

Chemical Analysis Report

CEN-DIST-2021-10-26-01

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

Event Description: **Unnamed Ditches**
Request ID: **RQ-2021-10-25-21**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Colin Wright, Program Administrator

Date Certified: 18-NOV-2021 08:52



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: Unnamed Ditches N of Coco Palm Dr

Collection Date/Time: 10/25/2021 13:00

Field ID: G5CE0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285913	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P405615	
	EPA 300.0 Rev. 2.1	Chloride	73		mg Cl/L	P406037	
		Sulfate	16		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	61	A	PCU	P405613	
	SM 2320 B-2011	Total Alkalinity	235		mg CaCO3/L	P405793	
	SM 2540 C-2011	TDS	404		mg/L	P406283	
	SM 2540 D-2011	TSS	2	U	mg/L	P406277	
2285914	SM 4500 F-C-2011	Fluoride	0.25		mg F/L	P405795	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P405858	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P406007	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P405710	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P405629	
2285915	SM 5310 B-2011	Organic Carbon	16		mg C/L	P405771	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P405624	
2285918	EPA 8321B	2,4-D	0.024		ug/L	P405462	
		Acesulfame K	0.18	I	ug/L	P405602	
		2,4,5-T	0.0040	U	ug/L	P405462	
		AMPA	0.10	U	ug/L	P405602	
		Acetaminophen	0.0080	U	ug/L	P405462	
		Acetamiprid	0.0020	U	ug/L	P405462	
		Endothall	0.25	U	ug/L	P405602	
		Glufosinate	0.10	U	ug/L	P405602	
		Glyphosate	0.21	I	ug/L	P405602	
		Afidopyropen	0.0020	U	ug/L	P405462	
		Bentazon	0.54		ug/L	P405462	
		Sucralose	1.7		ug/L	P405602	
		Benzovindiflupyr	0.0020	U	ug/L	P405462	
		Carbamazepine	0.0038		ug/L	P405462	
		Clothianidin	0.023		ug/L	P405462	
		Dinotefuran	0.0038	I	ug/L	P405462	
		Diuron	0.0049	I	ug/L	P405462	
		Fenuron	0.016	U	ug/L	P405462	
		Fluridone	0.0077		ug/L	P405462	
		Imazapyr	0.065		ug/L	P405462	
		Hydrocodone	0.0020	U	ug/L	P405462	
		Ibuprofen	0.020	U	ug/L	P405462	
		Imidacloprid	0.030		ug/L	P405462	MS
		Linuron	0.0040	U	ug/L	P405462	
		Mandestrobin	0.0020	U	ug/L	P405462	
		MCP	0.0068	I	ug/L	P405462	
		Naproxen	0.0080	U	ug/L	P405462	
		Primidone	0.011	I	ug/L	P405462	RPD
		Pyraclostrobin	0.0020	U	ug/L	P405462	

Field ID: G5CE0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285918	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P405462	MS
		Tolfenpyrad	0.0020	U	ug/L	P405462	
		Triclopyr	0.0040	U	ug/L	P405462	
2285919	EPA 200.7 Rev. 4.4	Barium	11.9		ug/L	P405731	
		Calcium	102		mg/L	P405731	
		Iron	88	I	ug/L	P405731	
		Magnesium	3.63		mg/L	P405731	
		Manganese	5.8		ug/L	P405731	
		Potassium	3.3		mg/L	P405731	
		Sodium	41.3		mg/L	P405731	
		Zinc	6.6	I	ug/L	P405731	
		Aluminum	34		ug/L	P405731	
	EPA 200.8 Rev. 5.4	Antimony	0.089	I	ug/L	P405731	
		Arsenic	0.85		ug/L	P405731	
		Boron**	70.7		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.91	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.20	U	ug/L	P405731	
		Nickel	0.67	I	ug/L	P405731	
		Selenium	0.28	I	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
		Hardness	270		mg/L	P405731	
	SM 2340B						
2285922	EPA 8270E	Acetochlor	0.26	U	ng/L	P405591	
		Alachlor	0.26	U	ng/L	P405591	
		Ametryn	1.8	I	ng/L	P405591	
		Atrazine	27		ng/L	P405591	
		Atrazine Desethyl	4.3	I	ng/L	P405591	
		Azinphos Methyl	2.1	UJ	ng/L	P405591	LCS
		Azoxystrobin**	0.52	U	ng/L	P405591	
		Bromacil	0.52	U	ng/L	P405591	
		Butylate	0.41	U	ng/L	P405591	
		Caffeine**	11	I	ng/L	P405591	
		Carbophenothion	0.52	U	ng/L	P405591	
		Carfentrazone Ethyl**	0.10	U	ng/L	P405591	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P405591	
		Chlorpyrifos Methyl	0.052	U	ng/L	P405591	
		Cyanazine	3.4	U	ng/L	P405591	
		Demeton	1.6	U	ng/L	P405591	MS
		Diazinon	0.13	U	ng/L	P405591	
		Difenoconazole**	0.62	U	ng/L	P405591	
		Dimethenamid**	0.10	U	ng/L	P405591	
		Disulfoton	0.52	U	ng/L	P405591	
		Dithiopyr**	0.18	U	ng/L	P405591	

Field ID: G5CE0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285922	EPA 8270E	EPTC	1.3	U	ng/L	P405591	
		Ethion	0.16	U	ng/L	P405591	
		Ethoprop	0.10	U	ng/L	P405591	
		Fenamiphos	0.52	U	ng/L	P405591	
		Fenbuconazole**	0.13	UJ	ng/L	P405591	LCS
		Fipronil	0.45	I	ng/L	P405591	
		Fipronil DesulfinyI**	0.26	I	ng/L	P405591	
		Fipronil Sulfide	1.6		ng/L	P405591	
		Fipronil Sulfone	2.8		ng/L	P405591	
		Fluazifop-P-butyl**	0.10	U	ng/L	P405591	
		Fludioxonil**	0.13	U	ng/L	P405591	
		Flumioxazin**	4.5	IJ	ng/L	P405591	LCS, MS
		Flutolanil**	0.10	U	ng/L	P405591	
		Fluxapyroxad**	0.10	U	ng/L	P405591	
		Fonofos	0.21	U	ng/L	P405591	
		Hexazinone	0.87	I	ng/L	P405591	
		Imazalil**	0.78	U	ng/L	P405591	MS
		Iprodione**	0.62	UJ	ng/L	P405591	LCS, MS
		Malathion	0.36	U	ng/L	P405591	
		Metalaxyl	0.78	U	ng/L	P405591	
		Metolachlor	0.36	U	ng/L	P405591	
		Metribuzin	3.4	U	ng/L	P405591	
		Mevinphos	1.1	U	ng/L	P405591	
		Molinate	0.31	U	ng/L	P405591	
		Myclobutanil**	0.26	U	ng/L	P405591	
		Naled**	1.6	U	ng/L	P405591	
		Norflurazon	0.52	U	ng/L	P405591	
		Oxadiazon	0.31	U	ng/L	P405591	
		Oxyfluorfen**	0.23	I	ng/L	P405591	
		Parathion Ethyl	0.26	U	ng/L	P405591	
		Parathion Methyl	0.57	U	ng/L	P405591	
		Pendimethalin	1.0	U	ng/L	P405591	
		Phorate	0.54	U	ng/L	P405591	
		Prodiamine**	0.18	UJ	ng/L	P405591	LCS, MS
		Prometon	0.93	U	ng/L	P405591	
		Prometryn	0.21	U	ng/L	P405591	
		Pronamide**	0.16	U	ng/L	P405591	
		Propiconazole**	0.52	U	ng/L	P405591	
		Pyriproxyfen**	0.13	UJ	ng/L	P405591	LCS
		Simazine	36		ng/L	P405591	
		Sulfentrazone**	24		ng/L	P405591	
		Tebuconazole**	0.52	U	ng/L	P405591	
		Terbufos	0.10	U	ng/L	P405591	
		Terbuthylazine	0.44	U	ng/L	P405591	

