Chemical Analysis Report

NE-DIST-2018-02-22-01

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

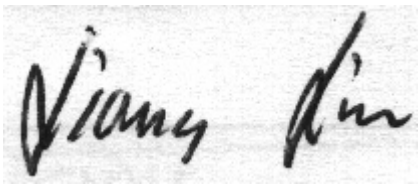
Event Description: **Santa Fe**
Request ID: **RQ-2018-02-19-16**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 05-APR-2018 14:57



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: OLUSTEE CREEK AT SR-18 **Collection Date/Time: 02/21/2018 09:10**

Field ID: 21030071 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969609	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P340456	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P340796	
		Sulfate	0.29	I	mg SO4/L	P340800	
	SM 2120 B	Color (true)	460		PCU	P340449	
	SM 2320 B-97	Total Alkalinity	2.4	I	mg CaCO3/L	P340876	
	SM 2540 C-97	TDS	114		mg/L	P340805	
	SM 2540 D-97	TSS	2	U	mg/L	P340881	
	SM 4500 F-C-97	Fluoride	0.065	I	mg F/L	P340880	
1969610	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P340912	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P340556	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P340587	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P340581	
	SM 5310 B-00	Organic Carbon	43		mg C/L	P340632	
1969611	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P340478	
1969656	EPA 8321B	2,4-D	0.0020	U	ug/L	P340347	
		Sucralose**	0.037	I	ug/L	P340408	
		Bentazon	8.0E-04	U	ug/L	P340347	MS
		MCPP	0.0020	U	ug/L	P340347	MS
		Triclopyr**	0.0040	U	ug/L	P340347	
		Imidacloprid	0.0020	U	ug/L	P340347	
		Diuron	0.0020	U	ug/L	P340347	
		Pyraclostrobin**	0.0020	U	ug/L	P340347	
		Primidone**	0.0040	U	ug/L	P340347	
		Linuron	0.0040	U	ug/L	P340347	
		Acetaminophen**	0.0080	U	ug/L	P340347	
		Fenuron	0.0080	U	ug/L	P340347	
		Imazapyr**	0.13		ug/L	P340347	
		Carbamazepine**	4.0E-04	U	ug/L	P340347	
		Fluridone**	8.0E-04	U	ug/L	P340347	
		Glyphosate**	0.10	U	ug/L	P340488	
		AMPA**	0.10	U	ug/L	P340488	
1969657		Aldicarb	0.020	U	ug/L	P340347	
		Aldicarb Sulfone	0.0020	U	ug/L	P340347	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P340347	
		Carbaryl	0.0020	U	ug/L	P340347	
		Carbofuran	0.0020	U	ug/L	P340347	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P340347	
		Methiocarb	0.0020	U	ug/L	P340347	
		Methomyl	0.0020	U	ug/L	P340347	
		Oxamyl	0.0020	U	ug/L	P340347	
		Propoxur	0.0020	U	ug/L	P340347	
1969681	EPA 8270D	Aldrin	4.2	U	ng/L	P340346	
		Alpha-BHC	2.1	U	ng/L	P340346	

Field ID: 21030071 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969681	EPA 8270D	Beta-BHC	4.2	U	ng/L	P340346	
		Delta-BHC	4.2	U	ng/L	P340346	
		Gamma-BHC	4.2	U	ng/L	P340346	
		Carbophenothion	4.2	U	ng/L	P340346	
		Chlorothalonil	2.1	U	ng/L	P340346	
		Cypermethrin	21	U	ng/L	P340346	
		DDD-p,p'	3.1	U	ng/L	P340346	
		DDE-p,p'	3.1	U	ng/L	P340346	
		DDT-p,p'	3.1	U	ng/L	P340346	
		Dieldrin	4.2	U	ng/L	P340346	
		Endosulfan I	4.2	U	ng/L	P340346	
		Endosulfan II	4.2	U	ng/L	P340346	
		Endosulfan Sulfate	2.1	U	ng/L	P340346	
		Endrin	2.1	U	ng/L	P340346	
		Endrin Aldehyde	2.1	U	ng/L	P340346	
		Heptachlor	1.6	U	ng/L	P340346	
		Heptachlor Epoxide	2.1	U	ng/L	P340346	
		Methoxychlor	4.2	U	ng/L	P340346	
		Mirex	2.1	U	ng/L	P340346	
		Permethrin	10	U	ng/L	P340346	
		Trifluralin	1.0	U	ng/L	P340346	
		Alpha-Chlordane	1.0	U	ng/L	P340346	
		Gamma-Chlordane	1.0	U	ng/L	P340346	
		Endrin Ketone	2.1	U	ng/L	P340346	
		Dicofol	31	U	ng/L	P340346	
	EPA 8276	Chlordane**	8.0	IJ	ng/L	P340346	SUR
		Toxaphene**	31	UJ	ng/L	P340346	SUR
1969682	EPA 8270D	Alachlor	0.24	U	ng/L	P340620	
		Ametryn	0.31	U	ng/L	P340620	
		Atrazine	0.40	I	ng/L	P340620	
		Atrazine Desethyl	1.4	U	ng/L	P340620	
		Azinphos Methyl	2.1	U	ng/L	P340620	
		Bromacil	0.47	U	ng/L	P340620	
		Butylate	0.38	U	ng/L	P340620	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P340620	
		Chlorpyrifos Methyl	0.094	U	ng/L	P340620	
		Demeton	1.9	U	ng/L	P340620	
		Diazinon	0.12	U	ng/L	P340620	
		Disulfoton	0.47	U	ng/L	P340620	
		EPTC	1.2	U	ng/L	P340620	
		Ethion	0.14	U	ng/L	P340620	
		Ethoprop	0.094	UJ	ng/L	P340620	MS
		Fenamiphos	0.24	U	ng/L	P340620	
		Fipronil	0.24	U	ng/L	P340620	
		Fipronil Sulfide	0.14	U	ng/L	P340620	

Field ID: 21030071 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969682	EPA 8270D	Fipronil Sulfone	0.14	U	ng/L	P340620	
		Hexazinone	0.47	U	ng/L	P340620	
		Malathion	0.33	U	ng/L	P340620	
		Metribuzin	0.19	U	ng/L	P340620	
		Mevinphos	0.47	U	ng/L	P340620	
		Molinate	0.28	U	ng/L	P340620	
		Norflurazon	0.47	U	ng/L	P340620	
		Pendimethalin	0.94	U	ng/L	P340620	
		Phorate	0.24	U	ng/L	P340620	
		Prometon	0.85	U	ng/L	P340620	
		Prometryn	0.19	U	ng/L	P340620	
		Simazine	0.47	U	ng/L	P340620	
		Terbufos	0.094	U	ng/L	P340620	
		Terbuthylazine	0.40	U	ng/L	P340620	
		Fonofos	0.19	U	ng/L	P340620	
		Metalaxyl	0.24	U	ng/L	P340620	
		Metolachlor	0.24	U	ng/L	P340620	
		Acetochlor	0.24	U	ng/L	P340620	
		Cyanazine	0.47	U	ng/L	P340620	
		Parathion Ethyl	0.24	U	ng/L	P340620	
		Parathion Methyl	0.24	U	ng/L	P340620	
1969698	EPA 200.7 Rev. 4.4	Calcium	5.47		mg/L	P340753	
		Iron	870		ug/L	P340753	
		Magnesium	2.23		mg/L	P340753	
		Potassium	0.30	U	mg/L	P340753	
		Sodium	5.7		mg/L	P340753	
		Zinc	5.0	U	ug/L	P340753	
	EPA 200.8 Rev. 5.4	Arsenic	0.48		ug/L	P340753	
		Cadmium	0.022	I	ug/L	P340753	
		Chromium	3.8		ug/L	P341282	
		Copper	0.47	I	ug/L	P341282	
		Lead	0.54		ug/L	P340753	
		Nickel	1.89		ug/L	P341282	
		Silver	0.010	U	ug/L	P340753	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Fenuron and pyraclostrobin were detected in the method blank slightly above the MDL. Results confirmed in re-extraction.
EPA 8276: Refer to the narrative for an explanation of QC Codes.
EPA 8270D: Duplicate matrix spike was lost in preparation and is not reported. Refer to the narrative for an explanation of QC Codes.

