

Chemical Analysis Report

NW-DIST-2019-08-20-01

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

Event Description: **PENS/CANT RUN**

Request ID: **RQ-2019-08-19-41**

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: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 13-SEP-2019 15:01



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: Direct Runoff-Graveyard Branch @ Tradewinds Dr. **Collection Date/Time: 08/19/2019 13:00**

Field ID: G4NW0176

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112722	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P369370	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P369535	
		Sulfate	5.9		mg SO4/L	P369538	
		Color (true)	20		PCU	P369366	
	SM 2320 B-97	Total Alkalinity	39		mg CaCO3/L	P369865	
	SM 2540 C-97	TDS	61		mg/L	P369732	
	SM 2540 D-97	TSS	2	I	mg/L	P369702	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P369868	
2112723	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P369756	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P369509	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P369421	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P369512	
	SM 5310 B-00	Organic Carbon	2.0		mg C/L	P369458	
2112724	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369411	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Carpenter Creek upstream of 9th Avenue

Collection Date/Time: 08/19/2019 12:15

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112716	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P369370	
	EPA 300.0 Rev. 2.1	Chloride	8.2		mg Cl/L	P369535	
		Sulfate	5.0		mg SO4/L	P369538	
	SM 2120 B	Color (true)	12		PCU	P369366	
	SM 2320 B-97	Total Alkalinity	25		mg CaCO3/L	P369864	
	SM 2540 C-97	TDS	56		mg/L	P369731	
	SM 2540 D-97	TSS	2	U	mg/L	P369701	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P369867	
2112717	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P369756	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.11	I	mg N/L	P369509	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P369421	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P369512	
	SM 5310 B-00	Organic Carbon	1.2		mg C/L	P369458	
2112718	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P369411	
2112734	EPA 8321B	Aldicarb	0.020	U	ug/L	P369584	
		Aldicarb Sulfone	0.0020	U	ug/L	P369584	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P369584	
		Carbaryl	0.0020	U	ug/L	P369584	
		Carbofuran	0.0020	U	ug/L	P369584	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P369584	
		Methiocarb	0.0020	U	ug/L	P369584	
		Methomyl	0.0020	U	ug/L	P369584	
		Oxamyl	0.0020	U	ug/L	P369584	
		Propoxur	0.0020	U	ug/L	P369584	
2112735		2,4-D	0.0020	U	ug/L	P369393	
		Acesulfame K**	0.10	U	ug/L	P369340	
		AMPA**	0.17	I	ug/L	P369340	
		Sucralose**	0.25		ug/L	P369340	
		Acetaminophen**	0.0080	U	ug/L	P369393	
		Endothall**	0.25	U	ug/L	P369340	
		Acetamiprid**	0.0020	U	ug/L	P369393	
		Glufosinate**	0.10	U	ug/L	P369340	
		Glyphosate**	0.10	U	ug/L	P369340	
		Afidopyropen**	0.0020	UJ	ug/L	P369393	
		Bentazon	0.0013	I	ug/L	P369393	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369393	
		Carbamazepine**	0.0026	I	ug/L	P369393	
		Clothianidin**	0.0020	U	ug/L	P369393	
		Dinotefuran**	0.0020	U	ug/L	P369393	
		Diuron	0.0020	U	ug/L	P369393	
		Fenuron	0.016	U	ug/L	P369393	
		Fluridone**	8.0E-04	U	ug/L	P369393	
		Imazapyr**	0.032		ug/L	P369393	

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112735	EPA 8321B	Hydrocodone**	0.0020	U	ug/L	P369393	
		Ibuprofen**	0.020	U	ug/L	P369393	
		Imidacloprid	0.038		ug/L	P369393	MS
		Linuron	0.0040	U	ug/L	P369393	
		Mandestrobin**	0.0020	UJ	ug/L	P369393	
		MCP	0.0020	U	ug/L	P369393	
		Naproxen**	0.0080	U	ug/L	P369393	
		Primidone**	0.0040	U	ug/L	P369393	
		Pyraclostrobin**	0.0020	U	ug/L	P369393	
		Thiamethoxam**	0.0020	U	ug/L	P369393	MS
		Tolfenpyrad**	0.0020	U	ug/L	P369393	
		Triclopyr**	0.0040	U	ug/L	P369393	
2112738	EPA 8270E	Aldrin	4.3	U	ng/L	P369532	
		Alpha-BHC	2.2	U	ng/L	P369532	
		Alpha-Chlordane	1.1	U	ng/L	P369532	
		Beta-BHC	11	U	ng/L	P369532	
		Bifenthrin**	4.3	U	ng/L	P369532	
		Delta-BHC	8.6	U	ng/L	P369532	
		Gamma-BHC	8.6	U	ng/L	P369532	
		Carbophenothion	11	U	ng/L	P369532	
		Chlorothalonil	2.2	UJ	ng/L	P369532	MS
		Cis-Nonachlor**	1.1	U	ng/L	P369532	
		Cypermethrin	22	U	ng/L	P369532	
		DDD-p,p'	6.5	U	ng/L	P369532	
		DDE-p,p'	6.5	U	ng/L	P369532	
		DDT-p,p'	7.5	U	ng/L	P369532	
		Dicofol	32	U	ng/L	P369532	
		Dieldrin	4.3	U	ng/L	P369532	
		Endosulfan I	4.3	U	ng/L	P369532	
		Endosulfan II	4.3	U	ng/L	P369532	
		Endosulfan Sulfate	2.2	U	ng/L	P369532	
		Endrin	2.2	U	ng/L	P369532	
		Endrin Aldehyde	2.2	U	ng/L	P369532	
		Endrin Ketone	2.2	U	ng/L	P369532	
		Ethalfuralin**	3.2	U	ng/L	P369532	
		Gamma-Chlordane	1.1	U	ng/L	P369532	
		Heptachlor	1.6	U	ng/L	P369532	
		Heptachlor Epoxide	4.8	I	ng/L	P369532	
		Hexachlorobenzene	2.2	U	ng/L	P369532	
		Methoxychlor	4.3	UJ	ng/L	P369532	LCS
		Mirex	2.2	U	ng/L	P369532	
		Permethrin	11	U	ng/L	P369532	
		Trans-Nonachlor**	1.1	U	ng/L	P369532	
		Trifluralin	2.7	U	ng/L	P369532	
		Chlordane	5.4	U	ng/L	P369532	

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112738	EPA 8276	Toxaphene	32	U	ng/L	P369532	
2112739	EPA 8270E	Acetochlor	0.27	U	ng/L	P369838	
		Alachlor	0.27	U	ng/L	P369838	
		Ametryn	0.66	U	ng/L	P369838	
		Atrazine	14		ng/L	P369838	
		Atrazine Desethyl	6.1	IJ	ng/L	P369838	CCV, RPD
		Azinphos Methyl	5.5	U	ng/L	P369838	
		Bromacil	8.5		ng/L	P369838	
		Butylate	0.44	U	ng/L	P369838	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P369838	
		Chlorpyrifos Methyl	0.11	UJ	ng/L	P369838	LCS, RPD
		Cyanazine	3.6	UJ	ng/L	P369838	CCV, RPD
		Demeton	7.7	UJ	ng/L	P369838	RPD
		Diazinon	0.14	U	ng/L	P369838	
		Dimethenamid**	0.11	U	ng/L	P369838	
		Disulfoton	0.55	UJ	ng/L	P369838	LCS
		Dithiopyr**	0.11	U	ng/L	P369838	
		EPTC	1.4	UJ	ng/L	P369838	RPD
		Ethion	0.16	U	ng/L	P369838	
		Ethoprop	0.11	UJ	ng/L	P369838	RPD
		Fenamiphos	0.55	U	ng/L	P369838	
		Fipronil	2.6		ng/L	P369838	
		Fipronil Desulfinyl**	0.27	I	ng/L	P369838	
		Fipronil Sulfide	0.67		ng/L	P369838	
		Fipronil Sulfone	6.1		ng/L	P369838	
		Fonofos	0.22	UJ	ng/L	P369838	LCS, RPD
		Hexazinone	0.94	I	ng/L	P369838	
		Malathion	0.38	U	ng/L	P369838	
		Metalaxyl	0.33	U	ng/L	P369838	
		Metolachlor	0.55	U	ng/L	P369838	
		Metribuzin	0.82	UJ	ng/L	P369838	CCV
		Mevinphos	0.55	UJ	ng/L	P369838	RPD
		Molinate	0.33	UJ	ng/L	P369838	RPD
		Norflurazon	0.55	U	ng/L	P369838	
		Oxadiazon**	0.11	U	ng/L	P369838	
		Parathion Ethyl	0.27	U	ng/L	P369838	
		Parathion Methyl	0.60	U	ng/L	P369838	
		Pendimethalin	1.1	U	ng/L	P369838	
		Phorate	0.27	UJ	ng/L	P369838	RPD
		Prodiamine**	2.1	J	ng/L	P369838	RPD
		Prometon	2.1	I	ng/L	P369838	
		Prometryn	0.22	U	ng/L	P369838	
		Simazine	3.5		ng/L	P369838	
		Tebuconazole**	0.55	U	ng/L	P369838	
		Terbufos	0.11	UJ	ng/L	P369838	LCS, RPD

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112739	EPA 8270E	Terbutylazine	1.9		ng/L	P369838	
2112740	EPA 200.7 Rev. 4.4	Barium	28.8		ug/L	P369429	
		Calcium	9.79		mg/L	P369429	
		Iron	360		ug/L	P369429	
		Magnesium	2.26		mg/L	P369429	
		Manganese	21.5		ug/L	P369429	
		Potassium	0.88	I	mg/L	P369429	
		Sodium	6.3		mg/L	P369429	
		Zinc	5.0	U	ug/L	P369429	
	EPA 200.8 Rev. 5.4	Aluminum	66		ug/L	P369429	
		Antimony	0.050	U	ug/L	P369429	
		Arsenic	0.21		ug/L	P369429	
		Beryllium	0.014	I	ug/L	P369429	
		Boron**	24.4		ug/L	P369429	
		Cadmium	0.020	U	ug/L	P369429	
		Chromium	0.40	U	ug/L	P369429	
		Cobalt	0.219		ug/L	P369429	
		Copper	0.44	I	ug/L	P369429	
		Lead	0.22	I	ug/L	P369429	
		Molybdenum	0.15	U	ug/L	P369429	
		Nickel	0.50	U	ug/L	P369429	
		Selenium	0.30	I	ug/L	P369429	
		Silver	0.010	U	ug/L	P369429	
		Thallium	0.10	U	ug/L	P369429	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon, dinotefuran and imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: Refer to the narrative for an explanation of QC Codes.

