

Chemical Analysis Report

NE-DIST-2018-04-04-01

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-2018-03-26-08**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 08-MAY-2018 14:06



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: GRASSY HOLE SPRING ICHETUCKNEE

Collection Date/Time: 04/03/2018 09:55

Field ID: 21030051FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980944	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P342789	
	EPA 300.0 Rev. 2.1	Chloride	7.6		mg Cl/L	P342994	
		Sulfate	18		mg SO4/L	P342997	
	SM 2120 B	Color (true)	2.5	U	PCU	P342742	
	SM 2320 B-97	Total Alkalinity	157	A	mg CaCO3/L	P343413	
	SM 2540 C-97	TDS	205		mg/L	P343343	
	SM 2540 D-97	TSS	2	I	mg/L	P343455	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P343417	
1980945	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P343313	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P342902	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.62		mg N/L	P343047	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P343039	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P343254	
1980946	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.056		mg P/L	P342801	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: NE ROC DI

Collection Date/Time: 04/03/2018 12:20

Field ID: BLANK 04032018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980947	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P342789	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P343050	
		Sulfate	0.20	U	mg SO4/L	P343053	
	SM 2120 B	Color (true)	2.5	U	PCU	P342742	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P343413	
	SM 2540 C-97	TDS	15	U	mg/L	P343339	
	SM 2540 D-97	TSS	2	U	mg/L	P343451	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343417	
1980948	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P343314	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P342902	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P343047	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P343039	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P343254	
1980949	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342801	
1980969	EPA 8321B	Aldicarb	0.020	U	ug/L	P342718	
		Aldicarb Sulfone	0.0020	U	ug/L	P342718	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P342718	
		Carbaryl	0.0020	U	ug/L	P342718	
		Carbofuran	0.0020	U	ug/L	P342718	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P342718	
		Methiocarb	0.0020	U	ug/L	P342718	

Field ID: BLANK 04032018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980969	EPA 8321B	Methomyl	0.0020	U	ug/L	P342718	
		Oxamyl	0.0020	U	ug/L	P342718	
		Propoxur	0.0020	U	ug/L	P342718	
1980970		2,4-D	0.0020	U	ug/L	P342718	
		Bentazon	8.0E-04	U	ug/L	P342718	
		MCP	0.0020	U	ug/L	P342718	
		Triclopyr**	0.0040	U	ug/L	P342718	
		Imidacloprid	0.0020	U	ug/L	P342718	MS
		Diuron	0.0020	U	ug/L	P342718	
		Pyraclostrobin**	0.0020	U	ug/L	P342718	
		Primidone**	0.0040	U	ug/L	P342718	
		Linuron	0.0040	U	ug/L	P342718	
		Acetaminophen**	0.0080	U	ug/L	P342718	
		Fenuron	0.016	U	ug/L	P342718	
		Imazapyr**	0.0040	U	ug/L	P342718	
		Carbamazepine**	4.0E-04	U	ug/L	P342718	
		Fluridone**	8.0E-04	U	ug/L	P342718	
		Hydrocodone**	8.0E-04	U	ug/L	P342718	
		Sucralose**	0.10	U	ug/L	P342714	
		Glyphosate**	0.10	U	ug/L	P342714	
		AMPA**	0.10	U	ug/L	P342714	
		Endothal**	0.10	U	ug/L	P342714	
		Glufosinate**	0.10	U	ug/L	P342714	
1980977	EPA 8270D	Aldrin	4.1	U	ng/L	P342740	
		Alpha-BHC	2.0	U	ng/L	P342740	
		Beta-BHC	4.1	U	ng/L	P342740	
		Delta-BHC	4.1	U	ng/L	P342740	
		Gamma-BHC	4.1	U	ng/L	P342740	
		Carbophenothion	4.1	U	ng/L	P342740	
		Chlorothalonil	2.0	UJ	ng/L	P342740	RPD
		Cypermethrin	20	U	ng/L	P342740	
		DDD-p,p'	3.1	U	ng/L	P342740	
		DDE-p,p'	3.1	U	ng/L	P342740	
		DDT-p,p'	3.1	U	ng/L	P342740	
		Dieldrin	4.1	U	ng/L	P342740	
		Endosulfan I	4.1	U	ng/L	P342740	
		Endosulfan II	4.1	U	ng/L	P342740	RPD
		Endosulfan Sulfate	2.0	U	ng/L	P342740	
		Endrin	2.0	U	ng/L	P342740	
		Endrin Aldehyde	2.0	U	ng/L	P342740	
		Heptachlor	1.5	U	ng/L	P342740	
		Heptachlor Epoxide	2.0	U	ng/L	P342740	
		Methoxychlor	4.1	U	ng/L	P342740	
		Mirex	2.0	U	ng/L	P342740	
		Permethrin	10	U	ng/L	P342740	

Field ID: BLANK 04032018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980977	EPA 8270D	Trifluralin	1.0	U	ng/L	P342740	
		Alpha-Chlordane	1.0	U	ng/L	P342740	
		Gamma-Chlordane	1.0	U	ng/L	P342740	
		Endrin Ketone	2.0	U	ng/L	P342740	
		Dicofol	31	U	ng/L	P342740	
	EPA 8276	Chlordane**	2.6	U	ng/L	P342740	
		Toxaphene**	31	U	ng/L	P342740	
1980978	EPA 8270D	Alachlor	0.24	U	ng/L	P342892	
		Ametryn	0.31	U	ng/L	P342892	
		Atrazine	0.24	U	ng/L	P342892	
		Atrazine Desethyl	1.4	UJ	ng/L	P342892	RPD
		Azinphos Methyl	2.2	U	ng/L	P342892	
		Bromacil	0.48	U	ng/L	P342892	
		Butylate	0.38	U	ng/L	P342892	
		Chlorpyrifos Ethyl	0.23	UQ	ng/L	P344213	
		Chlorpyrifos Methyl	0.096	U	ng/L	P342892	
		Demeton	1.9	U	ng/L	P342892	
		Diazinon	0.12	U	ng/L	P342892	
		Disulfoton	0.48	U	ng/L	P342892	
		EPTC	1.2	U	ng/L	P342892	
		Ethion	0.14	U	ng/L	P342892	
		Ethoprop	0.096	U	ng/L	P342892	
		Fenamiphos	0.24	U	ng/L	P342892	
		Fipronil	0.24	U	ng/L	P342892	
		Fipronil Sulfide	0.14	U	ng/L	P342892	
		Fipronil Sulfone	0.14	U	ng/L	P342892	
		Hexazinone	0.48	U	ng/L	P342892	
		Malathion	0.33	U	ng/L	P342892	
		Metribuzin	0.19	UJ	ng/L	P342892	RPD
		Mevinphos	0.48	U	ng/L	P342892	
		Molinate	0.29	U	ng/L	P342892	
		Norflurazon	0.48	U	ng/L	P342892	
		Pendimethalin	0.96	U	ng/L	P342892	
		Phorate	0.24	U	ng/L	P342892	
		Prometon	0.86	U	ng/L	P342892	
		Prometryn	0.19	U	ng/L	P342892	
		Simazine	0.48	U	ng/L	P342892	
		Terbufos	0.096	U	ng/L	P342892	
		Terbuthylazine	0.41	U	ng/L	P342892	
		Fonofos	0.19	U	ng/L	P342892	
		Metalaxyl	0.24	U	ng/L	P342892	
		Metolachlor	0.24	U	ng/L	P342892	
		Acetochlor	0.24	U	ng/L	P342892	
		Cyanazine	0.48	UJ	ng/L	P342892	RPD
		Parathion Ethyl	0.24	U	ng/L	P342892	

Field ID: BLANK 04032018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980978	EPA 8270D	Parathion Methyl	0.24	U	ng/L	P342892	
1980980	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P343056	
		Iron	30	U	ug/L	P343056	
		Magnesium	0.040	U	mg/L	P343056	
		Potassium	0.30	U	mg/L	P343056	
		Sodium	0.50	U	mg/L	P343056	
		Zinc	5.0	U	ug/L	P343056	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P343056	
		Cadmium	0.020	U	ug/L	P343056	
		Chromium	0.40	U	ug/L	P343056	
		Copper	0.20	U	ug/L	P343056	
		Lead	0.050	U	ug/L	P343056	
		Nickel	0.20	U	ug/L	P343056	
		Silver	0.010	U	ug/L	P343056	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

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

EPA 8270D: MS accuracy for Atrazine, Simazine, Metalaxyl , Bromacil, Metolachlor and Norflurazon not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes. sample expired for preparation for Chlorpyrifos Ethyl due to the need for re-extraction.

