

Chemical Analysis Report

SW-DIST-2018-07-19-01

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

Event Description: **English, Turkey, Poley, Mustang**

Request ID: **RQ-2018-07-16-05**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

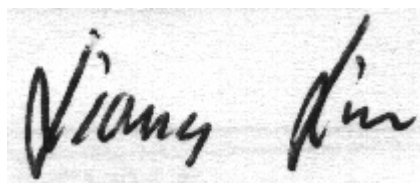
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-AUG-2018 11:28

A handwritten signature in black ink, appearing to read "Liang Lin", 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: 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: Turkey Creek @ Sydney Rd.

Collection Date/Time: 07/18/2018 08:50

Field ID: G2SW0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009144	EPA 8321B	2,4-D	0.0040	I	ug/L	P348626	
		Bentazon	8.0E-04	U	ug/L	P348626	
		MCP	0.0020	U	ug/L	P348626	MS
		Triclopyr**	0.0040	U	ug/L	P348626	MS
		Imidacloprid	0.058		ug/L	P348626	
		Diuron	0.0034	I	ug/L	P348626	
		Pyraclostrobin**	0.0020	U	ug/L	P348626	
		Primidone**	0.0040	U	ug/L	P348626	
		Linuron	0.0040	U	ug/L	P348626	
		Acetaminophen**	0.0080	U	ug/L	P348626	
		Fenuron	0.016	U	ug/L	P348626	
		Imazapyr**	0.0093	I	ug/L	P348626	
		Carbamazepine**	4.0E-04	U	ug/L	P348626	
		Fluridone**	9.4E-04	I	ug/L	P348626	
		Hydrocodone**	8.0E-04	U	ug/L	P348626	
		Naproxen**	0.0080	U	ug/L	P348626	
		Ibuprofen**	0.020	U	ug/L	P348626	
		Sucralose**	0.31		ug/L	P348751	
		Glyphosate**	2.9		ug/L	P348751	
		AMPA**	3.8		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.19	I	ug/L	P348751	

Sample Location: Turkey Creek @ SR 60

Collection Date/Time: 07/18/2018 09:15

Field ID: G2SW0051

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009145	EPA 8321B	2,4-D	0.025		ug/L	P348774	
		Bentazon	0.016		ug/L	P348774	
		MCP	0.0020	U	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.052		ug/L	P348774	
		Diuron	0.0036	I	ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0077	I	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.13		ug/L	P348774	
		Carbamazepine**	0.0056		ug/L	P348774	
		Fluridone**	0.0019		ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	1.2		ug/L	P348751	
		Glyphosate**	6.0		ug/L	P348751	
		AMPA**	3.0		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.25	I	ug/L	P348751	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: Mustang Ranch Creek @ Hopewell

Collection Date/Time: 07/18/2018 09:40

Field ID: G2SW0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009124	EPA 180.1 Rev. 2.0	Turbidity	8.9		NTU	P348827	
	EPA 300.0 Rev. 2.1	Chloride	8.6		mg Cl/L	P349150	
		Sulfate	8.3		mg SO4/L	P349155	
	SM 2120 B	Color (true)	180		PCU	P348781	
	SM 2320 B-97	Total Alkalinity	31		mg CaCO3/L	P349027	
	SM 2540 C-97	TDS	105		mg/L	P349195	
	SM 2540 D-97	TSS	19		mg/L	P349172	
	SM 4500 F-C-97	Fluoride	0.36		mg F/L	P349031	
2009125	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P349158	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P348953	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P348973	
	EPA 365.1 Rev. 2.0	Total-P	1.1		mg P/L	P349420	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P349005	
2009126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.73		mg P/L	P348787	

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: Mustang Ranch Creek @ Hopewell

