

Chemical Analysis Report

SE-DIST-2018-04-19-01

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

Event Description: **SMP- WPB Run**
Request ID: **RQ-2018-02-12-61**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 23-MAY-2018 11:48

A handwritten signature in black ink, appearing to read "Colin Wright", 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 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: ICW @ Palmetto Park Boca

Collection Date/Time: 04/18/2018 10:45

Field ID: G3SE0020

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985769	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P343763	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P344174	RPD
	SM 2540 D-97	TSS	3	UA	mg/L	P343918	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P344178	
1985770	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P344166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P343794	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P343846	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P343958	
	SM 5310 B-00	Organic Carbon	1.4	I	mg C/L	P343982	
1985771	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P343762	

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: ICW @ Palmetto Park Boca

Collection Date/Time: 04/18/2018 11:00

Field ID: Blank_18042018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985784	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P343763	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P343854	
		Sulfate	0.20	U	mg SO4/L	P343857	
	SM 2120 B	Color (true)	2.5	U	PCU	P343753	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	15	U	mg/L	P344140	
	SM 2540 D-97	TSS	2	U	mg/L	P343913	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P344301	
1985785	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P344036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P343798	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P343906	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P343976	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P343981	
1985786	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P343759	
1985814	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P343922	
		Iron	30	U	ug/L	P343922	
		Magnesium	0.040	U	mg/L	P343922	
		Potassium	0.30	U	mg/L	P343922	
		Sodium	0.50	U	mg/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.40	U	ug/L	P343922	
		Copper	0.20	U	ug/L	P343922	
		Lead	0.050	U	ug/L	P343922	
		Nickel	0.20	U	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Field ID: Blank_18042018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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: C-16N West of Bellaggio

Collection Date/Time: 04/18/2018 12:40

Field ID: G3SE0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985775	EPA 180.1 Rev. 2.0	Turbidity	6.0	A	NTU	P343763	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P343854	
		Sulfate	51		mg SO4/L	P343857	
	SM 2120 B	Color (true)	55	A	PCU	P343753	
	SM 2320 B-97	Total Alkalinity	145		mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	423		mg/L	P344140	
	SM 2540 D-97	TSS	6	I	mg/L	P343913	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P344301	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P344036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P343797	
1985776	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P343906	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P343976	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P343981	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.048		mg P/L	P343759	
	dissolved						

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: WCA-1 @ S-5

Collection Date/Time: 04/18/2018 13:45

Field ID: G5SE0061

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985778	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P343763	
	EPA 300.0 Rev. 2.1	Chloride	250		mg Cl/L	P343854	
		Sulfate	100		mg SO4/L	P343857	
	SM 2120 B	Color (true)	58		PCU	P343753	
	SM 2320 B-97	Total Alkalinity	174		mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	758		mg/L	P344140	
	SM 2540 D-97	TSS	5	I	mg/L	P343913	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P344301	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P344036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P343797	
1985780	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P343906	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P343976	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P343981	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.007	I	mg P/L	P343759	
	dissolved						
1985800	EPA 8321B	2,4-D	0.021		ug/L	P343718	
		Bentazon	0.012		ug/L	P343718	
		MCP	0.0020	U	ug/L	P343718	
		Triclopyr**	0.0040	U	ug/L	P343718	

Field ID: G5SE0061

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985800	EPA 8321B	Imidacloprid	0.0020	UJ	ug/L	P343718	MS
		Diuron	0.0020	U	ug/L	P343718	
		Pyraclostrobin**	0.0020	U	ug/L	P343718	
		Primidone**	0.0040	U	ug/L	P343718	
		Linuron	0.0040	U	ug/L	P343718	
		Acetaminophen**	0.0080	U	ug/L	P343718	
		Fenuron	0.0080	U	ug/L	P343718	
		Imazapyr**	1.2		ug/L	P343718	
		Carbamazepine**	4.0E-04	U	ug/L	P343718	
		Fluridone**	0.0030		ug/L	P343718	
		Hydrocodone**	8.0E-04	U	ug/L	P343718	
		Sucralose**	0.10	U	ug/L	P343665	
		Glyphosate**	0.13	IJ	ug/L	P343665	SUR
		AMPA**	0.10	UJ	ug/L	P343665	SUR
		Endothall**	0.10	UJ	ug/L	P343665	SUR
1985812	EPA 200.7 Rev. 4.4	Glufosinate**	0.10	UJ	ug/L	P343665	SUR
		Calcium	76.3		mg/L	P343922	
		Iron	49	I	ug/L	P343922	
		Magnesium	19.3		mg/L	P343922	
		Potassium	8.1		mg/L	P343922	
		Sodium	167		mg/L	P343922	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P343922	
		Arsenic	1.37		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.40	U	ug/L	P343922	
		Copper	0.25	I	ug/L	P343922	
		Lead	0.050	U	ug/L	P343922	
		Nickel	0.28	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

