Chemical Analysis Report

WAS-SECT-2021-06-01-01

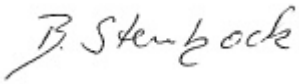
Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **SCI Kit #2**
Request ID: **RQ-2021-01-04-30**
Customer: **WAS-SECT**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Curtis Musson

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 25-JUN-2021 17:40



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: Lake Stanley **Collection Date/Time: 06/01/2021 12:24**

Field ID: G3WA0015 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2251285	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P399117	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P399639	
		Sulfate	1.5		mg SO4/L	P399618	
	SM 2120 B-2011	Color (true)	17		PCU	P399113	
	SM 2320 B-2011	Total Alkalinity	3.6		mg CaCO3/L	P399336	
	SM 2540 C-2011	TDS	27		mg/L	P399523	
	SM 2540 D-2011	TSS	2	U	mg/L	P399314	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P400024	
2251286	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P399373	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P399227	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P399216	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P399486	
	SM 5310 B-2011	Organic Carbon	5.1		mg C/L	P399729	
2251287	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399119	
2251290	EPA 8321B	2,4-D	0.18		ug/L	P399076	
		Acesulfame K	0.10	U	ug/L	P399017	
		2,4,5-T	0.0040	U	ug/L	P399076	
		AMPA	0.10	U	ug/L	P399017	
		Sucralose	0.12		ug/L	P399017	MS
		Acetaminophen	0.0080	U	ug/L	P399076	
		Acetamiprid	0.0020	U	ug/L	P399076	
		Endothall	0.25	U	ug/L	P399017	
		Glufosinate	0.10	U	ug/L	P399017	
		Glyphosate	0.10	U	ug/L	P399017	
		Afidopyropen	0.0020	U	ug/L	P399076	
		Bentazon	8.0E-04	U	ug/L	P399076	
		Benzovindiflupyr	0.0020	U	ug/L	P399076	
		Carbamazepine	8.0E-04	U	ug/L	P399076	
		Clothianidin	0.0020	U	ug/L	P399076	
		Dinotefuran	0.0020	U	ug/L	P399076	
		Diuron	0.0020	U	ug/L	P399076	
		Fenuron	0.016	U	ug/L	P399076	
		Fluridone	0.0017	I	ug/L	P399076	
		Imazapyr	0.0040	U	ug/L	P399076	
		Hydrocodone	0.0020	U	ug/L	P399076	
		Ibuprofen	0.020	U	ug/L	P399076	
		Imidacloprid	0.0020	U	ug/L	P399076	
		Linuron	0.0040	U	ug/L	P399076	
		Mandestrobin	0.0020	U	ug/L	P399076	
		MCPP	0.0020	U	ug/L	P399076	
		Naproxen	0.0080	U	ug/L	P399076	
		Primidone	0.0040	U	ug/L	P399076	
		Pyraclostrobin	0.0020	U	ug/L	P399076	

Field ID: G3WA0015 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2251290	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P399076	
		Tolfenpyrad	0.0020	U	ug/L	P399076	
		Triclopyr	0.0040	U	ug/L	P399076	
2251291	EPA 200.7 Rev. 4.4	Calcium	1.86		mg/L	P399302	
		Iron	30	U	ug/L	P399302	
		Magnesium	0.70		mg/L	P399302	
		Potassium	0.46	I	mg/L	P399302	
		Sodium	1.9	I	mg/L	P399302	
		Strontium	5.7	I	ug/L	P399302	
		Tin	3.0	U	ug/L	P399302	
		Titanium	0.75	U	ug/L	P399302	
		Vanadium	2.0	U	ug/L	P399302	
		Zinc	5.0	U	ug/L	P399302	
	EPA 200.8 Rev. 5.4	Aluminum	27		ug/L	P399302	
		Antimony	0.068	I	ug/L	P399302	
		Arsenic	1.67		ug/L	P399302	
		Barium	4.40		ug/L	P399302	
		Beryllium	0.010	U	ug/L	P399302	
		Boron**	11.9		ug/L	P399302	
		Cadmium	0.020	U	ug/L	P399302	
		Chromium	0.40	U	ug/L	P399302	
		Cobalt	0.020	U	ug/L	P399302	
		Copper	0.71	I	ug/L	P399302	
		Lead	0.20	U	ug/L	P399302	
		Manganese	2.72		ug/L	P399302	
		Molybdenum	0.15	U	ug/L	P399302	
		Nickel	0.50	U	ug/L	P399302	
		Selenium	0.20	U	ug/L	P399302	
		Silver	0.010	U	ug/L	P399302	
		Thallium	0.10	U	ug/L	P399302	
	SM 2340B	Hardness	7.5		mg/L	P399302	
2251292	EPA 8270E	Acetochlor	0.25	U	ng/L	P399205	
		Alachlor	0.25	U	ng/L	P399205	
		Ametryn	0.60	U	ng/L	P399205	
		Atrazine	5.0		ng/L	P399205	
		Atrazine Desethyl	4.9	I	ng/L	P399205	
		Azinphos Methyl	2.0	UJ	ng/L	P399205	MS
		Azoxystrobin**	0.50	UJ	ng/L	P399205	RPD
		Bromacil	0.50	U	ng/L	P399205	
		Butylate	0.40	U	ng/L	P399205	
		Caffeine**	43		ng/L	P399205	
		Carbophenothion	0.50	U	ng/L	P399205	
		Carfentrazone Ethyl**	0.10	U	ng/L	P399205	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P399205	
		Chlorpyrifos Methyl	0.050	U	ng/L	P399205	

Field ID: G3WA0015 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2251292	EPA 8270E	Cyanazine	3.2	U	ng/L	P399205	
		Demeton	1.5	U	ng/L	P399205	
		Diazinon	0.12	U	ng/L	P399205	
		Difenoconazole**	0.60	U	ng/L	P399205	
		Dimethenamid**	0.10	U	ng/L	P399205	
		Disulfoton	0.50	U	ng/L	P399205	
		Dithiopyr**	0.18	U	ng/L	P399205	
		EPTC	1.2	U	ng/L	P399205	
		Ethion	0.15	U	ng/L	P399205	
		Ethoprop	0.10	U	ng/L	P399205	
		Fenamiphos	0.50	U	ng/L	P399205	
		Fenbuconazole**	0.12	U	ng/L	P399205	
		Fipronil	0.25	U	ng/L	P399205	
		Fipronil Desulfinyl**	0.12	U	ng/L	P399205	
		Fipronil Sulfide	0.15	U	ng/L	P399205	
		Fipronil Sulfone	0.16	I	ng/L	P399205	
		Fluazifop-P-butyl**	0.10	U	ng/L	P399205	
		Fludioxonil**	0.12	U	ng/L	P399205	
		Flumioxazin**	1.8	U	ng/L	P399205	
		Flutolanil**	0.10	U	ng/L	P399205	
		Fluxapyroxad**	0.10	U	ng/L	P399205	
		Fonofos	0.20	U	ng/L	P399205	
		Hexazinone	4.0	J	ng/L	P399205	
		Imazalil**	0.75	U	ng/L	P399205	
		Iprodione**	0.60	U	ng/L	P399205	
		Malathion	0.35	U	ng/L	P399205	
		Metalaxyl	0.75	U	ng/L	P399205	
		Metolachlor	0.88	I	ng/L	P399205	
		Metribuzin	3.2	U	ng/L	P399205	
		Mevinphos	1.0	U	ng/L	P399205	
		Molinate	0.30	U	ng/L	P399205	
		Myclobutanil**	0.25	U	ng/L	P399205	
		Naled**	1.5	U	ng/L	P399205	
		Norflurazon	0.50	U	ng/L	P399205	
		Oxadiazon	0.30	U	ng/L	P399205	
		Oxyfluorfen**	0.15	U	ng/L	P399205	
		Parathion Ethyl	0.25	U	ng/L	P399205	
		Parathion Methyl	0.55	U	ng/L	P399205	
		Pendimethalin	1.0	U	ng/L	P399205	
		Phorate	0.52	U	ng/L	P399205	
		Prodiamine**	0.18	U	ng/L	P399205	
		Prometon	0.90	U	ng/L	P399205	
		Prometryn	0.20	U	ng/L	P399205	
		Pronamide**	0.15	U	ng/L	P399205	
		Propiconazole**	0.83	I	ng/L	P399205	