Sample Location: GRASSY HOLE SPRING ICHETUCKNEE **Collection Date/Time: 02/21/2018 09:55**

Field ID: 21030051FLA Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969612	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P340456	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P340796	

Field ID: 21030051FLA Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969612	EPA 300.0 Rev. 2.1	Sulfate	17		mg SO4/L	P340800	
	SM 2120 B	Color (true)	2.5	U	PCU	P340449	
	SM 2320 B-97	Total Alkalinity	156		mg CaCO3/L	P340876	
	SM 2540 C-97	TDS	213		mg/L	P340805	
	SM 2540 D-97	TSS	2	U	mg/L	P340881	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P340880	
1969615	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P340914	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P340556	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.60		mg N/L	P340587	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P340581	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P340632	
1969618	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P340478	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: SANTA FE RIVER @ HOLLINGSWORTH BLUFF Collection Date/Time: 02/21/2018 10:40

Field ID: 21030145 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969613	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P340456	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P340796	
		Sulfate	20		mg SO4/L	P340800	
	SM 2120 B	Color (true)	170		PCU	P340449	
	SM 2320 B-97	Total Alkalinity	107		mg CaCO3/L	P340876	
	SM 2540 C-97	TDS	222	A	mg/L	P340805	
	SM 2540 D-97	TSS	2	UA	mg/L	P340881	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P340880	
1969616	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P340914	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P340558	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.56		mg N/L	P340587	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P340581	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P340632	
1969619	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.087		mg P/L	P340478	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: COW CREEK AT SR 138 Collection Date/Time: 02/21/2018 10:55

Field ID: 21030086 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969614	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P340456	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P340796	
		Sulfate	0.20	U	mg SO4/L	P340800	
	SM 2120 B	Color (true)	320		PCU	P340449	

Field ID: 21030086 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969614	SM 2320 B-97	Total Alkalinity	71		mg CaCO3/L	P340876	
	SM 2540 C-97	TDS	169		mg/L	P340805	
	SM 2540 D-97	TSS	2	U	mg/L	P340881	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P340880	
1969617	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P340914	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P340558	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P340587	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P340581	
	SM 5310 B-00	Organic Carbon	33		mg C/L	P340632	
1969620	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P340478	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: COW CREEK AT SR 138 **Collection Date/Time: 02/21/2018 10:55**

Field ID: 21030086 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969658	EPA 8321B	2,4-D	0.0020	U	ug/L	P340347	
		Sucralose**	0.010	U	ug/L	P340408	
		Bentazon	8.0E-04	U	ug/L	P340347	MS
		MCPP	0.0020	U	ug/L	P340347	MS
		Triclopyr**	0.0040	U	ug/L	P340347	
		Imidacloprid	0.0020	U	ug/L	P340347	
		Diuron	0.0020	U	ug/L	P340347	
		Primidone**	0.0040	U	ug/L	P340347	
		Linuron	0.0040	U	ug/L	P340347	
		Acetaminophen**	0.0080	U	ug/L	P340347	
		Fenuron	0.0080	U	ug/L	P340347	
		Imazapyr**	0.028		ug/L	P340347	
		Carbamazepine**	4.0E-04	U	ug/L	P340347	
		Fluridone**	8.0E-04	U	ug/L	P340347	

Ref. Method and Comment:
EPA 8321B: Fenuron was detected in the method blank slightly above the MDL.

Sample Location: Little Wacasassaa @ CR 339 **Collection Date/Time: 02/21/2018 11:53**

Field ID: 23020018 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969621	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P340456	
	EPA 300.0 Rev. 2.1	Chloride	5.6		mg Cl/L	P340796	
		Sulfate	0.20	U	mg SO4/L	P340800	
	SM 2120 B	Color (true)	420		PCU	P340449	
	SM 2320 B-97	Total Alkalinity	2.9		mg CaCO3/L	P340876	
	SM 2540 C-97	TDS	99		mg/L	P340805	
	SM 2540 D-97	TSS	2	U	mg/L	P340881	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P340880	

Field ID: 23020018 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969623	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P340914	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P340558	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P340587	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P340581	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P340632	
1969625	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P340478	
1969659	EPA 8321B	2,4-D	0.0020	U	ug/L	P340347	
		Sucralose**	0.039	I	ug/L	P340408	
		Bentazon	8.0E-04	U	ug/L	P340347	MS
		MCPP	0.0020	U	ug/L	P340347	MS
		Triclopyr**	0.0040	U	ug/L	P340347	
		Imidacloprid	0.0020	U	ug/L	P340347	
		Diuron	0.0020	U	ug/L	P340347	
		Primidone**	0.0040	U	ug/L	P340347	
		Linuron	0.0040	U	ug/L	P340347	
		Acetaminophen**	0.0080	U	ug/L	P340347	
		Fenuron	0.0080	U	ug/L	P340347	
		Imazapyr**	0.0040	U	ug/L	P340347	
		Carbamazepine**	4.0E-04	U	ug/L	P340347	
		Fluridone**	8.0E-04	U	ug/L	P340347	
1969699	EPA 200.7 Rev. 4.4	Calcium	5.82		mg/L	P340753	
		Iron	710		ug/L	P340753	
		Magnesium	1.13		mg/L	P340753	
		Potassium	0.30	U	mg/L	P340753	
		Sodium	3.2		mg/L	P340753	
		Zinc	5.0	U	ug/L	P340753	
	EPA 200.8 Rev. 5.4	Arsenic	0.34		ug/L	P340753	
		Cadmium	0.020	U	ug/L	P340753	
		Chromium	0.71	I	ug/L	P340753	
		Copper	0.26	I	ug/L	P340753	MS
		Lead	0.35		ug/L	P340753	
		Nickel	0.32	I	ug/L	P340753	
		Silver	0.010	U	ug/L	P340753	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Fenuron was detected in the method blank slightly above the MDL.

Sample Location: Little Wacasassa 0.5 mile below Blue Spring **Collection Date/Time: 02/21/2018 12:35**

Field ID: 23020032 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969622	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P340456	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P340796	
		Sulfate	0.83		mg SO4/L	P340800	
	SM 2120 B	Color (true)	130		PCU	P340449	

Field ID: 23020032 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1969622	SM 2320 B-97	Total Alkalinity	86		mg CaCO3/L	P340876	
	SM 2540 C-97	TDS	142	A	mg/L	P340806	
	SM 2540 D-97	TSS	2	UA	mg/L	P340882	
	SM 4500 F-C-97	Fluoride	0.053	I	mg F/L	P340880	
1969624	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P340914	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P340558	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P340587	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P340582	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P340632	
1969626	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P340478	
1969660	EPA 8321B	2,4-D	0.0020	U	ug/L	P340347	
		Sucralose**	0.016	I	ug/L	P340408	
		Bentazon	8.0E-04	U	ug/L	P340347	MS
		MCPP	0.0020	U	ug/L	P340347	MS
		Triclopyr**	0.0040	U	ug/L	P340347	
		Imidacloprid	0.0020	U	ug/L	P340347	
		Diuron	0.0020	U	ug/L	P340347	
		Primidone**	0.0040	U	ug/L	P340347	
		Linuron	0.0040	U	ug/L	P340347	
		Acetaminophen**	0.0080	U	ug/L	P340347	
		Fenuron	0.0080	U	ug/L	P340347	
		Imazapyr**	0.0040	U	ug/L	P340347	
		Carbamazepine**	4.0E-04	U	ug/L	P340347	
		Fluridone**	8.0E-04	U	ug/L	P340347	
1969700	EPA 200.7 Rev. 4.4	Calcium	32.0		mg/L	P340753	
		Iron	210		ug/L	P340753	
		Magnesium	5.17		mg/L	P340753	
		Potassium	0.30	U	mg/L	P340753	
		Sodium	3.3		mg/L	P340753	
		Zinc	5.0	U	ug/L	P340753	
	EPA 200.8 Rev. 5.4	Arsenic	0.25		ug/L	P340753	
		Cadmium	0.020	U	ug/L	P340753	
		Chromium	0.43	I	ug/L	P340753	
		Copper	0.20	U	ug/L	P340753	MS
		Lead	0.11	I	ug/L	P340753	
		Nickel	0.20	U	ug/L	P340753	
		Silver	0.010	U	ug/L	P340753	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Fenuron was detected in the method blank slightly above the MDL.

