

Chemical Analysis Report

TLH-ROC-2021-06-30-01

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

Event Description: **SCI Kits**
Request ID: **RQ-2021-03-15-35**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
Tallahassee, FL 32399
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 26-JUL-2021 12:07



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: Marshall Creek @ SR2

Collection Date/Time: 06/30/2021 09:55

Field ID: G2TLHR0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2258179	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P400434	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P400719	
		Sulfate	0.80		mg SO4/L	P400721	
	SM 2120 B-2011	Color (true)	34		PCU	P400425	
	SM 2320 B-2011	Total Alkalinity	75		mg CaCO3/L	P400782	
	SM 2540 C-2011	TDS	107		mg/L	P400765	
	SM 2540 D-2011	TSS	12		mg/L	P400673	
	SM 4500 F-C-2011	Fluoride	0.048	I	mg F/L	P400786	
2258180	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P400741	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34		mg N/L	P401334	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.52		mg N/L	P400512	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P400529	
	SM 5310 B-2011	Organic Carbon	3.8		mg C/L	P400822	
2258181	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P400412	
2258185	EPA 8321B	2,4-D	0.0020	U	ug/L	P400469	
		Acesulfame K	0.10	U	ug/L	P400314	
		2,4,5-T	0.0040	U	ug/L	P400469	
		AMPA	0.10	U	ug/L	P400314	
		Acetaminophen	0.0080	U	ug/L	P400469	
		Acetamiprid	0.0020	U	ug/L	P400469	
		Endothall	0.25	U	ug/L	P400314	
		Glufosinate	0.10	U	ug/L	P400314	
		Glyphosate	0.10	U	ug/L	P400314	
		Afidopyropen	0.0020	U	ug/L	P400469	
		Bentazon	0.0012	I	ug/L	P400469	
		Sucralose	0.19		ug/L	P400314	
		Benzovindiflupyr	0.0020	U	ug/L	P400469	
		Carbamazepine	8.0E-04	U	ug/L	P400469	
		Clothianidin	0.0021	I	ug/L	P400469	
		Dinotefuran	0.0020	U	ug/L	P400469	
		Diuron	0.0020	U	ug/L	P400469	
		Fenuron	0.016	U	ug/L	P400469	
		Fluridone	8.0E-04	U	ug/L	P400469	
		Imazapyr	0.015	I	ug/L	P400469	
		Hydrocodone	0.0020	U	ug/L	P400469	
		Ibuprofen	0.020	U	ug/L	P400469	
		Imidacloprid	0.0088		ug/L	P400469	MS
		Linuron	0.0040	U	ug/L	P400469	
		Mandestrobin	0.0020	U	ug/L	P400469	
		MCP	0.0020	U	ug/L	P400469	
		Naproxen	0.0080	U	ug/L	P400469	
		Primidone	0.0040	U	ug/L	P400469	
		Pyraclostrobin	0.0020	U	ug/L	P400469	

Field ID: G2TLHR0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2258185	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P400469	MS
		Tolfenpyrad	0.0020	U	ug/L	P400469	
		Triclopyr	0.0040	U	ug/L	P400469	
2258186	EPA 200.7 Rev. 4.4	Barium	14.2		ug/L	P400573	
		Calcium	32.0		mg/L	P400573	
		Iron	940		ug/L	P400573	
		Magnesium	1.39		mg/L	P400573	
		Manganese	73.2		ug/L	P400573	
		Potassium	0.84	I	mg/L	P400573	
		Sodium	2.3		mg/L	P400573	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P400573	
		Aluminum	265		ug/L	P400573	
		Antimony	0.050	U	ug/L	P400573	
		Arsenic	0.64		ug/L	P400573	
		Boron**	12.8		ug/L	P400573	
		Cadmium	0.020	U	ug/L	P400573	
		Chromium	0.77	I	ug/L	P400573	
		Copper	0.40	U	ug/L	P400573	
		Lead	0.33	I	ug/L	P400573	
		Nickel	0.50	U	ug/L	P400573	
		Selenium	0.20	U	ug/L	P400573	
		Silver	0.010	U	ug/L	P400573	
		Thallium	0.10	U	ug/L	P400573	
	SM 2340B	Hardness	85.7		mg/L	P400573	
2258187	EPA 8270E	Acetochlor	9.7		ng/L	P400417	
		Alachlor	0.24	U	ng/L	P400417	
		Ametryn	0.58	U	ng/L	P400417	
		Atrazine	9.5		ng/L	P400417	
		Atrazine Desethyl	2.6	I	ng/L	P400417	
		Azinphos Methyl	1.9	U	ng/L	P400417	
		Azoxystrobin**	2.0	J	ng/L	P400417	
		Bromacil	0.48	U	ng/L	P400417	
		Butylate	0.39	U	ng/L	P400417	
		Caffeine**	7.2	U	ng/L	P400417	
		Carbophenothion	0.48	U	ng/L	P400417	
		Carfentrazone Ethyl**	0.097	U	ng/L	P400417	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P400417	
		Chlorpyrifos Methyl	0.048	U	ng/L	P400417	
		Cyanazine	3.1	U	ng/L	P400417	
		Demeton	1.4	U	ng/L	P400417	
		Diazinon	0.12	U	ng/L	P400417	
		Difenoconazole**	0.58	U	ng/L	P400417	
		Dimethenamid**	1.1		ng/L	P400417	
		Disulfoton	0.48	U	ng/L	P400417	
		Dithiopyr**	0.17	U	ng/L	P400417	