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

Sample Location: Jones Creek upstream of N Navy Blvd

Collection Date/Time: 08/19/2019 11:20

Field ID: G4NW0429

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112719	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P369370	
	EPA 300.0 Rev. 2.1	Chloride	8.6		mg Cl/L	P369535	
		Sulfate	6.9		mg SO4/L	P369538	
	SM 2120 B	Color (true)	150		PCU	P369366	
	SM 2320 B-97	Total Alkalinity	8.2		mg CaCO3/L	P369864	
	SM 2540 C-97	TDS	66		mg/L	P369731	
	SM 2540 D-97	TSS	2	U	mg/L	P369701	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P369867	
2112720	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P369756	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P369509	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P369421	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P369512	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P369458	
2112721	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369411	
2112736	EPA 8321B	2,4-D	0.0020	U	ug/L	P369393	
		Acesulfame K**	0.10	U	ug/L	P369340	
		AMPA**	0.10	U	ug/L	P369340	
		Sucralose**	0.27		ug/L	P369340	
		Acetaminophen**	0.0080	U	ug/L	P369393	
		Endothall**	0.25	U	ug/L	P369340	
		Acetamiprid**	0.0020	U	ug/L	P369393	
		Glufosinate**	0.10	U	ug/L	P369340	
		Glyphosate**	0.10	U	ug/L	P369340	
		Afidopyropen**	0.0020	UJ	ug/L	P369393	
		Bentazon	0.0010	I	ug/L	P369393	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369393	
		Carbamazepine**	8.0E-04	U	ug/L	P369393	
		Clothianidin**	0.0020	U	ug/L	P369393	
		Dinotefuran**	0.0020	U	ug/L	P369393	
		Diuron	0.0020	U	ug/L	P369393	
		Fenuron	0.016	U	ug/L	P369393	
		Fluridone**	8.0E-04	U	ug/L	P369393	
		Imazapyr**	0.012	I	ug/L	P369393	
		Hydrocodone**	0.0020	U	ug/L	P369393	
		Ibuprofen**	0.020	U	ug/L	P369393	
		Imidacloprid	0.0022	I	ug/L	P369393	MS
		Linuron	0.0040	U	ug/L	P369393	
		Mandestrobin**	0.0020	UJ	ug/L	P369393	
		MCP	0.0020	U	ug/L	P369393	
		Naproxen**	0.0080	U	ug/L	P369393	
		Primidone**	0.0040	U	ug/L	P369393	
		Pyraclostrobin**	0.0020	U	ug/L	P369393	
		Thiamethoxam**	0.0020	U	ug/L	P369393	MS

Field ID: G4NW0429

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112736	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P369393	
		Triclopyr**	0.0040	U	ug/L	P369393	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon, dinotefuran and imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Ten Mile Creek upstream of Pine Forest Road Collection Date/Time: 08/19/2019 13:40

Field ID: G5NW0051

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2112737	EPA 8321B	2,4-D	0.0020	U	ug/L	P369393	
		Acesulfame K**	0.10	U	ug/L	P369340	
		AMPA**	0.10	U	ug/L	P369340	
		Sucralose**	0.30		ug/L	P369340	
		Acetaminophen**	0.059		ug/L	P369393	
		Endothall**	0.25	U	ug/L	P369340	
		Acetamiprid**	0.0020	U	ug/L	P369393	
		Glufosinate**	0.10	U	ug/L	P369340	
		Glyphosate**	0.10	U	ug/L	P369340	
		Afidopyropen**	0.0020	UJ	ug/L	P369393	
		Bentazon	8.0E-04	U	ug/L	P369393	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369393	
		Carbamazepine**	8.0E-04	U	ug/L	P369393	
		Clothianidin**	0.0020	U	ug/L	P369393	
		Dinotefuran**	0.0020	U	ug/L	P369393	
		Diuron	0.0020	U	ug/L	P369393	
		Fenuron	0.016	U	ug/L	P369393	
		Fluridone**	8.0E-04	U	ug/L	P369393	
		Imazapyr**	0.0086	I	ug/L	P369393	
		Hydrocodone**	0.0020	U	ug/L	P369393	
		Ibuprofen**	0.020	U	ug/L	P369393	
		Imidacloprid	0.012		ug/L	P369393	MS
		Linuron	0.0040	U	ug/L	P369393	
		Mandestrobin**	0.0020	UJ	ug/L	P369393	
		MCPP	0.0020	U	ug/L	P369393	
		Naproxen**	0.0080	U	ug/L	P369393	
		Primidone**	0.0048	I	ug/L	P369393	
		Pyraclostrobin**	0.0020	U	ug/L	P369393	
		Thiamethoxam**	0.0020	U	ug/L	P369393	MS
		Tolfenpyrad**	0.0020	U	ug/L	P369393	
		Triclopyr**	0.0040	U	ug/L	P369393	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon, dinotefuran and imazapyr 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: P369370

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369429

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: P369429

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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369535

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369538

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369756

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: P369509

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369421

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369512

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369411

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

Reference Method: EPA 8270E
Batch ID: P369532

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	10	U	ng/L
Bifenthrin	4.0	U	ng/L
Carbophenothion	10	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	6.0	U	ng/L
DDE-p,p'	6.0	U	ng/L
DDT-p,p'	7.0	U	ng/L
Delta-BHC	8.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Ethalfuralin	3.0	U	ng/L
Gamma-BHC	8.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P369532

Component	Result	Code	Units
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8270E
Batch ID: P369838

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.30	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P369838

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

Reference Method: EPA 8276
Batch ID: P369532

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P369340

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: P369393

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P369584

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: SM 2120 B
Batch ID: P369366

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P369864

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

Reference Method: SM 2320 B-97
Batch ID: P369865

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

Reference Method: SM 2540 C-97
Batch ID: P369731

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P369732

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369701

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369702

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P369867

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P369868

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369458

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: P369429

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	101		P	85 - 115
Iron	107		P	85 - 115
Magnesium	112		P	85 - 115
Manganese	102		P	85 - 115
Potassium	110		P	85 - 115
Sodium	104		P	85 - 115
Zinc	99.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369429

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	97.8		P	85 - 115
Arsenic	101		P	85 - 115
Beryllium	92.7		P	85 - 115
Boron	109		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.6		P	85 - 115
Cobalt	101		P	85 - 115
Copper	99.6		P	85 - 115
Lead	101		P	85 - 115
Molybdenum	99.1		P	85 - 115
Nickel	101		P	85 - 115
Selenium	104		P	85 - 115
Silver	106		P	85 - 115
Thallium	99.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369535

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369538

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369756

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369509

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369421

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369512

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369411

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

Reference Method: EPA 8270E
Batch ID: P369532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	22.3	20.1	P/P	20 - 93.0
Alpha-BHC	122	118	P/P	55 - 133
Alpha-Chlordane	84.0	86.1	P/P	58 - 112
Beta-BHC	145	147	P/P	54 - 168
Bifenthrin	75.1	82.6	P/P	30 - 134
Carbophenothion	81.8	79.3	P/P	26 - 147
Chlorothalonil	142	150	P/P	20 - 155
Cis-Nonachlor	84.9	88.6	P/P	54 - 115
Cypermethrin	80.1	87.7	P/P	40 - 137
DDD-p,p'	94.1	96.2	P/P	65 - 129
DDE-p,p'	80.6	82.5	P/P	57 - 116
DDT-p,p'	106	114	P/P	53 - 133
Delta-BHC	157	159	P/P	59 - 178
Dicofol	92.5	98.2	P/P	24 - 138
Dieldrin	89.8	95.1	P/P	60 - 120
Endosulfan I	90.9	92.3	P/P	64 - 118
Endosulfan II	110	111	P/P	58 - 142
Endosulfan Sulfate	99.3	105	P/P	60 - 127
Endrin	94.9	102	P/P	59 - 122
Endrin Aldehyde	110	118	P/P	49 - 132
Endrin Ketone	94.9	102	P/P	64 - 121
Ethalfuralin	102	100	P/P	60 - 126
Gamma-BHC	133	126	P/P	57 - 154
Gamma-Chlordane	81.3	83.3	P/P	56 - 110
Heptachlor	70.9	69.3	P/P	46 - 96.0
Heptachlor Epoxide	89.1	90.7	P/P	61 - 112
Hexachlorobenzene	84.2	73.2	P/P	44 - 98.0
Methoxychlor	125	140	P/F	63 - 134
Mirex	57.9	59.8	P/P	45 - 100
Permethrin	66.0	71.7	P/P	53 - 115
Trans-Nonachlor	79.1	81.5	P/P	47 - 110
Trifluralin	97.9	99.1	P/P	39 - 142

