

Chemical Analysis Report

NW-DIST-2020-12-16-02

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

Event Description: **REFERENCE STREAMS NWROC**
Request ID: **RQ-2020-10-26-46**
Customer: **NW-DIST**
Project ID: **SCIREF**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
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Pensacola, FL 32502-5794
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Certified by: Colin Wright, Program Administrator

Date Certified: 12-JAN-2021 08:19

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored rectangular background.

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: McDavid Creek 100 M Upstream SR99

Collection Date/Time: 12/15/2020 10:50

Field ID: G5NW0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2213938	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P391302	
	EPA 300.0 Rev. 2.1	Chloride	4.1		mg Cl/L	P391845	
		Sulfate	0.59		mg SO4/L	P391848	
	SM 2120 B-2011	Color (true)	29	Q	PCU	P392018	
	SM 2320 B-2011	Total Alkalinity	1.4	I	mg CaCO3/L	P391425	
	SM 2540 C-2011	TDS	24	I	mg/L	P391666	
	SM 2540 D-2011	TSS	2	I	mg/L	P391640	
2213939	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P391748	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P391562	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P391708	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P391336	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P391446	
2213940	SM 5310 B-2011	Organic Carbon	3.3		mg C/L	P391418	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P391298	
2213944	EPA 8321B	2,4-D	0.0020	U	ug/L	P391404	
		Acesulfame K**	0.10	U	ug/L	P391314	
		AMPA**	0.10	U	ug/L	P391314	
		Sucralose**	0.014	I	ug/L	P391314	
		Acetaminophen**	0.0080	U	ug/L	P391404	
		Acetamiprid**	0.0020	U	ug/L	P391404	
		Endothall**	0.25	U	ug/L	P391314	
		Glufosinate**	0.10	U	ug/L	P391314	
		Glyphosate**	0.10	U	ug/L	P391314	
		Afidopyropen**	0.0020	U	ug/L	P391404	
		Bentazon	8.0E-04	U	ug/L	P391404	
		Benzovindiflupyr**	0.0020	U	ug/L	P391404	
		Carbamazepine**	8.0E-04	U	ug/L	P391404	
		Clothianidin**	0.0020	U	ug/L	P391404	
		Dinotefuran**	0.0020	U	ug/L	P391404	
		Diuron	0.0020	U	ug/L	P391404	
		Fenuron	0.016	U	ug/L	P391404	
		Fluridone**	8.0E-04	U	ug/L	P391404	
		Imazapyr**	0.0040	U	ug/L	P391404	
		Hydrocodone**	0.0020	U	ug/L	P391404	
		Ibuprofen**	0.020	U	ug/L	P391404	
		Imidacloprid	0.0021	I	ug/L	P391404	
		Linuron	0.0040	U	ug/L	P391404	
		Mandestrobin**	0.0020	U	ug/L	P391404	
		MCP	0.0020	U	ug/L	P391404	
		Naproxen**	0.0080	U	ug/L	P391404	
		Primidone**	0.0040	U	ug/L	P391404	
		Pyraclostrobin**	0.0020	U	ug/L	P391404	
		Thiamethoxam**	0.0020	U	ug/L	P391404	

Field ID: G5NW0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2213944	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P391404	
		Triclopyr**	0.0040	U	ug/L	P391404	
2213945	EPA 200.7 Rev. 4.4	Barium	18.8		ug/L	P391540	
		Calcium	0.63		mg/L	P391540	
		Iron	320		ug/L	P391540	
		Magnesium	0.65		mg/L	P391540	
		Potassium	0.30	U	mg/L	P391540	
		Sodium	2.2		mg/L	P391540	
		Zinc	5.0	U	ug/L	P391540	
	EPA 200.8 Rev. 5.4	Aluminum	112		ug/L	P391540	
		Antimony	0.050	U	ug/L	P391540	
		Arsenic	0.15	I	ug/L	P391540	
		Boron**	7.8	I	ug/L	P391540	
		Cadmium	0.020	U	ug/L	P391540	
		Chromium	0.40	U	ug/L	P391540	
		Copper	0.40	U	ug/L	P391540	
		Lead	0.20	U	ug/L	P391540	
		Nickel	0.50	U	ug/L	P391540	
		Selenium	0.20	U	ug/L	P391540	
		Silver	0.010	U	ug/L	P391540	
		Thallium	0.10	U	ug/L	P391540	
	SM 2340B	Hardness	4.3		mg/L	P391540	
2213946	EPA 8270E	Acetochlor	0.25	U	ng/L	P391270	
		Alachlor	0.25	U	ng/L	P391270	
		Ametryn	0.60	U	ng/L	P391270	
		Atrazine	0.25	U	ng/L	P391270	
		Atrazine Desethyl	1.5	UJ	ng/L	P391270	RPD
		Azinphos Methyl	2.0	UJ	ng/L	P391270	LCS, MS
		Azoxystrobin**	0.50	UJ	ng/L	P391270	LCS, RPD
		Bromacil	0.50	UJ	ng/L	P391270	RPD
		Butylate	0.40	U	ng/L	P391270	
		Carbophenothion	0.50	U	ng/L	P391270	
		Carfentrazone Ethyl**	0.099	U	ng/L	P391270	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P391270	
		Chlorpyrifos Methyl	0.050	U	ng/L	P391270	
		Cyanazine	3.2	UJ	ng/L	P391270	RPD
		Demeton	1.5	U	ng/L	P391270	
		Diazinon	0.12	U	ng/L	P391270	
		Difenoconazole**	0.60	UJ	ng/L	P391270	RPD
		Dimethenamid**	0.099	U	ng/L	P391270	
		Disulfoton	0.50	U	ng/L	P391270	
		Dithiopyr**	0.099	U	ng/L	P391270	
		EPTC	1.2	U	ng/L	P391270	
		Ethion	0.15	U	ng/L	P391270	
		Ethoprop	0.099	U	ng/L	P391270	RPD