Field ID: G2TLHR0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2258187	EPA 8270E	EPTC	1.2	U	ng/L	P400417	
		Ethion	0.14	UJ	ng/L	P400417	RPD
		Ethoprop	0.097	U	ng/L	P400417	
		Fenamiphos	0.48	U	ng/L	P400417	
		Fenbuconazole**	0.12	U	ng/L	P400417	
		Fipronil	0.24	U	ng/L	P400417	
		Fipronil Desulfinyl**	0.18	I	ng/L	P400417	
		Fipronil Sulfide	0.14	U	ng/L	P400417	
		Fipronil Sulfone	0.28	I	ng/L	P400417	
		Fluazifop-P-butyl**	0.097	U	ng/L	P400417	
		Fludioxonil**	0.12	U	ng/L	P400417	
		Flumioxazin**	1.7	U	ng/L	P400417	
		Flutolanil**	0.31	I	ng/L	P400417	
		Fluxapyroxad**	0.50		ng/L	P400417	
		Fonofos	0.19	U	ng/L	P400417	
		Hexazinone	0.64	I	ng/L	P400417	
		Imazalil**	0.72	U	ng/L	P400417	
		Iprodione**	0.58	U	ng/L	P400417	
		Malathion	0.34	U	ng/L	P400417	
		Metalaxyl	0.72	U	ng/L	P400417	
		Metolachlor	27		ng/L	P400417	
		Metribuzin	3.1	U	ng/L	P400417	
		Mevinphos	1.0	U	ng/L	P400417	
		Molinate	0.29	U	ng/L	P400417	
		Myclobutanil**	0.24	U	ng/L	P400417	
		Naled**	1.4	U	ng/L	P400417	
		Norflurazon	0.48	U	ng/L	P400417	
		Oxadiazon	0.29	U	ng/L	P400417	
		Oxyfluorfen**	0.14	U	ng/L	P400417	
		Parathion Ethyl	0.24	U	ng/L	P400417	
		Parathion Methyl	0.53	U	ng/L	P400417	
		Pendimethalin	0.97	U	ng/L	P400417	
		Phorate	0.51	U	ng/L	P400417	
		Prodiamine**	0.17	U	ng/L	P400417	RPD
		Prometon	1.5	I	ng/L	P400417	
		Prometryn	0.19	U	ng/L	P400417	
		Pronamide**	0.14	U	ng/L	P400417	
		Propiconazole**	0.48	U	ng/L	P400417	
		Pyriproxyfen**	0.12	U	ng/L	P400417	
		Simazine	1.5	I	ng/L	P400417	
		Sulfentrazone**	0.48	U	ng/L	P400417	
		Tebuconazole**	2.2		ng/L	P400417	
		Terbufos	0.097	U	ng/L	P400417	
		Terbuthylazine	0.41	U	ng/L	P400417	

Field ID: G2TLHR0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. Reported results for Azoxystrobin are J qualified due to the internal standard recovery exceeding control limits. 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: P400434

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400573

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: P400573

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: P400719

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400721

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400741

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: P401334

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400512

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400529

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400412

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

Reference Method: EPA 8270E
Batch ID: P400417

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: P400417

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: P400417

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: P400314

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: P400469

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B-2011

Batch ID: P400425

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P400782

Component	Result	Code	Units
Total Alkalinity	0.72	I	mg CaCO3/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P400765

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400673

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400786

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400822

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: P400573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.2		P	85 - 115
Calcium	99.1		P	85 - 115
Iron	95.6		P	85 - 115
Magnesium	102		P	85 - 115
Manganese	99.7		P	85 - 115
Potassium	104		P	85 - 115
Sodium	92.1		P	85 - 115
Zinc	90.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	108		P	85 - 115
Antimony	108		P	85 - 115
Arsenic	105		P	85 - 115
Boron	113		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Copper	102		P	85 - 115
Lead	103		P	85 - 115
Nickel	103		P	85 - 115
Selenium	104		P	85 - 115
Silver	100		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400719

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400721

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400741

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401334

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400529

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: P400412

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

Reference Method: EPA 8270E

Batch ID: P400417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.4	121	P/P	70 - 121
Alachlor	93.4	115	P/P	70 - 119
Ametryn	95.9	116	P/P	61 - 135
Atrazine	94.6	119	P/P	76 - 123
Atrazine Desethyl	53.4	71.9	P/P	35 - 140
Azinphos Methyl	116	125	P/P	57 - 163
Azoxystrobin	96.2	111	P/P	43 - 231
Bromacil	79.3	96.3	P/P	42 - 123
Butylate	49.7	61.3	P/P	34 - 92.0
Caffeine	91.0	101	P/P	70 - 130
Carbophenothion	104	103	P/P	61 - 121
Carfentrazone Ethyl	102	117	P/P	62 - 139
Chlorpyrifos Ethyl	92.1	101	P/P	67 - 121
Chlorpyrifos Methyl	95.3	103	P/P	67 - 120
Cyanazine	93.7	108	P/P	20 - 226
Demeton	40.2	47.4	P/P	35 - 125
Diazinon	98.4	121	P/P	70 - 122
Difenoconazole	150	146	P/P	56 - 186
Dimethenamid	80.5	84.5	P/P	67 - 119
Disulfoton	92.4	102	P/P	47 - 120
Dithiopyr	93.7	110	P/P	67 - 118
EPTC	50.1	60.0	P/P	33 - 90.0
Ethion	89.7	46.5	P/P	40 - 133
Ethoprop	87.0	101	P/P	61 - 121
Fenamiphos	96.6	93.1	P/P	31 - 139
Fenbuconazole	118	139	P/P	66 - 141
Fipronil	99.6	113	P/P	62 - 129
Fipronil Desulfinyl	108	121	P/P	59 - 126
Fipronil Sulfide	92.5	97.4	P/P	63 - 117
Fipronil Sulfone	92.0	88.8	P/P	57 - 117
Fluazifop-P-butyl	98.9	109	P/P	63 - 124
Fludioxonil	104	114	P/P	63 - 123
Flumioxazin	148	137	P/P	34 - 245
Flutolanil	98.2	98.9	P/P	56 - 131

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P400417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	89.9	93.3	P/P	57 - 117
Fonofos	84.1	96.9	P/P	61 - 116
Hexazinone	95.2	103	P/P	55 - 138
Imazalil	99.9	109	P/P	33 - 143
Iprodione	91.2	99.5	P/P	59 - 118
Malathion	100	110	P/P	62 - 138
Metalaxyl	91.6	116	P/P	24 - 147
Metolachlor	94.1	117	P/P	68 - 118
Metribuzin	93.5	125	P/P	20 - 239
Mevinphos	80.6	95.8	P/P	46 - 124
Molinate	66.1	83.9	P/P	46 - 100
Myclobutanil	96.9	101	P/P	32 - 149
Naled	47.0	53.1	P/P	32 - 95.0
Norflurazon	96.2	109	P/P	57 - 127
Oxadiazon	88.5	99.7	P/P	63 - 118
Oxyfluorfen	108	97.8	P/P	69 - 137
Parathion Ethyl	95.7	98.8	P/P	70 - 113
Parathion Methyl	101	115	P/P	71 - 130
Pendimethalin	100	97.9	P/P	55 - 118
Phorate	82.4	94.0	P/P	46 - 125
Prodiamine	101	111	P/P	20 - 141
Prometon	88.0	105	P/P	54 - 122
Prometryn	92.2	105	P/P	66 - 124
Pronamide	96.2	122	P/P	79 - 122
Propiconazole	93.2	100	P/P	61 - 126
Pyriproxyfen	86.3	71.0	P/P	52 - 131
Simazine	90.5	115	P/P	75 - 128
Sulfentrazone	70.6	87.1	P/P	20 - 132
Tebuconazole	76.0	59.2	P/P	20 - 116
Terbufos	105	114	P/P	61 - 117
Terbutylazine	94.2	113	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P400314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.8		P	40 - 150
AMPA	97.0		P	40 - 150
Endothall	97.7		P	40 - 150
Glufosinate	93.3		P	40 - 150
Glyphosate	96.5		P	40 - 150
Sucralose	85.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	102		P	40 - 150
2,4,5-T	88.8		P	40 - 150
Acetaminophen	91.0		P	30 - 150
Acetamiprid	75.9		P	40 - 150
Afidopyropen	78.3		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P400469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	115		P	30 - 150
Benzovindiflupyr	83.0		P	40 - 150
Carbamazepine	90.2		P	40 - 150
Clothianidin	88.8		P	40 - 150
Dinotefuran	82.7		P	40 - 150
Diuron	73.3		P	40 - 150
Fenuron	87.3		P	40 - 150
Fluridone	87.1		P	40 - 150
Hydrocodone	81.5		P	40 - 150
Ibuprofen	85.2		P	40 - 150
Imazapyr	92.9		P	40 - 150
Imidacloprid	94.3		P	40 - 150
Linuron	64.3		P	40 - 150
Mandestrobin	79.4		P	40 - 150
MCPP	113		P	40 - 150
Naproxen	123		P	40 - 150
Primidone	62.4		P	40 - 150
Pyraclostrobin	80.5		P	40 - 150
Thiamethoxam	93.4		P	40 - 150
Tolfenpyrad	50.5		P	30 - 150
Triclopyr	87.2		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P400425

