Chemical Analysis Report

WAS-SECT-2018-04-25-01

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

Event Description: **Quincy, Juniper, Freeman, Salem, Swamp**
Request ID: **RQ-2018-04-23-15**
Customer: **WAS-SECT**
Project ID: **SMP**

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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: Juniper Creek upstream of Juniper Creek Rd **Collection Date/Time: 04/25/2018 09:05**

Field ID: G1WA0059 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1987371	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P344065	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P344282	
		Sulfate	3.5		mg SO4/L	P344286	
	SM 2120 B	Color (true)	120		PCU	P344048	
	SM 2320 B-97	Total Alkalinity	6.1		mg CaCO3/L	P344830	
	SM 2540 C-97	TDS	59		mg/L	P344548	
	SM 2540 D-97	TSS	8	I	mg/L	P344678	
	SM 4500 F-C-97	Fluoride	0.064	I	mg F/L	P344746	
1987372	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P344623	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P344422	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P344328	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P344138	
	SM 5310 B-00	Organic Carbon	8.6		mg C/L	P344445	
1987373	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P344053	
1987389	EPA 8321B	2,4-D	0.0020	U	ug/L	P344034	
		Bentazon	0.012		ug/L	P344034	
		MCPP	0.0020	U	ug/L	P344034	
		Triclopyr**	0.0040	U	ug/L	P344034	
		Imidacloprid	0.0068	IJ	ug/L	P344034	MS
		Diuron	0.0020	U	ug/L	P344034	
		Pyraclostrobin**	0.0020	U	ug/L	P344034	
		Primidone**	0.0040	U	ug/L	P344034	
		Linuron	0.0040	U	ug/L	P344034	
		Acetaminophen**	0.0080	U	ug/L	P344034	
		Fenuron	0.016	U	ug/L	P344034	
		Imazapyr**	0.0040	U	ug/L	P344034	
		Carbamazepine**	5.5E-04	I	ug/L	P344034	
		Fluridone**	8.0E-04	U	ug/L	P344034	
		Hydrocodone**	8.0E-04	U	ug/L	P344034	
		Sucralose**	0.10	U	ug/L	P344028	

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: Refer to the narrative for an explanation of QC Codes.

Sample Location: Quincy Creek 100 meters upstream of Ralph Strong Rd **Collection Date/Time: 04/25/2018 09:45**

Field ID: G1WA0018 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1987368	EPA 180.1 Rev. 2.0	Turbidity	10	A	NTU	P344065	
	EPA 300.0 Rev. 2.1	Chloride	5.5		mg Cl/L	P344282	
		Sulfate	0.61		mg SO4/L	P344286	
	SM 2120 B	Color (true)	62		PCU	P344048	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P344830	
	SM 2540 C-97	TDS	53		mg/L	P344548	

Field ID: G1WA0018 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1987368	SM 2540 D-97	TSS	12		mg/L	P344678	
	SM 4500 F-C-97	Fluoride	0.087	I	mg F/L	P344746	
1987369	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P344623	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P344422	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P344328	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P344138	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P344445	
1987370	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P344053	
1987388	EPA 8321B	2,4-D	0.0020	U	ug/L	P343931	
		Bentazon	8.0E-04	U	ug/L	P343931	
		MCPP	0.0020	U	ug/L	P343931	
		Triclopyr**	0.0040	U	ug/L	P343931	
		Imidacloprid	0.0069	I	ug/L	P343931	
		Diuron	0.0020	U	ug/L	P343931	
		Pyraclostrobin**	0.0020	U	ug/L	P343931	
		Primidone**	0.0040	U	ug/L	P343931	
		Linuron	0.0040	U	ug/L	P343931	
		Acetaminophen**	0.0080	U	ug/L	P343931	
		Fenuron	0.016	U	ug/L	P343931	
		Imazapyr**	0.0044	I	ug/L	P343931	
		Carbamazepine**	6.6E-04	I	ug/L	P343931	
		Fluridone**	8.0E-04	U	ug/L	P343931	
		Hydrocodone**	8.0E-04	U	ug/L	P343931	
		Sucralose**	0.10	U	ug/L	P344028	
1987390	EPA 200.7 Rev. 4.4	Calcium	7.12		mg/L	P344115	
		Iron	1.85E+03		ug/L	P344115	
		Magnesium	2.27		mg/L	P344115	
		Potassium	0.30	U	mg/L	P344115	
		Sodium	3.2		mg/L	P344115	
		Zinc	5.0	U	ug/L	P344115	
	EPA 200.8 Rev. 5.4	Arsenic	0.76		ug/L	P344115	
		Cadmium	0.020	U	ug/L	P344115	
		Chromium	0.88	I	ug/L	P344115	
		Copper	0.27	I	ug/L	P344115	
		Lead	0.52		ug/L	P344115	
		Nickel	0.26	I	ug/L	P344115	
		Silver	0.010	U	ug/L	P344115	