Quality Assurance Report
Method Blank Results

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P340456

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P340753

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340753

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341282

Component	Result	Code	Units
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Nickel	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340796

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340800

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340912

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340914

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340556

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340558

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340587

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340581

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340582

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P340478

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

Reference Method: EPA 8270D
Batch ID: P340346

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'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P340346

Component	Result	Code	Units
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: P340620

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	0.50	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
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	0.25	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P340620

Component	Result	Code	Units
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	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: P340346

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P340347

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.023	I	ug/L
Fluridone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0034	I	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P340408

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P340488

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Glyphosate	0.10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P340449

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P340876

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

Reference Method: SM 2540 C-97
Batch ID: P340805

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P340806

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P340881

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P340882

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P340880

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P340632

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: P340753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.1		P	85 - 115
Iron	102		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	100		P	85 - 115
Sodium	105		P	85 - 115
Zinc	95.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	108		P	85 - 115
Chromium	105		P	85 - 115
Copper	106		P	85 - 115
Lead	111		P	85 - 115
Nickel	104		P	85 - 115
Silver	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341282

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	102		P	85 - 115
Copper	101		P	85 - 115
Nickel	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340796

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340914

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340556

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340558

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340587

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: P340581

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340582

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P340478

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.8		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P340346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	64.2	61.3	P/P	24 - 89.0
Alpha-BHC	69.2	72.2	P/P	58 - 117
Alpha-Chlordane	81.1	78.3	P/P	56 - 115
Beta-BHC	94.6	102	P/P	55 - 137
Carbophenothion	71.7	77.1	P/P	37 - 145
Chlorothalonil	97.5	80.5	P/P	26 - 163
Cypermethrin	85.5	88.8	P/P	42 - 156
DDD-p,p'	88.2	90.2	P/P	59 - 129
DDE-p,p'	79.4	80.9	P/P	52 - 117
DDT-p,p'	91.2	91.2	P/P	48 - 128
Delta-BHC	108	103	P/P	59 - 158
Dicofol	110	103	P/P	19 - 124
Dieldrin	82.4	78.8	P/P	57 - 126
Endosulfan I	85.8	78.6	P/P	59 - 133
Endosulfan II	106	97.1	P/P	58 - 148
Endosulfan Sulfate	106	105	P/P	56 - 135

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P340346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	83.9	82.7	P/P	50 - 140
Endrin Aldehyde	103	97.9	P/P	47 - 141
Endrin Ketone	96.6	99.2	P/P	63 - 123
Gamma-BHC	93.3	93.7	P/P	59 - 132
Gamma-Chlordane	80.4	77.2	P/P	55 - 112
Heptachlor	70.4	64.2	P/P	45 - 102
Heptachlor Epoxide	83.3	79.8	P/P	61 - 116
Methoxychlor	101	94.7	P/P	60 - 133
Mirex	70.0	72.4	P/P	40 - 98.0
Permethrin	74.8	80.6	P/P	45 - 131
Trifluralin	72.7	67.3	P/P	38 - 179

Reference Method: EPA 8270D
Batch ID: P340620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	107	105	P/P	74 - 119
Alachlor	110	105	P/P	75 - 118
Ametryn	109	102	P/P	59 - 137
Atrazine	106	101	P/P	73 - 120
Atrazine Desethyl	93.0	84.2	P/P	19 - 129
Azinphos Methyl	112	108	P/P	65 - 181
Bromacil	84.7	82.5	P/P	43 - 123
Butylate	65.3	57.1	P/P	28 - 85.0
Chlorpyrifos Ethyl	91.4	88.8	P/P	55 - 112
Chlorpyrifos Methyl	93.0	89.1	P/P	35 - 124
Cyanazine	146	136	P/P	26 - 262
Demeton	80.3	78.4	P/P	43 - 122
Diazinon	110	105	P/P	72 - 120
Disulfoton	95.9	82.8	P/P	45 - 137
EPTC	67.6	59.1	P/P	28 - 95.0
Ethion	122	112	P/P	63 - 127
Ethoprop	96.2	90.5	P/P	63 - 109
Fenamiphos	99.5	97.6	P/P	66 - 136
Fipronil	112	111	P/P	63 - 126
Fipronil Sulfide	94.9	92.3	P/P	59 - 123
Fipronil Sulfone	90.2	85.8	P/P	56 - 122
Fonofos	85.8	84.0	P/P	64 - 114
Hexazinone	108	101	P/P	49 - 144
Malathion	93.1	99.4	P/P	68 - 131
Metalaxyl	109	104	P/P	57 - 126
Metolachlor	108	102	P/P	75 - 118
Metribuzin	131	113	P/P	46 - 169
Mevinphos	82.0	81.0	P/P	34 - 126
Molinate	76.8	68.6	P/P	37 - 101
Norflurazon	103	102	P/P	63 - 127
Parathion Ethyl	96.7	94.1	P/P	78 - 109
Parathion Methyl	103	99.3	P/P	74 - 123
Pendimethalin	112	109	P/P	51 - 130
Phorate	86.4	64.3	P/P	53 - 116
Prometon	103	98.3	P/P	66 - 124
Prometryn	112	106	P/P	66 - 124

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P340620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Simazine	110	105	P/P	62 - 134
Terbufos	85.6	84.0	P/P	59 - 115
Terbuthylazine	98.4	95.6	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P340346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	81.7	72.9	P/P	47 - 125
Toxaphene	87.7	96.8	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P340347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	70.4		P	40 - 150
3-Hydroxycarbofuran	73.6		P	40 - 150
Acetaminophen	94.7		P	30 - 150
Aldicarb	57.7		P	30 - 150
Aldicarb Sulfone	94.1		P	40 - 150
Aldicarb Sulfoxide	115		P	40 - 150
Bentazon	87.0		P	30 - 150
Carbamazepine	113		P	40 - 150
Carbaryl	63.2		P	40 - 150
Carbofuran	83.2		P	40 - 150
Diuron	63.0		P	40 - 150
Fenuron	96.6		P	40 - 150
Fluridone	68.5		P	40 - 150
Imazapyr	64.2		P	40 - 150
Imidacloprid	90.7		P	40 - 160
Linuron	70.8		P	40 - 150
MCPP	80.1		P	40 - 150
Methiocarb	57.4		P	40 - 150
Methomyl	106		P	40 - 150
Oxamyl	84.1		P	40 - 150
Primidone	86.2		P	40 - 150
Propoxur	89.9		P	40 - 150
Pyraclostrobin	63.2		P	40 - 150
Triclopyr	67.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P340408

