

Chemical Analysis Report

NE-DIST-2021-05-19-01

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

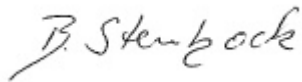
Event Description: **Calf creek SCI**
Request ID: **RQ-2021-04-12-39**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 08-JUN-2021 16:18



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: New Castle Creek at Ft. Caroline Road

Collection Date/Time: 05/18/2021 13:30

Field ID: 20030655

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248435	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P398465	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P398869	
		Sulfate	34		mg SO4/L	P398873	
	SM 2120 B-2011	Color (true)	8.6		PCU	P398458	
	SM 2320 B-2011	Total Alkalinity	37		mg CaCO3/L	P398631	
	SM 2540 C-2011	TDS	148	A	mg/L	P398894	
	SM 2540 D-2011	TSS	2	IA	mg/L	P398607	
	SM 4500 F-C-2011	Fluoride	0.038	I	mg F/L	P398635	
2248436	EPA 350.1 Rev. 2.0	Ammonia-N	0.076		mg N/L	P399058	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P398681	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P398487	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P398730	
	SM 5310 B-2011	Organic Carbon	2.4		mg C/L	P398806	
2248437	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P398453	
2248451	EPA 8321B	2,4-D	0.0020	U	ug/L	P398662	
		Acesulfame K	0.10	U	ug/L	P398389	
		2,4,5-T	0.0040	U	ug/L	P398662	
		AMPA	0.10	U	ug/L	P398389	
		Sucralose	0.010	UJ	ug/L	P398389	MS
		Acetaminophen	0.0080	U	ug/L	P398662	RPD
		Acetamiprid	0.0020	U	ug/L	P398662	
		Endothall	0.25	U	ug/L	P398389	
		Glufosinate	0.10	U	ug/L	P398389	
		Glyphosate	0.47		ug/L	P398389	
		Afidopyropen	0.0020	U	ug/L	P398662	
		Bentazon	0.049		ug/L	P398662	
		Benzovindiflupyr	0.0020	U	ug/L	P398662	
		Carbamazepine	8.0E-04	U	ug/L	P398662	
		Clothianidin	0.0020	U	ug/L	P398662	
		Dinotefuran	0.0035	I	ug/L	P398662	
		Diuron	0.0020	U	ug/L	P398662	
		Fenuron	0.016	U	ug/L	P398662	
		Fluridone	8.0E-04	U	ug/L	P398662	
		Imazapyr	0.019		ug/L	P398662	
		Hydrocodone	0.0020	U	ug/L	P398662	
		Ibuprofen	0.020	U	ug/L	P398662	
		Imidacloprid	0.022		ug/L	P398662	
		Linuron	0.0040	U	ug/L	P398662	
		Mandestrobin	0.0020	U	ug/L	P398662	
		MCP	0.0072	I	ug/L	P398662	
		Naproxen	0.0080	U	ug/L	P398662	
		Primidone	0.0040	U	ug/L	P398662	
		Pyraclostrobin	0.0020	U	ug/L	P398662	

Field ID: 20030655

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248451	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P398662	
		Tolfenpyrad	0.0020	U	ug/L	P398662	
		Triclopyr	0.0040	U	ug/L	P398662	
2248452	EPA 200.7 Rev. 4.4	Barium	57.5		ug/L	P398651	
		Calcium	28.3		mg/L	P398651	
		Iron	190		ug/L	P398651	
		Magnesium	6.92		mg/L	P398651	
		Manganese	20.1		ug/L	P398651	
		Potassium	1.7		mg/L	P398651	
		Sodium	21.2		mg/L	P398651	
		Zinc	7.4	I	ug/L	P398651	
	EPA 200.8 Rev. 5.4	Aluminum	54		ug/L	P398651	
		Antimony	0.076	I	ug/L	P398651	
		Arsenic	0.21		ug/L	P398651	
		Beryllium	0.016	I	ug/L	P398651	
		Boron**	27.7		ug/L	P398651	
		Cadmium	0.020	U	ug/L	P398651	
		Chromium	0.40	U	ug/L	P398651	
		Copper	0.40	U	ug/L	P398651	
		Lead	0.23	I	ug/L	P398651	
		Nickel	0.50	U	ug/L	P398651	
		Selenium	0.20	U	ug/L	P398651	
		Silver	0.010	U	ug/L	P398651	
		Thallium	0.10	U	ug/L	P398651	
	SM 2340B	Hardness	99.2		mg/L	P398651	
2248453	EPA 8270E	Acetochlor	0.25	U	ng/L	P398626	
		Alachlor	0.25	U	ng/L	P398626	
		Ametryn	0.66	I	ng/L	P398626	
		Atrazine	3.7		ng/L	P398626	
		Atrazine Desethyl	1.5	U	ng/L	P398626	
		Azinphos Methyl	2.0	U	ng/L	P398626	
		Azoxystrobin**	0.49	U	ng/L	P398626	
		Bromacil	22		ng/L	P398626	
		Butylate	0.40	UJ	ng/L	P398626	RPD
		Carbophenothion	0.49	U	ng/L	P398626	
		Carfentrazone Ethyl**	0.099	U	ng/L	P398626	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P398626	
		Chlorpyrifos Methyl	0.049	U	ng/L	P398626	
		Cyanazine	3.2	U	ng/L	P398626	
		Demeton	1.5	U	ng/L	P398626	
		Diazinon	0.12	U	ng/L	P398626	
		Difenoconazole**	0.59	U	ng/L	P398626	
		Dimethenamid**	0.099	U	ng/L	P398626	
		Disulfoton	0.49	U	ng/L	P398626	
		Dithiopyr**	0.63	I	ng/L	P398626	