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 imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Swamp Creek upstream of Railroad **Collection Date/Time: 04/25/2018 11:00**

Field ID: G1WA0052 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1987374	EPA 180.1 Rev. 2.0	Turbidity	20		NTU	P344065	

Field ID: G1WA0052 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1987374	EPA 300.0 Rev. 2.1	Chloride	7.3		mg Cl/L	P344282	
		Sulfate	1.1		mg SO4/L	P344286	
	SM 2120 B	Color (true)	71	A	PCU	P344049	
	SM 2320 B-97	Total Alkalinity	13		mg CaCO3/L	P344830	
	SM 2540 C-97	TDS	72		mg/L	P344548	
	SM 2540 D-97	TSS	12		mg/L	P344678	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P344746	
1987375	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P344623	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P344422	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P344328	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P344138	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P344445	
1987376	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.063		mg P/L	P344053	

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: P344065

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344115

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344115

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: P344282

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344282

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344286

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344623

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344422

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344328

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344138

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344053

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

Reference Method: EPA 8321B
Batch ID: P343931

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	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P343931

Component	Result	Code	Units
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: EPA 8321B
Batch ID: P344028

Component	Result	Code	Units
Sucralose	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P344034

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	0.030	I	ug/L
Fluridone	8.0E-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: P344048

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P344049

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P344830

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P344548

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P344678

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344746

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P344445

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: P344115

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	103		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	100		P	85 - 115
Sodium	101		P	85 - 115
Zinc	96.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344115

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	95.2		P	85 - 115
Copper	95.9		P	85 - 115
Lead	96.8		P	85 - 115
Nickel	99.9		P	85 - 115
Silver	99.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344282

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344286

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344623

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344422

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344328

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344138

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344053

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.5		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	88.8		P	40 - 150
Acetaminophen	93.1		P	30 - 150
Bentazon	117		P	30 - 150
Carbamazepine	96.8		P	40 - 150
Diuron	90.4		P	40 - 150
Fenuron	110		P	40 - 150
Fluridone	87.8		P	40 - 150
Hydrocodone	115		P	40 - 150
Imazapyr	104		P	40 - 150
Imidacloprid	104		P	40 - 160
Linuron	90.8		P	40 - 150
MCPP	103		P	40 - 150
Primidone	97.8		P	40 - 150
Pyraclostrobin	83.1		P	40 - 150
Triclopyr	106		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P344028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	112		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
Acetaminophen	93.3		P	30 - 150
Bentazon	135		P	30 - 150
Carbamazepine	103		P	40 - 150
Diuron	91.0		P	40 - 150
Fenuron	110		P	40 - 150
Fluridone	91.5		P	40 - 150
Hydrocodone	116		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	110		P	40 - 160
Linuron	91.5		P	40 - 150
MCPP	115		P	40 - 150
Primidone	88.5		P	40 - 150
Pyraclostrobin	92.4		P	40 - 150
Triclopyr	122		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P344830

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

Reference Method: SM 4500 F-C-97
Batch ID: P344746

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

Reference Method: SM 5310 B-00
Batch ID: P344445

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.1		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987108	Calcium	97.6		P	80 - 120
1987108	Iron	100	100	P/P	80 - 120
1987108	Magnesium	100	101	P/P	80 - 120
1987108	Potassium	98.0	99.0	P/P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987108	Sodium	100	98.9	P/P	80 - 120
1987108	Zinc	94.0	93.3	P/P	80 - 120
1987620	Calcium	98.8		P	80 - 120
1987620	Iron	99.8		P	80 - 120
1987620	Magnesium	101		P	80 - 120
1987620	Potassium	97.4		P	80 - 120
1987620	Sodium	97.5		P	80 - 120
1987620	Zinc	96.6		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987108	Arsenic	102	103	P/P	80 - 120
1987108	Cadmium	100	99.8	P/P	80 - 120
1987108	Chromium	94.0	94.6	P/P	80 - 120
1987108	Copper	96.1	95.7	P/P	80 - 120
1987108	Lead	96.0	97.0	P/P	80 - 120
1987108	Nickel	99.0	100	P/P	80 - 120
1987108	Silver	99.9	99.2	P/P	80 - 120
1987620	Arsenic	102		P	80 - 120
1987620	Cadmium	102		P	80 - 120
1987620	Chromium	96.5		P	80 - 120
1987620	Copper	94.4		P	80 - 120
1987620	Lead	100		P	80 - 120
1987620	Nickel	99.7		P	80 - 120
1987620	Silver	98.8		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987200	Chloride	98.9		P	90 - 110
1987533	Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987200	Sulfate	98.9		P	90 - 110
1987533	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987207	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344422

