

Chemical Analysis Report

NW-DIST-2021-07-02-02

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

Event Description: **Reference Stream SCI**
Request ID: **RQ-2021-06-28-34**
Customer: **NW-DIST**
Project ID: **SCIREF**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 26-JUL-2021 18:45



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: Black Creek Upstream of HWY 20

Collection Date/Time: 07/01/2021 12:15

Field ID: G3NW0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259576	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P400600	
	EPA 300.0 Rev. 2.1	Chloride	2.6		mg Cl/L	P400720	
		Sulfate	0.92		mg SO4/L	P400722	
	SM 2120 B-2011	Color (true)	200		PCU	P400542	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P400780	
	SM 2540 C-2011	TDS	39		mg/L	P400990	
	SM 2540 D-2011	TSS	4	I	mg/L	P400978	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P400784	
2259577	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P400946	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P400642	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P400563	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P400579	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P401071	
2259578	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P400537	
2259590	EPA 8321B	2,4-D	0.0020	U	ug/L	P400469	
		Acesulfame K	0.10	U	ug/L	P400441	
		2,4,5-T	0.0040	U	ug/L	P400469	
		AMPA	0.10	U	ug/L	P400441	
		Acetaminophen	0.0080	U	ug/L	P400469	
		Acetamiprid	0.0020	U	ug/L	P400469	
		Endothall	0.25	U	ug/L	P400441	
		Glufosinate	0.10	U	ug/L	P400441	
		Glyphosate	0.10	U	ug/L	P400441	
		Afidopyrophen	0.0020	U	ug/L	P400469	
		Bentazon	8.0E-04	U	ug/L	P400469	
		Sucralose	0.013	I	ug/L	P400441	
		Benzovindiflupyr	0.0020	U	ug/L	P400469	
		Carbamazepine	8.0E-04	U	ug/L	P400469	
		Clothianidin	0.0020	U	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	0.016		ug/L	P400469	
		Hydrocodone	0.0020	U	ug/L	P400469	
		Ibuprofen	0.020	U	ug/L	P400469	
		Imidacloprid	0.0025	I	ug/L	P400469	MS
		Linuron	0.0040	U	ug/L	P400469	
		Mandestrobin	0.0020	U	ug/L	P400469	
		MCPP	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: G3NW0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259590	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P400469	MS
		Tolfenpyrad	0.0020	U	ug/L	P400469	
		Triclopyr	0.0040	U	ug/L	P400469	
2259608	EPA 200.7 Rev. 4.4	Barium	6.9		ug/L	P400630	
		Calcium	1.40		mg/L	P400630	
		Iron	570		ug/L	P400630	
		Magnesium	0.57		mg/L	P400630	
		Manganese	9.7		ug/L	P400630	
		Potassium	0.30	U	mg/L	P400630	
		Sodium	1.8	I	mg/L	P400630	
		Zinc	5.0	U	ug/L	P400630	
	EPA 200.8 Rev. 5.4	Aluminum	679		ug/L	P400630	
		Antimony	0.050	U	ug/L	P400630	
		Arsenic	0.37		ug/L	P400630	
		Beryllium	0.042		ug/L	P400630	
		Boron**	13.6		ug/L	P400630	
		Cadmium	0.020	U	ug/L	P400630	
		Chromium	0.69	I	ug/L	P400630	
		Copper	0.40	U	ug/L	P400630	
		Lead	0.47		ug/L	P400630	
		Nickel	0.50	U	ug/L	P400630	
		Selenium	0.20	U	ug/L	P400630	
		Silver	0.010	U	ug/L	P400630	
		Thallium	0.10	U	ug/L	P400630	
	SM 2340B	Hardness	5.8		mg/L	P400630	
2259609	EPA 8270E	Acetochlor	0.26	U	ng/L	P400417	
		Alachlor	0.26	U	ng/L	P400417	
		Ametryn	0.62	U	ng/L	P400417	
		Atrazine	0.26	U	ng/L	P400417	
		Atrazine Desethyl	1.5	U	ng/L	P400417	
		Azinphos Methyl	2.1	U	ng/L	P400417	
		Azoxystrobin**	0.70	I	ng/L	P400417	
		Bromacil	0.52	U	ng/L	P400417	
		Butylate	0.41	U	ng/L	P400417	
		Caffeine**	9.3	I	ng/L	P400417	
		Carbophenothion	0.52	U	ng/L	P400417	
		Carfentrazone Ethyl**	0.10	U	ng/L	P400417	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P400417	
		Chlorpyrifos Methyl	0.052	U	ng/L	P400417	
		Cyanazine	3.4	U	ng/L	P400417	
		Demeton	1.5	U	ng/L	P400417	
		Diazinon	0.13	U	ng/L	P400417	
		Difenoconazole**	0.62	U	ng/L	P400417	
		Dimethenamid**	0.10	U	ng/L	P400417	
		Disulfoton	0.52	U	ng/L	P400417	

