

Chemical Analysis Report

TLH-ROC-2018-11-20-06

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

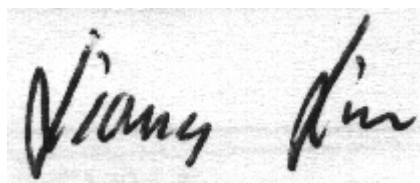
Event Description: **G2 Run 6**
Request ID: **RQ-2018-10-08-19**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 11-DEC-2018 14:17

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Unnamed Branch @ Flat Creek Rd

Collection Date/Time: 11/20/2018 15:15

Field ID: G2TLHR0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043255	EPA 180.1 Rev. 2.0	Turbidity	8.6		NTU	P355039	
	EPA 300.0 Rev. 2.1	Chloride	4.3		mg Cl/L	P355365	
		Sulfate	1.6		mg SO4/L	P355368	
	SM 2120 B	Color (true)	44		PCU	P355036	
	SM 2320 B-97	Total Alkalinity	46		mg CaCO3/L	P355468	
	SM 2540 C-97	TDS	70		mg/L	P355460	
	SM 2540 D-97	TSS	4	I	mg/L	P355462	
	SM 4500 F-C-97	Fluoride	0.098	I	mg F/L	P355473	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P355303	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P355215	
2043256	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P355328	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P355083	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P355325	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P355042	
	EPA 8321B	Aldicarb	0.020	U	ug/L	P355009	
2043261		Aldicarb Sulfone	0.0020	U	ug/L	P355009	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P355009	
		Carbaryl	0.0020	U	ug/L	P355009	
		Carbofuran	0.0020	U	ug/L	P355009	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P355009	
		Methiocarb	0.0020	U	ug/L	P355009	
		Methomyl	0.0020	U	ug/L	P355009	
		Oxamyl	0.0020	U	ug/L	P355009	
		Propoxur	0.0020	U	ug/L	P355009	
		2,4-D	0.0020	U	ug/L	P355009	
		Sucralose**	0.034	I	ug/L	P355085	
		Bentazon	8.0E-04	U	ug/L	P355009	
		MCP	0.0020	U	ug/L	P355009	
		Triclopyr**	0.0040	U	ug/L	P355009	
		Imidacloprid	0.0020	U	ug/L	P355009	
		Diuron	0.0020	U	ug/L	P355009	
		Pyraclostrobin**	0.0020	UJ	ug/L	P355009	CCV
		Primidone**	0.0040	UJ	ug/L	P355009	RPD
		Linuron	0.0040	U	ug/L	P355009	
2043262		Acetaminophen**	0.0080	U	ug/L	P355009	
		Fenuron	0.016	U	ug/L	P355009	
		Imazapyr**	0.18		ug/L	P355009	
		Carbamazepine**	8.0E-04	U	ug/L	P355009	
		Fluridone**	4.0E-04	U	ug/L	P355009	
		Hydrocodone**	8.0E-04	U	ug/L	P355009	
		Naproxen**	0.0080	UJ	ug/L	P355009	RPD
		Ibuprofen**	0.020	U	ug/L	P355009	
		Glyphosate**	0.10	U	ug/L	P354971	

Field ID: G2TLHR0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043262	EPA 8321B	AMPA**	0.10	U	ug/L	P354971	
		Endothall**	0.25	U	ug/L	P354971	
		Glufosinate**	0.10	U	ug/L	P354971	
		Acesulfame K**	0.10	U	ug/L	P354971	
2043263	EPA 8270D	Aldrin	4.2	U	ng/L	P355010	
		Alpha-BHC	2.1	U	ng/L	P355010	
		Beta-BHC	4.2	U	ng/L	P355010	
		Delta-BHC	4.2	U	ng/L	P355010	MS
		Gamma-BHC	4.2	U	ng/L	P355010	
		Carbophenothion	4.2	U	ng/L	P355010	RPD
		Chlorothalonil	2.1	U	ng/L	P355010	MS, RPD
		Cypermethrin	21	U	ng/L	P355010	
		DDD-p,p'	3.2	U	ng/L	P355010	
		DDE-p,p'	3.2	U	ng/L	P355010	
		DDT-p,p'	3.2	U	ng/L	P355010	
		Dieldrin	4.2	U	ng/L	P355010	
		Endosulfan I	4.2	U	ng/L	P355010	
		Endosulfan II	4.2	U	ng/L	P355010	RPD
		Endosulfan Sulfate	2.1	U	ng/L	P355010	
		Endrin	2.1	U	ng/L	P355010	
		Endrin Aldehyde	2.1	U	ng/L	P355010	
		Heptachlor	1.6	U	ng/L	P355010	
		Heptachlor Epoxide	2.1	U	ng/L	P355010	
		Methoxychlor	4.2	U	ng/L	P355010	
		Mirex	2.1	U	ng/L	P355010	
		Permethrin	11	U	ng/L	P355010	
		Trifluralin	1.1	U	ng/L	P355010	
		Alpha-Chlordane	1.1	U	ng/L	P355010	
		Gamma-Chlordane	1.1	U	ng/L	P355010	
		Endrin Ketone	2.1	U	ng/L	P355010	
		Dicofol	32	U	ng/L	P355010	
		Chlordane	2.6	U	ng/L	P355010	
		Toxaphene	32	U	ng/L	P355010	
2043264	EPA 8270D	Alachlor	0.24	U	ng/L	P354965	
		Ametryn	0.31	U	ng/L	P354965	
		Atrazine	0.24	U	ng/L	P354965	
		Atrazine Desethyl	1.4	U	ng/L	P354965	
		Azinphos Methyl	2.2	U	ng/L	P354965	
		Bromacil	0.48	U	ng/L	P354965	
		Butylate	0.38	UJ	ng/L	P354965	RPD
		Chlorpyrifos Ethyl	0.24	U	ng/L	P354965	
		Chlorpyrifos Methyl	0.096	U	ng/L	P354965	
		Demeton	1.9	U	ng/L	P354965	
		Diazinon	0.12	U	ng/L	P354965	
		Disulfoton	0.48	U	ng/L	P354965	