Field ID: G5NW0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2213946	EPA 8270E	Fenamiphos	0.50	U	ng/L	P391270	
		Fenbuconazole**	0.12	UJ	ng/L	P391270	RPD
		Fipronil	0.25	UJ	ng/L	P391270	RPD
		Fipronil Desulfinyl**	0.12	U	ng/L	P391270	
		Fipronil Sulfide	0.15	U	ng/L	P391270	
		Fipronil Sulfone	0.15	U	ng/L	P391270	
		Fluazifop-P-butyl**	0.099	U	ng/L	P391270	
		Fludioxonil**	0.12	UJ	ng/L	P391270	RPD
		Flumioxazin**	1.7	U	ng/L	P391270	
		Flutolanil**	0.099	U	ng/L	P391270	
		Fluxapyroxad**	0.13	IJ	ng/L	P391270	RPD
		Fonofos	0.20	U	ng/L	P391270	
		Hexazinone	1.5	IJ	ng/L	P391270	RPD
		Imazalil**	0.74	UJ	ng/L	P391270	RPD
		Iprodione**	0.60	U	ng/L	P391270	
		Malathion	0.35	U	ng/L	P391270	
		Metalaxyl	0.74	UJ	ng/L	P391270	RPD
		Metolachlor	0.50	U	ng/L	P391270	
		Metribuzin	3.2	U	ng/L	P391270	
		Mevinphos	0.50	UJ	ng/L	P391270	LCS, MS
		Molinate	0.30	U	ng/L	P391270	
		Myclobutanil**	0.25	UJ	ng/L	P391270	RPD
		Naled**	1.5	U	ng/L	P391270	
		Norflurazon	0.50	UJ	ng/L	P391270	RPD
		Oxadiazon	0.099	U	ng/L	P391270	
		Oxyfluorfen**	0.15	U	ng/L	P391270	
		Parathion Ethyl	0.25	U	ng/L	P391270	RPD
		Parathion Methyl	0.55	U	ng/L	P391270	
		Pendimethalin	0.99	U	ng/L	P391270	
		Phorate	0.25	U	ng/L	P391270	
		Prodiamine**	0.17	U	ng/L	P391270	
		Prometon	0.89	U	ng/L	P391270	
		Prometryn	0.20	UJ	ng/L	P391270	LCS
		Pronamide**	0.15	U	ng/L	P391270	
		Propiconazole**	0.50	UJ	ng/L	P391270	RPD
		Pyriproxyfen**	0.12	U	ng/L	P391270	
		Simazine	0.50	U	ng/L	P391270	
		Sulfentrazone**	0.50	UJ	ng/L	P391270	RPD
		Tebuconazole**	0.50	UJ	ng/L	P391270	RPD
		Terbufos	0.099	U	ng/L	P391270	RPD
		Terbuthylazine	0.42	U	ng/L	P391270	

Field ID: G5NW0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2120 B-2011: Sample reanalyzed out of holding time because of analytical difficulties.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for lead are unavailable for one of two spiked samples because of high 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: P391302

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391540

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391540

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391845

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391848

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391562

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P391708

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391336

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391446

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391298

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

Reference Method: EPA 8270E
 Batch ID: P391270

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	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	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
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P391270

Component	Result	Code	Units
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Oxyfluorfen	0.15	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
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P391314

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: EPA 8321B
Batch ID: P391404

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P391404

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
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: SM 2120 B-2011
Batch ID: P392018

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P391425

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

Reference Method: SM 2540 C-2011
Batch ID: P391666

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P391640

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P391748

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P391418

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391540

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	106		P	85 - 115
Calcium	109		P	85 - 115
Iron	109		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	102		P	85 - 115
Sodium	108		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391540

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.9		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	95.6		P	85 - 115
Boron	99.0		P	85 - 115
Cadmium	94.4		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	92.3		P	85 - 115
Lead	99.7		P	85 - 115
Nickel	90.9		P	85 - 115
Selenium	94.9		P	85 - 115
Silver	100		P	85 - 115
Thallium	98.9		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391845

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391848

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391562

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: P391708

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391336

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391446

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391298

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

Reference Method: EPA 8270E
Batch ID: P391270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	77.9	98.4	P/P	71 - 122
Alachlor	85.6	111	P/P	70 - 121
Ametryn	107	131	P/P	49 - 137
Atrazine	80.7	108	P/P	76 - 125
Atrazine Desethyl	90.6	138	P/P	31 - 144
Azinphos Methyl	138	183	P/F	67 - 150
Azoxystrobin	69.4	125	F/P	70 - 170
Bromacil	74.2	110	P/P	36 - 121
Butylate	72.3	82.4	P/P	33 - 88.0
Carbophenothion	85.2	106	P/P	66 - 116
Carfentrazone Ethyl	91.4	120	P/P	50 - 150
Chlorpyrifos Ethyl	73.5	90.2	P/P	73 - 117
Chlorpyrifos Methyl	84.5	98.6	P/P	68 - 121
Cyanazine	82.1	120	P/P	20 - 250
Demeton	81.1	98.0	P/P	30 - 123
Diazinon	84.8	112	P/P	70 - 128
Difenoconazole	87.5	138	P/P	50 - 150
Dimethenamid	83.0	104	P/P	66 - 122
Disulfoton	82.1	98.3	P/P	46 - 124
Dithiopyr	78.6	97.7	P/P	69 - 122
EPTC	65.2	73.6	P/P	31 - 90.0
Ethion	65.7	81.5	P/P	45 - 135
Ethoprop	83.8	107	P/P	59 - 118
Fenamiphos	82.6	109	P/P	30 - 136
Fenbuconazole	71.3	137	P/P	50 - 150
Fipronil	86.7	119	P/P	57 - 127
Fipronil Desulfinyl	84.8	107	P/P	51 - 122
Fipronil Sulfide	99.8	106	P/P	57 - 119
Fipronil Sulfone	80.6	92.2	P/P	51 - 119
Fluazifop-P-butyl	92.0	119	P/P	50 - 150
Fludioxonil	83.4	116	P/P	50 - 150
Flumioxazin	114	150	P/P	20 - 250
Flutolanil	92.6	124	P/P	50 - 150
Fluxapyroxad	70.8	102	P/P	50 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P391270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fonofos	83.7	91.9	P/P	60 - 120
Hexazinone	60.6	117	P/P	57 - 142
Imazalil	62.3	135	P/P	30 - 139
Iprodione	75.6	94.0	P/P	50 - 150
Malathion	76.5	92.4	P/P	67 - 128
Metalaxyl	74.1	115	P/P	21 - 148
Metolachlor	71.3	94.0	P/P	70 - 120
Metribuzin	86.8	112	P/P	20 - 250
Mevinphos	108	140	P/F	47 - 116
Molinate	77.1	88.6	P/P	41 - 99.0
Myclobutanil	69.6	126	P/P	50 - 150
Naled	48.1	55.9	P/P	38 - 97.0
Norflurazon	74.4	112	P/P	54 - 127
Oxadiazon	81.1	106	P/P	65 - 122
Oxyfluorfen	103	134	P/P	50 - 150
Parathion Ethyl	79.4	106	P/P	71 - 113
Parathion Methyl	93.6	122	P/P	73 - 129
Pendimethalin	68.3	83.3	P/P	63 - 130
Phorate	70.8	76.9	P/P	48 - 118
Prodiamine	35.8	43.3	P/P	20 - 144
Prometon	83.1	110	P/P	53 - 120
Prometryn	94.8	124	P/F	63 - 119
Pronamide	87.8	110	P/P	81 - 122
Propiconazole	80.3	112	P/P	62 - 124
Pyriproxyfen	88.2	112	P/P	50 - 150
Simazine	93.9	124	P/P	77 - 129
Sulfentrazone	65.6	120	P/P	20 - 137
Tebuconazole	48.7	78.5	P/P	20 - 118
Terbufos	74.5	92.1	P/P	61 - 119
Terbutylazine	79.2	100	P/P	75 - 119

