

Chemical Analysis Report

SO-DIST-2020-12-18-02

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

Event Description: **Pollywog and Myrtle SCI**
Request ID: **RQ-2020-12-14-42**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Chris Hormuth

For additional information please contact
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Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 12-JAN-2021 15:23

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

NON-CONFORMANCE REPORT INCLUDED

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: Myrtle Slough @ Pine Island St

Collection Date/Time: 12/16/2020 09:05

Field ID: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2214602	EPA 180.1 Rev. 2.0	Turbidity	1.7	Q	NTU	P391456	
	EPA 300.0 Rev. 2.1	Chloride	51		mg Cl/L	P391903	
		Sulfate	11		mg SO4/L	P391904	
	SM 2120 B-2011	Color (true)	380	Q	PCU	P391463	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P391576	
	SM 2540 C-2011	TDS	207		mg/L	P391868	
	SM 2540 D-2011	TSS	2	I	mg/L	P391766	
2214603	SM 4500 F-C-2011	Fluoride	0.18		mg F/L	P391580	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P391736	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.4		mg N/L	P391932	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P391591	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P391533	
2214604	SM 5310 B-2011	Organic Carbon	45		mg C/L	P391598	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	IQ	mg P/L	P391461	
2214608	EPA 8321B	2,4-D	0.0020	U	ug/L	P391404	
		Acesulfame K**	0.10	U	ug/L	P391510	
		AMPA**	0.10	U	ug/L	P391510	
		Sucralose**	0.010	U	ug/L	P391510	
		Acetaminophen**	0.0080	U	ug/L	P391404	
		Acetamiprid**	0.0020	U	ug/L	P391404	
		Endothall**	0.25	U	ug/L	P391510	
		Glufosinate**	0.10	U	ug/L	P391510	
		Glyphosate**	0.10	U	ug/L	P391510	
		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	0.0020	U	ug/L	P391404	
		Linuron	0.0040	U	ug/L	P391404	
		Mandestrobin**	0.0020	U	ug/L	P391404	
		MCPD	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: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2214608	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P391404	
		Triclopyr**	0.0040	U	ug/L	P391404	
2214609	EPA 200.7 Rev. 4.4	Barium	13.9		ug/L	P391631	
		Calcium	20.6		mg/L	P391631	
		Iron	650		ug/L	P391631	
		Magnesium	8.14		mg/L	P391631	
		Potassium	5.6		mg/L	P391631	
		Sodium	21.6		mg/L	P391631	
		Zinc	5.0	U	ug/L	P391631	
	EPA 200.8 Rev. 5.4	Aluminum	78		ug/L	P391631	
		Antimony	0.054	I	ug/L	P391631	
		Arsenic	0.70		ug/L	P391631	
		Beryllium	0.010	U	ug/L	P391631	
		Boron**	27.4		ug/L	P391631	
		Cadmium	0.020	U	ug/L	P391631	
		Chromium	0.48	I	ug/L	P391631	
		Copper	0.60	I	ug/L	P391631	
		Lead	0.20	U	ug/L	P391631	
		Nickel	0.50	U	ug/L	P391631	
		Selenium	0.20	U	ug/L	P391631	
		Silver	0.010	U	ug/L	P391631	
		Thallium	0.10	U	ug/L	P391631	
	SM 2340B	Hardness	85.0		mg/L	P391631	
2214610	EPA 8270E	Acetochlor	0.25	U	ng/L	P391594	
		Alachlor	0.25	U	ng/L	P391594	
		Ametryn	0.60	U	ng/L	P391594	
		Atrazine	0.38	I	ng/L	P391594	
		Atrazine Desethyl	1.5	U	ng/L	P391594	
		Azinphos Methyl	2.0	U	ng/L	P391594	
		Azoxystrobin**	0.50	UJ	ng/L	P391594	RPD
		Bromacil	6.7		ng/L	P391594	
		Butylate	0.40	U	ng/L	P391594	
		Carbophenothion	0.50	U	ng/L	P391594	
		Carfentrazone Ethyl**	0.10	U	ng/L	P391594	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P391594	
		Chlorpyrifos Methyl	0.050	U	ng/L	P391594	
		Cyanazine	3.3	U	ng/L	P391594	
		Demeton	1.5	U	ng/L	P391594	
		Diazinon	0.13	U	ng/L	P391594	
		Difenoconazole**	0.60	U	ng/L	P391594	
		Dimethenamid**	0.10	U	ng/L	P391594	
		Disulfoton	0.50	U	ng/L	P391594	
		Dithiopyr**	0.10	U	ng/L	P391594	
		EPTC	1.3	U	ng/L	P391594	
		Ethion	0.15	UJ	ng/L	P391594	LCS, RPD

Field ID: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2214610	EPA 8270E	Ethoprop	0.10	U	ng/L	P391594	
		Fenamiphos	0.50	U	ng/L	P391594	
		Fenbuconazole**	0.13	U	ng/L	P391594	
		Fipronil	0.25	U	ng/L	P391594	
		Fipronil Desulfinyl**	0.13	U	ng/L	P391594	
		Fipronil Sulfide	0.15	U	ng/L	P391594	
		Fipronil Sulfone	0.15	U	ng/L	P391594	
		Fluazifop-P-butyl**	0.10	U	ng/L	P391594	
		Fludioxonil**	0.13	U	ng/L	P391594	
		Flumioxazin**	1.8	U	ng/L	P391594	
		Flutolanil**	0.10	U	ng/L	P391594	
		Fluxapyroxad**	0.10	U	ng/L	P391594	
		Fonofos	0.20	U	ng/L	P391594	
		Hexazinone	44		ng/L	P391594	
		Imazalil**	0.75	U	ng/L	P391594	
		Iprodione**	0.60	U	ng/L	P391594	
		Malathion	0.35	U	ng/L	P391594	
		Metalaxyl	0.75	U	ng/L	P391594	
		Metolachlor	0.66	I	ng/L	P391594	
		Metribuzin	3.3	U	ng/L	P391594	
		Mevinphos	0.50	U	ng/L	P391594	
		Molinate	0.30	U	ng/L	P391594	
		Myclobutanil**	0.25	U	ng/L	P391594	
		Naled**	1.5	U	ng/L	P391594	
		Norflurazon	2.9		ng/L	P391594	
		Oxadiazon	0.10	U	ng/L	P391594	
		Oxyfluorfen**	0.15	U	ng/L	P391594	
		Parathion Ethyl	0.25	U	ng/L	P391594	
		Parathion Methyl	0.55	U	ng/L	P391594	
		Pendimethalin	1.0	U	ng/L	P391594	MS, RPD
		Phorate	0.25	U	ng/L	P391594	
		Prodiamine**	0.18	U	ng/L	P391594	RPD
		Prometon	0.91	U	ng/L	P391594	
		Prometryn	0.20	U	ng/L	P391594	
		Pronamide**	0.15	U	ng/L	P391594	
		Propiconazole**	0.50	U	ng/L	P391594	
		Pyriproxyfen**	0.13	U	ng/L	P391594	
		Simazine	0.50	U	ng/L	P391594	
		Sulfentrazone**	0.50	U	ng/L	P391594	
		Tebuconazole**	0.50	U	ng/L	P391594	
		Terbufos	0.10	U	ng/L	P391594	
		Terbuthylazine	0.43	U	ng/L	P391594	

