

Chemical Analysis Report

NE-DIST-2019-08-15-03

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

Event Description: **Nassau North**
Request ID: **RQ-2019-08-12-16**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 12-SEP-2019 09:04

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a white rectangular background.

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Egans Creek at N. 14th

Collection Date/Time: 08/14/2019 13:15

Field ID: G4NE0290

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112042	EPA 180.1 Rev. 2.0	Turbidity	12	A	NTU	P369127	
	EPA 300.0	Bromide	71		mg Br/L	P369435	
	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P369681	
	SM 2540 D-97	TSS	22		mg/L	P369484	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P369682	
2112043	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P369693	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P369508	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P369577	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P369310	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P369287	
2112044	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P369132	
2112056	EPA 8321B	2,4-D	0.0020	U	ug/L	P369089	
		Acesulfame K**	0.10	U	ug/L	P369116	
		AMPA**	0.10	UJ	ug/L	P369116	SUR
		Sucralose**	0.010	U	ug/L	P369116	
		Acetaminophen**	0.0080	U	ug/L	P369089	
		Endothall**	0.25	U	ug/L	P369116	
		Acetamiprid**	0.0020	U	ug/L	P369089	
		Glufosinate**	0.10	UJ	ug/L	P369116	SUR
		Glyphosate**	0.10	UJ	ug/L	P369116	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P369089	
		Bentazon	0.0036		ug/L	P369089	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369089	RPD
		Carbamazepine**	8.0E-04	U	ug/L	P369089	
		Clothianidin**	0.0020	U	ug/L	P369089	
		Dinotefuran**	0.0020	U	ug/L	P369089	
		Diuron	0.0020	U	ug/L	P369089	
		Fenuron	0.016	U	ug/L	P369089	
		Fluridone**	8.0E-04	U	ug/L	P369089	
		Imazapyr**	0.024		ug/L	P369089	
		Hydrocodone**	0.0020	U	ug/L	P369089	
		Ibuprofen**	0.020	U	ug/L	P369089	
		Imidacloprid	0.0020	U	ug/L	P369089	
		Linuron	0.0040	U	ug/L	P369089	
		Mandestrobin**	0.0020	UJ	ug/L	P369089	
		MCP	0.0020	U	ug/L	P369089	
		Naproxen**	0.0080	U	ug/L	P369089	RPD
		Primidone**	0.0040	U	ug/L	P369089	
		Pyraclostrobin**	0.0020	U	ug/L	P369089	RPD
		Thiamethoxam**	0.0020	U	ug/L	P369089	
		Tolfenpyrad**	0.0020	UJ	ug/L	P369089	LCS, MS
		Triclopyr**	0.0040	U	ug/L	P369089	

Field ID: G4NE0290

Matrix: W-SURF-SLT

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. MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample. Matrix spike precision for tolfenpyad is not available due to low analyte recoveries. Refer to the narrative for an explanation of QC Codes.
EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate.

Sample Location: Lofton CR @ A1A

Collection Date/Time: 08/14/2019 12:40

Field ID: 19020003

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112036	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P369130	
	EPA 300.0 Rev. 2.1	Chloride	610		mg Cl/L	P369533	
		Sulfate	79		mg SO4/L	P369536	
	SM 2120 B	Color (true)	160		PCU	P369150	
	SM 2320 B-97	Total Alkalinity	39		mg CaCO3/L	P369587	
	SM 2540 C-97	TDS	1.27E+03		mg/L	P369424	
	SM 2540 D-97	TSS	4	I	mg/L	P369270	
	SM 4500 F-C-97	Fluoride	0.092	I	mg F/L	P369590	
2112038	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P369695	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P369428	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P369416	
	EPA 365.1 Rev. 2.0	Total-P	0.077		mg P/L	P369311	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P369285	
2112040	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.037		mg P/L	P369133	