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	113		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P340488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	103		P	40 - 150
Glyphosate	101		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P340876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P340880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.5		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P340632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.7		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P340753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969569	Calcium	99.6		P	80 - 120
1969569	Iron	106		P	80 - 120
1969569	Magnesium	99.5		P	80 - 120
1969569	Potassium	97.4		P	80 - 120
1969569	Sodium	101		P	80 - 120
1969569	Zinc	99.1		P	80 - 120
1969846	Calcium	95.0		P	80 - 120
1969846	Iron	103	101	P/P	80 - 120
1969846	Magnesium	97.9		P	80 - 120
1969846	Potassium	100	97.3	P/P	80 - 120
1969846	Sodium	100	97.5	P/P	80 - 120
1969846	Zinc	98.0	95.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969569	Arsenic	100		P	80 - 120
1969569	Cadmium	107		P	80 - 120
1969569	Chromium	100		P	80 - 120
1969569	Copper	123		F	80 - 120
1969569	Lead	109		P	80 - 120
1969569	Nickel	96.6		P	80 - 120
1969569	Silver	97.8		P	80 - 120
1969846	Arsenic	94.5	102	P/P	80 - 120
1969846	Cadmium	102	111	P/P	80 - 120
1969846	Chromium	89.9	98.4	P/P	80 - 120
1969846	Copper	88.0	95.0	P/P	80 - 120
1969846	Lead	101	110	P/P	80 - 120
1969846	Nickel	87.9	96.1	P/P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969846	Silver	93.2	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1968893	Chromium	87.9	84.8	P/P	80 - 120
1968893	Copper	92.7	111	P/P	80 - 120
1968893	Nickel	93.7	92.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969665	Chloride	96.1		P	90 - 110
1969667	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969665	Sulfate	98.2		P	90 - 110
1969667	Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969578	Ammonia-N	97.7	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969615	Ammonia-N	110	110	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340556

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969580	Kjeldahl Nitrogen	97.9	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969624	Kjeldahl Nitrogen	99.1	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969579	NO2NO3-N	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340581

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969615	Total-P	103	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340582

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969624	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P340478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969620	O-Phosphate-P	94.6	94.8	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P340346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969344	Aldrin	66.5	64.3	P/P	26 - 96.0
1969344	Alpha-BHC	80.6	85.5	P/P	51 - 123
1969344	Alpha-Chlordane	83.3	82.7	P/P	45 - 120
1969344	Beta-BHC	105	108	P/P	43 - 146
1969344	Carbophenothion	83.3	86.2	P/P	26 - 179
1969344	Chlorothalonil	111	84.7	P/P	10 - 215
1969344	Cypermethrin	92.3	96.9	P/P	35 - 169
1969344	DDD-p,p'	88.7	93.6	P/P	49 - 131
1969344	DDE-p,p'	82.5	83.6	P/P	39 - 127
1969344	DDT-p,p'	99.6	94.8	P/P	49 - 120
1969344	Delta-BHC	129	118	P/P	49 - 187
1969344	Dicofol	102	120	P/P	10 - 129
1969344	Dieldrin	92.5	94.3	P/P	46 - 132
1969344	Endosulfan I	96.1	86.8	P/P	57 - 130
1969344	Endosulfan II	111	103	P/P	52 - 148
1969344	Endosulfan Sulfate	116	105	P/P	55 - 129
1969344	Endrin	84.0	87.8	P/P	45 - 133
1969344	Endrin Aldehyde	89.9	91.1	P/P	26 - 140
1969344	Endrin Ketone	112	119	P/P	60 - 125
1969344	Gamma-BHC	94.9	102	P/P	50 - 145
1969344	Gamma-Chlordane	83.6	82.3	P/P	44 - 118
1969344	Heptachlor	71.8	68.4	P/P	35 - 106
1969344	Heptachlor Epoxide	85.0	84.2	P/P	52 - 123
1969344	Methoxychlor	96.2	96.9	P/P	54 - 132
1969344	Mirex	76.9	76.5	P/P	36 - 107
1969344	Permethrin	86.4	83.2	P/P	47 - 135
1969344	Trifluralin	73.9	74.0	P/P	32 - 228

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P340620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969682	Acetochlor	85.4		P	67 - 125
1969682	Alachlor	89.9		P	69 - 123
1969682	Ametryn	87.5		P	52 - 151
1969682	Atrazine	110		P	71 - 125
1969682	Atrazine Desethyl	92.0		P	10 - 129
1969682	Azinphos Methyl	122		P	48 - 200
1969682	Bromacil	66.7		P	46 - 130
1969682	Butylate	40.0		P	10 - 85.0
1969682	Chlorpyrifos Ethyl	87.7		P	54 - 115
1969682	Chlorpyrifos Methyl	100		P	44 - 117
1969682	Cyanazine	241		P	10 - 262
1969682	Demeton	84.6		P	24 - 145
1969682	Diazinon	101		P	66 - 129
1969682	Disulfoton	88.0		P	45 - 139
1969682	EPTC	34.6		P	10 - 86.0
1969682	Ethion	93.9		P	59 - 133
1969682	Ethoprop	116		F	54 - 116
1969682	Fenamiphos	76.4		P	55 - 140
1969682	Fipronil	93.9		P	37 - 142
1969682	Fipronil Sulfide	94.4		P	37 - 130
1969682	Fipronil Sulfone	81.8		P	18 - 143
1969682	Fonofos	108		P	55 - 118
1969682	Hexazinone	118		P	62 - 140
1969682	Malathion	73.0		P	64 - 132
1969682	Metalaxyl	102		P	55 - 129
1969682	Metolachlor	93.6		P	56 - 137
1969682	Metribuzin	194		P	16 - 218
1969682	Mevinphos	108		P	34 - 129
1969682	Molinate	56.0		P	16 - 99.0
1969682	Norflurazon	78.2		P	43 - 135
1969682	Parathion Ethyl	97.8		P	71 - 112
1969682	Parathion Methyl	110		P	65 - 127
1969682	Pendimethalin	108		P	35 - 159
1969682	Phorate	92.6		P	41 - 129
1969682	Prometon	101		P	56 - 140
1969682	Prometryn	92.2		P	65 - 130
1969682	Simazine	85.6		P	54 - 148
1969682	Terbufos	113		P	53 - 126
1969682	Terbuthylazine	101		P	73 - 114

Reference Method: EPA 8276
Batch ID: P340346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969406	Chlordane	62.9	54.2	P/P	41 - 134
1969406	Toxaphene	95.3	97.3	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P340347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969261	2,4-D	43.7	45.9	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P340347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969261	3-Hydroxycarbofuran	102	102	P/P	40 - 150
1969261	Acetaminophen	120	131	P/P	30 - 150
1969261	Aldicarb	66.6	70.8	P/P	30 - 150
1969261	Aldicarb Sulfone	125	126	P/P	40 - 150
1969261	Aldicarb Sulfoxide	108	108	P/P	40 - 150
1969261	Bentazon	16.2	14.8	F/F	30 - 150
1969261	Carbamazepine	112	109	P/P	40 - 150
1969261	Carbaryl	53.0	55.1	P/P	40 - 150
1969261	Carbofuran	73.8	75.1	P/P	40 - 150
1969261	Diuron	60.2	62.6	P/P	40 - 150
1969261	Fenuron	96.7	92.8	P/P	40 - 150
1969261	Fluridone	64.2	66.3	P/P	40 - 150
1969261	Imazapyr	81.0	81.0	P/P	40 - 150
1969261	Imidacloprid	138	156	P/P	40 - 160
1969261	Linuron	73.4	76.2	P/P	40 - 150
1969261	MCPP	37.1	36.9	F/F	40 - 150
1969261	Methiocarb	68.3	67.6	P/P	40 - 150
1969261	Methomyl	112	111	P/P	40 - 150
1969261	Oxamyl	90.5	94.3	P/P	40 - 150
1969261	Primidone	108	131	P/P	40 - 150
1969261	Propoxur	79.9	80.0	P/P	40 - 150
1969261	Pyraclostrobin	80.5	74.6	P/P	40 - 150
1969261	Triclopyr	46.0	46.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P340408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969523	Sucralose	122	127	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P340488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969656	AMPA	93.8	94.4	P/P	40 - 150
1969656	Glyphosate	84.5	99.1	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P340880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1969418	Fluoride	96.2	98.1	P/P	91 - 105

