

Chemical Analysis Report

WQ-ASSESS-2017-07-21-01

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

Event Description: **RUN 11 Moccasin**
Request ID: **RQ-2017-07-17-28**
Customer: **WQ-ASSESS**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
Division Of Water Facilities, FL DEP
13051 N. Telecom Parkway
Tampa, FL 33637
Attn: Judy Ashton

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Certified by: Colin Wright, Program Administrator

Date Certified: 10-AUG-2017 12:23

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored rectangular background.

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 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: Moccasin Creek

Collection Date/Time: 07/20/2017 10:15

Field ID: G1SW0051

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915689	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P328947	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P329038	
	SM 2540 D-97	TSS	4	I	mg/L	P329369	
	SM 4500 F-C-97	Fluoride	0.33		mg F/L	P329040	
1915690	EPA 350.1 Rev. 2.0	Ammonia-N	0.092		mg N/L	P329098	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P328968	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329209	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P329046	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P329078	
1915691	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P328951	
1915704	EPA 200.7 Rev. 4.4	Iron	190		ug/L	P328987	
	EPA 200.8 Rev. 5.4	Arsenic	3.61		ug/L	P328987	
		Cadmium	0.020	U	ug/L	P328987	
		Chromium	0.40	U	ug/L	P328987	
		Copper	0.74	I	ug/L	P328987	
		Lead	0.14	I	ug/L	P328987	
		Nickel	0.63	I	ug/L	P328987	
		Silver	0.010	U	ug/L	P328987	
		Zinc	1.0	U	ug/L	P328987	

Ref. Method and Comment:

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

Sample Location: Moccasin Creek

Collection Date/Time: 07/20/2017 10:15

Field ID: G1SW0051

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915695	EPA 8321B	Glyphosate**	0.50	UJ	ug/L	P328648	SUR
		Pyraclostrobin**	0.0020	U	ug/L	P328783	
		Sucralose**	1.0		ug/L	P329066	
	USGS O-2060-01	2,4-D	0.24		ug/L	P329041	
		Diuron	0.0019	I	ug/L	P329041	
		Fenuron	0.0080	U	ug/L	P329041	
		Imidacloprid	0.065		ug/L	P329041	MS
		Bentazon	0.018		ug/L	P329041	
		Linuron	0.0040	U	ug/L	P329041	
		Acetaminophen**	0.0080	U	ug/L	P329041	
		MCP	0.010		ug/L	P329041	
		Carbamazepine**	0.0018		ug/L	P329041	
		Triclopyr**	0.0040	U	ug/L	P329041	
		Primidone**	0.0050	I	ug/L	P329041	
		Fluridone**	0.31		ug/L	P329041	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed, field duplicates.

USGS O-2060-01: MS accuracy for diuron could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Moccasin Creek

Collection Date/Time: 07/20/2017 10:15

Field ID: G1SW0051

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915698	EPA 8270D	Aldrin	4.2	U	ng/L	P328810	
		Alpha-BHC	2.1	U	ng/L	P328810	
		Beta-BHC	4.2	U	ng/L	P328810	
		Delta-BHC	4.2	U	ng/L	P328810	
		Gamma-BHC	4.2	U	ng/L	P328810	
		Carbophenothion	4.2	U	ng/L	P328810	RPD
		Chlorothalonil	2.1	U	ng/L	P328810	
		Cypermethrin	21	U	ng/L	P328810	
		DDD-p,p'	2.1	U	ng/L	P328810	
		DDE-p,p'	3.2	U	ng/L	P328810	
		DDT-p,p'	3.2	U	ng/L	P328810	
		Dieldrin	4.2	U	ng/L	P328810	
		Endosulfan I	4.2	U	ng/L	P328810	
		Endosulfan II	4.2	U	ng/L	P328810	
		Endosulfan Sulfate	2.1	U	ng/L	P328810	
		Endrin	2.1	U	ng/L	P328810	
		Endrin Aldehyde	2.1	U	ng/L	P328810	
		Heptachlor	1.6	U	ng/L	P328810	
		Heptachlor Epoxide	2.1	U	ng/L	P328810	
		Methoxychlor	4.2	U	ng/L	P328810	
		Mirex	2.1	U	ng/L	P328810	
		Permethrin	11	U	ng/L	P328810	
		Trifluralin	1.1	U	ng/L	P328810	
		Alpha-Chlordane	1.1	U	ng/L	P328810	
		Gamma-Chlordane	1.1	U	ng/L	P328810	
		Endrin Ketone	2.1	U	ng/L	P328810	
		Dicofol	32	U	ng/L	P328810	RPD
	EPA 8276	Chlordane**	2.6	U	ng/L	P328810	
		Toxaphene**	13	U	ng/L	P328810	
1915701	EPA 8270D	Alachlor	0.24	U	ng/L	P329016	
		Ametryn	10		ng/L	P329016	
		Atrazine	59		ng/L	P329016	
		Atrazine Desethyl	11		ng/L	P329016	
		Azinphos Methyl	2.2	U	ng/L	P329016	
		Bromacil	0.49	U	ng/L	P329016	
		Butylate	0.39	U	ng/L	P329016	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P329016	
		Chlorpyrifos Methyl	0.098	U	ng/L	P329016	
		Demeton	2.0	U	ng/L	P329016	RPD
		Diazinon	0.12	U	ng/L	P329016	MS, RPD
		Disulfoton	0.32	U	ng/L	P329016	RPD
		EPTC	1.2	U	ng/L	P329016	
		Ethion	0.15	U	ng/L	P329016	
		Ethoprop	0.098	U	ng/L	P329016	MS, RPD
		Fenamiphos	0.24	U	ng/L	P329016	

Field ID: G1SW0051

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915701	EPA 8270D	Fipronil	0.49	I	ng/L	P329016	
		Fipronil Sulfide	0.84		ng/L	P329016	
		Fipronil Sulfone	1.6		ng/L	P329016	
		Hexazinone	1.6	I	ng/L	P329016	
		Malathion	0.34	U	ng/L	P329016	
		Metribuzin	0.20	U	ng/L	P329016	MS, RPD
		Mevinphos	0.49	U	ng/L	P329016	RPD
		Molinate	0.29	U	ng/L	P329016	RPD
		Norflurazon	0.49	U	ng/L	P329016	
		Pendimethalin	1.5	U	ng/L	P329016	
		Phorate	0.24	U	ng/L	P329016	RPD
		Prometon	0.88	U	ng/L	P329016	
		Prometryn	0.20	U	ng/L	P329016	
		Simazine	1.5	I	ng/L	P329016	
		Terbufos	0.098	U	ng/L	P329016	MS, RPD
		Terbutylazine	0.41	U	ng/L	P329016	
		Fonofos	0.20	U	ng/L	P329016	MS, RPD
		Metalaxyl	0.26	I	ng/L	P329016	
		Metolachlor	0.24	U	ng/L	P329016	
		Acetochlor	0.24	U	ng/L	P329016	
		Cyanazine	0.49	U	ng/L	P329016	RPD
		Parathion Ethyl	0.24	U	ng/L	P329016	
		Parathion Methyl	0.24	U	ng/L	P329016	

Ref. Method and Comment:

EPA 8270D: MS accuracy for Atrazine, Fipronil, Fipronil Sulfide, and Fipronil Sulfone not assessed due to high content of these parameters in the sample spiked.

