

Chemical Analysis Report

WAS-SECT-2021-09-20-01

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

Event Description: **SCI Kit # 3**
Request ID: **RQ-2021-01-11-11**
Customer: **WAS-SECT**
Project ID: **SMP**

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

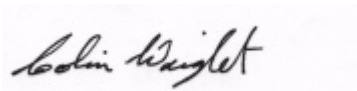
For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

This Report replaces the previous Report Serial Number: 0132873

Report Comment: No changes to the report. Re-issue was to edit a PQL value.

Revision certified by: Colin Wright, Program Administrator

Date Certified: 02-NOV-2021 14:00



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: Richlander Creek at CR 65B

Collection Date/Time: 09/20/2021 09:33

Field ID: G1WA0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276780	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P404016	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P404086	
		Sulfate	0.65		mg SO4/L	P404089	
	SM 2120 B-2011	Color (true)	87		PCU	P403989	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P404101	
	SM 2540 C-2011	TDS	44		mg/L	P404556	
	SM 2540 D-2011	TSS	10		mg/L	P404548	
	SM 4500 F-C-2011	Fluoride	0.069	I	mg F/L	P404106	
2276781	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P404118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P404035	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P404040	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P404051	
	SM 5310 B-2011	Organic Carbon	7.2		mg C/L	P404088	
2276782	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.039		mg P/L	P404007	
2276786	EPA 8321B	2,4-D	0.0020	U	ug/L	P403865	
		Acesulfame K	0.10	U	ug/L	P404050	
		2,4,5-T	0.0040	U	ug/L	P403865	
		AMPA	0.10	U	ug/L	P404050	
		Acetaminophen	0.0080	U	ug/L	P403865	
		Acetamiprid	0.0020	U	ug/L	P403865	
		Endothall	0.25	U	ug/L	P404050	
		Glufosinate	0.10	U	ug/L	P404050	
		Glyphosate	0.10	U	ug/L	P404050	
		Afidopyropen	0.0020	U	ug/L	P403865	
		Bentazon	0.0015	I	ug/L	P403865	
		Sucralose	0.069		ug/L	P404050	
		Benzovindiflupyr	0.0020	U	ug/L	P403865	
		Carbamazepine	8.0E-04	U	ug/L	P403865	
		Clothianidin	0.0020	U	ug/L	P403865	
		Dinotefuran	0.0020	U	ug/L	P403865	
		Diuron	0.0020	U	ug/L	P403865	
		Fenuron	0.016	U	ug/L	P403865	
		Fluridone	8.0E-04	U	ug/L	P403865	
		Imazapyr	0.0040	U	ug/L	P403865	
		Hydrocodone	0.0020	U	ug/L	P403865	
		Ibuprofen	0.020	U	ug/L	P403865	RPD
		Imidacloprid	0.0027	I	ug/L	P403865	
		Linuron	0.0040	U	ug/L	P403865	
		Mandestrobin	0.0020	U	ug/L	P403865	
		MCP	0.0020	U	ug/L	P403865	
		Naproxen	0.0080	U	ug/L	P403865	
		Primidone	0.0040	U	ug/L	P403865	
		Pyraclostrobin	0.0020	U	ug/L	P403865	

Field ID: G1WA0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276786	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P403865	
		Tolfenpyrad	0.0020	U	ug/L	P403865	
		Triclopyr	0.0040	U	ug/L	P403865	
2276787	EPA 200.7 Rev. 4.4	Calcium	5.06		mg/L	P404091	
		Iron	1.78E+03		ug/L	P404091	
		Magnesium	1.48		mg/L	P404091	
		Potassium	0.30	I	mg/L	P404091	
		Sodium	3.4		mg/L	P404091	
		Strontium	15.9		ug/L	P404091	
		Tin	3.0	U	ug/L	P404091	
		Titanium	2.2	I	ug/L	P404091	
		Vanadium	2.0	U	ug/L	P404091	
		Zinc	5.0	U	ug/L	P404091	
	EPA 200.8 Rev. 5.4	Aluminum	204		ug/L	P404091	
		Antimony	0.050	U	ug/L	P404091	
		Arsenic	0.65		ug/L	P404091	
		Barium	13.1		ug/L	P404091	
		Beryllium	0.025	I	ug/L	P404091	
		Boron**	11.7		ug/L	P404091	
		Cadmium	0.020	U	ug/L	P404091	
		Chromium	1.6	I	ug/L	P404091	
		Cobalt	0.155		ug/L	P404091	
		Copper	0.41	I	ug/L	P404091	
		Lead	0.20	U	ug/L	P404091	
		Manganese	34.7		ug/L	P404091	
		Molybdenum	0.15	U	ug/L	P404091	
		Nickel	1.6	I	ug/L	P404091	
		Selenium	0.20	U	ug/L	P404091	
		Silver	0.010	U	ug/L	P404091	
		Thallium	0.10	U	ug/L	P404091	
	SM 2340B	Hardness	18.7		mg/L	P404091	
2276788	EPA 8270E	Acetochlor	0.24	U	ng/L	P404262	
		Alachlor	0.24	U	ng/L	P404262	
		Ametryn	0.57	U	ng/L	P404262	
		Atrazine	0.24	U	ng/L	P404262	
		Atrazine Desethyl	1.4	U	ng/L	P404262	
		Azinphos Methyl	1.9	UJ	ng/L	P404262	MS, RPD
		Azoxystrobin**	0.48	U	ng/L	P404262	
		Bromacil	0.48	U	ng/L	P404262	
		Butylate	0.38	U	ng/L	P404262	
		Caffeine**	160		ng/L	P404262	
		Carbophenothion	0.48	U	ng/L	P404262	
		Carfentrazone Ethyl**	0.095	U	ng/L	P404262	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P404262	
		Chlorpyrifos Methyl	0.048	U	ng/L	P404262	

Field ID: G1WA0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276788	EPA 8270E	Cyanazine	3.1	U	ng/L	P404262	
		Demeton	1.4	U	ng/L	P404262	
		Diazinon	0.12	U	ng/L	P404262	
		Difenoconazole**	0.57	U	ng/L	P404262	
		Dimethenamid**	0.095	U	ng/L	P404262	
		Disulfoton	0.48	U	ng/L	P404262	
		Dithiopyr**	0.17	U	ng/L	P404262	
		EPTC	1.2	U	ng/L	P404262	
		Ethion	0.14	U	ng/L	P404262	
		Ethoprop	0.095	U	ng/L	P404262	
		Fenamiphos	0.48	U	ng/L	P404262	
		Fenbuconazole**	0.12	UJ	ng/L	P404262	LCS, MS
		Fipronil	0.24	U	ng/L	P404262	
		Fipronil Desulfinyl**	0.12	U	ng/L	P404262	
		Fipronil Sulfide	0.14	U	ng/L	P404262	
		Fipronil Sulfone	0.14	U	ng/L	P404262	
		Fluazifop-P-butyl**	0.095	U	ng/L	P404262	
		Fludioxonil**	0.12	U	ng/L	P404262	
		Flumioxazin**	1.7	U	ng/L	P404262	
		Flutolanil**	0.29	I	ng/L	P404262	
		Fluxapyroxad**	0.11	IJ	ng/L	P404262	LCS, MS
		Fonofos	0.19	U	ng/L	P404262	
		Hexazinone	0.48	U	ng/L	P404262	
		Imazalil**	0.71	U	ng/L	P404262	
		Iprodione**	0.57	U	ng/L	P404262	
		Malathion	0.33	U	ng/L	P404262	
		Metalaxyl	0.71	U	ng/L	P404262	
		Metolachlor	0.61	I	ng/L	P404262	
		Metribuzin	3.1	U	ng/L	P404262	
		Mevinphos	1.0	U	ng/L	P404262	
		Molinate	0.29	U	ng/L	P404262	
		Myclobutanil**	0.24	U	ng/L	P404262	
		Naled**	1.4	U	ng/L	P404262	
		Norflurazon	0.48	U	ng/L	P404262	
		Oxadiazon	0.29	U	ng/L	P404262	
		Oxyfluorfen**	0.14	U	ng/L	P404262	
		Parathion Ethyl	0.24	U	ng/L	P404262	
		Parathion Methyl	0.52	U	ng/L	P404262	
		Pendimethalin	0.95	U	ng/L	P404262	
		Phorate	0.50	U	ng/L	P404262	
		Prodiamine**	0.17	U	ng/L	P404262	
		Prometon	0.86	U	ng/L	P404262	
		Prometryn	0.19	U	ng/L	P404262	
		Pronamide**	0.14	U	ng/L	P404262	
		Propiconazole**	0.48	U	ng/L	P404262	

