

Chemical Analysis Report

TLH-ROC-2019-05-15-01

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

Event Description: **Run 3**
Request ID: **RQ-2019-02-18-32**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-JUN-2019 14:02

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: GULF OF MEXICO (ECONFINA RIVER)

Collection Date/Time: 05/15/2019 12:45

Field ID: G1TLHR0043

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086556	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P364091	
	EPA 300.0	Bromide	36		mg Br/L	P364209	
	SM 2320 B-97	Total Alkalinity	127	A	mg CaCO3/L	P364423	
	SM 2540 D-97	TSS	6	I	mg/L	P364712	
	SM 4500 F-C-97	Fluoride	0.76		mg F/L	P365087	
2086557	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P364280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P364466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P364367	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P364384	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P364199	
2086558	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P364005	

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: AUCILLA RIVER @ MOUTH

Collection Date/Time: 05/15/2019 14:00

Field ID: G1TLHR0091

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086544	EPA 180.1 Rev. 2.0	Turbidity	1.5	A	NTU	P364091	
	EPA 300.0	Bromide	38		mg Br/L	P364209	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P364423	
	SM 2540 D-97	TSS	4	IA	mg/L	P364712	
	SM 4500 F-C-97	Fluoride	0.80		mg F/L	P365087	
2086545	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P364280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25	I	mg N/L	P364466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P364367	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P364384	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P364199	
2086546	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P364005	
2086574	EPA 200.7 Rev. 4.4	Barium	12	I	ug/L	P364409	
		Calcium	265		mg/L	P364409	
		Iron	90	U	ug/L	P364409	
		Magnesium	787		mg/L	P364409	
		Manganese	9.1	I	ug/L	P364409	
		Potassium	232		mg/L	P364409	
		Sodium	6.54E+03		mg/L	P364409	
		Zinc	15	U	ug/L	P364409	
		Aluminum	76	I	ug/L	P364409	
		Antimony	0.20	U	ug/L	P364409	
	EPA 200.8 Rev. 5.4	Arsenic	1.28		ug/L	P364409	
		Cadmium	0.080	U	ug/L	P364409	
		Chromium	4.0	U	ug/L	P364409	
		Copper	1.6	U	ug/L	P364409	
		Lead	2.0	U	ug/L	P364409	
		Nickel	2.0	U	ug/L	P364409	
		Selenium	0.80	U	ug/L	P364409	
		Silver	0.040	U	ug/L	P364409	
		Thallium	1.0	U	ug/L	P364409	
		2,4-D	0.0020	U	ug/L	P364056	
2086581	EPA 8321B	Acesulfame K**	0.10	UJ	ug/L	P364012	SUR
		AMPA**	1.0	U	ug/L	P364012	
		Sucralose**	0.015	I	ug/L	P364012	
		Acetaminophen**	0.0080	U	ug/L	P364056	
		Endothall**	0.25	UJ	ug/L	P364012	SUR
		Glufosinate**	1.0	U	ug/L	P364012	
		Glyphosate**	1.0	U	ug/L	P364012	
		Bentazon	8.0E-04	U	ug/L	P364056	
		Carbamazepine**	8.0E-04	U	ug/L	P364056	
		Diuron	0.0020	U	ug/L	P364056	
		Fenuron	0.016	U	ug/L	P364056	
		Fluridone**	8.0E-04	U	ug/L	P364056	

Field ID: G1TLHR0091

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086581	EPA 8321B	Imazapyr**	0.0040	U	ug/L	P364056	MS
		Hydrocodone**	0.0020	U	ug/L	P364056	
		Ibuprofen**	0.020	U	ug/L	P364056	
		Imidacloprid	0.0020	U	ug/L	P364056	
		Linuron	0.0040	U	ug/L	P364056	
		MCP	0.0020	U	ug/L	P364056	MS
		Naproxen**	0.0080	U	ug/L	P364056	
		Primidone**	0.0040	U	ug/L	P364056	
		Pyraclostrobin**	0.0020	U	ug/L	P364056	
		Triclopyr**	0.0040	U	ug/L	P364056	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference.