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987497	Kjeldahl Nitrogen	112	110	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987369	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987204	Total-P	101	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987370	O-Phosphate-P	97.5	97.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1986950	2,4-D	80.1	76.0	P/P	40 - 150
1986950	Acetaminophen	128	117	P/P	30 - 150
1986950	Bentazon	75.6	68.5	P/P	30 - 150
1986950	Carbamazepine	116	108	P/P	40 - 150
1986950	Diuron	96.5	88.5	P/P	40 - 150
1986950	Fenuron	121	108	P/P	40 - 150
1986950	Fluridone	88.8	80.4	P/P	40 - 150
1986950	Hydrocodone	146	135	P/P	40 - 150
1986950	Imazapyr	119	87.0	P/P	40 - 150
1986950	Linuron	100	89.9	P/P	40 - 150
1986950	MCPP	92.7	84.2	P/P	40 - 150
1986950	Primidone	131	110	P/P	40 - 150
1986950	Pyraclostrobin	103	97.6	P/P	40 - 150
1986950	Triclopyr	96.1	88.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987104	Sucralose	85.1	72.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987389	2,4-D	99.8	89.8	P/P	40 - 150
1987389	Acetaminophen	126	115	P/P	30 - 150
1987389	Bentazon	68.4	62.8	P/P	30 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P344034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987389	Carbamazepine	118	109	P/P	40 - 150
1987389	Diuron	96.8	88.3	P/P	40 - 150
1987389	Fenuron	114	104	P/P	40 - 150
1987389	Fluridone	94.9	88.0	P/P	40 - 150
1987389	Hydrocodone	149	134	P/P	40 - 150
1987389	Imazapyr	133	117	P/P	40 - 150
1987389	Imidacloprid	229	198	F/F	40 - 160
1987389	Linuron	104	95.7	P/P	40 - 150
1987389	MCPP	78.3	80.0	P/P	40 - 150
1987389	Primidone	119	112	P/P	40 - 150
1987389	Pyraclostrobin	108	99.4	P/P	40 - 150
1987389	Triclopyr	87.0	86.4	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987627	Fluoride	94.8	94.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344445

