

Chemical Analysis Report

WAS-SECT-2021-01-19-01

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

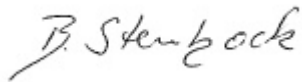
Event Description: **Wakulla BMAP**
Request ID: **RQ-2021-01-18-10**
Customer: **WAS-SECT**
Project ID: **BMAP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 09-FEB-2021 17:27



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: Wakulla River at Boat Tram

Collection Date/Time: 01/19/2021 11:41

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219972	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P392688	
	EPA 300.0 Rev. 2.1	Chloride	8.4		mg Cl/L	P392734	
		Sulfate	9.5		mg SO4/L	P392736	
	SM 2120 B-2011	Color (true)	36	A	PCU	P392633	
	SM 2320 B-2011	Total Alkalinity	127	A	mg CaCO3/L	P392851	
	SM 2540 C-2011	TDS	163		mg/L	P393016	
	SM 2540 D-2011	TSS	2	I	mg/L	P392976	
2219973	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P392854	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P393333	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.085	I	mg N/L	P393125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P392742	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P392721	
2219974	SM 5310 B-2011	Organic Carbon	3.3		mg C/L	P392754	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P392546	
2219980	EPA 8321B	2,4-D	0.0020	U	ug/L	P392593	
		Acesulfame K**	0.10	U	ug/L	P392663	
		AMPA**	0.10	U	ug/L	P392663	
		Sucralose**	0.088		ug/L	P392663	
		Acetaminophen**	0.0080	U	ug/L	P392593	
		Acetamiprid**	0.0020	U	ug/L	P392593	
		Endothall**	0.25	U	ug/L	P392663	
		Glufosinate**	0.10	U	ug/L	P392663	
		Glyphosate**	0.10	U	ug/L	P392663	
		Afidopyropen**	0.0020	U	ug/L	P392593	
		Bentazon	8.0E-04	U	ug/L	P392593	
		Benzovindiflupyr**	0.0020	U	ug/L	P392593	
		Carbamazepine**	8.0E-04	U	ug/L	P392593	
		Clothianidin**	0.0020	U	ug/L	P392593	
		Dinotefuran**	0.0020	U	ug/L	P392593	
		Diuron	0.0020	U	ug/L	P392593	
		Fenuron	0.016	U	ug/L	P392593	
		Fluridone**	8.0E-04	U	ug/L	P392593	
		Imazapyr**	0.0040	U	ug/L	P392593	
		Hydrocodone**	0.0020	U	ug/L	P392593	
		Ibuprofen**	0.020	U	ug/L	P392593	
		Imidacloprid	0.0020	U	ug/L	P392593	
		Linuron	0.0040	U	ug/L	P392593	
		Mandestrobin**	0.0020	U	ug/L	P392593	
		MCPD	0.0020	U	ug/L	P392593	
		Naproxen**	0.0080	U	ug/L	P392593	
		Primidone**	0.0040	U	ug/L	P392593	
		Pyraclostrobin**	0.0020	U	ug/L	P392593	
		Thiamethoxam**	0.0020	U	ug/L	P392593	

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219980	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P392593	
		Triclopyr**	0.0040	U	ug/L	P392593	
2219982	EPA 200.7 Rev. 4.4	Calcium	47.5		mg/L	P392709	
		Iron	40	I	ug/L	P392709	
		Magnesium	9.67		mg/L	P392709	
		Potassium	0.59	I	mg/L	P392709	
		Sodium	5.7		mg/L	P392709	
		Strontium	107		ug/L	P392709	
		Tin	3.0	U	ug/L	P392709	
		Titanium	1.4	I	ug/L	P392709	
		Vanadium	2.4	I	ug/L	P392709	
		Zinc	5.0	U	ug/L	P392709	
	EPA 200.8 Rev. 5.4	Aluminum	50		ug/L	P392709	
		Antimony	0.050	U	ug/L	P392709	
		Arsenic	0.57		ug/L	P392709	
		Barium	10.6		ug/L	P392709	
		Beryllium	0.010	U	ug/L	P392709	
		Boron**	15.1		ug/L	P392709	
		Cadmium	0.020	U	ug/L	P392709	
		Chromium	0.87	I	ug/L	P392709	
		Cobalt	0.026	I	ug/L	P392709	
		Copper	0.40	U	ug/L	P392709	
		Lead	0.20	U	ug/L	P392709	
		Manganese	1.59		ug/L	P392709	
		Molybdenum	1.36		ug/L	P392709	
		Nickel	0.50	U	ug/L	P392709	
		Selenium	0.38	I	ug/L	P392709	
		Silver	0.010	U	ug/L	P392709	
		Thallium	0.10	U	ug/L	P392709	
	SM 2340B	Hardness	158		mg/L	P392709	
2219984	EPA 8270E	Acetochlor	0.24	U	ng/L	P392528	
		Alachlor	0.24	U	ng/L	P392528	
		Ametryn	0.58	U	ng/L	P392528	
		Atrazine	0.88	I	ng/L	P392528	
		Atrazine Desethyl	1.4	U	ng/L	P392528	
		Azinphos Methyl	1.9	UJ	ng/L	P392528	CCV
		Azoxystrobin**	0.48	U	ng/L	P392528	
		Bromacil	0.48	U	ng/L	P392528	
		Butylate	0.39	U	ng/L	P392528	
		Carbophenothion	0.48	U	ng/L	P392528	
		Carfentrazone Ethyl**	0.096	U	ng/L	P392528	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P392528	
		Chlorpyrifos Methyl	0.048	U	ng/L	P392528	
		Cyanazine	3.1	U	ng/L	P392528	
		Demeton	1.4	U	ng/L	P392528	

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219984	EPA 8270E	Diazinon	0.12	U	ng/L	P392528	
		Difenoconazole**	0.58	U	ng/L	P392528	
		Dimethenamid**	0.096	U	ng/L	P392528	
		Disulfoton	0.48	U	ng/L	P392528	
		Dithiopyr**	0.17	U	ng/L	P392528	
		EPTC	1.2	U	ng/L	P392528	
		Ethion	0.14	U	ng/L	P392528	
		Ethoprop	0.096	U	ng/L	P392528	
		Fenamiphos	0.48	U	ng/L	P392528	
		Fenbuconazole**	0.12	U	ng/L	P392528	
		Fipronil	0.24	U	ng/L	P392528	
		Fipronil Desulfinyll**	0.12	U	ng/L	P392528	
		Fipronil Sulfide	0.14	U	ng/L	P392528	
		Fipronil Sulfone	0.14	U	ng/L	P392528	
		Fluazifop-P-butyl**	0.096	U	ng/L	P392528	
		Fludioxonil**	0.12	U	ng/L	P392528	
		Flumioxazin**	1.7	U	ng/L	P392528	
		Flutolanil**	0.096	U	ng/L	P392528	
		Fluxapyroxad**	0.096	U	ng/L	P392528	
		Fonofos	0.19	U	ng/L	P392528	
		Hexazinone	0.80	I	ng/L	P392528	
		Imazalil**	0.72	U	ng/L	P392528	
		Iprodione**	0.58	U	ng/L	P392528	
		Malathion	0.34	U	ng/L	P392528	
		Metalaxyl	0.72	U	ng/L	P392528	
		Metolachlor	0.34	U	ng/L	P392528	
		Metribuzin	3.1	U	ng/L	P392528	
		Mevinphos	1.0	U	ng/L	P392528	
		Molinate	0.29	U	ng/L	P392528	
		Myclobutanil**	0.24	U	ng/L	P392528	
		Naled**	1.4	U	ng/L	P392528	
		Norflurazon	0.48	U	ng/L	P392528	
		Oxadiazon	0.29	U	ng/L	P392528	
		Oxyfluorfen**	0.14	U	ng/L	P392528	
		Parathion Ethyl	0.24	U	ng/L	P392528	
		Parathion Methyl	0.53	U	ng/L	P392528	
		Pendimethalin	0.96	U	ng/L	P392528	
		Phorate	0.51	U	ng/L	P392528	
		Prodiamine**	0.17	U	ng/L	P392528	
		Prometon	0.87	U	ng/L	P392528	
		Prometryn	0.19	U	ng/L	P392528	
		Pronamide**	0.14	U	ng/L	P392528	
		Propiconazole**	0.48	U	ng/L	P392528	
		Pyriproxyfen**	0.12	U	ng/L	P392528	
		Simazine	4.2		ng/L	P392528	

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219984	EPA 8270E	Sulfentrazone**	0.48	U	ng/L	P392528	
		Tebuconazole**	0.48	U	ng/L	P392528	
		Terbufos	0.096	U	ng/L	P392528	
		Terbuthylazine	0.41	U	ng/L	P392528	

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: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Field Blank