Field ID: G2TLHR0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043264	EPA 8270D	EPTC	1.2	UJ	ng/L	P354965	RPD
		Ethion	0.14	U	ng/L	P354965	
		Ethoprop	0.096	U	ng/L	P354965	
		Fenamiphos	0.24	U	ng/L	P354965	
		Fipronil	0.24	U	ng/L	P354965	
		Fipronil Sulfide	0.14	U	ng/L	P354965	
		Fipronil Sulfone	0.14	UJ	ng/L	P354965	CCV
		Hexazinone	0.48	U	ng/L	P354965	
		Malathion	0.34	U	ng/L	P354965	
		Metribuzin	0.19	UJ	ng/L	P354965	RPD
		Mevinphos	0.48	U	ng/L	P354965	
		Molinate	0.29	U	ng/L	P354965	
		Norflurazon	0.48	U	ng/L	P354965	
		Pendimethalin	0.96	U	ng/L	P354965	
		Phorate	0.24	U	ng/L	P354965	
		Prometon	0.87	U	ng/L	P354965	
		Prometryn	0.19	UJ	ng/L	P354965	CCV
		Simazine	0.48	U	ng/L	P354965	
		Terbufos	0.096	U	ng/L	P354965	
		Terbutylazine	0.41	U	ng/L	P354965	
		Fonofos	0.19	U	ng/L	P354965	
		Metalaxyl	0.24	U	ng/L	P354965	
		Metolachlor	0.24	U	ng/L	P354965	
		Acetochlor	0.24	U	ng/L	P354965	
		Cyanazine	0.48	U	ng/L	P354965	
		Parathion Ethyl	0.24	U	ng/L	P354965	
		Parathion Methyl	0.24	U	ng/L	P354965	
		Dimethenamid**	0.096	U	ng/L	P354965	
		Fipronil Desulfinyl**	0.12	UJ	ng/L	P354965	
		Dithiopyr**	0.096	U	ng/L	P354965	
		Prodiamine**	0.17	U	ng/L	P354965	
		Oxadiazon**	0.096	U	ng/L	P354965	
		Tebuconazole**	0.48	UJ	ng/L	P354965	RPD
2043265	EPA 200.7 Rev. 4.4	Calcium	12.1		mg/L	P355105	
		Iron	800		ug/L	P355105	
		Magnesium	5.69		mg/L	P355105	
		Potassium	0.45	I	mg/L	P355105	
		Sodium	2.7		mg/L	P355105	
		Zinc	5.0	U	ug/L	P355105	
	EPA 200.8 Rev. 5.4	Arsenic	0.52		ug/L	P355105	
		Cadmium	0.020	U	ug/L	P355105	
		Chromium	1.2	I	ug/L	P355105	
		Copper	0.20	U	ug/L	P355105	
		Lead	0.39		ug/L	P355105	
		Nickel	0.37	I	ug/L	P355105	

Field ID: G2TLHR0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2043265	EPA 200.8 Rev. 5.4	Silver	0.010	U	ug/L	P355105	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Refer to the narrative for an explanation of QC Codes.

EPA 8270D: Estimated value for Fipronil Desulfinyl due to lack of the second source standard. Refer to the narrative for an explanation of QC Codes.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium, and sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355039

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P355105

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: P355105

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: P355365

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355368

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355303

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355215

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: P355328

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P355083

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P355042

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

Reference Method: EPA 8270D
 Batch ID: P354965

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
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
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
Oxadiazon	0.10	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P354965

Component	Result	Code	Units
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P355010

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: P355010

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P354971

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P355009

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: EPA 8321B
Batch ID: P355085

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P355036

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P355468

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

Reference Method: SM 2540 C-97
Batch ID: P355460

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P355462

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P355473

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P355325

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: P355105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	104		P	85 - 115
Magnesium	100		P	85 - 115
Potassium	102		P	85 - 115
Sodium	96.9		P	85 - 115
Zinc	99.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P355105

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	109		P	85 - 115
Cadmium	105		P	85 - 115
Chromium	104		P	85 - 115
Copper	105		P	85 - 115
Lead	104		P	85 - 115
Nickel	105		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P355365

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P355368

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P355303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P355215