Sample Location: SWEETWATER BRANCH @ CODY CHURCH RD Collection Date/Time: 05/15/2019 09:50

Field ID: G1TLHR0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086547	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P364091	
	EPA 300.0 Rev. 2.1	Chloride	4.8		mg Cl/L	P364200	
		Sulfate	0.35	I	mg SO4/L	P364202	
	SM 2120 B	Color (true)	140		PCU	P364096	
	SM 2320 B-97	Total Alkalinity	9.2		mg CaCO3/L	P364310	
	SM 2540 C-97	TDS	44		mg/L	P364722	
	SM 2540 D-97	TSS	2	I	mg/L	P364708	
	SM 4500 F-C-97	Fluoride	0.060	I	mg F/L	P364314	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P364285	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P364558	
2086549	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P364300	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P364469	
	SM 5310 B-00	Organic Carbon	8.9		mg C/L	P364197	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P364007	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P364056	
2086572		Acesulfame K**	0.10	U	ug/L	P364012	
		AMPA**	0.10	U	ug/L	P364012	
		Sucralose**	0.028	I	ug/L	P364012	
		Acetaminophen**	0.0080	U	ug/L	P364056	
		Endothall**	0.25	U	ug/L	P364012	
		Glufosinate**	0.10	U	ug/L	P364012	
		Bentazon	8.0E-04	U	ug/L	P364056	
		Glyphosate**	0.10	U	ug/L	P364012	
		Carbamazepine**	8.0E-04	U	ug/L	P364056	
		Diuron	0.0020	U	ug/L	P364056	
		Fenuron	0.024	I	ug/L	P364056	
		Fluridone**	8.0E-04	U	ug/L	P364056	
		Imazapyr**	0.0040	U	ug/L	P364056	MS
		Hydrocodone**	0.0020	U	ug/L	P364056	
		Ibuprofen**	0.020	U	ug/L	P364056	
		Imidacloprid	0.0020	U	ug/L	P364056	
		Linuron	0.0040	U	ug/L	P364056	
		MCP	0.0020	U	ug/L	P364056	MS
		Naproxen**	0.0080	U	ug/L	P364056	
		Primidone**	0.0040	U	ug/L	P364056	
		Pyraclostrobin**	0.0020	U	ug/L	P364056	
		Triclopyr**	0.0040	U	ug/L	P364056	

Ref. Method and Comment:

SM 2120 B: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: MOORE BRANCH @ CODY CHURCH RD

Collection Date/Time: 05/15/2019 10:20

Field ID: G1TLHR0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086548	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P364091	
	EPA 300.0 Rev. 2.1	Chloride	5.3		mg Cl/L	P364200	
		Sulfate	0.53	I	mg SO4/L	P364202	
	SM 2120 B	Color (true)	140		PCU	P364096	
	SM 2320 B-97	Total Alkalinity	1.1	I	mg CaCO3/L	P364310	
	SM 2540 C-97	TDS	29		mg/L	P364722	
	SM 2540 D-97	TSS	6	I	mg/L	P364708	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P364314	
2086550	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P364323	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P364559	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P364300	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P364471	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P364197	
2086552	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.062		mg P/L	P364007	
2086573	EPA 8321B	2,4-D	0.0020	U	ug/L	P364056	
		Acesulfame K**	0.10	U	ug/L	P364012	
		AMPA**	0.10	U	ug/L	P364012	
		Sucralose**	0.031	I	ug/L	P364012	
		Acetaminophen**	0.0080	U	ug/L	P364056	
		Endothall**	0.25	U	ug/L	P364012	
		Glufosinate**	0.10	U	ug/L	P364012	
		Bentazon	8.0E-04	U	ug/L	P364056	
		Glyphosate**	0.10	U	ug/L	P364012	
		Carbamazepine**	8.0E-04	U	ug/L	P364056	
		Diuron	0.0020	U	ug/L	P364056	
		Fenuron	0.016	U	ug/L	P364056	
		Fluridone**	8.0E-04	U	ug/L	P364056	
		Imazapyr**	0.0040	U	ug/L	P364056	MS
		Hydrocodone**	0.0020	U	ug/L	P364056	
		Ibuprofen**	0.020	U	ug/L	P364056	
		Imidacloprid	0.0020	U	ug/L	P364056	
		Linuron	0.0040	U	ug/L	P364056	
		MCPP	0.0020	U	ug/L	P364056	MS
		Naproxen**	0.0080	U	ug/L	P364056	
		Primidone**	0.0040	U	ug/L	P364056	
		Pyraclostrobin**	0.0020	U	ug/L	P364056	
		Triclopyr**	0.0040	U	ug/L	P364056	

Ref. Method and Comment:

SM 2120 B: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: SPRING CREEK @ US98