Field ID: G1WA0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2276788	EPA 8270E	Pyriproxyfen**	0.12	U	ng/L	P404262	
		Simazine	0.48	U	ng/L	P404262	
		Sulfentrazone**	0.48	U	ng/L	P404262	
		Tebuconazole**	0.64	I	ng/L	P404262	
		Terbufos	0.095	U	ng/L	P404262	
		Terbuthylazine	0.40	U	ng/L	P404262	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: MS accuracy for caffeine not assessed due to high content of this parameter in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404016

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404091

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: P404091

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: P404086

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404089

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: P404118

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P404035

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P404040

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P404051

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P404007

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

Reference Method: EPA 8270E
 Batch ID: P404262

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	14	I	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P404262

Component	Result	Code	Units
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P404262

Component	Result	Code	Units
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P404262

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

Reference Method: EPA 8321B

Batch ID: P403865

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

Reference Method: EPA 8321B

Batch ID: P404050

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: P403989

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P404101

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

Reference Method: SM 2540 C-2011
Batch ID: P404556

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P404548

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P404106

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P404088

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: P404091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	109		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	105		P	85 - 115
Sodium	99.9		P	85 - 115
Strontium	99.7		P	85 - 115
Tin	101		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P404091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.8		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	99.4		P	85 - 115
Barium	103		P	85 - 115
Beryllium	94.1		P	85 - 115
Boron	101		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	97.3		P	85 - 115
Cobalt	96.3		P	85 - 115
Copper	97.2		P	85 - 115
Lead	97.2		P	85 - 115
Manganese	95.6		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	97.4		P	85 - 115
Selenium	97.7		P	85 - 115
Silver	100		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404086

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404089

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P404118

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P404035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P404040

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P404051

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: P404007

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

Reference Method: EPA 8270E
 Batch ID: P404262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.1	88.0	P/P	70 - 121
Alachlor	77.5	77.1	P/P	70 - 119
Ametryn	76.6	78.2	P/P	61 - 135
Atrazine	92.7	93.2	P/P	76 - 123
Atrazine Desethyl	64.6	67.1	P/P	35 - 140
Azinphos Methyl	120	126	P/P	57 - 163
Azoxystrobin	109	112	P/P	43 - 231
Bromacil	88.4	88.3	P/P	42 - 123
Butylate	55.6	56.1	P/P	34 - 92.0
Caffeine	94.6	93.8	P/P	70 - 130
Carbophenothion	106	106	P/P	61 - 121
Carfentrazone Ethyl	100	95.4	P/P	62 - 139
Chlorpyrifos Ethyl	107	103	P/P	67 - 121
Chlorpyrifos Methyl	104	105	P/P	67 - 120
Cyanazine	106	105	P/P	20 - 226
Demeton	58.9	63.6	P/P	35 - 125
Diazinon	87.0	87.7	P/P	70 - 122
Difenoconazole	67.2	79.9	P/P	56 - 186
Dimethenamid	76.1	73.6	P/P	67 - 119
Disulfoton	64.5	79.5	P/P	47 - 120
Dithiopyr	77.4	77.3	P/P	67 - 118
EPTC	55.8	57.2	P/P	33 - 90.0
Ethion	106	101	P/P	40 - 133
Ethoprop	88.2	89.4	P/P	61 - 121
Fenamiphos	119	123	P/P	31 - 139
Fenbuconazole	150	148	F/F	66 - 141
Fipronil	93.7	95.5	P/P	62 - 129
Fipronil Desulfiny	96.0	97.5	P/P	59 - 126

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P404262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfide	105	103	P/P	63 - 117
Fipronil Sulfone	103	103	P/P	57 - 117
Fluazifop-P-butyl	87.2	87.8	P/P	63 - 124
Fludioxonil	88.8	82.9	P/P	63 - 123
Flumioxazin	109	123	P/P	34 - 245
Flutolanil	73.1	70.8	P/P	56 - 131
Fluxapyroxad	158	159	F/F	57 - 117
Fonofos	88.2	89.7	P/P	61 - 116
Hexazinone	97.8	99.8	P/P	55 - 138
Imazalil	87.5	74.1	P/P	33 - 143
Iprodione	92.7	98.7	P/P	59 - 118
Malathion	99.8	105	P/P	62 - 138
Metalaxyl	72.6	72.8	P/P	24 - 147
Metolachlor	82.9	81.0	P/P	68 - 118
Metribuzin	96.6	99.4	P/P	20 - 239
Mevinphos	92.6	96.3	P/P	46 - 124
Molinate	70.5	76.8	P/P	46 - 100
Myclobutanil	86.9	85.4	P/P	32 - 149
Naled	40.8	40.8	P/P	32 - 95.0
Norflurazon	99.5	100	P/P	57 - 127
Oxadiazon	75.7	73.9	P/P	63 - 118
Oxyfluorfen	94.2	95.2	P/P	69 - 137
Parathion Ethyl	87.8	92.9	P/P	70 - 113
Parathion Methyl	115	112	P/P	71 - 130
Pendimethalin	66.4	67.6	P/P	55 - 118
Phorate	79.0	85.5	P/P	46 - 125
Prodiamine	89.8	90.5	P/P	20 - 141
Prometon	76.1	74.4	P/P	54 - 122
Prometryn	69.9	68.1	P/P	66 - 124
Pronamide	81.9	80.6	P/P	79 - 122
Propiconazole	92.1	95.5	P/P	61 - 126
Pyriproxyfen	67.7	81.1	P/P	52 - 131
Simazine	94.7	92.0	P/P	75 - 128
Sulfentrazone	125	124	P/P	20 - 132
Tebuconazole	55.0	58.8	P/P	20 - 116
Terbufos	101	108	P/P	61 - 117
Terbuthylazine	82.8	82.6	P/P	74 - 116