Field ID: G5CE0154

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 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. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405615

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405731

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: P405731

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405858

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: P406007

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P405710

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P405629

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P405624

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

Reference Method: EPA 8270E
 Batch ID: P405591

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: P405591

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: P405591

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: P405462

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	0.0040	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: P405602

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: P405613

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P405793

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: P406283

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P406277

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405795

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405771

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: P405731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	106		P	85 - 115
Iron	104		P	85 - 115
Magnesium	106		P	85 - 115
Manganese	101		P	85 - 115
Potassium	102		P	85 - 115
Sodium	104		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.8		P	80 - 120
Antimony	100		P	80 - 120
Arsenic	98.0		P	80 - 120
Boron	96.5		P	80 - 120
Cadmium	96.2		P	80 - 120
Chromium	94.7		P	80 - 120
Copper	96.9		P	80 - 120
Lead	96.9		P	80 - 120
Nickel	97.3		P	80 - 120
Selenium	97.5		P	80 - 120
Silver	98.4		P	80 - 120
Thallium	98.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405858

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406007

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P405710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P405629

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P405624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P405591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.2	87.9	P/P	70 - 121
Alachlor	115	117	P/P	70 - 119
Ametryn	119	103	P/P	61 - 135
Atrazine	99.5	103	P/P	76 - 123
Atrazine Desethyl	81.9	94.6	P/P	35 - 140
Azinphos Methyl	62.8	55.2	P/F	57 - 163
Azoxystrobin	94.8	108	P/P	43 - 231
Bromacil	122	119	P/P	42 - 123
Butylate	52.4	61.7	P/P	34 - 92.0
Caffeine	73.7	72.6	P/P	70 - 130
Carbophenothion	109	116	P/P	61 - 121
Carfentrazone Ethyl	136	133	P/P	62 - 139
Chlorpyrifos Ethyl	100	98.0	P/P	67 - 121
Chlorpyrifos Methyl	107	111	P/P	67 - 120
Cyanazine	174	156	P/P	20 - 226
Demeton	82.8	97.5	P/P	35 - 125
Diazinon	88.1	87.2	P/P	70 - 122
Difenoconazole	71.3	65.7	P/P	56 - 186
Dimethenamid	102	96.0	P/P	67 - 119
Disulfoton	96.8	109	P/P	47 - 120
Dithiopyr	109	102	P/P	67 - 118
EPTC	54.5	70.9	P/P	33 - 90.0
Ethion	99.9	105	P/P	40 - 133
Ethoprop	83.0	102	P/P	61 - 121
Fenamiphos	104	109	P/P	31 - 139
Fenbuconazole	141	148	F/F	66 - 141
Fipronil	79.9	82.3	P/P	62 - 129
Fipronil Desulfinyl	92.8	89.3	P/P	59 - 126
Fipronil Sulfide	94.4	108	P/P	63 - 117
Fipronil Sulfone	101	114	P/P	57 - 117
Fluazifop-P-butyl	124	114	P/P	63 - 124
Fludioxonil	81.7	83.8	P/P	63 - 123
Flumioxazin	322	355	F/F	34 - 245
Flutolanil	119	120	P/P	56 - 131

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P405591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	103	102	P/P	57 - 117
Fonofos	88.0	90.0	P/P	61 - 116
Hexazinone	101	101	P/P	55 - 138
Imazalil	114	121	P/P	33 - 143
Iprodione	146	160	F/F	59 - 118
Malathion	108	119	P/P	62 - 138
Metalaxyl	117	102	P/P	24 - 147
Metolachlor	112	113	P/P	68 - 118
Metribuzin	99.4	102	P/P	20 - 239
Mevinphos	81.0	99.3	P/P	46 - 124
Molinate	63.8	71.8	P/P	46 - 100
Myclobutanil	118	114	P/P	32 - 149
Naled	34.2	40.8	P/P	32 - 95.0
Norflurazon	118	113	P/P	57 - 127
Oxadiazon	103	103	P/P	63 - 118
Oxyfluorfen	133	124	P/P	69 - 137
Parathion Ethyl	105	107	P/P	70 - 113
Parathion Methyl	115	123	P/P	71 - 130
Pendimethalin	97.1	91.8	P/P	55 - 118
Phorate	72.8	97.3	P/P	46 - 125
Prodiamine	143	142	F/F	20 - 141
Prometon	87.4	95.7	P/P	54 - 122
Prometryn	123	116	P/P	66 - 124
Pronamide	112	108	P/P	79 - 122
Propiconazole	118	105	P/P	61 - 126
Pyriproxyfen	47.0	46.9	F/F	52 - 131
Simazine	106	99.6	P/P	75 - 128
Sulfentrazone	125	123	P/P	20 - 132
Tebuconazole	98.4	94.5	P/P	20 - 116
Terbufos	105	114	P/P	61 - 117
Terbutylazine	101	102	P/P	74 - 116

