

Chemical Analysis Report

SW-DIST-2018-04-17-01

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

Event Description: **Blackwater Creek HA/RPS/LVS**
Request ID: **RQ-2018-04-16-52**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Temple Terrace, FL 33637-0926
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Date Certified: 08-MAY-2018 14:32



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: 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: BLACKWATER CREEK IN COUNTY PARK

Collection Date/Time: 04/16/2018 10:10

Field ID: G2SW0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984925	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P343609	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P343704	
		Sulfate	9.4		mg SO4/L	P343706	
	SM 2120 B	Color (true)	67		PCU	P343584	
	SM 2320 B-97	Total Alkalinity	94		mg CaCO3/L	P344071	
	SM 2540 C-97	TDS	170		mg/L	P343896	
	SM 2540 D-97	TSS	3	I	mg/L	P343879	
	SM 4500 F-C-97	Fluoride	0.31		mg F/L	P344073	
1984928	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P343775	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P343641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P343659	
	EPA 365.1 Rev. 2.0	Total-P	0.45		mg P/L	P343713	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P343740	
1984931	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.39		mg P/L	P343579	
1984941	EPA 8321B	2,4-D	0.12		ug/L	P343321	
		Bentazon	0.0065		ug/L	P343321	
		MCP	0.0020	U	ug/L	P343321	
		Triclopyr**	0.0040	U	ug/L	P343321	
		Imidacloprid	0.017		ug/L	P343321	MS, RPD
		Diuron	0.0049	I	ug/L	P343321	RPD
		Pyraclostrobin**	0.0020	U	ug/L	P343321	MS, RPD
		Primidone**	0.0040	U	ug/L	P343321	MS, RPD
		Linuron	0.0040	U	ug/L	P343321	
		Acetaminophen**	0.0080	U	ug/L	P343321	MS, RPD
		Fenuron	0.032	I	ug/L	P343321	RPD
		Imazapyr**	0.42		ug/L	P343321	
		Carbamazepine**	0.0028		ug/L	P343321	RPD
		Fluridone**	0.015		ug/L	P343321	
		Hydrocodone**	8.0E-04	U	ug/L	P343321	
		Sucralose**	0.19	I	ug/L	P343548	
		Glyphosate**	1.5		ug/L	P343548	
		AMPA**	0.73		ug/L	P343548	
		Endothal**	0.10	U	ug/L	P343548	
		Glufosinate**	0.10	U	ug/L	P343548	

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 and precision for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-analysis.

EPA 8321B: Results confirmed in re-extraction.

Sample Location: BLACKWATER CREEK IN COUNTY PARK_DUP

Collection Date/Time: 04/16/2018 10:15

Field ID: G2SW0065_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984926	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P343609	

Field ID: G2SW0065_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984926	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P343704	
		Sulfate	9.2		mg SO4/L	P343706	
	SM 2120 B	Color (true)	68		PCU	P343584	
	SM 2320 B-97	Total Alkalinity	94	A	mg CaCO3/L	P344071	
	SM 2540 C-97	TDS	161		mg/L	P343896	
	SM 2540 D-97	TSS	2	I	mg/L	P343879	
	SM 4500 F-C-97	Fluoride	0.31		mg F/L	P344073	
1984929	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P343776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P343641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P343746	
	EPA 365.1 Rev. 2.0	Total-P	0.43		mg P/L	P343713	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P343740	
1984932	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.39		mg P/L	P343579	
1984942	EPA 8321B	2,4-D	0.17		ug/L	P343321	
		Bentazon	0.0085		ug/L	P343321	
		MCP	0.0020	U	ug/L	P343321	
		Triclopyr**	0.0040	U	ug/L	P343321	
		Imidacloprid	0.015		ug/L	P343321	MS, RPD
		Diuron	0.0041	I	ug/L	P343321	RPD
		Pyraclostrobin**	0.0020	U	ug/L	P343321	MS, RPD
		Primidone**	0.0040	U	ug/L	P343321	MS, RPD
		Linuron	0.0040	U	ug/L	P343321	
		Acetaminophen**	0.0080	U	ug/L	P343321	MS, RPD
		Fenuron	0.021	I	ug/L	P343321	RPD
		Imazapyr**	0.37		ug/L	P343321	
		Carbamazepine**	0.0029		ug/L	P343321	RPD
		Fluridone**	0.016		ug/L	P343321	
		Hydrocodone**	8.0E-04	U	ug/L	P343321	
		Sucralose**	0.21	I	ug/L	P343548	
		Glyphosate**	1.7		ug/L	P343548	
		AMPA**	0.68		ug/L	P343548	
		Endothal**	0.10	U	ug/L	P343548	
		Glufosinate**	0.10	U	ug/L	P343548	