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: Mills Creek at US 301/US1

Collection Date/Time: 08/14/2019 11:20

Field ID: 19020048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112030	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P369130	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P369533	
		Sulfate	1.7		mg SO4/L	P369536	
		Color (true)	470		PCU	P369149	
	SM 2320 B-97	Total Alkalinity	6.2		mg CaCO3/L	P369587	
	SM 2540 C-97	TDS	97		mg/L	P369424	
	SM 2540 D-97	TSS	4	I	mg/L	P369270	
	SM 4500 F-C-97	Fluoride	0.041	I	mg F/L	P369590	
2112032	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P369694	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P369428	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P369416	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P369311	
	SM 5310 B-00	Organic Carbon	38		mg C/L	P369285	
2112034	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P369133	
2112057	EPA 200.7 Rev. 4.4	Barium	25.5		ug/L	P369358	
		Calcium	5.97		mg/L	P369358	
		Iron	2.52E+03		ug/L	P369358	
		Magnesium	1.81		mg/L	P369358	
		Potassium	1.3		mg/L	P369358	
		Sodium	8.4		mg/L	P369358	
		Zinc	5.0	U	ug/L	P369358	
	EPA 200.8 Rev. 5.4	Aluminum	548		ug/L	P369358	
		Antimony	0.050	U	ug/L	P369358	
		Arsenic	0.94		ug/L	P369358	
		Boron**	25.0		ug/L	P369358	
		Cadmium	0.020	U	ug/L	P369358	
		Chromium	0.77	I	ug/L	P369358	
		Copper	0.40	U	ug/L	P369358	
		Lead	0.79		ug/L	P369358	
		Nickel	0.78	I	ug/L	P369358	
		Selenium	0.20	U	ug/L	P369358	
		Silver	0.010	U	ug/L	P369358	
		Thallium	0.10	U	ug/L	P369358	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 09/11/2019.

Sample Location: Unnamed Branch above Alligator CR.

Collection Date/Time: 08/14/2019 09:20

Field ID: G4NE0288

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112031	EPA 180.1 Rev. 2.0	Turbidity	5.4	A	NTU	P369130	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P369533	
		Sulfate	27		mg SO4/L	P369536	
		Color (true)	370		PCU	P369152	
	SM 2320 B-97	Total Alkalinity	31		mg CaCO3/L	P369587	
	SM 2540 C-97	TDS	164	A	mg/L	P369424	
	SM 2540 D-97	TSS	4	IA	mg/L	P369270	
	SM 4500 F-C-97	Fluoride	0.088	I	mg F/L	P369590	
2112033	EPA 350.1 Rev. 2.0	Ammonia-N	0.074		mg N/L	P369694	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P369428	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P369416	
	EPA 365.1 Rev. 2.0	Total-P	0.30		mg P/L	P369311	
	SM 5310 B-00	Organic Carbon	36		mg C/L	P369285	
2112035	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.21		mg P/L	P369133	
2112058	EPA 200.7 Rev. 4.4	Barium	33.4		ug/L	P369358	
		Calcium	19.3		mg/L	P369358	
		Iron	1.29E+03		ug/L	P369358	
		Magnesium	6.00		mg/L	P369358	
		Potassium	4.7		mg/L	P369358	
		Sodium	10.5		mg/L	P369358	
		Zinc	11	I	ug/L	P369358	
	EPA 200.8 Rev. 5.4	Aluminum	442		ug/L	P369358	
		Antimony	0.11	I	ug/L	P369358	
		Arsenic	1.56		ug/L	P369358	
		Boron**	39.8		ug/L	P369358	
		Cadmium	0.020	U	ug/L	P369358	
		Chromium	0.96	I	ug/L	P369358	
		Copper	2.08		ug/L	P369358	
		Lead	0.51		ug/L	P369358	
		Nickel	1.2	I	ug/L	P369358	
		Selenium	0.28	I	ug/L	P369358	
		Silver	0.010	U	ug/L	P369358	
		Thallium	0.10	U	ug/L	P369358	

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: Creek draining former Hampton Lake 100m above Rd.

Collection Date/Time: 08/14/2019 10:30

Field ID: G4NE0292

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112037	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P369130	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P369533	
		Sulfate	4.1		mg SO4/L	P369536	
	SM 2120 B	Color (true)	190		PCU	P369152	
	SM 2320 B-97	Total Alkalinity	5.9		mg CaCO3/L	P369587	
	SM 2540 C-97	TDS	68		mg/L	P369424	
	SM 2540 D-97	TSS	2	U	mg/L	P369270	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P369590	
2112039	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P369695	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P369428	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P369416	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P369311	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P369382	
2112041	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P369133	

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: P369127

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369130

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369358

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: P369358

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: P369435

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369533

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369536

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369694

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369695

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369428

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369416

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369310

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369311

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369132

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369133

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

Reference Method: EPA 8321B
Batch ID: P369089

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
MCP	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: P369116

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: P369116

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

Reference Method: SM 2120 B
Batch ID: P369149

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P369150

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P369152

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P369587

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

Reference Method: SM 2320 B-97
Batch ID: P369681

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

Reference Method: SM 2540 C-97
Batch ID: P369424

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369270

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369484

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P369590

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P369682

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369285

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

Reference Method: SM 5310 B-00
Batch ID: P369287

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

Reference Method: SM 5310 B-00
Batch ID: P369382

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: P369358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	110		P	85 - 115
Iron	106		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	108		P	85 - 115
Sodium	113		P	85 - 115
Zinc	98.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	97.3		P	85 - 115
Arsenic	102		P	85 - 115
Boron	103		P	85 - 115
Cadmium	99.3		P	85 - 115
Chromium	96.5		P	85 - 115
Copper	98.5		P	85 - 115
Lead	96.6		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	103		P	85 - 115
Silver	98.6		P	85 - 115
Thallium	99.1		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P369435