Reference Method: EPA 8321B
Batch ID: P391314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	93.5		P	40 - 150
Endothall	90.9		P	40 - 150
Glufosinate	96.9		P	40 - 150
Glyphosate	92.3		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P391404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.4		P	30 - 160
Acetaminophen	70.0		P	30 - 150
Acetamiprid	78.5		P	30 - 160
Afidopyropen	44.7		P	30 - 160
Bentazon	39.2		P	30 - 150
Benzovindiflupyr	68.5		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P391404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	78.0		P	30 - 160
Clothianidin	85.6		P	30 - 160
Dinotefuran	78.3		P	30 - 160
Diuron	64.8		P	30 - 160
Fenuron	90.8		P	30 - 160
Fluridone	72.5		P	30 - 160
Hydrocodone	84.7		P	30 - 160
Ibuprofen	54.2		P	30 - 160
Imazapyr	76.0		P	30 - 160
Imidacloprid	89.5		P	30 - 160
Linuron	56.5		P	30 - 160
Mandestrobin	69.7		P	30 - 160
MCPP	81.0		P	30 - 160
Naproxen	43.7		P	30 - 160
Primidone	78.6		P	30 - 160
Pyraclostrobin	70.0		P	30 - 160
Thiamethoxam	88.2		P	30 - 160
Tolfenpyrad	43.9		P	30 - 160
Triclopyr	71.7		P	30 - 160

Reference Method: SM 2120 B-2011

Batch ID: P392018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P391425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P391748

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P391418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213231	Barium	107		P	80 - 120
2213231	Calcium	99.3		P	80 - 120
2213231	Iron	111		P	80 - 120
2213231	Magnesium	109		P	80 - 120
2213231	Potassium	100		P	80 - 120
2213231	Sodium	107		P	80 - 120
2213231	Zinc	107		P	80 - 120
2213945	Barium	106	108	P/P	80 - 120
2213945	Calcium	107	105	P/P	80 - 120
2213945	Iron	108	107	P/P	80 - 120
2213945	Magnesium	107	106	P/P	80 - 120
2213945	Potassium	108	107	P/P	80 - 120
2213945	Sodium	103	104	P/P	80 - 120
2213945	Zinc	102	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213231	Aluminum	92.5		P	80 - 120
2213231	Antimony	101		P	80 - 120
2213231	Arsenic	96.2		P	80 - 120
2213231	Boron	98.4		P	80 - 120
2213231	Cadmium	94.4		P	80 - 120
2213231	Chromium	99.7		P	80 - 120
2213231	Copper	90.6		P	80 - 120
2213231	Nickel	91.5		P	80 - 120
2213231	Selenium	94.9		P	80 - 120
2213231	Silver	99.8		P	80 - 120
2213231	Thallium	103		P	80 - 120
2213945	Aluminum	95.8	97.2	P/P	80 - 120
2213945	Antimony	101	100	P/P	80 - 120
2213945	Arsenic	94.8	95.3	P/P	80 - 120
2213945	Boron	98.6	100	P/P	80 - 120
2213945	Cadmium	96.4	94.0	P/P	80 - 120
2213945	Chromium	98.5	99.0	P/P	80 - 120
2213945	Copper	93.4	94.1	P/P	80 - 120
2213945	Lead	102	102	P/P	80 - 120
2213945	Nickel	92.7	93.0	P/P	80 - 120
2213945	Selenium	93.4	94.4	P/P	80 - 120
2213945	Silver	102	102	P/P	80 - 120
2213945	Thallium	101	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213839	Chloride	102		P	90 - 110
2214346	Chloride	103		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P391848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213839	Sulfate	104		P	90 - 110
2214346	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P391562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213939	Ammonia-N	97.8	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P391708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213841	Kjeldahl Nitrogen	97.4	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213939	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213840	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213815	O-Phosphate-P	97.2	97.7	P/P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P391270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213074	Acetochlor	71.0	83.1	P/P	68 - 126
2213074	Alachlor	87.6	107	P/P	66 - 125
2213074	Ametryn	111	137	P/P	31 - 182
2213074	Atrazine	94.0	112	P/P	68 - 137
2213074	Atrazine Desethyl	81.2	105	P/P	13 - 161
2213074	Azinphos Methyl	152	191	P/F	54 - 162
2213074	Azoxystrobin	72.9	71.5	P/P	70 - 170
2213074	Bromacil	80.4	86.1	P/P	34 - 144
2213074	Butylate	66.9	77.1	P/P	16 - 92.0
2213074	Carbophenothion	80.0	102	P/P	30 - 131
2213074	Carfentrazone Ethyl	91.2	113	P/P	50 - 150
2213074	Chlorpyrifos Ethyl	67.1	86.6	P/P	63 - 124
2213074	Chlorpyrifos Methyl	81.2	101	P/P	64 - 125
2213074	Cyanazine	93.9	123	P/P	13 - 245
2213074	Demeton	79.5	104	P/P	20 - 154

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P391270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213074	Diazinon	84.8	106	P/P	66 - 141
2213074	Difenoconazole	99.5	95.9	P/P	50 - 150
2213074	Dimethenamid	77.7	89.1	P/P	50 - 130
2213074	Disulfoton	85.7	116	P/P	55 - 130
2213074	Dithiopyr	76.0	91.2	P/P	66 - 122
2213074	EPTC	56.9	60.1	P/P	15 - 93.0
2213074	Ethion	58.1	55.1	P/P	15 - 148
2213074	Ethoprop	80.2	112	P/P	59 - 126
2213074	Fenamiphos	73.3	69.4	P/P	39 - 137
2213074	Fenbuconazole	85.8	104	P/P	50 - 150
2213074	Fipronil	88.8	110	P/P	47 - 131
2213074	Fipronil Desulfinyf	80.4	99.6	P/P	43 - 121
2213074	Fipronil Sulfide	91.4	94.3	P/P	29 - 134
2213074	Fipronil Sulfone	76.1	101	P/P	19 - 131
2213074	Fluazifop-P-butyl	87.9	110	P/P	50 - 150
2213074	Fludioxonil	77.9	98.2	P/P	50 - 150
2213074	Flumioxazin	110	119	P/P	10 - 300
2213074	Flutolanil	89.7	103	P/P	50 - 150
2213074	Fluxapyroxad	72.3	80.7	P/P	50 - 150
2213074	Fonofos	85.0	107	P/P	62 - 128
2213074	Hexazinone	75.0	98.0	P/P	58 - 154
2213074	Imazalil	65.1	71.8	P/P	10 - 215
2213074	Iprodione	72.2	84.9	P/P	50 - 150
2213074	Malathion	70.2	86.9	P/P	54 - 135
2213074	Metalaxyl	80.6	107	P/P	46 - 136
2213074	Metolachlor	70.5	86.6	P/P	62 - 126
2213074	Metribuzin	85.3	111	P/P	44 - 277
2213074	Mevinphos	103	138	P/F	44 - 135
2213074	Molinate	72.6	86.3	P/P	31 - 104
2213074	Myclobutanil	89.8	99.3	P/P	50 - 150
2213074	Naled	41.4	45.5	P/P	33 - 113
2213074	Norflurazon	82.3	97.0	P/P	32 - 134
2213074	Oxadiazon	80.2	98.3	P/P	55 - 123
2213074	Oxyfluorfen	111	137	P/P	50 - 150
2213074	Parathion Ethyl	80.0	110	P/P	67 - 120
2213074	Parathion Methyl	102	129	P/P	70 - 140
2213074	Pendimethalin	83.6	112	P/P	59 - 145
2213074	Phorate	69.2	90.3	P/P	52 - 127
2213074	Prodiamine	47.7	56.4	P/P	11 - 157
2213074	Prometon	83.2	105	P/P	55 - 130
2213074	Prometryn	93.6	122	P/P	55 - 127
2213074	Pronamide	88.8	120	P/P	66 - 150
2213074	Propiconazole	86.8	102	P/P	14 - 178
2213074	Pyriproxyfen	82.7	94.3	P/P	50 - 150
2213074	Simazine	92.6	119	P/P	58 - 159
2213074	Sulfentrazone	79.4	101	P/P	21 - 144
2213074	Tebuconazole	51.7	44.4	P/P	10 - 122
2213074	Terbufos	76.9	106	P/P	65 - 131
2213074	Terbutylazine	77.2	99.9	P/P	63 - 131