Collection Date/Time: 07/18/2018 09:40

Field ID: G2SW0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009146	EPA 8321B	2,4-D	0.0041	I	ug/L	P348774	
		Bentazon	8.0E-04	U	ug/L	P348774	
		MCPP	0.0020	U	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.065		ug/L	P348774	
		Diuron	0.0066	I	ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0040	U	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.0080	I	ug/L	P348774	
		Carbamazepine**	4.0E-04	U	ug/L	P348774	
		Fluridone**	4.0E-04	U	ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	0.14		ug/L	P348751	
		Glyphosate**	5.5		ug/L	P348751	
		AMPA**	1.6		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.13	I	ug/L	P348751	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: Mustang Ranch @ SR39

Collection Date/Time: 07/18/2018 09:30

Field ID: G2SW0050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009147	EPA 8321B	2,4-D	0.0020	U	ug/L	P348774	
		Bentazon	8.0E-04	U	ug/L	P348774	
		MCPP	0.0020	U	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.055		ug/L	P348774	
		Diuron	0.0048	I	ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0040	U	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.0040	U	ug/L	P348774	
		Carbamazepine**	4.0E-04	U	ug/L	P348774	
		Fluridone**	4.0E-04	U	ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	0.12		ug/L	P348751	
		Glyphosate**	4.8		ug/L	P348751	
		AMPA**	1.6		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.11	I	ug/L	P348751	

Ref. Method and Comment:
EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: English Creek above SR 60

Collection Date/Time: 07/18/2018 10:10

Field ID: G2SW0006

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009148	EPA 8321B	2,4-D	0.0034	I	ug/L	P348774	
		Bentazon	0.0078		ug/L	P348774	
		MCP	0.0020	U	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.016		ug/L	P348774	
		Diuron	0.46		ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0040	U	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.099		ug/L	P348774	
		Carbamazepine**	0.0014	I	ug/L	P348774	
		Fluridone**	0.0097		ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	0.15		ug/L	P348751	
		Glyphosate**	2.6		ug/L	P348751	
		AMPA**	1.3		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.12	I	ug/L	P348751	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: English Creek @ Old Mulberry Rd.

Collection Date/Time: 07/18/2018 10:50

Field ID: G2SW0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009149	EPA 8321B	2,4-D	0.0045	I	ug/L	P348774	
		Bentazon	0.0087		ug/L	P348774	
		MCP	0.0020	U	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.010		ug/L	P348774	
		Diuron	0.013		ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0040	U	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.14		ug/L	P348774	
		Carbamazepine**	0.0016	I	ug/L	P348774	
		Fluridone**	0.0080		ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	0.079		ug/L	P348751	
		Glyphosate**	1.2		ug/L	P348751	
		AMPA**	0.80		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.13	I	ug/L	P348751	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: Poley Creek @ SR60

Collection Date/Time: 07/18/2018 11:00

Field ID: G2SW0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009150	EPA 8321B	2,4-D	0.35		ug/L	P348774	
		Bentazon	0.016		ug/L	P348774	
		MCP	0.0031	I	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.036		ug/L	P348774	
		Diuron	0.0037	I	ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0040	U	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.079		ug/L	P348774	
		Carbamazepine**	0.0014	I	ug/L	P348774	
		Fluridone**	0.018		ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	0.81		ug/L	P348751	
		Glyphosate**	0.78		ug/L	P348751	
		AMPA**	0.75		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.43		ug/L	P348751	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: Poley Creek @ Shepard Rd.

