

Chemical Analysis Report

NE-DIST-2018-08-22-02

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

Event Description: **Di water check-NE**
Request ID: **RQ-2018-08-20-63**
Customer: **NE-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
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8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Date Certified: 12-SEP-2018 14:13



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: NE DI WATER CHECK

Collection Date/Time: 08/21/2018 11:25

Field ID: 123456

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018938	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P350641	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P350845	
		Sulfate	0.20	U	mg SO4/L	P350848	
		Color (true)	2.5	U	PCU	P350618	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P350793	
	SM 2540 C-97	TDS	15	U	mg/L	P351021	
	SM 2540 D-97	TSS	2	U	mg/L	P351016	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P350796	
2018939	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P350839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P350891	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P350853	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P350901	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P350833	
2018940	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350607	
2018947	EPA 8321B	Aldicarb	0.020	U	ug/L	P350552	
		Aldicarb Sulfone	0.0020	U	ug/L	P350552	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P350552	MS
		Carbaryl	0.0020	U	ug/L	P350552	
		Carbofuran	0.0020	U	ug/L	P350552	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P350552	
		Methiocarb	0.0020	U	ug/L	P350552	
		Methomyl	0.0020	U	ug/L	P350552	
		Oxamyl	0.0020	U	ug/L	P350552	
		Propoxur	0.0020	U	ug/L	P350552	
2018948		2,4-D	0.0020	U	ug/L	P350552	MS
		Bentazon	8.0E-04	U	ug/L	P350552	
		MCP	0.0020	U	ug/L	P350552	MS
		Triclopyr**	0.0040	U	ug/L	P350552	MS
		Imidacloprid	0.0020	U	ug/L	P350552	
		Diuron	0.0020	U	ug/L	P350552	
		Pyraclostrobin**	0.0020	U	ug/L	P350552	
		Primidone**	0.0040	U	ug/L	P350552	
		Linuron	0.0040	U	ug/L	P350552	
		Acetaminophen**	0.0080	U	ug/L	P350552	
		Fenuron	0.016	U	ug/L	P350552	
		Imazapyr**	0.0040	U	ug/L	P350552	
		Carbamazepine**	8.0E-04	U	ug/L	P350552	
		Fluridone**	4.0E-04	U	ug/L	P350552	
		Hydrocodone**	8.0E-04	U	ug/L	P350552	
		Naproxen**	0.0080	U	ug/L	P350552	
		Ibuprofen**	0.020	U	ug/L	P350552	
		Sucralose**	0.010	U	ug/L	P350504	
		Glyphosate**	0.10	U	ug/L	P350504	

Field ID: 123456

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018948	EPA 8321B	AMPA**	0.10	U	ug/L	P350504	
		Endothall**	0.10	U	ug/L	P350504	
		Glufosinate**	0.10	U	ug/L	P350504	
		Acesulfame K**	0.10	U	ug/L	P350504	MS
2018949	EPA 8270D	Aldrin	4.2	U	ng/L	P350656	
		Alpha-BHC	2.1	U	ng/L	P350656	
		Beta-BHC	4.2	U	ng/L	P350656	
		Delta-BHC	4.2	UJ	ng/L	P350656	MS
		Gamma-BHC	4.2	U	ng/L	P350656	
		Carbophenothion	4.2	U	ng/L	P350656	
		Chlorothalonil	2.1	UJ	ng/L	P350656	RPD
		Cypermethrin	21	U	ng/L	P350656	
		DDD-p,p'	3.2	U	ng/L	P350656	
		DDE-p,p'	3.2	U	ng/L	P350656	
		DDT-p,p'	3.2	U	ng/L	P350656	
		Dieldrin	4.2	U	ng/L	P350656	
		Endosulfan I	4.2	U	ng/L	P350656	
		Endosulfan II	4.2	U	ng/L	P350656	
		Endosulfan Sulfate	2.1	U	ng/L	P350656	
		Endrin	2.1	U	ng/L	P350656	
		Endrin Aldehyde	2.1	U	ng/L	P350656	
		Heptachlor	1.6	U	ng/L	P350656	
		Heptachlor Epoxide	2.1	U	ng/L	P350656	
		Methoxychlor	4.2	U	ng/L	P350656	
		Mirex	2.1	U	ng/L	P350656	
		Permethrin	11	U	ng/L	P350656	
		Trifluralin	1.1	U	ng/L	P350656	
		Alpha-Chlordane	1.1	U	ng/L	P350656	
		Gamma-Chlordane	1.1	U	ng/L	P350656	
		Endrin Ketone	2.1	UJ	ng/L	P350656	MS
		Dicofol	32	U	ng/L	P350656	
	EPA 8276	Chlordane	2.6	UQ	ng/L	P351047	
		Toxaphene	31	UQ	ng/L	P351047	
2018950	EPA 8270D	Alachlor	0.24	U	ng/L	P350647	
		Ametryn	0.31	U	ng/L	P350647	
		Atrazine	0.24	U	ng/L	P350647	
		Atrazine Desethyl	1.4	UJ	ng/L	P350647	RPD
		Azinphos Methyl	2.2	U	ng/L	P350647	
		Bromacil	0.48	U	ng/L	P350647	
		Butylate	0.38	UJ	ng/L	P350647	RPD
		Chlorpyrifos Ethyl	0.24	U	ng/L	P350647	
		Chlorpyrifos Methyl	0.096	U	ng/L	P350647	
		Demeton	1.9	U	ng/L	P350647	
		Diazinon	0.12	U	ng/L	P350647	
		Disulfoton	0.48	U	ng/L	P350647	

Field ID: 123456

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018950	EPA 8270D	EPTC	1.2	U	ng/L	P350647	
		Ethion	0.14	U	ng/L	P350647	
		Ethoprop	0.096	U	ng/L	P350647	
		Fenamiphos	0.24	U	ng/L	P350647	
		Fipronil	0.24	U	ng/L	P350647	
		Fipronil Sulfide	0.14	U	ng/L	P350647	
		Fipronil Sulfone	0.14	U	ng/L	P350647	
		Hexazinone	0.48	U	ng/L	P350647	
		Malathion	0.33	U	ng/L	P350647	
		Metribuzin	0.19	U	ng/L	P350647	
		Mevinphos	0.48	U	ng/L	P350647	
		Molinate	0.29	U	ng/L	P350647	
		Norflurazon	0.48	U	ng/L	P350647	
		Pendimethalin	0.96	U	ng/L	P350647	
		Phorate	0.24	U	ng/L	P350647	
		Prometon	0.86	U	ng/L	P350647	
		Prometryn	0.19	U	ng/L	P350647	
		Simazine	0.48	U	ng/L	P350647	
		Terbufos	0.096	U	ng/L	P350647	
		Terbuthylazine	0.41	U	ng/L	P350647	
		Fonofos	0.19	U	ng/L	P350647	
		Metalaxyl	0.24	U	ng/L	P350647	
		Metolachlor	0.24	U	ng/L	P350647	
		Acetochlor	0.24	U	ng/L	P350647	
		Cyanazine	0.48	UJ	ng/L	P350647	RPD
		Parathion Ethyl	0.24	U	ng/L	P350647	
		Parathion Methyl	0.24	U	ng/L	P350647	
2018951	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P350621	
		Iron	30	U	ug/L	P350621	
		Magnesium	0.040	U	mg/L	P350621	
		Potassium	0.30	U	mg/L	P350621	
		Sodium	0.50	U	mg/L	P350621	
		Zinc	5.0	U	ug/L	P350621	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P350621	
		Cadmium	0.020	U	ug/L	P350621	
		Chromium	0.40	U	ug/L	P350621	
		Copper	0.20	U	ug/L	P350621	
		Lead	0.050	U	ug/L	P350621	
		Nickel	0.20	U	ug/L	P350621	
		Silver	0.010	U	ug/L	P350621	