Reference Method: EPA 8321B

Batch ID: P405462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	128		P	40 - 150
2,4,5-T	123		P	40 - 150
Acetaminophen	89.6		P	30 - 150
Acetamiprid	100		P	40 - 150
Afidopyropen	81.4		P	40 - 150
Bentazon	98.3		P	30 - 150
Benzovindiflupyr	98.1		P	40 - 150
Carbamazepine	112		P	40 - 150
Clothianidin	94.7		P	40 - 150
Dinotefuran	93.3		P	40 - 150
Diuron	97.1		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	105		P	40 - 150
Hydrocodone	96.2		P	40 - 150
Ibuprofen	77.9		P	40 - 150
Imazapyr	106		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P405462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	108		P	40 - 150
Linuron	111		P	40 - 150
Mandestrobin	103		P	40 - 150
MCPP	124		P	40 - 150
Naproxen	70.6		P	40 - 150
Primidone	91.7		P	40 - 150
Pyraclostrobin	90.4		P	40 - 150
Thiamethoxam	108		P	40 - 150
Tolfenpyrad	58.9		P	30 - 150
Triclopyr	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	95.8		P	40 - 160
Endothall	82.9		P	40 - 150
Glufosinate	97.0		P	40 - 160
Glyphosate	95.6		P	40 - 160
Sucralose	94.8		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P405613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.5		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P405793

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405795

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P405771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285813	Barium	104		P	80 - 120
2285813	Calcium	106		P	80 - 120
2285813	Iron	106		P	80 - 120
2285813	Magnesium	109		P	80 - 120
2285813	Manganese	104		P	80 - 120
2285813	Potassium	108		P	80 - 120
2285813	Sodium	102		P	80 - 120
2285813	Zinc	105		P	80 - 120
2286487	Barium	104	103	P/P	80 - 120
2286487	Calcium	105	107	P/P	80 - 120
2286487	Iron	110	111	P/P	80 - 120
2286487	Magnesium	112	114	P/P	80 - 120
2286487	Manganese	109	108	P/P	80 - 120
2286487	Potassium	99.2	101	P/P	80 - 120
2286487	Sodium	102	102	P/P	80 - 120
2286487	Zinc	113	111	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285813	Aluminum	101		P	80 - 120
2285813	Antimony	102		P	80 - 120
2285813	Arsenic	97.8		P	80 - 120
2285813	Boron	101		P	80 - 120
2285813	Cadmium	97.2		P	80 - 120
2285813	Chromium	95.5		P	80 - 120
2285813	Copper	97.8		P	80 - 120
2285813	Lead	100		P	80 - 120
2285813	Nickel	96.2		P	80 - 120
2285813	Selenium	95.9		P	80 - 120
2285813	Silver	101		P	80 - 120
2285813	Thallium	102		P	80 - 120
2286487	Aluminum	100	102	P/P	80 - 120
2286487	Antimony	102	102	P/P	80 - 120
2286487	Arsenic	98.3	99.1	P/P	80 - 120
2286487	Boron	99.4	101	P/P	80 - 120
2286487	Cadmium	98.6	99.8	P/P	80 - 120
2286487	Chromium	96.1	95.7	P/P	80 - 120
2286487	Copper	98.3	98.8	P/P	80 - 120
2286487	Lead	98.7	98.7	P/P	80 - 120
2286487	Nickel	97.4	97.0	P/P	80 - 120
2286487	Selenium	97.6	97.6	P/P	80 - 120
2286487	Silver	99.0	99.1	P/P	80 - 120
2286487	Thallium	99.5	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285877	Chloride	98.9		P	90 - 110
2286184	Chloride	97.5		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285877	Sulfate	101		P	90 - 110
2286184	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285875	Ammonia-N	98.2	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285726	Kjeldahl Nitrogen	94.3	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285878	NO2NO3-N	97.5	94.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284341	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285973	O-Phosphate-P	97.4	98.2	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P405591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285134	Acetochlor	103	102	P/P	70 - 121
2285134	Alachlor	88.6	80.1	P/P	70 - 119
2285134	Ametryn	173	171	P/P	45 - 173
2285134	Atrazine Desethyl	87.9	86.6	P/P	35 - 140
2285134	Azinphos Methyl	135	102	P/P	57 - 163
2285134	Azoxystrobin	119	109	P/P	43 - 231
2285134	Bromacil	120	106	P/P	42 - 123
2285134	Butylate	48.8	48.7	P/P	34 - 92.0
2285134	Caffeine	79.1	74.9	P/P	70 - 130
2285134	Carbophenothion	95.0	103	P/P	61 - 121
2285134	Carfentrazone Ethyl	101	113	P/P	62 - 139
2285134	Chlorpyrifos Ethyl	82.8	93.6	P/P	67 - 121
2285134	Chlorpyrifos Methyl	99.3	115	P/P	67 - 120
2285134	Cyanazine	162	127	P/P	20 - 226
2285134	Demeton	170	185	F/F	35 - 125

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P405591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285134	Diazinon	106	107	P/P	70 - 128
2285134	Difenoconazole	71.7	73.5	P/P	33 - 222
2285134	Dimethenamid	87.8	83.6	P/P	67 - 119
2285134	Disulfoton	103	101	P/P	49 - 133
2285134	Dithiopyr	93.9	115	P/P	67 - 118
2285134	EPTC	46.0	47.6	P/P	33 - 90.0
2285134	Ethion	85.7	105	P/P	40 - 133
2285134	Ethoprop	93.0	104	P/P	61 - 121
2285134	Fenamiphos	74.8	69.0	P/P	31 - 139
2285134	Fenbuconazole	115	104	P/P	66 - 141
2285134	Fipronil Desulfinyl	95.1	97.3	P/P	49 - 127
2285134	Fluazifop-P-butyl	97.8	101	P/P	63 - 124
2285134	Fludioxonil	81.7	101	P/P	63 - 123
2285134	Flumioxazin	395	410	F/F	38 - 279
2285134	Flutolanil	97.2	93.0	P/P	56 - 131
2285134	Fluxapyroxad	81.7	74.0	P/P	33 - 140
2285134	Fonofos	104	100	P/P	61 - 116
2285134	Hexazinone	96.9	96.4	P/P	55 - 138
2285134	Imazalil	188	186	F/F	33 - 143
2285134	Iprodione	135	130	F/F	59 - 118
2285134	Malathion	98.2	99.2	P/P	62 - 138
2285134	Metalaxyl	101	111	P/P	24 - 147
2285134	Metolachlor	82.5	84.4	P/P	68 - 118
2285134	Metribuzin	126	121	P/P	20 - 239
2285134	Mevinphos	96.5	98.7	P/P	46 - 124
2285134	Molinate	61.1	69.5	P/P	46 - 100
2285134	Myclobutanil	97.6	95.9	P/P	32 - 149
2285134	Naled	31.2	32.0	P/P	20 - 113
2285134	Norflurazon	100	99.2	P/P	57 - 127
2285134	Oxadiazon	68.2	66.6	P/P	44 - 125
2285134	Oxyfluorfen	107	128	P/P	69 - 137
2285134	Parathion Ethyl	103	75.8	P/P	70 - 113
2285134	Parathion Methyl	127	125	P/P	59 - 156
2285134	Pendimethalin	97.0	99.6	P/P	59 - 129
2285134	Phorate	73.3	90.3	P/P	46 - 125
2285134	Prodiamine	160	161	F/F	10 - 159
2285134	Prometon	86.6	80.0	P/P	54 - 122
2285134	Prometryn	88.9	90.7	P/P	59 - 129
2285134	Pronamide	87.0	90.9	P/P	65 - 145
2285134	Propiconazole	88.0	86.4	P/P	61 - 126
2285134	Pyriproxyfen	43.1	39.9	P/P	21 - 180
2285134	Simazine	106	89.0	P/P	75 - 128
2285134	Terbufos	129	128	P/P	61 - 131
2285134	Terbutylazine	107	91.8	P/P	74 - 116