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: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Refer to the narrative for an explanation of QC Codes.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.

Sample Location: WCA1 North @ G-301

Collection Date/Time: 04/18/2018 14:10

Field ID: G5SE0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985779	EPA 180.1 Rev. 2.0	Turbidity	24		NTU	P343763	
	EPA 300.0 Rev. 2.1	Chloride	50		mg Cl/L	P343854	
		Sulfate	28		mg SO4/L	P343857	
		Color (true)	50		PCU	P343757	
	SM 2120 B						
	SM 2320 B-97	Total Alkalinity	120		mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	303		mg/L	P344140	
	SM 2540 D-97	TSS	8	I	mg/L	P343913	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P344301	

Field ID: G5SE0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985781	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P344036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P343797	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.54		mg N/L	P343906	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P343976	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P343981	
1985783	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.094		mg P/L	P343759	
1985801	EPA 8321B	2,4-D	0.0071	I	ug/L	P343718	
		Bentazon	0.034		ug/L	P343718	
		MCP	0.0020	U	ug/L	P343718	
		Triclopyr**	0.0040	U	ug/L	P343718	
		Imidacloprid	0.0021	I	ug/L	P343718	MS
		Diuron	0.0020	U	ug/L	P343718	
		Pyraclostrobin**	0.0020	U	ug/L	P343718	
		Primidone**	0.0040	U	ug/L	P343718	
		Linuron	0.0040	U	ug/L	P343718	
		Acetaminophen**	0.0080	U	ug/L	P343718	
		Fenuron	0.0080	U	ug/L	P343718	
		Imazapyr**	0.063		ug/L	P343718	
		Carbamazepine**	4.0E-04	U	ug/L	P343718	
		Fluridone**	0.0057		ug/L	P343718	
		Hydrocodone**	8.0E-04	U	ug/L	P343718	
		Sucralose**	0.10	U	ug/L	P343665	
		Glyphosate**	0.23	I	ug/L	P343665	
		AMPA**	0.13	I	ug/L	P343665	
		Endothall**	0.10	U	ug/L	P343665	
		Glufosinate**	0.10	U	ug/L	P343665	
1985813	EPA 200.7 Rev. 4.4	Calcium	48.7		mg/L	P343922	
		Iron	900		ug/L	P343922	
		Magnesium	11.0		mg/L	P343922	
		Potassium	6.3		mg/L	P343922	
		Sodium	32.0		mg/L	P343922	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P343922	
		Arsenic	1.81		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	1.2	I	ug/L	P343922	
		Copper	1.26		ug/L	P343922	
		Lead	0.45		ug/L	P343922	
		Nickel	0.86		ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

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: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: M-Canal @ Haverhill

Collection Date/Time: 04/18/2018 15:00

Field ID: G3SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985772	EPA 180.1 Rev. 2.0	Turbidity	23		NTU	P343763	
	EPA 300.0 Rev. 2.1	Chloride	45		mg Cl/L	P343854	
		Sulfate	22		mg SO4/L	P343857	
	SM 2120 B	Color (true)	43	A	PCU	P343757	
	SM 2320 B-97	Total Alkalinity	107		mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	262	A	mg/L	P344140	
	SM 2540 D-97	TSS	10		mg/L	P343913	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P344301	
1985773	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P344036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P343797	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.53		mg N/L	P343905	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P343976	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P343981	
1985774	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P343759	
1985811	EPA 200.7 Rev. 4.4	Calcium	43.5		mg/L	P343922	
		Iron	1.03E+03		ug/L	P343922	
		Magnesium	9.80		mg/L	P343922	
		Potassium	5.5		mg/L	P343922	
		Sodium	29.0		mg/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.45		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	1.3	I	ug/L	P343922	
		Copper	8.85		ug/L	P343922	
		Lead	0.55		ug/L	P343922	
		Nickel	0.89		ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