Sample Location: OLUSTEE CREEK @ CR 238

Collection Date/Time: 04/03/2018 11:50

Field ID: 21020009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980941	EPA 180.1 Rev. 2.0	Turbidity	2.0	A	NTU	P342789	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P342994	
		Sulfate	0.47	I	mg SO4/L	P342997	
	SM 2120 B	Color (true)	370		PCU	P342742	
	SM 2320 B-97	Total Alkalinity	9.0		mg CaCO3/L	P343413	
	SM 2540 C-97	TDS	102		mg/L	P343343	
	SM 2540 D-97	TSS	3	I	mg/L	P343455	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P343417	
1980942	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P343313	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P342902	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043		mg N/L	P343047	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P343039	
	SM 5310 B-00	Organic Carbon	37		mg C/L	P343254	
1980943	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.19		mg P/L	P342801	
1980967	EPA 8321B	Aldicarb	2.5	U	ug/L	P342718	
		Aldicarb Sulfone	0.25	U	ug/L	P342718	
		Aldicarb Sulfoxide	0.25	U	ug/L	P342718	
		Carbaryl	0.25	U	ug/L	P342718	
		Carbofuran	0.25	U	ug/L	P342718	
		3-Hydroxycarbofuran	0.25	U	ug/L	P342718	

Field ID: 21020009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980967	EPA 8321B	Methiocarb	0.25	U	ug/L	P342718	
		Methomyl	0.25	U	ug/L	P342718	
		Oxamyl	0.25	U	ug/L	P342718	
		Propoxur	0.25	U	ug/L	P342718	
1980968		2,4-D	0.0020	U	ug/L	P342718	
		Bentazon	8.0E-04	U	ug/L	P342718	
		MCP	0.0020	U	ug/L	P342718	
		Triclopyr**	0.0040	U	ug/L	P342718	
		Imidacloprid	0.0020	U	ug/L	P342718	MS
		Diuron	0.0020	U	ug/L	P342718	
		Pyraclostrobin**	0.0020	U	ug/L	P342718	
		Primidone**	0.0040	U	ug/L	P342718	
		Linuron	0.0040	U	ug/L	P342718	
		Acetaminophen**	0.0080	U	ug/L	P342718	
		Fenuron	0.016	U	ug/L	P342718	
		Imazapyr**	0.067		ug/L	P342718	
		Carbamazepine**	4.0E-04	U	ug/L	P342718	
		Fluridone**	8.0E-04	U	ug/L	P342718	
		Hydrocodone**	8.0E-04	U	ug/L	P342718	
		Sucralose**	0.10	U	ug/L	P342714	
		Glyphosate**	0.10	U	ug/L	P342714	
		AMPA**	0.10	U	ug/L	P342714	
		Endothall**	0.10	U	ug/L	P342714	
		Glufosinate**	0.10	U	ug/L	P342714	
1980975	EPA 8270D	Aldrin	4.3	U	ng/L	P342740	
		Alpha-BHC	2.1	U	ng/L	P342740	
		Beta-BHC	4.3	U	ng/L	P342740	
		Delta-BHC	4.3	U	ng/L	P342740	
		Gamma-BHC	4.3	U	ng/L	P342740	
		Carbophenothion	4.3	U	ng/L	P342740	
		Chlorothalonil	2.1	UJ	ng/L	P342740	RPD
		Cypermethrin	21	U	ng/L	P342740	
		DDD-p,p'	3.2	U	ng/L	P342740	
		DDE-p,p'	3.2	U	ng/L	P342740	
		DDT-p,p'	3.2	U	ng/L	P342740	
		Dieldrin	4.3	U	ng/L	P342740	
		Endosulfan I	4.3	U	ng/L	P342740	
		Endosulfan II	4.3	U	ng/L	P342740	RPD
		Endosulfan Sulfate	2.1	U	ng/L	P342740	
		Endrin	2.1	U	ng/L	P342740	
		Endrin Aldehyde	2.1	U	ng/L	P342740	
		Heptachlor	1.6	U	ng/L	P342740	
		Heptachlor Epoxide	2.1	U	ng/L	P342740	
		Methoxychlor	4.3	U	ng/L	P342740	
		Mirex	2.1	U	ng/L	P342740	

Field ID: 21020009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980975	EPA 8270D	Permethrin	11	U	ng/L	P342740	
		Trifluralin	1.1	U	ng/L	P342740	
		Alpha-Chlordane	1.1	U	ng/L	P342740	
		Gamma-Chlordane	1.1	U	ng/L	P342740	
		Endrin Ketone	2.1	U	ng/L	P342740	
		Dicofol	32	U	ng/L	P342740	
		Chlordane**	5.1	I	ng/L	P342740	
		Toxaphene**	32	U	ng/L	P342740	
		Alachlor	0.24	U	ng/L	P342892	
		Ametryn	0.31	U	ng/L	P342892	
1980976	EPA 8270D	Atrazine	0.73	I	ng/L	P342892	
		Atrazine Desethyl	1.4	UJ	ng/L	P342892	RPD
		Azinphos Methyl	2.1	U	ng/L	P342892	
		Bromacil	0.47	U	ng/L	P342892	
		Butylate	0.38	U	ng/L	P342892	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P342892	
		Chlorpyrifos Methyl	0.095	U	ng/L	P342892	
		Demeton	1.9	U	ng/L	P342892	
		Diazinon	0.12	U	ng/L	P342892	
		Disulfoton	0.47	U	ng/L	P342892	
		EPTC	1.2	U	ng/L	P342892	
		Ethion	0.14	U	ng/L	P342892	
		Ethoprop	0.095	U	ng/L	P342892	
		Fenamiphos	0.24	U	ng/L	P342892	
		Fipronil	0.24	U	ng/L	P342892	
		Fipronil Sulfide	0.14	U	ng/L	P342892	
		Fipronil Sulfone	0.14	U	ng/L	P342892	
		Hexazinone	0.47	U	ng/L	P342892	
		Malathion	0.33	U	ng/L	P342892	
		Metribuzin	0.19	UJ	ng/L	P342892	RPD
		Mevinphos	0.47	U	ng/L	P342892	
		Molinate	0.28	U	ng/L	P342892	
		Norflurazon	0.47	U	ng/L	P342892	
		Pendimethalin	0.95	U	ng/L	P342892	
		Phorate	0.24	U	ng/L	P342892	
		Prometon	0.85	U	ng/L	P342892	
		Prometryn	0.19	U	ng/L	P342892	
		Simazine	0.47	U	ng/L	P342892	
		Terbufos	0.095	U	ng/L	P342892	
		Terbuthylazine	0.40	U	ng/L	P342892	
		Fonofos	0.19	U	ng/L	P342892	
		Metalaxyl	0.24	U	ng/L	P342892	
		Metolachlor	0.32	I	ng/L	P342892	
		Acetochlor	0.24	U	ng/L	P342892	
		Cyanazine	0.47	UJ	ng/L	P342892	RPD

Field ID: 21020009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980976	EPA 8270D	Parathion Ethyl	0.24	U	ng/L	P342892	
		Parathion Methyl	0.24	U	ng/L	P342892	
1980979	EPA 200.7 Rev. 4.4	Calcium	6.83		mg/L	P343056	
		Iron	700		ug/L	P343056	
		Magnesium	3.13		mg/L	P343056	
		Potassium	0.30	U	mg/L	P343056	
		Sodium	5.5		mg/L	P343056	
		Zinc	5.0	U	ug/L	P343056	
		Arsenic	0.45		ug/L	P343056	
	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P343056	
		Chromium	1.1	I	ug/L	P343056	
		Copper	0.27	I	ug/L	P343056	
		Lead	0.39		ug/L	P343056	
		Nickel	0.70	I	ug/L	P343056	
		Silver	0.010	U	ug/L	P343056	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

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

EPA 8270D: MS accuracy for Atrazine, Simazine, Metalaxyl , Bromacil, Metolachlor and Norflurazon not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P342789

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P343056

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: P343056

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343056

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342994

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342997

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343050

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343053

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343313

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343314

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342902

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343047

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343039

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342801

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

Reference Method: EPA 8270D
Batch ID: P342740

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
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: P342892

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D

Batch ID: P342892

Component	Result	Code	Units
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
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
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D

Batch ID: P344213

Component	Result	Code	Units
Chlorpyrifos Ethyl	0.25	U	ng/L

Reference Method: EPA 8276

Batch ID: P342740

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

Reference Method: EPA 8321B

Batch ID: P342714

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P342714

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

Reference Method: EPA 8321B
Batch ID: P342718

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	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	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	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P342742

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P343413

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

Reference Method: SM 2540 C-97
Batch ID: P343339

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P343343

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343451

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343455

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P343417

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343254

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: P343056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	107		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	107		P	85 - 115
Cadmium	108		P	85 - 115
Chromium	108		P	85 - 115
Copper	106		P	85 - 115
Lead	104		P	85 - 115
Nickel	107		P	85 - 115
Silver	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342994

