Chemical Analysis Report

CEN-DIST-2021-11-18-01

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

Event Description: **Bithlo SCI**
Request ID: **RQ-2021-11-15-06**
Customer: **CEN-DIST**
Project ID: **SMP**

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FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
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Certified by: Colin Wright, Program Administrator

Date Certified: 16-DEC-2021 09:21

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: Bithlo Branch E of Seminole Trail **Collection Date/Time: 11/17/2021 10:50**

Field ID: G2CE0251 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2290410	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P406539	
	EPA 300.0 Rev. 2.1	Chloride	49		mg Cl/L	P406748	
		Sulfate	10		mg SO4/L	P406750	
	SM 2120 B-2011	Color (true)	47	A	PCU	P406527	
	SM 2320 B-2011	Total Alkalinity	32		mg CaCO3/L	P406755	
	SM 2540 C-2011	TDS	150		mg/L	P406957	
	SM 2540 D-2011	TSS	2	I	mg/L	P406928	
	SM 4500 F-C-2011	Fluoride	0.041	I	mg F/L	P406757	
2290411	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P406851	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P406921	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.074		mg N/L	P406643	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P406639	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P407036	
2290412	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P406517	
2290415	EPA 8321B	2,4-D	0.012		ug/L	P406695	
		Acesulfame K	0.37	I	ug/L	P406430	MS
		2,4,5-T	0.0040	U	ug/L	P406695	
		AMPA	0.10	U	ug/L	P406430	
		Acetaminophen	0.0080	U	ug/L	P406695	
		Acetamiprid	0.0020	U	ug/L	P406695	
		Endothall	0.25	U	ug/L	P406430	
		Glufosinate	0.10	U	ug/L	P406430	
		Glyphosate	0.20	I	ug/L	P406430	
		Afidopyropen	0.0020	UJ	ug/L	P406695	LCS
		Bentazon	0.043		ug/L	P406695	
		Sucralose	1.0		ug/L	P406430	
		Benzovindiflupyr	0.0020	U	ug/L	P406695	
		Carbamazepine	0.0061		ug/L	P406695	
		Clothianidin	0.0020	U	ug/L	P406695	
		Dinotefuran	0.0020	U	ug/L	P406695	
		Diuron	0.0020	U	ug/L	P406695	
		Fenuron	0.016	U	ug/L	P406695	
		Fluridone	0.023		ug/L	P406695	
		Imazapyr	0.17		ug/L	P406695	
		Hydrocodone	0.0020	U	ug/L	P406695	
		Ibuprofen	0.020	UJ	ug/L	P406695	SUR
		Imidacloprid	0.019	J	ug/L	P406695	MS
		Linuron	0.0040	U	ug/L	P406695	
		Mandestrobin	0.0020	U	ug/L	P406695	
		MCPP	0.0040	U	ug/L	P406695	
		Naproxen	0.0080	UJ	ug/L	P406695	SUR
		Primidone	0.0040	U	ug/L	P406695	
		Pyraclostrobin	0.0020	U	ug/L	P406695	

Field ID: G2CE0251 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2290415	EPA 8321B	Thiamethoxam	0.0020	UJ	ug/L	P406695	MS
		Tolfenpyrad	0.0020	U	ug/L	P406695	
		Triclopyr	0.0040	U	ug/L	P406695	
2290416	EPA 200.7 Rev. 4.4	Barium	25.8		ug/L	P406549	
		Calcium	18.1		mg/L	P406549	
		Iron	270		ug/L	P406549	
		Magnesium	2.45		mg/L	P406549	
		Manganese	4.7		ug/L	P406549	
		Potassium	1.8		mg/L	P406549	
		Sodium	28.6		mg/L	P406549	
		Zinc	5.0	U	ug/L	P406549	
	EPA 200.8 Rev. 5.4	Aluminum	100		ug/L	P406549	
		Antimony	0.086	I	ug/L	P406549	
		Arsenic	0.48		ug/L	P406549	
		Boron**	46.8		ug/L	P406549	
		Cadmium	0.020	U	ug/L	P406549	
		Chromium	0.59	I	ug/L	P406549	
		Copper	0.92		ug/L	P406549	
		Lead	0.20	U	ug/L	P406549	
		Nickel	0.50	U	ug/L	P406549	
		Selenium	0.20	U	ug/L	P406549	
		Silver	0.010	U	ug/L	P406549	
		Thallium	0.10	U	ug/L	P406549	
	SM 2340B	Hardness	55.2		mg/L	P406549	
2290417	EPA 8270E	Acetochlor	0.27	U	ng/L	P406480	
		Alachlor	0.27	U	ng/L	P406480	
		Ametryn	0.65	U	ng/L	P406480	
		Atrazine	130		ng/L	P406480	
		Atrazine Desethyl	26		ng/L	P406480	
		Azinphos Methyl	2.2	UJ	ng/L	P406480	MS, RPD
		Azoxystrobin**	6.8		ng/L	P406480	
		Bromacil	0.54	U	ng/L	P406480	RPD
		Butylate	0.43	U	ng/L	P406480	
		Caffeine**	8.1	U	ng/L	P406480	
		Carbophenothion	0.54	U	ng/L	P406480	
		Carfentrazone Ethyl**	0.11	U	ng/L	P406480	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P406480	
		Chlorpyrifos Methyl	0.054	U	ng/L	P406480	
		Cyanazine	3.5	U	ng/L	P406480	
		Demeton	1.6	U	ng/L	P406480	
		Diazinon	0.13	U	ng/L	P406480	
		Difenoconazole**	0.65	UJ	ng/L	P406480	RPD
		Dimethenamid**	0.11	U	ng/L	P406480	
		Disulfoton	0.54	U	ng/L	P406480	
		Dithiopyr**	0.19	U	ng/L	P406480	

Field ID: G2CE0251 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2290417	EPA 8270E	EPTC	1.3	U	ng/L	P406480	
		Ethion	0.16	U	ng/L	P406480	
		Ethoprop	0.11	U	ng/L	P406480	
		Fenamiphos	0.54	U	ng/L	P406480	
		Fenbuconazole**	0.13	U	ng/L	P406480	
		Fipronil	0.31	I	ng/L	P406480	
		Fipronil Desulfinyl**	1.4		ng/L	P406480	
		Fipronil Sulfide	0.41	I	ng/L	P406480	
		Fipronil Sulfone	1.3		ng/L	P406480	
		Fluazifop-P-butyl**	0.11	U	ng/L	P406480	
		Fludioxonil**	0.13	U	ng/L	P406480	
		Flumioxazin**	1.9	U	ng/L	P406480	
		Flutolanil**	0.11	U	ng/L	P406480	
		Fluxapyroxad**	0.13	I	ng/L	P406480	
		Fonofos	0.22	U	ng/L	P406480	
		Hexazinone	0.54	U	ng/L	P406480	
		Imazalil**	0.81	U	ng/L	P406480	
		Iprodione**	0.65	U	ng/L	P406480	
		Malathion	0.38	U	ng/L	P406480	
		Metalaxyl	0.81	U	ng/L	P406480	
		Metolachlor	0.38	U	ng/L	P406480	
		Metribuzin	3.5	U	ng/L	P406480	
		Mevinphos	1.1	U	ng/L	P406480	
		Molinate	0.32	U	ng/L	P406480	
		Myclobutanil**	3.5		ng/L	P406480	
		Naled**	1.6	UJ	ng/L	P406480	LCS, MS
		Norflurazon	0.54	U	ng/L	P406480	
		Oxadiazon	0.57	I	ng/L	P406480	
		Oxyfluorfen**	0.16	U	ng/L	P406480	
		Parathion Ethyl	0.27	U	ng/L	P406480	
		Parathion Methyl	0.59	U	ng/L	P406480	
		Pendimethalin	1.1	U	ng/L	P406480	
		Phorate	0.57	U	ng/L	P406480	
		Prodiamine**	0.19	U	ng/L	P406480	
		Prometon	0.97	U	ng/L	P406480	
		Prometryn	0.22	U	ng/L	P406480	
		Pronamide**	0.16	U	ng/L	P406480	
		Propiconazole**	2.5		ng/L	P406480	
		Pyriproxyfen**	0.13	U	ng/L	P406480	
		Simazine	0.54	U	ng/L	P406480	
		Sulfentrazone**	4.9		ng/L	P406480	
		Tebuconazole**	0.54	U	ng/L	P406480	
		Terbufos	0.11	U	ng/L	P406480	
		Terbuthylazine	0.46	U	ng/L	P406480	
		Chlorfenapyr**	0.19	U	ng/L	P406480	