Reference Method: EPA 8321B

Batch ID: P405462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285006	2,4-D	129	129	P/P	40 - 150
2285006	2,4,5-T	127	138	P/P	40 - 150
2285006	Acetaminophen	102	114	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P405462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285006	Acetamiprid	104	107	P/P	40 - 150
2285006	Afidopyropen	86.0	96.9	P/P	40 - 150
2285006	Benzovindiflupyr	79.5	79.3	P/P	40 - 150
2285006	Carbamazepine	97.6	110	P/P	40 - 150
2285006	Clothianidin	108	108	P/P	40 - 150
2285006	Dinotefuran	119	125	P/P	40 - 150
2285006	Diuron	66.9	68.6	P/P	40 - 150
2285006	Fenuron	87.0	95.3	P/P	40 - 150
2285006	Fluridone	72.8	89.3	P/P	40 - 150
2285006	Hydrocodone	100	107	P/P	40 - 150
2285006	Ibuprofen	77.3	68.1	P/P	40 - 150
2285006	Imidacloprid	194	211	F/F	40 - 150
2285006	Linuron	87.7	94.4	P/P	40 - 150
2285006	Mandestrobin	82.7	85.3	P/P	40 - 150
2285006	MCPP	128	135	P/P	40 - 150
2285006	Naproxen	84.2	83.7	P/P	40 - 150
2285006	Primidone	66.9	122	P/P	40 - 150
2285006	Pyraclostrobin	74.6	79.8	P/P	40 - 150
2285006	Thiamethoxam	157	170	F/F	40 - 150
2285006	Tolfenpyrad	52.3	56.2	P/P	30 - 150
2285006	Triclopyr	112	126	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285918	Acesulfame K	150	142	P/P	40 - 150
2285918	AMPA	61.8	60.3	P/P	40 - 160
2285918	Endothall	96.3	89.5	P/P	40 - 150
2285918	Glufosinate	64.7	65.4	P/P	40 - 160
2285918	Glyphosate	106	107	P/P	40 - 160
2285918	Sucralose	94.5	96.6	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P405795

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285786	Fluoride	100	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285750	Organic Carbon	102		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405615

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285877	Turbidity	6.63	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405731

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286487	Barium	0.960	Spike	P	0 - 20
2286487	Calcium	1.42	Spike	P	0 - 20
2286487	Iron	1.58	Spike	P	0 - 20
2286487	Magnesium	1.50	Spike	P	0 - 20
2286487	Manganese	1.21	Spike	P	0 - 20
2286487	Potassium	1.02	Spike	P	0 - 20
2286487	Sodium	0.359	Spike	P	0 - 20
2286487	Zinc	2.06	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405731

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286487	Aluminum	1.87	Spike	P	0 - 20
2286487	Antimony	0.454	Spike	P	0 - 20
2286487	Arsenic	0.832	Spike	P	0 - 20
2286487	Boron	1.65	Spike	P	0 - 20
2286487	Cadmium	1.17	Spike	P	0 - 20
2286487	Chromium	0.408	Spike	P	0 - 20
2286487	Copper	0.522	Spike	P	0 - 20
2286487	Lead	0.0542	Spike	P	0 - 20
2286487	Nickel	0.321	Spike	P	0 - 20
2286487	Selenium	0.0669	Spike	P	0 - 20
2286487	Silver	0.110	Spike	P	0 - 20
2286487	Thallium	1.62	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406037

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285877	Chloride	0.751	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405858

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285875	Ammonia-N	0.380	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406007

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285726	Kjeldahl Nitrogen	6.85	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405710

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285878	NO2NO3-N	3.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405629

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284341	Total-P	0.0447	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405624

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285973	O-Phosphate-P	0.442	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P405591