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369536

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

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: P369694

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369310

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: P369311

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: P369132

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369133

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

Reference Method: EPA 8321B
 Batch ID: P369089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	75.3		P	40 - 160
Acetaminophen	68.2		P	30 - 160
Acetamiprid	76.8		P	40 - 160
Afidopyropen	58.1		P	40 - 160
Bentazon	90.0		P	30 - 160
Benzovindiflupyr	80.4		P	40 - 160
Carbamazepine	80.0		P	40 - 160
Clothianidin	77.5		P	40 - 160
Dinotefuran	78.6		P	40 - 160
Diuron	84.1		P	40 - 160
Fenuron	87.2		P	40 - 160
Fluridone	80.9		P	40 - 160
Hydrocodone	86.3		P	40 - 160
Ibuprofen	65.9		P	30 - 160
Imazapyr	91.3		P	40 - 160
Imidacloprid	82.8		P	40 - 160
Linuron	69.4		P	40 - 160
Mandestrobin	75.8		P	40 - 160
MCPP	70.2		P	40 - 160
Naproxen	66.0		P	40 - 160
Primidone	79.3		P	40 - 160
Pyraclostrobin	56.0		P	30 - 160
Thiamethoxam	85.5		P	40 - 160
Tolfenpyrad	32.2		F	40 - 160
Triclopyr	46.6		P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P369116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.7		P	40 - 150
AMPA	88.1		P	40 - 150
Endothall	98.1		P	40 - 150
Glufosinate	106		P	40 - 150
Glyphosate	106		P	40 - 140
Sucralose	82.9		P	40 - 150

Reference Method: SM 2120 B
 Batch ID: P369149

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P369150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P369152

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P369587

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369590

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

Reference Method: SM 4500 F-C-97
Batch ID: P369682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P369287

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P369382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111951	Barium	101		P	80 - 120
2111951	Calcium	109		P	80 - 120
2111951	Iron	106		P	80 - 120
2111951	Magnesium	111		P	80 - 120
2111951	Potassium	108		P	80 - 120
2111951	Sodium	103		P	80 - 120
2111951	Zinc	97.4		P	80 - 120
2112383	Barium	101	102	P/P	80 - 120
2112383	Calcium	109	109	P/P	80 - 120
2112383	Iron	105	105	P/P	80 - 120
2112383	Magnesium	110	110	P/P	80 - 120
2112383	Potassium	112	111	P/P	80 - 120
2112383	Sodium	102	102	P/P	80 - 120
2112383	Zinc	99.5	98.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111951	Aluminum	103		P	80 - 120
2111951	Antimony	98.1		P	80 - 120
2111951	Arsenic	102		P	80 - 120
2111951	Boron	102		P	80 - 120
2111951	Cadmium	99.0		P	80 - 120
2111951	Chromium	99.0		P	80 - 120
2111951	Copper	99.4		P	80 - 120
2111951	Lead	99.1		P	80 - 120
2111951	Nickel	96.5		P	80 - 120
2111951	Selenium	100		P	80 - 120
2111951	Silver	99.2		P	80 - 120
2111951	Thallium	101		P	80 - 120
2112383	Aluminum	101	102	P/P	80 - 120
2112383	Antimony	96.4	97.6	P/P	80 - 120
2112383	Arsenic	101	101	P/P	80 - 120
2112383	Boron	102	104	P/P	80 - 120
2112383	Cadmium	98.0	99.1	P/P	80 - 120
2112383	Chromium	98.4	99.9	P/P	80 - 120
2112383	Copper	98.8	98.9	P/P	80 - 120
2112383	Lead	97.9	98.7	P/P	80 - 120
2112383	Nickel	98.4	99.3	P/P	80 - 120
2112383	Selenium	99.0	100	P/P	80 - 120
2112383	Silver	97.6	99.2	P/P	80 - 120
2112383	Thallium	99.4	102	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P369435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111696	Bromide	96.9	100	P/P	90 - 110
2112206	Bromide	97.9		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111865	Chloride	95.6		P	90 - 110
2111936	Chloride	96.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111865	Sulfate	99.2		P	90 - 110
2111936	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112043	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111948	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112159	Ammonia-N	106	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112158	Kjeldahl Nitrogen	99.9	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112967	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112017	NO2NO3-N	90.5	92.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112043	NO2NO3-N	99.8	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111993	Total-P	105	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112018	Total-P	105	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111924	O-Phosphate-P	97.6	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112041	O-Phosphate-P	94.3	96.4	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P369089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111008	2,4-D	160	140	P/P	40 - 160
2111008	Acetaminophen	79.6	74.0	P/P	30 - 160
2111008	Acetamiprid	96.9	85.2	P/P	40 - 160
2111008	Afidopyropen	79.2	68.1	P/P	40 - 160
2111008	Bentazon	63.4	50.6	P/P	30 - 160
2111008	Benzovindiflupyr	46.4	90.4	P/P	40 - 160
2111008	Carbamazepine	93.6	76.7	P/P	40 - 160
2111008	Clothianidin	96.2	74.9	P/P	40 - 160
2111008	Dinotefuran	104	94.2	P/P	40 - 160
2111008	Diuron	91.6	81.2	P/P	40 - 160
2111008	Fenuron	89.0	82.8	P/P	40 - 160
2111008	Fluridone	75.5	76.1	P/P	40 - 160
2111008	Hydrocodone	101	97.9	P/P	40 - 160
2111008	Ibuprofen	82.8	83.5	P/P	30 - 160
2111008	Imazapyr	103	83.9	P/P	40 - 160
2111008	Linuron	71.3	64.7	P/P	40 - 160
2111008	Mandestrobin	80.7	76.4	P/P	40 - 160
2111008	MCP	160	152	P/P	40 - 160
2111008	Naproxen	110	74.4	P/P	40 - 160
2111008	Primidone	105	86.6	P/P	40 - 160
2111008	Pyraclostrobin	32.7	72.5	P/P	30 - 160
2111008	Thiamethoxam	140	133	P/P	40 - 160
2111008	Tolfenpyrad	0.0	54.8	F/P	40 - 160
2111008	Triclopyr	119	114	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P369116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2110859	Acesulfame K	85.1	93.2	P/P	40 - 150
2110859	AMPA	90.6	85.8	P/P	40 - 150
2110859	Endothall	58.5	59.3	P/P	40 - 150
2110859	Glufosinate	103	98.0	P/P	40 - 150
2110859	Glyphosate	114	103	P/P	40 - 140
2110859	Sucralose	52.4	55.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P369590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112156	Fluoride	94.9	96.5	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369682