Field ID: G3NW0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2259609	EPA 8270E	Dithiopyr**	0.18	U	ng/L	P400417	RPD
		EPTC	1.3	U	ng/L	P400417	
		Ethion	0.15	UJ	ng/L	P400417	
		Ethoprop	0.10	U	ng/L	P400417	
		Fenamiphos	0.52	U	ng/L	P400417	
		Fenbuconazole**	0.13	U	ng/L	P400417	
		Fipronil	0.78	I	ng/L	P400417	
		Fipronil Desulfinyl**	0.69		ng/L	P400417	
		Fipronil Sulfide	0.32	I	ng/L	P400417	
		Fipronil Sulfone	0.65		ng/L	P400417	
		Fluazifop-P-butyl**	0.10	U	ng/L	P400417	
		Fludioxonil**	0.13	U	ng/L	P400417	
		Flumioxazin**	1.8	U	ng/L	P400417	
		Flutolanil**	0.10	U	ng/L	P400417	
		Fluxapyroxad**	0.10	U	ng/L	P400417	
		Fonofos	0.21	U	ng/L	P400417	RPD
		Hexazinone	0.52	U	ng/L	P400417	
		Imazalil**	0.77	U	ng/L	P400417	
		Iprodione**	0.62	U	ng/L	P400417	
		Malathion	0.36	U	ng/L	P400417	
		Metalaxyl	0.77	U	ng/L	P400417	
		Metolachlor	0.50	I	ng/L	P400417	
		Metribuzin	3.4	U	ng/L	P400417	
		Mevinphos	1.1	U	ng/L	P400417	
		Molinate	0.31	U	ng/L	P400417	
		Myclobutanil**	0.26	U	ng/L	P400417	
		Naled**	1.5	U	ng/L	P400417	
		Norflurazon	0.52	U	ng/L	P400417	
		Oxadiazon	0.31	U	ng/L	P400417	
		Oxyfluorfen**	0.15	U	ng/L	P400417	
		Parathion Ethyl	0.26	U	ng/L	P400417	
		Parathion Methyl	0.57	U	ng/L	P400417	
		Pendimethalin	1.0	U	ng/L	P400417	
		Phorate	0.54	U	ng/L	P400417	
		Prodiamine**	0.18	U	ng/L	P400417	
		Prometon	0.93	U	ng/L	P400417	
		Prometryn	0.21	U	ng/L	P400417	
		Pronamide**	0.15	U	ng/L	P400417	
		Propiconazole**	0.52	U	ng/L	P400417	
		Pyriproxyfen**	0.13	U	ng/L	P400417	
		Simazine	7.8		ng/L	P400417	
		Sulfentrazone**	0.52	U	ng/L	P400417	
		Tebuconazole**	0.52	U	ng/L	P400417	
		Terbufos	0.10	U	ng/L	P400417	
		Terbutylazine	0.44	U	ng/L	P400417	

Field ID: G3NW0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high 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. 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: P400600

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400630

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: P400630

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400720

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400722

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400946

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: P400642

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400563

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400579

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400537

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: P400441

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: P400542

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P400780

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P400990

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400978

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400784

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P401071

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: P400630

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	104		P	85 - 115
Calcium	100		P	85 - 115
Iron	112		P	85 - 115
Magnesium	101		P	85 - 115
Manganese	102		P	85 - 115
Potassium	99.6		P	85 - 115
Sodium	102		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400630