Collection Date/Time: 07/18/2018 11:30

Field ID: G2SW0014

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009151	EPA 8321B	2,4-D	0.22		ug/L	P348774	
		Bentazon	0.016		ug/L	P348774	
		MCP	0.0038	I	ug/L	P348774	
		Triclopyr**	0.0040	U	ug/L	P348774	
		Imidacloprid	0.036		ug/L	P348774	
		Diuron	0.0035	I	ug/L	P348774	
		Pyraclostrobin**	0.0020	U	ug/L	P348774	
		Primidone**	0.0040	U	ug/L	P348774	
		Linuron	0.0040	U	ug/L	P348774	
		Acetaminophen**	0.0080	U	ug/L	P348774	
		Fenuron	0.016	U	ug/L	P348774	
		Imazapyr**	0.081		ug/L	P348774	
		Carbamazepine**	0.0013	I	ug/L	P348774	
		Fluridone**	0.019		ug/L	P348774	
		Hydrocodone**	8.0E-04	U	ug/L	P348774	
		Naproxen**	0.0080	U	ug/L	P348774	
		Ibuprofen**	0.020	U	ug/L	P348774	
		Sucralose**	0.69		ug/L	P348751	
		Glyphosate**	0.72		ug/L	P348751	
		AMPA**	0.70		ug/L	P348751	
		Endothall**	0.10	U	ug/L	P348751	
		Glufosinate**	0.10	U	ug/L	P348751	
		Acesulfame K**	0.30	I	ug/L	P348751	

Ref. Method and Comment:
EPA 8321B: Insufficient sample to perform matrix spikes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P348827

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349150

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349155

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349158

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348953

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348973

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349420

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P348787

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

Reference Method: EPA 8321B
Batch ID: P348626

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P348626

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P348751

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
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	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P348774

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	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P348781

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P349027

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

Reference Method: SM 2540 C-97
Batch ID: P349195

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P349172

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P349031

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349005

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: P349150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	108		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349155

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349158

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: P348953

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348973

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349420

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P348787

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

Reference Method: EPA 8321B
Batch ID: P348626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	117		P	40 - 150
Acetaminophen	86.6		P	30 - 150
Bentazon	98.1		P	30 - 150
Carbamazepine	80.4		P	40 - 150
Diuron	76.3		P	40 - 150
Fenuron	97.7		P	40 - 150
Fluridone	80.9		P	40 - 150
Hydrocodone	92.2		P	40 - 150
Ibuprofen	101		P	40 - 150
Imazapyr	90.3		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P348626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	91.8		P	40 - 160
Linuron	84.3		P	40 - 150
MCP	139		P	40 - 150
Naproxen	116		P	40 - 150
Primidone	94.8		P	40 - 150
Pyraclostrobin	85.1		P	40 - 150
Triclopyr	136		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P348751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	78.3		P	40 - 140
AMPA	78.4		P	40 - 140
Endothall	105		P	40 - 140
Glufosinate	95.2		P	40 - 140
Glyphosate	99.3		P	40 - 140
Sucralose	92.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P348774

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115	112	P/P	40 - 150
Acetaminophen	77.5	98.7	P/P	30 - 150
Bentazon	93.1	89.1	P/P	30 - 150
Carbamazepine	67.4	73.7	P/P	40 - 150
Diuron	53.7	65.1	P/P	40 - 150
Fenuron	97.5	108	P/P	40 - 150
Fluridone	79.2	87.9	P/P	40 - 150
Hydrocodone	86.0	93.5	P/P	40 - 150
Ibuprofen	112	98.5	P/P	40 - 150
Imazapyr	93.7	97.5	P/P	40 - 150
Imidacloprid	98.5	105	P/P	40 - 160
Linuron	75.9	77.2	P/P	40 - 150
MCP	138	132	P/P	40 - 150
Naproxen	106	130	P/P	40 - 150
Primidone	86.2	99.4	P/P	40 - 150
Pyraclostrobin	78.2	88.4	P/P	40 - 150
Triclopyr	139	133	P/P	40 - 150

Reference Method: SM 2120 B
Batch ID: P348781

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

Reference Method: SM 2320 B-97
Batch ID: P349027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	106		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P349031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P349150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2008993	Chloride	105		P	90 - 110
2009081	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P349155

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2008993	Sulfate	103		P	90 - 110
2009081	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P349158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009258	Ammonia-N	98.1	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P348953