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P340456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P340456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969636	Turbidity	3.39	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P340753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969846	Calcium	0.786	Spike	P	0 - 20
1969846	Iron	2.53	Spike	P	0 - 20
1969846	Magnesium	3.02	Spike	P	0 - 20
1969846	Potassium	2.46	Spike	P	0 - 20
1969846	Sodium	1.51	Spike	P	0 - 20
1969846	Zinc	2.88	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P340753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969846	Arsenic	8.01	Spike	P	0 - 20
1969846	Cadmium	8.61	Spike	P	0 - 20
1969846	Chromium	8.57	Spike	P	0 - 20
1969846	Copper	7.31	Spike	P	0 - 20
1969846	Lead	8.24	Spike	P	0 - 20
1969846	Nickel	8.95	Spike	P	0 - 20
1969846	Silver	7.15	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1968893	Chromium	3.57	Spike	P	0 - 20
1968893	Copper	6.12	Spike	P	0 - 20
1968893	Nickel	1.55	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969665	Chloride	2.17	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969665	Sulfate	1.96	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969578	Ammonia-N	1.01	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P340914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969615	Ammonia-N	0.314	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340556

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969580	Kjeldahl Nitrogen	3.71	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P340558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969624	Kjeldahl Nitrogen	1.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969579	NO2NO3-N	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969615	Total-P	3.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P340582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969624	Total-P	0.440	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P340478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969620	O-Phosphate-P	0.166	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P340346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969344	Aldrin	3.31	Spike	P	0 - 30
1969344	Alpha-BHC	5.85	Spike	P	0 - 30
1969344	Alpha-Chlordane	0.839	Spike	P	0 - 30
1969344	Beta-BHC	3.02	Spike	P	0 - 30
1969344	Carbophenothion	3.45	Spike	P	0 - 30
1969344	Chlorothalonil	27.3	Spike	P	0 - 30
1969344	Cypermethrin	4.81	Spike	P	0 - 30
1969344	DDD-p,p'	5.41	Spike	P	0 - 30
1969344	DDE-p,p'	1.27	Spike	P	0 - 30
1969344	DDT-p,p'	4.90	Spike	P	0 - 30
1969344	Delta-BHC	8.58	Spike	P	0 - 30
1969344	Dicofol	16.1	Spike	P	0 - 30
1969344	Dieldrin	1.89	Spike	P	0 - 30
1969344	Endosulfan I	10.3	Spike	P	0 - 30
1969344	Endosulfan II	6.87	Spike	P	0 - 30
1969344	Endosulfan Sulfate	9.75	Spike	P	0 - 30
1969344	Endrin	4.39	Spike	P	0 - 30
1969344	Endrin Aldehyde	1.28	Spike	P	0 - 30
1969344	Endrin Ketone	5.78	Spike	P	0 - 30
1969344	Gamma-BHC	7.71	Spike	P	0 - 30
1969344	Gamma-Chlordane	1.55	Spike	P	0 - 30
1969344	Heptachlor	4.79	Spike	P	0 - 30
1969344	Heptachlor Epoxide	0.882	Spike	P	0 - 30
1969344	Methoxychlor	0.710	Spike	P	0 - 30
1969344	Mirex	0.488	Spike	P	0 - 30
1969344	Permethrin	3.84	Spike	P	0 - 30
1969344	Trifluralin	0.109	Spike	P	0 - 30
LFB	Aldrin	4.66	LCS	P	0 - 30
LFB	Alpha-BHC	4.19	LCS	P	0 - 30
LFB	Alpha-Chlordane	3.51	LCS	P	0 - 30
LFB	Beta-BHC	7.30	LCS	P	0 - 30
LFB	Carbophenothion	7.25	LCS	P	0 - 30
LFB	Chlorothalonil	19.1	LCS	P	0 - 30
LFB	Cypermethrin	3.81	LCS	P	0 - 30
LFB	DDD-p,p'	2.33	LCS	P	0 - 30
LFB	DDE-p,p'	1.93	LCS	P	0 - 30
LFB	DDT-p,p'	0.00439	LCS	P	0 - 30
LFB	Delta-BHC	4.50	LCS	P	0 - 30
LFB	Dicofol	6.84	LCS	P	0 - 30
LFB	Dieldrin	4.47	LCS	P	0 - 30
LFB	Endosulfan I	8.83	LCS	P	0 - 30
LFB	Endosulfan II	8.92	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.863	LCS	P	0 - 30
LFB	Endrin	1.43	LCS	P	0 - 30
LFB	Endrin Aldehyde	4.71	LCS	P	0 - 30
LFB	Endrin Ketone	2.66	LCS	P	0 - 30
LFB	Gamma-BHC	0.478	LCS	P	0 - 30
LFB	Gamma-Chlordane	4.06	LCS	P	0 - 30
LFB	Heptachlor	9.24	LCS	P	0 - 30
LFB	Heptachlor Epoxide	4.26	LCS	P	0 - 30
LFB	Methoxychlor	6.20	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P340346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Mirex	3.36	LCS	P	0 - 30
LFB	Permethrin	7.41	LCS	P	0 - 30
LFB	Trifluralin	7.70	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P340620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Acetochlor	1.78	LCS	P	0 - 30
LFB	Alachlor	4.55	LCS	P	0 - 30
LFB	Ametryn	6.28	LCS	P	0 - 30
LFB	Atrazine	5.18	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.91	LCS	P	0 - 30
LFB	Azinphos Methyl	3.81	LCS	P	0 - 30
LFB	Bromacil	2.63	LCS	P	0 - 30
LFB	Butylate	13.4	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.95	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	4.30	LCS	P	0 - 30
LFB	Cyanazine	7.50	LCS	P	0 - 30
LFB	Demeton	2.38	LCS	P	0 - 30
LFB	Diazinon	4.37	LCS	P	0 - 30
LFB	Disulfoton	14.7	LCS	P	0 - 30
LFB	EPTC	13.4	LCS	P	0 - 30
LFB	Ethion	8.91	LCS	P	0 - 30
LFB	Ethoprop	6.11	LCS	P	0 - 30
LFB	Fenamiphos	1.93	LCS	P	0 - 30
LFB	Fipronil	1.08	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.83	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.92	LCS	P	0 - 30
LFB	Fonofos	2.14	LCS	P	0 - 30
LFB	Hexazinone	7.27	LCS	P	0 - 30
LFB	Malathion	6.49	LCS	P	0 - 30
LFB	Metalaxyl	5.29	LCS	P	0 - 30
LFB	Metolachlor	5.06	LCS	P	0 - 30
LFB	Metribuzin	14.5	LCS	P	0 - 30
LFB	Mevinphos	1.24	LCS	P	0 - 30
LFB	Molinate	11.4	LCS	P	0 - 30
LFB	Norflurazon	0.791	LCS	P	0 - 30
LFB	Parathion Ethyl	2.71	LCS	P	0 - 30
LFB	Parathion Methyl	3.21	LCS	P	0 - 30
LFB	Pendimethalin	2.65	LCS	P	0 - 30
LFB	Phorate	29.3	LCS	P	0 - 30
LFB	Prometon	4.54	LCS	P	0 - 30
LFB	Prometryn	5.01	LCS	P	0 - 30
LFB	Simazine	4.78	LCS	P	0 - 30
LFB	Terbufos	1.85	LCS	P	0 - 30
LFB	Terbuthylazine	2.84	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8276
Batch ID: P340346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969406	Chlordane	12.6	Spike	P	0 - 30
1969406	Toxaphene	2.03	Spike	P	0 - 30
LFB	Chlordane	11.5	LCS	P	0 - 30
LFB	Toxaphene	9.81	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P340347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969261	2,4-D	3.38	Spike	P	0 - 30
1969261	3-Hydroxycarbofuran	0.196	Spike	P	0 - 30
1969261	Acetaminophen	8.04	Spike	P	0 - 30
1969261	Aldicarb	6.07	Spike	P	0 - 30
1969261	Aldicarb Sulfone	0.719	Spike	P	0 - 30
1969261	Aldicarb Sulfoxide	0.0	Spike	P	0 - 30
1969261	Bentazon	3.35	Spike	P	0 - 30
1969261	Carbamazepine	2.97	Spike	P	0 - 30
1969261	Carbaryl	3.88	Spike	P	0 - 30
1969261	Carbofuran	1.77	Spike	P	0 - 30
1969261	Diuron	3.91	Spike	P	0 - 30
1969261	Fenuron	0.416	Spike	P	0 - 30
1969261	Fluridone	3.16	Spike	P	0 - 30
1969261	Imazapyr	5.38	Spike	P	0 - 30
1969261	Imidacloprid	9.78	Spike	P	0 - 30
1969261	Linuron	3.70	Spike	P	0 - 30
1969261	MCPP	0.532	Spike	P	0 - 30
1969261	Methiocarb	1.00	Spike	P	0 - 30
1969261	Methomyl	1.70	Spike	P	0 - 30
1969261	Oxamyl	4.12	Spike	P	0 - 30
1969261	Primidone	18.8	Spike	P	0 - 30
1969261	Propoxur	0.125	Spike	P	0 - 30
1969261	Pyraclostrobin	7.57	Spike	P	0 - 30
1969261	Triclopyr	1.83	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P340408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969523	Sucralose	3.42	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P340488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969656	AMPA	0.691	Spike	P	0 - 30
1969656	Glyphosate	15.9	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P340449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969667	Color (true)	0.149	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P340876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969418	Total Alkalinity	0.654	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P340805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969613	TDS	2.25	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P340806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969622	TDS	4.91	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P340880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969418	Fluoride	1.46	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P340632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1969610	Organic Carbon	0.691	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: 1969656
Field Sample ID: 21030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	50.2	P	30 - 160
EPA 8321B	2,4-D-d3	50.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	160	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 1969656
Field Sample ID: 21030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	160	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Diuron-d6	68.4	P	30 - 160
EPA 8321B	Diuron-d6	68.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	92.0	P	40 - 160
EPA 8321B	Primidone-d5	87.5	P	30 - 160
EPA 8321B	Primidone-d5	87.5	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	40 - 160

