

Chemical Analysis Report

SE-DIST-2021-09-02-01

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

Event Description: **SMP - Okeechobee Monthly 09/21**

Request ID: **RQ-2021-08-30-17**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

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Fort Pierce, FL 34945
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Date Certified: 27-SEP-2021 10:42



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: Taylor Creek @ 39th St

Collection Date/Time: 09/01/2021 13:00

Field ID: G1SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2273204	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P403332	
	EPA 300.0 Rev. 2.1	Chloride	54		mg Cl/L	P403499	
		Sulfate	19		mg SO4/L	P403500	
	SM 2120 B-2011	Color (true)	260		PCU	P403334	
	SM 2320 B-2011	Total Alkalinity	66		mg CaCO3/L	P403437	
	SM 2540 C-2011	TDS	244		mg/L	P403572	
	SM 2540 D-2011	TSS	3	I	mg/L	P403568	
	SM 4500 F-C-2011	Fluoride	0.10		mg F/L	P403438	
2273205	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P403363	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P403509	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P403348	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P403425	
	SM 5310 B-2011	Organic Carbon	28		mg C/L	P403549	
2273206	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P403336	
2273219	EPA 8321B	2,4-D	0.047		ug/L	P403290	
		Acesulfame K	0.10	U	ug/L	P403327	
		2,4,5-T	0.0040	U	ug/L	P403290	
		AMPA	0.24	I	ug/L	P403327	
		Acetaminophen	0.0080	U	ug/L	P403290	
		Acetamiprid	0.0020	U	ug/L	P403290	
		Endothall	0.25	U	ug/L	P403327	
		Glufosinate	0.10	U	ug/L	P403327	
		Glyphosate	0.49		ug/L	P403327	
		Afidopyropen	0.0020	U	ug/L	P403290	
		Sucralose	0.20		ug/L	P403327	
		Bentazon	0.018		ug/L	P403290	MS
		Benzovindiflupyr	0.0020	U	ug/L	P403290	
		Carbamazepine	8.0E-04	U	ug/L	P403290	
		Clothianidin	0.011		ug/L	P403290	
		Dinotefuran	0.0081		ug/L	P403290	
		Diuron	0.0020	U	ug/L	P403290	
		Fenuron	0.016	U	ug/L	P403290	
		Fluridone	8.0E-04	U	ug/L	P403290	
		Imazapyr	0.16		ug/L	P403290	
		Hydrocodone	0.0020	U	ug/L	P403290	
		Ibuprofen	0.020	U	ug/L	P403290	
		Imidacloprid	0.010		ug/L	P403290	
		Linuron	0.0040	U	ug/L	P403290	
		Mandestrobin	0.0020	U	ug/L	P403290	
		MCP	0.0020	U	ug/L	P403290	
		Naproxen	0.0080	U	ug/L	P403290	
		Primidone	0.0040	U	ug/L	P403290	MS
		Pyraclostrobin	0.0020	U	ug/L	P403290	

Field ID: G1SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2273219	EPA 8321B	Thiamethoxam	0.016		ug/L	P403290	
		Tolfenpyrad	0.0020	U	ug/L	P403290	
		Triclopyr	0.0040	U	ug/L	P403290	
2273220	EPA 200.7 Rev. 4.4	Barium	20.4		ug/L	P403326	
		Calcium	30.1		mg/L	P403326	
		Iron	570		ug/L	P403326	
		Magnesium	6.84		mg/L	P403326	
		Manganese	22.6		ug/L	P403326	
		Potassium	10		mg/L	P403326	
		Sodium	31.4		mg/L	P403326	
		Zinc	5.9	I	ug/L	P403326	
	EPA 200.8 Rev. 5.4	Aluminum	191		ug/L	P403326	
		Antimony	0.060	I	ug/L	P403326	
		Arsenic	0.85		ug/L	P403326	
		Beryllium	0.029	I	ug/L	P403326	
		Boron**	41.7		ug/L	P403326	
		Cadmium	0.020	U	ug/L	P403326	
		Chromium	0.71	I	ug/L	P403326	
		Copper	0.96		ug/L	P403326	
		Lead	0.20	U	ug/L	P403326	
		Nickel	0.50	U	ug/L	P403326	
		Selenium	0.20	U	ug/L	P403326	
		Silver	0.010	U	ug/L	P403326	
		Thallium	0.10	U	ug/L	P403326	
	SM 2340B	Hardness	103		mg/L	P403326	
2273221	EPA 8270E	Acetochlor	0.24	U	ng/L	P403292	
		Alachlor	0.24	U	ng/L	P403292	
		Ametryn	1.9	I	ng/L	P403292	
		Atrazine	23		ng/L	P403292	
		Atrazine Desethyl	1.5	U	ng/L	P403292	
		Azinphos Methyl	1.9	U	ng/L	P403292	
		Azoxystrobin**	2.5		ng/L	P403292	
		Bromacil	0.49	U	ng/L	P403292	
		Butylate	0.39	U	ng/L	P403292	
		Caffeine**	7.3	U	ng/L	P403292	
		Carbophenothion	0.49	U	ng/L	P403292	
		Carfentrazone Ethyl**	0.097	U	ng/L	P403292	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P403292	
		Chlorpyrifos Methyl	0.049	U	ng/L	P403292	
		Cyanazine	3.2	U	ng/L	P403292	
		Demeton	1.5	U	ng/L	P403292	
		Diazinon	0.23	I	ng/L	P403292	
		Difenoconazole**	0.58	U	ng/L	P403292	
		Dimethenamid**	0.097	U	ng/L	P403292	
		Disulfoton	0.49	UJ	ng/L	P403292	LCS, MS

Field ID: G1SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2273221	EPA 8270E	Dithiopyr**	0.17	U	ng/L	P403292	
		EPTC	1.2	U	ng/L	P403292	
		Ethion	0.15	U	ng/L	P403292	
		Ethoprop	0.097	U	ng/L	P403292	
		Fenamiphos	0.49	U	ng/L	P403292	
		Fenbuconazole**	0.12	U	ng/L	P403292	
		Fipronil	0.24	U	ng/L	P403292	
		Fipronil Desulfinyl**	0.12	U	ng/L	P403292	
		Fipronil Sulfide	0.15	U	ng/L	P403292	
		Fipronil Sulfone	0.15	I	ng/L	P403292	
		Fluazifop-P-butyl**	0.097	U	ng/L	P403292	
		Fludioxonil**	0.12	U	ng/L	P403292	
		Flumioxazin**	1.7	U	ng/L	P403292	
		Flutolanil**	0.097	U	ng/L	P403292	
		Fluxapyroxad**	0.17	I	ng/L	P403292	
		Fonofos	0.19	U	ng/L	P403292	
		Hexazinone	1.6E+03		ng/L	P403292	
		Imazalil**	0.73	U	ng/L	P403292	
		Iprodione**	0.58	U	ng/L	P403292	
		Malathion	0.34	U	ng/L	P403292	
		Metalaxyl	0.89	I	ng/L	P403292	
		Metolachlor	2.1		ng/L	P403292	
		Metribuzin	3.2	U	ng/L	P403292	
		Mevinphos	1.0	U	ng/L	P403292	
		Molinate	0.29	U	ng/L	P403292	
		Myclobutanil**	0.24	U	ng/L	P403292	
		Naled**	1.5	U	ng/L	P403292	
		Norflurazon	4.0		ng/L	P403292	
		Oxadiazon	0.29	U	ng/L	P403292	
		Oxyfluorfen**	0.15	U	ng/L	P403292	
		Parathion Ethyl	0.24	U	ng/L	P403292	
		Parathion Methyl	0.53	U	ng/L	P403292	
		Pendimethalin	0.97	U	ng/L	P403292	
		Phorate	0.51	U	ng/L	P403292	
		Prodiamine**	0.17	U	ng/L	P403292	
		Prometon	0.87	U	ng/L	P403292	
		Prometryn	0.19	U	ng/L	P403292	
		Pronamide**	0.15	U	ng/L	P403292	
		Propiconazole**	0.49	U	ng/L	P403292	
		Pyriproxyfen**	0.12	U	ng/L	P403292	
		Simazine	0.49	U	ng/L	P403292	
		Sulfentrazone**	7.5		ng/L	P403292	
		Tebuconazole**	0.49	U	ng/L	P403292	
		Terbufos	0.097	U	ng/L	P403292	
		Terbutylazine	0.41	U	ng/L	P403292	