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342997

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343053

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343039

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P342801

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

Reference Method: EPA 8270D
 Batch ID: P342740

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	52.8	51.2	P/P	24 - 89.0
Alpha-BHC	89.6	91.9	P/P	58 - 117
Alpha-Chlordane	87.5	86.4	P/P	56 - 115
Beta-BHC	113	130	P/P	55 - 137
Carbophenothion	109	124	P/P	37 - 145
Chlorothalonil	35.4	76.2	P/P	26 - 163
Cypermethrin	96.8	92.0	P/P	42 - 156
DDD-p,p'	105	105	P/P	59 - 129
DDE-p,p'	87.8	83.3	P/P	52 - 117
DDT-p,p'	92.4	88.0	P/P	48 - 128
Delta-BHC	108	124	P/P	59 - 158
Dicofol	89.3	87.6	P/P	19 - 124
Dieldrin	97.3	87.0	P/P	57 - 126
Endosulfan I	97.6	92.8	P/P	59 - 133
Endosulfan II	97.3	103	P/P	58 - 148
Endosulfan Sulfate	110	113	P/P	56 - 135
Endrin	89.0	95.5	P/P	50 - 140
Endrin Aldehyde	96.5	105	P/P	47 - 141
Endrin Ketone	104	107	P/P	63 - 123
Gamma-BHC	101	105	P/P	59 - 132
Gamma-Chlordane	85.1	82.5	P/P	55 - 112
Heptachlor	70.7	62.7	P/P	45 - 102
Heptachlor Epoxide	87.4	87.9	P/P	61 - 116
Methoxychlor	95.4	94.3	P/P	60 - 133
Mirex	75.8	69.6	P/P	40 - 98.0
Permethrin	85.1	81.4	P/P	45 - 131
Trifluralin	82.9	79.7	P/P	38 - 179

Reference Method: EPA 8270D
 Batch ID: P342892

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	96.0	88.2	P/P	74 - 119
Alachlor	96.4	90.5	P/P	75 - 118
Ametryn	96.1	85.9	P/P	59 - 137
Atrazine	105	88.4	P/P	73 - 120
Atrazine Desethyl	87.0	61.5	P/P	19 - 129
Azinphos Methyl	106	89.0	P/P	65 - 181
Bromacil	92.5	72.7	P/P	43 - 123
Butylate	53.7	65.1	P/P	28 - 85.0
Chlorpyrifos Ethyl	93.1	84.2	P/P	55 - 112
Chlorpyrifos Methyl	89.2	84.5	P/P	35 - 124
Cyanazine	137	95.5	P/P	26 - 262
Demeton	83.6	72.6	P/P	43 - 122
Diazinon	100	87.1	P/P	72 - 120
Disulfoton	85.9	70.1	P/P	45 - 137

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P342892

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
EPTC	54.3	67.9	P/P	28 - 95.0
Ethion	91.7	83.1	P/P	63 - 127
Ethoprop	94.9	88.9	P/P	63 - 109
Fenamiphos	96.9	84.1	P/P	66 - 136
Fipronil	103	81.0	P/P	63 - 126
Fipronil Sulfide	92.4	82.3	P/P	59 - 123
Fipronil Sulfone	88.3	75.4	P/P	56 - 122
Fonofos	81.3	80.1	P/P	64 - 114
Hexazinone	98.9	110	P/P	49 - 144
Malathion	92.9	92.3	P/P	68 - 131
Metalaxyl	102	82.5	P/P	57 - 126
Metolachlor	92.6	93.0	P/P	75 - 118
Metribuzin	125	87.3	P/P	46 - 169
Mevinphos	92.8	77.3	P/P	34 - 126
Molinate	65.6	71.2	P/P	37 - 101
Norflurazon	103	78.3	P/P	63 - 127
Parathion Ethyl	87.8	80.2	P/P	78 - 109
Parathion Methyl	95.6	84.0	P/P	74 - 123
Pendimethalin	110	96.6	P/P	51 - 130
Phorate	71.6	75.9	P/P	53 - 116
Prometon	93.8	80.3	P/P	66 - 124
Prometryn	93.8	79.0	P/P	66 - 124
Simazine	107	87.9	P/P	62 - 134
Terbufos	91.2	79.8	P/P	59 - 115
Terbutylazine	92.8	88.1	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P344213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Ethyl	86.5	87.8	P/P	55 - 112

Reference Method: EPA 8276
Batch ID: P342740

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.0	90.2	P/P	47 - 125
Toxaphene	77.0	75.6	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P342714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	109		P	40 - 140
Endothall	105		P	40 - 140
Glufosinate	99.1		P	40 - 140
Glyphosate	101		P	40 - 140
Sucralose	117		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P342718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	79.4		P	40 - 150
3-Hydroxycarbofuran	109		P	40 - 150
Acetaminophen	112		P	30 - 150
Aldicarb	82.5		P	30 - 150
Aldicarb Sulfone	111		P	40 - 150
Aldicarb Sulfoxide	129		P	40 - 150
Bentazon	75.4		P	30 - 150
Carbamazepine	85.3		P	40 - 150
Carbaryl	66.0		P	40 - 150
Carbofuran	70.4		P	40 - 150
Diuron	66.7		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	60.5		P	40 - 150
Hydrocodone	125		P	40 - 150
Imazapyr	76.4		P	40 - 150
Imidacloprid	111		P	40 - 160
Linuron	75.8		P	40 - 150
MCPP	62.7		P	40 - 150
Methiocarb	69.4		P	40 - 150
Methomyl	103		P	40 - 150
Oxamyl	105		P	40 - 150
Primidone	124		P	40 - 150
Propoxur	78.5		P	40 - 150
Pyraclostrobin	77.1		P	40 - 150
Triclopyr	62.6		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P343413

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
 Batch ID: P343417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P343254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P343056

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980989	Calcium	109		P	80 - 120
1980989	Iron	107		P	80 - 120
1980989	Magnesium	110		P	80 - 120
1980989	Potassium	109		P	80 - 120
1980989	Sodium	105		P	80 - 120
1980989	Zinc	104		P	80 - 120
1981281	Calcium	103		P	80 - 120
1981281	Iron	109	110	P/P	80 - 120
1981281	Magnesium	105		P	80 - 120
1981281	Potassium	105	105	P/P	80 - 120
1981281	Sodium	103		P	80 - 120
1981281	Zinc	99.9	99.9	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980989	Arsenic	107		P	80 - 120
1980989	Cadmium	108		P	80 - 120
1980989	Chromium	108		P	80 - 120
1980989	Copper	108		P	80 - 120
1980989	Lead	103		P	80 - 120
1980989	Nickel	107		P	80 - 120
1980989	Silver	101		P	80 - 120
1981281	Arsenic	107	108	P/P	80 - 120
1981281	Cadmium	110	111	P/P	80 - 120
1981281	Chromium	106	107	P/P	80 - 120
1981281	Copper	102	104	P/P	80 - 120
1981281	Lead	102	103	P/P	80 - 120
1981281	Nickel	102	102	P/P	80 - 120
1981281	Silver	101	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980920	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342997

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980823	Sulfate	99.0		P	90 - 110
1980920	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980999	Chloride	96.3		P	90 - 110
1981261	Chloride	96.8		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1981261	Sulfate	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980881	Ammonia-N	99.0	99.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1981001	Ammonia-N	98.6	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1981001	Kjeldahl Nitrogen	94.4	96.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980930	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980945	Total-P	106	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980882	O-Phosphate-P	91.7	92.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P342740

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979893	Aldrin	57.2	51.4	P/P	26 - 96.0
1979893	Alpha-BHC	70.8	75.9	P/P	51 - 123
1979893	Alpha-Chlordane	78.1	68.5	P/P	45 - 120
1979893	Beta-BHC	119	91.5	P/P	43 - 146
1979893	Carbophenothion	145	120	P/P	26 - 179
1979893	Chlorothalonil	170	54.8	P/P	10 - 215
1979893	Cypermethrin	114	91.9	P/P	35 - 169
1979893	DDD-p,p'	90.6	87.1	P/P	49 - 131
1979893	DDE-p,p'	70.2	69.7	P/P	39 - 127
1979893	DDT-p,p'	72.2	77.2	P/P	49 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P342740