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009229	Kjeldahl Nitrogen	98.0	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P348973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009073	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P349420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009065	Total-P	96.4	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P348787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009071	O-Phosphate-P	95.7	95.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P348626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009013	2,4-D	139	139	P/P	40 - 150
2009013	Acetaminophen	106	109	P/P	30 - 150
2009013	Bentazon	52.6	54.5	P/P	30 - 150
2009013	Carbamazepine	75.6	81.3	P/P	40 - 150
2009013	Diuron	73.1	78.4	P/P	40 - 150
2009013	Fenuron	77.7	87.3	P/P	40 - 150
2009013	Fluridone	83.2	89.3	P/P	40 - 150
2009013	Hydrocodone	87.3	97.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P348626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009013	Ibuprofen	94.3	102	P/P	40 - 150
2009013	Imazapyr	91.8	106	P/P	40 - 150
2009013	Imidacloprid	142	153	P/P	40 - 160
2009013	Linuron	89.6	94.1	P/P	40 - 150
2009013	MCPP	162	165	F/F	40 - 150
2009013	Naproxen	103	114	P/P	40 - 150
2009013	Primidone	109	121	P/P	40 - 150
2009013	Pyraclostrobin	86.7	101	P/P	40 - 150
2009013	Triclopyr	162	162	F/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P348751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2007901	AMPA	78.0	82.6	P/P	40 - 140
2007901	Glufosinate	94.6	99.1	P/P	40 - 140
2007901	Glyphosate	85.8	88.4	P/P	40 - 140
2008140	Acesulfame K	82.6	97.8	P/P	40 - 140
2008140	Endothall	99.3	79.8	P/P	40 - 140
2008140	Sucralose	81.0	81.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P349031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009225	Fluoride	98.4	96.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009067	Organic Carbon	92.7	94.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P348827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009062	Turbidity	2.04	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2008993	Chloride	2.26	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349155

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2008993	Sulfate	3.12	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009258	Ammonia-N	0.636	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009229	Kjeldahl Nitrogen	0.764	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P348973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009073	NO2NO3-N	0.257	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009065	Total-P	1.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P348787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009071	O-Phosphate-P	0.222	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P348626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009013	2,4-D	0.511	Spike	P	0 - 30
2009013	Acetaminophen	2.89	Spike	P	0 - 30
2009013	Bentazon	3.14	Spike	P	0 - 30
2009013	Carbamazepine	7.06	Spike	P	0 - 30
2009013	Diuron	7.10	Spike	P	0 - 30
2009013	Fenuron	11.5	Spike	P	0 - 30
2009013	Fluridone	7.03	Spike	P	0 - 30
2009013	Hydrocodone	10.9	Spike	P	0 - 30
2009013	Ibuprofen	7.50	Spike	P	0 - 30
2009013	Imazapyr	12.9	Spike	P	0 - 30
2009013	Imidacloprid	4.97	Spike	P	0 - 30
2009013	Linuron	4.99	Spike	P	0 - 30
2009013	MCP	1.75	Spike	P	0 - 30
2009013	Naproxen	10.1	Spike	P	0 - 30
2009013	Primidone	9.41	Spike	P	0 - 30
2009013	Pyraclostrobin	15.7	Spike	P	0 - 30
2009013	Triclopyr	0.178	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P348751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2007901	AMPA	5.66	Spike	P	0 - 30
2007901	Glufosinate	4.64	Spike	P	0 - 30
2007901	Glyphosate	2.96	Spike	P	0 - 30
2008140	Acesulfame K	16.8	Spike	P	0 - 30
2008140	Endothall	21.8	Spike	P	0 - 30
2008140	Sucralose	1.05	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P348774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	2.45	LCS	P	0 - 30
LFB	Acetaminophen	24.0	LCS	P	0 - 30
LFB	Bentazon	4.36	LCS	P	0 - 30
LFB	Carbamazepine	8.84	LCS	P	0 - 30
LFB	Diuron	19.2	LCS	P	0 - 30
LFB	Fenuron	10.2	LCS	P	0 - 30
LFB	Fluridone	10.5	LCS	P	0 - 30
LFB	Hydrocodone	8.33	LCS	P	0 - 30
LFB	Ibuprofen	12.8	LCS	P	0 - 30
LFB	Imazapyr	3.94	LCS	P	0 - 30
LFB	Imidacloprid	6.71	LCS	P	0 - 30
LFB	Linuron	1.75	LCS	P	0 - 30
LFB	MCP	4.52	LCS	P	0 - 30
LFB	Naproxen	20.4	LCS	P	0 - 30
LFB	Primidone	14.2	LCS	P	0 - 30
LFB	Pyraclostrobin	12.2	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P348774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Triclopyr	4.80	LCS	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P348781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009061	Color (true)	4.33	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P349027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009225	Total Alkalinity	0.239	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P349195