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113383	Fluoride	98.0	99.3	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P369285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112038	Organic Carbon	103		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P369287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112043	Organic Carbon	93.5	94.5	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P369382

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112158	Organic Carbon	92.1	92.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112042	Turbidity	2.49	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112031	Turbidity	6.15	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112383	Barium	0.0122	Spike	P	0 - 20
2112383	Calcium	0.0511	Spike	P	0 - 20
2112383	Iron	0.172	Spike	P	0 - 20
2112383	Magnesium	0.0475	Spike	P	0 - 20
2112383	Potassium	0.298	Spike	P	0 - 20
2112383	Sodium	0.0534	Spike	P	0 - 20
2112383	Zinc	1.54	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112383	Aluminum	0.921	Spike	P	0 - 20
2112383	Antimony	1.25	Spike	P	0 - 20
2112383	Arsenic	0.231	Spike	P	0 - 20
2112383	Boron	1.94	Spike	P	0 - 20
2112383	Cadmium	1.07	Spike	P	0 - 20
2112383	Chromium	1.51	Spike	P	0 - 20
2112383	Copper	0.0758	Spike	P	0 - 20
2112383	Lead	0.773	Spike	P	0 - 20
2112383	Nickel	0.921	Spike	P	0 - 20
2112383	Selenium	1.01	Spike	P	0 - 20
2112383	Silver	1.66	Spike	P	0 - 20
2112383	Thallium	2.81	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P369435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111696	Bromide	3.33	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111865	Chloride	0.933	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111865	Sulfate	0.712	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112043	Ammonia-N	0.685	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111948	Ammonia-N	0.628	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112159	Ammonia-N	1.28	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112158	Kjeldahl Nitrogen	1.61	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112967	Kjeldahl Nitrogen	0.0641	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112017	NO2NO3-N	1.64	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P369577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112043	NO2NO3-N	1.90	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111993	Total-P	7.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112018	Total-P	3.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111924	O-Phosphate-P	0.613	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112041	O-Phosphate-P	2.06	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P369089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111008	2,4-D	10.3	Spike	P	0 - 30
2111008	Acetaminophen	7.26	Spike	P	0 - 30
2111008	Acetamiprid	12.4	Spike	P	0 - 30
2111008	Afidopyropen	15.0	Spike	P	0 - 30
2111008	Bentazon	9.63	Spike	P	0 - 30
2111008	Benzovindiflupyr	64.4	Spike	F	0 - 30
2111008	Carbamazepine	13.1	Spike	P	0 - 30
2111008	Clothianidin	19.3	Spike	P	0 - 30
2111008	Dinotefuran	9.46	Spike	P	0 - 30
2111008	Diuron	11.5	Spike	P	0 - 30
2111008	Fenuron	7.24	Spike	P	0 - 30
2111008	Fluridone	0.503	Spike	P	0 - 30
2111008	Hydrocodone	2.95	Spike	P	0 - 30
2111008	Ibuprofen	0.847	Spike	P	0 - 30
2111008	Imazapyr	10.9	Spike	P	0 - 30
2111008	Imidacloprid	8.13	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P369089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111008	Linuron	9.59	Spike	P	0 - 30
2111008	Mandestrobin	5.46	Spike	P	0 - 30
2111008	MCP	4.55	Spike	P	0 - 30
2111008	Naproxen	38.9	Spike	F	0 - 30
2111008	Primidone	16.5	Spike	P	0 - 30
2111008	Pyraclostrobin	75.7	Spike	F	0 - 30
2111008	Thiamethoxam	3.76	Spike	P	0 - 30
2111008	Triclopyr	4.21	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110859	Acesulfame K	9.11	Spike	P	0 - 30
2110859	AMPA	2.48	Spike	P	0 - 30
2110859	Endothall	1.28	Spike	P	0 - 30
2110859	Glufosinate	5.12	Spike	P	0 - 30
2110859	Glyphosate	2.93	Spike	P	0 - 30
2110859	Sucralose	5.99	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P369149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111760	Color (true)	7.69	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P369150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111759	Color (true)	0.331	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P369152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111762	Color (true)	4.48	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P369587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112156	Total Alkalinity	0.0854	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P369681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113383	Total Alkalinity	0.472	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P369424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112031	TDS	7.32	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P369590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112156	Fluoride	1.47	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P369682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113383	Fluoride	0.967	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P369285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112038	Organic Carbon	0.0744	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P369287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112043	Organic Carbon	0.868	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P369382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112158	Organic Carbon	0.143	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2112056
Field Sample ID: G4NE0290