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979893	Delta-BHC	92.7	80.7	P/P	49 - 187
1979893	Dicofol	80.9	87.7	P/P	10 - 129
1979893	Dieldrin	78.3	80.2	P/P	46 - 132
1979893	Endosulfan I	91.1	78.3	P/P	57 - 130
1979893	Endosulfan II	112	80.6	P/P	52 - 148
1979893	Endosulfan Sulfate	125	97.6	P/P	55 - 129
1979893	Endrin	77.9	71.9	P/P	45 - 133
1979893	Endrin Aldehyde	57.7	56.7	P/P	26 - 140
1979893	Endrin Ketone	112	93.7	P/P	60 - 125
1979893	Gamma-BHC	109	91.2	P/P	50 - 145
1979893	Gamma-Chlordane	75.8	66.8	P/P	44 - 118
1979893	Heptachlor	63.2	57.6	P/P	35 - 106
1979893	Heptachlor Epoxide	92.4	78.6	P/P	52 - 123
1979893	Methoxychlor	92.3	88.9	P/P	54 - 132
1979893	Mirex	69.8	66.4	P/P	36 - 107
1979893	Permethrin	89.6	75.8	P/P	47 - 135
1979893	Trifluralin	73.9	73.0	P/P	32 - 228

Reference Method: EPA 8270D
Batch ID: P342892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980778	Acetochlor	108	99.8	P/P	67 - 125
1980778	Alachlor	107	94.8	P/P	69 - 123
1980778	Ametryn	119	104	P/P	52 - 151
1980778	Atrazine Desethyl	95.2	78.8	P/P	10 - 129
1980778	Azinphos Methyl	124	110	P/P	48 - 200
1980778	Butylate	30.2	28.5	P/P	10 - 85.0
1980778	Chlorpyrifos Ethyl	86.9	83.1	P/P	54 - 115
1980778	Chlorpyrifos Methyl	99.4	93.7	P/P	44 - 117
1980778	Cyanazine	123	119	P/P	10 - 262
1980778	Demeton	78.9	76.3	P/P	24 - 145
1980778	Diazinon	109	102	P/P	66 - 129
1980778	Disulfoton	87.5	78.5	P/P	45 - 139
1980778	EPTC	29.4	26.7	P/P	10 - 86.0
1980778	Ethion	108	92.5	P/P	59 - 133
1980778	Ethoprop	95.6	95.7	P/P	54 - 116
1980778	Fenamiphos	95.8	94.4	P/P	55 - 140
1980778	Fipronil	117	105	P/P	37 - 142
1980778	Fipronil Sulfide	107	93.1	P/P	37 - 130
1980778	Fipronil Sulfone	101	90.0	P/P	18 - 143
1980778	Fonofos	91.5	90.6	P/P	55 - 118
1980778	Hexazinone	110	106	P/P	62 - 140
1980778	Malathion	106	96.5	P/P	64 - 132
1980778	Metribuzin	171	154	P/P	16 - 218
1980778	Mevinphos	88.1	89.9	P/P	34 - 129
1980778	Molinate	48.7	51.3	P/P	16 - 99.0
1980778	Parathion Ethyl	103	95.0	P/P	71 - 112
1980778	Parathion Methyl	116	109	P/P	65 - 127
1980778	Pendimethalin	129	123	P/P	35 - 159
1980778	Phorate	73.8	76.6	P/P	41 - 129
1980778	Prometon	97.0	89.1	P/P	56 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P342892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980778	Prometryn	100	92.6	P/P	65 - 130
1980778	Terbufos	92.4	89.0	P/P	53 - 126
1980778	Terbuthylazine	95.1	89.3	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P344213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1986670	Chlorpyrifos Ethyl	77.4	76.4	P/P	54 - 115

Reference Method: EPA 8276
Batch ID: P342740

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980975	Chlordane	74.0	68.9	P/P	41 - 134
1980975	Toxaphene	70.2	66.9	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P342714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979892	AMPA	51.5	53.2	P/P	40 - 140
1979892	Endothall	105	111	P/P	40 - 140
1979892	Glufosinate	101	106	P/P	40 - 140
1979892	Glyphosate	85.2	82.3	P/P	40 - 140
1979892	Sucralose	60.8	56.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980630	2,4-D	109	105	P/P	40 - 150
1980630	3-Hydroxycarbofuran	122	131	P/P	40 - 150
1980630	Acetaminophen	133	139	P/P	30 - 150
1980630	Aldicarb	84.7	83.4	P/P	30 - 150
1980630	Aldicarb Sulfone	141	148	P/P	40 - 150
1980630	Aldicarb Sulfoxide	96.7	106	P/P	40 - 150
1980630	Bentazon	47.9	43.1	P/P	30 - 150
1980630	Carbamazepine	90.1	94.4	P/P	40 - 150
1980630	Carbaryl	57.4	56.8	P/P	40 - 150
1980630	Carbofuran	69.2	68.9	P/P	40 - 150
1980630	Diuron	72.0	75.5	P/P	40 - 150
1980630	Fenuron	98.4	105	P/P	40 - 150
1980630	Fluridone	59.2	62.4	P/P	40 - 150
1980630	Hydrocodone	137	142	P/P	40 - 150
1980630	Imazapyr	77.5	73.9	P/P	40 - 150
1980630	Imidacloprid	207	205	F/F	40 - 160
1980630	Linuron	88.5	89.9	P/P	40 - 150
1980630	MCPP	84.8	81.2	P/P	40 - 150
1980630	Methiocarb	80.1	77.7	P/P	40 - 150
1980630	Methomyl	94.7	94.8	P/P	40 - 150
1980630	Oxamyl	104	102	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P342718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980630	Primidone	126	121	P/P	40 - 150
1980630	Propoxur	72.5	69.4	P/P	40 - 150
1980630	Pyraclostrobin	78.6	84.1	P/P	40 - 150
1980630	Triclopyr	89.7	85.1	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P343417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980944	Fluoride	96.8	98.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980925	Organic Carbon	100	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980941	Turbidity	4.90	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981281	Calcium	0.273	Spike	P	0 - 20
1981281	Iron	0.790	Spike	P	0 - 20
1981281	Magnesium	0.332	Spike	P	0 - 20
1981281	Potassium	0.413	Spike	P	0 - 20
1981281	Sodium	0.566	Spike	P	0 - 20
1981281	Zinc	0.0344	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981281	Arsenic	0.456	Spike	P	0 - 20
1981281	Cadmium	0.826	Spike	P	0 - 20
1981281	Chromium	1.32	Spike	P	0 - 20
1981281	Copper	1.08	Spike	P	0 - 20
1981281	Lead	1.15	Spike	P	0 - 20
1981281	Nickel	0.590	Spike	P	0 - 20
1981281	Silver	0.293	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980823	Chloride	0.236	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342997

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980823	Sulfate	0.441	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980999	Chloride	0.785	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980999	Sulfate	0.942	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980881	Ammonia-N	0.485	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981001	Ammonia-N	2.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981001	Kjeldahl Nitrogen	1.60	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980930	NO2NO3-N	0.740	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P343039

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980945	Total-P	5.91	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P342801

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980882	O-Phosphate-P	1.08	Spike	P	0 - 20