Field ID: G2CE0251 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2290417	EPA 8270E	Coumaphos**	0.54	U	ng/L	P406480	
		Cyprodinil**	0.11	U	ng/L	P406480	
		Dimethomorph**	0.19	U	ng/L	P406480	RPD
		Etridiazole**	0.16	U	ng/L	P406480	
		Loratadine**	0.11	UJ	ng/L	P406480	LCS, RPD
		Napropamide**	0.43	U	ng/L	P406480	
		Phenytoin**	3.8	U	ng/L	P406480	MS, RPD
		Propanil**	0.13	U	ng/L	P406480	
		Propargite**	1.6	U	ng/L	P406480	
		Pyraflufen Ethyl**	0.27	U	ng/L	P406480	
		Pyridaben**	0.49	U	ng/L	P406480	
		Stirophos**	0.13	U	ng/L	P406480	
		Thiobencarb**	0.65	U	ng/L	P406480	
		Triadimefon**	0.27	U	ng/L	P406480	

Ref. Method and Comment:
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 some analytes could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P406539

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P406549

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: P406549

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: P406748

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406750

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406851

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: P406921

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406643

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P406639

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406517

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

Reference Method: EPA 8270E
Batch ID: P406480

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
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P406480

Component	Result	Code	Units
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	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
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	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
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P406480

Component	Result	Code	Units
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
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
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
Napropamide	0.40	U	ng/L
Napropamide	0.40	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
Phenytoin	3.5	U	ng/L
Phenytoin	3.5	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P406480

Component	Result	Code	Units
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	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
Stirophos	0.12	U	ng/L
Stirophos	0.12	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
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B
Batch ID: P406430

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P406695

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P406695

Component	Result	Code	Units
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: SM 2120 B-2011
Batch ID: P406527

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P406755

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

Reference Method: SM 2540 C-2011
Batch ID: P406957

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P406928

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P406757

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P407036

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: P406549

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	106		P	85 - 115
Calcium	106		P	85 - 115
Iron	108		P	85 - 115
Magnesium	111		P	85 - 115
Manganese	104		P	85 - 115
Potassium	97.9		P	85 - 115
Sodium	102		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P406549

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	106		P	85 - 115
Arsenic	100		P	85 - 115
Boron	101		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	101		P	85 - 115
Copper	96.9		P	85 - 115
Lead	97.3		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	98.8		P	85 - 115
Silver	98.5		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406748

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406750

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406851

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406921

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406643

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: P406639

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406517

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

Reference Method: EPA 8270E
Batch ID: P406480

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	90.0	92.3	P/P	70 - 121
Alachlor	83.8	86.8	P/P	70 - 119
Ametryn	106	110	P/P	61 - 135
Atrazine	87.2	85.9	P/P	76 - 123
Atrazine Desethyl	79.7	72.2	P/P	35 - 140
Azinphos Methyl	124	62.2	P/P	57 - 163
Azoxystrobin	91.2	88.7	P/P	43 - 231
Bromacil	75.3	78.3	P/P	42 - 123
Butylate	64.0	62.5	P/P	34 - 92.0
Caffeine	91.2	101	P/P	70 - 130
Carbophenothion	106	95.8	P/P	61 - 121
Carfentrazone Ethyl	95.3	87.1	P/P	62 - 139
Chlorfenapyr	99.1	91.1	P/P	50 - 150
Chlorpyrifos Ethyl	77.8	73.0	P/P	67 - 121
Chlorpyrifos Methyl	107	111	P/P	67 - 120
Coumaphos	157	190	P/P	50 - 220
Cyanazine	105	104	P/P	20 - 226
Cyprodinil	92.5	97.4	P/P	50 - 150
Demeton	62.7	76.6	P/P	35 - 125
Diazinon	89.7	95.8	P/P	70 - 122
Difenoconazole	71.5	119	P/P	56 - 186
Dimethenamid	71.9	76.0	P/P	67 - 119
Dimethomorph	84.4	106	P/P	50 - 150
Disulfoton	72.1	88.6	P/P	47 - 120
Dithiopyr	85.4	86.0	P/P	67 - 118
EPTC	58.8	58.3	P/P	33 - 90.0
Ethion	99.2	82.7	P/P	40 - 133
Ethoprop	81.9	88.7	P/P	61 - 121
Etridiazole	60.9	63.3	P/P	50 - 150
Fenamiphos	110	95.4	P/P	31 - 139
Fenbuconazole	125	131	P/P	66 - 141
Fipronil	87.0	91.3	P/P	62 - 129
Fipronil Desulfinyl	88.0	87.8	P/P	59 - 126
Fipronil Sulfide	88.6	91.3	P/P	63 - 117

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P406480

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfone	107	105	P/P	57 - 117
Fluazifop-P-butyl	85.9	85.4	P/P	63 - 124
Fludioxonil	86.9	84.5	P/P	63 - 123
Flumioxazin	203	189	P/P	34 - 245
Flutolanil	68.7	66.0	P/P	56 - 131
Fluxapyroxad	76.6	61.1	P/P	57 - 117
Fonofos	85.4	94.4	P/P	61 - 116
Hexazinone	94.9	94.1	P/P	55 - 138
Imazalil	75.2	83.9	P/P	33 - 143
Iprodione	81.6	65.8	P/P	59 - 118
Loratadine	158	184	F/F	50 - 150
Malathion	118	120	P/P	62 - 138
Metalaxyl	78.4	76.6	P/P	24 - 147
Metolachlor	87.0	87.5	P/P	68 - 118
Metribuzin	69.9	74.1	P/P	20 - 239
Mevinphos	71.2	76.1	P/P	46 - 124
Molinate	70.1	73.3	P/P	46 - 100
Myclobutanil	86.5	86.3	P/P	32 - 149
Naled	21.4	21.5	F/F	32 - 95.0
Napropamide	86.4	86.6	P/P	50 - 150
Norflurazon	98.6	92.2	P/P	57 - 127
Oxadiazon	76.4	71.4	P/P	63 - 118
Oxyfluorfen	113	107	P/P	69 - 137
Parathion Ethyl	89.5	78.2	P/P	70 - 113
Parathion Methyl	103	109	P/P	71 - 130
Pendimethalin	92.9	110	P/P	55 - 118
Phenytoin	101	103	P/P	50 - 200
Phorate	85.6	72.7	P/P	46 - 125
Prodiamine	48.4	62.3	P/P	20 - 141
Prometon	105	114	P/P	54 - 122
Prometryn	86.5	88.6	P/P	66 - 124
Pronamide	85.4	94.2	P/P	79 - 122
Propanil	93.1	91.5	P/P	50 - 150
Propargite	144	131	P/P	50 - 200
Propiconazole	101	103	P/P	61 - 126
Pyraflufen Ethyl	109	124	P/P	50 - 150
Pyridaben	125	153	P/P	50 - 200
Pyriproxyfen	53.3	52.8	P/P	52 - 131
Simazine	89.3	91.9	P/P	75 - 128
Stirophos	115	114	P/P	50 - 150
Sulfentrazone	102	128	P/P	20 - 132
Tebuconazole	62.4	50.1	P/P	20 - 116
Terbufos	98.2	109	P/P	61 - 117
Terbuthylazine	81.7	83.6	P/P	74 - 116
Thiobencarb	85.4	85.3	P/P	50 - 150
Triadimefon	83.1	81.3	P/P	50 - 150