Collection Date/Time: 05/15/2019 11:30

Field ID: G1TLHR0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086553	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P364091	
	EPA 300.0	Bromide	0.025	I	mg Br/L	P364209	
	SM 2320 B-97	Total Alkalinity	199		mg CaCO3/L	P364310	
	SM 2540 D-97	TSS	2	I	mg/L	P364711	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P364314	
2086554	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P364323	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P364559	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.051		mg N/L	P364300	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P364471	
	SM 5310 B-00	Organic Carbon	5.2		mg C/L	P364197	
2086555	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.089		mg P/L	P364007	

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: P364091

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364409

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
Manganese	1.0	U	ug/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: P364409

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	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: P364209

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

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: P364280

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364323

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364558

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364559

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364300

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

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: P364469

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P364471

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P364005

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P364007

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

Reference Method: EPA 8321B
 Batch ID: P364012

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

Reference Method: EPA 8321B
 Batch ID: P364056

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P364096

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P364310

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

Reference Method: SM 2320 B-97
Batch ID: P364423

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

Reference Method: SM 2540 C-97
Batch ID: P364722

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P364708

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P364711

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P364712

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P365087

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P364197

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

Reference Method: SM 5310 B-00
Batch ID: P364199

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: P364409

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	102		P	85 - 115
Iron	103		P	85 - 115
Magnesium	102		P	85 - 115
Manganese	99.8		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	99.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364409

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.0		P	85 - 115
Arsenic	101		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.4		P	85 - 115
Copper	100		P	85 - 115
Lead	94.2		P	85 - 115
Nickel	100		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P364209

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	95.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

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 350.1 Rev. 2.0
Batch ID: P364285

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364323

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364559

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: P364300

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: P364367

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: P364384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364469

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364471

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364005

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364007

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

Reference Method: EPA 8321B
Batch ID: P364012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.4		P	40 - 150
AMPA	124		P	40 - 150
Endothall	84.0		P	40 - 150
Glufosinate	107		P	40 - 150
Glyphosate	98.8		P	40 - 140
Sucralose	103		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P364056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.7		P	40 - 150
Acetaminophen	85.1		P	30 - 150
Bentazon	112		P	30 - 150
Carbamazepine	97.1		P	40 - 150
Diuron	94.0		P	40 - 150
Fenuron	118		P	40 - 150
Fluridone	99.7		P	40 - 150
Hydrocodone	105		P	40 - 150
Ibuprofen	82.9		P	40 - 150
Imazapyr	103		P	40 - 150
Imidacloprid	102		P	40 - 150
Linuron	73.1		P	40 - 150
MCPP	117		P	40 - 150
Naproxen	97.7		P	40 - 150
Primidone	92.4		P	40 - 150
Pyraclostrobin	82.8		P	40 - 150
Triclopyr	68.8		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P364096

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.1		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P364310

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

Reference Method: SM 2320 B-97
Batch ID: P364423

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

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P365087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P364197