Reference Method: EPA 8270D

Batch ID: P342740

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979893	Aldrin	10.6	Spike	P	0 - 30
1979893	Alpha-BHC	7.01	Spike	P	0 - 30
1979893	Alpha-Chlordane	13.1	Spike	P	0 - 30
1979893	Beta-BHC	26.4	Spike	P	0 - 30
1979893	Carbophenothion	18.3	Spike	P	0 - 30
1979893	Chlorothalonil	102	Spike	F	0 - 30
1979893	Cypermethrin	21.8	Spike	P	0 - 30
1979893	DDD-p,p'	4.02	Spike	P	0 - 30
1979893	DDE-p,p'	0.739	Spike	P	0 - 30
1979893	DDT-p,p'	6.73	Spike	P	0 - 30
1979893	Delta-BHC	13.8	Spike	P	0 - 30
1979893	Dicofol	7.97	Spike	P	0 - 30
1979893	Dieldrin	2.44	Spike	P	0 - 30
1979893	Endosulfan I	15.1	Spike	P	0 - 30
1979893	Endosulfan II	32.2	Spike	F	0 - 30
1979893	Endosulfan Sulfate	24.6	Spike	P	0 - 30
1979893	Endrin	7.99	Spike	P	0 - 30
1979893	Endrin Aldehyde	1.65	Spike	P	0 - 30
1979893	Endrin Ketone	17.5	Spike	P	0 - 30
1979893	Gamma-BHC	17.5	Spike	P	0 - 30
1979893	Gamma-Chlordane	12.6	Spike	P	0 - 30
1979893	Heptachlor	9.32	Spike	P	0 - 30
1979893	Heptachlor Epoxide	16.2	Spike	P	0 - 30
1979893	Methoxychlor	3.84	Spike	P	0 - 30
1979893	Mirex	4.98	Spike	P	0 - 30
1979893	Permethrin	16.7	Spike	P	0 - 30
1979893	Trifluralin	1.14	Spike	P	0 - 30
LFB	Aldrin	3.05	LCS	P	0 - 30
LFB	Alpha-BHC	2.56	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.29	LCS	P	0 - 30
LFB	Beta-BHC	13.5	LCS	P	0 - 30
LFB	Carbophenothion	13.2	LCS	P	0 - 30
LFB	Chlorothalonil	73.0	LCS	F	0 - 30
LFB	Cypermethrin	5.02	LCS	P	0 - 30
LFB	DDD-p,p'	0.0233	LCS	P	0 - 30
LFB	DDE-p,p'	5.19	LCS	P	0 - 30
LFB	DDT-p,p'	4.92	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P342740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Delta-BHC	13.3	LCS	P	0 - 30
LFB	Dicofol	1.91	LCS	P	0 - 30
LFB	Dieldrin	11.2	LCS	P	0 - 30
LFB	Endosulfan I	5.04	LCS	P	0 - 30
LFB	Endosulfan II	5.63	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.07	LCS	P	0 - 30
LFB	Endrin	7.09	LCS	P	0 - 30
LFB	Endrin Aldehyde	8.18	LCS	P	0 - 30
LFB	Endrin Ketone	2.84	LCS	P	0 - 30
LFB	Gamma-BHC	3.61	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.08	LCS	P	0 - 30
LFB	Heptachlor	12.1	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.628	LCS	P	0 - 30
LFB	Methoxychlor	1.09	LCS	P	0 - 30
LFB	Mirex	8.53	LCS	P	0 - 30
LFB	Permethrin	4.39	LCS	P	0 - 30
LFB	Trifluralin	3.89	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P342892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980778	Acetochlor	8.32	Spike	P	0 - 30
1980778	Alachlor	11.9	Spike	P	0 - 30
1980778	Ametryn	9.60	Spike	P	0 - 30
1980778	Atrazine	8.02	Spike	P	0 - 30
1980778	Atrazine Desethyl	10.4	Spike	P	0 - 30
1980778	Azinphos Methyl	11.8	Spike	P	0 - 30
1980778	Bromacil	7.61	Spike	P	0 - 30
1980778	Butylate	5.94	Spike	P	0 - 30
1980778	Chlorpyrifos Ethyl	4.55	Spike	P	0 - 30
1980778	Chlorpyrifos Methyl	5.90	Spike	P	0 - 30
1980778	Cyanazine	3.20	Spike	P	0 - 30
1980778	Demeton	3.39	Spike	P	0 - 30
1980778	Diazinon	6.42	Spike	P	0 - 30
1980778	Disulfoton	10.8	Spike	P	0 - 30
1980778	EPTC	9.37	Spike	P	0 - 30
1980778	Ethion	15.7	Spike	P	0 - 30
1980778	Ethoprop	0.0653	Spike	P	0 - 30
1980778	Fenamiphos	1.38	Spike	P	0 - 30
1980778	Fipronil	11.2	Spike	P	0 - 30
1980778	Fipronil Sulfide	13.6	Spike	P	0 - 30
1980778	Fipronil Sulfone	11.3	Spike	P	0 - 30
1980778	Fonofos	0.969	Spike	P	0 - 30
1980778	Hexazinone	2.41	Spike	P	0 - 30
1980778	Malathion	9.50	Spike	P	0 - 30
1980778	Metaxyl	10.2	Spike	P	0 - 30
1980778	Metolachlor	9.53	Spike	P	0 - 30
1980778	Metribuzin	10.7	Spike	P	0 - 30
1980778	Mevinphos	2.01	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P342892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980778	Molinate	5.35	Spike	P	0 - 30
1980778	Norflurazon	16.4	Spike	P	0 - 30
1980778	Parathion Ethyl	8.52	Spike	P	0 - 30
1980778	Parathion Methyl	6.10	Spike	P	0 - 30
1980778	Pendimethalin	4.47	Spike	P	0 - 30
1980778	Phorate	3.81	Spike	P	0 - 30
1980778	Prometon	8.51	Spike	P	0 - 30
1980778	Prometryn	7.95	Spike	P	0 - 30
1980778	Simazine	9.72	Spike	P	0 - 30
1980778	Terbufos	3.74	Spike	P	0 - 30
1980778	Terbuthylazine	6.23	Spike	P	0 - 30
LFB	Acetochlor	8.52	LCS	P	0 - 30
LFB	Alachlor	6.38	LCS	P	0 - 30
LFB	Ametryn	11.2	LCS	P	0 - 30
LFB	Atrazine	16.8	LCS	P	0 - 30
LFB	Atrazine Desethyl	34.4	LCS	F	0 - 30
LFB	Azinphos Methyl	17.8	LCS	P	0 - 30
LFB	Bromacil	23.9	LCS	P	0 - 30
LFB	Butylate	19.2	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	10.1	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.45	LCS	P	0 - 30
LFB	Cyanazine	35.4	LCS	F	0 - 30
LFB	Demeton	14.0	LCS	P	0 - 30
LFB	Diazinon	13.9	LCS	P	0 - 30
LFB	Disulfoton	20.3	LCS	P	0 - 30
LFB	EPTC	22.3	LCS	P	0 - 30
LFB	Ethion	9.85	LCS	P	0 - 30
LFB	Ethoprop	6.53	LCS	P	0 - 30
LFB	Fenamiphos	14.1	LCS	P	0 - 30
LFB	Fipronil	24.2	LCS	P	0 - 30
LFB	Fipronil Sulfide	11.5	LCS	P	0 - 30
LFB	Fipronil Sulfone	15.8	LCS	P	0 - 30
LFB	Fonofos	1.54	LCS	P	0 - 30
LFB	Hexazinone	10.7	LCS	P	0 - 30
LFB	Malathion	0.648	LCS	P	0 - 30
LFB	Metalaxyl	21.5	LCS	P	0 - 30
LFB	Metolachlor	0.426	LCS	P	0 - 30
LFB	Metribuzin	35.4	LCS	F	0 - 30
LFB	Mevinphos	18.3	LCS	P	0 - 30
LFB	Molinate	8.27	LCS	P	0 - 30
LFB	Norflurazon	27.4	LCS	P	0 - 30
LFB	Parathion Ethyl	9.07	LCS	P	0 - 30
LFB	Parathion Methyl	13.0	LCS	P	0 - 30
LFB	Pendimethalin	13.4	LCS	P	0 - 30
LFB	Phorate	5.82	LCS	P	0 - 30
LFB	Prometon	15.5	LCS	P	0 - 30
LFB	Prometryn	17.1	LCS	P	0 - 30
LFB	Simazine	20.0	LCS	P	0 - 30
LFB	Terbufos	13.3	LCS	P	0 - 30
LFB	Terbuthylazine	5.15	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P344213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986670	Chlorpyrifos Ethyl	1.25	Spike	P	0 - 30
LFB	Chlorpyrifos Ethyl	1.43	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P342740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980975	Chlordane	6.07	Spike	P	0 - 30
1980975	Toxaphene	4.83	Spike	P	0 - 30
LFB	Chlordane	17.2	LCS	P	0 - 30
LFB	Toxaphene	1.82	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979892	AMPA	3.41	Spike	P	0 - 30
1979892	Endothall	5.16	Spike	P	0 - 30
1979892	Glufosinate	4.23	Spike	P	0 - 30
1979892	Glyphosate	3.39	Spike	P	0 - 30
1979892	Sucralose	4.72	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980630	2,4-D	3.48	Spike	P	0 - 30
1980630	3-Hydroxycarbofuran	6.99	Spike	P	0 - 30
1980630	Acetaminophen	4.43	Spike	P	0 - 30
1980630	Aldicarb	1.56	Spike	P	0 - 30
1980630	Aldicarb Sulfone	4.95	Spike	P	0 - 30
1980630	Aldicarb Sulfoxide	9.59	Spike	P	0 - 30
1980630	Bentazon	7.99	Spike	P	0 - 30
1980630	Carbamazepine	4.62	Spike	P	0 - 30
1980630	Carbaryl	1.16	Spike	P	0 - 30
1980630	Carbofuran	0.431	Spike	P	0 - 30
1980630	Diuron	4.75	Spike	P	0 - 30
1980630	Fenuron	6.53	Spike	P	0 - 30
1980630	Fluridone	5.10	Spike	P	0 - 30
1980630	Hydrocodone	3.55	Spike	P	0 - 30
1980630	Imazapyr	3.03	Spike	P	0 - 30
1980630	Imidacloprid	0.795	Spike	P	0 - 30
1980630	Linuron	1.55	Spike	P	0 - 30
1980630	MCP	4.32	Spike	P	0 - 30
1980630	Methiocarb	3.12	Spike	P	0 - 30
1980630	Methomyl	0.162	Spike	P	0 - 30
1980630	Oxamyl	1.80	Spike	P	0 - 30
1980630	Primidone	3.73	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P342718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980630	Propoxur	4.32	Spike	P	0 - 30
1980630	Pyraclostrobin	6.72	Spike	P	0 - 30
1980630	Triclopyr	5.26	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P342742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980922	Color (true)	0.765	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P343413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980944	Total Alkalinity	0.799	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P343339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979967	TDS	1.10	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P343343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980878	TDS	5.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P343417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980944	Fluoride	1.47	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980925	Organic Carbon	1.32	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: 1980967
Field Sample ID: 21020009