Field ID: G3WA0015 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2251292	EPA 8270E	Pyriproxyfen**	0.12	U	ng/L	P399205	
		Simazine	0.50	U	ng/L	P399205	
		Sulfentrazone**	0.50	U	ng/L	P399205	
		Tebuconazole**	3.1		ng/L	P399205	
		Terbufos	0.10	U	ng/L	P399205	
		Terbuthylazine	0.42	U	ng/L	P399205	

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: Reported results for hexazinone J qualified due to the internal standard recovery exceeding control limits. MS accuracy for atrazine and caffeine 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: P399117

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P399302

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399302

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P399618

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399639

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399373

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399227

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399216

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399486

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399119

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

Reference Method: EPA 8270E
Batch ID: P399205

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P399205

Component	Result	Code	Units
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
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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P399205

Component	Result	Code	Units
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
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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P399205

Component	Result	Code	Units
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P399017

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: P399076

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: P399113

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P399336

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

Reference Method: SM 2540 C-2011
Batch ID: P399523

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P399314

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400024

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P399729

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: P399302

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	106		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	101		P	85 - 115
Sodium	104		P	85 - 115
Strontium	99.1		P	85 - 115
Tin	97.8		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	98.4		P	85 - 115
Zinc	93.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399302

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.4		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	102		P	85 - 115
Barium	99.5		P	85 - 115
Beryllium	92.4		P	85 - 115
Boron	107		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	99.7		P	85 - 115
Cobalt	97.7		P	85 - 115
Copper	100		P	85 - 115
Lead	110		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	99.6		P	85 - 115
Selenium	103		P	85 - 115
Silver	101		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399639

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399227

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399216

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399486

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399119

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

Reference Method: EPA 8270E
Batch ID: P399205

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	86.7	91.5	P/P	70 - 121
Alachlor	85.2	89.1	P/P	70 - 119
Ametryn	103	105	P/P	61 - 135
Atrazine	91.0	95.8	P/P	76 - 123
Atrazine Desethyl	75.3	97.5	P/P	35 - 140
Azinphos Methyl	117	115	P/P	57 - 163
Azoxystrobin	122	151	P/P	43 - 231
Bromacil	77.7	86.1	P/P	42 - 123
Butylate	49.7	57.9	P/P	34 - 92.0
Caffeine	94.0	86.6	P/P	70 - 130
Carbophenothion	106	106	P/P	61 - 121
Carfentrazone Ethyl	113	122	P/P	62 - 139
Chlorpyrifos Ethyl	92.3	85.6	P/P	67 - 121
Chlorpyrifos Methyl	88.7	85.3	P/P	67 - 120
Cyanazine	175	177	P/P	20 - 226
Demeton	84.1	86.0	P/P	35 - 125
Diazinon	84.3	87.4	P/P	70 - 122
Difenoconazole	112	120	P/P	56 - 186
Dimethenamid	83.0	86.3	P/P	67 - 119
Disulfoton	88.1	86.9	P/P	47 - 120
Dithiopyr	77.4	83.2	P/P	67 - 118
EPTC	44.2	52.2	P/P	33 - 90.0
Ethion	90.1	70.2	P/P	40 - 133
Ethoprop	97.5	101	P/P	61 - 121
Fenamiphos	115	116	P/P	31 - 139
Fenbuconazole	86.3	91.3	P/P	66 - 141
Fipronil	77.1	91.9	P/P	62 - 129
Fipronil Desulfinyl	82.6	85.9	P/P	59 - 126

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P399205

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfide	83.7	92.2	P/P	63 - 117
Fipronil Sulfone	96.0	88.8	P/P	57 - 117
Fluazifop-P-butyl	105	117	P/P	63 - 124
Fludioxonil	92.3	92.7	P/P	63 - 123
Flumioxazin	97.7	118	P/P	34 - 245
Flutolanil	99.6	109	P/P	56 - 131
Fluxapyroxad	86.6	89.7	P/P	57 - 117
Fonofos	91.1	92.5	P/P	61 - 116
Hexazinone	92.1	98.0	P/P	55 - 138
Imazalil	101	103	P/P	33 - 143
Iprodione	78.4	92.4	P/P	59 - 118
Malathion	100	101	P/P	62 - 138
Metalaxyl	94.4	93.7	P/P	24 - 147
Metolachlor	87.8	91.9	P/P	68 - 118
Metribuzin	81.7	91.5	P/P	20 - 239
Mevinphos	88.7	94.9	P/P	46 - 124
Molinate	65.6	71.8	P/P	46 - 100
Myclobutanil	96.6	102	P/P	32 - 149
Naled	32.0	37.8	P/P	32 - 95.0
Norflurazon	90.8	109	P/P	57 - 127
Oxadiazon	96.7	105	P/P	63 - 118
Oxyfluorfen	93.9	102	P/P	69 - 137
Parathion Ethyl	84.8	88.5	P/P	70 - 113
Parathion Methyl	80.9	97.1	P/P	71 - 130
Pendimethalin	74.4	80.7	P/P	55 - 118
Phorate	106	104	P/P	46 - 125
Prodiamine	45.4	48.3	P/P	20 - 141
Prometon	87.7	96.4	P/P	54 - 122
Prometryn	98.0	100	P/P	66 - 124
Pronamide	89.6	92.6	P/P	79 - 122
Propiconazole	105	124	P/P	61 - 126
Pyriproxyfen	81.1	84.5	P/P	52 - 131
Simazine	84.2	93.3	P/P	75 - 128
Sulfentrazone	68.7	76.0	P/P	20 - 132
Tebuconazole	93.2	87.1	P/P	20 - 116
Terbufos	83.8	85.7	P/P	61 - 117
Terbuthylazine	88.0	91.3	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P399017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.1		P	40 - 150
AMPA	89.9		P	40 - 150
Endothall	88.2		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	104		P	40 - 150
Sucralose	113		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P399076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.1		P	40 - 150
2,4,5-T	103		P	40 - 150
Acetaminophen	62.1		P	30 - 150
Acetamiprid	88.6		P	40 - 150
Afidopyropen	80.4		P	40 - 150
Bentazon	110		P	30 - 150
Benzovindiflupyr	96.8		P	40 - 150
Carbamazepine	91.1		P	40 - 150
Clothianidin	76.1		P	40 - 150
Dinotefuran	71.4		P	40 - 150
Diuron	88.2		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	89.3		P	40 - 150
Hydrocodone	78.7		P	40 - 150
Ibuprofen	82.6		P	40 - 150
Imazapyr	97.3		P	40 - 150
Imidacloprid	78.0		P	40 - 150
Linuron	81.4		P	40 - 150
Mandestrobin	99.1		P	40 - 150
MCPP	105		P	40 - 150
Naproxen	84.6		P	40 - 150
Primidone	95.2		P	40 - 150
Pyraclostrobin	90.2		P	40 - 150
Thiamethoxam	82.0		P	40 - 150
Tolfenpyrad	57.3		P	30 - 150
Triclopyr	96.0		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P399113