Reference Method: EPA 8321B

Batch ID: P403865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
2,4,5-T	104		P	40 - 150
Acetaminophen	87.8		P	30 - 150
Acetamiprid	86.8		P	40 - 150
Afidopyropen	100		P	40 - 150
Bentazon	147		P	30 - 150
Benzovindiflupyr	83.0		P	40 - 150
Carbamazepine	93.5		P	40 - 150
Clothianidin	95.6		P	40 - 150
Dinotefuran	77.6		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P403865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	96.1		P	40 - 150
Fenuron	87.6		P	40 - 150
Fluridone	89.7		P	40 - 150
Hydrocodone	91.3		P	40 - 150
Ibuprofen	71.1		P	40 - 150
Imazapyr	83.7		P	40 - 150
Imidacloprid	89.2		P	40 - 150
Linuron	82.9		P	40 - 150
Mandestrobin	87.6		P	40 - 150
MCPP	115		P	40 - 150
Naproxen	98.7		P	40 - 150
Primidone	86.5		P	40 - 150
Pyraclostrobin	74.5		P	40 - 150
Thiamethoxam	88.3		P	40 - 150
Tolfenpyrad	46.9		P	30 - 150
Triclopyr	102		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P404050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.2		P	40 - 150
AMPA	97.4		P	40 - 160
Endothall	80.0		P	40 - 150
Glufosinate	93.8		P	40 - 160
Glyphosate	94.7		P	40 - 160
Sucralose	89.9		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P403989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P404101

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

Reference Method: SM 4500 F-C-2011

Batch ID: P404106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P404088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276759	Calcium	99.1		P	80 - 120
2276759	Iron	105		P	80 - 120
2276759	Magnesium	100		P	80 - 120
2276759	Potassium	102		P	80 - 120
2276759	Sodium	99.9		P	80 - 120
2276759	Strontium	97.8		P	80 - 120
2276759	Tin	101		P	80 - 120
2276759	Titanium	103		P	80 - 120
2276759	Vanadium	102		P	80 - 120
2276759	Zinc	102		P	80 - 120
2276979	Calcium	102		P	80 - 120
2276979	Iron	111	110	P/P	80 - 120
2276979	Magnesium	111	111	P/P	80 - 120
2276979	Potassium	104	103	P/P	80 - 120
2276979	Sodium	101		P	80 - 120
2276979	Strontium	99.9	98.8	P/P	80 - 120
2276979	Tin	106	103	P/P	80 - 120
2276979	Titanium	104	105	P/P	80 - 120
2276979	Vanadium	103	105	P/P	80 - 120
2276979	Zinc	90.2	92.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276759	Aluminum	95.1		P	80 - 120
2276759	Antimony	101		P	80 - 120
2276759	Arsenic	97.2		P	80 - 120
2276759	Barium	98.8		P	80 - 120
2276759	Beryllium	90.2		P	80 - 120
2276759	Boron	98.7		P	80 - 120
2276759	Cadmium	99.2		P	80 - 120
2276759	Chromium	96.0		P	80 - 120
2276759	Cobalt	90.6		P	80 - 120
2276759	Copper	90.9		P	80 - 120
2276759	Lead	94.6		P	80 - 120
2276759	Manganese	94.2		P	80 - 120
2276759	Molybdenum	100		P	80 - 120
2276759	Nickel	93.0		P	80 - 120
2276759	Selenium	94.5		P	80 - 120
2276759	Silver	96.6		P	80 - 120
2276759	Thallium	101		P	80 - 120
2276979	Aluminum	99.4	98.7	P/P	80 - 120
2276979	Antimony	105	104	P/P	80 - 120
2276979	Arsenic	102	102	P/P	80 - 120
2276979	Barium	104	102	P/P	80 - 120
2276979	Beryllium	95.1	94.0	P/P	80 - 120
2276979	Boron	102	99.9	P/P	80 - 120
2276979	Cadmium	102	99.7	P/P	80 - 120
2276979	Chromium	101	101	P/P	80 - 120
2276979	Cobalt	95.9	95.3	P/P	80 - 120
2276979	Copper	98.6	97.7	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P404091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276979	Lead	98.7	97.8	P/P	80 - 120
2276979	Manganese	100	97.7	P/P	80 - 120
2276979	Molybdenum	104	103	P/P	80 - 120
2276979	Nickel	98.0	98.4	P/P	80 - 120
2276979	Selenium	99.0	99.0	P/P	80 - 120
2276979	Silver	99.9	99.1	P/P	80 - 120
2276979	Thallium	109	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276465	Chloride	98.7		P	90 - 110
2276741	Chloride	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P404089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276465	Sulfate	98.4		P	90 - 110
2276741	Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P404118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276781	Ammonia-N	99.4	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P404035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276744	Kjeldahl Nitrogen	98.2	112	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P404040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276745	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P404051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276889	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P404007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276754	O-Phosphate-P	97.3	97.8	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P404262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276788	Acetochlor	86.0	91.0	P/P	66 - 122
2276788	Alachlor	77.8	77.2	P/P	65 - 122
2276788	Ametryn	78.0	78.2	P/P	45 - 173
2276788	Atrazine	88.4	88.0	P/P	70 - 134
2276788	Atrazine Desethyl	52.6	58.1	P/P	25 - 150
2276788	Azinphos Methyl	95.8	187	P/F	57 - 163
2276788	Azoxystrobin	108	112	P/P	43 - 231
2276788	Bromacil	92.5	98.6	P/P	31 - 145
2276788	Butylate	51.5	62.5	P/P	15 - 97.0
2276788	Carbophenothion	103	102	P/P	42 - 129
2276788	Carfentrazone Ethyl	96.4	97.9	P/P	62 - 145
2276788	Chlorpyrifos Ethyl	89.5	96.0	P/P	60 - 124
2276788	Chlorpyrifos Methyl	96.1	102	P/P	66 - 119
2276788	Cyanazine	110	102	P/P	17 - 225
2276788	Demeton	79.7	88.3	P/P	36 - 142
2276788	Diazinon	91.0	92.7	P/P	70 - 128
2276788	Difenoconazole	94.6	94.7	P/P	33 - 222
2276788	Dimethenamid	73.8	76.1	P/P	54 - 125
2276788	Disulfoton	90.4	97.3	P/P	49 - 133
2276788	Dithiopyr	79.1	80.8	P/P	55 - 123
2276788	EPTC	45.7	57.4	P/P	19 - 91.0
2276788	Ethion	81.1	88.1	P/P	13 - 143
2276788	Ethoprop	88.0	94.7	P/P	49 - 144
2276788	Fenamiphos	102	113	P/P	32 - 136
2276788	Fenbuconazole	150	165	F/F	73 - 148
2276788	Fipronil	96.8	105	P/P	57 - 129
2276788	Fipronil Desulfinyl	100	106	P/P	49 - 127
2276788	Fipronil Sulfide	98.4	105	P/P	44 - 127
2276788	Fipronil Sulfone	94.5	101	P/P	35 - 126
2276788	Fluazifop-P-butyl	85.7	87.2	P/P	67 - 129
2276788	Fludioxonil	86.5	90.8	P/P	61 - 126
2276788	Flumioxazin	150	155	P/P	34 - 245
2276788	Flutolanil	65.3	69.2	P/P	55 - 136
2276788	Fluxapyroxad	172	184	F/F	33 - 140
2276788	Fonofos	88.0	90.4	P/P	58 - 125
2276788	Hexazinone	98.3	101	P/P	57 - 148
2276788	Imazalil	73.4	62.1	P/P	10 - 221
2276788	Iprodione	87.9	101	P/P	59 - 118
2276788	Malathion	109	121	P/P	62 - 138
2276788	Metalaxyl	71.3	75.1	P/P	46 - 134
2276788	Metolachlor	76.8	85.8	P/P	58 - 122
2276788	Metribuzin	91.6	100	P/P	16 - 272
2276788	Mevinphos	95.1	113	P/P	45 - 140
2276788	Molinate	76.5	87.1	P/P	41 - 103
2276788	Myclobutanil	85.6	86.3	P/P	60 - 134
2276788	Naled	39.9	44.2	P/P	20 - 113
2276788	Norflurazon	97.5	103	P/P	51 - 123
2276788	Oxadiazon	70.9	72.9	P/P	44 - 125
2276788	Oxyfluorfen	105	109	P/P	66 - 176
2276788	Parathion Ethyl	88.8	93.2	P/P	57 - 132
2276788	Parathion Methyl	111	122	P/P	59 - 156
2276788	Pendimethalin	75.3	77.4	P/P	59 - 129