Lab Sample ID: 1969657
Field Sample ID: 21030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	52.7	P	30 - 160

Lab Sample ID: 1969658
Field Sample ID: 21030086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	46.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	142	P	30 - 160
EPA 8321B	Carbamazepine-d10	100	P	30 - 160
EPA 8321B	Diuron-d6	70.8	P	30 - 160
EPA 8321B	Primidone-d5	77.1	P	30 - 160
EPA 8321B	Sucralose-d6	153	P	40 - 160

Lab Sample ID: 1969659
Field Sample ID: 23020018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	56.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	152	P	30 - 160
EPA 8321B	Carbamazepine-d10	111	P	30 - 160
EPA 8321B	Diuron-d6	71.2	P	30 - 160
EPA 8321B	Primidone-d5	78.8	P	30 - 160
EPA 8321B	Sucralose-d6	149	P	40 - 160

Lab Sample ID: 1969660
Field Sample ID: 23020032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	68.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	145	P	30 - 160
EPA 8321B	Carbamazepine-d10	119	P	30 - 160
EPA 8321B	Diuron-d6	91.0	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	40 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 1969681
Field Sample ID: 21030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	82.0	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	63.3	P	34 - 101
EPA 8276	Decachlorobiphenyl	68.3	P	31 - 108
EPA 8276	PCNB	178	F	62 - 142

Lab Sample ID: 1969682
Field Sample ID: 21030071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	107	P	71 - 126
EPA 8270D	Terbufos-d10	81.8	P	50 - 130

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A82235
Included Lab Sample IDs: 1969609, 1969612, 1969613, 1969614, 1969621, 1969622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.1	98.1	P/P	85 - 115
Color (true)	97.9	99.2	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A82236
Included Lab Sample IDs: 1969609, 1969612, 1969613, 1969614, 1969621, 1969622

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A82246
Included Lab Sample IDs: 1969611, 1969618, 1969619, 1969620, 1969625, 1969626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.9	P/P	90 - 110
O-Phosphate-P	98.4	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A82286
Included Lab Sample IDs: 1969610, 1969615, 1969616, 1969617, 1969623, 1969624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A82294
Included Lab Sample IDs: 1969656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	106	102	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A82294
Included Lab Sample IDs: 1969656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	114	105	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A82296
Included Lab Sample IDs: 1969610, 1969615, 1969616

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

Reference Method: SM 5310 B-00
Run ID: A82301
Included Lab Sample IDs: 1969610, 1969615, 1969616, 1969617, 1969623, 1969624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.5	98.0	P/P	90 - 110
Organic Carbon	99.4	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A82302
Included Lab Sample IDs: 1969617, 1969623, 1969624

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A82322
Included Lab Sample IDs: 1969609, 1969612, 1969613, 1969614, 1969621, 1969622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.3	P/P	90 - 110
Chloride	98.3	99.6	P/P	90 - 110
Sulfate	101	98.2	P/P	90 - 110
Sulfate	98.2	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A82328
Included Lab Sample IDs: 1969610, 1969615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A82347
Included Lab Sample IDs: 1969616, 1969617, 1969623, 1969624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.8	98.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A82357
Included Lab Sample IDs: 1969656, 1969658, 1969659, 1969660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.1	96.9	P/P	50 - 150
2,4-D	96.9	97.4	P/P	50 - 150
3-Hydroxycarbofuran	110	108	P/P	60 - 150
Acetaminophen	112	111	P/P	60 - 150
Aldicarb	109	107	P/P	60 - 150
Aldicarb Sulfone	119	106	P/P	50 - 150
Aldicarb Sulfoxide	110	107	P/P	50 - 150
Bentazon	112	107	P/P	50 - 150
Bentazon	94.5	112	P/P	50 - 150
Carbamazepine	131	110	P/P	60 - 150
Carbaryl	121	105	P/P	60 - 150
Carbofuran	144	114	P/P	50 - 150
Diuron	102	108	P/P	60 - 150
Fenuron	108	108	P/P	60 - 150
Fluridone	107	107	P/P	60 - 160
Imazapyr	119	104	P/P	50 - 150
Imidacloprid	106	102	P/P	60 - 150
Linuron	107	108	P/P	60 - 150
MCPP	83.4	88.7	P/P	50 - 150
MCPP	99.7	83.4	P/P	50 - 150
Methiocarb	111	113	P/P	50 - 150
Methomyl	113	116	P/P	50 - 150
Oxamyl	108	107	P/P	50 - 150
Primidone	97.7	96.0	P/P	60 - 150
Propoxur	147	116	P/P	50 - 150
Pyraclostrobin	108	113	P/P	60 - 150
Triclopyr	105	99.4	P/P	50 - 150
Triclopyr	99.4	85.4	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A82373
Included Lab Sample IDs: 1969698, 1969699, 1969700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.0	99.7	P/P	90 - 110
Arsenic	99.7	98.5	P/P	90 - 110
Cadmium	98.1	100	P/P	90 - 110
Cadmium	100	103	P/P	90 - 110
Chromium	91.5	94.4	P/P	90 - 110
Copper	94.8	93.9	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Lead	102	104	P/P	90 - 110
Nickel	95.5	93.8	P/P	90 - 110
Silver	96.3	97.5	P/P	90 - 110
Silver	97.5	98.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A82374
Included Lab Sample IDs: 1969698, 1969699, 1969700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A82374
Included Lab Sample IDs: 1969698, 1969699, 1969700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.6	99.3	P/P	90 - 110
Iron	100	100	P/P	90 - 110
Magnesium	100	100	P/P	90 - 110
Potassium	107	107	P/P	90 - 110
Sodium	98.4	99.3	P/P	90 - 110
Zinc	104	103	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A82400
Included Lab Sample IDs: 1969609, 1969612, 1969613, 1969614, 1969621, 1969622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A82400
Included Lab Sample IDs: 1969609, 1969612, 1969613, 1969614, 1969621, 1969622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	100	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A82414
Included Lab Sample IDs: 1969656, 1969658, 1969659, 1969660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	116	P/P	60 - 150
Sucralose	116	109	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A82416
Included Lab Sample IDs: 1969610, 1969615, 1969616, 1969617, 1969623, 1969624