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009161	TDS	7.29	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P349031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009225	Fluoride	1.92	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P349005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009067	Organic Carbon	1.04	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: 2009144
Field Sample ID: G2SW0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.7	P	30 - 160
EPA 8321B	Diuron-d6	62.2	P	30 - 160
EPA 8321B	Endothall-d6	116	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	117	P	40 - 160
EPA 8321B	Ibuprofen-d3	99.4	P	40 - 160
EPA 8321B	Primidone-d5	75.7	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	40 - 160

Lab Sample ID: 2009145
Field Sample ID: G2SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.6	P	30 - 160
EPA 8321B	Diuron-d6	56.1	P	30 - 160
EPA 8321B	Endothall-d6	103	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	114	P	40 - 160
EPA 8321B	Ibuprofen-d3	92.5	P	40 - 160
EPA 8321B	Primidone-d5	88.5	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	40 - 160

Lab Sample ID: 2009146
Field Sample ID: G2SW0026

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	141	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.8	P	30 - 160
EPA 8321B	Diuron-d6	51.5	P	30 - 160
EPA 8321B	Endothall-d6	127	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	40 - 160
EPA 8321B	Ibuprofen-d3	93.1	P	40 - 160
EPA 8321B	Primidone-d5	83.9	P	30 - 160
EPA 8321B	Sucralose-d6	121	P	40 - 160

Lab Sample ID: 2009147
Field Sample ID: G2SW0050

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.5	P	30 - 160
EPA 8321B	Diuron-d6	59.5	P	30 - 160
EPA 8321B	Endothall-d6	130	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	40 - 160
EPA 8321B	Ibuprofen-d3	99.7	P	40 - 160
EPA 8321B	Primidone-d5	90.2	P	30 - 160
EPA 8321B	Sucralose-d6	136	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2009148
Field Sample ID: G2SW0006

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	132	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.6	P	30 - 160
EPA 8321B	Diuron-d6	65.7	P	30 - 160
EPA 8321B	Endothall-d6	138	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	40 - 160
EPA 8321B	Ibuprofen-d3	88.9	P	40 - 160
EPA 8321B	Primidone-d5	90.5	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	40 - 160

Lab Sample ID: 2009149
Field Sample ID: G2SW0048

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	135	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.1	P	30 - 160
EPA 8321B	Diuron-d6	64.0	P	30 - 160
EPA 8321B	Endothall-d6	110	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	40 - 160
EPA 8321B	Ibuprofen-d3	90.7	P	40 - 160
EPA 8321B	Primidone-d5	94.3	P	30 - 160
EPA 8321B	Sucralose-d6	137	P	40 - 160

Lab Sample ID: 2009150
Field Sample ID: G2SW0049

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	134	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.0	P	30 - 160
EPA 8321B	Diuron-d6	58.3	P	30 - 160
EPA 8321B	Endothall-d6	92.9	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	40 - 160
EPA 8321B	Ibuprofen-d3	90.8	P	40 - 160
EPA 8321B	Primidone-d5	99.5	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	40 - 160