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P355328

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P355083

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P355042

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

Reference Method: EPA 8270D
 Batch ID: P354965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.2	102	P/P	74 - 119
Alachlor	94.1	91.8	P/P	75 - 118
Ametryn	84.2	81.2	P/P	59 - 137
Atrazine	94.0	89.2	P/P	73 - 120
Atrazine Desethyl	73.6	65.8	P/P	19 - 129
Azinphos Methyl	89.1	95.9	P/P	65 - 181
Bromacil	72.7	76.5	P/P	43 - 123
Butylate	42.4	63.9	P/P	28 - 85.0
Chlorpyrifos Ethyl	90.7	95.0	P/P	55 - 112
Chlorpyrifos Methyl	112	88.2	P/P	35 - 124
Cyanazine	99.5	79.3	P/P	26 - 262
Demeton	71.1	80.6	P/P	43 - 122
Diazinon	110	95.5	P/P	72 - 120
Dimethenamid	98.9	100	P/P	60 - 130
Disulfoton	110	84.1	P/P	45 - 137
Dithiopyr	103	106	P/P	60 - 130
EPTC	45.2	66.3	P/P	28 - 95.0
Ethion	94.9	92.7	P/P	63 - 127
Ethoprop	81.8	93.4	P/P	63 - 109
Fenamiphos	95.5	91.7	P/P	66 - 136
Fipronil	69.5	92.8	P/P	63 - 126
Fipronil Sulfide	69.3	76.8	P/P	59 - 123
Fipronil Sulfone	69.0	79.5	P/P	56 - 122
Fonofos	102	83.6	P/P	64 - 114
Hexazinone	106	120	P/P	49 - 144
Malathion	94.0	93.4	P/P	68 - 131
Metaxalyl	88.2	87.2	P/P	57 - 126
Metolachlor	77.4	89.5	P/P	75 - 118
Metribuzin	107	75.8	P/P	46 - 169
Mevinphos	77.9	85.7	P/P	34 - 126
Molinate	57.8	75.4	P/P	37 - 101
Norflurazon	70.3	69.2	P/P	63 - 127
Oxadiazon	91.2	114	P/P	60 - 130
Parathion Ethyl	91.6	91.3	P/P	78 - 109
Parathion Methyl	117	108	P/P	74 - 123
Pendimethalin	107	109	P/P	51 - 130
Phorate	77.0	77.7	P/P	53 - 116
Prodiamine	74.4	88.2	P/P	60 - 130
Prometon	75.6	87.7	P/P	66 - 124
Prometryn	81.2	91.7	P/P	66 - 124

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P354965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Simazine	98.9	95.5	P/P	62 - 134
Tebuconazole	53.2	83.6	P/P	30 - 100
Terbufos	102	83.9	P/P	59 - 115
Terbutylazine	98.5	106	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P355010

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	63.2	63.3	P/P	24 - 89.0
Alpha-BHC	102	98.4	P/P	58 - 117
Alpha-Chlordane	89.8	90.9	P/P	56 - 115
Beta-BHC	118	120	P/P	55 - 137
Carbophenothion	68.2	70.8	P/P	37 - 145
Chlorothalonil	115	114	P/P	26 - 163
Cypermethrin	69.2	71.3	P/P	42 - 156
DDD-p,p'	97.9	103	P/P	59 - 129
DDE-p,p'	87.5	88.0	P/P	52 - 117
DDT-p,p'	93.1	95.9	P/P	48 - 128
Delta-BHC	154	147	P/P	59 - 158
Dicofol	99.2	107	P/P	19 - 124
Dieldrin	95.3	95.4	P/P	57 - 126
Endosulfan I	95.4	95.3	P/P	59 - 133
Endosulfan II	105	117	P/P	58 - 148
Endosulfan Sulfate	91.7	94.7	P/P	56 - 135
Endrin	98.3	98.2	P/P	50 - 140
Endrin Aldehyde	105	105	P/P	47 - 141
Endrin Ketone	91.1	90.7	P/P	63 - 123
Gamma-BHC	109	107	P/P	59 - 132
Gamma-Chlordane	86.5	88.5	P/P	55 - 112
Heptachlor	74.5	71.7	P/P	45 - 102
Heptachlor Epoxide	92.6	93.5	P/P	61 - 116
Methoxychlor	109	113	P/P	60 - 133
Mirex	61.1	62.7	P/P	40 - 98.0
Permethrin	74.7	74.2	P/P	45 - 131
Trifluralin	86.7	88.9	P/P	38 - 179

Reference Method: EPA 8276
Batch ID: P355010

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	69.5	73.8	P/P	47 - 125
Toxaphene	71.8	70.2	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P354971

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.5		P	40 - 150
AMPA	84.4		P	40 - 150
Endothall	79.2		P	40 - 150
Glufosinate	75.2		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P354971

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	62.4		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P355009

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.1		P	40 - 150
3-Hydroxycarbofuran	88.2		P	40 - 150
Acetaminophen	114		P	30 - 150
Aldicarb	89.9		P	30 - 150
Aldicarb Sulfone	95.2		P	40 - 150
Aldicarb Sulfoxide	120		P	40 - 150
Bentazon	72.6		P	30 - 150
Carbamazepine	80.4		P	40 - 150
Carbaryl	76.9		P	40 - 150
Carbofuran	78.9		P	40 - 150
Diuron	69.6		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	107		P	40 - 150
Hydrocodone	98.6		P	40 - 150
Ibuprofen	78.4		P	40 - 150
Imazapyr	77.8		P	40 - 150
Imidacloprid	108		P	40 - 160
Linuron	76.9		P	40 - 150
MCPP	113		P	40 - 150
Methiocarb	63.9		P	40 - 150
Methomyl	101		P	40 - 150
Naproxen	91.5		P	40 - 150
Oxamyl	91.9		P	40 - 150
Primidone	80.0		P	40 - 150
Propoxur	81.1		P	40 - 150
Pyraclostrobin	71.7		P	40 - 150
Triclopyr	72.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P355085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	97.8		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P355036