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 and precision for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-analysis.

EPA 8321B: Results confirmed in re-extraction.

Sample Location: FIELD BLANK

Collection Date/Time: 04/16/2018 10:30

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984927	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P343609	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P343704	
		Sulfate	0.20	U	mg SO4/L	P343706	

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1984927	SM 2120 B	Color (true)	2.5	U	PCU	P343584	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P344071	
	SM 2540 C-97	TDS	15	U	mg/L	P343892	
	SM 2540 D-97	TSS	2	U	mg/L	P343875	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P344073	
1984930	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P343776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P343641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P343746	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P343713	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P343983	
1984933	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P343579	
1984943	EPA 8321B	2,4-D	0.0020	U	ug/L	P343642	
		Bentazon	8.0E-04	U	ug/L	P343642	
		MCP	0.0020	U	ug/L	P343642	
		Triclopyr**	0.0040	U	ug/L	P343642	
		Imidacloprid	0.0020	U	ug/L	P343642	
		Diuron	0.0020	U	ug/L	P343642	
		Pyraclostrobin**	0.0020	U	ug/L	P343642	
		Primidone**	0.0040	U	ug/L	P343642	
		Linuron	0.0040	U	ug/L	P343642	
		Acetaminophen**	0.0080	U	ug/L	P343642	
		Fenuron	0.016	U	ug/L	P343642	
		Imazapyr**	0.0040	U	ug/L	P343642	
		Carbamazepine**	4.0E-04	U	ug/L	P343642	
		Fluridone**	8.0E-04	U	ug/L	P343642	
		Hydrocodone**	8.0E-04	U	ug/L	P343642	
		Sucralose**	0.10	U	ug/L	P343548	
		Glyphosate**	0.10	U	ug/L	P343548	
		AMPA**	0.10	U	ug/L	P343548	
		Endothal**	0.10	U	ug/L	P343548	
		Glufosinate**	0.10	U	ug/L	P343548	

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: Results confirmed in re-extraction.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P343609

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P343704

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343704

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343706

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343775

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343776

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343641

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343659

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343746

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343713

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343579

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P343321

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
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: P343548

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: P343642

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
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: P343584

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P344071

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

Reference Method: SM 2540 C-97
Batch ID: P343892

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P343896

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343875

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343879

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343740

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

Reference Method: SM 5310 B-00
Batch ID: P343983

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343704

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343704

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343706

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343775

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343776

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343641

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: P343659

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: P343746

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343713

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343579

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P343321

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	83.4		P	40 - 150
Acetaminophen	115		P	30 - 150
Bentazon	105		P	30 - 150
Carbamazepine	101		P	40 - 150
Diuron	69.5		P	40 - 150
Fenuron	126		P	40 - 150
Fluridone	49.2		P	40 - 150
Hydrocodone	106		P	40 - 150
Imazapyr	82.5		P	40 - 150
Imidacloprid	108		P	40 - 160
Linuron	66.9		P	40 - 150
MCP	68.9		P	40 - 150
Primidone	119		P	40 - 150
Pyraclostrobin	54.9		P	40 - 150
Triclopyr	76.9		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P343548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	85.4		P	40 - 140
Endothall	87.0		P	40 - 140
Glufosinate	75.6		P	40 - 140
Glyphosate	87.3		P	40 - 140
Sucralose	118		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P343642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
Acetaminophen	122		P	30 - 150
Bentazon	134		P	30 - 150
Carbamazepine	116		P	40 - 150
Diuron	80.7		P	40 - 150
Fenuron	134		P	40 - 150
Fluridone	58.8		P	40 - 150
Hydrocodone	115		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	129		P	40 - 160
Linuron	81.4		P	40 - 150
MCP	105		P	40 - 150
Primidone	139		P	40 - 150
Pyraclostrobin	59.7		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2320 B-97