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285134	Acetochlor	0.747	Spike	P	0 - 30
2285134	Alachlor	10.1	Spike	P	0 - 30
2285134	Ametryn	1.03	Spike	P	0 - 30
2285134	Atrazine	0.939	Spike	P	0 - 30
2285134	Atrazine Desethyl	1.23	Spike	P	0 - 30
2285134	Azinphos Methyl	27.8	Spike	P	0 - 30
2285134	Azoxystrobin	6.68	Spike	P	0 - 30
2285134	Bromacil	12.0	Spike	P	0 - 30
2285134	Butylate	0.0667	Spike	P	0 - 30
2285134	Caffeine	4.06	Spike	P	0 - 30
2285134	Carbophenothion	7.80	Spike	P	0 - 30
2285134	Carfentrazone Ethyl	10.5	Spike	P	0 - 30
2285134	Chlorpyrifos Ethyl	12.3	Spike	P	0 - 30
2285134	Chlorpyrifos Methyl	14.4	Spike	P	0 - 30
2285134	Cyanazine	24.2	Spike	P	0 - 30
2285134	Demeton	8.65	Spike	P	0 - 30
2285134	Diazinon	0.985	Spike	P	0 - 30
2285134	Difenoconazole	2.49	Spike	P	0 - 30
2285134	Dimethenamid	4.83	Spike	P	0 - 30
2285134	Disulfoton	1.42	Spike	P	0 - 30
2285134	Dithiopyr	20.3	Spike	P	0 - 30
2285134	EPTC	3.39	Spike	P	0 - 30
2285134	Ethion	20.4	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P405591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285134	Ethoprop	11.1	Spike	P	0 - 30
2285134	Fenamiphos	8.08	Spike	P	0 - 30
2285134	Fenbuconazole	10.8	Spike	P	0 - 30
2285134	Fipronil	7.24	Spike	P	0 - 30
2285134	Fipronil Desulfinyl	1.38	Spike	P	0 - 30
2285134	Fipronil Sulfide	14.5	Spike	P	0 - 30
2285134	Fipronil Sulfone	4.67	Spike	P	0 - 30
2285134	Fluazifop-P-butyl	3.38	Spike	P	0 - 30
2285134	Fludioxonil	16.4	Spike	P	0 - 30
2285134	Flumioxazin	3.59	Spike	P	0 - 30
2285134	Flutolanil	4.40	Spike	P	0 - 30
2285134	Fluxapyroxad	9.48	Spike	P	0 - 30
2285134	Fonofos	3.56	Spike	P	0 - 30
2285134	Hexazinone	0.547	Spike	P	0 - 30
2285134	Imazalil	0.969	Spike	P	0 - 30
2285134	Iprodione	3.39	Spike	P	0 - 30
2285134	Malathion	0.993	Spike	P	0 - 30
2285134	Metalaxyl	10.0	Spike	P	0 - 30
2285134	Metolachlor	2.35	Spike	P	0 - 30
2285134	Metribuzin	4.40	Spike	P	0 - 30
2285134	Mevinphos	2.34	Spike	P	0 - 30
2285134	Molinate	12.7	Spike	P	0 - 30
2285134	Myclobutanil	1.69	Spike	P	0 - 30
2285134	Naled	2.46	Spike	P	0 - 30
2285134	Norflurazon	0.972	Spike	P	0 - 30
2285134	Oxadiazon	2.37	Spike	P	0 - 30
2285134	Oxyfluorfen	17.5	Spike	P	0 - 30
2285134	Parathion Ethyl	30.0	Spike	P	0 - 30
2285134	Parathion Methyl	1.15	Spike	P	0 - 30
2285134	Pendimethalin	2.69	Spike	P	0 - 30
2285134	Phorate	20.8	Spike	P	0 - 30
2285134	Prodiamine	0.591	Spike	P	0 - 30
2285134	Prometon	6.29	Spike	P	0 - 30
2285134	Prometryn	2.01	Spike	P	0 - 30
2285134	Pronamide	4.39	Spike	P	0 - 30
2285134	Propiconazole	1.19	Spike	P	0 - 30
2285134	Pyriproxyfen	7.78	Spike	P	0 - 30
2285134	Simazine	10.2	Spike	P	0 - 30
2285134	Sulfentrazone	20.8	Spike	P	0 - 30
2285134	Tebuconazole	1.87	Spike	P	0 - 30
2285134	Terbufos	0.683	Spike	P	0 - 30
2285134	Terbutylazine	15.3	Spike	P	0 - 30
LFB	Acetochlor	1.54	LCS	P	0 - 30
LFB	Alachlor	1.87	LCS	P	0 - 30
LFB	Ametryn	14.4	LCS	P	0 - 30
LFB	Atrazine	3.49	LCS	P	0 - 30
LFB	Atrazine Desethyl	14.3	LCS	P	0 - 30
LFB	Azinphos Methyl	12.8	LCS	P	0 - 30
LFB	Azoxystrobin	13.0	LCS	P	0 - 30
LFB	Bromacil	2.16	LCS	P	0 - 30
LFB	Butylate	16.2	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P405591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Caffeine	1.55	LCS	P	0 - 30
LFB	Carbophenothion	5.91	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	1.89	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.47	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	3.27	LCS	P	0 - 30
LFB	Cyanazine	10.9	LCS	P	0 - 30
LFB	Demeton	16.3	LCS	P	0 - 30
LFB	Diazinon	1.04	LCS	P	0 - 30
LFB	Difenoconazole	8.18	LCS	P	0 - 30
LFB	Dimethenamid	5.80	LCS	P	0 - 30
LFB	Disulfoton	11.7	LCS	P	0 - 30
LFB	Dithiopyr	6.68	LCS	P	0 - 30
LFB	EPTC	26.1	LCS	P	0 - 30
LFB	Ethion	5.01	LCS	P	0 - 30
LFB	Ethoprop	20.1	LCS	P	0 - 30
LFB	Fenamiphos	4.48	LCS	P	0 - 30
LFB	Fenbuconazole	4.61	LCS	P	0 - 30
LFB	Fipronil	3.00	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	3.87	LCS	P	0 - 30
LFB	Fipronil Sulfide	13.3	LCS	P	0 - 30
LFB	Fipronil Sulfone	11.5	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	8.16	LCS	P	0 - 30
LFB	Fludioxonil	2.52	LCS	P	0 - 30
LFB	Flumioxazin	9.75	LCS	P	0 - 30
LFB	Flutolanil	0.0466	LCS	P	0 - 30
LFB	Fluxapyroxad	0.786	LCS	P	0 - 30
LFB	Fonofos	2.24	LCS	P	0 - 30
LFB	Hexazinone	0.818	LCS	P	0 - 30
LFB	Imazalil	6.47	LCS	P	0 - 30
LFB	Iprodione	8.68	LCS	P	0 - 30
LFB	Malathion	9.43	LCS	P	0 - 30
LFB	Metalaxyl	13.9	LCS	P	0 - 30
LFB	Metolachlor	0.894	LCS	P	0 - 30
LFB	Metribuzin	2.84	LCS	P	0 - 30
LFB	Mevinphos	20.3	LCS	P	0 - 30
LFB	Molinate	11.9	LCS	P	0 - 30
LFB	Myclobutanil	3.10	LCS	P	0 - 30
LFB	Naled	17.5	LCS	P	0 - 30
LFB	Norflurazon	4.90	LCS	P	0 - 30
LFB	Oxadiazon	0.400	LCS	P	0 - 30
LFB	Oxyfluorfen	7.22	LCS	P	0 - 30
LFB	Parathion Ethyl	1.59	LCS	P	0 - 30
LFB	Parathion Methyl	6.82	LCS	P	0 - 30
LFB	Pendimethalin	5.53	LCS	P	0 - 30
LFB	Phorate	28.9	LCS	P	0 - 30
LFB	Prodiamine	0.433	LCS	P	0 - 30
LFB	Prometon	9.07	LCS	P	0 - 30
LFB	Prometryn	6.03	LCS	P	0 - 30
LFB	Pronamide	3.93	LCS	P	0 - 30
LFB	Propiconazole	11.4	LCS	P	0 - 30
LFB	Pyriproxyfen	0.160	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P405591

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Simazine	6.14	LCS	P	0 - 30
LFB	Sulfentrazone	1.60	LCS	P	0 - 30
LFB	Tebuconazole	4.15	LCS	P	0 - 30
LFB	Terbufos	8.43	LCS	P	0 - 30
LFB	Terbutylazine	1.57	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P405462