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

Reference Method: SM 2320 B-97
Batch ID: P355468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P355473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P355325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P355105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043083	Iron	97.4	98.1	P/P	80 - 120
2043083	Zinc	96.2	96.3	P/P	80 - 120
2043420	Calcium	97.0		P	80 - 120
2043420	Iron	100		P	80 - 120
2043420	Magnesium	98.1		P	80 - 120
2043420	Potassium	95.8		P	80 - 120
2043420	Sodium	97.3		P	80 - 120
2043420	Zinc	94.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P355105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043083	Arsenic	115	115	P/P	80 - 120
2043083	Cadmium	103	102	P/P	80 - 120
2043083	Chromium	84.4	82.9	P/P	80 - 120
2043083	Copper	97.0	96.5	P/P	80 - 120
2043083	Lead	107	105	P/P	80 - 120
2043083	Nickel	92.4	91.8	P/P	80 - 120
2043083	Silver	96.8	93.6	P/P	80 - 120
2043420	Arsenic	107		P	80 - 120
2043420	Cadmium	108		P	80 - 120
2043420	Chromium	102		P	80 - 120
2043420	Copper	100		P	80 - 120
2043420	Lead	102		P	80 - 120
2043420	Nickel	99.4		P	80 - 120
2043420	Silver	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2040903	Chloride	100		P	90 - 110
2043165	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2040903	Sulfate	100		P	90 - 110
2043165	Sulfate	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043244	Ammonia-N	93.1	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355328

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P355328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043238	NO2NO3-N	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P355083

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043197	Total-P	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P355042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043245	O-Phosphate-P	97.6	99.3	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P354965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043264	Acetochlor	96.5	86.0	P/P	67 - 125
2043264	Alachlor	86.6	75.9	P/P	69 - 123
2043264	Ametryn	86.2	65.5	P/P	52 - 151
2043264	Atrazine	92.4	86.5	P/P	71 - 125
2043264	Atrazine Desethyl	49.8	57.2	P/P	10 - 129
2043264	Azinphos Methyl	79.3	78.6	P/P	48 - 200
2043264	Bromacil	69.6	54.4	P/P	46 - 130
2043264	Butylate	41.4	47.6	P/P	10 - 85.0
2043264	Chlorpyrifos Ethyl	105	92.4	P/P	54 - 115
2043264	Chlorpyrifos Methyl	96.6	92.0	P/P	44 - 117
2043264	Cyanazine	75.1	73.7	P/P	10 - 262
2043264	Demeton	70.9	79.2	P/P	24 - 145
2043264	Diazinon	92.2	90.8	P/P	66 - 129
2043264	Dimethenamid	94.8	85.0	P/P	60 - 130
2043264	Disulfoton	94.9	95.7	P/P	45 - 139
2043264	Dithiopyr	97.5	87.7	P/P	60 - 130
2043264	EPTC	39.1	48.5	P/P	10 - 86.0
2043264	Ethion	98.6	83.4	P/P	59 - 133
2043264	Ethoprop	80.5	86.1	P/P	54 - 116
2043264	Fenamiphos	84.9	95.9	P/P	55 - 140
2043264	Fipronil	75.4	77.1	P/P	37 - 142
2043264	Fipronil Sulfide	73.0	73.6	P/P	37 - 130
2043264	Fipronil Sulfone	57.7	62.7	P/P	18 - 143
2043264	Fonofos	92.7	94.1	P/P	55 - 118
2043264	Hexazinone	91.1	106	P/P	62 - 140
2043264	Malathion	95.7	79.5	P/P	64 - 132
2043264	Metalaxyl	88.2	74.1	P/P	55 - 129
2043264	Metolachlor	90.6	74.5	P/P	56 - 137
2043264	Metribuzin	89.4	87.3	P/P	16 - 218
2043264	Mevinphos	70.6	83.3	P/P	34 - 129
2043264	Molinate	52.4	63.0	P/P	16 - 99.0
2043264	Norflurazon	61.4	52.9	P/P	43 - 135
2043264	Oxadiazon	98.1	97.3	P/P	60 - 130
2043264	Parathion Ethyl	88.6	86.7	P/P	71 - 112

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P354965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043264	Parathion Methyl	96.8	103	P/P	65 - 127
2043264	Pendimethalin	130	104	P/P	35 - 159
2043264	Phorate	86.6	98.3	P/P	41 - 129
2043264	Prodiamine	91.0	79.5	P/P	60 - 130
2043264	Prometon	80.1	81.3	P/P	56 - 140
2043264	Prometryn	82.2	72.6	P/P	65 - 130
2043264	Simazine	93.4	100	P/P	54 - 148
2043264	Tebuconazole	60.3	49.1	P/P	30 - 100
2043264	Terbufos	88.3	99.3	P/P	53 - 126
2043264	Terbutylazine	96.8	103	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P355010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042275	Aldrin	72.6	65.3	P/P	26 - 96.0
2042275	Alpha-BHC	106	99.4	P/P	51 - 123
2042275	Alpha-Chlordane	95.5	81.1	P/P	45 - 120
2042275	Beta-BHC	128	97.2	P/P	43 - 146
2042275	Carbophenothion	143	105	P/P	26 - 179
2042275	Chlorothalonil	236	135	F/P	10 - 215
2042275	Cypermethrin	93.1	79.6	P/P	35 - 169
2042275	DDD-p,p'	103	88.5	P/P	49 - 131
2042275	DDE-p,p'	92.0	78.9	P/P	39 - 127
2042275	DDT-p,p'	94.3	86.3	P/P	49 - 120
2042275	Delta-BHC	189	146	F/P	49 - 187
2042275	Dicofol	107	88.7	P/P	10 - 129
2042275	Dieldrin	105	90.9	P/P	46 - 132
2042275	Endosulfan I	101	90.9	P/P	57 - 130
2042275	Endosulfan II	130	95.4	P/P	52 - 148
2042275	Endosulfan Sulfate	97.3	79.6	P/P	55 - 129
2042275	Endrin	104	88.3	P/P	45 - 133
2042275	Endrin Aldehyde	85.8	81.3	P/P	26 - 140
2042275	Endrin Ketone	112	91.6	P/P	60 - 125
2042275	Gamma-BHC	139	127	P/P	50 - 145
2042275	Gamma-Chlordane	92.1	76.6	P/P	44 - 118
2042275	Heptachlor	73.5	68.7	P/P	35 - 106
2042275	Heptachlor Epoxide	98.1	82.7	P/P	52 - 123
2042275	Methoxychlor	107	103	P/P	54 - 132
2042275	Mirex	74.0	64.5	P/P	36 - 107
2042275	Permethrin	81.2	72.8	P/P	47 - 135
2042275	Trifluralin	93.0	83.5	P/P	32 - 228