Collection Date/Time: 01/19/2021 12:17

Field ID: FB 011921

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219975	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P392688	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P392734	
		Sulfate	0.20	U	mg SO4/L	P392736	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P392633	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P393052	
	SM 2540 C-2011	TDS	15	U	mg/L	P393015	
	SM 2540 D-2011	TSS	2	U	mg/L	P392975	
2219976	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P392857	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P393333	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P393125	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P392742	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P392722	
2219977	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P392754	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392546	
2219981	EPA 8321B	2,4-D	0.0020	U	ug/L	P392593	
		Acesulfame K**	0.10	U	ug/L	P392663	
		AMPA**	0.10	U	ug/L	P392663	
		Sucralose**	0.010	U	ug/L	P392663	
		Acetaminophen**	0.0080	U	ug/L	P392593	
		Acetamiprid**	0.0020	U	ug/L	P392593	
		Endothall**	0.25	U	ug/L	P392663	
		Glufosinate**	0.10	U	ug/L	P392663	
		Glyphosate**	0.10	U	ug/L	P392663	
		Afidopyrophen**	0.0020	U	ug/L	P392593	
		Bentazon	8.0E-04	U	ug/L	P392593	
		Benzovindiflupyr**	0.0020	U	ug/L	P392593	
		Carbamazepine**	8.0E-04	U	ug/L	P392593	
		Clothianidin**	0.0020	U	ug/L	P392593	
		Dinotefuran**	0.0020	U	ug/L	P392593	
		Diuron	0.0020	U	ug/L	P392593	
		Fenuron	0.016	U	ug/L	P392593	
		Fluridone**	8.0E-04	U	ug/L	P392593	
		Imazapyr**	0.0040	U	ug/L	P392593	
		Hydrocodone**	0.0020	U	ug/L	P392593	
		Ibuprofen**	0.020	U	ug/L	P392593	
		Imidacloprid	0.0020	U	ug/L	P392593	
		Linuron	0.0040	U	ug/L	P392593	
		Mandestrobin**	0.0020	U	ug/L	P392593	
		MCP	0.0020	U	ug/L	P392593	
		Naproxen**	0.0080	U	ug/L	P392593	
		Primidone**	0.0040	U	ug/L	P392593	
		Pyraclostrobin**	0.0020	U	ug/L	P392593	
		Thiamethoxam**	0.0020	U	ug/L	P392593	

Field ID: FB 011921

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219981	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P392593	
		Triclopyr**	0.0040	U	ug/L	P392593	
2219983	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P392709	
		Iron	30	U	ug/L	P392709	
		Magnesium	0.040	U	mg/L	P392709	
		Potassium	0.30	U	mg/L	P392709	
		Sodium	0.50	U	mg/L	P392709	
		Strontium	2.0	U	ug/L	P392709	
		Tin	3.0	U	ug/L	P392709	
		Titanium	0.75	U	ug/L	P392709	
		Vanadium	2.0	U	ug/L	P392709	
		Zinc	5.0	U	ug/L	P392709	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P392709	
		Antimony	0.050	U	ug/L	P392709	
		Arsenic	0.050	U	ug/L	P392709	
		Barium	0.20	U	ug/L	P392709	
		Beryllium	0.010	U	ug/L	P392709	
		Boron**	2.0	U	ug/L	P392709	
		Cadmium	0.020	U	ug/L	P392709	
		Chromium	0.40	U	ug/L	P392709	
		Cobalt	0.020	U	ug/L	P392709	
		Copper	0.40	U	ug/L	P392709	
		Lead	0.20	U	ug/L	P392709	
		Manganese	0.10	U	ug/L	P392709	
		Molybdenum	0.15	U	ug/L	P392709	
		Nickel	0.50	U	ug/L	P392709	
		Selenium	0.20	U	ug/L	P392709	
		Silver	0.010	U	ug/L	P392709	
		Thallium	0.10	U	ug/L	P392709	
	SM 2340B	Hardness	0.35	U	mg/L	P392709	
2219985	EPA 8270E	Acetochlor	0.24	U	ng/L	P392528	
		Alachlor	0.24	U	ng/L	P392528	
		Ametryn	0.58	U	ng/L	P392528	
		Atrazine	0.24	U	ng/L	P392528	
		Atrazine Desethyl	1.4	U	ng/L	P392528	
		Azinphos Methyl	1.9	UJ	ng/L	P392528	CCV
		Azoxystrobin**	0.48	U	ng/L	P392528	
		Bromacil	0.48	U	ng/L	P392528	
		Butylate	0.38	U	ng/L	P392528	
		Carbophenothion	0.48	U	ng/L	P392528	
		Carfentrazone Ethyl**	0.096	U	ng/L	P392528	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P392528	
		Chlorpyrifos Methyl	0.048	U	ng/L	P392528	
		Cyanazine	3.1	U	ng/L	P392528	
		Demeton	1.4	U	ng/L	P392528	

Field ID: FB 011921

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219985	EPA 8270E	Diazinon	0.12	U	ng/L	P392528	
		Difenoconazole**	0.58	U	ng/L	P392528	
		Dimethenamid**	0.096	U	ng/L	P392528	
		Disulfoton	0.48	U	ng/L	P392528	
		Dithiopyr**	0.17	U	ng/L	P392528	
		EPTC	1.2	U	ng/L	P392528	
		Ethion	0.14	U	ng/L	P392528	
		Ethoprop	0.096	U	ng/L	P392528	
		Fenamiphos	0.48	U	ng/L	P392528	
		Fenbuconazole**	0.12	U	ng/L	P392528	
		Fipronil	0.24	U	ng/L	P392528	
		Fipronil Desulfinyll**	0.12	U	ng/L	P392528	
		Fipronil Sulfide	0.14	U	ng/L	P392528	
		Fipronil Sulfone	0.14	U	ng/L	P392528	
		Fluazifop-P-butyl**	0.096	U	ng/L	P392528	
		Fludioxonil**	0.12	U	ng/L	P392528	
		Flumioxazin**	1.7	U	ng/L	P392528	
		Flutolanil**	0.096	U	ng/L	P392528	
		Fluxapyroxad**	0.096	U	ng/L	P392528	
		Fonofos	0.19	U	ng/L	P392528	
		Hexazinone	0.48	U	ng/L	P392528	
		Imazalil**	0.72	U	ng/L	P392528	
		Iprodione**	0.58	U	ng/L	P392528	
		Malathion	0.34	U	ng/L	P392528	
		Metalaxyl	0.72	U	ng/L	P392528	
		Metolachlor	0.34	U	ng/L	P392528	
		Metribuzin	3.1	U	ng/L	P392528	
		Mevinphos	1.0	U	ng/L	P392528	
		Molinate	0.29	U	ng/L	P392528	
		Myclobutanil**	0.24	U	ng/L	P392528	
		Naled**	1.4	U	ng/L	P392528	
		Norflurazon	0.48	U	ng/L	P392528	
		Oxadiazon	0.29	U	ng/L	P392528	
		Oxyfluorfen**	0.14	U	ng/L	P392528	
		Parathion Ethyl	0.24	U	ng/L	P392528	
		Parathion Methyl	0.53	U	ng/L	P392528	
		Pendimethalin	0.96	U	ng/L	P392528	
		Phorate	0.50	U	ng/L	P392528	
		Prodiamine**	0.17	U	ng/L	P392528	
		Prometon	0.86	U	ng/L	P392528	
		Prometryn	0.19	U	ng/L	P392528	
		Pronamide**	0.14	U	ng/L	P392528	
		Propiconazole**	0.48	U	ng/L	P392528	
		Pyriproxyfen**	0.12	U	ng/L	P392528	
		Simazine	0.48	U	ng/L	P392528	

Field ID: FB 011921

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2219985	EPA 8270E	Sulfentrazone**	0.48	U	ng/L	P392528	
		Tebuconazole**	0.48	U	ng/L	P392528	
		Terbufos	0.096	U	ng/L	P392528	
		Terbuthylazine	0.41	U	ng/L	P392528	

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: 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: P392688

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P392709

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: P392709

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: P392734

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392721

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392722

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392546

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

Reference Method: EPA 8270E
Batch ID: P392528

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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P392528

Component	Result	Code	Units
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
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
Terbutylazine	0.42	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B**Batch ID: P392593**

Component	Result	Code	Units
2,4-D	0.0020	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: EPA 8321B**Batch ID: P392663**

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: SM 2120 B-2011**Batch ID: P392633**