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P391314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213076	Acesulfame K	110	109	P/P	40 - 150
2213076	AMPA	130	144	P/P	40 - 150
2213076	Endothall	106	117	P/P	40 - 150
2213076	Glufosinate	95.1	110	P/P	40 - 150
2213076	Glyphosate	72.1	89.2	P/P	40 - 140
2213076	Sucralose	104	109	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P391404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214862	Acetaminophen	64.6	72.4	P/P	30 - 150
2214862	Acetamiprid	86.3	89.0	P/P	30 - 160
2214862	Afidopyropen	66.3	70.8	P/P	30 - 160
2214862	Benzovindiflupyr	74.0	76.6	P/P	30 - 160
2214862	Carbamazepine	69.1	74.8	P/P	30 - 160
2214862	Clothianidin	68.4	71.5	P/P	30 - 160
2214862	Dinotefuran	70.4	75.6	P/P	30 - 160
2214862	Diuron	51.3	52.2	P/P	30 - 160
2214862	Fenuron	63.5	64.0	P/P	30 - 160
2214862	Hydrocodone	66.0	67.8	P/P	30 - 160
2214862	Ibuprofen	52.4	46.0	P/P	30 - 160
2214862	Imazapyr	99.7	97.5	P/P	30 - 160
2214862	Imidacloprid	117	122	P/P	30 - 160
2214862	Linuron	53.3	58.4	P/P	30 - 160
2214862	Mandestrobin	69.9	78.7	P/P	30 - 160
2214862	MCPP	68.9	65.2	P/P	30 - 160
2214862	Naproxen	45.5	57.0	P/P	30 - 160
2214862	Primidone	66.9	67.2	P/P	30 - 160
2214862	Pyraclostrobin	75.4	82.9	P/P	30 - 160
2214862	Thiamethoxam	88.0	89.8	P/P	30 - 160
2214862	Tolfenpyrad	44.9	47.9	P/P	30 - 160
2214862	Triclopyr	68.9	67.5	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P391748

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215322	Fluoride	95.3	95.3	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P391418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213859	Organic Carbon	102		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P391302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213813	Turbidity	1.32	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213945	Barium	1.98	Spike	P	0 - 20
2213945	Calcium	0.935	Spike	P	0 - 20
2213945	Iron	1.18	Spike	P	0 - 20
2213945	Magnesium	0.889	Spike	P	0 - 20
2213945	Potassium	0.687	Spike	P	0 - 20
2213945	Sodium	0.964	Spike	P	0 - 20
2213945	Zinc	1.72	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213945	Aluminum	1.25	Spike	P	0 - 20
2213945	Antimony	0.595	Spike	P	0 - 20
2213945	Arsenic	0.531	Spike	P	0 - 20
2213945	Boron	1.65	Spike	P	0 - 20
2213945	Cadmium	2.53	Spike	P	0 - 20
2213945	Chromium	0.512	Spike	P	0 - 20
2213945	Copper	0.762	Spike	P	0 - 20
2213945	Lead	0.269	Spike	P	0 - 20
2213945	Nickel	0.333	Spike	P	0 - 20
2213945	Selenium	1.10	Spike	P	0 - 20
2213945	Silver	0.360	Spike	P	0 - 20
2213945	Thallium	1.89	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213839	Chloride	0.618	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213839	Sulfate	0.349	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P391562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213939	Ammonia-N	0.964	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P391708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213841	Kjeldahl Nitrogen	2.30	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213939	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213840	Total-P	0.902	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213815	O-Phosphate-P	0.513	Spike	P	0 - 20