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.3		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P364199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086574	Barium	95.8	95.3	P/P	70 - 130
2086574	Iron	102	102	P/P	70 - 130
2086574	Manganese	95.5	94.7	P/P	70 - 130
2086574	Zinc	99.4	98.5	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086574	Aluminum	115	117	P/P	70 - 130
2086574	Antimony	101	101	P/P	70 - 130
2086574	Arsenic	106	106	P/P	70 - 130
2086574	Cadmium	90.2	94.0	P/P	70 - 130
2086574	Chromium	90.0	90.9	P/P	80 - 120
2086574	Copper	93.7	93.7	P/P	70 - 130
2086574	Lead	98.5	98.9	P/P	70 - 130
2086574	Nickel	88.4	88.1	P/P	70 - 130
2086574	Selenium	101	102	P/P	70 - 130
2086574	Silver	88.9	90.1	P/P	70 - 130
2086574	Thallium	108	108	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P364209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086553	Bromide	93.7	93.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086311	Chloride	100		P	90 - 110
2086635	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086311	Sulfate	99.1		P	90 - 110
2086635	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085740	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086297	Ammonia-N	103	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086554	Ammonia-N	99.8	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086127	Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086549	Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086600	Kjeldahl Nitrogen	93.3	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086550	NO2NO3-N	97.8	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086131	NO2NO3-N	100	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086129	Total-P	97.0	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086549	Total-P	93.2	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086554	Total-P	99.6	96.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086424	O-Phosphate-P	94.9	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086336	O-Phosphate-P	93.5	96.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P364012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086322	Acesulfame K	90.9	106	P/P	40 - 150
2086322	AMPA	81.4	77.4	P/P	40 - 150
2086322	Endothall	76.3	75.9	P/P	40 - 150
2086322	Glufosinate	93.8	94.0	P/P	40 - 150
2086322	Glyphosate	84.5	90.2	P/P	40 - 140
2086322	Sucralose	96.8	95.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P364056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2087044	2,4-D	119	132	P/P	40 - 150
2087044	Acetaminophen	66.5	70.3	P/P	30 - 150
2087044	Bentazon	88.1	85.4	P/P	30 - 150
2087044	Carbamazepine	74.5	73.2	P/P	40 - 150
2087044	Diuron	69.1	66.3	P/P	40 - 150
2087044	Fenuron	73.9	72.1	P/P	40 - 150
2087044	Fluridone	120	109	P/P	40 - 150
2087044	Hydrocodone	79.7	76.3	P/P	40 - 150
2087044	Ibuprofen	77.4	76.2	P/P	40 - 150
2087044	Imazapyr	157	152	F/F	40 - 150
2087044	Imidacloprid	130	125	P/P	40 - 150
2087044	Linuron	65.4	63.1	P/P	40 - 150
2087044	MCPP	151	154	F/F	40 - 150
2087044	Naproxen	67.0	76.5	P/P	40 - 150
2087044	Primidone	79.8	77.9	P/P	40 - 150
2087044	Pyraclostrobin	93.7	92.5	P/P	40 - 150
2087044	Triclopyr	96.8	113	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086656	Fluoride	98.4	98.4	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P365087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086556	Fluoride	96.9	96.9	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P364197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086423	Organic Carbon	94.6	96.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P364199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086127	Organic Carbon	95.2	94.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P364091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086544	Turbidity	0.678	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P364409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086574	Barium	0.521	Spike	P	0 - 20
2086574	Calcium	2.97	Spike	P	0 - 20
2086574	Iron	0.531	Spike	P	0 - 20
2086574	Magnesium	1.28	Spike	P	0 - 20
2086574	Manganese	0.877	Spike	P	0 - 20
2086574	Potassium	1.21	Spike	P	0 - 20
2086574	Sodium	1.61	Spike	P	0 - 20
2086574	Zinc	0.926	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P364409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086574	Aluminum	1.48	Spike	P	0 - 20
2086574	Antimony	0.0342	Spike	P	0 - 20
2086574	Arsenic	0.255	Spike	P	0 - 20
2086574	Cadmium	4.11	Spike	P	0 - 20
2086574	Chromium	1.02	Spike	P	0 - 20
2086574	Copper	0.0656	Spike	P	0 - 20
2086574	Lead	0.410	Spike	P	0 - 20
2086574	Nickel	0.272	Spike	P	0 - 20
2086574	Selenium	1.24	Spike	P	0 - 20
2086574	Silver	1.34	Spike	P	0 - 20
2086574	Thallium	0.400	Spike	P	0 - 20