Field ID: 20030655

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248453	EPA 8270E	EPTC	1.2	UJ	ng/L	P398626	RPD
		Ethion	0.15	UJ	ng/L	P398626	RPD
		Ethoprop	0.099	U	ng/L	P398626	
		Fenamiphos	0.49	U	ng/L	P398626	
		Fenbuconazole**	0.12	U	ng/L	P398626	
		Fipronil	0.41	I	ng/L	P398626	
		Fipronil DesulfinyI**	0.14	I	ng/L	P398626	
		Fipronil Sulfide	0.41	I	ng/L	P398626	
		Fipronil Sulfone	1.4		ng/L	P398626	
		Fluazifop-P-butyl**	0.099	U	ng/L	P398626	
		Fludioxonil**	0.12	U	ng/L	P398626	
		Flumioxazin**	1.7	U	ng/L	P398626	
		Flutolanil**	0.099	U	ng/L	P398626	
		Fluxapyroxad**	0.099	U	ng/L	P398626	
		Fonofos	0.20	U	ng/L	P398626	
		Hexazinone	0.49	U	ng/L	P398626	
		Imazalil**	0.74	U	ng/L	P398626	
		Iprodione**	0.59	U	ng/L	P398626	
		Malathion	0.35	U	ng/L	P398626	
		Metalaxyl	0.74	U	ng/L	P398626	
		Metolachlor	0.35	U	ng/L	P398626	
		Metribuzin	3.2	U	ng/L	P398626	
		Mevinphos	1.0	U	ng/L	P398626	
		Molinate	0.30	U	ng/L	P398626	
		Myclobutanil**	0.25	U	ng/L	P398626	
		Naled**	1.5	UJ	ng/L	P398626	RPD
		Norflurazon	0.49	U	ng/L	P398626	
		Oxadiazon	0.36	I	ng/L	P398626	
		Oxyfluorfen**	0.15	U	ng/L	P398626	
		Parathion Ethyl	0.25	U	ng/L	P398626	
		Parathion Methyl	0.54	U	ng/L	P398626	
		Pendimethalin	0.99	U	ng/L	P398626	
		Phorate	0.52	U	ng/L	P398626	
		Prodiamine**	0.54	I	ng/L	P398626	
		Prometon	0.89	UJ	ng/L	P398626	RPD
		Prometryn	0.20	U	ng/L	P398626	
		Pronamide**	0.15	U	ng/L	P398626	
		Propiconazole**	2.4		ng/L	P398626	
		Pyriproxyfen**	0.12	U	ng/L	P398626	
		Simazine	0.49	U	ng/L	P398626	
		Sulfentrazone**	3.8		ng/L	P398626	
		Tebuconazole**	0.49	U	ng/L	P398626	
		Terbufos	0.099	U	ng/L	P398626	
		Terbuthylazine	0.42	U	ng/L	P398626	

Field ID: 20030655

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8270E: MS accuracy for bromacil 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: P398465

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P398651

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P398651

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398869

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398873

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399058

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398681

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398487

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398730

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398453

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

Reference Method: EPA 8270E
Batch ID: P398626

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
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P398626

Component	Result	Code	Units
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P398626

Component	Result	Code	Units
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L
Terbutylazine	0.42	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P398389

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P398662

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

Reference Method: SM 2120 B-2011

Batch ID: P398458

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P398631

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P398894

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P398607

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P398635

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P398806

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: P398651

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	95.0		P	85 - 115
Calcium	104		P	85 - 115
Iron	103		P	85 - 115
Magnesium	103		P	85 - 115
Manganese	97.7		P	85 - 115
Potassium	96.7		P	85 - 115
Sodium	111		P	85 - 115
Zinc	95.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P398651

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.3		P	85 - 115
Antimony	97.7		P	85 - 115
Arsenic	99.9		P	85 - 115
Beryllium	93.2		P	85 - 115
Boron	99.3		P	85 - 115
Cadmium	99.8		P	85 - 115
Chromium	96.9		P	85 - 115
Copper	98.4		P	85 - 115
Lead	91.6		P	85 - 115
Nickel	98.5		P	85 - 115
Selenium	98.6		P	85 - 115
Silver	101		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398869

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398681

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P398487

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398730

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P398453

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

Reference Method: EPA 8270E

Batch ID: P398626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	97.4	99.8	P/P	70 - 121
Alachlor	102	104	P/P	70 - 119
Ametryn	99.7	114	P/P	61 - 135
Atrazine	101	108	P/P	76 - 123
Atrazine Desethyl	100	110	P/P	35 - 140
Azinphos Methyl	128	137	P/P	57 - 163
Azoxystrobin	181	208	P/P	43 - 231
Bromacil	98.2	105	P/P	42 - 123
Butylate	46.3	67.1	P/P	34 - 92.0
Carbophenothion	80.6	88.2	P/P	61 - 121
Carfentrazone Ethyl	115	119	P/P	62 - 139
Chlorpyrifos Ethyl	82.1	89.1	P/P	67 - 121
Chlorpyrifos Methyl	87.8	93.2	P/P	67 - 120
Cyanazine	202	210	P/P	20 - 226
Demeton	88.7	91.5	P/P	35 - 125
Diazinon	108	115	P/P	70 - 122
Difenoconazole	130	126	P/P	56 - 186
Dimethenamid	97.2	99.7	P/P	67 - 119
Disulfoton	69.7	75.2	P/P	47 - 120
Dithiopyr	90.9	91.3	P/P	67 - 118
EPTC	42.6	65.6	P/P	33 - 90.0
Ethion	82.6	59.7	P/P	40 - 133
Ethoprop	90.7	92.1	P/P	61 - 121
Fenamiphos	97.9	106	P/P	31 - 139
Fenbuconazole	103	112	P/P	66 - 141
Fipronil	112	119	P/P	62 - 129
Fipronil Desulfinyl	98.3	103	P/P	59 - 126
Fipronil Sulfide	82.2	91.7	P/P	63 - 117
Fipronil Sulfone	90.2	94.0	P/P	57 - 117
Fluazifop-P-butyl	94.6	106	P/P	63 - 124
Fludioxonil	103	107	P/P	63 - 123
Flumioxazin	202	227	P/P	34 - 245
Flutolanil	103	110	P/P	56 - 131
Fluxapyroxad	84.3	86.3	P/P	57 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P398626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fonofos	70.0	79.5	P/P	61 - 116
Hexazinone	96.5	97.2	P/P	55 - 138
Imazalil	120	128	P/P	33 - 143
Iprodione	98.7	106	P/P	59 - 118
Malathion	104	112	P/P	62 - 138
Metalaxyl	93.5	98.3	P/P	24 - 147
Metolachlor	103	107	P/P	68 - 118
Metribuzin	99.0	107	P/P	20 - 239
Mevinphos	83.6	89.3	P/P	46 - 124
Molinate	57.9	70.3	P/P	46 - 100
Myclobutanil	104	112	P/P	32 - 149
Naled	33.5	48.8	P/P	32 - 95.0
Norflurazon	103	110	P/P	57 - 127
Oxadiazon	100	106	P/P	63 - 118
Oxyfluorfen	115	116	P/P	69 - 137
Parathion Ethyl	94.8	103	P/P	70 - 113
Parathion Methyl	103	115	P/P	71 - 130
Pendimethalin	100	98.3	P/P	55 - 118
Phorate	87.6	118	P/P	46 - 125
Prodiamine	68.1	68.3	P/P	20 - 141
Prometon	105	107	P/P	54 - 122
Prometryn	107	110	P/P	66 - 124
Pronamide	113	118	P/P	79 - 122
Propiconazole	92.2	97.6	P/P	61 - 126
Pyriproxyfen	93.1	98.4	P/P	52 - 131
Simazine	93.2	108	P/P	75 - 128
Sulfentrazone	94.8	100	P/P	20 - 132
Tebuconazole	50.0	38.0	P/P	20 - 116
Terbufos	86.9	84.3	P/P	61 - 117
Terbutylazine	104	105	P/P	74 - 116

