

Chemical Analysis Report

NW-DIST-2021-08-25-01

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

Event Description: **Bioassessment**
Request ID: **RQ-2021-07-19-41**
Customer: **NW-DIST**
Project ID: **SMP**

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

For additional information please contact
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 20-SEP-2021 09:50



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: Seven Runs upstream of Hwy 81

Collection Date/Time: 08/23/2021 11:15

Field ID: G3NW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271618	EPA 180.1 Rev. 2.0	Turbidity	3.9	A	NTU	P402979	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P403164	
		Sulfate	1.4		mg SO4/L	P403166	
	SM 2120 B-2011	Color (true)	87	Q	PCU	P402989	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P403060	
	SM 2540 C-2011	TDS	31		mg/L	P403400	
	SM 2540 D-2011	TSS	3	I	mg/L	P403393	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P403064	
2271619	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P403137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P403263	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.049		mg N/L	P403072	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P403076	
	SM 5310 B-2011	Organic Carbon	8.0		mg C/L	P403373	
2271620	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P402970	
2271624	EPA 8321B	2,4-D	0.0020	U	ug/L	P403027	
		Acesulfame K	0.10	U	ug/L	P402974	
		2,4,5-T	0.0040	U	ug/L	P403027	
		AMPA	0.10	U	ug/L	P402974	
		Acetaminophen	0.0080	U	ug/L	P403027	
		Acetamiprid	0.0020	U	ug/L	P403027	
		Endothall	0.25	U	ug/L	P402974	
		Glufosinate	0.10	U	ug/L	P402974	
		Glyphosate	0.10	U	ug/L	P402974	
		Afidopyropen	0.0020	U	ug/L	P403027	
		Bentazon	8.0E-04	U	ug/L	P403027	
		Sucralose	0.017	I	ug/L	P402974	
		Benzovindiflupyr	0.0020	U	ug/L	P403027	
		Carbamazepine	8.0E-04	U	ug/L	P403027	
		Clothianidin	0.0020	U	ug/L	P403027	
		Dinotefuran	0.0020	U	ug/L	P403027	
		Diuron	0.0020	U	ug/L	P403027	
		Fenuron	0.016	U	ug/L	P403027	
		Fluridone	8.0E-04	U	ug/L	P403027	
		Imazapyr	0.0040	U	ug/L	P403027	
		Hydrocodone	0.0020	U	ug/L	P403027	
		Ibuprofen	0.020	U	ug/L	P403027	
		Imidacloprid	0.0020	U	ug/L	P403027	
		Linuron	0.0040	U	ug/L	P403027	
		Mandestrobin	0.0020	U	ug/L	P403027	
		MCPP	0.0020	U	ug/L	P403027	
		Naproxen	0.0080	U	ug/L	P403027	
		Primidone	0.0040	U	ug/L	P403027	MS, RPD
		Pyraclostrobin	0.0020	U	ug/L	P403027	

Field ID: G3NW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271624	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P403027	
		Tolfenpyrad	0.0020	U	ug/L	P403027	
		Triclopyr	0.0040	U	ug/L	P403027	
2271625	EPA 200.7 Rev. 4.4	Barium	7.0		ug/L	P403028	
		Calcium	1.11		mg/L	P403028	
		Iron	350		ug/L	P403028	
		Magnesium	0.41		mg/L	P403028	
		Manganese	6.3		ug/L	P403028	
		Potassium	0.30	U	mg/L	P403028	
		Sodium	1.4	I	mg/L	P403028	
		Zinc	5.0	U	ug/L	P403028	
	EPA 200.8 Rev. 5.4	Aluminum	351		ug/L	P403028	
		Antimony	0.050	U	ug/L	P403028	
		Arsenic	0.21		ug/L	P403028	
		Beryllium	0.033	I	ug/L	P403028	
		Boron**	9.0		ug/L	P403028	
		Cadmium	0.020	U	ug/L	P403028	
		Chromium	0.43	I	ug/L	P403028	
		Copper	0.40	U	ug/L	P403028	
		Lead	0.26	I	ug/L	P403028	
		Nickel	0.50	U	ug/L	P403028	
		Selenium	0.20	U	ug/L	P403028	
		Silver	0.010	U	ug/L	P403028	
		Thallium	0.10	U	ug/L	P403028	
	SM 2340B	Hardness	4.4		mg/L	P403028	
2271626	EPA 8270E	Acetochlor	0.26	U	ng/L	P403054	
		Alachlor	0.26	U	ng/L	P403054	
		Ametryn	0.61	U	ng/L	P403054	
		Atrazine	0.26	U	ng/L	P403054	
		Atrazine Desethyl	1.5	U	ng/L	P403054	
		Azinphos Methyl	2.0	U	ng/L	P403054	
		Azoxystrobin**	0.51	U	ng/L	P403054	
		Bromacil	0.51	U	ng/L	P403054	
		Butylate	0.41	U	ng/L	P403054	
		Caffeine**	13	I	ng/L	P403054	MS
		Carbophenothion	0.51	U	ng/L	P403054	
		Carfentrazone Ethyl**	0.10	U	ng/L	P403054	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P403054	
		Chlorpyrifos Methyl	0.051	U	ng/L	P403054	
		Cyanazine	3.3	U	ng/L	P403054	
		Demeton	1.5	U	ng/L	P403054	
		Diazinon	0.13	U	ng/L	P403054	
		Difenoconazole**	0.61	U	ng/L	P403054	
		Dimethenamid**	0.10	U	ng/L	P403054	
		Disulfoton	0.51	U	ng/L	P403054	

