

Chemical Analysis Report

NW-DIST-2021-04-28-02

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

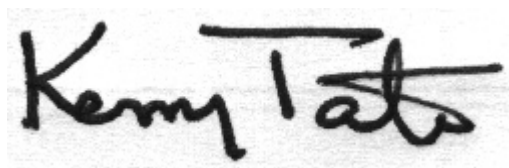
Event Description: **Santa Rosa Run**
Request ID: **RQ-2021-04-26-20**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 21-MAY-2021 13:47

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Williams Creek Upstream of Hwy 98

Collection Date/Time: 04/27/2021 12:26

Field ID: G4NW0531

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243468	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P397353	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P398190	
		Sulfate	7.1		mg SO4/L	P398194	
	SM 2120 B-2011	Color (true)	110		PCU	P397356	
	SM 2320 B-2011	Total Alkalinity	4.9		mg CaCO3/L	P397927	
	SM 2540 C-2011	TDS	90		mg/L	P397786	
	SM 2540 D-2011	TSS	2	I	mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P397524	
2243469	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P397988	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P397549	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.27		mg N/L	P397546	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P397438	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P397803	
2243470	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.069		mg P/L	P397346	
2243484	EPA 8321B	2,4-D	0.0020	U	ug/L	P397178	
		Acesulfame K	0.10	U	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.10	U	ug/L	P397317	
		Sucralose	7.2		ug/L	P397317	
		Acetaminophen	0.0080	U	ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.10	U	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	8.0E-04	U	ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	0.0069		ug/L	P397178	
		Clothianidin	0.0020	U	ug/L	P397178	
		Dinotefuran	0.0076	I	ug/L	P397178	
		Diuron	0.0020	U	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	
		Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.011	I	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.11		ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCP	0.0020	U	ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.024		ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	

Field ID: G4NW0531

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243484	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	

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 some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Dean Creek, West Head at Natalie Lane

Collection Date/Time: 04/27/2021 11:58

Field ID: G4NW0278

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243485	EPA 8321B	2,4-D	0.0020	U	ug/L	P397178	
		Acesulfame K	0.10	U	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.10	U	ug/L	P397317	
		Sucralose	0.045		ug/L	P397317	
		Acetaminophen	0.0080	U	ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.10	U	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	8.0E-04	U	ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	8.0E-04	U	ug/L	P397178	
		Clothianidin	0.0020	U	ug/L	P397178	
		Dinotefuran	0.0020	U	ug/L	P397178	
		Diuron	0.0020	U	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	
		Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.0040	U	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.0040	I	ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCPP	0.0020	U	ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.0040	U	ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	
		Thiamethoxam	0.0020	U	ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	

Ref. Method and Comment:

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

**Sample Location: Discharge from Tiger Point Golf Course at
Maplewood Drive**

Collection Date/Time: 04/27/2021 10:28

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243465	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P397353	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P398190	
		Sulfate	6.9		mg SO4/L	P398194	
	SM 2120 B-2011	Color (true)	100		PCU	P397355	
	SM 2320 B-2011	Total Alkalinity	24		mg CaCO3/L	P397927	
	SM 2540 C-2011	TDS	89		mg/L	P397786	
	SM 2540 D-2011	TSS	4	I	mg/L	P397594	
	SM 4500 F-C-2011	Fluoride	0.040	I	mg F/L	P397524	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P397988	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P397549	
2243466	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P397546	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P397438	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P397803	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.061		mg P/L	P397346	
	EPA 8321B	Aldicarb	0.020	U	ug/L	P397284	
2243482		Aldicarb Sulfone	0.0020	U	ug/L	P397284	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P397284	
		Carbaryl	0.0020	U	ug/L	P397284	
		Carbofuran	0.0020	U	ug/L	P397284	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P397284	
		Methiocarb	0.0020	U	ug/L	P397284	
		Methomyl	0.0020	U	ug/L	P397284	
		Oxamyl	0.0020	U	ug/L	P397284	
		Propoxur	0.0020	U	ug/L	P397284	
		2,4-D	0.0078	I	ug/L	P397178	
2243483		Acesulfame K	0.10	U	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.27	I	ug/L	P397317	
		Sucralose	2.3		ug/L	P397317	
		Acetaminophen	0.0080	U	ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.28	I	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	0.0077		ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	0.0036		ug/L	P397178	
		Clothianidin	0.0020	U	ug/L	P397178	
		Dinotefuran	0.0020	U	ug/L	P397178	
		Diuron	0.0020	U	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243483	EPA 8321B	Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.012	I	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.0020	U	ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCP	0.018		ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.0090	I	ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	
		Thiamethoxam	0.0020	U	ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	
2243488	EPA 8270E	Aldrin	0.73	U	ng/L	P397459	
		Alpha-BHC	0.11	U	ng/L	P397459	
		Alpha-Chlordane	0.22	U	ng/L	P397459	
		Beta-BHC	0.11	U	ng/L	P397459	
		Beta-Cyfluthrin**	1.4	U	ng/L	P397459	
		Bifenthrin**	0.56	U	ng/L	P397459	
		Chlorothalonil	0.56	U	ng/L	P397459	RPD
		Cis-Nonachlor**	0.22	U	ng/L	P397459	
		Cypermethrin	1.7	U	ng/L	P397459	
		Dacthal**	0.17	U	ng/L	P397459	
		DDD-p,p'	0.28	U	ng/L	P397459	
		DDE-p,p'	0.22	U	ng/L	P397459	
		DDT-p,p'	0.28	U	ng/L	P397459	
		Delta-BHC	0.45	U	ng/L	P397459	
		Deltamethrin**	1.4	U	ng/L	P397459	MS
		Dichlobenil**	0.11	U	ng/L	P397459	
		Dicofol	1.4	U	ng/L	P397459	
		Dieldrin	0.71	I	ng/L	P397459	
		Endosulfan I	0.45	U	ng/L	P397459	
		Endosulfan II	0.45	U	ng/L	P397459	
		Endosulfan Sulfate	0.33	U	ng/L	P397459	
		Endrin	0.45	U	ng/L	P397459	
		Endrin Aldehyde	0.84	U	ng/L	P397459	
		Endrin Ketone	0.45	U	ng/L	P397459	
		Esfenvalerate**	0.84	UJ	ng/L	P397459	LCS
		Ethalfuralin**	0.17	U	ng/L	P397459	
		Fenpropathrin**	0.28	U	ng/L	P397459	
		Gamma-BHC	0.14	U	ng/L	P397459	
		Gamma-Chlordane	0.23	I	ng/L	P397459	
		Heptachlor	0.22	U	ng/L	P397459	
		Heptachlor Epoxide	0.28	U	ng/L	P397459	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243488	EPA 8270E	Hexachlorobenzene	1.1	U	ng/L	P397459	
		Kepone**	5.6	UJ	ng/L	P397459	LCS, RPD
		Lambda-Cyhalothrin**	0.84	UJ	ng/L	P397459	LCS
		Methoxychlor	0.33	U	ng/L	P397459	
		MGK-264**	0.22	U	ng/L	P397459	
		Mirex	0.33	UJ	ng/L	P397459	LCS
		Permethrin	1.8	U	ng/L	P397459	
		Phenothrin**	1.0	U	ng/L	P397459	
		Piperonyl Butoxide**	0.17	U	ng/L	P397459	
		Prallethrin**	2.2	U	ng/L	P397459	
		Tau-Fluvalinate**	0.28	U	ng/L	P397459	
		Tetramethrin**	0.84	U	ng/L	P397459	
		Trans-Nonachlor**	0.22	U	ng/L	P397459	
		Triclosan Methyl**	0.17	U	ng/L	P397459	
		Trifluralin	0.22	U	ng/L	P397459	
		Chlordane	5.6	U	ng/L	P397459	
		Toxaphene	33	U	ng/L	P397459	
		Acetochlor	0.26	U	ng/L	P397411	
		Alachlor	0.26	U	ng/L	P397411	
		Ametryn	0.84	I	ng/L	P397411	MS
2243489	EPA 8270E	Atrazine	1.3		ng/L	P397411	
		Atrazine Desethyl	1.6	U	ng/L	P397411	
		Azinphos Methyl	2.1	U	ng/L	P397411	
		Azoxystrobin**	0.52	U	ng/L	P397411	
		Bromacil	0.52	U	ng/L	P397411	
		Butylate	0.42	U	ng/L	P397411	
		Caffeine**	7.8	U	ng/L	P397411	
		Carbophenothion	0.52	U	ng/L	P397411	
		Carfentrazone Ethyl**	0.10	U	ng/L	P397411	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P397411	
		Chlorpyrifos Methyl	0.052	U	ng/L	P397411	
		Cyanazine	3.4	U	ng/L	P397411	
		Demeton	1.6	U	ng/L	P397411	
		Diazinon	0.13	U	ng/L	P397411	
		Difenoconazole**	0.62	U	ng/L	P397411	
		Dimethenamid**	0.10	U	ng/L	P397411	
		Disulfoton	0.52	U	ng/L	P397411	
		Dithiopyr**	0.36	I	ng/L	P397411	
		EPTC	1.3	U	ng/L	P397411	
		Ethion	0.16	U	ng/L	P397411	
		Ethoprop	0.10	U	ng/L	P397411	
		Fenamiphos	0.52	U	ng/L	P397411	
		Fenbuconazole**	0.13	U	ng/L	P397411	
		Fipronil	8.9		ng/L	P397411	
		Fipronil Desulfinyll**	1.7		ng/L	P397411	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243489	EPA 8270E	Fipronil Sulfide	22		ng/L	P397411	
		Fipronil Sulfone	25		ng/L	P397411	
		Fluazifop-P-butyl**	0.10	U	ng/L	P397411	
		Fludioxonil**	0.13	U	ng/L	P397411	
		Flumioxazin**	1.8	UJ	ng/L	P397411	RPD
		Flutolanil**	0.10	U	ng/L	P397411	
		Fluxapyroxad**	0.12	I	ng/L	P397411	
		Fonofos	0.21	U	ng/L	P397411	
		Hexazinone	0.52	U	ng/L	P397411	
		Imazalil**	0.78	U	ng/L	P397411	
		Iprodione**	0.62	U	ng/L	P397411	
		Malathion	0.36	U	ng/L	P397411	
		Metalaxyl	0.78	U	ng/L	P397411	
		Metolachlor	0.36	U	ng/L	P397411	
		Metribuzin	3.4	U	ng/L	P397411	
		Mevinphos	1.1	U	ng/L	P397411	
		Molinate	0.31	U	ng/L	P397411	
		Myclobutanil**	0.26	U	ng/L	P397411	
		Naled**	1.6	U	ng/L	P397411	
		Norflurazon	0.52	U	ng/L	P397411	
		Oxadiazon	4.1		ng/L	P397411	
		Oxyfluorfen**	0.16	U	ng/L	P397411	
		Parathion Ethyl	0.26	U	ng/L	P397411	
		Parathion Methyl	0.57	U	ng/L	P397411	
		Pendimethalin	1.0	U	ng/L	P397411	
		Phorate	0.55	U	ng/L	P397411	
		Prodiamine**	0.19	IJ	ng/L	P397411	RPD
		Prometon	0.94	U	ng/L	P397411	
		Prometryn	0.21	U	ng/L	P397411	
		Pronamide**	0.16	U	ng/L	P397411	
		Propiconazole**	0.64	I	ng/L	P397411	
		Pyriproxyfen**	0.13	U	ng/L	P397411	
		Simazine	0.52	U	ng/L	P397411	
		Sulfentrazone**	41		ng/L	P397411	
		Tebuconazole**	0.53	I	ng/L	P397411	
		Terbufos	0.10	U	ng/L	P397411	
		Terbuthylazine	0.44	U	ng/L	P397411	
2243491	EPA 200.7 Rev. 4.4	Barium	5.4		ug/L	P397909	
		Calcium	8.91		mg/L	P397909	
		Iron	340		ug/L	P397909	
		Magnesium	2.21		mg/L	P397909	
		Manganese	12.1		ug/L	P397909	
		Potassium	2.1		mg/L	P397909	
		Sodium	11.5		mg/L	P397909	
		Zinc	5.0	U	ug/L	P397909	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243491	EPA 200.8 Rev. 5.4	Aluminum	262		ug/L	P397909	
		Antimony	0.050	U	ug/L	P397909	
		Arsenic	3.59		ug/L	P397909	
		Beryllium	0.012	I	ug/L	P397909	
		Boron**	45.1		ug/L	P397909	
		Cadmium	0.020	U	ug/L	P397909	
		Chromium	0.84	I	ug/L	P397909	
		Copper	9.58		ug/L	P397909	
		Lead	0.20	U	ug/L	P397909	
		Nickel	0.54	I	ug/L	P397909	
		Selenium	0.22	I	ug/L	P397909	
		Silver	0.010	U	ug/L	P397909	
		Thallium	0.10	U	ug/L	P397909	
	SM 2340B	Hardness	31.3		mg/L	P397909	