Batch ID: P344071

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343740

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

Reference Method: SM 5310 B-00
Batch ID: P343983

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984758	Chloride	96.7		P	90 - 110
1985022	Chloride	93.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984758	Sulfate	94.3		P	90 - 110
1985022	Sulfate	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984744	Ammonia-N	99.8	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984929	Ammonia-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984928	Kjeldahl Nitrogen	99.8	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984744	NO2NO3-N	99.8	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984929	NO2NO3-N	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984975	Total-P	107	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984763	O-Phosphate-P	98.3	97.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984892	2,4-D	91.3	98.0	P/P	40 - 150
1984892	Acetaminophen	158	97.8	F/P	30 - 150
1984892	Bentazon	108	113	P/P	30 - 150
1984892	Carbamazepine	127	92.0	P/P	40 - 150
1984892	Diuron	84.1	58.9	P/P	40 - 150
1984892	Fenuron	138	90.5	P/P	40 - 150
1984892	Fluridone	54.9	40.4	P/P	40 - 150
1984892	Hydrocodone	122	98.6	P/P	40 - 150
1984892	Imidacloprid	276	179	F/F	40 - 160
1984892	Linuron	82.9	64.6	P/P	40 - 150
1984892	MCP	83.6	85.8	P/P	40 - 150
1984892	Primidone	153	91.0	F/P	40 - 150
1984892	Pyraclostrobin	69.8	38.1	P/F	40 - 150
1984892	Triclopyr	81.7	90.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984992	AMPA	81.3	68.5	P/P	40 - 140
1984992	Endothall	117	113	P/P	40 - 140
1984992	Glufosinate	85.8	84.9	P/P	40 - 140
1984992	Glyphosate	71.1	72.4	P/P	40 - 140
1984992	Sucralose	51.9	48.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P343642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985615	2,4-D	68.9	71.4	P/P	40 - 150
1985615	Acetaminophen	116	120	P/P	30 - 150
1985615	Bentazon	70.5	89.7	P/P	30 - 150
1985615	Carbamazepine	106	110	P/P	40 - 150
1985615	Diuron	73.3	71.4	P/P	40 - 150
1985615	Fenuron	116	125	P/P	40 - 150
1985615	Fluridone	47.0	47.4	P/P	40 - 150
1985615	Hydrocodone	118	115	P/P	40 - 150
1985615	Imazapyr	78.0	82.2	P/P	40 - 150
1985615	Imidacloprid	128	136	P/P	40 - 160
1985615	Linuron	67.8	71.1	P/P	40 - 150
1985615	MCPP	74.6	66.9	P/P	40 - 150
1985615	Primidone	112	122	P/P	40 - 150
1985615	Pyraclostrobin	60.3	53.3	P/P	40 - 150
1985615	Triclopyr	70.9	70.3	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984926	Fluoride	94.9	96.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343740