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

Reference Method: SM 2320 B-2011
Batch ID: P400782

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

Reference Method: SM 4500 F-C-2011
Batch ID: P400786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257773	Barium	97.2		P	80 - 120
2257773	Calcium	105		P	80 - 120
2257773	Iron	90.4		P	80 - 120
2257773	Magnesium	101		P	80 - 120
2257773	Manganese	97.3		P	80 - 120
2257773	Potassium	108		P	80 - 120
2257773	Sodium	94.7		P	80 - 120
2257773	Zinc	88.7		P	80 - 120
2258458	Barium	100	98.9	P/P	80 - 120
2258458	Calcium	100		P	80 - 120
2258458	Iron	115	109	P/P	80 - 120
2258458	Magnesium	98.0	102	P/P	80 - 120
2258458	Manganese	99.9	98.9	P/P	80 - 120
2258458	Potassium	104	103	P/P	80 - 120
2258458	Sodium	97.7		P	80 - 120
2258458	Zinc	91.9	90.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257773	Aluminum	114		P	80 - 120
2257773	Antimony	108		P	80 - 120
2257773	Arsenic	105		P	80 - 120
2257773	Boron	113		P	80 - 120
2257773	Cadmium	103		P	80 - 120
2257773	Chromium	102		P	80 - 120
2257773	Copper	105		P	80 - 120
2257773	Lead	104		P	80 - 120
2257773	Nickel	104		P	80 - 120
2257773	Selenium	105		P	80 - 120
2257773	Silver	102		P	80 - 120
2257773	Thallium	111		P	80 - 120
2258458	Aluminum	108	109	P/P	80 - 120
2258458	Antimony	107	108	P/P	80 - 120
2258458	Arsenic	105	106	P/P	80 - 120
2258458	Boron	115	115	P/P	80 - 120
2258458	Cadmium	102	105	P/P	80 - 120
2258458	Chromium	100	101	P/P	80 - 120
2258458	Copper	104	105	P/P	80 - 120
2258458	Lead	105	105	P/P	80 - 120
2258458	Nickel	103	104	P/P	80 - 120
2258458	Selenium	103	102	P/P	80 - 120
2258458	Silver	100	101	P/P	80 - 120
2258458	Thallium	112	111	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258042	Chloride	97.4		P	90 - 110
2258179	Chloride	98.4		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400721

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258042	Sulfate	95.6		P	90 - 110
2258179	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258180	Ammonia-N	96.4	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258442	Kjeldahl Nitrogen	94.3	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258433	NO2NO3-N	98.8	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258094	Total-P	102	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258092	O-Phosphate-P	101	99.9	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P400417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257580	Acetochlor	95.1	103	P/P	66 - 122
2257580	Alachlor	92.9	96.6	P/P	65 - 122
2257580	Ametryn	132	143	P/P	45 - 173
2257580	Azinphos Methyl	114	98.6	P/P	44 - 174
2257580	Bromacil	73.7	77.4	P/P	31 - 145
2257580	Butylate	48.8	48.1	P/P	15 - 97.0
2257580	Caffeine	104	125	P/P	70 - 130
2257580	Carbophenothion	81.7	88.8	P/P	42 - 129
2257580	Carfentrazone Ethyl	86.3	94.4	P/P	62 - 145
2257580	Chlorpyrifos Ethyl	83.5	89.5	P/P	60 - 124
2257580	Chlorpyrifos Methyl	83.8	89.6	P/P	66 - 119
2257580	Cyanazine	92.2	99.7	P/P	17 - 225
2257580	Demeton	43.5	44.5	P/P	36 - 142
2257580	Diazinon	100	103	P/P	70 - 128
2257580	Difenoconazole	137	151	P/P	33 - 222

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P400417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257580	Dimethenamid	74.2	78.6	P/P	54 - 125
2257580	Disulfoton	87.3	88.6	P/P	49 - 133
2257580	Dithiopyr	87.3	92.1	P/P	55 - 123
2257580	EPTC	47.7	48.3	P/P	19 - 91.0
2257580	Ethion	49.6	58.7	P/P	13 - 143
2257580	Ethoprop	87.2	88.4	P/P	49 - 144
2257580	Fenamiphos	97.0	88.6	P/P	32 - 136
2257580	Fenbuconazole	110	116	P/P	73 - 148
2257580	Fipronil	93.6	94.0	P/P	57 - 129
2257580	Fipronil Desulfinyl	98.3	104	P/P	49 - 127
2257580	Fipronil Sulfide	74.9	78.1	P/P	44 - 127
2257580	Fipronil Sulfone	81.1	71.5	P/P	35 - 126
2257580	Fluazifop-P-butyl	86.1	95.1	P/P	67 - 129
2257580	Fludioxonil	90.8	94.2	P/P	61 - 126
2257580	Flumioxazin	147	162	P/P	38 - 279
2257580	Flutolanil	79.5	90.2	P/P	55 - 136
2257580	Fonofos	82.1	84.1	P/P	58 - 125
2257580	Hexazinone	91.9	96.4	P/P	57 - 148
2257580	Imazail	134	128	P/P	10 - 221
2257580	Iprodione	79.9	83.8	P/P	32 - 140
2257580	Malathion	97.8	102	P/P	52 - 138
2257580	Metalaxyl	90.9	95.8	P/P	46 - 134
2257580	Metolachlor	88.1	95.1	P/P	58 - 122
2257580	Metribuzin	116	107	P/P	16 - 272
2257580	Mevinphos	81.1	79.5	P/P	45 - 140
2257580	Molinate	67.0	65.9	P/P	41 - 103
2257580	Myclobutanil	86.2	103	P/P	60 - 134
2257580	Naled	40.8	37.2	P/P	20 - 113
2257580	Norflurazon	88.3	88.2	P/P	51 - 123
2257580	Oxadiazon	80.4	91.8	P/P	44 - 125
2257580	Oxyfluorfen	96.9	100	P/P	66 - 176
2257580	Parathion Ethyl	87.0	91.7	P/P	57 - 132
2257580	Parathion Methyl	99.8	99.8	P/P	59 - 156
2257580	Pendimethalin	96.4	104	P/P	59 - 129
2257580	Phorate	80.3	82.6	P/P	47 - 136
2257580	Prodiamine	85.3	121	P/P	10 - 159
2257580	Prometon	85.5	94.4	P/P	59 - 127
2257580	Prometryn	87.8	95.3	P/P	59 - 129
2257580	Pronamide	95.1	108	P/P	65 - 145
2257580	Propiconazole	84.4	92.7	P/P	28 - 165
2257580	Pyriproxyfen	60.4	68.8	P/P	21 - 180
2257580	Simazine	99.1	102	P/P	63 - 147
2257580	Tebuconazole	53.9	63.4	P/P	10 - 117
2257580	Terbufos	107	111	P/P	61 - 131
2257580	Terbutylazine	98.0	93.8	P/P	62 - 126