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment:							
EPA 180.1 Rev. 2.0: The sample expired prior to receipt.							
SM 2120 B-2011: The sample expired prior to receipt.							
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.							
EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired prior to receipt.							
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 aluminum, copper and lead are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.							
EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.							

Non-Conformance Report

NCR ID: 8561

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
SO-DIST-2020-12-18-02	TLH-2020-12-18-35	2214602	
SO-DIST-2020-12-18-02	TLH-2020-12-18-35	2214603	
SO-DIST-2020-12-18-02	TLH-2020-12-18-35	2214604	
SO-DIST-2020-12-18-02	TLH-2020-12-18-40	2214608	
SO-DIST-2020-12-18-02	TLH-2020-12-18-41	2214609	
SO-DIST-2020-12-18-02	TLH-2020-12-18-42	2214610	

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived one or more days late by FedEx, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.
Customer contacted, email correspondence attached to sample submittal forms.
Biology and Chemistry supervisors were notified by phone and email.

Authorized by/Date: Joshua Ayres 12/29/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P391456

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391631

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: P391631

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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: P391903

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391904

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391736

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: P391932

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391591

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391533

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391461

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

Reference Method: EPA 8270E
Batch ID: P391594

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: P391594

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: 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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P391404

Component	Result	Code	Units
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: EPA 8321B
Batch ID: P391510

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 2120 B-2011
Batch ID: P391463

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P391576

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

Reference Method: SM 2540 C-2011
Batch ID: P391868

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P391766

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P391580

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P391598

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: P391631

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	108		P	85 - 115
Calcium	103		P	85 - 115
Iron	107		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	107		P	85 - 115
Sodium	111		P	85 - 115
Zinc	98.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391631

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	97.0		P	85 - 115
Arsenic	94.6		P	85 - 115
Beryllium	101		P	85 - 115
Boron	88.7		P	85 - 115
Cadmium	90.2		P	85 - 115
Chromium	97.7		P	85 - 115
Copper	99.7		P	85 - 115
Lead	97.0		P	85 - 115
Nickel	91.7		P	85 - 115
Selenium	93.6		P	85 - 115
Silver	101		P	85 - 115
Thallium	95.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391903

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391904

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391932

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391533

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391461

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

Reference Method: EPA 8270E
 Batch ID: P391594

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	92.0	88.8	P/P	70 - 121
Alachlor	92.4	90.4	P/P	70 - 119
Ametryn	108	132	P/P	61 - 135
Atrazine	98.0	96.9	P/P	76 - 123
Atrazine Desethyl	92.2	95.1	P/P	35 - 140
Azinphos Methyl	142	135	P/P	57 - 163
Azoxystrobin	108	78.1	P/P	43 - 231
Bromacil	82.3	82.8	P/P	42 - 123
Butylate	76.2	68.8	P/P	34 - 92.0
Carbophenothion	92.4	89.0	P/P	61 - 121
Carfentrazone Ethyl	104	101	P/P	62 - 139
Chlorpyrifos Ethyl	81.8	81.0	P/P	67 - 121
Chlorpyrifos Methyl	91.9	93.7	P/P	67 - 120
Cyanazine	133	146	P/P	20 - 226
Demeton	79.1	76.7	P/P	35 - 125
Diazinon	96.1	98.8	P/P	70 - 122
Difenoconazole	104	86.5	P/P	56 - 186
Dimethenamid	87.0	79.2	P/P	67 - 119
Disulfoton	87.9	95.2	P/P	47 - 120
Dithiopyr	82.6	82.0	P/P	67 - 118
EPTC	67.1	56.8	P/P	33 - 90.0
Ethion	49.7	31.6	P/F	40 - 133
Ethoprop	91.3	91.4	P/P	61 - 121
Fenamiphos	95.0	82.9	P/P	31 - 139
Fenbuconazole	105	102	P/P	66 - 141
Fipronil	104	102	P/P	62 - 129
Fipronil Desulfinyl	96.2	96.1	P/P	59 - 126
Fipronil Sulfide	95.3	93.3	P/P	63 - 117
Fipronil Sulfone	76.5	82.9	P/P	57 - 117
Fluazifop-P-butyl	94.8	89.4	P/P	63 - 124
Fludioxonil	96.9	84.9	P/P	63 - 123
Flumioxazin	133	120	P/P	34 - 245
Flutolanil	93.4	89.5	P/P	56 - 131
Fluxapyroxad	89.4	75.6	P/P	57 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P391594