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	136	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.7	P	30 - 160
EPA 8321B	Diuron-d6	89.5	P	30 - 160
EPA 8321B	Endothall-d6	150	P	30 - 160
EPA 8321B	Endothall-d6	150	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	83.1	P	30 - 160
EPA 8321B	Primidone-d5	91.3	P	30 - 160
EPA 8321B	Sucralose-d6	81.2	P	30 - 160
EPA 8321B	Sucralose-d6	81.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93540

Included Lab Sample IDs: 2112030, 2112031, 2112036, 2112037, 2112042

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93541

Included Lab Sample IDs: 2112034, 2112035, 2112040, 2112041, 2112044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.3	P/P	90 - 110
O-Phosphate-P	99.2	98.5	P/P	90 - 110
O-Phosphate-P	99.3	99.3	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A93551

Included Lab Sample IDs: 2112030, 2112031, 2112036, 2112037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A93592

Included Lab Sample IDs: 2112056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	97.8	P/P	50 - 150
Acetaminophen	86.4	83.0	P/P	60 - 160
Acetamiprid	106	106	P/P	50 - 150
Afidopyropen	89.6	84.5	P/P	50 - 150
Bentazon	105	103	P/P	50 - 160
Benzovindiflupyr	108	108	P/P	50 - 150
Carbamazepine	96.6	93.5	P/P	60 - 150
Clothianidin	92.7	101	P/P	60 - 150
Dinotefuran	86.9	81.0	P/P	50 - 150
Diuron	101	100	P/P	60 - 150
Fenuron	71.8	70.6	P/P	60 - 150
Fluridone	98.3	96.6	P/P	60 - 160
Hydrocodone	99.5	96.3	P/P	60 - 150
Ibuprofen	94.4	90.5	P/P	50 - 160
Imazapyr	117	108	P/P	50 - 150
Imidacloprid	85.5	85.5	P/P	60 - 150
Linuron	86.0	85.3	P/P	60 - 150
Mandestrobin	99.2	96.8	P/P	50 - 150
MCPP	87.5	93.8	P/P	50 - 150
Naproxen	123	116	P/P	50 - 160
Primidone	89.3	82.4	P/P	60 - 150
Pyraclostrobin	93.8	94.5	P/P	60 - 150
Thiamethoxam	93.7	94.9	P/P	50 - 150
Tolfenpyrad	97.0	94.7	P/P	60 - 150
Triclopyr	91.1	85.9	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A93618

Included Lab Sample IDs: 2112056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	82.5	133	P/P	60 - 160
Endothall	106	106	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A93620

Included Lab Sample IDs: 2112032, 2112033, 2112038, 2112043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	102	P/P	90 - 110
Organic Carbon	102	99.3	P/P	90 - 110
Organic Carbon	99.3	95.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93621

Included Lab Sample IDs: 2112056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	84.9	80.8	P/P	60 - 160
Glufosinate	99.8	105	P/P	60 - 160
Glyphosate	120	108	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A93659

Included Lab Sample IDs: 2112039

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93674

Included Lab Sample IDs: 2112033, 2112038

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93679

Included Lab Sample IDs: 2112032, 2112039, 2112043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.2	P/P	90 - 110
Total-P	98.2	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93684