Reference Method: EPA 300.0
 Batch ID: P364209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086553	Bromide	0.569	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P364200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086635	Chloride	0.467	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086635	Sulfate	0.447	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085740	Ammonia-N	0.939	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086297	Ammonia-N	1.66	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086554	Ammonia-N	1.18	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086127	Kjeldahl Nitrogen	2.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086549	Kjeldahl Nitrogen	1.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086600	Kjeldahl Nitrogen	1.82	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086550	NO2NO3-N	1.45	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086131	NO2NO3-N	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086129	Total-P	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086549	Total-P	10.6	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086554	Total-P	2.23	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086424	O-Phosphate-P	0.456	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086336	O-Phosphate-P	2.64	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P364012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086322	Acesulfame K	14.9	Spike	P	0 - 30
2086322	AMPA	3.99	Spike	P	0 - 30
2086322	Endothall	0.500	Spike	P	0 - 30
2086322	Glufosinate	0.291	Spike	P	0 - 30
2086322	Glyphosate	6.60	Spike	P	0 - 30
2086322	Sucralose	1.25	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P364056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2087044	2,4-D	6.94	Spike	P	0 - 30
2087044	Acetaminophen	5.60	Spike	P	0 - 30
2087044	Bentazon	0.908	Spike	P	0 - 30
2087044	Carbamazepine	1.70	Spike	P	0 - 30
2087044	Diuron	3.54	Spike	P	0 - 30
2087044	Fenuron	2.50	Spike	P	0 - 30
2087044	Fluridone	3.73	Spike	P	0 - 30
2087044	Hydrocodone	4.39	Spike	P	0 - 30
2087044	Ibuprofen	1.46	Spike	P	0 - 30
2087044	Imazapyr	1.08	Spike	P	0 - 30
2087044	Imidacloprid	2.89	Spike	P	0 - 30
2087044	Linuron	3.68	Spike	P	0 - 30
2087044	MCPP	1.72	Spike	P	0 - 30
2087044	Naproxen	13.3	Spike	P	0 - 30
2087044	Primidone	2.46	Spike	P	0 - 30
2087044	Pyraclostrobin	1.31	Spike	P	0 - 30
2087044	Triclopyr	15.0	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P364310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086656	Total Alkalinity	0.578	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P364423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086556	Total Alkalinity	0.892	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P364722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2087142	TDS	2.31	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086656	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P365087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P365087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086556	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P364197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086423	Organic Carbon	0.821	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P364199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086127	Organic Carbon	1.18	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: 2086572
Field Sample ID: G1TLHR0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	148	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.6	P	30 - 160
EPA 8321B	Diuron-d6	90.6	P	30 - 160
EPA 8321B	Endothall-d6	124	P	30 - 160
EPA 8321B	Endothall-d6	124	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	131	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2086573
Field Sample ID: G1TLHR0041

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	150	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.2	P	30 - 160
EPA 8321B	Diuron-d6	81.3	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	110	P	30 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Lab Sample ID: 2086581
Field Sample ID: G1TLHR0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	132	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.0	P	30 - 160
EPA 8321B	Diuron-d6	92.0	P	30 - 160
EPA 8321B	Endothall-d6	743	F	30 - 160
EPA 8321B	Endothall-d6	743	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	52.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	52.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	107	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A91402

Included Lab Sample IDs: 2086544, 2086553, 2086556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	93.8	98.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A91404

Included Lab Sample IDs: 2086547, 2086548

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91453

Included Lab Sample IDs: 2086546, 2086551, 2086552, 2086555, 2086558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.4	97.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91482

Included Lab Sample IDs: 2086544, 2086547, 2086548, 2086553, 2086556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A91486

Included Lab Sample IDs: 2086547, 2086548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	101	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A91508

Included Lab Sample IDs: 2086572, 2086573, 2086581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	95.6	77.7	P/P	60 - 160
Endothall	110	111	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A91525

Included Lab Sample IDs: 2086545, 2086549, 2086550, 2086554, 2086557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	96.4	P/P	90 - 110
Organic Carbon	95.0	95.6	P/P	90 - 110
Organic Carbon	96.2	95.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A91528

Included Lab Sample IDs: 2086572, 2086573, 2086581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	114	P/P	60 - 160
Glufosinate	107	105	P/P	60 - 160
Glyphosate	90.5	95.9	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91558

Included Lab Sample IDs: 2086545, 2086549, 2086557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91563

Included Lab Sample IDs: 2086549, 2086550, 2086554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91564

Included Lab Sample IDs: 2086547, 2086548, 2086553

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

Reference Method: SM 4500 F-C-97

Run ID: A91564

Included Lab Sample IDs: 2086547, 2086548, 2086553

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.5	P/P	90 - 110
Fluoride	99.1	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91568

Included Lab Sample IDs: 2086550, 2086554

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91592

Included Lab Sample IDs: 2086545, 2086557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A91614

Included Lab Sample IDs: 2086544, 2086556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91621

Included Lab Sample IDs: 2086545, 2086557

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

Reference Method: EPA 8321B

Run ID: A91622

Included Lab Sample IDs: 2086572, 2086573, 2086581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.8	88.8	P/P	50 - 150
Acetaminophen	102	101	P/P	60 - 160
Bentazon	110	106	P/P	50 - 160
Carbamazepine	101	103	P/P	60 - 150
Diuron	108	107	P/P	60 - 150
Fenuron	107	107	P/P	60 - 150
Fluridone	102	104	P/P	60 - 160
Hydrocodone	105	106	P/P	60 - 150
Ibuprofen	109	104	P/P	50 - 160
Imazapyr	99.9	107	P/P	50 - 150
Imidacloprid	94.2	97.1	P/P	60 - 150
Linuron	103	99.6	P/P	60 - 150
MCPP	93.7	90.4	P/P	50 - 150
Naproxen	70.2	108	P/P	50 - 160
Primidone	93.2	103	P/P	60 - 150
Pyraclostrobin	100	102	P/P	60 - 150
Triclopyr	96.5	97.8	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A91641