Reference Method: EPA 8270E
 Batch ID: P391270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213074	Acetochlor	15.7	Spike	P	0 - 30
2213074	Alachlor	19.6	Spike	P	0 - 30
2213074	Ametryn	20.7	Spike	P	0 - 30
2213074	Atrazine	17.6	Spike	P	0 - 30
2213074	Atrazine Desethyl	25.6	Spike	P	0 - 30
2213074	Azinphos Methyl	22.6	Spike	P	0 - 30
2213074	Azoxystrobin	1.95	Spike	P	0 - 30
2213074	Bromacil	6.84	Spike	P	0 - 30
2213074	Butylate	14.2	Spike	P	0 - 30
2213074	Carbophenothion	23.7	Spike	P	0 - 30
2213074	Carfentrazone Ethyl	21.1	Spike	P	0 - 30
2213074	Chlorpyrifos Ethyl	25.3	Spike	P	0 - 30
2213074	Chlorpyrifos Methyl	21.7	Spike	P	0 - 30
2213074	Cyanazine	26.6	Spike	P	0 - 30
2213074	Demeton	26.3	Spike	P	0 - 30
2213074	Diazinon	22.6	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P391270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213074	Difenoconazole	3.69	Spike	P	0 - 30
2213074	Dimethenamid	13.7	Spike	P	0 - 30
2213074	Disulfoton	29.9	Spike	P	0 - 30
2213074	Dithiopyr	18.2	Spike	P	0 - 30
2213074	EPTC	5.58	Spike	P	0 - 30
2213074	Ethion	5.29	Spike	P	0 - 30
2213074	Ethoprop	33.4	Spike	F	0 - 30
2213074	Fenamiphos	5.35	Spike	P	0 - 30
2213074	Fenbuconazole	19.3	Spike	P	0 - 30
2213074	Fipronil	21.0	Spike	P	0 - 30
2213074	Fipronil Desulfinyl	21.3	Spike	P	0 - 30
2213074	Fipronil Sulfide	3.16	Spike	P	0 - 30
2213074	Fipronil Sulfone	28.0	Spike	P	0 - 30
2213074	Fluazifop-P-butyl	22.7	Spike	P	0 - 30
2213074	Fludioxonil	23.0	Spike	P	0 - 30
2213074	Flumioxazin	8.17	Spike	P	0 - 30
2213074	Flutolanil	14.0	Spike	P	0 - 30
2213074	Fluxapyroxad	10.9	Spike	P	0 - 30
2213074	Fonofos	22.8	Spike	P	0 - 30
2213074	Hexazinone	26.5	Spike	P	0 - 30
2213074	Imazalil	9.76	Spike	P	0 - 30
2213074	Iprodione	16.2	Spike	P	0 - 30
2213074	Malathion	21.2	Spike	P	0 - 30
2213074	Metalaxyl	27.7	Spike	P	0 - 30
2213074	Metolachlor	18.9	Spike	P	0 - 30
2213074	Metribuzin	25.9	Spike	P	0 - 30
2213074	Mevinphos	29.2	Spike	P	0 - 30
2213074	Molinate	17.2	Spike	P	0 - 30
2213074	Myclobutanil	10.1	Spike	P	0 - 30
2213074	Naled	9.47	Spike	P	0 - 30
2213074	Norflurazon	16.4	Spike	P	0 - 30
2213074	Oxadiazon	20.3	Spike	P	0 - 30
2213074	Oxyfluorfen	20.8	Spike	P	0 - 30
2213074	Parathion Ethyl	32.0	Spike	F	0 - 30
2213074	Parathion Methyl	23.7	Spike	P	0 - 30
2213074	Pendimethalin	28.6	Spike	P	0 - 30
2213074	Phorate	26.5	Spike	P	0 - 30
2213074	Prodiamine	16.7	Spike	P	0 - 30
2213074	Prometon	22.9	Spike	P	0 - 30
2213074	Prometryn	26.5	Spike	P	0 - 30
2213074	Pronamide	29.9	Spike	P	0 - 30
2213074	Propiconazole	16.2	Spike	P	0 - 30
2213074	Pyriproxyfen	13.2	Spike	P	0 - 30
2213074	Simazine	24.6	Spike	P	0 - 30
2213074	Sulfentrazone	24.2	Spike	P	0 - 30
2213074	Tebuconazole	15.2	Spike	P	0 - 30
2213074	Terbufos	31.8	Spike	F	0 - 30
2213074	Terbuthylazine	25.7	Spike	P	0 - 30
LFB	Acetochlor	23.2	LCS	P	0 - 30
LFB	Alachlor	25.6	LCS	P	0 - 30
LFB	Ametryn	19.9	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P391270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	29.4	LCS	P	0 - 30
LFB	Atrazine Desethyl	41.2	LCS	F	0 - 30
LFB	Azinphos Methyl	27.7	LCS	P	0 - 30
LFB	Azoxystrobin	57.3	LCS	F	0 - 30
LFB	Bromacil	38.8	LCS	F	0 - 30
LFB	Butylate	13.0	LCS	P	0 - 30
LFB	Carbophenothion	21.6	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	27.1	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	20.4	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	15.4	LCS	P	0 - 30
LFB	Cyanazine	37.2	LCS	F	0 - 30
LFB	Demeton	18.9	LCS	P	0 - 30
LFB	Diazinon	27.5	LCS	P	0 - 30
LFB	Difenoconazole	44.6	LCS	F	0 - 30
LFB	Dimethenamid	22.0	LCS	P	0 - 30
LFB	Disulfoton	18.0	LCS	P	0 - 30
LFB	Dithiopyr	21.6	LCS	P	0 - 30
LFB	EPTC	12.1	LCS	P	0 - 30
LFB	Ethion	21.4	LCS	P	0 - 30
LFB	Ethoprop	24.1	LCS	P	0 - 30
LFB	Fenamiphos	27.7	LCS	P	0 - 30
LFB	Fenbuconazole	63.1	LCS	F	0 - 30
LFB	Fipronil	31.6	LCS	F	0 - 30
LFB	Fipronil Desulfinyl	23.2	LCS	P	0 - 30
LFB	Fipronil Sulfide	6.06	LCS	P	0 - 30
LFB	Fipronil Sulfone	13.4	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	25.2	LCS	P	0 - 30
LFB	Fludioxonil	32.6	LCS	F	0 - 30
LFB	Flumioxazin	26.7	LCS	P	0 - 30
LFB	Flutolanil	29.1	LCS	P	0 - 30
LFB	Fluxapyroxad	36.2	LCS	F	0 - 30
LFB	Fonofos	9.40	LCS	P	0 - 30
LFB	Hexazinone	63.8	LCS	F	0 - 30
LFB	Imazalil	73.8	LCS	F	0 - 30
LFB	Iprodione	21.6	LCS	P	0 - 30
LFB	Malathion	18.7	LCS	P	0 - 30
LFB	Metalaxyl	43.1	LCS	F	0 - 30
LFB	Metolachlor	27.4	LCS	P	0 - 30
LFB	Metribuzin	24.9	LCS	P	0 - 30
LFB	Mevinphos	26.3	LCS	P	0 - 30
LFB	Molinate	13.9	LCS	P	0 - 30
LFB	Myclobutanil	57.9	LCS	F	0 - 30
LFB	Naled	15.0	LCS	P	0 - 30
LFB	Norflurazon	40.0	LCS	F	0 - 30
LFB	Oxadiazon	26.4	LCS	P	0 - 30
LFB	Oxyfluorfen	26.4	LCS	P	0 - 30
LFB	Parathion Ethyl	28.5	LCS	P	0 - 30
LFB	Parathion Methyl	26.6	LCS	P	0 - 30
LFB	Pendimethalin	19.7	LCS	P	0 - 30
LFB	Phorate	8.28	LCS	P	0 - 30
LFB	Prodiamine	18.9	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P391270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometon	27.8	LCS	P	0 - 30
LFB	Prometryn	26.8	LCS	P	0 - 30
LFB	Pronamide	22.7	LCS	P	0 - 30
LFB	Propiconazole	33.1	LCS	F	0 - 30
LFB	Pyriproxyfen	24.2	LCS	P	0 - 30
LFB	Simazine	27.6	LCS	P	0 - 30
LFB	Sulfentrazone	58.7	LCS	F	0 - 30
LFB	Tebuconazole	46.8	LCS	F	0 - 30
LFB	Terbufos	21.1	LCS	P	0 - 30
LFB	Terbuthylazine	23.5	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P391314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213076	Acesulfame K	0.833	Spike	P	0 - 30
2213076	AMPA	10.4	Spike	P	0 - 30
2213076	Endothall	9.97	Spike	P	0 - 30
2213076	Glufosinate	14.9	Spike	P	0 - 30
2213076	Glyphosate	21.3	Spike	P	0 - 30
2213076	Sucralose	3.89	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P391404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214862	2,4-D	0.511	Spike	P	0 - 30
2214862	Acetaminophen	11.5	Spike	P	0 - 30
2214862	Acetamiprid	3.09	Spike	P	0 - 30
2214862	Afidopyropen	6.70	Spike	P	0 - 30
2214862	Bentazon	2.10	Spike	P	0 - 30
2214862	Benzovindiflupyr	3.52	Spike	P	0 - 30
2214862	Carbamazepine	7.84	Spike	P	0 - 30
2214862	Clothianidin	4.46	Spike	P	0 - 30
2214862	Dinotefuran	7.05	Spike	P	0 - 30
2214862	Diuron	1.77	Spike	P	0 - 30
2214862	Fenuron	0.698	Spike	P	0 - 30
2214862	Fluridone	8.85	Spike	P	0 - 30
2214862	Hydrocodone	2.68	Spike	P	0 - 30
2214862	Ibuprofen	13.0	Spike	P	0 - 30
2214862	Imazapyr	1.52	Spike	P	0 - 30
2214862	Imidacloprid	4.07	Spike	P	0 - 30
2214862	Linuron	9.02	Spike	P	0 - 30
2214862	Mandestrobin	11.9	Spike	P	0 - 30
2214862	MCP	5.46	Spike	P	0 - 30
2214862	Naproxen	22.4	Spike	P	0 - 30
2214862	Primidone	0.433	Spike	P	0 - 30
2214862	Pyraclostrobin	9.57	Spike	P	0 - 30
2214862	Thiamethoxam	2.05	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P391404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214862	Tolfenpyrad	6.35	Spike	P	0 - 30
2214862	Triclopyr	2.05	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P392018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216894	Color (true)	0.0153	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P391425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214222	Total Alkalinity	1.12	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P391666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213839	TDS	7.18	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P391748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215322	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P391418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213859	Organic Carbon	1.17	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2213944
Field Sample ID: G5NW0150

