Chemical Analysis Report

NE-DIST-2021-04-01-02

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

Event Description: **Cannon SCI, McGirts SCI**
Request ID: **RQ-2021-03-29-08**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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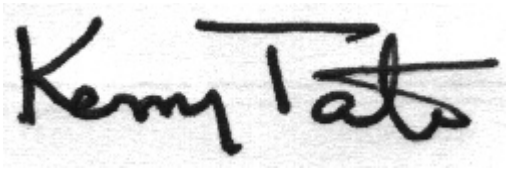
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 22-APR-2021 13:45



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: MCGRITS CREEK AT OLD PLANK ROAD **Collection Date/Time: 03/31/2021 09:00**

Field ID: 20030346 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235424	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P395821	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P395980	
		Sulfate	11		mg SO4/L	P395982	
	SM 2120 B-2011	Color (true)	140		PCU	P395829	
	SM 2320 B-2011	Total Alkalinity	15		mg CaCO3/L	P396042	
	SM 2540 C-2011	TDS	103		mg/L	P396391	
	SM 2540 D-2011	TSS	3	I	mg/L	P396397	
	SM 4500 F-C-2011	Fluoride	0.043	I	mg F/L	P396044	
2235425	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P396571	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P396069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P395950	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P395891	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P396052	
2235426	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P395807	
2235429	EPA 8321B	2,4-D	0.0077	I	ug/L	P395928	MS
		Acesulfame K	0.10	U	ug/L	P395858	MS
		2,4,5-T	0.0040	U	ug/L	P395928	
		AMPA	0.11	I	ug/L	P395858	
		Sucralose	0.17		ug/L	P395858	
		Acetaminophen	0.017	I V	ug/L	P395928	MS
		Acetamiprid	0.0020	U	ug/L	P395928	
		Endothall	0.25	U	ug/L	P395858	
		Glufosinate	0.10	U	ug/L	P395858	
		Glyphosate	0.83		ug/L	P395858	MS
		Afidopyropen	0.0020	U	ug/L	P395928	
		Bentazon	0.0027	I	ug/L	P395928	MS
		Benzovindiflupyr	0.0020	U	ug/L	P395928	
		Carbamazepine	8.0E-04	U	ug/L	P395928	
		Clothianidin	0.0020	U	ug/L	P395928	
		Dinotefuran	0.0020	U	ug/L	P395928	
		Diuron	0.0020	U	ug/L	P395928	
		Fenuron	0.016	U	ug/L	P395928	
		Fluridone	8.0E-04	U	ug/L	P395928	
		Imazapyr	1.5		ug/L	P395928	
		Hydrocodone	0.0020	U	ug/L	P395928	
		Ibuprofen	0.020	U	ug/L	P395928	
		Imidacloprid	0.0020	U	ug/L	P395928	
		Linuron	0.0040	U	ug/L	P395928	
		Mandestrobin	0.0020	U	ug/L	P395928	
		MCPP	0.0020	U	ug/L	P395928	
		Naproxen	0.0080	U	ug/L	P395928	
		Primidone	0.0040	U	ug/L	P395928	
		Pyraclostrobin	0.0020	U	ug/L	P395928	

Field ID: 20030346 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235429	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P395928	
		Tolfenpyrad	0.0020	U	ug/L	P395928	
		Triclopyr	0.0040	U	ug/L	P395928	
2235430	EPA 200.7 Rev. 4.4	Barium	24.6		ug/L	P395998	
		Calcium	12.5		mg/L	P395998	
		Iron	1.15E+03		ug/L	P395998	
		Magnesium	1.47		mg/L	P395998	
		Manganese	14.3		ug/L	P395998	
		Potassium	1.0	I	mg/L	P395998	
		Sodium	11.1		mg/L	P395998	
		Zinc	5.0	U	ug/L	P395998	
	EPA 200.8 Rev. 5.4	Aluminum	467		ug/L	P395998	
		Antimony	0.085	I	ug/L	P395998	
		Arsenic	0.57		ug/L	P395998	
		Beryllium	0.040		ug/L	P395998	
		Boron**	17.9		ug/L	P395998	
		Cadmium	0.020	U	ug/L	P395998	
		Chromium	0.58	I	ug/L	P395998	
		Copper	0.49	I	ug/L	P395998	
		Lead	2.61		ug/L	P395998	
		Nickel	0.86	I	ug/L	P395998	
		Selenium	0.20	U	ug/L	P395998	
		Silver	0.010	U	ug/L	P395998	
		Thallium	0.10	U	ug/L	P395998	
	SM 2340B	Hardness	37.2		mg/L	P395998	
2235437	EPA 8270E	Acetochlor	0.26	U	ng/L	P395927	
		Alachlor	0.26	U	ng/L	P395927	
		Ametryn	0.62	U	ng/L	P395927	
		Atrazine	3.9		ng/L	P395927	
		Atrazine Desethyl	1.6	U	ng/L	P395927	
		Azinphos Methyl	2.1	U	ng/L	P395927	
		Azoxystrobin**	0.52	U	ng/L	P395927	
		Bromacil	2.6		ng/L	P395927	
		Butylate	0.42	U	ng/L	P395927	
		Caffeine**	17	I	ng/L	P395927	
		Carbophenothion	0.52	U	ng/L	P395927	
		Carfentrazone Ethyl**	0.10	U	ng/L	P395927	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P395927	
		Chlorpyrifos Methyl	0.052	U	ng/L	P395927	
		Cyanazine	3.4	U	ng/L	P395927	
		Demeton	1.6	U	ng/L	P395927	
		Diazinon	0.13	U	ng/L	P395927	
		Difenoconazole**	0.62	U	ng/L	P395927	
		Dimethenamid**	0.10	U	ng/L	P395927	
		Disulfoton	0.52	U	ng/L	P395927	