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P404262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276788	Phorate	87.1	96.9	P/P	47 - 136
2276788	Prodiamine	107	118	P/P	10 - 159
2276788	Prometon	70.7	74.1	P/P	59 - 127
2276788	Prometryn	72.3	76.2	P/P	59 - 129
2276788	Pronamide	82.9	87.5	P/P	65 - 145
2276788	Propiconazole	92.6	97.6	P/P	28 - 165
2276788	Pyriproxyfen	50.8	53.4	P/P	21 - 180
2276788	Simazine	84.4	88.1	P/P	63 - 147
2276788	Sulfentrazone	84.1	99.2	P/P	20 - 132
2276788	Tebuconazole	111	116	P/P	10 - 117
2276788	Terbufos	112	120	P/P	61 - 131
2276788	Terbuthylazine	78.0	82.6	P/P	62 - 126

Reference Method: EPA 8321B

Batch ID: P403865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2275791	2,4-D	112	127	P/P	40 - 150
2275791	2,4,5-T	109	104	P/P	40 - 150
2275791	Acetaminophen	62.1	66.4	P/P	30 - 150
2275791	Acetamiprid	79.5	88.1	P/P	40 - 150
2275791	Afidopyropen	90.3	96.0	P/P	40 - 150
2275791	Benzovindiflupyr	73.0	79.4	P/P	40 - 150
2275791	Carbamazepine	84.6	91.8	P/P	40 - 150
2275791	Clothianidin	80.3	86.7	P/P	40 - 150
2275791	Dinotefuran	94.2	110	P/P	40 - 150
2275791	Diuron	75.6	85.6	P/P	40 - 150
2275791	Fenuron	75.7	82.0	P/P	40 - 150
2275791	Fluridone	80.4	87.3	P/P	40 - 150
2275791	Hydrocodone	117	125	P/P	40 - 150
2275791	Ibuprofen	59.5	90.6	P/P	40 - 150
2275791	Imazapyr	82.1	95.2	P/P	40 - 150
2275791	Imidacloprid	121	143	P/P	40 - 150
2275791	Linuron	77.9	79.7	P/P	40 - 150
2275791	Mandestrobin	79.6	86.4	P/P	40 - 150
2275791	MCPP	136	147	P/P	40 - 150
2275791	Naproxen	79.6	95.4	P/P	40 - 150
2275791	Primidone	70.6	82.0	P/P	40 - 150
2275791	Pyraclostrobin	71.9	76.8	P/P	40 - 150
2275791	Thiamethoxam	116	133	P/P	40 - 150
2275791	Tolfenpyrad	43.8	47.0	P/P	30 - 150
2275791	Triclopyr	113	104	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P404050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276786	Acesulfame K	138	131	P/P	40 - 150
2276786	AMPA	96.0	92.7	P/P	40 - 160
2276786	Endothall	94.4	96.3	P/P	40 - 150
2276786	Glufosinate	88.9	94.0	P/P	40 - 160
2276786	Glyphosate	80.5	84.5	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P404050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276786	Sucralose	100	97.7	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P404106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276975	Fluoride	94.8	96.3	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P404088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2276463	Organic Carbon	98.2	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276780	Turbidity	5.66	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P404091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276979	Calcium	0.0799	Spike	P	0 - 20
2276979	Iron	0.530	Spike	P	0 - 20
2276979	Magnesium	0.0115	Spike	P	0 - 20
2276979	Potassium	1.13	Spike	P	0 - 20
2276979	Sodium	0.0303	Spike	P	0 - 20
2276979	Strontium	1.08	Spike	P	0 - 20
2276979	Tin	2.14	Spike	P	0 - 20
2276979	Titanium	1.22	Spike	P	0 - 20
2276979	Vanadium	1.80	Spike	P	0 - 20
2276979	Zinc	1.91	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P404091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276979	Aluminum	0.694	Spike	P	0 - 20
2276979	Antimony	0.937	Spike	P	0 - 20
2276979	Arsenic	0.133	Spike	P	0 - 20
2276979	Barium	1.45	Spike	P	0 - 20
2276979	Beryllium	1.12	Spike	P	0 - 20
2276979	Boron	1.39	Spike	P	0 - 20
2276979	Cadmium	2.04	Spike	P	0 - 20
2276979	Chromium	0.151	Spike	P	0 - 20
2276979	Cobalt	0.625	Spike	P	0 - 20
2276979	Copper	0.854	Spike	P	0 - 20
2276979	Lead	0.883	Spike	P	0 - 20
2276979	Manganese	1.85	Spike	P	0 - 20
2276979	Molybdenum	0.894	Spike	P	0 - 20
2276979	Nickel	0.329	Spike	P	0 - 20
2276979	Selenium	0.00544	Spike	P	0 - 20
2276979	Silver	0.818	Spike	P	0 - 20
2276979	Thallium	3.21	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P404086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276465	Chloride	0.574	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P404089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276465	Sulfate	1.07	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P404118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276781	Ammonia-N	0.265	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P404035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276744	Kjeldahl Nitrogen	11.1	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P404040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276745	NO2NO3-N	0.658	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P404051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276889	Total-P	0.304	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P404007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276754	O-Phosphate-P	0.415	Spike	P	0 - 20