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285006	2,4-D	0.0340	Spike	P	0 - 30
2285006	2,4,5-T	8.19	Spike	P	0 - 30
2285006	Acetaminophen	11.0	Spike	P	0 - 30
2285006	Acetamiprid	2.65	Spike	P	0 - 30
2285006	Afidopyropen	11.9	Spike	P	0 - 30
2285006	Bentazon	6.64	Spike	P	0 - 30
2285006	Benzovindiflupyr	0.205	Spike	P	0 - 30
2285006	Carbamazepine	11.1	Spike	P	0 - 30
2285006	Clothianidin	0.776	Spike	P	0 - 30
2285006	Dinotefuran	4.50	Spike	P	0 - 30
2285006	Diuron	2.18	Spike	P	0 - 30
2285006	Fenuron	9.07	Spike	P	0 - 30
2285006	Fluridone	11.1	Spike	P	0 - 30
2285006	Hydrocodone	6.39	Spike	P	0 - 30
2285006	Ibuprofen	12.6	Spike	P	0 - 30
2285006	Imazapyr	7.50	Spike	P	0 - 30
2285006	Imidacloprid	7.58	Spike	P	0 - 30
2285006	Linuron	7.27	Spike	P	0 - 30
2285006	Mandestrobin	3.01	Spike	P	0 - 30
2285006	MCP	5.13	Spike	P	0 - 30
2285006	Naproxen	0.519	Spike	P	0 - 30
2285006	Primidone	54.0	Spike	F	0 - 30
2285006	Pyraclostrobin	6.78	Spike	P	0 - 30
2285006	Thiamethoxam	7.69	Spike	P	0 - 30
2285006	Tolfenpyrad	7.11	Spike	P	0 - 30
2285006	Triclopyr	12.0	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P405602

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285918	Acesulfame K	5.21	Spike	P	0 - 30
2285918	AMPA	2.38	Spike	P	0 - 30
2285918	Endothall	7.33	Spike	P	0 - 30
2285918	Glufosinate	1.06	Spike	P	0 - 30
2285918	Glyphosate	0.379	Spike	P	0 - 30
2285918	Sucralose	1.28	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
 Batch ID: P405613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285913	Color (true)	1.54	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P405793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285786	Total Alkalinity	1.63	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
 Batch ID: P406283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285874	TDS	1.09	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P405795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285786	Fluoride	0.492	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
 Batch ID: P405771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285750	Organic Carbon	0.801	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2285918
Field Sample ID: G5CE0154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Diuron-d6	84.2	P	30 - 160
EPA 8321B	Endothall-d6	55.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.3	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	81.6	P	30 - 160

Lab Sample ID: 2285922
Field Sample ID: G5CE0154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	80.8	P	20 - 200
EPA 8270E	Simazine-d10	99.5	P	73 - 135
EPA 8270E	Terbufos-d10	118	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A108543

Included Lab Sample IDs: 2285913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	99.4	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108544

Included Lab Sample IDs: 2285913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108546

Included Lab Sample IDs: 2285915

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

Reference Method: EPA 8321B

Run ID: A108578

Included Lab Sample IDs: 2285918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	118	108	P/P	50 - 150
2,4,5-T	107	116	P/P	50 - 150
Acetaminophen	82.5	88.5	P/P	60 - 160
Acetamiprid	99.8	107	P/P	50 - 150
Afidopyropen	94.5	88.8	P/P	50 - 150
Bentazon	116	130	P/P	50 - 160
Benzovindiflupyr	107	113	P/P	50 - 150
Carbamazepine	105	106	P/P	60 - 150
Clothianidin	111	110	P/P	60 - 150
Dinotefuran	108	98.5	P/P	50 - 150
Diuron	100	105	P/P	60 - 160
Fenuron	93.7	101	P/P	60 - 150
Fluridone	104	104	P/P	60 - 160
Hydrocodone	90.1	96.3	P/P	60 - 150
Ibuprofen	86.4	71.3	P/P	50 - 160
Imazapyr	86.6	87.3	P/P	50 - 150
Imidacloprid	96.2	100	P/P	60 - 150
Linuron	91.2	112	P/P	60 - 150
Mandestrobin	97.1	101	P/P	50 - 150
MCPP	104	110	P/P	50 - 150
Naproxen	112	70.2	P/P	50 - 160
Primidone	125	123	P/P	60 - 150
Pyraclostrobin	102	105	P/P	60 - 150
Thiamethoxam	96.6	101	P/P	50 - 150
Tolfenpyrad	98.3	108	P/P	60 - 150
Triclopyr	99.3	116	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108585

Included Lab Sample IDs: 2285914

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108587

Included Lab Sample IDs: 2285914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108618

Included Lab Sample IDs: 2285918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	99.7	P/P	60 - 160
Endothall	87.8	80.5	P/P	60 - 160
Sucralose	97.9	87.9	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A108621

Included Lab Sample IDs: 2285914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	94.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108641

Included Lab Sample IDs: 2285918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.8	100	P/P	60 - 160
Glufosinate	95.6	97.9	P/P	60 - 160
Glyphosate	97.9	105	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A108642

Included Lab Sample IDs: 2285913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.8	97.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108642

Included Lab Sample IDs: 2285913

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108662

Included Lab Sample IDs: 2285914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	97.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108667

Included Lab Sample IDs: 2285919

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	98.5	P/P	90 - 110
Calcium	101	102	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Magnesium	104	105	P/P	90 - 110
Manganese	104	102	P/P	90 - 110
Potassium	97.9	96.8	P/P	90 - 110
Sodium	100	99.0	P/P	90 - 110
Zinc	103	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108673

Included Lab Sample IDs: 2285919

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.2	99.3	P/P	90 - 110
Antimony	102	102	P/P	90 - 110
Arsenic	99.3	98.6	P/P	90 - 110
Boron	97.6	99.6	P/P	90 - 110
Cadmium	98.4	97.3	P/P	90 - 110
Chromium	94.3	93.6	P/P	90 - 110
Copper	97.3	95.5	P/P	90 - 110
Lead	97.9	97.1	P/P	90 - 110
Nickel	97.1	94.9	P/P	90 - 110
Selenium	99.7	98.2	P/P	90 - 110
Silver	101	99.8	P/P	90 - 110
Thallium	99.7	98.9	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A108732