Reference Method: EPA 8276
Batch ID: P355010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042862	Chlordane	81.3	80.5	P/P	41 - 134
2042862	Toxaphene	80.6	79.2	P/P	39 - 158

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P354971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042005	Acesulfame K	137	131	P/P	40 - 150
2042005	AMPA	94.9	90.2	P/P	40 - 150
2042005	Endothall	84.1	75.5	P/P	40 - 150
2042005	Glufosinate	69.3	71.9	P/P	40 - 150
2042005	Glyphosate	68.1	67.5	P/P	40 - 140

Reference Method: EPA 8321B
 Batch ID: P355009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043261	3-Hydroxycarbofuran	85.9	87.1	P/P	40 - 150
2043261	Aldicarb	71.8	67.7	P/P	30 - 150
2043261	Aldicarb Sulfone	77.5	82.1	P/P	40 - 150
2043261	Aldicarb Sulfoxide	62.3	59.4	P/P	40 - 150
2043261	Carbaryl	59.7	64.7	P/P	40 - 150
2043261	Carbofuran	66.1	65.4	P/P	40 - 150
2043261	Methiocarb	56.0	60.5	P/P	40 - 150
2043261	Methomyl	83.5	93.5	P/P	40 - 150
2043261	Oxamyl	78.7	76.9	P/P	40 - 150
2043261	Propoxur	65.0	66.4	P/P	40 - 150
2043262	2,4-D	107	120	P/P	40 - 150
2043262	Acetaminophen	130	130	P/P	30 - 150
2043262	Bentazon	53.3	62.0	P/P	30 - 150
2043262	Carbamazepine	79.7	81.3	P/P	40 - 150
2043262	Diuron	61.7	64.9	P/P	40 - 150
2043262	Fenuron	81.5	84.7	P/P	40 - 150
2043262	Fluridone	105	102	P/P	40 - 150
2043262	Hydrocodone	84.1	85.3	P/P	40 - 150
2043262	Ibuprofen	72.3	66.9	P/P	40 - 150
2043262	Imidacloprid	125	128	P/P	40 - 160
2043262	Linuron	67.2	68.2	P/P	40 - 150
2043262	MCPP	134	129	P/P	40 - 150
2043262	Naproxen	86.6	59.7	P/P	40 - 150
2043262	Primidone	79.8	131	P/P	40 - 150
2043262	Pyraclostrobin	54.7	53.1	P/P	40 - 150
2043262	Triclopyr	79.2	78.2	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P355085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042005	Sucralose	85.2	101	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P355473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043270	Fluoride	98.6	98.0	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P355325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043003	Organic Carbon	98.6	95.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043280	Turbidity	2.32	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P355105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043083	Calcium	0.00614	Spike	P	0 - 20
2043083	Iron	0.634	Spike	P	0 - 20
2043083	Magnesium	0.426	Spike	P	0 - 20
2043083	Potassium	0.671	Spike	P	0 - 20
2043083	Sodium	1.62	Spike	P	0 - 20
2043083	Zinc	0.0857	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P355105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043083	Arsenic	0.360	Spike	P	0 - 20
2043083	Cadmium	1.66	Spike	P	0 - 20
2043083	Chromium	1.84	Spike	P	0 - 20
2043083	Copper	0.537	Spike	P	0 - 20
2043083	Lead	1.71	Spike	P	0 - 20
2043083	Nickel	0.611	Spike	P	0 - 20
2043083	Silver	3.41	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043165	Chloride	0.111	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043165	Sulfate	1.00	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043244	Ammonia-N	4.95	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P355215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043284	Kjeldahl Nitrogen	0.989	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P355328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043238	NO2NO3-N	0.564	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P355083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043197	Total-P	0.0243	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P355042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043245	O-Phosphate-P	1.09	Spike	P	0 - 20