Reference Method: EPA 8321B

Batch ID: P398389

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.6		P	40 - 150
AMPA	92.4		P	40 - 150
Endothall	124		P	40 - 150
Glufosinate	106		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	118		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P398662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	108		P	40 - 150
2,4,5-T	125		P	40 - 150
Acetaminophen	95.5		P	30 - 150
Acetamiprid	89.1		P	40 - 150
Afidopyropen	65.4		P	40 - 150
Bentazon	109		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P398662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Benzovindiflupyr	95.4		P	40 - 150
Carbamazepine	88.9		P	40 - 150
Clothianidin	99.7		P	40 - 150
Dinotefuran	96.5		P	40 - 150
Diuron	81.6		P	40 - 150
Fenuron	124		P	40 - 150
Fluridone	94.5		P	40 - 150
Hydrocodone	87.3		P	40 - 150
Ibuprofen	74.8		P	40 - 150
Imazapyr	102		P	40 - 150
Imidacloprid	95.0		P	40 - 150
Linuron	80.3		P	40 - 150
Mandestrobin	92.6		P	40 - 150
MCPP	142		P	40 - 150
Naproxen	75.9		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	85.8		P	40 - 150
Thiamethoxam	91.5		P	40 - 150
Tolfenpyrad	43.5		P	40 - 150
Triclopyr	126		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P398458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P398631

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P398635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P398806

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P398651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248212	Barium	101		P	80 - 120
2248212	Calcium	109		P	80 - 120
2248212	Iron	107		P	80 - 120
2248212	Magnesium	107		P	80 - 120
2248212	Manganese	104		P	80 - 120
2248212	Potassium	101		P	80 - 120
2248212	Sodium	112		P	80 - 120
2248212	Zinc	103		P	80 - 120
2248517	Barium	103	103	P/P	80 - 120
2248517	Calcium	111	111	P/P	80 - 120
2248517	Iron	108	108	P/P	80 - 120
2248517	Magnesium	108	109	P/P	80 - 120
2248517	Manganese	105	106	P/P	80 - 120
2248517	Potassium	101	102	P/P	80 - 120
2248517	Sodium	114	118	P/P	80 - 120
2248517	Zinc	103	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P398651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248212	Aluminum	96.9		P	80 - 120
2248212	Antimony	97.1		P	80 - 120
2248212	Arsenic	99.5		P	80 - 120
2248212	Beryllium	93.1		P	80 - 120
2248212	Boron	102		P	80 - 120
2248212	Cadmium	100		P	80 - 120
2248212	Chromium	97.5		P	80 - 120
2248212	Copper	100		P	80 - 120
2248212	Lead	92.7		P	80 - 120
2248212	Nickel	99.5		P	80 - 120
2248212	Selenium	97.6		P	80 - 120
2248212	Silver	114		P	80 - 120
2248212	Thallium	104		P	80 - 120
2248517	Aluminum	93.8	96.6	P/P	80 - 120
2248517	Antimony	95.3	97.7	P/P	80 - 120
2248517	Arsenic	97.4	101	P/P	80 - 120
2248517	Beryllium	90.8	93.3	P/P	80 - 120
2248517	Boron	97.9	101	P/P	80 - 120
2248517	Cadmium	97.9	100	P/P	80 - 120
2248517	Chromium	97.1	99.3	P/P	80 - 120
2248517	Copper	97.7	101	P/P	80 - 120
2248517	Lead	91.0	92.3	P/P	80 - 120
2248517	Nickel	98.4	101	P/P	80 - 120
2248517	Selenium	97.7	99.3	P/P	80 - 120
2248517	Silver	100	99.0	P/P	80 - 120
2248517	Thallium	103	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248422	Chloride	101		P	90 - 110
2248488	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248422	Sulfate	97.8		P	90 - 110
2248488	Sulfate	95.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248246	Ammonia-N	96.0	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248436	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248427	Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248482	O-Phosphate-P	99.3	97.9	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P398626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248453	Acetochlor	84.1	98.2	P/P	66 - 122
2248453	Alachlor	90.9	107	P/P	65 - 122
2248453	Ametryn	91.8	122	P/P	45 - 173
2248453	Atrazine	88.2	101	P/P	70 - 134
2248453	Atrazine Desethyl	89.5	102	P/P	25 - 150
2248453	Azinphos Methyl	124	119	P/P	44 - 174
2248453	Azoxystrobin	175	198	P/P	10 - 268
2248453	Butylate	40.2	49.3	P/P	15 - 97.0
2248453	Carbophenothion	79.9	97.4	P/P	42 - 129
2248453	Carfentrazone Ethyl	99.2	128	P/P	62 - 145
2248453	Chlorpyrifos Ethyl	77.3	96.9	P/P	60 - 124
2248453	Chlorpyrifos Methyl	80.0	90.8	P/P	66 - 119
2248453	Cyanazine	151	181	P/P	17 - 225
2248453	Demeton	85.1	90.0	P/P	36 - 142

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P398626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248453	Diazinon	95.9	118	P/P	70 - 128
2248453	Difenoconazole	184	206	P/P	33 - 222
2248453	Dimethenamid	85.2	97.7	P/P	54 - 125
2248453	Disulfoton	75.6	73.2	P/P	49 - 133
2248453	Dithiopyr	91.4	98.1	P/P	55 - 123
2248453	EPTC	39.5	46.3	P/P	19 - 91.0
2248453	Ethion	63.2	87.9	P/P	13 - 143
2248453	Ethoprop	82.4	87.6	P/P	49 - 144
2248453	Fenamiphos	86.0	96.4	P/P	32 - 136
2248453	Fenbuconazole	128	139	P/P	73 - 148
2248453	Fipronil	97.5	126	P/P	57 - 129
2248453	Fipronil Desulfinyl	88.3	113	P/P	49 - 127
2248453	Fipronil Sulfide	99.3	113	P/P	44 - 127
2248453	Fipronil Sulfone	74.1	116	P/P	35 - 126
2248453	Fluazifop-P-butyl	92.4	104	P/P	67 - 129
2248453	Fludioxonil	86.0	112	P/P	61 - 126
2248453	Flumioxazin	202	246	P/P	38 - 279
2248453	Flutolanil	88.0	113	P/P	55 - 136
2248453	Fluxapyroxad	76.6	101	P/P	33 - 140
2248453	Fonofos	74.8	76.7	P/P	58 - 125
2248453	Hexazinone	86.4	105	P/P	57 - 148
2248453	Imazalil	92.3	103	P/P	10 - 221
2248453	Iprodione	83.7	106	P/P	32 - 140
2248453	Malathion	93.1	115	P/P	52 - 138
2248453	Metalaxyl	81.2	98.0	P/P	46 - 134
2248453	Metolachlor	88.8	106	P/P	58 - 122
2248453	Metribuzin	90.5	113	P/P	16 - 272
2248453	Mevinphos	74.1	80.0	P/P	45 - 140
2248453	Molinate	54.7	60.3	P/P	41 - 103
2248453	Myclobutanil	96.1	102	P/P	60 - 134
2248453	Naled	32.9	31.6	P/P	20 - 113
2248453	Norflurazon	89.2	112	P/P	51 - 123
2248453	Oxadiazon	83.3	94.2	P/P	44 - 125
2248453	Oxyfluorfen	109	137	P/P	66 - 176
2248453	Parathion Ethyl	87.0	99.2	P/P	57 - 132
2248453	Parathion Methyl	92.3	102	P/P	59 - 156
2248453	Pendimethalin	95.1	100	P/P	59 - 129
2248453	Phorate	86.1	97.3	P/P	47 - 136
2248453	Prodiamine	95.0	78.5	P/P	10 - 159
2248453	Prometon	89.8	122	P/P	59 - 127
2248453	Prometryn	94.9	110	P/P	59 - 129
2248453	Pronamide	97.4	121	P/P	65 - 145
2248453	Propiconazole	90.3	98.4	P/P	28 - 165
2248453	Pyriproxyfen	79.9	92.0	P/P	21 - 180
2248453	Simazine	91.5	112	P/P	63 - 147
2248453	Sulfentrazone	90.3	120	P/P	32 - 136
2248453	Tebuconazole	42.1	46.2	P/P	-8.3 - 117
2248453	Terbufos	79.5	87.9	P/P	61 - 131
2248453	Terbutylazine	89.5	110	P/P	62 - 126

