

Chemical Analysis Report

NW-DIST-2019-10-24-01

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

Event Description: **Navarre Run**
Request ID: **RQ-2019-10-21-26**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-NOV-2019 18:21

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: BAYOU CHICO

Collection Date/Time: 10/23/2019 10:10

Field ID: G4NW0483

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131104	EPA 8321B	2,4-D	0.0020	U	ug/L	P373086	
		Acesulfame K**	0.10	U	ug/L	P373164	
		AMPA**	1.0	U	ug/L	P373164	
		Sucralose**	0.023	IJ	ug/L	P373164	SUR
		Acetaminophen**	0.0080	U	ug/L	P373086	
		Acetamiprid**	0.0020	U	ug/L	P373086	
		Endothall**	0.25	U	ug/L	P373164	
		Glufosinate**	1.0	U	ug/L	P373164	
		Glyphosate**	1.0	U	ug/L	P373164	
		Afidopyropen**	0.0020	UJ	ug/L	P373086	
		Bentazon	8.0E-04	U	ug/L	P373086	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P373086	
		Carbamazepine**	0.0018	I	ug/L	P373086	
		Clothianidin**	0.0020	U	ug/L	P373086	
		Dinotefuran**	0.0020	U	ug/L	P373086	
		Diuron	0.0023	I	ug/L	P373086	
		Fenuron	0.016	U	ug/L	P373086	
		Fluridone**	8.0E-04	U	ug/L	P373086	
		Imazapyr**	0.0040	U	ug/L	P373086	
		Hydrocodone**	0.0020	U	ug/L	P373086	
		Ibuprofen**	0.020	U	ug/L	P373086	
		Imidacloprid	0.0049	I	ug/L	P373086	MS
		Linuron	0.0040	U	ug/L	P373086	
		Mandestrobin**	0.0020	UJ	ug/L	P373086	
		MCPP	0.0020	U	ug/L	P373086	
		Naproxen**	0.0080	U	ug/L	P373086	
		Primidone**	0.0040	U	ug/L	P373086	
		Pyraclostrobin**	0.0020	U	ug/L	P373086	
		Thiamethoxam**	0.0020	U	ug/L	P373086	
		Tolfenpyrad**	0.0020	U	ug/L	P373086	
		Triclopyr**	0.0040	U	ug/L	P373086	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

**Sample Location: Discharge from Tiger Point Golf Course at
Maplewood Drive**

Collection Date/Time: 10/23/2019 11:27

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131089	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P373096	
	EPA 300.0	Bromide	0.078		mg Br/L	P373399	
	SM 2320 B-97	Total Alkalinity	40		mg CaCO3/L	P373310	
	SM 2540 D-97	TSS	2	U	mg/L	P373222	
	SM 4500 F-C-97	Fluoride	0.054	I	mg F/L	P373313	
2131090	EPA 350.1 Rev. 2.0	Ammonia-N	0.77		mg N/L	P373455	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P373355	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P373198	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P373253	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P373403	
2131091	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.23		mg P/L	P373089	
2131106	EPA 8270E	Acetochlor	0.27	U	ng/L	P373194	
		Alachlor	0.27	U	ng/L	P373194	
		Ametryn	0.66	U	ng/L	P373194	
		Atrazine	0.27	U	ng/L	P373194	
		Atrazine Desethyl	1.6	U	ng/L	P373194	
		Azinphos Methyl	5.5	U	ng/L	P373194	
		Bromacil	0.55	U	ng/L	P373194	
		Butylate	0.44	U	ng/L	P373194	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P373194	
		Chlorpyrifos Methyl	0.11	U	ng/L	P373194	
		Cyanazine	3.6	U	ng/L	P373194	
		Demeton	7.7	U	ng/L	P373194	
		Diazinon	0.14	U	ng/L	P373194	
		Dimethenamid**	0.11	U	ng/L	P373194	
		Disulfoton	0.55	U	ng/L	P373194	
		Dithiopyr**	8.5		ng/L	P373194	
		EPTC	1.4	U	ng/L	P373194	
		Ethion	0.16	U	ng/L	P373194	RPD
		Ethoprop	0.11	U	ng/L	P373194	
		Fenamiphos	0.55	U	ng/L	P373194	
		Fipronil	0.50	I	ng/L	P373194	
		Fipronil Desulfinyl**	0.31	I J	ng/L	P373194	RPD
		Fipronil Sulfide	12		ng/L	P373194	
		Fipronil Sulfone	5.7		ng/L	P373194	
		Fonofos	0.22	U	ng/L	P373194	
		Hexazinone	1.1	I	ng/L	P373194	
		Malathion	0.38	U	ng/L	P373194	
		Metalaxyl	0.33	U	ng/L	P373194	
		Metolachlor	0.55	U	ng/L	P373194	
		Metribuzin	14		ng/L	P373194	RPD
		Mevinphos	0.55	U	ng/L	P373194	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131106	EPA 8270E	Molinate	0.33	U	ng/L	P373194	
		Norflurazon	0.55	U	ng/L	P373194	
		Oxadiazon**	16		ng/L	P373194	
		Parathion Ethyl	0.27	U	ng/L	P373194	
		Parathion Methyl	0.60	U	ng/L	P373194	
		Pendimethalin	1.1	U	ng/L	P373194	
		Phorate	0.27	U	ng/L	P373194	
		Prodiamine**	0.19	U	ng/L	P373194	
		Prometon	0.99	U	ng/L	P373194	
		Prometryn	0.22	U	ng/L	P373194	
		Simazine	0.55	U	ng/L	P373194	
		Tebuconazole**	0.58	I	ng/L	P373194	RPD
		Terbufos	0.11	U	ng/L	P373194	
		Terbuthylazine	0.47	U	ng/L	P373194	