Reference Method: EPA 8321B
Batch ID: P400314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257607	Acesulfame K	78.8	87.6	P/P	40 - 150
2257607	AMPA	85.0	82.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P400314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257607	Endothall	93.9	93.7	P/P	40 - 150
2257607	Glufosinate	86.9	89.2	P/P	40 - 150
2257607	Glyphosate	91.4	82.6	P/P	40 - 150
2257607	Sucralose	80.9	85.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P400469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258016	2,4-D	111	115	P/P	40 - 150
2258016	2,4,5-T	118	102	P/P	40 - 150
2258016	Acetaminophen	125	106	P/P	30 - 150
2258016	Acetamiprid	96.2	76.6	P/P	40 - 150
2258016	Afidopyropen	43.0	40.8	P/P	40 - 150
2258016	Bentazon	88.1	84.4	P/P	30 - 150
2258016	Benzovindiflupyr	80.1	64.9	P/P	40 - 150
2258016	Carbamazepine	105	98.4	P/P	40 - 150
2258016	Clothianidin	125	117	P/P	40 - 150
2258016	Dinotefuran	127	105	P/P	40 - 150
2258016	Diuron	87.6	80.3	P/P	40 - 150
2258016	Fenuron	90.1	84.1	P/P	40 - 150
2258016	Fluridone	84.7	76.1	P/P	40 - 150
2258016	Hydrocodone	118	106	P/P	40 - 150
2258016	Ibuprofen	75.0	81.1	P/P	40 - 150
2258016	Imazapyr	149	128	P/P	40 - 150
2258016	Imidacloprid	206	191	F/F	40 - 150
2258016	Linuron	86.5	74.3	P/P	40 - 150
2258016	Mandestrobin	86.5	81.5	P/P	40 - 150
2258016	MCPP	131	107	P/P	40 - 150
2258016	Naproxen	131	128	P/P	40 - 150
2258016	Primidone	98.1	104	P/P	40 - 150
2258016	Pyraclostrobin	76.2	67.4	P/P	40 - 150
2258016	Thiamethoxam	174	153	F/F	40 - 150
2258016	Tolfenpyrad	58.5	53.5	P/P	30 - 150
2258016	Triclopyr	119	110	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P400786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258566	Fluoride	99.4	98.8	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258043	Organic Carbon	100	99.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400434

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258088	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400573

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258458	Barium	1.18	Spike	P	0 - 20
2258458	Calcium	0.163	Spike	P	0 - 20
2258458	Iron	5.17	Spike	P	0 - 20
2258458	Magnesium	2.20	Spike	P	0 - 20
2258458	Manganese	0.958	Spike	P	0 - 20
2258458	Potassium	0.704	Spike	P	0 - 20
2258458	Sodium	2.84	Spike	P	0 - 20
2258458	Zinc	1.21	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400573

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258458	Aluminum	0.725	Spike	P	0 - 20
2258458	Antimony	0.714	Spike	P	0 - 20
2258458	Arsenic	0.265	Spike	P	0 - 20
2258458	Boron	0.190	Spike	P	0 - 20
2258458	Cadmium	2.19	Spike	P	0 - 20
2258458	Chromium	0.976	Spike	P	0 - 20
2258458	Copper	0.924	Spike	P	0 - 20
2258458	Lead	0.310	Spike	P	0 - 20
2258458	Nickel	0.583	Spike	P	0 - 20
2258458	Selenium	0.683	Spike	P	0 - 20
2258458	Silver	0.631	Spike	P	0 - 20
2258458	Thallium	0.784	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400719

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258042	Chloride	0.430	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400721

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258042	Sulfate	0.389	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400741

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258180	Ammonia-N	0.367	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P401334

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258442	Kjeldahl Nitrogen	3.27	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400512

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258433	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400529

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258094	Total-P	2.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400412

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258092	O-Phosphate-P	0.897	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P400417