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P398389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248451	Acesulfame K	79.1	72.4	P/P	40 - 150
2248451	AMPA	92.8	92.5	P/P	40 - 150
2248451	Endothall	92.7	88.8	P/P	40 - 150
2248451	Glufosinate	92.2	87.3	P/P	40 - 150
2248451	Glyphosate	90.0	86.1	P/P	40 - 150
2248451	Sucralose	41.0	33.2	P/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P398662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248252	2,4-D	139	129	P/P	40 - 150
2248252	2,4,5-T	131	132	P/P	40 - 150
2248252	Acetaminophen	144	96.5	P/P	30 - 150
2248252	Acetamiprid	108	113	P/P	40 - 150
2248252	Afidopyropen	78.7	73.4	P/P	40 - 150
2248252	Bentazon	95.8	90.3	P/P	30 - 150
2248252	Benzovindiflupyr	97.8	94.0	P/P	40 - 150
2248252	Carbamazepine	91.5	84.3	P/P	40 - 150
2248252	Clothianidin	104	98.9	P/P	40 - 150
2248252	Dinotefuran	123	117	P/P	40 - 150
2248252	Diuron	63.7	67.7	P/P	40 - 150
2248252	Fenuron	116	117	P/P	40 - 150
2248252	Fluridone	99.4	90.0	P/P	40 - 150
2248252	Hydrocodone	97.9	95.4	P/P	40 - 150
2248252	Ibuprofen	76.4	60.4	P/P	40 - 150
2248252	Imazapyr	122	116	P/P	40 - 150
2248252	Imidacloprid	146	142	P/P	40 - 150
2248252	Linuron	70.6	68.5	P/P	40 - 150
2248252	Mandestrobin	89.4	87.8	P/P	40 - 150
2248252	MCPP	144	146	P/P	40 - 150
2248252	Naproxen	75.3	86.7	P/P	40 - 150
2248252	Primidone	101	108	P/P	40 - 150
2248252	Pyraclostrobin	83.7	70.4	P/P	40 - 150
2248252	Thiamethoxam	117	112	P/P	40 - 150
2248252	Tolfenpyrad	49.1	51.7	P/P	40 - 150
2248252	Triclopyr	120	140	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P398635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248796	Fluoride	99.4	99.4	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P398806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248322	Organic Carbon	101	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P398465

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248423	Turbidity	5.50	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P398651

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248517	Barium	0.378	Spike	P	0 - 20
2248517	Calcium	0.259	Spike	P	0 - 20
2248517	Iron	0.493	Spike	P	0 - 20
2248517	Magnesium	0.897	Spike	P	0 - 20
2248517	Manganese	0.199	Spike	P	0 - 20
2248517	Potassium	1.25	Spike	P	0 - 20
2248517	Sodium	2.32	Spike	P	0 - 20
2248517	Zinc	0.341	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P398651

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248517	Aluminum	2.27	Spike	P	0 - 20
2248517	Antimony	2.47	Spike	P	0 - 20
2248517	Arsenic	3.14	Spike	P	0 - 20
2248517	Beryllium	2.58	Spike	P	0 - 20
2248517	Boron	3.14	Spike	P	0 - 20
2248517	Cadmium	2.34	Spike	P	0 - 20
2248517	Chromium	2.21	Spike	P	0 - 20
2248517	Copper	3.40	Spike	P	0 - 20
2248517	Lead	1.41	Spike	P	0 - 20
2248517	Nickel	2.27	Spike	P	0 - 20
2248517	Selenium	1.69	Spike	P	0 - 20
2248517	Silver	0.977	Spike	P	0 - 20
2248517	Thallium	2.05	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398869

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248422	Chloride	0.270	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398873

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248422	Sulfate	0.345	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P399058

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248246	Ammonia-N	0.966	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P398681

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248425	Kjeldahl Nitrogen	0.155	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P398487

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248436	NO2NO3-N	0.196	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398730

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248427	Total-P	1.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P398453

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248482	O-Phosphate-P	1.33	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P398626