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	113		P	85 - 115
Antimony	115		P	85 - 115
Arsenic	111		P	85 - 115
Beryllium	109		P	80 - 120
Boron	114		P	85 - 115
Cadmium	110		P	85 - 115
Chromium	108		P	85 - 115
Copper	110		P	85 - 115
Lead	109		P	85 - 115
Nickel	110		P	85 - 115
Selenium	109		P	85 - 115
Silver	114		P	85 - 115
Thallium	110		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400722

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400946

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400642

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400579

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400537

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: P400441

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	85.0		P	40 - 150
AMPA	87.6		P	40 - 150
Endothall	73.5		P	40 - 150
Glufosinate	83.7		P	40 - 150
Glyphosate	89.3		P	40 - 150
Sucralose	73.7		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: P400542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P400780

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

Reference Method: SM 4500 F-C-2011
Batch ID: P400784

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P401071

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258571	Barium	108	95.8	P/P	80 - 120
2258571	Calcium	80.5		P	80 - 120
2258571	Iron	118	107	P/P	80 - 120
2258571	Magnesium	84.3		P	80 - 120
2258571	Manganese	106	94.6	P/P	80 - 120
2258571	Sodium	90.1		P	80 - 120
2258571	Zinc	105	92.3	P/P	80 - 120
2259780	Barium	101		P	80 - 120
2259780	Calcium	101		P	80 - 120
2259780	Iron	114		P	80 - 120
2259780	Magnesium	106		P	80 - 120
2259780	Manganese	99.5		P	80 - 120
2259780	Potassium	115		P	80 - 120
2259780	Sodium	109		P	80 - 120
2259780	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258571	Aluminum	110	112	P/P	80 - 120
2258571	Antimony	114	117	P/P	80 - 120
2258571	Arsenic	109	111	P/P	80 - 120
2258571	Beryllium	110	111	P/P	80 - 120
2258571	Boron	112	114	P/P	80 - 120
2258571	Cadmium	107	109	P/P	80 - 120
2258571	Chromium	103	105	P/P	80 - 120
2258571	Copper	105	105	P/P	80 - 120
2258571	Lead	106	109	P/P	80 - 120
2258571	Nickel	104	106	P/P	80 - 120
2258571	Selenium	104	107	P/P	80 - 120
2258571	Silver	109	108	P/P	80 - 120
2258571	Thallium	110	113	P/P	80 - 120
2259780	Aluminum	104		P	80 - 120
2259780	Antimony	111		P	80 - 120
2259780	Arsenic	107		P	80 - 120
2259780	Beryllium	107		P	80 - 120
2259780	Boron	108		P	80 - 120
2259780	Cadmium	106		P	80 - 120
2259780	Chromium	102		P	80 - 120
2259780	Copper	101		P	80 - 120
2259780	Lead	106		P	80 - 120
2259780	Nickel	105		P	80 - 120
2259780	Selenium	104		P	80 - 120
2259780	Silver	108		P	80 - 120
2259780	Thallium	112		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258506	Chloride	97.6		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258641	Chloride	96.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258641	Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259577	Ammonia-N	93.8	94.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259577	Kjeldahl Nitrogen	101	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259581	NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259582	Total-P	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259583	O-Phosphate-P	96.3	98.1	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

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	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
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	Imazalil	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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P400441

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258570	Acesulfame K	87.0	84.0	P/P	40 - 150
2258570	AMPA	80.5	82.7	P/P	40 - 150
2258570	Endothall	77.7	80.3	P/P	40 - 150
2258570	Glufosinate	85.7	95.5	P/P	40 - 150
2258570	Glyphosate	87.3	87.9	P/P	40 - 150
2258570	Sucralose	72.2	74.8	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: P400784

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258060	Fluoride	99.1	99.1	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P401071

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259598	Organic Carbon	99.8	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400600

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259493	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400630

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258571	Barium	11.4	Spike	P	0 - 20
2258571	Calcium	11.0	Spike	P	0 - 20
2258571	Iron	9.76	Spike	P	0 - 20
2258571	Magnesium	9.43	Spike	P	0 - 20
2258571	Manganese	11.1	Spike	P	0 - 20
2258571	Potassium	5.41	Spike	P	0 - 20
2258571	Sodium	10.2	Spike	P	0 - 20
2258571	Zinc	12.1	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400630