Ref. Method and Comment:

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 8276: The sample expired for preparation due to the need for re-extraction. Insufficient sample to perform duplicate matrix spikes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350641

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

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: P350621

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 300.0 Rev. 2.1
Batch ID: P350845

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350891

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350901

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350607

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

Reference Method: EPA 8270D
Batch ID: P350647

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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P350647

Component	Result	Code	Units
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: P350656

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 8276
Batch ID: P351047

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

Reference Method: EPA 8321B
Batch ID: P350504

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P350504

Component	Result	Code	Units
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P350552

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	8.0E-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	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Naproxen	0.0080	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: P350618

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P350793

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

Reference Method: SM 2540 C-97
Batch ID: P351021

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P351021

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351016

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P350833

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: P350621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	104		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	100		P	85 - 115
Sodium	97.7		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.0		P	85 - 115
Copper	99.3		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	101		P	85 - 115
Silver	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350845

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P350901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P350607

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.4		P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P350647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	108	106	P/P	74 - 119
Alachlor	108	106	P/P	75 - 118
Ametryn	109	110	P/P	59 - 137
Atrazine	110	109	P/P	73 - 120
Atrazine Desethyl	107	74.0	P/P	19 - 129
Azinphos Methyl	129	120	P/P	65 - 181
Bromacil	95.9	96.0	P/P	43 - 123
Butylate	76.1	82.3	P/P	28 - 85.0
Chlorpyrifos Ethyl	102	107	P/P	55 - 112
Chlorpyrifos Methyl	103	101	P/P	35 - 124
Cyanazine	189	123	P/P	26 - 262
Demeton	87.8	88.8	P/P	43 - 122
Diazinon	113	111	P/P	72 - 120
Disulfoton	98.4	91.1	P/P	45 - 137
EPTC	78.2	82.0	P/P	28 - 95.0
Ethion	107	110	P/P	63 - 127
Ethoprop	102	102	P/P	63 - 109
Fenamiphos	104	103	P/P	66 - 136
Fipronil	104	108	P/P	63 - 126
Fipronil Sulfide	95.0	102	P/P	59 - 123
Fipronil Sulfone	88.6	101	P/P	56 - 122
Fonofos	100	95.2	P/P	64 - 114
Hexazinone	106	108	P/P	49 - 144
Malathion	111	117	P/P	68 - 131
Metaxyl	108	92.5	P/P	57 - 126
Metolachlor	110	112	P/P	75 - 118
Metribuzin	152	113	P/P	46 - 169
Mevinphos	97.8	84.7	P/P	34 - 126
Molinate	79.2	85.0	P/P	37 - 101
Norflurazon	95.6	103	P/P	63 - 127
Parathion Ethyl	103	103	P/P	78 - 109
Parathion Methyl	107	102	P/P	74 - 123
Pendimethalin	123	127	P/P	51 - 130
Phorate	92.8	87.1	P/P	53 - 116
Prometon	104	99.9	P/P	66 - 124
Prometryn	104	104	P/P	66 - 124
Simazine	109	108	P/P	62 - 134
Terbufos	103	96.8	P/P	59 - 115
Terbutylazine	107	109	P/P	76 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P350656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	65.9	76.9	P/P	24 - 89.0
Alpha-BHC	81.5	94.8	P/P	58 - 117
Alpha-Chlordane	85.2	94.2	P/P	56 - 115
Beta-BHC	105	115	P/P	55 - 137
Carbophenothion	89.9	69.8	P/P	37 - 145
Chlorothalonil	85.0	90.1	P/P	26 - 163
Cypermethrin	86.8	96.9	P/P	42 - 156
DDD-p,p'	109	116	P/P	59 - 129
DDE-p,p'	83.9	93.8	P/P	52 - 117
DDT-p,p'	93.2	102	P/P	48 - 128
Delta-BHC	114	118	P/P	59 - 158
Dicofol	91.3	95.3	P/P	19 - 124
Dieldrin	90.9	98.6	P/P	57 - 126
Endosulfan I	92.0	98.9	P/P	59 - 133
Endosulfan II	97.5	112	P/P	58 - 148
Endosulfan Sulfate	116	115	P/P	56 - 135
Endrin	95.7	102	P/P	50 - 140
Endrin Aldehyde	111	88.3	P/P	47 - 141
Endrin Ketone	114	113	P/P	63 - 123
Gamma-BHC	105	115	P/P	59 - 132
Gamma-Chlordane	82.8	91.8	P/P	55 - 112
Heptachlor	70.2	79.0	P/P	45 - 102
Heptachlor Epoxide	89.8	98.7	P/P	61 - 116
Methoxychlor	103	116	P/P	60 - 133
Mirex	76.6	82.3	P/P	40 - 98.0
Permethrin	87.2	95.9	P/P	45 - 131
Trifluralin	77.0	83.4	P/P	38 - 179

Reference Method: EPA 8276

Batch ID: P351047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	84.9	77.3	P/P	47 - 125
Toxaphene	71.0	63.9	P/P	46 - 147

Reference Method: EPA 8321B

Batch ID: P350504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	77.2		P	40 - 150
AMPA	147		P	40 - 150
Endothall	86.9		P	40 - 150
Glufosinate	112		P	40 - 150
Glyphosate	98.5		P	40 - 140
Sucralose	89.4		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P350552

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.0		P	40 - 150
3-Hydroxycarbofuran	93.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P350552