Field ID: G1SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
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 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: MS accuracy for Glyphosate could not be assessed due to a 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. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Lemkin Creek @ 78

Collection Date/Time: 09/01/2021 14:30

Field ID: G1SE0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2273207	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P403332	
	EPA 300.0 Rev. 2.1	Chloride	150		mg Cl/L	P403499	
		Sulfate	100		mg SO4/L	P403500	
	SM 2120 B-2011	Color (true)	52	A	PCU	P403334	
	SM 2320 B-2011	Total Alkalinity	141		mg CaCO3/L	P403437	
	SM 2540 C-2011	TDS	551		mg/L	P403572	
	SM 2540 D-2011	TSS	4	I	mg/L	P403568	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P403438	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P403363	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P403509	
2273208	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P403348	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P403425	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P403549	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.01	I	mg P/L	P403336	
	dissolved						

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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.

Sample Location: Lettuce Creek @ 710

Collection Date/Time: 09/01/2021 15:10

Field ID: G1SE0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2273215	EPA 200.7 Rev. 4.4	Barium	11.1		ug/L	P403326	
		Calcium	14.3		mg/L	P403326	
		Iron	950		ug/L	P403326	
		Magnesium	3.36		mg/L	P403326	
		Manganese	25.9		ug/L	P403326	
		Potassium	1.5		mg/L	P403326	
		Sodium	13.3		mg/L	P403326	
		Zinc	7.0	I	ug/L	P403326	
	EPA 200.8 Rev. 5.4	Aluminum	398		ug/L	P403326	
		Antimony	0.083	I	ug/L	P403326	
		Arsenic	0.95		ug/L	P403326	
		Beryllium	0.036	I	ug/L	P403326	
		Boron**	28.0		ug/L	P403326	
		Cadmium	0.020	U	ug/L	P403326	
		Chromium	0.76	I	ug/L	P403326	
		Copper	0.74	I	ug/L	P403326	
		Lead	0.35	I	ug/L	P403326	
		Nickel	0.51	I	ug/L	P403326	
		Selenium	0.20	U	ug/L	P403326	
		Silver	0.010	U	ug/L	P403326	
		Thallium	0.10	U	ug/L	P403326	
	SM 2340B	Hardness	49.5		mg/L	P403326	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403332

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403326

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: P403326

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: P403499

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403500

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403363

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: P403509

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403348

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403425

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403336

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

Reference Method: EPA 8270E
Batch ID: P403292

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: P403292

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: P403292

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: P403290

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: EPA 8321B

Batch ID: P403327

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: P403334

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P403437

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: P403572

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403568

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403438

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403549

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: P403326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	107		P	85 - 115
Manganese	103		P	85 - 115
Potassium	101		P	85 - 115
Sodium	99.4		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P403326

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.9		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	99.0		P	85 - 115
Beryllium	100		P	85 - 115
Boron	95.1		P	85 - 115
Cadmium	96.0		P	85 - 115
Chromium	101		P	85 - 115
Copper	101		P	85 - 115
Lead	103		P	85 - 115
Nickel	99.9		P	85 - 115
Selenium	99.4		P	85 - 115
Silver	110		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P403499

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P403500

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P403363

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P403509

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P403348

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P403425

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P403336

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

Reference Method: EPA 8270E

Batch ID: P403292

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	98.0	101	P/P	70 - 121
Alachlor	92.0	93.5	P/P	70 - 119
Ametryn	88.0	94.5	P/P	61 - 135
Atrazine	94.4	99.0	P/P	76 - 123
Atrazine Desethyl	89.7	104	P/P	35 - 140
Azinphos Methyl	128	129	P/P	57 - 163
Azoxystrobin	104	118	P/P	43 - 231
Bromacil	83.9	86.8	P/P	42 - 123
Butylate	37.6	40.8	P/P	34 - 92.0
Caffeine	74.3	70.8	P/P	70 - 130
Carbophenothion	96.3	102	P/P	61 - 121
Carfentrazone Ethyl	106	109	P/P	62 - 139
Chlorpyrifos Ethyl	89.9	93.0	P/P	67 - 121
Chlorpyrifos Methyl	91.6	95.7	P/P	67 - 120
Cyanazine	124	139	P/P	20 - 226
Demeton	105	107	P/P	35 - 125
Diazinon	94.8	102	P/P	70 - 122
Difenoconazole	123	122	P/P	56 - 186
Dimethenamid	77.2	76.7	P/P	67 - 119
Disulfoton	191	203	F/F	47 - 120
Dithiopyr	88.9	94.5	P/P	67 - 118
EPTC	42.0	48.5	P/P	33 - 90.0
Ethion	64.9	55.9	P/P	40 - 133
Ethoprop	81.2	84.2	P/P	61 - 121
Fenamiphos	93.4	91.7	P/P	31 - 139
Fenbuconazole	99.1	99.3	P/P	66 - 141
Fipronil	105	108	P/P	62 - 129
Fipronil Desulfinyl	99.9	105	P/P	59 - 126
Fipronil Sulfide	89.0	94.2	P/P	63 - 117
Fipronil Sulfone	74.6	77.5	P/P	57 - 117
Fluazifop-P-butyl	101	105	P/P	63 - 124
Fludioxonil	119	116	P/P	63 - 123
Flumioxazin	133	123	P/P	34 - 245
Flutolanil	97.3	100	P/P	56 - 131