Reference Method: EPA 8270E
 Batch ID: P404262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276788	Acetochlor	5.59	Spike	P	0 - 30
2276788	Alachlor	0.775	Spike	P	0 - 30
2276788	Ametryn	0.263	Spike	P	0 - 30
2276788	Atrazine	0.420	Spike	P	0 - 30
2276788	Atrazine Desethyl	10.0	Spike	P	0 - 30
2276788	Azinphos Methyl	64.4	Spike	F	0 - 30
2276788	Azoxystrobin	4.11	Spike	P	0 - 30
2276788	Bromacil	6.34	Spike	P	0 - 30
2276788	Butylate	19.3	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P404262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276788	Caffeine	9.41	Spike	P	0 - 30
2276788	Carbophenothion	0.704	Spike	P	0 - 30
2276788	Carfentrazone Ethyl	1.55	Spike	P	0 - 30
2276788	Chlorpyrifos Ethyl	7.07	Spike	P	0 - 30
2276788	Chlorpyrifos Methyl	6.23	Spike	P	0 - 30
2276788	Cyanazine	7.33	Spike	P	0 - 30
2276788	Demeton	10.3	Spike	P	0 - 30
2276788	Diazinon	1.90	Spike	P	0 - 30
2276788	Difenoconazole	0.0343	Spike	P	0 - 30
2276788	Dimethenamid	3.01	Spike	P	0 - 30
2276788	Disulfoton	7.39	Spike	P	0 - 30
2276788	Dithiopyr	2.03	Spike	P	0 - 30
2276788	EPTC	22.6	Spike	P	0 - 30
2276788	Ethion	8.24	Spike	P	0 - 30
2276788	Ethoprop	7.27	Spike	P	0 - 30
2276788	Fenamiphos	10.5	Spike	P	0 - 30
2276788	Fenbuconazole	9.56	Spike	P	0 - 30
2276788	Fipronil	7.68	Spike	P	0 - 30
2276788	Fipronil Desulfinyl	5.72	Spike	P	0 - 30
2276788	Fipronil Sulfide	6.25	Spike	P	0 - 30
2276788	Fipronil Sulfone	6.45	Spike	P	0 - 30
2276788	Fluazifop-P-butyl	1.76	Spike	P	0 - 30
2276788	Fludioxonil	4.87	Spike	P	0 - 30
2276788	Flumioxazin	2.69	Spike	P	0 - 30
2276788	Flutolanil	5.20	Spike	P	0 - 30
2276788	Fluxapyroxad	6.47	Spike	P	0 - 30
2276788	Fonofos	2.69	Spike	P	0 - 30
2276788	Hexazinone	2.81	Spike	P	0 - 30
2276788	Imazalil	16.6	Spike	P	0 - 30
2276788	Iprodione	13.8	Spike	P	0 - 30
2276788	Malathion	10.2	Spike	P	0 - 30
2276788	Metalaxyl	5.24	Spike	P	0 - 30
2276788	Metolachlor	10.3	Spike	P	0 - 30
2276788	Metribuzin	8.70	Spike	P	0 - 30
2276788	Mevinphos	17.0	Spike	P	0 - 30
2276788	Molinate	12.9	Spike	P	0 - 30
2276788	Myclobutanil	0.838	Spike	P	0 - 30
2276788	Naled	10.1	Spike	P	0 - 30
2276788	Norflurazon	5.83	Spike	P	0 - 30
2276788	Oxadiazon	2.75	Spike	P	0 - 30
2276788	Oxyfluorfen	4.30	Spike	P	0 - 30
2276788	Parathion Ethyl	4.78	Spike	P	0 - 30
2276788	Parathion Methyl	9.05	Spike	P	0 - 30
2276788	Pendimethalin	2.68	Spike	P	0 - 30
2276788	Phorate	10.6	Spike	P	0 - 30
2276788	Prodiamine	8.95	Spike	P	0 - 30
2276788	Prometon	4.71	Spike	P	0 - 30
2276788	Prometryn	5.29	Spike	P	0 - 30
2276788	Pronamide	5.36	Spike	P	0 - 30
2276788	Propiconazole	5.25	Spike	P	0 - 30
2276788	Pyriproxyfen	4.99	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P404262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276788	Simazine	4.37	Spike	P	0 - 30
2276788	Sulfentrazone	16.4	Spike	P	0 - 30
2276788	Tebuconazole	4.33	Spike	P	0 - 30
2276788	Terbufos	7.09	Spike	P	0 - 30
2276788	Terbutylazine	5.70	Spike	P	0 - 30
LFB	Acetochlor	1.26	LCS	P	0 - 30
LFB	Alachlor	0.541	LCS	P	0 - 30
LFB	Ametryn	2.02	LCS	P	0 - 30
LFB	Atrazine	0.520	LCS	P	0 - 30
LFB	Atrazine Desethyl	3.85	LCS	P	0 - 30
LFB	Azinphos Methyl	4.45	LCS	P	0 - 30
LFB	Azoxystrobin	2.12	LCS	P	0 - 30
LFB	Bromacil	0.192	LCS	P	0 - 30
LFB	Butylate	0.904	LCS	P	0 - 30
LFB	Caffeine	0.876	LCS	P	0 - 30
LFB	Carbophenothion	0.406	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	4.76	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.89	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	0.526	LCS	P	0 - 30
LFB	Cyanazine	1.03	LCS	P	0 - 30
LFB	Demeton	7.83	LCS	P	0 - 30
LFB	Diazinon	0.825	LCS	P	0 - 30
LFB	Difenoconazole	17.3	LCS	P	0 - 30
LFB	Dimethenamid	3.37	LCS	P	0 - 30
LFB	Disulfoton	20.9	LCS	P	0 - 30
LFB	Dithiopyr	0.0873	LCS	P	0 - 30
LFB	EPTC	2.49	LCS	P	0 - 30
LFB	Ethion	4.90	LCS	P	0 - 30
LFB	Ethoprop	1.40	LCS	P	0 - 30
LFB	Fenamiphos	3.54	LCS	P	0 - 30
LFB	Fenbuconazole	1.90	LCS	P	0 - 30
LFB	Fipronil	1.88	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.48	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.49	LCS	P	0 - 30
LFB	Fipronil Sulfone	0.0388	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	0.664	LCS	P	0 - 30
LFB	Fludioxonil	6.93	LCS	P	0 - 30
LFB	Flumioxazin	12.3	LCS	P	0 - 30
LFB	Flutolanil	3.22	LCS	P	0 - 30
LFB	Fluxapyroxad	0.869	LCS	P	0 - 30
LFB	Fonofos	1.66	LCS	P	0 - 30
LFB	Hexazinone	2.05	LCS	P	0 - 30
LFB	Imazalil	16.7	LCS	P	0 - 30
LFB	Iprodione	6.30	LCS	P	0 - 30
LFB	Malathion	5.11	LCS	P	0 - 30
LFB	Metalaxyl	0.281	LCS	P	0 - 30
LFB	Metolachlor	2.24	LCS	P	0 - 30
LFB	Metribuzin	2.91	LCS	P	0 - 30
LFB	Mevinphos	3.91	LCS	P	0 - 30
LFB	Molinate	8.57	LCS	P	0 - 30
LFB	Myclobutanil	1.80	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P404262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Naled	0.162	LCS	P	0 - 30
LFB	Norflurazon	0.558	LCS	P	0 - 30
LFB	Oxadiazon	2.39	LCS	P	0 - 30
LFB	Oxyfluorfen	1.02	LCS	P	0 - 30
LFB	Parathion Ethyl	5.64	LCS	P	0 - 30
LFB	Parathion Methyl	2.85	LCS	P	0 - 30
LFB	Pendimethalin	1.80	LCS	P	0 - 30
LFB	Phorate	7.97	LCS	P	0 - 30
LFB	Prodiamine	0.794	LCS	P	0 - 30
LFB	Prometon	2.36	LCS	P	0 - 30
LFB	Prometryn	2.60	LCS	P	0 - 30
LFB	Pronamide	1.69	LCS	P	0 - 30
LFB	Propiconazole	3.67	LCS	P	0 - 30
LFB	Pyriproxyfen	18.0	LCS	P	0 - 30
LFB	Simazine	2.90	LCS	P	0 - 30
LFB	Sulfentrazone	0.893	LCS	P	0 - 30
LFB	Tebuconazole	6.77	LCS	P	0 - 30
LFB	Terbufos	6.74	LCS	P	0 - 30
LFB	Terbutylazine	0.177	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P403865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2275791	2,4-D	9.65	Spike	P	0 - 30
2275791	2,4,5-T	4.57	Spike	P	0 - 30
2275791	Acetaminophen	6.59	Spike	P	0 - 30
2275791	Acetamiprid	10.3	Spike	P	0 - 30
2275791	Afidopyropen	6.16	Spike	P	0 - 30
2275791	Bentazon	18.3	Spike	P	0 - 30
2275791	Benzovindiflupyr	8.43	Spike	P	0 - 30
2275791	Carbamazepine	7.77	Spike	P	0 - 30
2275791	Clothianidin	7.49	Spike	P	0 - 30
2275791	Dinotefuran	15.2	Spike	P	0 - 30
2275791	Diuron	10.9	Spike	P	0 - 30
2275791	Fenuron	7.93	Spike	P	0 - 30
2275791	Fluridone	6.22	Spike	P	0 - 30
2275791	Hydrocodone	6.95	Spike	P	0 - 30
2275791	Ibuprofen	41.4	Spike	F	0 - 30
2275791	Imazapyr	9.13	Spike	P	0 - 30
2275791	Imidacloprid	11.9	Spike	P	0 - 30
2275791	Linuron	2.30	Spike	P	0 - 30
2275791	Mandestrobin	8.16	Spike	P	0 - 30
2275791	MCPP	6.93	Spike	P	0 - 30
2275791	Naproxen	18.0	Spike	P	0 - 30
2275791	Primidone	15.0	Spike	P	0 - 30
2275791	Pyraclostrobin	6.60	Spike	P	0 - 30
2275791	Thiamethoxam	13.3	Spike	P	0 - 30
2275791	Tolfenpyrad	7.02	Spike	P	0 - 30
2275791	Triclopyr	8.01	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P404050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276786	Acesulfame K	5.37	Spike	P	0 - 30
2276786	AMPA	3.39	Spike	P	0 - 30
2276786	Endothall	1.94	Spike	P	0 - 30
2276786	Glufosinate	5.61	Spike	P	0 - 30
2276786	Glyphosate	4.90	Spike	P	0 - 30
2276786	Sucralose	2.30	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P403989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276768	Color (true)	0.447	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P404101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276975	Total Alkalinity	0.298	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P404556