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	113		P	30 - 150
Aldicarb	74.6		P	30 - 150
Aldicarb Sulfone	102		P	40 - 150
Aldicarb Sulfoxide	99.7		P	40 - 150
Bentazon	124		P	30 - 150
Carbamazepine	73.5		P	40 - 150
Carbaryl	56.4		P	40 - 150
Carbofuran	74.2		P	40 - 150
Diuron	79.4		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	70.9		P	40 - 150
Hydrocodone	95.7		P	40 - 150
Ibuprofen	99.1		P	40 - 150
Imazapyr	89.1		P	40 - 150
Imidacloprid	104		P	40 - 160
Linuron	58.1		P	40 - 150
MCPP	99.3		P	40 - 150
Methiocarb	54.6		P	40 - 150
Methomyl	91.1		P	40 - 150
Naproxen	82.8		P	40 - 150
Oxamyl	106		P	40 - 150
Primidone	102		P	40 - 150
Propoxur	78.9		P	40 - 150
Pyraclostrobin	61.7		P	40 - 150
Triclopyr	104		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P350618

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

Reference Method: SM 2320 B-97
Batch ID: P350793

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350833

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018787	Calcium	108		P	80 - 120
2018787	Iron	107		P	80 - 120
2018787	Magnesium	110		P	80 - 120
2018787	Potassium	103		P	80 - 120
2018787	Sodium	104		P	80 - 120
2018787	Zinc	106		P	80 - 120
2019049	Calcium	100		P	80 - 120
2019049	Iron	104	101	P/P	80 - 120
2019049	Magnesium	101		P	80 - 120
2019049	Potassium	101	97.6	P/P	80 - 120
2019049	Sodium	99.1		P	80 - 120
2019049	Zinc	105	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018787	Arsenic	102		P	80 - 120
2018787	Cadmium	105		P	80 - 120
2018787	Chromium	99.4		P	80 - 120
2018787	Copper	99.5		P	80 - 120
2018787	Lead	101		P	80 - 120
2018787	Nickel	101		P	80 - 120
2018787	Silver	100		P	80 - 120
2019049	Arsenic	102	106	P/P	80 - 120
2019049	Cadmium	100	105	P/P	80 - 120
2019049	Chromium	92.5	94.9	P/P	80 - 120
2019049	Copper	94.6	97.7	P/P	80 - 120
2019049	Lead	99.3	103	P/P	80 - 120
2019049	Nickel	97.1	101	P/P	80 - 120
2019049	Silver	96.9	99.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018855	Chloride	94.1		P	90 - 110
2018925	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018855	Sulfate	98.3		P	90 - 110
2018925	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018996	Ammonia-N	102	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P350891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018996	Kjeldahl Nitrogen	95.0	94.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P350853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018996	NO2NO3-N	99.5	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P350901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019022	Total-P	98.7	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P350607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018997	O-Phosphate-P	97.1	98.3	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P350647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018950	Acetochlor	105	106	P/P	67 - 125
2018950	Alachlor	105	108	P/P	69 - 123
2018950	Ametryn	98.0	112	P/P	52 - 151
2018950	Atrazine	111	110	P/P	71 - 125
2018950	Atrazine Desethyl	73.6	74.9	P/P	10 - 129
2018950	Azinphos Methyl	116	115	P/P	48 - 200
2018950	Bromacil	95.6	97.4	P/P	46 - 130
2018950	Butylate	56.1	80.1	P/P	10 - 85.0
2018950	Chlorpyrifos Ethyl	109	111	P/P	54 - 115
2018950	Chlorpyrifos Methyl	104	101	P/P	44 - 117
2018950	Cyanazine	134	155	P/P	10 - 262
2018950	Demeton	80.6	73.9	P/P	24 - 145
2018950	Diazinon	105	109	P/P	66 - 129
2018950	Disulfoton	90.2	88.1	P/P	45 - 139
2018950	EPTC	52.5	69.9	P/P	10 - 86.0
2018950	Ethion	115	114	P/P	59 - 133
2018950	Ethoprop	90.5	93.5	P/P	54 - 116
2018950	Fenamiphos	113	114	P/P	55 - 140
2018950	Fipronil	109	106	P/P	37 - 142
2018950	Fipronil Sulfide	109	105	P/P	37 - 130
2018950	Fipronil Sulfone	108	99.0	P/P	18 - 143
2018950	Fonofos	92.3	92.5	P/P	55 - 118
2018950	Hexazinone	109	113	P/P	62 - 140
2018950	Malathion	119	119	P/P	64 - 132
2018950	Metalaxyl	100	103	P/P	55 - 129
2018950	Metolachlor	109	111	P/P	56 - 137
2018950	Metribuzin	118	119	P/P	16 - 218
2018950	Mevinphos	74.5	80.9	P/P	34 - 129

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P350647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018950	Molinate	62.3	72.5	P/P	16 - 99.0
2018950	Norflurazon	102	99.7	P/P	43 - 135
2018950	Parathion Ethyl	104	104	P/P	71 - 112
2018950	Parathion Methyl	104	102	P/P	65 - 127
2018950	Pendimethalin	124	125	P/P	35 - 159
2018950	Phorate	81.2	81.8	P/P	41 - 129
2018950	Prometon	103	106	P/P	56 - 140
2018950	Prometryn	104	106	P/P	65 - 130
2018950	Simazine	105	106	P/P	54 - 148
2018950	Terbufos	94.1	95.9	P/P	53 - 126
2018950	Terbutylazine	109	110	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P350656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018949	Aldrin	68.1	58.1	P/P	26 - 96.0
2018949	Alpha-BHC	95.3	73.0	P/P	51 - 123
2018949	Alpha-Chlordane	90.3	78.8	P/P	45 - 120
2018949	Beta-BHC	120	105	P/P	43 - 146
2018949	Carbophenothion	93.3	101	P/P	26 - 179
2018949	Chlorothalonil	125	78.4	P/P	10 - 215
2018949	Cypermethrin	110	86.6	P/P	35 - 169
2018949	DDD-p,p'	112	99.8	P/P	49 - 131
2018949	DDE-p,p'	85.9	74.5	P/P	39 - 127
2018949	DDT-p,p'	96.9	86.2	P/P	49 - 120
2018949	Delta-BHC	229	204	F/F	49 - 187
2018949	Dicofol	118	114	P/P	10 - 129
2018949	Dieldrin	98.0	88.6	P/P	46 - 132
2018949	Endosulfan I	111	96.0	P/P	57 - 130
2018949	Endosulfan II	115	116	P/P	52 - 148
2018949	Endosulfan Sulfate	123	115	P/P	55 - 129
2018949	Endrin	106	91.6	P/P	45 - 133
2018949	Endrin Aldehyde	114	92.3	P/P	26 - 140
2018949	Endrin Ketone	139	122	F/P	60 - 125
2018949	Gamma-BHC	120	105	P/P	50 - 145
2018949	Gamma-Chlordane	88.1	75.0	P/P	44 - 118
2018949	Heptachlor	75.9	65.0	P/P	35 - 106
2018949	Heptachlor Epoxide	96.6	86.4	P/P	52 - 123
2018949	Methoxychlor	117	108	P/P	54 - 132
2018949	Mirex	78.0	62.0	P/P	36 - 107
2018949	Permethrin	99.7	82.4	P/P	47 - 135
2018949	Trifluralin	86.6	73.8	P/P	32 - 228