Ref. Method and Comment:

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

EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373096

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P373399

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373455

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373355

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373198

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373253

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373089

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

Reference Method: EPA 8270E
Batch ID: P373194

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P373194

Component	Result	Code	Units
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8321B

Batch ID: P373086

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P373086

Component	Result	Code	Units
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P373164

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

Reference Method: SM 2320 B-97
Batch ID: P373310

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

Reference Method: SM 2540 D-97
Batch ID: P373222

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373313

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373403

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0

Batch ID: P373399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373455

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: P373355

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P373198

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: P373253

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P373089

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

Reference Method: EPA 8270E

Batch ID: P373194

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	91.4	87.7	P/P	69 - 122
Alachlor	89.3	79.6	P/P	71 - 120
Ametryn	58.1	52.5	P/P	47 - 138
Atrazine	105	94.8	P/P	74 - 124
Atrazine Desethyl	92.0	83.1	P/P	38 - 138
Azinphos Methyl	101	91.5	P/P	69 - 154
Bromacil	75.0	69.3	P/P	39 - 121
Butylate	63.8	52.8	P/P	27 - 87.0
Chlorpyrifos Ethyl	103	91.2	P/P	69 - 118
Chlorpyrifos Methyl	103	88.0	P/P	70 - 120
Cyanazine	101	106	P/P	20 - 250
Demeton	91.9	81.3	P/P	39 - 118
Diazinon	90.4	79.9	P/P	68 - 127
Dimethenamid	88.6	84.0	P/P	66 - 125
Disulfoton	89.6	82.9	P/P	52 - 126
Dithiopyr	87.2	77.0	P/P	67 - 127

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P373194

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
EPTC	67.2	51.5	P/P	24 - 88.0
Ethion	73.6	74.2	P/P	51 - 132
Ethoprop	97.3	84.7	P/P	58 - 117
Fenamiphos	107	97.5	P/P	38 - 139
Fipronil	88.4	80.9	P/P	61 - 124
Fipronil Desulfinyl	75.5	47.6	P/P	47 - 120
Fipronil Sulfide	89.9	95.0	P/P	56 - 119
Fipronil Sulfone	93.2	78.5	P/P	50 - 117
Fonofos	99.1	85.2	P/P	60 - 121
Hexazinone	101	92.8	P/P	55 - 137
Malathion	115	101	P/P	66 - 126
Metaxyl	97.6	82.4	P/P	33 - 140
Metolachlor	91.0	81.0	P/P	69 - 119
Metribuzin	151	134	P/P	31 - 238
Mevinphos	100	81.3	P/P	42 - 113
Molinate	79.8	68.0	P/P	32 - 96.0
Norflurazon	96.4	88.3	P/P	54 - 123
Oxadiazon	84.6	76.1	P/P	63 - 128
Parathion Ethyl	90.5	80.6	P/P	72 - 111
Parathion Methyl	107	95.8	P/P	74 - 126
Pendimethalin	85.1	75.0	P/P	61 - 131
Phorate	89.1	75.9	P/P	51 - 115
Prodiamine	87.5	76.9	P/P	38 - 144
Prometon	89.7	80.3	P/P	54 - 119
Prometryn	84.3	82.9	P/P	63 - 120
Simazine	106	92.1	P/P	75 - 126
Tebuconazole	58.6	60.0	P/P	20 - 119
Terbufos	99.7	84.4	P/P	64 - 116
Terbutylazine	93.0	84.8	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P373086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	140		P	40 - 160
Acetaminophen	83.5		P	30 - 160
Acetamiprid	97.2		P	40 - 160
Afidopyrophen	87.8		P	40 - 160
Bentazon	82.4		P	30 - 160
Benzovindiflupyr	89.4		P	40 - 160
Carbamazepine	99.5		P	40 - 160
Clothianidin	88.7		P	40 - 160
Dinotefuran	92.6		P	40 - 160
Diuron	91.0		P	40 - 160
Fenuron	98.4		P	40 - 160
Fluridone	89.1		P	40 - 160
Hydrocodone	91.0		P	40 - 160
Ibuprofen	94.1		P	30 - 160
Imazapyr	101		P	40 - 160
Imidacloprid	92.4		P	40 - 160
Linuron	78.0		P	40 - 160
Mandestrobin	94.1		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P373086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
MCP	118		P	40 - 160
Naproxen	86.6		P	40 - 160
Primidone	77.0		P	40 - 160
Pyraclostrobin	82.8		P	30 - 160
Thiamethoxam	103		P	40 - 160
Tolfenpyrad	50.7		P	40 - 160
Triclopyr	117		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P373164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	116		P	40 - 150
AMPA	141		P	40 - 150
Endothall	89.2		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	119		P	40 - 140
Sucralose	117		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P373310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373403