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: P343763

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P343922

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343854

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343857

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344036

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343794

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343797

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343798

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343846

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343906

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343958

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343976

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343759

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343762

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

Reference Method: EPA 8321B
Batch ID: P343665

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P343718

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P343718

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	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P343753

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P343757

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P344174

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

Reference Method: SM 2320 B-97
Batch ID: P344297

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

Reference Method: SM 2540 C-97
Batch ID: P344140

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343913

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P343918

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344178

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343981

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

Reference Method: SM 5310 B-00
Batch ID: P343982

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: P343922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.2		P	85 - 115
Iron	103		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	105		P	85 - 115
Sodium	100		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	96.0		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	100		P	85 - 115
Copper	103		P	85 - 115
Lead	92.3		P	85 - 115
Nickel	106		P	85 - 115
Silver	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344036

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: P344166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343794

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343797

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343798

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343846

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343906

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: P343958

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343976

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343759

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343762

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

Reference Method: EPA 8321B
Batch ID: P343665

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	82.0		P	40 - 140
Endothall	86.7		P	40 - 140
Glufosinate	61.2		P	40 - 140
Glyphosate	68.7		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.8		P	40 - 150
Acetaminophen	94.1		P	30 - 150
Bentazon	105		P	30 - 150
Carbamazepine	104		P	40 - 150
Diuron	83.2		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	90.0		P	40 - 150
Hydrocodone	107		P	40 - 150
Imazapyr	120		P	40 - 150
Imidacloprid	114		P	40 - 160
Linuron	98.9		P	40 - 150
MCPP	98.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P343718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	105		P	40 - 150
Pyraclostrobin	84.1		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P344174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P344297

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

Reference Method: SM 4500 F-C-97
Batch ID: P344178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343981

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343982

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Calcium	97.1		P	80 - 120
1985437	Iron	101		P	80 - 120
1985437	Magnesium	99.2		P	80 - 120
1985437	Potassium	103		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Sodium	99.1		P	80 - 120
1985437	Zinc	99.4		P	80 - 120
1986543	Calcium	97.4		P	80 - 120
1986543	Iron	97.9	97.0	P/P	80 - 120
1986543	Magnesium	98.6		P	80 - 120
1986543	Potassium	105	105	P/P	80 - 120
1986543	Sodium	101		P	80 - 120
1986543	Zinc	98.2	98.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Arsenic	105		P	80 - 120
1985437	Cadmium	104		P	80 - 120
1985437	Chromium	99.3		P	80 - 120
1985437	Copper	99.0		P	80 - 120
1985437	Lead	99.2		P	80 - 120
1985437	Nickel	102		P	80 - 120
1985437	Silver	101		P	80 - 120
1986543	Arsenic	96.5	95.5	P/P	80 - 120
1986543	Cadmium	105	104	P/P	80 - 120
1986543	Chromium	98.6	97.9	P/P	80 - 120
1986543	Copper	98.9	99.4	P/P	80 - 120
1986543	Lead	94.2	93.8	P/P	80 - 120
1986543	Nickel	103	103	P/P	80 - 120
1986543	Silver	103	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985676	Chloride	95.5		P	90 - 110
1985803	Chloride	95.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985676	Sulfate	92.4		P	90 - 110
1985803	Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985704	Ammonia-N	97.6	97.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
---------------	-----------	---------	---------	-----------	----------------

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985154	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985286	Kjeldahl Nitrogen	106	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985682	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985830	Kjeldahl Nitrogen	101	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985441	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985650	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985776	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985898	Total-P	91.4	92.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343976