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984744	Organic Carbon	103		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985006	Organic Carbon	94.9	99.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984973	Turbidity	3.59	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984758	Chloride	0.207	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984758	Sulfate	1.19	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984744	Ammonia-N	0.902	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984929	Ammonia-N	0.870	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984928	Kjeldahl Nitrogen	3.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984744	NO2NO3-N	0.930	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984929	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984975	Total-P	4.92	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984763	O-Phosphate-P	0.655	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P343321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984892	2,4-D	6.62	Spike	P	0 - 30
1984892	Acetaminophen	46.8	Spike	F	0 - 30
1984892	Bentazon	4.20	Spike	P	0 - 30
1984892	Carbamazepine	31.4	Spike	F	0 - 30
1984892	Diuron	31.0	Spike	F	0 - 30
1984892	Fenuron	41.6	Spike	F	0 - 30
1984892	Fluridone	26.9	Spike	P	0 - 30
1984892	Hydrocodone	21.6	Spike	P	0 - 30
1984892	Imidacloprid	39.9	Spike	F	0 - 30
1984892	Linuron	24.7	Spike	P	0 - 30
1984892	MCP	2.61	Spike	P	0 - 30
1984892	Primidone	48.0	Spike	F	0 - 30
1984892	Pyraclostrobin	58.9	Spike	F	0 - 30
1984892	Triclopyr	10.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984992	AMPA	17.0	Spike	P	0 - 30
1984992	Endothall	2.80	Spike	P	0 - 30
1984992	Glufosinate	1.08	Spike	P	0 - 30
1984992	Glyphosate	1.79	Spike	P	0 - 30
1984992	Sucralose	5.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985615	2,4-D	3.61	Spike	P	0 - 30
1985615	Acetaminophen	3.23	Spike	P	0 - 30
1985615	Bentazon	24.0	Spike	P	0 - 30
1985615	Carbamazepine	3.79	Spike	P	0 - 30
1985615	Diuron	2.69	Spike	P	0 - 30
1985615	Fenuron	7.51	Spike	P	0 - 30
1985615	Fluridone	0.994	Spike	P	0 - 30
1985615	Hydrocodone	2.47	Spike	P	0 - 30
1985615	Imazapyr	5.21	Spike	P	0 - 30
1985615	Imidacloprid	5.51	Spike	P	0 - 30
1985615	Linuron	4.75	Spike	P	0 - 30
1985615	MCP	10.8	Spike	P	0 - 30
1985615	Primidone	9.12	Spike	P	0 - 30
1985615	Pyraclostrobin	12.3	Spike	P	0 - 30
1985615	Triclopyr	0.844	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P343584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984758	Color (true)	0.528	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P344071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984926	Total Alkalinity	0.0685	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P343892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984407	TDS	5.59	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P343896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984882	TDS	3.52	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984926	Fluoride	0.986	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984744	Organic Carbon	0.758	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P343983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985006	Organic Carbon	2.75	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

Quality Assurance Report Surrogates

Lab Sample ID: 1984941
Field Sample ID: G2SW0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	56.9	P	30 - 160
EPA 8321B	2,4-D-d3	56.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	146	P	30 - 160
EPA 8321B	Acetaminophen-d4	146	P	30 - 160
EPA 8321B	Carbamazepine-d10	114	P	30 - 160
EPA 8321B	Carbamazepine-d10	114	P	30 - 160
EPA 8321B	Diuron-d6	79.2	P	30 - 160
EPA 8321B	Diuron-d6	79.2	P	30 - 160
EPA 8321B	Endothall-d6	80.4	P	40 - 160
EPA 8321B	Endothall-d6	80.4	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	43.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	43.3	P	40 - 160
EPA 8321B	Primidone-d5	138	P	30 - 160
EPA 8321B	Primidone-d5	138	P	30 - 160
EPA 8321B	Sucralose-d6	63.1	P	40 - 160
EPA 8321B	Sucralose-d6	63.1	P	40 - 160

Lab Sample ID: 1984942
Field Sample ID: G2SW0065_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.3	P	30 - 160
EPA 8321B	2,4-D-d3	77.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	72.7	P	30 - 160
EPA 8321B	Diuron-d6	72.7	P	30 - 160
EPA 8321B	Endothall-d6	71.9	P	40 - 160
EPA 8321B	Endothall-d6	71.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	44.4	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	44.4	P	40 - 160
EPA 8321B	Primidone-d5	125	P	30 - 160
EPA 8321B	Primidone-d5	125	P	30 - 160
EPA 8321B	Sucralose-d6	57.1	P	40 - 160
EPA 8321B	Sucralose-d6	57.1	P	40 - 160