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011**Batch ID: P392851**

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P393052

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P393015

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P393016

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P392975

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P392976

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392857

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P392754

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: P392709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	108		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	98.1		P	85 - 115
Sodium	104		P	85 - 115
Strontium	98.1		P	85 - 115
Tin	103		P	85 - 115
Titanium	97.4		P	85 - 115
Vanadium	94.5		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P392709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.4		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	101		P	85 - 115
Barium	98.5		P	85 - 115
Beryllium	96.3		P	85 - 115
Boron	92.7		P	85 - 115
Cadmium	96.7		P	85 - 115
Chromium	106		P	85 - 115
Cobalt	107		P	85 - 115
Copper	98.9		P	85 - 115
Lead	103		P	85 - 115
Manganese	97.8		P	85 - 115
Molybdenum	103		P	85 - 115
Nickel	99.7		P	85 - 115
Selenium	98.6		P	85 - 115
Silver	109		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P392734

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P392736

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P393333

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P393125

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P392742

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: P392721

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P392722

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P392546

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

Reference Method: EPA 8270E
 Batch ID: P392528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	104	108	P/P	70 - 121
Alachlor	105	107	P/P	70 - 119
Ametryn	102	104	P/P	61 - 135
Atrazine	103	106	P/P	76 - 123
Atrazine Desethyl	84.1	88.1	P/P	35 - 140
Azinphos Methyl	160	130	P/P	57 - 163
Azoxystrobin	133	153	P/P	43 - 231
Bromacil	93.7	102	P/P	42 - 123
Butylate	63.3	66.8	P/P	34 - 92.0
Carbophenothion	77.9	83.0	P/P	61 - 121
Carfentrazone Ethyl	94.2	101	P/P	62 - 139
Chlorpyrifos Ethyl	86.2	89.3	P/P	67 - 121
Chlorpyrifos Methyl	93.1	95.0	P/P	67 - 120
Cyanazine	138	150	P/P	20 - 226
Demeton	90.0	93.0	P/P	35 - 125
Diazinon	98.1	104	P/P	70 - 122
Difenoconazole	159	171	P/P	56 - 186
Dimethenamid	95.1	101	P/P	67 - 119
Disulfoton	84.5	88.6	P/P	47 - 120
Dithiopyr	86.3	92.5	P/P	67 - 118
EPTC	65.8	64.7	P/P	33 - 90.0
Ethion	78.1	82.0	P/P	40 - 133

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P392528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethoprop	91.8	94.3	P/P	61 - 121
Fenamiphos	96.9	103	P/P	31 - 139
Fenbuconazole	112	118	P/P	66 - 141
Fipronil	90.8	96.0	P/P	62 - 129
Fipronil Desulfinyl	93.2	97.4	P/P	59 - 126
Fipronil Sulfide	85.1	87.2	P/P	63 - 117
Fipronil Sulfone	89.6	94.0	P/P	57 - 117
Fluazifop-P-butyl	85.9	89.2	P/P	63 - 124
Fludioxonil	92.5	101	P/P	63 - 123
Flumioxazin	198	210	P/P	34 - 245
Flutolanil	86.5	91.8	P/P	56 - 131
Fluxapyroxad	70.0	78.0	P/P	57 - 117
Fonofos	92.4	94.1	P/P	61 - 116
Hexazinone	97.9	97.8	P/P	55 - 138
Imazalil	102	113	P/P	33 - 143
Iprodione	89.9	91.7	P/P	59 - 118
Malathion	109	113	P/P	62 - 138
Metalaxyl	102	109	P/P	24 - 147
Metolachlor	108	107	P/P	68 - 118
Metribuzin	94.3	111	P/P	20 - 239
Mevinphos	98.2	100	P/P	46 - 124
Molinate	79.5	82.2	P/P	46 - 100
Myclobutanil	93.3	96.1	P/P	32 - 149
Naled	52.0	50.0	P/P	32 - 95.0
Norflurazon	94.1	98.9	P/P	57 - 127
Oxadiazon	88.5	91.5	P/P	63 - 118
Oxyfluorfen	104	102	P/P	69 - 137
Parathion Ethyl	88.0	101	P/P	70 - 113
Parathion Methyl	112	112	P/P	71 - 130
Pendimethalin	73.3	79.3	P/P	55 - 118
Phorate	80.6	78.9	P/P	46 - 125
Prodiamine	54.8	57.6	P/P	20 - 141
Prometon	96.2	98.6	P/P	54 - 122
Prometryn	95.4	104	P/P	66 - 124
Pronamide	98.4	104	P/P	79 - 122
Propiconazole	87.2	93.0	P/P	61 - 126
Pyriproxyfen	84.0	83.8	P/P	52 - 131
Simazine	110	115	P/P	75 - 128
Sulfentrazone	80.7	89.6	P/P	20 - 132
Tebuconazole	60.0	61.9	P/P	20 - 116
Terbufos	81.9	85.2	P/P	61 - 117
Terbuthylazine	101	107	P/P	74 - 116

Reference Method: EPA 8321B

Batch ID: P392593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	30 - 160
Acetaminophen	65.9		P	30 - 160
Acetamiprid	101		P	30 - 160
Afidopyropen	80.1		P	30 - 160
Bentazon	88.3		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P392593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Benzovindiflupyr	83.4		P	30 - 160
Carbamazepine	76.8		P	30 - 160
Clothianidin	102		P	30 - 160
Dinotefuran	95.1		P	30 - 160
Diuron	61.7		P	30 - 160
Fenuron	105		P	30 - 160
Fluridone	60.8		P	30 - 160
Hydrocodone	102		P	30 - 160
Ibuprofen	84.8		P	30 - 160
Imazapyr	105		P	30 - 160
Imidacloprid	100		P	30 - 160
Linuron	73.9		P	30 - 160
Mandestrobin	91.5		P	30 - 160
MCPP	112		P	30 - 160
Naproxen	61.5		P	30 - 160
Primidone	101		P	30 - 160
Pyraclostrobin	75.0		P	30 - 160
Thiamethoxam	92.1		P	30 - 160
Tolfenpyrad	52.7		P	30 - 160
Triclopyr	112		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P392663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.1		P	40 - 150
AMPA	102		P	40 - 150
Endothall	102		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	133		P	40 - 140
Sucralose	131		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P392633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P392851

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.1		P	93 - 104

Reference Method: SM 2320 B-2011

Batch ID: P393052

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.5		P	93 - 104

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P392857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P392754

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

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P392709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220092	Calcium	109		P	80 - 120
2220092	Iron	110		P	80 - 120
2220092	Magnesium	109		P	80 - 120
2220092	Potassium	104		P	80 - 120
2220092	Sodium	105		P	80 - 120
2220092	Strontium	100		P	80 - 120
2220092	Tin	103		P	80 - 120
2220092	Titanium	97.7		P	80 - 120
2220092	Vanadium	97.9		P	80 - 120
2220092	Zinc	104		P	80 - 120
2220307	Calcium	111	110	P/P	80 - 120
2220307	Iron	113	114	P/P	80 - 120
2220307	Magnesium	111	112	P/P	80 - 120
2220307	Potassium	105	102	P/P	80 - 120
2220307	Sodium	106	102	P/P	80 - 120
2220307	Strontium	101	100	P/P	80 - 120
2220307	Tin	107	104	P/P	80 - 120
2220307	Titanium	104	98.3	P/P	80 - 120
2220307	Vanadium	99.5	97.1	P/P	80 - 120
2220307	Zinc	106	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P392709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220092	Aluminum	95.1		P	80 - 120
2220092	Antimony	100		P	80 - 120
2220092	Arsenic	96.5		P	80 - 120
2220092	Barium	94.7		P	80 - 120
2220092	Beryllium	93.1		P	80 - 120
2220092	Boron	98.2		P	80 - 120
2220092	Cadmium	93.8		P	80 - 120
2220092	Chromium	102		P	80 - 120
2220092	Cobalt	102		P	80 - 120
2220092	Copper	94.8		P	80 - 120
2220092	Lead	101		P	80 - 120
2220092	Manganese	93.6		P	80 - 120
2220092	Molybdenum	99.7		P	80 - 120
2220092	Nickel	94.0		P	80 - 120
2220092	Selenium	92.0		P	80 - 120
2220092	Silver	106		P	80 - 120
2220092	Thallium	102		P	80 - 120
2220307	Aluminum	93.8	96.0	P/P	80 - 120
2220307	Antimony	102	103	P/P	80 - 120
2220307	Arsenic	96.9	98.2	P/P	80 - 120
2220307	Barium	95.2	97.8	P/P	80 - 120
2220307	Beryllium	92.6	93.7	P/P	80 - 120
2220307	Boron	97.0	98.3	P/P	80 - 120
2220307	Cadmium	95.2	96.8	P/P	80 - 120
2220307	Chromium	106	108	P/P	80 - 120
2220307	Cobalt	104	105	P/P	80 - 120
2220307	Copper	95.5	96.9	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P392709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220307	Lead	102	103	P/P	80 - 120
2220307	Manganese	96.4	97.7	P/P	80 - 120
2220307	Molybdenum	101	102	P/P	80 - 120
2220307	Nickel	97.9	98.9	P/P	80 - 120
2220307	Selenium	92.8	94.9	P/P	80 - 120
2220307	Silver	109	108	P/P	80 - 120
2220307	Thallium	99.8	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219600	Chloride	99.0		P	90 - 110
2219939	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219600	Sulfate	103		P	90 - 110
2219939	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219973	Ammonia-N	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219973	Kjeldahl Nitrogen	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219944	NO2NO3-N	93.5	92.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392721