Field ID: G3NW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2271626	EPA 8270E	Dithiopyr**	0.18	U	ng/L	P403054	
		EPTC	1.3	U	ng/L	P403054	
		Ethion	0.15	U	ng/L	P403054	
		Ethoprop	0.10	U	ng/L	P403054	
		Fenamiphos	0.51	U	ng/L	P403054	
		Fenbuconazole**	0.13	U	ng/L	P403054	
		Fipronil	0.26	U	ng/L	P403054	
		Fipronil Desulfinyl**	0.13	U	ng/L	P403054	
		Fipronil Sulfide	0.15	U	ng/L	P403054	
		Fipronil Sulfone	0.15	U	ng/L	P403054	
		Fluazifop-P-butyl**	0.10	U	ng/L	P403054	
		Fludioxonil**	0.13	U	ng/L	P403054	
		Flumioxazin**	1.8	U	ng/L	P403054	
		Flutolanil**	0.10	U	ng/L	P403054	
		Fluxapyroxad**	0.10	U	ng/L	P403054	
		Fonofos	0.20	U	ng/L	P403054	
		Hexazinone	0.51	U	ng/L	P403054	
		Imazalil**	0.77	U	ng/L	P403054	
		Iprodione**	0.61	U	ng/L	P403054	
		Malathion	0.36	U	ng/L	P403054	
		Metalaxyl	0.77	U	ng/L	P403054	
		Metolachlor	0.36	U	ng/L	P403054	
		Metribuzin	3.3	U	ng/L	P403054	
		Mevinphos	1.1	U	ng/L	P403054	
		Molinate	0.31	U	ng/L	P403054	
		Myclobutanil**	0.26	U	ng/L	P403054	
		Naled**	1.5	U	ng/L	P403054	
		Norflurazon	0.51	U	ng/L	P403054	
		Oxadiazon	0.31	U	ng/L	P403054	
		Oxyfluorfen**	0.15	U	ng/L	P403054	
		Parathion Ethyl	0.26	U	ng/L	P403054	
		Parathion Methyl	0.56	U	ng/L	P403054	
		Pendimethalin	1.0	U	ng/L	P403054	
		Phorate	0.54	U	ng/L	P403054	
		Prodiamine**	0.18	U	ng/L	P403054	
		Prometon	0.92	U	ng/L	P403054	
		Prometryn	0.20	U	ng/L	P403054	
		Pronamide**	0.15	U	ng/L	P403054	
		Propiconazole**	0.51	U	ng/L	P403054	
		Pyriproxyfen**	0.13	U	ng/L	P403054	
		Simazine	0.51	U	ng/L	P403054	
		Sulfentrazone**	0.51	U	ng/L	P403054	
		Tebuconazole**	0.51	U	ng/L	P403054	
		Terbufos	0.10	U	ng/L	P403054	
		Terbuthylazine	0.43	U	ng/L	P403054	

Field ID: G3NW0116

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: The sample expired upon receipt.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8270E: MS accuracy for multiple parameters not assessed due to high content of these parameters in the sample spiked.

Non-Conformance Report

NCR ID: 9041

Event(s)

NW-DIST-2021-08-25-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived late, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.
Customer contacted (M.King) by phone,

Authorized by/Date: 0

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: P402979

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403028

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
Manganese	1.0	U	ug/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: P403028

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: P403164

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403166

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403137

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: P403263

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403072

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403076

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402970

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

Reference Method: EPA 8270E
Batch ID: P403054

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P403054

Component	Result	Code	Units
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P403054

Component	Result	Code	Units
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P402974

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: P403027

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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: P402989

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P403060

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P403400

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403393

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403064

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403373

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: P403028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	89.9		P	85 - 115
Iron	106		P	85 - 115
Magnesium	89.1		P	85 - 115
Manganese	101		P	85 - 115
Potassium	103		P	85 - 115
Sodium	90.6		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	101		P	85 - 115
Beryllium	107		P	85 - 115
Boron	99.9		P	85 - 115
Cadmium	99.7		P	85 - 115
Chromium	98.2		P	85 - 115
Copper	99.9		P	85 - 115
Lead	100		P	85 - 115
Nickel	101		P	85 - 115
Selenium	100		P	85 - 115
Silver	105		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403164

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403166

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403137

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: P403263

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P403072

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P403076

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P402970

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

Reference Method: EPA 8270E
 Batch ID: P403054

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	102	119	P/P	70 - 121
Alachlor	98.2	113	P/P	70 - 119
Ametryn	114	125	P/P	61 - 135
Atrazine	98.9	103	P/P	76 - 123
Atrazine Desethyl	85.8	87.1	P/P	35 - 140
Azinphos Methyl	127	125	P/P	57 - 163
Azoxystrobin	106	112	P/P	43 - 231
Bromacil	54.6	58.0	P/P	42 - 123
Butylate	60.5	66.7	P/P	34 - 92.0
Caffeine	75.3	71.0	P/P	70 - 130
Carbophenothion	99.7	113	P/P	61 - 121
Carfentrazone Ethyl	114	120	P/P	62 - 139
Chlorpyrifos Ethyl	95.3	105	P/P	67 - 121
Chlorpyrifos Methyl	98.2	113	P/P	67 - 120
Cyanazine	141	153	P/P	20 - 226
Demeton	102	99.8	P/P	35 - 125
Diazinon	107	106	P/P	70 - 122
Difenoconazole	154	157	P/P	56 - 186
Dimethenamid	80.4	94.7	P/P	67 - 119
Disulfoton	90.2	89.3	P/P	47 - 120
Dithiopyr	96.7	103	P/P	67 - 118
EPTC	64.9	65.9	P/P	33 - 90.0
Ethion	85.5	92.5	P/P	40 - 133
Ethoprop	87.4	94.1	P/P	61 - 121
Fenamiphos	94.6	100	P/P	31 - 139
Fenbuconazole	112	118	P/P	66 - 141
Fipronil	104	113	P/P	62 - 129
Fipronil Desulfinyl	109	125	P/P	59 - 126
Fipronil Sulfide	88.4	103	P/P	63 - 117
Fipronil Sulfone	84.9	92.4	P/P	57 - 117
Fluazifop-P-butyl	95.7	106	P/P	63 - 124
Fludioxonil	108	114	P/P	63 - 123
Flumioxazin	136	138	P/P	34 - 245
Flutolanil	97.0	102	P/P	56 - 131

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P403054

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	93.0	91.1	P/P	57 - 117
Fonofos	85.7	93.7	P/P	61 - 116
Hexazinone	102	104	P/P	55 - 138
Imazalil	85.0	103	P/P	33 - 143
Iprodione	103	111	P/P	59 - 118
Malathion	108	114	P/P	62 - 138
Metalaxyl	100	108	P/P	24 - 147
Metolachlor	94.5	101	P/P	68 - 118
Metribuzin	86.8	90.8	P/P	20 - 239
Mevinphos	85.1	82.7	P/P	46 - 124
Molinate	59.3	65.8	P/P	46 - 100
Myclobutanil	102	106	P/P	32 - 149
Naled	42.5	43.7	P/P	32 - 95.0
Norflurazon	97.6	105	P/P	57 - 127
Oxadiazon	88.4	92.2	P/P	63 - 118
Oxyfluorfen	109	109	P/P	69 - 137
Parathion Ethyl	89.6	98.2	P/P	70 - 113
Parathion Methyl	103	116	P/P	71 - 130
Pendimethalin	75.1	81.4	P/P	55 - 118
Phorate	78.8	78.2	P/P	46 - 125
Prodiamine	36.4	35.6	P/P	20 - 141
Prometon	95.2	94.5	P/P	54 - 122
Prometryn	96.0	101	P/P	66 - 124
Pronamide	101	98.6	P/P	79 - 122
Propiconazole	95.0	105	P/P	61 - 126
Pyriproxyfen	95.3	97.7	P/P	52 - 131
Simazine	101	112	P/P	75 - 128
Sulfentrazone	93.4	96.9	P/P	20 - 132
Tebuconazole	83.6	90.5	P/P	20 - 116
Terbufos	103	109	P/P	61 - 117
Terbutylazine	96.0	96.2	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P402974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	78.6		P	40 - 150
AMPA	82.4		P	40 - 150
Endothall	68.1		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	107		P	40 - 150
Sucralose	90.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P403027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	92.8		P	40 - 150
2,4,5-T	106		P	40 - 150
Acetaminophen	80.2		P	30 - 150
Acetamiprid	96.1		P	40 - 150
Afidopyropen	83.2		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P403027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	119		P	30 - 150
Benzovindiflupyr	94.7		P	40 - 150
Carbamazepine	85.8		P	40 - 150
Clothianidin	98.4		P	40 - 150
Dinotefuran	84.8		P	40 - 150
Diuron	79.0		P	40 - 150
Fenuron	94.5		P	40 - 150
Fluridone	100		P	40 - 150
Hydrocodone	77.7		P	40 - 150
Ibuprofen	54.6		P	40 - 150
Imazapyr	85.0		P	40 - 150
Imidacloprid	97.3		P	40 - 150
Linuron	83.9		P	40 - 150
Mandestrobin	95.1		P	40 - 150
MCPP	91.7		P	40 - 150
Naproxen	98.6		P	40 - 150
Primidone	84.9		P	40 - 150
Pyraclostrobin	87.5		P	40 - 150
Thiamethoxam	92.7		P	40 - 150
Tolfenpyrad	51.5		P	30 - 150
Triclopyr	97.3		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P402989

