100