Sample Location: Moccasin Creek duplicate

Collection Date/Time: 07/20/2017 10:20

Field ID: DUPLICATE

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915696	EPA 8321B	Glyphosate**	0.50	UJ	ug/L	P328648	SUR
		Pyraclostrobin**	0.0020	U	ug/L	P328783	
		Sucralose**	1.1		ug/L	P329066	
	USGS O-2060-01	2,4-D	0.20		ug/L	P329041	
		Diuron	0.0019	I	ug/L	P329041	
		Fenuron	0.0080	U	ug/L	P329041	
		Imidacloprid	0.062		ug/L	P329041	MS
		Bentazon	0.019		ug/L	P329041	
		Linuron	0.0040	U	ug/L	P329041	
		Acetaminophen**	0.0080	U	ug/L	P329041	
		MCPD	0.0083		ug/L	P329041	
		Carbamazepine**	0.0017		ug/L	P329041	
		Triclopyr**	0.0040	U	ug/L	P329041	
		Primidone**	0.0051	I	ug/L	P329041	
		Fluridone**	0.26		ug/L	P329041	

Field ID: DUPLICATE

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment:							
EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed, field duplicates.							
USGS O-2060-01: MS accuracy for diuron could not be assessed due to high concentration of parameter in the spiked sample.							

Sample Location: Moccasin Creek duplicate

Collection Date/Time: 07/20/2017 10:20

Field ID: DUPLICATE

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915699	EPA 8270D	Aldrin	4.1	U	ng/L	P328810	
		Alpha-BHC	2.1	U	ng/L	P328810	
		Beta-BHC	4.1	U	ng/L	P328810	
		Delta-BHC	4.1	U	ng/L	P328810	
		Gamma-BHC	4.1	U	ng/L	P328810	
		Carbophenothion	4.1	U	ng/L	P328810	RPD
		Chlorothalonil	2.1	UJ	ng/L	P328810	CCV
		Cypermethrin	21	U	ng/L	P328810	
		DDD-p,p'	2.1	U	ng/L	P328810	
		DDE-p,p'	3.1	U	ng/L	P328810	
		DDT-p,p'	3.1	U	ng/L	P328810	
		Dieldrin	4.1	U	ng/L	P328810	
		Endosulfan I	4.1	U	ng/L	P328810	
		Endosulfan II	4.1	U	ng/L	P328810	
		Endosulfan Sulfate	2.1	U	ng/L	P328810	
		Endrin	2.1	U	ng/L	P328810	
		Endrin Aldehyde	2.1	U	ng/L	P328810	
		Heptachlor	1.5	U	ng/L	P328810	
		Heptachlor Epoxide	2.1	U	ng/L	P328810	
		Methoxychlor	4.1	U	ng/L	P328810	
		Mirex	2.1	U	ng/L	P328810	
		Permethrin	10	U	ng/L	P328810	
		Trifluralin	1.0	U	ng/L	P328810	
		Alpha-Chlordane	1.0	U	ng/L	P328810	
		Gamma-Chlordane	1.0	U	ng/L	P328810	
		Endrin Ketone	2.1	U	ng/L	P328810	
		Dicofol	31	UJ	ng/L	P328810	CCV, RPD
	EPA 8276	Chlordane**	2.6	U	ng/L	P328810	
		Toxaphene**	13	U	ng/L	P328810	
1915702	EPA 8270D	Alachlor	0.24	U	ng/L	P329016	
		Ametryn	10		ng/L	P329016	
		Atrazine	52		ng/L	P329016	
		Atrazine Desethyl	9.5		ng/L	P329016	
		Azinphos Methyl	2.2	U	ng/L	P329016	
		Bromacil	0.48	U	ng/L	P329016	
		Butylate	0.39	U	ng/L	P329016	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P329016	
		Chlorpyrifos Methyl	0.097	U	ng/L	P329016	

Field ID: DUPLICATE

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915702	EPA 8270D	Demeton	1.9	U	ng/L	P329016	RPD
		Diazinon	0.12	U	ng/L	P329016	MS, RPD
		Disulfoton	0.31	U	ng/L	P329016	RPD
		EPTC	1.2	U	ng/L	P329016	
		Ethion	0.15	U	ng/L	P329016	
		Ethoprop	0.097	U	ng/L	P329016	MS, RPD
		Fenamiphos	0.24	U	ng/L	P329016	
		Fipronil	0.48	I	ng/L	P329016	
		Fipronil Sulfide	0.82		ng/L	P329016	
		Fipronil Sulfone	1.7		ng/L	P329016	
		Hexazinone	1.7	I	ng/L	P329016	
		Malathion	0.34	U	ng/L	P329016	
		Metribuzin	0.19	U	ng/L	P329016	MS, RPD
		Mevinphos	0.48	U	ng/L	P329016	RPD
		Molinate	0.29	U	ng/L	P329016	RPD
		Norflurazon	0.48	U	ng/L	P329016	
		Pendimethalin	1.5	U	ng/L	P329016	
		Phorate	0.24	U	ng/L	P329016	RPD
		Prometon	0.87	U	ng/L	P329016	
		Prometryn	0.19	U	ng/L	P329016	
		Simazine	1.7	I	ng/L	P329016	
		Terbufos	0.097	U	ng/L	P329016	MS, RPD
		Terbuthylazine	0.41	U	ng/L	P329016	
		Fonofos	0.19	U	ng/L	P329016	MS, RPD
		Metalaxyl	0.20	I	ng/L	P329016	
		Metolachlor	0.24	U	ng/L	P329016	
		Acetochlor	0.24	U	ng/L	P329016	
		Cyanazine	0.48	U	ng/L	P329016	RPD
		Parathion Ethyl	0.24	U	ng/L	P329016	
		Parathion Methyl	0.24	U	ng/L	P329016	

Ref. Method and Comment:

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

EPA 8270D: MS accuracy for Atrazine, Fipronil, Fipronil Sulfide, and Fipronil Sulfone not assessed due to high content of these parameters in the sample spiked.

Sample Location: BLANK

Collection Date/Time: 07/20/2017 10:25

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915697	EPA 8321B	Glyphosate**	0.50	U	ug/L	P328648	
		Pyraclostrobin**	0.0020	U	ug/L	P328783	
		Sucralose**	0.010	U	ug/L	P329066	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P329041	
		Diuron	8.0E-04	U	ug/L	P329041	
		Fenuron	0.0080	U	ug/L	P329041	
		Imidacloprid	8.0E-04	U	ug/L	P329041	MS

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915697	USGS O-2060-01	Bentazon	8.0E-04	U	ug/L	P329041	
		Linuron	0.0040	U	ug/L	P329041	
		Acetaminophen**	0.0080	U	ug/L	P329041	
		MCPD	0.0020	U	ug/L	P329041	
		Carbamazepine**	4.0E-04	U	ug/L	P329041	
		Triclopyr**	0.0040	U	ug/L	P329041	
		Primidone**	0.0040	U	ug/L	P329041	
		Fluridone**	4.0E-04	U	ug/L	P329041	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for diuron could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: BLANK

Collection Date/Time: 07/20/2017 10:25

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915700	EPA 8270D	Aldrin	4.2	U	ng/L	P328810	
		Alpha-BHC	2.1	U	ng/L	P328810	
		Beta-BHC	4.2	U	ng/L	P328810	
		Delta-BHC	4.2	U	ng/L	P328810	
		Gamma-BHC	4.2	U	ng/L	P328810	
		Carbophenothion	4.2	U	ng/L	P328810	RPD
		Chlorothalonil	2.1	UJ	ng/L	P328810	CCV
		Cypermethrin	21	U	ng/L	P328810	
		DDD-p,p'	2.1	U	ng/L	P328810	
		DDE-p,p'	3.1	U	ng/L	P328810	
		DDT-p,p'	3.1	U	ng/L	P328810	
		Dieldrin	4.2	U	ng/L	P328810	
		Endosulfan I	4.2	U	ng/L	P328810	
		Endosulfan II	4.2	U	ng/L	P328810	
		Endosulfan Sulfate	2.1	U	ng/L	P328810	
		Endrin	2.1	U	ng/L	P328810	
		Endrin Aldehyde	2.1	U	ng/L	P328810	
		Heptachlor	1.6	U	ng/L	P328810	
		Heptachlor Epoxide	2.1	U	ng/L	P328810	
		Methoxychlor	4.2	U	ng/L	P328810	
		Mirex	2.1	U	ng/L	P328810	
		Permethrin	10	U	ng/L	P328810	
		Trifluralin	1.0	U	ng/L	P328810	
		Alpha-Chlordane	1.0	U	ng/L	P328810	
		Gamma-Chlordane	1.0	U	ng/L	P328810	
		Endrin Ketone	2.1	U	ng/L	P328810	
		Dicofol	31	UJ	ng/L	P328810	CCV, RPD
	EPA 8276	Chlordane**	2.6	U	ng/L	P328810	
		Toxaphene**	13	U	ng/L	P328810	
1915703	EPA 8270D	Alachlor	0.25	U	ng/L	P329016	
		Ametryn	0.33	U	ng/L	P329016	