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 some analytes could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

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

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 05/12/2021.

Sample Location: Tom King Creek

Collection Date/Time: 04/27/2021 11:27

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2243486	EPA 8321B	2,4-D	0.0020	U	ug/L	P397178	
		Acesulfame K	0.35	I	ug/L	P397317	
		2,4,5-T	0.0040	U	ug/L	P397178	
		AMPA	0.10	U	ug/L	P397317	
		Sucralose	2.9		ug/L	P397317	
		Acetaminophen	0.0080	U	ug/L	P397178	
		Acetamiprid	0.0020	U	ug/L	P397178	
		Endothall	0.25	U	ug/L	P397317	
		Glufosinate	0.10	U	ug/L	P397317	
		Glyphosate	0.10	U	ug/L	P397317	
		Afidopyropen	0.0020	U	ug/L	P397178	
		Bentazon	0.0020	I	ug/L	P397178	
		Benzovindiflupyr	0.0020	U	ug/L	P397178	
		Carbamazepine	0.0010	I	ug/L	P397178	
		Clothianidin	0.033		ug/L	P397178	
		Dinotefuran	0.0020	U	ug/L	P397178	
		Diuron	0.0020	U	ug/L	P397178	
		Fenuron	0.016	U	ug/L	P397178	
		Fluridone	8.0E-04	U	ug/L	P397178	
		Imazapyr	0.0054	I	ug/L	P397178	
		Hydrocodone	0.0020	U	ug/L	P397178	
		Ibuprofen	0.020	U	ug/L	P397178	RPD
		Imidacloprid	0.066		ug/L	P397178	MS
		Linuron	0.0040	U	ug/L	P397178	
		Mandestrobin	0.0020	U	ug/L	P397178	
		MCPP	0.0042	I	ug/L	P397178	MS
		Naproxen	0.0080	U	ug/L	P397178	
		Primidone	0.0079	I	ug/L	P397178	
		Pyraclostrobin	0.0020	U	ug/L	P397178	
		Thiamethoxam	0.0020	U	ug/L	P397178	MS
		Tolfenpyrad	0.0020	U	ug/L	P397178	
		Triclopyr	0.0040	U	ug/L	P397178	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397353

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P397909

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: P397909

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: P398190

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398194

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397988

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: P397549

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397546

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397438

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397346

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

Reference Method: EPA 8270E
Batch ID: P397411

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397411

Component	Result	Code	Units
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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P397411

Component	Result	Code	Units
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397459

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Chlorothalonil	0.50	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.10	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.30	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P397459

Component	Result	Code	Units
Chlordane	5.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276

Batch ID: P397459

Component	Result	Code	Units
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B

Batch ID: P397178

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: P397284

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Reference Method: EPA 8321B

Batch ID: P397317

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P397317

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: P397355

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P397356

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P397927

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

Reference Method: SM 2540 C-2011
Batch ID: P397786

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P397594

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P397803

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: P397909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	93.4		P	85 - 115
Calcium	100		P	85 - 115
Iron	103		P	85 - 115
Magnesium	103		P	85 - 115
Manganese	96.3		P	85 - 115
Potassium	94.9		P	85 - 115
Sodium	92.7		P	85 - 115
Zinc	93.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.6		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	102		P	85 - 115
Beryllium	100		P	85 - 115
Boron	104		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	98.7		P	85 - 115
Copper	101		P	85 - 115
Lead	98.0		P	85 - 115
Nickel	101		P	85 - 115
Selenium	100		P	85 - 115
Silver	109		P	85 - 115
Thallium	106		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398190

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398194

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P397988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P397549

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P397546

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P397438

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8270E

Batch ID: P397411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	92.7	87.8	P/P	70 - 121
Alachlor	94.5	92.4	P/P	70 - 119
Ametryn	99.9	89.9	P/P	61 - 135
Atrazine	97.8	97.1	P/P	76 - 123
Atrazine Desethyl	77.5	75.7	P/P	35 - 140
Azinphos Methyl	104	109	P/P	57 - 163
Azoxystrobin	133	153	P/P	43 - 231
Bromacil	74.7	79.7	P/P	42 - 123
Butylate	55.3	49.3	P/P	34 - 92.0
Caffeine	108	105	P/P	70 - 130
Carbophenothion	98.8	106	P/P	61 - 121
Carfentrazone Ethyl	87.9	92.9	P/P	62 - 139
Chlorpyrifos Ethyl	94.7	92.1	P/P	67 - 121
Chlorpyrifos Methyl	92.7	93.7	P/P	67 - 120
Cyanazine	96.9	98.6	P/P	20 - 226
Demeton	81.1	75.9	P/P	35 - 125
Diazinon	94.2	90.2	P/P	70 - 122
Difenoconazole	125	131	P/P	56 - 186
Dimethenamid	92.5	87.6	P/P	67 - 119
Disulfoton	81.6	81.8	P/P	47 - 120
Dithiopyr	83.5	89.2	P/P	67 - 118
EPTC	51.9	49.8	P/P	33 - 90.0
Ethion	78.2	74.8	P/P	40 - 133
Ethoprop	83.6	80.4	P/P	61 - 121
Fenamiphos	91.7	95.7	P/P	31 - 139
Fenbuconazole	97.9	98.8	P/P	66 - 141
Fipronil	91.2	90.4	P/P	62 - 129
Fipronil Desulfinyl	89.9	88.3	P/P	59 - 126
Fipronil Sulfide	82.6	83.5	P/P	63 - 117
Fipronil Sulfone	82.3	85.0	P/P	57 - 117
Fluazifop-P-butyl	90.6	97.7	P/P	63 - 124
Fludioxonil	87.6	93.2	P/P	63 - 123
Flumioxazin	112	77.2	P/P	34 - 245
Flutolanil	87.2	85.0	P/P	56 - 131

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P397411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	86.1	89.0	P/P	57 - 117
Fonofos	88.2	84.0	P/P	61 - 116
Hexazinone	92.3	89.8	P/P	55 - 138
Imazalil	101	116	P/P	33 - 143
Iprodione	72.7	62.5	P/P	59 - 118
Malathion	97.0	97.3	P/P	62 - 138
Metalaxyl	93.3	90.6	P/P	24 - 147
Metolachlor	90.4	84.6	P/P	68 - 118
Metribuzin	88.4	97.8	P/P	20 - 239
Mevinphos	81.4	78.4	P/P	46 - 124
Molinate	64.6	60.0	P/P	46 - 100
Myclobutanil	87.4	88.7	P/P	32 - 149
Naled	40.7	37.6	P/P	32 - 95.0
Norflurazon	96.6	97.1	P/P	57 - 127
Oxadiazon	94.6	95.7	P/P	63 - 118
Oxyfluorfen	106	104	P/P	69 - 137
Parathion Ethyl	83.8	91.5	P/P	70 - 113
Parathion Methyl	94.9	99.2	P/P	71 - 130
Pendimethalin	94.7	97.8	P/P	55 - 118
Phorate	79.2	79.7	P/P	46 - 125
Prodiamine	55.2	94.7	P/P	20 - 141
Prometon	91.3	88.1	P/P	54 - 122
Prometryn	90.5	93.4	P/P	66 - 124
Pronamide	92.9	95.0	P/P	79 - 122
Propiconazole	88.9	93.8	P/P	61 - 126
Pyriproxyfen	83.9	85.2	P/P	52 - 131
Simazine	92.6	94.8	P/P	75 - 128
Sulfentrazone	44.9	34.9	P/P	20 - 132
Tebuconazole	68.1	63.8	P/P	20 - 116
Terbufos	87.3	84.4	P/P	61 - 117
Terbutylazine	98.0	93.9	P/P	74 - 116

Reference Method: EPA 8270E

Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	72.1	65.4	P/P	20 - 150
Alpha-BHC	89.7	86.1	P/P	50 - 150
Alpha-Chlordane	78.9	92.3	P/P	50 - 150
Beta-BHC	88.0	96.1	P/P	50 - 150
Beta-Cyfluthrin	122	143	P/P	50 - 150
Bifenthrin	81.0	80.4	P/P	40 - 150
Chlorothalonil	97.9	98.4	P/P	20 - 150
Cis-Nonachlor	82.0	95.1	P/P	50 - 150
Cypermethrin	119	141	P/P	50 - 150
Dacthal	89.8	91.2	P/P	50 - 150
DDD-p,p'	79.6	88.1	P/P	50 - 150
DDE-p,p'	72.3	82.9	P/P	50 - 150
DDT-p,p'	80.3	77.0	P/P	50 - 150
Delta-BHC	95.4	99.4	P/P	50 - 150
Deltamethrin	127	145	P/P	50 - 150
Dichlobenil	50.2	44.4	P/P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dicofol	101	99.0	P/P	50 - 150
Dieldrin	76.7	83.6	P/P	50 - 150
Endosulfan I	80.5	82.8	P/P	50 - 150
Endosulfan II	78.4	83.7	P/P	50 - 150
Endosulfan Sulfate	87.5	102	P/P	50 - 150
Endrin	79.5	85.1	P/P	50 - 150
Endrin Aldehyde	91.3	96.8	P/P	50 - 150
Endrin Ketone	86.2	93.9	P/P	50 - 150
Esfenvalerate	145	181	P/F	50 - 150
Ethalfuralin	83.4	83.1	P/P	50 - 150
Fenpropathrin	91.6	96.5	P/P	50 - 150
Gamma-BHC	95.8	88.6	P/P	50 - 150
Gamma-Chlordane	82.3	89.7	P/P	50 - 150
Heptachlor	69.3	73.0	P/P	50 - 150
Heptachlor Epoxide	87.6	88.8	P/P	50 - 150
Hexachlorobenzene	74.9	71.6	P/P	50 - 150
Kepone	31.6	106	F/P	50 - 150
Lambda-Cyhalothrin	161	206	F/F	50 - 150
Methoxychlor	105	91.9	P/P	50 - 150
MGK-264	90.9	107	P/P	50 - 150
Mirex	140	155	P/F	50 - 150
Permethrin	120	135	P/P	50 - 150
Phenothrin	69.9	71.9	P/P	30 - 150
Piperonyl Butoxide	94.2	96.5	P/P	50 - 150
Prallethrin	59.1	66.8	P/P	40 - 150
Tau-Fluvalinate	88.0	98.2	P/P	40 - 150
Tetramethrin	80.9	67.3	P/P	40 - 150
Trans-Nonachlor	80.9	90.3	P/P	50 - 150
Triclosan Methyl	80.9	89.3	P/P	50 - 150
Trifluralin	82.1	79.2	P/P	50 - 150