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985828	Total-P	100	97.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985774	O-Phosphate-P	96.9	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985771	O-Phosphate-P	98.6	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985613	AMPA	71.3	64.8	P/P	40 - 140
1985613	Endothall	91.1	89.7	P/P	40 - 140
1985613	Glufosinate	86.7	91.3	P/P	40 - 140
1985613	Glyphosate	79.3	78.2	P/P	40 - 140
1985613	Sucralose	71.3	65.1	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985800	2,4-D	73.2	69.0	P/P	40 - 150
1985800	Acetaminophen	105	110	P/P	30 - 150
1985800	Bentazon	43.0	42.4	P/P	30 - 150
1985800	Carbamazepine	77.0	80.9	P/P	40 - 150
1985800	Diuron	69.8	69.4	P/P	40 - 150
1985800	Fenuron	75.8	78.8	P/P	40 - 150
1985800	Fluridone	74.5	76.3	P/P	40 - 150
1985800	Hydrocodone	108	114	P/P	40 - 150
1985800	Imidacloprid	193	201	F/F	40 - 160
1985800	Linuron	88.0	101	P/P	40 - 150
1985800	MCP	70.2	65.1	P/P	40 - 150
1985800	Primidone	91.2	101	P/P	40 - 150
1985800	Pyraclostrobin	80.2	81.6	P/P	40 - 150
1985800	Triclopyr	78.2	78.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1986386	Fluoride	94.7	96.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985583	Fluoride	95.7	97.0	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P343981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985678	Organic Carbon	94.7	95.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985770	Organic Carbon	92.0	91.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985775	Turbidity	2.33	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Calcium	1.75	Spike	P	0 - 20
1986543	Iron	0.921	Spike	P	0 - 20
1986543	Magnesium	1.49	Spike	P	0 - 20
1986543	Potassium	0.0251	Spike	P	0 - 20
1986543	Sodium	0.889	Spike	P	0 - 20
1986543	Zinc	0.224	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Arsenic	1.02	Spike	P	0 - 20
1986543	Cadmium	0.835	Spike	P	0 - 20
1986543	Chromium	0.662	Spike	P	0 - 20
1986543	Copper	0.470	Spike	P	0 - 20
1986543	Lead	0.493	Spike	P	0 - 20
1986543	Nickel	0.571	Spike	P	0 - 20
1986543	Silver	1.03	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985676	Chloride	0.715	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985676	Sulfate	0.590	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985704	Ammonia-N	0.262	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985154	Ammonia-N	0.742	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985286	Kjeldahl Nitrogen	1.59	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985682	Kjeldahl Nitrogen	0.949	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985830	Kjeldahl Nitrogen	4.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985441	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985650	NO2NO3-N	0.519	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985776	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985898	Total-P	0.920	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343976

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985828	Total-P	2.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985774	O-Phosphate-P	0.685	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985771	O-Phosphate-P	0.707	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P343665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985613	AMPA	7.02	Spike	P	0 - 30
1985613	Endothall	1.56	Spike	P	0 - 30
1985613	Glufosinate	5.12	Spike	P	0 - 30
1985613	Glyphosate	1.11	Spike	P	0 - 30
1985613	Sucralose	7.89	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985800	2,4-D	4.35	Spike	P	0 - 30
1985800	Acetaminophen	4.74	Spike	P	0 - 30
1985800	Bentazon	0.982	Spike	P	0 - 30
1985800	Carbamazepine	4.92	Spike	P	0 - 30
1985800	Diuron	0.635	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P343718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985800	Fenuron	3.77	Spike	P	0 - 30
1985800	Fluridone	2.34	Spike	P	0 - 30
1985800	Hydrocodone	5.46	Spike	P	0 - 30
1985800	Imazapyr	1.13	Spike	P	0 - 30
1985800	Imidacloprid	3.76	Spike	P	0 - 30
1985800	Linuron	13.8	Spike	P	0 - 30
1985800	MCP	7.45	Spike	P	0 - 30
1985800	Primidone	9.71	Spike	P	0 - 30
1985800	Pyraclostrobin	1.74	Spike	P	0 - 30
1985800	Triclopyr	0.270	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P343753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985775	Color (true)	0.643	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P343757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985772	Color (true)	1.99	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P344174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986386	Total Alkalinity	1.95	Sample	F	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P344297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985583	Total Alkalinity	0.144	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P344140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985772	TDS	5.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P344178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
--------------------------	-----------	-----------	-------------------	-----------	----------------

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P344178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986386	Fluoride	0.953	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985583	Fluoride	0.960	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985678	Organic Carbon	0.622	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P343982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985770	Organic Carbon	0.735	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: 1985800
Field Sample ID: G5SE0061

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	64.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.7	P	30 - 160
EPA 8321B	Diuron-d6	70.3	P	30 - 160
EPA 8321B	Endothall-d6	38.1	F	40 - 160
EPA 8321B	Glyphosate 13C 15N	36.4	F	40 - 160
EPA 8321B	Primidone-d5	94.7	P	30 - 160
EPA 8321B	Sucralose-d6	61.1	P	40 - 160