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987202	Organic Carbon	96.7	95.5	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P344065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987368	Turbidity	3.81	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987108	Calcium	0.440	Spike	P	0 - 20
1987108	Iron	0.290	Spike	P	0 - 20
1987108	Magnesium	0.691	Spike	P	0 - 20
1987108	Potassium	0.907	Spike	P	0 - 20
1987108	Sodium	0.734	Spike	P	0 - 20
1987108	Zinc	0.649	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987108	Arsenic	1.00	Spike	P	0 - 20
1987108	Cadmium	0.612	Spike	P	0 - 20
1987108	Chromium	0.639	Spike	P	0 - 20
1987108	Copper	0.377	Spike	P	0 - 20
1987108	Lead	1.08	Spike	P	0 - 20
1987108	Nickel	1.05	Spike	P	0 - 20
1987108	Silver	0.647	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987200	Chloride	0.372	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987200	Sulfate	0.683	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987207	Ammonia-N	0.270	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987497	Kjeldahl Nitrogen	1.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987369	NO2NO3-N	0.849	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987204	Total-P	4.23	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987370	O-Phosphate-P	0.375	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P343931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986950	2,4-D	5.24	Spike	P	0 - 30
1986950	Acetaminophen	8.51	Spike	P	0 - 30
1986950	Bentazon	7.81	Spike	P	0 - 30
1986950	Carbamazepine	7.17	Spike	P	0 - 30
1986950	Diuron	7.50	Spike	P	0 - 30
1986950	Fenuron	10.8	Spike	P	0 - 30
1986950	Fluridone	8.24	Spike	P	0 - 30
1986950	Hydrocodone	8.33	Spike	P	0 - 30
1986950	Imazapyr	11.2	Spike	P	0 - 30
1986950	Imidacloprid	11.5	Spike	P	0 - 30
1986950	Linuron	11.1	Spike	P	0 - 30
1986950	MCPP	9.64	Spike	P	0 - 30
1986950	Primidone	17.4	Spike	P	0 - 30
1986950	Pyraclostrobin	5.76	Spike	P	0 - 30
1986950	Triclopyr	8.54	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P344028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987104	Sucralose	15.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P344034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987389	2,4-D	10.6	Spike	P	0 - 30
1987389	Acetaminophen	8.88	Spike	P	0 - 30
1987389	Bentazon	6.96	Spike	P	0 - 30
1987389	Carbamazepine	7.79	Spike	P	0 - 30
1987389	Diuron	9.17	Spike	P	0 - 30
1987389	Fenuron	9.62	Spike	P	0 - 30
1987389	Fluridone	7.59	Spike	P	0 - 30
1987389	Hydrocodone	10.9	Spike	P	0 - 30
1987389	Imazapyr	13.4	Spike	P	0 - 30
1987389	Imidacloprid	14.2	Spike	P	0 - 30
1987389	Linuron	8.47	Spike	P	0 - 30
1987389	MCPP	2.08	Spike	P	0 - 30
1987389	Primidone	5.96	Spike	P	0 - 30
1987389	Pyraclostrobin	7.86	Spike	P	0 - 30
1987389	Triclopyr	0.626	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P344048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987200	Color (true)	0.534	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P344049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987374	Color (true)	1.02	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P344830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987627	Total Alkalinity	1.01	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P344548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987495	TDS	5.19	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P344746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987627	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P344445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987202	Organic Carbon	0.817	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: 1987388
Field Sample ID: G1WA0018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	71.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	120	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 1987388
Field Sample ID: G1WA0018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	90.3	P	30 - 160
EPA 8321B	Primidone-d5	126	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160

Lab Sample ID: 1987389
Field Sample ID: G1WA0059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	79.2	P	30 - 160
EPA 8321B	Primidone-d5	98.1	P	30 - 160
EPA 8321B	Sucralose-d6	87.8	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83415
Included Lab Sample IDs: 1987368, 1987371, 1987374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A83456
Included Lab Sample IDs: 1987368, 1987371, 1987374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.8	99.2	P/P	90 - 115
Color (true)	99.2	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83457
Included Lab Sample IDs: 1987370, 1987373, 1987376

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83461
Included Lab Sample IDs: 1987368, 1987371, 1987374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.0	P/P	95 - 105

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A83527
Included Lab Sample IDs: 1987390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.3	96.6	P/P	90 - 110
Iron	96.8	96.8	P/P	90 - 110
Magnesium	96.8	97.1	P/P	90 - 110
Potassium	96.3	96.6	P/P	90 - 110
Sodium	96.5	96.3	P/P	90 - 110
Zinc	94.9	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A83544
Included Lab Sample IDs: 1987369, 1987372, 1987375

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A83549
Included Lab Sample IDs: 1987369, 1987372, 1987375

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A83557
Included Lab Sample IDs: 1987390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	99.1	99.4	P/P	90 - 110
Chromium	97.6	98.0	P/P	90 - 110
Copper	98.4	98.4	P/P	90 - 110
Lead	97.8	97.3	P/P	90 - 110
Nickel	98.7	99.2	P/P	90 - 110
Silver	99.0	99.7	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A83560
Included Lab Sample IDs: 1987388, 1987389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	86.1	P/P	60 - 150

Reference Method: SM 5310 B-00
Run ID: A83590
Included Lab Sample IDs: 1987369, 1987372, 1987375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.5	98.2	P/P	90 - 110
Organic Carbon	98.0	97.5	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A83623
Included Lab Sample IDs: 1987369, 1987372, 1987375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A83650
Included Lab Sample IDs: 1987369, 1987372, 1987375

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

Reference Method: SM 4500 F-C-97
Run ID: A83684
Included Lab Sample IDs: 1987368, 1987371, 1987374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	98.1	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A83721
Included Lab Sample IDs: 1987368, 1987371, 1987374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.7	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A83753
Included Lab Sample IDs: 1987388, 1987389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.7	114	P/P	50 - 150
Bentazon	134	136	P/P	50 - 150
MCPP	104	99.9	P/P	50 - 150
Triclopyr	104	113	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A83769
Included Lab Sample IDs: 1987388, 1987389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	112	107	P/P	60 - 150
Carbamazepine	110	108	P/P	60 - 150
Diuron	115	115	P/P	60 - 150
Fenuron	115	114	P/P	60 - 150
Fluridone	105	105	P/P	60 - 160
Hydrocodone	122	117	P/P	60 - 150
Imazapyr	103	112	P/P	50 - 150
Imidacloprid	106	108	P/P	60 - 150
Linuron	123	110	P/P	60 - 150
Primidone	106	110	P/P	60 - 150
Pyraclostrobin	114	113	P/P	60 - 150