Reference Method: EPA 8276
Batch ID: P351047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019943	Chlordane	50.5		P	41 - 134
2019943	Toxaphene	59.4		P	39 - 158

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P350504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019172	Acesulfame K	26.4	20.8	F/F	40 - 150
2019172	AMPA	101	99.7	P/P	40 - 150
2019172	Endothall	128	139	P/P	40 - 150
2019172	Glufosinate	105	112	P/P	40 - 150
2019172	Glyphosate	67.1	66.2	P/P	40 - 140
2019172	Sucralose	103	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019526	3-Hydroxycarbofuran	62.0	62.3	P/P	40 - 150
2019526	Aldicarb	48.0	49.5	P/P	30 - 150
2019526	Aldicarb Sulfone	74.0	73.6	P/P	40 - 150
2019526	Aldicarb Sulfoxide	31.5	32.3	F/F	40 - 150
2019526	Carbaryl	41.3	41.3	P/P	40 - 150
2019526	Carbofuran	48.1	46.6	P/P	40 - 150
2019526	Methiocarb	44.4	44.6	P/P	40 - 150
2019526	Methomyl	65.3	59.4	P/P	40 - 150
2019526	Oxamyl	71.0	71.2	P/P	40 - 150
2019526	Propoxur	46.8	44.4	P/P	40 - 150
2019699	2,4-D	180	141	F/P	40 - 150
2019699	Acetaminophen	135	138	P/P	30 - 150
2019699	Bentazon	99.7	87.8	P/P	30 - 150
2019699	Carbamazepine	56.2	56.9	P/P	40 - 150
2019699	Diuron	64.4	64.8	P/P	40 - 150
2019699	Fenuron	75.4	76.2	P/P	40 - 150
2019699	Fluridone	58.9	57.5	P/P	40 - 150
2019699	Hydrocodone	84.2	80.4	P/P	40 - 150
2019699	Ibuprofen	96.9	92.2	P/P	40 - 150
2019699	Imazapyr	100	91.1	P/P	40 - 150
2019699	Imidacloprid	158	156	P/P	40 - 160
2019699	Linuron	54.8	57.3	P/P	40 - 150
2019699	MCP	162	170	F/F	40 - 150
2019699	Naproxen	109	104	P/P	40 - 150
2019699	Primidone	91.9	91.1	P/P	40 - 150
2019699	Pyraclostrobin	71.0	68.6	P/P	40 - 150
2019699	Triclopyr	182	182	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019110	Fluoride	99.6	99.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018797	Organic Carbon	97.5	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018995	Turbidity	2.22	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019049	Calcium	2.52	Spike	P	0 - 20
2019049	Iron	2.40	Spike	P	0 - 20
2019049	Magnesium	1.39	Spike	P	0 - 20
2019049	Potassium	1.90	Spike	P	0 - 20
2019049	Sodium	1.39	Spike	P	0 - 20
2019049	Zinc	3.76	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019049	Arsenic	3.07	Spike	P	0 - 20
2019049	Cadmium	4.07	Spike	P	0 - 20
2019049	Chromium	2.52	Spike	P	0 - 20
2019049	Copper	3.14	Spike	P	0 - 20
2019049	Lead	3.87	Spike	P	0 - 20
2019049	Nickel	3.50	Spike	P	0 - 20
2019049	Silver	2.35	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018855	Chloride	0.0733	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018855	Sulfate	0.0235	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018996	Ammonia-N	0.930	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018996	Kjeldahl Nitrogen	0.573	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018996	NO2NO3-N	2.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019022	Total-P	0.591	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018997	O-Phosphate-P	1.23	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P350647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018950	Acetochlor	0.802	Spike	P	0 - 30
2018950	Alachlor	2.64	Spike	P	0 - 30
2018950	Ametryn	12.9	Spike	P	0 - 30
2018950	Atrazine	0.292	Spike	P	0 - 30
2018950	Atrazine Desethyl	1.83	Spike	P	0 - 30
2018950	Azinphos Methyl	0.996	Spike	P	0 - 30
2018950	Bromacil	1.80	Spike	P	0 - 30
2018950	Butylate	35.3	Spike	F	0 - 30
2018950	Chlorpyrifos Ethyl	2.08	Spike	P	0 - 30
2018950	Chlorpyrifos Methyl	2.87	Spike	P	0 - 30
2018950	Cyanazine	14.7	Spike	P	0 - 30
2018950	Demeton	8.71	Spike	P	0 - 30
2018950	Diazinon	3.87	Spike	P	0 - 30
2018950	Disulfoton	2.28	Spike	P	0 - 30
2018950	EPTC	28.4	Spike	P	0 - 30
2018950	Ethion	1.45	Spike	P	0 - 30
2018950	Ethoprop	3.18	Spike	P	0 - 30
2018950	Fenamiphos	1.11	Spike	P	0 - 30
2018950	Fipronil	2.36	Spike	P	0 - 30
2018950	Fipronil Sulfide	3.48	Spike	P	0 - 30
2018950	Fipronil Sulfone	8.22	Spike	P	0 - 30
2018950	Fonofos	0.276	Spike	P	0 - 30
2018950	Hexazinone	3.38	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P350647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018950	Malathion	0.231	Spike	P	0 - 30
2018950	Metalaxyl	2.15	Spike	P	0 - 30
2018950	Metolachlor	1.85	Spike	P	0 - 30
2018950	Metribuzin	0.857	Spike	P	0 - 30
2018950	Mevinphos	8.35	Spike	P	0 - 30
2018950	Molinate	15.2	Spike	P	0 - 30
2018950	Norflurazon	2.60	Spike	P	0 - 30
2018950	Parathion Ethyl	0.0953	Spike	P	0 - 30
2018950	Parathion Methyl	2.05	Spike	P	0 - 30
2018950	Pendimethalin	1.12	Spike	P	0 - 30
2018950	Phorate	0.716	Spike	P	0 - 30
2018950	Prometon	2.30	Spike	P	0 - 30
2018950	Prometryn	1.27	Spike	P	0 - 30
2018950	Simazine	1.26	Spike	P	0 - 30
2018950	Terbufos	1.97	Spike	P	0 - 30
2018950	Terbutylazine	1.04	Spike	P	0 - 30
LFB	Acetochlor	1.33	LCS	P	0 - 30
LFB	Alachlor	1.58	LCS	P	0 - 30
LFB	Ametryn	0.531	LCS	P	0 - 30
LFB	Atrazine	1.19	LCS	P	0 - 30
LFB	Atrazine Desethyl	36.4	LCS	F	0 - 30
LFB	Azinphos Methyl	7.24	LCS	P	0 - 30
LFB	Bromacil	0.0381	LCS	P	0 - 30
LFB	Butylate	7.89	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.76	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.83	LCS	P	0 - 30
LFB	Cyanazine	42.7	LCS	F	0 - 30
LFB	Demeton	1.15	LCS	P	0 - 30
LFB	Diazinon	2.24	LCS	P	0 - 30
LFB	Disulfoton	7.70	LCS	P	0 - 30
LFB	EPTC	4.71	LCS	P	0 - 30