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	67.2	P	30 - 160

Lab Sample ID: 1980968
Field Sample ID: 21020009

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	149	P	30 - 160
EPA 8321B	Acetaminophen-d4	149	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	91.4	P	30 - 160
EPA 8321B	Diuron-d6	91.4	P	30 - 160
EPA 8321B	Endothall-d6	91.2	P	40 - 160
EPA 8321B	Endothall-d6	91.2	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	124	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	124	P	40 - 160
EPA 8321B	Primidone-d5	86.2	P	30 - 160
EPA 8321B	Primidone-d5	86.2	P	30 - 160
EPA 8321B	Sucralose-d6	40.2	P	40 - 160
EPA 8321B	Sucralose-d6	40.2	P	40 - 160

Lab Sample ID: 1980969
Field Sample ID: BLANK 04032018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	67.8	P	30 - 160

Lab Sample ID: 1980970
Field Sample ID: BLANK 04032018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	74.5	P	30 - 160
EPA 8321B	2,4-D-d3	74.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	114	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.7	P	30 - 160
EPA 8321B	Diuron-d6	88.4	P	30 - 160
EPA 8321B	Diuron-d6	88.4	P	30 - 160
EPA 8321B	Endothall-d6	74.3	P	40 - 160
EPA 8321B	Endothall-d6	74.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	126	P	40 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1980975
Field Sample ID: 21020009

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	92.9	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	70.8	P	34 - 101
EPA 8276	Decachlorobiphenyl	91.7	P	31 - 108
EPA 8276	PCNB	135	P	62 - 142

Lab Sample ID: 1980976
Field Sample ID: 21020009

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	98.2	P	71 - 126
EPA 8270D	Terbufos-d10	81.6	P	59 - 149

Lab Sample ID: 1980977
Field Sample ID: BLANK 04032018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	74.4	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	70.8	P	34 - 101
EPA 8276	Decachlorobiphenyl	77.1	P	31 - 108
EPA 8276	PCNB	120	P	62 - 142

Lab Sample ID: 1980978
Field Sample ID: BLANK 04032018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	104	P	71 - 126
EPA 8270D	Simazine-d10	106	P	71 - 126
EPA 8270D	Terbufos-d10	104	P	59 - 149
EPA 8270D	Terbufos-d10	91.8	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83001
Included Lab Sample IDs: 1980941, 1980944, 1980947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.2	P/P	90 - 110
Chloride	99.0	102	P/P	90 - 110
Sulfate	98.7	98.6	P/P	90 - 110
Sulfate	98.9	101	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A83033
Included Lab Sample IDs: 1980941, 1980944, 1980947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	97.5	P/P	85 - 115
Color (true)	99.2	101	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83045

Included Lab Sample IDs: 1980941, 1980944, 1980947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83051

Included Lab Sample IDs: 1980943, 1980946, 1980949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.9	P/P	90 - 110
O-Phosphate-P	99.5	99.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83110

Included Lab Sample IDs: 1980968, 1980970

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.4	90.9	P/P	50 - 150
3-Hydroxycarbofuran	119	126	P/P	60 - 150
Acetaminophen	105	119	P/P	60 - 150
Aldicarb	99.0	107	P/P	60 - 150
Aldicarb Sulfone	109	118	P/P	50 - 150
Aldicarb Sulfoxide	115	121	P/P	50 - 150
Bentazon	92.5	93.1	P/P	50 - 150
Carbamazepine	108	109	P/P	60 - 150
Carbaryl	122	110	P/P	60 - 150
Carbofuran	121	115	P/P	50 - 150
Diuron	127	112	P/P	60 - 150
Fenuron	104	108	P/P	60 - 150
Fluridone	113	115	P/P	60 - 160
Hydrocodone	118	121	P/P	60 - 150
Imazapyr	86.2	90.3	P/P	50 - 150
Imidacloprid	102	116	P/P	60 - 150
Linuron	112	123	P/P	60 - 150
MCP	101	95.3	P/P	50 - 150
Methiocarb	126	122	P/P	50 - 150
Methomyl	103	117	P/P	50 - 150
Oxamyl	113	115	P/P	50 - 150
Primidone	109	117	P/P	60 - 150
Propoxur	121	125	P/P	50 - 150
Pyraclostrobin	116	118	P/P	60 - 150
Triclopyr	102	98.4	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83122

Included Lab Sample IDs: 1980942, 1980945, 1980948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83128

Included Lab Sample IDs: 1980942, 1980945, 1980948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	91.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83143

Included Lab Sample IDs: 1980942, 1980945

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83152

Included Lab Sample IDs: 1980979, 1980980

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.7	P/P	90 - 110
Calcium	99.7	98.8	P/P	95 - 105
Iron	100	101	P/P	90 - 110
Iron	101	100	P/P	95 - 105
Magnesium	101	102	P/P	90 - 110
Magnesium	102	101	P/P	95 - 105
Potassium	99.2	99.5	P/P	90 - 110
Potassium	100	99.2	P/P	95 - 105
Sodium	101	99.5	P/P	90 - 110
Sodium	99.6	99.7	P/P	95 - 105
Zinc	102	102	P/P	95 - 105
Zinc	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83157

Included Lab Sample IDs: 1980948

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

Reference Method: SM 5310 B-00

Run ID: A83183

Included Lab Sample IDs: 1980942, 1980945, 1980948

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

Reference Method: EPA 8321B

Run ID: A83190

Included Lab Sample IDs: 1980968, 1980970

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	120	P/P	60 - 150
Endothall	99.6	106	P/P	60 - 150
Glufosinate	95.7	115	P/P	60 - 150
Glyphosate	109	115	P/P	60 - 150
Sucralose	109	106	P/P	60 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83204

Included Lab Sample IDs: 1980942, 1980945, 1980948

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

Reference Method: EPA 8270D

Run ID: A83213

Included Lab Sample IDs: 1980975, 1980977

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	86.7		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	92.6		P	80 - 120
Beta-BHC	101		P	80 - 120
Carbophenothion	92.3		P	80 - 120
Chlorothalonil	82.1		P	80 - 120
Cypermethrin	91.1		P	80 - 120
DDD-p,p'	97.4		P	80 - 120
DDE-p,p'	93.9		P	80 - 120
DDT-p,p'	109		P	80 - 120
Delta-BHC	98.7		P	80 - 120
Dicofol	113		P	80 - 120
Dieldrin	88.9		P	80 - 120
Endosulfan I	93.2		P	80 - 120
Endosulfan II	92.5		P	80 - 120
Endosulfan Sulfate	95.7		P	80 - 120
Endrin	95.6		P	80 - 120
Endrin Aldehyde	85.4		P	80 - 120
Endrin Ketone	96.8		P	80 - 120
Gamma-BHC	83.2		P	80 - 120
Gamma-Chlordane	91.3		P	80 - 120
Heptachlor	87.7		P	80 - 120
Heptachlor Epoxide	91.3		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	98.7		P	80 - 120
Permethrin	94.2		P	80 - 120
Trifluralin	98.1		P	80 - 120

Reference Method: SM 2320 B-97

Run ID: A83241

Included Lab Sample IDs: 1980941, 1980944, 1980947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	99.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83241

Included Lab Sample IDs: 1980941, 1980944, 1980947

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83242

Included Lab Sample IDs: 1980979, 1980980

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	104	P/P	90 - 110
Arsenic	104	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Cadmium	103	101	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Chromium	103	102	P/P	90 - 110
Copper	101	103	P/P	90 - 110
Copper	103	99.2	P/P	90 - 110
Lead	99.0	98.8	P/P	90 - 110
Lead	99.9	99.0	P/P	90 - 110
Nickel	101	103	P/P	90 - 110
Nickel	103	99.5	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Silver	104	103	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A83300

Included Lab Sample IDs: 1980975, 1980977

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.5		P	80 - 120
Toxaphene	94.1		P	80 - 120