Reference Method: EPA 8321B
Batch ID: P406430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	123		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P406430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	104		P	40 - 160
Endothall	94.0		P	40 - 150
Glufosinate	93.4		P	40 - 160
Glyphosate	124		P	40 - 160
Sucralose	113		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P406695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.8		P	40 - 150
2,4,5-T	99.0		P	40 - 150
Acetaminophen	79.4		P	30 - 150
Acetamiprid	74.7		P	40 - 150
Afidopyropen	27.7		F	40 - 150
Bentazon	107		P	30 - 150
Benzovindiflupyr	86.0		P	40 - 150
Carbamazepine	74.1		P	40 - 150
Clothianidin	92.1		P	40 - 150
Dinotefuran	80.1		P	40 - 150
Diuron	70.7		P	40 - 150
Fenuron	97.3		P	40 - 150
Fluridone	92.4		P	40 - 150
Hydrocodone	74.2		P	40 - 150
Ibuprofen	55.2		P	40 - 150
Imazapyr	70.3		P	40 - 150
Imidacloprid	76.8		P	40 - 150
Linuron	86.2		P	40 - 150
Mandestrobin	76.9		P	40 - 150
MCPP	74.9		P	40 - 150
Naproxen	62.9		P	40 - 150
Primidone	60.1		P	40 - 150
Pyraclostrobin	85.8		P	40 - 150
Thiamethoxam	86.4		P	40 - 150
Tolfenpyrad	70.4		P	30 - 150
Triclopyr	82.9		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P406527

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

Reference Method: SM 2320 B-2011
Batch ID: P406755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	94 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P406757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P407036

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P406549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290028	Barium	113		P	80 - 120
2290028	Calcium	108		P	80 - 120
2290028	Iron	110		P	80 - 120
2290028	Magnesium	113		P	80 - 120
2290028	Manganese	109		P	80 - 120
2290028	Potassium	103		P	80 - 120
2290028	Sodium	103		P	80 - 120
2290028	Zinc	107		P	80 - 120
2290216	Barium	112	117	P/P	80 - 120
2290216	Calcium	105		P	80 - 120
2290216	Iron	109	111	P/P	80 - 120
2290216	Magnesium	110	113	P/P	80 - 120
2290216	Manganese	107	112	P/P	80 - 120
2290216	Potassium	102	105	P/P	80 - 120
2290216	Sodium	102	104	P/P	80 - 120
2290216	Zinc	103	109	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P406549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290028	Aluminum	105		P	80 - 120
2290028	Antimony	110		P	80 - 120
2290028	Arsenic	101		P	80 - 120
2290028	Boron	102		P	80 - 120
2290028	Cadmium	104		P	80 - 120
2290028	Chromium	104		P	80 - 120
2290028	Copper	97.8		P	80 - 120
2290028	Lead	100		P	80 - 120
2290028	Nickel	96.8		P	80 - 120
2290028	Selenium	98.8		P	80 - 120
2290028	Silver	99.6		P	80 - 120
2290028	Thallium	104		P	80 - 120
2290216	Aluminum	104	104	P/P	80 - 120
2290216	Antimony	108	111	P/P	80 - 120
2290216	Arsenic	98.1	100	P/P	80 - 120
2290216	Boron	105	104	P/P	80 - 120
2290216	Cadmium	104	103	P/P	80 - 120
2290216	Chromium	105	105	P/P	80 - 120
2290216	Copper	96.1	96.3	P/P	80 - 120
2290216	Lead	98.5	98.8	P/P	80 - 120
2290216	Nickel	96.9	96.5	P/P	80 - 120
2290216	Selenium	98.4	99.2	P/P	80 - 120
2290216	Silver	98.7	100	P/P	80 - 120
2290216	Thallium	106	104	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406748

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290197	Chloride	99.6		P	90 - 110
2290373	Chloride	94.3		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290197	Sulfate	100		P	90 - 110
2290373	Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406851

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290377	Ammonia-N	97.4	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290411	NO2NO3-N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P406639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290424	Total-P	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290412	O-Phosphate-P	98.7	100	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P406480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290149	Acetochlor	95.8	92.9	P/P	66 - 122
2290149	Alachlor	88.7	88.4	P/P	65 - 122
2290149	Ametryn	106	102	P/P	45 - 173
2290149	Atrazine	85.0	89.7	P/P	70 - 134
2290149	Atrazine Desethyl	47.2	54.0	P/P	25 - 150
2290149	Azinphos Methyl	154	243	P/F	44 - 174
2290149	Azoxystrobin	143	154	P/P	10 - 268
2290149	Butylate	46.3	49.3	P/P	15 - 97.0
2290149	Caffeine	70.3	77.6	P/P	70 - 130
2290149	Carbophenothion	88.5	85.7	P/P	42 - 129
2290149	Carfentrazone Ethyl	91.5	89.0	P/P	62 - 145
2290149	Chlorfenapyr	82.0	82.7	P/P	50 - 150
2290149	Chlorpyrifos Ethyl	79.3	94.8	P/P	60 - 124
2290149	Chlorpyrifos Methyl	101	101	P/P	66 - 119
2290149	Coumaphos	188	219	P/P	50 - 220
2290149	Cyanazine	101	104	P/P	17 - 225
2290149	Cyprodinil	101	96.9	P/P	50 - 150
2290149	Demeton	80.0	99.1	P/P	36 - 142
2290149	Diazinon	101	97.4	P/P	70 - 128
2290149	Difenoconazole	107	83.9	P/P	33 - 222
2290149	Dimethenamid	83.8	81.3	P/P	54 - 125