Reference Method: EPA 8270D
 Batch ID: P354965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043264	Acetochlor	11.5	Spike	P	0 - 30
2043264	Alachlor	13.2	Spike	P	0 - 30
2043264	Ametryn	27.3	Spike	P	0 - 30
2043264	Atrazine	6.61	Spike	P	0 - 30
2043264	Atrazine Desethyl	13.9	Spike	P	0 - 30
2043264	Azinphos Methyl	0.868	Spike	P	0 - 30
2043264	Bromacil	24.5	Spike	P	0 - 30
2043264	Butylate	13.9	Spike	P	0 - 30
2043264	Chlorpyrifos Ethyl	12.4	Spike	P	0 - 30
2043264	Chlorpyrifos Methyl	4.86	Spike	P	0 - 30
2043264	Cyanazine	1.84	Spike	P	0 - 30
2043264	Demeton	11.1	Spike	P	0 - 30
2043264	Diazinon	1.53	Spike	P	0 - 30
2043264	Dimethenamid	10.9	Spike	P	0 - 30
2043264	Disulfoton	0.812	Spike	P	0 - 30
2043264	Dithiopyr	10.5	Spike	P	0 - 30
2043264	EPTC	21.6	Spike	P	0 - 30
2043264	Ethion	16.7	Spike	P	0 - 30
2043264	Ethoprop	6.70	Spike	P	0 - 30
2043264	Fenamiphos	12.1	Spike	P	0 - 30
2043264	Fipronil	2.23	Spike	P	0 - 30
2043264	Fipronil Sulfide	0.861	Spike	P	0 - 30
2043264	Fipronil Sulfone	8.31	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P354965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043264	Fonofos	1.53	Spike	P	0 - 30
2043264	Hexazinone	14.9	Spike	P	0 - 30
2043264	Malathion	18.5	Spike	P	0 - 30
2043264	Metalaxyl	17.5	Spike	P	0 - 30
2043264	Metolachlor	19.5	Spike	P	0 - 30
2043264	Metribuzin	2.32	Spike	P	0 - 30
2043264	Mevinphos	16.5	Spike	P	0 - 30
2043264	Molinate	18.4	Spike	P	0 - 30
2043264	Norflurazon	14.9	Spike	P	0 - 30
2043264	Oxadiazon	0.749	Spike	P	0 - 30
2043264	Parathion Ethyl	2.17	Spike	P	0 - 30
2043264	Parathion Methyl	6.51	Spike	P	0 - 30
2043264	Pendimethalin	21.9	Spike	P	0 - 30
2043264	Phorate	12.8	Spike	P	0 - 30
2043264	Prodiamine	13.5	Spike	P	0 - 30
2043264	Prometon	1.44	Spike	P	0 - 30
2043264	Prometryn	12.4	Spike	P	0 - 30
2043264	Simazine	6.86	Spike	P	0 - 30
2043264	Tebuconazole	20.6	Spike	P	0 - 30
2043264	Terbufos	11.7	Spike	P	0 - 30
2043264	Terbutylazine	6.64	Spike	P	0 - 30
LFB	Acetochlor	2.75	LCS	P	0 - 30
LFB	Alachlor	2.48	LCS	P	0 - 30
LFB	Ametryn	3.62	LCS	P	0 - 30
LFB	Atrazine	5.29	LCS	P	0 - 30
LFB	Atrazine Desethyl	11.2	LCS	P	0 - 30
LFB	Azinphos Methyl	7.40	LCS	P	0 - 30
LFB	Bromacil	5.14	LCS	P	0 - 30
LFB	Butylate	40.5	LCS	F	0 - 30
LFB	Chlorpyrifos Ethyl	4.57	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	24.1	LCS	P	0 - 30
LFB	Cyanazine	22.6	LCS	P	0 - 30
LFB	Demeton	12.6	LCS	P	0 - 30
LFB	Diazinon	14.2	LCS	P	0 - 30
LFB	Dimethenamid	1.24	LCS	P	0 - 30
LFB	Disulfoton	27.0	LCS	P	0 - 30
LFB	Dithiopyr	2.48	LCS	P	0 - 30
LFB	EPTC	37.8	LCS	F	0 - 30
LFB	Ethion	2.38	LCS	P	0 - 30
LFB	Ethoprop	13.2	LCS	P	0 - 30
LFB	Fenamiphos	4.06	LCS	P	0 - 30
LFB	Fipronil	28.7	LCS	P	0 - 30
LFB	Fipronil Sulfide	10.3	LCS	P	0 - 30
LFB	Fipronil Sulfone	14.2	LCS	P	0 - 30
LFB	Fonofos	20.2	LCS	P	0 - 30
LFB	Hexazinone	12.6	LCS	P	0 - 30
LFB	Malathion	0.674	LCS	P	0 - 30
LFB	Metalaxyl	1.09	LCS	P	0 - 30
LFB	Metolachlor	14.5	LCS	P	0 - 30
LFB	Metribuzin	34.5	LCS	F	0 - 30
LFB	Mevinphos	9.61	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P354965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Molinate	26.3	LCS	P	0 - 30
LFB	Norflurazon	1.66	LCS	P	0 - 30
LFB	Oxadiazon	21.8	LCS	P	0 - 30
LFB	Parathion Ethyl	0.303	LCS	P	0 - 30
LFB	Parathion Methyl	7.69	LCS	P	0 - 30
LFB	Pendimethalin	2.18	LCS	P	0 - 30
LFB	Phorate	0.959	LCS	P	0 - 30
LFB	Prodiamine	16.9	LCS	P	0 - 30
LFB	Prometon	14.8	LCS	P	0 - 30
LFB	Prometryn	12.1	LCS	P	0 - 30
LFB	Simazine	3.51	LCS	P	0 - 30
LFB	Tebuconazole	44.4	LCS	F	0 - 30
LFB	Terbufos	19.7	LCS	P	0 - 30
LFB	Terbutylazine	7.04	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P355010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042275	Aldrin	10.7	Spike	P	0 - 30
2042275	Alpha-BHC	6.25	Spike	P	0 - 30
2042275	Alpha-Chlordane	16.3	Spike	P	0 - 30
2042275	Beta-BHC	27.3	Spike	P	0 - 30
2042275	Carbophenothion	31.3	Spike	F	0 - 30
2042275	Chlorothalonil	54.4	Spike	F	0 - 30
2042275	Cypermethrin	15.6	Spike	P	0 - 30
2042275	DDD-p,p'	14.9	Spike	P	0 - 30
2042275	DDE-p,p'	15.3	Spike	P	0 - 30
2042275	DDT-p,p'	8.86	Spike	P	0 - 30
2042275	Delta-BHC	25.9	Spike	P	0 - 30
2042275	Dicofol	18.8	Spike	P	0 - 30
2042275	Dieldrin	14.0	Spike	P	0 - 30
2042275	Endosulfan I	10.1	Spike	P	0 - 30
2042275	Endosulfan II	30.5	Spike	F	0 - 30
2042275	Endosulfan Sulfate	20.0	Spike	P	0 - 30