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219943	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219993	Total-P	104	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P392546

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219921	O-Phosphate-P	98.5	98.5	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P392528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219984	Acetochlor	115	99.7	P/P	66 - 122
2219984	Alachlor	111	93.5	P/P	65 - 122
2219984	Ametryn	114	100	P/P	45 - 173
2219984	Atrazine	113	95.6	P/P	70 - 134
2219984	Atrazine Desethyl	96.6	84.2	P/P	25 - 150
2219984	Azinphos Methyl	136	116	P/P	44 - 174
2219984	Azoxystrobin	157	141	P/P	10 - 268
2219984	Bromacil	107	91.3	P/P	31 - 145
2219984	Butylate	65.2	65.4	P/P	15 - 97.0
2219984	Carbophenothion	99.6	87.5	P/P	42 - 129
2219984	Carfentrazone Ethyl	107	91.8	P/P	62 - 145
2219984	Chlorpyrifos Ethyl	105	94.1	P/P	60 - 124
2219984	Chlorpyrifos Methyl	105	91.4	P/P	66 - 119
2219984	Cyanazine	155	139	P/P	17 - 225
2219984	Demeton	98.6	89.7	P/P	36 - 142
2219984	Diazinon	109	94.9	P/P	70 - 128
2219984	Difenoconazole	188	159	P/P	33 - 222
2219984	Dimethenamid	105	91.2	P/P	54 - 125
2219984	Disulfoton	96.8	85.6	P/P	49 - 133
2219984	Dithiopyr	109	89.0	P/P	55 - 123
2219984	EPTC	64.9	55.8	P/P	19 - 91.0
2219984	Ethion	85.9	72.6	P/P	13 - 143
2219984	Ethoprop	100	88.5	P/P	49 - 144
2219984	Fenamiphos	89.4	95.8	P/P	32 - 136
2219984	Fenbuconazole	121	108	P/P	73 - 148
2219984	Fipronil	108	90.2	P/P	57 - 129
2219984	Fipronil Desulfinyl	103	89.6	P/P	49 - 127
2219984	Fipronil Sulfide	99.9	85.3	P/P	44 - 127
2219984	Fipronil Sulfone	103	88.6	P/P	35 - 126
2219984	Fluazifop-P-butyl	111	88.5	P/P	67 - 129
2219984	Fludioxonil	108	93.7	P/P	61 - 126
2219984	Flumioxazin	245	210	P/P	38 - 279
2219984	Flutolanil	100	87.4	P/P	55 - 136
2219984	Fluxapyroxad	78.5	64.5	P/P	33 - 140
2219984	Fonofos	100	84.9	P/P	58 - 125
2219984	Hexazinone	112	95.1	P/P	57 - 148
2219984	Imazalil	111	102	P/P	10 - 221
2219984	Iprodione	98.3	86.1	P/P	32 - 140
2219984	Malathion	120	106	P/P	52 - 138
2219984	Metalaxyl	107	95.6	P/P	46 - 134
2219984	Metolachlor	119	98.8	P/P	58 - 122
2219984	Metribuzin	119	106	P/P	16 - 272
2219984	Mevinphos	102	89.5	P/P	45 - 140
2219984	Molinate	84.8	71.5	P/P	41 - 103
2219984	Myclobutanil	95.4	86.1	P/P	60 - 134
2219984	Naled	50.7	45.5	P/P	20 - 113

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P392528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219984	Norflurazon	104	87.3	P/P	51 - 123
2219984	Oxadiazon	106	90.5	P/P	44 - 125
2219984	Oxyfluorfen	114	92.6	P/P	66 - 176
2219984	Parathion Ethyl	98.9	97.2	P/P	57 - 132
2219984	Parathion Methyl	115	107	P/P	59 - 156
2219984	Pendimethalin	93.2	80.4	P/P	59 - 129
2219984	Phorate	88.6	80.9	P/P	47 - 136
2219984	Prodiamine	63.4	53.3	P/P	10 - 159
2219984	Prometon	107	93.9	P/P	59 - 127
2219984	Prometryn	113	91.2	P/P	59 - 129
2219984	Pronamide	109	98.9	P/P	65 - 145
2219984	Propiconazole	99.8	82.3	P/P	28 - 165
2219984	Pyriproxyfen	105	85.0	P/P	21 - 180
2219984	Simazine	121	94.1	P/P	63 - 147
2219984	Sulfentrazone	95.0	81.9	P/P	32 - 136
2219984	Tebuconazole	64.7	54.4	P/P	10 - 117
2219984	Terbufos	94.9	84.6	P/P	61 - 131
2219984	Terbutylazine	112	90.5	P/P	62 - 126