Lab Sample ID: 2009151
Field Sample ID: G2SW0014

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	139	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.1	P	30 - 160
EPA 8321B	Diuron-d6	65.4	P	30 - 160
EPA 8321B	Endothall-d6	110	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	40 - 160
EPA 8321B	Ibuprofen-d3	93.3	P	40 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	129	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A85347
Included Lab Sample IDs: 2009124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	105	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A85348
Included Lab Sample IDs: 2009126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.3	97.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A85363
Included Lab Sample IDs: 2009124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	98.5	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A85391
Included Lab Sample IDs: 2009144, 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	101	P/P	60 - 150
AMPA	98.2	101	P/P	60 - 150
Glufosinate	108	113	P/P	60 - 150
Glufosinate	116	108	P/P	60 - 150
Glyphosate	110	99.5	P/P	60 - 150
Glyphosate	99.5	113	P/P	60 - 150

Reference Method: EPA 8321B
Run ID: A85393
Included Lab Sample IDs: 2009144, 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	95.0	89.9	P/P	60 - 150

Reference Method: EPA 8321B
Run ID: A85396
Included Lab Sample IDs: 2009144, 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	118	121	P/P	60 - 160
Endothall	114	97.0	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A85414
Included Lab Sample IDs: 2009125

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A85417

Included Lab Sample IDs: 2009124

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

Reference Method: SM 5310 B-00

Run ID: A85418

Included Lab Sample IDs: 2009125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85424

Included Lab Sample IDs: 2009125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	98.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A85430

Included Lab Sample IDs: 2009124

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

Reference Method: SM 4500 F-C-97

Run ID: A85430

Included Lab Sample IDs: 2009124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85474

Included Lab Sample IDs: 2009125

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85600

Included Lab Sample IDs: 2009125

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

Reference Method: EPA 8321B

Run ID: A85613

Included Lab Sample IDs: 2009144, 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	116	110	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A85613

Included Lab Sample IDs: 2009144, 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	117	127	P/P	50 - 150
2,4-D	127	116	P/P	50 - 150
Bentazon	115	93.6	P/P	50 - 150
Bentazon	118	120	P/P	50 - 150
Bentazon	120	115	P/P	50 - 150
Ibuprofen	128	108	P/P	50 - 150
Ibuprofen	150	82.9	P/P	50 - 150
Ibuprofen	82.9	128	P/P	50 - 150
MCP	131	128	P/P	50 - 150
MCP	136	131	P/P	50 - 150
MCP	144	136	P/P	50 - 150
Naproxen	139	124	P/P	60 - 150
Naproxen	83.6	86.4	P/P	60 - 150
Naproxen	86.4	139	P/P	60 - 150
Triclopyr	131	125	P/P	50 - 160
Triclopyr	138	131	P/P	50 - 160
Triclopyr	150	138	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A85626

Included Lab Sample IDs: 2009144

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	98.2	95.0	P/P	60 - 150
Carbamazepine	115	122	P/P	60 - 150
Diuron	107	120	P/P	60 - 150
Fenuron	98.7	95.5	P/P	60 - 150
Fluridone	105	106	P/P	60 - 160
Hydrocodone	94.3	90.3	P/P	60 - 150
Imazapyr	94.2	91.5	P/P	50 - 150
Imidacloprid	90.1	90.9	P/P	60 - 150
Linuron	99.7	115	P/P	60 - 150
Primidone	105	100	P/P	60 - 150
Pyraclostrobin	109	115	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A85629

Included Lab Sample IDs: 2009147

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.5	128	P/P	50 - 150
MCP	98.3	99.6	P/P	50 - 150
Triclopyr	99.7	96.9	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A85635

Included Lab Sample IDs: 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	113	97.9	P/P	60 - 150
Carbamazepine	93.1	90.4	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A85635