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P369838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	104	84.8	P/P	69 - 122
Alachlor	102	83.5	P/P	71 - 120
Ametryn	102	93.1	P/P	47 - 138
Atrazine	95.7	87.4	P/P	74 - 124
Atrazine Desethyl	84.1	54.0	P/P	38 - 138
Azinphos Methyl	106	87.8	P/P	69 - 154
Bromacil	89.8	73.4	P/P	39 - 121
Butylate	51.3	38.4	P/P	27 - 87.0
Chlorpyrifos Ethyl	87.6	78.7	P/P	69 - 118
Chlorpyrifos Methyl	91.5	67.5	P/F	70 - 120
Cyanazine	151	67.1	P/P	20 - 250
Demeton	69.8	42.0	P/P	39 - 118
Diazinon	96.4	75.0	P/P	68 - 127
Dimethenamid	102	84.5	P/P	66 - 125
Disulfoton	56.2	47.5	P/F	52 - 126
Dithiopyr	96.9	82.0	P/P	67 - 127
EPTC	63.3	43.9	P/P	24 - 88.0
Ethion	93.5	91.9	P/P	51 - 132
Ethoprop	92.9	63.4	P/P	58 - 117
Fenamiphos	90.5	77.5	P/P	38 - 139
Fipronil	115	97.8	P/P	61 - 124
Fipronil Desulfinyl	94.6	90.6	P/P	47 - 120
Fipronil Sulfide	96.1	87.6	P/P	56 - 119
Fipronil Sulfone	95.9	92.6	P/P	50 - 117
Fonofos	85.2	55.5	P/F	60 - 121
Hexazinone	97.1	106	P/P	55 - 137
Malathion	99.1	88.5	P/P	66 - 126
Metaxyl	97.7	83.5	P/P	33 - 140
Metolachlor	98.9	88.1	P/P	69 - 119
Metribuzin	101	77.6	P/P	31 - 238
Mevinphos	92.3	64.3	P/P	42 - 113
Molinate	78.2	51.3	P/P	32 - 96.0
Norflurazon	104	94.2	P/P	54 - 123
Oxadiazon	94.6	90.2	P/P	63 - 128
Parathion Ethyl	92.8	83.0	P/P	72 - 111
Parathion Methyl	94.2	80.0	P/P	74 - 126
Pendimethalin	85.2	72.1	P/P	61 - 131
Phorate	84.7	60.6	P/P	51 - 115
Prodiamine	75.2	71.1	P/P	38 - 144
Prometon	98.0	92.4	P/P	54 - 119
Prometryn	117	94.5	P/P	63 - 120
Simazine	105	92.5	P/P	75 - 126
Tebuconazole	76.8	97.3	P/P	20 - 119
Terbufos	83.3	55.6	P/F	64 - 116
Terbutylazine	95.7	88.8	P/P	73 - 117

Reference Method: EPA 8276
 Batch ID: P369532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	84.0	88.5	P/P	43 - 128
Toxaphene	71.3	71.5	P/P	38 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P369340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	148		P	40 - 150
AMPA	136		P	40 - 150
Endothall	98.5		P	40 - 150
Glufosinate	115		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	84.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P369393

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.0		P	40 - 160
Acetaminophen	80.1		P	30 - 160
Acetamiprid	84.7		P	40 - 160
Afidopyropen	90.3		P	40 - 160
Bentazon	94.0		P	30 - 160
Benzovindiflupyr	95.4		P	40 - 160
Carbamazepine	92.7		P	40 - 160
Clothianidin	83.2		P	40 - 160
Dinotefuran	92.0		P	40 - 160
Diuron	108		P	40 - 160
Fenuron	104		P	40 - 160
Fluridone	97.4		P	40 - 160
Hydrocodone	97.5		P	40 - 160
Ibuprofen	89.5		P	30 - 160
Imazapyr	109		P	40 - 160
Imidacloprid	108		P	40 - 160
Linuron	91.5		P	40 - 160
Mandestrobin	93.5		P	40 - 160
MCPP	103		P	40 - 160
Naproxen	89.3		P	40 - 160
Primidone	93.5		P	40 - 160
Pyraclostrobin	93.4		P	30 - 160
Thiamethoxam	103		P	40 - 160
Tolfenpyrad	59.6		P	40 - 160
Triclopyr	65.4		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P369584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	81.6		P	40 - 160
Aldicarb	71.0		P	30 - 160
Aldicarb Sulfone	84.5		P	40 - 160
Aldicarb Sulfoxide	77.7		P	40 - 160
Carbaryl	57.7		P	40 - 160
Carbofuran	71.7		P	40 - 160
Methiocarb	59.3		P	40 - 160
Methomyl	75.1		P	40 - 160
Oxamyl	77.4		P	40 - 160
Propoxur	75.0		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P369366

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

Reference Method: SM 2320 B-97
Batch ID: P369864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P369868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112740	Barium	101	102	P/P	80 - 120
2112740	Calcium	96.1		P	80 - 120
2112740	Iron	107	107	P/P	80 - 120
2112740	Magnesium	108	110	P/P	80 - 120
2112740	Manganese	99.9	101	P/P	80 - 120
2112740	Potassium	110	112	P/P	80 - 120
2112740	Sodium	99.2		P	80 - 120
2112740	Zinc	98.5	99.8	P/P	80 - 120
2112836	Barium	100		P	80 - 120
2112836	Calcium	92.1		P	80 - 120
2112836	Iron	104		P	80 - 120
2112836	Magnesium	105		P	80 - 120
2112836	Manganese	99.0		P	80 - 120
2112836	Potassium	106		P	80 - 120
2112836	Sodium	97.5		P	80 - 120
2112836	Zinc	99.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112740	Aluminum	102	102	P/P	80 - 120
2112740	Antimony	99.0	98.5	P/P	80 - 120
2112740	Arsenic	101	102	P/P	80 - 120
2112740	Beryllium	99.0	93.4	P/P	80 - 120
2112740	Boron	109	107	P/P	80 - 120
2112740	Cadmium	101	102	P/P	80 - 120
2112740	Chromium	100	101	P/P	80 - 120
2112740	Cobalt	100	101	P/P	80 - 120
2112740	Copper	99.4	100	P/P	80 - 120
2112740	Lead	102	101	P/P	80 - 120
2112740	Molybdenum	101	102	P/P	80 - 120
2112740	Nickel	101	102	P/P	80 - 120
2112740	Selenium	101	102	P/P	80 - 120
2112740	Silver	108	106	P/P	80 - 120
2112740	Thallium	101	102	P/P	80 - 120
2112836	Aluminum	102		P	80 - 120
2112836	Antimony	98.2		P	80 - 120
2112836	Arsenic	104		P	80 - 120
2112836	Beryllium	97.6		P	80 - 120
2112836	Boron	112		P	80 - 120
2112836	Cadmium	104		P	80 - 120
2112836	Chromium	101		P	80 - 120
2112836	Cobalt	103		P	80 - 120
2112836	Copper	100		P	80 - 120
2112836	Lead	105		P	80 - 120
2112836	Molybdenum	103		P	80 - 120
2112836	Nickel	104		P	80 - 120
2112836	Selenium	106		P	80 - 120
2112836	Silver	106		P	80 - 120
2112836	Thallium	111		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112376	Chloride	98.2		P	90 - 110
2112635	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369538

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112376	Sulfate	101		P	90 - 110
2112635	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112641	Ammonia-N	94.9	95.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112703	Kjeldahl Nitrogen	94.7	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112748	NO2NO3-N	94.0	93.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112703	Total-P	102	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112768	O-Phosphate-P	98.9	99.8	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P369532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112738	Aldrin	35.3	37.8	P/P	25 - 92.0
2112738	Alpha-BHC	124	109	P/P	48 - 150
2112738	Alpha-Chlordane	72.9	76.5	P/P	50 - 115
2112738	Beta-BHC	156	151	P/P	39 - 184
2112738	Bifenthrin	76.2	73.1	P/P	46 - 116
2112738	Carbophenothion	101	107	P/P	27 - 180
2112738	Chlorothalonil	224	182	F/P	10 - 216
2112738	Cis-Nonachlor	73.7	77.3	P/P	55 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P369532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112738	Cypermethrin	78.7	77.6	P/P	40 - 153
2112738	DDD-p,p'	83.2	85.2	P/P	53 - 128
2112738	DDE-p,p'	67.8	69.6	P/P	48 - 116
2112738	DDT-p,p'	94.8	88.8	P/P	47 - 128
2112738	Delta-BHC	177	171	P/P	48 - 221
2112738	Dicofol	87.4	80.9	P/P	10 - 147
2112738	Dieldrin	97.7	99.2	P/P	48 - 128
2112738	Endosulfan I	88.2	89.1	P/P	58 - 126
2112738	Endosulfan II	106	105	P/P	50 - 150
2112738	Endosulfan Sulfate	97.5	101	P/P	56 - 130
2112738	Endrin	95.8	97.0	P/P	50 - 126
2112738	Endrin Aldehyde	109	94.5	P/P	12 - 145
2112738	Endrin Ketone	101	98.2	P/P	59 - 132
2112738	Ethalfuralin	87.6	80.0	P/P	65 - 122
2112738	Gamma-BHC	143	136	P/P	40 - 190
2112738	Gamma-Chlordane	69.0	72.3	P/P	50 - 112
2112738	Heptachlor	59.9	57.5	P/P	41 - 98.0
2112738	Heptachlor Epoxide	81.6	81.4	P/P	55 - 117
2112738	Hexachlorobenzene	70.0	54.4	P/P	47 - 91.0
2112738	Methoxychlor	129	129	P/P	55 - 133
2112738	Mirex	49.9	49.5	P/P	44 - 101
2112738	Permethrin	59.1	61.4	P/P	52 - 124
2112738	Trans-Nonachlor	66.7	69.3	P/P	53 - 99.0
2112738	Trifluralin	83.6	77.9	P/P	10 - 201