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0

Batch ID: P373399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130885	Bromide	97.1	98.9	P/P	90 - 110
2131089	Bromide	94.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131112	Ammonia-N	99.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131165	Kjeldahl Nitrogen	94.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P373198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131056	NO2NO3-N	98.6	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P373253

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131081	Total-P	101	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P373089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131016	O-Phosphate-P	95.8	96.9	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P373194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130991	Acetochlor	82.7	90.9	P/P	63 - 129
2130991	Alachlor	78.9	88.7	P/P	65 - 127
2130991	Ametryn	71.7	71.0	P/P	40 - 164
2130991	Atrazine	86.2	98.8	P/P	66 - 135
2130991	Atrazine Desethyl	63.1	70.7	P/P	14 - 157
2130991	Azinphos Methyl	86.3	94.6	P/P	49 - 180
2130991	Bromacil	66.0	78.7	P/P	48 - 130
2130991	Butylate	51.4	67.8	P/P	10 - 94.0
2130991	Chlorpyrifos Ethyl	85.5	92.1	P/P	58 - 123
2130991	Chlorpyrifos Methyl	85.4	94.6	P/P	58 - 125
2130991	Cyanazine	76.6	89.3	P/P	24 - 253
2130991	Demeton	79.3	91.6	P/P	25 - 149
2130991	Diazinon	77.1	88.3	P/P	59 - 144
2130991	Dimethenamid	83.1	82.5	P/P	46 - 139
2130991	Disulfoton	76.1	89.6	P/P	54 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P373194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130991	Dithiopyr	77.4	82.7	P/P	64 - 130
2130991	EPTC	53.4	59.9	P/P	10 - 92.0
2130991	Ethion	98.9	58.2	P/P	30 - 148
2130991	Ethoprop	80.4	96.8	P/P	50 - 130
2130991	Fenamiphos	98.3	96.9	P/P	49 - 142
2130991	Fipronil	89.3	84.6	P/P	46 - 140
2130991	Fipronil Desulfinyl	87.8	76.1	P/P	30 - 121
2130991	Fipronil Sulfide	88.4	90.5	P/P	31 - 136
2130991	Fipronil Sulfone	96.7	95.7	P/P	16 - 136
2130991	Fonofos	80.0	92.4	P/P	55 - 129
2130991	Hexazinone	98.8	96.8	P/P	56 - 141
2130991	Malathion	103	112	P/P	56 - 135
2130991	Metalaxyl	84.9	85.7	P/P	54 - 135
2130991	Metolachlor	82.2	85.5	P/P	51 - 140
2130991	Metribuzin	74.0	143	P/P	45 - 254
2130991	Mevinphos	76.2	94.9	P/P	33 - 131
2130991	Molinate	60.6	80.6	P/P	14 - 98.0
2130991	Norflurazon	90.0	94.7	P/P	34 - 136
2130991	Oxadiazon	82.2	78.8	P/P	67 - 116
2130991	Parathion Ethyl	83.0	82.0	P/P	66 - 118
2130991	Parathion Methyl	88.6	103	P/P	64 - 136
2130991	Pendimethalin	80.8	82.8	P/P	59 - 144
2130991	Phorate	83.2	88.5	P/P	42 - 130
2130991	Prodiamine	92.1	79.4	P/P	42 - 148
2130991	Prometon	81.5	85.1	P/P	59 - 134
2130991	Prometryn	82.7	82.0	P/P	54 - 135
2130991	Simazine	75.0	84.8	P/P	53 - 156
2130991	Tebuconazole	78.7	49.8	P/P	10 - 131
2130991	Terbufos	85.0	98.3	P/P	57 - 131
2130991	Terbutylazine	86.6	90.4	P/P	68 - 125