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P406480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290149	Dimethomorph	91.6	131	P/P	50 - 150
2290149	Disulfoton	86.4	88.4	P/P	49 - 133
2290149	Dithiopyr	85.8	83.5	P/P	55 - 123
2290149	EPTC	43.1	48.7	P/P	19 - 91.0
2290149	Ethion	73.5	54.1	P/P	13 - 143
2290149	Ethoprop	87.0	93.0	P/P	49 - 144
2290149	Etridiazole	57.4	62.5	P/P	50 - 150
2290149	Fenamiphos	80.9	73.3	P/P	32 - 136
2290149	Fenbuconazole	133	141	P/P	73 - 148
2290149	Fipronil	99.2	101	P/P	57 - 129
2290149	Fipronil Desulfinyl	96.9	97.8	P/P	49 - 127
2290149	Fipronil Sulfide	89.2	91.1	P/P	44 - 127
2290149	Fipronil Sulfone	100	99.9	P/P	35 - 126
2290149	Fluazifop-P-butyl	86.3	83.4	P/P	67 - 129
2290149	Fludioxonil	88.5	83.3	P/P	61 - 126
2290149	Flumioxazin	251	245	P/P	38 - 279
2290149	Flutolanil	60.9	63.5	P/P	55 - 136
2290149	Fluxapyroxad	84.8	67.2	P/P	33 - 140
2290149	Fonofos	84.3	85.9	P/P	58 - 125
2290149	Imazalil	68.1	76.6	P/P	10 - 221
2290149	Iprodione	82.0	83.3	P/P	32 - 140
2290149	Loratadine	63.1	96.3	P/P	50 - 150
2290149	Malathion	111	116	P/P	52 - 138
2290149	Metribuzin	104	121	P/P	16 - 272
2290149	Mevinphos	81.0	88.7	P/P	45 - 140
2290149	Molinate	66.3	72.7	P/P	41 - 103
2290149	Myclobutanil	93.5	88.5	P/P	60 - 134
2290149	Naled	19.1	20.9	F/P	20 - 113
2290149	Napropamide	77.6	65.7	P/P	50 - 150
2290149	Oxadiazon	73.4	70.4	P/P	44 - 125
2290149	Oxyfluorfen	123	122	P/P	66 - 176
2290149	Parathion Ethyl	82.6	81.7	P/P	57 - 132
2290149	Parathion Methyl	106	111	P/P	59 - 156
2290149	Pendimethalin	90.0	93.6	P/P	59 - 129
2290149	Phenytoin	76.6	2.13	P/F	50 - 200
2290149	Phorate	96.4	96.4	P/P	47 - 136
2290149	Prodiamine	128	121	P/P	10 - 159
2290149	Prometon	108	106	P/P	59 - 127
2290149	Prometryn	95.2	93.1	P/P	59 - 129
2290149	Pronamide	83.0	87.2	P/P	65 - 145
2290149	Propanil	92.0	93.1	P/P	50 - 150
2290149	Propargite	132	143	P/P	50 - 200
2290149	Propiconazole	134	128	P/P	28 - 165
2290149	Pyraflufen Ethyl	111	125	P/P	50 - 150
2290149	Pyridaben	146	149	P/P	50 - 200
2290149	Pyriproxyfen	47.7	34.1	P/P	21 - 180
2290149	Stirophos	102	90.9	P/P	50 - 150
2290149	Sulfentrazone	61.8	92.0	P/P	32 - 136
2290149	Tebuconazole	45.0	29.2	P/P	10 - 117
2290149	Terbufos	103	107	P/P	61 - 131
2290149	Terbuthylazine	84.0	82.3	P/P	62 - 126
2290149	Thiobencarb	82.1	80.2	P/P	50 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P406480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290149	Triadimefon	93.6	85.7	P/P	50 - 150

Reference Method: EPA 8321B
Batch ID: P406430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290129	Acesulfame K	164	127	F/P	40 - 150
2290129	AMPA	112	106	P/P	40 - 160
2290129	Endothall	113	103	P/P	40 - 150
2290129	Glufosinate	95.3	92.5	P/P	40 - 160
2290129	Glyphosate	100	105	P/P	40 - 160
2290129	Sucralose	129	112	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P406695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290415	2,4-D	115	88.7	P/P	40 - 150
2290415	2,4,5-T	104	109	P/P	40 - 150
2290415	Acetaminophen	116	100	P/P	30 - 150
2290415	Acetamiprid	95.6	84.9	P/P	40 - 150
2290415	Afidopyropen	56.2	50.2	P/P	40 - 150
2290415	Benzovindiflupyr	94.6	80.2	P/P	40 - 150
2290415	Carbamazepine	110	91.5	P/P	40 - 150
2290415	Clothianidin	125	96.5	P/P	40 - 150
2290415	Dinotefuran	127	124	P/P	40 - 150
2290415	Diuron	84.6	89.2	P/P	40 - 150
2290415	Fenuron	86.1	72.3	P/P	40 - 150
2290415	Fluridone	120	89.7	P/P	40 - 150
2290415	Hydrocodone	110	95.9	P/P	40 - 150
2290415	Ibuprofen	53.3	70.1	P/P	40 - 150
2290415	Imidacloprid	204	155	F/F	40 - 150
2290415	Linuron	74.9	80.8	P/P	40 - 150
2290415	Mandestrobin	92.8	86.1	P/P	40 - 150
2290415	MCPP	87.2	82.4	P/P	40 - 150
2290415	Naproxen	115	101	P/P	40 - 150
2290415	Primidone	117	105	P/P	40 - 150
2290415	Pyraclostrobin	98.7	85.9	P/P	40 - 150
2290415	Thiamethoxam	184	165	F/F	40 - 150
2290415	Tolfenpyrad	89.2	78.9	P/P	30 - 150
2290415	Triclopyr	103	93.5	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P406757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290294	Fluoride	99.9	99.9	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P407036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P407036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2290378	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P406539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290374	Turbidity	1.54	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P406549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290216	Barium	4.51	Spike	P	0 - 20
2290216	Calcium	2.56	Spike	P	0 - 20
2290216	Iron	2.43	Spike	P	0 - 20
2290216	Magnesium	2.26	Spike	P	0 - 20
2290216	Manganese	4.71	Spike	P	0 - 20
2290216	Potassium	3.27	Spike	P	0 - 20
2290216	Sodium	1.20	Spike	P	0 - 20
2290216	Zinc	5.79	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P406549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290216	Aluminum	0.00430	Spike	P	0 - 20
2290216	Antimony	2.46	Spike	P	0 - 20
2290216	Arsenic	2.10	Spike	P	0 - 20
2290216	Boron	0.306	Spike	P	0 - 20
2290216	Cadmium	0.238	Spike	P	0 - 20
2290216	Chromium	0.161	Spike	P	0 - 20
2290216	Copper	0.160	Spike	P	0 - 20
2290216	Lead	0.316	Spike	P	0 - 20
2290216	Nickel	0.385	Spike	P	0 - 20
2290216	Selenium	0.813	Spike	P	0 - 20
2290216	Silver	1.28	Spike	P	0 - 20
2290216	Thallium	1.32	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290197	Chloride	2.30	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290197	Sulfate	4.78	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290377	Ammonia-N	0.647	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290375	Kjeldahl Nitrogen	8.86	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290411	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P406639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290424	Total-P	2.26	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290412	O-Phosphate-P	1.41	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P406480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290149	Acetochlor	3.04	Spike	P	0 - 24
2290149	Alachlor	0.361	Spike	P	0 - 24
2290149	Ametryn	3.52	Spike	P	0 - 27
2290149	Atrazine	2.69	Spike	P	0 - 29
2290149	Atrazine Desethyl	10.2	Spike	P	0 - 30
2290149	Azinphos Methyl	45.2	Spike	P	0 - 50
2290149	Azoxystrobin	7.83	Spike	P	0 - 32
2290149	Bromacil	34.0	Spike	F	0 - 30
2290149	Butylate	6.31	Spike	P	0 - 47
2290149	Caffeine	7.25	Spike	P	0 - 60
2290149	Carbophenothion	3.19	Spike	P	0 - 24
2290149	Carfentrazone Ethyl	2.87	Spike	P	0 - 26
2290149	Chlorfenapyr	0.841	Spike	P	0 - 30
2290149	Chlorpyrifos Ethyl	17.8	Spike	P	0 - 27
2290149	Chlorpyrifos Methyl	0.233	Spike	P	0 - 22
2290149	Coumaphos	15.6	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P406480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290149	Cyanazine	3.38	Spike	P	0 - 32
2290149	Cyprodinil	3.62	Spike	P	0 - 30
2290149	Demeton	21.2	Spike	P	0 - 25
2290149	Diazinon	3.24	Spike	P	0 - 24
2290149	Difenoconazole	24.3	Spike	P	0 - 25
2290149	Dimethenamid	3.09	Spike	P	0 - 30
2290149	Dimethomorph	35.6	Spike	F	0 - 30
2290149	Disulfoton	2.38	Spike	P	0 - 26
2290149	Dithiopyr	2.74	Spike	P	0 - 22
2290149	EPTC	12.1	Spike	P	0 - 38
2290149	Ethion	30.3	Spike	P	0 - 47
2290149	Ethoprop	6.61	Spike	P	0 - 23
2290149	Etridiazole	8.47	Spike	P	0 - 30
2290149	Fenamiphos	9.93	Spike	P	0 - 34
2290149	Fenbuconazole	5.41	Spike	P	0 - 37
2290149	Fipronil	1.77	Spike	P	0 - 23
2290149	Fipronil Desulfinyl	0.968	Spike	P	0 - 26
2290149	Fipronil Sulfide	2.11	Spike	P	0 - 23
2290149	Fipronil Sulfone	0.0750	Spike	P	0 - 24
2290149	Fluazifop-P-butyl	3.36	Spike	P	0 - 24
2290149	Fludioxonil	5.43	Spike	P	0 - 26
2290149	Flumioxazin	2.49	Spike	P	0 - 37
2290149	Flutolanil	3.81	Spike	P	0 - 26
2290149	Fluxapyroxad	23.1	Spike	P	0 - 34
2290149	Fonofos	1.86	Spike	P	0 - 22
2290149	Hexazinone	1.78	Spike	P	0 - 21
2290149	Imazalil	11.7	Spike	P	0 - 65
2290149	Iprodione	1.60	Spike	P	0 - 33
2290149	Loratadine	41.6	Spike	F	0 - 30
2290149	Malathion	3.92	Spike	P	0 - 26
2290149	Metalaxyl	15.8	Spike	P	0 - 38
2290149	Metolachlor	6.01	Spike	P	0 - 36
2290149	Metribuzin	14.9	Spike	P	0 - 29
2290149	Mevinphos	9.03	Spike	P	0 - 26
2290149	Molinate	9.18	Spike	P	0 - 27
2290149	Myclobutanil	5.56	Spike	P	0 - 21
2290149	Naled	9.07	Spike	P	0 - 26
2290149	Napropamide	16.6	Spike	P	0 - 30
2290149	Norflurazon	8.54	Spike	P	0 - 24
2290149	Oxadiazon	4.11	Spike	P	0 - 23
2290149	Oxyfluorfen	1.55	Spike	P	0 - 24
2290149	Parathion Ethyl	1.06	Spike	P	0 - 23
2290149	Parathion Methyl	4.45	Spike	P	0 - 23
2290149	Pendimethalin	4.00	Spike	P	0 - 31
2290149	Phenytoin	189	Spike	F	0 - 30
2290149	Phorate	0.0765	Spike	P	0 - 27
2290149	Prodiamine	5.59	Spike	P	0 - 52
2290149	Prometon	1.40	Spike	P	0 - 31
2290149	Prometryn	2.30	Spike	P	0 - 24
2290149	Pronamide	4.85	Spike	P	0 - 26
2290149	Propanil	1.15	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P406480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290149	Propargite	7.78	Spike	P	0 - 30
2290149	Propiconazole	4.22	Spike	P	0 - 31
2290149	Pyraflufen Ethyl	11.5	Spike	P	0 - 30
2290149	Pyridaben	2.33	Spike	P	0 - 30
2290149	Pyriproxyfen	33.3	Spike	P	0 - 50
2290149	Simazine	1.44	Spike	P	0 - 25
2290149	Stirophos	11.1	Spike	P	0 - 30
2290149	Sulfentrazone	17.4	Spike	P	0 - 33
2290149	Tebuconazole	36.1	Spike	P	0 - 43
2290149	Terbufos	3.46	Spike	P	0 - 22
2290149	Terbuthylazine	1.99	Spike	P	0 - 24
2290149	Thiobencarb	2.33	Spike	P	0 - 30
2290149	Triadimefon	8.74	Spike	P	0 - 30
LFB	Acetochlor	2.47	LCS	P	0 - 22
LFB	Alachlor	3.40	LCS	P	0 - 20
LFB	Ametryn	3.45	LCS	P	0 - 25
LFB	Atrazine	1.51	LCS	P	0 - 20
LFB	Atrazine Desethyl	9.85	LCS	P	0 - 33
LFB	Azinphos Methyl	66.2	LCS	F	0 - 51
LFB	Azoxystrobin	2.80	LCS	P	0 - 47
LFB	Bromacil	3.95	LCS	P	0 - 26
LFB	Butylate	2.45	LCS	P	0 - 35
LFB	Caffeine	10.2	LCS	P	0 - 27
LFB	Carbophenothion	9.81	LCS	P	0 - 22
LFB	Carfentrazone Ethyl	9.00	LCS	P	0 - 21
LFB	Chlorfenapyr	8.36	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	6.31	LCS	P	0 - 23
LFB	Chlorpyrifos Methyl	4.37	LCS	P	0 - 24
LFB	Coumaphos	18.6	LCS	P	0 - 30
LFB	Cyanazine	1.59	LCS	P	0 - 37
LFB	Cyprodinil	5.22	LCS	P	0 - 30
LFB	Demeton	20.0	LCS	P	0 - 32
LFB	Diazinon	6.63	LCS	P	0 - 21
LFB	Difenoconazole	50.2	LCS	F	0 - 37
LFB	Dimethenamid	5.46	LCS	P	0 - 21
LFB	Dimethomorph	22.8	LCS	P	0 - 30
LFB	Disulfoton	20.6	LCS	P	0 - 31
LFB	Dithiopyr	0.708	LCS	P	0 - 21
LFB	EPTC	0.854	LCS	P	0 - 41
LFB	Ethion	18.1	LCS	P	0 - 45
LFB	Ethoprop	8.06	LCS	P	0 - 28
LFB	Etridiazole	3.88	LCS	P	0 - 30
LFB	Fenamiphos	13.9	LCS	P	0 - 28
LFB	Fenbuconazole	4.58	LCS	P	0 - 36
LFB	Fipronil	4.89	LCS	P	0 - 23
LFB	Fipronil Desulfinyl	0.181	LCS	P	0 - 22
LFB	Fipronil Sulfide	2.98	LCS	P	0 - 24
LFB	Fipronil Sulfone	1.71	LCS	P	0 - 24
LFB	Fluazifop-P-butyl	0.611	LCS	P	0 - 23
LFB	Fludioxonil	2.77	LCS	P	0 - 23
LFB	Flumioxazin	7.29	LCS	P	0 - 39