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P399336

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400024

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P399729

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P399302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251062	Calcium	105		P	80 - 120
2251062	Iron	106		P	80 - 120
2251062	Magnesium	102		P	80 - 120
2251062	Potassium	98.3		P	80 - 120
2251062	Sodium	103		P	80 - 120
2251062	Strontium	98.2		P	80 - 120
2251062	Tin	99.7		P	80 - 120
2251062	Titanium	103		P	80 - 120
2251062	Vanadium	102		P	80 - 120
2251062	Zinc	98.0		P	80 - 120
2251291	Calcium	113	108	P/P	80 - 120
2251291	Iron	110	107	P/P	80 - 120
2251291	Magnesium	109	106	P/P	80 - 120
2251291	Potassium	105	102	P/P	80 - 120
2251291	Sodium	110	106	P/P	80 - 120
2251291	Strontium	103	101	P/P	80 - 120
2251291	Tin	103	99.7	P/P	80 - 120
2251291	Titanium	105	104	P/P	80 - 120
2251291	Vanadium	103	102	P/P	80 - 120
2251291	Zinc	99.0	97.7	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251062	Aluminum	98.1		P	80 - 120
2251062	Antimony	104		P	80 - 120
2251062	Arsenic	103		P	80 - 120
2251062	Barium	101		P	80 - 120
2251062	Beryllium	95.5		P	80 - 120
2251062	Boron	101		P	80 - 120
2251062	Cadmium	104		P	80 - 120
2251062	Chromium	101		P	80 - 120
2251062	Cobalt	98.8		P	80 - 120
2251062	Copper	102		P	80 - 120
2251062	Lead	111		P	80 - 120
2251062	Manganese	105		P	80 - 120
2251062	Molybdenum	103		P	80 - 120
2251062	Nickel	101		P	80 - 120
2251062	Selenium	103		P	80 - 120
2251062	Silver	101		P	80 - 120
2251062	Thallium	107		P	80 - 120
2251291	Aluminum	93.7	96.8	P/P	80 - 120
2251291	Antimony	99.7	101	P/P	80 - 120
2251291	Arsenic	99.5	102	P/P	80 - 120
2251291	Barium	96.4	97.5	P/P	80 - 120
2251291	Beryllium	89.3	94.0	P/P	80 - 120
2251291	Boron	97.3	98.0	P/P	80 - 120
2251291	Cadmium	102	103	P/P	80 - 120
2251291	Chromium	97.6	98.5	P/P	80 - 120
2251291	Cobalt	95.5	96.8	P/P	80 - 120
2251291	Copper	98.9	99.5	P/P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251291	Lead	108	110	P/P	80 - 120
2251291	Manganese	100	101	P/P	80 - 120
2251291	Molybdenum	101	102	P/P	80 - 120
2251291	Nickel	97.3	97.7	P/P	80 - 120
2251291	Selenium	98.2	99.4	P/P	80 - 120
2251291	Silver	103	102	P/P	80 - 120
2251291	Thallium	102	104	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251099	Sulfate	93.6		P	90 - 110
2251452	Sulfate	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251099	Chloride	92.4		P	90 - 110
2251452	Chloride	95.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251234	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251286	Kjeldahl Nitrogen	103	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251286	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251104	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251235	O-Phosphate-P	99.1	99.5	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P399205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251292	Acetochlor	93.8	99.8	P/P	66 - 122
2251292	Alachlor	89.1	88.7	P/P	65 - 122
2251292	Ametryn	118	123	P/P	45 - 173
2251292	Atrazine Desethyl	58.4	70.1	P/P	25 - 150
2251292	Azinphos Methyl	207	211	F/F	44 - 174
2251292	Azoxystrobin	71.4	40.4	P/P	10 - 268
2251292	Bromacil	91.5	95.9	P/P	31 - 145
2251292	Butylate	49.5	43.2	P/P	15 - 97.0
2251292	Carbophenothion	99.7	99.4	P/P	42 - 129
2251292	Carfentrazone Ethyl	125	125	P/P	62 - 145
2251292	Chlorpyrifos Ethyl	85.2	81.3	P/P	60 - 124
2251292	Chlorpyrifos Methyl	81.9	85.9	P/P	66 - 119
2251292	Cyanazine	169	173	P/P	17 - 225
2251292	Demeton	93.7	99.1	P/P	36 - 142
2251292	Diazinon	93.3	98.3	P/P	70 - 128
2251292	Difenoconazole	95.7	90.2	P/P	33 - 222
2251292	Dimethenamid	83.2	85.4	P/P	54 - 125
2251292	Disulfoton	89.3	91.3	P/P	49 - 133
2251292	Dithiopyr	85.3	87.4	P/P	55 - 123
2251292	EPTC	45.9	38.2	P/P	19 - 91.0
2251292	Ethion	40.7	36.4	P/P	13 - 143
2251292	Ethoprop	103	106	P/P	49 - 144
2251292	Fenamiphos	101	92.2	P/P	32 - 136
2251292	Fenbuconazole	92.1	97.7	P/P	73 - 148
2251292	Fipronil	95.8	104	P/P	57 - 129
2251292	Fipronil Desulfinyl	90.2	96.3	P/P	49 - 127
2251292	Fipronil Sulfide	86.5	91.1	P/P	44 - 127
2251292	Fipronil Sulfone	83.6	82.8	P/P	35 - 126
2251292	Fluazifop-P-butyl	113	115	P/P	67 - 129
2251292	Fludioxonil	90.4	95.8	P/P	61 - 126
2251292	Flumioxazin	107	100	P/P	38 - 279
2251292	Flutolanil	118	96.7	P/P	55 - 136
2251292	Fluxapyroxad	99.1	102	P/P	33 - 140
2251292	Fonofos	87.3	98.4	P/P	58 - 125
2251292	Hexazinone	91.8	92.6	P/P	57 - 148
2251292	Imazalil	141	143	P/P	10 - 221
2251292	Iprodione	117	123	P/P	32 - 140
2251292	Malathion	99.3	103	P/P	52 - 138
2251292	Metalaxyl	92.5	102	P/P	46 - 134
2251292	Metolachlor	88.1	95.3	P/P	58 - 122
2251292	Metribuzin	100	111	P/P	16 - 272
2251292	Mevinphos	101	105	P/P	45 - 140
2251292	Molinate	72.2	68.0	P/P	41 - 103
2251292	Myclobutanil	107	105	P/P	60 - 134
2251292	Naled	33.1	31.0	P/P	20 - 113
2251292	Norflurazon	97.6	106	P/P	51 - 123
2251292	Oxadiazon	102	111	P/P	44 - 125
2251292	Oxyfluorfen	104	111	P/P	66 - 176
2251292	Parathion Ethyl	87.3	96.0	P/P	57 - 132
2251292	Parathion Methyl	98.0	104	P/P	59 - 156
2251292	Pendimethalin	82.5	85.7	P/P	59 - 129
2251292	Phorate	112	116	P/P	47 - 136