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fonofos	92.3	94.3	P/P	61 - 116
Hexazinone	84.6	83.6	P/P	55 - 138
Imazalil	104	101	P/P	33 - 143
Iprodione	97.4	87.7	P/P	59 - 118
Malathion	86.8	88.4	P/P	62 - 138
Metalaxyl	101	99.1	P/P	24 - 147
Metolachlor	83.7	85.2	P/P	68 - 118
Metribuzin	112	126	P/P	20 - 239
Mevinphos	93.0	89.6	P/P	46 - 124
Molinate	79.9	75.2	P/P	46 - 100
Myclobutanil	95.3	95.4	P/P	32 - 149
Naled	45.2	42.2	P/P	32 - 95.0
Norflurazon	96.1	96.6	P/P	57 - 127
Oxadiazon	86.4	83.8	P/P	63 - 118
Oxyfluorfen	101	91.2	P/P	69 - 137
Parathion Ethyl	83.2	91.9	P/P	70 - 113
Parathion Methyl	111	108	P/P	71 - 130
Pendimethalin	83.3	83.8	P/P	55 - 118
Phorate	75.0	74.8	P/P	46 - 125
Prodiamine	73.9	76.8	P/P	20 - 141
Prometon	88.7	83.2	P/P	54 - 122
Prometryn	94.7	94.9	P/P	66 - 124
Pronamide	93.4	91.6	P/P	79 - 122
Propiconazole	99.2	93.9	P/P	61 - 126
Pyriproxyfen	90.2	85.4	P/P	52 - 131
Simazine	100	113	P/P	75 - 128
Sulfentrazone	69.6	72.6	P/P	20 - 132
Tebuconazole	51.8	42.1	P/P	20 - 116
Terbufos	83.4	85.5	P/P	61 - 117
Terbutylazine	91.5	90.5	P/P	74 - 116

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
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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P391404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	69.7		P	30 - 160
MCPD	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: EPA 8321B
Batch ID: P391510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	110		P	40 - 150
AMPA	66.6		P	40 - 150
Endothall	90.6		P	40 - 150
Glufosinate	97.4		P	40 - 150
Glyphosate	94.6		P	40 - 140
Sucralose	94.0		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P391463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P391576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.3		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P391580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P391598

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214805	Barium	109		P	80 - 120
2214805	Calcium	106		P	80 - 120
2214805	Iron	111		P	80 - 120
2214805	Magnesium	111		P	80 - 120
2214805	Potassium	109		P	80 - 120
2214805	Sodium	107		P	80 - 120
2214805	Zinc	99.0		P	80 - 120
2214847	Barium	109	109	P/P	80 - 120
2214847	Calcium	105		P	80 - 120
2214847	Iron	108	108	P/P	80 - 120
2214847	Magnesium	108	107	P/P	80 - 120
2214847	Potassium	108	106	P/P	80 - 120
2214847	Sodium	109	105	P/P	80 - 120
2214847	Zinc	98.8	98.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214805	Antimony	95.1		P	80 - 120
2214805	Arsenic	91.3		P	80 - 120
2214805	Beryllium	99.9		P	80 - 120
2214805	Boron	92.3		P	80 - 120
2214805	Cadmium	90.9		P	80 - 120
2214805	Chromium	94.7		P	80 - 120
2214805	Nickel	90.5		P	80 - 120
2214805	Selenium	88.7		P	80 - 120
2214805	Silver	100		P	80 - 120
2214805	Thallium	98.5		P	80 - 120
2214847	Aluminum	101	98.3	P/P	80 - 120
2214847	Antimony	98.1	99.1	P/P	80 - 120
2214847	Arsenic	94.2	93.1	P/P	80 - 120
2214847	Beryllium	99.7	99.3	P/P	80 - 120
2214847	Boron	87.8	88.9	P/P	80 - 120
2214847	Cadmium	91.4	92.2	P/P	80 - 120
2214847	Chromium	96.8	97.5	P/P	80 - 120
2214847	Copper	103	100	P/P	80 - 120
2214847	Lead	97.3	97.9	P/P	80 - 120
2214847	Nickel	92.5	91.9	P/P	80 - 120
2214847	Selenium	92.0	91.8	P/P	80 - 120
2214847	Silver	101	102	P/P	80 - 120
2214847	Thallium	96.7	98.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214542	Chloride	102		P	90 - 110
2214796	Chloride	103		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214542	Sulfate	103		P	90 - 110
2214796	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214701	Ammonia-N	94.6	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214701	Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214680	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214599	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214569	O-Phosphate-P	104	105	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P391594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214693	Acetochlor	92.3	84.1	P/P	66 - 122
2214693	Alachlor	94.9	83.7	P/P	65 - 122
2214693	Atrazine	105	94.1	P/P	70 - 134
2214693	Atrazine Desethyl	91.1	87.4	P/P	25 - 150
2214693	Azinphos Methyl	138	133	P/P	44 - 174
2214693	Azoxystrobin	114	126	P/P	10 - 268
2214693	Butylate	62.4	60.2	P/P	15 - 97.0
2214693	Carbophenothion	84.5	82.5	P/P	42 - 129
2214693	Carfentrazone Ethyl	96.4	89.1	P/P	62 - 145
2214693	Chlorpyrifos Ethyl	89.3	96.0	P/P	60 - 124
2214693	Chlorpyrifos Methyl	90.8	90.0	P/P	66 - 119
2214693	Cyanazine	131	126	P/P	17 - 225
2214693	Demeton	77.8	78.5	P/P	36 - 142
2214693	Diazinon	104	91.3	P/P	70 - 128
2214693	Difenoconazole	111	115	P/P	33 - 222