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

Reference Method: SM 2320 B-2011
Batch ID: P403060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P403064

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P403373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P403028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271803	Barium	100		P	80 - 120
2271803	Calcium	98.6		P	80 - 120
2271803	Iron	107		P	80 - 120
2271803	Magnesium	108		P	80 - 120
2271803	Manganese	101		P	80 - 120
2271803	Potassium	105		P	80 - 120
2271803	Sodium	99.3		P	80 - 120
2271803	Zinc	102		P	80 - 120
2271907	Barium	98.7	99.2	P/P	80 - 120
2271907	Calcium	97.2		P	80 - 120
2271907	Iron	106	105	P/P	80 - 120
2271907	Magnesium	99.0		P	80 - 120
2271907	Manganese	99.1	99.6	P/P	80 - 120
2271907	Potassium	103	102	P/P	80 - 120
2271907	Sodium	101		P	80 - 120
2271907	Zinc	97.1	98.5	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P403028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271803	Aluminum	102		P	80 - 120
2271803	Antimony	104		P	80 - 120
2271803	Arsenic	102		P	80 - 120
2271803	Beryllium	104		P	80 - 120
2271803	Boron	107		P	80 - 120
2271803	Cadmium	104		P	80 - 120
2271803	Chromium	101		P	80 - 120
2271803	Copper	99.4		P	80 - 120
2271803	Lead	105		P	80 - 120
2271803	Nickel	101		P	80 - 120
2271803	Selenium	100		P	80 - 120
2271803	Silver	105		P	80 - 120
2271803	Thallium	112		P	80 - 120
2271907	Aluminum	100	102	P/P	80 - 120
2271907	Antimony	106	108	P/P	80 - 120
2271907	Arsenic	103	106	P/P	80 - 120
2271907	Beryllium	93.4	106	P/P	80 - 120
2271907	Boron	105	107	P/P	80 - 120
2271907	Cadmium	103	107	P/P	80 - 120
2271907	Chromium	103	106	P/P	80 - 120
2271907	Copper	98.4	101	P/P	80 - 120
2271907	Lead	104	105	P/P	80 - 120
2271907	Nickel	100	102	P/P	80 - 120
2271907	Selenium	101	103	P/P	80 - 120
2271907	Silver	104	105	P/P	80 - 120
2271907	Thallium	109	112	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P403164

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P403164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271098	Chloride	102		P	90 - 110
2271402	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P403166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271098	Sulfate	101		P	90 - 110
2271402	Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P403137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271406	Ammonia-N	95.0	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P403072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271451	NO2NO3-N	97.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P403076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271619	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P402970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271821	O-Phosphate-P	97.0	99.4	P/P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P403054

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272438	Acetochlor	95.0	104	P/P	66 - 122
2272438	Alachlor	95.6	101	P/P	65 - 122
2272438	Ametryn	82.0	97.1	P/P	45 - 173
2272438	Atrazine Desethyl	99.7	111	P/P	25 - 150
2272438	Azinphos Methyl	102	102	P/P	44 - 174
2272438	Azoxystrobin	136	131	P/P	10 - 268
2272438	Bromacil	97.3	106	P/P	31 - 145
2272438	Butylate	57.8	57.8	P/P	15 - 97.0
2272438	Caffeine	60.8	62.2	F/F	70 - 130
2272438	Carbophenothion	101	93.7	P/P	42 - 129
2272438	Carfentrazone Ethyl	98.4	81.0	P/P	62 - 145
2272438	Chlorpyrifos Ethyl	96.7	95.3	P/P	60 - 124
2272438	Chlorpyrifos Methyl	107	101	P/P	66 - 119
2272438	Cyanazine	133	125	P/P	17 - 225

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P403054

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272438	Demeton	124	133	P/P	36 - 142
2272438	Diazinon	114	113	P/P	70 - 128
2272438	Difenoconazole	138	137	P/P	33 - 222
2272438	Dimethenamid	75.9	77.3	P/P	54 - 125
2272438	Disulfoton	101	97.3	P/P	49 - 133
2272438	Dithiopyr	96.1	90.4	P/P	55 - 123
2272438	EPTC	57.0	53.4	P/P	19 - 91.0
2272438	Ethion	66.9	59.7	P/P	13 - 143
2272438	Ethoprop	104	98.5	P/P	49 - 144
2272438	Fenamiphos	67.0	66.2	P/P	32 - 136
2272438	Fenbuconazole	98.8	101	P/P	73 - 148
2272438	Fipronil	105	100	P/P	57 - 129
2272438	Fipronil Desulfinyl	115	105	P/P	49 - 127
2272438	Fipronil Sulfide	99.9	96.4	P/P	44 - 127
2272438	Fipronil Sulfone	99.4	94.7	P/P	35 - 126
2272438	Fluazifop-P-butyl	99.3	93.4	P/P	67 - 129
2272438	Fludioxonil	95.2	95.0	P/P	61 - 126
2272438	Flumioxazin	137	141	P/P	38 - 279
2272438	Flutolanil	83.1	86.9	P/P	55 - 136
2272438	Fluxapyroxad	82.1	82.2	P/P	33 - 140
2272438	Fonofos	108	104	P/P	58 - 125
2272438	Imazalil	166	160	P/P	10 - 221
2272438	Iprodione	86.3	89.2	P/P	32 - 140
2272438	Malathion	114	112	P/P	52 - 138
2272438	Metalaxyl	107	106	P/P	46 - 134
2272438	Metribuzin	61.8	100	P/P	16 - 272
2272438	Mevinphos	93.8	98.7	P/P	45 - 140
2272438	Molinate	61.2	51.9	P/P	41 - 103
2272438	Myclobutanil	96.0	97.6	P/P	60 - 134
2272438	Naled	36.5	40.4	P/P	20 - 113
2272438	Oxyfluorfen	112	118	P/P	66 - 176
2272438	Parathion Ethyl	103	103	P/P	57 - 132
2272438	Parathion Methyl	118	114	P/P	59 - 156
2272438	Pendimethalin	91.1	90.3	P/P	59 - 129
2272438	Phorate	89.3	88.7	P/P	47 - 136
2272438	Prodiamine	45.1	46.9	P/P	10 - 159
2272438	Prometon	88.0	87.3	P/P	59 - 127
2272438	Prometryn	99.5	103	P/P	59 - 129
2272438	Pronamide	92.7	96.2	P/P	65 - 145
2272438	Propiconazole	79.5	80.2	P/P	28 - 165
2272438	Pyriproxyfen	67.5	75.7	P/P	21 - 180
2272438	Simazine	112	98.3	P/P	63 - 147
2272438	Sulfentrazone	84.1	79.8	P/P	32 - 136
2272438	Tebuconazole	62.5	55.8	P/P	10 - 117
2272438	Terbufos	129	123	P/P	61 - 131
2272438	Terbuthylazine	97.0	98.9	P/P	62 - 126