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P403292

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	89.2	89.6	P/P	57 - 117
Fonofos	87.3	97.1	P/P	61 - 116
Hexazinone	96.0	95.7	P/P	55 - 138
Imazalil	91.4	87.5	P/P	33 - 143
Iprodione	96.3	97.3	P/P	59 - 118
Malathion	84.9	90.5	P/P	62 - 138
Metalaxyl	89.9	96.1	P/P	24 - 147
Metolachlor	90.9	88.6	P/P	68 - 118
Metribuzin	93.9	99.0	P/P	20 - 239
Mevinphos	81.6	93.4	P/P	46 - 124
Molinate	50.7	55.2	P/P	46 - 100
Myclobutanil	95.7	96.6	P/P	32 - 149
Naled	34.0	32.9	P/P	32 - 95.0
Norflurazon	88.1	92.7	P/P	57 - 127
Oxadiazon	83.9	87.9	P/P	63 - 118
Oxyfluorfen	90.5	85.6	P/P	69 - 137
Parathion Ethyl	83.6	93.1	P/P	70 - 113
Parathion Methyl	105	112	P/P	71 - 130
Pendimethalin	75.4	73.9	P/P	55 - 118
Phorate	68.1	65.6	P/P	46 - 125
Prodiamine	31.1	29.6	P/P	20 - 141
Prometon	83.4	81.8	P/P	54 - 122
Prometryn	94.5	99.4	P/P	66 - 124
Pronamide	98.1	101	P/P	79 - 122
Propiconazole	91.5	92.6	P/P	61 - 126
Pyriproxyfen	86.3	81.9	P/P	52 - 131
Simazine	91.5	97.6	P/P	75 - 128
Sulfentrazone	84.6	86.4	P/P	20 - 132
Tebuconazole	74.2	64.8	P/P	20 - 116
Terbufos	99.0	107	P/P	61 - 117
Terbutylazine	84.7	87.8	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P403290

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.6		P	40 - 150
2,4,5-T	86.4		P	40 - 150
Acetaminophen	78.0		P	30 - 150
Acetamiprid	80.5		P	40 - 150
Afidopyropen	74.5		P	40 - 150
Bentazon	98.4		P	30 - 150
Benzovindiflupyr	86.4		P	40 - 150
Carbamazepine	80.4		P	40 - 150
Clothianidin	86.3		P	40 - 150
Dinotefuran	80.5		P	40 - 150
Diuron	81.8		P	40 - 150
Fenuron	89.0		P	40 - 150
Fluridone	92.3		P	40 - 150
Hydrocodone	85.3		P	40 - 150
Ibuprofen	54.2		P	40 - 150
Imazapyr	86.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P403290

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	97.7		P	40 - 150
Linuron	86.3		P	40 - 150
Mandestrobin	86.4		P	40 - 150
MCPD	82.6		P	40 - 150
Naproxen	76.6		P	40 - 150
Primidone	99.3		P	40 - 150
Pyraclostrobin	72.0		P	40 - 150
Thiamethoxam	90.9		P	40 - 150
Tolfenpyrad	50.7		P	30 - 150
Triclopyr	91.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P403327

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	71.1		P	40 - 150
Endothall	125		P	40 - 150
Glufosinate	97.7		P	40 - 150
Glyphosate	101		P	40 - 150
Sucralose	89.1		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P403334

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P403437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P403438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P403549

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P403326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273156	Barium	104	102	P/P	80 - 120
2273156	Calcium	104		P	80 - 120
2273156	Iron	111	107	P/P	80 - 120
2273156	Magnesium	112	108	P/P	80 - 120
2273156	Manganese	105	101	P/P	80 - 120
2273156	Potassium	105	101	P/P	80 - 120
2273156	Sodium	107	105	P/P	80 - 120
2273156	Zinc	105	104	P/P	80 - 120
2273239	Barium	104		P	80 - 120
2273239	Calcium	107		P	80 - 120
2273239	Iron	109		P	80 - 120
2273239	Magnesium	109		P	80 - 120
2273239	Manganese	105		P	80 - 120
2273239	Potassium	101		P	80 - 120
2273239	Sodium	103		P	80 - 120
2273239	Zinc	113		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P403326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273156	Aluminum	100	97.1	P/P	80 - 120
2273156	Antimony	105	102	P/P	80 - 120
2273156	Arsenic	99.0	96.1	P/P	80 - 120
2273156	Beryllium	101	97.3	P/P	80 - 120
2273156	Boron	97.5	95.8	P/P	80 - 120
2273156	Cadmium	98.5	96.1	P/P	80 - 120
2273156	Chromium	104	99.8	P/P	80 - 120
2273156	Copper	100	95.6	P/P	80 - 120
2273156	Lead	104	101	P/P	80 - 120
2273156	Nickel	99.9	95.3	P/P	80 - 120
2273156	Selenium	98.1	95.6	P/P	80 - 120
2273156	Silver	108	108	P/P	80 - 120
2273156	Thallium	106	103	P/P	80 - 120
2273239	Aluminum	99.7		P	80 - 120
2273239	Antimony	106		P	80 - 120
2273239	Arsenic	100		P	80 - 120
2273239	Beryllium	97.3		P	80 - 120
2273239	Boron	99.6		P	80 - 120
2273239	Cadmium	98.0		P	80 - 120
2273239	Chromium	102		P	80 - 120
2273239	Copper	97.3		P	80 - 120
2273239	Lead	105		P	80 - 120
2273239	Nickel	97.5		P	80 - 120
2273239	Selenium	96.4		P	80 - 120
2273239	Silver	104		P	80 - 120
2273239	Thallium	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P403499

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: P403499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273152	Chloride	99.6		P	90 - 110
2273276	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273152	Sulfate	100		P	90 - 110
2273276	Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273230	Ammonia-N	98.2	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273153	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273225	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273163	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P403292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272767	Acetochlor	112	102	P/P	66 - 122
2272767	Alachlor	102	86.4	P/P	65 - 122
2272767	Atrazine Desethyl	101	71.3	P/P	25 - 150
2272767	Azinphos Methyl	115	115	P/P	44 - 174
2272767	Bromacil	100	89.7	P/P	31 - 145
2272767	Butylate	46.6	37.1	P/P	15 - 97.0
2272767	Caffeine	72.8	73.9	P/P	70 - 130
2272767	Carbophenothion	97.5	91.0	P/P	42 - 129
2272767	Carfentrazone Ethyl	110	90.2	P/P	62 - 145
2272767	Chlorpyrifos Ethyl	91.3	81.9	P/P	60 - 124
2272767	Chlorpyrifos Methyl	102	94.5	P/P	66 - 119
2272767	Cyanazine	152	117	P/P	17 - 225
2272767	Demeton	126	122	P/P	36 - 142
2272767	Diazinon	116	111	P/P	70 - 128