LFB	Ethion	2.73	LCS	P	0 - 30
LFB	Ethoprop	0.348	LCS	P	0 - 30
LFB	Fenamiphos	1.04	LCS	P	0 - 30
LFB	Fipronil	4.14	LCS	P	0 - 30
LFB	Fipronil Sulfide	7.60	LCS	P	0 - 30
LFB	Fipronil Sulfone	12.7	LCS	P	0 - 30
LFB	Fonofos	4.93	LCS	P	0 - 30
LFB	Hexazinone	1.80	LCS	P	0 - 30
LFB	Malathion	4.51	LCS	P	0 - 30
LFB	Metalaxyl	15.2	LCS	P	0 - 30
LFB	Metolachlor	1.93	LCS	P	0 - 30
LFB	Metribuzin	29.8	LCS	P	0 - 30
LFB	Mevinphos	14.3	LCS	P	0 - 30
LFB	Molinate	7.02	LCS	P	0 - 30
LFB	Norflurazon	7.28	LCS	P	0 - 30
LFB	Parathion Ethyl	0.191	LCS	P	0 - 30
LFB	Parathion Methyl	4.51	LCS	P	0 - 30
LFB	Pendimethalin	3.67	LCS	P	0 - 30
LFB	Phorate	6.35	LCS	P	0 - 30
LFB	Prometon	4.41	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P350647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometryn	0.339	LCS	P	0 - 30
LFB	Simazine	0.826	LCS	P	0 - 30
LFB	Terbufos	6.32	LCS	P	0 - 30
LFB	Terbutylazine	1.72	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P350656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018949	Aldrin	15.8	Spike	P	0 - 30
2018949	Alpha-BHC	26.5	Spike	P	0 - 30
2018949	Alpha-Chlordane	13.5	Spike	P	0 - 30
2018949	Beta-BHC	13.4	Spike	P	0 - 30
2018949	Carbophenothion	8.30	Spike	P	0 - 30
2018949	Chlorothalonil	45.4	Spike	F	0 - 30
2018949	Cypermethrin	24.2	Spike	P	0 - 30
2018949	DDD-p,p'	11.3	Spike	P	0 - 30
2018949	DDE-p,p'	14.2	Spike	P	0 - 30
2018949	DDT-p,p'	11.7	Spike	P	0 - 30
2018949	Delta-BHC	11.6	Spike	P	0 - 30
2018949	Dicofol	3.40	Spike	P	0 - 30
2018949	Dieldrin	10.0	Spike	P	0 - 30
2018949	Endosulfan I	14.6	Spike	P	0 - 30
2018949	Endosulfan II	0.391	Spike	P	0 - 30
2018949	Endosulfan Sulfate	6.73	Spike	P	0 - 30
2018949	Endrin	14.3	Spike	P	0 - 30
2018949	Endrin Aldehyde	21.2	Spike	P	0 - 30
2018949	Endrin Ketone	13.2	Spike	P	0 - 30
2018949	Gamma-BHC	13.4	Spike	P	0 - 30
2018949	Gamma-Chlordane	16.0	Spike	P	0 - 30
2018949	Heptachlor	15.5	Spike	P	0 - 30
2018949	Heptachlor Epoxide	11.2	Spike	P	0 - 30
2018949	Methoxychlor	8.66	Spike	P	0 - 30
2018949	Mirex	22.9	Spike	P	0 - 30
2018949	Permethrin	19.1	Spike	P	0 - 30
2018949	Trifluralin	15.9	Spike	P	0 - 30
LFB	Aldrin	15.4	LCS	P	0 - 30
LFB	Alpha-BHC	15.1	LCS	P	0 - 30
LFB	Alpha-Chlordane	10.0	LCS	P	0 - 30
LFB	Beta-BHC	8.88	LCS	P	0 - 30
LFB	Carbophenothion	25.1	LCS	P	0 - 30
LFB	Chlorothalonil	5.90	LCS	P	0 - 30
LFB	Cypermethrin	11.0	LCS	P	0 - 30
LFB	DDD-p,p'	6.14	LCS	P	0 - 30
LFB	DDE-p,p'	11.2	LCS	P	0 - 30
LFB	DDT-p,p'	8.76	LCS	P	0 - 30
LFB	Delta-BHC	4.04	LCS	P	0 - 30
LFB	Dicofol	4.25	LCS	P	0 - 30
LFB	Dieldrin	8.14	LCS	P	0 - 30
LFB	Endosulfan I	7.22	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P350656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	13.4	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.183	LCS	P	0 - 30
LFB	Endrin	6.13	LCS	P	0 - 30
LFB	Endrin Aldehyde	23.1	LCS	P	0 - 30
LFB	Endrin Ketone	0.862	LCS	P	0 - 30
LFB	Gamma-BHC	8.88	LCS	P	0 - 30
LFB	Gamma-Chlordane	10.4	LCS	P	0 - 30
LFB	Heptachlor	11.9	LCS	P	0 - 30
LFB	Heptachlor Epoxide	9.46	LCS	P	0 - 30
LFB	Methoxychlor	12.4	LCS	P	0 - 30
LFB	Mirex	7.16	LCS	P	0 - 30
LFB	Permethrin	9.42	LCS	P	0 - 30
LFB	Trifluralin	8.05	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P351047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	9.34	LCS	P	0 - 30
LFB	Toxaphene	10.5	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019172	Acesulfame K	23.4	Spike	P	0 - 30
2019172	AMPA	1.04	Spike	P	0 - 30
2019172	Endothall	8.34	Spike	P	0 - 30
2019172	Glufosinate	5.80	Spike	P	0 - 30
2019172	Glyphosate	1.33	Spike	P	0 - 30
2019172	Sucralose	2.64	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019526	3-Hydroxycarbofuran	0.423	Spike	P	0 - 30
2019526	Aldicarb	2.94	Spike	P	0 - 30
2019526	Aldicarb Sulfone	0.455	Spike	P	0 - 30
2019526	Aldicarb Sulfoxide	2.62	Spike	P	0 - 30
2019526	Carbaryl	0.180	Spike	P	0 - 30
2019526	Carbofuran	3.27	Spike	P	0 - 30
2019526	Methiocarb	0.484	Spike	P	0 - 30
2019526	Methomyl	9.42	Spike	P	0 - 30
2019526	Oxamyl	0.290	Spike	P	0 - 30
2019526	Propoxur	5.08	Spike	P	0 - 30
2019699	2,4-D	16.2	Spike	P	0 - 30
2019699	Acetaminophen	2.32	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P350552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019699	Bentazon	12.0	Spike	P	0 - 30
2019699	Carbamazepine	1.29	Spike	P	0 - 30
2019699	Diuron	0.587	Spike	P	0 - 30
2019699	Fenuron	1.09	Spike	P	0 - 30
2019699	Fluridone	1.59	Spike	P	0 - 30
2019699	Hydrocodone	4.54	Spike	P	0 - 30
2019699	Ibuprofen	4.93	Spike	P	0 - 30
2019699	Imazapyr	5.71	Spike	P	0 - 30
2019699	Imidacloprid	1.75	Spike	P	0 - 30
2019699	Linuron	4.50	Spike	P	0 - 30
2019699	MCP	5.31	Spike	P	0 - 30
2019699	Naproxen	4.41	Spike	P	0 - 30
2019699	Primidone	0.918	Spike	P	0 - 30
2019699	Pyraclostrobin	3.38	Spike	P	0 - 30
2019699	Triclopyr	0.0605	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P350618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018925	Color (true)	1.52	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P350793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019110	Total Alkalinity	0.105	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019013	TDS	4.12	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019110	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P350833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018797	Organic Carbon	0.478	Spike	P	0 - 20