Included Lab Sample IDs: 2086574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	102	P/P	95 - 105
Calcium	102	102	P/P	90 - 110
Iron	101	101	P/P	95 - 105
Magnesium	101	101	P/P	90 - 110
Manganese	102	101	P/P	95 - 105
Potassium	104	103	P/P	90 - 110
Sodium	105	106	P/P	90 - 110
Zinc	103	101	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A91647

Included Lab Sample IDs: 2086572, 2086573, 2086581

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

Reference Method: EPA 8321B

Run ID: A91647

Included Lab Sample IDs: 2086572, 2086573, 2086581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	112	102	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91662

Included Lab Sample IDs: 2086549, 2086550, 2086554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	99.6	P/P	90 - 110
Total-P	99.6	96.9	P/P	90 - 110
Total-P	99.9	97.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A91674

Included Lab Sample IDs: 2086574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	107	P/P	90 - 110
Antimony	96.4	96.2	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Cadmium	98.8	99.2	P/P	90 - 110
Copper	101	99.9	P/P	90 - 110
Lead	95.2	94.3	P/P	90 - 110
Nickel	99.2	96.6	P/P	90 - 110
Selenium	100	103	P/P	90 - 110
Silver	98.0	98.9	P/P	90 - 110
Thallium	98.4	96.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A91681

Included Lab Sample IDs: 2086574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91686

Included Lab Sample IDs: 2086545, 2086557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91688

Included Lab Sample IDs: 2086581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	110	111	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91729

Included Lab Sample IDs: 2086549, 2086550, 2086554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	97.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A91867

Included Lab Sample IDs: 2086544, 2086556

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.678	
EPA 200.7 Rev. 4.4	Barium	101	95.8	95.3			0.521
	Calcium	102					2.97
	Iron	103	102	102			0.531
	Magnesium	102					1.28
	Manganese	99.8	95.5	94.7			0.877
	Potassium	102					1.21
	Sodium	103					1.61
	Zinc	99.5	99.4	98.5			0.926
EPA 200.8 Rev. 5.4	Aluminum	101	115	117			1.48
	Antimony	99.0	101	101			0.0342
	Arsenic	101	106	106			0.255
	Cadmium	100	90.2	94.0			4.11
	Chromium	98.4	90.0	90.9			1.02
	Copper	100	93.7	93.7			0.0656
	Lead	94.2	98.5	98.9			0.410
	Nickel	100	88.4	88.1			0.272
	Selenium	101	101	102			1.24
	Silver	101	88.9	90.1			1.34
	Thallium	103	108	108			0.400
EPA 300.0	Bromide	95.6	93.7	93.2			0.569
EPA 300.0 Rev. 2.1	Chloride	99.0	98.8	100		0.467	
	Sulfate	98.4	104	99.1		0.447	
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	103			0.939
	Ammonia-N	103	103	105			1.66
	Ammonia-N	98.7	99.8	102			1.18
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	109	107			2.00
	Kjeldahl Nitrogen	95.6	105	103			1.62
	Kjeldahl Nitrogen	103	93.3	96.7			1.82
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	97.8	96.4			1.45
	NO2NO3-N	100	100	98.8			1.47
EPA 365.1 Rev. 2.0	Total-P	101	97.0	98.2			1.15
	Total-P	101	93.2	107			10.6
	Total-P	100	99.6	96.6			2.23
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	94.9	95.6			0.456
	O-Phosphate-P	100	93.5	96.0			2.64
EPA 8321B	2,4-D	96.7	119	132			6.94
	Acesulfame K	95.4	90.9	106			14.9
	Acetaminophen	85.1	66.5	70.3			5.60
	AMPA	124	81.4	77.4			3.99
	Bentazon	112	88.1	85.4			0.908
	Carbamazepine	97.1	74.5	73.2			1.70
	Diuron	94.0	69.1	66.3			3.54
	Endothall	84.0	76.3	75.9			0.500
	Fenuron	118	73.9	72.1			2.50
	Fluridone	99.7	120	109			3.73
	Glufosinate	107	93.8	94.0			0.291
	Glyphosate	98.8	84.5	90.2			6.60
	Hydrocodone	105	79.7	76.3			4.39
	Ibuprofen	82.9	77.4	76.2			1.46
	Imazapyr	103	157	152			1.08
	Imidacloprid	102	130	125			2.89
	Linuron	73.1	65.4	63.1			3.68
	MCPP	117	151	154			1.72