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P403292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272767	Difenoconazole	136	130	P/P	33 - 222
2272767	Dimethenamid	83.2	79.1	P/P	54 - 125
2272767	Disulfoton	242	228	F/F	49 - 133
2272767	Dithiopyr	98.2	92.1	P/P	55 - 123
2272767	EPTC	47.6	40.4	P/P	19 - 91.0
2272767	Ethion	69.4	63.5	P/P	13 - 143
2272767	Ethoprop	108	102	P/P	49 - 144
2272767	Fenamiphos	95.3	102	P/P	32 - 136
2272767	Fenbuconazole	107	90.4	P/P	73 - 148
2272767	Fipronil	110	103	P/P	57 - 129
2272767	Fipronil Desulfinyl	125	101	P/P	49 - 127
2272767	Fipronil Sulfide	96.8	94.9	P/P	44 - 127
2272767	Fipronil Sulfone	77.7	76.9	P/P	35 - 126
2272767	Fluazifop-P-butyl	115	101	P/P	67 - 129
2272767	Fludioxonil	119	118	P/P	61 - 126
2272767	Flumioxazin	160	161	P/P	38 - 279
2272767	Flutolanil	90.2	90.6	P/P	55 - 136
2272767	Fonofos	99.8	96.1	P/P	58 - 125
2272767	Imazalil	194	175	P/P	10 - 221
2272767	Iprodione	98.5	90.3	P/P	32 - 140
2272767	Malathion	86.7	86.1	P/P	52 - 138
2272767	Metribuzin	103	95.0	P/P	16 - 272
2272767	Mevinphos	116	112	P/P	45 - 140
2272767	Molinate	61.4	57.7	P/P	41 - 103
2272767	Myclobutanil	102	97.2	P/P	60 - 134
2272767	Naled	35.5	30.4	P/P	20 - 113
2272767	Norflurazon	86.9	81.7	P/P	51 - 123
2272767	Oxadiazon	84.3	77.9	P/P	44 - 125
2272767	Oxyfluorfen	123	108	P/P	66 - 176
2272767	Parathion Ethyl	93.4	88.1	P/P	57 - 132
2272767	Parathion Methyl	126	115	P/P	59 - 156
2272767	Pendimethalin	87.6	87.8	P/P	59 - 129
2272767	Phorate	88.5	83.5	P/P	47 - 136
2272767	Prodiamine	51.0	53.5	P/P	10 - 159
2272767	Prometon	99.1	90.2	P/P	59 - 127
2272767	Prometryn	101	83.3	P/P	59 - 129
2272767	Pronamide	93.3	87.1	P/P	65 - 145
2272767	Pyriproxyfen	79.1	69.8	P/P	21 - 180
2272767	Simazine	106	105	P/P	63 - 147
2272767	Sulfentrazone	90.7	88.4	P/P	32 - 136
2272767	Tebuconazole	71.0	69.6	P/P	10 - 117
2272767	Terbufos	127	119	P/P	61 - 131
2272767	Terbutylazine	96.6	90.8	P/P	62 - 126

Reference Method: EPA 8321B
 Batch ID: P403290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273120	2,4,5-T	119	118	P/P	40 - 150
2273120	Acetaminophen	70.0	64.7	P/P	30 - 150
2273120	Acetamiprid	74.3	69.4	P/P	40 - 150
2273120	Afidopyropen	92.4	79.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P403290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273120	Bentazon	227	206	F/F	30 - 150
2273120	Benzovindiflupyr	87.3	92.3	P/P	40 - 150
2273120	Carbamazepine	75.6	71.7	P/P	40 - 150
2273120	Clothianidin	46.4	43.7	P/P	40 - 150
2273120	Dinotefuran	74.6	75.9	P/P	40 - 150
2273120	Diuron	83.2	74.1	P/P	40 - 150
2273120	Fenuron	94.6	89.3	P/P	40 - 150
2273120	Fluridone	91.1	89.2	P/P	40 - 150
2273120	Hydrocodone	106	112	P/P	40 - 150
2273120	Ibuprofen	75.3	64.4	P/P	40 - 150
2273120	Imazapyr	106	111	P/P	40 - 150
2273120	Imidacloprid	88.2	82.7	P/P	40 - 150
2273120	Linuron	85.1	91.6	P/P	40 - 150
2273120	Mandestrobin	98.4	98.5	P/P	40 - 150
2273120	MCPP	123	114	P/P	40 - 150
2273120	Naproxen	93.1	71.6	P/P	40 - 150
2273120	Primidone	25.0	23.9	F/F	40 - 150
2273120	Pyraclostrobin	90.2	91.2	P/P	40 - 150
2273120	Thiamethoxam	75.0	79.4	P/P	40 - 150
2273120	Tolfenpyrad	48.7	52.4	P/P	30 - 150
2273120	Triclopyr	110	113	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P403327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273120	Acesulfame K	148	148	P/P	40 - 150
2273120	AMPA	101	99.9	P/P	40 - 150
2273120	Endothall	113	109	P/P	40 - 150
2273120	Glufosinate	108	109	P/P	40 - 150
2273120	Sucralose	90.1	92.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P403438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273302	Fluoride	97.6	100	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P403549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2273256	Organic Carbon	95.6	95.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P403332

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273152	Turbidity	10.5	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P403326

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273156	Barium	1.82	Spike	P	0 - 20
2273156	Calcium	3.89	Spike	P	0 - 20
2273156	Iron	3.32	Spike	P	0 - 20
2273156	Magnesium	3.21	Spike	P	0 - 20
2273156	Manganese	2.70	Spike	P	0 - 20
2273156	Potassium	3.50	Spike	P	0 - 20
2273156	Sodium	1.29	Spike	P	0 - 20
2273156	Zinc	1.14	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P403326

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273156	Aluminum	3.02	Spike	P	0 - 20
2273156	Antimony	2.82	Spike	P	0 - 20
2273156	Arsenic	2.95	Spike	P	0 - 20
2273156	Beryllium	3.35	Spike	P	0 - 20
2273156	Boron	1.69	Spike	P	0 - 20
2273156	Cadmium	2.45	Spike	P	0 - 20
2273156	Chromium	4.05	Spike	P	0 - 20
2273156	Copper	4.65	Spike	P	0 - 20
2273156	Lead	3.08	Spike	P	0 - 20
2273156	Nickel	4.69	Spike	P	0 - 20
2273156	Selenium	2.56	Spike	P	0 - 20
2273156	Silver	0.248	Spike	P	0 - 20
2273156	Thallium	2.60	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P403499

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273152	Chloride	0.969	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P403363

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273230	Ammonia-N	0.540	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P403509

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273208	Kjeldahl Nitrogen	2.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P403348

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273153	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P403425

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273225	Total-P	0.397	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P403336

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273163	O-Phosphate-P	0.295	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P403292