Quality Assurance Report

Precision

* 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: 2018947
Field Sample ID: 123456

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	66.8	P	30 - 160

Lab Sample ID: 2018948
Field Sample ID: 123456

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	138	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.2	P	30 - 160
EPA 8321B	Diuron-d6	80.4	P	30 - 160
EPA 8321B	Endothall-d6	108	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	40 - 160
EPA 8321B	Ibuprofen-d3	83.5	P	30 - 160
EPA 8321B	Primidone-d5	96.9	P	30 - 160
EPA 8321B	Sucralose-d6	94.0	P	40 - 160

Lab Sample ID: 2018949
Field Sample ID: 123456

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	70.4	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	58.9	P	34 - 101
EPA 8276	Decachlorobiphenyl	61.4	P	31 - 108
EPA 8276	PCNB	91.0	P	62 - 142

Lab Sample ID: 2018950
Field Sample ID: 123456

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	102	P	71 - 126
EPA 8270D	Terbufos-d10	104	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86049

Included Lab Sample IDs: 2018938

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86064

Included Lab Sample IDs: 2018940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	98.8	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A86065

Included Lab Sample IDs: 2018938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86071

Included Lab Sample IDs: 2018938

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86093

Included Lab Sample IDs: 2018951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	102	P/P	90 - 110
Iron	99.7	103	P/P	90 - 110
Magnesium	99.5	103	P/P	90 - 110
Potassium	97.0	100	P/P	90 - 110
Sodium	96.5	98.1	P/P	90 - 110
Zinc	101	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86094

Included Lab Sample IDs: 2018948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	142	88.1	P/P	60 - 160
Endothall	90.7	92.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86095

Included Lab Sample IDs: 2018948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	82.1	93.0	P/P	60 - 160
Glufosinate	86.8	116	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A86095
Included Lab Sample IDs: 2018948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	88.3	116	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A86110
Included Lab Sample IDs: 2018948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	77.3	86.8	P/P	60 - 160

Reference Method: SM 2320 B-97
Run ID: A86129
Included Lab Sample IDs: 2018938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A86129
Included Lab Sample IDs: 2018938

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

Reference Method: EPA 8321B
Run ID: A86134
Included Lab Sample IDs: 2018948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.4	83.4	P/P	50 - 150
Bentazon	78.1	85.1	P/P	50 - 160
Ibuprofen	99.1	108	P/P	50 - 160
MCPD	94.1	94.4	P/P	50 - 150
Naproxen	81.0	74.5	P/P	50 - 160
Triclopyr	81.1	96.4	P/P	50 - 160

Reference Method: SM 5310 B-00
Run ID: A86150
Included Lab Sample IDs: 2018939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A86153
Included Lab Sample IDs: 2018939

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86155

Included Lab Sample IDs: 2018939

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86159

Included Lab Sample IDs: 2018951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.1	98.2	P/P	90 - 110
Cadmium	95.7	95.4	P/P	90 - 110
Chromium	93.6	95.1	P/P	90 - 110
Copper	96.6	97.5	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Nickel	96.4	96.8	P/P	90 - 110
Silver	95.8	96.4	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A86186

Included Lab Sample IDs: 2018949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	93.5		P	80 - 120
Alpha-BHC	97.4		P	80 - 120
Alpha-Chlordane	96.5		P	80 - 120
Beta-BHC	112		P	80 - 120
Carbophenothion	91.1		P	80 - 120
Chlorothalonil	96.0		P	80 - 120
Cypermethrin	95.6		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	95.4		P	80 - 120
DDT-p,p'	106		P	80 - 120
Delta-BHC	118		P	80 - 120
Dicofol	106		P	80 - 120
Dieldrin	95.6		P	80 - 120
Endosulfan I	93.1		P	80 - 120
Endosulfan II	96.2		P	80 - 120
Endosulfan Sulfate	111		P	80 - 120
Endrin	93.7		P	80 - 120
Endrin Aldehyde	103		P	80 - 120
Endrin Ketone	104		P	80 - 120
Gamma-BHC	112		P	80 - 120
Gamma-Chlordane	96.0		P	80 - 120
Heptachlor	93.0		P	80 - 120
Heptachlor Epoxide	97.5		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	102		P	80 - 120
Permethrin	99.6		P	80 - 120
Trifluralin	93.1		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A86195
Included Lab Sample IDs: 2018947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	115	113	P/P	60 - 150
Acetaminophen	113	124	P/P	60 - 150
Aldicarb	107	112	P/P	60 - 150
Aldicarb Sulfone	107	103	P/P	50 - 150
Aldicarb Sulfoxide	111	107	P/P	50 - 150
Carbamazepine	99.5	100	P/P	60 - 150
Carbaryl	101	103	P/P	60 - 150
Carbofuran	139	140	P/P	50 - 150
Diuron	122	120	P/P	60 - 150
Fenuron	109	105	P/P	60 - 150
Fluridone	112	107	P/P	60 - 160
Hydrocodone	110	111	P/P	60 - 150
Imazapyr	92.9	100	P/P	50 - 150
Imidacloprid	112	109	P/P	60 - 150
Linuron	111	102	P/P	60 - 150
Methiocarb	111	106	P/P	50 - 150
Methomyl	102	108	P/P	50 - 150
Oxamyl	113	107	P/P	50 - 150
Primidone	109	113	P/P	60 - 150
Propoxur	136	135	P/P	50 - 150
Pyraclostrobin	96.5	95.4	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86208
Included Lab Sample IDs: 2018939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A86216
Included Lab Sample IDs: 2018939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	98.5	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A86292
Included Lab Sample IDs: 2018950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.9		P	80 - 120
Alachlor	97.7		P	80 - 120
Ametryn	96.8		P	80 - 120
Atrazine	96.4		P	80 - 120
Atrazine Desethyl	97.6		P	80 - 120
Azinphos Methyl	99.9		P	80 - 120
Bromacil	96.3		P	80 - 120
Butylate	99.3		P	80 - 120
Chlorpyrifos Ethyl	97.8		P	80 - 120
Chlorpyrifos Methyl	97.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A86292
Included Lab Sample IDs: 2018950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cyanazine	90.6		P	80 - 120
Demeton	100		P	80 - 120
Diazinon	97.9		P	80 - 120
Disulfoton	95.8		P	80 - 120
EPTC	96.2		P	80 - 120
Ethion	95.7		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	93.3		P	80 - 120
Fipronil	93.9		P	80 - 120
Fipronil Sulfide	94.2		P	80 - 120
Fipronil Sulfone	94.2		P	80 - 120
Fonofos	95.3		P	80 - 120
Hexazinone	96.9		P	80 - 120
Malathion	99.6		P	80 - 120
Metaxyl	99.3		P	80 - 120
Metolachlor	102		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	94.1		P	80 - 120
Molinate	93.9		P	80 - 120
Norflurazon	94.1		P	80 - 120
Parathion Ethyl	91.5		P	80 - 120
Parathion Methyl	96.0		P	80 - 120
Pendimethalin	98.6		P	80 - 120
Phorate	96.6		P	80 - 120
Prometon	96.0		P	80 - 120
Prometryn	95.7		P	80 - 120
Simazine	95.4		P	80 - 120
Terbufos	97.2		P	80 - 120
Terbutylazine	97.6		P	80 - 120