Included Lab Sample IDs: 2285922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	110		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	96.6		P	80 - 120
Atrazine	104		P	80 - 120
Atrazine Desethyl	105		P	80 - 120
Azinphos Methyl	112		P	80 - 120
Azoxystrobin	103		P	80 - 120
Bromacil	106		P	80 - 120
Butylate	107		P	80 - 120
Caffeine	85.5		P	80 - 120
Carbophenothion	105		P	80 - 120
Carfentrazone Ethyl	107		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A108732
 Included Lab Sample IDs: 2285922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	112		P	80 - 120
Cyanazine	115		P	80 - 120
Demeton	92.3		P	80 - 120
Diazinon	106		P	80 - 120
Dimethenamid	114		P	80 - 120
Disulfoton	97.7		P	80 - 120
Dithiopyr	109		P	80 - 120
EPTC	102		P	80 - 120
Ethion	109		P	80 - 120
Ethoprop	103		P	80 - 120
Fenamiphos	102		P	80 - 120
Fenbuconazole	110		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	110		P	80 - 120
Fluazifop-P-butyl	106		P	80 - 120
Fludioxonil	114		P	80 - 120
Flutolanil	106		P	80 - 120
Fonofos	106		P	80 - 120
Hexazinone	104		P	80 - 120
Imazalil	104		P	80 - 120
Iprodione	103		P	80 - 120
Malathion	111		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	104		P	80 - 120
Metribuzin	87.9		P	80 - 120
Mevinphos	109		P	80 - 120
Molinate	107		P	80 - 120
Myclobutanil	104		P	80 - 120
Naled	111		P	80 - 120
Norflurazon	109		P	80 - 120
Oxadiazon	106		P	80 - 120
Oxyfluorfen	120		P	80 - 120
Parathion Ethyl	117		P	80 - 120
Parathion Methyl	114		P	80 - 120
Pendimethalin	96.8		P	80 - 120
Phorate	108		P	80 - 120
Prometon	106		P	80 - 120
Prometryn	102		P	80 - 120
Pronamide	106		P	80 - 120
Propiconazole	111		P	80 - 120
Pyriproxyfen	105		P	80 - 120
Simazine	106		P	80 - 120
Sulfentrazone	102		P	80 - 120
Tebuconazole	109		P	80 - 120
Terbufos	104		P	80 - 120
Terbutylazine	106		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A108733

Included Lab Sample IDs: 2285913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	99.9	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A108736

Included Lab Sample IDs: 2285922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Difenoconazole	107		P	80 - 120
Fipronil Sulfide	103		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Flumioxazin	89.7		P	80 - 120
Fluxapyroxad	100		P	80 - 120
Prodiamine	97.6		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108742

Included Lab Sample IDs: 2285914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	101	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							6.63	
EPA 200.7 Rev. 4.4	Barium	100		104	104	103			0.960
	Calcium	106		106	105	107			1.42
	Iron	104		106	110	111			1.58
	Magnesium	106		109	112	114			1.50
	Manganese	101		104	109	108			1.21
	Potassium	102		108	99.2	101			1.02
	Sodium	104		102	102	102			0.359
	Zinc	101		105	113	111			2.06
EPA 200.8 Rev. 5.4	Aluminum	98.8		100	102	101			1.87
	Antimony	100		102	102	102			0.454
	Arsenic	98.0		98.3	99.1	97.8			0.832
	Boron	96.5		99.4	101	101			1.65
	Cadmium	96.2		98.6	99.8	97.2			1.17
	Chromium	94.7		96.1	95.7	95.5			0.408
	Copper	96.9		98.3	98.8	97.8			0.522
	Lead	96.9		98.7	98.7	100			0.0542
	Nickel	97.3		97.4	97.0	96.2			0.321
	Selenium	97.5		97.6	97.6	95.9			0.0669
	Silver	98.4		99.0	99.1	101			0.110
	Thallium	98.6		99.5	101	102			1.62
EPA 300.0 Rev. 2.1	Chloride	99.3		98.9	97.5			0.751	
	Sulfate	99.8		101	100				
EPA 350.1 Rev. 2.0	Ammonia-N	99.0		98.2	97.8				0.380
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		94.3	105				6.85
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		97.5	94.5				3.12
EPA 365.1 Rev. 2.0	Total-P	103		105	105				0.0447
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1		97.4	98.2				0.442
EPA 8270E	Acetochlor	89.2	87.9	103	102		1.54		0.747
	Alachlor	115	117	88.6	80.1		1.87		10.1
	Ametryn	119	103	173	171		14.4		1.03
	Atrazine	99.5	103				3.49		0.939
	Atrazine Desethyl	81.9	94.6	87.9	86.6		14.3		1.23
	Azinphos Methyl	62.8	55.2	135	102		12.8		27.8
	Azoxystrobin	94.8	108	119	109		13.0		6.68
	Bromacil	122	119	120	106		2.16		12.0
	Butylate	52.4	61.7	48.8	48.7		16.2		0.0667
	Caffeine	73.7	72.6	79.1	74.9		1.55		4.06
	Carbophenothion	109	116	95.0	103		5.91		7.80
	Carfentrazone Ethyl	136	133	101	113		1.89		10.5
	Chlorpyrifos Ethyl	100	98.0	82.8	93.6		2.47		12.3
	Chlorpyrifos Methyl	107	111	99.3	115		3.27		14.4
	Cyanazine	174	156	162	127		10.9		24.2
	Demeton	82.8	97.5	170	185		16.3		8.65
	Diazinon	88.1	87.2	106	107		1.04		0.985
	Difenoconazole	71.3	65.7	71.7	73.5		8.18		2.49
	Dimethenamid	102	96.0	87.8	83.6		5.80		4.83
	Disulfoton	96.8	109	103	101		11.7		1.42
	Dithiopyr	109	102	93.9	115		6.68		20.3
	EPTC	54.5	70.9	46.0	47.6		26.1		3.39
	Ethion	99.9	105	85.7	105		5.01		20.4
	Ethoprop	83.0	102	93.0	104		20.1		11.1
	Fenamiphos	104	109	74.8	69.0		4.48		8.08
	Fenbuconazole	141	148	115	104		4.61		10.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fipronil	79.9	82.3			3.00	7.24
	Fipronil Desulfinyl	92.8	89.3	95.1	97.3	3.87	1.38
	Fipronil Sulfide	94.4	108			13.3	14.5
	Fipronil Sulfone	101	114			11.5	4.67
	Fluazifop-P-butyl	124	114	97.8	101	8.16	3.38
	Fludioxonil	81.7	83.8	81.7	101	2.52	16.4
	Flumioxazin	322	355	395	410	9.75	3.59
	Flutolanil	119	120	97.2	93.0	0.0466	4.40
	Fluxapyroxad	103	102	81.7	74.0	0.786	9.48
	Fonofos	88.0	90.0	104	100	2.24	3.56
	Hexazinone	101	101	96.9	96.4	0.818	0.547
	Imazalil	114	121	188	186	6.47	0.969
	Iprodione	146	160	135	130	8.68	3.39
	Malathion	108	119	98.2	99.2	9.43	0.993
	Metalaxyl	117	102	101	111	13.9	10.0
	Metolachlor	112	113	82.5	84.4	0.894	2.35
	Metribuzin	99.4	102	126	121	2.84	4.40
	Mevinphos	81.0	99.3	96.5	98.7	20.3	2.34
	Molinate	63.8	71.8	61.1	69.5	11.9	12.7
	Myclobutanil	118	114	97.6	95.9	3.10	1.69
	Naled	34.2	40.8	31.2	32.0	17.5	2.46
	Norflurazon	118	113	100	99.2	4.90	0.972
	Oxadiazon	103	103	68.2	66.6	0.400	2.37
	Oxyfluorfen	133	124	107	128	7.22	17.5
	Parathion Ethyl	105	107	103	75.8	1.59	30.0
	Parathion Methyl	115	123	127	125	6.82	1.15
	Pendimethalin	97.1	91.8	97.0	99.6	5.53	2.69
	Phorate	72.8	97.3	73.3	90.3	28.9	20.8
	Prodiamine	143	142	160	161	0.433	0.591
	Prometon	87.4	95.7	86.6	80.0	9.07	6.29
	Prometryn	123	116	88.9	90.7	6.03	2.01
	Pronamide	112	108	87.0	90.9	3.93	4.39
	Propiconazole	118	105	88.0	86.4	11.4	1.19
	Pyriproxyfen	47.0	46.9	43.1	39.9	0.160	7.78
	Simazine	106	99.6	106	89.0	6.14	10.2
	Sulfentrazone	125	123			1.60	20.8
	Tebuconazole	98.4	94.5			4.15	1.87
	Terbufos	105	114	129	128	8.43	0.683
	Terbutylazine	101	102	107	91.8	1.57	15.3
EPA 8321B	2,4-D	128		129	129		0.0340
	2,4,5-T	123		127	138		8.19
	Acesulfame K	104		150	142		5.21
	Acetaminophen	89.6		102	114		11.0
	Acetamiprid	100		104	107		2.65
	Afidopyropen	81.4		86.0	96.9		11.9
	AMPA	95.8		61.8	60.3		2.38
	Bentazon	98.3					6.64
	Benzovindiflupyr	98.1		79.5	79.3		0.205
	Carbamazepine	112		97.6	110		11.1
	Clothianidin	94.7		108	108		0.776
	Dinotefuran	93.3		119	125		4.50
	Diuron	97.1		66.9	68.6		2.18
	Endothall	82.9		96.3	89.5		7.33
	Fenuron	109		87.0	95.3		9.07