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276887	TDS	1.77	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P404106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276975	Fluoride	1.40	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P404088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2276463	Organic Carbon	0.259	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2276786**Field Sample ID: G1WA0093**

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	54.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.0	P	30 - 160
EPA 8321B	Diuron-d6	59.4	P	30 - 160
EPA 8321B	Endothall-d6	78.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.1	P	30 - 160
EPA 8321B	Primidone-d5	56.5	P	30 - 160
EPA 8321B	Sucralose-d6	82.9	P	30 - 160

Lab Sample ID: 2276788**Field Sample ID: G1WA0093**

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	54.7	P	20 - 200
EPA 8270E	Simazine-d10	103	P	73 - 135
EPA 8270E	Terbufos-d10	98.7	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A107910

Included Lab Sample IDs: 2276780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107913

Included Lab Sample IDs: 2276782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107915

Included Lab Sample IDs: 2276780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	99.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107927

Included Lab Sample IDs: 2276781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A107932

Included Lab Sample IDs: 2276786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.7	101	P/P	50 - 150
2,4,5-T	94.6	94.6	P/P	50 - 150
Acetaminophen	113	118	P/P	60 - 160
Acetamiprid	101	103	P/P	50 - 150
Afidopyropen	138	68.6	P/P	50 - 150
Bentazon	108	105	P/P	50 - 160
Benzovindiflupyr	105	104	P/P	50 - 150
Carbamazepine	109	113	P/P	60 - 150
Clothianidin	104	106	P/P	60 - 150
Dinotefuran	99.2	98.9	P/P	50 - 150
Diuron	124	120	P/P	60 - 160
Fenuron	101	102	P/P	60 - 150
Fluridone	108	111	P/P	60 - 160
Hydrocodone	108	105	P/P	60 - 150
Ibuprofen	87.0	89.9	P/P	50 - 160
Imazapyr	100	96.9	P/P	50 - 150
Imidacloprid	95.8	96.0	P/P	60 - 150
Linuron	90.8	99.4	P/P	60 - 150
Mandestrobin	106	105	P/P	50 - 150
MCPP	98.1	93.6	P/P	50 - 150
Naproxen	110	101	P/P	50 - 160
Primidone	101	104	P/P	60 - 150
Pyraclostrobin	104	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A107932
Included Lab Sample IDs: 2276786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thiamethoxam	95.3	96.9	P/P	50 - 150
Tolfenpyrad	105	97.7	P/P	60 - 150
Triclopyr	96.2	96.7	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A107953
Included Lab Sample IDs: 2276780

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

Reference Method: SM 5310 B-2011
Run ID: A107954
Included Lab Sample IDs: 2276781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.6	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A107959
Included Lab Sample IDs: 2276780

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

Reference Method: SM 4500 F-C-2011
Run ID: A107959
Included Lab Sample IDs: 2276780

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A107960
Included Lab Sample IDs: 2276781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A107961
Included Lab Sample IDs: 2276781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107963

Included Lab Sample IDs: 2276781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A107979

Included Lab Sample IDs: 2276786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.9	96.6	P/P	60 - 160
Glufosinate	97.7	95.8	P/P	60 - 160
Glyphosate	96.9	95.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A107990

Included Lab Sample IDs: 2276786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	80.9	88.3	P/P	60 - 160
Endothall	82.3	78.7	P/P	60 - 160
Sucralose	90.5	91.1	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107991

Included Lab Sample IDs: 2276787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.2	98.4	P/P	90 - 110
Antimony	102	99.9	P/P	90 - 110
Arsenic	97.5	96.7	P/P	90 - 110
Barium	98.1	96.2	P/P	90 - 110
Boron	102	102	P/P	90 - 110
Cadmium	99.7	98.9	P/P	90 - 110
Chromium	95.2	93.4	P/P	90 - 110
Cobalt	92.1	92.8	P/P	90 - 110
Copper	94.5	93.0	P/P	90 - 110
Lead	93.3	92.5	P/P	90 - 110
Manganese	96.5	93.8	P/P	90 - 110
Molybdenum	98.2	97.5	P/P	90 - 110
Nickel	93.7	91.7	P/P	90 - 110
Selenium	99.0	97.0	P/P	90 - 110
Silver	97.7	97.2	P/P	90 - 110
Thallium	100	98.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107992

Included Lab Sample IDs: 2276787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Potassium	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107992

Included Lab Sample IDs: 2276787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	102	102	P/P	90 - 110
Strontium	98.2	99.4	P/P	90 - 110
Tin	99.5	100	P/P	90 - 110
Titanium	100	100	P/P	90 - 110
Vanadium	99.5	100	P/P	90 - 110
Zinc	100	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108011

Included Lab Sample IDs: 2276787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	96.0	97.3	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A108087