Reference Method: EPA 8276
Run ID: A86369
Included Lab Sample IDs: 2018949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.4		P	80 - 120
Toxaphene	105		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						2.22	
EPA 200.7 Rev. 4.4	Calcium	101		108	100			2.52
	Iron	104		107	104	101		2.40
	Magnesium	101		110	101			1.39
	Potassium	100		103	101	97.6		1.90
	Sodium	97.7		104	99.1			1.39
	Zinc	102		106	105	101		3.76
EPA 200.8 Rev. 5.4	Arsenic	102		102	102	106		3.07
	Cadmium	100		105	100	105		4.07
	Chromium	98.0		99.4	92.5	94.9		2.52
	Copper	99.3		99.5	94.6	97.7		3.14
	Lead	99.6		101	99.3	103		3.87
	Nickel	101		101	97.1	101		3.50
	Silver	98.3		100	96.9	99.2		2.35
EPA 300.0 Rev. 2.1	Chloride	103		94.1	101		0.0733	
	Sulfate	102		98.3	101		0.0235	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0		102	101			0.930
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107		95.0	94.3			0.573
EPA 353.2 Rev. 2.0	NO2NO3-N	100		99.5	102			2.48
EPA 365.1 Rev. 2.0	Total-P	98.9		98.7	99.4			0.591
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.4		97.1	98.3			1.23
EPA 8270D	Acetochlor	108	106	105	106	1.33		0.802
	Alachlor	108	106	108	105	1.58		2.64
	Aldrin	76.9	65.9	68.1	58.1	15.4		15.8
	Alpha-BHC	94.8	81.5	95.3	73.0	15.1		26.5
	Alpha-Chlordane	94.2	85.2	90.3	78.8	10.0		13.5
	Ametryn	109	110	112	98.0	0.531		12.9
	Atrazine	110	109	111	110	1.19		0.292
	Atrazine Desethyl	107	74.0	73.6	74.9	36.4		1.83
	Azinphos Methyl	129	120	116	115	7.24		0.996
	Beta-BHC	115	105	120	105	8.88		13.4
	Bromacil	95.9	96.0	95.6	97.4	0.0381		1.80
	Butylate	76.1	82.3	56.1	80.1	7.89		35.3
	Carbophenothion	69.8	89.9	93.3	101	25.1		8.30
	Chlorothalonil	90.1	85.0	125	78.4	5.90		45.4
	Chlorpyrifos Ethyl	102	107	109	111	4.76		2.08
	Chlorpyrifos Methyl	103	101	104	101	1.83		2.87
	Cyanazine	189	123	134	155	42.7		14.7
	Cypermethrin	96.9	86.8	110	86.6	11.0		24.2
	DDD-p,p'	116	109	112	99.8	6.14		11.3
	DDE-p,p'	93.8	83.9	85.9	74.5	11.2		14.2
	DDT-p,p'	102	93.2	96.9	86.2	8.76		11.7
	Delta-BHC	118	114	229	204	4.04		11.6
	Demeton	87.8	88.8	73.9	80.6	1.15		8.71
	Diazinon	113	111	109	105	2.24		3.87
	Dicofol	95.3	91.3	118	114	4.25		3.40
	Dieldrin	98.6	90.9	98.0	88.6	8.14		10.0
	Disulfoton	98.4	91.1	88.1	90.2	7.70		2.28
	Endosulfan I	98.9	92.0	111	96.0	7.22		14.6
	Endosulfan II	112	97.5	115	116	13.4		0.391
	Endosulfan Sulfate	115	116	123	115	0.183		6.73
	Endrin	102	95.7	106	91.6	6.13		14.3
	Endrin Aldehyde	88.3	111	114	92.3	23.1		21.2
	Endrin Ketone	113	114	139	122	0.862		13.2