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248453	Acetochlor	15.5	Spike	P	0 - 30
2248453	Alachlor	16.1	Spike	P	0 - 30
2248453	Ametryn	24.5	Spike	P	0 - 30
2248453	Atrazine	6.83	Spike	P	0 - 30
2248453	Atrazine Desethyl	13.3	Spike	P	0 - 30
2248453	Azinphos Methyl	3.96	Spike	P	0 - 30
2248453	Azoxystrobin	12.2	Spike	P	0 - 30
2248453	Bromacil	5.80	Spike	P	0 - 30
2248453	Butylate	20.4	Spike	P	0 - 30
2248453	Carbophenothion	19.7	Spike	P	0 - 30
2248453	Carfentrazone Ethyl	25.5	Spike	P	0 - 30
2248453	Chlorpyrifos Ethyl	22.5	Spike	P	0 - 30
2248453	Chlorpyrifos Methyl	12.6	Spike	P	0 - 30
2248453	Cyanazine	17.8	Spike	P	0 - 30
2248453	Demeton	5.67	Spike	P	0 - 30
2248453	Diazinon	20.5	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P398626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248453	Difenoconazole	11.3	Spike	P	0 - 30
2248453	Dimethenamid	13.7	Spike	P	0 - 30
2248453	Disulfoton	3.17	Spike	P	0 - 30
2248453	Dithiopyr	6.04	Spike	P	0 - 30
2248453	EPTC	15.7	Spike	P	0 - 30
2248453	Ethion	32.6	Spike	F	0 - 30
2248453	Ethoprop	6.04	Spike	P	0 - 30
2248453	Fenamiphos	11.3	Spike	P	0 - 30
2248453	Fenbuconazole	8.23	Spike	P	0 - 30
2248453	Fipronil	23.5	Spike	P	0 - 30
2248453	Fipronil Desulfiny	24.0	Spike	P	0 - 30
2248453	Fipronil Sulfide	10.4	Spike	P	0 - 30
2248453	Fipronil Sulfone	25.7	Spike	P	0 - 30
2248453	Fluazifop-P-butyl	11.6	Spike	P	0 - 30
2248453	Fludioxonil	26.2	Spike	P	0 - 30
2248453	Flumioxazin	19.7	Spike	P	0 - 30
2248453	Flutolanil	24.9	Spike	P	0 - 30
2248453	Fluxapyroxad	27.7	Spike	P	0 - 30
2248453	Fonofos	2.50	Spike	P	0 - 30
2248453	Hexazinone	19.0	Spike	P	0 - 30
2248453	Imazalil	11.4	Spike	P	0 - 30
2248453	Iprodione	23.7	Spike	P	0 - 30
2248453	Malathion	21.0	Spike	P	0 - 30
2248453	Metalaxyl	18.7	Spike	P	0 - 30
2248453	Metolachlor	17.9	Spike	P	0 - 30
2248453	Metribuzin	22.0	Spike	P	0 - 30
2248453	Mevinphos	7.66	Spike	P	0 - 30
2248453	Molinate	9.72	Spike	P	0 - 30
2248453	Myclobutanil	5.79	Spike	P	0 - 30
2248453	Naled	3.93	Spike	P	0 - 30
2248453	Norflurazon	22.6	Spike	P	0 - 30
2248453	Oxadiazon	11.1	Spike	P	0 - 30
2248453	Oxyfluorfen	23.2	Spike	P	0 - 30
2248453	Parathion Ethyl	13.1	Spike	P	0 - 30
2248453	Parathion Methyl	10.2	Spike	P	0 - 30
2248453	Pendimethalin	5.09	Spike	P	0 - 30
2248453	Phorate	12.2	Spike	P	0 - 30
2248453	Prodiamine	16.4	Spike	P	0 - 30
2248453	Prometon	30.4	Spike	F	0 - 30
2248453	Prometryn	15.0	Spike	P	0 - 30
2248453	Pronamide	21.8	Spike	P	0 - 30
2248453	Propiconazole	5.20	Spike	P	0 - 30
2248453	Pyriproxyfen	14.1	Spike	P	0 - 30
2248453	Simazine	20.0	Spike	P	0 - 30
2248453	Sulfentrazone	19.2	Spike	P	0 - 30
2248453	Tebuconazole	9.35	Spike	P	0 - 30
2248453	Terbufos	10.0	Spike	P	0 - 30
2248453	Terbuthylazine	20.7	Spike	P	0 - 30
LFB	Acetochlor	2.42	LCS	P	0 - 30
LFB	Alachlor	2.63	LCS	P	0 - 30
LFB	Ametryn	13.3	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P398626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	7.03	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.14	LCS	P	0 - 30
LFB	Azinphos Methyl	6.60	LCS	P	0 - 30
LFB	Azoxystrobin	14.0	LCS	P	0 - 30
LFB	Bromacil	6.51	LCS	P	0 - 30
LFB	Butylate	36.6	LCS	F	0 - 30
LFB	Carbophenothion	9.02	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	3.27	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	8.20	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.94	LCS	P	0 - 30
LFB	Cyanazine	3.86	LCS	P	0 - 30
LFB	Demeton	3.14	LCS	P	0 - 30
LFB	Diazinon	6.62	LCS	P	0 - 30
LFB	Difenoconazole	3.04	LCS	P	0 - 30
LFB	Dimethenamid	2.56	LCS	P	0 - 30
LFB	Disulfoton	7.53	LCS	P	0 - 30
LFB	Dithiopyr	0.497	LCS	P	0 - 30
LFB	EPTC	42.4	LCS	F	0 - 30
LFB	Ethion	32.2	LCS	F	0 - 30
LFB	Ethoprop	1.57	LCS	P	0 - 30
LFB	Fenamiphos	8.37	LCS	P	0 - 30
LFB	Fenbuconazole	7.60	LCS	P	0 - 30
LFB	Fipronil	5.43	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	4.76	LCS	P	0 - 30
LFB	Fipronil Sulfide	10.9	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.12	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	11.8	LCS	P	0 - 30
LFB	Fludioxonil	3.79	LCS	P	0 - 30
LFB	Flumioxazin	11.8	LCS	P	0 - 30
LFB	Flutolanil	6.07	LCS	P	0 - 30
LFB	Fluxapyroxad	2.28	LCS	P	0 - 30
LFB	Fonofos	12.7	LCS	P	0 - 30
LFB	Hexazinone	0.760	LCS	P	0 - 30
LFB	Imazalil	6.75	LCS	P	0 - 30
LFB	Iprodione	7.51	LCS	P	0 - 30
LFB	Malathion	7.22	LCS	P	0 - 30
LFB	Metalaxyl	5.02	LCS	P	0 - 30
LFB	Metolachlor	3.87	LCS	P	0 - 30
LFB	Metribuzin	7.67	LCS	P	0 - 30
LFB	Mevinphos	6.55	LCS	P	0 - 30
LFB	Molinate	19.4	LCS	P	0 - 30
LFB	Myclobutanil	6.99	LCS	P	0 - 30
LFB	Naled	37.2	LCS	F	0 - 30
LFB	Norflurazon	6.63	LCS	P	0 - 30
LFB	Oxadiazon	5.77	LCS	P	0 - 30
LFB	Oxyfluorfen	1.36	LCS	P	0 - 30
LFB	Parathion Ethyl	7.98	LCS	P	0 - 30
LFB	Parathion Methyl	11.4	LCS	P	0 - 30
LFB	Pendimethalin	1.98	LCS	P	0 - 30
LFB	Phorate	29.3	LCS	P	0 - 30
LFB	Prodiamine	0.247	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P398626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometon	2.32	LCS	P	0 - 30
LFB	Prometryn	3.20	LCS	P	0 - 30
LFB	Pronamide	4.43	LCS	P	0 - 30
LFB	Propiconazole	5.75	LCS	P	0 - 30
LFB	Pyriproxyfen	5.58	LCS	P	0 - 30
LFB	Simazine	14.3	LCS	P	0 - 30
LFB	Sulfentrazone	5.48	LCS	P	0 - 30
LFB	Tebuconazole	27.3	LCS	P	0 - 30
LFB	Terbufos	3.00	LCS	P	0 - 30
LFB	Terbuthylazine	0.858	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P398389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248451	Acesulfame K	8.93	Spike	P	0 - 30
2248451	AMPA	0.302	Spike	P	0 - 30
2248451	Endothall	4.28	Spike	P	0 - 30
2248451	Glufosinate	5.44	Spike	P	0 - 30
2248451	Glyphosate	3.63	Spike	P	0 - 30
2248451	Sucralose	21.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P398662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248252	2,4-D	7.81	Spike	P	0 - 30
2248252	2,4,5-T	0.896	Spike	P	0 - 30
2248252	Acetaminophen	39.5	Spike	F	0 - 30
2248252	Acetamiprid	4.29	Spike	P	0 - 30
2248252	Afidopyropen	6.96	Spike	P	0 - 30
2248252	Bentazon	5.90	Spike	P	0 - 30
2248252	Benzovindiflupyr	3.94	Spike	P	0 - 30
2248252	Carbamazepine	8.22	Spike	P	0 - 30
2248252	Clothianidin	3.88	Spike	P	0 - 30
2248252	Dinotefuran	4.38	Spike	P	0 - 30
2248252	Diuron	6.23	Spike	P	0 - 30
2248252	Fenuron	0.443	Spike	P	0 - 30
2248252	Fluridone	9.93	Spike	P	0 - 30
2248252	Hydrocodone	2.63	Spike	P	0 - 30
2248252	Ibuprofen	23.4	Spike	P	0 - 30
2248252	Imazapyr	5.62	Spike	P	0 - 30
2248252	Imidacloprid	2.61	Spike	P	0 - 30
2248252	Linuron	3.01	Spike	P	0 - 30
2248252	Mandestrobin	1.84	Spike	P	0 - 30
2248252	MCP	1.52	Spike	P	0 - 30
2248252	Naproxen	14.0	Spike	P	0 - 30
2248252	Primidone	7.10	Spike	P	0 - 30
2248252	Pyraclostrobin	17.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P398662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248252	Thiamethoxam	4.81	Spike	P	0 - 30
2248252	Tolfenpyrad	5.22	Spike	P	0 - 30
2248252	Triclopyr	15.7	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P398458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248303	Color (true)	1.14	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P398631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248796	Total Alkalinity	0.361	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P398894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248435	TDS	4.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P398635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248796	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P398806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248322	Organic Carbon	0.616	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2248451
Field Sample ID: 20030655