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272767	Acetochlor	8.61	Spike	P	0 - 30
2272767	Alachlor	16.1	Spike	P	0 - 30
2272767	Ametryn	0.271	Spike	P	0 - 30
2272767	Atrazine	8.90	Spike	P	0 - 30
2272767	Atrazine Desethyl	19.4	Spike	P	0 - 30
2272767	Azinphos Methyl	0.161	Spike	P	0 - 30
2272767	Azoxystrobin	6.81	Spike	P	0 - 30
2272767	Bromacil	11.3	Spike	P	0 - 30
2272767	Butylate	22.9	Spike	P	0 - 30
2272767	Caffeine	1.54	Spike	P	0 - 30
2272767	Carbophenothion	6.92	Spike	P	0 - 30
2272767	Carfentrazone Ethyl	19.4	Spike	P	0 - 30
2272767	Chlorpyrifos Ethyl	9.99	Spike	P	0 - 30
2272767	Chlorpyrifos Methyl	7.47	Spike	P	0 - 30
2272767	Cyanazine	26.2	Spike	P	0 - 30
2272767	Demeton	3.49	Spike	P	0 - 30
2272767	Diazinon	4.43	Spike	P	0 - 30
2272767	Difenoconazole	4.27	Spike	P	0 - 30
2272767	Dimethenamid	5.05	Spike	P	0 - 30
2272767	Disulfoton	6.07	Spike	P	0 - 30
2272767	Dithiopyr	6.33	Spike	P	0 - 30
2272767	EPTC	16.5	Spike	P	0 - 30
2272767	Ethion	8.86	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P403292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272767	Ethoprop	5.71	Spike	P	0 - 30
2272767	Fenamiphos	6.57	Spike	P	0 - 30
2272767	Fenbuconazole	16.9	Spike	P	0 - 30
2272767	Fipronil	6.26	Spike	P	0 - 30
2272767	Fipronil Desulfinyl	22.0	Spike	P	0 - 30
2272767	Fipronil Sulfide	1.94	Spike	P	0 - 30
2272767	Fipronil Sulfone	0.970	Spike	P	0 - 30
2272767	Fluazifop-P-butyl	13.3	Spike	P	0 - 30
2272767	Fludioxonil	0.635	Spike	P	0 - 30
2272767	Flumioxazin	0.713	Spike	P	0 - 30
2272767	Flutolanil	0.423	Spike	P	0 - 30
2272767	Fluxapyroxad	5.84	Spike	P	0 - 30
2272767	Fonofos	3.78	Spike	P	0 - 30
2272767	Hexazinone	4.83	Spike	P	0 - 30
2272767	Imazalil	10.7	Spike	P	0 - 30
2272767	Iprodione	8.69	Spike	P	0 - 30
2272767	Malathion	0.691	Spike	P	0 - 30
2272767	Metalaxyl	2.43	Spike	P	0 - 30
2272767	Metolachlor	6.42	Spike	P	0 - 30
2272767	Metribuzin	4.77	Spike	P	0 - 30
2272767	Mevinphos	3.62	Spike	P	0 - 30
2272767	Molinate	6.26	Spike	P	0 - 30
2272767	Myclobutanil	5.16	Spike	P	0 - 30
2272767	Naled	15.6	Spike	P	0 - 30
2272767	Norflurazon	6.16	Spike	P	0 - 30
2272767	Oxadiazon	6.88	Spike	P	0 - 30
2272767	Oxyfluorfen	13.1	Spike	P	0 - 30
2272767	Parathion Ethyl	5.81	Spike	P	0 - 30
2272767	Parathion Methyl	9.06	Spike	P	0 - 30
2272767	Pendimethalin	0.216	Spike	P	0 - 30
2272767	Phorate	5.87	Spike	P	0 - 30
2272767	Prodiamine	4.84	Spike	P	0 - 30
2272767	Prometon	9.43	Spike	P	0 - 30
2272767	Prometryn	14.5	Spike	P	0 - 30
2272767	Pronamide	6.91	Spike	P	0 - 30
2272767	Propiconazole	3.05	Spike	P	0 - 30
2272767	Pyriproxyfen	12.5	Spike	P	0 - 30
2272767	Simazine	1.43	Spike	P	0 - 30
2272767	Sulfentrazone	2.33	Spike	P	0 - 30
2272767	Tebuconazole	1.86	Spike	P	0 - 30
2272767	Terbufos	6.95	Spike	P	0 - 30
2272767	Terbutylazine	6.17	Spike	P	0 - 30
LFB	Acetochlor	3.05	LCS	P	0 - 30
LFB	Alachlor	1.71	LCS	P	0 - 30
LFB	Ametryn	7.15	LCS	P	0 - 30
LFB	Atrazine	4.78	LCS	P	0 - 30
LFB	Atrazine Desethyl	14.5	LCS	P	0 - 30
LFB	Azinphos Methyl	0.455	LCS	P	0 - 30
LFB	Azoxystrobin	12.2	LCS	P	0 - 30
LFB	Bromacil	3.39	LCS	P	0 - 30
LFB	Butylate	8.12	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P403292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Caffeine	4.81	LCS	P	0 - 30
LFB	Carbophenothion	5.82	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	3.08	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.34	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	4.44	LCS	P	0 - 30
LFB	Cyanazine	11.5	LCS	P	0 - 30
LFB	Demeton	2.43	LCS	P	0 - 30
LFB	Diazinon	6.86	LCS	P	0 - 30
LFB	Difenoconazole	0.292	LCS	P	0 - 30
LFB	Dimethenamid	0.614	LCS	P	0 - 30
LFB	Disulfoton	6.30	LCS	P	0 - 30
LFB	Dithiopyr	6.02	LCS	P	0 - 30
LFB	EPTC	14.3	LCS	P	0 - 30
LFB	Ethion	14.9	LCS	P	0 - 30
LFB	Ethoprop	3.62	LCS	P	0 - 30
LFB	Fenamiphos	1.83	LCS	P	0 - 30
LFB	Fenbuconazole	0.260	LCS	P	0 - 30
LFB	Fipronil	2.48	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	5.05	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.63	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.82	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	3.76	LCS	P	0 - 30
LFB	Fludioxonil	2.35	LCS	P	0 - 30
LFB	Flumioxazin	8.19	LCS	P	0 - 30
LFB	Flutolanil	3.19	LCS	P	0 - 30
LFB	Fluxapyroxad	0.418	LCS	P	0 - 30
LFB	Fonofos	10.7	LCS	P	0 - 30
LFB	Hexazinone	0.315	LCS	P	0 - 30
LFB	Imazalil	4.37	LCS	P	0 - 30
LFB	Iprodione	1.06	LCS	P	0 - 30
LFB	Malathion	6.37	LCS	P	0 - 30
LFB	Metalaxyl	6.63	LCS	P	0 - 30
LFB	Metolachlor	2.49	LCS	P	0 - 30
LFB	Metribuzin	5.26	LCS	P	0 - 30
LFB	Mevinphos	13.5	LCS	P	0 - 30
LFB	Molinate	8.58	LCS	P	0 - 30
LFB	Myclobutanil	0.921	LCS	P	0 - 30
LFB	Naled	3.06	LCS	P	0 - 30
LFB	Norflurazon	5.10	LCS	P	0 - 30
LFB	Oxadiazon	4.64	LCS	P	0 - 30
LFB	Oxyfluorfen	5.58	LCS	P	0 - 30
LFB	Parathion Ethyl	10.8	LCS	P	0 - 30
LFB	Parathion Methyl	6.92	LCS	P	0 - 30
LFB	Pendimethalin	1.96	LCS	P	0 - 30
LFB	Phorate	3.80	LCS	P	0 - 30
LFB	Prodiamine	5.12	LCS	P	0 - 30
LFB	Prometon	1.89	LCS	P	0 - 30
LFB	Prometryn	5.09	LCS	P	0 - 30
LFB	Pronamide	3.11	LCS	P	0 - 30
LFB	Propiconazole	1.15	LCS	P	0 - 30
LFB	Pyriproxyfen	5.18	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P403292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Simazine	6.41	LCS	P	0 - 30
LFB	Sulfentrazone	2.07	LCS	P	0 - 30
LFB	Tebuconazole	13.6	LCS	P	0 - 30
LFB	Terbufos	7.39	LCS	P	0 - 30
LFB	Terbutylazine	3.60	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P403290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273120	2,4-D	5.50	Spike	P	0 - 30
2273120	2,4,5-T	1.19	Spike	P	0 - 30
2273120	Acetaminophen	7.77	Spike	P	0 - 30
2273120	Acetamiprid	6.83	Spike	P	0 - 30
2273120	Afidopyropen	15.1	Spike	P	0 - 30
2273120	Bentazon	8.88	Spike	P	0 - 30
2273120	Benzovindiflupyr	5.58	Spike	P	0 - 30
2273120	Carbamazepine	4.86	Spike	P	0 - 30
2273120	Clothianidin	5.99	Spike	P	0 - 30
2273120	Dinotefuran	0.784	Spike	P	0 - 30
2273120	Diuron	10.7	Spike	P	0 - 30
2273120	Fenuron	5.78	Spike	P	0 - 30
2273120	Fluridone	2.01	Spike	P	0 - 30
2273120	Hydrocodone	5.12	Spike	P	0 - 30
2273120	Ibuprofen	15.5	Spike	P	0 - 30
2273120	Imazapyr	3.01	Spike	P	0 - 30
2273120	Imidacloprid	6.44	Spike	P	0 - 30
2273120	Linuron	7.29	Spike	P	0 - 30
2273120	Mandestrobin	0.0138	Spike	P	0 - 30
2273120	MCP	8.03	Spike	P	0 - 30
2273120	Naproxen	26.1	Spike	P	0 - 30
2273120	Primidone	4.72	Spike	P	0 - 30
2273120	Pyraclostrobin	1.04	Spike	P	0 - 30
2273120	Thiamethoxam	4.80	Spike	P	0 - 30
2273120	Tolfenpyrad	7.34	Spike	P	0 - 30
2273120	Triclopyr	2.54	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P403327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273120	Acesulfame K	0.279	Spike	P	0 - 30
2273120	AMPA	0.431	Spike	P	0 - 30
2273120	Endothall	3.43	Spike	P	0 - 30
2273120	Glufosinate	1.17	Spike	P	0 - 30
2273120	Glyphosate	6.53	Spike	P	0 - 30
2273120	Sucralose	2.26	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P403334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273207	Color (true)	0.546	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P403437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273302	Total Alkalinity	1.28	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P403572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273023	TDS	5.53	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P403438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273302	Fluoride	1.90	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2273256	Organic Carbon	0.137	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2273219
Field Sample ID: G1SE0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	54.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.1	P	30 - 160
EPA 8321B	Diuron-d6	88.5	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	48.5	P	30 - 160
EPA 8321B	Primidone-d5	35.0	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Lab Sample ID: 2273221
Field Sample ID: G1SE0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	88.8	P	20 - 200
EPA 8270E	Simazine-d10	134	P	73 - 135
EPA 8270E	Terbufos-d10	130	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107623