Field ID: 20030346 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235437	EPA 8270E	Dithiopyr**	0.18	U	ng/L	P395927	
		EPTC	1.3	U	ng/L	P395927	RPD
		Ethion	0.16	U	ng/L	P395927	
		Ethoprop	0.10	U	ng/L	P395927	
		Fenamiphos	0.52	U	ng/L	P395927	
		Fenbuconazole**	0.13	U	ng/L	P395927	
		Fipronil	0.26	U	ng/L	P395927	
		Fipronil Desulfinyl**	0.13	U	ng/L	P395927	
		Fipronil Sulfide	0.16	U	ng/L	P395927	
		Fipronil Sulfone	0.16	U	ng/L	P395927	
		Fluazifop-P-butyl**	0.10	U	ng/L	P395927	
		Fludioxonil**	0.13	U	ng/L	P395927	
		Flumioxazin**	1.8	U	ng/L	P395927	
		Flutolanil**	0.10	U	ng/L	P395927	
		Fluxapyroxad**	0.10	U	ng/L	P395927	
		Fonofos	0.21	U	ng/L	P395927	
		Hexazinone	0.52	U	ng/L	P395927	
		Imazalil**	0.78	U	ng/L	P395927	
		Iprodione**	0.62	U	ng/L	P395927	
		Malathion	0.36	U	ng/L	P395927	
		Metalaxyl	0.78	U	ng/L	P395927	
		Metolachlor	0.36	U	ng/L	P395927	
		Metribuzin	3.4	U	ng/L	P395927	
		Mevinphos	1.1	U	ng/L	P395927	
		Molinate	0.31	U	ng/L	P395927	
		Myclobutanil**	0.26	U	ng/L	P395927	
		Naled**	1.6	U	ng/L	P395927	
		Norflurazon	0.52	U	ng/L	P395927	
		Oxadiazon	1.0	I	ng/L	P395927	
		Oxyfluorfen**	0.16	U	ng/L	P395927	
		Parathion Ethyl	0.26	U	ng/L	P395927	
		Parathion Methyl	0.57	U	ng/L	P395927	
		Pendimethalin	1.0	U	ng/L	P395927	
		Phorate	0.55	U	ng/L	P395927	
		Prodiamine**	0.18	U	ng/L	P395927	RPD
		Prometon	0.93	U	ng/L	P395927	
		Prometryn	0.21	U	ng/L	P395927	
		Pronamide**	0.16	U	ng/L	P395927	
		Propiconazole**	0.52	U	ng/L	P395927	
		Pyriproxyfen**	0.13	U	ng/L	P395927	
		Simazine	0.52	U	ng/L	P395927	
		Sulfentrazone**	0.52	U	ng/L	P395927	
		Tebuconazole**	0.52	U	ng/L	P395927	
		Terbufos	0.10	U	ng/L	P395927	
		Terbuthylazine	0.44	U	ng/L	P395927	

Field ID: 20030346 Matrix: W-SURF-FRH

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

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. V - Due to detect in the extraction blank.
EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 04/16/2021.
EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P395821

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395998

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: P395998

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: P395980

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395982

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

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: P396069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395950

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

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

Reference Method: EPA 8270E
Batch ID: P395927

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P395927

Component	Result	Code	Units
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P395858

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P395928

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.019	I	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	0.14		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: P395829

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P396042

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

Reference Method: SM 2540 C-2011
Batch ID: P396391

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P396397

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P396044

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P396052

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: P395998

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	109		P	85 - 115
Iron	105		P	85 - 115
Magnesium	102		P	85 - 115
Manganese	102		P	85 - 115
Potassium	103		P	85 - 115
Sodium	104		P	85 - 115
Zinc	95.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395998

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	91.8		P	85 - 115
Antimony	98.9		P	85 - 115
Arsenic	95.4		P	85 - 115
Beryllium	89.6		P	85 - 115
Boron	95.0		P	85 - 115
Cadmium	96.8		P	85 - 115
Chromium	94.0		P	85 - 115
Copper	94.1		P	85 - 115
Lead	98.1		P	85 - 115
Nickel	94.7		P	85 - 115
Selenium	93.4		P	85 - 115
Silver	99.9		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395980

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395982

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395950

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: P395891

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

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

Reference Method: EPA 8270E
Batch ID: P395927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	93.4	93.6	P/P	70 - 121
Alachlor	92.2	94.7	P/P	70 - 119
Ametryn	63.0	78.4	P/P	61 - 135
Atrazine	92.7	98.9	P/P	76 - 123
Atrazine Desethyl	108	98.8	P/P	35 - 140
Azinphos Methyl	131	127	P/P	57 - 163
Azoxystrobin	181	159	P/P	43 - 231
Bromacil	89.5	80.9	P/P	42 - 123
Butylate	60.8	47.7	P/P	34 - 92.0
Caffeine	75.6	70.6	P/P	70 - 130
Carbophenothion	86.8	94.6	P/P	61 - 121
Carfentrazone Ethyl	102	107	P/P	62 - 139
Chlorpyrifos Ethyl	77.4	90.8	P/P	67 - 121
Chlorpyrifos Methyl	91.1	94.4	P/P	67 - 120
Cyanazine	126	122	P/P	20 - 226
Demeton	75.5	78.0	P/P	35 - 125
Diazinon	99.5	99.8	P/P	70 - 122
Difenoconazole	149	145	P/P	56 - 186
Dimethenamid	87.3	92.4	P/P	67 - 119
Disulfoton	80.1	89.2	P/P	47 - 120
Dithiopyr	84.4	89.0	P/P	67 - 118
EPTC	62.7	48.6	P/P	33 - 90.0
Ethion	79.0	92.6	P/P	40 - 133
Ethoprop	91.0	87.0	P/P	61 - 121
Fenamiphos	89.4	97.7	P/P	31 - 139
Fenbuconazole	114	107	P/P	66 - 141
Fipronil	97.8	95.8	P/P	62 - 129
Fipronil Desulfinyl	95.8	98.3	P/P	59 - 126
Fipronil Sulfide	82.5	86.5	P/P	63 - 117
Fipronil Sulfone	79.0	90.7	P/P	57 - 117
Fluazifop-P-butyl	96.4	98.1	P/P	63 - 124
Fludioxonil	101	104	P/P	63 - 123
Flumioxazin	165	175	P/P	34 - 245
Flutolanil	92.0	94.3	P/P	56 - 131

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P395927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	86.2	89.9	P/P	57 - 117
Fonofos	85.0	84.5	P/P	61 - 116
Hexazinone	92.1	99.7	P/P	55 - 138
Imazalil	87.5	112	P/P	33 - 143
Iprodione	95.9	99.9	P/P	59 - 118
Malathion	98.0	100	P/P	62 - 138
Metalaxyl	96.4	97.2	P/P	24 - 147
Metolachlor	86.0	90.2	P/P	68 - 118
Metribuzin	108	105	P/P	20 - 239
Mevinphos	74.9	71.7	P/P	46 - 124
Molinate	67.4	56.5	P/P	46 - 100
Myclobutanil	91.7	93.9	P/P	32 - 149
Naled	47.6	46.9	P/P	32 - 95.0
Norflurazon	94.6	98.5	P/P	57 - 127
Oxadiazon	88.7	94.0	P/P	63 - 118
Oxyfluorfen	106	116	P/P	69 - 137
Parathion Ethyl	90.0	91.9	P/P	70 - 113
Parathion Methyl	104	109	P/P	71 - 130
Pendimethalin	84.7	88.7	P/P	55 - 118
Phorate	83.5	73.7	P/P	46 - 125
Prodiamine	45.2	49.5	P/P	20 - 141
Prometon	88.4	91.2	P/P	54 - 122
Prometryn	94.4	97.5	P/P	66 - 124
Pronamide	95.3	96.9	P/P	79 - 122
Propiconazole	91.9	96.1	P/P	61 - 126
Pyriproxyfen	92.5	94.1	P/P	52 - 131
Simazine	98.7	97.9	P/P	75 - 128
Sulfentrazone	78.4	92.3	P/P	20 - 132
Tebuconazole	70.6	84.8	P/P	20 - 116
Terbufos	82.0	84.0	P/P	61 - 117
Terbuthylazine	89.5	93.1	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P395858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	121		P	40 - 150
AMPA	106		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	134		P	40 - 140
Sucralose	138		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P395928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	127		P	30 - 160
2,4,5-T	101		P	30 - 160
Acetaminophen	104		P	30 - 160
Acetamiprid	91.2		P	30 - 160
Afidopyropen	72.7		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P395928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	104		P	30 - 160
Benzovindiflupyr	90.5		P	30 - 160
Carbamazepine	96.6		P	30 - 160
Clothianidin	101		P	30 - 160
Dinotefuran	97.6		P	30 - 160
Diuron	75.5		P	30 - 160
Fenuron	99.3		P	30 - 160
Fluridone	103		P	30 - 160
Hydrocodone	101		P	30 - 160
Ibuprofen	90.1		P	30 - 160
Imazapyr	110		P	30 - 160
Imidacloprid	105		P	30 - 160
Linuron	87.9		P	30 - 160
Mandestrobin	96.8		P	30 - 160
MCPP	116		P	30 - 160
Naproxen	90.4		P	30 - 160
Primidone	103		P	30 - 160
Pyraclostrobin	79.3		P	30 - 160
Thiamethoxam	105		P	30 - 160
Tolfenpyrad	57.7		P	30 - 160
Triclopyr	102		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P395829