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.9	P	30 - 160
EPA 8321B	Diuron-d6	75.6	P	30 - 160
EPA 8321B	Endothall-d6	95.4	P	30 - 160
EPA 8321B	Endothall-d6	95.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.8	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	31.0	P	30 - 160
EPA 8321B	Sucralose-d6	31.0	P	30 - 160

Lab Sample ID: 2248453
Field Sample ID: 20030655

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	91.1	P	73 - 135
EPA 8270E	Terbufos-d10	81.4	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A105528
Included Lab Sample IDs: 2248451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	81.4	110	P/P	40 - 160
Glufosinate	85.8	95.2	P/P	60 - 200
Glyphosate	89.1	102	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A105535
Included Lab Sample IDs: 2248437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.3	P/P	90 - 110

Reference Method: SM 2120 B-2011
Run ID: A105536
Included Lab Sample IDs: 2248435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A105537
Included Lab Sample IDs: 2248435

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

Reference Method: EPA 8321B
Run ID: A105543
Included Lab Sample IDs: 2248451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.6	87.5	P/P	60 - 160
Endothall	107	116	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A105553
Included Lab Sample IDs: 2248436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A105605
Included Lab Sample IDs: 2248435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	98.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A105605

Included Lab Sample IDs: 2248435

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

Reference Method: EPA 8321B

Run ID: A105625

Included Lab Sample IDs: 2248451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	115	114	P/P	60 - 160

Reference Method: EPA 8270E

Run ID: A105644

Included Lab Sample IDs: 2248453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	95.5		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	93.6		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	104		P	80 - 120
Azinphos Methyl	108		P	80 - 120
Azoxystrobin	107		P	80 - 120
Bromacil	101		P	80 - 120
Butylate	101		P	80 - 120
Carbophenothion	81.7		P	80 - 120
Carfentrazone Ethyl	97.4		P	80 - 120
Chlorpyrifos Ethyl	92.3		P	80 - 120
Chlorpyrifos Methyl	95.6		P	80 - 120
Cyanazine	102		P	80 - 120
Demeton	93.6		P	80 - 120
Diazinon	100		P	80 - 120
Difenoconazole	102		P	80 - 120
Dimethenamid	97.1		P	80 - 120
Disulfoton	85.2		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	98.1		P	80 - 120
Ethion	88.4		P	80 - 120
Ethoprop	95.7		P	80 - 120
Fenamiphos	94.3		P	80 - 120
Fenbuconazole	104		P	80 - 120
Fipronil	103		P	80 - 120
Fipronil Desulfinyl	96.4		P	80 - 120
Fipronil Sulfide	93.9		P	80 - 120
Fipronil Sulfone	88.2		P	80 - 120
Fluazifop-P-butyl	89.9		P	80 - 120
Fludioxonil	106		P	80 - 120
Flumioxazin	98.5		P	80 - 120
Flutolanil	100		P	80 - 120
Fluxapyroxad	94.4		P	80 - 120
Fonofos	90.8		P	80 - 120
Hexazinone	96.6		P	80 - 120
Imazalil	108		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A105644
Included Lab Sample IDs: 2248453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iprodione	90.9		P	80 - 120
Malathion	95.1		P	80 - 120
Metalaxyl	98.1		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	97.4		P	80 - 120
Mevinphos	94.9		P	80 - 120
Molinate	98.4		P	80 - 120
Myclobutanil	104		P	80 - 120
Naled	97.0		P	80 - 120
Norflurazon	102		P	80 - 120
Oxadiazon	106		P	80 - 120
Oxyfluorfen	100		P	80 - 120
Parathion Ethyl	102		P	80 - 120
Parathion Methyl	97.9		P	80 - 120
Pendimethalin	109		P	80 - 120
Phorate	95.8		P	80 - 120
Prodiamine	99.8		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	98.8		P	80 - 120
Pronamide	104		P	80 - 120
Propiconazole	100		P	80 - 120
Pyriproxyfen	108		P	80 - 120
Simazine	102		P	80 - 120
Sulfentrazone	105		P	80 - 120
Tebuconazole	99.0		P	80 - 120
Terbufos	96.9		P	80 - 120
Terbutylazine	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A105658
Included Lab Sample IDs: 2248435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	102	P/P	90 - 110
Sulfate	99.9	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A105668
Included Lab Sample IDs: 2248436

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

Reference Method: SM 5310 B-2011
Run ID: A105673
Included Lab Sample IDs: 2248436