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258571	Aluminum	1.96	Spike	P	0 - 20
2258571	Antimony	2.26	Spike	P	0 - 20
2258571	Arsenic	1.60	Spike	P	0 - 20
2258571	Beryllium	0.278	Spike	P	0 - 20
2258571	Boron	0.937	Spike	P	0 - 20
2258571	Cadmium	1.87	Spike	P	0 - 20
2258571	Chromium	1.23	Spike	P	0 - 20
2258571	Copper	0.488	Spike	P	0 - 20
2258571	Lead	2.43	Spike	P	0 - 20
2258571	Nickel	1.73	Spike	P	0 - 20
2258571	Selenium	2.80	Spike	P	0 - 20
2258571	Silver	0.380	Spike	P	0 - 20
2258571	Thallium	2.73	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400720

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258506	Chloride	0.669	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400946

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259577	Ammonia-N	0.339	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400642

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259577	Kjeldahl Nitrogen	4.19	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400563

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259581	NO2NO3-N	0.306	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400579

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259582	Total-P	0.368	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400537

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259583	O-Phosphate-P	1.09	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
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

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	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	Terbutylazine	4.38	Spike	P	0 - 30
LFB	Acetochlor	19.3	LCS	P	0 - 30
LFB	Alachlor	20.3	LCS	P	0 - 30
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

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	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
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

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	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: P400441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258570	Acesulfame K	3.53	Spike	P	0 - 30
2258570	AMPA	2.70	Spike	P	0 - 30
2258570	Endothall	3.17	Spike	P	0 - 30
2258570	Glufosinate	10.9	Spike	P	0 - 30
2258570	Glyphosate	0.726	Spike	P	0 - 30
2258570	Sucralose	3.61	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
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

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
 Batch ID: P400542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259593	Color (true)	0.410	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P400780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258060	Total Alkalinity	0.255	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
 Batch ID: P400990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259593	TDS	3.22	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
 Batch ID: P400978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259593	TSS	3.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P400784

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258060	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
 Batch ID: P401071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259598	Organic Carbon	1.20	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2259590

Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	135	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.7	P	30 - 160
EPA 8321B	Diuron-d6	80.4	P	30 - 160
EPA 8321B	Endothall-d6	99.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.3	P	30 - 160
EPA 8321B	Primidone-d5	100	P	30 - 160
EPA 8321B	Sucralose-d6	88.1	P	30 - 160

Lab Sample ID: 2259609

Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	64.2	P	20 - 200
EPA 8270E	Simazine-d10	100	P	73 - 135
EPA 8270E	Terbufos-d10	86.1	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106430
Included Lab Sample IDs: 2259590

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	98.8	P/P	60 - 160
Glufosinate	91.0	95.3	P/P	60 - 160
Glyphosate	99.3	102	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A106433
Included Lab Sample IDs: 2259578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	98.5	P/P	90 - 110

Reference Method: SM 2120 B-2011
Run ID: A106435
Included Lab Sample IDs: 2259576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	102	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A106453
Included Lab Sample IDs: 2259577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	99.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A106461
Included Lab Sample IDs: 2259590

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	77.8	97.4	P/P	60 - 160
Endothall	75.1	76.5	P/P	60 - 160
Sucralose	71.0	72.8	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A106472
Included Lab Sample IDs: 2259576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A106481
Included Lab Sample IDs: 2259576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.8	100	P/P	90 - 110
Sulfate	99.6	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106482

Included Lab Sample IDs: 2259577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106497