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

Reference Method: SM 2320 B-2011
Batch ID: P396042

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

Reference Method: SM 4500 F-C-2011
Batch ID: P396044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P396052

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.5		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235430	Barium	105		P	80 - 120
2235430	Calcium	109		P	80 - 120
2235430	Iron	111		P	80 - 120
2235430	Magnesium	108		P	80 - 120
2235430	Manganese	106		P	80 - 120
2235430	Potassium	109		P	80 - 120
2235430	Sodium	109		P	80 - 120
2235430	Zinc	106		P	80 - 120
2235615	Barium	104	104	P/P	80 - 120
2235615	Calcium	105		P	80 - 120
2235615	Iron	106	107	P/P	80 - 120
2235615	Magnesium	103	104	P/P	80 - 120
2235615	Manganese	105	105	P/P	80 - 120
2235615	Potassium	106	106	P/P	80 - 120
2235615	Sodium	108	107	P/P	80 - 120
2235615	Zinc	104	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235430	Aluminum	93.1		P	80 - 120
2235430	Antimony	100		P	80 - 120
2235430	Arsenic	97.8		P	80 - 120
2235430	Beryllium	91.2		P	80 - 120
2235430	Boron	92.1		P	80 - 120
2235430	Cadmium	100		P	80 - 120
2235430	Chromium	96.5		P	80 - 120
2235430	Copper	95.8		P	80 - 120
2235430	Lead	100		P	80 - 120
2235430	Nickel	95.1		P	80 - 120
2235430	Selenium	92.7		P	80 - 120
2235430	Silver	99.3		P	80 - 120
2235430	Thallium	106		P	80 - 120
2235615	Aluminum	86.4	93.1	P/P	80 - 120
2235615	Antimony	98.3	103	P/P	80 - 120
2235615	Arsenic	93.9	97.7	P/P	80 - 120
2235615	Beryllium	90.0	93.7	P/P	80 - 120
2235615	Boron	90.4	93.5	P/P	80 - 120
2235615	Cadmium	98.0	101	P/P	80 - 120
2235615	Chromium	95.3	99.1	P/P	80 - 120
2235615	Copper	94.5	98.5	P/P	80 - 120
2235615	Lead	97.1	99.5	P/P	80 - 120
2235615	Nickel	94.4	99.1	P/P	80 - 120
2235615	Selenium	90.6	96.9	P/P	80 - 120
2235615	Silver	100	101	P/P	80 - 120
2235615	Thallium	101	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395980

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235396	Chloride	98.5		P	90 - 110
2235503	Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235396	Sulfate	101		P	90 - 110
2235503	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235445	Ammonia-N	96.6	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235395	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395950

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235425	NO2NO3-N	96.6	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235394	Total-P	106	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235312	O-Phosphate-P	99.1	97.7	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P395927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235662	Acetochlor	92.0	93.1	P/P	66 - 122
2235662	Alachlor	88.9	87.4	P/P	65 - 122
2235662	Ametryn	84.4	67.9	P/P	45 - 173
2235662	Atrazine Desethyl	105	105	P/P	25 - 150
2235662	Azinphos Methyl	136	126	P/P	44 - 174
2235662	Azoxystrobin	177	185	P/P	10 - 268
2235662	Bromacil	90.4	78.6	P/P	31 - 145
2235662	Butylate	36.8	47.4	P/P	15 - 97.0

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P395927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235662	Caffeine	81.8	95.9	P/P	70 - 130
2235662	Carbophenothion	94.2	89.4	P/P	42 - 129
2235662	Carfentrazone Ethyl	105	98.1	P/P	62 - 145
2235662	Chlorpyrifos Ethyl	87.6	81.2	P/P	60 - 124
2235662	Chlorpyrifos Methyl	97.7	94.2	P/P	66 - 119
2235662	Cyanazine	108	113	P/P	17 - 225
2235662	Demeton	80.6	82.2	P/P	36 - 142
2235662	Diazinon	99.8	101	P/P	70 - 128
2235662	Difenoconazole	153	156	P/P	33 - 222
2235662	Dimethenamid	90.4	90.6	P/P	54 - 125
2235662	Disulfoton	97.3	90.3	P/P	49 - 133
2235662	Dithiopyr	86.4	86.1	P/P	55 - 123
2235662	EPTC	34.8	48.1	P/P	19 - 91.0
2235662	Ethion	83.0	92.3	P/P	13 - 143
2235662	Ethoprop	94.5	98.9	P/P	49 - 144
2235662	Fenamiphos	79.5	85.6	P/P	32 - 136
2235662	Fenbuconazole	115	117	P/P	73 - 148
2235662	Fipronil	106	102	P/P	57 - 129
2235662	Fipronil Desulfinyl	104	97.7	P/P	49 - 127
2235662	Fipronil Sulfide	92.4	90.8	P/P	44 - 127
2235662	Fipronil Sulfone	84.1	85.2	P/P	35 - 126
2235662	Fluazifop-P-butyl	99.9	101	P/P	67 - 129
2235662	Fludioxonil	103	100	P/P	61 - 126
2235662	Flumioxazin	200	193	P/P	38 - 279
2235662	Flutolanil	90.1	92.7	P/P	55 - 136
2235662	Fluxapyroxad	91.1	92.2	P/P	33 - 140
2235662	Fonofos	86.8	88.0	P/P	58 - 125
2235662	Hexazinone	96.6	98.2	P/P	57 - 148
2235662	Imazalil	92.4	99.6	P/P	10 - 221
2235662	Iprodione	101	99.4	P/P	32 - 140
2235662	Malathion	104	103	P/P	52 - 138
2235662	Metalaxyl	102	98.4	P/P	46 - 134
2235662	Metolachlor	83.9	85.3	P/P	58 - 122
2235662	Metribuzin	119	114	P/P	16 - 272
2235662	Mevinphos	86.8	87.1	P/P	45 - 140
2235662	Molinate	54.6	63.6	P/P	41 - 103
2235662	Myclobutanil	97.2	97.1	P/P	60 - 134
2235662	Naled	40.9	48.7	P/P	20 - 113
2235662	Norflurazon	96.7	91.7	P/P	51 - 123
2235662	Oxyfluorfen	122	122	P/P	66 - 176
2235662	Parathion Ethyl	89.8	96.1	P/P	57 - 132
2235662	Parathion Methyl	115	109	P/P	59 - 156
2235662	Pendimethalin	100	95.5	P/P	59 - 129
2235662	Phorate	93.4	90.1	P/P	47 - 136
2235662	Prodiamine	83.5	53.9	P/P	10 - 159
2235662	Prometon	100	95.3	P/P	59 - 127
2235662	Prometryn	98.1	96.8	P/P	59 - 129
2235662	Pronamide	93.7	83.8	P/P	65 - 145
2235662	Propiconazole	91.2	82.0	P/P	28 - 165
2235662	Pyriproxyfen	92.9	94.0	P/P	21 - 180
2235662	Sulfentrazone	104	104	P/P	32 - 136
2235662	Tebuconazole	75.2	75.8	P/P	10 - 117