Reference Method: EPA 8321B

Batch ID: P402974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271284	Acesulfame K	56.7	57.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P402974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271284	AMPA	91.0	91.7	P/P	40 - 150
2271284	Endothall	101	103	P/P	40 - 150
2271284	Glufosinate	107	106	P/P	40 - 150
2271284	Glyphosate	108	110	P/P	40 - 150
2271284	Sucralose	93.6	94.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P403027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271466	2,4-D	105	96.8	P/P	40 - 150
2271466	2,4,5-T	111	101	P/P	40 - 150
2271466	Acetaminophen	81.5	84.3	P/P	30 - 150
2271466	Acetamiprid	91.7	84.6	P/P	40 - 150
2271466	Afidopyropen	111	99.8	P/P	40 - 150
2271466	Benzovindiflupyr	92.0	95.7	P/P	40 - 150
2271466	Carbamazepine	88.7	92.1	P/P	40 - 150
2271466	Clothianidin	68.7	70.6	P/P	40 - 150
2271466	Diuron	89.8	87.8	P/P	40 - 150
2271466	Fenuron	99.3	95.6	P/P	40 - 150
2271466	Fluridone	94.8	100	P/P	40 - 150
2271466	Hydrocodone	98.2	87.5	P/P	40 - 150
2271466	Ibuprofen	70.5	65.9	P/P	40 - 150
2271466	Imidacloprid	92.3	91.1	P/P	40 - 150
2271466	Linuron	99.3	77.0	P/P	40 - 150
2271466	Mandestrobin	104	101	P/P	40 - 150
2271466	MCP	118	110	P/P	40 - 150
2271466	Naproxen	94.3	87.8	P/P	40 - 150
2271466	Primidone	32.3	50.6	F/P	40 - 150
2271466	Pyraclostrobin	91.3	87.3	P/P	40 - 150
2271466	Thiamethoxam	99.5	90.5	P/P	40 - 150
2271466	Tolfenpyrad	52.1	52.1	P/P	30 - 150
2271466	Triclopyr	106	96.9	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P403064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271893	Fluoride	100	99.4	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P403373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271437	Organic Carbon	103		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P402979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271618	Turbidity	3.31	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P403028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271907	Barium	0.516	Spike	P	0 - 20
2271907	Calcium	0.684	Spike	P	0 - 20
2271907	Iron	0.379	Spike	P	0 - 20
2271907	Magnesium	1.07	Spike	P	0 - 20
2271907	Manganese	0.324	Spike	P	0 - 20
2271907	Potassium	0.357	Spike	P	0 - 20
2271907	Sodium	0.600	Spike	P	0 - 20
2271907	Zinc	1.44	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P403028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271907	Aluminum	1.70	Spike	P	0 - 20
2271907	Antimony	1.85	Spike	P	0 - 20
2271907	Arsenic	2.09	Spike	P	0 - 20
2271907	Beryllium	10.7	Spike	P	0 - 20
2271907	Boron	1.10	Spike	P	0 - 20
2271907	Cadmium	3.34	Spike	P	0 - 20
2271907	Chromium	1.96	Spike	P	0 - 20
2271907	Copper	2.41	Spike	P	0 - 20
2271907	Lead	1.68	Spike	P	0 - 20
2271907	Nickel	0.996	Spike	P	0 - 20
2271907	Selenium	1.74	Spike	P	0 - 20
2271907	Silver	0.0537	Spike	P	0 - 20
2271907	Thallium	2.83	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P403164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271098	Chloride	0.864	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P403166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271098	Sulfate	1.14	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P403137

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271406	Ammonia-N	1.16	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P403263

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271449	Kjeldahl Nitrogen	1.18	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P403072

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271451	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P403076

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271619	Total-P	1.08	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402970

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271821	O-Phosphate-P	2.44	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P403054

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272438	Acetochlor	9.03	Spike	P	0 - 30
2272438	Alachlor	5.65	Spike	P	0 - 30
2272438	Ametryn	8.93	Spike	P	0 - 30
2272438	Atrazine	1.04	Spike	P	0 - 30
2272438	Atrazine Desethyl	10.7	Spike	P	0 - 30
2272438	Azinphos Methyl	0.373	Spike	P	0 - 30
2272438	Azoxystrobin	3.44	Spike	P	0 - 30
2272438	Bromacil	8.69	Spike	P	0 - 30
2272438	Butylate	0.0130	Spike	P	0 - 30
2272438	Caffeine	1.40	Spike	P	0 - 30
2272438	Carbophenothion	7.90	Spike	P	0 - 30
2272438	Carfentrazone Ethyl	19.4	Spike	P	0 - 30
2272438	Chlorpyrifos Ethyl	1.51	Spike	P	0 - 30
2272438	Chlorpyrifos Methyl	6.41	Spike	P	0 - 30
2272438	Cyanazine	6.10	Spike	P	0 - 30
2272438	Demeton	7.58	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P403054