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P399205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251292	Prodiamine	46.0	57.5	P/P	10 - 159
2251292	Prometon	95.9	107	P/P	59 - 127
2251292	Prometryn	103	110	P/P	59 - 129
2251292	Pronamide	107	123	P/P	65 - 145
2251292	Propiconazole	106	109	P/P	28 - 165
2251292	Pyriproxyfen	126	138	P/P	21 - 180
2251292	Simazine	98.9	104	P/P	63 - 147
2251292	Sulfentrazone	120	135	P/P	32 - 136
2251292	Tebuconazole	53.9	51.4	P/P	10 - 117
2251292	Terbufos	85.7	92.8	P/P	61 - 131
2251292	Terbuthylazine	91.1	101	P/P	62 - 126

Reference Method: EPA 8321B
Batch ID: P399017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250902	Acesulfame K	84.9	81.4	P/P	40 - 150
2250902	AMPA	72.3	70.9	P/P	40 - 150
2250902	Endothall	93.1	103	P/P	40 - 150
2250902	Glufosinate	105	95.8	P/P	40 - 150
2250902	Glyphosate	99.6	90.0	P/P	40 - 150
2250902	Sucralose	38.7	52.0	F/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P399076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251243	2,4-D	122	128	P/P	40 - 150
2251243	2,4,5-T	107	105	P/P	40 - 150
2251243	Acetaminophen	89.9	81.9	P/P	30 - 150
2251243	Acetamiprid	103	94.5	P/P	40 - 150
2251243	Afidopyropen	92.5	79.5	P/P	40 - 150
2251243	Bentazon	102	94.0	P/P	30 - 150
2251243	Benzovindiflupyr	98.2	97.1	P/P	40 - 150
2251243	Carbamazepine	103	102	P/P	40 - 150
2251243	Clothianidin	97.1	90.4	P/P	40 - 150
2251243	Dinotefuran	92.2	85.7	P/P	40 - 150
2251243	Diuron	79.8	75.4	P/P	40 - 150
2251243	Fenuron	102	104	P/P	40 - 150
2251243	Fluridone	85.2	80.8	P/P	40 - 150
2251243	Hydrocodone	88.8	94.3	P/P	40 - 150
2251243	Ibuprofen	80.6	79.1	P/P	40 - 150
2251243	Imazapyr	117	103	P/P	40 - 150
2251243	Imidacloprid	130	116	P/P	40 - 150
2251243	Linuron	74.9	79.9	P/P	40 - 150
2251243	Mandestrobin	98.8	95.5	P/P	40 - 150
2251243	MCPP	121	119	P/P	40 - 150
2251243	Naproxen	106	78.9	P/P	40 - 150
2251243	Primidone	124	99.4	P/P	40 - 150
2251243	Pyraclostrobin	98.9	96.1	P/P	40 - 150
2251243	Thiamethoxam	122	108	P/P	40 - 150
2251243	Tolfenpyrad	56.5	59.9	P/P	30 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P399076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251243	Triclopyr	119	113	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P400024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2252023	Fluoride	101	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P399729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2250478	Organic Carbon	94.6	95.5	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251294	Turbidity	1.39	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P399302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251291	Calcium	2.81	Spike	P	0 - 20
2251291	Iron	2.15	Spike	P	0 - 20
2251291	Magnesium	2.21	Spike	P	0 - 20
2251291	Potassium	2.85	Spike	P	0 - 20
2251291	Sodium	2.89	Spike	P	0 - 20
2251291	Strontium	1.86	Spike	P	0 - 20
2251291	Tin	2.80	Spike	P	0 - 20
2251291	Titanium	1.49	Spike	P	0 - 20
2251291	Vanadium	1.18	Spike	P	0 - 20
2251291	Zinc	1.32	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251291	Aluminum	3.19	Spike	P	0 - 20
2251291	Antimony	0.851	Spike	P	0 - 20
2251291	Arsenic	2.07	Spike	P	0 - 20
2251291	Barium	1.01	Spike	P	0 - 20
2251291	Beryllium	5.13	Spike	P	0 - 20
2251291	Boron	0.664	Spike	P	0 - 20
2251291	Cadmium	0.698	Spike	P	0 - 20
2251291	Chromium	0.968	Spike	P	0 - 20
2251291	Cobalt	1.32	Spike	P	0 - 20
2251291	Copper	0.543	Spike	P	0 - 20
2251291	Lead	2.05	Spike	P	0 - 20
2251291	Manganese	1.14	Spike	P	0 - 20
2251291	Molybdenum	0.923	Spike	P	0 - 20
2251291	Nickel	0.352	Spike	P	0 - 20
2251291	Selenium	1.20	Spike	P	0 - 20
2251291	Silver	1.13	Spike	P	0 - 20
2251291	Thallium	2.85	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251099	Sulfate	1.08	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251099	Chloride	0.714	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251234	Ammonia-N	0.877	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251286	Kjeldahl Nitrogen	0.957	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251286	NO2NO3-N	1.97	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251104	Total-P	0.184	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251235	O-Phosphate-P	0.403	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P399205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251292	Acetochlor	6.11	Spike	P	0 - 30
2251292	Alachlor	0.449	Spike	P	0 - 30
2251292	Ametryn	4.21	Spike	P	0 - 30
2251292	Atrazine	7.54	Spike	P	0 - 30
2251292	Atrazine Desethyl	12.3	Spike	P	0 - 30
2251292	Azinphos Methyl	1.88	Spike	P	0 - 30
2251292	Azoxystrobin	55.4	Spike	F	0 - 30
2251292	Bromacil	4.63	Spike	P	0 - 30
2251292	Butylate	13.5	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P399205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251292	Caffeine	3.30	Spike	P	0 - 30
2251292	Carbophenothion	0.331	Spike	P	0 - 30
2251292	Carfentrazone Ethyl	0.0240	Spike	P	0 - 30
2251292	Chlorpyrifos Ethyl	4.70	Spike	P	0 - 30
2251292	Chlorpyrifos Methyl	4.87	Spike	P	0 - 30
2251292	Cyanazine	2.61	Spike	P	0 - 30
2251292	Demeton	5.56	Spike	P	0 - 30
2251292	Diazinon	5.23	Spike	P	0 - 30
2251292	Difenoconazole	5.93	Spike	P	0 - 30
2251292	Dimethenamid	2.61	Spike	P	0 - 30
2251292	Disulfoton	2.19	Spike	P	0 - 30
2251292	Dithiopyr	2.41	Spike	P	0 - 30
2251292	EPTC	18.2	Spike	P	0 - 30
2251292	Ethion	11.3	Spike	P	0 - 30
2251292	Ethoprop	2.72	Spike	P	0 - 30
2251292	Fenamiphos	9.55	Spike	P	0 - 30
2251292	Fenbuconazole	5.84	Spike	P	0 - 30
2251292	Fipronil	8.52	Spike	P	0 - 30
2251292	Fipronil Desulfinyl	6.57	Spike	P	0 - 30
2251292	Fipronil Sulfide	5.22	Spike	P	0 - 30
2251292	Fipronil Sulfone	0.918	Spike	P	0 - 30
2251292	Fluazifop-P-butyl	1.90	Spike	P	0 - 30
2251292	Fludioxonil	5.61	Spike	P	0 - 30
2251292	Flumioxazin	6.70	Spike	P	0 - 30
2251292	Flutolanil	20.1	Spike	P	0 - 30
2251292	Fluxapyroxad	2.92	Spike	P	0 - 30
2251292	Fonofos	11.9	Spike	P	0 - 30
2251292	Hexazinone	0.653	Spike	P	0 - 30
2251292	Imazalil	1.36	Spike	P	0 - 30
2251292	Iprodione	5.32	Spike	P	0 - 30
2251292	Malathion	3.68	Spike	P	0 - 30
2251292	Metalaxyl	9.35	Spike	P	0 - 30
2251292	Metolachlor	7.34	Spike	P	0 - 30
2251292	Metribuzin	9.77	Spike	P	0 - 30