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P395927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235662	Terbufos	88.6	91.5	P/P	61 - 131
2235662	Terbuthylazine	94.2	92.6	P/P	62 - 126

Reference Method: EPA 8321B
Batch ID: P395858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235408	Acesulfame K	192	197	F/F	40 - 150
2235408	AMPA	118	112	P/P	40 - 150
2235408	Endothall	113	123	P/P	40 - 150
2235408	Glufosinate	96.9	108	P/P	40 - 150
2235408	Glyphosate	129	148	P/F	40 - 140
2235408	Sucralose	106	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P395928

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235408	2,4-D	320	305	F/F	30 - 160
2235408	2,4,5-T	117	117	P/P	30 - 160
2235408	Acetaminophen	185	139	F/P	30 - 160
2235408	Acetamiprid	116	113	P/P	30 - 160
2235408	Afidopyropen	111	105	P/P	30 - 160
2235408	Bentazon	300	300	F/F	30 - 160
2235408	Benzovindiflupyr	101	97.6	P/P	30 - 160
2235408	Carbamazepine	115	112	P/P	30 - 160
2235408	Clothianidin	119	121	P/P	30 - 160
2235408	Dinotefuran	122	115	P/P	30 - 160
2235408	Diuron	98.1	95.9	P/P	30 - 160
2235408	Fenuron	105	98.4	P/P	30 - 160
2235408	Fluridone	115	114	P/P	30 - 160
2235408	Hydrocodone	131	123	P/P	30 - 160
2235408	Ibuprofen	97.7	98.6	P/P	30 - 160
2235408	Imidacloprid	148	144	P/P	30 - 160
2235408	Linuron	97.3	87.1	P/P	30 - 160
2235408	Mandestrobin	100	97.2	P/P	30 - 160
2235408	MCPP	135	134	P/P	30 - 160
2235408	Naproxen	102	109	P/P	30 - 160
2235408	Primidone	119	117	P/P	30 - 160
2235408	Pyraclostrobin	93.5	82.5	P/P	30 - 160
2235408	Thiamethoxam	138	136	P/P	30 - 160
2235408	Tolfenpyrad	67.0	58.2	P/P	30 - 160
2235408	Triclopyr	124	121	P/P	30 - 160