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272438	Diazinon	0.538	Spike	P	0 - 30
2272438	Difenoconazole	1.14	Spike	P	0 - 30
2272438	Dimethenamid	1.84	Spike	P	0 - 30
2272438	Disulfoton	3.66	Spike	P	0 - 30
2272438	Dithiopyr	5.67	Spike	P	0 - 30
2272438	EPTC	6.58	Spike	P	0 - 30
2272438	Ethion	11.4	Spike	P	0 - 30
2272438	Ethoprop	5.56	Spike	P	0 - 30
2272438	Fenamiphos	1.09	Spike	P	0 - 30
2272438	Fenbuconazole	1.58	Spike	P	0 - 30
2272438	Fipronil	4.28	Spike	P	0 - 30
2272438	Fipronil Desulfinyl	8.76	Spike	P	0 - 30
2272438	Fipronil Sulfide	3.23	Spike	P	0 - 30
2272438	Fipronil Sulfone	4.79	Spike	P	0 - 30
2272438	Fluazifop-P-butyl	6.14	Spike	P	0 - 30
2272438	Fludioxonil	0.218	Spike	P	0 - 30
2272438	Flumioxazin	3.23	Spike	P	0 - 30
2272438	Flutolanil	4.47	Spike	P	0 - 30
2272438	Fluxapyroxad	0.0859	Spike	P	0 - 30
2272438	Fonofos	3.46	Spike	P	0 - 30
2272438	Hexazinone	3.45	Spike	P	0 - 30
2272438	Imazalil	4.12	Spike	P	0 - 30
2272438	Iprodione	3.29	Spike	P	0 - 30
2272438	Malathion	2.08	Spike	P	0 - 30
2272438	Metalaxyl	0.679	Spike	P	0 - 30
2272438	Metolachlor	1.85	Spike	P	0 - 30
2272438	Metribuzin	29.0	Spike	P	0 - 30
2272438	Mevinphos	5.01	Spike	P	0 - 30
2272438	Molinate	16.5	Spike	P	0 - 30
2272438	Myclobutanil	1.62	Spike	P	0 - 30
2272438	Naled	10.2	Spike	P	0 - 30
2272438	Norflurazon	3.36	Spike	P	0 - 30
2272438	Oxadiazon	3.59	Spike	P	0 - 30
2272438	Oxyfluorfen	5.06	Spike	P	0 - 30
2272438	Parathion Ethyl	0.413	Spike	P	0 - 30
2272438	Parathion Methyl	3.31	Spike	P	0 - 30
2272438	Pendimethalin	0.908	Spike	P	0 - 30
2272438	Phorate	0.722	Spike	P	0 - 30
2272438	Prodiamine	4.08	Spike	P	0 - 30
2272438	Prometon	0.755	Spike	P	0 - 30
2272438	Prometryn	3.27	Spike	P	0 - 30
2272438	Pronamide	3.72	Spike	P	0 - 30
2272438	Propiconazole	0.561	Spike	P	0 - 30
2272438	Pyriproxyfen	11.5	Spike	P	0 - 30
2272438	Simazine	9.86	Spike	P	0 - 30
2272438	Sulfentrazone	3.47	Spike	P	0 - 30
2272438	Tebuconazole	11.3	Spike	P	0 - 30
2272438	Terbufos	4.68	Spike	P	0 - 30
2272438	Terbuthylazine	1.98	Spike	P	0 - 30
LFB	Acetochlor	15.5	LCS	P	0 - 30
LFB	Alachlor	13.8	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P403054

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Ametryn	9.32	LCS	P	0 - 30
LFB	Atrazine	3.86	LCS	P	0 - 30
LFB	Atrazine Desethyl	1.57	LCS	P	0 - 30
LFB	Azinphos Methyl	1.26	LCS	P	0 - 30
LFB	Azoxystrobin	4.81	LCS	P	0 - 30
LFB	Bromacil	5.93	LCS	P	0 - 30
LFB	Butylate	9.84	LCS	P	0 - 30
LFB	Caffeine	5.83	LCS	P	0 - 30
LFB	Carbophenothion	12.0	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	5.61	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	9.34	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	14.2	LCS	P	0 - 30
LFB	Cyanazine	8.55	LCS	P	0 - 30
LFB	Demeton	2.62	LCS	P	0 - 30
LFB	Diazinon	1.70	LCS	P	0 - 30
LFB	Difenoconazole	2.38	LCS	P	0 - 30
LFB	Dimethenamid	16.3	LCS	P	0 - 30
LFB	Disulfoton	0.999	LCS	P	0 - 30
LFB	Dithiopyr	6.09	LCS	P	0 - 30
LFB	EPTC	1.50	LCS	P	0 - 30
LFB	Ethion	7.88	LCS	P	0 - 30
LFB	Ethoprop	7.48	LCS	P	0 - 30
LFB	Fenamiphos	5.70	LCS	P	0 - 30
LFB	Fenbuconazole	5.52	LCS	P	0 - 30
LFB	Fipronil	8.49	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	13.3	LCS	P	0 - 30
LFB	Fipronil Sulfide	15.0	LCS	P	0 - 30
LFB	Fipronil Sulfone	8.38	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	10.5	LCS	P	0 - 30
LFB	Fludioxonil	5.16	LCS	P	0 - 30
LFB	Flumioxazin	1.19	LCS	P	0 - 30
LFB	Flutolanil	5.23	LCS	P	0 - 30
LFB	Fluxapyroxad	2.10	LCS	P	0 - 30
LFB	Fonofos	8.94	LCS	P	0 - 30
LFB	Hexazinone	1.42	LCS	P	0 - 30
LFB	Imazalil	19.0	LCS	P	0 - 30
LFB	Iprodione	7.38	LCS	P	0 - 30
LFB	Malathion	5.94	LCS	P	0 - 30
LFB	Metalaxyl	6.82	LCS	P	0 - 30
LFB	Metolachlor	6.98	LCS	P	0 - 30
LFB	Metribuzin	4.53	LCS	P	0 - 30
LFB	Mevinphos	2.89	LCS	P	0 - 30
LFB	Molinate	10.3	LCS	P	0 - 30
LFB	Myclobutanil	4.36	LCS	P	0 - 30
LFB	Naled	2.78	LCS	P	0 - 30
LFB	Norflurazon	7.00	LCS	P	0 - 30
LFB	Oxadiazon	4.20	LCS	P	0 - 30
LFB	Oxyfluorfen	0.0148	LCS	P	0 - 30
LFB	Parathion Ethyl	9.13	LCS	P	0 - 30
LFB	Parathion Methyl	11.3	LCS	P	0 - 30
LFB	Pendimethalin	7.99	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P403054