Reference Method: EPA 8276
Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	96.4	94.9	P/P	56 - 117
Toxaphene	79.3	81.1	P/P	45 - 116

Reference Method: EPA 8321B
Batch ID: P397178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	158		P	30 - 160
2,4,5-T	133		P	30 - 160
Acetaminophen	99.2		P	30 - 150
Acetamiprid	103		P	30 - 160
Afidopyropen	84.6		P	30 - 160
Bentazon	48.6		P	30 - 150
Benzovindiflupyr	104		P	30 - 160
Carbamazepine	106		P	30 - 160
Clothianidin	115		P	30 - 160
Dinotefuran	113		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P397178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	78.6		P	30 - 160
Fenuron	112		P	30 - 160
Fluridone	122		P	30 - 160
Hydrocodone	123		P	30 - 160
Ibuprofen	109		P	30 - 160
Imazapyr	123		P	30 - 160
Imidacloprid	132		P	30 - 160
Linuron	83.7		P	30 - 160
Mandestrobin	91.4		P	30 - 160
MCPP	152		P	30 - 160
Naproxen	86.4		P	30 - 160
Primidone	101		P	30 - 160
Pyraclostrobin	90.8		P	30 - 160
Thiamethoxam	138		P	30 - 160
Tolfenpyrad	74.3		P	30 - 160
Triclopyr	150		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P397284

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	107		P	30 - 160
Aldicarb	107		P	30 - 150
Aldicarb Sulfone	109		P	30 - 160
Aldicarb Sulfoxide	77.6		P	30 - 160
Carbaryl	81.1		P	30 - 160
Carbofuran	87.6		P	30 - 160
Methiocarb	72.8		P	30 - 160
Methomyl	97.1		P	30 - 160
Oxamyl	103		P	30 - 160
Propoxur	81.2		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P397317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	116		P	40 - 150
AMPA	98.5		P	40 - 150
Endothall	99.3		P	40 - 150
Glufosinate	78.1		P	40 - 150
Glyphosate	88.0		P	40 - 140
Sucralose	97.5		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P397355

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P397356

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

Reference Method: SM 2320 B-2011
Batch ID: P397927

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

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P397803

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242695	Barium	94.9		P	80 - 120
2242695	Calcium	105		P	80 - 120
2242695	Iron	103		P	80 - 120
2242695	Magnesium	99.9		P	80 - 120
2242695	Manganese	98.0		P	80 - 120
2242695	Potassium	100		P	80 - 120
2242695	Sodium	102		P	80 - 120
2242695	Zinc	94.9		P	80 - 120
2243491	Barium	96.3	101	P/P	80 - 120
2243491	Calcium	102		P	80 - 120
2243491	Iron	109	106	P/P	80 - 120
2243491	Magnesium	110	106	P/P	80 - 120
2243491	Manganese	99.3	104	P/P	80 - 120
2243491	Potassium	101	98.5	P/P	80 - 120
2243491	Sodium	100		P	80 - 120
2243491	Zinc	98.1	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242695	Aluminum	98.9		P	80 - 120
2242695	Antimony	102		P	80 - 120
2242695	Arsenic	102		P	80 - 120
2242695	Beryllium	96.0		P	80 - 120
2242695	Boron	108		P	80 - 120
2242695	Cadmium	102		P	80 - 120
2242695	Chromium	95.9		P	80 - 120
2242695	Copper	100		P	80 - 120
2242695	Lead	101		P	80 - 120
2242695	Nickel	100		P	80 - 120
2242695	Selenium	98.8		P	80 - 120
2242695	Silver	105		P	80 - 120
2242695	Thallium	111		P	80 - 120
2243491	Aluminum	97.5	94.3	P/P	80 - 120
2243491	Antimony	102	99.8	P/P	80 - 120
2243491	Arsenic	103	100	P/P	80 - 120
2243491	Beryllium	98.6	97.9	P/P	80 - 120
2243491	Boron	104	102	P/P	80 - 120
2243491	Cadmium	100	100	P/P	80 - 120
2243491	Chromium	96.8	95.0	P/P	80 - 120
2243491	Copper	101	98.7	P/P	80 - 120
2243491	Lead	97.9	99.5	P/P	80 - 120
2243491	Nickel	98.7	97.5	P/P	80 - 120
2243491	Selenium	100	98.2	P/P	80 - 120
2243491	Silver	108	106	P/P	80 - 120
2243491	Thallium	111	107	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398190

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: P398190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243251	Chloride	101		P	90 - 110
2243260	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243251	Sulfate	102		P	90 - 110
2243260	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243268	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243450	Kjeldahl Nitrogen	105	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397546

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243466	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243450	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243470	O-Phosphate-P	96.2	95.5	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P397411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242785	Acetochlor	99.0	87.4	P/P	66 - 122
2242785	Alachlor	100	80.7	P/P	65 - 122
2242785	Ametryn	210	222	F/F	45 - 173
2242785	Atrazine Desethyl	59.9	50.2	P/P	25 - 150
2242785	Azinphos Methyl	113	98.9	P/P	44 - 174
2242785	Bromacil	90.9	87.5	P/P	31 - 145
2242785	Butylate	41.4	40.0	P/P	15 - 97.0
2242785	Caffeine	105	112	P/P	70 - 130

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P397411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242785	Carbophenothion	77.5	81.5	P/P	42 - 129
2242785	Carfentrazone Ethyl	68.9	76.8	P/P	62 - 145
2242785	Chlorpyrifos Ethyl	98.1	75.3	P/P	60 - 124
2242785	Chlorpyrifos Methyl	96.1	82.0	P/P	66 - 119
2242785	Cyanazine	99.9	92.9	P/P	17 - 225
2242785	Demeton	86.4	82.8	P/P	36 - 142
2242785	Diazinon	93.7	80.1	P/P	70 - 128
2242785	Difenoconazole	132	107	P/P	33 - 222
2242785	Dimethenamid	82.7	76.7	P/P	54 - 125
2242785	Disulfoton	85.1	69.6	P/P	49 - 133
2242785	Dithiopyr	84.3	75.3	P/P	55 - 123
2242785	EPTC	53.3	48.9	P/P	19 - 91.0
2242785	Ethion	64.8	73.0	P/P	13 - 143
2242785	Ethoprop	102	88.7	P/P	49 - 144
2242785	Fenamiphos	90.1	80.1	P/P	32 - 136
2242785	Fenbuconazole	105	82.2	P/P	73 - 148
2242785	Fipronil	91.7	84.0	P/P	57 - 129
2242785	Fipronil Desulfinyl	78.5	73.3	P/P	49 - 127
2242785	Fipronil Sulfide	81.9	72.5	P/P	44 - 127
2242785	Fipronil Sulfone	81.0	69.7	P/P	35 - 126
2242785	Fluazifop-P-butyl	83.2	74.9	P/P	67 - 129
2242785	Fludioxonil	101	81.7	P/P	61 - 126
2242785	Flumioxazin	152	119	P/P	38 - 279
2242785	Flutolanil	63.5	61.9	P/P	55 - 136
2242785	Fluxapyroxad	81.6	81.7	P/P	33 - 140
2242785	Fonofos	88.3	84.2	P/P	58 - 125
2242785	Hexazinone	93.2	88.9	P/P	57 - 148
2242785	Imazalil	67.2	67.2	P/P	10 - 221
2242785	Iprodione	80.0	75.9	P/P	32 - 140
2242785	Malathion	97.7	90.0	P/P	52 - 138
2242785	Metalaxyl	91.4	77.8	P/P	46 - 134
2242785	Metolachlor	82.2	74.4	P/P	58 - 122
2242785	Metribuzin	126	97.6	P/P	16 - 272
2242785	Mevinphos	100	87.4	P/P	45 - 140
2242785	Molinate	71.3	63.9	P/P	41 - 103
2242785	Naled	48.6	45.1	P/P	20 - 113
2242785	Norflurazon	93.7	75.6	P/P	51 - 123
2242785	Oxadiazon	64.2	52.3	P/P	44 - 125
2242785	Oxyfluorfen	67.2	81.0	P/P	66 - 176
2242785	Parathion Ethyl	107	96.7	P/P	57 - 132
2242785	Parathion Methyl	128	109	P/P	59 - 156
2242785	Pendimethalin	117	99.6	P/P	59 - 129
2242785	Phorate	108	80.4	P/P	47 - 136
2242785	Prodiamine	55.3	49.7	P/P	10 - 159
2242785	Prometon	93.7	82.5	P/P	59 - 127
2242785	Prometryn	81.5	70.7	P/P	59 - 129
2242785	Pronamide	89.2	82.8	P/P	65 - 145
2242785	Propiconazole	78.1	58.6	P/P	28 - 165
2242785	Pyriproxyfen	69.9	68.1	P/P	21 - 180
2242785	Simazine	130	106	P/P	63 - 147
2242785	Sulfentrazone	84.3	73.1	P/P	32 - 136
2242785	Tebuconazole	39.9	58.5	P/P	10 - 117

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P397411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242785	Terbufos	91.5	80.6	P/P	61 - 131
2242785	Terbutylazine	91.9	86.6	P/P	62 - 126