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P391594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214693	Dimethenamid	83.5	78.6	P/P	54 - 125
2214693	Disulfoton	102	93.9	P/P	49 - 133
2214693	Dithiopyr	87.5	82.2	P/P	55 - 123
2214693	EPTC	57.7	52.8	P/P	19 - 91.0
2214693	Ethion	49.7	67.6	P/P	13 - 143
2214693	Ethoprop	88.4	86.3	P/P	49 - 144
2214693	Fenamiphos	72.4	58.6	P/P	32 - 136
2214693	Fenbuconazole	103	93.8	P/P	73 - 148
2214693	Fipronil	104	92.1	P/P	57 - 129
2214693	Fipronil Desulfinyl	96.5	86.0	P/P	49 - 127
2214693	Fipronil Sulfide	90.0	89.0	P/P	44 - 127
2214693	Fipronil Sulfone	78.4	74.2	P/P	35 - 126
2214693	Fluazifop-P-butyl	93.2	87.5	P/P	67 - 129
2214693	Fludioxonil	88.9	83.7	P/P	61 - 126
2214693	Flumioxazin	152	154	P/P	38 - 279
2214693	Flutolanil	83.2	83.8	P/P	55 - 136
2214693	Fluxapyroxad	90.5	88.9	P/P	33 - 140
2214693	Fonofos	96.7	87.0	P/P	58 - 125
2214693	Hexazinone	92.8	82.3	P/P	57 - 148
2214693	Imazalil	110	108	P/P	10 - 221
2214693	Iprodione	82.0	86.6	P/P	32 - 140
2214693	Malathion	88.4	92.9	P/P	52 - 138
2214693	Metalaxyl	109	83.8	P/P	46 - 134
2214693	Metribuzin	132	98.9	P/P	16 - 272
2214693	Mevinphos	88.1	84.9	P/P	45 - 140
2214693	Molinate	74.1	70.5	P/P	41 - 103
2214693	Myclobutanil	91.7	85.7	P/P	60 - 134
2214693	Naled	42.6	41.8	P/P	20 - 113
2214693	Oxadiazon	89.6	70.0	P/P	44 - 125
2214693	Oxyfluorfen	119	113	P/P	66 - 176
2214693	Parathion Ethyl	98.7	90.4	P/P	57 - 132
2214693	Parathion Methyl	119	107	P/P	59 - 156
2214693	Pendimethalin	252	106	F/P	59 - 129
2214693	Phorate	87.8	77.2	P/P	47 - 136
2214693	Prodiamine	63.6	92.5	P/P	10 - 159
2214693	Prometon	87.5	81.8	P/P	59 - 127
2214693	Prometryn	100	87.8	P/P	59 - 129
2214693	Pronamide	105	95.5	P/P	65 - 145
2214693	Pyriproxyfen	95.3	91.0	P/P	21 - 180
2214693	Simazine	107	97.7	P/P	63 - 147
2214693	Sulfentrazone	99.6	77.1	P/P	32 - 136
2214693	Tebuconazole	50.1	54.3	P/P	10 - 117
2214693	Terbufos	92.0	86.9	P/P	61 - 131
2214693	Terbuthylazine	91.3	83.2	P/P	62 - 126