Included Lab Sample IDs: 2273204, 2273207

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

Reference Method: SM 2120 B-2011

Run ID: A107624

Included Lab Sample IDs: 2273204, 2273207

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107625

Included Lab Sample IDs: 2273206, 2273209

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107639

Included Lab Sample IDs: 2273205, 2273208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107641

Included Lab Sample IDs: 2273205, 2273208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	98.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A107646

Included Lab Sample IDs: 2273219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	77.4		P	60 - 160
Glufosinate	98.3		P	60 - 160
Glyphosate	103		P	60 - 160

Reference Method: EPA 8321B

Run ID: A107647

Included Lab Sample IDs: 2273219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	101	P/P	60 - 160
Endothall	123	117	P/P	60 - 160
Sucralose	84.9	89.2	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A107661
Included Lab Sample IDs: 2273221

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	86.0		P	80 - 120
Atrazine	98.5		P	80 - 120
Atrazine Desethyl	104		P	80 - 120
Azinphos Methyl	100		P	80 - 120
Azoxystrobin	100		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	98.0		P	80 - 120
Caffeine	93.5		P	80 - 120
Carbophenothion	97.1		P	80 - 120
Carfentrazone Ethyl	99.7		P	80 - 120
Chlorpyrifos Ethyl	103		P	80 - 120
Chlorpyrifos Methyl	104		P	80 - 120
Cyanazine	110		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	101		P	80 - 120
Difenoconazole	97.3		P	80 - 120
Dimethenamid	104		P	80 - 120
Disulfoton	99.8		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	104		P	80 - 120
Ethion	94.8		P	80 - 120
Ethoprop	97.6		P	80 - 120
Fenamiphos	99.9		P	80 - 120
Fenbuconazole	98.5		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	107		P	80 - 120
Fipronil Sulfide	96.2		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fluazifop-P-butyl	96.6		P	80 - 120
Fludioxonil	95.7		P	80 - 120
Flumioxazin	97.6		P	80 - 120
Flutolanil	105		P	80 - 120
Fluxapyroxad	106		P	80 - 120
Fonofos	99.8		P	80 - 120
Imazalil	101		P	80 - 120
Iprodione	97.2		P	80 - 120
Malathion	95.4		P	80 - 120
Metaxyl	106		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	107		P	80 - 120
Mevinphos	108		P	80 - 120
Molinate	106		P	80 - 120
Myclobutanil	104		P	80 - 120
Naled	104		P	80 - 120
Norflurazon	98.8		P	80 - 120
Oxadiazon	105		P	80 - 120
Oxyfluorfen	96.2		P	80 - 120
Parathion Ethyl	99.4		P	80 - 120
Parathion Methyl	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A107661
Included Lab Sample IDs: 2273221

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pendimethalin	96.6		P	80 - 120
Phorate	102		P	80 - 120
Prodiamine	99.5		P	80 - 120
Prometon	98.4		P	80 - 120
Prometryn	102		P	80 - 120
Pronamide	100		P	80 - 120
Propiconazole	99.2		P	80 - 120
Pyriproxyfen	98.8		P	80 - 120
Simazine	107		P	80 - 120
Sulfentrazone	98.6		P	80 - 120
Tebuconazole	104		P	80 - 120
Terbufos	101		P	80 - 120
Terbuthylazine	103		P	80 - 120

Reference Method: EPA 8270E
Run ID: A107662
Included Lab Sample IDs: 2273221

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hexazinone	107		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A107666
Included Lab Sample IDs: 2273215, 2273220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.0	98.4	P/P	90 - 110
Antimony	100	102	P/P	90 - 110
Arsenic	95.1	95.4	P/P	90 - 110
Beryllium	94.0	90.8	P/P	90 - 110
Boron	99.4	98.8	P/P	90 - 110
Cadmium	95.6	97.6	P/P	90 - 110
Chromium	97.4	100	P/P	90 - 110
Copper	92.5	91.9	P/P	90 - 110
Lead	97.8	98.6	P/P	90 - 110
Nickel	92.2	93.0	P/P	90 - 110
Selenium	94.1	96.2	P/P	90 - 110
Thallium	102	100	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A107667
Included Lab Sample IDs: 2273219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	122	P/P	50 - 150
2,4,5-T	90.7	96.7	P/P	50 - 150
Acetaminophen	106	103	P/P	60 - 160
Acetamiprid	112	102	P/P	50 - 150
Afidopyropen	118	90.6	P/P	50 - 150
Bentazon	85.2	106	P/P	50 - 160
Benzovindiflupyr	108	96.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A107667
Included Lab Sample IDs: 2273219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	105	95.6	P/P	60 - 150
Clothianidin	108	106	P/P	60 - 150
Dinotefuran	101	106	P/P	50 - 150
Diuron	98.7	98.5	P/P	60 - 160
Fenuron	102	104	P/P	60 - 150
Fluridone	108	96.4	P/P	60 - 160
Hydrocodone	105	89.8	P/P	60 - 150
Ibuprofen	129	84.2	P/P	50 - 160
Imazapyr	104	101	P/P	50 - 150
Imidacloprid	109	118	P/P	60 - 150
Linuron	109	98.1	P/P	60 - 150
Mandestrobin	111	101	P/P	50 - 150
MCPP	107	91.7	P/P	50 - 150
Naproxen	119	108	P/P	50 - 160
Primidone	115	123	P/P	60 - 150
Pyraclostrobin	119	110	P/P	60 - 150
Thiamethoxam	101	97.9	P/P	50 - 150
Tolfenpyrad	117	109	P/P	60 - 150
Triclopyr	102	89.6	P/P	50 - 150