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

Reference Method: EPA 8276
Run ID: A82418
Included Lab Sample IDs: 1969681

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	102		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 8270D
Run ID: A82475
Included Lab Sample IDs: 1969681

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.6		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A82475
Included Lab Sample IDs: 1969681

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alpha-BHC	96.7		P	80 - 120
Alpha-Chlordane	98.0		P	80 - 120
Beta-BHC	98.9		P	80 - 120
Carbophenothion	84.8		P	80 - 120
Chlorothalonil	94.0		P	80 - 120
Cypermethrin	87.2		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	98.9		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	95.2		P	80 - 120
Dicofol	101		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	95.5		P	80 - 120
Endosulfan II	96.1		P	80 - 120
Endosulfan Sulfate	96.7		P	80 - 120
Endrin	94.3		P	80 - 120
Endrin Aldehyde	89.1		P	80 - 120
Endrin Ketone	96.2		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	98.3		P	80 - 120
Heptachlor	94.4		P	80 - 120
Heptachlor Epoxide	99.4		P	80 - 120
Methoxychlor	108		P	80 - 120
Mirex	98.8		P	80 - 120
Permethrin	91.9		P	80 - 120
Trifluralin	98.1		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A82559
Included Lab Sample IDs: 1969698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	94.9	91.5	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A82651
Included Lab Sample IDs: 1969682

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	105		P	80 - 120
Alachlor	106		P	80 - 120
Ametryn	107		P	80 - 120
Atrazine	98.8		P	80 - 120
Atrazine Desethyl	95.5		P	80 - 120
Azinphos Methyl	103		P	80 - 120
Bromacil	106		P	80 - 120
Butylate	109		P	80 - 120
Chlorpyrifos Ethyl	96.2		P	80 - 120
Chlorpyrifos Methyl	97.9		P	80 - 120
Cyanazine	95.5		P	80 - 120
Demeton	98.0		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A82651
Included Lab Sample IDs: 1969682

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diazinon	103		P	80 - 120
Disulfoton	93.3		P	80 - 120
EPTC	105		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	99.1		P	80 - 120
Fipronil	103		P	80 - 120
Fipronil Sulfide	95.3		P	80 - 120
Fipronil Sulfone	95.5		P	80 - 120
Fonofos	92.8		P	80 - 120
Hexazinone	93.9		P	80 - 120
Malathion	92.8		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	109		P	80 - 120
Metribuzin	88.7		P	80 - 120
Mevinphos	101		P	80 - 120
Molinate	105		P	80 - 120
Norflurazon	104		P	80 - 120
Parathion Ethyl	91.5		P	80 - 120
Parathion Methyl	90.9		P	80 - 120
Pendimethalin	98.8		P	80 - 120
Phorate	96.8		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	108		P	80 - 120
Simazine	93.3		P	80 - 120
Terbufos	94.1		P	80 - 120
Terbuthylazine	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A82842
Included Lab Sample IDs: 1969698

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	101	100	P/P	90 - 110
Nickel	93.5	92.5	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			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.39	
EPA 200.7 Rev. 4.4	Calcium	99.1	99.6	95.0				0.786
	Iron	102	106	103	101			2.53
	Magnesium	101	99.5	97.9				3.02
	Potassium	100	97.4	100	97.3			2.46

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 200.7 Rev. 4.4	Sodium	105		101	100	97.5			1.51
	Zinc	95.7		99.1	98.0	95.1			2.88
EPA 200.8 Rev. 5.4	Arsenic	104		100	94.5	102			8.01
	Cadmium	108		107	102	111			8.61
	Chromium	105		100	89.9	98.4			8.57
	Chromium	102		87.9	84.8				3.57
	Copper	106		123	88.0	95.0			7.31
	Copper	101		92.7	111				6.12
	Lead	111		109	101	110			8.24
	Nickel	104		96.6	87.9	96.1			8.95
	Nickel	100		93.7	92.2				1.55
	Silver	101		97.8	93.2	100			7.15
EPA 300.0 Rev. 2.1	Chloride	97.7		96.1	97.5			2.17	
	Sulfate	97.6		98.2	97.9			1.96	
EPA 350.1 Rev. 2.0	Ammonia-N	95.6		97.7	98.9				1.01
	Ammonia-N	97.8		110	110				0.314
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4		97.9	103				3.71
	Kjeldahl Nitrogen	103		99.1	101				1.12
EPA 353.2 Rev. 2.0	NO2NO3-N	102		102	104				1.15
EPA 365.1 Rev. 2.0	Total-P	101		103	98.8				3.38
	Total-P	103		101	102				0.440
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8		94.6	94.8				0.166
EPA 8270D	Acetochlor	107	105	85.4			1.78		
	Alachlor	110	105	89.9			4.55		
	Aldrin	64.2	61.3	66.5	64.3		4.66		3.31
	Alpha-BHC	69.2	72.2	80.6	85.5		4.19		5.85
	Alpha-Chlordane	81.1	78.3	83.3	82.7		3.51		0.839
	Ametryn	109	102	87.5			6.28		
	Atrazine	106	101	110			5.18		
	Atrazine Desethyl	93.0	84.2	92.0			9.91		
	Azinphos Methyl	112	108	122			3.81		
	Beta-BHC	94.6	102	105	108		7.30		3.02
	Bromacil	84.7	82.5	66.7			2.63		
	Butylate	65.3	57.1	40.0			13.4		
	Carbophenothion	71.7	77.1	83.3	86.2		7.25		3.45
	Chlorothalonil	97.5	80.5	111	84.7		19.1		27.3
	Chlorpyrifos Ethyl	91.4	88.8	87.7			2.95		
	Chlorpyrifos Methyl	93.0	89.1	100			4.30		
	Cyanazine	146	136	241			7.50		
	Cypermethrin	85.5	88.8	92.3	96.9		3.81		4.81
	DDD-p,p'	88.2	90.2	88.7	93.6		2.33		5.41
	DDE-p,p'	79.4	80.9	82.5	83.6		1.93		1.27
	DDT-p,p'	91.2	91.2	99.6	94.8		0.0043		4.90
	Delta-BHC	108	103	129	118		4.50		8.58
	Demeton	80.3	78.4	84.6			2.38		
	Diazinon	110	105	101			4.37		
	Dicofol	110	103	102	120		6.84		16.1
	Dieldrin	82.4	78.8	92.5	94.3		4.47		1.89
	Disulfoton	95.9	82.8	88.0			14.7		
	Endosulfan I	85.8	78.6	96.1	86.8		8.83		10.3
	Endosulfan II	106	97.1	111	103		8.92		6.87
	Endosulfan Sulfate	106	105	116	105		0.863		9.75
	Endrin	83.9	82.7	84.0	87.8		1.43		4.39
	Endrin Aldehyde	103	97.9	89.9	91.1		4.71		1.28