Included Lab Sample IDs: 2112032, 2112033, 2112038, 2112039

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A93690

Included Lab Sample IDs: 2112042

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93697

Included Lab Sample IDs: 2112057, 2112058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	100	101	P/P	90 - 110
Sodium	103	104	P/P	90 - 110
Zinc	98.5	97.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93717

Included Lab Sample IDs: 2112030, 2112031, 2112036, 2112037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.5	98.4	P/P	90 - 110
Sulfate	102	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93722

Included Lab Sample IDs: 2112032, 2112033, 2112038, 2112039

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93747

Included Lab Sample IDs: 2112043

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

Reference Method: SM 2320 B-97

Run ID: A93749

Included Lab Sample IDs: 2112030, 2112031, 2112036, 2112037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A93749

Included Lab Sample IDs: 2112030, 2112031, 2112036, 2112037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93750

Included Lab Sample IDs: 2112043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	108	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93793

Included Lab Sample IDs: 2112042

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

Reference Method: SM 4500 F-C-97

Run ID: A93793

Included Lab Sample IDs: 2112042

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93798

Included Lab Sample IDs: 2112032, 2112033, 2112038, 2112039, 2112043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	106	P/P	90 - 110
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	105	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93859

Included Lab Sample IDs: 2112056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	95.5	76.0	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93990

Included Lab Sample IDs: 2112057, 2112058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	99.7	P/P	90 - 110
Antimony	94.3	94.8	P/P	90 - 110
Arsenic	99.9	99.1	P/P	90 - 110
Boron	102	96.3	P/P	90 - 110
Cadmium	97.6	97.3	P/P	90 - 110
Chromium	97.5	97.6	P/P	90 - 110
Copper	99.3	99.4	P/P	90 - 110
Lead	98.0	97.8	P/P	90 - 110
Selenium	98.7	98.7	P/P	90 - 110
Thallium	95.9	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94047

Included Lab Sample IDs: 2112057, 2112058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	97.3	96.9	P/P	90 - 110
Silver	99.2	99.7	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.49	
	Turbidity					6.15	
EPA 200.7 Rev. 4.4	Barium	102	101	101	102		0.0122
	Calcium	110	109	109	109		0.0511
	Iron	106	106	105	105		0.172
	Magnesium	112	111	110	110		0.0475
	Potassium	108	108	112	111		0.298
	Sodium	113	103	102	102		0.0534
	Zinc	98.4	97.4	99.5	98.0		1.54
EPA 200.8 Rev. 5.4	Aluminum	103	103	101	102		0.921
	Antimony	97.3	98.1	96.4	97.6		1.25
	Arsenic	102	102	101	101		0.231
	Boron	103	102	102	104		1.94
	Cadmium	99.3	99.0	98.0	99.1		1.07
	Chromium	96.5	99.0	98.4	99.9		1.51
	Copper	98.5	99.4	98.8	98.9		0.0758
	Lead	96.6	99.1	97.9	98.7		0.773
	Nickel	97.9	96.5	98.4	99.3		0.921
	Selenium	103	100	99.0	100		1.01
	Silver	98.6	99.2	97.6	99.2		1.66
	Thallium	99.1	101	99.4	102		2.81
EPA 300.0	Bromide	100	96.9	100	97.9		3.33
EPA 300.0 Rev. 2.1	Chloride	96.7	95.6	96.0		0.933	
	Sulfate	100	99.2	100		0.712	
EPA 350.1 Rev. 2.0	Ammonia-N	100	103	104			0.685
	Ammonia-N	102	102	103			0.628
	Ammonia-N	94.5	106	108			1.28
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.2	99.9	102			1.61
	Kjeldahl Nitrogen	103	102	102			0.0641
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	90.5	92.0			1.64
	NO2NO3-N	102	99.8	102			1.90
EPA 365.1 Rev. 2.0	Total-P	106	105	97.4			7.25
	Total-P	105	105	109			3.38
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.6	98.2			0.613
	O-Phosphate-P	97.8	94.3	96.4			2.06
EPA 8321B	2,4-D	75.3	160	140			10.3
	Acesulfame K	98.7	85.1	93.2			9.11
	Acetaminophen	68.2	79.6	74.0			7.26
	Acetamiprid	76.8	96.9	85.2			12.4
	Afidopyropen	58.1	79.2	68.1			15.0
	AMPA	88.1	90.6	85.8			2.48
	Bentazon	90.0	63.4	50.6			9.63
	Benzovindiflupyr	80.4	46.4	90.4			64.4
	Carbamazepine	80.0	93.6	76.7			13.1
	Clothianidin	77.5	96.2	74.9			19.3
	Dinotefuran	78.6	104	94.2			9.46
	Diuron	84.1	91.6	81.2			11.5
	Endothall	98.1	58.5	59.3			1.28
	Fenuron	87.2	89.0	82.8			7.24
	Fluridone	80.9	75.5	76.1			0.503
	Glufosinate	106	103	98.0			5.12
	Glyphosate	106	114	103			2.93
	Hydrocodone	86.3	101	97.9			2.95
	Ibuprofen	65.9	82.8	83.5			0.847