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	0.844	LCS	P	0 - 30
LFB	Prodiamine	2.26	LCS	P	0 - 30
LFB	Prometon	0.658	LCS	P	0 - 30
LFB	Prometryn	4.99	LCS	P	0 - 30
LFB	Pronamide	2.67	LCS	P	0 - 30
LFB	Propiconazole	10.4	LCS	P	0 - 30
LFB	Pyriproxyfen	2.52	LCS	P	0 - 30
LFB	Simazine	10.0	LCS	P	0 - 30
LFB	Sulfentrazone	3.61	LCS	P	0 - 30
LFB	Tebuconazole	7.94	LCS	P	0 - 30
LFB	Terbufos	5.63	LCS	P	0 - 30
LFB	Terbutylazine	0.119	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P402974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271284	Acesulfame K	2.14	Spike	P	0 - 30
2271284	AMPA	0.789	Spike	P	0 - 30
2271284	Endothall	2.32	Spike	P	0 - 30
2271284	Glufosinate	0.745	Spike	P	0 - 30
2271284	Glyphosate	2.50	Spike	P	0 - 30
2271284	Sucralose	0.483	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P403027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271466	2,4-D	7.65	Spike	P	0 - 30
2271466	2,4,5-T	9.54	Spike	P	0 - 30
2271466	Acetaminophen	3.38	Spike	P	0 - 30
2271466	Acetamiprid	8.00	Spike	P	0 - 30
2271466	Afidopyropen	10.3	Spike	P	0 - 30
2271466	Bentazon	11.5	Spike	P	0 - 30
2271466	Benzovindiflupyr	3.81	Spike	P	0 - 30
2271466	Carbamazepine	3.45	Spike	P	0 - 30
2271466	Clothianidin	2.74	Spike	P	0 - 30
2271466	Dinotefuran	7.69	Spike	P	0 - 30
2271466	Diuron	2.22	Spike	P	0 - 30
2271466	Fenuron	3.73	Spike	P	0 - 30
2271466	Fluridone	5.58	Spike	P	0 - 30
2271466	Hydrocodone	11.5	Spike	P	0 - 30
2271466	Ibuprofen	6.74	Spike	P	0 - 30
2271466	Imazapyr	11.0	Spike	P	0 - 30
2271466	Imidacloprid	1.18	Spike	P	0 - 30
2271466	Linuron	25.3	Spike	P	0 - 30
2271466	Mandestrobin	3.39	Spike	P	0 - 30
2271466	MCP	6.59	Spike	P	0 - 30
2271466	Naproxen	7.15	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P403027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271466	Primidone	44.0	Spike	F	0 - 30
2271466	Pyraclostrobin	4.52	Spike	P	0 - 30
2271466	Thiamethoxam	9.47	Spike	P	0 - 30
2271466	Tolfenpyrad	0.0501	Spike	P	0 - 30
2271466	Triclopyr	8.83	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P402989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271671	Color (true)	0.522	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P403060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271893	Total Alkalinity	1.36	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P403400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271747	TDS	6.21	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P403064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271893	Fluoride	0.457	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271437	Organic Carbon	0.165	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2271624

Field Sample ID: G3NW0116

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.8	P	30 - 160
EPA 8321B	Diuron-d6	75.7	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.1	P	30 - 160
EPA 8321B	Primidone-d5	37.4	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Lab Sample ID: 2271626

Field Sample ID: G3NW0116

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	75.5	P	20 - 200
EPA 8270E	Simazine-d10	124	P	73 - 135
EPA 8270E	Terbufos-d10	125	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107449

Included Lab Sample IDs: 2271618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	100	P/P	90 - 110
Sulfate	99.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107463

Included Lab Sample IDs: 2271620

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107470

Included Lab Sample IDs: 2271618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A107472

Included Lab Sample IDs: 2271618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: SM 2320 B-2011

Run ID: A107502

Included Lab Sample IDs: 2271618

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

Reference Method: SM 4500 F-C-2011

Run ID: A107502

Included Lab Sample IDs: 2271618

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107506

Included Lab Sample IDs: 2271619

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

Reference Method: EPA 8321B

Run ID: A107519

Included Lab Sample IDs: 2271624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	78.1		P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A107519
Included Lab Sample IDs: 2271624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	99.7		P	60 - 160
Glyphosate	101		P	60 - 160

Reference Method: EPA 8321B
Run ID: A107530
Included Lab Sample IDs: 2271624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.2	101	P/P	60 - 160
Endothall	73.4	86.1	P/P	60 - 160
Sucralose	90.6	90.9	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A107544
Included Lab Sample IDs: 2271619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A107552
Included Lab Sample IDs: 2271619

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A107581
Included Lab Sample IDs: 2271625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	104	P/P	90 - 110
Antimony	102	102	P/P	90 - 110
Arsenic	98.0	99.6	P/P	90 - 110
Beryllium	103	102	P/P	90 - 110
Boron	102	107	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	97.4	99.9	P/P	90 - 110
Copper	96.4	98.5	P/P	90 - 110
Lead	99.4	100	P/P	90 - 110
Nickel	96.4	98.4	P/P	90 - 110
Selenium	97.8	100	P/P	90 - 110
Silver	98.5	99.3	P/P	90 - 110
Thallium	105	105	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A107604
Included Lab Sample IDs: 2271625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	95.4	94.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107604

Included Lab Sample IDs: 2271625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	95.9	95.9	P/P	90 - 110
Iron	95.6	95.5	P/P	90 - 110
Magnesium	95.9	95.7	P/P	90 - 110
Manganese	100	99.8	P/P	90 - 110
Potassium	97.4	95.7	P/P	90 - 110
Sodium	97.5	96.6	P/P	90 - 110
Zinc	98.4	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107619

Included Lab Sample IDs: 2271619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107644

Included Lab Sample IDs: 2271619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	98.2	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A107657

Included Lab Sample IDs: 2271626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.2		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	110		P	80 - 120
Atrazine	103		P	80 - 120
Atrazine Desethyl	91.9		P	80 - 120
Azinphos Methyl	98.9		P	80 - 120
Azoxystrobin	98.3		P	80 - 120
Bromacil	97.3		P	80 - 120
Butylate	99.9		P	80 - 120
Caffeine	81.8		P	80 - 120
Carbophenothion	106		P	80 - 120
Carfentrazone Ethyl	106		P	80 - 120
Chlorpyrifos Ethyl	106		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	110		P	80 - 120
Demeton	89.1		P	80 - 120
Diazinon	100		P	80 - 120
Difenoconazole	90.5		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	88.0		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	99.3		P	80 - 120
Ethion	97.4		P	80 - 120
Ethoprop	97.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A107657
Included Lab Sample IDs: 2271626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenamiphos	99.5		P	80 - 120
Fenbuconazole	95.2		P	80 - 120
Fipronil	94.7		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	99.1		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Fluazifop-P-butyl	100		P	80 - 120
Fludioxonil	98.1		P	80 - 120
Flumioxazin	88.4		P	80 - 120
Flutolanil	103		P	80 - 120
Fluxapyroxad	103		P	80 - 120
Fonofos	104		P	80 - 120
Hexazinone	97.9		P	80 - 120
Imazalil	94.6		P	80 - 120
Iprodione	103		P	80 - 120
Malathion	101		P	80 - 120
Metaxyl	108		P	80 - 120
Metolachlor	107		P	80 - 120
Metribuzin	96.7		P	80 - 120
Mevinphos	90.6		P	80 - 120
Molinate	98.9		P	80 - 120
Myclobutanil	104		P	80 - 120
Naled	102		P	80 - 120
Norflurazon	102		P	80 - 120
Oxadiazon	101		P	80 - 120
Oxyfluorfen	104		P	80 - 120
Parathion Ethyl	98.7		P	80 - 120
Parathion Methyl	102		P	80 - 120
Pendimethalin	94.4		P	80 - 120
Phorate	104		P	80 - 120
Prodiamine	99.9		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	104		P	80 - 120
Pronamide	91.3		P	80 - 120
Propiconazole	105		P	80 - 120
Pyriproxyfen	104		P	80 - 120
Simazine	107		P	80 - 120
Sulfentrazone	101		P	80 - 120
Tebuconazole	110		P	80 - 120
Terbufos	100		P	80 - 120
Terbuthylazine	101		P	80 - 120