Reference Method: EPA 8270E
Batch ID: P369838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112739	Acetochlor	105	98.1	P/P	63 - 129
2112739	Alachlor	99.7	96.1	P/P	65 - 127
2112739	Ametryn	114	111	P/P	40 - 164
2112739	Atrazine Desethyl	74.6	54.5	P/P	14 - 157
2112739	Azinphos Methyl	96.3	90.4	P/P	49 - 180
2112739	Bromacil	113	72.3	P/P	48 - 130
2112739	Butylate	53.0	47.7	P/P	10 - 94.0
2112739	Chlorpyrifos Ethyl	96.0	85.5	P/P	58 - 123
2112739	Chlorpyrifos Methyl	88.5	79.2	P/P	58 - 125
2112739	Cyanazine	102	82.2	P/P	24 - 253
2112739	Demeton	69.5	58.8	P/P	25 - 149
2112739	Diazinon	94.3	88.9	P/P	59 - 144
2112739	Dimethenamid	103	100	P/P	46 - 139
2112739	Disulfoton	75.0	64.1	P/P	54 - 132
2112739	Dithiopyr	96.4	94.0	P/P	64 - 130
2112739	EPTC	62.5	56.4	P/P	10 - 92.0
2112739	Ethion	105	91.9	P/P	30 - 148
2112739	Ethoprop	94.8	85.0	P/P	50 - 130
2112739	Fenamiphos	98.0	95.1	P/P	49 - 142
2112739	Fipronil	109	105	P/P	46 - 140
2112739	Fipronil Desulfinyl	101	95.2	P/P	30 - 121
2112739	Fipronil Sulfide	103	89.5	P/P	31 - 136
2112739	Fipronil Sulfone	134	93.8	P/P	16 - 136

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P369838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112739	Fonofos	85.7	71.2	P/P	55 - 129
2112739	Hexazinone	123	112	P/P	56 - 141
2112739	Malathion	102	94.4	P/P	56 - 135
2112739	Metalaxyl	95.1	92.4	P/P	54 - 135
2112739	Metolachlor	103	97.4	P/P	51 - 140
2112739	Metribuzin	95.4	74.9	P/P	45 - 254
2112739	Mevinphos	93.8	89.3	P/P	33 - 131
2112739	Molinate	75.6	67.6	P/P	14 - 98.0
2112739	Norflurazon	104	98.5	P/P	34 - 136
2112739	Oxadiazon	98.1	93.1	P/P	67 - 116
2112739	Parathion Ethyl	98.5	85.9	P/P	66 - 118
2112739	Parathion Methyl	95.4	88.5	P/P	64 - 136
2112739	Pendimethalin	93.5	82.2	P/P	59 - 144
2112739	Phorate	95.0	80.8	P/P	42 - 130
2112739	Prodiamine	143	75.2	P/P	42 - 148
2112739	Prometon	101	98.3	P/P	59 - 134
2112739	Prometryn	110	108	P/P	54 - 135
2112739	Simazine	99.5	85.4	P/P	53 - 156
2112739	Tebuconazole	110	108	P/P	10 - 131
2112739	Terbufos	83.8	70.6	P/P	57 - 131
2112739	Terbutylazine	104	87.6	P/P	68 - 125

Reference Method: EPA 8276
 Batch ID: P369532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113452	Chlordane	78.0	75.9	P/P	34 - 136
2113452	Toxaphene	69.3	60.0	P/P	22 - 152

Reference Method: EPA 8321B
 Batch ID: P369340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112181	Acesulfame K	148	145	P/P	40 - 150
2112181	AMPA	106	115	P/P	40 - 150
2112181	Endothall	75.3	76.4	P/P	40 - 150
2112181	Glufosinate	84.7	92.1	P/P	40 - 150
2112181	Glyphosate	82.9	89.3	P/P	40 - 140
2112181	Sucralose	74.5	74.2	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P369393

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112942	2,4-D	134	130	P/P	40 - 160
2112942	Acetaminophen	85.9	77.4	P/P	30 - 160
2112942	Acetamiprid	86.2	89.1	P/P	40 - 160
2112942	Afidopyropen	81.8	86.3	P/P	40 - 160
2112942	Benzovindiflupyr	94.3	93.4	P/P	40 - 160
2112942	Carbamazepine	97.0	94.1	P/P	40 - 160
2112942	Clothianidin	114	109	P/P	40 - 160
2112942	Diuron	105	107	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P369393

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112942	Fenuron	91.1	83.6	P/P	40 - 160
2112942	Fluridone	101	92.1	P/P	40 - 160
2112942	Hydrocodone	99.9	88.0	P/P	40 - 160
2112942	Ibuprofen	90.9	90.1	P/P	30 - 160
2112942	Imidacloprid	206	198	F/F	40 - 160
2112942	Linuron	94.2	92.7	P/P	40 - 160
2112942	Mandestrobin	90.4	92.8	P/P	40 - 160
2112942	MCPP	153	141	P/P	40 - 160
2112942	Naproxen	98.7	109	P/P	40 - 160
2112942	Primidone	116	101	P/P	40 - 160
2112942	Pyraclostrobin	84.2	87.6	P/P	30 - 160
2112942	Thiamethoxam	166	153	F/P	40 - 160
2112942	Tolfenpyrad	50.4	50.6	P/P	40 - 160
2112942	Triclopyr	102	93.9	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P369584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112734	3-Hydroxycarbofuran	101	85.8	P/P	40 - 160
2112734	Aldicarb	95.8	70.9	P/P	30 - 160
2112734	Aldicarb Sulfone	102	84.1	P/P	40 - 160
2112734	Aldicarb Sulfoxide	59.2	50.9	P/P	40 - 160
2112734	Carbaryl	66.0	55.6	P/P	40 - 160
2112734	Carbofuran	82.5	70.7	P/P	40 - 160
2112734	Methiocarb	69.5	59.2	P/P	40 - 160
2112734	Methomyl	82.7	72.5	P/P	40 - 160
2112734	Oxamyl	94.4	74.1	P/P	40 - 160
2112734	Propoxur	84.7	74.0	P/P	40 - 160

Reference Method: SM 4500 F-C-97
 Batch ID: P369867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113022	Fluoride	103	102	P/P	89 - 106