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P391404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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	MCP	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: EPA 8321B
Batch ID: P391510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214554	Acesulfame K	88.4	89.1	P/P	40 - 150
2214554	AMPA	74.3	73.8	P/P	40 - 150
2214554	Endothall	134	137	P/P	40 - 150
2214554	Glufosinate	96.2	97.9	P/P	40 - 150
2214554	Glyphosate	75.7	86.2	P/P	40 - 140
2214554	Sucralose	97.6	98.0	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P391580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214795	Fluoride	98.3	98.3	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P391598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214708	Organic Carbon	98.0	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P391456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214536	Turbidity	1.26	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214847	Barium	0.155	Spike	P	0 - 20
2214847	Calcium	1.09	Spike	P	0 - 20
2214847	Iron	0.282	Spike	P	0 - 20
2214847	Magnesium	0.993	Spike	P	0 - 20
2214847	Potassium	1.82	Spike	P	0 - 20
2214847	Sodium	2.01	Spike	P	0 - 20
2214847	Zinc	0.0294	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214847	Aluminum	2.71	Spike	P	0 - 20
2214847	Antimony	1.05	Spike	P	0 - 20
2214847	Arsenic	1.19	Spike	P	0 - 20
2214847	Beryllium	0.395	Spike	P	0 - 20
2214847	Boron	1.09	Spike	P	0 - 20
2214847	Cadmium	0.919	Spike	P	0 - 20
2214847	Chromium	0.711	Spike	P	0 - 20
2214847	Copper	2.24	Spike	P	0 - 20
2214847	Lead	0.660	Spike	P	0 - 20
2214847	Nickel	0.673	Spike	P	0 - 20
2214847	Selenium	0.216	Spike	P	0 - 20
2214847	Silver	1.14	Spike	P	0 - 20
2214847	Thallium	2.28	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214796	Chloride	0.487	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214796	Sulfate	0.745	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214701	Ammonia-N	0.822	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214701	Kjeldahl Nitrogen	1.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214680	NO2NO3-N	0.169	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214599	Total-P	0.298	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214569	O-Phosphate-P	0.479	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214693	Acetochlor	9.30	Spike	P	0 - 30
2214693	Alachlor	12.5	Spike	P	0 - 30
2214693	Ametryn	8.51	Spike	P	0 - 30
2214693	Atrazine	10.2	Spike	P	0 - 30
2214693	Atrazine Desethyl	4.12	Spike	P	0 - 30
2214693	Azinphos Methyl	4.12	Spike	P	0 - 30
2214693	Azoxystrobin	5.71	Spike	P	0 - 30
2214693	Bromacil	30.0	Spike	P	0 - 30
2214693	Butylate	3.64	Spike	P	0 - 30
2214693	Carbophenothion	2.34	Spike	P	0 - 30
2214693	Carfentrazone Ethyl	7.86	Spike	P	0 - 30
2214693	Chlorpyrifos Ethyl	7.32	Spike	P	0 - 30
2214693	Chlorpyrifos Methyl	0.880	Spike	P	0 - 30
2214693	Cyanazine	3.53	Spike	P	0 - 30
2214693	Demeton	0.973	Spike	P	0 - 30
2214693	Diazinon	12.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214693	Difenoconazole	3.93	Spike	P	0 - 30
2214693	Dimethenamid	6.07	Spike	P	0 - 30
2214693	Disulfoton	8.67	Spike	P	0 - 30
2214693	Dithiopyr	6.23	Spike	P	0 - 30
2214693	EPTC	8.86	Spike	P	0 - 30
2214693	Ethion	30.5	Spike	F	0 - 30
2214693	Ethoprop	2.16	Spike	P	0 - 30
2214693	Fenamiphos	20.9	Spike	P	0 - 30
2214693	Fenbuconazole	9.08	Spike	P	0 - 30
2214693	Fipronil	12.7	Spike	P	0 - 30
2214693	Fipronil Desulfinyl	11.5	Spike	P	0 - 30
2214693	Fipronil Sulfide	1.17	Spike	P	0 - 30
2214693	Fipronil Sulfone	5.47	Spike	P	0 - 30
2214693	Fluazifop-P-butyl	6.31	Spike	P	0 - 30
2214693	Fludioxonil	6.06	Spike	P	0 - 30
2214693	Flumioxazin	0.976	Spike	P	0 - 30
2214693	Flutolanil	0.703	Spike	P	0 - 30
2214693	Fluxapyroxad	1.84	Spike	P	0 - 30
2214693	Fonofos	10.6	Spike	P	0 - 30
2214693	Hexazinone	8.57	Spike	P	0 - 30
2214693	Imazalil	1.51	Spike	P	0 - 30
2214693	Iprodione	5.46	Spike	P	0 - 30
2214693	Malathion	5.00	Spike	P	0 - 30
2214693	Metalaxyl	13.7	Spike	P	0 - 30
2214693	Metolachlor	29.2	Spike	P	0 - 30
2214693	Metribuzin	28.8	Spike	P	0 - 30
2214693	Mevinphos	3.64	Spike	P	0 - 30
2214693	Molinate	4.90	Spike	P	0 - 30
2214693	Myclobutanil	6.75	Spike	P	0 - 30
2214693	Naled	1.92	Spike	P	0 - 30
2214693	Norflurazon	4.25	Spike	P	0 - 30
2214693	Oxadiazon	14.8	Spike	P	0 - 30
2214693	Oxyfluorfen	4.95	Spike	P	0 - 30
2214693	Parathion Ethyl	8.79	Spike	P	0 - 30
2214693	Parathion Methyl	10.4	Spike	P	0 - 30
2214693	Pendimethalin	81.6	Spike	F	0 - 30
2214693	Phorate	12.9	Spike	P	0 - 30
2214693	Prodiamine	37.1	Spike	F	0 - 30
2214693	Prometon	6.76	Spike	P	0 - 30
2214693	Prometryn	13.4	Spike	P	0 - 30
2214693	Pronamide	9.87	Spike	P	0 - 30
2214693	Propiconazole	8.12	Spike	P	0 - 30
2214693	Pyriproxyfen	4.55	Spike	P	0 - 30
2214693	Simazine	9.11	Spike	P	0 - 30
2214693	Sulfentrazone	13.1	Spike	P	0 - 30
2214693	Tebuconazole	7.99	Spike	P	0 - 30
2214693	Terbufos	5.70	Spike	P	0 - 30
2214693	Terbuthylazine	9.33	Spike	P	0 - 30
LFB	Acetochlor	3.58	LCS	P	0 - 30
LFB	Alachlor	2.26	LCS	P	0 - 30
LFB	Ametryn	20.5	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	1.14	LCS	P	0 - 30
LFB	Atrazine Desethyl	3.07	LCS	P	0 - 30
LFB	Azinphos Methyl	4.96	LCS	P	0 - 30
LFB	Azoxystrobin	32.5	LCS	F	0 - 30
LFB	Bromacil	0.640	LCS	P	0 - 30
LFB	Butylate	10.2	LCS	P	0 - 30
LFB	Carbophenothion	3.77	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	2.26	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.971	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.86	LCS	P	0 - 30
LFB	Cyanazine	9.05	LCS	P	0 - 30
LFB	Demeton	3.03	LCS	P	0 - 30
LFB	Diazinon	2.72	LCS	P	0 - 30
LFB	Difenoconazole	18.2	LCS	P	0 - 30
LFB	Dimethenamid	9.45	LCS	P	0 - 30
LFB	Disulfoton	7.96	LCS	P	0 - 30
LFB	Dithiopyr	0.736	LCS	P	0 - 30
LFB	EPTC	16.5	LCS	P	0 - 30
LFB	Ethion	44.7	LCS	F	0 - 30
LFB	Ethoprop	0.156	LCS	P	0 - 30
LFB	Fenamiphos	13.6	LCS	P	0 - 30
LFB	Fenbuconazole	2.80	LCS	P	0 - 30
LFB	Fipronil	1.83	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	0.169	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.13	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.99	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	5.85	LCS	P	0 - 30
LFB	Fludioxonil	13.2	LCS	P	0 - 30
LFB	Flumioxazin	10.2	LCS	P	0 - 30
LFB	Flutolanil	4.21	LCS	P	0 - 30
LFB	Fluxapyroxad	16.7	LCS	P	0 - 30
LFB	Fonofos	2.21	LCS	P	0 - 30
LFB	Hexazinone	1.20	LCS	P	0 - 30
LFB	Imazalil	3.86	LCS	P	0 - 30
LFB	Iprodione	10.4	LCS	P	0 - 30
LFB	Malathion	1.77	LCS	P	0 - 30
LFB	Metaxyl	2.13	LCS	P	0 - 30
LFB	Metolachlor	1.88	LCS	P	0 - 30
LFB	Metribuzin	12.3	LCS	P	0 - 30
LFB	Mevinphos	3.70	LCS	P	0 - 30
LFB	Molinate	6.11	LCS	P	0 - 30
LFB	Myclobutanil	0.102	LCS	P	0 - 30
LFB	Naled	6.79	LCS	P	0 - 30
LFB	Norflurazon	0.557	LCS	P	0 - 30
LFB	Oxadiazon	3.04	LCS	P	0 - 30
LFB	Oxyfluorfen	10.2	LCS	P	0 - 30
LFB	Parathion Ethyl	9.97	LCS	P	0 - 30
LFB	Parathion Methyl	2.53	LCS	P	0 - 30
LFB	Pendimethalin	0.593	LCS	P	0 - 30
LFB	Phorate	0.344	LCS	P	0 - 30
LFB	Prodiamine	3.89	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometon	6.43	LCS	P	0 - 30
LFB	Prometryn	0.150	LCS	P	0 - 30
LFB	Pronamide	1.94	LCS	P	0 - 30
LFB	Propiconazole	5.48	LCS	P	0 - 30
LFB	Pyriproxyfen	5.39	LCS	P	0 - 30
LFB	Simazine	12.1	LCS	P	0 - 30
LFB	Sulfentrazone	4.20	LCS	P	0 - 30
LFB	Tebuconazole	20.6	LCS	P	0 - 30
LFB	Terbufos	2.55	LCS	P	0 - 30
LFB	Terbutylazine	1.10	LCS	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
2214862	Tolfenpyrad	6.35	Spike	P	0 - 30
2214862	Triclopyr	2.05	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P391510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214554	Acesulfame K	0.737	Spike	P	0 - 30
2214554	AMPA	0.602	Spike	P	0 - 30
2214554	Endothall	1.90	Spike	P	0 - 30
2214554	Glufosinate	1.69	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P391510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214554	Glyphosate	12.9	Spike	P	0 - 30
2214554	Sucralose	0.475	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P391463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214598	Color (true)	5.40	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P391576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214795	Total Alkalinity	1.90	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P391868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214378	TDS	1.48	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P391580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214795	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P391598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214708	Organic Carbon	0.338	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2214608
Field Sample ID: G3SD0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	49.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	53.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.3	P	30 - 160
EPA 8321B	Diuron-d6	35.7	P	30 - 160
EPA 8321B	Endothall-d6	96.7	P	40 - 160
EPA 8321B	Endothall-d6	96.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	84.4	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	84.4	P	40 - 160
EPA 8321B	Ibuprofen-d3	47.8	P	30 - 160
EPA 8321B	Primidone-d5	47.7	P	30 - 160
EPA 8321B	Sucralose-d6	63.4	P	30 - 160
EPA 8321B	Sucralose-d6	63.4	P	30 - 160