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1915703	EPA 8270D	Atrazine	0.25	U	ng/L	P329016	
		Atrazine Desethyl	1.5	U	ng/L	P329016	
		Azinphos Methyl	2.3	U	ng/L	P329016	
		Bromacil	0.50	U	ng/L	P329016	
		Butylate	0.40	U	ng/L	P329016	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P329016	
		Chlorpyrifos Methyl	0.10	U	ng/L	P329016	
		Demeton	2.0	U	ng/L	P329016	RPD
		Diazinon	0.13	U	ng/L	P329016	MS, RPD
		Disulfoton	0.33	U	ng/L	P329016	RPD
		EPTC	1.3	U	ng/L	P329016	
		Ethion	0.15	U	ng/L	P329016	
		Ethoprop	0.10	U	ng/L	P329016	MS, RPD
		Fenamiphos	0.25	U	ng/L	P329016	
		Fipronil	0.25	U	ng/L	P329016	
		Fipronil Sulfide	0.15	U	ng/L	P329016	
		Fipronil Sulfone	0.15	U	ng/L	P329016	
		Hexazinone	0.50	U	ng/L	P329016	
		Malathion	0.35	U	ng/L	P329016	
		Metribuzin	0.20	U	ng/L	P329016	MS, RPD
		Mevinphos	0.50	U	ng/L	P329016	RPD
		Molinate	0.30	U	ng/L	P329016	RPD
		Norflurazon	0.50	U	ng/L	P329016	
		Pendimethalin	1.5	U	ng/L	P329016	
		Phorate	0.25	U	ng/L	P329016	RPD
		Prometon	0.91	U	ng/L	P329016	
		Prometryn	0.20	U	ng/L	P329016	
		Simazine	0.50	U	ng/L	P329016	
		Terbufos	0.10	U	ng/L	P329016	MS, RPD
		Terbutylazine	0.43	U	ng/L	P329016	
		Fonofos	0.20	U	ng/L	P329016	MS, RPD
		Metalaxyl	0.20	U	ng/L	P329016	
		Metolachlor	0.25	U	ng/L	P329016	
		Acetochlor	0.25	U	ng/L	P329016	
		Cyanazine	0.50	U	ng/L	P329016	RPD
		Parathion Ethyl	0.25	U	ng/L	P329016	
		Parathion Methyl	0.25	U	ng/L	P329016	

Ref. Method and Comment:

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

EPA 8270D: MS accuracy for Atrazine, Fipronil, Fipronil Sulfide, and Fipronil Sulfone not assessed due to high content of these parameters in the sample spiked.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328947

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P328987

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328987

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L
Zinc	1.0	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329098

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328968

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329209

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329046

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328951

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P328810

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	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	2.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	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
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8270D

Batch ID: P329016

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	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	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.32	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D**Batch ID: P329016**

Component	Result	Code	Units
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
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.5	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276**Batch ID: P328810**

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	12	U	ng/L

Reference Method: EPA 8321B**Batch ID: P328648**

Component	Result	Code	Units
Glyphosate	0.50	U	ug/L

Reference Method: EPA 8321B**Batch ID: P328783**

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B**Batch ID: P329066**

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97**Batch ID: P329038**

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P329369

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P329040

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P329078

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: USGS O-2060-01
 Batch ID: P329041

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P328987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P328987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	101		P	85 - 115
Copper	101		P	85 - 115
Lead	99.3		P	85 - 115
Nickel	102		P	85 - 115
Silver	99.9		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P328987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Zinc	100		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P329098

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P328968

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P329209

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: P329046

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P328951

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

Reference Method: EPA 8270D

Batch ID: P328810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	55.9	51.6	P/P	26 - 88.0
Alpha-BHC	90.7	84.5	P/P	63 - 114
Alpha-Chlordane	91.1	83.6	P/P	56 - 117
Beta-BHC	106	105	P/P	57 - 138
Carbophenothion	102	86.3	P/P	36 - 148
Chlorothalonil	40.9	42.8	P/P	26 - 173
Cypermethrin	85.1	84.9	P/P	42 - 159
DDD-p,p'	103	91.9	P/P	62 - 126
DDE-p,p'	95.5	85.6	P/P	53 - 115
DDT-p,p'	95.0	87.3	P/P	54 - 117
Delta-BHC	113	100	P/P	68 - 158
Dicofol	65.3	69.1	P/P	25 - 114
Dieldrin	96.8	91.4	P/P	59 - 126
Endosulfan I	94.5	85.8	P/P	62 - 138
Endosulfan II	99.0	84.1	P/P	61 - 150
Endosulfan Sulfate	94.9	85.9	P/P	63 - 132

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P328810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	101	102	P/P	49 - 148
Endrin Aldehyde	102	89.7	P/P	50 - 144
Endrin Ketone	97.7	90.3	P/P	66 - 122
Gamma-BHC	96.5	97.9	P/P	60 - 137
Gamma-Chlordane	95.1	85.9	P/P	54 - 113
Heptachlor	79.5	73.0	P/P	43 - 104
Heptachlor Epoxide	94.6	87.3	P/P	64 - 118
Methoxychlor	107	98.6	P/P	63 - 129
Mirex	81.9	76.6	P/P	39 - 93.0
Permethrin	93.5	86.4	P/P	51 - 123
Trifluralin	149	139	P/P	35 - 187

Reference Method: EPA 8270D

Batch ID: P329016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	88.8	92.5	P/P	78 - 118
Alachlor	88.5	92.0	P/P	77 - 119
Ametryn	83.4	80.8	P/P	61 - 136
Atrazine	96.9	92.4	P/P	73 - 120
Atrazine Desethyl	80.2	84.1	P/P	16 - 122
Azinphos Methyl	119	126	P/P	69 - 186
Bromacil	84.1	92.1	P/P	40 - 125
Butylate	42.0	51.3	P/P	32 - 87.0
Chlorpyrifos Ethyl	93.1	103	P/P	53 - 110
Chlorpyrifos Methyl	89.4	96.5	P/P	31 - 119
Cyanazine	121	123	P/P	36 - 224
Demeton	72.2	82.9	P/P	39 - 122
Diazinon	87.3	92.0	P/P	75 - 119
Disulfoton	79.4	80.0	P/P	42 - 139
EPTC	44.2	51.1	P/P	33 - 96.0
Ethion	96.9	103	P/P	63 - 127
Ethoprop	67.5	74.2	P/P	65 - 107
Fenamiphos	90.2	102	P/P	64 - 137
Fipronil	78.1	88.1	P/P	60 - 126
Fipronil Sulfide	76.3	93.2	P/P	58 - 124
Fipronil Sulfone	80.0	92.6	P/P	57 - 126
Fonofos	80.4	87.2	P/P	65 - 111
Hexazinone	86.3	88.9	P/P	46 - 151
Malathion	102	107	P/P	68 - 132
Metalaxyl	85.8	87.0	P/P	51 - 132
Metolachlor	89.5	92.8	P/P	78 - 119
Metribuzin	112	120	P/P	64 - 138
Mevinphos	67.9	77.9	P/P	34 - 128
Molinate	52.1	63.7	P/P	44 - 101
Norflurazon	84.9	93.0	P/P	63 - 129
Parathion Ethyl	85.2	85.4	P/P	80 - 109
Parathion Methyl	93.0	97.0	P/P	74 - 125
Pendimethalin	86.7	83.7	P/P	48 - 134
Phorate	80.3	67.9	P/P	52 - 119
Prometon	90.5	90.0	P/P	69 - 124
Prometryn	89.2	90.8	P/P	66 - 124