Reference Method: SM 4500 F-C-97
 Batch ID: P369868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112811	Fluoride	96.9	96.9	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P369458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112763	Organic Carbon	96.9	96.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112754	Turbidity	10.9	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112740	Barium	0.581	Spike	P	0 - 20
2112740	Calcium	0.163	Spike	P	0 - 20
2112740	Iron	0.567	Spike	P	0 - 20
2112740	Magnesium	0.756	Spike	P	0 - 20
2112740	Manganese	0.822	Spike	P	0 - 20
2112740	Potassium	1.09	Spike	P	0 - 20
2112740	Sodium	0.365	Spike	P	0 - 20
2112740	Zinc	1.24	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112740	Aluminum	0.498	Spike	P	0 - 20
2112740	Antimony	0.493	Spike	P	0 - 20
2112740	Arsenic	0.443	Spike	P	0 - 20
2112740	Beryllium	5.58	Spike	P	0 - 20
2112740	Boron	1.26	Spike	P	0 - 20
2112740	Cadmium	0.483	Spike	P	0 - 20
2112740	Chromium	0.672	Spike	P	0 - 20
2112740	Cobalt	0.804	Spike	P	0 - 20
2112740	Copper	0.757	Spike	P	0 - 20
2112740	Lead	0.558	Spike	P	0 - 20
2112740	Molybdenum	0.498	Spike	P	0 - 20
2112740	Nickel	0.781	Spike	P	0 - 20
2112740	Selenium	0.890	Spike	P	0 - 20
2112740	Silver	1.34	Spike	P	0 - 20
2112740	Thallium	1.18	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112376	Chloride	0.185	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112641	Ammonia-N	0.429	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112703	Kjeldahl Nitrogen	2.82	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112748	NO2NO3-N	0.533	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112703	Total-P	5.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112768	O-Phosphate-P	0.906	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P369532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112738	Aldrin	6.76	Spike	P	0 - 30
2112738	Alpha-BHC	12.4	Spike	P	0 - 30
2112738	Alpha-Chlordane	4.85	Spike	P	0 - 30
2112738	Beta-BHC	3.30	Spike	P	0 - 30
2112738	Bifenthrin	4.11	Spike	P	0 - 30
2112738	Carbophenothion	6.12	Spike	P	0 - 30
2112738	Chlorothalonil	20.8	Spike	P	0 - 30
2112738	Cis-Nonachlor	4.81	Spike	P	0 - 30
2112738	Cypermethrin	1.34	Spike	P	0 - 30
2112738	DDD-p,p'	2.45	Spike	P	0 - 30
2112738	DDE-p,p'	2.61	Spike	P	0 - 30
2112738	DDT-p,p'	6.44	Spike	P	0 - 30
2112738	Delta-BHC	3.48	Spike	P	0 - 30
2112738	Dicofol	7.72	Spike	P	0 - 30
2112738	Dieldrin	1.55	Spike	P	0 - 30
2112738	Endosulfan I	0.937	Spike	P	0 - 30
2112738	Endosulfan II	0.829	Spike	P	0 - 30
2112738	Endosulfan Sulfate	3.65	Spike	P	0 - 30
2112738	Endrin	1.27	Spike	P	0 - 30
2112738	Endrin Aldehyde	13.9	Spike	P	0 - 30
2112738	Endrin Ketone	2.79	Spike	P	0 - 30
2112738	Ethalfuralin	9.14	Spike	P	0 - 30
2112738	Gamma-BHC	5.58	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P369532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112738	Gamma-Chlordane	4.65	Spike	P	0 - 30
2112738	Heptachlor	4.10	Spike	P	0 - 30
2112738	Heptachlor Epoxide	0.238	Spike	P	0 - 30
2112738	Hexachlorobenzene	25.1	Spike	P	0 - 30
2112738	Methoxychlor	0.0773	Spike	P	0 - 30
2112738	Mirex	0.950	Spike	P	0 - 30
2112738	Permethrin	3.70	Spike	P	0 - 30
2112738	Trans-Nonachlor	3.84	Spike	P	0 - 30
2112738	Trifluralin	7.15	Spike	P	0 - 30
LFB	Aldrin	10.0	LCS	P	0 - 30
LFB	Alpha-BHC	3.20	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.48	LCS	P	0 - 30
LFB	Beta-BHC	0.997	LCS	P	0 - 30
LFB	Bifenthrin	9.47	LCS	P	0 - 30
LFB	Carbophenothion	3.19	LCS	P	0 - 30
LFB	Chlorothalonil	5.10	LCS	P	0 - 30
LFB	Cis-Nonachlor	4.28	LCS	P	0 - 30
LFB	Cypermethrin	9.13	LCS	P	0 - 30
LFB	DDD-p,p'	2.20	LCS	P	0 - 30
LFB	DDE-p,p'	2.42	LCS	P	0 - 30
LFB	DDT-p,p'	7.33	LCS	P	0 - 30
LFB	Delta-BHC	1.51	LCS	P	0 - 30
LFB	Dicofol	6.03	LCS	P	0 - 30
LFB	Dieldrin	5.69	LCS	P	0 - 30
LFB	Endosulfan I	1.44	LCS	P	0 - 30
LFB	Endosulfan II	1.24	LCS	P	0 - 30
LFB	Endosulfan Sulfate	5.56	LCS	P	0 - 30
LFB	Endrin	7.48	LCS	P	0 - 30
LFB	Endrin Aldehyde	6.97	LCS	P	0 - 30
LFB	Endrin Ketone	6.81	LCS	P	0 - 30
LFB	Ethalfuralin	1.61	LCS	P	0 - 30
LFB	Gamma-BHC	5.61	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.39	LCS	P	0 - 30
LFB	Heptachlor	2.25	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.85	LCS	P	0 - 30
LFB	Hexachlorobenzene	14.0	LCS	P	0 - 30
LFB	Methoxychlor	10.9	LCS	P	0 - 30
LFB	Mirex	3.24	LCS	P	0 - 30
LFB	Permethrin	8.33	LCS	P	0 - 30
LFB	Trans-Nonachlor	2.99	LCS	P	0 - 30
LFB	Trifluralin	1.16	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P369838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112739	Acetochlor	6.52	Spike	P	0 - 30
2112739	Alachlor	3.72	Spike	P	0 - 30
2112739	Ametryn	2.53	Spike	P	0 - 30
2112739	Atrazine	10.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P369838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112739	Atrazine Desethyl	20.2	Spike	P	0 - 30
2112739	Azinphos Methyl	6.29	Spike	P	0 - 30
2112739	Bromacil	21.4	Spike	P	0 - 30
2112739	Butylate	10.3	Spike	P	0 - 30
2112739	Chlorpyrifos Ethyl	11.5	Spike	P	0 - 30
2112739	Chlorpyrifos Methyl	11.1	Spike	P	0 - 30
2112739	Cyanazine	21.3	Spike	P	0 - 30
2112739	Demeton	16.7	Spike	P	0 - 30
2112739	Diazinon	5.88	Spike	P	0 - 30
2112739	Dimethenamid	2.98	Spike	P	0 - 30
2112739	Disulfoton	15.6	Spike	P	0 - 30
2112739	Dithiopyr	2.46	Spike	P	0 - 30
2112739	EPTC	10.2	Spike	P	0 - 30
2112739	Ethion	13.6	Spike	P	0 - 30
2112739	Ethoprop	10.9	Spike	P	0 - 30
2112739	Fenamiphos	3.02	Spike	P	0 - 30
2112739	Fipronil	2.10	Spike	P	0 - 30
2112739	Fipronil Desulfinyl	5.88	Spike	P	0 - 30
2112739	Fipronil Sulfide	10.5	Spike	P	0 - 30
2112739	Fipronil Sulfone	10.2	Spike	P	0 - 30
2112739	Fonofos	18.4	Spike	P	0 - 30
2112739	Hexazinone	9.06	Spike	P	0 - 30
2112739	Malathion	7.38	Spike	P	0 - 30
2112739	Metaxyl	2.90	Spike	P	0 - 30
2112739	Metolachlor	5.68	Spike	P	0 - 30
2112739	Metribuzin	24.0	Spike	P	0 - 30
2112739	Mevinphos	4.85	Spike	P	0 - 30
2112739	Molinate	11.1	Spike	P	0 - 30
2112739	Norflurazon	5.84	Spike	P	0 - 30
2112739	Oxadiazon	5.22	Spike	P	0 - 30
2112739	Parathion Ethyl	13.7	Spike	P	0 - 30
2112739	Parathion Methyl	7.46	Spike	P	0 - 30
2112739	Pendimethalin	12.9	Spike	P	0 - 30
2112739	Phorate	16.2	Spike	P	0 - 30
2112739	Prodiamine	43.4	Spike	F	0 - 30
2112739	Prometon	1.90	Spike	P	0 - 30
2112739	Prometryn	1.34	Spike	P	0 - 30
2112739	Simazine	8.16	Spike	P	0 - 30
2112739	Tebuconazole	1.17	Spike	P	0 - 30
2112739	Terbufos	17.0	Spike	P	0 - 30
2112739	Terbutylazine	11.6	Spike	P	0 - 30
LFB	Acetochlor	20.0	LCS	P	0 - 30
LFB	Alachlor	19.8	LCS	P	0 - 30
LFB	Ametryn	8.77	LCS	P	0 - 30
LFB	Atrazine	9.02	LCS	P	0 - 30
LFB	Atrazine Desethyl	43.6	LCS	F	0 - 30
LFB	Azinphos Methyl	18.4	LCS	P	0 - 30
LFB	Bromacil	20.2	LCS	P	0 - 30
LFB	Butylate	28.6	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	10.7	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	30.2	LCS	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P369838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Cyanazine	76.8	LCS	F	0 - 30
LFB	Demeton	49.6	LCS	F	0 - 30
LFB	Diazinon	25.0	LCS	P	0 - 30
LFB	Dimethenamid	19.0	LCS	P	0 - 30
LFB	Disulfoton	16.8	LCS	P	0 - 30
LFB	Dithiopyr	16.7	LCS	P	0 - 30
LFB	EPTC	36.3	LCS	F	0 - 30
LFB	Ethion	1.70	LCS	P	0 - 30
LFB	Ethoprop	37.8	LCS	F	0 - 30
LFB	Fenamiphos	15.5	LCS	P	0 - 30
LFB	Fipronil	15.7	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	4.31	LCS	P	0 - 30
LFB	Fipronil Sulfide	9.27	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.48	LCS	P	0 - 30
LFB	Fonofos	42.2	LCS	F	0 - 30
LFB	Hexazinone	8.58	LCS	P	0 - 30
LFB	Malathion	11.3	LCS	P	0 - 30
LFB	Metalaxyl	15.6	LCS	P	0 - 30
LFB	Metolachlor	11.6	LCS	P	0 - 30
LFB	Metribuzin	26.6	LCS	P	0 - 30
LFB	Mevinphos	35.8	LCS	F	0 - 30
LFB	Molinate	41.7	LCS	F	0 - 30
LFB	Norflurazon	9.50	LCS	P	0 - 30
LFB	Oxadiazon	4.83	LCS	P	0 - 30
LFB	Parathion Ethyl	11.1	LCS	P	0 - 30
LFB	Parathion Methyl	16.3	LCS	P	0 - 30
LFB	Pendimethalin	16.7	LCS	P	0 - 30
LFB	Phorate	33.1	LCS	F	0 - 30
LFB	Prodiamine	5.57	LCS	P	0 - 30
LFB	Prometon	5.89	LCS	P	0 - 30
LFB	Prometryn	21.3	LCS	P	0 - 30
LFB	Simazine	12.8	LCS	P	0 - 30
LFB	Tebuconazole	23.6	LCS	P	0 - 30
LFB	Terbufos	39.9	LCS	F	0 - 30
LFB	Terbuthylazine	7.56	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P369532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113452	Chlordane	2.80	Spike	P	0 - 30
2113452	Toxaphene	14.3	Spike	P	0 - 30
LFB	Chlordane	5.22	LCS	P	0 - 30
LFB	Toxaphene	0.324	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P369340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112181	Acesulfame K	2.61	Spike	P	0 - 30
2112181	AMPA	8.66	Spike	P	0 - 30
2112181	Endothall	1.42	Spike	P	0 - 30
2112181	Glufosinate	8.36	Spike	P	0 - 30
2112181	Glyphosate	7.41	Spike	P	0 - 30
2112181	Sucralose	0.324	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112942	2,4-D	3.32	Spike	P	0 - 30
2112942	Acetaminophen	10.4	Spike	P	0 - 30
2112942	Acetamiprid	3.25	Spike	P	0 - 30
2112942	Afidopyropen	5.40	Spike	P	0 - 30
2112942	Bentazon	7.75	Spike	P	0 - 30
2112942	Benzovindiflupyr	0.911	Spike	P	0 - 30
2112942	Carbamazepine	2.99	Spike	P	0 - 30
2112942	Clothianidin	4.95	Spike	P	0 - 30
2112942	Dinotefuran	4.22	Spike	P	0 - 30
2112942	Diuron	1.48	Spike	P	0 - 30
2112942	Fenuron	8.58	Spike	P	0 - 30
2112942	Fluridone	9.10	Spike	P	0 - 30
2112942	Hydrocodone	12.7	Spike	P	0 - 30
2112942	Ibuprofen	0.876	Spike	P	0 - 30
2112942	Imazapyr	4.49	Spike	P	0 - 30
2112942	Imidacloprid	4.01	Spike	P	0 - 30
2112942	Linuron	1.53	Spike	P	0 - 30
2112942	Mandestrobin	2.63	Spike	P	0 - 30
2112942	MCP	8.27	Spike	P	0 - 30
2112942	Naproxen	10.3	Spike	P	0 - 30
2112942	Primidone	13.6	Spike	P	0 - 30
2112942	Pyraclostrobin	3.96	Spike	P	0 - 30
2112942	Thiamethoxam	8.35	Spike	P	0 - 30
2112942	Tolfenpyrad	0.331	Spike	P	0 - 30
2112942	Triclopyr	7.89	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112734	3-Hydroxycarbofuran	16.7	Spike	P	0 - 30
2112734	Aldicarb	29.9	Spike	P	0 - 30
2112734	Aldicarb Sulfone	19.2	Spike	P	0 - 30
2112734	Aldicarb Sulfoxide	15.2	Spike	P	0 - 30
2112734	Carbaryl	17.0	Spike	P	0 - 30
2112734	Carbofuran	15.5	Spike	P	0 - 30
2112734	Methiocarb	16.0	Spike	P	0 - 30
2112734	Methomyl	13.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P369584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112734	Oxamyl	24.1	Spike	P	0 - 30
2112734	Propoxur	13.5	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P369366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112757	Color (true)	1.52	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P369864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113022	Total Alkalinity	0.00825	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P369865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112811	Total Alkalinity	0.141	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P369731