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P406480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Flutolanil	4.04	LCS	P	0 - 27
LFB	Fluxapyroxad	22.6	LCS	P	0 - 38
LFB	Fonofos	9.99	LCS	P	0 - 28
LFB	Hexazinone	0.916	LCS	P	0 - 27
LFB	Imazalil	10.9	LCS	P	0 - 45
LFB	Iprodione	21.4	LCS	P	0 - 42
LFB	Loratadine	15.4	LCS	P	0 - 30
LFB	Malathion	1.38	LCS	P	0 - 23
LFB	Metalaxyl	2.32	LCS	P	0 - 41
LFB	Metolachlor	0.584	LCS	P	0 - 21
LFB	Metribuzin	5.91	LCS	P	0 - 31
LFB	Mevinphos	6.70	LCS	P	0 - 32
LFB	Molinate	4.43	LCS	P	0 - 31
LFB	Myclobutanil	0.202	LCS	P	0 - 27
LFB	Naled	0.677	LCS	P	0 - 32
LFB	Napropamide	0.166	LCS	P	0 - 30
LFB	Norflurazon	6.72	LCS	P	0 - 25
LFB	Oxadiazon	6.85	LCS	P	0 - 25
LFB	Oxyfluorfen	4.94	LCS	P	0 - 22
LFB	Parathion Ethyl	13.6	LCS	P	0 - 32
LFB	Parathion Methyl	5.92	LCS	P	0 - 30
LFB	Pendimethalin	17.3	LCS	P	0 - 39
LFB	Phenytoin	2.34	LCS	P	0 - 30
LFB	Phorate	16.4	LCS	P	0 - 36
LFB	Prodiamine	25.2	LCS	P	0 - 71
LFB	Prometon	8.26	LCS	P	0 - 23
LFB	Prometryn	2.46	LCS	P	0 - 22
LFB	Pronamide	9.77	LCS	P	0 - 21
LFB	Propanil	1.73	LCS	P	0 - 30
LFB	Propargite	9.33	LCS	P	0 - 30
LFB	Propiconazole	2.19	LCS	P	0 - 23
LFB	Pyraflufen Ethyl	12.7	LCS	P	0 - 30
LFB	Pyridaben	19.7	LCS	P	0 - 30
LFB	Pyriproxyfen	1.04	LCS	P	0 - 53
LFB	Simazine	2.95	LCS	P	0 - 22
LFB	Stirophos	0.892	LCS	P	0 - 30
LFB	Sulfentrazone	23.0	LCS	P	0 - 45
LFB	Tebuconazole	22.0	LCS	P	0 - 52
LFB	Terbufos	10.1	LCS	P	0 - 27
LFB	Terbuthylazine	2.21	LCS	P	0 - 21
LFB	Thiobencarb	0.101	LCS	P	0 - 30
LFB	Triadimefon	2.26	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P406430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290129	Acesulfame K	25.3	Spike	P	0 - 30
2290129	AMPA	5.58	Spike	P	0 - 30
2290129	Endothall	8.84	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P406430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290129	Glufosinate	2.98	Spike	P	0 - 30
2290129	Glyphosate	4.27	Spike	P	0 - 30
2290129	Sucralose	12.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P406695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290415	2,4-D	22.7	Spike	P	0 - 30
2290415	2,4,5-T	4.99	Spike	P	0 - 30
2290415	Acetaminophen	14.4	Spike	P	0 - 30
2290415	Acetamiprid	11.9	Spike	P	0 - 30
2290415	Afidopyropen	11.3	Spike	P	0 - 30
2290415	Bentazon	9.55	Spike	P	0 - 30
2290415	Benzovindiflupyr	16.5	Spike	P	0 - 30
2290415	Carbamazepine	14.2	Spike	P	0 - 30
2290415	Clothianidin	26.0	Spike	P	0 - 30
2290415	Dinotefuran	2.04	Spike	P	0 - 30
2290415	Diuron	5.28	Spike	P	0 - 30
2290415	Fenuron	13.2	Spike	P	0 - 30
2290415	Fluridone	13.4	Spike	P	0 - 30
2290415	Hydrocodone	13.6	Spike	P	0 - 30
2290415	Ibuprofen	27.3	Spike	P	0 - 30
2290415	Imazapyr	4.76	Spike	P	0 - 30
2290415	Imidacloprid	24.5	Spike	P	0 - 30
2290415	Linuron	7.59	Spike	P	0 - 30
2290415	Mandestrobin	7.59	Spike	P	0 - 30
2290415	MCPP	5.67	Spike	P	0 - 30
2290415	Naproxen	13.1	Spike	P	0 - 30
2290415	Primidone	11.3	Spike	P	0 - 30
2290415	Pyraclostrobin	13.9	Spike	P	0 - 30
2290415	Thiamethoxam	10.4	Spike	P	0 - 30
2290415	Tolfenpyrad	12.4	Spike	P	0 - 30
2290415	Triclopyr	9.44	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P406527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290410	Color (true)	0.822	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P406755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290294	Total Alkalinity	1.80	Sample	P	0 - 5.2