Lab Sample ID: 1984943
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	52.4	P	30 - 160
EPA 8321B	2,4-D-d3	52.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.5	P	30 - 160
EPA 8321B	Diuron-d6	59.5	P	30 - 160
EPA 8321B	Diuron-d6	59.5	P	30 - 160
EPA 8321B	Endothall-d6	67.9	P	40 - 160
EPA 8321B	Endothall-d6	67.9	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1984943

Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	59.4	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	59.4	P	40 - 160
EPA 8321B	Primidone-d5	145	P	30 - 160
EPA 8321B	Primidone-d5	145	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	40 - 160
EPA 8321B	Sucralose-d6	119	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83267

Included Lab Sample IDs: 1984925, 1984926, 1984927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	97.6	P/P	90 - 110
Sulfate	98.7	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83289

Included Lab Sample IDs: 1984931, 1984932, 1984933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	99.4	P/P	90 - 110
O-Phosphate-P	99.9	99.7	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A83291

Included Lab Sample IDs: 1984925, 1984926, 1984927

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83304

Included Lab Sample IDs: 1984925, 1984926, 1984927

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83321

Included Lab Sample IDs: 1984928

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A83333

Included Lab Sample IDs: 1984941, 1984942, 1984943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	70.9	78.7	P/P	60 - 150
Endothall	79.7	87.8	P/P	60 - 150
Glufosinate	69.2	70.5	P/P	60 - 150
Glyphosate	84.9	89.6	P/P	60 - 150
Sucralose	96.2	94.5	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83339

Included Lab Sample IDs: 1984928, 1984929, 1984930

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

Reference Method: SM 5310 B-00

Run ID: A83342

Included Lab Sample IDs: 1984928, 1984929

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83348

Included Lab Sample IDs: 1984929, 1984930

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83354

Included Lab Sample IDs: 1984928, 1984929, 1984930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	103	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83373

Included Lab Sample IDs: 1984928, 1984929

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83407

Included Lab Sample IDs: 1984930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00
Run ID: A83431
Included Lab Sample IDs: 1984930