2251292	Mevinphos	3.64	Spike	P	0 - 30
2251292	Molinate	6.05	Spike	P	0 - 30
2251292	Myclobutanil	1.44	Spike	P	0 - 30
2251292	Naled	6.38	Spike	P	0 - 30
2251292	Norflurazon	8.03	Spike	P	0 - 30
2251292	Oxadiazon	8.43	Spike	P	0 - 30
2251292	Oxyfluorfen	6.18	Spike	P	0 - 30
2251292	Parathion Ethyl	9.49	Spike	P	0 - 30
2251292	Parathion Methyl	5.50	Spike	P	0 - 30
2251292	Pendimethalin	3.70	Spike	P	0 - 30
2251292	Phorate	3.96	Spike	P	0 - 30
2251292	Prodiamine	22.2	Spike	P	0 - 30
2251292	Prometon	10.6	Spike	P	0 - 30
2251292	Prometryn	6.15	Spike	P	0 - 30
2251292	Pronamide	13.8	Spike	P	0 - 30
2251292	Propiconazole	2.08	Spike	P	0 - 30
2251292	Pyriproxyfen	9.35	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P399205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251292	Simazine	4.89	Spike	P	0 - 30
2251292	Sulfentrazone	11.3	Spike	P	0 - 30
2251292	Tebuconazole	3.19	Spike	P	0 - 30
2251292	Terbufos	8.01	Spike	P	0 - 30
2251292	Terbuthylazine	10.1	Spike	P	0 - 30
LFB	Acetochlor	5.31	LCS	P	0 - 30
LFB	Alachlor	4.46	LCS	P	0 - 30
LFB	Ametryn	1.74	LCS	P	0 - 30
LFB	Atrazine	5.15	LCS	P	0 - 30
LFB	Atrazine Desethyl	25.7	LCS	P	0 - 30
LFB	Azinphos Methyl	1.77	LCS	P	0 - 30
LFB	Azoxystrobin	21.7	LCS	P	0 - 30
LFB	Bromacil	10.3	LCS	P	0 - 30
LFB	Butylate	15.2	LCS	P	0 - 30
LFB	Caffeine	8.29	LCS	P	0 - 30
LFB	Carbophenothion	0.301	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	7.15	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	7.50	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	3.98	LCS	P	0 - 30
LFB	Cyanazine	0.965	LCS	P	0 - 30
LFB	Demeton	2.19	LCS	P	0 - 30
LFB	Diazinon	3.61	LCS	P	0 - 30
LFB	Difenoconazole	7.17	LCS	P	0 - 30
LFB	Dimethenamid	3.94	LCS	P	0 - 30
LFB	Disulfoton	1.38	LCS	P	0 - 30
LFB	Dithiopyr	7.29	LCS	P	0 - 30
LFB	EPTC	16.6	LCS	P	0 - 30
LFB	Ethion	24.9	LCS	P	0 - 30
LFB	Ethoprop	3.71	LCS	P	0 - 30
LFB	Fenamiphos	1.26	LCS	P	0 - 30
LFB	Fenbuconazole	5.57	LCS	P	0 - 30
LFB	Fipronil	17.6	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	4.02	LCS	P	0 - 30
LFB	Fipronil Sulfide	9.63	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.79	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	10.4	LCS	P	0 - 30
LFB	Fludioxonil	0.376	LCS	P	0 - 30
LFB	Flumioxazin	19.2	LCS	P	0 - 30
LFB	Flutolanil	8.70	LCS	P	0 - 30
LFB	Fluxapyroxad	3.53	LCS	P	0 - 30
LFB	Fonofos	1.52	LCS	P	0 - 30
LFB	Hexazinone	6.26	LCS	P	0 - 30
LFB	Imazalil	1.99	LCS	P	0 - 30
LFB	Iprodione	16.4	LCS	P	0 - 30
LFB	Malathion	0.925	LCS	P	0 - 30
LFB	Metalaxyl	0.747	LCS	P	0 - 30
LFB	Metolachlor	4.62	LCS	P	0 - 30
LFB	Metribuzin	11.4	LCS	P	0 - 30
LFB	Mevinphos	6.77	LCS	P	0 - 30
LFB	Molinate	9.11	LCS	P	0 - 30
LFB	Myclobutanil	5.12	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P399205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Naled	16.6	LCS	P	0 - 30
LFB	Norflurazon	17.8	LCS	P	0 - 30
LFB	Oxadiazon	8.63	LCS	P	0 - 30
LFB	Oxyfluorfen	8.62	LCS	P	0 - 30
LFB	Parathion Ethyl	4.24	LCS	P	0 - 30
LFB	Parathion Methyl	18.3	LCS	P	0 - 30
LFB	Pendimethalin	8.09	LCS	P	0 - 30
LFB	Phorate	2.46	LCS	P	0 - 30
LFB	Prodiamine	6.28	LCS	P	0 - 30
LFB	Prometon	9.44	LCS	P	0 - 30
LFB	Prometryn	2.30	LCS	P	0 - 30
LFB	Pronamide	3.22	LCS	P	0 - 30
LFB	Propiconazole	17.4	LCS	P	0 - 30
LFB	Pyriproxyfen	4.10	LCS	P	0 - 30
LFB	Simazine	10.2	LCS	P	0 - 30
LFB	Sulfentrazone	10.1	LCS	P	0 - 30
LFB	Tebuconazole	6.80	LCS	P	0 - 30
LFB	Terbufos	2.23	LCS	P	0 - 30
LFB	Terbuthylazine	3.69	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P399017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250902	Acesulfame K	3.94	Spike	P	0 - 30
2250902	AMPA	1.92	Spike	P	0 - 30
2250902	Endothall	10.5	Spike	P	0 - 30
2250902	Glufosinate	8.87	Spike	P	0 - 30
2250902	Glyphosate	8.49	Spike	P	0 - 30
2250902	Sucralose	27.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P399076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251243	2,4-D	4.60	Spike	P	0 - 30
2251243	2,4,5-T	1.50	Spike	P	0 - 30
2251243	Acetaminophen	9.36	Spike	P	0 - 30
2251243	Acetamiprid	8.91	Spike	P	0 - 30
2251243	Afidopyropen	15.1	Spike	P	0 - 30
2251243	Bentazon	8.47	Spike	P	0 - 30
2251243	Benzovindiflupyr	1.20	Spike	P	0 - 30
2251243	Carbamazepine	0.696	Spike	P	0 - 30
2251243	Clothianidin	7.13	Spike	P	0 - 30
2251243	Dinotefuran	7.30	Spike	P	0 - 30
2251243	Diuron	5.56	Spike	P	0 - 30
2251243	Fenuron	2.56	Spike	P	0 - 30
2251243	Fluridone	5.29	Spike	P	0 - 30
2251243	Hydrocodone	5.95	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P399076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251243	Ibuprofen	1.86	Spike	P	0 - 30
2251243	Imazapyr	7.71	Spike	P	0 - 30
2251243	Imidacloprid	12.1	Spike	P	0 - 30
2251243	Linuron	6.44	Spike	P	0 - 30
2251243	Mandestrobin	3.39	Spike	P	0 - 30
2251243	MCPP	1.91	Spike	P	0 - 30
2251243	Naproxen	29.7	Spike	P	0 - 30
2251243	Primidone	21.9	Spike	P	0 - 30
2251243	Pyraclostrobin	2.81	Spike	P	0 - 30
2251243	Thiamethoxam	12.3	Spike	P	0 - 30
2251243	Tolfenpyrad	5.84	Spike	P	0 - 30
2251243	Triclopyr	5.64	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P399113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251233	Color (true)	7.68	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P399336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251762	Total Alkalinity	0.352	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P399523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251294	TDS	2.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2252023	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P399729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2250478	Organic Carbon	0.812	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2251290
Field Sample ID: G3WA0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.6	P	30 - 160
EPA 8321B	Diuron-d6	68.7	P	30 - 160
EPA 8321B	Endothall-d6	114	P	30 - 160
EPA 8321B	Endothall-d6	114	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.8	P	30 - 160
EPA 8321B	Primidone-d5	89.6	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Lab Sample ID: 2251292
Field Sample ID: G3WA0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	67.0	P	20 - 200
EPA 8270E	Simazine-d10	99.9	P	73 - 135
EPA 8270E	Terbufos-d10	83.4	P	58 - 130