Lab Sample ID: 1985801
Field Sample ID: G5SE0046

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	68.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	86.3	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1985801
Field Sample ID: G5SE0046

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Endothall-d6	48.6	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	47.2	P	40 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	61.2	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83267
Included Lab Sample IDs: 1985772, 1985775, 1985778, 1985779, 1985784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.2	99.8	P/P	90 - 110
Chloride	99.9	98.2	P/P	90 - 110
Sulfate	100	98.4	P/P	90 - 110
Sulfate	98.4	99.2	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A83349
Included Lab Sample IDs: 1985772, 1985775, 1985778, 1985779, 1985784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115
Color (true)	99.1	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83350
Included Lab Sample IDs: 1985771, 1985774, 1985777, 1985782, 1985783, 1985786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.8	P/P	90 - 110
O-Phosphate-P	99.0	99.8	P/P	90 - 110
O-Phosphate-P	99.8	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83351
Included Lab Sample IDs: 1985769, 1985772, 1985775, 1985778, 1985779, 1985784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A83370
Included Lab Sample IDs: 1985800, 1985801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	79.2	81.4	P/P	60 - 150
AMPA	81.4	83.2	P/P	60 - 150
Endothall	84.8	87.6	P/P	60 - 150
Endothall	87.6	90.0	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A83370

Included Lab Sample IDs: 1985800, 1985801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	70.9	76.6	P/P	60 - 150
Glufosinate	76.6	76.5	P/P	60 - 150
Glyphosate	103	92.2	P/P	60 - 150
Glyphosate	89.1	103	P/P	60 - 150
Sucralose	104	92.8	P/P	60 - 150
Sucralose	94.1	104	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83382

Included Lab Sample IDs: 1985770

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83400

Included Lab Sample IDs: 1985770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83402

Included Lab Sample IDs: 1985773, 1985776, 1985780, 1985781, 1985785

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83410

Included Lab Sample IDs: 1985773, 1985776, 1985780, 1985781, 1985785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	103	P/P	90 - 110
Kjeldahl Nitrogen	99.4	96.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83430

Included Lab Sample IDs: 1985770, 1985773, 1985776, 1985780, 1985781, 1985785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	91.9	P/P	90 - 110
Organic Carbon	97.6	98.0	P/P	90 - 110
Organic Carbon	98.0	97.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83434

Included Lab Sample IDs: 1985811, 1985812, 1985813, 1985814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.0	95.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83434

Included Lab Sample IDs: 1985811, 1985812, 1985813, 1985814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.8	97.4	P/P	90 - 110
Iron	95.7	94.6	P/P	90 - 110
Iron	98.4	97.4	P/P	90 - 110
Magnesium	97.8	96.3	P/P	90 - 110
Magnesium	99.1	98.1	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Potassium	102	102	P/P	90 - 110
Sodium	99.8	97.8	P/P	90 - 110
Sodium	99.9	101	P/P	90 - 110
Zinc	100	99.5	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83447

Included Lab Sample IDs: 1985773, 1985776, 1985781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83454

Included Lab Sample IDs: 1985773, 1985776, 1985780, 1985781, 1985785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83473

Included Lab Sample IDs: 1985770, 1985780, 1985785

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83491

Included Lab Sample IDs: 1985770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	104	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83492

Included Lab Sample IDs: 1985769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A83492

Included Lab Sample IDs: 1985769

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83523

Included Lab Sample IDs: 1985811, 1985812, 1985813, 1985814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	102	101	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Copper	104	105	P/P	90 - 110
Copper	105	105	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	104	104	P/P	90 - 110
Nickel	104	105	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Silver	103	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83541

Included Lab Sample IDs: 1985772, 1985775, 1985778, 1985779, 1985784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.6	P/P	90 - 110
Total Alkalinity	98.6	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83541

Included Lab Sample IDs: 1985772, 1985775, 1985778, 1985779, 1985784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	P/P	90 - 110
Fluoride	99.1	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83552

Included Lab Sample IDs: 1985811, 1985812, 1985813, 1985814

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	97.9	P/P	90 - 110
Arsenic	103	99.4	P/P	90 - 110
Lead	104	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83753