Reference Method: EPA 8270E

Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243931	Aldrin	62.8	63.5	P/P	20 - 170
2243931	Alpha-BHC	89.6	84.8	P/P	50 - 170
2243931	Alpha-Chlordane	81.6	67.6	P/P	50 - 170
2243931	Beta-BHC	108	98.8	P/P	50 - 170
2243931	Beta-Cyfluthrin	99.9	90.9	P/P	50 - 170
2243931	Bifenthrin	56.7	59.2	P/P	40 - 170
2243931	Chlorothalonil	68.3	40.3	P/P	20 - 170
2243931	Cis-Nonachlor	86.5	64.9	P/P	50 - 170
2243931	Cypermethrin	95.3	86.7	P/P	50 - 170
2243931	Dacthal	101	89.2	P/P	50 - 170
2243931	DDD-p,p'	80.7	64.4	P/P	50 - 170
2243931	DDE-p,p'	77.0	61.4	P/P	50 - 170
2243931	DDT-p,p'	72.7	63.1	P/P	50 - 170
2243931	Delta-BHC	112	98.0	P/P	50 - 170
2243931	Deltamethrin	40.2	49.7	F/F	50 - 170
2243931	Dichlobenil	47.5	49.2	P/P	40 - 170
2243931	Dicofol	93.7	83.4	P/P	50 - 170
2243931	Dieldrin	84.5	71.4	P/P	50 - 170
2243931	Endosulfan I	85.0	71.8	P/P	50 - 170
2243931	Endosulfan II	87.9	75.0	P/P	50 - 170
2243931	Endosulfan Sulfate	97.0	86.9	P/P	50 - 170
2243931	Endrin	85.0	69.8	P/P	50 - 170
2243931	Endrin Aldehyde	97.0	91.8	P/P	50 - 170
2243931	Endrin Ketone	97.0	90.6	P/P	50 - 170
2243931	Esfenvalerate	103	98.6	P/P	50 - 170
2243931	Ethalfuralin	76.3	71.9	P/P	50 - 170
2243931	Fenpropathrin	80.6	69.8	P/P	50 - 170
2243931	Gamma-BHC	94.7	88.9	P/P	50 - 170
2243931	Gamma-Chlordane	83.9	69.5	P/P	50 - 170
2243931	Heptachlor	62.8	57.1	P/P	50 - 170
2243931	Heptachlor Epoxide	92.1	78.2	P/P	50 - 170
2243931	Hexachlorobenzene	61.7	56.7	P/P	50 - 170
2243931	Kepone	107	90.3	P/P	50 - 170
2243931	Lambda-Cyhalothrin	111	110	P/P	50 - 170
2243931	Methoxychlor	88.9	92.6	P/P	50 - 170
2243931	MGK-264	114	107	P/P	50 - 170
2243931	Mirex	137	106	P/P	50 - 170
2243931	Permethrin	88.4	80.4	P/P	50 - 170
2243931	Phenothrin	70.3	59.7	P/P	30 - 170
2243931	Piperonyl Butoxide	96.4	90.3	P/P	50 - 170
2243931	Prallethrin	76.0	66.5	P/P	40 - 170
2243931	Tau-Fluvalinate	71.9	66.7	P/P	40 - 170
2243931	Tetramethrin	78.3	92.7	P/P	40 - 170
2243931	Trans-Nonachlor	82.4	66.6	P/P	50 - 170
2243931	Triclosan Methyl	88.0	73.6	P/P	50 - 170

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243931	Trifluralin	76.0	69.8	P/P	50 - 170

Reference Method: EPA 8276
Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243496	Chlordane	86.5	84.8	P/P	47 - 128
2243496	Toxaphene	77.2	72.9	P/P	11 - 163

Reference Method: EPA 8321B
Batch ID: P397178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242748	2,4,5-T	133	133	P/P	30 - 160
2242748	Acetaminophen	76.1	68.7	P/P	30 - 150
2242748	Acetamiprid	115	114	P/P	30 - 160
2242748	Afidopyropen	110	101	P/P	30 - 160
2242748	Benzovindiflupyr	99.0	92.5	P/P	30 - 160
2242748	Carbamazepine	97.1	90.2	P/P	30 - 160
2242748	Clothianidin	119	117	P/P	30 - 160
2242748	Dinotefuran	157	139	P/P	30 - 160
2242748	Diuron	65.3	59.4	P/P	30 - 160
2242748	Fenuron	110	100	P/P	30 - 160
2242748	Hydrocodone	125	121	P/P	30 - 160
2242748	Ibuprofen	102	70.2	P/P	30 - 160
2242748	Imidacloprid	240	219	F/F	30 - 160
2242748	Linuron	92.8	76.5	P/P	30 - 160
2242748	Mandestrobin	112	96.4	P/P	30 - 160
2242748	MCPP	167	157	F/P	30 - 160
2242748	Naproxen	97.7	79.2	P/P	30 - 160
2242748	Primidone	113	131	P/P	30 - 160
2242748	Pyraclostrobin	98.1	87.3	P/P	30 - 160
2242748	Thiamethoxam	193	190	F/F	30 - 160
2242748	Tolfenpyrad	74.2	73.5	P/P	30 - 160
2242748	Triclopyr	141	131	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P397284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243020	3-Hydroxycarbofuran	115	109	P/P	30 - 160
2243020	Aldicarb	135	135	P/P	30 - 150
2243020	Aldicarb Sulfone	132	123	P/P	30 - 160
2243020	Aldicarb Sulfoxide	40.1	36.9	P/P	30 - 160
2243020	Carbaryl	61.8	62.5	P/P	30 - 160
2243020	Carbofuran	70.8	67.7	P/P	30 - 160
2243020	Methiocarb	78.0	69.4	P/P	30 - 160
2243020	Methomyl	102	95.8	P/P	30 - 160
2243020	Oxamyl	107	102	P/P	30 - 160
2243020	Propoxur	63.8	62.0	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P397317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243483	Acesulfame K	93.0	95.2	P/P	40 - 150
2243483	AMPA	96.9	85.6	P/P	40 - 150
2243483	Endothall	108	108	P/P	40 - 150
2243483	Glufosinate	72.5	88.5	P/P	40 - 150
2243483	Glyphosate	70.5	70.2	P/P	40 - 140
2243483	Sucralose	67.8	68.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243503	Fluoride	97.4	98.5	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P397803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243469	Organic Carbon	95.5	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P397353

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243392	Turbidity	8.92	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397909

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243491	Barium	4.59	Spike	P	0 - 20
2243491	Calcium	0.289	Spike	P	0 - 20
2243491	Iron	2.59	Spike	P	0 - 20
2243491	Magnesium	2.42	Spike	P	0 - 20
2243491	Manganese	4.51	Spike	P	0 - 20
2243491	Potassium	1.64	Spike	P	0 - 20
2243491	Sodium	0.186	Spike	P	0 - 20
2243491	Zinc	4.90	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397909

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243491	Aluminum	2.53	Spike	P	0 - 20
2243491	Antimony	1.93	Spike	P	0 - 20
2243491	Arsenic	2.39	Spike	P	0 - 20
2243491	Beryllium	0.737	Spike	P	0 - 20
2243491	Boron	1.38	Spike	P	0 - 20
2243491	Cadmium	0.230	Spike	P	0 - 20
2243491	Chromium	1.79	Spike	P	0 - 20
2243491	Copper	1.77	Spike	P	0 - 20
2243491	Lead	1.65	Spike	P	0 - 20
2243491	Nickel	1.24	Spike	P	0 - 20
2243491	Selenium	1.77	Spike	P	0 - 20
2243491	Silver	1.90	Spike	P	0 - 20
2243491	Thallium	3.48	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398190

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243251	Chloride	0.401	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P398194

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243251	Sulfate	0.456	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P397988

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243268	Ammonia-N	0.465	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P397549

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243450	Kjeldahl Nitrogen	1.65	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P397546

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243466	NO2NO3-N	0.881	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P397438

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243450	Total-P	1.11	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397346

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243470	O-Phosphate-P	0.424	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P397411