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	73.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.4	P	30 - 160
EPA 8321B	Diuron-d6	65.9	P	30 - 160
EPA 8321B	Endothall-d6	109	P	40 - 160
EPA 8321B	Endothall-d6	109	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	158	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	158	P	40 - 160
EPA 8321B	Ibuprofen-d3	56.7	P	30 - 160
EPA 8321B	Primidone-d5	89.9	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Lab Sample ID: 2213946
Field Sample ID: G5NW0150

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	127	P	72 - 135
EPA 8270E	Terbufos-d10	111	P	57 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102626

Included Lab Sample IDs: 2213940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	97.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102627

Included Lab Sample IDs: 2213938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	104	104	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102638

Included Lab Sample IDs: 2213939

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

Reference Method: SM 5310 B-2011

Run ID: A102665

Included Lab Sample IDs: 2213939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	97.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A102668

Included Lab Sample IDs: 2213938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	97.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102674

Included Lab Sample IDs: 2213944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	104	P/P	60 - 160

Reference Method: EPA 8270E

Run ID: A102693

Included Lab Sample IDs: 2213946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.0		P	80 - 120
Alachlor	98.7		P	80 - 120
Ametryn	99.2		P	80 - 120
Atrazine	95.1		P	80 - 120
Atrazine Desethyl	104		P	80 - 120
Azinphos Methyl	110		P	80 - 120
Azoxystrobin	103		P	80 - 120
Bromacil	92.8		P	80 - 120
Butylate	103		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A102693
 Included Lab Sample IDs: 2213946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbophenothion	92.4		P	80 - 120
Carfentrazone Ethyl	97.7		P	80 - 120
Chlorpyrifos Ethyl	97.9		P	80 - 120
Chlorpyrifos Methyl	97.3		P	80 - 120
Cyanazine	91.8		P	80 - 120
Demeton	93.4		P	80 - 120
Diazinon	97.4		P	80 - 120
Difenoconazole	97.4		P	80 - 120
Dimethenamid	98.7		P	80 - 120
Disulfoton	95.6		P	80 - 120
Dithiopyr	98.7		P	80 - 120
EPTC	99.4		P	80 - 120
Ethion	93.4		P	80 - 120
Ethoprop	97.1		P	80 - 120
Fenamiphos	99.6		P	80 - 120
Fenbuconazole	92.3		P	80 - 120
Fipronil	97.1		P	80 - 120
Fipronil Desulfinyl	95.4		P	80 - 120
Fipronil Sulfide	97.4		P	80 - 120
Fipronil Sulfone	97.9		P	80 - 120
Fluazifop-P-butyl	95.0		P	80 - 120
Fludioxonil	96.0		P	80 - 120
Flumioxazin	94.1		P	80 - 120
Flutolanil	103		P	80 - 120
Fluxapyroxad	92.5		P	80 - 120
Fonofos	96.6		P	80 - 120
Hexazinone	99.5		P	80 - 120
Imazalil	95.6		P	80 - 120
Iprodione	94.1		P	80 - 120
Malathion	94.0		P	80 - 120
Metalaxyl	99.8		P	80 - 120
Metolachlor	93.9		P	80 - 120
Metribuzin	91.5		P	80 - 120
Mevinphos	112		P	80 - 120
Molinate	100		P	80 - 120
Myclobutanil	94.6		P	80 - 120
Naled	104		P	80 - 120
Norflurazon	91.6		P	80 - 120
Oxadiazon	97.7		P	80 - 120
Oxyfluorfen	96.9		P	80 - 120
Parathion Ethyl	98.9		P	80 - 120
Parathion Methyl	105		P	80 - 120
Pendimethalin	94.1		P	80 - 120
Phorate	96.2		P	80 - 120
Prodiamine	96.2		P	80 - 120
Prometon	99.0		P	80 - 120
Prometryn	103		P	80 - 120
Pronamide	95.7		P	80 - 120
Propiconazole	96.1		P	80 - 120
Pyriproxyfen	94.0		P	80 - 120
Simazine	96.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A102693

Included Lab Sample IDs: 2213946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfentrazone	93.9		P	80 - 120
Tebuconazole	97.1		P	80 - 120
Terbufos	95.1		P	80 - 120
Terbutylazine	94.5		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102703

Included Lab Sample IDs: 2213939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102705

Included Lab Sample IDs: 2213939

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

Reference Method: EPA 8321B

Run ID: A102710

Included Lab Sample IDs: 2213944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	97.9	103	P/P	60 - 160
AMPA	87.6	95.4	P/P	60 - 160
Endothall	99.2	105	P/P	60 - 160
Glufosinate	89.3	99.2	P/P	60 - 160
Glyphosate	103	89.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A102765