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	78.2	82.0	69.9	52.5	4.71	28.4
	Ethion	107	110	114	115	2.73	1.45
	Ethoprop	102	102	93.5	90.5	0.348	3.18
	Fenamiphos	104	103	114	113	1.04	1.11
	Fipronil	104	108	106	109	4.14	2.36
	Fipronil Sulfide	95.0	102	105	109	7.60	3.48
	Fipronil Sulfone	88.6	101	99.0	108	12.7	8.22
	Fonofos	100	95.2	92.3	92.5	4.93	0.276
	Gamma-BHC	115	105	120	105	8.88	13.4
	Gamma-Chlordane	91.8	82.8	88.1	75.0	10.4	16.0
	Heptachlor	79.0	70.2	75.9	65.0	11.9	15.5
	Heptachlor Epoxide	98.7	89.8	96.6	86.4	9.46	11.2
	Hexazinone	106	108	113	109	1.80	3.38
	Malathion	111	117	119	119	4.51	0.231
	Metalaxyl	108	92.5	100	103	15.2	2.15
	Methoxychlor	116	103	117	108	12.4	8.66
	Metolachlor	110	112	109	111	1.93	1.85
	Metribuzin	152	113	119	118	29.8	0.857
	Mevinphos	97.8	84.7	80.9	74.5	14.3	8.35
	Mirex	82.3	76.6	78.0	62.0	7.16	22.9
	Molinate	79.2	85.0	72.5	62.3	7.02	15.2
	Norflurazon	95.6	103	99.7	102	7.28	2.60
	Parathion Ethyl	103	103	104	104	0.191	0.0953
	Parathion Methyl	107	102	104	102	4.51	2.05
	Pendimethalin	123	127	125	124	3.67	1.12
	Permethrin	95.9	87.2	99.7	82.4	9.42	19.1
	Phorate	92.8	87.1	81.8	81.2	6.35	0.716
	Prometon	104	99.9	106	103	4.41	2.30
	Prometryn	104	104	104	106	0.339	1.27
	Simazine	109	108	105	106	0.826	1.26
	Terbufos	103	96.8	94.1	95.9	6.32	1.97
	Terbutylazine	107	109	109	110	1.72	1.04
	Trifluralin	83.4	77.0	86.6	73.8	8.05	15.9
EPA 8276	Chlordane	84.9	77.3	50.5		9.34	
	Toxaphene	71.0	63.9	59.4		10.5	
EPA 8321B	2,4-D	86.0		180	141		16.2
	3-Hydroxycarbofuran	93.6		62.0	62.3		0.423
	Acesulfame K	77.2		26.4	20.8		23.4
	Acetaminophen	113		135	138		2.32
	Aldicarb	74.6		48.0	49.5		2.94
	Aldicarb Sulfone	102		74.0	73.6		0.455
	Aldicarb Sulfoxide	99.7		31.5	32.3		2.62
	AMPA	147		101	99.7		1.04
	Bentazon	124		99.7	87.8		12.0
	Carbamazepine	73.5		56.2	56.9		1.29
	Carbaryl	56.4		41.3	41.3		0.180
	Carbofuran	74.2		48.1	46.6		3.27
	Diuron	79.4		64.4	64.8		0.587
	Endothall	86.9		128	139		8.34
	Fenuron	104		75.4	76.2		1.09
	Fluridone	70.9		58.9	57.5		1.59
	Glufosinate	112		105	112		5.80
	Glyphosate	98.5		67.1	66.2		1.33
	Hydrocodone	95.7		84.2	80.4		4.54

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Ibuprofen	99.1	96.9	92.2		4.93
	Imazapyr	89.1	100	91.1		5.71
	Imidacloprid	104	158	156		1.75
	Linuron	58.1	54.8	57.3		4.50
	MCPP	99.3	162	170		5.31
	Methiocarb	54.6	44.4	44.6		0.484
	Methomyl	91.1	65.3	59.4		9.42
	Naproxen	82.8	109	104		4.41
	Oxamyl	106	71.0	71.2		0.290
	Primidone	102	91.9	91.1		0.918
	Propoxur	78.9	46.8	44.4		5.08
	Pyraclostrobin	61.7	71.0	68.6		3.38
	Sucralose	89.4	103	106		2.64
	Triclopyr	104	182	182		0.0605
SM 2120 B	Color (true)	99.2			1.52	
SM 2320 B-97	Total Alkalinity	105			0.105	
SM 2540 C-97	TDS				4.12	
SM 4500 F-C-97	Fluoride	100	99.6	99.6		0.0
SM 5310 B-00	Organic Carbon	99.8	97.5	97.0		0.478

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2018938
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2018951
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2018951
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2018938
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2018938
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2018939
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2018939
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2018939
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2018939
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2018940
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2018949
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	2018950
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2018949
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2018947
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2018948
SM 2120 B / E31780	True Color measured at 450 nm	2018938
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2018938
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2018938
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2018938
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2018938

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2018939

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/22/2018			08/22/2018 17:25	Megan Treadwell	2018938
EPA 200.7 Rev. 4.4	08/22/2018	08/22/2018 18:00	Elliott D. Healy	08/23/2018 15:56	Betina Topolski	2018951
EPA 200.8 Rev. 5.4	08/22/2018	08/22/2018 18:00	Elliott D. Healy	08/28/2018 20:08	Allison Taylor	2018951
EPA 300.0 Rev. 2.1	08/22/2018			08/24/2018 06:34	Lipi Saha	2018938
EPA 350.1 Rev. 2.0	08/22/2018			08/27/2018 11:30	Ping Hua	2018939
EPA 351.2 Rev. 2.0	08/22/2018	08/29/2018 15:30	Adrian Shelby	08/30/2018 14:55	Joseph Suarez	2018939
EPA 353.2 Rev. 2.0	08/22/2018			08/28/2018 11:51	Lauren Bottorf	2018939
EPA 365.1 Rev. 2.0	08/22/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 11:54	Beverly Y. Sanders	2018939
EPA 365.1 Rev. 2.0 dissolved	08/22/2018			08/22/2018 14:40	Julia Storbeck	2018940
EPA 8270D	08/22/2018	08/24/2018 08:00	Fe-Val Siddell	08/27/2018 16:34	Marek Topolski	2018950
	08/22/2018	08/27/2018 09:31	Rasheda Ghaffari	08/28/2018 18:31	Dinesh Mishra	2018949
EPA 8276	08/22/2018	09/04/2018 03:30	Rasheda Ghaffari	09/08/2018 05:04	Arthur Maknenko	2018949
EPA 8321B	08/22/2018	08/23/2018 12:45	Mohammad Ghaffari	08/23/2018 16:36	Mohammad Ghaffari	2018948
	08/22/2018	08/23/2018 12:45	Mohammad Ghaffari	08/23/2018 21:55	Mohammad Ghaffari	2018948
	08/22/2018	08/23/2018 12:45	Mohammad Ghaffari	08/24/2018 11:37	Mohammad Ghaffari	2018948
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 03:54	Juyoung Kim	2018948
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 05:30	Juyoung Kim	2018947
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 10:07	Juyoung Kim	2018948
SM 2120 B	08/22/2018			08/22/2018 16:15	William L. Brown IV	2018938
SM 2320 B-97	08/22/2018			08/25/2018 09:23	Dale L. Simmons	2018938
SM 2540 C-97	08/22/2018			08/24/2018 16:01	Yijie Li	2018938
SM 2540 D-97	08/22/2018			08/24/2018 16:01	Yijie Li	2018938
SM 4500 F-C-97	08/22/2018			08/25/2018 09:23	Dale L. Simmons	2018938
SM 5310 B-00	08/22/2018			08/27/2018 22:06	Megan Treadwell	2018939