Lab Sample ID: 2214610
Field Sample ID: G3SD0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	98.3	P	73 - 135
EPA 8270E	Terbufos-d10	78.3	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102677

Included Lab Sample IDs: 2214602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102678

Included Lab Sample IDs: 2214604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.2	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A102679

Included Lab Sample IDs: 2214602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	102	P/P	85 - 115

Reference Method: SM 2320 B-2011

Run ID: A102709

Included Lab Sample IDs: 2214602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.2	95.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102709

Included Lab Sample IDs: 2214602

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

Reference Method: EPA 8321B

Run ID: A102711

Included Lab Sample IDs: 2214608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	120	P/P	60 - 160
AMPA	90.5	85.6	P/P	60 - 160
Endothall	90.5	99.5	P/P	60 - 160
Glufosinate	98.0	97.4	P/P	60 - 160
Glyphosate	72.2	101	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102715

Included Lab Sample IDs: 2214603

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A102717

Included Lab Sample IDs: 2214603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.7	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102753

Included Lab Sample IDs: 2214603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102765

Included Lab Sample IDs: 2214608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.6	91.0	P/P	50 - 150
Acetaminophen	139	133	P/P	60 - 160
Acetamiprid	121	115	P/P	50 - 150
Afidopyropen	108	99.2	P/P	50 - 150
Bentazon	150	127	P/P	50 - 160
Benzovindiflupyr	115	123	P/P	50 - 150
Carbamazepine	119	106	P/P	60 - 150
Clothianidin	121	118	P/P	60 - 150
Dinotefuran	118	109	P/P	50 - 150
Diuron	128	130	P/P	60 - 160
Fenuron	114	108	P/P	60 - 150
Fluridone	105	114	P/P	60 - 160
Hydrocodone	113	111	P/P	60 - 150
Ibuprofen	74.6	103	P/P	50 - 160
Imazapyr	93.8	84.5	P/P	50 - 150
Imidacloprid	102	108	P/P	60 - 150
Linuron	117	113	P/P	60 - 150
Mandestrobin	114	112	P/P	50 - 150
MCPD	92.2	101	P/P	50 - 150
Naproxen	145	110	P/P	50 - 160
Primidone	113	102	P/P	60 - 150
Pyraclostrobin	114	102	P/P	60 - 150
Thiamethoxam	112	112	P/P	50 - 150
Tolfenpyrad	94.1	101	P/P	60 - 150
Triclopyr	93.5	103	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102784

Included Lab Sample IDs: 2214603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	95.0	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102805

Included Lab Sample IDs: 2214609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	96.5	95.9	P/P	90 - 110
Arsenic	94.1	93.6	P/P	90 - 110
Beryllium	103	104	P/P	90 - 110
Boron	92.4	97.3	P/P	90 - 110
Cadmium	94.1	94.4	P/P	90 - 110
Chromium	98.6	97.6	P/P	90 - 110
Lead	95.0	96.2	P/P	90 - 110
Nickel	91.0	90.4	P/P	90 - 110
Selenium	94.8	93.7	P/P	90 - 110
Silver	99.7	101	P/P	90 - 110
Thallium	97.9	99.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A102806

Included Lab Sample IDs: 2214609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	108	104	P/P	90 - 110
Calcium	103	103	P/P	90 - 110
Iron	104	102	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	105	105	P/P	90 - 110
Sodium	103	105	P/P	90 - 110
Zinc	99.7	95.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102823

Included Lab Sample IDs: 2214609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.5	103	P/P	90 - 110
Copper	96.8	95.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102826

Included Lab Sample IDs: 2214602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	100	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102859

Included Lab Sample IDs: 2214608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	99.7	93.7	P/P	60 - 160

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102889

Included Lab Sample IDs: 2214603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	97.1	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A102921