Reference Method: EPA 8321B
Run ID: A107670
Included Lab Sample IDs: 2271624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	116	P/P	50 - 150
2,4,5-T	114	93.3	P/P	50 - 150
Acetaminophen	106	110	P/P	60 - 160
Acetamiprid	111	111	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A107670
 Included Lab Sample IDs: 2271624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Afidopyropen	106	109	P/P	50 - 150
Bentazon	110	104	P/P	50 - 160
Benzovindiflupyr	108	110	P/P	50 - 150
Carbamazepine	115	116	P/P	60 - 150
Clothianidin	109	118	P/P	60 - 150
Dinotefuran	103	101	P/P	50 - 150
Diuron	104	105	P/P	60 - 160
Fenuron	101	104	P/P	60 - 150
Fluridone	105	110	P/P	60 - 160
Hydrocodone	101	100	P/P	60 - 150
Ibuprofen	80.0	68.9	P/P	50 - 160
Imazapyr	93.2	89.9	P/P	50 - 150
Imidacloprid	113	110	P/P	60 - 150
Linuron	97.0	99.3	P/P	60 - 150
Mandestrobin	111	105	P/P	50 - 150
MCPP	97.2	110	P/P	50 - 150
Naproxen	93.6	120	P/P	50 - 160
Primidone	109	117	P/P	60 - 150
Pyraclostrobin	112	112	P/P	60 - 150
Thiamethoxam	101	111	P/P	50 - 150
Tolfenpyrad	112	107	P/P	60 - 150
Triclopyr	115	112	P/P	50 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							3.31	
EPA 200.7 Rev. 4.4	Barium	102		100	98.7	99.2			0.516
	Calcium	89.9		98.6	97.2				0.684
	Iron	106		107	106	105			0.379
	Magnesium	89.1		108	99.0				1.07
	Manganese	101		101	99.1	99.6			0.324
	Potassium	103		105	103	102			0.357
	Sodium	90.6		99.3	101				0.600
	Zinc	102		102	97.1	98.5			1.44
EPA 200.8 Rev. 5.4	Aluminum	100		100	102	102			1.70
	Antimony	101		106	108	104			1.85
	Arsenic	101		103	106	102			2.09
	Beryllium	107		93.4	106	104			10.7
	Boron	99.9		105	107	107			1.10
	Cadmium	99.7		103	107	104			3.34
	Chromium	98.2		103	106	101			1.96
	Copper	99.9		98.4	101	99.4			2.41
	Lead	100		104	105	105			1.68
	Nickel	101		100	102	101			0.996
	Selenium	100		101	103	100			1.74
	Silver	105		104	105	105			0.0537
	Thallium	103		109	112	112			2.83
EPA 300.0 Rev. 2.1	Chloride	102		102	100			0.864	
	Sulfate	104		98.3	101			1.14	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6		95.0	96.2				1.16
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103							1.18
EPA 353.2 Rev. 2.0	NO2NO3-N	100		97.5	97.5				0.0
EPA 365.1 Rev. 2.0	Total-P	105		102	103				1.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		97.0	99.4				2.44
EPA 8270E	Acetochlor	102	119	95.0	104		15.5		9.03
	Alachlor	98.2	113	95.6	101		13.8		5.65
	Ametryn	114	125	82.0	97.1		9.32		8.93
	Atrazine	98.9	103				3.86		1.04
	Atrazine Desethyl	85.8	87.1	99.7	111		1.57		10.7
	Azinphos Methyl	127	125	102	102		1.26		0.373
	Azoxystrobin	106	112	136	131		4.81		3.44
	Bromacil	54.6	58.0	97.3	106		5.93		8.69
	Butylate	60.5	66.7	57.8	57.8		9.84		0.0130
	Caffeine	75.3	71.0	60.8	62.2		5.83		1.40
	Carbophenothion	99.7	113	101	93.7		12.0		7.90
	Carfentrazone Ethyl	114	120	98.4	81.0		5.61		19.4
	Chlorpyrifos Ethyl	95.3	105	96.7	95.3		9.34		1.51
	Chlorpyrifos Methyl	98.2	113	107	101		14.2		6.41
	Cyanazine	141	153	133	125		8.55		6.10
	Demeton	102	99.8	124	133		2.62		7.58
	Diazinon	107	106	114	113		1.70		0.538
	Difenoconazole	154	157	138	137		2.38		1.14
	Dimethenamid	80.4	94.7	75.9	77.3		16.3		1.84
	Disulfoton	90.2	89.3	101	97.3		0.999		3.66
	Dithiopyr	96.7	103	96.1	90.4		6.09		5.67
	EPTC	64.9	65.9	57.0	53.4		1.50		6.58
	Ethion	85.5	92.5	66.9	59.7		7.88		11.4
	Ethoprop	87.4	94.1	104	98.5		7.48		5.56
	Fenamiphos	94.6	100	67.0	66.2		5.70		1.09