Reference Method: EPA 8321B
Batch ID: P373086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130634	2,4-D	125	118	P/P	40 - 160
2130634	Acetaminophen	74.1	74.6	P/P	30 - 160
2130634	Acetamiprid	114	112	P/P	40 - 160
2130634	Afidopyropen	94.7	88.1	P/P	40 - 160
2130634	Bentazon	51.8	50.6	P/P	30 - 160
2130634	Benzovindiflupyr	88.1	84.6	P/P	40 - 160
2130634	Carbamazepine	91.1	92.1	P/P	40 - 160
2130634	Clothianidin	93.4	91.1	P/P	40 - 160
2130634	Dinotefuran	112	107	P/P	40 - 160
2130634	Diuron	78.5	80.7	P/P	40 - 160
2130634	Fenuron	94.3	89.3	P/P	40 - 160
2130634	Fluridone	84.2	84.0	P/P	40 - 160
2130634	Hydrocodone	113	111	P/P	40 - 160
2130634	Ibuprofen	81.8	77.0	P/P	30 - 160
2130634	Imazapyr	91.5	86.9	P/P	40 - 160
2130634	Imidacloprid	173	161	F/F	40 - 160
2130634	Linuron	65.8	63.8	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P373086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130634	Mandestrobin	98.9	97.2	P/P	40 - 160
2130634	MCPD	106	111	P/P	40 - 160
2130634	Naproxen	89.1	92.1	P/P	40 - 160
2130634	Primidone	109	105	P/P	40 - 160
2130634	Pyraclostrobin	82.7	80.7	P/P	30 - 160
2130634	Thiamethoxam	157	151	P/P	40 - 160
2130634	Tolfenpyrad	61.2	60.2	P/P	40 - 160
2130634	Triclopyr	121	99.0	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P373164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131107	Acesulfame K	81.0	80.1	P/P	40 - 150
2131107	AMPA	85.3	84.8	P/P	40 - 150
2131107	Endothall	84.3	87.1	P/P	40 - 150
2131107	Glufosinate	85.5	87.8	P/P	40 - 150
2131107	Glyphosate	77.6	79.4	P/P	40 - 140
2131107	Sucralose	97.8	81.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P373313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131051	Fluoride	96.5	96.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P373403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131044	Organic Carbon	102	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131051	Turbidity	9.94	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P373399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130885	Bromide	1.78	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131112	Ammonia-N	0.803	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131165	Kjeldahl Nitrogen	4.44	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131056	NO2NO3-N	0.468	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131081	Total-P	1.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131016	O-Phosphate-P	0.871	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P373194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130991	Acetochlor	9.43	Spike	P	0 - 30
2130991	Alachlor	11.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P373194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130991	Ametryn	1.01	Spike	P	0 - 30
2130991	Atrazine	11.3	Spike	P	0 - 30
2130991	Atrazine Desethyl	11.3	Spike	P	0 - 30
2130991	Azinphos Methyl	9.10	Spike	P	0 - 30
2130991	Bromacil	17.6	Spike	P	0 - 30
2130991	Butylate	27.4	Spike	P	0 - 30
2130991	Chlorpyrifos Ethyl	7.41	Spike	P	0 - 30
2130991	Chlorpyrifos Methyl	10.2	Spike	P	0 - 30
2130991	Cyanazine	15.3	Spike	P	0 - 30
2130991	Demeton	14.3	Spike	P	0 - 30
2130991	Diazinon	13.5	Spike	P	0 - 30
2130991	Dimethenamid	0.779	Spike	P	0 - 30
2130991	Disulfoton	16.3	Spike	P	0 - 30
2130991	Dithiopyr	6.39	Spike	P	0 - 30
2130991	EPTC	11.6	Spike	P	0 - 30
2130991	Ethion	51.8	Spike	F	0 - 30
2130991	Ethoprop	18.5	Spike	P	0 - 30
2130991	Fenamiphos	1.45	Spike	P	0 - 30
2130991	Fipronil	5.40	Spike	P	0 - 30
2130991	Fipronil Desulfinyl	14.3	Spike	P	0 - 30
2130991	Fipronil Sulfide	2.30	Spike	P	0 - 30
2130991	Fipronil Sulfone	0.959	Spike	P	0 - 30
2130991	Fonofos	14.4	Spike	P	0 - 30
2130991	Hexazinone	1.78	Spike	P	0 - 30
2130991	Malathion	8.03	Spike	P	0 - 30
2130991	Metalaxyl	0.998	Spike	P	0 - 30
2130991	Metolachlor	3.97	Spike	P	0 - 30
2130991	Metribuzin	63.4	Spike	F	0 - 30
2130991	Mevinphos	21.8	Spike	P	0 - 30
2130991	Molinate	28.3	Spike	P	0 - 30
2130991	Norflurazon	5.05	Spike	P	0 - 30
2130991	Oxadiazon	4.24	Spike	P	0 - 30