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imazapyr	91.3	103	83.9		10.9
	Imidacloprid	82.8				8.13
	Linuron	69.4	71.3	64.7		9.59
	Mandestrobin	75.8	80.7	76.4		5.46
	MCPP	70.2	160	152		4.55
	Naproxen	66.0	110	74.4		38.9
	Primidone	79.3	105	86.6		16.5
	Pyraclostrobin	56.0	32.7	72.5		75.7
	Sucralose	82.9	52.4	55.9		5.99
	Thiamethoxam	85.5	140	133		3.76
	Tolfenpyrad	32.2	0.0	54.8		
	Triclopyr	46.6	119	114		4.21
SM 2120 B	Color (true)	98.7			7.69	
	Color (true)	100			0.331	
	Color (true)	101			4.48	
SM 2320 B-97	Total Alkalinity	103			0.0854	
	Total Alkalinity	105			0.472	
SM 2540 C-97	TDS				7.32	
SM 4500 F-C-97	Fluoride	95.3	94.9	96.5		1.47
	Fluoride	98.7	98.0	99.3		0.967
SM 5310 B-00	Organic Carbon	101	103			0.0744
	Organic Carbon	98.0	93.5	94.5		0.868
	Organic Carbon	94.4	92.1	92.0		0.143

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2112030, 2112031, 2112036, 2112037, 2112042
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2112057, 2112058
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2112057, 2112058
EPA 300.0 / E31780	Bromide in aqueous matrices	2112042
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2112030, 2112031, 2112036, 2112037
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2112030, 2112031, 2112036, 2112037
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2112032, 2112033, 2112038, 2112039, 2112043
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2112032, 2112033, 2112038, 2112039, 2112043
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2112032, 2112033, 2112038, 2112039, 2112043
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2112032, 2112033, 2112038, 2112039, 2112043
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2112034, 2112035, 2112040, 2112041, 2112044
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2112056
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2112056
SM 2120 B / E31780	True Color measured at 450 nm	2112030, 2112031, 2112036, 2112037
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2112030, 2112031, 2112036, 2112037, 2112042
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2112030, 2112031, 2112036, 2112037

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2112030, 2112031, 2112036, 2112037, 2112042
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2112030, 2112031, 2112036, 2112037, 2112042
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2112032, 2112033, 2112038, 2112039, 2112043