Included Lab Sample IDs: 2259590

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.0	93.4	P/P	50 - 150
2,4,5-T	91.4	106	P/P	50 - 150
Acetaminophen	99.4	108	P/P	60 - 160
Acetamiprid	106	106	P/P	50 - 150
Afidopyropen	95.9	99.6	P/P	50 - 150
Bentazon	108	101	P/P	50 - 160
Benzovindiflupyr	95.7	105	P/P	50 - 150
Carbamazepine	101	100	P/P	60 - 150
Clothianidin	101	102	P/P	60 - 150
Dinotefuran	107	107	P/P	50 - 150
Diuron	109	104	P/P	60 - 160
Fenuron	96.6	96.4	P/P	60 - 150
Fluridone	103	101	P/P	60 - 160
Hydrocodone	104	98.8	P/P	60 - 150
Ibuprofen	92.8	74.6	P/P	50 - 160
Imazapyr	96.0	106	P/P	50 - 150
Imidacloprid	104	98.5	P/P	60 - 150
Linuron	107	92.8	P/P	60 - 150
Mandestrobin	102	102	P/P	50 - 150
MCPP	99.6	93.5	P/P	50 - 150
Naproxen	158	122	P/P	50 - 160
Primidone	96.9	91.6	P/P	60 - 150
Pyraclostrobin	105	101	P/P	60 - 150
Thiamethoxam	108	110	P/P	50 - 150
Tolfenpyrad	98.7	101	P/P	60 - 150
Triclopyr	95.5	103	P/P	50 - 150

Reference Method: EPA 8270E

Run ID: A106499

Included Lab Sample IDs: 2259609

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A106499
Included Lab Sample IDs: 2259609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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
Metaxyl	106		P	80 - 120
Metolachlor	100		P	80 - 120
Metribuzin	93.7		P	80 - 120
Mevinphos	100		P	80 - 120
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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A106499
Included Lab Sample IDs: 2259609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbufos	98.1		P	80 - 120
Terbutylazine	98.8		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A106518
Included Lab Sample IDs: 2259577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	103	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A106546
Included Lab Sample IDs: 2259576

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

Reference Method: SM 4500 F-C-2011
Run ID: A106546
Included Lab Sample IDs: 2259576

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A106567
Included Lab Sample IDs: 2259608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	91.2	90.7	P/P	90 - 110
Calcium	99.4	95.3	P/P	90 - 110
Iron	101	99.0	P/P	90 - 110
Magnesium	101	98.0	P/P	90 - 110
Manganese	90.5	90.2	P/P	90 - 110
Potassium	105	104	P/P	90 - 110
Sodium	104	103	P/P	90 - 110
Zinc	94.8	93.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106571
Included Lab Sample IDs: 2259608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	102	P/P	90 - 110
Antimony	106	106	P/P	90 - 110
Boron	101	103	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	96.4	95.9	P/P	90 - 110
Copper	98.2	98.4	P/P	90 - 110
Nickel	98.2	97.5	P/P	90 - 110
Selenium	98.8	98.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106571

Included Lab Sample IDs: 2259608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	106	105	P/P	90 - 110
Thallium	96.4	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106612

Included Lab Sample IDs: 2259577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	98.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106617

Included Lab Sample IDs: 2259608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	99.7	P/P	90 - 110
Beryllium	100	99.8	P/P	90 - 110
Lead	100	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106660

Included Lab Sample IDs: 2259577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.8	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	104		108	95.8	101		11.4
	Calcium	100		80.5	101			11.0
	Iron	112		118	107	114		9.76
	Magnesium	101		84.3	106			9.43
	Manganese	102		106	94.6	99.5		11.1
	Potassium	99.6		115				5.41
	Sodium	102		90.1	109			10.2
	Zinc	103		105	92.3	101		12.1
EPA 200.8 Rev. 5.4	Aluminum	113		104	110	112		1.96
	Antimony	115		111	114	117		2.26
	Arsenic	111		107	109	111		1.60
	Beryllium	109		107	110	111		0.278
	Boron	114		108	112	114		0.937
	Cadmium	110		106	107	109		1.87
	Chromium	108		102	103	105		1.23
	Copper	110		101	105	105		0.488
	Lead	109		106	106	109		2.43
	Nickel	110		105	104	106		1.73
	Selenium	109		104	104	107		2.80
	Silver	114		108	109	108		0.380
	Thallium	110		112	110	113		2.73
EPA 300.0 Rev. 2.1	Chloride	96.6		97.6	96.7		0.669	
	Sulfate	96.6		95.9				
EPA 350.1 Rev. 2.0	Ammonia-N	99.8		93.8	94.2			0.339
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104		101	107			4.19
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5		98.0	97.5			0.306
EPA 365.1 Rev. 2.0	Total-P	104		107	107			0.368
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		96.3	98.1			1.09
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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fenbuconazole	118	139	110	116	15.9	5.55
	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
	Terbutylazine	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	85.0		87.0	84.0		3.53
	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	87.6		80.5	82.7		2.70
	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	73.5		77.7	80.3		3.17