2130991	Parathion Ethyl	1.21	Spike	P	0 - 30
2130991	Parathion Methyl	14.6	Spike	P	0 - 30
2130991	Pendimethalin	2.53	Spike	P	0 - 30
2130991	Phorate	6.15	Spike	P	0 - 30
2130991	Prodiamine	14.9	Spike	P	0 - 30
2130991	Prometon	4.29	Spike	P	0 - 30
2130991	Prometryn	0.750	Spike	P	0 - 30
2130991	Simazine	7.84	Spike	P	0 - 30
2130991	Tebuconazole	45.0	Spike	F	0 - 30
2130991	Terbufos	14.6	Spike	P	0 - 30
2130991	Terbutylazine	4.33	Spike	P	0 - 30
LFB	Acetochlor	4.13	LCS	P	0 - 30
LFB	Alachlor	11.5	LCS	P	0 - 30
LFB	Ametryn	10.1	LCS	P	0 - 30
LFB	Atrazine	10.0	LCS	P	0 - 30
LFB	Atrazine Desethyl	10.1	LCS	P	0 - 30
LFB	Azinphos Methyl	9.90	LCS	P	0 - 30
LFB	Bromacil	7.90	LCS	P	0 - 30
LFB	Butylate	19.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P373194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlorpyrifos Ethyl	11.8	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	15.6	LCS	P	0 - 30
LFB	Cyanazine	4.72	LCS	P	0 - 30
LFB	Demeton	12.2	LCS	P	0 - 30
LFB	Diazinon	12.3	LCS	P	0 - 30
LFB	Dimethenamid	5.30	LCS	P	0 - 30
LFB	Disulfoton	7.83	LCS	P	0 - 30
LFB	Dithiopyr	12.4	LCS	P	0 - 30
LFB	EPTC	26.5	LCS	P	0 - 30
LFB	Ethion	0.796	LCS	P	0 - 30
LFB	Ethoprop	13.8	LCS	P	0 - 30
LFB	Fenamiphos	8.86	LCS	P	0 - 30
LFB	Fipronil	8.78	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	45.5	LCS	F	0 - 30
LFB	Fipronil Sulfide	5.57	LCS	P	0 - 30
LFB	Fipronil Sulfone	17.1	LCS	P	0 - 30
LFB	Fonofos	15.0	LCS	P	0 - 30
LFB	Hexazinone	8.68	LCS	P	0 - 30
LFB	Malathion	12.8	LCS	P	0 - 30
LFB	Metalaxyl	17.0	LCS	P	0 - 30
LFB	Metolachlor	11.7	LCS	P	0 - 30
LFB	Metribuzin	11.6	LCS	P	0 - 30
LFB	Mevinphos	20.7	LCS	P	0 - 30
LFB	Molinate	16.0	LCS	P	0 - 30
LFB	Norflurazon	8.74	LCS	P	0 - 30
LFB	Oxadiazon	10.7	LCS	P	0 - 30
LFB	Parathion Ethyl	11.5	LCS	P	0 - 30
LFB	Parathion Methyl	10.8	LCS	P	0 - 30
LFB	Pendimethalin	12.6	LCS	P	0 - 30
LFB	Phorate	15.9	LCS	P	0 - 30
LFB	Prodiamine	12.9	LCS	P	0 - 30
LFB	Prometon	11.0	LCS	P	0 - 30
LFB	Prometryn	1.66	LCS	P	0 - 30
LFB	Simazine	14.0	LCS	P	0 - 30
LFB	Tebuconazole	2.41	LCS	P	0 - 30
LFB	Terbufos	16.6	LCS	P	0 - 30
LFB	Terbutylazine	9.26	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P373086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130634	2,4-D	5.38	Spike	P	0 - 30
2130634	Acetaminophen	0.457	Spike	P	0 - 30
2130634	Acetamiprid	1.39	Spike	P	0 - 30
2130634	Afidopyropen	7.19	Spike	P	0 - 30
2130634	Bentazon	1.64	Spike	P	0 - 30
2130634	Benzovindiflupyr	4.05	Spike	P	0 - 30
2130634	Carbamazepine	0.956	Spike	P	0 - 30
2130634	Clothianidin	2.49	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P373086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130634	Dinotefuran	4.38	Spike	P	0 - 30
2130634	Diuron	2.43	Spike	P	0 - 30
2130634	Fenuron	5.44	Spike	P	0 - 30
2130634	Fluridone	0.190	Spike	P	0 - 30
2130634	Hydrocodone	2.36	Spike	P	0 - 30
2130634	Ibuprofen	6.09	Spike	P	0 - 30
2130634	Imazapyr	4.54	Spike	P	0 - 30
2130634	Imidacloprid	5.63	Spike	P	0 - 30
2130634	Linuron	3.04	Spike	P	0 - 30
2130634	Mandestrobin	1.76	Spike	P	0 - 30
2130634	MCP	4.34	Spike	P	0 - 30
2130634	Naproxen	3.36	Spike	P	0 - 30
2130634	Primidone	4.00	Spike	P	0 - 30
2130634	Pyraclostrobin	2.50	Spike	P	0 - 30
2130634	Thiamethoxam	3.93	Spike	P	0 - 30
2130634	Tolfenpyrad	1.68	Spike	P	0 - 30
2130634	Triclopyr	20.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P373164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131107	Acesulfame K	1.11	Spike	P	0 - 30
2131107	AMPA	0.606	Spike	P	0 - 30
2131107	Endothall	3.27	Spike	P	0 - 30
2131107	Glufosinate	2.71	Spike	P	0 - 30
2131107	Glyphosate	2.27	Spike	P	0 - 30
2131107	Sucralose	17.8	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P373310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131051	Total Alkalinity	0.347	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P373313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131051	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P373403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131044	Organic Carbon	0.0377	Spike	P	0 - 20