Quality Assurance Report
Calibration Verification

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.81	
EPA 200.7 Rev. 4.4	Calcium	101	97.6	98.8				0.440
	Iron	103	100	100	99.8			0.290
	Magnesium	106	100	101	101			0.691
	Potassium	100	98.0	99.0	97.4			0.907
	Sodium	101	100	98.9	97.5			0.734
	Zinc	96.3	94.0	93.3	96.6			0.649
EPA 200.8 Rev. 5.4	Arsenic	102	102	103	102			1.00
	Cadmium	100	100	99.8	102			0.612
	Chromium	95.2	94.0	94.6	96.5			0.639
	Copper	95.9	96.1	95.7	94.4			0.377
	Lead	96.8	96.0	97.0	100			1.08
	Nickel	99.9	99.0	100	99.7			1.05
	Silver	99.7	99.9	99.2	98.8			0.647
EPA 300.0 Rev. 2.1	Chloride	99.5	98.9	99.7			0.372	
	Sulfate	98.3	98.9	96.6			0.683	
EPA 350.1 Rev. 2.0	Ammonia-N	103	103	103				0.270
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	112	110				1.01
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	100	102				0.849
EPA 365.1 Rev. 2.0	Total-P	101	101	105				4.23
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	97.5	97.0				0.375
EPA 8321B	2,4-D	88.8	80.1	76.0				5.24
	2,4-D	109	99.8	89.8				10.6
	Acetaminophen	93.1	128	117				8.51
	Acetaminophen	93.3	126	115				8.88
	Bentazon	117	75.6	68.5				7.81
	Bentazon	135	68.4	62.8				6.96
	Carbamazepine	96.8	116	108				7.17
	Carbamazepine	103	118	109				7.79
	Diuron	90.4	96.5	88.5				7.50
	Diuron	91.0	96.8	88.3				9.17
	Fenuron	110	121	108				10.8
	Fenuron	110	114	104				9.62
	Fluridone	87.8	88.8	80.4				8.24
	Fluridone	91.5	94.9	88.0				7.59
	Hydrocodone	115	146	135				8.33
	Hydrocodone	116	149	134				10.9
	Imazapyr	104	119	87.0				11.2
	Imazapyr	107	133	117				13.4
	Imidacloprid	104						11.5
	Imidacloprid	110	229	198				14.2
	Linuron	90.8	100	89.9				11.1
	Linuron	91.5	104	95.7				8.47
	MCPP	103	92.7	84.2				9.64
	MCPP	115	78.3	80.0				2.08
	Primidone	97.8	131	110				17.4

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Primidone	88.5	119	112			5.96
	Pyraclostrobin	83.1	103	97.6			5.76
	Pyraclostrobin	92.4	108	99.4			7.86
	Sucralose	112	85.1	72.9			15.4
	Triclopyr	106	96.1	88.3			8.54
	Triclopyr	122	87.0	86.4			0.626
SM 2120 B	Color (true)					0.534	
	Color (true)					1.02	
SM 2320 B-97	Total Alkalinity	101				1.01	
SM 2540 C-97	TDS					5.19	
SM 4500 F-C-97	Fluoride	95.3	94.8	94.8			0.0
SM 5310 B-00	Organic Carbon	95.1	96.7	95.5			0.817

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1987368, 1987371, 1987374
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1987390
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1987390
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1987368, 1987371, 1987374
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1987368, 1987371, 1987374
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1987369, 1987372, 1987375
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1987369, 1987372, 1987375
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1987369, 1987372, 1987375
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1987369, 1987372, 1987375
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1987370, 1987373, 1987376
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1987388, 1987389
SM 2120 B / E31780	True Color measured at 450 nm	1987368, 1987371, 1987374
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1987368, 1987371, 1987374
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1987368, 1987371, 1987374
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1987368, 1987371, 1987374
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1987368, 1987371, 1987374
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1987369, 1987372, 1987375