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D**Batch ID: P329016**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Simazine	102	89.6	P/P	61 - 134
Terbufos	74.7	80.7	P/P	58 - 115
Terbutylazine	91.9	98.2	P/P	77 - 113

Reference Method: EPA 8276**Batch ID: P328810**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.5	82.5	P/P	48 - 121
Toxaphene	98.6	88.3	P/P	43 - 135

Reference Method: EPA 8321B**Batch ID: P328648**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	123		P	40 - 150

Reference Method: EPA 8321B**Batch ID: P328783**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	102		P	40 - 150

Reference Method: EPA 8321B**Batch ID: P329066**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	56.0		P	40 - 150

Reference Method: SM 2320 B-97**Batch ID: P329038**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97**Batch ID: P329040**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00**Batch ID: P329078**

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

Reference Method: USGS O-2060-01**Batch ID: P329041**

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	107		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01

Batch ID: P329041

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	107		P	30 - 150
Bentazon	100		P	40 - 150
Carbamazepine	103		P	40 - 150
Diuron	97.3		P	40 - 150
Fenuron	115		P	40 - 150
Fluridone	99.5		P	40 - 150
Imidacloprid	102		P	40 - 160
Linuron	101		P	40 - 150
MCPP	97.5		P	40 - 150
Primidone	112		P	40 - 150
Triclopyr	92.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P328987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914792	Iron	105		P	80 - 120
1915651	Iron	106	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P328987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914792	Arsenic	104		P	80 - 120
1914792	Cadmium	109		P	80 - 120
1914792	Chromium	103		P	80 - 120
1914792	Copper	97.4		P	80 - 120
1914792	Lead	99.6		P	80 - 120
1914792	Nickel	99.8		P	80 - 120
1914792	Silver	102		P	80 - 120
1914792	Zinc	99.4		P	80 - 120
1915651	Arsenic	105	105	P/P	80 - 120
1915651	Cadmium	110	110	P/P	80 - 120
1915651	Chromium	102	102	P/P	80 - 120
1915651	Copper	97.7	97.8	P/P	80 - 120
1915651	Lead	100	100	P/P	80 - 120
1915651	Nickel	99.2	99.5	P/P	80 - 120
1915651	Silver	102	102	P/P	80 - 120
1915651	Zinc	101	100	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P329098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915326	Ammonia-N	104	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P328968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915512	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P329209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915326	NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P329046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915327	Total-P	99.3	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P328951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915332	O-Phosphate-P	94.2	96.0	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P328810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915140	Aldrin	63.6	57.5	P/P	22 - 97.0
1915140	Alpha-BHC	89.3	82.0	P/P	43 - 132
1915140	Alpha-Chlordane	86.5	81.7	P/P	36 - 126
1915140	Beta-BHC	97.8	106	P/P	41 - 150
1915140	Carbophenothion	102	64.9	P/P	13 - 196
1915140	Chlorothalonil	85.0	104	P/P	10 - 266
1915140	Cypermethrin	87.3	96.3	P/P	37 - 161
1915140	DDD-p,p'	96.1	92.7	P/P	44 - 131
1915140	DDE-p,p'	91.0	83.6	P/P	32 - 127
1915140	DDT-p,p'	90.6	83.9	P/P	45 - 116
1915140	Delta-BHC	114	113	P/P	50 - 201
1915140	Dicofol	42.5	28.9	P/P	10 - 100
1915140	Dieldrin	91.5	82.0	P/P	39 - 142
1915140	Endosulfan I	100	82.7	P/P	51 - 139
1915140	Endosulfan II	88.0	90.5	P/P	49 - 155
1915140	Endosulfan Sulfate	86.8	87.8	P/P	54 - 136
1915140	Endrin	89.3	85.3	P/P	38 - 141
1915140	Endrin Aldehyde	88.3	79.0	P/P	14 - 152
1915140	Endrin Ketone	86.4	91.1	P/P	60 - 128
1915140	Gamma-BHC	97.6	93.5	P/P	48 - 157
1915140	Gamma-Chlordane	87.7	83.5	P/P	35 - 123
1915140	Heptachlor	73.1	64.9	P/P	25 - 112
1915140	Heptachlor Epoxide	92.5	85.4	P/P	48 - 125
1915140	Methoxychlor	94.0	90.4	P/P	52 - 127
1915140	Mirex	74.7	70.5	P/P	25 - 108
1915140	Permethrin	87.8	90.7	P/P	46 - 133
1915140	Trifluralin	161	165	P/P	29 - 254

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P329016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914535	Acetochlor	82.4	94.7	P/P	74 - 123
1914535	Alachlor	78.9	97.3	P/P	73 - 124
1914535	Ametryn	92.4	113	P/P	56 - 149
1914535	Atrazine Desethyl	63.9	89.8	P/P	12 - 103
1914535	Azinphos Methyl	113	136	P/P	60 - 202
1914535	Bromacil	65.9	82.3	P/P	42 - 133
1914535	Butylate	33.6	42.7	P/P	10 - 85.0
1914535	Chlorpyrifos Ethyl	83.6	93.3	P/P	53 - 113
1914535	Chlorpyrifos Methyl	72.1	92.1	P/P	40 - 115
1914535	Cyanazine	67.3	149	P/P	22 - 210
1914535	Demeton	53.1	135	P/P	17 - 149
1914535	Diazinon	69.2	99.4	F/P	72 - 124
1914535	Disulfoton	64.8	92.9	P/P	43 - 139
1914535	EPTC	28.4	36.2	P/P	10 - 86.0
1914535	Ethion	95.2	87.6	P/P	65 - 131
1914535	Ethoprop	49.9	77.8	F/P	59 - 110
1914535	Fenamiphos	89.4	92.7	P/P	57 - 138
1914535	Fonofos	53.0	82.5	F/P	60 - 112
1914535	Hexazinone	76.9	83.8	P/P	69 - 142
1914535	Malathion	97.1	101	P/P	68 - 132
1914535	Metaxyl	78.3	91.8	P/P	66 - 118
1914535	Metolachlor	82.9	97.6	P/P	71 - 124
1914535	Metribuzin	114	162	P/F	61 - 140
1914535	Mevinphos	47.0	71.0	P/P	38 - 130
1914535	Molinate	32.9	59.7	P/P	23 - 99.0
1914535	Norflurazon	65.5	85.4	P/P	39 - 139
1914535	Parathion Ethyl	77.9	81.9	P/P	75 - 111
1914535	Parathion Methyl	80.6	92.6	P/P	64 - 130
1914535	Pendimethalin	77.6	83.6	P/P	26 - 173
1914535	Phorate	45.0	84.3	P/P	43 - 127
1914535	Prometon	77.6	91.8	P/P	50 - 144
1914535	Prometryn	84.7	81.0	P/P	69 - 126
1914535	Simazine	96.5	113	P/P	51 - 152
1914535	Terbufos	50.0	85.6	F/P	54 - 125
1914535	Terbutylazine	82.9	86.4	P/P	76 - 113

Reference Method: EPA 8276

Batch ID: P328810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915146	Chlordane	97.4	103	P/P	44 - 134
1915146	Toxaphene	106	123	P/P	36 - 147

Reference Method: EPA 8321B

Batch ID: P328648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1913901	Glyphosate	114	119	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P328783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914533	Pyraclostrobin	89.4	79.2	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P329066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915441	Sucralose	66.4	61.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P329040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915531	Fluoride	99.9	101	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P329078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915067	Organic Carbon	98.2		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P329041