Included Lab Sample IDs: 1985800, 1985801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	102	P/P	50 - 150
Acetaminophen	106	109	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A83753

Included Lab Sample IDs: 1985800, 1985801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	109	107	P/P	60 - 150
Bentazon	132	136	P/P	50 - 150
Carbamazepine	100	117	P/P	60 - 150
Carbamazepine	124	100	P/P	60 - 150
Diuron	109	86.2	P/P	60 - 150
Diuron	86.2	106	P/P	60 - 150
Fenuron	115	117	P/P	60 - 150
Fenuron	117	116	P/P	60 - 150
Fluridone	104	103	P/P	60 - 160
Fluridone	98.7	104	P/P	60 - 160
Hydrocodone	112	112	P/P	60 - 150
Hydrocodone	112	112	P/P	60 - 150
Imazapyr	122	116	P/P	50 - 150
Imidacloprid	108	108	P/P	60 - 150
Imidacloprid	108	108	P/P	60 - 150
Linuron	108	112	P/P	60 - 150
Linuron	112	109	P/P	60 - 150
MCPP	111	106	P/P	50 - 150
Primidone	95.4	98.3	P/P	60 - 150
Primidone	97.5	95.4	P/P	60 - 150
Pyraclostrobin	101	102	P/P	60 - 150
Pyraclostrobin	105	101	P/P	60 - 150
Triclopyr	114	115	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A83883

Included Lab Sample IDs: 1985800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	92.4	106	P/P	50 - 150

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS			SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.33	
EPA 200.7 Rev. 4.4	Calcium	99.2		97.1	97.4		1.75
	Iron	103		101	97.9	97.0	0.921
	Magnesium	101		99.2	98.6		1.49
	Potassium	105		103	105	105	0.0251
	Sodium	100		99.1	101		0.889
	Zinc	101		99.4	98.2	98.0	0.224
EPA 200.8 Rev. 5.4	Arsenic	96.0		105	96.5	95.5	1.02
	Cadmium	103		104	105	104	0.835
	Chromium	100		99.3	98.6	97.9	0.662

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 200.8 Rev. 5.4	Copper	103	99.0	98.9	99.4		0.470
	Lead	92.3	99.2	94.2	93.8		0.493
	Nickel	106	102	103	103		0.571
	Silver	102	101	103	102		1.03
EPA 300.0 Rev. 2.1	Chloride	96.4	95.5	95.5		0.715	
	Sulfate	95.3	92.4	95.7		0.590	
EPA 350.1 Rev. 2.0	Ammonia-N	103	97.6	97.3			0.262
	Ammonia-N	100	103	104			0.742
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	106	103			1.59
	Kjeldahl Nitrogen	101	101	102			0.949
	Kjeldahl Nitrogen	104	101	106			4.10
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	101			0.0
	NO2NO3-N	102	96.0	96.5			0.519
	NO2NO3-N	102	100	101			0.496
EPA 365.1 Rev. 2.0	Total-P	99.9	91.4	92.3			0.920
	Total-P	103	100	97.8			2.30
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	96.9	98.1			0.685
	O-Phosphate-P	100	98.6	99.3			0.707
EPA 8321B	2,4-D	95.8	73.2	69.0			4.35
	Acetaminophen	94.1	105	110			4.74
	AMPA	82.0	71.3	64.8			7.02
	Bentazon	105	43.0	42.4			0.982
	Carbamazepine	104	77.0	80.9			4.92
	Diuron	83.2	69.8	69.4			0.635
	Endothall	86.7	91.1	89.7			1.56
	Fenuron	112	75.8	78.8			3.77
	Fluridone	90.0	74.5	76.3			2.34
	Glufosinate	61.2	86.7	91.3			5.12
	Glyphosate	68.7	79.3	78.2			1.11
	Hydrocodone	107	108	114			5.46
	Imazapyr	120					1.13
	Imidacloprid	114	193	201			3.76
	Linuron	98.9	88.0	101			13.8
	MCPP	98.6	70.2	65.1			7.45
	Primidone	105	91.2	101			9.71
	Pyraclostrobin	84.1	80.2	81.6			1.74
	Sucralose	105	71.3	65.1			7.89
	Triclopyr	105	78.2	78.0			0.270
SM 2120 B	Color (true)					0.643	
	Color (true)					1.99	
SM 2320 B-97	Total Alkalinity	101				1.95	
	Total Alkalinity	102				0.144	
SM 2540 C-97	TDS					5.71	
SM 4500 F-C-97	Fluoride	95.3	94.7	96.2			0.953
	Fluoride	96.3	95.7	97.0			0.960
SM 5310 B-00	Organic Carbon	96.1	94.7	95.4			0.622
	Organic Carbon	94.2	92.0	91.3			0.735