Reference Method: SM 5310 B-2011
Batch ID: P396052

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235317	Organic Carbon	95.2	95.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P395821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235365	Turbidity	4.16	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235615	Barium	0.372	Spike	P	0 - 20
2235615	Calcium	0.593	Spike	P	0 - 20
2235615	Iron	0.885	Spike	P	0 - 20
2235615	Magnesium	0.760	Spike	P	0 - 20
2235615	Manganese	0.153	Spike	P	0 - 20
2235615	Potassium	0.0900	Spike	P	0 - 20
2235615	Sodium	0.529	Spike	P	0 - 20
2235615	Zinc	1.90	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235615	Aluminum	6.71	Spike	P	0 - 20
2235615	Antimony	4.65	Spike	P	0 - 20
2235615	Arsenic	3.96	Spike	P	0 - 20
2235615	Beryllium	4.04	Spike	P	0 - 20
2235615	Boron	2.79	Spike	P	0 - 20
2235615	Cadmium	3.08	Spike	P	0 - 20
2235615	Chromium	3.98	Spike	P	0 - 20
2235615	Copper	4.06	Spike	P	0 - 20
2235615	Lead	2.42	Spike	P	0 - 20
2235615	Nickel	4.80	Spike	P	0 - 20
2235615	Selenium	6.72	Spike	P	0 - 20
2235615	Silver	0.935	Spike	P	0 - 20
2235615	Thallium	4.49	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235396	Chloride	0.703	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235396	Sulfate	0.255	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235445	Ammonia-N	1.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235395	Kjeldahl Nitrogen	0.608	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235425	NO2NO3-N	0.454	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235394	Total-P	3.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235312	O-Phosphate-P	1.20	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P395927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235662	Acetochlor	1.19	Spike	P	0 - 30
2235662	Alachlor	1.71	Spike	P	0 - 30
2235662	Ametryn	21.6	Spike	P	0 - 30
2235662	Atrazine	5.75	Spike	P	0 - 30
2235662	Atrazine Desethyl	0.129	Spike	P	0 - 30
2235662	Azinphos Methyl	8.05	Spike	P	0 - 30
2235662	Azoxystrobin	3.52	Spike	P	0 - 30
2235662	Bromacil	12.0	Spike	P	0 - 30
2235662	Butylate	25.2	Spike	P	0 - 30
2235662	Caffeine	9.86	Spike	P	0 - 30
2235662	Carbophenothion	5.25	Spike	P	0 - 30
2235662	Carfentrazone Ethyl	6.51	Spike	P	0 - 30
2235662	Chlorpyrifos Ethyl	7.64	Spike	P	0 - 30
2235662	Chlorpyrifos Methyl	3.70	Spike	P	0 - 30
2235662	Cyanazine	4.50	Spike	P	0 - 30
2235662	Demeton	1.94	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P395927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235662	Diazinon	1.35	Spike	P	0 - 30
2235662	Difenoconazole	2.08	Spike	P	0 - 30
2235662	Dimethenamid	0.141	Spike	P	0 - 30
2235662	Disulfoton	7.49	Spike	P	0 - 30
2235662	Dithiopyr	0.229	Spike	P	0 - 30
2235662	EPTC	32.2	Spike	F	0 - 30
2235662	Ethion	10.7	Spike	P	0 - 30
2235662	Ethoprop	4.57	Spike	P	0 - 30
2235662	Fenamiphos	7.42	Spike	P	0 - 30
2235662	Fenbuconazole	1.70	Spike	P	0 - 30
2235662	Fipronil	3.98	Spike	P	0 - 30
2235662	Fipronil Desulfinyl	5.76	Spike	P	0 - 30
2235662	Fipronil Sulfide	1.79	Spike	P	0 - 30
2235662	Fipronil Sulfone	1.16	Spike	P	0 - 30
2235662	Fluazifop-P-butyl	1.07	Spike	P	0 - 30
2235662	Fludioxonil	3.14	Spike	P	0 - 30
2235662	Flumioxazin	3.55	Spike	P	0 - 30
2235662	Flutolanil	2.43	Spike	P	0 - 30
2235662	Fluxapyroxad	1.10	Spike	P	0 - 30
2235662	Fonofos	1.41	Spike	P	0 - 30
2235662	Hexazinone	1.58	Spike	P	0 - 30
2235662	Imazalil	7.50	Spike	P	0 - 30
2235662	Iprodione	1.92	Spike	P	0 - 30
2235662	Malathion	0.579	Spike	P	0 - 30
2235662	Metalaxyl	3.93	Spike	P	0 - 30
2235662	Metolachlor	1.08	Spike	P	0 - 30
2235662	Metribuzin	4.21	Spike	P	0 - 30
2235662	Mevinphos	0.403	Spike	P	0 - 30
2235662	Molinate	15.2	Spike	P	0 - 30
2235662	Myclobutanil	0.120	Spike	P	0 - 30
2235662	Naled	17.4	Spike	P	0 - 30
2235662	Norflurazon	5.30	Spike	P	0 - 30
2235662	Oxadiazon	8.47	Spike	P	0 - 30
2235662	Oxyfluorfen	0.638	Spike	P	0 - 30
2235662	Parathion Ethyl	6.84	Spike	P	0 - 30
2235662	Parathion Methyl	5.81	Spike	P	0 - 30
2235662	Pendimethalin	4.74	Spike	P	0 - 30
2235662	Phorate	3.60	Spike	P	0 - 30
2235662	Prodiamine	43.2	Spike	F	0 - 30
2235662	Prometon	5.13	Spike	P	0 - 30
2235662	Prometryn	1.40	Spike	P	0 - 30
2235662	Pronamide	8.65	Spike	P	0 - 30
2235662	Propiconazole	8.17	Spike	P	0 - 30
2235662	Pyriproxyfen	1.13	Spike	P	0 - 30
2235662	Simazine	9.22	Spike	P	0 - 30
2235662	Sulfentrazone	0.425	Spike	P	0 - 30
2235662	Tebuconazole	0.756	Spike	P	0 - 30
2235662	Terbufos	3.24	Spike	P	0 - 30
2235662	Terbuthylazine	1.75	Spike	P	0 - 30
LFB	Acetochlor	0.197	LCS	P	0 - 30
LFB	Alachlor	2.66	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P395927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Ametryn	21.9	LCS	P	0 - 30
LFB	Atrazine	6.45	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.25	LCS	P	0 - 30
LFB	Azinphos Methyl	3.36	LCS	P	0 - 30
LFB	Azoxystrobin	12.6	LCS	P	0 - 30
LFB	Bromacil	10.0	LCS	P	0 - 30
LFB	Butylate	24.2	LCS	P	0 - 30
LFB	Caffeine	6.84	LCS	P	0 - 30
LFB	Carbophenothion	8.54	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	4.50	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	15.9	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	3.59	LCS	P	0 - 30
LFB	Cyanazine	3.84	LCS	P	0 - 30
LFB	Demeton	3.18	LCS	P	0 - 30
LFB	Diazinon	0.257	LCS	P	0 - 30
LFB	Difenoconazole	2.42	LCS	P	0 - 30
LFB	Dimethenamid	5.69	LCS	P	0 - 30
LFB	Disulfoton	10.7	LCS	P	0 - 30
LFB	Dithiopyr	5.30	LCS	P	0 - 30
LFB	EPTC	25.3	LCS	P	0 - 30
LFB	Ethion	15.8	LCS	P	0 - 30
LFB	Ethoprop	4.46	LCS	P	0 - 30
LFB	Fenamiphos	8.89	LCS	P	0 - 30
LFB	Fenbuconazole	5.92	LCS	P	0 - 30
LFB	Fipronil	2.11	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	2.56	LCS	P	0 - 30
LFB	Fipronil Sulfide	4.66	LCS	P	0 - 30
LFB	Fipronil Sulfone	13.9	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	1.67	LCS	P	0 - 30
LFB	Fludioxonil	2.39	LCS	P	0 - 30
LFB	Flumioxazin	6.33	LCS	P	0 - 30
LFB	Flutolanil	2.49	LCS	P	0 - 30
LFB	Fluxapyroxad	4.26	LCS	P	0 - 30
LFB	Fonofos	0.628	LCS	P	0 - 30
LFB	Hexazinone	7.88	LCS	P	0 - 30
LFB	Imazalil	24.8	LCS	P	0 - 30
LFB	Iprodione	4.17	LCS	P	0 - 30
LFB	Malathion	2.45	LCS	P	0 - 30
LFB	Metalaxyl	0.824	LCS	P	0 - 30
LFB	Metolachlor	4.77	LCS	P	0 - 30
LFB	Metribuzin	3.08	LCS	P	0 - 30
LFB	Mevinphos	4.39	LCS	P	0 - 30
LFB	Molinate	17.6	LCS	P	0 - 30
LFB	Myclobutanil	2.42	LCS	P	0 - 30
LFB	Naled	1.62	LCS	P	0 - 30
LFB	Norflurazon	4.12	LCS	P	0 - 30
LFB	Oxadiazon	5.87	LCS	P	0 - 30
LFB	Oxyfluorfen	8.45	LCS	P	0 - 30
LFB	Parathion Ethyl	2.16	LCS	P	0 - 30
LFB	Parathion Methyl	5.05	LCS	P	0 - 30
LFB	Pendimethalin	4.60	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P395927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	12.5	LCS	P	0 - 30
LFB	Prodiamine	9.01	LCS	P	0 - 30
LFB	Prometon	3.06	LCS	P	0 - 30
LFB	Prometryn	3.25	LCS	P	0 - 30
LFB	Pronamide	1.61	LCS	P	0 - 30
LFB	Propiconazole	4.52	LCS	P	0 - 30
LFB	Pyriproxyfen	1.70	LCS	P	0 - 30
LFB	Simazine	0.755	LCS	P	0 - 30
LFB	Sulfentrazone	16.4	LCS	P	0 - 30
LFB	Tebuconazole	18.3	LCS	P	0 - 30
LFB	Terbufos	2.48	LCS	P	0 - 30
LFB	Terbuthylazine	3.92	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P395858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235408	Acesulfame K	2.67	Spike	P	0 - 30
2235408	AMPA	4.83	Spike	P	0 - 30
2235408	Endothall	8.60	Spike	P	0 - 30
2235408	Glufosinate	11.3	Spike	P	0 - 30
2235408	Glyphosate	13.2	Spike	P	0 - 30
2235408	Sucralose	0.533	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P395928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235408	2,4-D	4.70	Spike	P	0 - 30
2235408	2,4,5-T	0.565	Spike	P	0 - 30
2235408	Acetaminophen	28.1	Spike	P	0 - 30
2235408	Acetamiprid	2.29	Spike	P	0 - 30
2235408	Afidopyropen	5.53	Spike	P	0 - 30
2235408	Bentazon	0.0691	Spike	P	0 - 30
2235408	Benzovindiflupyr	3.29	Spike	P	0 - 30
2235408	Carbamazepine	2.16	Spike	P	0 - 30
2235408	Clothianidin	1.44	Spike	P	0 - 30
2235408	Dinotefuran	5.68	Spike	P	0 - 30
2235408	Diuron	2.26	Spike	P	0 - 30
2235408	Fenuron	6.78	Spike	P	0 - 30
2235408	Fluridone	0.833	Spike	P	0 - 30
2235408	Hydrocodone	6.47	Spike	P	0 - 30
2235408	Ibuprofen	0.905	Spike	P	0 - 30
2235408	Imazapyr	2.53	Spike	P	0 - 30
2235408	Imidacloprid	2.74	Spike	P	0 - 30
2235408	Linuron	11.1	Spike	P	0 - 30
2235408	Mandestrobin	3.07	Spike	P	0 - 30
2235408	MCPP	0.726	Spike	P	0 - 30
2235408	Naproxen	6.52	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P395928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235408	Primidone	1.75	Spike	P	0 - 30
2235408	Pyraclostrobin	12.6	Spike	P	0 - 30
2235408	Thiamethoxam	1.69	Spike	P	0 - 30
2235408	Tolfenpyrad	14.2	Spike	P	0 - 30
2235408	Triclopyr	2.21	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P395829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235365	Color (true)	3.13	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P396042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235759	Total Alkalinity	0.609	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P396391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235366	TDS	2.76	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P396044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235759	Fluoride	0.502	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P396052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235317	Organic Carbon	0.479	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2235429
Field Sample ID: 20030346