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B-2011
Run ID: A105824
Included Lab Sample IDs: 2251285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	99.9	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A105825
Included Lab Sample IDs: 2251285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A105826
Included Lab Sample IDs: 2251287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A105827
Included Lab Sample IDs: 2251290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	113	139	P/P	60 - 160
Endothall	125	126	P/P	60 - 160
Sucralose	116	101	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A105838
Included Lab Sample IDs: 2251290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	89.1	94.3	P/P	60 - 160
Glufosinate	97.4	99.9	P/P	60 - 160
Glyphosate	107	112	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A105874
Included Lab Sample IDs: 2251286

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A105917
Included Lab Sample IDs: 2251286

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A105930
Included Lab Sample IDs: 2251285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A105942
Included Lab Sample IDs: 2251286

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A105953
Included Lab Sample IDs: 2251291

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	97.6	P/P	90 - 110
Iron	98.7	96.2	P/P	90 - 110
Magnesium	97.4	94.9	P/P	90 - 110
Potassium	97.1	95.2	P/P	90 - 110
Sodium	97.9	96.0	P/P	90 - 110
Strontium	100	99.8	P/P	90 - 110
Tin	99.0	98.7	P/P	90 - 110
Titanium	98.1	97.7	P/P	90 - 110
Vanadium	98.9	98.2	P/P	90 - 110
Zinc	99.1	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A105956
Included Lab Sample IDs: 2251285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	98.9	P/P	90 - 110
Sulfate	98.5	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106021
Included Lab Sample IDs: 2251286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106028
Included Lab Sample IDs: 2251291

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.7	97.2	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Barium	99.4	98.4	P/P	90 - 110
Beryllium	96.6	96.2	P/P	90 - 110
Boron	99.8	97.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106028
Included Lab Sample IDs: 2251291

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	101	100	P/P	90 - 110
Chromium	96.6	97.3	P/P	90 - 110
Cobalt	96.9	97.1	P/P	90 - 110
Copper	97.6	97.6	P/P	90 - 110
Lead	109	109	P/P	90 - 110
Manganese	98.2	99.0	P/P	90 - 110
Molybdenum	98.2	98.9	P/P	90 - 110
Nickel	97.9	97.7	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Silver	98.1	98.9	P/P	90 - 110
Thallium	95.0	94.9	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A106040
Included Lab Sample IDs: 2251290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.8	82.9	P/P	50 - 150
2,4,5-T	110	119	P/P	50 - 150
Acetaminophen	93.0	91.7	P/P	60 - 160
Acetamiprid	105	105	P/P	50 - 150
Afidopyropen	117	122	P/P	50 - 150
Bentazon	134	139	P/P	50 - 160
Benzovindiflupyr	98.9	109	P/P	50 - 150
Carbamazepine	104	108	P/P	60 - 150
Clothianidin	103	99.7	P/P	60 - 150
Dinotefuran	101	97.6	P/P	50 - 150
Diuron	111	101	P/P	60 - 160
Fenuron	93.4	91.3	P/P	60 - 150
Fluridone	109	106	P/P	60 - 160
Hydrocodone	97.8	94.2	P/P	60 - 150
Ibuprofen	109	95.4	P/P	50 - 160
Imazapyr	113	123	P/P	50 - 150
Imidacloprid	93.2	91.3	P/P	60 - 150
Linuron	104	95.6	P/P	60 - 150
Mandestrobin	106	96.7	P/P	50 - 150
MCPP	109	121	P/P	50 - 150
Naproxen	85.2	102	P/P	50 - 160
Primidone	108	113	P/P	60 - 150
Pyraclostrobin	108	107	P/P	60 - 150
Thiamethoxam	99.3	99.3	P/P	50 - 150
Tolfenpyrad	99.6	97.9	P/P	60 - 150
Triclopyr	104	103	P/P	50 - 150