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257580	Acetochlor	8.28	Spike	P	0 - 30
2257580	Alachlor	3.95	Spike	P	0 - 30
2257580	Ametryn	7.73	Spike	P	0 - 30
2257580	Atrazine	2.59	Spike	P	0 - 30
2257580	Atrazine Desethyl	0.879	Spike	P	0 - 30
2257580	Azinphos Methyl	14.7	Spike	P	0 - 30
2257580	Azoxystrobin	2.62	Spike	P	0 - 30
2257580	Bromacil	3.96	Spike	P	0 - 30
2257580	Butylate	1.31	Spike	P	0 - 30
2257580	Caffeine	12.3	Spike	P	0 - 30
2257580	Carbophenothion	8.33	Spike	P	0 - 30
2257580	Carfentrazone Ethyl	8.89	Spike	P	0 - 30
2257580	Chlorpyrifos Ethyl	6.95	Spike	P	0 - 30
2257580	Chlorpyrifos Methyl	6.68	Spike	P	0 - 30
2257580	Cyanazine	7.91	Spike	P	0 - 30
2257580	Demeton	2.26	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P400417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257580	Diazinon	2.61	Spike	P	0 - 30
2257580	Difenoconazole	10.1	Spike	P	0 - 30
2257580	Dimethenamid	5.80	Spike	P	0 - 30
2257580	Disulfoton	1.55	Spike	P	0 - 30
2257580	Dithiopyr	4.67	Spike	P	0 - 30
2257580	EPTC	1.07	Spike	P	0 - 30
2257580	Ethion	16.8	Spike	P	0 - 30
2257580	Ethoprop	1.38	Spike	P	0 - 30
2257580	Fenamiphos	9.08	Spike	P	0 - 30
2257580	Fenbuconazole	5.55	Spike	P	0 - 30
2257580	Fipronil	0.244	Spike	P	0 - 30
2257580	Fipronil Desulfinyl	3.87	Spike	P	0 - 30
2257580	Fipronil Sulfide	2.81	Spike	P	0 - 30
2257580	Fipronil Sulfone	5.50	Spike	P	0 - 30
2257580	Fluazifop-P-butyl	9.86	Spike	P	0 - 30
2257580	Fludioxonil	3.70	Spike	P	0 - 30
2257580	Flumioxazin	6.88	Spike	P	0 - 30
2257580	Flutolanil	12.7	Spike	P	0 - 30
2257580	Fluxapyroxad	5.28	Spike	P	0 - 30
2257580	Fonofos	2.48	Spike	P	0 - 30
2257580	Hexazinone	4.75	Spike	P	0 - 30
2257580	Imazalil	4.03	Spike	P	0 - 30
2257580	Iprodione	4.73	Spike	P	0 - 30
2257580	Malathion	4.14	Spike	P	0 - 30
2257580	Metalaxyl	5.24	Spike	P	0 - 30
2257580	Metolachlor	6.91	Spike	P	0 - 30
2257580	Metribuzin	8.46	Spike	P	0 - 30
2257580	Mevinphos	2.02	Spike	P	0 - 30
2257580	Molinate	1.63	Spike	P	0 - 30
2257580	Myclobutanil	17.6	Spike	P	0 - 30
2257580	Naled	9.23	Spike	P	0 - 30
2257580	Norflurazon	0.0864	Spike	P	0 - 30
2257580	Oxadiazon	6.42	Spike	P	0 - 30
2257580	Oxyfluorfen	3.42	Spike	P	0 - 30
2257580	Parathion Ethyl	5.30	Spike	P	0 - 30
2257580	Parathion Methyl	0.0395	Spike	P	0 - 30
2257580	Pendimethalin	7.25	Spike	P	0 - 30
2257580	Phorate	2.80	Spike	P	0 - 30
2257580	Prodiamine	34.3	Spike	F	0 - 30
2257580	Prometon	9.87	Spike	P	0 - 30
2257580	Prometryn	8.15	Spike	P	0 - 30
2257580	Pronamide	12.6	Spike	P	0 - 30
2257580	Propiconazole	9.40	Spike	P	0 - 30
2257580	Pyriproxyfen	12.9	Spike	P	0 - 30
2257580	Simazine	1.32	Spike	P	0 - 30
2257580	Sulfentrazone	9.44	Spike	P	0 - 30
2257580	Tebuconazole	16.3	Spike	P	0 - 30
2257580	Terbufos	3.19	Spike	P	0 - 30
2257580	Terbuthylazine	4.38	Spike	P	0 - 30
LFB	Acetochlor	19.3	LCS	P	0 - 30
LFB	Alachlor	20.3	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P400417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Ametryn	18.9	LCS	P	0 - 30
LFB	Atrazine	23.1	LCS	P	0 - 30
LFB	Atrazine Desethyl	29.6	LCS	P	0 - 30
LFB	Azinphos Methyl	6.79	LCS	P	0 - 30
LFB	Azoxystrobin	14.4	LCS	P	0 - 30
LFB	Bromacil	19.3	LCS	P	0 - 30
LFB	Butylate	20.9	LCS	P	0 - 30
LFB	Caffeine	10.3	LCS	P	0 - 30
LFB	Carbophenothion	0.925	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	13.6	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	9.14	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.42	LCS	P	0 - 30
LFB	Cyanazine	13.8	LCS	P	0 - 30
LFB	Demeton	16.4	LCS	P	0 - 30
LFB	Diazinon	20.9	LCS	P	0 - 30
LFB	Difenoconazole	2.72	LCS	P	0 - 30
LFB	Dimethenamid	4.74	LCS	P	0 - 30
LFB	Disulfoton	10.3	LCS	P	0 - 30
LFB	Dithiopyr	16.2	LCS	P	0 - 30
LFB	EPTC	18.1	LCS	P	0 - 30
LFB	Ethion	63.4	LCS	F	0 - 30
LFB	Ethoprop	14.9	LCS	P	0 - 30
LFB	Fenamiphos	3.68	LCS	P	0 - 30
LFB	Fenbuconazole	15.9	LCS	P	0 - 30
LFB	Fipronil	13.0	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	11.4	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.20	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.57	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	10.1	LCS	P	0 - 30
LFB	Fludioxonil	9.07	LCS	P	0 - 30
LFB	Flumioxazin	7.76	LCS	P	0 - 30
LFB	Flutolanil	0.635	LCS	P	0 - 30
LFB	Fluxapyroxad	3.77	LCS	P	0 - 30
LFB	Fonofos	14.2	LCS	P	0 - 30
LFB	Hexazinone	8.34	LCS	P	0 - 30
LFB	Imazalil	8.97	LCS	P	0 - 30
LFB	Iprodione	8.75	LCS	P	0 - 30
LFB	Malathion	9.18	LCS	P	0 - 30
LFB	Metalaxyl	23.3	LCS	P	0 - 30
LFB	Metolachlor	21.4	LCS	P	0 - 30
LFB	Metribuzin	28.6	LCS	P	0 - 30
LFB	Mevinphos	17.3	LCS	P	0 - 30
LFB	Molinate	23.8	LCS	P	0 - 30
LFB	Myclobutanil	4.32	LCS	P	0 - 30
LFB	Naled	12.2	LCS	P	0 - 30
LFB	Norflurazon	12.3	LCS	P	0 - 30
LFB	Oxadiazon	11.9	LCS	P	0 - 30
LFB	Oxyfluorfen	10.1	LCS	P	0 - 30
LFB	Parathion Ethyl	3.14	LCS	P	0 - 30
LFB	Parathion Methyl	12.7	LCS	P	0 - 30
LFB	Pendimethalin	2.21	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P400417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	13.2	LCS	P	0 - 30
LFB	Prodiamine	9.34	LCS	P	0 - 30
LFB	Prometon	18.0	LCS	P	0 - 30
LFB	Prometryn	13.4	LCS	P	0 - 30
LFB	Pronamide	23.4	LCS	P	0 - 30
LFB	Propiconazole	7.25	LCS	P	0 - 30
LFB	Pyriproxyfen	19.4	LCS	P	0 - 30
LFB	Simazine	23.8	LCS	P	0 - 30
LFB	Sulfentrazone	20.9	LCS	P	0 - 30
LFB	Tebuconazole	24.9	LCS	P	0 - 30
LFB	Terbufos	8.39	LCS	P	0 - 30
LFB	Terbuthylazine	18.0	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P400314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257607	Acesulfame K	9.91	Spike	P	0 - 30
2257607	AMPA	2.21	Spike	P	0 - 30
2257607	Endothall	0.197	Spike	P	0 - 30
2257607	Glufosinate	2.64	Spike	P	0 - 30
2257607	Glyphosate	9.03	Spike	P	0 - 30
2257607	Sucralose	5.32	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P400469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258016	2,4-D	3.51	Spike	P	0 - 30
2258016	2,4,5-T	15.0	Spike	P	0 - 30
2258016	Acetaminophen	15.9	Spike	P	0 - 30
2258016	Acetamiprid	22.6	Spike	P	0 - 30
2258016	Afidopyropen	5.24	Spike	P	0 - 30
2258016	Bentazon	4.36	Spike	P	0 - 30
2258016	Benzovindiflupyr	21.0	Spike	P	0 - 30
2258016	Carbamazepine	6.92	Spike	P	0 - 30
2258016	Clothianidin	6.15	Spike	P	0 - 30
2258016	Dinotefuran	19.0	Spike	P	0 - 30
2258016	Diuron	8.61	Spike	P	0 - 30
2258016	Fenuron	6.91	Spike	P	0 - 30
2258016	Fluridone	10.7	Spike	P	0 - 30
2258016	Hydrocodone	11.3	Spike	P	0 - 30
2258016	Ibuprofen	7.81	Spike	P	0 - 30
2258016	Imazapyr	14.0	Spike	P	0 - 30
2258016	Imidacloprid	5.16	Spike	P	0 - 30
2258016	Linuron	15.1	Spike	P	0 - 30
2258016	Mandestrobin	5.98	Spike	P	0 - 30
2258016	MCP	19.7	Spike	P	0 - 30
2258016	Naproxen	2.81	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P400469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258016	Primidone	6.22	Spike	P	0 - 30
2258016	Pyraclostrobin	12.3	Spike	P	0 - 30
2258016	Thiamethoxam	13.0	Spike	P	0 - 30
2258016	Tolfenpyrad	8.86	Spike	P	0 - 30
2258016	Triclopyr	7.54	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P400425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258084	Color (true)	0.0558	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P400782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258566	Total Alkalinity	1.54	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258042	TDS	5.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258566	Fluoride	0.506	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258043	Organic Carbon	0.401	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2258185