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	145	P	30 - 160
EPA 8321B	Acetaminophen-d4	140	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.8	P	30 - 160
EPA 8321B	Diuron-d6	66.2	P	30 - 160
EPA 8321B	Endothall-d6	99.5	P	40 - 160
EPA 8321B	Endothall-d6	99.5	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	40 - 160
EPA 8321B	Ibuprofen-d3	111	P	30 - 160
EPA 8321B	Primidone-d5	136	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Lab Sample ID: 2235437
Field Sample ID: 20030346

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	91.8	P	20 - 200
EPA 8270E	Simazine-d10	117	P	73 - 135
EPA 8270E	Terbufos-d10	129	P	58 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A104426
Included Lab Sample IDs: 2235426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A104429
Included Lab Sample IDs: 2235424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: SM 2120 B-2011
Run ID: A104430
Included Lab Sample IDs: 2235424

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

Reference Method: EPA 8321B
Run ID: A104476
Included Lab Sample IDs: 2235429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	126	91.4	P/P	40 - 160
AMPA	107	94.6	P/P	40 - 160
Endothall	71.9	66.0	P/P	40 - 160
Glufosinate	82.2	84.5	P/P	40 - 160
Glyphosate	158	136	P/P	40 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A104482
Included Lab Sample IDs: 2235425

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A104493
Included Lab Sample IDs: 2235425

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A104495
Included Lab Sample IDs: 2235424

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A104518
Included Lab Sample IDs: 2235424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.8	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A104518
Included Lab Sample IDs: 2235424

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

Reference Method: SM 5310 B-2011
Run ID: A104530
Included Lab Sample IDs: 2235425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	96.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A104557
Included Lab Sample IDs: 2235429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	126	132	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A104599
Included Lab Sample IDs: 2235429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	108	P/P	50 - 150
2,4,5-T	114	111	P/P	50 - 150
Acetaminophen	121	117	P/P	60 - 160
Acetamiprid	123	126	P/P	50 - 150
Afidopyropen	104	137	P/P	50 - 150
Bentazon	116	123	P/P	50 - 160
Benzovindiflupyr	130	129	P/P	50 - 160
Carbamazepine	132	128	P/P	60 - 150
Clothianidin	115	119	P/P	60 - 150
Dinotefuran	116	113	P/P	50 - 150
Diuron	133	128	P/P	60 - 160
Fenuron	96.9	93.7	P/P	60 - 150
Fluridone	122	114	P/P	60 - 160
Hydrocodone	128	121	P/P	60 - 150
Ibuprofen	99.6	101	P/P	50 - 160
Imidacloprid	120	122	P/P	60 - 150
Linuron	129	127	P/P	60 - 150
Mandestrobin	124	115	P/P	50 - 150
MCPP	115	124	P/P	50 - 150
Naproxen	84.6	119	P/P	50 - 160
Primidone	117	122	P/P	60 - 150
Pyraclostrobin	121	115	P/P	60 - 150
Thiamethoxam	126	122	P/P	50 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A104599
Included Lab Sample IDs: 2235429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tolfenpyrad	125	121	P/P	60 - 150
Triclopyr	114	130	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A104602
Included Lab Sample IDs: 2235425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.6	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A104605
Included Lab Sample IDs: 2235429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	89.7	73.9	P/P	50 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A104607
Included Lab Sample IDs: 2235430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	102	P/P	90 - 110
Antimony	103	104	P/P	90 - 110
Arsenic	99.5	100	P/P	90 - 110
Beryllium	98.4	98.4	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Chromium	98.5	99.4	P/P	90 - 110
Copper	98.2	98.5	P/P	90 - 110
Nickel	98.3	99.5	P/P	90 - 110
Selenium	98.5	98.6	P/P	90 - 110
Thallium	103	104	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A104618
Included Lab Sample IDs: 2235437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	100		P	80 - 120
Alachlor	99.6		P	80 - 120
Ametryn	92.8		P	80 - 120
Atrazine	91.7		P	80 - 120
Atrazine Desethyl	107		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Azoxystrobin	93.8		P	80 - 120
Bromacil	96.9		P	80 - 120
Butylate	91.5		P	80 - 120
Caffeine	101		P	80 - 120
Carbophenothion	97.1		P	80 - 120
Carfentrazone Ethyl	95.2		P	80 - 120
Chlorpyrifos Ethyl	103		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A104618
Included Lab Sample IDs: 2235437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Methyl	99.1		P	80 - 120
Cyanazine	94.2		P	80 - 120
Demeton	99.8		P	80 - 120
Diazinon	97.9		P	80 - 120
Difenoconazole	95.4		P	80 - 120
Dimethenamid	96.9		P	80 - 120
Disulfoton	94.8		P	80 - 120
Dithiopyr	98.5		P	80 - 120
EPTC	96.2		P	80 - 120
Ethion	95.6		P	80 - 120
Ethoprop	103		P	80 - 120
Fenamiphos	96.9		P	80 - 120
Fenbuconazole	97.9		P	80 - 120
Fipronil	95.2		P	80 - 120
Fipronil Desulfinyl	96.1		P	80 - 120
Fipronil Sulfide	95.7		P	80 - 120
Fipronil Sulfone	94.8		P	80 - 120
Fluazifop-P-butyl	95.0		P	80 - 120
Fludioxonil	98.0		P	80 - 120
Flumioxazin	97.2		P	80 - 120
Flutolanil	88.8		P	80 - 120
Fluxapyroxad	91.1		P	80 - 120
Fonofos	105		P	80 - 120
Hexazinone	107		P	80 - 120
Imazalil	98.3		P	80 - 120
Iprodione	96.3		P	80 - 120
Malathion	103		P	80 - 120
Metalaxyl	98.3		P	80 - 120
Metolachlor	97.2		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	98.6		P	80 - 120
Myclobutanil	93.1		P	80 - 120
Naled	103		P	80 - 120
Norflurazon	95.7		P	80 - 120
Oxadiazon	98.6		P	80 - 120
Oxyfluorfen	97.2		P	80 - 120
Parathion Ethyl	91.7		P	80 - 120
Parathion Methyl	101		P	80 - 120
Pendimethalin	99.6		P	80 - 120
Phorate	102		P	80 - 120
Prodiamine	103		P	80 - 120
Prometon	96.0		P	80 - 120
Prometryn	96.3		P	80 - 120
Pronamide	97.3		P	80 - 120
Propiconazole	93.4		P	80 - 120
Pyriproxyfen	98.1		P	80 - 120
Simazine	95.3		P	80 - 120
Sulfentrazone	98.2		P	80 - 120
Tebuconazole	96.5		P	80 - 120
Terbufos	97.3		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A104618
Included Lab Sample IDs: 2235437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbuthylazine	95.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A104679
Included Lab Sample IDs: 2235430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	90.4	93.8	P/P	90 - 110
Lead	96.2	100	P/P	90 - 110
Silver	95.4	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A104733
Included Lab Sample IDs: 2235425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	97.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A104774
Included Lab Sample IDs: 2235430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	102	P/P	90 - 110
Calcium	106	107	P/P	90 - 110
Iron	108	107	P/P	90 - 110
Magnesium	105	104	P/P	90 - 110
Manganese	105	103	P/P	90 - 110
Potassium	108	107	P/P	90 - 110
Sodium	108	107	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A104812
Included Lab Sample IDs: 2235430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	105	101	P/P	90 - 110