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242785	Acetochlor	12.5	Spike	P	0 - 30
2242785	Alachlor	21.8	Spike	P	0 - 30
2242785	Ametryn	5.28	Spike	P	0 - 30
2242785	Atrazine	3.54	Spike	P	0 - 30
2242785	Atrazine Desethyl	12.1	Spike	P	0 - 30
2242785	Azinphos Methyl	13.3	Spike	P	0 - 30
2242785	Azoxystrobin	4.94	Spike	P	0 - 30
2242785	Bromacil	3.80	Spike	P	0 - 30
2242785	Butylate	3.59	Spike	P	0 - 30
2242785	Caffeine	6.36	Spike	P	0 - 30
2242785	Carbophenothion	5.04	Spike	P	0 - 30
2242785	Carfentrazone Ethyl	10.8	Spike	P	0 - 30
2242785	Chlorpyrifos Ethyl	26.3	Spike	P	0 - 30
2242785	Chlorpyrifos Methyl	15.9	Spike	P	0 - 30
2242785	Cyanazine	7.28	Spike	P	0 - 30
2242785	Demeton	4.30	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P397411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242785	Diazinon	15.7	Spike	P	0 - 30
2242785	Difenoconazole	21.2	Spike	P	0 - 30
2242785	Dimethenamid	7.50	Spike	P	0 - 30
2242785	Disulfoton	20.0	Spike	P	0 - 30
2242785	Dithiopyr	11.3	Spike	P	0 - 30
2242785	EPTC	8.51	Spike	P	0 - 30
2242785	Ethion	11.9	Spike	P	0 - 30
2242785	Ethoprop	13.9	Spike	P	0 - 30
2242785	Fenamiphos	11.7	Spike	P	0 - 30
2242785	Fenbuconazole	24.7	Spike	P	0 - 30
2242785	Fipronil	8.76	Spike	P	0 - 30
2242785	Fipronil Desulfinyl	6.42	Spike	P	0 - 30
2242785	Fipronil Sulfide	8.54	Spike	P	0 - 30
2242785	Fipronil Sulfone	12.8	Spike	P	0 - 30
2242785	Fluazifop-P-butyl	10.5	Spike	P	0 - 30
2242785	Fludioxonil	21.1	Spike	P	0 - 30
2242785	Flumioxazin	24.6	Spike	P	0 - 30
2242785	Flutolanil	2.16	Spike	P	0 - 30
2242785	Fluxapyroxad	0.158	Spike	P	0 - 30
2242785	Fonofos	4.80	Spike	P	0 - 30
2242785	Hexazinone	4.80	Spike	P	0 - 30
2242785	Imazalil	0.0335	Spike	P	0 - 30
2242785	Iprodione	5.28	Spike	P	0 - 30
2242785	Malathion	8.16	Spike	P	0 - 30
2242785	Metalaxyl	16.1	Spike	P	0 - 30
2242785	Metolachlor	10.0	Spike	P	0 - 30
2242785	Metribuzin	25.4	Spike	P	0 - 30
2242785	Mevinphos	13.7	Spike	P	0 - 30
2242785	Molinate	10.9	Spike	P	0 - 30
2242785	Myclobutanil	1.77	Spike	P	0 - 30
2242785	Naled	7.44	Spike	P	0 - 30
2242785	Norflurazon	21.4	Spike	P	0 - 30
2242785	Oxadiazon	17.4	Spike	P	0 - 30
2242785	Oxyfluorfen	18.6	Spike	P	0 - 30
2242785	Parathion Ethyl	10.6	Spike	P	0 - 30
2242785	Parathion Methyl	15.5	Spike	P	0 - 30
2242785	Pendimethalin	16.2	Spike	P	0 - 30
2242785	Phorate	28.9	Spike	P	0 - 30
2242785	Prodiamine	10.7	Spike	P	0 - 30
2242785	Prometon	11.2	Spike	P	0 - 30
2242785	Prometryn	14.2	Spike	P	0 - 30
2242785	Pronamide	7.34	Spike	P	0 - 30
2242785	Propiconazole	21.7	Spike	P	0 - 30
2242785	Pyriproxyfen	2.53	Spike	P	0 - 30
2242785	Simazine	20.1	Spike	P	0 - 30
2242785	Sulfentrazone	8.57	Spike	P	0 - 30
2242785	Tebuconazole	13.5	Spike	P	0 - 30
2242785	Terbufos	12.7	Spike	P	0 - 30
2242785	Terbuthylazine	6.00	Spike	P	0 - 30
LFB	Acetochlor	5.45	LCS	P	0 - 30
LFB	Alachlor	2.24	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P397411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Ametryn	10.5	LCS	P	0 - 30
LFB	Atrazine	0.777	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.35	LCS	P	0 - 30
LFB	Azinphos Methyl	4.83	LCS	P	0 - 30
LFB	Azoxystrobin	14.2	LCS	P	0 - 30
LFB	Bromacil	6.52	LCS	P	0 - 30
LFB	Butylate	11.6	LCS	P	0 - 30
LFB	Caffeine	3.45	LCS	P	0 - 30
LFB	Carbophenothion	6.62	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	5.57	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.86	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.13	LCS	P	0 - 30
LFB	Cyanazine	1.79	LCS	P	0 - 30
LFB	Demeton	6.62	LCS	P	0 - 30
LFB	Diazinon	4.31	LCS	P	0 - 30
LFB	Difenoconazole	5.20	LCS	P	0 - 30
LFB	Dimethenamid	5.43	LCS	P	0 - 30
LFB	Disulfoton	0.226	LCS	P	0 - 30
LFB	Dithiopyr	6.66	LCS	P	0 - 30
LFB	EPTC	4.11	LCS	P	0 - 30
LFB	Ethion	4.38	LCS	P	0 - 30
LFB	Ethoprop	3.95	LCS	P	0 - 30
LFB	Fenamiphos	4.25	LCS	P	0 - 30
LFB	Fenbuconazole	0.886	LCS	P	0 - 30
LFB	Fipronil	0.886	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.85	LCS	P	0 - 30
LFB	Fipronil Sulfide	1.00	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.23	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	7.59	LCS	P	0 - 30
LFB	Fludioxonil	6.22	LCS	P	0 - 30
LFB	Flumioxazin	36.7	LCS	F	0 - 30
LFB	Flutolanil	2.55	LCS	P	0 - 30
LFB	Fluxapyroxad	3.42	LCS	P	0 - 30
LFB	Fonofos	4.91	LCS	P	0 - 30
LFB	Hexazinone	2.78	LCS	P	0 - 30
LFB	Imazalil	13.3	LCS	P	0 - 30
LFB	Iprodione	15.0	LCS	P	0 - 30
LFB	Malathion	0.293	LCS	P	0 - 30
LFB	Metalaxyl	2.90	LCS	P	0 - 30
LFB	Metolachlor	6.60	LCS	P	0 - 30
LFB	Metribuzin	10.0	LCS	P	0 - 30
LFB	Mevinphos	3.73	LCS	P	0 - 30
LFB	Molinate	7.46	LCS	P	0 - 30
LFB	Myclobutanil	1.41	LCS	P	0 - 30
LFB	Naled	7.91	LCS	P	0 - 30
LFB	Norflurazon	0.512	LCS	P	0 - 30
LFB	Oxadiazon	1.08	LCS	P	0 - 30
LFB	Oxyfluorfen	1.90	LCS	P	0 - 30
LFB	Parathion Ethyl	8.73	LCS	P	0 - 30
LFB	Parathion Methyl	4.42	LCS	P	0 - 30
LFB	Pendimethalin	3.18	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P397411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	0.601	LCS	P	0 - 30
LFB	Prodiamine	52.7	LCS	F	0 - 30
LFB	Prometon	3.50	LCS	P	0 - 30
LFB	Prometryn	3.15	LCS	P	0 - 30
LFB	Pronamide	2.21	LCS	P	0 - 30
LFB	Propiconazole	5.44	LCS	P	0 - 30
LFB	Pyriproxyfen	1.53	LCS	P	0 - 30
LFB	Simazine	2.33	LCS	P	0 - 30
LFB	Sulfentrazone	25.1	LCS	P	0 - 30
LFB	Tebuconazole	6.47	LCS	P	0 - 30
LFB	Terbufos	3.43	LCS	P	0 - 30
LFB	Terbutylazine	4.27	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243931	Aldrin	1.19	Spike	P	0 - 30
2243931	Alpha-BHC	5.42	Spike	P	0 - 30
2243931	Alpha-Chlordane	18.7	Spike	P	0 - 30
2243931	Beta-BHC	8.66	Spike	P	0 - 30
2243931	Beta-Cyfluthrin	9.44	Spike	P	0 - 30
2243931	Bifenthrin	4.32	Spike	P	0 - 30
2243931	Chlorothalonil	51.6	Spike	F	0 - 50
2243931	Cis-Nonachlor	28.6	Spike	P	0 - 30
2243931	Cypermethrin	9.36	Spike	P	0 - 30
2243931	Dacthal	12.2	Spike	P	0 - 30
2243931	DDD-p,p'	22.4	Spike	P	0 - 30
2243931	DDE-p,p'	22.5	Spike	P	0 - 30
2243931	DDT-p,p'	14.1	Spike	P	0 - 30
2243931	Delta-BHC	13.6	Spike	P	0 - 30
2243931	Deltamethrin	21.3	Spike	P	0 - 30
2243931	Dichlobenil	3.48	Spike	P	0 - 30
2243931	Dicofol	11.7	Spike	P	0 - 30
2243931	Dieldrin	16.8	Spike	P	0 - 30
2243931	Endosulfan I	16.9	Spike	P	0 - 30
2243931	Endosulfan II	15.8	Spike	P	0 - 30
2243931	Endosulfan Sulfate	11.0	Spike	P	0 - 30
2243931	Endrin	19.6	Spike	P	0 - 30
2243931	Endrin Aldehyde	5.50	Spike	P	0 - 30
2243931	Endrin Ketone	6.89	Spike	P	0 - 30
2243931	Esfenvalerate	4.71	Spike	P	0 - 30
2243931	Ethalfuralin	6.00	Spike	P	0 - 30
2243931	Fenpropathrin	14.3	Spike	P	0 - 30
2243931	Gamma-BHC	6.30	Spike	P	0 - 30
2243931	Gamma-Chlordane	18.7	Spike	P	0 - 30
2243931	Heptachlor	9.45	Spike	P	0 - 30
2243931	Heptachlor Epoxide	16.2	Spike	P	0 - 30
2243931	Hexachlorobenzene	8.44	Spike	P	0 - 30
2243931	Kepone	17.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243931	Lambda-Cyhalothrin	0.149	Spike	P	0 - 30
2243931	Methoxychlor	4.11	Spike	P	0 - 30
2243931	MGK-264	6.43	Spike	P	0 - 30
2243931	Mirex	25.8	Spike	P	0 - 30
2243931	Permethrin	9.56	Spike	P	0 - 30
2243931	Phenothrin	16.3	Spike	P	0 - 30
2243931	Piperonyl Butoxide	6.50	Spike	P	0 - 30
2243931	Prallethrin	13.3	Spike	P	0 - 30
2243931	Tau-Fluvalinate	7.51	Spike	P	0 - 30
2243931	Tetramethrin	16.8	Spike	P	0 - 30
2243931	Trans-Nonachlor	21.2	Spike	P	0 - 30
2243931	Triclosan Methyl	17.9	Spike	P	0 - 30
2243931	Trifluralin	8.46	Spike	P	0 - 30
LFB	Aldrin	9.68	LCS	P	0 - 30
LFB	Alpha-BHC	4.05	LCS	P	0 - 30
LFB	Alpha-Chlordane	15.7	LCS	P	0 - 30
LFB	Beta-BHC	8.88	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	16.2	LCS	P	0 - 30
LFB	Bifenthrin	0.780	LCS	P	0 - 30
LFB	Chlorothalonil	0.492	LCS	P	0 - 50
LFB	Cis-Nonachlor	14.7	LCS	P	0 - 30
LFB	Cypermethrin	16.7	LCS	P	0 - 30
LFB	Dacthal	1.54	LCS	P	0 - 30
LFB	DDD-p,p'	10.1	LCS	P	0 - 30
LFB	DDE-p,p'	13.7	LCS	P	0 - 30
LFB	DDT-p,p'	4.25	LCS	P	0 - 30
LFB	Delta-BHC	4.11	LCS	P	0 - 30
LFB	Deltamethrin	13.3	LCS	P	0 - 30
LFB	Dichlobenil	12.3	LCS	P	0 - 30
LFB	Dicofol	1.86	LCS	P	0 - 30
LFB	Dieldrin	8.57	LCS	P	0 - 30
LFB	Endosulfan I	2.83	LCS	P	0 - 30
LFB	Endosulfan II	6.52	LCS	P	0 - 30
LFB	Endosulfan Sulfate	15.5	LCS	P	0 - 30
LFB	Endrin	6.80	LCS	P	0 - 30
LFB	Endrin Aldehyde	5.88	LCS	P	0 - 30
LFB	Endrin Ketone	8.47	LCS	P	0 - 30
LFB	Esfenvalerate	22.4	LCS	P	0 - 30
LFB	Ethfluralin	0.412	LCS	P	0 - 30
LFB	Fenpropathrin	5.15	LCS	P	0 - 30
LFB	Gamma-BHC	7.86	LCS	P	0 - 30
LFB	Gamma-Chlordane	8.58	LCS	P	0 - 30
LFB	Heptachlor	5.23	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.36	LCS	P	0 - 30
LFB	Hexachlorobenzene	4.47	LCS	P	0 - 30
LFB	Kepone	108	LCS	F	0 - 30
LFB	Lambda-Cyhalothrin	24.6	LCS	P	0 - 30
LFB	Methoxychlor	13.7	LCS	P	0 - 30
LFB	MGK-264	16.6	LCS	P	0 - 30
LFB	Mirex	10.3	LCS	P	0 - 30
LFB	Permethrin	12.1	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phenothrin	2.80	LCS	P	0 - 30
LFB	Piperonyl Butoxide	2.38	LCS	P	0 - 30
LFB	Prallethrin	12.3	LCS	P	0 - 30
LFB	Tau-Fluvalinate	10.9	LCS	P	0 - 30
LFB	Tetramethrin	18.4	LCS	P	0 - 30
LFB	Trans-Nonachlor	11.0	LCS	P	0 - 30
LFB	Triclosan Methyl	9.93	LCS	P	0 - 30
LFB	Trifluralin	3.60	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243496	Chlordane	1.88	Spike	P	0 - 30
2243496	Toxaphene	5.67	Spike	P	0 - 30
LFB	Chlordane	1.57	LCS	P	0 - 30
LFB	Toxaphene	2.35	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P397178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242748	2,4-D	13.1	Spike	P	0 - 30
2242748	2,4,5-T	0.240	Spike	P	0 - 30
2242748	Acetaminophen	6.34	Spike	P	0 - 30
2242748	Acetamiprid	1.15	Spike	P	0 - 30
2242748	Afidopyropen	8.41	Spike	P	0 - 30
2242748	Bentazon	10.0	Spike	P	0 - 30
2242748	Benzovindiflupyr	6.88	Spike	P	0 - 30
2242748	Carbamazepine	7.35	Spike	P	0 - 30
2242748	Clothianidin	1.46	Spike	P	0 - 30
2242748	Dinotefuran	12.2	Spike	P	0 - 30
2242748	Diuron	8.74	Spike	P	0 - 30
2242748	Fenuron	9.17	Spike	P	0 - 30
2242748	Fluridone	12.9	Spike	P	0 - 30
2242748	Hydrocodone	3.42	Spike	P	0 - 30
2242748	Ibuprofen	36.6	Spike	F	0 - 30
2242748	Imazapyr	21.2	Spike	P	0 - 30
2242748	Imidacloprid	8.57	Spike	P	0 - 30
2242748	Linuron	19.2	Spike	P	0 - 30
2242748	Mandestrobin	15.2	Spike	P	0 - 30
2242748	MCPP	5.72	Spike	P	0 - 30
2242748	Naproxen	20.9	Spike	P	0 - 30
2242748	Primidone	14.7	Spike	P	0 - 30
2242748	Pyraclostrobin	11.7	Spike	P	0 - 30
2242748	Thiamethoxam	1.55	Spike	P	0 - 30
2242748	Tolfenpyrad	0.894	Spike	P	0 - 30
2242748	Triclopyr	7.50	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P397284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243020	3-Hydroxycarbofuran	5.45	Spike	P	0 - 30
2243020	Aldicarb	0.178	Spike	P	0 - 30
2243020	Aldicarb Sulfone	7.17	Spike	P	0 - 30
2243020	Aldicarb Sulfoxide	8.28	Spike	P	0 - 30
2243020	Carbaryl	1.13	Spike	P	0 - 30
2243020	Carbofuran	4.49	Spike	P	0 - 30
2243020	Methiocarb	11.7	Spike	P	0 - 30
2243020	Methomyl	6.70	Spike	P	0 - 30
2243020	Oxamyl	4.64	Spike	P	0 - 30
2243020	Propoxur	2.81	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P397317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243483	Acesulfame K	2.34	Spike	P	0 - 30
2243483	AMPA	11.1	Spike	P	0 - 30
2243483	Endothall	0.408	Spike	P	0 - 30
2243483	Glufosinate	19.9	Spike	P	0 - 30
2243483	Glyphosate	0.392	Spike	P	0 - 30
2243483	Sucralose	0.193	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P397355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243233	Color (true)	3.92	Sample	P	0 - 20