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105701

Included Lab Sample IDs: 2248452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	96.7	P/P	90 - 110
Antimony	97.7	97.7	P/P	90 - 110
Arsenic	100	98.3	P/P	90 - 110
Beryllium	97.5	95.7	P/P	90 - 110
Boron	103	103	P/P	90 - 110
Cadmium	98.8	99.2	P/P	90 - 110
Chromium	97.5	95.1	P/P	90 - 110
Copper	98.5	96.5	P/P	90 - 110
Lead	92.5	93.2	P/P	90 - 110
Nickel	99.9	97.2	P/P	90 - 110
Selenium	100	100	P/P	90 - 110
Silver	97.4	97.7	P/P	90 - 110
Thallium	95.4	95.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A105705

Included Lab Sample IDs: 2248452

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105714

Included Lab Sample IDs: 2248436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.6	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A105752

Included Lab Sample IDs: 2248451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.2	94.5	P/P	50 - 150
2,4,5-T	93.3	94.0	P/P	50 - 150
Acetaminophen	102	99.1	P/P	60 - 160
Acetamiprid	110	104	P/P	50 - 150
Afidopyropen	100	93.9	P/P	50 - 150
Bentazon	105	104	P/P	50 - 160
Benzovindiflupyr	113	110	P/P	50 - 150
Carbamazepine	105	92.4	P/P	60 - 150
Clothianidin	102	109	P/P	60 - 150
Dinotefuran	105	105	P/P	50 - 150
Diuron	116	99.2	P/P	60 - 160
Fenuron	104	105	P/P	60 - 150
Fluridone	113	115	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A105752
Included Lab Sample IDs: 2248451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	103	101	P/P	60 - 150
Ibuprofen	102	70.7	P/P	50 - 160
Imazapyr	109	104	P/P	50 - 150
Imidacloprid	94.9	88.8	P/P	60 - 150
Linuron	93.9	96.3	P/P	60 - 150
Mandestrobin	119	115	P/P	50 - 150
MCPD	89.1	92.6	P/P	50 - 150
Naproxen	82.3	91.1	P/P	50 - 160
Primidone	96.5	96.0	P/P	60 - 150
Pyraclostrobin	111	101	P/P	60 - 150
Thiamethoxam	101	103	P/P	50 - 150
Tolfenpyrad	105	101	P/P	60 - 150
Triclopyr	97.6	97.3	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A105796
Included Lab Sample IDs: 2248436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A105822
Included Lab Sample IDs: 2248452

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	94.1	97.6	P/P	90 - 110
Manganese	95.2	99.0	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							5.50	
EPA 200.7 Rev. 4.4	Barium	95.0		101	103	103			0.378
	Calcium	104		109	111	111			0.259
	Iron	103		107	108	108			0.493
	Magnesium	103		107	108	109			0.897
	Manganese	97.7		104	105	106			0.199
	Potassium	96.7		101	101	102			1.25
	Sodium	111		112	114	118			2.32
	Zinc	95.2		103	103	103			0.341
EPA 200.8 Rev. 5.4	Aluminum	95.3		93.8	96.6	96.9			2.27
	Antimony	97.7		95.3	97.7	97.1			2.47
	Arsenic	99.9		97.4	101	99.5			3.14
	Beryllium	93.2		90.8	93.3	93.1			2.58
	Boron	99.3		97.9	101	102			3.14
	Cadmium	99.8		97.9	100	100			2.34
	Chromium	96.9		97.1	99.3	97.5			2.21
	Copper	98.4		97.7	101	100			3.40
	Lead	91.6		91.0	92.3	92.7			1.41
	Nickel	98.5		98.4	101	99.5			2.27
	Selenium	98.6		97.7	99.3	97.6			1.69
	Silver	101		100	99.0	114			0.977
	Thallium	103		103	105	104			2.05
EPA 300.0 Rev. 2.1	Chloride	102		101	101			0.270	
	Sulfate	99.3		97.8	95.1			0.345	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2		96.0	97.2				0.966
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.1							0.155
EPA 353.2 Rev. 2.0	NO2NO3-N	101		98.2					0.196
EPA 365.1 Rev. 2.0	Total-P	105		104	102				1.93
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5		99.3	97.9				1.33
EPA 8270E	Acetochlor	97.4	99.8	98.2	84.1		2.42		15.5
	Alachlor	102	104	107	90.9		2.63		16.1
	Ametryn	99.7	114	122	91.8		13.3		24.5
	Atrazine	101	108	101	88.2		7.03		6.83
	Atrazine Desethyl	100	110	102	89.5		9.14		13.3
	Azinphos Methyl	128	137	119	124		6.60		3.96
	Azoxystrobin	181	208	198	175		14.0		12.2
	Bromacil	98.2	105				6.51		5.80
	Butylate	46.3	67.1	49.3	40.2		36.6		20.4
	Carbophenothion	80.6	88.2	97.4	79.9		9.02		19.7
	Carfentrazone Ethyl	115	119	128	99.2		3.27		25.5
	Chlorpyrifos Ethyl	82.1	89.1	96.9	77.3		8.20		22.5
	Chlorpyrifos Methyl	87.8	93.2	90.8	80.0		5.94		12.6
	Cyanazine	202	210	181	151		3.86		17.8
	Demeton	88.7	91.5	90.0	85.1		3.14		5.67
	Diazinon	108	115	118	95.9		6.62		20.5
	Difenoconazole	130	126	206	184		3.04		11.3
	Dimethenamid	97.2	99.7	97.7	85.2		2.56		13.7
	Disulfoton	69.7	75.2	73.2	75.6		7.53		3.17
	Dithiopyr	90.9	91.3	98.1	91.4		0.497		6.04
	EPTC	42.6	65.6	46.3	39.5		42.4		15.7
	Ethion	82.6	59.7	87.9	63.2		32.2		32.6
	Ethoprop	90.7	92.1	87.6	82.4		1.57		6.04
	Fenamiphos	97.9	106	96.4	86.0		8.37		11.3
	Fenbuconazole	103	112	139	128		7.60		8.23