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112599	TDS	4.35	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P369732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112913	TDS	7.25	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P369867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113022	Fluoride	0.519	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P369868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112811	Fluoride	0.0	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P369458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112763	Organic Carbon	0.316	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2112734
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	59.6	P	30 - 160

Lab Sample ID: 2112735
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.9	P	30 - 160
EPA 8321B	Diuron-d6	106	P	30 - 160
EPA 8321B	Endothall-d6	71.5	P	30 - 160
EPA 8321B	Endothall-d6	71.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	106	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	80.7	P	30 - 160
EPA 8321B	Sucralose-d6	80.7	P	30 - 160

Lab Sample ID: 2112736
Field Sample ID: G4NW0429

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	151	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.1	P	30 - 160
EPA 8321B	Diuron-d6	96.6	P	30 - 160
EPA 8321B	Endothall-d6	73.7	P	30 - 160
EPA 8321B	Endothall-d6	73.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	125	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	73.7	P	30 - 160
EPA 8321B	Sucralose-d6	73.7	P	30 - 160

Lab Sample ID: 2112737
Field Sample ID: G5NW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	152	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.4	P	30 - 160
EPA 8321B	Diuron-d6	91.9	P	30 - 160
EPA 8321B	Endothall-d6	74.7	P	30 - 160
EPA 8321B	Endothall-d6	74.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	114	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	76.9	P	30 - 160
EPA 8321B	Sucralose-d6	76.9	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2112738
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	78.6	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	69.0	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	43.9	P	30 - 103
EPA 8276	PCNB	124	P	37 - 143

Lab Sample ID: 2112739
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	101	P	68 - 130
EPA 8270E	Terbufos-d10	85.7	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A93656

Included Lab Sample IDs: 2112716, 2112719, 2112722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93657

Included Lab Sample IDs: 2112716, 2112719, 2112722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93683

Included Lab Sample IDs: 2112718, 2112721, 2112724

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93684

Included Lab Sample IDs: 2112717, 2112720, 2112723

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

Reference Method: SM 5310 B-00

Run ID: A93704

Included Lab Sample IDs: 2112717, 2112720, 2112723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	98.3	P/P	90 - 110
Organic Carbon	99.8	97.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93708

Included Lab Sample IDs: 2112735, 2112736, 2112737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	152	144	P/P	60 - 160
Endothall	91.3	91.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93710

Included Lab Sample IDs: 2112735, 2112736, 2112737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	124	108	P/P	60 - 160
Glufosinate	92.6	89.0	P/P	60 - 160
Glyphosate	101	91.9	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93717

Included Lab Sample IDs: 2112716, 2112719, 2112722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.5	99.4	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93732

Included Lab Sample IDs: 2112740

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	100	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Manganese	100	100	P/P	90 - 110
Potassium	102	101	P/P	90 - 110
Sodium	107	107	P/P	90 - 110
Zinc	96.2	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93762

Included Lab Sample IDs: 2112717, 2112720, 2112723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.7	99.5	P/P	90 - 110
Kjeldahl Nitrogen	99.5	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93776

Included Lab Sample IDs: 2112717, 2112720, 2112723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93816

Included Lab Sample IDs: 2112717, 2112720, 2112723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.9	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93838

Included Lab Sample IDs: 2112735, 2112736, 2112737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.1	109	P/P	50 - 150
3-Hydroxycarbofuran	109	107	P/P	60 - 150
Acetaminophen	107	113	P/P	60 - 160
Acetamiprid	111	112	P/P	50 - 150
Afidopyropen	119	115	P/P	50 - 150
Aldicarb	101	103	P/P	60 - 150
Aldicarb Sulfone	102	105	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A93838

Included Lab Sample IDs: 2112734

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldicarb Sulfoxide	104	105	P/P	50 - 150
Bentazon	102	101	P/P	50 - 160
Benzovindiflupyr	109	112	P/P	50 - 150
Carbamazepine	114	113	P/P	60 - 150
Carbaryl	82.7	88.0	P/P	60 - 150
Carbofuran	113	114	P/P	50 - 150
Clothianidin	101	114	P/P	60 - 150
Dinotefuran	102	106	P/P	50 - 150
Diuron	121	119	P/P	60 - 150
Fenuron	111	110	P/P	60 - 150
Fluridone	106	106	P/P	60 - 160
Hydrocodone	109	111	P/P	60 - 150
Ibuprofen	80.3	82.2	P/P	50 - 160
Imazapyr	105	109	P/P	50 - 150
Imidacloprid	105	107	P/P	60 - 150
Linuron	111	113	P/P	60 - 150
Mandestrobin	115	116	P/P	50 - 150
MCPP	99.8	99.5	P/P	50 - 150
Methiocarb	103	96.0	P/P	50 - 150
Methomyl	104	98.8	P/P	50 - 150
Naproxen	106	113	P/P	50 - 160
Oxamyl	102	95.7	P/P	50 - 150
Primidone	95.9	102	P/P	60 - 150
Propoxur	112	114	P/P	50 - 150
Pyraclostrobin	114	118	P/P	60 - 150
Thiamethoxam	106	106	P/P	50 - 150
Tolfenpyrad	107	108	P/P	60 - 150
Triclopyr	104	104	P/P	50 - 150

Reference Method: SM 2320 B-97

Run ID: A93845

Included Lab Sample IDs: 2112716, 2112719, 2112722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A93845

Included Lab Sample IDs: 2112716, 2112719, 2112722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93859

Included Lab Sample IDs: 2112735, 2112736, 2112737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	77.7	79.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A93902
Included Lab Sample IDs: 2112738

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	88.9		P	80 - 120
Alpha-BHC	94.4		P	80 - 120
Alpha-Chlordane	90.1		P	80 - 120
Beta-BHC	93.8		P	80 - 120
Bifenthrin	85.1		P	80 - 120
Carbophenothion	91.3		P	80 - 120
Chlorothalonil	85.7		P	80 - 120
Cis-Nonachlor	90.3		P	80 - 120
Cypermethrin	80.7		P	80 - 120
DDD-p,p'	86.7		P	80 - 120
DDE-p,p'	89.7		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	94.1		P	80 - 120
Dicofol	98.2		P	80 - 120
Dieldrin	89.7		P	80 - 120
Endosulfan I	86.6		P	80 - 120
Endosulfan II	89.2		P	80 - 120
Endosulfan Sulfate	94.9		P	80 - 120
Endrin	89.8		P	80 - 120
Endrin Aldehyde	88.1		P	80 - 120
Endrin Ketone	93.0		P	80 - 120
Ethalfuralin	92.7		P	80 - 120
Gamma-BHC	91.3		P	80 - 120
Gamma-Chlordane	90.1		P	80 - 120
Heptachlor	89.0		P	80 - 120
Heptachlor Epoxide	89.1		P	80 - 120
Hexachlorobenzene	97.1		P	80 - 120
Methoxychlor	98.0		P	80 - 120
Mirex	96.5		P	80 - 120
Permethrin	82.0		P	80 - 120
Trans-Nonachlor	91.1		P	80 - 120
Trifluralin	93.7		P	80 - 120