Reference Method: SM 2120 B-2011

Batch ID: P397356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243589	Color (true)	4.53	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P397927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243103	Total Alkalinity	1.66	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011

Batch ID: P397786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243503	TDS	2.10	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P397524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243503	Fluoride	0.929	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P397803

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243469	Organic Carbon	0.649	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2243482

Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	51.9	P	30 - 160

Lab Sample ID: 2243483

Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	138	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	113	P	30 - 160
EPA 8321B	Diuron-d6	70.7	P	30 - 160
EPA 8321B	Endothall-d6	81.3	P	40 - 160
EPA 8321B	Endothall-d6	81.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	40 - 160
EPA 8321B	Ibuprofen-d3	74.8	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	76.9	P	30 - 160
EPA 8321B	Sucralose-d6	76.9	P	30 - 160

Lab Sample ID: 2243484

Field Sample ID: G4NW0531

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	153	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	139	P	30 - 160
EPA 8321B	Diuron-d6	79.7	P	30 - 160
EPA 8321B	Endothall-d6	83.2	P	40 - 160
EPA 8321B	Endothall-d6	83.2	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	117	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	117	P	40 - 160
EPA 8321B	Ibuprofen-d3	104	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	84.5	P	30 - 160
EPA 8321B	Sucralose-d6	84.5	P	30 - 160

Lab Sample ID: 2243485

Field Sample ID: G4NW0278

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	142	P	30 - 160
EPA 8321B	Acetaminophen-d4	114	P	30 - 160
EPA 8321B	Carbamazepine-d10	126	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	79.3	P	40 - 160
EPA 8321B	Endothall-d6	79.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	136	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	136	P	40 - 160
EPA 8321B	Ibuprofen-d3	95.1	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	97.9	P	30 - 160
EPA 8321B	Sucralose-d6	97.9	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2243486
Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	150	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	136	P	30 - 160
EPA 8321B	Diuron-d6	89.6	P	30 - 160
EPA 8321B	Endothall-d6	86.3	P	40 - 160
EPA 8321B	Endothall-d6	86.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	98.6	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	98.6	P	40 - 160
EPA 8321B	Ibuprofen-d3	109	P	30 - 160
EPA 8321B	Primidone-d5	117	P	30 - 160
EPA 8321B	Sucralose-d6	87.3	P	30 - 160
EPA 8321B	Sucralose-d6	87.3	P	30 - 160

Lab Sample ID: 2243488
Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	100	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	65.0	P	30 - 110
EPA 8276	Decachlorobiphenyl	74.0	P	29 - 92.0
EPA 8276	PCNB	86.8	P	43 - 134

Lab Sample ID: 2243489
Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	74.1	P	20 - 200
EPA 8270E	Simazine-d10	116	P	73 - 135
EPA 8270E	Terbufos-d10	102	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A105061

Included Lab Sample IDs: 2243467, 2243470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	99.5	P/P	90 - 110
O-Phosphate-P	99.9	99.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105062

Included Lab Sample IDs: 2243465, 2243468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A105063

Included Lab Sample IDs: 2243465, 2243468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A105072

Included Lab Sample IDs: 2243483, 2243484, 2243485, 2243486

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.2	116	P/P	40 - 160
AMPA	74.7	78.9	P/P	40 - 160
Endothall	98.4	105	P/P	40 - 160
Glufosinate	81.4	92.2	P/P	40 - 160
Glyphosate	85.9	90.6	P/P	40 - 160

Reference Method: EPA 8321B

Run ID: A105098

Included Lab Sample IDs: 2243483, 2243484, 2243485, 2243486

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	108	P/P	50 - 150
2,4,5-T	127	116	P/P	50 - 150
3-Hydroxycarbofuran	130	131	P/P	60 - 150
Acetaminophen	116	115	P/P	60 - 160
Acetamiprid	126	119	P/P	50 - 150
Afidopyropen	125	128	P/P	50 - 150
Aldicarb	91.6	105	P/P	60 - 150
Aldicarb Sulfone	122	120	P/P	50 - 150
Aldicarb Sulfoxide	105	115	P/P	50 - 150
Bentazon	134	141	P/P	50 - 160
Benzovindiflupyr	110	124	P/P	50 - 160
Carbamazepine	114	118	P/P	60 - 150
Carbaryl	120	123	P/P	60 - 150
Carbofuran	108	114	P/P	50 - 150
Clothianidin	132	124	P/P	60 - 150
Dinotefuran	128	127	P/P	50 - 150
Diuron	116	109	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A105098

Included Lab Sample IDs: 2243483, 2243484, 2243485, 2243486

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	117	115	P/P	60 - 150
Fluridone	122	133	P/P	60 - 160
Hydrocodone	132	134	P/P	60 - 150
Ibuprofen	116	71.3	P/P	50 - 160
Imazapyr	120	131	P/P	50 - 150
Imidacloprid	108	123	P/P	60 - 150
Linuron	106	111	P/P	60 - 150
Mandestrobin	121	119	P/P	50 - 150
MCPP	110	95.6	P/P	50 - 150
Methiocarb	117	121	P/P	50 - 150
Methomyl	121	120	P/P	50 - 150
Naproxen	151	146	P/P	50 - 160
Oxamyl	120	122	P/P	50 - 150
Primidone	126	112	P/P	60 - 150
Propoxur	116	114	P/P	50 - 150
Pyraclostrobin	121	115	P/P	60 - 150
Thiamethoxam	136	147	P/P	50 - 150
Tolfenpyrad	108	128	P/P	60 - 150
Triclopyr	123	124	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105105

Included Lab Sample IDs: 2243466, 2243469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105119

Included Lab Sample IDs: 2243465, 2243468

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105129

Included Lab Sample IDs: 2243466, 2243469

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

Reference Method: EPA 8321B

Run ID: A105138

Included Lab Sample IDs: 2243483, 2243484, 2243485, 2243486

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	102	103	P/P	60 - 160
Sucralose	91.1	102	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105166

Included Lab Sample IDs: 2243466, 2243469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	96.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A105235

Included Lab Sample IDs: 2243466, 2243469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	96.8	P/P	90 - 110
Organic Carbon	97.8	97.4	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A105254

Included Lab Sample IDs: 2243489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	94.8		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	96.4		P	80 - 120
Atrazine Desethyl	101		P	80 - 120
Azinphos Methyl	95.5		P	80 - 120
Azoxystrobin	96.0		P	80 - 120
Bromacil	98.7		P	80 - 120
Butylate	97.3		P	80 - 120
Caffeine	102		P	80 - 120
Carbophenothion	100		P	80 - 120
Carfentrazone Ethyl	87.1		P	80 - 120
Chlorpyrifos Ethyl	98.5		P	80 - 120
Chlorpyrifos Methyl	95.1		P	80 - 120
Cyanazine	97.0		P	80 - 120
Demeton	91.5		P	80 - 120
Diazinon	98.9		P	80 - 120
Difenoconazole	92.7		P	80 - 120
Dimethenamid	93.7		P	80 - 120
Disulfoton	91.4		P	80 - 120
Dithiopyr	97.1		P	80 - 120
EPTC	97.3		P	80 - 120
Ethion	88.5		P	80 - 120
Ethoprop	98.2		P	80 - 120
Fenamiphos	85.2		P	80 - 120
Fenbuconazole	95.2		P	80 - 120
Fipronil	92.1		P	80 - 120
Fipronil Desulfinyl	95.8		P	80 - 120
Fipronil Sulfide	93.2		P	80 - 120
Fipronil Sulfone	90.4		P	80 - 120
Fluazifop-P-butyl	89.7		P	80 - 120
Fludioxonil	93.0		P	80 - 120
Flumioxazin	92.0		P	80 - 120
Flutolanil	93.1		P	80 - 120
Fluxapyroxad	91.7		P	80 - 120
Fonofos	95.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A105254
Included Lab Sample IDs: 2243489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hexazinone	96.8		P	80 - 120
Imazalil	102		P	80 - 120
Iprodione	94.3		P	80 - 120
Malathion	89.4		P	80 - 120
Metalaxyl	104		P	80 - 120
Metolachlor	94.3		P	80 - 120
Metribuzin	90.7		P	80 - 120
Mevinphos	97.5		P	80 - 120
Molinate	101		P	80 - 120
Myclobutanil	93.2		P	80 - 120
Naled	101		P	80 - 120
Norflurazon	96.7		P	80 - 120
Oxadiazon	97.2		P	80 - 120
Oxyfluorfen	94.0		P	80 - 120
Parathion Ethyl	91.6		P	80 - 120
Parathion Methyl	100		P	80 - 120
Pendimethalin	97.6		P	80 - 120
Phorate	99.2		P	80 - 120
Prodiamine	95.4		P	80 - 120
Prometon	98.9		P	80 - 120
Prometryn	101		P	80 - 120
Pronamide	99.7		P	80 - 120
Propiconazole	96.5		P	80 - 120
Pyriproxyfen	89.4		P	80 - 120
Simazine	88.8		P	80 - 120
Sulfentrazone	82.7		P	80 - 120
Tebuconazole	93.3		P	80 - 120
Terbufos	92.8		P	80 - 120
Terbutylazine	100		P	80 - 120