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915592	2,4-D	129	114	P/P	40 - 150
1915592	Acetaminophen	127	127	P/P	30 - 150
1915592	Bentazon	58.7	66.2	P/P	40 - 150
1915592	Carbamazepine	129	127	P/P	40 - 150
1915592	Fenuron	91.3	89.3	P/P	40 - 150
1915592	Fluridone	66.4	54.3	P/P	40 - 150
1915592	Imidacloprid	223	199	F/F	40 - 160
1915592	Linuron	105	98.1	P/P	40 - 150
1915592	MCP	120	105	P/P	40 - 150
1915592	Primidone	104	114	P/P	40 - 150
1915592	Triclopyr	122	106	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P328947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915648	Turbidity	9.02	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P328987

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P328987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915651	Iron	1.69	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915651	Arsenic	0.179	Spike	P	0 - 20
1915651	Cadmium	0.197	Spike	P	0 - 20
1915651	Chromium	0.0694	Spike	P	0 - 20
1915651	Copper	0.0845	Spike	P	0 - 20
1915651	Lead	0.184	Spike	P	0 - 20
1915651	Nickel	0.321	Spike	P	0 - 20
1915651	Silver	0.724	Spike	P	0 - 20
1915651	Zinc	0.233	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915326	Ammonia-N	1.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915512	Kjeldahl Nitrogen	1.25	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915326	NO2NO3-N	1.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915327	Total-P	1.33	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915332	O-Phosphate-P	1.89	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P328810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915140	Aldrin	10.1	Spike	P	0 - 30
1915140	Alpha-BHC	8.41	Spike	P	0 - 30
1915140	Alpha-Chlordane	5.67	Spike	P	0 - 30
1915140	Beta-BHC	8.34	Spike	P	0 - 30
1915140	Carbophenothion	44.3	Spike	F	0 - 30
1915140	Chlorothalonil	19.7	Spike	P	0 - 30
1915140	Cypermethrin	9.78	Spike	P	0 - 30
1915140	DDD-p,p'	3.59	Spike	P	0 - 30
1915140	DDE-p,p'	8.38	Spike	P	0 - 30
1915140	DDT-p,p'	7.74	Spike	P	0 - 30
1915140	Delta-BHC	1.40	Spike	P	0 - 30
1915140	Dicofol	38.1	Spike	F	0 - 30
1915140	Dieldrin	11.0	Spike	P	0 - 30
1915140	Endosulfan I	18.9	Spike	P	0 - 30
1915140	Endosulfan II	2.82	Spike	P	0 - 30
1915140	Endosulfan Sulfate	1.16	Spike	P	0 - 30
1915140	Endrin	4.60	Spike	P	0 - 30
1915140	Endrin Aldehyde	11.2	Spike	P	0 - 30
1915140	Endrin Ketone	5.30	Spike	P	0 - 30
1915140	Gamma-BHC	4.33	Spike	P	0 - 30
1915140	Gamma-Chlordane	4.90	Spike	P	0 - 30
1915140	Heptachlor	12.0	Spike	P	0 - 30
1915140	Heptachlor Epoxide	7.99	Spike	P	0 - 30
1915140	Methoxychlor	3.88	Spike	P	0 - 30
1915140	Mirex	5.71	Spike	P	0 - 30
1915140	Permethrin	3.18	Spike	P	0 - 30
1915140	Trifluralin	2.03	Spike	P	0 - 30
LFB	Aldrin	8.03	LCS	P	0 - 30
LFB	Alpha-BHC	7.11	LCS	P	0 - 30
LFB	Alpha-Chlordane	8.55	LCS	P	0 - 30
LFB	Beta-BHC	1.40	LCS	P	0 - 30
LFB	Carbophenothion	16.6	LCS	P	0 - 30
LFB	Chlorothalonil	4.63	LCS	P	0 - 30
LFB	Cypermethrin	0.258	LCS	P	0 - 30
LFB	DDD-p,p'	11.5	LCS	P	0 - 30
LFB	DDE-p,p'	10.9	LCS	P	0 - 30
LFB	DDT-p,p'	8.40	LCS	P	0 - 30
LFB	Delta-BHC	12.1	LCS	P	0 - 30
LFB	Dicofol	5.77	LCS	P	0 - 30
LFB	Dieldrin	5.75	LCS	P	0 - 30
LFB	Endosulfan I	9.65	LCS	P	0 - 30
LFB	Endosulfan II	16.3	LCS	P	0 - 30
LFB	Endosulfan Sulfate	9.96	LCS	P	0 - 30
LFB	Endrin	0.388	LCS	P	0 - 30
LFB	Endrin Aldehyde	12.6	LCS	P	0 - 30
LFB	Endrin Ketone	7.82	LCS	P	0 - 30
LFB	Gamma-BHC	1.50	LCS	P	0 - 30
LFB	Gamma-Chlordane	10.2	LCS	P	0 - 30
LFB	Heptachlor	8.52	LCS	P	0 - 30
LFB	Heptachlor Epoxide	8.02	LCS	P	0 - 30
LFB	Methoxychlor	8.47	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P328810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Mirex	6.76	LCS	P	0 - 30
LFB	Permethrin	7.85	LCS	P	0 - 30
LFB	Trifluralin	6.69	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P329016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914535	Acetochlor	14.0	Spike	P	0 - 30
1914535	Alachlor	20.9	Spike	P	0 - 30
1914535	Ametryn	20.0	Spike	P	0 - 30
1914535	Atrazine	3.68	Spike	P	0 - 30
1914535	Atrazine Desethyl	24.9	Spike	P	0 - 30
1914535	Azinphos Methyl	19.2	Spike	P	0 - 30
1914535	Bromacil	18.0	Spike	P	0 - 30
1914535	Butylate	23.9	Spike	P	0 - 30
1914535	Chlorpyrifos Ethyl	11.0	Spike	P	0 - 30
1914535	Chlorpyrifos Methyl	24.3	Spike	P	0 - 30
1914535	Cyanazine	75.6	Spike	F	0 - 30
1914535	Demeton	87.3	Spike	F	0 - 30
1914535	Diazinon	35.9	Spike	F	0 - 30
1914535	Disulfoton	35.7	Spike	F	0 - 30
1914535	EPTC	24.1	Spike	P	0 - 30
1914535	Ethion	8.35	Spike	P	0 - 30
1914535	Ethoprop	43.8	Spike	F	0 - 30
1914535	Fenamiphos	3.57	Spike	P	0 - 30
1914535	Fipronil	28.0	Spike	P	0 - 30
1914535	Fipronil Sulfide	16.0	Spike	P	0 - 30
1914535	Fipronil Sulfone	28.4	Spike	P	0 - 30
1914535	Fonofos	43.6	Spike	F	0 - 30
1914535	Hexazinone	8.62	Spike	P	0 - 30
1914535	Malathion	3.86	Spike	P	0 - 30
1914535	Metalaxyl	15.9	Spike	P	0 - 30
1914535	Metolachlor	15.7	Spike	P	0 - 30
1914535	Metribuzin	34.3	Spike	F	0 - 30
1914535	Mevinphos	40.6	Spike	F	0 - 30
1914535	Molinate	57.9	Spike	F	0 - 30
1914535	Norflurazon	26.4	Spike	P	0 - 30
1914535	Parathion Ethyl	4.96	Spike	P	0 - 30
1914535	Parathion Methyl	13.9	Spike	P	0 - 30
1914535	Pendimethalin	7.46	Spike	P	0 - 30
1914535	Phorate	60.8	Spike	F	0 - 30
1914535	Prometon	14.4	Spike	P	0 - 30
1914535	Prometryn	4.53	Spike	P	0 - 30
1914535	Simazine	16.1	Spike	P	0 - 30
1914535	Terbufos	52.5	Spike	F	0 - 30
1914535	Terbuthylazine	4.14	Spike	P	0 - 30
LFB	Acetochlor	4.17	LCS	P	0 - 30
LFB	Alachlor	3.95	LCS	P	0 - 30
LFB	Ametryn	3.20	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P329016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	4.77	LCS	P	0 - 30
LFB	Atrazine Desethyl	4.76	LCS	P	0 - 30
LFB	Azinphos Methyl	5.65	LCS	P	0 - 30
LFB	Bromacil	9.08	LCS	P	0 - 30
LFB	Butylate	19.9	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	9.81	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.64	LCS	P	0 - 30
LFB	Cyanazine	1.84	LCS	P	0 - 30
LFB	Demeton	13.8	LCS	P	0 - 30
LFB	Diazinon	5.18	LCS	P	0 - 30
LFB	Disulfoton	0.757	LCS	P	0 - 30
LFB	EPTC	14.4	LCS	P	0 - 30
LFB	Ethion	5.70	LCS	P	0 - 30
LFB	Ethoprop	9.54	LCS	P	0 - 30
LFB	Fenamiphos	12.1	LCS	P	0 - 30
LFB	Fipronil	12.1	LCS	P	0 - 30
LFB	Fipronil Sulfide	19.9	LCS	P	0 - 30
LFB	Fipronil Sulfone	14.6	LCS	P	0 - 30
LFB	Fonofos	8.03	LCS	P	0 - 30
LFB	Hexazinone	2.98	LCS	P	0 - 30
LFB	Malathion	5.22	LCS	P	0 - 30
LFB	Metalaxyl	1.43	LCS	P	0 - 30
LFB	Metolachlor	3.67	LCS	P	0 - 30
LFB	Metribuzin	7.33	LCS	P	0 - 30
LFB	Mevinphos	13.6	LCS	P	0 - 30
LFB	Molinate	20.1	LCS	P	0 - 30
LFB	Norflurazon	9.11	LCS	P	0 - 30
LFB	Parathion Ethyl	0.198	LCS	P	0 - 30
LFB	Parathion Methyl	4.19	LCS	P	0 - 30
LFB	Pendimethalin	3.43	LCS	P	0 - 30
LFB	Phorate	16.6	LCS	P	0 - 30
LFB	Prometon	0.530	LCS	P	0 - 30
LFB	Prometryn	1.82	LCS	P	0 - 30
LFB	Simazine	12.7	LCS	P	0 - 30
LFB	Terbufos	7.69	LCS	P	0 - 30
LFB	Terbutylazine	6.67	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P328810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915146	Chlordane	5.31	Spike	P	0 - 30
1915146	Toxaphene	15.0	Spike	P	0 - 30
LFB	Chlordane	5.95	LCS	P	0 - 30
LFB	Toxaphene	11.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P328648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913901	Glyphosate	4.42	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P328783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914533	Pyraclostrobin	12.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P329066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915441	Sucralose	7.00	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P329038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915531	Total Alkalinity	0.372	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P329040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915531	Fluoride	0.502	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P329078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915067	Organic Carbon	2.38	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P329041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915592	2,4-D	6.96	Spike	P	0 - 30
1915592	Acetaminophen	0.236	Spike	P	0 - 30
1915592	Bentazon	5.50	Spike	P	0 - 30
1915592	Carbamazepine	1.60	Spike	P	0 - 30
1915592	Diuron	15.1	Spike	P	0 - 30
1915592	Fenuron	2.21	Spike	P	0 - 30
1915592	Fluridone	13.4	Spike	P	0 - 30
1915592	Imidacloprid	9.12	Spike	P	0 - 30
1915592	Linuron	6.93	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01