Included Lab Sample IDs: 2214610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.1		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	98.4		P	80 - 120
Atrazine	97.5		P	80 - 120
Atrazine Desethyl	103		P	80 - 120
Azinphos Methyl	91.9		P	80 - 120
Azoxystrobin	94.9		P	80 - 120
Bromacil	97.4		P	80 - 120
Butylate	99.9		P	80 - 120
Carbophenothion	98.7		P	80 - 120
Carfentrazone Ethyl	98.5		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	98.3		P	80 - 120
Cyanazine	105		P	80 - 120
Demeton	95.4		P	80 - 120
Diazinon	99.6		P	80 - 120
Difenoconazole	96.6		P	80 - 120
Dimethenamid	99.1		P	80 - 120
Disulfoton	94.8		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	102		P	80 - 120
Ethion	96.5		P	80 - 120
Ethoprop	99.3		P	80 - 120
Fenamiphos	93.0		P	80 - 120
Fenbuconazole	96.7		P	80 - 120
Fipronil	99.0		P	80 - 120
Fipronil Desulfinyl	99.5		P	80 - 120
Fipronil Sulfide	95.6		P	80 - 120
Fipronil Sulfone	96.7		P	80 - 120
Fluazifop-P-butyl	95.6		P	80 - 120
Fludioxonil	97.3		P	80 - 120
Flumioxazin	98.7		P	80 - 120
Flutolanil	98.1		P	80 - 120
Fluxapyroxad	96.8		P	80 - 120
Fonofos	102		P	80 - 120
Hexazinone	103		P	80 - 120
Imazalil	99.4		P	80 - 120
Iprodione	106		P	80 - 120
Malathion	98.2		P	80 - 120
Metaxyl	102		P	80 - 120
Metolachlor	98.5		P	80 - 120
Metribuzin	94.4		P	80 - 120
Mevinphos	106		P	80 - 120
Molinate	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A102921

Included Lab Sample IDs: 2214610

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Myclobutanil	98.7		P	80 - 120
Naled	107		P	80 - 120
Norflurazon	95.6		P	80 - 120
Oxadiazon	100		P	80 - 120
Oxyfluorfen	97.8		P	80 - 120
Parathion Ethyl	94.3		P	80 - 120
Parathion Methyl	102		P	80 - 120
Pendimethalin	96.8		P	80 - 120
Phorate	105		P	80 - 120
Prodiamine	98.1		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	99.8		P	80 - 120
Pronamide	97.5		P	80 - 120
Propiconazole	94.7		P	80 - 120
Pyriproxyfen	95.8		P	80 - 120
Simazine	99.3		P	80 - 120
Sulfentrazone	97.1		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	97.2		P	80 - 120
Terbutylazine	97.6		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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							1.26	
EPA 200.7 Rev. 4.4	Barium	108		109	109	109			0.155
	Calcium	103		106	105				1.09
	Iron	107		111	108	108			0.282
	Magnesium	107		111	108	107			0.993
	Potassium	107		109	108	106			1.82
	Sodium	111		107	109	105			2.01
	Zinc	98.5		99.0	98.8	98.8			0.0294
EPA 200.8 Rev. 5.4	Aluminum	102		101	98.3				2.71
	Antimony	97.0		98.1	99.1	95.1			1.05
	Arsenic	94.6		94.2	93.1	91.3			1.19
	Beryllium	101		99.7	99.3	99.9			0.395
	Boron	88.7		87.8	88.9	92.3			1.09
	Cadmium	90.2		91.4	92.2	90.9			0.919
	Chromium	97.7		96.8	97.5	94.7			0.711
	Copper	99.7		103	100				2.24
	Lead	97.0		97.3	97.9				0.660
	Nickel	91.7		92.5	91.9	90.5			0.673
	Selenium	93.6		92.0	91.8	88.7			0.216
	Silver	101		101	102	100			1.14
	Thallium	95.4		96.7	98.9	98.5			2.28
EPA 300.0 Rev. 2.1	Chloride	101		103	102			0.487	
	Sulfate	103		104	103			0.745	
EPA 350.1 Rev. 2.0	Ammonia-N	95.0		94.6	95.6				0.822
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		105	102				1.36
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		96.2					0.169
EPA 365.1 Rev. 2.0	Total-P	101		101	101				0.298
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		104	105				0.479
EPA 8270E	Acetochlor	92.0	88.8	92.3	84.1		3.58		9.30
	Alachlor	92.4	90.4	94.9	83.7		2.26		12.5
	Ametryn	108	132				20.5		8.51
	Atrazine	98.0	96.9	105	94.1		1.14		10.2
	Atrazine Desethyl	92.2	95.1	91.1	87.4		3.07		4.12
	Azinphos Methyl	142	135	138	133		4.96		4.12
	Azoxystrobin	108	78.1	126	114		32.5		5.71
	Bromacil	82.3	82.8				0.640		30.0
	Butylate	76.2	68.8	60.2	62.4		10.2		3.64
	Carbophenothion	92.4	89.0	84.5	82.5		3.77		2.34
	Carfentrazone Ethyl	104	101	96.4	89.1		2.26		7.86
	Chlorpyrifos Ethyl	81.8	81.0	89.3	96.0		0.971		7.32
	Chlorpyrifos Methyl	91.9	93.7	90.8	90.0		1.86		0.880
	Cyanazine	133	146	131	126		9.05		3.53
	Demeton	79.1	76.7	77.8	78.5		3.03		0.973
	Diazinon	96.1	98.8	104	91.3		2.72		12.6
	Difenoconazole	104	86.5	111	115		18.2		3.93
	Dimethenamid	87.0	79.2	83.5	78.6		9.45		6.07
	Disulfoton	87.9	95.2	102	93.9		7.96		8.67
	Dithiopyr	82.6	82.0	87.5	82.2		0.736		6.23
	EPTC	67.1	56.8	57.7	52.8		16.5		8.86
	Ethion	49.7	31.6	49.7	67.6		44.7		30.5
	Ethoprop	91.3	91.4	88.4	86.3		0.156		2.16
	Fenamiphos	95.0	82.9	72.4	58.6		13.6		20.9
	Fenbuconazole	105	102	103	93.8		2.80		9.08
	Fipronil	104	102	104	92.1		1.83		12.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	SMP
EPA 8270E	Fipronil Desulfanyl	96.2	96.1	96.5	86.0	0.169	11.5
	Fipronil Sulfide	95.3	93.3	90.0	89.0	2.13	1.17
	Fipronil Sulfone	76.5	82.9	78.4	74.2	7.99	5.47
	Fluazifop-P-butyl	94.8	89.4	93.2	87.5	5.85	6.31
	Fludioxonil	96.9	84.9	88.9	83.7	13.2	6.06
	Flumioxazin	133	120	152	154	10.2	0.976
	Flutolanil	93.4	89.5	83.2	83.8	4.21	0.703
	Fluxapyroxad	89.4	75.6	90.5	88.9	16.7	1.84
	Fonofos	92.3	94.3	96.7	87.0	2.21	10.6
	Hexazinone	84.6	83.6	92.8	82.3	1.20	8.57
	Imazalil	104	101	110	108	3.86	1.51
	Iprodione	97.4	87.7	82.0	86.6	10.4	5.46
	Malathion	86.8	88.4	88.4	92.9	1.77	5.00
	Metalaxyl	101	99.1	109	83.8	2.13	13.7
	Metolachlor	83.7	85.2			1.88	29.2
	Metribuzin	112	126	132	98.9	12.3	28.8
	Mevinphos	93.0	89.6	88.1	84.9	3.70	3.64
	Molinate	79.9	75.2	74.1	70.5	6.11	4.90
	Myclobutanil	95.3	95.4	91.7	85.7	0.102	6.75
	Naled	45.2	42.2	42.6	41.8	6.79	1.92
	Norflurazon	96.1	96.6			0.557	4.25
	Oxadiazon	86.4	83.8	89.6	70.0	3.04	14.8
	Oxyfluorfen	101	91.2	119	113	10.2	4.95
	Parathion Ethyl	83.2	91.9	98.7	90.4	9.97	8.79
	Parathion Methyl	111	108	119	107	2.53	10.4
	Pendimethalin	83.3	83.8	252	106	0.593	81.6
	Phorate	75.0	74.8	87.8	77.2	0.344	12.9
	Prodiamine	73.9	76.8	63.6	92.5	3.89	37.1
	Prometon	88.7	83.2	87.5	81.8	6.43	6.76
	Prometryn	94.7	94.9	100	87.8	0.150	13.4
	Pronamide	93.4	91.6	105	95.5	1.94	9.87
	Propiconazole	99.2	93.9			5.48	8.12
	Pyriproxyfen	90.2	85.4	95.3	91.0	5.39	4.55
	Simazine	100	113	107	97.7	12.1	9.11
	Sulfentrazone	69.6	72.6	99.6	77.1	4.20	13.1
	Tebuconazole	51.8	42.1	50.1	54.3	20.6	7.99
	Terbufos	83.4	85.5	92.0	86.9	2.55	5.70
	Terbutylazine	91.5	90.5	91.3	83.2	1.10	9.33
EPA 8321B	2,4-D	81.4					0.511
	Acesulfame K	110		88.4	89.1		0.737
	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	66.6		74.3	73.8		0.602
	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	90.6		134	137		1.90
	Fenuron	90.8		64.0	63.5		0.698
	Fluridone	72.5					8.85
	Glufosinate	97.4		96.2	97.9		1.69