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Endrin Ketone	96.6	99.2	112	119	2.66		5.78
	EPTC	67.6	59.1	34.6		13.4		
	Ethion	122	112	93.9		8.91		
	Ethoprop	96.2	90.5	116		6.11		
	Fenamiphos	99.5	97.6	76.4		1.93		
	Fipronil	112	111	93.9		1.08		
	Fipronil Sulfide	94.9	92.3	94.4		2.83		
	Fipronil Sulfone	90.2	85.8	81.8		4.92		
	Fonofos	85.8	84.0	108		2.14		
	Gamma-BHC	93.3	93.7	94.9	102	0.478		7.71
	Gamma-Chlordane	80.4	77.2	83.6	82.3	4.06		1.55
	Heptachlor	70.4	64.2	71.8	68.4	9.24		4.79
	Heptachlor Epoxide	83.3	79.8	85.0	84.2	4.26		0.882
	Hexazinone	108	101	118		7.27		
	Malathion	93.1	99.4	73.0		6.49		
	Metalaxyl	109	104	102		5.29		
	Methoxychlor	101	94.7	96.2	96.9	6.20		0.710
	Metolachlor	108	102	93.6		5.06		
	Metribuzin	131	113	194		14.5		
	Mevinphos	82.0	81.0	108		1.24		
	Mirex	70.0	72.4	76.9	76.5	3.36		0.488
	Molinate	76.8	68.6	56.0		11.4		
	Norflurazon	103	102	78.2		0.791		
	Parathion Ethyl	96.7	94.1	97.8		2.71		
	Parathion Methyl	103	99.3	110		3.21		
	Pendimethalin	112	109	108		2.65		
	Permethrin	74.8	80.6	86.4	83.2	7.41		3.84
	Phorate	86.4	64.3	92.6		29.3		
	Prometon	103	98.3	101		4.54		
	Prometryn	112	106	92.2		5.01		
	Simazine	110	105	85.6		4.78		
	Terbufos	85.6	84.0	113		1.85		
	Terbuthylazine	98.4	95.6	101		2.84		
	Trifluralin	72.7	67.3	73.9	74.0	7.70		0.109
EPA 8276	Chlordane	81.7	72.9	62.9	54.2	11.5		12.6
	Toxaphene	87.7	96.8	95.3	97.3	9.81		2.03
EPA 8321B	2,4-D	70.4		43.7	45.9			3.38
	3-Hydroxycarbofuran	73.6		102	102			0.196
	Acetaminophen	94.7		120	131			8.04
	Aldicarb	57.7		66.6	70.8			6.07
	Aldicarb Sulfone	94.1		125	126			0.719
	Aldicarb Sulfoxide	115		108	108			0.0
	AMPA	103		93.8	94.4			0.691
	Bentazon	87.0		16.2	14.8			3.35
	Carbamazepine	113		112	109			2.97
	Carbaryl	63.2		53.0	55.1			3.88
	Carbofuran	83.2		73.8	75.1			1.77
	Diuron	63.0		60.2	62.6			3.91
	Fenuron	96.6		96.7	92.8			0.416
	Fluridone	68.5		64.2	66.3			3.16
	Glyphosate	101		84.5	99.1			15.9
	Imazapyr	64.2		81.0	81.0			5.38
	Imidacloprid	90.7		138	156			9.78
	Linuron	70.8		73.4	76.2			3.70

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	MCPP	80.1	37.1	36.9			0.532
	Methiocarb	57.4	68.3	67.6			1.00
	Methomyl	106	112	111			1.70
	Oxamyl	84.1	90.5	94.3			4.12
	Primidone	86.2	108	131			18.8
	Propoxur	89.9	79.9	80.0			0.125
	Pyraclostrobin	63.2	80.5	74.6			7.57
	Sucralose	113	122	127			3.42
	Triclopyr	67.3	46.0	46.8			1.83
SM 2120 B	Color (true)					0.149	
SM 2320 B-97	Total Alkalinity	101				0.654	
SM 2540 C-97	TDS					2.25	
	TDS					4.91	
SM 4500 F-C-97	Fluoride	93.5	96.2	98.1			1.46
SM 5310 B-00	Organic Carbon	99.7					0.691

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1969698, 1969699, 1969700
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1969698, 1969699, 1969700
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1969611, 1969618, 1969619, 1969620, 1969625, 1969626
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1969681
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1969682
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1969681
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1969657
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1969656
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1969656, 1969658, 1969659, 1969660
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1969656, 1969658, 1969659, 1969660
SM 2120 B / E31780	True Color measured at 450 nm	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1969609, 1969612, 1969613, 1969614, 1969621, 1969622

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1969610, 1969615, 1969616, 1969617, 1969623, 1969624

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	02/22/2018			02/22/2018 15:15	Julia Storbeck	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
EPA 200.7 Rev. 4.4	02/22/2018	02/28/2018	Elliott D. Healy	03/01/2018	Betina Topolski	1969698, 1969699, 1969700
EPA 200.8 Rev. 5.4	02/22/2018	02/28/2018	Elliott D. Healy	03/01/2018	Nadine Brooks	1969698, 1969699, 1969700
	02/22/2018	02/28/2018	Nadine Brooks	03/23/2018	Nadine Brooks	1969698
	02/22/2018	03/09/2018	Nadine Brooks	03/12/2018	Nadine Brooks	1969698
EPA 300.0 Rev. 2.1	02/22/2018			02/28/2018	Julia Storbeck	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
EPA 350.1 Rev. 2.0	02/22/2018			03/02/2018	Ping Hua	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 351.2 Rev. 2.0	02/22/2018	02/26/2018	Adrian Shelby	02/28/2018	Joseph Suarez	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 353.2 Rev. 2.0	02/22/2018			02/26/2018	Lauren Bottorf	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 365.1 Rev. 2.0	02/22/2018	02/26/2018	Sima Feizi	02/27/2018	Beverly Y. Sanders	1969610, 1969615, 1969616, 1969617, 1969623, 1969624
EPA 365.1 Rev. 2.0 dissolved	02/22/2018			02/22/2018 16:34	Megan Treadwell	1969620
	02/22/2018			02/22/2018 16:55	Megan Treadwell	1969611
	02/22/2018			02/22/2018 16:56	Megan Treadwell	1969618, 1969619
	02/22/2018			02/22/2018 16:57	Megan Treadwell	1969625
	02/22/2018			02/22/2018 16:58	Megan Treadwell	1969626
EPA 8270D	02/22/2018	02/22/2018	Rasheda Ghaffari	02/26/2018	Marek Topolski	1969681
	02/22/2018	02/27/2018	John Kaba	02/28/2018	Vandana T. Nagar	1969682
EPA 8276	02/22/2018	02/22/2018	Rasheda Ghaffari	03/02/2018	John P. Burgos	1969681
EPA 8321B	02/22/2018	02/22/2018	Hoor Shaik	02/28/2018	Julie Michelle Frank	1969656, 1969658, 1969659, 1969660
	02/22/2018	02/22/2018	Hoor Shaik	03/01/2018	Julie Michelle Frank	1969657
	02/22/2018	02/26/2018	Julie Michelle Frank	02/26/2018	Julie Michelle Frank	1969656
	02/22/2018	03/02/2018	Julie Michelle Frank	03/02/2018	Juyoung Kim	1969656, 1969658, 1969659, 1969660
SM 2120 B	02/22/2018			02/22/2018 14:48	Tanya Welborn	1969612
	02/22/2018			02/22/2018 14:51	Tanya Welborn	1969622
	02/22/2018			02/22/2018 15:11	Tanya Welborn	1969609, 1969613
	02/22/2018			02/22/2018 15:12	Tanya Welborn	1969614
	02/22/2018			02/22/2018 15:13	Tanya Welborn	1969621
SM 2320 B-97	02/22/2018			03/02/2018	Lauren Bottorf	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 2540 C-97	02/22/2018			02/23/2018	Ping Hua	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 2540 D-97	02/22/2018			02/23/2018	Ping Hua	1969609, 1969612, 1969613, 1969614, 1969621, 1969622
SM 4500 F-C-97	02/22/2018			03/02/2018	Lauren Bottorf	1969609, 1969612, 1969613, 1969614, 1969621, 1969622

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	02/22/2018			02/26/2018	Megan Treadwell	1969610, 1969615, 1969616, 1969617, 1969623, 1969624