Batch ID: P329041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915592	MCP	13.4	Spike	P	0 - 30
1915592	Primidone	9.31	Spike	P	0 - 30
1915592	Triclopyr	14.8	Spike	P	0 - 30

* 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: 1915695

Field Sample ID: G1SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.3	P	30 - 160
EPA 8321B	Diuron-d6	72.8	P	30 - 160
EPA 8321B	Diuron-d6	90.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	3.03	F	40 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	40 - 160
USGS O-2060-01	2,4-D-d3	158	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	123	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	98.3	P	30 - 160
USGS O-2060-01	Diuron-d6	72.8	P	30 - 160
USGS O-2060-01	Diuron-d6	90.8	P	30 - 160
USGS O-2060-01	Primidone-d5	109	P	30 - 160

Lab Sample ID: 1915696

Field Sample ID: DUPLICATE

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	145	P	30 - 160
EPA 8321B	Carbamazepine-d10	115	P	30 - 160
EPA 8321B	Diuron-d6	70.0	P	30 - 160
EPA 8321B	Diuron-d6	84.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	1.06	F	40 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	140	P	40 - 160
USGS O-2060-01	2,4-D-d3	150	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	145	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	115	P	30 - 160
USGS O-2060-01	Diuron-d6	70.0	P	30 - 160
USGS O-2060-01	Diuron-d6	84.8	P	30 - 160
USGS O-2060-01	Primidone-d5	112	P	30 - 160

Lab Sample ID: 1915697

Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report Surrogates

Lab Sample ID: 1915697

Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	130	P	30 - 160
EPA 8321B	Diuron-d6	83.4	P	30 - 160
EPA 8321B	Diuron-d6	132	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	54.4	P	40 - 160
EPA 8321B	Primidone-d5	118	P	30 - 160
EPA 8321B	Sucralose-d6	81.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	103	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	117	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	130	P	30 - 160
USGS O-2060-01	Diuron-d6	83.4	P	30 - 160
USGS O-2060-01	Diuron-d6	132	P	30 - 160
USGS O-2060-01	Primidone-d5	118	P	30 - 160

Lab Sample ID: 1915698

Field Sample ID: G1SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	52.8	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	32.9	P	32 - 103
EPA 8276	Decachlorobiphenyl	46.4	P	31 - 100

Lab Sample ID: 1915699

Field Sample ID: DUPLICATE

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	62.0	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	35.4	P	32 - 103
EPA 8276	Decachlorobiphenyl	57.2	P	31 - 100

Lab Sample ID: 1915700

Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	74.0	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	61.5	P	32 - 103
EPA 8276	Decachlorobiphenyl	67.4	P	31 - 100

Lab Sample ID: 1915701

Field Sample ID: G1SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	88.0	P	53 - 135
EPA 8270D	Simazine-d10	92.1	P	71 - 126

Lab Sample ID: 1915702

Field Sample ID: DUPLICATE

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	88.5	P	53 - 135
EPA 8270D	Simazine-d10	98.0	P	71 - 126

Quality Assurance Report Surrogates

Lab Sample ID: 1915703
 Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	85.6	P	53 - 135
EPA 8270D	Simazine-d10	101	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
 Run ID: A77872
 Included Lab Sample IDs: 1915689

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Run ID: A77873
 Included Lab Sample IDs: 1915691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	97.6	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A77914
 Included Lab Sample IDs: 1915695, 1915696, 1915697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	113	83.5	P/P	60 - 150

Reference Method: SM 2320 B-97
 Run ID: A77919
 Included Lab Sample IDs: 1915689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Run ID: A77919
 Included Lab Sample IDs: 1915689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.2	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A77931
 Included Lab Sample IDs: 1915695, 1915696, 1915697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	102	81.0	P/P	70 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77933

Included Lab Sample IDs: 1915690

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

Reference Method: SM 5310 B-00

Run ID: A77939

Included Lab Sample IDs: 1915690

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77942

Included Lab Sample IDs: 1915704

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77945

Included Lab Sample IDs: 1915690

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77971

Included Lab Sample IDs: 1915690

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77973

Included Lab Sample IDs: 1915704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	104	P/P	90 - 110
Cadmium	105	104	P/P	90 - 110
Chromium	103	98.6	P/P	90 - 110
Copper	102	102	P/P	90 - 110
Lead	98.6	99.2	P/P	90 - 110
Nickel	102	102	P/P	90 - 110
Silver	99.1	99.3	P/P	90 - 110
Zinc	104	104	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A77976

Included Lab Sample IDs: 1915698, 1915699, 1915700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.4		P	80 - 120
Toxaphene	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77988