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Glyphosate	94.6	75.7	86.2		12.9
	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	94.0	97.6	98.0		0.475
	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			5.40	
SM 2320 B-2011	Total Alkalinity	97.3			1.90	
SM 2540 C-2011	TDS				1.48	
SM 4500 F-C-2011	Fluoride	97.7	98.3	98.3		0.0
SM 5310 B-2011	Organic Carbon	97.8	98.0	97.4		0.338

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2214602
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2214609
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2214609
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2214602
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2214602
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2214603
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2214603
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2214603
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2214603
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2214604
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2214610
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2214608
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2214608
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2214602
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2214602
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2214609
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2214602
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2214602
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2214602
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2214603

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	12/18/2020			12/18/2020 15:42	Yen Ta	2214602
EPA 200.7 Rev. 4.4	12/18/2020	12/22/2020 16:35	Elliott D. Healy	12/28/2020 23:27	Betina Topolski	2214609
EPA 200.8 Rev. 5.4	12/18/2020	12/22/2020 16:35	Elliott D. Healy	12/28/2020 16:56	Alexander Thompson	2214609
	12/18/2020	12/22/2020 16:35	Elliott D. Healy	12/29/2020 11:47	Alexander Thompson	2214609
EPA 300.0 Rev. 2.1	12/18/2020			12/30/2020 17:09	Lipi Saha	2214602
EPA 350.1 Rev. 2.0	12/18/2020			12/27/2020 17:11	Ping Hua	2214603
EPA 351.2 Rev. 2.0	12/18/2020	01/04/2021 15:30	David Boose	01/05/2021 15:13	Virginia P. Brown	2214603
EPA 353.2 Rev. 2.0	12/18/2020			12/22/2020 09:46	Beverly Y. Sanders	2214603
EPA 365.1 Rev. 2.0	12/18/2020	12/21/2020 12:50	Yen Ta	12/23/2020 11:56	Shengyu Wang	2214603
EPA 365.1 Rev. 2.0 dissolved	12/18/2020			12/18/2020 16:06	Ping Hua	2214604
EPA 8270E	12/18/2020	12/22/2020 10:30	Fe-Val Siddell	12/23/2020 15:53	Vandana T. Nagar	2214610
EPA 8321B	12/18/2020	12/21/2020 12:00	Hoor Shaik	12/23/2020 06:20	Juyoung Kim	2214608
	12/18/2020	12/21/2020 13:00	Rebecca Ware	12/21/2020 18:12	Rebecca Ware	2214608
	12/18/2020	12/21/2020 13:00	Rebecca Ware	12/30/2020 20:03	Rebecca Ware	2214608
SM 2120 B-2011	12/18/2020			12/18/2020 17:29	Benjamin T. Nordmann	2214602
SM 2320 B-2011	12/18/2020			12/21/2020 20:27	Dale L. Simmons	2214602
SM 2340B	12/18/2020			12/28/2020 23:27	Betina Topolski	2214609
SM 2540 C-2011	12/18/2020			12/22/2020 13:52	Yijie Li	2214602
SM 2540 D-2011	12/18/2020			12/22/2020 13:52	Yijie Li	2214602
SM 4500 F-C-2011	12/18/2020			12/21/2020 20:27	Dale L. Simmons	2214602
SM 5310 B-2011	12/18/2020			12/22/2020 03:44	Madeline Gruver	2214603