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	08/15/2019			08/15/2019 16:59	Rosalyn Ballman	2112030, 2112031, 2112036, 2112037, 2112042
EPA 200.7 Rev. 4.4	08/15/2019	08/20/2019 16:10	Elliott D. Healy	08/21/2019 16:17	Alexander Thompson	2112057
	08/15/2019	08/20/2019 16:10	Elliott D. Healy	08/21/2019 16:23	Alexander Thompson	2112058
EPA 200.8 Rev. 5.4	08/15/2019	08/20/2019 16:10	Elliott D. Healy	09/04/2019 21:45	Robert K Palmer	2112057
	08/15/2019	08/20/2019 16:10	Elliott D. Healy	09/04/2019 21:54	Robert K Palmer	2112058
	08/15/2019	08/20/2019 16:10	Elliott D. Healy	09/07/2019 00:39	Robert K Palmer	2112057
	08/15/2019	08/20/2019 16:10	Elliott D. Healy	09/07/2019 00:45	Robert K Palmer	2112058
EPA 300.0	08/15/2019			08/20/2019 20:31	Jhamieka S. Greenwood	2112042
EPA 300.0 Rev. 2.1	08/15/2019			08/22/2019 00:45	Julia Storbeck	2112030
	08/15/2019			08/22/2019 00:58	Julia Storbeck	2112031
	08/15/2019			08/22/2019 01:10	Julia Storbeck	2112036
	08/15/2019			08/22/2019 01:22	Julia Storbeck	2112037
EPA 350.1 Rev. 2.0	08/15/2019			08/26/2019 12:04	Ping Hua	2112043
	08/15/2019			08/26/2019 12:57	Ping Hua	2112032
	08/15/2019			08/26/2019 12:59	Ping Hua	2112033
	08/15/2019			08/26/2019 13:15	Ping Hua	2112038
	08/15/2019			08/26/2019 13:18	Ping Hua	2112039
EPA 351.2 Rev. 2.0	08/15/2019	08/21/2019 13:20	Jhamieka S. Greenwood	08/22/2019 12:20	Joseph Suarez	2112032
	08/15/2019	08/21/2019 13:20	Jhamieka S. Greenwood	08/22/2019 12:22	Joseph Suarez	2112033
	08/15/2019	08/21/2019 13:20	Jhamieka S. Greenwood	08/22/2019 12:24	Joseph Suarez	2112038
	08/15/2019	08/21/2019 13:20	Jhamieka S. Greenwood	08/22/2019 12:28	Joseph Suarez	2112039
	08/15/2019	08/22/2019 11:15	Sima Feizi	08/23/2019 10:51	Joseph Suarez	2112043
EPA 353.2 Rev. 2.0	08/15/2019			08/21/2019 10:24	Beverly Y. Sanders	2112032
	08/15/2019			08/21/2019 10:26	Beverly Y. Sanders	2112033
	08/15/2019			08/21/2019 10:27	Beverly Y. Sanders	2112038
	08/15/2019			08/21/2019 10:28	Beverly Y. Sanders	2112039
	08/15/2019			08/23/2019 10:35	Beverly Y. Sanders	2112043
EPA 365.1 Rev. 2.0	08/15/2019	08/20/2019 12:45	Lipi Saha	08/21/2019 11:13	Lipi Saha	2112033
	08/15/2019	08/20/2019 12:45	Lipi Saha	08/21/2019 11:14	Lipi Saha	2112038
	08/15/2019	08/20/2019 12:45	Lipi Saha	08/21/2019 12:34	Lipi Saha	2112043
	08/15/2019	08/20/2019 12:45	Lipi Saha	08/21/2019 12:46	Lipi Saha	2112032
	08/15/2019	08/20/2019 12:45	Lipi Saha	08/21/2019 12:47	Lipi Saha	2112039
EPA 365.1 Rev. 2.0 dissolved	08/15/2019			08/15/2019 14:28	Jhamieka S. Greenwood	2112041
	08/15/2019			08/15/2019 14:43	Jhamieka S. Greenwood	2112044
	08/15/2019			08/15/2019 14:55	Jhamieka S. Greenwood	2112035
	08/15/2019			08/15/2019 14:56	Jhamieka S. Greenwood	2112034
	08/15/2019			08/15/2019 14:57	Jhamieka S. Greenwood	2112040
EPA 8321B	08/15/2019	08/15/2019 14:45	Rebecca Ware	08/16/2019 17:56	Rebecca Ware	2112056
	08/15/2019	08/15/2019 14:45	Rebecca Ware	08/19/2019 11:53	Rebecca Ware	2112056

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/15/2019	08/15/2019 14:45	Rebecca Ware	08/28/2019 09:51	Rebecca Ware	2112056
	08/15/2019	08/16/2019 09:30	Fe-Val Siddell	08/18/2019 11:57	Juyoung Kim	2112056
SM 2120 B	08/15/2019			08/15/2019 16:38	Madeline Funaro	2112030
	08/15/2019			08/15/2019 16:39	Madeline Funaro	2112036
	08/15/2019			08/15/2019 16:51	Madeline Funaro	2112031
	08/15/2019			08/15/2019 16:52	Madeline Funaro	2112037
SM 2320 B-97	08/15/2019			08/23/2019 02:38	Dale L. Simmons	2112030
	08/15/2019			08/23/2019 02:51	Dale L. Simmons	2112031
	08/15/2019			08/23/2019 03:02	Dale L. Simmons	2112037
	08/15/2019			08/23/2019 03:50	Dale L. Simmons	2112036
	08/15/2019			08/27/2019 00:05	Dale L. Simmons	2112042
SM 2540 C-97	08/15/2019			08/16/2019 17:15	Rosalyn Ballman	2112030, 2112031, 2112036, 2112037
SM 2540 D-97	08/15/2019			08/16/2019 17:15	Rosalyn Ballman	2112030, 2112031, 2112036, 2112037
	08/15/2019			08/19/2019 15:20	Yijie Li	2112042
SM 4500 F-C-97	08/15/2019			08/23/2019 02:38	Dale L. Simmons	2112030
	08/15/2019			08/23/2019 02:51	Dale L. Simmons	2112031
	08/15/2019			08/23/2019 03:02	Dale L. Simmons	2112037
	08/15/2019			08/23/2019 03:50	Dale L. Simmons	2112036
	08/15/2019			08/26/2019 21:58	Dale L. Simmons	2112042
SM 5310 B-00	08/15/2019			08/19/2019 20:05	Madeline Funaro	2112038
	08/15/2019			08/20/2019 01:14	Madeline Funaro	2112032
	08/15/2019			08/20/2019 01:51	Madeline Funaro	2112033
	08/15/2019			08/20/2019 03:29	Madeline Funaro	2112043
	08/15/2019			08/20/2019 05:28	Madeline Funaro	2112039