Included Lab Sample IDs: 1915690

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

Reference Method: EPA 8270D

Run ID: A78023

Included Lab Sample IDs: 1915699, 1915700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.1		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	93.5		P	80 - 120
Beta-BHC	107		P	80 - 120
Carbophenothion	92.5		P	80 - 120
Chlorothalonil	74.1*		F	80 - 120
Cypermethrin	91.1		P	80 - 120
DDD-p,p'	97.2		P	80 - 120
DDE-p,p'	98.9		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	99.4		P	80 - 120
Dicofol	163*		F	80 - 120
Dieldrin	97.4		P	80 - 120
Endosulfan I	88.2		P	80 - 120
Endosulfan II	86.1		P	80 - 120
Endosulfan Sulfate	96.6		P	80 - 120
Endrin	92.9		P	80 - 120
Endrin Aldehyde	94.0		P	80 - 120
Endrin Ketone	99.4		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	99.0		P	80 - 120
Heptachlor	94.7		P	80 - 120
Heptachlor Epoxide	97.7		P	80 - 120
Methoxychlor	104		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	94.3		P	80 - 120
Trifluralin	89.4		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78078

Included Lab Sample IDs: 1915698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.2		P	80 - 120
Alpha-BHC	98.1		P	80 - 120
Alpha-Chlordane	95.8		P	80 - 120
Beta-BHC	111		P	80 - 120
Carbophenothion	92.3		P	80 - 120
Chlorothalonil	93.9		P	80 - 120
Cypermethrin	95.9		P	80 - 120
DDD-p,p'	99.7		P	80 - 120
DDE-p,p'	99.0		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	103		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270D

Run ID: A78078

Included Lab Sample IDs: 1915698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dicofol	108		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	90.4		P	80 - 120
Endosulfan II	92.9		P	80 - 120
Endosulfan Sulfate	96.8		P	80 - 120
Endrin	97.4		P	80 - 120
Endrin Aldehyde	94.2		P	80 - 120
Endrin Ketone	98.4		P	80 - 120
Gamma-BHC	106		P	80 - 120
Gamma-Chlordane	99.8		P	80 - 120
Heptachlor	94.7		P	80 - 120
Heptachlor Epoxide	98.2		P	80 - 120
Methoxychlor	107		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	95.4		P	80 - 120
Trifluralin	98.3		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78232

Included Lab Sample IDs: 1915701, 1915702, 1915703

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	95.7		P	80 - 120
Alachlor	99.9		P	80 - 120
Ametryn	100		P	80 - 120
Atrazine	94.5		P	80 - 120
Atrazine Desethyl	94.3		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	96.5		P	80 - 120
Chlorpyrifos Ethyl	94.7		P	80 - 120
Chlorpyrifos Methyl	93.8		P	80 - 120
Cyanazine	83.5		P	80 - 120
Demeton	97.5		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	96.7		P	80 - 120
EPTC	98.5		P	80 - 120
Ethion	91.4		P	80 - 120
Ethoprop	96.4		P	80 - 120
Fenamiphos	96.6		P	80 - 120
Fipronil	93.9		P	80 - 120
Fipronil Sulfide	91.4		P	80 - 120
Fipronil Sulfone	91.9		P	80 - 120
Fonofos	102		P	80 - 120
Hexazinone	97.8		P	80 - 120
Malathion	95.6		P	80 - 120
Metaxyl	96.3		P	80 - 120
Metolachlor	99.9		P	80 - 120
Metribuzin	85.7		P	80 - 120
Mevinphos	97.5		P	80 - 120
Molinate	97.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A78232

Included Lab Sample IDs: 1915701, 1915702, 1915703

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Norflurazon	93.1		P	80 - 120
Parathion Ethyl	94.2		P	80 - 120
Parathion Methyl	91.4		P	80 - 120
Pendimethalin	88.9		P	80 - 120
Phorate	98.3		P	80 - 120
Prometon	96.0		P	80 - 120
Prometryn	96.4		P	80 - 120
Simazine	95.3		P	80 - 120
Terbufos	91.4		P	80 - 120
Terbuthylazine	99.6		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78234

Included Lab Sample IDs: 1915701, 1915702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	88.7		P	80 - 120

Reference Method: EPA 8321B

Run ID: A78247

Included Lab Sample IDs: 1915695, 1915696, 1915697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	111	120	P/P	60 - 160
Sucralose	60.3	122	P/P	60 - 160

Reference Method: USGS O-2060-01

Run ID: A78250

Included Lab Sample IDs: 1915695, 1915696, 1915697

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	73.4	P/P	50 - 150
2,4-D	65.8	84.5	P/P	50 - 150
Acetaminophen	88.0	99.5	P/P	60 - 150
Bentazon	97.1	122	P/P	50 - 150
Carbamazepine	101	95.7	P/P	60 - 150
Diuron	102	89.7	P/P	60 - 150
Fenuron	112	99.9	P/P	60 - 150
Fluridone	103	103	P/P	60 - 160
Fluridone	106	99.1	P/P	60 - 160
Imidacloprid	99.6	92.6	P/P	60 - 150
Linuron	88.6	81.8	P/P	60 - 150
MCPP	102	82.8	P/P	50 - 150
Primidone	75.5	93.4	P/P	60 - 150
Triclopyr	125	84.2	P/P	50 - 150