Reference Method: EPA 8270D

Run ID: A83355

Included Lab Sample IDs: 1980976, 1980978

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	96.4		P	80 - 120
Alachlor	96.1		P	80 - 120
Ametryn	99.4		P	80 - 120
Atrazine	96.1		P	80 - 120
Atrazine Desethyl	97.6		P	80 - 120
Azinphos Methyl	98.0		P	80 - 120
Bromacil	99.6		P	80 - 120
Butylate	96.4		P	80 - 120
Chlorpyrifos Ethyl	96.0		P	80 - 120
Chlorpyrifos Methyl	96.7		P	80 - 120
Cyanazine	96.9		P	80 - 120
Demeton	98.0		P	80 - 120
Diazinon	96.4		P	80 - 120
Disulfoton	91.9		P	80 - 120
EPTC	98.3		P	80 - 120
Ethion	95.3		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	94.0		P	80 - 120
Fipronil	95.3		P	80 - 120
Fipronil Sulfide	96.8		P	80 - 120
Fipronil Sulfone	97.1		P	80 - 120
Fonofos	98.6		P	80 - 120
Hexazinone	92.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A83355

Included Lab Sample IDs: 1980976, 1980978

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Malathion	98.7		P	80 - 120
Metalaxyl	98.6		P	80 - 120
Metolachlor	104		P	80 - 120
Metribuzin	91.4		P	80 - 120
Mevinphos	99.6		P	80 - 120
Molinate	97.1		P	80 - 120
Norflurazon	97.9		P	80 - 120
Parathion Ethyl	91.5		P	80 - 120
Parathion Methyl	94.5		P	80 - 120
Pendimethalin	95.7		P	80 - 120
Phorate	94.8		P	80 - 120
Prometon	95.6		P	80 - 120
Prometryn	94.1		P	80 - 120
Simazine	100		P	80 - 120
Terbufos	94.6		P	80 - 120
Terbutylazine	96.4		P	80 - 120

Reference Method: EPA 8270D

Run ID: A83697

Included Lab Sample IDs: 1980978

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Ethyl	93.3		P	80 - 120

* 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				4.90	
EPA 200.7 Rev. 4.4	Calcium	103	109	103		0.273
	Iron	107	107	109	110	0.790
	Magnesium	105	110	105		0.332
	Potassium	103	109	105	105	0.413
	Sodium	102	105	103		0.566
	Zinc	103	104	99.9		0.0344
EPA 200.8 Rev. 5.4	Arsenic	107	107	107	108	0.456
	Cadmium	108	108	110	111	0.826
	Chromium	108	108	106	107	1.32
	Copper	106	108	102	104	1.08
	Lead	104	103	102	103	1.15
	Nickel	107	107	102	102	0.590
	Silver	102	101	101	101	0.293
EPA 300.0 Rev. 2.1	Chloride	99.5	100		0.236	
	Chloride	98.7	96.3	96.8		0.785
	Sulfate	98.6	99.0	101		0.441

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 300.0 Rev. 2.1	Sulfate	98.4		98.0			0.942	
EPA 350.1 Rev. 2.0	Ammonia-N	99.7		99.0	99.6			0.485
	Ammonia-N	96.6		98.6	101			2.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.3		94.4	96.3			1.60
EPA 353.2 Rev. 2.0	NO2NO3-N	104		104	106			0.740
EPA 365.1 Rev. 2.0	Total-P	102		106	98.7			5.91
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3		91.7	92.7			1.08
EPA 8270D	Acetochlor	96.0	88.2	108	99.8	8.52		8.32
	Alachlor	90.5	96.4	107	94.8	6.38		11.9
	Aldrin	52.8	51.2	57.2	51.4	3.05		10.6
	Alpha-BHC	89.6	91.9	70.8	75.9	2.56		7.01
	Alpha-Chlordane	87.5	86.4	78.1	68.5	1.29		13.1
	Ametryn	96.1	85.9	119	104	11.2		9.60
	Atrazine	105	88.4			16.8		8.02
	Atrazine Desethyl	87.0	61.5	95.2	78.8	34.4		10.4
	Azinphos Methyl	106	89.0	124	110	17.8		11.8
	Beta-BHC	113	130	119	91.5	13.5		26.4
	Bromacil	92.5	72.7			23.9		7.61
	Butylate	53.7	65.1	30.2	28.5	19.2		5.94
	Carbophenothion	109	124	145	120	13.2		18.3
	Chlorothalonil	35.4	76.2	170	54.8	73.0		102
	Chlorpyrifos Ethyl	93.1	84.2	86.9	83.1	10.1		4.55
	Chlorpyrifos Ethyl	86.5	87.8	77.4	76.4	1.43		1.25
	Chlorpyrifos Methyl	89.2	84.5	99.4	93.7	5.45		5.90
	Cyanazine	137	95.5	123	119	35.4		3.20
	Cypermethrin	96.8	92.0	114	91.9	5.02		21.8
	DDD-p,p'	105	105	90.6	87.1	0.0233		4.02
	DDE-p,p'	87.8	83.3	70.2	69.7	5.19		0.739
	DDT-p,p'	92.4	88.0	72.2	77.2	4.92		6.73
	Delta-BHC	108	124	92.7	80.7	13.3		13.8
	Demeton	72.6	83.6	78.9	76.3	14.0		3.39
	Diazinon	87.1	100	109	102	13.9		6.42
	Dicofol	89.3	87.6	80.9	87.7	1.91		7.97
	Dieldrin	97.3	87.0	78.3	80.2	11.2		2.44
	Disulfoton	70.1	85.9	87.5	78.5	20.3		10.8
	Endosulfan I	97.6	92.8	91.1	78.3	5.04		15.1
	Endosulfan II	97.3	103	112	80.6	5.63		32.2
	Endosulfan Sulfate	110	113	125	97.6	3.07		24.6
	Endrin	89.0	95.5	77.9	71.9	7.09		7.99
	Endrin Aldehyde	96.5	105	57.7	56.7	8.18		1.65
	Endrin Ketone	104	107	112	93.7	2.84		17.5
	EPTC	54.3	67.9	29.4	26.7	22.3		9.37
	Ethion	91.7	83.1	108	92.5	9.85		15.7
	Ethoprop	94.9	88.9	95.6	95.7	6.53		0.0653
	Fenamiphos	96.9	84.1	95.8	94.4	14.1		1.38
	Fipronil	103	81.0	117	105	24.2		11.2
	Fipronil Sulfide	92.4	82.3	107	93.1	11.5		13.6
	Fipronil Sulfone	88.3	75.4	101	90.0	15.8		11.3
	Fonofos	81.3	80.1	91.5	90.6	1.54		0.969
	Gamma-BHC	101	105	109	91.2	3.61		17.5
	Gamma-Chlordane	85.1	82.5	75.8	66.8	3.08		12.6
	Heptachlor	70.7	62.7	63.2	57.6	12.1		9.32
	Heptachlor Epoxide	87.4	87.9	92.4	78.6	0.628		16.2
	Hexazinone	98.9	110	110	106	10.7		2.41