Reference Method: EPA 8276
Run ID: A93930
Included Lab Sample IDs: 2112738

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	106		P	80 - 120
Toxaphene	103		P	80 - 120

Reference Method: EPA 8270E
Run ID: A94064
Included Lab Sample IDs: 2112739

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	108		P	80 - 120
Atrazine	86.1		P	80 - 120
Atrazine Desethyl	76.8*		F	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A94064
Included Lab Sample IDs: 2112739

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azinphos Methyl	92.8		P	80 - 120
Bromacil	101		P	80 - 120
Butylate	94.2		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	61.6*		F	80 - 120
Demeton	98.2		P	80 - 120
Diazinon	98.9		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	99.0		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	98.3		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	100		P	80 - 120
Fenamiphos	96.6		P	80 - 120
Fipronil	102		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	100		P	80 - 120
Fipronil Sulfone	103		P	80 - 120
Fonofos	96.7		P	80 - 120
Hexazinone	96.3		P	80 - 120
Malathion	98.1		P	80 - 120
Metaxyl	102		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	76.4*		F	80 - 120
Mevinphos	98.5		P	80 - 120
Molinate	99.6		P	80 - 120
Norflurazon	98.9		P	80 - 120
Oxadiazon	101		P	80 - 120
Parathion Ethyl	98.1		P	80 - 120
Parathion Methyl	98.4		P	80 - 120
Pendimethalin	96.5		P	80 - 120
Phorate	96.5		P	80 - 120
Prodiamine	101		P	80 - 120
Prometon	107		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	93.4		P	80 - 120
Tebuconazole	102		P	80 - 120
Terbufos	95.7		P	80 - 120
Terbutylazine	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94112
Included Lab Sample IDs: 2112740

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	105	104	P/P	90 - 110
Antimony	96.9	97.3	P/P	90 - 110
Arsenic	102	103	P/P	90 - 110
Beryllium	99.3	99.4	P/P	90 - 110
Boron	109	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94112

Included Lab Sample IDs: 2112740

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	102	103	P/P	90 - 110
Chromium	96.2	104	P/P	90 - 110
Cobalt	101	104	P/P	90 - 110
Copper	103	104	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Molybdenum	100	102	P/P	90 - 110
Nickel	101	104	P/P	90 - 110
Silver	105	106	P/P	90 - 110
Thallium	98.0	97.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94138

Included Lab Sample IDs: 2112740

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	103	103	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							10.9	
EPA 200.7 Rev. 4.4	Barium	103		101	102	100			0.581
	Calcium	101		96.1	92.1				0.163
	Iron	107		107	107	104			0.567
	Magnesium	112		108	110	105			0.756
	Manganese	102		99.9	101	99.0			0.822
	Potassium	110		110	112	106			1.09
	Sodium	104		99.2	97.5				0.365
	Zinc	99.0		98.5	99.8	99.9			1.24
EPA 200.8 Rev. 5.4	Aluminum	102		102	102	102			0.498
	Antimony	97.8		99.0	98.5	98.2			0.493
	Arsenic	101		101	102	104			0.443
	Beryllium	92.7		99.0	93.4	97.6			5.58
	Boron	109		109	107	112			1.26
	Cadmium	101		101	102	104			0.483
	Chromium	99.6		100	101	101			0.672
	Cobalt	101		100	101	103			0.804
	Copper	99.6		99.4	100	100			0.757
	Lead	101		102	101	105			0.558
	Molybdenum	99.1		101	102	103			0.498
	Nickel	101		101	102	104			0.781
	Selenium	104		101	102	106			0.890
	Silver	106		108	106	106			1.34
	Thallium	99.0		101	102	111			1.18
EPA 300.0 Rev. 2.1	Chloride	98.3		98.2	98.8			0.185	
	Sulfate	101		101	103				
EPA 350.1 Rev. 2.0	Ammonia-N	99.3		94.9	95.3				0.429
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106		94.7	100				2.82
EPA 353.2 Rev. 2.0	NO2NO3-N	104		94.0	93.5				0.533
EPA 365.1 Rev. 2.0	Total-P	102		102	109				5.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3		98.9	99.8				0.906
EPA 8270E	Acetochlor	104	84.8	105	98.1	20.0			6.52
	Alachlor	102	83.5	99.7	96.1	19.8			3.72
	Aldrin	20.1	22.3	35.3	37.8	10.0			6.76
	Alpha-BHC	118	122	124	109	3.20			12.4
	Alpha-Chlordane	84.0	86.1	72.9	76.5	2.48			4.85
	Ametryn	102	93.1	114	111	8.77			2.53
	Atrazine	95.7	87.4			9.02			10.0
	Atrazine Desethyl	84.1	54.0	74.6	54.5	43.6			20.2
	Azinphos Methyl	106	87.8	96.3	90.4	18.4			6.29
	Beta-BHC	145	147	156	151	0.997			3.30
	Bifenthrin	75.1	82.6	76.2	73.1	9.47			4.11
	Bromacil	89.8	73.4	113	72.3	20.2			21.4
	Butylate	51.3	38.4	53.0	47.7	28.6			10.3
	Carbophenothion	81.8	79.3	101	107	3.19			6.12
	Chlorothalonil	142	150	224	182	5.10			20.8
	Chlorpyrifos Ethyl	87.6	78.7	96.0	85.5	10.7			11.5
	Chlorpyrifos Methyl	91.5	67.5	88.5	79.2	30.2			11.1
	Cis-Nonachlor	88.6	84.9	73.7	77.3	4.28			4.81
	Cyanazine	151	67.1	102	82.2	76.8			21.3
	Cypermethrin	87.7	80.1	78.7	77.6	9.13			1.34
	DDD-p,p'	96.2	94.1	83.2	85.2	2.20			2.45
	DDE-p,p'	82.5	80.6	67.8	69.6	2.42			2.61
	DDT-p,p'	114	106	94.8	88.8	7.33			6.44

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						SMP	MS
EPA 8270E	Delta-BHC	157	159	177	171	1.51	3.48
	Demeton	69.8	42.0	69.5	58.8	49.6	16.7
	Diazinon	96.4	75.0	94.3	88.9	25.0	5.88
	Dicofol	98.2	92.5	87.4	80.9	6.03	7.72
	Dieldrin	95.1	89.8	97.7	99.2	5.69	1.55
	Dimethenamid	102	84.5	103	100	19.0	2.98
	Disulfoton	56.2	47.5	75.0	64.1	16.8	15.6
	Dithiopyr	96.9	82.0	96.4	94.0	16.7	2.46
	Endosulfan I	92.3	90.9	88.2	89.1	1.44	0.937
	Endosulfan II	111	110	106	105	1.24	0.829
	Endosulfan Sulfate	105	99.3	97.5	101	5.56	3.65
	Endrin	102	94.9	95.8	97.0	7.48	1.27
	Endrin Aldehyde	110	118	109	94.5	6.97	13.9
	Endrin Ketone	94.9	102	101	98.2	6.81	2.79
	EPTC	63.3	43.9	62.5	56.4	36.3	10.2
	Ethalfuralin	102	100	87.6	80.0	1.61	9.14
	Ethion	93.5	91.9	105	91.9	1.70	13.6
	Ethoprop	92.9	63.4	94.8	85.0	37.8	10.9
	Fenamiphos	90.5	77.5	98.0	95.1	15.5	3.02
	Fipronil	115	97.8	109	105	15.7	2.10
	Fipronil Desulfinyl	94.6	90.6	101	95.2	4.31	5.88
	Fipronil Sulfide	96.1	87.6	103	89.5	9.27	10.5
	Fipronil Sulfone	95.9	92.6	134	93.8	3.48	10.2
	Fonofos	85.2	55.5	85.7	71.2	42.2	18.4
	Gamma-BHC	133	126	143	136	5.61	5.58
	Gamma-Chlordane	81.3	83.3	69.0	72.3	2.39	4.65
	Heptachlor	70.9	69.3	59.9	57.5	2.25	4.10
	Heptachlor Epoxide	89.1	90.7	81.6	81.4	1.85	0.238
	Hexachlorobenzene	84.2	73.2	70.0	54.4	14.0	25.1
	Hexazinone	97.1	106	123	112	8.58	9.06
	Malathion	99.1	88.5	102	94.4	11.3	7.38
	Metalaxyl	97.7	83.5	95.1	92.4	15.6	2.90
	Methoxychlor	125	140	129	129	10.9	0.0773
	Metolachlor	98.9	88.1	103	97.4	11.6	5.68
	Metribuzin	101	77.6	95.4	74.9	26.6	24.0
	Mevinphos	92.3	64.3	93.8	89.3	35.8	4.85
	Mirex	57.9	59.8	49.9	49.5	3.24	0.950
	Molinate	78.2	51.3	75.6	67.6	41.7	11.1
	Norflurazon	104	94.2	104	98.5	9.50	5.84
	Oxadiazon	94.6	90.2	98.1	93.1	4.83	5.22
	Parathion Ethyl	92.8	83.0	98.5	85.9	11.1	13.7
	Parathion Methyl	94.2	80.0	95.4	88.5	16.3	7.46
	Pendimethalin	85.2	72.1	93.5	82.2	16.7	12.9
	Permethrin	66.0	71.7	59.1	61.4	8.33	3.70
	Phorate	84.7	60.6	95.0	80.8	33.1	16.2
	Prodiamine	75.2	71.1	143	75.2	5.57	43.4
	Prometon	98.0	92.4	101	98.3	5.89	1.90
	Prometryn	117	94.5	110	108	21.3	1.34
	Simazine	105	92.5	99.5	85.4	12.8	8.16
	Tebuconazole	76.8	97.3	110	108	23.6	1.17
	Terbufos	83.3	55.6	83.8	70.6	39.9	17.0
	Terbuthylazine	95.7	88.8	104	87.6	7.56	11.6
	Trans-Nonachlor	79.1	81.5	66.7	69.3	2.99	3.84
	Trifluralin	97.9	99.1	83.6	77.9	1.16	7.15