* 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							9.02	
EPA 200.7 Rev. 4.4	Iron	101		105	106	104			1.69
EPA 200.8 Rev. 5.4	Arsenic	104		104	105	105			0.179
	Cadmium	103		109	110	110			0.197
	Chromium	101		103	102	102			0.0694
	Copper	101		97.4	97.7	97.8			0.0845
	Lead	99.3		99.6	100	100			0.184
	Nickel	102		99.8	99.2	99.5			0.321
	Silver	99.9		102	102	102			0.724
	Zinc	100		99.4	101	100			0.233
EPA 350.1 Rev. 2.0	Ammonia-N	103		104	106				1.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109		102	101				1.25
EPA 353.2 Rev. 2.0	NO2NO3-N	102		104	102				1.37
EPA 365.1 Rev. 2.0	Total-P	101		99.3	101				1.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		94.2	96.0				1.89
EPA 8270D	Acetochlor	88.8	92.5	82.4	94.7		4.17		14.0
	Alachlor	88.5	92.0	78.9	97.3		3.95		20.9
	Aldrin	55.9	51.6	63.6	57.5		8.03		10.1
	Alpha-BHC	90.7	84.5	89.3	82.0		7.11		8.41
	Alpha-Chlordane	91.1	83.6	86.5	81.7		8.55		5.67
	Ametryn	83.4	80.8	92.4	113		3.20		20.0
	Atrazine	96.9	92.4				4.77		3.68
	Atrazine Desethyl	80.2	84.1	63.9	89.8		4.76		24.9
	Azinphos Methyl	119	126	113	136		5.65		19.2
	Beta-BHC	106	105	97.8	106		1.40		8.34
	Bromacil	84.1	92.1	65.9	82.3		9.08		18.0
	Butylate	42.0	51.3	33.6	42.7		19.9		23.9
	Carbophenothion	102	86.3	102	64.9		16.6		44.3
	Chlorothalonil	40.9	42.8	85.0	104		4.63		19.7
	Chlorpyrifos Ethyl	93.1	103	83.6	93.3		9.81		11.0
	Chlorpyrifos Methyl	89.4	96.5	72.1	92.1		7.64		24.3
	Cyanazine	121	123	67.3	149		1.84		75.6
	Cypermethrin	85.1	84.9	87.3	96.3		0.258		9.78
	DDD-p,p'	103	91.9	96.1	92.7		11.5		3.59
	DDE-p,p'	95.5	85.6	91.0	83.6		10.9		8.38
	DDT-p,p'	95.0	87.3	90.6	83.9		8.40		7.74
	Delta-BHC	113	100	114	113		12.1		1.40
	Demeton	72.2	82.9	53.1	135		13.8		87.3
	Diazinon	87.3	92.0	69.2	99.4		5.18		35.9
	Dicofol	65.3	69.1	42.5	28.9		5.77		38.1
	Dieldrin	96.8	91.4	91.5	82.0		5.75		11.0
	Disulfoton	79.4	80.0	64.8	92.9		0.757		35.7
	Endosulfan I	94.5	85.8	100	82.7		9.65		18.9
	Endosulfan II	99.0	84.1	88.0	90.5		16.3		2.82
	Endosulfan Sulfate	94.9	85.9	86.8	87.8		9.96		1.16
	Endrin	101	102	89.3	85.3		0.388		4.60
	Endrin Aldehyde	102	89.7	88.3	79.0		12.6		11.2
	Endrin Ketone	97.7	90.3	86.4	91.1		7.82		5.30
	EPTC	44.2	51.1	28.4	36.2		14.4		24.1
	Ethion	96.9	103	95.2	87.6		5.70		8.35
	Ethoprop	67.5	74.2	49.9	77.8		9.54		43.8
	Fenamiphos	90.2	102	89.4	92.7		12.1		3.57
	Fipronil	78.1	88.1				12.1		28.0
	Fipronil Sulfide	76.3	93.2				19.9		16.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Fipronil Sulfone	80.0	92.6			14.6	28.4
	Fonofos	80.4	87.2	53.0	82.5	8.03	43.6
	Gamma-BHC	96.5	97.9	97.6	93.5	1.50	4.33
	Gamma-Chlordane	95.1	85.9	87.7	83.5	10.2	4.90
	Heptachlor	79.5	73.0	73.1	64.9	8.52	12.0
	Heptachlor Epoxide	94.6	87.3	92.5	85.4	8.02	7.99
	Hexazinone	86.3	88.9	76.9	83.8	2.98	8.62
	Malathion	102	107	97.1	101	5.22	3.86
	Metalaxyl	85.8	87.0	78.3	91.8	1.43	15.9
	Methoxychlor	107	98.6	94.0	90.4	8.47	3.88
	Metolachlor	89.5	92.8	82.9	97.6	3.67	15.7
	Metribuzin	112	120	114	162	7.33	34.3
	Mevinphos	67.9	77.9	47.0	71.0	13.6	40.6
	Mirex	81.9	76.6	74.7	70.5	6.76	5.71
	Molinate	52.1	63.7	32.9	59.7	20.1	57.9
	Norflurazon	84.9	93.0	65.5	85.4	9.11	26.4
	Parathion Ethyl	85.2	85.4	77.9	81.9	0.198	4.96
	Parathion Methyl	93.0	97.0	80.6	92.6	4.19	13.9
	Pendimethalin	86.7	83.7	77.6	83.6	3.43	7.46
	Permethrin	93.5	86.4	87.8	90.7	7.85	3.18
	Phorate	80.3	67.9	45.0	84.3	16.6	60.8
	Prometon	90.5	90.0	77.6	91.8	0.530	14.4
	Prometryn	89.2	90.8	84.7	81.0	1.82	4.53
	Simazine	102	89.6	96.5	113	12.7	16.1
	Terbufos	74.7	80.7	50.0	85.6	7.69	52.5
	Terbuthylazine	91.9	98.2	82.9	86.4	6.67	4.14
	Trifluralin	149	139	161	165	6.69	2.03
EPA 8276	Chlordane	87.5	82.5	97.4	103	5.95	5.31
	Toxaphene	98.6	88.3	106	123	11.0	15.0
EPA 8321B	Glyphosate	123		114	119		4.42
	Pyraclostrobin	102		89.4	79.2		12.1
	Sucralose	56.0		66.4	61.9		7.00
SM 2320 B-97	Total Alkalinity	102				0.372	
SM 4500 F-C-97	Fluoride	96.5		99.9	101		0.502
SM 5310 B-00	Organic Carbon	102		98.2			2.38
USGS O-2060-01	2,4-D	107		129	114		6.96
	Acetaminophen	107		127	127		0.236
	Bentazon	100		58.7	66.2		5.50
	Carbamazepine	103		129	127		1.60
	Diuron	97.3					15.1
	Fenuron	115		91.3	89.3		2.21
	Fluridone	99.5		66.4	54.3		13.4
	Imidacloprid	102		223	199		9.12
	Linuron	101		105	98.1		6.93
	MCPP	97.5		120	105		13.4
	Primidone	112		104	114		9.31
	Triclopyr	92.8		122	106		14.8

Reference Method Descriptions

Method / DoH Cert

EPA 180.1 Rev. 2.0 /
E31780

Description

Turbidity in aqueous matrices

Associated Samples

1915689

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1915704
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1915704
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1915690
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1915690
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1915690
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1915690
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1915691
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1915698, 1915699, 1915700
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1915701, 1915702, 1915703
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1915698, 1915699, 1915700
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1915695, 1915696, 1915697
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1915695, 1915696, 1915697
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1915695, 1915696, 1915697
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1915689
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1915689
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1915689
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1915690
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1915695, 1915696, 1915697
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1915695, 1915696, 1915697

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	07/21/2017			07/21/2017 15:46	DeAsia Armster	1915689
EPA 200.7 Rev. 4.4	07/21/2017	07/24/2017	Elliott D. Healy	07/25/2017	Betina Topolski	1915704
EPA 200.8 Rev. 5.4	07/21/2017	07/24/2017	Elliott D. Healy	07/26/2017	Nadine Brooks	1915704
EPA 350.1 Rev. 2.0	07/21/2017			07/25/2017	Sofia Elnemr	1915690
EPA 351.2 Rev. 2.0	07/21/2017	07/24/2017	Adrian Shelby	07/25/2017	Joseph Suarez	1915690
EPA 353.2 Rev. 2.0	07/21/2017			07/27/2017	Beverly Y. Sanders	1915690
EPA 365.1 Rev. 2.0	07/21/2017	07/25/2017	Vijayalakshmi Reddy	07/26/2017	Lipi Saha	1915690
EPA 365.1 Rev. 2.0 dissolved	07/21/2017			07/21/2017 15:55	Ping Hua	1915691
EPA 8270D	07/21/2017	07/21/2017	Fe-Val Siddell	07/25/2017	Vandana T. Nagar	1915699, 1915700
	07/21/2017	07/21/2017	Fe-Val Siddell	07/31/2017	Vandana T. Nagar	1915698
	07/21/2017	07/24/2017	John Kaba	08/01/2017	Irina Carbone	1915701
	07/21/2017	07/24/2017	John Kaba	08/02/2017	Irina Carbone	1915701, 1915702, 1915703
EPA 8276	07/21/2017	07/21/2017	Fe-Val Siddell	07/26/2017	John P. Burgos	1915698, 1915699, 1915700
EPA 8321B	07/21/2017	07/21/2017	Julie Michelle Frank	07/21/2017	Julie Michelle Frank	1915695, 1915696, 1915697
	07/21/2017	07/24/2017	Julie Michelle Frank	07/24/2017	Julie Michelle Frank	1915695, 1915696, 1915697
	07/21/2017	07/27/2017	Julie Michelle Frank	08/04/2017	Mohammad Ghaffari	1915695, 1915696, 1915697
SM 2320 B-97	07/21/2017			07/25/2017	Dale L. Simmons	1915689
SM 2540 D-97	07/21/2017			07/26/2017	Yijie Li	1915689
SM 4500 F-C-97	07/21/2017			07/25/2017	Dale L. Simmons	1915689
SM 5310 B-00	07/21/2017			07/25/2017	Sofia Elnemr	1915690
USGS O-2060-01	07/21/2017	07/25/2017	Hoor Shaik	08/02/2017	Juyoung Kim	1915695, 1915696, 1915697
	07/21/2017	07/25/2017	Hoor Shaik	08/03/2017	Juyoung Kim	1915695, 1915696