Reference Method: EPA 8321B

Batch ID: P392593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219578	2,4-D	131	129	P/P	30 - 160
2219578	Acetaminophen	86.3	90.5	P/P	30 - 160
2219578	Acetamiprid	114	107	P/P	30 - 160
2219578	Afidopyropen	86.2	92.5	P/P	30 - 160
2219578	Bentazon	86.9	83.5	P/P	30 - 160
2219578	Benzovindiflupyr	85.7	84.3	P/P	30 - 160
2219578	Carbamazepine	82.1	82.4	P/P	30 - 160
2219578	Clothianidin	99.1	93.0	P/P	30 - 160
2219578	Dinotefuran	109	95.7	P/P	30 - 160
2219578	Diuron	59.9	64.7	P/P	30 - 160
2219578	Fenuron	86.0	95.1	P/P	30 - 160
2219578	Fluridone	83.9	71.5	P/P	30 - 160
2219578	Hydrocodone	106	106	P/P	30 - 160
2219578	Ibuprofen	86.7	98.7	P/P	30 - 160
2219578	Imazapyr	132	111	P/P	30 - 160
2219578	Imidacloprid	130	121	P/P	30 - 160
2219578	Linuron	70.4	65.5	P/P	30 - 160
2219578	Mandestrobin	89.6	90.6	P/P	30 - 160
2219578	MCPP	119	109	P/P	30 - 160
2219578	Naproxen	76.5	79.8	P/P	30 - 160
2219578	Primidone	91.1	82.1	P/P	30 - 160
2219578	Pyraclostrobin	75.0	69.6	P/P	30 - 160
2219578	Thiamethoxam	105	98.3	P/P	30 - 160
2219578	Tolfenpyrad	58.5	52.1	P/P	30 - 160
2219578	Triclopyr	114	120	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P392663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219980	Acesulfame K	81.7	84.4	P/P	40 - 150
2219980	AMPA	116	107	P/P	40 - 150
2219980	Endothall	101	103	P/P	40 - 150
2219980	Glufosinate	91.6	104	P/P	40 - 150
2219980	Glyphosate	119	135	P/P	40 - 140
2219980	Sucralose	128	134	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219972	Fluoride	99.6	97.9	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P392857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220159	Fluoride	95.8	95.8	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P392754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219759	Organic Carbon	102	104	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219989	Turbidity	1.83	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P392709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220307	Calcium	0.647	Spike	P	0 - 20
2220307	Iron	0.954	Spike	P	0 - 20
2220307	Magnesium	0.962	Spike	P	0 - 20
2220307	Potassium	2.76	Spike	P	0 - 20
2220307	Sodium	2.69	Spike	P	0 - 20
2220307	Strontium	0.889	Spike	P	0 - 20
2220307	Tin	2.81	Spike	P	0 - 20
2220307	Titanium	5.76	Spike	P	0 - 20
2220307	Vanadium	2.45	Spike	P	0 - 20
2220307	Zinc	1.66	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P392709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220307	Aluminum	2.27	Spike	P	0 - 20
2220307	Antimony	1.45	Spike	P	0 - 20
2220307	Arsenic	1.39	Spike	P	0 - 20
2220307	Barium	2.49	Spike	P	0 - 20
2220307	Beryllium	1.05	Spike	P	0 - 20
2220307	Boron	1.25	Spike	P	0 - 20
2220307	Cadmium	1.73	Spike	P	0 - 20
2220307	Chromium	1.98	Spike	P	0 - 20
2220307	Cobalt	0.912	Spike	P	0 - 20
2220307	Copper	1.46	Spike	P	0 - 20
2220307	Lead	1.43	Spike	P	0 - 20
2220307	Manganese	1.25	Spike	P	0 - 20
2220307	Molybdenum	1.15	Spike	P	0 - 20
2220307	Nickel	1.07	Spike	P	0 - 20
2220307	Selenium	2.27	Spike	P	0 - 20
2220307	Silver	0.393	Spike	P	0 - 20
2220307	Thallium	2.09	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219600	Chloride	0.782	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219600	Sulfate	1.13	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P393333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219973	Ammonia-N	3.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219973	Kjeldahl Nitrogen	0.468	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219944	NO2NO3-N	0.922	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219943	Total-P	1.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219993	Total-P	2.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219921	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P392528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219984	Acetochlor	14.3	Spike	P	0 - 30
2219984	Alachlor	16.8	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P392528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219984	Ametryn	13.2	Spike	P	0 - 30
2219984	Atrazine	13.9	Spike	P	0 - 30
2219984	Atrazine Desethyl	13.7	Spike	P	0 - 30
2219984	Azinphos Methyl	15.6	Spike	P	0 - 30
2219984	Azoxystrobin	11.1	Spike	P	0 - 30
2219984	Bromacil	15.4	Spike	P	0 - 30
2219984	Butylate	0.261	Spike	P	0 - 30
2219984	Carbophenothion	12.9	Spike	P	0 - 30
2219984	Carfentrazone Ethyl	15.5	Spike	P	0 - 30
2219984	Chlorpyrifos Ethyl	10.6	Spike	P	0 - 30
2219984	Chlorpyrifos Methyl	13.7	Spike	P	0 - 30
2219984	Cyanazine	10.9	Spike	P	0 - 30
2219984	Demeton	9.47	Spike	P	0 - 30
2219984	Diazinon	14.2	Spike	P	0 - 30
2219984	Difenoconazole	16.6	Spike	P	0 - 30
2219984	Dimethenamid	13.9	Spike	P	0 - 30
2219984	Disulfoton	12.2	Spike	P	0 - 30
2219984	Dithiopyr	20.2	Spike	P	0 - 30
2219984	EPTC	15.1	Spike	P	0 - 30
2219984	Ethion	16.8	Spike	P	0 - 30
2219984	Ethoprop	12.7	Spike	P	0 - 30
2219984	Fenamiphos	6.86	Spike	P	0 - 30
2219984	Fenbuconazole	12.0	Spike	P	0 - 30
2219984	Fipronil	18.3	Spike	P	0 - 30
2219984	Fipronil Desulfinyl	13.5	Spike	P	0 - 30
2219984	Fipronil Sulfide	15.7	Spike	P	0 - 30
2219984	Fipronil Sulfone	15.0	Spike	P	0 - 30
2219984	Fluazifop-P-butyl	22.7	Spike	P	0 - 30
2219984	Fludioxonil	13.7	Spike	P	0 - 30
2219984	Flumioxazin	15.6	Spike	P	0 - 30
2219984	Flutolanil	13.8	Spike	P	0 - 30
2219984	Fluxapyroxad	19.6	Spike	P	0 - 30
2219984	Fonofos	16.6	Spike	P	0 - 30
2219984	Hexazinone	14.9	Spike	P	0 - 30
2219984	Imazalil	8.39	Spike	P	0 - 30
2219984	Iprodione	13.3	Spike	P	0 - 30
2219984	Malathion	12.7	Spike	P	0 - 30
2219984	Metalaxyl	11.3	Spike	P	0 - 30
2219984	Metolachlor	18.7	Spike	P	0 - 30
2219984	Metribuzin	11.6	Spike	P	0 - 30
2219984	Mevinphos	13.4	Spike	P	0 - 30
2219984	Molinate	17.0	Spike	P	0 - 30
2219984	Myclobutanil	10.2	Spike	P	0 - 30
2219984	Naled	10.9	Spike	P	0 - 30
2219984	Norflurazon	17.1	Spike	P	0 - 30
2219984	Oxadiazon	16.0	Spike	P	0 - 30
2219984	Oxyfluorfen	20.4	Spike	P	0 - 30
2219984	Parathion Ethyl	1.72	Spike	P	0 - 30
2219984	Parathion Methyl	7.10	Spike	P	0 - 30
2219984	Pendimethalin	14.6	Spike	P	0 - 30
2219984	Phorate	9.06	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P392528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219984	Prodiamine	17.3	Spike	P	0 - 30
2219984	Prometon	13.3	Spike	P	0 - 30
2219984	Prometryn	21.7	Spike	P	0 - 30
2219984	Pronamide	9.90	Spike	P	0 - 30
2219984	Propiconazole	19.3	Spike	P	0 - 30
2219984	Pyriproxyfen	21.2	Spike	P	0 - 30
2219984	Simazine	12.5	Spike	P	0 - 30
2219984	Sulfentrazone	14.8	Spike	P	0 - 30
2219984	Tebuconazole	17.3	Spike	P	0 - 30
2219984	Terbufos	11.5	Spike	P	0 - 30
2219984	Terbuthylazine	21.4	Spike	P	0 - 30
LFB	Acetochlor	3.52	LCS	P	0 - 30
LFB	Alachlor	2.43	LCS	P	0 - 30
LFB	Ametryn	1.50	LCS	P	0 - 30
LFB	Atrazine	3.18	LCS	P	0 - 30
LFB	Atrazine Desethyl	4.64	LCS	P	0 - 30
LFB	Azinphos Methyl	20.3	LCS	P	0 - 30
LFB	Azoxystrobin	14.1	LCS	P	0 - 30
LFB	Bromacil	8.59	LCS	P	0 - 30
LFB	Butylate	5.28	LCS	P	0 - 30
LFB	Carbophenothion	6.32	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	7.36	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.53	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.99	LCS	P	0 - 30
LFB	Cyanazine	8.25	LCS	P	0 - 30
LFB	Demeton	3.20	LCS	P	0 - 30
LFB	Diazinon	6.02	LCS	P	0 - 30
LFB	Difenoconazole	7.09	LCS	P	0 - 30
LFB	Dimethenamid	5.70	LCS	P	0 - 30
LFB	Disulfoton	4.66	LCS	P	0 - 30
LFB	Dithiopyr	6.92	LCS	P	0 - 30
LFB	EPTC	1.68	LCS	P	0 - 30
LFB	Ethion	4.90	LCS	P	0 - 30
LFB	Ethoprop	2.70	LCS	P	0 - 30
LFB	Fenamiphos	6.13	LCS	P	0 - 30
LFB	Fenbuconazole	5.89	LCS	P	0 - 30
LFB	Fipronil	5.63	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	4.46	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.45	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.74	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	3.78	LCS	P	0 - 30
LFB	Fludioxonil	8.43	LCS	P	0 - 30
LFB	Flumioxazin	5.88	LCS	P	0 - 30
LFB	Flutolanil	5.88	LCS	P	0 - 30
LFB	Fluxapyroxad	10.8	LCS	P	0 - 30
LFB	Fonofos	1.79	LCS	P	0 - 30
LFB	Hexazinone	0.104	LCS	P	0 - 30
LFB	Imazalil	9.88	LCS	P	0 - 30
LFB	Iprodione	1.95	LCS	P	0 - 30
LFB	Malathion	3.59	LCS	P	0 - 30
LFB	Metalaxyl	6.28	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P392528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Metolachlor	1.29	LCS	P	0 - 30
LFB	Metribuzin	16.4	LCS	P	0 - 30
LFB	Mevinphos	2.15	LCS	P	0 - 30
LFB	Molinate	3.28	LCS	P	0 - 30
LFB	Myclobutanil	2.98	LCS	P	0 - 30
LFB	Naled	3.94	LCS	P	0 - 30
LFB	Norflurazon	4.97	LCS	P	0 - 30
LFB	Oxadiazon	3.35	LCS	P	0 - 30
LFB	Oxyfluorfen	1.97	LCS	P	0 - 30
LFB	Parathion Ethyl	13.3	LCS	P	0 - 30
LFB	Parathion Methyl	0.510	LCS	P	0 - 30
LFB	Pendimethalin	7.86	LCS	P	0 - 30
LFB	Phorate	2.12	LCS	P	0 - 30
LFB	Prodiamine	5.11	LCS	P	0 - 30
LFB	Prometon	2.52	LCS	P	0 - 30
LFB	Prometryn	9.01	LCS	P	0 - 30
LFB	Pronamide	5.50	LCS	P	0 - 30
LFB	Propiconazole	6.47	LCS	P	0 - 30
LFB	Pyriproxyfen	0.241	LCS	P	0 - 30
LFB	Simazine	4.90	LCS	P	0 - 30
LFB	Sulfentrazone	10.4	LCS	P	0 - 30
LFB	Tebuconazole	3.22	LCS	P	0 - 30
LFB	Terbufos	3.98	LCS	P	0 - 30
LFB	Terbuthylazine	6.04	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P392593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219578	2,4-D	1.65	Spike	P	0 - 30
2219578	Acetaminophen	4.72	Spike	P	0 - 30
2219578	Acetamiprid	6.22	Spike	P	0 - 30
2219578	Afidopyropen	7.06	Spike	P	0 - 30
2219578	Bentazon	3.28	Spike	P	0 - 30
2219578	Benzovindiflupyr	1.66	Spike	P	0 - 30
2219578	Carbamazepine	0.306	Spike	P	0 - 30
2219578	Clothianidin	6.28	Spike	P	0 - 30
2219578	Dinotefuran	12.6	Spike	P	0 - 30
2219578	Diuron	7.67	Spike	P	0 - 30
2219578	Fenuron	10.0	Spike	P	0 - 30
2219578	Fluridone	16.0	Spike	P	0 - 30
2219578	Hydrocodone	0.251	Spike	P	0 - 30
2219578	Ibuprofen	12.9	Spike	P	0 - 30
2219578	Imazapyr	16.2	Spike	P	0 - 30
2219578	Imidacloprid	6.96	Spike	P	0 - 30
2219578	Linuron	7.19	Spike	P	0 - 30
2219578	Mandestrobin	1.08	Spike	P	0 - 30
2219578	MCPP	8.66	Spike	P	0 - 30
2219578	Naproxen	4.21	Spike	P	0 - 30
2219578	Primidone	10.4	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P392593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219578	Pyraclostrobin	7.47	Spike	P	0 - 30
2219578	Thiamethoxam	6.18	Spike	P	0 - 30
2219578	Tolfenpyrad	11.5	Spike	P	0 - 30
2219578	Triclopyr	5.41	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P392663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219980	Acesulfame K	3.29	Spike	P	0 - 30
2219980	AMPA	8.42	Spike	P	0 - 30
2219980	Endothall	1.87	Spike	P	0 - 30
2219980	Glufosinate	13.0	Spike	P	0 - 30
2219980	Glyphosate	12.5	Spike	P	0 - 30
2219980	Sucralose	4.53	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P392633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219972	Color (true)	1.62	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P392851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219972	Total Alkalinity	0.568	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P393052