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fenbuconazole	112	118	98.8	101	5.52	1.58
	Fipronil	104	113	105	100	8.49	4.28
	Fipronil Desulfinyl	109	125	115	105	13.3	8.76
	Fipronil Sulfide	88.4	103	99.9	96.4	15.0	3.23
	Fipronil Sulfone	84.9	92.4	99.4	94.7	8.38	4.79
	Fluazifop-P-butyl	95.7	106	99.3	93.4	10.5	6.14
	Fludioxonil	108	114	95.2	95.0	5.16	0.218
	Flumioxazin	136	138	137	141	1.19	3.23
	Flutolanil	97.0	102	83.1	86.9	5.23	4.47
	Fluxapyroxad	91.1	93.0	82.1	82.2	2.10	0.0859
	Fonofos	85.7	93.7	108	104	8.94	3.46
	Hexazinone	102	104			1.42	3.45
	Imazalil	85.0	103	166	160	19.0	4.12
	Iprodione	103	111	86.3	89.2	7.38	3.29
	Malathion	108	114	114	112	5.94	2.08
	Metalaxyl	100	108	107	106	6.82	0.679
	Metolachlor	94.5	101			6.98	1.85
	Metribuzin	86.8	90.8	61.8	100	4.53	29.0
	Mevinphos	85.1	82.7	93.8	98.7	2.89	5.01
	Molinate	59.3	65.8	61.2	51.9	10.3	16.5
	Myclobutanil	102	106	96.0	97.6	4.36	1.62
	Naled	42.5	43.7	36.5	40.4	2.78	10.2
	Norflurazon	97.6	105			7.00	3.36
	Oxadiazon	88.4	92.2			4.20	3.59
	Oxyfluorfen	109	109	112	118	0.0148	5.06
	Parathion Ethyl	89.6	98.2	103	103	9.13	0.413
	Parathion Methyl	103	116	118	114	11.3	3.31
	Pendimethalin	75.1	81.4	91.1	90.3	7.99	0.908
	Phorate	78.8	78.2	89.3	88.7	0.844	0.722
	Prodiamine	36.4	35.6	45.1	46.9	2.26	4.08
	Prometon	95.2	94.5	88.0	87.3	0.658	0.755
	Prometryn	96.0	101	99.5	103	4.99	3.27
	Pronamide	101	98.6	92.7	96.2	2.67	3.72
	Propiconazole	95.0	105	79.5	80.2	10.4	0.561
	Pyriproxyfen	95.3	97.7	67.5	75.7	2.52	11.5
	Simazine	101	112	112	98.3	10.0	9.86
	Sulfentrazone	93.4	96.9	84.1	79.8	3.61	3.47
	Tebuconazole	83.6	90.5	62.5	55.8	7.94	11.3
	Terbufos	103	109	129	123	5.63	4.68
	Terbutylazine	96.0	96.2	97.0	98.9	0.119	1.98
EPA 8321B	2,4-D	92.8		105	96.8		7.65
	2,4,5-T	106		111	101		9.54
	Acesulfame K	78.6		56.7	57.9		2.14
	Acetaminophen	80.2		81.5	84.3		3.38
	Acetamiprid	96.1		91.7	84.6		8.00
	Afidopyropen	83.2		111	99.8		10.3
	AMPA	82.4		91.0	91.7		0.789
	Bentazon	119					11.5
	Benzovindiflupyr	94.7		92.0	95.7		3.81
	Carbamazepine	85.8		88.7	92.1		3.45
	Clothianidin	98.4		68.7	70.6		2.74
	Dinotefuran	84.8					7.69
	Diuron	79.0		89.8	87.8		2.22
	Endothall	68.1		101	103		2.32

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Fenuron	94.5	99.3	95.6			3.73
	Fluridone	100	94.8	100			5.58
	Glufosinate	105	107	106			0.745
	Glyphosate	107	108	110			2.50
	Hydrocodone	77.7	98.2	87.5			11.5
	Ibuprofen	54.6	70.5	65.9			6.74
	Imazapyr	85.0					11.0
	Imidacloprid	97.3	92.3	91.1			1.18
	Linuron	83.9	99.3	77.0			25.3
	Mandestrobin	95.1	104	101			3.39
	MCPP	91.7	118	110			6.59
	Naproxen	98.6	94.3	87.8			7.15
	Primidone	84.9	32.3	50.6			44.0
	Pyraclostrobin	87.5	91.3	87.3			4.52
	Sucralose	90.2	93.6	94.0			0.483
	Thiamethoxam	92.7	99.5	90.5			9.47
	Tolfenpyrad	51.5	52.1	52.1			0.0501
	Triclopyr	97.3	106	96.9			8.83
SM 2120 B-2011	Color (true)	100				0.522	
SM 2320 B-2011	Total Alkalinity	102				1.36	
SM 2540 C-2011	TDS					6.21	
SM 4500 F-C-2011	Fluoride	99.9	100	99.4			0.457
SM 5310 B-2011	Organic Carbon	95.8	103				0.165

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2271618
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2271625
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2271625
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2271618
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2271618
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2271619
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2271619
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2271619
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2271619
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2271620
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2271626
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2271624
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2271618
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2271618
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2271625
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2271618
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2271618
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2271618
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2271619

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	08/25/2021			08/25/2021 11:15	Sarah A Nixon	2271618
EPA 200.7 Rev. 4.4	08/25/2021	08/26/2021 15:05	Elliott D. Healy	09/01/2021 20:59	Josef B Mick	2271625
EPA 200.8 Rev. 5.4	08/25/2021	08/26/2021 15:05	Elliott D. Healy	08/31/2021 17:22	Alexander Thompson	2271625
EPA 300.0 Rev. 2.1	08/25/2021			08/28/2021 00:18	Lipi Saha	2271618
EPA 350.1 Rev. 2.0	08/25/2021			08/30/2021 12:27	Ping Hua	2271619
EPA 351.2 Rev. 2.0	08/25/2021	09/01/2021 12:17	Benjamin T. Nordmann	09/02/2021 10:48	Alexandra J Mattheus	2271619
EPA 353.2 Rev. 2.0	08/25/2021			08/27/2021 11:28	Beverly Y. Sanders	2271619
EPA 365.1 Rev. 2.0	08/25/2021	08/27/2021 14:47	Simonne.V. Calhoun	08/30/2021 15:15	Lipi Saha	2271619
EPA 365.1 Rev. 2.0 dissolved	08/25/2021			08/25/2021 14:37	James L Waggeberby	2271620
EPA 8270E	08/25/2021	08/30/2021 08:00	Rasheda Ghaffari	09/01/2021 20:19	Michael Poppell	2271626
EPA 8321B	08/25/2021	08/27/2021 09:00	Juyoung Kim	08/27/2021 12:11	Juyoung Kim	2271624
	08/25/2021	08/27/2021 09:00	Juyoung Kim	08/28/2021 01:30	Juyoung Kim	2271624
	08/25/2021	08/27/2021 14:00	Hoor Shaik	08/28/2021 03:31	Juyoung Kim	2271624
SM 2120 B-2011	08/25/2021			08/25/2021 16:39	Sarah A Nixon	2271618
SM 2320 B-2011	08/25/2021			08/26/2021 22:32	Dale L. Simmons	2271618
SM 2340B	08/25/2021			09/01/2021 20:59	Josef B Mick	2271625
SM 2540 C-2011	08/25/2021			08/30/2021 10:06	Yijie Li	2271618
SM 2540 D-2011	08/25/2021			08/30/2021 10:06	Yijie Li	2271618
SM 4500 F-C-2011	08/25/2021			08/26/2021 22:32	Dale L. Simmons	2271618
SM 5310 B-2011	08/25/2021			09/03/2021 07:38	Touraj Touran	2271619