Field Sample ID: G2TLHR0007

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	117	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.4	P	30 - 160
EPA 8321B	Diuron-d6	94.7	P	30 - 160
EPA 8321B	Endothall-d6	82.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.7	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160

Lab Sample ID: 2258187

Field Sample ID: G2TLHR0007

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	61.0	P	20 - 200
EPA 8270E	Simazine-d10	96.2	P	73 - 135
EPA 8270E	Terbufos-d10	86.6	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106369

Included Lab Sample IDs: 2258181

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	99.8	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106379

Included Lab Sample IDs: 2258179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106383

Included Lab Sample IDs: 2258179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A106404

Included Lab Sample IDs: 2258185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	75.1	84.8	P/P	60 - 160
Glufosinate	78.5	84.8	P/P	60 - 160
Glyphosate	84.5	86.1	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106426

Included Lab Sample IDs: 2258180

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106455

Included Lab Sample IDs: 2258180

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

Reference Method: EPA 8321B

Run ID: A106461

Included Lab Sample IDs: 2258185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	75.4	77.8	P/P	60 - 160
Endothall	71.1	75.1	P/P	60 - 160
Sucralose	75.8	71.0	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106481

Included Lab Sample IDs: 2258179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	98.7	P/P	90 - 110
Sulfate	99.1	98.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106493

Included Lab Sample IDs: 2258186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	104	P/P	90 - 110
Antimony	104	107	P/P	90 - 110
Arsenic	99.9	102	P/P	90 - 110
Boron	109	107	P/P	90 - 110
Cadmium	100	102	P/P	90 - 110
Chromium	97.4	99.0	P/P	90 - 110
Copper	100	100	P/P	90 - 110
Lead	99.0	99.9	P/P	90 - 110
Nickel	99.5	100	P/P	90 - 110
Selenium	99.2	100	P/P	90 - 110
Silver	99.0	99.5	P/P	90 - 110
Thallium	98.9	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106497

Included Lab Sample IDs: 2258185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	106	P/P	50 - 150
2,4,5-T	103	94.1	P/P	50 - 150
Acetaminophen	104	98.2	P/P	60 - 160
Acetamiprid	92.0	102	P/P	50 - 150
Afidopyropen	106	116	P/P	50 - 150
Bentazon	116	119	P/P	50 - 160
Benzovindiflupyr	95.4	109	P/P	50 - 150
Carbamazepine	99.5	100	P/P	60 - 150
Clothianidin	96.7	108	P/P	60 - 150
Dinotefuran	110	103	P/P	50 - 150
Diuron	90.8	109	P/P	60 - 160
Fenuron	93.9	91.5	P/P	60 - 150
Fluridone	98.4	106	P/P	60 - 160
Hydrocodone	102	109	P/P	60 - 150
Ibuprofen	80.3	83.6	P/P	50 - 160
Imazapyr	116	100	P/P	50 - 150
Imidacloprid	97.9	99.7	P/P	60 - 150
Linuron	81.8	86.4	P/P	60 - 150
Mandestrobin	100	104	P/P	50 - 150
MCPP	96.8	99.8	P/P	50 - 150
Naproxen	83.0	114	P/P	50 - 160
Primidone	85.1	83.0	P/P	60 - 150
Pyraclostrobin	90.0	100	P/P	60 - 150
Thiamethoxam	99.9	105	P/P	50 - 150
Tolfenpyrad	93.7	92.3	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106497
Included Lab Sample IDs: 2258185