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8276	Chlordane	84.0	88.5	78.0	75.9	5.22		2.80
	Toxaphene	71.3	71.5	69.3	60.0	0.324		14.3
EPA 8321B	2,4-D	94.0		134	130			3.32
	3-Hydroxycarbofuran	81.6		101	85.8			16.7
	Acesulfame K	148		148	145			2.61
	Acetaminophen	80.1		85.9	77.4			10.4
	Acetamiprid	84.7		86.2	89.1			3.25
	Afidopyropen	90.3		81.8	86.3			5.40
	Aldicarb	71.0		95.8	70.9			29.9
	Aldicarb Sulfone	84.5		102	84.1			19.2
	Aldicarb Sulfoxide	77.7		59.2	50.9			15.2
	AMPA	136		106	115			8.66
	Bentazon	94.0						7.75
	Benzovindiflupyr	95.4		94.3	93.4			0.911
	Carbamazepine	92.7		97.0	94.1			2.99
	Carbaryl	57.7		66.0	55.6			17.0
	Carbofuran	71.7		82.5	70.7			15.5
	Clothianidin	83.2		114	109			4.95
	Dinotefuran	92.0						4.22
	Diuron	108		105	107			1.48
	Endothall	98.5		75.3	76.4			1.42
	Fenuron	104		91.1	83.6			8.58
	Fluridone	97.4		101	92.1			9.10
	Glufosinate	115		84.7	92.1			8.36
	Glyphosate	114		82.9	89.3			7.41
	Hydrocodone	97.5		99.9	88.0			12.7
	Ibuprofen	89.5		90.9	90.1			0.876
	Imazapyr	109						4.49
	Imidacloprid	108		206	198			4.01
	Linuron	91.5		94.2	92.7			1.53
	Mandestrobin	93.5		90.4	92.8			2.63
	MCPP	103		153	141			8.27
	Methiocarb	59.3		69.5	59.2			16.0
	Methomyl	75.1		82.7	72.5			13.1
	Naproxen	89.3		98.7	109			10.3
	Oxamyl	77.4		94.4	74.1			24.1
	Primidone	93.5		116	101			13.6
	Propoxur	75.0		84.7	74.0			13.5
	Pyraclostrobin	93.4		84.2	87.6			3.96
	Sucralose	84.1		74.5	74.2			0.324
	Thiamethoxam	103		166	153			8.35
	Tolfenpyrad	59.6		50.4	50.6			0.331
	Triclopyr	65.4		102	93.9			7.89
SM 2120 B	Color (true)	101					1.52	
SM 2320 B-97	Total Alkalinity	105					0.0082	
	Total Alkalinity	105					0.141	
SM 2540 C-97	TDS						4.35	
	TDS						7.25	
SM 4500 F-C-97	Fluoride	96.1		103	102			0.519
	Fluoride	98.5		96.9	96.9			0.0
SM 5310 B-00	Organic Carbon	97.4		96.9	96.5			0.316

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2112716, 2112719, 2112722
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2112740
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2112740
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2112716, 2112719, 2112722
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2112716, 2112719, 2112722
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2112717, 2112720, 2112723
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2112717, 2112720, 2112723
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2112717, 2112720, 2112723
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2112717, 2112720, 2112723
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2112718, 2112721, 2112724
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2112738
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2112739
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2112738
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2112734
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2112735, 2112736, 2112737
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2112735, 2112736, 2112737
SM 2120 B / E31780	True Color measured at 450 nm	2112716, 2112719, 2112722
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2112716, 2112719, 2112722
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2112716, 2112719, 2112722
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2112716, 2112719, 2112722
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2112716, 2112719, 2112722
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2112717, 2112720, 2112723

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	08/20/2019			08/20/2019 16:54	Rosalyn Ballman	2112716, 2112719, 2112722
EPA 200.7 Rev. 4.4	08/20/2019	08/21/2019 15:30	Elliott D. Healy	08/22/2019 15:32	Alexander Thompson	2112740
EPA 200.8 Rev. 5.4	08/20/2019	08/21/2019 15:30	Elliott D. Healy	09/10/2019 17:32	Robert K Palmer	2112740
	08/20/2019	08/21/2019 15:30	Elliott D. Healy	09/11/2019 17:54	Robert K Palmer	2112740
EPA 300.0 Rev. 2.1	08/20/2019			08/22/2019 13:47	Julia Storbeck	2112716
	08/20/2019			08/22/2019 14:00	Julia Storbeck	2112719
	08/20/2019			08/22/2019 14:12	Julia Storbeck	2112722
EPA 350.1 Rev. 2.0	08/20/2019			08/27/2019 11:55	Ping Hua	2112717
	08/20/2019			08/27/2019 11:56	Ping Hua	2112720
	08/20/2019			08/27/2019 11:58	Ping Hua	2112723
EPA 351.2 Rev. 2.0	08/20/2019	08/22/2019 11:15	Sima Feizi	08/23/2019 14:07	Joseph Suarez	2112717
	08/20/2019	08/22/2019 11:15	Sima Feizi	08/23/2019 14:11	Joseph Suarez	2112720
	08/20/2019	08/22/2019 11:15	Sima Feizi	08/23/2019 14:13	Joseph Suarez	2112723
EPA 353.2 Rev. 2.0	08/20/2019			08/21/2019 12:14	Beverly Y. Sanders	2112720
	08/20/2019			08/21/2019 12:15	Beverly Y. Sanders	2112723
	08/20/2019			08/21/2019 13:10	Beverly Y. Sanders	2112717
EPA 365.1 Rev. 2.0	08/20/2019	08/22/2019 12:30	Lipi Saha	08/26/2019 11:51	Lipi Saha	2112717
	08/20/2019	08/22/2019 12:30	Lipi Saha	08/26/2019 11:52	Lipi Saha	2112720
	08/20/2019	08/22/2019 12:30	Lipi Saha	08/26/2019 11:53	Lipi Saha	2112723
EPA 365.1 Rev. 2.0 dissolved	08/20/2019			08/20/2019 16:12	Jhamieka S. Greenwood	2112718
	08/20/2019			08/20/2019 16:13	Jhamieka S. Greenwood	2112721
	08/20/2019			08/20/2019 16:14	Jhamieka S. Greenwood	2112724
EPA 8270E	08/20/2019	08/23/2019 08:30	Rasheda Ghaffari	08/27/2019 21:20	Arthur Maknenko	2112738
	08/20/2019	08/26/2019 09:00	Julie Wi	08/29/2019 15:00	Vandana T. Nagar	2112739
EPA 8276	08/20/2019	08/23/2019 08:30	Rasheda Ghaffari	08/28/2019 03:52	Luis Flores	2112738
EPA 8321B	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/21/2019 13:10	Rebecca Ware	2112735
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/21/2019 13:23	Rebecca Ware	2112736
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/21/2019 13:37	Rebecca Ware	2112737
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/21/2019 20:12	Rebecca Ware	2112735
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/21/2019 20:23	Rebecca Ware	2112736
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/21/2019 20:34	Rebecca Ware	2112737
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/28/2019 13:10	Rebecca Ware	2112735
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/28/2019 13:22	Rebecca Ware	2112736
	08/20/2019	08/21/2019 10:00	Rebecca Ware	08/28/2019 13:34	Rebecca Ware	2112737
	08/20/2019	08/22/2019 09:00	Fe-Val Siddell	08/24/2019 11:17	Juyoung Kim	2112735
	08/20/2019	08/22/2019 09:00	Fe-Val Siddell	08/24/2019 11:52	Juyoung Kim	2112736
	08/20/2019	08/22/2019 09:00	Fe-Val Siddell	08/24/2019 12:27	Juyoung Kim	2112737
	08/20/2019	08/26/2019 10:00	Hoor Shaik	08/28/2019 17:47	Juyoung Kim	2112734
SM 2120 B	08/20/2019			08/20/2019 16:38	Madeline Funaro	2112716
	08/20/2019			08/20/2019 16:39	Madeline Funaro	2112719, 2112722

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	08/20/2019			08/28/2019 02:17	Dale L. Simmons	2112716
	08/20/2019			08/28/2019 02:31	Dale L. Simmons	2112719
	08/20/2019			08/28/2019 03:46	Dale L. Simmons	2112722
SM 2540 C-97	08/20/2019			08/21/2019 14:21	Yijie Li	2112716, 2112719, 2112722
SM 2540 D-97	08/20/2019			08/21/2019 14:21	Yijie Li	2112716, 2112719, 2112722
SM 4500 F-C-97	08/20/2019			08/28/2019 02:17	Dale L. Simmons	2112716
	08/20/2019			08/28/2019 02:31	Dale L. Simmons	2112719
	08/20/2019			08/28/2019 03:46	Dale L. Simmons	2112722
SM 5310 B-00	08/20/2019			08/21/2019 15:05	Madeline Funaro	2112717
	08/20/2019			08/21/2019 15:18	Madeline Funaro	2112720
	08/20/2019			08/21/2019 15:54	Madeline Funaro	2112723