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1985769, 1985772, 1985775, 1985778, 1985779, 1985784

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1985811, 1985812, 1985813, 1985814
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1985811, 1985812, 1985813, 1985814
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1985772, 1985775, 1985778, 1985779, 1985784
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1985772, 1985775, 1985778, 1985779, 1985784
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1985770, 1985773, 1985776, 1985780, 1985781, 1985785
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1985770, 1985773, 1985776, 1985780, 1985781, 1985785
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1985770, 1985773, 1985776, 1985780, 1985781, 1985785
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1985770, 1985773, 1985776, 1985780, 1985781, 1985785
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1985771, 1985774, 1985777, 1985782, 1985783, 1985786
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1985800, 1985801
SM 2120 B / E31780	True Color measured at 450 nm	1985772, 1985775, 1985778, 1985779, 1985784
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1985769, 1985772, 1985775, 1985778, 1985779, 1985784
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1985772, 1985775, 1985778, 1985779, 1985784
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1985769, 1985772, 1985775, 1985778, 1985779, 1985784
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1985769, 1985772, 1985775, 1985778, 1985779, 1985784
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1985770, 1985773, 1985776, 1985780, 1985781, 1985785

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	04/19/2018			04/19/2018 16:36	William L. Brown IV	1985769, 1985772, 1985775, 1985778, 1985779, 1985784
EPA 200.7 Rev. 4.4	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 15:02	Martin Acosta	1985814
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 19:11	Martin Acosta	1985811
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 19:17	Martin Acosta	1985812
EPA 200.8 Rev. 5.4	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 19:24	Martin Acosta	1985813
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 00:03	Robert K Palmer	1985814
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 04:24	Robert K Palmer	1985811
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 04:33	Robert K Palmer	1985812
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 04:43	Robert K Palmer	1985813
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 10:43	Robert K Palmer	1985814
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 13:47	Robert K Palmer	1985811
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 13:51	Robert K Palmer	1985812
	04/19/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 13:56	Robert K Palmer	1985813
EPA 300.0 Rev. 2.1	04/19/2018			04/20/2018 15:27	Lipi Saha	1985772
	04/19/2018			04/20/2018 16:02	Lipi Saha	1985775
	04/19/2018			04/20/2018 16:14	Lipi Saha	1985778
	04/19/2018			04/20/2018 16:26	Lipi Saha	1985779
	04/19/2018			04/20/2018 16:38	Lipi Saha	1985784
EPA 350.1 Rev. 2.0	04/19/2018			04/24/2018 12:31	Ping Hua	1985770
	04/19/2018			04/24/2018 13:55	Adrian Shelby	1985773
	04/19/2018			04/24/2018 13:57	Adrian Shelby	1985776
	04/19/2018			04/24/2018 13:58	Adrian Shelby	1985780
	04/19/2018			04/24/2018 14:00	Adrian Shelby	1985781
	04/19/2018			04/24/2018 14:01	Adrian Shelby	1985785
EPA 351.2 Rev. 2.0	04/19/2018	04/20/2018 10:50	Adrian Shelby	04/23/2018 13:48	Joseph Suarez	1985770
	04/19/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:36	Joseph Suarez	1985773
	04/19/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:38	Joseph Suarez	1985776
	04/19/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:40	Joseph Suarez	1985780
	04/19/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:41	Joseph Suarez	1985781
	04/19/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:49	Joseph Suarez	1985785
EPA 353.2 Rev. 2.0	04/19/2018			04/20/2018 11:19	Lauren Bottorf	1985770
	04/19/2018			04/23/2018 13:37	Lauren Bottorf	1985773
	04/19/2018			04/23/2018 13:44	Lauren Bottorf	1985776
	04/19/2018			04/23/2018 13:50	Lauren Bottorf	1985785
	04/19/2018			04/23/2018 13:51	Lauren Bottorf	1985780
	04/19/2018			04/23/2018 13:52	Lauren Bottorf	1985781
EPA 365.1 Rev. 2.0	04/19/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:58	Beverly Y. Sanders	1985773
	04/19/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:59	Beverly Y. Sanders	1985776
	04/19/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 10:01	Beverly Y. Sanders	1985781