2042275	Endrin	16.5	Spike	P	0 - 30
2042275	Endrin Aldehyde	5.37	Spike	P	0 - 30
2042275	Endrin Ketone	19.7	Spike	P	0 - 30
2042275	Gamma-BHC	8.77	Spike	P	0 - 30
2042275	Gamma-Chlordane	18.3	Spike	P	0 - 30
2042275	Heptachlor	6.76	Spike	P	0 - 30
2042275	Heptachlor Epoxide	17.0	Spike	P	0 - 30
2042275	Methoxychlor	4.49	Spike	P	0 - 30
2042275	Mirex	13.8	Spike	P	0 - 30
2042275	Permethrin	10.9	Spike	P	0 - 30
2042275	Trifluralin	10.9	Spike	P	0 - 30
LFB	Aldrin	0.0518	LCS	P	0 - 30
LFB	Alpha-BHC	3.25	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.19	LCS	P	0 - 30
LFB	Beta-BHC	1.54	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P355010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Carbophenothion	3.70	LCS	P	0 - 30
LFB	Chlorothalonil	0.633	LCS	P	0 - 30
LFB	Cypermethrin	2.99	LCS	P	0 - 30
LFB	DDD-p,p'	4.72	LCS	P	0 - 30
LFB	DDE-p,p'	0.625	LCS	P	0 - 30
LFB	DDT-p,p'	2.92	LCS	P	0 - 30
LFB	Delta-BHC	4.51	LCS	P	0 - 30
LFB	Dicofol	7.33	LCS	P	0 - 30
LFB	Dieldrin	0.133	LCS	P	0 - 30
LFB	Endosulfan I	0.116	LCS	P	0 - 30
LFB	Endosulfan II	11.0	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.26	LCS	P	0 - 30
LFB	Endrin	0.0651	LCS	P	0 - 30
LFB	Endrin Aldehyde	0.662	LCS	P	0 - 30
LFB	Endrin Ketone	0.475	LCS	P	0 - 30
LFB	Gamma-BHC	1.52	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.28	LCS	P	0 - 30
LFB	Heptachlor	3.84	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.949	LCS	P	0 - 30
LFB	Methoxychlor	2.83	LCS	P	0 - 30
LFB	Mirex	2.57	LCS	P	0 - 30
LFB	Permethrin	0.733	LCS	P	0 - 30
LFB	Trifluralin	2.58	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P355010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042862	Chlordane	1.01	Spike	P	0 - 30
2042862	Toxaphene	1.70	Spike	P	0 - 30
LFB	Chlordane	6.01	LCS	P	0 - 30
LFB	Toxaphene	2.20	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P354971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042005	Acesulfame K	4.13	Spike	P	0 - 30
2042005	AMPA	5.05	Spike	P	0 - 30
2042005	Endothall	10.8	Spike	P	0 - 30
2042005	Glufosinate	3.75	Spike	P	0 - 30
2042005	Glyphosate	0.793	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P355009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043261	3-Hydroxycarbofuran	1.33	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P355009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043261	Aldicarb	5.93	Spike	P	0 - 30
2043261	Aldicarb Sulfone	5.79	Spike	P	0 - 30
2043261	Aldicarb Sulfoxide	4.80	Spike	P	0 - 30
2043261	Carbaryl	8.04	Spike	P	0 - 30
2043261	Carbofuran	1.02	Spike	P	0 - 30
2043261	Methiocarb	7.73	Spike	P	0 - 30
2043261	Methomyl	11.4	Spike	P	0 - 30
2043261	Oxamyl	2.35	Spike	P	0 - 30
2043261	Propoxur	2.07	Spike	P	0 - 30
2043262	2,4-D	11.0	Spike	P	0 - 30
2043262	Acetaminophen	0.135	Spike	P	0 - 30
2043262	Bentazon	15.2	Spike	P	0 - 30
2043262	Carbamazepine	1.96	Spike	P	0 - 30
2043262	Diuron	5.07	Spike	P	0 - 30
2043262	Fenuron	3.92	Spike	P	0 - 30
2043262	Fluridone	2.98	Spike	P	0 - 30
2043262	Hydrocodone	1.37	Spike	P	0 - 30
2043262	Ibuprofen	7.79	Spike	P	0 - 30
2043262	Imazapyr	20.5	Spike	P	0 - 30
2043262	Imidacloprid	2.12	Spike	P	0 - 30
2043262	Linuron	1.51	Spike	P	0 - 30
2043262	MCPP	4.01	Spike	P	0 - 30
2043262	Naproxen	36.8	Spike	F	0 - 30
2043262	Primidone	48.9	Spike	F	0 - 30
2043262	Pyraclostrobin	2.97	Spike	P	0 - 30
2043262	Triclopyr	1.20	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P355085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2042005	Sucralose	16.6	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P355036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043270	Color (true)	1.49	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P355468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043270	Total Alkalinity	1.03	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P355460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043165	TDS	3.22	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P355473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043270	Fluoride	0.530	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P355325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043003	Organic Carbon	2.03	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: 2043261
Field Sample ID: G2TLHR0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	59.0	P	30 - 160