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2131104
Field Sample ID: G4NW0483

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.5	P	30 - 160
EPA 8321B	Bentazon-d7	70.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	87.3	P	30 - 160
EPA 8321B	Endothall-d6	82.7	P	30 - 160
EPA 8321B	Endothall-d6	82.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	32.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	32.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.3	P	30 - 160
EPA 8321B	Primidone-d5	89.7	P	30 - 160
EPA 8321B	Sucralose-d6	4.07	F	30 - 160
EPA 8321B	Sucralose-d6	4.07	F	30 - 160

Lab Sample ID: 2131106
Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	95.8	P	68 - 130
EPA 8270E	Terbufos-d10	96.0	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95219

Included Lab Sample IDs: 2131091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	99.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95225

Included Lab Sample IDs: 2131089

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: A95272

Included Lab Sample IDs: 2131090

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

Reference Method: EPA 8321B

Run ID: A95283

Included Lab Sample IDs: 2131104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	100	P/P	50 - 150
Acetaminophen	99.0	98.6	P/P	60 - 160
Acetamiprid	105	104	P/P	50 - 150
Afidopyropen	99.3	99.1	P/P	50 - 150
Bentazon	98.8	100	P/P	50 - 160
Benzovindiflupyr	100	105	P/P	50 - 150
Carbamazepine	104	105	P/P	60 - 150
Clothianidin	97.6	85.4	P/P	60 - 150
Dinotefuran	98.6	98.1	P/P	50 - 150
Diuron	105	106	P/P	60 - 150
Fenuron	105	107	P/P	60 - 150
Fluridone	109	106	P/P	60 - 160
Hydrocodone	92.6	104	P/P	60 - 150
Ibuprofen	88.2	94.9	P/P	50 - 160
Imazapyr	95.7	89.8	P/P	50 - 150
Imidacloprid	101	93.8	P/P	60 - 150
Linuron	98.1	97.6	P/P	60 - 150
Mandestrobin	114	121	P/P	50 - 150
MCPP	92.5	89.4	P/P	50 - 150
Naproxen	102	111	P/P	50 - 160
Primidone	94.1	94.8	P/P	60 - 150
Pyraclostrobin	106	101	P/P	60 - 150
Thiamethoxam	101	102	P/P	50 - 150
Tolfenpyrad	94.2	104	P/P	60 - 150
Triclopyr	94.9	75.0	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95299

Included Lab Sample IDs: 2131090

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

Reference Method: SM 2320 B-97

Run ID: A95300

Included Lab Sample IDs: 2131089

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

Reference Method: SM 4500 F-C-97

Run ID: A95300

Included Lab Sample IDs: 2131089

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

Reference Method: EPA 8321B

Run ID: A95323

Included Lab Sample IDs: 2131104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	106	P/P	60 - 160
Endothall	86.0	87.9	P/P	60 - 160

Reference Method: EPA 300.0

Run ID: A95332

Included Lab Sample IDs: 2131089

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

Reference Method: EPA 8321B

Run ID: A95334

Included Lab Sample IDs: 2131104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	126	120	P/P	60 - 160
Glufosinate	114	105	P/P	60 - 160
Glyphosate	111	127	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A95339

Included Lab Sample IDs: 2131090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	106	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95359

Included Lab Sample IDs: 2131090

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

Reference Method: EPA 8321B

Run ID: A95380

Included Lab Sample IDs: 2131104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	116	114	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95437

Included Lab Sample IDs: 2131090

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.6	95.0	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A95586