Included Lab Sample IDs: 2213944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	86.6	P/P	50 - 150
Acetaminophen	125	139	P/P	60 - 160
Acetamiprid	113	121	P/P	50 - 150
Afidopyropen	104	108	P/P	50 - 150
Bentazon	123	150	P/P	50 - 160
Benzovindiflupyr	113	115	P/P	50 - 150
Carbamazepine	112	119	P/P	60 - 150
Clothianidin	128	121	P/P	60 - 150
Dinotefuran	116	118	P/P	50 - 150
Diuron	123	128	P/P	60 - 160
Fenuron	109	114	P/P	60 - 150
Fluridone	87.3	105	P/P	60 - 160
Hydrocodone	117	113	P/P	60 - 150
Ibuprofen	80.7	74.6	P/P	50 - 160
Imazapyr	105	93.8	P/P	50 - 150
Imidacloprid	113	102	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A102765
Included Lab Sample IDs: 2213944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	103	117	P/P	60 - 150
Mandestrobin	108	114	P/P	50 - 150
MCPP	92.7	92.2	P/P	50 - 150
Naproxen	109	145	P/P	50 - 160
Primidone	108	113	P/P	60 - 150
Pyraclostrobin	110	114	P/P	60 - 150
Thiamethoxam	124	112	P/P	50 - 150
Tolfenpyrad	101	94.1	P/P	60 - 150
Triclopyr	95.8	93.5	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A102772
Included Lab Sample IDs: 2213945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.3	98.9	P/P	90 - 110
Antimony	100	100	P/P	90 - 110
Arsenic	97.9	97.2	P/P	90 - 110
Boron	105	106	P/P	90 - 110
Cadmium	97.6	97.1	P/P	90 - 110
Chromium	99.4	100	P/P	90 - 110
Copper	94.3	94.1	P/P	90 - 110
Lead	98.5	99.9	P/P	90 - 110
Nickel	92.8	92.5	P/P	90 - 110
Selenium	97.0	97.4	P/P	90 - 110
Thallium	101	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A102785
Included Lab Sample IDs: 2213945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	101	99.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A102789
Included Lab Sample IDs: 2213938

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A102804
Included Lab Sample IDs: 2213939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.1	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A102806

Included Lab Sample IDs: 2213945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	104	105	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	102	99.9	P/P	90 - 110
Potassium	101	99.6	P/P	90 - 110
Sodium	104	102	P/P	90 - 110
Zinc	103	99.7	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102826

Included Lab Sample IDs: 2213938

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

Reference Method: SM 2120 B-2011

Run ID: A102912

Included Lab Sample IDs: 2213938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 115

* 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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							1.32	
EPA 200.7 Rev. 4.4	Barium	106		107	106	108			1.98
	Calcium	109		99.3	107	105			0.935
	Iron	109		111	108	107			1.18
	Magnesium	109		109	107	106			0.889
	Potassium	102		100	108	107			0.687
	Sodium	108		107	103	104			0.964
	Zinc	105		107	102	104			1.72
EPA 200.8 Rev. 5.4	Aluminum	95.9		95.8	97.2	92.5			1.25
	Antimony	101		101	100	101			0.595
	Arsenic	95.6		94.8	95.3	96.2			0.531
	Boron	99.0		98.6	100	98.4			1.65
	Cadmium	94.4		96.4	94.0	94.4			2.53
	Chromium	97.3		98.5	99.0	99.7			0.512
	Copper	92.3		93.4	94.1	90.6			0.762
	Lead	99.7		102	102				0.269
	Nickel	90.9		92.7	93.0	91.5			0.333
	Selenium	94.9		93.4	94.4	94.9			1.10
	Silver	100		102	102	99.8			0.360
	Thallium	98.9		101	103	103			1.89
EPA 300.0 Rev. 2.1	Chloride	102		102	103			0.618	
	Sulfate	104		104	103			0.349	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6		97.8	98.8				0.964
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8		97.4	101				2.30
EPA 353.2 Rev. 2.0	NO2NO3-N	102		98.2					0.0
EPA 365.1 Rev. 2.0	Total-P	102		102	101				0.902
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		97.2	97.7				0.513
EPA 8270E	Acetochlor	77.9	98.4	71.0	83.1		23.2		15.7
	Alachlor	85.6	111	87.6	107		25.6		19.6
	Ametryn	107	131	111	137		19.9		20.7
	Atrazine	80.7	108	94.0	112		29.4		17.6
	Atrazine Desethyl	90.6	138	81.2	105		41.2		25.6
	Azinphos Methyl	138	183	152	191		27.7		22.6
	Azoxystrobin	125	69.4	72.9	71.5		57.3		1.95
	Bromacil	110	74.2	80.4	86.1		38.8		6.84
	Butylate	82.4	72.3	66.9	77.1		13.0		14.2
	Carbophenothion	85.2	106	80.0	102		21.6		23.7
	Carfentrazone Ethyl	91.4	120	91.2	113		27.1		21.1
	Chlorpyrifos Ethyl	73.5	90.2	67.1	86.6		20.4		25.3
	Chlorpyrifos Methyl	84.5	98.6	81.2	101		15.4		21.7
	Cyanazine	82.1	120	93.9	123		37.2		26.6
	Demeton	81.1	98.0	79.5	104		18.9		26.3
	Diazinon	84.8	112	84.8	106		27.5		22.6
	Difenoconazole	87.5	138	99.5	95.9		44.6		3.69
	Dimethenamid	83.0	104	77.7	89.1		22.0		13.7
	Disulfoton	82.1	98.3	85.7	116		18.0		29.9
	Dithiopyr	78.6	97.7	76.0	91.2		21.6		18.2
	EPTC	65.2	73.6	56.9	60.1		12.1		5.58
	Ethion	65.7	81.5	58.1	55.1		21.4		5.29
	Ethoprop	83.8	107	80.2	112		24.1		33.4
	Fenamiphos	82.6	109	73.3	69.4		27.7		5.35
	Fenbuconazole	71.3	137	85.8	104		63.1		19.3
	Fipronil	86.7	119	88.8	110		31.6		21.0
	Fipronil Desulfinyl	84.8	107	80.4	99.6		23.2		21.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fipronil Sulfide	99.8	106	91.4	94.3	6.06	3.16
	Fipronil Sulfone	80.6	92.2	76.1	101	13.4	28.0
	Fluazifop-P-butyl	92.0	119	87.9	110	25.2	22.7
	Fludioxonil	83.4	116	77.9	98.2	32.6	23.0
	Flumioxazin	114	150	110	119	26.7	8.17
	Flutolanil	92.6	124	89.7	103	29.1	14.0
	Fluxapyroxad	70.8	102	72.3	80.7	36.2	10.9
	Fonofos	83.7	91.9	85.0	107	9.40	22.8
	Hexazinone	60.6	117	75.0	98.0	63.8	26.5
	Imazalil	62.3	135	65.1	71.8	73.8	9.76
	Iprodione	75.6	94.0	72.2	84.9	21.6	16.2
	Malathion	76.5	92.4	70.2	86.9	18.7	21.2
	Metalaxyl	74.1	115	80.6	107	43.1	27.7
	Metolachlor	71.3	94.0	70.5	86.6	27.4	18.9
	Metribuzin	86.8	112	85.3	111	24.9	25.9
	Mevinphos	108	140	103	138	26.3	29.2
	Molinate	77.1	88.6	72.6	86.3	13.9	17.2
	Myclobutanil	69.6	126	89.8	99.3	57.9	10.1
	Naled	48.1	55.9	41.4	45.5	15.0	9.47
	Norflurazon	74.4	112	82.3	97.0	40.0	16.4
	Oxadiazon	81.1	106	80.2	98.3	26.4	20.3
	Oxyfluorfen	103	134	111	137	26.4	20.8
	Parathion Ethyl	79.4	106	80.0	110	28.5	32.0
	Parathion Methyl	93.6	122	102	129	26.6	23.7
	Pendimethalin	68.3	83.3	83.6	112	19.7	28.6
	Phorate	70.8	76.9	69.2	90.3	8.28	26.5
	Prodiamine	35.8	43.3	47.7	56.4	18.9	16.7
	Prometon	83.1	110	83.2	105	27.8	22.9
	Prometryn	94.8	124	93.6	122	26.8	26.5
	Pronamide	87.8	110	88.8	120	22.7	29.9
	Propiconazole	80.3	112	86.8	102	33.1	16.2
	Pyriproxyfen	88.2	112	82.7	94.3	24.2	13.2
	Simazine	93.9	124	92.6	119	27.6	24.6
	Sulfentrazone	120	65.6	79.4	101	58.7	24.2
	Tebuconazole	78.5	48.7	51.7	44.4	46.8	15.2
	Terbufos	92.1	74.5	76.9	106	21.1	31.8
	Terbutylazine	100	79.2	77.2	99.9	23.5	25.7
EPA 8321B	2,4-D	81.4					0.511
	Acesulfame K	106		110	109		0.833
	Acetaminophen	70.0		72.4	64.6		11.5
	Acetamiprid	78.5		89.0	86.3		3.09
	Afidopyropen	44.7		70.8	66.3		6.70
	AMPA	93.5		130	144		10.4
	Bentazon	39.2					2.10
	Benzovindiflupyr	68.5		76.6	74.0		3.52
	Carbamazepine	78.0		74.8	69.1		7.84
	Clothianidin	85.6		71.5	68.4		4.46
	Dinotefuran	78.3		75.6	70.4		7.05
	Diuron	64.8		52.2	51.3		1.77
	Endothall	90.9		106	117		9.97
	Fenuron	90.8		64.0	63.5		0.698
	Fluridone	72.5					8.85
	Glufosinate	96.9		95.1	110		14.9
	Glyphosate	92.3		72.1	89.2		21.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Hydrocodone	84.7	67.8	66.0			2.68
	Ibuprofen	54.2	52.4	46.0			13.0
	Imazapyr	76.0	97.5	99.7			1.52
	Imidacloprid	89.5	122	117			4.07
	Linuron	56.5	58.4	53.3			9.02
	Mandestrobin	69.7	78.7	69.9			11.9
	MCCP	81.0	68.9	65.2			5.46
	Naproxen	43.7	45.5	57.0			22.4
	Primidone	78.6	67.2	66.9			0.433
	Pyraclostrobin	70.0	82.9	75.4			9.57
	Sucralose	105	104	109			3.89
	Thiamethoxam	88.2	89.8	88.0			2.05
	Tolfenpyrad	43.9	47.9	44.9			6.35
	Triclopyr	71.7	68.9	67.5			2.05
SM 2120 B-2011	Color (true)	101				0.0153	
SM 2320 B-2011	Total Alkalinity	102				1.12	
SM 2540 C-2011	TDS					7.18	
SM 4500 F-C-2011	Fluoride	96.7	95.3	95.3			0.0
SM 5310 B-2011	Organic Carbon	97.2	102				1.17