Reference Method: EPA 8270E
Run ID: A106042
Included Lab Sample IDs: 2251292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	98.5		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A106042
Included Lab Sample IDs: 2251292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ametryn	97.0		P	80 - 120
Atrazine	97.2		P	80 - 120
Atrazine Desethyl	102		P	80 - 120
Azinphos Methyl	95.2		P	80 - 120
Azoxystrobin	108		P	80 - 120
Bromacil	99.5		P	80 - 120
Butylate	96.4		P	80 - 120
Caffeine	92.2		P	80 - 120
Carbophenothion	93.6		P	80 - 120
Carfentrazone Ethyl	96.5		P	80 - 120
Chlorpyrifos Ethyl	101		P	80 - 120
Chlorpyrifos Methyl	95.7		P	80 - 120
Cyanazine	103		P	80 - 120
Demeton	92.8		P	80 - 120
Diazinon	98.1		P	80 - 120
Difenoconazole	97.4		P	80 - 120
Dimethenamid	98.6		P	80 - 120
Disulfoton	92.7		P	80 - 120
Dithiopyr	98.6		P	80 - 120
EPTC	98.5		P	80 - 120
Ethion	95.1		P	80 - 120
Ethoprop	99.0		P	80 - 120
Fenamiphos	101		P	80 - 120
Fenbuconazole	96.7		P	80 - 120
Fipronil	96.2		P	80 - 120
Fipronil Desulfinyl	98.4		P	80 - 120
Fipronil Sulfide	101		P	80 - 120
Fipronil Sulfone	97.6		P	80 - 120
Fluazifop-P-butyl	105		P	80 - 120
Fludioxonil	99.5		P	80 - 120
Flumioxazin	90.9		P	80 - 120
Flutolanil	99.0		P	80 - 120
Fluxapyroxad	96.6		P	80 - 120
Fonofos	96.2		P	80 - 120
Hexazinone	99.0		P	80 - 120
Imazalil	104		P	80 - 120
Iprodione	100		P	80 - 120
Malathion	95.3		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	99.1		P	80 - 120
Metribuzin	94.0		P	80 - 120
Mevinphos	94.8		P	80 - 120
Molinate	100		P	80 - 120
Myclobutanil	95.1		P	80 - 120
Naled	98.5		P	80 - 120
Norflurazon	97.2		P	80 - 120
Oxadiazon	101		P	80 - 120
Oxyfluorfen	96.7		P	80 - 120
Parathion Ethyl	92.9		P	80 - 120
Parathion Methyl	99.7		P	80 - 120
Pendimethalin	96.8		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A106042
Included Lab Sample IDs: 2251292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Phorate	93.7		P	80 - 120
Prodiamine	92.8		P	80 - 120
Prometon	96.5		P	80 - 120
Prometryn	98.3		P	80 - 120
Pronamide	97.5		P	80 - 120
Propiconazole	99.3		P	80 - 120
Pyriproxyfen	98.9		P	80 - 120
Simazine	106		P	80 - 120
Sulfentrazone	100		P	80 - 120
Tebuconazole	95.5		P	80 - 120
Terbufos	94.8		P	80 - 120
Terbuthylazine	98.9		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A106083
Included Lab Sample IDs: 2251286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A106203
Included Lab Sample IDs: 2251285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	103	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			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							1.39	
EPA 200.7 Rev. 4.4	Calcium	108		105	113	108			2.81
	Iron	106		106	110	107			2.15
	Magnesium	105		102	109	106			2.21
	Potassium	101		98.3	105	102			2.85
	Sodium	104		103	110	106			2.89
	Strontium	99.1		98.2	103	101			1.86
	Tin	97.8		99.7	103	99.7			2.80
	Titanium	101		103	105	104			1.49
	Vanadium	98.4		102	103	102			1.18
	Zinc	93.4		98.0	99.0	97.7			1.32
EPA 200.8 Rev. 5.4	Aluminum	99.4		98.1	93.7	96.8			3.19
	Antimony	102		104	99.7	101			0.851
	Arsenic	102		103	99.5	102			2.07
	Barium	99.5		101	96.4	97.5			1.01
	Beryllium	92.4		95.5	89.3	94.0			5.13
	Boron	107		101	97.3	98.0			0.664
	Cadmium	103		104	102	103			0.698
	Chromium	99.7		101	97.6	98.5			0.968
	Cobalt	97.7		98.8	95.5	96.8			1.32
	Copper	100		102	98.9	99.5			0.543
	Lead	110		111	108	110			2.05
	Manganese	103		105	100	101			1.14
	Molybdenum	102		103	101	102			0.923
	Nickel	99.6		101	97.3	97.7			0.352
	Selenium	103		103	98.2	99.4			1.20
	Silver	101		101	103	102			1.13
	Thallium	104		107	102	104			2.85
EPA 300.0 Rev. 2.1	Chloride	97.6		92.4	95.1			0.714	
	Sulfate	98.6		93.6	96.3			1.08	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8		102	103				0.877
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		103	102				0.957
EPA 353.2 Rev. 2.0	NO2NO3-N	100		100	102				1.97
EPA 365.1 Rev. 2.0	Total-P	100		102	102				0.184
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0		99.1	99.5				0.403
EPA 8270E	Acetochlor	86.7	91.5	93.8	99.8		5.31		6.11
	Alachlor	85.2	89.1	89.1	88.7		4.46		0.449
	Ametryn	103	105	118	123		1.74		4.21
	Atrazine	91.0	95.8				5.15		7.54
	Atrazine Desethyl	75.3	97.5	58.4	70.1		25.7		12.3
	Azinphos Methyl	117	115	207	211		1.77		1.88
	Azoxystrobin	122	151	71.4	40.4		21.7		55.4
	Bromacil	77.7	86.1	91.5	95.9		10.3		4.63
	Butylate	49.7	57.9	49.5	43.2		15.2		13.5
	Caffeine	94.0	86.6				8.29		3.30
	Carbophenothion	106	106	99.7	99.4		0.301		0.331
	Carfentrazone Ethyl	113	122	125	125		7.15		0.0240
	Chlorpyrifos Ethyl	92.3	85.6	85.2	81.3		7.50		4.70
	Chlorpyrifos Methyl	88.7	85.3	81.9	85.9		3.98		4.87
	Cyanazine	175	177	169	173		0.965		2.61
	Demeton	84.1	86.0	93.7	99.1		2.19		5.56
	Diazinon	84.3	87.4	93.3	98.3		3.61		5.23
	Difenoconazole	112	120	95.7	90.2		7.17		5.93
	Dimethenamid	83.0	86.3	83.2	85.4		3.94		2.61