Quality Assurance Report
Precision

Reference Method: SM 2540 C-2011
Batch ID: P406957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290374	TDS	5.50	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P406757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290294	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P407036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2290378	Organic Carbon	0.160	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2290415
Field Sample ID: G2CE0251

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.8	P	30 - 160
EPA 8321B	Diuron-d6	61.6	P	30 - 160
EPA 8321B	Endothall-d6	134	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	28.7	F	30 - 160
EPA 8321B	Primidone-d5	83.8	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	30 - 160

Lab Sample ID: 2290417
Field Sample ID: G2CE0251

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	73.5	P	20 - 200
EPA 8270E	Simazine-d10	111	P	73 - 135
EPA 8270E	Terbufos-d10	96.6	P	58 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A108978
Included Lab Sample IDs: 2290412

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	99.8	P/P	90 - 110

Reference Method: SM 2120 B-2011
Run ID: A108980
Included Lab Sample IDs: 2290410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.1	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A108982
Included Lab Sample IDs: 2290410

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

Reference Method: EPA 8321B
Run ID: A108986
Included Lab Sample IDs: 2290415

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	104	106	P/P	60 - 160
Glufosinate	93.4	96.7	P/P	60 - 160
Glyphosate	128	109	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A109029
Included Lab Sample IDs: 2290415

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	85.4	P/P	60 - 160
Endothall	94.2	94.0	P/P	60 - 160
Sucralose	104	106	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A109030
Included Lab Sample IDs: 2290411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A109036
Included Lab Sample IDs: 2290416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	100	P/P	90 - 110
Antimony	104	103	P/P	90 - 110
Arsenic	95.7	97.5	P/P	90 - 110
Boron	105	102	P/P	90 - 110
Cadmium	103	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A109036
Included Lab Sample IDs: 2290416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	101	99.7	P/P	90 - 110
Copper	91.9	93.7	P/P	90 - 110
Lead	94.9	94.3	P/P	90 - 110
Nickel	92.1	93.5	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Silver	96.7	96.3	P/P	90 - 110
Thallium	96.9	94.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A109076
Included Lab Sample IDs: 2290416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	103	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	104	104	P/P	90 - 110
Manganese	105	105	P/P	90 - 110
Potassium	96.0	96.7	P/P	90 - 110
Sodium	99.7	100	P/P	90 - 110
Zinc	102	98.7	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A109082
Included Lab Sample IDs: 2290417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	103		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine Desethyl	112		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Azoxystrobin	102		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	106		P	80 - 120
Caffeine	98.7		P	80 - 120
Carbophenothion	98.5		P	80 - 120
Carfentrazone Ethyl	103		P	80 - 120
Chlorfenapyr	103		P	80 - 120
Chlorpyrifos Ethyl	104		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Coumaphos	94.9		P	80 - 120
Cyanazine	99.4		P	80 - 120
Cyprodinil	104		P	80 - 120
Demeton	98.5		P	80 - 120
Diazinon	106		P	80 - 120
Difenoconazole	104		P	80 - 120
Dimethenamid	108		P	80 - 120
Dimethomorph	101		P	80 - 120
Disulfoton	102		P	80 - 120
Dithiopyr	105		P	80 - 120
EPTC	100		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A109082
Included Lab Sample IDs: 2290417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ethion	100		P	80 - 120
Ethoprop	102		P	80 - 120
Etridiazole	103		P	80 - 120
Fenamiphos	105		P	80 - 120
Fenbuconazole	110		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	106		P	80 - 120
Fipronil Sulfide	94.8		P	80 - 120
Fipronil Sulfone	94.1		P	80 - 120
Fluazifop-P-butyl	106		P	80 - 120
Fludioxonil	105		P	80 - 120
Flumioxazin	108		P	80 - 120
Flutolanil	102		P	80 - 120
Fluxapyroxad	105		P	80 - 120
Fonofos	102		P	80 - 120
Hexazinone	97.7		P	80 - 120
Imazalil	104		P	80 - 120
Iprodione	99.1		P	80 - 120
Loratadine	110		P	80 - 120
Malathion	98.8		P	80 - 120
Metalaxyl	105		P	80 - 120
Metolachlor	107		P	80 - 120
Metribuzin	103		P	80 - 120
Mevinphos	103		P	80 - 120
Molinate	97.3		P	80 - 120
Myclobutanil	103		P	80 - 120
Naled	109		P	80 - 120
Napropamide	106		P	80 - 120
Norflurazon	95.3		P	80 - 120
Oxadiazon	106		P	80 - 120
Oxyfluorfen	92.2		P	80 - 120
Parathion Ethyl	95.1		P	80 - 120
Parathion Methyl	93.6		P	80 - 120
Pendimethalin	103		P	80 - 120
Phenytoin	101		P	80 - 120
Phorate	101		P	80 - 120
Prodiamine	114		P	80 - 120
Prometon	104		P	80 - 120
Prometryn	103		P	80 - 120
Pronamide	101		P	80 - 120
Propanil	106		P	80 - 120
Propargite	100		P	80 - 120
Propiconazole	99.3		P	80 - 120
Pyraflufen Ethyl	105		P	80 - 120
Pyridaben	110		P	80 - 120
Pyriproxyfen	107		P	80 - 120
Simazine	100		P	80 - 120
Stirophos	101		P	80 - 120
Sulfentrazone	98.6		P	80 - 120
Tebuconazole	105		P	80 - 120
Terbufos	103		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A109082
Included Lab Sample IDs: 2290417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbuthylazine	107		P	80 - 120
Thiobencarb	106		P	80 - 120
Triadimefon	107		P	80 - 120