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	85.5	96.3	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A106499
Included Lab Sample IDs: 2258187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	97.8		P	80 - 120
Atrazine Desethyl	106		P	80 - 120
Azinphos Methyl	107		P	80 - 120
Azoxystrobin	97.6		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	93.0		P	80 - 120
Caffeine	95.1		P	80 - 120
Carbophenothion	97.2		P	80 - 120
Carfentrazone Ethyl	102		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	109		P	80 - 120
Demeton	98.2		P	80 - 120
Diazinon	97.3		P	80 - 120
Difenoconazole	92.2		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	98.2		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	100		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	103		P	80 - 120
Fenamiphos	101		P	80 - 120
Fenbuconazole	102		P	80 - 120
Fipronil	102		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	99.0		P	80 - 120
Fipronil Sulfone	98.3		P	80 - 120
Fluazifop-P-butyl	98.7		P	80 - 120
Fludioxonil	104		P	80 - 120
Flumioxazin	96.1		P	80 - 120
Flutolanil	100		P	80 - 120
Fluxapyroxad	97.0		P	80 - 120
Fonofos	99.8		P	80 - 120
Hexazinone	102		P	80 - 120
Imazalil	99.7		P	80 - 120
Iprodione	103		P	80 - 120
Malathion	99.2		P	80 - 120
Metalaxyl	106		P	80 - 120
Metolachlor	100		P	80 - 120
Metribuzin	93.7		P	80 - 120
Mevinphos	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A106499
 Included Lab Sample IDs: 2258187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molinate	98.9		P	80 - 120
Myclobutanil	101		P	80 - 120
Naled	103		P	80 - 120
Norflurazon	104		P	80 - 120
Oxadiazon	99.3		P	80 - 120
Oxyfluorfen	95.5		P	80 - 120
Parathion Ethyl	97.7		P	80 - 120
Parathion Methyl	96.1		P	80 - 120
Pendimethalin	96.5		P	80 - 120
Phorate	98.6		P	80 - 120
Prodiamine	101		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	102		P	80 - 120
Pronamide	94.8		P	80 - 120
Propiconazole	98.3		P	80 - 120
Pyriproxyfen	102		P	80 - 120
Simazine	108		P	80 - 120
Sulfentrazone	95.7		P	80 - 120
Tebuconazole	103		P	80 - 120
Terbufos	98.1		P	80 - 120
Terbutylazine	98.8		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
 Run ID: A106531
 Included Lab Sample IDs: 2258180

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.7	96.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
 Run ID: A106543
 Included Lab Sample IDs: 2258186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.4	98.9	P/P	90 - 110
Calcium	99.5	101	P/P	90 - 110
Magnesium	97.1	95.2	P/P	90 - 110
Manganese	99.6	100	P/P	90 - 110
Potassium	100	107	P/P	90 - 110
Sodium	98.5	93.4	P/P	90 - 110
Zinc	92.7	94.8	P/P	90 - 110

Reference Method: SM 2320 B-2011
 Run ID: A106546
 Included Lab Sample IDs: 2258179

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A106546

Included Lab Sample IDs: 2258179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106550

Included Lab Sample IDs: 2258186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	104	110	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A106565

Included Lab Sample IDs: 2258180

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106788

Included Lab Sample IDs: 2258180

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	107	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							0.0	
EPA 200.7 Rev. 4.4	Barium	99.2		97.2	100	98.9			1.18
	Calcium	99.1		105	100				0.163
	Iron	95.6		90.4	115	109			5.17
	Magnesium	102		101	98.0	102			2.20
	Manganese	99.7		97.3	99.9	98.9			0.958
	Potassium	104		108	104	103			0.704
	Sodium	92.1		94.7	97.7				2.84
	Zinc	90.2		88.7	91.9	90.8			1.21
EPA 200.8 Rev. 5.4	Aluminum	108		114	108	109			0.725
	Antimony	108		108	107	108			0.714
	Arsenic	105		105	105	106			0.265
	Boron	113		113	115	115			0.190
	Cadmium	102		103	102	105			2.19
	Chromium	102		102	100	101			0.976
	Copper	102		105	104	105			0.924
	Lead	103		104	105	105			0.310
	Nickel	103		104	103	104			0.583
	Selenium	104		105	103	102			0.683
	Silver	100		102	100	101			0.631
	Thallium	107		111	112	111			0.784
EPA 300.0 Rev. 2.1	Chloride	99.5		97.4	98.4			0.430	
	Sulfate	99.4		95.6	98.2			0.389	
EPA 350.1 Rev. 2.0	Ammonia-N	92.2		96.4	97.0				0.367
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7		94.3	98.0				3.27
EPA 353.2 Rev. 2.0	NO2NO3-N	101		98.8	98.8				0.0
EPA 365.1 Rev. 2.0	Total-P	102		102	105				2.22
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		101	99.9				0.897
EPA 8270E	Acetochlor	99.4	121	95.1	103		19.3		8.28
	Alachlor	93.4	115	92.9	96.6		20.3		3.95
	Ametryn	95.9	116	132	143		18.9		7.73
	Atrazine	94.6	119				23.1		2.59
	Atrazine Desethyl	53.4	71.9				29.6		0.879
	Azinphos Methyl	116	125	114	98.6		6.79		14.7
	Azoxystrobin	96.2	111				14.4		2.62
	Bromacil	79.3	96.3	73.7	77.4		19.3		3.96
	Butylate	49.7	61.3	48.8	48.1		20.9		1.31
	Caffeine	91.0	101	104	125		10.3		12.3
	Carbophenothion	104	103	81.7	88.8		0.925		8.33
	Carfentrazone Ethyl	102	117	86.3	94.4		13.6		8.89
	Chlorpyrifos Ethyl	92.1	101	83.5	89.5		9.14		6.95
	Chlorpyrifos Methyl	95.3	103	83.8	89.6		7.42		6.68
	Cyanazine	93.7	108	92.2	99.7		13.8		7.91
	Demeton	40.2	47.4	43.5	44.5		16.4		2.26
	Diazinon	98.4	121	100	103		20.9		2.61
	Difenoconazole	150	146	137	151		2.72		10.1
	Dimethenamid	80.5	84.5	74.2	78.6		4.74		5.80
	Disulfoton	92.4	102	87.3	88.6		10.3		1.55
	Dithiopyr	93.7	110	87.3	92.1		16.2		4.67
	EPTC	50.1	60.0	47.7	48.3		18.1		1.07
	Ethion	89.7	46.5	49.6	58.7		63.4		16.8
	Ethoprop	87.0	101	87.2	88.4		14.9		1.38
	Fenamiphos	96.6	93.1	97.0	88.6		3.68		9.08
	Fenbuconazole	118	139	110	116		15.9		5.55