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270E	Disulfoton	88.1	86.9	89.3	91.3	1.38		2.19
	Dithiopyr	77.4	83.2	85.3	87.4	7.29		2.41
	EPTC	44.2	52.2	45.9	38.2	16.6		18.2
	Ethion	90.1	70.2	40.7	36.4	24.9		11.3
	Ethoprop	97.5	101	103	106	3.71		2.72
	Fenamiphos	115	116	101	92.2	1.26		9.55
	Fenbuconazole	86.3	91.3	92.1	97.7	5.57		5.84
	Fipronil	77.1	91.9	95.8	104	17.6		8.52
	Fipronil Desulfinyl	82.6	85.9	90.2	96.3	4.02		6.57
	Fipronil Sulfide	83.7	92.2	86.5	91.1	9.63		5.22
	Fipronil Sulfone	96.0	88.8	83.6	82.8	7.79		0.918
	Fluazifop-P-butyl	105	117	113	115	10.4		1.90
	Fludioxonil	92.3	92.7	90.4	95.8	0.376		5.61
	Flumioxazin	97.7	118	107	100	19.2		6.70
	Flutolanil	99.6	109	118	96.7	8.70		20.1
	Fluxapyroxad	86.6	89.7	99.1	102	3.53		2.92
	Fonofos	91.1	92.5	87.3	98.4	1.52		11.9
	Hexazinone	92.1	98.0	91.8	92.6	6.26		0.653
	Imazalil	101	103	141	143	1.99		1.36
	Iprodione	78.4	92.4	117	123	16.4		5.32
	Malathion	100	101	99.3	103	0.925		3.68
	Metalaxyl	94.4	93.7	92.5	102	0.747		9.35
	Metolachlor	87.8	91.9	88.1	95.3	4.62		7.34
	Metribuzin	81.7	91.5	100	111	11.4		9.77
	Mevinphos	88.7	94.9	101	105	6.77		3.64
	Molinate	65.6	71.8	72.2	68.0	9.11		6.05
	Myclobutanil	96.6	102	107	105	5.12		1.44
	Naled	32.0	37.8	33.1	31.0	16.6		6.38
	Norflurazon	90.8	109	97.6	106	17.8		8.03
	Oxadiazon	96.7	105	102	111	8.63		8.43
	Oxyfluorfen	93.9	102	104	111	8.62		6.18
	Parathion Ethyl	84.8	88.5	87.3	96.0	4.24		9.49
	Parathion Methyl	80.9	97.1	98.0	104	18.3		5.50
	Pendimethalin	74.4	80.7	82.5	85.7	8.09		3.70
	Phorate	106	104	112	116	2.46		3.96
	Prodiamine	45.4	48.3	46.0	57.5	6.28		22.2
	Prometon	87.7	96.4	95.9	107	9.44		10.6
	Prometryn	98.0	100	103	110	2.30		6.15
	Pronamide	89.6	92.6	107	123	3.22		13.8
	Propiconazole	105	124	106	109	17.4		2.08
	Pyriproxyfen	81.1	84.5	126	138	4.10		9.35
	Simazine	84.2	93.3	98.9	104	10.2		4.89
	Sulfentrazone	68.7	76.0	120	135	10.1		11.3
	Tebuconazole	93.2	87.1	53.9	51.4	6.80		3.19
	Terbufos	83.8	85.7	85.7	92.8	2.23		8.01
	Terbuthylazine	88.0	91.3	91.1	101	3.69		10.1
EPA 8321B	2,4-D	97.1		128	122			4.60
	2,4,5-T	103		107	105			1.50
	Acesulfame K	94.1		84.9	81.4			3.94
	Acetaminophen	62.1		81.9	89.9			9.36
	Acetamiprid	88.6		94.5	103			8.91
	Afidopyropen	80.4		79.5	92.5			15.1
	AMPA	89.9		72.3	70.9			1.92
	Bentazon	110		102	94.0			8.47

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Benzovindiflupyr	96.8	97.1	98.2			1.20
	Carbamazepine	91.1	102	103			0.696
	Clothianidin	76.1	90.4	97.1			7.13
	Dinotefuran	71.4	85.7	92.2			7.30
	Diuron	88.2	75.4	79.8			5.56
	Endothall	88.2	93.1	103			10.5
	Fenuron	103	104	102			2.56
	Fluridone	89.3	80.8	85.2			5.29
	Glufosinate	104	105	95.8			8.87
	Glyphosate	104	99.6	90.0			8.49
	Hydrocodone	78.7	94.3	88.8			5.95
	Ibuprofen	82.6	80.6	79.1			1.86
	Imazapyr	97.3	103	117			7.71
	Imidacloprid	78.0	116	130			12.1
	Linuron	81.4	79.9	74.9			6.44
	Mandestrobin	99.1	95.5	98.8			3.39
	MCPP	105	119	121			1.91
	Naproxen	84.6	78.9	106			29.7
	Primidone	95.2	99.4	124			21.9
	Pyraclostrobin	90.2	96.1	98.9			2.81
	Sucralose	113	38.7	52.0			27.3
	Thiamethoxam	82.0	108	122			12.3
	Tolfenpyrad	57.3	59.9	56.5			5.84
	Triclopyr	96.0	113	119			5.64
SM 2120 B-2011	Color (true)	99.0				7.68	
SM 2320 B-2011	Total Alkalinity	98.3				0.352	
SM 2540 C-2011	TDS					2.80	
SM 4500 F-C-2011	Fluoride	98.8	101	101			0.0
SM 5310 B-2011	Organic Carbon	94.8	94.6	95.5			0.812

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2251285
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2251291
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2251291
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2251285
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2251285
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2251286
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2251286
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2251286
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2251286
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2251287
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2251292
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2251290
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2251290
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2251285
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2251285
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2251291
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2251285

Reference Method Descriptions

Method	Description	Associated Samples
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2251285
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2251285
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2251286

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	06/01/2021			06/02/2021 15:46	Sarah A Nixon	2251285
EPA 200.7 Rev. 4.4	06/01/2021	06/07/2021 14:20	Elliott D. Healy	06/08/2021 17:05	Betina Topolski	2251291
EPA 200.8 Rev. 5.4	06/01/2021	06/07/2021 14:20	Elliott D. Healy	06/11/2021 18:12	Alexander Thompson	2251291
EPA 300.0 Rev. 2.1	06/01/2021			06/11/2021 16:18	Lipi Saha	2251285
EPA 350.1 Rev. 2.0	06/01/2021			06/08/2021 14:26	Roberta Tatti	2251286
EPA 351.2 Rev. 2.0	06/01/2021	06/04/2021 13:01	Benjamin T. Nordmann	06/07/2021 10:20	Virginia P. Brown	2251286
EPA 353.2 Rev. 2.0	06/01/2021			06/04/2021 09:56	Beverly Y. Sanders	2251286
EPA 365.1 Rev. 2.0	06/01/2021	06/10/2021 12:25	Yen Ta	06/11/2021 12:19	Shengyu Ding	2251286
EPA 365.1 Rev. 2.0 dissolved	06/01/2021			06/02/2021 16:45	Ping Hua	2251287
EPA 8270E	06/01/2021	06/07/2021 08:00	Fe-Val Siddell	06/08/2021 18:02	Vandana T. Nagar	2251292
EPA 8321B	06/01/2021	06/02/2021 08:00	Juyoung Kim	06/02/2021 12:40	Juyoung Kim	2251290
	06/01/2021	06/02/2021 08:00	Juyoung Kim	06/02/2021 17:03	Pramila Ghimire	2251290
	06/01/2021	06/07/2021 09:00	Hoor Shaik	06/12/2021 01:48	Juyoung Kim	2251290
SM 2120 B-2011	06/01/2021			06/02/2021 16:39	Sarah A Nixon	2251285
SM 2320 B-2011	06/01/2021			06/07/2021 18:33	Dale L. Simmons	2251285
SM 2340B	06/01/2021			06/08/2021 17:05	Betina Topolski	2251291
SM 2540 C-2011	06/01/2021			06/04/2021 14:29	Yijie Li	2251285
SM 2540 D-2011	06/01/2021			06/04/2021 14:29	Yijie Li	2251285
SM 4500 F-C-2011	06/01/2021			06/22/2021 00:01	Patrick M. Roche	2251285
SM 5310 B-2011	06/01/2021			06/14/2021 22:55	Madeline Gruver	2251286