Reference Method: EPA 8276
Run ID: A105262
Included Lab Sample IDs: 2243488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	102		P	80 - 120

Reference Method: SM 2320 B-2011
Run ID: A105297
Included Lab Sample IDs: 2243465, 2243468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.0	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A105305
Included Lab Sample IDs: 2243488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A105305
Included Lab Sample IDs: 2243488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alpha-BHC	96.8		P	80 - 120
Alpha-Chlordane	99.2		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	95.1		P	80 - 120
Bifenthrin	95.0		P	80 - 120
Chlorothalonil	92.7		P	80 - 120
Cis-Nonachlor	104		P	80 - 120
Cypermethrin	91.1		P	80 - 120
Dacthal	99.5		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	101		P	80 - 120
DDT-p,p'	99.9		P	80 - 120
Delta-BHC	96.8		P	80 - 120
Deltamethrin	91.0		P	80 - 120
Dichlobenil	107		P	80 - 120
Dicofol	104		P	80 - 120
Dieldrin	98.8		P	80 - 120
Endosulfan I	95.9		P	80 - 120
Endosulfan II	95.3		P	80 - 120
Endosulfan Sulfate	105		P	80 - 120
Endrin	98.4		P	80 - 120
Endrin Aldehyde	106		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	94.6		P	80 - 120
Ethalfuralin	96.6		P	80 - 120
Fenpropathrin	103		P	80 - 120
Gamma-BHC	97.6		P	80 - 120
Gamma-Chlordane	102		P	80 - 120
Heptachlor	98.1		P	80 - 120
Heptachlor Epoxide	99.6		P	80 - 120
Hexachlorobenzene	100		P	80 - 120
Kepone	102		P	80 - 120
Lambda-Cyhalothrin	95.6		P	80 - 120
Methoxychlor	95.9		P	80 - 120
MGK-264	99.5		P	80 - 120
Mirex	98.2		P	80 - 120
Permethrin	98.3		P	80 - 120
Phenothrin	98.3		P	80 - 120
Piperonyl Butoxide	95.6		P	80 - 120
Prallethrin	97.2		P	80 - 120
Tau-Fluvalinate	96.1		P	80 - 120
Tetramethrin	91.4		P	80 - 120
Trans-Nonachlor	105		P	80 - 120
Triclosan Methyl	102		P	80 - 120
Trifluralin	98.7		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A105340
Included Lab Sample IDs: 2243466, 2243469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105340

Included Lab Sample IDs: 2243466, 2243469

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105346

Included Lab Sample IDs: 2243491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	101	102	P/P	90 - 110
Arsenic	103	101	P/P	90 - 110
Beryllium	105	104	P/P	90 - 110
Boron	103	106	P/P	90 - 110
Chromium	96.6	97.4	P/P	90 - 110
Copper	101	99.6	P/P	90 - 110
Nickel	101	100	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A105358

Included Lab Sample IDs: 2243491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	95.5	93.1	P/P	90 - 110
Calcium	105	100	P/P	90 - 110
Iron	102	97.7	P/P	90 - 110
Magnesium	101	97.0	P/P	90 - 110
Manganese	98.8	96.2	P/P	90 - 110
Potassium	99.5	96.2	P/P	90 - 110
Sodium	99.9	96.5	P/P	90 - 110
Zinc	98.3	96.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105385

Included Lab Sample IDs: 2243491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	99.3	99.4	P/P	90 - 110
Lead	102	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A105392

Included Lab Sample IDs: 2243465, 2243468

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

Quality Assurance Report

Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105423

Included Lab Sample IDs: 2243491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	91.5	95.1	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							8.92	
EPA 200.7 Rev. 4.4	Barium	93.4		94.9	96.3	101			4.59
	Calcium	100		105	102				0.289
	Iron	103		103	109	106			2.59
	Magnesium	103		99.9	110	106			2.42
	Manganese	96.3		98.0	99.3	104			4.51
	Potassium	94.9		100	101	98.5			1.64
	Sodium	92.7		102	100				0.186
	Zinc	93.5		94.9	98.1	103			4.90
EPA 200.8 Rev. 5.4	Aluminum	98.6		97.5	94.3	98.9			2.53
	Antimony	103		102	99.8	102			1.93
	Arsenic	102		103	100	102			2.39
	Beryllium	100		98.6	97.9	96.0			0.737
	Boron	104		104	102	108			1.38
	Cadmium	102		100	100	102			0.230
	Chromium	98.7		96.8	95.0	95.9			1.79
	Copper	101		101	98.7	100			1.77
	Lead	98.0		97.9	99.5	101			1.65
	Nickel	101		98.7	97.5	100			1.24
	Selenium	100		100	98.2	98.8			1.77
	Silver	109		108	106	105			1.90
	Thallium	106		111	107	111			3.48
EPA 300.0 Rev. 2.1	Chloride	101		101	101			0.401	
	Sulfate	102		102	102			0.456	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8		101	102				0.465
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		105	109				1.65
EPA 353.2 Rev. 2.0	NO2NO3-N	102		101	102				0.881
EPA 365.1 Rev. 2.0	Total-P	104		104	105				1.11
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0		96.2	95.5				0.424
EPA 8270E	Acetochlor	92.7	87.8	99.0	87.4		5.45		12.5
	Alachlor	94.5	92.4	100	80.7		2.24		21.8
	Aldrin	65.4	72.1	62.8	63.5		9.68		1.19
	Alpha-BHC	86.1	89.7	89.6	84.8		4.05		5.42
	Alpha-Chlordane	92.3	78.9	81.6	67.6		15.7		18.7
	Ametryn	99.9	89.9	210	222		10.5		5.28
	Atrazine	97.8	97.1				0.777		3.54
	Atrazine Desethyl	77.5	75.7	50.2	59.9		2.35		12.1
	Azinphos Methyl	104	109	98.9	113		4.83		13.3
	Azoxystrobin	133	153				14.2		4.94
	Beta-BHC	88.0	96.1	108	98.8		8.88		8.66
	Beta-Cyfluthrin	122	143	99.9	90.9		16.2		9.44
	Bifenthrin	81.0	80.4	56.7	59.2		0.780		4.32
	Bromacil	74.7	79.7	87.5	90.9		6.52		3.80
	Butylate	55.3	49.3	40.0	41.4		11.6		3.59
	Caffeine	108	105	105	112		3.45		6.36
	Carbophenothion	98.8	106	77.5	81.5		6.62		5.04
	Carfentrazone Ethyl	87.9	92.9	68.9	76.8		5.57		10.8
	Chlorothalonil	97.9	98.4	68.3	40.3		0.492		51.6
	Chlorpyrifos Ethyl	94.7	92.1	98.1	75.3		2.86		26.3
	Chlorpyrifos Methyl	92.7	93.7	96.1	82.0		1.13		15.9
	Cis-Nonachlor	82.0	95.1	86.5	64.9		14.7		28.6
	Cyanazine	96.9	98.6	99.9	92.9		1.79		7.28
	Cypermethrin	141	119	95.3	86.7		16.7		9.36
	Dacthal	91.2	89.8	101	89.2		1.54		12.2