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2221212	Total Alkalinity	1.25	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P393015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219939	TDS	0.0	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P393016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219941	TDS	5.60	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P392854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219972	Fluoride	1.37	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P392857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220159	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P392754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2219759	Organic Carbon	1.08	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2219980

Field Sample ID: 44059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.0	P	30 - 160
EPA 8321B	Diuron-d6	73.1	P	30 - 160
EPA 8321B	Endothall-d6	96.5	P	40 - 160
EPA 8321B	Endothall-d6	96.5	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	40 - 160
EPA 8321B	Ibuprofen-d3	88.5	P	30 - 160
EPA 8321B	Primidone-d5	84.9	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160

Lab Sample ID: 2219981

Field Sample ID: FB 011921

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	117	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.3	P	30 - 160
EPA 8321B	Diuron-d6	90.0	P	30 - 160
EPA 8321B	Endothall-d6	94.1	P	40 - 160
EPA 8321B	Endothall-d6	94.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	40 - 160
EPA 8321B	Ibuprofen-d3	95.2	P	30 - 160
EPA 8321B	Primidone-d5	97.7	P	30 - 160
EPA 8321B	Sucralose-d6	121	P	30 - 160
EPA 8321B	Sucralose-d6	121	P	30 - 160

Lab Sample ID: 2219984

Field Sample ID: 44059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	92.9	P	73 - 135
EPA 8270E	Terbufos-d10	86.4	P	58 - 130

Lab Sample ID: 2219985

Field Sample ID: FB 011921

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	95.7	P	73 - 135
EPA 8270E	Terbufos-d10	80.1	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103120

Included Lab Sample IDs: 2219974, 2219977

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	99.0	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A103140

Included Lab Sample IDs: 2219972, 2219975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	103	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103154

Included Lab Sample IDs: 2219972, 2219975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	100	P/P	90 - 110
Sulfate	99.9	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103158

Included Lab Sample IDs: 2219972, 2219975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 8270E

Run ID: A103174

Included Lab Sample IDs: 2219984, 2219985

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.5		P	80 - 120
Alachlor	94.8		P	80 - 120
Ametryn	103		P	80 - 120
Atrazine	99.1		P	80 - 120
Atrazine Desethyl	102		P	80 - 120
Bromacil	108		P	80 - 120
Butylate	90.7		P	80 - 120
Carbophenothion	100		P	80 - 120
Carfentrazone Ethyl	95.5		P	80 - 120
Chlorpyrifos Ethyl	104		P	80 - 120
Chlorpyrifos Methyl	97.9		P	80 - 120
Demeton	94.8		P	80 - 120
Diazinon	89.9		P	80 - 120
Dimethenamid	94.6		P	80 - 120
Disulfoton	105		P	80 - 120
Dithiopyr	96.7		P	80 - 120
EPTC	95.4		P	80 - 120
Ethion	98.7		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	94.0		P	80 - 120
Fenbuconazole	86.8		P	80 - 120
Fipronil	95.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A103174

Included Lab Sample IDs: 2219984, 2219985

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil Desulfinyl	99.9		P	80 - 120
Fipronil Sulfide	114		P	80 - 120
Fipronil Sulfone	118		P	80 - 120
Fluazifop-P-butyl	92.4		P	80 - 120
Fludioxonil	103		P	80 - 120
Flutolanil	97.5		P	80 - 120
Fonofos	105		P	80 - 120
Hexazinone	105		P	80 - 120
Imazalil	105		P	80 - 120
Iprodione	109		P	80 - 120
Malathion	96.3		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	98.8		P	80 - 120
Metribuzin	97.8		P	80 - 120
Mevinphos	89.6		P	80 - 120
Molinate	89.6		P	80 - 120
Myclobutanil	105		P	80 - 120
Naled	118		P	80 - 120
Norflurazon	98.6		P	80 - 120
Oxadiazon	102		P	80 - 120
Oxyfluorfen	102		P	80 - 120
Parathion Ethyl	90.8		P	80 - 120
Parathion Methyl	90.9		P	80 - 120
Pendimethalin	96.6		P	80 - 120
Phorate	102		P	80 - 120
Prodiamine	103		P	80 - 120
Prometon	89.3		P	80 - 120
Prometryn	95.6		P	80 - 120
Pronamide	88.7		P	80 - 120
Propiconazole	105		P	80 - 120
Simazine	96.4		P	80 - 120
Tebuconazole	106		P	80 - 120
Terbufos	92.9		P	80 - 120
Terbuthylazine	99.3		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103180

Included Lab Sample IDs: 2219973, 2219976

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

Reference Method: SM 5310 B-2011

Run ID: A103188

Included Lab Sample IDs: 2219973, 2219976

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A103192

Included Lab Sample IDs: 2219980, 2219981

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	119	116	P/P	60 - 160
Sucralose	135	135	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A103215

Included Lab Sample IDs: 2219980, 2219981

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	108	99.6	P/P	60 - 160
AMPA	91.3	108	P/P	60 - 160
Endothall	93.3	96.4	P/P	60 - 160
Glufosinate	88.2	95.4	P/P	60 - 160
Glyphosate	108	128	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103218

Included Lab Sample IDs: 2219973, 2219976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	94.0	97.5	P/P	90 - 110
Total-P	97.5	96.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A103220

Included Lab Sample IDs: 2219972

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.9	91.3	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103220

Included Lab Sample IDs: 2219972, 2219975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	98.6	P/P	90 - 110
Fluoride	99.5	98.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A103221

Included Lab Sample IDs: 2219982, 2219983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	90 - 110
Iron	105	104	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	99.7	98.1	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	98.1	98.7	P/P	90 - 110
Tin	99.8	102	P/P	90 - 110
Titanium	99.4	99.8	P/P	90 - 110
Vanadium	98.0	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A103221

Included Lab Sample IDs: 2219982, 2219983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	97.7	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A103235