Included Lab Sample IDs: 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diuron	87.9	83.2	P/P	60 - 150
Fenuron	98.3	85.3	P/P	60 - 150
Fluridone	107	96.7	P/P	60 - 160
Hydrocodone	107	92.4	P/P	60 - 150
Imazapyr	113	99.1	P/P	50 - 150
Imidacloprid	100	84.6	P/P	60 - 150
Linuron	110	86.7	P/P	60 - 150
Primidone	93.2	94.8	P/P	60 - 150
Pyraclostrobin	109	93.8	P/P	60 - 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		LCS	Precision	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						2.04	
EPA 300.0 Rev. 2.1	Chloride	108		105	104		2.26	
	Sulfate	106		103	103		3.12	
EPA 350.1 Rev. 2.0	Ammonia-N	100		98.1	98.8			0.636
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		98.0	99.3			0.764
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103		102	102			0.257
EPA 365.1 Rev. 2.0	Total-P	99.1		96.4	98.4			1.40
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7		95.7	95.3			0.222
EPA 8321B	2,4-D	117		139	139			0.511
	2,4-D	115	112			2.45		
	Acesulfame K	78.3		82.6	97.8			16.8
	Acetaminophen	86.6		106	109			2.89
	Acetaminophen	77.5	98.7			24.0		
	AMPA	78.4		78.0	82.6			5.66
	Bentazon	98.1		52.6	54.5			3.14
	Bentazon	93.1	89.1			4.36		
	Carbamazepine	80.4		75.6	81.3			7.06
	Carbamazepine	67.4	73.7			8.84		
	Diuron	76.3		73.1	78.4			7.10
	Diuron	53.7	65.1			19.2		
	Endothall	105		99.3	79.8			21.8
	Fenuron	97.7		77.7	87.3			11.5
	Fenuron	97.5	108			10.2		
	Fluridone	80.9		83.2	89.3			7.03
	Fluridone	79.2	87.9			10.5		
	Glufosinate	95.2		94.6	99.1			4.64
	Glyphosate	99.3		85.8	88.4			2.96
	Hydrocodone	92.2		87.3	97.3			10.9
	Hydrocodone	86.0	93.5			8.33		
	Ibuprofen	101		94.3	102			7.50
	Ibuprofen	112	98.5			12.8		
	Imazapyr	90.3		91.8	106			12.9
	Imazapyr	93.7	97.5			3.94		
	Imidacloprid	91.8		142	153			4.97
	Imidacloprid	98.5	105			6.71		
	Linuron	84.3		89.6	94.1			4.99
	Linuron	75.9	77.2			1.75		
	MCP	139		162	165			1.75
	MCP	138	132			4.52		
	Naproxen	116		103	114			10.1
	Naproxen	106	130			20.4		
	Primidone	94.8		109	121			9.41
	Primidone	86.2	99.4			14.2		
	Pyraclostrobin	85.1		86.7	101			15.7
	Pyraclostrobin	78.2	88.4			12.2		
	Sucralose	92.0		81.0	81.9			1.05
	Triclopyr	136		162	162			0.178
	Triclopyr	139	133			4.80		
SM 2120 B	Color (true)	100					4.33	
SM 2320 B-97	Total Alkalinity	106					0.239	
SM 2540 C-97	TDS						7.29	
SM 4500 F-C-97	Fluoride	96.1		98.4	96.3			1.92
SM 5310 B-00	Organic Carbon	94.8		92.7	94.1			1.04

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2009124
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2009124
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2009124
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2009125
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2009125
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2009125
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2009125
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2009126
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2009144, 2009145, 2009146, 2009147, 2009148, 2009149, 2009150, 2009151
SM 2120 B / E31780	True Color measured at 450 nm	2009124
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2009124
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2009124
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2009124
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2009124
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2009125