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	DDD-p,p'	88.1	79.6	80.7	64.4	10.1	22.4
	DDE-p,p'	82.9	72.3	77.0	61.4	13.7	22.5
	DDT-p,p'	77.0	80.3	72.7	63.1	4.25	14.1
	Delta-BHC	99.4	95.4	112	98.0	4.11	13.6
	Deltamethrin	145	127	40.2	49.7	13.3	21.3
	Demeton	81.1	75.9	86.4	82.8	6.62	4.30
	Diazinon	94.2	90.2	93.7	80.1	4.31	15.7
	Dichlobenil	44.4	50.2	47.5	49.2	12.3	3.48
	Dicofol	99.0	101	93.7	83.4	1.86	11.7
	Dieldrin	83.6	76.7	84.5	71.4	8.57	16.8
	Difenoconazole	125	131	132	107	5.20	21.2
	Dimethenamid	92.5	87.6	82.7	76.7	5.43	7.50
	Disulfoton	81.6	81.8	85.1	69.6	0.226	20.0
	Dithiopyr	83.5	89.2	84.3	75.3	6.66	11.3
	Endosulfan I	82.8	80.5	85.0	71.8	2.83	16.9
	Endosulfan II	78.4	83.7	87.9	75.0	6.52	15.8
	Endosulfan Sulfate	102	87.5	97.0	86.9	15.5	11.0
	Endrin	85.1	79.5	85.0	69.8	6.80	19.6
	Endrin Aldehyde	96.8	91.3	97.0	91.8	5.88	5.50
	Endrin Ketone	93.9	86.2	97.0	90.6	8.47	6.89
	EPTC	51.9	49.8	53.3	48.9	4.11	8.51
	Esfenvalerate	181	145	103	98.6	22.4	4.71
	Ethalfuralin	83.1	83.4	76.3	71.9	0.412	6.00
	Ethion	78.2	74.8	64.8	73.0	4.38	11.9
	Ethoprop	83.6	80.4	102	88.7	3.95	13.9
	Fenamiphos	91.7	95.7	90.1	80.1	4.25	11.7
	Fenbuconazole	97.9	98.8	105	82.2	0.886	24.7
	Fenpropathrin	96.5	91.6	80.6	69.8	5.15	14.3
	Fipronil	91.2	90.4	91.7	84.0	0.886	8.76
	Fipronil Desulfinyl	89.9	88.3	78.5	73.3	1.85	6.42
	Fipronil Sulfide	82.6	83.5	81.9	72.5	1.00	8.54
	Fipronil Sulfone	82.3	85.0	81.0	69.7	3.23	12.8
	Fluazifop-P-butyl	90.6	97.7	83.2	74.9	7.59	10.5
	Fludioxonil	87.6	93.2	101	81.7	6.22	21.1
	Flumioxazin	112	77.2	152	119	36.7	24.6
	Flutolanil	87.2	85.0	63.5	61.9	2.55	2.16
	Fluxapyroxad	86.1	89.0	81.6	81.7	3.42	0.158
	Fonofos	88.2	84.0	88.3	84.2	4.91	4.80
	Gamma-BHC	88.6	95.8	94.7	88.9	7.86	6.30
	Gamma-Chlordane	89.7	82.3	83.9	69.5	8.58	18.7
	Heptachlor	73.0	69.3	62.8	57.1	5.23	9.45
	Heptachlor Epoxide	88.8	87.6	92.1	78.2	1.36	16.2
	Hexachlorobenzene	71.6	74.9	61.7	56.7	4.47	8.44
	Hexazinone	92.3	89.8	93.2	88.9	2.78	4.80
	Imazalil	101	116	67.2	67.2	13.3	0.0335
	Iprodione	72.7	62.5	80.0	75.9	15.0	5.28
	Kepone	106	31.6	107	90.3	108	17.0
	Lambda-Cyhalothrin	206	161	111	110	24.6	0.149
	Malathion	97.0	97.3	97.7	90.0	0.293	8.16
	Metalaxyl	93.3	90.6	91.4	77.8	2.90	16.1
	Methoxychlor	105	91.9	88.9	92.6	13.7	4.11
	Metolachlor	90.4	84.6	82.2	74.4	6.60	10.0
	Metribuzin	88.4	97.8	126	97.6	10.0	25.4
	Mevinphos	81.4	78.4	100	87.4	3.73	13.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	MGK-264	90.9	107	114	107	16.6	6.43
	Mirex	140	155	137	106	10.3	25.8
	Molinate	64.6	60.0	71.3	63.9	7.46	10.9
	Myclobutanil	87.4	88.7			1.41	1.77
	Naled	40.7	37.6	48.6	45.1	7.91	7.44
	Norflurazon	96.6	97.1	75.6	93.7	0.512	21.4
	Oxadiazon	94.6	95.7	52.3	64.2	1.08	17.4
	Oxyfluorfen	106	104	81.0	67.2	1.90	18.6
	Parathion Ethyl	83.8	91.5	96.7	107	8.73	10.6
	Parathion Methyl	94.9	99.2	109	128	4.42	15.5
	Pendimethalin	94.7	97.8	99.6	117	3.18	16.2
	Permethrin	120	135	88.4	80.4	12.1	9.56
	Phenothrin	69.9	71.9	70.3	59.7	2.80	16.3
	Phorate	79.2	79.7	80.4	108	0.601	28.9
	Piperonyl Butoxide	94.2	96.5	96.4	90.3	2.38	6.50
	Prallethrin	59.1	66.8	76.0	66.5	12.3	13.3
	Prodiamine	55.2	94.7	49.7	55.3	52.7	10.7
	Prometon	91.3	88.1	82.5	93.7	3.50	11.2
	Prometryn	90.5	93.4	70.7	81.5	3.15	14.2
	Pronamide	92.9	95.0	82.8	89.2	2.21	7.34
	Propiconazole	88.9	93.8	58.6	78.1	5.44	21.7
	Pyriproxyfen	83.9	85.2	68.1	69.9	1.53	2.53
	Simazine	92.6	94.8	106	130	2.33	20.1
	Sulfentrazone	44.9	34.9	73.1	84.3	25.1	8.57
	Tau-Fluvalinate	88.0	98.2	71.9	66.7	10.9	7.51
	Tebuconazole	68.1	63.8	58.5	39.9	6.47	13.5
	Terbufos	87.3	84.4	80.6	91.5	3.43	12.7
	Terbuthylazine	98.0	93.9	86.6	91.9	4.27	6.00
	Tetramethrin	80.9	67.3	78.3	92.7	18.4	16.8
	Trans-Nonachlor	80.9	90.3	82.4	66.6	11.0	21.2
	Triclosan Methyl	80.9	89.3	88.0	73.6	9.93	17.9
	Trifluralin	82.1	79.2	76.0	69.8	3.60	8.46
EPA 8276	Chlordane	96.4	94.9	86.5	84.8	1.57	1.88
	Toxaphene	79.3	81.1	77.2	72.9	2.35	5.67
EPA 8321B	2,4-D	158					13.1
	2,4,5-T	133		133	133		0.240
	3-Hydroxycarbofuran	107		115	109		5.45
	Acesulfame K	116		93.0	95.2		2.34
	Acetaminophen	99.2		76.1	68.7		6.34
	Acetamiprid	103		115	114		1.15
	Afidopyropen	84.6		110	101		8.41
	Aldicarb	107		135	135		0.178
	Aldicarb Sulfone	109		132	123		7.17
	Aldicarb Sulfoxide	77.6		40.1	36.9		8.28
	AMPA	98.5		96.9	85.6		11.1
	Bentazon	48.6					10.0
	Benzovindiflupyr	104		99.0	92.5		6.88
	Carbamazepine	106		97.1	90.2		7.35
	Carbaryl	81.1		61.8	62.5		1.13
	Carbofuran	87.6		70.8	67.7		4.49
	Clothianidin	115		119	117		1.46
	Dinotefuran	113		157	139		12.2
	Diuron	78.6		65.3	59.4		8.74
	Endothall	99.3		108	108		0.408

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Fenuron	112	110	100			9.17
	Fluridone	122					12.9
	Glufosinate	78.1	72.5	88.5			19.9
	Glyphosate	88.0	70.5	70.2			0.392
	Hydrocodone	123	125	121			3.42
	Ibuprofen	109	102	70.2			36.6
	Imazapyr	123					21.2
	Imidacloprid	132	240	219			8.57
	Linuron	83.7	92.8	76.5			19.2
	Mandestrobin	91.4	112	96.4			15.2
	MCPP	152	167	157			5.72
	Methiocarb	72.8	78.0	69.4			11.7
	Methomyl	97.1	102	95.8			6.70
	Naproxen	86.4	97.7	79.2			20.9
	Oxamyl	103	107	102			4.64
	Primidone	101	113	131			14.7
	Propoxur	81.2	63.8	62.0			2.81
	Pyraclostrobin	90.8	98.1	87.3			11.7
	Sucralose	97.5	67.8	68.1			0.193
	Thiamethoxam	138	193	190			1.55
	Tolfenpyrad	74.3	74.2	73.5			0.894
	Triclopyr	150	141	131			7.50
SM 2120 B-2011	Color (true)	100				3.92	
	Color (true)	101				4.53	
SM 2320 B-2011	Total Alkalinity	100				1.66	
SM 2540 C-2011	TDS					2.10	
SM 4500 F-C-2011	Fluoride	99.6	97.4	98.5			0.929
SM 5310 B-2011	Organic Carbon	95.2	95.5	96.4			0.649

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2243465, 2243468
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2243491
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2243491
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2243465, 2243468
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2243465, 2243468
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2243466, 2243469
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2243466, 2243469
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2243466, 2243469
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2243466, 2243469
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2243467, 2243470
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2243488
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2243489
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2243488
EPA 8321B	Carbamates in water matrices by HPLC/MS/MS	2243482
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2243483, 2243484, 2243485, 2243486
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2243483, 2243484, 2243485, 2243486
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2243465, 2243468
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2243465, 2243468

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2243491
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2243465, 2243468
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2243465, 2243468
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2243465, 2243468
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2243466, 2243469

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	04/28/2021			04/28/2021 16:51	Sarah A Nixon	2243465, 2243468
EPA 200.7 Rev. 4.4	04/28/2021	05/10/2021 15:30	Elliott D. Healy	05/11/2021 17:45	Josef B Mick	2243491
EPA 200.8 Rev. 5.4	04/28/2021	05/10/2021 15:30	Elliott D. Healy	05/11/2021 15:09	Alexander Thompson	2243491
	04/28/2021	05/10/2021 15:30	Elliott D. Healy	05/12/2021 14:12	Alexander Thompson	2243491
	04/28/2021	05/10/2021 15:30	Elliott D. Healy	05/13/2021 15:49	McKinley C Carter	2243491
EPA 300.0 Rev. 2.1	04/28/2021			05/14/2021 07:19	Lipi Saha	2243465
	04/28/2021			05/14/2021 07:31	Lipi Saha	2243468
EPA 350.1 Rev. 2.0	04/28/2021			05/11/2021 13:05	Ping Hua	2243466
	04/28/2021			05/11/2021 13:06	Ping Hua	2243469
EPA 351.2 Rev. 2.0	04/28/2021	05/03/2021 13:05	Benjamin T. Nordmann	05/04/2021 14:03	Virginia P. Brown	2243466
	04/28/2021	05/03/2021 13:05	Benjamin T. Nordmann	05/04/2021 14:05	Virginia P. Brown	2243469
EPA 353.2 Rev. 2.0	04/28/2021			05/03/2021 11:31	Beverly Y. Sanders	2243466
	04/28/2021			05/03/2021 11:44	Beverly Y. Sanders	2243469
EPA 365.1 Rev. 2.0	04/28/2021	04/29/2021 15:25	Yen Ta	04/30/2021 12:16	Shengyu Ding	2243466
	04/28/2021	04/29/2021 15:25	Yen Ta	04/30/2021 12:17	Shengyu Ding	2243469
EPA 365.1 Rev. 2.0 dissolved	04/28/2021			04/28/2021 15:04	Patrick M. Roche	2243470
	04/28/2021			04/28/2021 15:17	Patrick M. Roche	2243467
EPA 8270E	04/28/2021	04/30/2021 08:25	Chiran X. Ghimire	05/03/2021 22:08	Michael Poppell	2243489
	04/28/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 22:47	Vandana T. Nagar	2243488
EPA 8276	04/28/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 05:41	Arthur Maknenko	2243488
EPA 8321B	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/28/2021 16:11	Rebecca Ware	2243483
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/28/2021 16:25	Rebecca Ware	2243484
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/28/2021 16:39	Rebecca Ware	2243485
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/28/2021 16:53	Rebecca Ware	2243486
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/29/2021 12:41	Rebecca Ware	2243483
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/29/2021 12:53	Rebecca Ware	2243484
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/29/2021 13:19	Rebecca Ware	2243485
	04/28/2021	04/28/2021 13:00	Rebecca Ware	04/29/2021 13:31	Rebecca Ware	2243486
	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 19:51	Juyoung Kim	2243483
	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 20:25	Juyoung Kim	2243484
	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 21:00	Juyoung Kim	2243485
	04/28/2021	04/28/2021 15:00	Hoor Shaik	05/01/2021 21:35	Juyoung Kim	2243486
	04/28/2021	04/29/2021 09:00	Hoor Shaik	05/02/2021 05:40	Juyoung Kim	2243482
SM 2120 B-2011	04/28/2021			04/28/2021 17:25	Madeline Gruver	2243465
	04/28/2021			04/28/2021 17:29	Madeline Gruver	2243468
SM 2320 B-2011	04/28/2021			05/11/2021 00:58	Dale L. Simmons	2243465
	04/28/2021			05/11/2021 01:05	Dale L. Simmons	2243468
SM 2340B	04/28/2021			05/11/2021 17:45	Josef B Mick	2243491
SM 2540 C-2011	04/28/2021			04/30/2021 15:21	Yijie Li	2243465, 2243468
SM 2540 D-2011	04/28/2021			04/30/2021 15:17	Yijie Li	2243465, 2243468

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-2011	04/28/2021			05/02/2021 07:03	Dale L. Simmons	2243465
	04/28/2021			05/02/2021 07:13	Dale L. Simmons	2243468
SM 5310 B-2011	04/28/2021			05/06/2021 00:12	Madeline Gruver	2243469
	04/28/2021			05/06/2021 02:08	Madeline Gruver	2243466