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							4.16	
EPA 200.7 Rev. 4.4	Barium	100		105	104	104			0.372
	Calcium	109		109	105				0.593
	Iron	105		111	106	107			0.885
	Magnesium	102		108	103	104			0.760
	Manganese	102		106	105	105			0.153
	Potassium	103		109	106	106			0.0900
	Sodium	104		109	108	107			0.529
	Zinc	95.6		106	104	102			1.90
EPA 200.8 Rev. 5.4	Aluminum	91.8		93.1	86.4	93.1			6.71
	Antimony	98.9		100	98.3	103			4.65
	Arsenic	95.4		97.8	93.9	97.7			3.96
	Beryllium	89.6		91.2	90.0	93.7			4.04
	Boron	95.0		90.4	93.5	92.1			2.79
	Cadmium	96.8		100	98.0	101			3.08
	Chromium	94.0		96.5	95.3	99.1			3.98
	Copper	94.1		95.8	94.5	98.5			4.06
	Lead	98.1		97.1	99.5	100			2.42
	Nickel	94.7		95.1	94.4	99.1			4.80
	Selenium	93.4		92.7	90.6	96.9			6.72
	Silver	99.9		100	101	99.3			0.935
	Thallium	100		106	101	105			4.49
EPA 300.0 Rev. 2.1	Chloride	101		98.5	99.7			0.703	
	Sulfate	101		101	101			0.255	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6		96.6	98.6				1.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		103	104				0.608
EPA 353.2 Rev. 2.0	NO2NO3-N	100		96.6	97.0				0.454
EPA 365.1 Rev. 2.0	Total-P	107		106	102				3.38
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8		99.1	97.7				1.20
EPA 8270E	Acetochlor	93.6	93.4	92.0	93.1		0.197		1.19
	Alachlor	94.7	92.2	88.9	87.4		2.66		1.71
	Ametryn	78.4	63.0	84.4	67.9		21.9		21.6
	Atrazine	98.9	92.7				6.45		5.75
	Atrazine Desethyl	108	98.8	105	105		9.25		0.129
	Azinphos Methyl	131	127	126	136		3.36		8.05
	Azoxystrobin	181	159	185	177		12.6		3.52
	Bromacil	89.5	80.9	78.6	90.4		10.0		12.0
	Butylate	60.8	47.7	47.4	36.8		24.2		25.2
	Caffeine	70.6	75.6	81.8	95.9		6.84		9.86
	Carbophenothion	94.6	86.8	94.2	89.4		8.54		5.25
	Carfentrazone Ethyl	107	102	105	98.1		4.50		6.51
	Chlorpyrifos Ethyl	90.8	77.4	87.6	81.2		15.9		7.64
	Chlorpyrifos Methyl	94.4	91.1	97.7	94.2		3.59		3.70
	Cyanazine	122	126	108	113		3.84		4.50
	Demeton	78.0	75.5	80.6	82.2		3.18		1.94
	Diazinon	99.8	99.5	99.8	101		0.257		1.35
	Difenoconazole	145	149	153	156		2.42		2.08
	Dimethenamid	92.4	87.3	90.4	90.6		5.69		0.141
	Disulfoton	89.2	80.1	97.3	90.3		10.7		7.49
	Dithiopyr	89.0	84.4	86.4	86.1		5.30		0.229
	EPTC	48.6	62.7	34.8	48.1		25.3		32.2
	Ethion	92.6	79.0	83.0	92.3		15.8		10.7
	Ethoprop	87.0	91.0	94.5	98.9		4.46		4.57
	Fenamiphos	97.7	89.4	79.5	85.6		8.89		7.42