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Fenuron	87.3	90.1	84.1			6.91
	Fluridone	87.1	84.7	76.1			10.7
	Glufosinate	83.7	85.7	95.5			10.9
	Glyphosate	89.3	87.3	87.9			0.726
	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
	MCP	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	73.7	72.2	74.8			3.61
	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)	99.6				0.410	
SM 2320 B-2011	Total Alkalinity	103				0.255	
SM 2540 C-2011	TDS					3.22	
SM 2540 D-2011	TSS					3.64	
SM 4500 F-C-2011	Fluoride	99.1	99.1	99.1			0.0
SM 5310 B-2011	Organic Carbon	95.8	99.8	102			1.20

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2259576
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2259608
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2259608
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2259576
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2259576
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2259577
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2259577
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2259577
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2259577
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2259578
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2259609
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2259590
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2259576
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2259576
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2259608
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2259576
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2259576
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2259576
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2259577

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	07/02/2021			07/02/2021 15:25	Blanca Fach	2259576
EPA 200.7 Rev. 4.4	07/02/2021	07/07/2021 14:10	Elliott D. Healy	07/12/2021 17:28	Betina Topolski	2259608
EPA 200.8 Rev. 5.4	07/02/2021	07/07/2021 14:10	Elliott D. Healy	07/12/2021 19:23	McKinley C Carter	2259608
	07/02/2021	07/07/2021 14:10	Elliott D. Healy	07/14/2021 14:14	Alexander Thompson	2259608
EPA 300.0 Rev. 2.1	07/02/2021			07/09/2021 00:56	Lipi Saha	2259576
EPA 350.1 Rev. 2.0	07/02/2021			07/14/2021 12:34	Roberta Tatti	2259577
EPA 351.2 Rev. 2.0	07/02/2021	07/07/2021 13:18	Benjamin T. Nordmann	07/08/2021 16:56	Letuzia M De Oliveira	2259577
EPA 353.2 Rev. 2.0	07/02/2021			07/06/2021 09:26	Beverly Y. Sanders	2259577
EPA 365.1 Rev. 2.0	07/02/2021	07/06/2021 15:49	Madeline Gruver	07/07/2021 13:34	Shengyu Ding	2259577
EPA 365.1 Rev. 2.0 dissolved	07/02/2021			07/02/2021 15:20	Ping Hua	2259578
EPA 8270E	07/02/2021	07/02/2021 11:00	Fe-Val Siddell	07/03/2021 21:39	Michael Poppell	2259609
EPA 8321B	07/02/2021	07/02/2021 11:00	Pramila Ghimire	07/02/2021 11:18	Pramila Ghimire	2259590
	07/02/2021	07/02/2021 11:00	Pramila Ghimire	07/02/2021 16:22	Pramila Ghimire	2259590
	07/02/2021	07/02/2021 14:00	Hoor Shaik	07/07/2021 22:39	Juyoung Kim	2259590
SM 2120 B-2011	07/02/2021			07/02/2021 20:16	Benjamin T. Nordmann	2259576
SM 2320 B-2011	07/02/2021			07/09/2021 19:39	Dale L. Simmons	2259576
SM 2340B	07/02/2021			07/12/2021 17:28	Betina Topolski	2259608
SM 2540 C-2011	07/02/2021			07/07/2021 14:08	Yijie Li	2259576
SM 2540 D-2011	07/02/2021			07/07/2021 14:08	Yijie Li	2259576
SM 4500 F-C-2011	07/02/2021			07/09/2021 19:39	Dale L. Simmons	2259576
SM 5310 B-2011	07/02/2021			07/14/2021 22:01	Madeline Gruver	2259577