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	97.7	67.0	76.5		13.3
	Primidone	92.4	79.8	77.9		2.46
	Pyraclostrobin	82.8	93.7	92.5		1.31
	Sucralose	103	96.8	95.5		1.25
	Triclopyr	68.8	96.8	113		15.0
SM 2120 B	Color (true)	99.1				
SM 2320 B-97	Total Alkalinity	102			0.578	
	Total Alkalinity	102			0.892	
SM 2540 C-97	TDS				2.31	
SM 4500 F-C-97	Fluoride	97.2	98.4	98.4		0.0
	Fluoride	97.9	96.9	96.9		0.0
SM 5310 B-00	Organic Carbon	94.3	94.6	96.0		0.821
	Organic Carbon	96.0	95.2	94.0		1.18

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2086544, 2086547, 2086548, 2086553, 2086556
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2086574
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2086574
EPA 300.0 / E31780	Bromide in aqueous matrices	2086544, 2086553, 2086556
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2086547, 2086548
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2086547, 2086548
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2086545, 2086549, 2086550, 2086554, 2086557
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2086545, 2086549, 2086550, 2086554, 2086557
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2086545, 2086549, 2086550, 2086554, 2086557
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2086545, 2086549, 2086550, 2086554, 2086557
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2086546, 2086551, 2086552, 2086555, 2086558
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2086572, 2086573, 2086581
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2086572, 2086573, 2086581
SM 2120 B / E31780	True Color measured at 450 nm	2086547, 2086548
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2086544, 2086547, 2086548, 2086553, 2086556
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2086547, 2086548
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2086544, 2086547, 2086548, 2086553, 2086556
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2086544, 2086547, 2086548, 2086553, 2086556
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2086545, 2086549, 2086550, 2086554, 2086557

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	05/15/2019			05/16/2019 16:15	Sima Feizi	2086544, 2086547, 2086548, 2086553, 2086556
EPA 200.7 Rev. 4.4	05/15/2019	05/22/2019 17:00	Elliott D. Healy	05/23/2019 13:18	Vijayalakshmi Reddy	2086574
	05/15/2019	05/22/2019 17:00	Elliott D. Healy	05/23/2019 14:19	Vijayalakshmi Reddy	2086574
EPA 200.8 Rev. 5.4	05/15/2019	05/22/2019 17:00	Elliott D. Healy	05/24/2019 19:51	Robert K Palmer	2086574
	05/15/2019	05/22/2019 17:00	Elliott D. Healy	05/24/2019 20:20	Robert K Palmer	2086574
	05/15/2019	05/22/2019 17:00	Elliott D. Healy	05/25/2019 06:42	Robert K Palmer	2086574
EPA 300.0	05/15/2019			05/17/2019 14:27	Lipi Saha	2086553
	05/15/2019			05/17/2019 15:53	Lipi Saha	2086544
	05/15/2019			05/17/2019 16:10	Lipi Saha	2086556
EPA 300.0 Rev. 2.1	05/15/2019			05/17/2019 19:02	Lipi Saha	2086547
	05/15/2019			05/17/2019 19:14	Lipi Saha	2086548
EPA 350.1 Rev. 2.0	05/15/2019			05/17/2019 11:00	Ping Hua	2086545
	05/15/2019			05/17/2019 11:02	Ping Hua	2086557
	05/15/2019			05/17/2019 13:38	Ping Hua	2086549
	05/15/2019			05/20/2019 10:36	Ping Hua	2086554
	05/15/2019			05/20/2019 10:52	Ping Hua	2086550
EPA 351.2 Rev. 2.0	05/15/2019	05/23/2019 13:15	Adrian Shelby	05/28/2019 11:22	Joseph Suarez	2086545
	05/15/2019	05/23/2019 13:15	Adrian Shelby	05/28/2019 11:24	Joseph Suarez	2086557
	05/15/2019	05/24/2019 12:30	Adrian Shelby	05/29/2019 12:19	Joseph Suarez	2086549
	05/15/2019	05/24/2019 12:30	Adrian Shelby	05/29/2019 12:27	Joseph Suarez	2086550
	05/15/2019	05/24/2019 12:30	Adrian Shelby	05/29/2019 12:29	Joseph Suarez	2086554
EPA 353.2 Rev. 2.0	05/15/2019			05/21/2019 10:01	Beverly Y. Sanders	2086550
	05/15/2019			05/21/2019 10:13	Beverly Y. Sanders	2086549
	05/15/2019			05/21/2019 10:14	Beverly Y. Sanders	2086554
	05/15/2019			05/22/2019 09:40	Beverly Y. Sanders	2086545
	05/15/2019			05/22/2019 09:41	Beverly Y. Sanders	2086557
EPA 365.1 Rev. 2.0	05/15/2019	05/22/2019 02:01	Lipi Saha	05/23/2019 12:22	Rosalyn Ballman	2086545
	05/15/2019	05/22/2019 02:01	Lipi Saha	05/23/2019 12:23	Rosalyn Ballman	2086557
	05/15/2019	05/23/2019 15:15	Adrian Shelby	05/24/2019 11:43	Rosalyn Ballman	2086549
	05/15/2019	05/23/2019 15:15	Adrian Shelby	05/24/2019 11:58	Rosalyn Ballman	2086554
	05/15/2019	05/23/2019 15:15	Adrian Shelby	05/24/2019 12:05	Rosalyn Ballman	2086550
EPA 365.1 Rev. 2.0 dissolved	05/15/2019			05/15/2019 16:39	Jhamieka S. Greenwood	2086546
	05/15/2019			05/15/2019 16:40	Jhamieka S. Greenwood	2086558
	05/15/2019			05/15/2019 16:41	Jhamieka S. Greenwood	2086551
	05/15/2019			05/15/2019 16:42	Jhamieka S. Greenwood	2086552
	05/15/2019			05/15/2019 16:43	Jhamieka S. Greenwood	2086555
EPA 8321B	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 20:04	Rebecca Ware	2086572
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 20:17	Rebecca Ware	2086573
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 20:31	Rebecca Ware	2086581