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

Reference Method: SM 2320 B-97
Run ID: A83462
Included Lab Sample IDs: 1984925, 1984926, 1984927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A83462
Included Lab Sample IDs: 1984925, 1984926, 1984927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A83600
Included Lab Sample IDs: 1984941, 1984942, 1984943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	119	123	P/P	50 - 150
2,4-D	149	119	P/P	50 - 150
Acetaminophen	124	137	P/P	60 - 150
Acetaminophen	138	130	P/P	60 - 150
Bentazon	144	142	P/P	50 - 150
Bentazon	158	144	P/P	50 - 160
Carbamazepine	136	127	P/P	60 - 150
Carbamazepine	141	142	P/P	60 - 150
Diuron	133	136	P/P	60 - 150
Diuron	133	127	P/P	60 - 150
Fenuron	131	126	P/P	60 - 150
Fenuron	142	139	P/P	60 - 150
Fluridone	110	105	P/P	60 - 160
Fluridone	111	112	P/P	60 - 160
Hydrocodone	118	120	P/P	60 - 150
Hydrocodone	121	129	P/P	60 - 150
Imazapyr	115	111	P/P	50 - 150
Imazapyr	96.8	109	P/P	50 - 150
Imidacloprid	126	122	P/P	60 - 150
Imidacloprid	137	125	P/P	60 - 150
Linuron	117	115	P/P	60 - 150
Linuron	125	129	P/P	60 - 150
MCPP	123	127	P/P	50 - 150
MCPP	127	128	P/P	50 - 150
Primidone	110	135	P/P	60 - 150
Primidone	128	120	P/P	60 - 150
Pyraclostrobin	83.0	88.5	P/P	60 - 150
Pyraclostrobin	95.1	106	P/P	60 - 150
Triclopyr	123	136	P/P	50 - 150
Triclopyr	136	131	P/P	50 - 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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					3.59	
EPA 300.0 Rev. 2.1	Chloride	95.3	96.7	93.7		0.207	
	Sulfate	95.6	94.3	94.0		1.19	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	99.8	98.5			0.902
	Ammonia-N	97.6	95.5	96.5			0.870
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	99.8	105			3.12
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	99.8	98.8			0.930
	NO ₂ NO ₃ -N	100	103				0.491
EPA 365.1 Rev. 2.0	Total-P	107	107	102			4.92
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8	98.3	97.6			0.655
EPA 8321B	2,4-D	83.4	91.3	98.0			6.62
	2,4-D	111	68.9	71.4			3.61
	Acetaminophen	115	158	97.8			46.8
	Acetaminophen	122	116	120			3.23
	AMPA	85.4	81.3	68.5			17.0
	Bentazon	105	108	113			4.20
	Bentazon	134	70.5	89.7			24.0
	Carbamazepine	101	127	92.0			31.4
	Carbamazepine	116	106	110			3.79
	Diuron	69.5	84.1	58.9			31.0
	Diuron	80.7	73.3	71.4			2.69
	Endothall	87.0	117	113			2.80
	Fenuron	126	138	90.5			41.6
	Fenuron	134	116	125			7.51
	Fluridone	49.2	54.9	40.4			26.9
	Fluridone	58.8	47.0	47.4			0.994
	Glufosinate	75.6	85.8	84.9			1.08
	Glyphosate	87.3	71.1	72.4			1.79
	Hydrocodone	106	122	98.6			21.6
	Hydrocodone	115	118	115			2.47
	Imazapyr	82.5					
	Imazapyr	107	78.0	82.2			5.21
	Imidacloprid	108	276	179			39.9
	Imidacloprid	129	128	136			5.51
	Linuron	66.9	82.9	64.6			24.7
	Linuron	81.4	67.8	71.1			4.75
	MCPP	68.9	83.6	85.8			2.61
	MCPP	105	74.6	66.9			10.8
	Primidone	119	153	91.0			48.0
	Primidone	139	112	122			9.12
	Pyraclostrobin	54.9	69.8	38.1			58.9
	Pyraclostrobin	59.7	60.3	53.3			12.3
	Sucralose	118	51.9	48.9			5.19
	Triclopyr	76.9	81.7	90.6			10.3
	Triclopyr	105	70.9	70.3			0.844
SM 2120 B	Color (true)					0.528	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
SM 2320 B-97	Total Alkalinity	102				0.0685	
SM 2540 C-97	TDS					5.59	
	TDS					3.52	
SM 4500 F-C-97	Fluoride	95.8	94.9	96.6			0.986
SM 5310 B-00	Organic Carbon	95.2		103			0.758
	Organic Carbon	99.1	94.9	99.4			2.75

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1984925, 1984926, 1984927
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1984925, 1984926, 1984927
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1984925, 1984926, 1984927
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1984928, 1984929, 1984930
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1984928, 1984929, 1984930
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1984928, 1984929, 1984930
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1984928, 1984929, 1984930
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1984931, 1984932, 1984933
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1984941, 1984942, 1984943
SM 2120 B / E31780	True Color measured at 450 nm	1984925, 1984926, 1984927
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1984925, 1984926, 1984927
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1984925, 1984926, 1984927
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1984925, 1984926, 1984927
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1984925, 1984926, 1984927
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1984928, 1984929, 1984930