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270D	Malathion	92.9	92.3	106	96.5	0.648		9.50
	Metalaxyl	102	82.5			21.5		10.2
	Methoxychlor	95.4	94.3	92.3	88.9	1.09		3.84
	Metolachlor	92.6	93.0			0.426		9.53
	Metribuzin	125	87.3	171	154	35.4		10.7
	Mevinphos	92.8	77.3	88.1	89.9	18.3		2.01
	Mirex	75.8	69.6	69.8	66.4	8.53		4.98
	Molinate	65.6	71.2	48.7	51.3	8.27		5.35
	Norflurazon	103	78.3			27.4		16.4
	Parathion Ethyl	87.8	80.2	103	95.0	9.07		8.52
	Parathion Methyl	95.6	84.0	116	109	13.0		6.10
	Pendimethalin	110	96.6	129	123	13.4		4.47
	Permethrin	85.1	81.4	89.6	75.8	4.39		16.7
	Phorate	71.6	75.9	73.8	76.6	5.82		3.81
	Prometon	93.8	80.3	97.0	89.1	15.5		8.51
	Prometryn	93.8	79.0	100	92.6	17.1		7.95
	Simazine	107	87.9			20.0		9.72
	Terbufos	91.2	79.8	92.4	89.0	13.3		3.74
	Terbuthylazine	92.8	88.1	95.1	89.3	5.15		6.23
	Trifluralin	82.9	79.7	73.9	73.0	3.89		1.14
EPA 8276	Chlordane	76.0	90.2	74.0	68.9	17.2		6.07
	Toxaphene	77.0	75.6	70.2	66.9	1.82		4.83
EPA 8321B	2,4-D	79.4		109	105			3.48
	3-Hydroxycarbofuran	109		122	131			6.99
	Acetaminophen	112		133	139			4.43
	Aldicarb	82.5		84.7	83.4			1.56
	Aldicarb Sulfone	111		141	148			4.95
	Aldicarb Sulfoxide	129		96.7	106			9.59
	AMPA	109		51.5	53.2			3.41
	Bentazon	75.4		47.9	43.1			7.99
	Carbamazepine	85.3		90.1	94.4			4.62
	Carbaryl	66.0		57.4	56.8			1.16
	Carbofuran	70.4		69.2	68.9			0.431
	Diuron	66.7		72.0	75.5			4.75
	Endothall	105		105	111			5.16
	Fenuron	120		98.4	105			6.53
	Fluridone	60.5		59.2	62.4			5.10
	Glufosinate	99.1		101	106			4.23
	Glyphosate	101		85.2	82.3			3.39
	Hydrocodone	125		137	142			3.55
	Imazapyr	76.4		77.5	73.9			3.03
	Imidacloprid	111		207	205			0.795
	Linuron	75.8		88.5	89.9			1.55
	MCPP	62.7		84.8	81.2			4.32
	Methiocarb	69.4		80.1	77.7			3.12
	Methomyl	103		94.7	94.8			0.162
	Oxamyl	105		104	102			1.80
	Primidone	124		126	121			3.73
	Propoxur	78.5		72.5	69.4			4.32
	Pyraclostrobin	77.1		78.6	84.1			6.72
	Sucralose	117		60.8	56.5			4.72
	Triclopyr	62.6		89.7	85.1			5.26
SM 2120 B	Color (true)						0.765	
SM 2320 B-97	Total Alkalinity	101					0.799	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
SM 2540 C-97	TDS					1.10	
	TDS					5.30	
SM 4500 F-C-97	Fluoride	96.9	96.8	98.9			1.47
SM 5310 B-00	Organic Carbon	99.3	100	102			1.32

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1980941, 1980944, 1980947
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1980979, 1980980
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1980979, 1980980
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1980941, 1980944, 1980947
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1980941, 1980944, 1980947
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1980942, 1980945, 1980948
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1980942, 1980945, 1980948
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1980942, 1980945, 1980948
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1980942, 1980945, 1980948
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1980943, 1980946, 1980949
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1980975, 1980977
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1980976, 1980978
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1980975, 1980977
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1980967, 1980969
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1980968, 1980970
SM 2120 B / E31780	True Color measured at 450 nm	1980941, 1980944, 1980947
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1980941, 1980944, 1980947
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1980941, 1980944, 1980947
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1980941, 1980944, 1980947
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1980941, 1980944, 1980947
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1980942, 1980945, 1980948

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	04/04/2018			04/04/2018 17:53	William L. Brown IV	1980941, 1980944, 1980947
EPA 200.7 Rev. 4.4	04/04/2018	04/09/2018 18:15	Elliott D. Healy	04/10/2018 15:56	Betina Topolski	1980980
	04/04/2018	04/09/2018 18:15	Elliott D. Healy	04/10/2018 18:44	Betina Topolski	1980979
EPA 200.8 Rev. 5.4	04/04/2018	04/09/2018 18:15	Elliott D. Healy	04/15/2018 14:38	Robert K Palmer	1980980
	04/04/2018	04/09/2018 18:15	Elliott D. Healy	04/15/2018 16:21	Robert K Palmer	1980979
EPA 300.0 Rev. 2.1	04/04/2018			04/06/2018 07:25	Lipi Saha	1980941
	04/04/2018			04/06/2018 07:37	Lipi Saha	1980944
	04/04/2018			04/06/2018 14:56	Lipi Saha	1980947
EPA 350.1 Rev. 2.0	04/04/2018			04/12/2018 13:21	Ping Hua	1980942
	04/04/2018			04/12/2018 13:22	Ping Hua	1980945
	04/04/2018			04/12/2018 13:39	Ping Hua	1980948
EPA 351.2 Rev. 2.0	04/04/2018	04/06/2018 10:50	Adrian Shelby	04/09/2018 14:21	Joseph Suarez	1980942
	04/04/2018	04/06/2018 10:50	Adrian Shelby	04/09/2018 14:23	Joseph Suarez	1980945
	04/04/2018	04/06/2018 10:50	Adrian Shelby	04/09/2018 14:24	Joseph Suarez	1980948
EPA 353.2 Rev. 2.0	04/04/2018			04/09/2018 13:08	Lauren Bottorf	1980948
	04/04/2018			04/09/2018 13:14	Lauren Bottorf	1980942
	04/04/2018			04/09/2018 13:15	Lauren Bottorf	1980945
EPA 365.1 Rev. 2.0	04/04/2018	04/09/2018 13:30	Sima Feizi	04/10/2018 11:10	Beverly Y. Sanders	1980945
	04/04/2018	04/09/2018 13:30	Sima Feizi	04/10/2018 11:16	Beverly Y. Sanders	1980942
	04/04/2018	04/09/2018 13:30	Sima Feizi	04/11/2018 10:04	Beverly Y. Sanders	1980948
EPA 365.1 Rev. 2.0 dissolved	04/04/2018			04/04/2018 16:51	Megan Treadwell	1980946
	04/04/2018			04/04/2018 16:52	Megan Treadwell	1980949
	04/04/2018			04/04/2018 17:46	Megan Treadwell	1980943
EPA 8270D	04/04/2018	04/05/2018 08:30	Rasheda Ghaffari	04/10/2018 21:40	Vandana T. Nagar	1980975
	04/04/2018	04/05/2018 08:30	Rasheda Ghaffari	04/10/2018 22:11	Vandana T. Nagar	1980977
	04/04/2018	04/06/2018 12:30	Fe-Val Siddell	04/12/2018 16:32	Vandana T. Nagar	1980976
	04/04/2018	04/06/2018 12:30	Fe-Val Siddell	04/12/2018 16:56	Vandana T. Nagar	1980978
	04/04/2018	04/27/2018 07:57	Dinesh Mishra	05/04/2018 17:21	Marek Topolski	1980978
EPA 8276	04/04/2018	04/05/2018 08:30	Rasheda Ghaffari	04/13/2018 08:16	Vandana T. Nagar	1980975
	04/04/2018	04/05/2018 08:30	Rasheda Ghaffari	04/13/2018 09:11	Vandana T. Nagar	1980977
EPA 8321B	04/04/2018	04/05/2018 13:00	Hoor Shaik	04/06/2018 09:15	Julie Michelle Frank	1980967
	04/04/2018	04/05/2018 13:00	Hoor Shaik	04/06/2018 09:49	Julie Michelle Frank	1980969
	04/04/2018	04/05/2018 13:00	Hoor Shaik	04/06/2018 13:51	Julie Michelle Frank	1980968
	04/04/2018	04/05/2018 13:00	Hoor Shaik	04/06/2018 14:26	Julie Michelle Frank	1980970
	04/04/2018	04/05/2018 13:00	Hoor Shaik	04/07/2018 06:00	Julie Michelle Frank	1980968
	04/04/2018	04/05/2018 13:00	Hoor Shaik	04/07/2018 06:35	Julie Michelle Frank	1980970
	04/04/2018	04/05/2018 14:00	Julie Michelle Frank	04/05/2018 21:22	Julie Michelle Frank	1980968
	04/04/2018	04/05/2018 14:00	Julie Michelle Frank	04/05/2018 21:38	Julie Michelle Frank	1980970
SM 2120 B	04/04/2018			04/04/2018 15:44	DeAsia Armster	1980944
	04/04/2018			04/04/2018 15:45	DeAsia Armster	1980947

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	04/04/2018			04/04/2018 15:52	DeAsia Armster	1980941
SM 2320 B-97	04/04/2018			04/14/2018 07:13	Dale L. Simmons	1980944
	04/04/2018			04/14/2018 07:43	Dale L. Simmons	1980941
	04/04/2018			04/14/2018 07:54	Dale L. Simmons	1980947
	04/04/2018			04/06/2018 16:01	Yijie Li	1980941, 1980944, 1980947
SM 2540 C-97	04/04/2018			04/06/2018 16:01	Yijie Li	1980941, 1980944, 1980947
SM 2540 D-97	04/04/2018			04/14/2018 07:05	Dale L. Simmons	1980944
SM 4500 F-C-97	04/04/2018			04/14/2018 07:43	Dale L. Simmons	1980941
	04/04/2018			04/14/2018 07:54	Dale L. Simmons	1980947
	04/04/2018			04/12/2018 05:56	Megan Treadwell	1980942
	04/04/2018			04/12/2018 06:08	Megan Treadwell	1980945
SM 5310 B-00	04/04/2018			04/12/2018 06:21	Megan Treadwell	1980948