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 20:29	Rebecca Ware	2086572
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 20:40	Rebecca Ware	2086573
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 21:23	Rebecca Ware	2086581
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 23:48	Rebecca Ware	2086572
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 23:59	Rebecca Ware	2086573
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/24/2019 00:11	Rebecca Ware	2086581
	05/15/2019	05/17/2019 10:00	Hoor Shaik	05/21/2019 09:02	Juyoung Kim	2086572
	05/15/2019	05/17/2019 10:00	Hoor Shaik	05/21/2019 09:36	Juyoung Kim	2086573
	05/15/2019	05/17/2019 10:00	Hoor Shaik	05/21/2019 10:11	Juyoung Kim	2086581
SM 2120 B	05/15/2019			05/16/2019 15:44	Madeline Funaro	2086547, 2086548
SM 2320 B-97	05/15/2019			05/21/2019 08:05	Dale L. Simmons	2086547
	05/15/2019			05/21/2019 08:59	Dale L. Simmons	2086548
	05/15/2019			05/21/2019 09:12	Dale L. Simmons	2086553
	05/15/2019			05/22/2019 17:25	Dale L. Simmons	2086556
	05/15/2019			05/22/2019 17:38	Dale L. Simmons	2086544
SM 2540 C-97	05/15/2019			05/21/2019 15:26	Yijie Li	2086547, 2086548
SM 2540 D-97	05/15/2019			05/21/2019 15:26	Yijie Li	2086544, 2086547, 2086548, 2086553, 2086556
SM 4500 F-C-97	05/15/2019			05/21/2019 08:05	Dale L. Simmons	2086547
	05/15/2019			05/21/2019 08:59	Dale L. Simmons	2086548
	05/15/2019			05/21/2019 09:12	Dale L. Simmons	2086553
	05/15/2019			06/05/2019 10:42	Samantha Davila	2086556
	05/15/2019			06/05/2019 10:53	Samantha Davila	2086544
SM 5310 B-00	05/15/2019			05/17/2019 04:57	Julia Storbeck	2086554
	05/15/2019			05/17/2019 09:44	Julia Storbeck	2086549
	05/15/2019			05/17/2019 09:58	Julia Storbeck	2086550
	05/15/2019			05/18/2019 08:09	Julia Storbeck	2086545
	05/15/2019			05/18/2019 08:22	Julia Storbeck	2086557