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	04/17/2018			04/17/2018 17:41	William L. Brown IV	1984925, 1984926, 1984927
EPA 300.0 Rev. 2.1	04/17/2018			04/18/2018 17:12	Lipi Saha	1984925
	04/17/2018			04/18/2018 17:24	Lipi Saha	1984926
	04/17/2018			04/18/2018 17:36	Lipi Saha	1984927
EPA 350.1 Rev. 2.0	04/17/2018			04/18/2018 12:44	Ping Hua	1984928
	04/17/2018			04/18/2018 12:56	Ping Hua	1984929
	04/17/2018			04/18/2018 13:05	Ping Hua	1984930
EPA 351.2 Rev. 2.0	04/17/2018	04/18/2018 11:00	Adrian Shelby	04/19/2018 13:08	Joseph Suarez	1984928
	04/17/2018	04/18/2018 11:00	Adrian Shelby	04/19/2018 13:13	Joseph Suarez	1984929
	04/17/2018	04/18/2018 11:00	Adrian Shelby	04/19/2018 13:14	Joseph Suarez	1984930
EPA 353.2 Rev. 2.0	04/17/2018			04/18/2018 14:37	Lauren Bottorf	1984928
	04/17/2018			04/19/2018 11:43	Lauren Bottorf	1984929
	04/17/2018			04/19/2018 11:49	Lauren Bottorf	1984930
EPA 365.1 Rev. 2.0	04/17/2018	04/18/2018 14:25	Sima Feizi	04/20/2018 10:28	Beverly Y. Sanders	1984928
	04/17/2018	04/18/2018 14:25	Sima Feizi	04/20/2018 10:29	Beverly Y. Sanders	1984929
	04/17/2018	04/18/2018 14:25	Sima Feizi	04/23/2018 18:21	Beverly Y. Sanders	1984930
EPA 365.1 Rev. 2.0 dissolved	04/17/2018			04/17/2018 15:29	Megan Treadwell	1984933
	04/17/2018			04/17/2018 15:53	Megan Treadwell	1984931
	04/17/2018			04/17/2018 15:54	Megan Treadwell	1984932
EPA 8321B	04/17/2018	04/18/2018 12:00	Hoor Shaik	04/18/2018 17:31	S. M. Reddy	1984941
	04/17/2018	04/18/2018 12:00	Hoor Shaik	04/18/2018 17:46	S. M. Reddy	1984942
	04/17/2018	04/18/2018 12:00	Hoor Shaik	04/18/2018 18:02	S. M. Reddy	1984943
	04/17/2018	04/19/2018 08:30	Hoor Shaik	04/21/2018 12:54	Julie Michelle Frank	1984941
	04/17/2018	04/19/2018 08:30	Hoor Shaik	04/21/2018 13:29	Julie Michelle Frank	1984942
	04/17/2018	04/19/2018 08:30	Hoor Shaik	04/22/2018 02:11	Julie Michelle Frank	1984941
	04/17/2018	04/19/2018 08:30	Hoor Shaik	04/22/2018 03:20	Julie Michelle Frank	1984942
	04/17/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 06:48	Julie Michelle Frank	1984943
	04/17/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 22:23	Julie Michelle Frank	1984943
SM 2120 B	04/17/2018			04/17/2018 16:16	Tanya Welborn	1984925, 1984926
	04/17/2018			04/17/2018 16:17	Tanya Welborn	1984927
SM 2320 B-97	04/17/2018			04/25/2018 22:34	Dale L. Simmons	1984926
	04/17/2018			04/25/2018 23:31	Dale L. Simmons	1984925
	04/17/2018			04/25/2018 23:42	Dale L. Simmons	1984927
SM 2540 C-97	04/17/2018			04/18/2018 16:03	Yijie Li	1984925, 1984926, 1984927
SM 2540 D-97	04/17/2018			04/18/2018 16:03	Yijie Li	1984925, 1984926, 1984927
SM 4500 F-C-97	04/17/2018			04/25/2018 22:26	Dale L. Simmons	1984926
	04/17/2018			04/25/2018 23:31	Dale L. Simmons	1984925
	04/17/2018			04/25/2018 23:42	Dale L. Simmons	1984927
SM 5310 B-00	04/17/2018			04/19/2018 09:56	Megan Treadwell	1984928
	04/17/2018			04/19/2018 10:11	Megan Treadwell	1984929

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	04/17/2018			04/23/2018 16:11	Megan Treadwell	1984930