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	04/19/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 12:27	Beverly Y. Sanders	1985770
	04/19/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 13:01	Beverly Y. Sanders	1985780
	04/19/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 13:02	Beverly Y. Sanders	1985785
EPA 365.1 Rev. 2.0 dissolved	04/19/2018			04/19/2018 15:06	Megan Treadwell	1985774
	04/19/2018			04/19/2018 15:23	Megan Treadwell	1985771
	04/19/2018			04/19/2018 15:30	Megan Treadwell	1985777
	04/19/2018			04/19/2018 15:31	Megan Treadwell	1985782
	04/19/2018			04/19/2018 15:32	Megan Treadwell	1985783
	04/19/2018			04/19/2018 15:33	Megan Treadwell	1985786
	04/19/2018			04/19/2018 15:33	Megan Treadwell	1985786
EPA 8321B	04/19/2018	04/19/2018 12:30	Hoor Shaik	04/19/2018 20:02	S. M. Reddy	1985800
	04/19/2018	04/19/2018 12:30	Hoor Shaik	04/19/2018 20:33	S. M. Reddy	1985801
	04/19/2018	04/24/2018 10:00	Hoor Shaik	05/03/2018 23:54	Juyoung Kim	1985800
	04/19/2018	04/24/2018 10:00	Hoor Shaik	05/04/2018 01:03	Juyoung Kim	1985801
	04/19/2018	04/24/2018 10:00	Hoor Shaik	05/06/2018 06:05	Juyoung Kim	1985800
	04/19/2018	04/24/2018 10:00	Hoor Shaik	05/06/2018 07:49	Juyoung Kim	1985801
	04/19/2018	04/24/2018 10:00	Hoor Shaik	05/10/2018 20:24	Juyoung Kim	1985800
SM 2120 B	04/19/2018			04/19/2018 14:16	Tanya Welborn	1985775
	04/19/2018			04/19/2018 14:17	Tanya Welborn	1985778
	04/19/2018			04/19/2018 14:18	Tanya Welborn	1985784
	04/19/2018			04/19/2018 14:50	Tanya Welborn	1985772
	04/19/2018			04/19/2018 14:51	Tanya Welborn	1985779
SM 2320 B-97	04/19/2018			04/27/2018 00:12	Dale L. Simmons	1985769
	04/19/2018			04/28/2018 04:03	Dale L. Simmons	1985772
	04/19/2018			04/28/2018 04:13	Dale L. Simmons	1985775
	04/19/2018			04/28/2018 04:23	Dale L. Simmons	1985779
	04/19/2018			04/28/2018 04:58	Dale L. Simmons	1985784
SM 2540 C-97	04/19/2018			04/28/2018 05:38	Dale L. Simmons	1985778
	04/19/2018			04/20/2018 18:00	William L. Brown IV	1985772, 1985775, 1985778, 1985779, 1985784
SM 2540 D-97	04/19/2018			04/20/2018 18:00	William L. Brown IV	1985769, 1985772, 1985775, 1985778, 1985779, 1985784
SM 4500 F-C-97	04/19/2018			04/26/2018 22:23	Dale L. Simmons	1985769
	04/19/2018			04/28/2018 04:03	Dale L. Simmons	1985772
	04/19/2018			04/28/2018 04:13	Dale L. Simmons	1985775
	04/19/2018			04/28/2018 04:23	Dale L. Simmons	1985779
	04/19/2018			04/28/2018 04:58	Dale L. Simmons	1985784
SM 5310 B-00	04/19/2018			04/28/2018 05:38	Dale L. Simmons	1985778
	04/19/2018			04/24/2018 03:31	Megan Treadwell	1985773
	04/19/2018			04/24/2018 03:46	Megan Treadwell	1985776
	04/19/2018			04/24/2018 04:01	Megan Treadwell	1985780

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	04/19/2018			04/24/2018 04:47	Megan Treadwell	1985781
	04/19/2018			04/24/2018 05:02	Megan Treadwell	1985785
	04/19/2018			04/24/2018 08:33	Megan Treadwell	1985770