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	04/25/2018			04/25/2018 16:22	William L. Brown IV	1987368, 1987371, 1987374
EPA 200.7 Rev. 4.4	04/25/2018	04/26/2018 14:50	Elliott D. Healy	04/27/2018 23:11	Betina Topolski	1987390
EPA 200.8 Rev. 5.4	04/25/2018	04/26/2018 14:50	Elliott D. Healy	04/30/2018 22:01	Robert K Palmer	1987390
EPA 300.0 Rev. 2.1	04/25/2018			04/28/2018 04:23	Lipi Saha	1987368
	04/25/2018			04/28/2018 04:35	Lipi Saha	1987371
	04/25/2018			04/28/2018 04:47	Lipi Saha	1987374
EPA 350.1 Rev. 2.0	04/25/2018			05/03/2018 13:34	Ping Hua	1987369
	04/25/2018			05/03/2018 13:36	Ping Hua	1987372
	04/25/2018			05/03/2018 13:37	Ping Hua	1987375
EPA 351.2 Rev. 2.0	04/25/2018	05/02/2018 10:30	Adrian Shelby	05/03/2018 09:48	Joseph Suarez	1987369
	04/25/2018	05/02/2018 10:30	Adrian Shelby	05/03/2018 09:49	Joseph Suarez	1987372
	04/25/2018	05/02/2018 10:30	Adrian Shelby	05/03/2018 09:51	Joseph Suarez	1987375
EPA 353.2 Rev. 2.0	04/25/2018			04/30/2018 12:03	Lauren Bottorf	1987369
	04/25/2018			04/30/2018 12:09	Lauren Bottorf	1987372
	04/25/2018			04/30/2018 12:10	Lauren Bottorf	1987375
EPA 365.1 Rev. 2.0	04/25/2018	04/26/2018 12:50	Sima Feizi	04/30/2018 12:21	Beverly Y. Sanders	1987369
	04/25/2018	04/26/2018 12:50	Sima Feizi	04/30/2018 12:23	Beverly Y. Sanders	1987372
	04/25/2018	04/26/2018 12:50	Sima Feizi	04/30/2018 12:24	Beverly Y. Sanders	1987375
EPA 365.1 Rev. 2.0 dissolved	04/25/2018			04/25/2018 15:28	Megan Treadwell	1987370
	04/25/2018			04/25/2018 15:31	Megan Treadwell	1987373
	04/25/2018			04/25/2018 15:32	Megan Treadwell	1987376
EPA 8321B	04/25/2018	04/25/2018 14:00	Hoor Shaik	05/04/2018 23:32	Juyoung Kim	1987388
	04/25/2018	04/25/2018 14:00	Hoor Shaik	05/05/2018 23:19	Juyoung Kim	1987388
	04/25/2018	04/27/2018 12:34	Juyoung Kim	04/28/2018 00:50	Juyoung Kim	1987388
	04/25/2018	04/27/2018 12:34	Juyoung Kim	04/28/2018 01:09	Juyoung Kim	1987389
	04/25/2018	04/30/2018 10:00	Hoor Shaik	05/05/2018 03:00	Juyoung Kim	1987389
	04/25/2018	04/30/2018 10:00	Hoor Shaik	05/06/2018 02:12	Juyoung Kim	1987389
SM 2120 B	04/25/2018			04/25/2018 14:39	Tanya Welborn	1987368
	04/25/2018			04/25/2018 14:40	Tanya Welborn	1987371
	04/25/2018			04/25/2018 14:46	Tanya Welborn	1987374
SM 2320 B-97	04/25/2018			05/07/2018 16:36	Dale L. Simmons	1987368
	04/25/2018			05/07/2018 16:44	Dale L. Simmons	1987371
	04/25/2018			05/07/2018 16:51	Dale L. Simmons	1987374
SM 2540 C-97	04/25/2018			04/27/2018 16:08	Yijie Li	1987368, 1987371, 1987374
SM 2540 D-97	04/25/2018			04/27/2018 16:08	Yijie Li	1987368, 1987371, 1987374
SM 4500 F-C-97	04/25/2018			05/04/2018 00:34	Dale L. Simmons	1987368
	04/25/2018			05/04/2018 00:44	Dale L. Simmons	1987371
	04/25/2018			05/04/2018 00:54	Dale L. Simmons	1987374
SM 5310 B-00	04/25/2018			05/01/2018 03:19	Megan Treadwell	1987369
	04/25/2018			05/01/2018 04:04	Megan Treadwell	1987372

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	04/25/2018			05/01/2018 04:19	Megan Treadwell	1987375