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	07/19/2018			07/19/2018 15:51	Blanca Fach	2009124
EPA 300.0 Rev. 2.1	07/19/2018			07/25/2018 14:08	Lipi Saha	2009124
EPA 350.1 Rev. 2.0	07/19/2018			07/25/2018 14:13	Ping Hua	2009125
EPA 351.2 Rev. 2.0	07/19/2018	07/23/2018 11:30	Adrian Shelby	07/24/2018 11:02	Joseph Suarez	2009125
EPA 353.2 Rev. 2.0	07/19/2018			07/23/2018 13:05	Lauren Bottorf	2009125
EPA 365.1 Rev. 2.0	07/19/2018	07/31/2018 10:30	Sima Feizi	08/01/2018 09:11	Beverly Y. Sanders	2009125
EPA 365.1 Rev. 2.0 dissolved	07/19/2018			07/19/2018 16:13	Julia Storbeck	2009126
EPA 8321B	07/19/2018	07/20/2018 10:00	Hoor Shaik	07/25/2018 08:25	Juyoung Kim	2009144
	07/19/2018	07/20/2018 10:00	Hoor Shaik	07/28/2018 14:33	Juyoung Kim	2009144
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 18:51	Mohammad Ghaffari	2009144
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 19:13	Mohammad Ghaffari	2009145
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 19:23	Mohammad Ghaffari	2009146
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 19:34	Mohammad Ghaffari	2009147
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 19:45	Mohammad Ghaffari	2009148
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 19:55	Mohammad Ghaffari	2009149
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 20:06	Mohammad Ghaffari	2009150
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 20:17	Mohammad Ghaffari	2009151
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 23:19	Mohammad Ghaffari	2009144
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 23:34	Mohammad Ghaffari	2009145
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/20/2018 23:48	Mohammad Ghaffari	2009146
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/21/2018 00:03	Mohammad Ghaffari	2009147
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/21/2018 00:18	Mohammad Ghaffari	2009148
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/21/2018 00:32	Mohammad Ghaffari	2009149
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/21/2018 00:47	Mohammad Ghaffari	2009150
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/21/2018 01:02	Mohammad Ghaffari	2009151
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 00:47	Mohammad Ghaffari	2009144
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 01:02	Mohammad Ghaffari	2009145
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 01:16	Mohammad Ghaffari	2009146
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 01:31	Mohammad Ghaffari	2009147
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 01:46	Mohammad Ghaffari	2009148
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 02:00	Mohammad Ghaffari	2009149
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 02:15	Mohammad Ghaffari	2009150
	07/19/2018	07/20/2018 16:00	Mohammad Ghaffari	07/22/2018 02:30	Mohammad Ghaffari	2009151
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 10:06	Juyoung Kim	2009145
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 10:41	Juyoung Kim	2009146
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 11:15	Juyoung Kim	2009147
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 11:50	Juyoung Kim	2009148
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 12:59	Juyoung Kim	2009149
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 13:34	Juyoung Kim	2009150
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/27/2018 14:08	Juyoung Kim	2009151

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 17:26	Juyoung Kim	2009145
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 18:00	Juyoung Kim	2009146
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 18:35	Juyoung Kim	2009147
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 19:10	Juyoung Kim	2009148
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 20:19	Juyoung Kim	2009149
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 20:54	Juyoung Kim	2009150
	07/19/2018	07/25/2018 08:30	Hoor Shaik	07/28/2018 21:28	Juyoung Kim	2009151
	07/19/2018	07/25/2018 08:30	Hoor Shaik	08/02/2018 06:52	Juyoung Kim	2009147
SM 2120 B	07/19/2018			07/19/2018 15:42	Tanya Welborn	2009124
SM 2320 B-97	07/19/2018			07/24/2018 00:54	Dale L. Simmons	2009124
SM 2540 C-97	07/19/2018			07/20/2018 16:46	William L. Brown IV	2009124
SM 2540 D-97	07/19/2018			07/20/2018 17:00	William L. Brown IV	2009124
SM 4500 F-C-97	07/19/2018			07/24/2018 00:54	Dale L. Simmons	2009124
SM 5310 B-00	07/19/2018			07/23/2018 22:57	Megan Treadwell	2009125