Included Lab Sample IDs: 2219980, 2219981

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	117	103	P/P	50 - 150
Acetaminophen	112	98.2	P/P	60 - 160
Acetamiprid	114	107	P/P	50 - 150
Afidopyropen	112	110	P/P	50 - 150
Bentazon	143	131	P/P	50 - 160
Benzovindiflupyr	116	120	P/P	50 - 160
Carbamazepine	115	102	P/P	60 - 150
Clothianidin	99.8	114	P/P	60 - 150
Dinotefuran	110	122	P/P	50 - 150
Diuron	130	119	P/P	60 - 160
Fenuron	113	110	P/P	60 - 150
Fluridone	125	119	P/P	60 - 160
Hydrocodone	111	119	P/P	60 - 150
Ibuprofen	105	124	P/P	50 - 160
Imazapyr	110	109	P/P	50 - 160
Imidacloprid	99.7	91.5	P/P	60 - 150
Linuron	115	108	P/P	60 - 150
Mandestrobin	120	115	P/P	50 - 150
MCPP	112	107	P/P	50 - 150
Naproxen	152	151	P/P	50 - 160
Primidone	96.9	92.8	P/P	60 - 150
Pyraclostrobin	113	117	P/P	60 - 150
Thiamethoxam	110	107	P/P	50 - 150
Tolfenpyrad	122	117	P/P	60 - 150
Triclopyr	104	99.6	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A103276

Included Lab Sample IDs: 2219982, 2219983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.2	98.0	P/P	90 - 110
Aluminum	98.0	97.0	P/P	90 - 110
Antimony	100	99.3	P/P	90 - 110
Antimony	99.6	100	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Arsenic	101	97.7	P/P	90 - 110
Barium	98.4	99.2	P/P	90 - 110
Barium	99.2	97.1	P/P	90 - 110
Beryllium	98.3	96.3	P/P	90 - 110
Beryllium	99.3	98.3	P/P	90 - 110
Boron	94.4	99.0	P/P	90 - 110
Boron	99.0	101	P/P	90 - 110
Cadmium	97.3	97.4	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A103276

Included Lab Sample IDs: 2219982, 2219983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	103	106	P/P	90 - 110
Chromium	106	104	P/P	90 - 110
Cobalt	106	110	P/P	90 - 110
Cobalt	110	104	P/P	90 - 110
Copper	97.2	99.2	P/P	90 - 110
Copper	99.2	94.2	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Manganese	95.6	98.9	P/P	90 - 110
Manganese	98.9	96.0	P/P	90 - 110
Molybdenum	104	105	P/P	90 - 110
Molybdenum	105	102	P/P	90 - 110
Nickel	100	95.5	P/P	90 - 110
Nickel	98.0	100	P/P	90 - 110
Selenium	98.1	99.8	P/P	90 - 110
Selenium	99.8	96.4	P/P	90 - 110
Silver	105	107	P/P	90 - 110
Silver	107	104	P/P	90 - 110
Thallium	103	104	P/P	90 - 110
Thallium	104	103	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A103284

Included Lab Sample IDs: 2219975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.1	95.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A103299

Included Lab Sample IDs: 2219982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	98.2	98.7	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A103335

Included Lab Sample IDs: 2219984, 2219985

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azinphos Methyl	120*		F	80 - 120
Azoxystrobin	82.6		P	80 - 120
Cyanazine	88.0		P	80 - 120
Difenoconazole	89.3		P	80 - 120
Flumioxazin	88.9		P	80 - 120
Fluxapyroxad	95.0		P	80 - 120
Pyriproxyfen	116		P	80 - 120
Sulfentrazone	98.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A103347

Included Lab Sample IDs: 2219973, 2219976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103396

Included Lab Sample IDs: 2219973, 2219976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	94.7	P/P	90 - 110
Ammonia-N	103	102	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							1.83	
EPA 200.7 Rev. 4.4	Calcium	106		109	111	110			0.647
	Iron	108		110	113	114			0.954
	Magnesium	107		109	111	112			0.962
	Potassium	98.1		104	105	102			2.76
	Sodium	104		105	106	102			2.69
	Strontium	98.1		100	101	100			0.889
	Tin	103		103	107	104			2.81
	Titanium	97.4		97.7	104	98.3			5.76
	Vanadium	94.5		97.9	99.5	97.1			2.45
	Zinc	101		104	106	104			1.66
EPA 200.8 Rev. 5.4	Aluminum	97.4		93.8	96.0	95.1			2.27
	Antimony	104		102	103	100			1.45
	Arsenic	101		96.9	98.2	96.5			1.39
	Barium	98.5		95.2	97.8	94.7			2.49
	Beryllium	96.3		92.6	93.7	93.1			1.05
	Boron	92.7		97.0	98.3	98.2			1.25
	Cadmium	96.7		95.2	96.8	93.8			1.73
	Chromium	106		106	108	102			1.98
	Cobalt	107		104	105	102			0.912
	Copper	98.9		95.5	96.9	94.8			1.46
	Lead	103		102	103	101			1.43
	Manganese	97.8		96.4	97.7	93.6			1.25
	Molybdenum	103		101	102	99.7			1.15
	Nickel	99.7		97.9	98.9	94.0			1.07
	Selenium	98.6		92.8	94.9	92.0			2.27
	Silver	109		109	108	106			0.393
	Thallium	101		99.8	102	102			2.09
EPA 300.0 Rev. 2.1	Chloride	100		99.0	99.5			0.782	
	Sulfate	102		103	99.4			1.13	
EPA 350.1 Rev. 2.0	Ammonia-N	103		101	104				3.17
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103		105	105				0.468
EPA 353.2 Rev. 2.0	NO2NO3-N	100		93.5	92.5				0.922
EPA 365.1 Rev. 2.0	Total-P	106		104	105				1.12
	Total-P	103		104	107				2.31
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1		98.5	98.5				0.0
EPA 8270E	Acetochlor	108	104	115	99.7	3.52			14.3
	Alachlor	107	105	111	93.5	2.43			16.8
	Ametryn	104	102	114	100	1.50			13.2
	Atrazine	106	103	113	95.6	3.18			13.9
	Atrazine Desethyl	88.1	84.1	96.6	84.2	4.64			13.7
	Azinphos Methyl	160	130	136	116	20.3			15.6
	Azoxystrobin	133	153	157	141	14.1			11.1
	Bromacil	93.7	102	107	91.3	8.59			15.4
	Butylate	63.3	66.8	65.2	65.4	5.28			0.261
	Carbophenothion	83.0	77.9	99.6	87.5	6.32			12.9
	Carfentrazone Ethyl	101	94.2	107	91.8	7.36			15.5
	Chlorpyrifos Ethyl	89.3	86.2	105	94.1	3.53			10.6
	Chlorpyrifos Methyl	95.0	93.1	105	91.4	1.99			13.7
	Cyanazine	138	150	155	139	8.25			10.9
	Demeton	93.0	90.0	98.6	89.7	3.20			9.47
	Diazinon	104	98.1	109	94.9	6.02			14.2
	Difenoconazole	159	171	188	159	7.09			16.6
	Dimethenamid	101	95.1	105	91.2	5.70			13.9

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Disulfoton	88.6	84.5	96.8	85.6	4.66	12.2
	Dithiopyr	92.5	86.3	109	89.0	6.92	20.2
	EPTC	64.7	65.8	64.9	55.8	1.68	15.1
	Ethion	82.0	78.1	85.9	72.6	4.90	16.8
	Ethoprop	94.3	91.8	100	88.5	2.70	12.7
	Fenamiphos	103	96.9	89.4	95.8	6.13	6.86
	Fenbuconazole	118	112	121	108	5.89	12.0
	Fipronil	96.0	90.8	108	90.2	5.63	18.3
	Fipronil Desulfinyl	97.4	93.2	103	89.6	4.46	13.5
	Fipronil Sulfide	87.2	85.1	99.9	85.3	2.45	15.7
	Fipronil Sulfone	94.0	89.6	103	88.6	4.74	15.0
	Fluazifop-P-butyl	89.2	85.9	111	88.5	3.78	22.7
	Fludioxonil	101	92.5	108	93.7	8.43	13.7
	Flumioxazin	198	210	245	210	5.88	15.6
	Flutolanil	91.8	86.5	100	87.4	5.88	13.8
	Fluxapyroxad	70.0	78.0	78.5	64.5	10.8	19.6
	Fonofos	94.1	92.4	100	84.9	1.79	16.6
	Hexazinone	97.8	97.9	112	95.1	0.104	14.9
	Imazalil	113	102	111	102	9.88	8.39
	Iprodione	91.7	89.9	98.3	86.1	1.95	13.3
	Malathion	113	109	120	106	3.59	12.7
	Metalaxyl	109	102	107	95.6	6.28	11.3
	Metolachlor	107	108	119	98.8	1.29	18.7
	Metribuzin	111	94.3	119	106	16.4	11.6
	Mevinphos	100	98.2	102	89.5	2.15	13.4
	Molinate	82.2	79.5	84.8	71.5	3.28	17.0
	Myclobutanil	96.1	93.3	95.4	86.1	2.98	10.2
	Naled	50.0	52.0	50.7	45.5	3.94	10.9
	Norflurazon	98.9	94.1	104	87.3	4.97	17.1
	Oxadiazon	91.5	88.5	106	90.5	3.35	16.0
	Oxyfluorfen	102	104	114	92.6	1.97	20.4
	Parathion Ethyl	101	88.0	98.9	97.2	13.3	1.72
	Parathion Methyl	112	112	115	107	0.510	7.10
	Pendimethalin	79.3	73.3	93.2	80.4	7.86	14.6
	Phorate	78.9	80.6	88.6	80.9	2.12	9.06
	Prodiamine	57.6	54.8	63.4	53.3	5.11	17.3
	Prometon	98.6	96.2	107	93.9	2.52	13.3
	Prometryn	95.4	104	113	91.2	9.01	21.7
	Pronamide	98.4	104	109	98.9	5.50	9.90
	Propiconazole	87.2	93.0	99.8	82.3	6.47	19.3
	Pyriproxyfen	84.0	83.8	105	85.0	0.241	21.2
	Simazine	110	115	121	94.1	4.90	12.5
	Sulfentrazone	80.7	89.6	95.0	81.9	10.4	14.8
	Tebuconazole	60.0	61.9	64.7	54.4	3.22	17.3
	Terbufos	81.9	85.2	94.9	84.6	3.98	11.5
	Terbuthylazine	101	107	112	90.5	6.04	21.4
EPA 8321B	2,4-D	134		131	129		1.65
	Acesulfame K	97.1		81.7	84.4		3.29
	Acetaminophen	65.9		86.3	90.5		4.72
	Acetamiprid	101		114	107		6.22
	Afidopyropen	80.1		86.2	92.5		7.06
	AMPA	102		116	107		8.42
	Bentazon	88.3		86.9	83.5		3.28
	Benzovindiflupyr	83.4		85.7	84.3		1.66