Included Lab Sample IDs: 2276788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	98.1		P	80 - 120
Atrazine	96.9		P	80 - 120
Atrazine Desethyl	104		P	80 - 120
Bromacil	109		P	80 - 120
Butylate	103		P	80 - 120
Caffeine	102		P	80 - 120
Carbophenothion	101		P	80 - 120
Carfentrazone Ethyl	99.5		P	80 - 120
Chlorpyrifos Ethyl	101		P	80 - 120
Chlorpyrifos Methyl	97.2		P	80 - 120
Cyanazine	94.8		P	80 - 120
Demeton	96.1		P	80 - 120
Diazinon	97.2		P	80 - 120
Difenoconazole	111		P	80 - 120
Dimethenamid	104		P	80 - 120
Disulfoton	102		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	98.0		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	106		P	80 - 120
Fenamiphos	100		P	80 - 120
Fenbuconazole	87.6		P	80 - 120
Fipronil	98.6		P	80 - 120
Fipronil Desulfinyl	97.7		P	80 - 120
Fipronil Sulfide	103		P	80 - 120
Fipronil Sulfone	96.4		P	80 - 120
Fluazifop-P-butyl	101		P	80 - 120
Fludioxonil	89.4		P	80 - 120
Flutolanil	96.9		P	80 - 120
Fluxapyroxad	92.7		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E

Run ID: A108087

Included Lab Sample IDs: 2276788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fonofos	96.5		P	80 - 120
Hexazinone	98.2		P	80 - 120
Imazalil	95.2		P	80 - 120
Metalaxyl	95.4		P	80 - 120
Metolachlor	102		P	80 - 120
Metribuzin	110		P	80 - 120
Mevinphos	107		P	80 - 120
Molinate	107		P	80 - 120
Myclobutanil	102		P	80 - 120
Naled	107		P	80 - 120
Norflurazon	93.8		P	80 - 120
Oxadiazon	102		P	80 - 120
Oxyfluorfen	99.6		P	80 - 120
Parathion Ethyl	105		P	80 - 120
Parathion Methyl	102		P	80 - 120
Pendimethalin	96.2		P	80 - 120
Phorate	104		P	80 - 120
Prodiamine	91.3		P	80 - 120
Prometon	99.4		P	80 - 120
Prometryn	98.5		P	80 - 120
Pronamide	95.7		P	80 - 120
Propiconazole	91.1		P	80 - 120
Pyriproxyfen	112		P	80 - 120
Simazine	103		P	80 - 120
Tebuconazole	96.2		P	80 - 120
Terbufos	97.7		P	80 - 120
Terbutylazine	102		P	80 - 120

Reference Method: EPA 8270E

Run ID: A108140

Included Lab Sample IDs: 2276788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azinphos Methyl	110		P	80 - 120
Azoxystrobin	96.9		P	80 - 120
Flumioxazin	98.6		P	80 - 120
Iprodione	115		P	80 - 120
Malathion	99.5		P	80 - 120
Sulfentrazone	113		P	80 - 120

* 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							5.66	
EPA 200.7 Rev. 4.4	Calcium	101		99.1	102				0.0799
	Iron	109		105	111	110			0.530
	Magnesium	112		100	111	111			0.0115
	Potassium	105		102	104	103			1.13
	Sodium	99.9		99.9	101				0.0303
	Strontium	99.7		97.8	99.9	98.8			1.08
	Tin	101		101	106	103			2.14
	Titanium	102		103	104	105			1.22
	Vanadium	100		102	103	105			1.80
	Zinc	101		102	90.2	92.2			1.91
EPA 200.8 Rev. 5.4	Aluminum	99.8		99.4	98.7	95.1			0.694
	Antimony	103		105	104	101			0.937
	Arsenic	99.4		102	102	97.2			0.133
	Barium	103		104	102	98.8			1.45
	Beryllium	94.1		95.1	94.0	90.2			1.12
	Boron	101		102	99.9	98.7			1.39
	Cadmium	100		102	99.7	99.2			2.04
	Chromium	97.3		101	101	96.0			0.151
	Cobalt	96.3		95.9	95.3	90.6			0.625
	Copper	97.2		98.6	97.7	90.9			0.854
	Lead	97.2		98.7	97.8	94.6			0.883
	Manganese	95.6		100	97.7	94.2			1.85
	Molybdenum	101		104	103	100			0.894
	Nickel	97.4		98.0	98.4	93.0			0.329
	Selenium	97.7		99.0	99.0	94.5			0.0054
	Silver	100		99.9	99.1	96.6			0.818
	Thallium	102		109	105	101			3.21
EPA 300.0 Rev. 2.1	Chloride	98.5		98.7	96.9			0.574	
	Sulfate	99.0		98.4	97.3			1.07	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4		99.4	99.0				0.265
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.7		98.2	112				11.1
EPA 353.2 Rev. 2.0	NO2NO3-N	104		104	103				0.658
EPA 365.1 Rev. 2.0	Total-P	103		103	103				0.304
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		97.3	97.8				0.415
EPA 8270E	Acetochlor	88.0	89.1	86.0	91.0	1.26			5.59
	Alachlor	77.1	77.5	77.8	77.2	0.541			0.775
	Ametryn	78.2	76.6	78.0	78.2	2.02			0.263
	Atrazine	93.2	92.7	88.4	88.0	0.520			0.420
	Atrazine Desethyl	67.1	64.6	52.6	58.1	3.85			10.0
	Azinphos Methyl	120	126	95.8	187	4.45			64.4
	Azoxystrobin	109	112	108	112	2.12			4.11
	Bromacil	88.3	88.4	92.5	98.6	0.192			6.34
	Butylate	56.1	55.6	51.5	62.5	0.904			19.3
	Caffeine	93.8	94.6			0.876			9.41
	Carbophenothion	106	106	103	102	0.406			0.704
	Carfentrazone Ethyl	95.4	100	96.4	97.9	4.76			1.55
	Chlorpyrifos Ethyl	103	107	89.5	96.0	3.89			7.07
	Chlorpyrifos Methyl	105	104	96.1	102	0.526			6.23
	Cyanazine	105	106	110	102	1.03			7.33
	Demeton	63.6	58.9	79.7	88.3	7.83			10.3
	Diazinon	87.7	87.0	91.0	92.7	0.825			1.90
	Difenoconazole	79.9	67.2	94.6	94.7	17.3			0.0343
	Dimethenamid	73.6	76.1	73.8	76.1	3.37			3.01