Reference Method: SM 2320 B-2011
Run ID: A109087
Included Lab Sample IDs: 2290410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	96.7	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A109087
Included Lab Sample IDs: 2290410

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A109104
Included Lab Sample IDs: 2290410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	101	P/P	90 - 110
Sulfate	100	99.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A109107
Included Lab Sample IDs: 2290416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A109129
Included Lab Sample IDs: 2290411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A109136
Included Lab Sample IDs: 2290411

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A109176
Included Lab Sample IDs: 2290411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	98.5	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A109205
Included Lab Sample IDs: 2290417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	99.3		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A109206
Included Lab Sample IDs: 2290411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A109350
Included Lab Sample IDs: 2290415

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	79.2	73.4	P/P	50 - 150
2,4,5-T	94.3	82.6	P/P	50 - 150
Acetaminophen	98.2	102	P/P	60 - 160
Acetamiprid	105	112	P/P	50 - 150
Afidopyropen	99.8	94.7	P/P	50 - 150
Bentazon	107	122	P/P	50 - 160
Benzovindiflupyr	111	120	P/P	50 - 150
Carbamazepine	106	101	P/P	60 - 150
Clothianidin	113	132	P/P	60 - 150
Dinotefuran	95.4	106	P/P	50 - 150
Diuron	112	79.3	P/P	60 - 160
Fenuron	101	98.5	P/P	60 - 150
Fluridone	104	111	P/P	60 - 160
Hydrocodone	100	106	P/P	60 - 150
Ibuprofen	92.0	101	P/P	50 - 160
Imazapyr	79.9	97.2	P/P	50 - 150
Imidacloprid	98.5	99.9	P/P	60 - 150
Linuron	88.2	76.2	P/P	60 - 150
Mandestrobin	117	101	P/P	50 - 150
MCPP	92.0	105	P/P	50 - 150
Naproxen	126	120	P/P	50 - 160
Primidone	80.0	100	P/P	60 - 150
Pyraclostrobin	113	109	P/P	60 - 150
Thiamethoxam	116	101	P/P	50 - 150
Tolfenpyrad	92.5	106	P/P	60 - 150
Triclopyr	86.6	87.8	P/P	50 - 150

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							1.54	
EPA 200.7 Rev. 4.4	Barium	106		113	112	117			4.51
	Calcium	106		108	105				2.56
	Iron	108		110	109	111			2.43
	Magnesium	111		113	110	113			2.26
	Manganese	104		109	107	112			4.71
	Potassium	97.9		103	102	105			3.27
	Sodium	102		103	102	104			1.20
	Zinc	103		107	103	109			5.79
EPA 200.8 Rev. 5.4	Aluminum	104		104	104	105			0.0043
	Antimony	106		108	111	110			2.46
	Arsenic	100		98.1	100	101			2.10
	Boron	101		105	104	102			0.306
	Cadmium	101		104	103	104			0.238
	Chromium	101		105	105	104			0.161
	Copper	96.9		96.1	96.3	97.8			0.160
	Lead	97.3		98.5	98.8	100			0.316
	Nickel	97.9		96.9	96.5	96.8			0.385
	Selenium	98.8		98.4	99.2	98.8			0.813
	Silver	98.5		98.7	100	99.6			1.28
	Thallium	102		106	104	104			1.32
EPA 300.0 Rev. 2.1	Chloride	101		99.6	94.3			2.30	
	Sulfate	102		100	97.2			4.78	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4		97.4	98.2				0.647
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103							8.86
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		98.0	98.0				0.0
EPA 365.1 Rev. 2.0	Total-P	102		106	108				2.26
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		98.7	100				1.41
EPA 8270E	Acetochlor	92.3	90.0	95.8	92.9		2.47		3.04
	Alachlor	86.8	83.8	88.7	88.4		3.40		0.361
	Ametryn	110	106	106	102		3.45		3.52
	Atrazine	85.9	87.2	85.0	89.7		1.51		2.69
	Atrazine Desethyl	79.7	72.2	47.2	54.0		9.85		10.2
	Azinphos Methyl	124	62.2	154	243		66.2		45.2
	Azoxystrobin	88.7	91.2	143	154		2.80		7.83
	Bromacil	78.3	75.3				3.95		34.0
	Butylate	62.5	64.0	46.3	49.3		2.45		6.31
	Caffeine	101	91.2	70.3	77.6		10.2		7.25
	Carbophenothion	95.8	106	88.5	85.7		9.81		3.19
	Carfentrazone Ethyl	87.1	95.3	91.5	89.0		9.00		2.87
	Chlorfenapyr	91.1	99.1	82.0	82.7		8.36		0.841
	Chlorpyrifos Ethyl	77.8	73.0	79.3	94.8		6.31		17.8
	Chlorpyrifos Methyl	111	107	101	101		4.37		0.233
	Coumaphos	190	157	188	219		18.6		15.6
	Cyanazine	104	105	101	104		1.59		3.38
	Cyprodinil	97.4	92.5	101	96.9		5.22		3.62
	Demeton	76.6	62.7	80.0	99.1		20.0		21.2
	Diazinon	95.8	89.7	101	97.4		6.63		3.24
	Difenoconazole	119	71.5	107	83.9		50.2		24.3
	Dimethenamid	76.0	71.9	83.8	81.3		5.46		3.09
	Dimethomorph	106	84.4	91.6	131		22.8		35.6
	Disulfoton	88.6	72.1	86.4	88.4		20.6		2.38
	Dithiopyr	86.0	85.4	85.8	83.5		0.708		2.74
	EPTC	58.3	58.8	43.1	48.7		0.854		12.1