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Carbamazepine	76.8	82.1	82.4			0.306
	Clothianidin	102	99.1	93.0			6.28
	Dinotefuran	95.1	109	95.7			12.6
	Diuron	61.7	59.9	64.7			7.67
	Endothall	102	101	103			1.87
	Fenuron	105	86.0	95.1			10.0
	Fluridone	60.8	83.9	71.5			16.0
	Glufosinate	100	91.6	104			13.0
	Glyphosate	133	119	135			12.5
	Hydrocodone	102	106	106			0.251
	Ibuprofen	84.8	86.7	98.7			12.9
	Imazapyr	105	132	111			16.2
	Imidacloprid	100	130	121			6.96
	Linuron	73.9	70.4	65.5			7.19
	Mandestrobin	91.5	89.6	90.6			1.08
	MCPP	112	119	109			8.66
	Naproxen	61.5	76.5	79.8			4.21
	Primidone	101	91.1	82.1			10.4
	Pyraclostrobin	75.0	75.0	69.6			7.47
	Sucralose	131	128	134			4.53
	Thiamethoxam	92.1	105	98.3			6.18
	Tolfenpyrad	52.7	58.5	52.1			11.5
	Triclopyr	112	114	120			5.41
SM 2120 B-2011	Color (true)	99.8				1.62	
SM 2320 B-2011	Total Alkalinity	95.1				0.568	
	Total Alkalinity	95.5				1.25	
SM 2540 C-2011	TDS					0.0	
	TDS					5.60	
SM 4500 F-C-2011	Fluoride	95.8	99.6	97.9			1.37
	Fluoride	95.3	95.8	95.8			0.0
SM 5310 B-2011	Organic Carbon	98.8	102	104			1.08

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2219972, 2219975
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2219982, 2219983
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2219982, 2219983
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2219972, 2219975
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2219972, 2219975
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2219973, 2219976
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2219973, 2219976
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2219973, 2219976
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2219973, 2219976
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2219974, 2219977
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2219984, 2219985
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2219980, 2219981
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2219980, 2219981
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2219972, 2219975
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2219972, 2219975

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2219982, 2219983
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2219972, 2219975
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2219972, 2219975
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2219972, 2219975
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2219973, 2219976

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	01/19/2021			01/20/2021 16:14	Yen Ta	2219972, 2219975
EPA 200.7 Rev. 4.4	01/19/2021	01/21/2021 16:35	Elliott D. Healy	01/25/2021 11:43	Betina Topolski	2219983
	01/19/2021	01/21/2021 16:35	Elliott D. Healy	01/25/2021 12:25	Betina Topolski	2219982
EPA 200.8 Rev. 5.4	01/19/2021	01/21/2021 16:35	Elliott D. Healy	01/27/2021 17:47	Alexander Thompson	2219983
	01/19/2021	01/21/2021 16:35	Elliott D. Healy	01/27/2021 19:01	Alexander Thompson	2219982
	01/19/2021	01/21/2021 16:35	Elliott D. Healy	01/28/2021 12:12	Alexander Thompson	2219982
EPA 300.0 Rev. 2.1	01/19/2021			01/21/2021 19:19	Lipi Saha	2219972
	01/19/2021			01/21/2021 19:31	Lipi Saha	2219975
EPA 350.1 Rev. 2.0	01/19/2021			02/03/2021 16:27	Ping Hua	2219973
	01/19/2021			02/03/2021 16:50	Ping Hua	2219976
EPA 351.2 Rev. 2.0	01/19/2021	01/29/2021 12:30	Yen Ta	02/01/2021 15:10	Julia Storbeck	2219973
	01/19/2021	01/29/2021 12:30	Yen Ta	02/01/2021 15:19	Julia Storbeck	2219976
EPA 353.2 Rev. 2.0	01/19/2021			01/22/2021 10:27	Beverly Y. Sanders	2219973
	01/19/2021			01/22/2021 10:28	Beverly Y. Sanders	2219976
EPA 365.1 Rev. 2.0	01/19/2021	01/21/2021 17:45	Madeline Gruver	01/25/2021 15:34	Shengyu Wang	2219973
	01/19/2021	01/21/2021 17:45	Madeline Gruver	01/25/2021 15:43	Shengyu Wang	2219976
EPA 365.1 Rev. 2.0 dissolved	01/19/2021			01/19/2021 15:13	Blanca Fach	2219977
	01/19/2021			01/19/2021 15:14	Blanca Fach	2219974
EPA 8270E	01/19/2021	01/20/2021 08:00	Rasheda Ghaffari	01/21/2021 15:56	Vandana T. Nagar	2219984
	01/19/2021	01/20/2021 08:00	Rasheda Ghaffari	01/21/2021 16:21	Vandana T. Nagar	2219985
	01/19/2021	01/20/2021 08:00	Rasheda Ghaffari	01/22/2021 20:02	Vandana T. Nagar	2219984
	01/19/2021	01/20/2021 08:00	Rasheda Ghaffari	01/22/2021 20:26	Vandana T. Nagar	2219985
EPA 8321B	01/19/2021	01/21/2021 08:30	Hoor Shaik	01/23/2021 08:50	Juyoung Kim	2219980
	01/19/2021	01/21/2021 08:30	Hoor Shaik	01/23/2021 09:25	Juyoung Kim	2219981
	01/19/2021	01/21/2021 15:15	Rebecca Ware	01/22/2021 00:25	Rebecca Ware	2219980
	01/19/2021	01/21/2021 15:15	Rebecca Ware	01/22/2021 12:59	Rebecca Ware	2219981
	01/19/2021	01/21/2021 15:15	Rebecca Ware	01/22/2021 15:53	Rebecca Ware	2219980
	01/19/2021	01/21/2021 15:15	Rebecca Ware	01/22/2021 16:07	Rebecca Ware	2219981
SM 2120 B-2011	01/19/2021			01/20/2021 15:36	Benjamin T. Nordmann	2219972
	01/19/2021			01/20/2021 15:37	Benjamin T. Nordmann	2219975
SM 2320 B-2011	01/19/2021			01/21/2021 17:23	Dale L. Simmons	2219972
	01/19/2021			01/28/2021 01:20	Dale L. Simmons	2219975
SM 2340B	01/19/2021			01/25/2021 11:43	Betina Topolski	2219983
	01/19/2021			01/25/2021 12:25	Betina Topolski	2219982
SM 2540 C-2011	01/19/2021			01/22/2021 15:16	Yijie Li	2219972, 2219975
SM 2540 D-2011	01/19/2021			01/22/2021 15:16	Yijie Li	2219972, 2219975
SM 4500 F-C-2011	01/19/2021			01/21/2021 17:12	Dale L. Simmons	2219972
	01/19/2021			01/21/2021 23:49	Dale L. Simmons	2219975
SM 5310 B-2011	01/19/2021			01/21/2021 22:52	Touraj Touran	2219973
	01/19/2021			01/21/2021 23:29	Touraj Touran	2219976