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Disulfoton	79.5	64.5	90.4	97.3	20.9	7.39
	Dithiopyr	77.3	77.4	79.1	80.8	0.0873	2.03
	EPTC	57.2	55.8	45.7	57.4	2.49	22.6
	Ethion	101	106	81.1	88.1	4.90	8.24
	Ethoprop	89.4	88.2	88.0	94.7	1.40	7.27
	Fenamiphos	123	119	102	113	3.54	10.5
	Fenbuconazole	150	148	150	165	1.90	9.56
	Fipronil	95.5	93.7	96.8	105	1.88	7.68
	Fipronil Desulfinyl	97.5	96.0	100	106	1.48	5.72
	Fipronil Sulfide	103	105	98.4	105	2.49	6.25
	Fipronil Sulfone	103	103	94.5	101	0.0388	6.45
	Fluazifop-P-butyl	87.8	87.2	85.7	87.2	0.664	1.76
	Fludioxonil	82.9	88.8	86.5	90.8	6.93	4.87
	Flumioxazin	109	123	150	155	12.3	2.69
	Flutolanil	70.8	73.1	65.3	69.2	3.22	5.20
	Fluxapyroxad	158	159	172	184	0.869	6.47
	Fonofos	89.7	88.2	88.0	90.4	1.66	2.69
	Hexazinone	99.8	97.8	98.3	101	2.05	2.81
	Imazalil	74.1	87.5	73.4	62.1	16.7	16.6
	Iprodione	92.7	98.7	87.9	101	6.30	13.8
	Malathion	99.8	105	109	121	5.11	10.2
	Metalaxyl	72.8	72.6	71.3	75.1	0.281	5.24
	Metolachlor	81.0	82.9	76.8	85.8	2.24	10.3
	Metribuzin	96.6	99.4	91.6	100	2.91	8.70
	Mevinphos	92.6	96.3	95.1	113	3.91	17.0
	Molinate	70.5	76.8	76.5	87.1	8.57	12.9
	Myclobutanil	86.9	85.4	85.6	86.3	1.80	0.838
	Naled	40.8	40.8	39.9	44.2	0.162	10.1
	Norflurazon	99.5	100	97.5	103	0.558	5.83
	Oxadiazon	75.7	73.9	70.9	72.9	2.39	2.75
	Oxyfluorfen	94.2	95.2	105	109	1.02	4.30
	Parathion Ethyl	87.8	92.9	88.8	93.2	5.64	4.78
	Parathion Methyl	115	112	111	122	2.85	9.05
	Pendimethalin	66.4	67.6	75.3	77.4	1.80	2.68
	Phorate	79.0	85.5	87.1	96.9	7.97	10.6
	Prodiamine	89.8	90.5	107	118	0.794	8.95
	Prometon	76.1	74.4	70.7	74.1	2.36	4.71
	Prometryn	69.9	68.1	72.3	76.2	2.60	5.29
	Pronamide	81.9	80.6	82.9	87.5	1.69	5.36
	Propiconazole	92.1	95.5	92.6	97.6	3.67	5.25
	Pyriproxyfen	67.7	81.1	50.8	53.4	18.0	4.99
	Simazine	94.7	92.0	84.4	88.1	2.90	4.37
	Sulfentrazone	125	124	84.1	99.2	0.893	16.4
	Tebuconazole	55.0	58.8	111	116	6.77	4.33
	Terbufos	101	108	112	120	6.74	7.09
	Terbuthylazine	82.8	82.6	78.0	82.6	0.177	5.70
EPA 8321B	2,4-D	109		127	112		9.65
	2,4,5-T	104		104	109		4.57
	Acesulfame K	95.2		138	131		5.37
	Acetaminophen	87.8		62.1	66.4		6.59
	Acetamiprid	86.8		79.5	88.1		10.3
	Afidopyropen	100		90.3	96.0		6.16
	AMPA	97.4		96.0	92.7		3.39
	Bentazon	147					18.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Benzovindiflupyr	83.0	73.0	79.4		8.43
	Carbamazepine	93.5	84.6	91.8		7.77
	Clothianidin	95.6	80.3	86.7		7.49
	Dinotefuran	77.6	94.2	110		15.2
	Diuron	96.1	75.6	85.6		10.9
	Endothall	80.0	94.4	96.3		1.94
	Fenuron	87.6	75.7	82.0		7.93
	Fluridone	89.7	80.4	87.3		6.22
	Glufosinate	93.8	88.9	94.0		5.61
	Glyphosate	94.7	80.5	84.5		4.90
	Hydrocodone	91.3	117	125		6.95
	Ibuprofen	71.1	90.6	59.5		41.4
	Imazapyr	83.7	82.1	95.2		9.13
	Imidacloprid	89.2	121	143		11.9
	Linuron	82.9	77.9	79.7		2.30
	Mandestrobin	87.6	79.6	86.4		8.16
	MCPP	115	136	147		6.93
	Naproxen	98.7	79.6	95.4		18.0
	Primidone	86.5	70.6	82.0		15.0
	Pyraclostrobin	74.5	71.9	76.8		6.60
	Sucralose	89.9	100	97.7		2.30
	Thiamethoxam	88.3	116	133		13.3
	Tolfenpyrad	46.9	43.8	47.0		7.02
	Triclopyr	102	113	104		8.01
SM 2120 B-2011	Color (true)	100			0.447	
SM 2320 B-2011	Total Alkalinity	102			0.298	
SM 2540 C-2011	TDS				1.77	
SM 4500 F-C-2011	Fluoride	98.6	94.8	96.3		1.40
SM 5310 B-2011	Organic Carbon	96.6	98.2	97.8		0.259

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2276780
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2276787
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2276787
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2276780
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2276780
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2276781
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2276781
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2276781
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2276781
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2276782
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2276788
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2276786
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2276780
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2276780
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2276787
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2276780
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2276780

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2276780
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2276781

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	09/20/2021			09/21/2021 15:59	Khloe J Berg	2276780
EPA 200.7 Rev. 4.4	09/20/2021	09/23/2021 11:00	Emily M Philpot	09/24/2021 15:25	Josef B Mick	2276787
EPA 200.8 Rev. 5.4	09/20/2021	09/23/2021 11:00	Emily M Philpot	09/24/2021 19:57	Alexander Thompson	2276787
	09/20/2021	09/23/2021 11:00	Emily M Philpot	09/27/2021 11:13	Alexander Thompson	2276787
EPA 300.0 Rev. 2.1	09/20/2021			09/22/2021 21:41	Roberta Tatti	2276780
EPA 350.1 Rev. 2.0	09/20/2021			09/23/2021 11:40	Ping Hua	2276781
EPA 351.2 Rev. 2.0	09/20/2021	09/22/2021 11:21	Benjamin T. Nordmann	09/23/2021 11:00	Alexandra J Mattheus	2276781
EPA 353.2 Rev. 2.0	09/20/2021			09/22/2021 09:53	Beverly Y. Sanders	2276781
EPA 365.1 Rev. 2.0	09/20/2021	09/22/2021 13:13	Simonne.V. Calhoun	09/23/2021 11:31	Sarah A Nixon	2276781
EPA 365.1 Rev. 2.0 dissolved	09/20/2021			09/21/2021 14:49	James L Waggeberby	2276782
EPA 8270E	09/20/2021	09/27/2021 08:00	Rasheda Ghaffari	09/29/2021 18:38	Vandana T. Nagar	2276788
	09/20/2021	09/27/2021 08:00	Rasheda Ghaffari	10/04/2021 16:40	Vandana T. Nagar	2276788
EPA 8321B	09/20/2021	09/20/2021 14:30	Hoor Shaik	09/22/2021 07:23	Juyoung Kim	2276786
	09/20/2021	09/23/2021 12:30	Juyoung Kim	09/23/2021 18:05	Juyoung Kim	2276786
	09/20/2021	09/23/2021 12:30	Juyoung Kim	09/24/2021 15:30	Manjita Shrestha	2276786
SM 2120 B-2011	09/20/2021			09/21/2021 14:15	Benjamin T. Nordmann	2276780
SM 2320 B-2011	09/20/2021			09/22/2021 19:08	Dale L. Simmons	2276780
SM 2340B	09/20/2021			09/24/2021 15:25	Josef B Mick	2276787
SM 2540 C-2011	09/20/2021			09/23/2021 14:25	Yijie Li	2276780
SM 2540 D-2011	09/20/2021			09/23/2021 14:36	Yijie Li	2276780
SM 4500 F-C-2011	09/20/2021			09/22/2021 19:08	Dale L. Simmons	2276780
SM 5310 B-2011	09/20/2021			09/22/2021 20:38	Madeline Gruver	2276781