Reference Method: SM 2320 B-2011
Run ID: A107669
Included Lab Sample IDs: 2273204, 2273207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	104	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A107669
Included Lab Sample IDs: 2273204, 2273207

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A107673
Included Lab Sample IDs: 2273205, 2273208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.1	97.6	P/P	90 - 110
Total-P	97.6	96.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A107686
Included Lab Sample IDs: 2273215, 2273220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	93.7	94.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107687

Included Lab Sample IDs: 2273215, 2273220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	96.4	99.0	P/P	90 - 110
Barium	99.0	101	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Calcium	102	103	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Manganese	103	104	P/P	90 - 110
Manganese	104	106	P/P	90 - 110
Potassium	97.9	98.5	P/P	90 - 110
Potassium	99.0	97.9	P/P	90 - 110
Sodium	101	99.2	P/P	90 - 110
Sodium	99.2	100	P/P	90 - 110
Zinc	106	109	P/P	90 - 110
Zinc	99.8	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107690

Included Lab Sample IDs: 2273204, 2273207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	99.6	99.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107704

Included Lab Sample IDs: 2273205, 2273208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107739

Included Lab Sample IDs: 2273205, 2273208

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	104	P/P	90 - 110

* 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							10.5	
EPA 200.7 Rev. 4.4	Barium	101		104	104	102			1.82
	Calcium	102		104	107				3.89
	Iron	106		111	107	109			3.32
	Magnesium	107		112	108	109			3.21
	Manganese	103		105	101	105			2.70
	Potassium	101		105	101	101			3.50
	Sodium	99.4		107	105	103			1.29
	Zinc	100		105	104	113			1.14
EPA 200.8 Rev. 5.4	Aluminum	97.9		100	97.1	99.7			3.02
	Antimony	103		105	102	106			2.82
	Arsenic	99.0		99.0	96.1	100			2.95
	Beryllium	100		101	97.3	97.3			3.35
	Boron	95.1		97.5	95.8	99.6			1.69
	Cadmium	96.0		98.5	96.1	98.0			2.45
	Chromium	101		104	99.8	102			4.05
	Copper	101		100	95.6	97.3			4.65
	Lead	103		104	101	105			3.08
	Nickel	99.9		99.9	95.3	97.5			4.69
	Selenium	99.4		98.1	95.6	96.4			2.56
	Silver	110		108	108	104			0.248
	Thallium	103		106	103	107			2.60
EPA 300.0 Rev. 2.1	Chloride	100		99.6	99.5			0.969	
	Sulfate	100		100	99.9				
EPA 350.1 Rev. 2.0	Ammonia-N	100		98.2	97.4				0.540
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105							2.92
EPA 353.2 Rev. 2.0	NO2NO3-N	102		102	102				0.0
EPA 365.1 Rev. 2.0	Total-P	108		102	102				0.397
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		101	102				0.295
EPA 8270E	Acetochlor	101	98.0	112	102		3.05		8.61
	Alachlor	93.5	92.0	102	86.4		1.71		16.1
	Ametryn	94.5	88.0				7.15		0.271
	Atrazine	99.0	94.4				4.78		8.90
	Atrazine Desethyl	104	89.7	101	71.3		14.5		19.4
	Azinphos Methyl	129	128	115	115		0.455		0.161
	Azoxystrobin	118	104				12.2		6.81
	Bromacil	86.8	83.9	100	89.7		3.39		11.3
	Butylate	40.8	37.6	46.6	37.1		8.12		22.9
	Caffeine	70.8	74.3	72.8	73.9		4.81		1.54
	Carbophenothion	96.3	102	97.5	91.0		5.82		6.92
	Carfentrazone Ethyl	106	109	110	90.2		3.08		19.4
	Chlorpyrifos Ethyl	89.9	93.0	91.3	81.9		3.34		9.99
	Chlorpyrifos Methyl	91.6	95.7	102	94.5		4.44		7.47
	Cyanazine	124	139	152	117		11.5		26.2
	Demeton	105	107	126	122		2.43		3.49
	Diazinon	94.8	102	116	111		6.86		4.43
	Difenoconazole	123	122	136	130		0.292		4.27
	Dimethenamid	77.2	76.7	83.2	79.1		0.614		5.05
	Disulfoton	191	203	242	228		6.30		6.07
	Dithiopyr	88.9	94.5	98.2	92.1		6.02		6.33
	EPTC	42.0	48.5	47.6	40.4		14.3		16.5
	Ethion	64.9	55.9	69.4	63.5		14.9		8.86
	Ethoprop	81.2	84.2	108	102		3.62		5.71
	Fenamiphos	93.4	91.7	95.3	102		1.83		6.57

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Fenbuconazole	99.1	99.3	107	90.4	0.260		16.9
	Fipronil	105	108	110	103	2.48		6.26
	Fipronil Desulfinyl	99.9	105	125	101	5.05		22.0
	Fipronil Sulfide	89.0	94.2	96.8	94.9	5.63		1.94
	Fipronil Sulfone	74.6	77.5	77.7	76.9	3.82		0.970
	Fluazifop-P-butyl	101	105	115	101	3.76		13.3
	Fludioxonil	119	116	119	118	2.35		0.635
	Flumioxazin	133	123	160	161	8.19		0.713
	Flutolanil	97.3	100	90.2	90.6	3.19		0.423
	Fluxapyroxad	89.2	89.6			0.418		5.84
	Fonofos	87.3	97.1	99.8	96.1	10.7		3.78
	Hexazinone	96.0	95.7			0.315		4.83
	Imazalil	91.4	87.5	194	175	4.37		10.7
	Iprodione	96.3	97.3	98.5	90.3	1.06		8.69
	Malathion	84.9	90.5	86.7	86.1	6.37		0.691
	Metalaxyl	89.9	96.1			6.63		2.43
	Metolachlor	90.9	88.6			2.49		6.42
	Metribuzin	93.9	99.0	103	95.0	5.26		4.77
	Mevinphos	81.6	93.4	116	112	13.5		3.62
	Molinate	50.7	55.2	61.4	57.7	8.58		6.26
	Myclobutanil	95.7	96.6	102	97.2	0.921		5.16
	Naled	34.0	32.9	35.5	30.4	3.06		15.6
	Norflurazon	88.1	92.7	86.9	81.7	5.10		6.16
	Oxadiazon	83.9	87.9	84.3	77.9	4.64		6.88
	Oxyfluorfen	90.5	85.6	123	108	5.58		13.1
	Parathion Ethyl	83.6	93.1	93.4	88.1	10.8		5.81
	Parathion Methyl	105	112	126	115	6.92		9.06
	Pendimethalin	75.4	73.9	87.6	87.8	1.96		0.216
	Phorate	68.1	65.6	88.5	83.5	3.80		5.87
	Prodiamine	31.1	29.6	51.0	53.5	5.12		4.84
	Prometon	83.4	81.8	99.1	90.2	1.89		9.43
	Prometryn	94.5	99.4	101	83.3	5.09		14.5
	Pronamide	98.1	101	93.3	87.1	3.11		6.91
	Propiconazole	91.5	92.6			1.15		3.05
	Pyriproxyfen	86.3	81.9	79.1	69.8	5.18		12.5
	Simazine	91.5	97.6	106	105	6.41		1.43
	Sulfentrazone	84.6	86.4	90.7	88.4	2.07		2.33
	Tebuconazole	74.2	64.8	71.0	69.6	13.6		1.86
	Terbufos	99.0	107	127	119	7.39		6.95
	Terbutylazine	84.7	87.8	96.6	90.8	3.60		6.17
EPA 8321B	2,4-D	90.6						5.50
	2,4,5-T	86.4		119	118			1.19
	Acesulfame K	105		148	148			0.279
	Acetaminophen	78.0		70.0	64.7			7.77
	Acetamiprid	80.5		74.3	69.4			6.83
	Afidopyropen	74.5		92.4	79.4			15.1
	AMPA	71.1		101	99.9			0.431
	Bentazon	98.4		227	206			8.88
	Benzovindiflupyr	86.4		87.3	92.3			5.58
	Carbamazepine	80.4		75.6	71.7			4.86
	Clothianidin	86.3		46.4	43.7			5.99
	Dinotefuran	80.5		74.6	75.9			0.784
	Diuron	81.8		83.2	74.1			10.7
	Endothall	125		113	109			3.43