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270E	Ethion	82.7	99.2	73.5	54.1	18.1		30.3
	Ethoprop	88.7	81.9	87.0	93.0	8.06		6.61
	Etridiazole	63.3	60.9	57.4	62.5	3.88		8.47
	Fenamiphos	95.4	110	80.9	73.3	13.9		9.93
	Fenbuconazole	131	125	133	141	4.58		5.41
	Fipronil	91.3	87.0	99.2	101	4.89		1.77
	Fipronil Desulfinyl	87.8	88.0	96.9	97.8	0.181		0.968
	Fipronil Sulfide	91.3	88.6	89.2	91.1	2.98		2.11
	Fipronil Sulfone	105	107	100	99.9	1.71		0.0750
	Fluazifop-P-butyl	85.4	85.9	86.3	83.4	0.611		3.36
	Fludioxonil	86.9	84.5	88.5	83.3	2.77		5.43
	Flumioxazin	203	189	251	245	7.29		2.49
	Flutolanil	68.7	66.0	60.9	63.5	4.04		3.81
	Fluxapyroxad	76.6	61.1	84.8	67.2	22.6		23.1
	Fonofos	85.4	94.4	84.3	85.9	9.99		1.86
	Hexazinone	94.9	94.1			0.916		1.78
	Imazalil	75.2	83.9	68.1	76.6	10.9		11.7
	Iprodione	81.6	65.8	82.0	83.3	21.4		1.60
	Loratadine	158	184	63.1	96.3	15.4		41.6
	Malathion	118	120	111	116	1.38		3.92
	Metalaxyl	78.4	76.6			2.32		15.8
	Metolachlor	87.0	87.5			0.584		6.01
	Metribuzin	69.9	74.1	104	121	5.91		14.9
	Mevinphos	71.2	76.1	81.0	88.7	6.70		9.03
	Molinate	70.1	73.3	66.3	72.7	4.43		9.18
	Myclobutanil	86.5	86.3	93.5	88.5	0.202		5.56
	Naled	21.4	21.5	19.1	20.9	0.677		9.07
	Napropamide	86.4	86.6	77.6	65.7	0.166		16.6
	Norflurazon	98.6	92.2			6.72		8.54
	Oxadiazon	76.4	71.4	73.4	70.4	6.85		4.11
	Oxyfluorfen	113	107	123	122	4.94		1.55
	Parathion Ethyl	89.5	78.2	82.6	81.7	13.6		1.06
	Parathion Methyl	103	109	106	111	5.92		4.45
	Pendimethalin	92.9	110	90.0	93.6	17.3		4.00
	Phenytoin	101	103	76.6	2.13	2.34		189
	Phorate	85.6	72.7	96.4	96.4	16.4		0.0765
	Prodiamine	48.4	62.3	128	121	25.2		5.59
	Prometon	105	114	108	106	8.26		1.40
	Prometryn	86.5	88.6	95.2	93.1	2.46		2.30
	Pronamide	85.4	94.2	83.0	87.2	9.77		4.85
	Propanil	93.1	91.5	92.0	93.1	1.73		1.15
	Propargite	144	131	132	143	9.33		7.78
	Propiconazole	101	103	134	128	2.19		4.22
	Pyraflufen Ethyl	109	124	111	125	12.7		11.5
	Pyridaben	125	153	146	149	19.7		2.33
	Pyriproxyfen	53.3	52.8	47.7	34.1	1.04		33.3
	Simazine	89.3	91.9			2.95		1.44
	Stirophos	115	114	102	90.9	0.892		11.1
	Sulfentrazone	102	128	61.8	92.0	23.0		17.4
	Tebuconazole	62.4	50.1	45.0	29.2	22.0		36.1
	Terbufos	98.2	109	103	107	10.1		3.46
	Terbuthylazine	81.7	83.6	84.0	82.3	2.21		1.99
	Thiobencarb	85.4	85.3	82.1	80.2	0.101		2.33
	Triadimefon	83.1	81.3	93.6	85.7	2.26		8.74

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	2,4-D	69.8	115	88.7			22.7
	2,4,5-T	99.0	104	109			4.99
	Acesulfame K	123	164	127			25.3
	Acetaminophen	79.4	116	100			14.4
	Acetamiprid	74.7	95.6	84.9			11.9
	Afidopyropen	27.7	56.2	50.2			11.3
	AMPA	104	112	106			5.58
	Bentazon	107					9.55
	Benzovindiflupyr	86.0	94.6	80.2			16.5
	Carbamazepine	74.1	110	91.5			14.2
	Clothianidin	92.1	125	96.5			26.0
	Dinotefuran	80.1	127	124			2.04
	Diuron	70.7	84.6	89.2			5.28
	Endothall	94.0	113	103			8.84
	Fenuron	97.3	86.1	72.3			13.2
	Fluridone	92.4	120	89.7			13.4
	Glufosinate	93.4	95.3	92.5			2.98
	Glyphosate	124	100	105			4.27
	Hydrocodone	74.2	110	95.9			13.6
	Ibuprofen	55.2	53.3	70.1			27.3
	Imazapyr	70.3					4.76
	Imidacloprid	76.8	204	155			24.5
	Linuron	86.2	74.9	80.8			7.59
	Mandestrobin	76.9	92.8	86.1			7.59
	MCPP	74.9	87.2	82.4			5.67
	Naproxen	62.9	115	101			13.1
	Primidone	60.1	117	105			11.3
	Pyraclostrobin	85.8	98.7	85.9			13.9
	Sucralose	113	129	112			12.4
	Thiamethoxam	86.4	184	165			10.4
	Tolfenpyrad	70.4	89.2	78.9			12.4
	Triclopyr	82.9	103	93.5			9.44
SM 2120 B-2011	Color (true)	100				0.822	
SM 2320 B-2011	Total Alkalinity	99.7				1.80	
SM 2540 C-2011	TDS					5.50	
SM 4500 F-C-2011	Fluoride	101	99.9	99.9			0.0
SM 5310 B-2011	Organic Carbon	98.8	100	100			0.160

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2290410
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2290416
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2290416
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2290410
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2290410
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2290411
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2290411
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2290411
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2290411

Reference Method Descriptions

Method	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2290412
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2290417
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2290415
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2290410
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2290410
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2290416
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2290410
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2290410
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2290410
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2290411

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	11/18/2021			11/18/2021 15:09	Khloe J Berg	2290410
EPA 200.7 Rev. 4.4	11/18/2021	11/19/2021 10:30	Emily M Philpot	11/23/2021 22:58	Josef B Mick	2290416
	11/18/2021	11/19/2021 10:30	Emily M Philpot	11/24/2021 20:58	Josef B Mick	2290416
EPA 200.8 Rev. 5.4	11/18/2021	11/19/2021 10:30	Emily M Philpot	11/22/2021 20:06	Alexander Thompson	2290416
EPA 300.0 Rev. 2.1	11/18/2021			11/23/2021 04:55	James L Waggerby	2290410
EPA 350.1 Rev. 2.0	11/18/2021			11/30/2021 14:02	Ping Hua	2290411
EPA 351.2 Rev. 2.0	11/18/2021	11/30/2021 13:45	Benjamin T. Nordmann	12/02/2021 13:30	Alexandra J Mattheus	2290411
EPA 353.2 Rev. 2.0	11/18/2021			11/22/2021 09:00	Beverly Y. Sanders	2290411
EPA 365.1 Rev. 2.0	11/18/2021	11/23/2021 12:38	Simonne.V. Calhoun	11/29/2021 19:50	Sarah A Nixon	2290411
EPA 365.1 Rev. 2.0 dissolved	11/18/2021			11/18/2021 13:56	James L Waggerby	2290412
EPA 8270E	11/18/2021	11/19/2021 08:00	Fe-Val Siddell	11/22/2021 19:48	Vandana T. Nagar	2290417
	11/18/2021	11/19/2021 08:00	Fe-Val Siddell	12/02/2021 15:07	Vandana T. Nagar	2290417
EPA 8321B	11/18/2021	11/19/2021 08:30	Juyoung Kim	11/19/2021 10:58	Juyoung Kim	2290415
	11/18/2021	11/19/2021 08:30	Juyoung Kim	11/19/2021 19:47	Manjita Shrestha	2290415
	11/18/2021	11/24/2021 09:00	Manjita Shrestha	12/10/2021 00:42	Juyoung Kim	2290415
SM 2120 B-2011	11/18/2021			11/18/2021 15:37	Blanca Fach	2290410
SM 2320 B-2011	11/18/2021			11/24/2021 00:16	Dale L. Simmons	2290410
SM 2340B	11/18/2021			11/23/2021 22:58	Josef B Mick	2290416
SM 2540 C-2011	11/18/2021			11/23/2021 15:02	Yijie Li	2290410
SM 2540 D-2011	11/18/2021			11/23/2021 15:02	Yijie Li	2290410
SM 4500 F-C-2011	11/18/2021			11/24/2021 00:16	Dale L. Simmons	2290410
SM 5310 B-2011	11/18/2021			12/02/2021 01:48	Khloe J Berg	2290411