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270E	Fenbuconazole	107	114	115	117	5.92		1.70
	Fipronil	95.8	97.8	106	102	2.11		3.98
	Fipronil Desulfinyl	98.3	95.8	104	97.7	2.56		5.76
	Fipronil Sulfide	86.5	82.5	92.4	90.8	4.66		1.79
	Fipronil Sulfone	90.7	79.0	85.2	84.1	13.9		1.16
	Fluazifop-P-butyl	98.1	96.4	101	99.9	1.67		1.07
	Fludioxonil	104	101	100	103	2.39		3.14
	Flumioxazin	175	165	193	200	6.33		3.55
	Flutolanil	94.3	92.0	92.7	90.1	2.49		2.43
	Fluxapyroxad	89.9	86.2	92.2	91.1	4.26		1.10
	Fonofos	84.5	85.0	88.0	86.8	0.628		1.41
	Hexazinone	99.7	92.1	98.2	96.6	7.88		1.58
	Imazalil	112	87.5	99.6	92.4	24.8		7.50
	Iprodione	99.9	95.9	99.4	101	4.17		1.92
	Malathion	100	98.0	103	104	2.45		0.579
	Metalaxyl	97.2	96.4	98.4	102	0.824		3.93
	Metolachlor	90.2	86.0	85.3	83.9	4.77		1.08
	Metribuzin	105	108	114	119	3.08		4.21
	Mevinphos	71.7	74.9	87.1	86.8	4.39		0.403
	Molinate	67.4	56.5	63.6	54.6	17.6		15.2
	Myclobutanil	91.7	93.9	97.1	97.2	2.42		0.120
	Naled	47.6	46.9	48.7	40.9	1.62		17.4
	Norflurazon	94.6	98.5	91.7	96.7	4.12		5.30
	Oxadiazon	88.7	94.0			5.87		8.47
	Oxyfluorfen	106	116	122	122	8.45		0.638
	Parathion Ethyl	90.0	91.9	96.1	89.8	2.16		6.84
	Parathion Methyl	104	109	109	115	5.05		5.81
	Pendimethalin	84.7	88.7	95.5	100	4.60		4.74
	Phorate	83.5	73.7	90.1	93.4	12.5		3.60
	Prodiamine	45.2	49.5	53.9	83.5	9.01		43.2
	Prometon	88.4	91.2	95.3	100	3.06		5.13
	Prometryn	94.4	97.5	96.8	98.1	3.25		1.40
	Pronamide	95.3	96.9	83.8	93.7	1.61		8.65
	Propiconazole	91.9	96.1	82.0	91.2	4.52		8.17
	Pyriproxyfen	92.5	94.1	94.0	92.9	1.70		1.13
	Simazine	98.7	97.9			0.755		9.22
	Sulfentrazone	78.4	92.3	104	104	16.4		0.425
	Tebuconazole	70.6	84.8	75.8	75.2	18.3		0.756
	Terbufos	82.0	84.0	91.5	88.6	2.48		3.24
	Terbuthylazine	89.5	93.1	92.6	94.2	3.92		1.75
EPA 8321B	2,4-D	127		320	305			4.70
	2,4,5-T	101		117	117			0.565
	Acesulfame K	121		192	197			2.67
	Acetaminophen	104		185	139			28.1
	Acetamiprid	91.2		116	113			2.29
	Afidopyropen	72.7		111	105			5.53
	AMPA	106		118	112			4.83
	Bentazon	104		300	300			0.0691
	Benzovindiflupyr	90.5		101	97.6			3.29
	Carbamazepine	96.6		115	112			2.16
	Clothianidin	101		119	121			1.44
	Dinotefuran	97.6		122	115			5.68
	Diuron	75.5		98.1	95.9			2.26
	Endothall	101		113	123			8.60

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Fenuron	99.3	105	98.4			6.78
	Fluridone	103	115	114			0.833
	Glufosinate	104	96.9	108			11.3
	Glyphosate	134	129	148			13.2
	Hydrocodone	101	131	123			6.47
	Ibuprofen	90.1	97.7	98.6			0.905
	Imazapyr	110					2.53
	Imidacloprid	105	148	144			2.74
	Linuron	87.9	97.3	87.1			11.1
	Mandestrobin	96.8	100	97.2			3.07
	MCPP	116	135	134			0.726
	Naproxen	90.4	102	109			6.52
	Primidone	103	119	117			1.75
	Pyraclostrobin	79.3	93.5	82.5			12.6
	Sucralose	138	106	106			0.533
	Thiamethoxam	105	138	136			1.69
	Tolfenpyrad	57.7	67.0	58.2			14.2
	Triclopyr	102	124	121			2.21
SM 2120 B-2011	Color (true)	101				3.13	
SM 2320 B-2011	Total Alkalinity	100				0.609	
SM 2540 C-2011	TDS					2.76	
SM 4500 F-C-2011	Fluoride	99.0					0.502
SM 5310 B-2011	Organic Carbon	93.5	95.2	95.9			0.479

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2235424
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2235430
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2235430
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2235424
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2235424
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2235425
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2235425
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2235425
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2235425
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2235426
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2235437
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2235429
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2235429
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2235424
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2235424
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2235430
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2235424
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2235424
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2235424
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2235425

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	04/01/2021			04/01/2021 15:12	Yen Ta	2235424
EPA 200.7 Rev. 4.4	04/01/2021	04/06/2021 15:40	Elliott D. Healy	04/15/2021 22:26	Betina Topolski	2235430
	04/01/2021	04/06/2021 15:40	Elliott D. Healy	04/16/2021 15:19	Betina Topolski	2235430
EPA 200.8 Rev. 5.4	04/01/2021	04/06/2021 15:40	Elliott D. Healy	04/08/2021 22:43	McKinley C Carter	2235430
	04/01/2021	04/06/2021 15:40	Elliott D. Healy	04/13/2021 05:07	Alexander Thompson	2235430
EPA 300.0 Rev. 2.1	04/01/2021			04/06/2021 02:23	Lipi Saha	2235424
EPA 350.1 Rev. 2.0	04/01/2021			04/14/2021 18:24	Ping Hua	2235425
EPA 351.2 Rev. 2.0	04/01/2021	04/07/2021 12:41	Yen Ta	04/08/2021 16:52	Virginia P. Brown	2235425
EPA 353.2 Rev. 2.0	04/01/2021			04/05/2021 11:07	Beverly Y. Sanders	2235425
EPA 365.1 Rev. 2.0	04/01/2021	04/02/2021 13:22	Yen Ta	04/05/2021 15:04	Shengyu Ding	2235425
EPA 365.1 Rev. 2.0 dissolved	04/01/2021			04/01/2021 13:38	Lipi Saha	2235426
EPA 8270E	04/01/2021	04/06/2021 08:30	Rasheda Ghaffari	04/07/2021 15:32	Michael Poppell	2235437
EPA 8321B	04/01/2021	04/02/2021 11:45	Rebecca Ware	04/02/2021 13:50	Rebecca Ware	2235429
	04/01/2021	04/02/2021 11:45	Rebecca Ware	04/06/2021 18:36	Rebecca Ware	2235429
	04/01/2021	04/05/2021 09:00	Hoor Shaik	04/08/2021 02:09	Juyoung Kim	2235429
	04/01/2021	04/05/2021 09:00	Hoor Shaik	04/09/2021 02:59	Juyoung Kim	2235429
SM 2120 B-2011	04/01/2021			04/01/2021 16:20	Benjamin T. Nordmann	2235424
SM 2320 B-2011	04/01/2021			04/06/2021 06:18	Dale L. Simmons	2235424
SM 2340B	04/01/2021			04/15/2021 22:26	Betina Topolski	2235430
SM 2540 C-2011	04/01/2021			04/06/2021 15:21	Yijie Li	2235424
SM 2540 D-2011	04/01/2021			04/06/2021 15:05	Yijie Li	2235424
SM 4500 F-C-2011	04/01/2021			04/06/2021 06:18	Dale L. Simmons	2235424
SM 5310 B-2011	04/01/2021			04/06/2021 01:43	Madeline Gruver	2235425