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fipronil	112	119	126	97.5	5.43	23.5
	Fipronil Desulfinyl	98.3	103	113	88.3	4.76	24.0
	Fipronil Sulfide	82.2	91.7	113	99.3	10.9	10.4
	Fipronil Sulfone	90.2	94.0	116	74.1	4.12	25.7
	Fluazifop-P-butyl	94.6	106	104	92.4	11.8	11.6
	Fludioxonil	103	107	112	86.0	3.79	26.2
	Flumioxazin	202	227	246	202	11.8	19.7
	Flutolanil	103	110	113	88.0	6.07	24.9
	Fluxapyroxad	84.3	86.3	101	76.6	2.28	27.7
	Fonofos	70.0	79.5	76.7	74.8	12.7	2.50
	Hexazinone	96.5	97.2	105	86.4	0.760	19.0
	Imazalil	120	128	103	92.3	6.75	11.4
	Iprodione	98.7	106	106	83.7	7.51	23.7
	Malathion	104	112	115	93.1	7.22	21.0
	Metalaxyl	93.5	98.3	98.0	81.2	5.02	18.7
	Metolachlor	103	107	106	88.8	3.87	17.9
	Metribuzin	99.0	107	113	90.5	7.67	22.0
	Mevinphos	83.6	89.3	80.0	74.1	6.55	7.66
	Molinate	57.9	70.3	60.3	54.7	19.4	9.72
	Myclobutanil	104	112	102	96.1	6.99	5.79
	Naled	33.5	48.8	31.6	32.9	37.2	3.93
	Norflurazon	103	110	112	89.2	6.63	22.6
	Oxadiazon	100	106	94.2	83.3	5.77	11.1
	Oxyfluorfen	115	116	137	109	1.36	23.2
	Parathion Ethyl	94.8	103	99.2	87.0	7.98	13.1
	Parathion Methyl	103	115	102	92.3	11.4	10.2
	Pendimethalin	100	98.3	100	95.1	1.98	5.09
	Phorate	87.6	118	97.3	86.1	29.3	12.2
	Prodiamine	68.1	68.3	78.5	95.0	0.247	16.4
	Prometon	105	107	122	89.8	2.32	30.4
	Prometryn	107	110	110	94.9	3.20	15.0
	Pronamide	113	118	121	97.4	4.43	21.8
	Propiconazole	92.2	97.6	98.4	90.3	5.75	5.20
	Pyriproxyfen	93.1	98.4	92.0	79.9	5.58	14.1
	Simazine	93.2	108	112	91.5	14.3	20.0
	Sulfentrazone	94.8	100	120	90.3	5.48	19.2
	Tebuconazole	50.0	38.0	46.2	42.1	27.3	9.35
	Terbufos	86.9	84.3	87.9	79.5	3.00	10.0
	Terbuthylazine	104	105	110	89.5	0.858	20.7
EPA 8321B	2,4-D	108		139	129		7.81
	2,4,5-T	125		131	132		0.896
	Acesulfame K	99.6		79.1	72.4		8.93
	Acetaminophen	95.5		144	96.5		39.5
	Acetamiprid	89.1		108	113		4.29
	Afidopyropen	65.4		78.7	73.4		6.96
	AMPA	92.4		92.8	92.5		0.302
	Bentazon	109		95.8	90.3		5.90
	Benzovindiflupyr	95.4		97.8	94.0		3.94
	Carbamazepine	88.9		91.5	84.3		8.22
	Clothianidin	99.7		104	98.9		3.88
	Dinotefuran	96.5		123	117		4.38
	Diuron	81.6		63.7	67.7		6.23
	Endothall	124		92.7	88.8		4.28
	Fenuron	124		116	117		0.443

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Fluridone	94.5	99.4	90.0		9.93
	Glufosinate	106	92.2	87.3		5.44
	Glyphosate	103	90.0	86.1		3.63
	Hydrocodone	87.3	97.9	95.4		2.63
	Ibuprofen	74.8	76.4	60.4		23.4
	Imazapyr	102	122	116		5.62
	Imidacloprid	95.0	146	142		2.61
	Linuron	80.3	70.6	68.5		3.01
	Mandestrobin	92.6	89.4	87.8		1.84
	MCPP	142	144	146		1.52
	Naproxen	75.9	75.3	86.7		14.0
	Primidone	107	101	108		7.10
	Pyraclostrobin	85.8	83.7	70.4		17.3
	Sucralose	118	41.0	33.2		21.1
	Thiamethoxam	91.5	117	112		4.81
	Tolfenpyrad	43.5	49.1	51.7		5.22
	Triclopyr	126	120	140		15.7
SM 2120 B-2011	Color (true)	99.9			1.14	
SM 2320 B-2011	Total Alkalinity	99.4			0.361	
SM 2540 C-2011	TDS				4.71	
SM 4500 F-C-2011	Fluoride	102	99.4	99.4		0.0
SM 5310 B-2011	Organic Carbon	98.2	101	102		0.616

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2248435
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2248452
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2248452
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2248435
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2248435
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2248436
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2248436
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2248436
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2248436
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2248437
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2248453
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2248451
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2248451
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2248435
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2248435
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2248452
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2248435
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2248435
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2248435
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2248436

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	05/19/2021			05/19/2021 16:40	Yen Ta	2248435
EPA 200.7 Rev. 4.4	05/19/2021	05/24/2021 14:20	Elliott D. Healy	05/26/2021 21:59	Josef B Mick	2248452
	05/19/2021	05/24/2021 14:20	Elliott D. Healy	06/02/2021 14:54	Josef B Mick	2248452
EPA 200.8 Rev. 5.4	05/19/2021	05/24/2021 14:20	Elliott D. Healy	05/26/2021 19:41	Alexander Thompson	2248452
EPA 300.0 Rev. 2.1	05/19/2021			05/26/2021 21:28	Lipi Saha	2248435
EPA 350.1 Rev. 2.0	05/19/2021			06/01/2021 13:41	Roberta Tatti	2248436
EPA 351.2 Rev. 2.0	05/19/2021	05/24/2021 12:55	Benjamin T. Nordmann	05/26/2021 11:08	Virginia P. Brown	2248436
EPA 353.2 Rev. 2.0	05/19/2021			05/20/2021 10:26	Beverly Y. Sanders	2248436
EPA 365.1 Rev. 2.0	05/19/2021	05/25/2021 12:56	Yen Ta	05/26/2021 11:52	Shengyu Ding	2248436
EPA 365.1 Rev. 2.0 dissolved	05/19/2021			05/19/2021 15:38	Blanca Fach	2248437
EPA 8270E	05/19/2021	05/21/2021 08:00	Rasheda Ghaffari	05/24/2021 19:45	Vandana T. Nagar	2248453
EPA 8321B	05/19/2021	05/19/2021 11:45	Juyoung Kim	05/19/2021 12:50	Juyoung Kim	2248451
	05/19/2021	05/19/2021 11:45	Juyoung Kim	05/20/2021 02:18	Juyoung Kim	2248451
	05/19/2021	05/19/2021 11:45	Juyoung Kim	05/24/2021 16:33	Pramila Ghimire	2248451
	05/19/2021	05/25/2021 09:00	Hoor Shaik	05/27/2021 06:04	Juyoung Kim	2248451
SM 2120 B-2011	05/19/2021			05/19/2021 15:57	Sarah A Nixon	2248435
SM 2320 B-2011	05/19/2021			05/22/2021 06:30	Dale L. Simmons	2248435
SM 2340B	05/19/2021			05/26/2021 21:59	Josef B Mick	2248452
SM 2540 C-2011	05/19/2021			05/20/2021 15:22	Yijie Li	2248435
SM 2540 D-2011	05/19/2021			05/20/2021 15:22	Yijie Li	2248435
SM 4500 F-C-2011	05/19/2021			05/22/2021 06:30	Dale L. Simmons	2248435
SM 5310 B-2011	05/19/2021			05/24/2021 22:55	Madeline Gruver	2248436