Included Lab Sample IDs: 2131106

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	103		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine	102		P	80 - 120
Atrazine Desethyl	102		P	80 - 120
Azinphos Methyl	94.3		P	80 - 120
Bromacil	106		P	80 - 120
Butylate	103		P	80 - 120
Chlorpyrifos Ethyl	97.7		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	102		P	80 - 120
Demeton	98.2		P	80 - 120
Diazinon	104		P	80 - 120
Dimethenamid	104		P	80 - 120
Disulfoton	99.7		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	102		P	80 - 120
Ethion	102		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	93.9		P	80 - 120
Fipronil	98.0		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	97.7		P	80 - 120
Fipronil Sulfone	98.2		P	80 - 120
Fonofos	98.7		P	80 - 120
Hexazinone	105		P	80 - 120
Malathion	95.5		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	105		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A95586

Included Lab Sample IDs: 2131106

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mevinphos	96.5		P	80 - 120
Molinate	106		P	80 - 120
Norflurazon	97.6		P	80 - 120
Oxadiazon	105		P	80 - 120
Parathion Ethyl	93.2		P	80 - 120
Parathion Methyl	92.4		P	80 - 120
Pendimethalin	102		P	80 - 120
Phorate	102		P	80 - 120
Prodiamine	112		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	100		P	80 - 120
Simazine	111		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	98.7		P	80 - 120
Terbuthylazine	103		P	80 - 120

* 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							9.94	
EPA 300.0	Bromide	97.3		97.1	98.9	94.3			1.78
EPA 350.1 Rev. 2.0	Ammonia-N	100		99.8	101				0.803
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.9		94.0	101				4.44
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5		98.6	98.2				0.468
EPA 365.1 Rev. 2.0	Total-P	99.7		101	99.6				1.77
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5		95.8	96.9				0.871
EPA 8270E	Acetochlor	91.4	87.7	82.7	90.9		4.13		9.43
	Alachlor	89.3	79.6	78.9	88.7		11.5		11.7
	Ametryn	58.1	52.5	71.7	71.0		10.1		1.01
	Atrazine	105	94.8	86.2	98.8		10.0		11.3
	Atrazine Desethyl	92.0	83.1	63.1	70.7		10.1		11.3
	Azinphos Methyl	101	91.5	86.3	94.6		9.90		9.10
	Bromacil	75.0	69.3	66.0	78.7		7.90		17.6
	Butylate	63.8	52.8	51.4	67.8		19.0		27.4
	Chlorpyrifos Ethyl	103	91.2	85.5	92.1		11.8		7.41
	Chlorpyrifos Methyl	103	88.0	85.4	94.6		15.6		10.2
	Cyanazine	101	106	76.6	89.3		4.72		15.3
	Demeton	91.9	81.3	79.3	91.6		12.2		14.3
	Diazinon	90.4	79.9	77.1	88.3		12.3		13.5
	Dimethenamid	88.6	84.0	83.1	82.5		5.30		0.779
	Disulfoton	89.6	82.9	76.1	89.6		7.83		16.3
	Dithiopyr	87.2	77.0	77.4	82.7		12.4		6.39
	EPTC	67.2	51.5	53.4	59.9		26.5		11.6
	Ethion	73.6	74.2	98.9	58.2		0.796		51.8
	Ethoprop	97.3	84.7	80.4	96.8		13.8		18.5
	Fenamiphos	107	97.5	98.3	96.9		8.86		1.45
	Fipronil	88.4	80.9	89.3	84.6		8.78		5.40
	Fipronil Desulfinyl	75.5	47.6	87.8	76.1		45.5		14.3
	Fipronil Sulfide	89.9	95.0	88.4	90.5		5.57		2.30
	Fipronil Sulfone	93.2	78.5	96.7	95.7		17.1		0.959
	Fonofos	99.1	85.2	80.0	92.4		15.0		14.4
	Hexazinone	101	92.8	98.8	96.8		8.68		1.78
	Malathion	115	101	103	112		12.8		8.03
	Metalaxyl	97.6	82.4	84.9	85.7		17.0		0.998
	Metolachlor	91.0	81.0	82.2	85.5		11.7		3.97
	Metribuzin	151	134	74.0	143		11.6		63.4
	Mevinphos	100	81.3	76.2	94.9		20.7		21.8
	Molinate	79.8	68.0	60.6	80.6		16.0		28.3
	Norflurazon	96.4	88.3	90.0	94.7		8.74		5.05
	Oxadiazon	84.6	76.1	82.2	78.8		10.7		4.24
	Parathion Ethyl	90.5	80.6	83.0	82.0		11.5		1.21
	Parathion Methyl	107	95.8	88.6	103		10.8		14.6
	Pendimethalin	85.1	75.0	80.8	82.8		12.6		2.53
	Phorate	89.1	75.9	83.2	88.5		15.9		6.15
	Prodiamine	87.5	76.9	92.1	79.4		12.9		14.9
	Prometon	89.7	80.3	81.5	85.1		11.0		4.29
	Prometryn	84.3	82.9	82.7	82.0		1.66		0.750
	Simazine	106	92.1	75.0	84.8		14.0		7.84
	Tebuconazole	58.6	60.0	78.7	49.8		2.41		45.0
	Terbufos	99.7	84.4	85.0	98.3		16.6		14.6
	Terbuthylazine	93.0	84.8	86.6	90.4		9.26		4.33
EPA 8321B	2,4-D	140		125	118				5.38
	Acesulfame K	116		81.0	80.1				1.11