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8270E	Fipronil	99.6	113	93.6	94.0	13.0		0.244
	Fipronil Desulfinyl	108	121	98.3	104	11.4		3.87
	Fipronil Sulfide	92.5	97.4	74.9	78.1	5.20		2.81
	Fipronil Sulfone	92.0	88.8	81.1	71.5	3.57		5.50
	Fluazifop-P-butyl	98.9	109	86.1	95.1	10.1		9.86
	Fludioxonil	104	114	90.8	94.2	9.07		3.70
	Flumioxazin	148	137	147	162	7.76		6.88
	Flutolanil	98.2	98.9	79.5	90.2	0.635		12.7
	Fluxapyroxad	89.9	93.3			3.77		5.28
	Fonofos	84.1	96.9	82.1	84.1	14.2		2.48
	Hexazinone	95.2	103	91.9	96.4	8.34		4.75
	Imazalil	99.9	109	134	128	8.97		4.03
	Iprodione	91.2	99.5	79.9	83.8	8.75		4.73
	Malathion	100	110	97.8	102	9.18		4.14
	Metalaxyl	91.6	116	90.9	95.8	23.3		5.24
	Metolachlor	94.1	117	88.1	95.1	21.4		6.91
	Metribuzin	93.5	125	116	107	28.6		8.46
	Mevinphos	80.6	95.8	81.1	79.5	17.3		2.02
	Molinate	66.1	83.9	67.0	65.9	23.8		1.63
	Myclobutanil	96.9	101	86.2	103	4.32		17.6
	Naled	47.0	53.1	40.8	37.2	12.2		9.23
	Norflurazon	96.2	109	88.3	88.2	12.3		0.0864
	Oxadiazon	88.5	99.7	80.4	91.8	11.9		6.42
	Oxyfluorfen	108	97.8	96.9	100	10.1		3.42
	Parathion Ethyl	95.7	98.8	87.0	91.7	3.14		5.30
	Parathion Methyl	101	115	99.8	99.8	12.7		0.0395
	Pendimethalin	100	97.9	96.4	104	2.21		7.25
	Phorate	82.4	94.0	80.3	82.6	13.2		2.80
	Prodiamine	101	111	85.3	121	9.34		34.3
	Prometon	88.0	105	85.5	94.4	18.0		9.87
	Prometryn	92.2	105	87.8	95.3	13.4		8.15
	Pronamide	96.2	122	95.1	108	23.4		12.6
	Propiconazole	93.2	100	84.4	92.7	7.25		9.40
	Pyriproxyfen	86.3	71.0	60.4	68.8	19.4		12.9
	Simazine	90.5	115	99.1	102	23.8		1.32
	Sulfentrazone	70.6	87.1			20.9		9.44
	Tebuconazole	76.0	59.2	53.9	63.4	24.9		16.3
	Terbufos	105	114	107	111	8.39		3.19
	Terbuthylazine	94.2	113	98.0	93.8	18.0		4.38
EPA 8321B	2,4-D	102		111	115			3.51
	2,4,5-T	88.8		118	102			15.0
	Acesulfame K	89.8		78.8	87.6			9.91
	Acetaminophen	91.0		125	106			15.9
	Acetamiprid	75.9		96.2	76.6			22.6
	Afidopyropen	78.3		43.0	40.8			5.24
	AMPA	97.0		85.0	82.9			2.21
	Bentazon	115		88.1	84.4			4.36
	Benzovindiflupyr	83.0		80.1	64.9			21.0
	Carbamazepine	90.2		105	98.4			6.92
	Clothianidin	88.8		125	117			6.15
	Dinotefuran	82.7		127	105			19.0
	Diuron	73.3		87.6	80.3			8.61
	Endothall	97.7		93.9	93.7			0.197
	Fenuron	87.3		90.1	84.1			6.91

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Fluridone	87.1	84.7	76.1		10.7
	Glufosinate	93.3	86.9	89.2		2.64
	Glyphosate	96.5	91.4	82.6		9.03
	Hydrocodone	81.5	118	106		11.3
	Ibuprofen	85.2	75.0	81.1		7.81
	Imazapyr	92.9	149	128		14.0
	Imidacloprid	94.3	206	191		5.16
	Linuron	64.3	86.5	74.3		15.1
	Mandestrobin	79.4	86.5	81.5		5.98
	MCPP	113	131	107		19.7
	Naproxen	123	131	128		2.81
	Primidone	62.4	98.1	104		6.22
	Pyraclostrobin	80.5	76.2	67.4		12.3
	Sucralose	85.2	80.9	85.6		5.32
	Thiamethoxam	93.4	174	153		13.0
	Tolfenpyrad	50.5	58.5	53.5		8.86
	Triclopyr	87.2	119	110		7.54
SM 2120 B-2011	Color (true)	101			0.0558	
SM 2320 B-2011	Total Alkalinity	102			1.54	
SM 2540 C-2011	TDS				5.71	
SM 4500 F-C-2011	Fluoride	100	99.4	98.8		0.506
SM 5310 B-2011	Organic Carbon	98.5	100	99.8		0.401

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2258179
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2258186
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2258186
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2258179
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2258179
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2258180
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2258180
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2258180
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2258180
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2258181
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2258187
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2258185
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2258179
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2258179
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2258186
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2258179
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2258179
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2258179
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2258180

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	06/30/2021			06/30/2021 16:33	Sarah A Nixon	2258179
EPA 200.7 Rev. 4.4	06/30/2021	07/06/2021 13:45	Elliott D. Healy	07/09/2021 14:38	Betina Topolski	2258186
	06/30/2021	07/06/2021 13:45	Elliott D. Healy	07/12/2021 10:13	Betina Topolski	2258186
EPA 200.8 Rev. 5.4	06/30/2021	07/06/2021 13:45	Elliott D. Healy	07/07/2021 18:00	Alexander Thompson	2258186
EPA 300.0 Rev. 2.1	06/30/2021			07/08/2021 16:04	Lipi Saha	2258179
EPA 350.1 Rev. 2.0	06/30/2021			07/09/2021 12:50	Roberta Tatti	2258180
EPA 351.2 Rev. 2.0	06/30/2021	07/21/2021 14:12	Benjamin T. Nordmann	07/22/2021 18:29	Letuzia M De Oliveira	2258180
EPA 353.2 Rev. 2.0	06/30/2021			07/02/2021 08:36	Beverly Y. Sanders	2258180
EPA 365.1 Rev. 2.0	06/30/2021	07/02/2021 14:09	Madeline Gruver	07/06/2021 11:10	Shengyu Ding	2258180
EPA 365.1 Rev. 2.0 dissolved	06/30/2021			06/30/2021 14:36	Ping Hua	2258181
EPA 8270E	06/30/2021	07/02/2021 08:00	Fe-Val Siddell	07/03/2021 19:09	Michael Poppell	2258187
EPA 8321B	06/30/2021	07/01/2021 11:30	Pramila Ghimire	07/01/2021 19:35	Juyoung Kim	2258185
	06/30/2021	07/01/2021 11:30	Pramila Ghimire	07/02/2021 13:38	Pramila Ghimire	2258185
	06/30/2021	07/02/2021 14:00	Hoor Shaik	07/07/2021 17:27	Juyoung Kim	2258185
SM 2120 B-2011	06/30/2021			06/30/2021 17:30	Sarah A Nixon	2258179
SM 2320 B-2011	06/30/2021			07/10/2021 06:14	Dale L. Simmons	2258179
SM 2340B	06/30/2021			07/09/2021 14:38	Betina Topolski	2258186
SM 2540 C-2011	06/30/2021			07/01/2021 15:22	Yijie Li	2258179
SM 2540 D-2011	06/30/2021			07/01/2021 15:22	Yijie Li	2258179
SM 4500 F-C-2011	06/30/2021			07/10/2021 06:14	Dale L. Simmons	2258179
SM 5310 B-2011	06/30/2021			07/09/2021 22:53	Madeline Gruver	2258180