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Fenuron	89.0	94.6	89.3		5.78
	Fluridone	92.3	91.1	89.2		2.01
	Glufosinate	97.7	108	109		1.17
	Glyphosate	101				6.53
	Hydrocodone	85.3	106	112		5.12
	Ibuprofen	54.2	75.3	64.4		15.5
	Imazapyr	86.5	106	111		3.01
	Imidacloprid	97.7	88.2	82.7		6.44
	Linuron	86.3	85.1	91.6		7.29
	Mandestrobin	86.4	98.4	98.5		0.0138
	MCPP	82.6	123	114		8.03
	Naproxen	76.6	93.1	71.6		26.1
	Primidone	99.3	25.0	23.9		4.72
	Pyraclostrobin	72.0	90.2	91.2		1.04
	Sucralose	89.1	90.1	92.2		2.26
	Thiamethoxam	90.9	75.0	79.4		4.80
	Tolfenpyrad	50.7	48.7	52.4		7.34
	Triclopyr	91.8	110	113		2.54
SM 2120 B-2011	Color (true)	99.8			0.546	
SM 2320 B-2011	Total Alkalinity	103			1.28	
SM 2540 C-2011	TDS				5.53	
SM 4500 F-C-2011	Fluoride	99.5	97.6	100		1.90
SM 5310 B-2011	Organic Carbon	94.8	95.6	95.4		0.137

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2273204, 2273207
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2273215, 2273220
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2273215, 2273220
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2273204, 2273207
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2273204, 2273207
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2273205, 2273208
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2273205, 2273208
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2273205, 2273208
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2273205, 2273208
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2273206, 2273209
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2273221
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2273219
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2273204, 2273207
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2273204, 2273207
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2273215, 2273220
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2273204, 2273207
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2273204, 2273207
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2273204, 2273207
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2273205, 2273208

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	09/02/2021			09/02/2021 13:29	Sarah A Nixon	2273204, 2273207
EPA 200.7 Rev. 4.4	09/02/2021	09/02/2021 15:05	Elliott D. Healy	09/08/2021 14:54	Josef B Mick	2273215
	09/02/2021	09/02/2021 15:05	Elliott D. Healy	09/08/2021 15:33	Josef B Mick	2273220
EPA 200.8 Rev. 5.4	09/02/2021	09/02/2021 15:05	Elliott D. Healy	09/03/2021 18:52	McKinley C Carter	2273215
	09/02/2021	09/02/2021 15:05	Elliott D. Healy	09/03/2021 19:01	McKinley C Carter	2273220
	09/02/2021	09/02/2021 15:05	Elliott D. Healy	09/08/2021 19:31	Alexander Thompson	2273215
	09/02/2021	09/02/2021 15:05	Elliott D. Healy	09/08/2021 19:37	Alexander Thompson	2273220
EPA 300.0 Rev. 2.1	09/02/2021			09/08/2021 15:19	Roberta Tatti	2273204
	09/02/2021			09/08/2021 15:31	Roberta Tatti	2273207
EPA 350.1 Rev. 2.0	09/02/2021			09/03/2021 13:16	Ping Hua	2273205
	09/02/2021			09/03/2021 13:18	Ping Hua	2273208
EPA 351.2 Rev. 2.0	09/02/2021	09/09/2021 12:30	Benjamin T. Nordmann	09/10/2021 11:13	Virginia P. Brown	2273205
	09/02/2021	09/09/2021 12:30	Benjamin T. Nordmann	09/10/2021 11:14	Virginia P. Brown	2273208
EPA 353.2 Rev. 2.0	09/02/2021			09/03/2021 09:15	Beverly Y. Sanders	2273205
	09/02/2021			09/03/2021 09:17	Beverly Y. Sanders	2273208
EPA 365.1 Rev. 2.0	09/02/2021	09/07/2021 15:50	Simonne.V. Calhoun	09/08/2021 10:24	Shengyu Ding	2273205
	09/02/2021	09/07/2021 15:50	Simonne.V. Calhoun	09/08/2021 10:27	Shengyu Ding	2273208
EPA 365.1 Rev. 2.0 dissolved	09/02/2021			09/02/2021 16:30	James L Waggeberby	2273206
	09/02/2021			09/02/2021 16:32	James L Waggeberby	2273209
EPA 8270E	09/02/2021	09/03/2021 08:00	Fe-Val Siddell	09/04/2021 19:11	Michael Poppell	2273221
	09/02/2021	09/03/2021 08:00	Fe-Val Siddell	09/05/2021 21:36	Michael Poppell	2273221
EPA 8321B	09/02/2021	09/03/2021 08:00	Mohammad Ghaffari	09/03/2021 10:46	Mohammad Ghaffari	2273219
	09/02/2021	09/03/2021 08:00	Mohammad Ghaffari	09/03/2021 12:51	Mohammad Ghaffari	2273219
	09/02/2021	09/03/2021 14:00	Hoor Shaik	09/08/2021 15:49	Juyoung Kim	2273219
SM 2120 B-2011	09/02/2021			09/02/2021 15:02	Sarah A Nixon	2273207
	09/02/2021			09/02/2021 15:17	Sarah A Nixon	2273204
SM 2320 B-2011	09/02/2021			09/07/2021 18:52	Sarah A Nixon	2273204
	09/02/2021			09/07/2021 19:07	Sarah A Nixon	2273207
SM 2340B	09/02/2021			09/08/2021 14:54	Josef B Mick	2273215
	09/02/2021			09/08/2021 15:33	Josef B Mick	2273220
SM 2540 C-2011	09/02/2021			09/03/2021 14:31	Yijie Li	2273204, 2273207
SM 2540 D-2011	09/02/2021			09/03/2021 14:31	Yijie Li	2273204, 2273207
SM 4500 F-C-2011	09/02/2021			09/07/2021 18:52	Sarah A Nixon	2273204
	09/02/2021			09/07/2021 19:07	Sarah A Nixon	2273207
SM 5310 B-2011	09/02/2021			09/09/2021 01:23	Madeline Gruver	2273205
	09/02/2021			09/09/2021 01:38	Madeline Gruver	2273208