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Acetaminophen	83.5	74.1	74.6		0.457
	Acetamiprid	97.2	114	112		1.39
	Afidopyropen	87.8	94.7	88.1		7.19
	AMPA	141	85.3	84.8		0.606
	Bentazon	82.4	51.8	50.6		1.64
	Benzovindiflupyr	89.4	88.1	84.6		4.05
	Carbamazepine	99.5	91.1	92.1		0.956
	Clothianidin	88.7	93.4	91.1		2.49
	Dinotefuran	92.6	112	107		4.38
	Diuron	91.0	78.5	80.7		2.43
	Endothall	89.2	84.3	87.1		3.27
	Fenuron	98.4	94.3	89.3		5.44
	Fluridone	89.1	84.2	84.0		0.190
	Glufosinate	104	85.5	87.8		2.71
	Glyphosate	119	77.6	79.4		2.27
	Hydrocodone	91.0	113	111		2.36
	Ibuprofen	94.1	81.8	77.0		6.09
	Imazapyr	101	91.5	86.9		4.54
	Imidacloprid	92.4	173	161		5.63
	Linuron	78.0	65.8	63.8		3.04
	Mandestrobin	94.1	98.9	97.2		1.76
	MCPP	118	106	111		4.34
	Naproxen	86.6	89.1	92.1		3.36
	Primidone	77.0	109	105		4.00
	Pyraclostrobin	82.8	82.7	80.7		2.50
	Sucralose	117	97.8	81.9		17.8
	Thiamethoxam	103	157	151		3.93
	Tolfenpyrad	50.7	61.2	60.2		1.68
	Triclopyr	117	121	99.0		20.1
SM 2320 B-97	Total Alkalinity	104			0.347	
SM 4500 F-C-97	Fluoride	96.1	96.5	96.5		0.0
SM 5310 B-00	Organic Carbon	103	102	102		0.0377

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2131089
EPA 300.0 / E31780	Bromide in aqueous matrices	2131089
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2131090
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2131090
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2131090
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2131090
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2131091
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2131106
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2131104
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2131104
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2131089
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2131089

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2131089
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2131090

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	10/24/2019			10/24/2019 15:01	Rosalyn Ballman	2131089
EPA 300.0	10/24/2019			10/30/2019 03:46	Julia Storbeck	2131089
EPA 350.1 Rev. 2.0	10/24/2019			10/29/2019 14:01	Ping Hua	2131090
EPA 351.2 Rev. 2.0	10/24/2019	10/29/2019 13:05	Sima Feizi	11/01/2019 18:52	Jhamieka S. Greenwood	2131090
EPA 353.2 Rev. 2.0	10/24/2019			10/28/2019 10:00	Beverly Y. Sanders	2131090
EPA 365.1 Rev. 2.0	10/24/2019	10/28/2019 12:34	Vijayalakshmi Reddy	10/29/2019 11:32	Lipi Saha	2131090
EPA 365.1 Rev. 2.0 dissolved	10/24/2019			10/24/2019 15:44	Julia Storbeck	2131091
EPA 8270E	10/24/2019	10/28/2019 09:00	Fe-Val Siddell	11/01/2019 18:09	Vandana T. Nagar	2131106
EPA 8321B	10/24/2019	10/25/2019 14:00	Hoor Shaik	10/26/2019 07:27	Juyoung Kim	2131104
	10/24/2019	10/28/2019 11:00	Rebecca Ware	10/28/2019 17:07	Rebecca Ware	2131104
	10/24/2019	10/28/2019 11:00	Rebecca Ware	10/29/2019 10:33	Rebecca Ware	2131104
	10/24/2019	10/28/2019 11:00	Rebecca Ware	10/30/2019 14:36	Rebecca Ware	2131104
SM 2320 B-97	10/24/2019			10/29/2019 01:08	Dale L. Simmons	2131089
SM 2540 D-97	10/24/2019			10/25/2019 18:02	Rosalyn Ballman	2131089
SM 4500 F-C-97	10/24/2019			10/29/2019 01:08	Dale L. Simmons	2131089
SM 5310 B-00	10/24/2019			10/29/2019 21:21	Madeline Funaro	2131090