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2213938
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2213945
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2213945
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2213938
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2213938
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2213939
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2213939
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2213939
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2213939
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2213940
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2213946
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2213944
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2213944
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2213938
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2213938
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2213945
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2213938
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2213938
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2213938
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2213939

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	12/16/2020			12/16/2020 15:23	Yen Ta	2213938
EPA 200.7 Rev. 4.4	12/16/2020	12/21/2020 15:00	Elliott D. Healy	12/28/2020 18:52	Betina Topolski	2213945
EPA 200.8 Rev. 5.4	12/16/2020	12/21/2020 15:00	Elliott D. Healy	12/23/2020 16:44	Alexander Thompson	2213945
	12/16/2020	12/21/2020 15:00	Elliott D. Healy	12/24/2020 15:15	Alexander Thompson	2213945
EPA 300.0 Rev. 2.1	12/16/2020			12/30/2020 01:59	Lipi Saha	2213938
EPA 350.1 Rev. 2.0	12/16/2020			12/21/2020 16:41	Ping Hua	2213939
EPA 351.2 Rev. 2.0	12/16/2020	12/23/2020 14:55	David Boose	12/28/2020 17:27	Julia Storbeck	2213939
EPA 353.2 Rev. 2.0	12/16/2020			12/17/2020 10:54	Beverly Y. Sanders	2213939
EPA 365.1 Rev. 2.0	12/16/2020	12/18/2020 13:00	Yen Ta	12/21/2020 16:32	Shengyu Wang	2213939
EPA 365.1 Rev. 2.0 dissolved	12/16/2020			12/16/2020 16:03	Virginia P. Brown	2213940
EPA 8270E	12/16/2020	12/16/2020 14:00	Rasheda Ghaffari	12/17/2020 22:27	Vandana T. Nagar	2213946
EPA 8321B	12/16/2020	12/17/2020 11:00	Rebecca Ware	12/17/2020 16:45	Rebecca Ware	2213944
	12/16/2020	12/17/2020 11:00	Rebecca Ware	12/19/2020 00:54	Rebecca Ware	2213944
	12/16/2020	12/21/2020 12:00	Hoor Shaik	12/23/2020 02:52	Juyoung Kim	2213944
SM 2120 B-2011	12/16/2020			01/06/2021 16:05	Benjamin T. Nordmann	2213938
SM 2320 B-2011	12/16/2020			12/17/2020 23:14	Dale L. Simmons	2213938
SM 2340B	12/16/2020			12/28/2020 18:52	Betina Topolski	2213945
SM 2540 C-2011	12/16/2020			12/18/2020 15:11	Yijie Li	2213938
SM 2540 D-2011	12/16/2020			12/18/2020 15:11	Yijie Li	2213938
SM 4500 F-C-2011	12/16/2020			12/23/2020 22:39	Dale L. Simmons	2213938
SM 5310 B-2011	12/16/2020			12/18/2020 01:57	Touraj Touran	2213939