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Fluridone	105	72.8	89.3		11.1
	Glufosinate	97.0	64.7	65.4		1.06
	Glyphosate	95.6	106	107		0.379
	Hydrocodone	96.2	100	107		6.39
	Ibuprofen	77.9	77.3	68.1		12.6
	Imazapyr	106				7.50
	Imidacloprid	108	194	211		7.58
	Linuron	111	87.7	94.4		7.27
	Mandestrobin	103	82.7	85.3		3.01
	MCPP	124	128	135		5.13
	Naproxen	70.6	84.2	83.7		0.519
	Primidone	91.7	66.9	122		54.0
	Pyraclostrobin	90.4	74.6	79.8		6.78
	Sucralose	94.8	94.5	96.6		1.28
	Thiamethoxam	108	157	170		7.69
	Tolfenpyrad	58.9	52.3	56.2		7.11
	Triclopyr	105	112	126		12.0
SM 2120 B-2011	Color (true)	98.5			1.54	
SM 2320 B-2011	Total Alkalinity	98.4			1.63	
SM 2540 C-2011	TDS				1.09	
SM 4500 F-C-2011	Fluoride	99.8	100	101		0.492
SM 5310 B-2011	Organic Carbon	96.0	102			0.801

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2285913
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2285919
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2285919
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2285913
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2285913
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2285914
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2285914
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2285914
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2285914
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2285915
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2285922
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2285918
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2285913
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2285913
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2285919
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2285913
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2285913
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2285913
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2285914

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	10/26/2021			10/26/2021 15:00	Khloe J Berg	2285913
EPA 200.7 Rev. 4.4	10/26/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 14:50	Josef B Mick	2285919
EPA 200.8 Rev. 5.4	10/26/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 18:00	McKinley C Carter	2285919
EPA 300.0 Rev. 2.1	10/26/2021			11/03/2021 17:20	Roberta Tatti	2285913
EPA 350.1 Rev. 2.0	10/26/2021			11/02/2021 12:04	Ping Hua	2285914
EPA 351.2 Rev. 2.0	10/26/2021	11/04/2021 12:43	Benjamin T. Nordmann	11/05/2021 10:47	Alexandra J Mattheus	2285914
EPA 353.2 Rev. 2.0	10/26/2021			10/28/2021 10:52	Beverly Y. Sanders	2285914
EPA 365.1 Rev. 2.0	10/26/2021	10/27/2021 15:15	Simonne.V. Calhoun	10/28/2021 10:52	Lipi Saha	2285914
EPA 365.1 Rev. 2.0 dissolved	10/26/2021			10/26/2021 16:45	James L Waggeberby	2285915
EPA 8270E	10/26/2021	10/27/2021 08:30	Rasheda Ghaffari	10/31/2021 07:30	Michael Poppell	2285922
	10/26/2021	10/27/2021 08:30	Rasheda Ghaffari	10/31/2021 23:38	Michael Poppell	2285922
EPA 8321B	10/26/2021	10/26/2021 13:00	Hoor Shaik	10/28/2021 21:46	Juyoung Kim	2285918
	10/26/2021	10/26/2021 13:00	Hoor Shaik	11/01/2021 13:31	Juyoung Kim	2285918
	10/26/2021	10/29/2021 10:35	Mohammad Ghaffari	10/29/2021 11:06	Mohammad Ghaffari	2285918
	10/26/2021	10/29/2021 10:35	Mohammad Ghaffari	10/29/2021 12:06	Manjita Shrestha	2285918
SM 2120 B-2011	10/26/2021			10/26/2021 16:10	Sarah A Nixon	2285913
SM 2320 B-2011	10/26/2021			10/28/2021 21:32	Dale L. Simmons	2285913
SM 2340B	10/26/2021			11/02/2021 14:50	Josef B Mick	2285919
SM 2540 C-2011	10/26/2021			11/01/2021 09:42	Yijie Li	2285913
SM 2540 D-2011	10/26/2021			11/01/2021 09:42	Yijie Li	2285913
SM 4500 F-C-2011	10/26/2021			10/28/2021 21:32	Dale L. Simmons	2285913
SM 5310 B-2011	10/26/2021			10/28/2021 07:16	Khloe J Berg	2285914