Lab Sample ID: 2043262
Field Sample ID: G2TLHR0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	86.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.0	P	30 - 160
EPA 8321B	Diuron-d6	94.4	P	30 - 160
EPA 8321B	Endothall-d6	97.7	P	40 - 160
EPA 8321B	Endothall-d6	97.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	77.2	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	77.2	P	40 - 160
EPA 8321B	Ibuprofen-d3	83.5	P	30 - 160
EPA 8321B	Primidone-d5	85.2	P	30 - 160
EPA 8321B	Sucralose-d6	97.5	P	40 - 160
EPA 8321B	Sucralose-d6	97.5	P	40 - 160

Lab Sample ID: 2043263
Field Sample ID: G2TLHR0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	73.1	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	67.0	P	34 - 101
EPA 8276	Decachlorobiphenyl	55.1	P	31 - 108
EPA 8276	PCNB	81.9	P	62 - 142

Lab Sample ID: 2043264
Field Sample ID: G2TLHR0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	82.5	P	71 - 126
EPA 8270D	Terbufos-d10	95.9	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A87927
Included Lab Sample IDs: 2043262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	86.9	84.1	P/P	60 - 160
Glufosinate	78.6	78.3	P/P	60 - 160
Glyphosate	63.0	65.3	P/P	60 - 160

Reference Method: SM 2120 B
Run ID: A87929
Included Lab Sample IDs: 2043255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.8	98.6	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A87930
Included Lab Sample IDs: 2043255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A87931
Included Lab Sample IDs: 2043257

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.9	99.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A87945
Included Lab Sample IDs: 2043262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	90.4	84.2	P/P	60 - 160
Endothall	81.9	84.1	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A87969
Included Lab Sample IDs: 2043256

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

Reference Method: EPA 8276
Run ID: A87992
Included Lab Sample IDs: 2043263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.8		P	80 - 120
Toxaphene	93.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87993

Included Lab Sample IDs: 2043255

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

Reference Method: EPA 8270D

Run ID: A88002

Included Lab Sample IDs: 2043263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	90.6		P	80 - 120
Alpha-BHC	88.6		P	80 - 120
Alpha-Chlordane	92.4		P	80 - 120
Beta-BHC	94.5		P	80 - 120
Carbophenothion	91.2		P	80 - 120
Chlorothalonil	104		P	80 - 120
Cypermethrin	85.7		P	80 - 120
DDD-p,p'	92.4		P	80 - 120
DDE-p,p'	93.5		P	80 - 120
DDT-p,p'	99.0		P	80 - 120
Delta-BHC	96.5		P	80 - 120
Dicofol	97.3		P	80 - 120
Dieldrin	88.1		P	80 - 120
Endosulfan I	89.8		P	80 - 120
Endosulfan II	85.8		P	80 - 120
Endosulfan Sulfate	93.3		P	80 - 120
Endrin	93.3		P	80 - 120
Endrin Aldehyde	85.6		P	80 - 120
Endrin Ketone	92.3		P	80 - 120
Gamma-BHC	84.8		P	80 - 120
Gamma-Chlordane	91.7		P	80 - 120
Heptachlor	90.2		P	80 - 120
Heptachlor Epoxide	91.7		P	80 - 120
Methoxychlor	98.8		P	80 - 120
Mirex	95.2		P	80 - 120
Permethrin	89.1		P	80 - 120
Trifluralin	98.1		P	80 - 120

Reference Method: EPA 8321B

Run ID: A88012

Included Lab Sample IDs: 2043262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	109	P/P	50 - 150
Acetaminophen	136	115	P/P	60 - 160
Bentazon	116	69.7	P/P	50 - 160
Carbamazepine	116	99.7	P/P	60 - 160
Diuron	93.2	83.9	P/P	60 - 150
Fenuron	119	107	P/P	60 - 150
Fluridone	119	128	P/P	60 - 160
Hydrocodone	103	107	P/P	60 - 150
Ibuprofen	94.5	85.0	P/P	50 - 160
Imazapyr	92.4	86.3	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A88012
Included Lab Sample IDs: 2043262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	121	94.8	P/P	60 - 160
Linuron	102	101	P/P	60 - 150
MCPP	95.9	95.0	P/P	50 - 150
Naproxen	76.0	84.4	P/P	50 - 160
Primidone	118	87.2	P/P	60 - 160
Pyraclostrobin	108	163*	P/F	60 - 150
Triclopyr	97.3	102	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A88023
Included Lab Sample IDs: 2043262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	80.1	92.6	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A88036
Included Lab Sample IDs: 2043256

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A88037
Included Lab Sample IDs: 2043256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	96.0	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A88042
Included Lab Sample IDs: 2043256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.1	95.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A88043
Included Lab Sample IDs: 2043256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	100	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A88044
Included Lab Sample IDs: 2043265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.0	97.9	P/P	90 - 110
Iron	97.0	97.0	P/P	90 - 110
Magnesium	97.5	97.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A88044

Included Lab Sample IDs: 2043265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	98.3	97.9	P/P	90 - 110
Sodium	97.2	95.9	P/P	90 - 110
Zinc	99.6	99.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A88046

Included Lab Sample IDs: 2043265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	100	P/P	90 - 110
Cadmium	100	99.9	P/P	90 - 110
Chromium	98.2	98.8	P/P	90 - 110
Copper	102	100	P/P	90 - 110
Lead	99.9	100	P/P	90 - 110
Nickel	99.6	99.0	P/P	90 - 110
Silver	100	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A88078

Included Lab Sample IDs: 2043261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	97.5	94.4	P/P	50 - 150
Aldicarb	101	96.3	P/P	60 - 150
Aldicarb Sulfone	93.9	99.4	P/P	50 - 150
Aldicarb Sulfoxide	108	115	P/P	50 - 150
Carbaryl	102	105	P/P	60 - 150
Carbofuran	104	105	P/P	50 - 150
Methiocarb	110	107	P/P	50 - 150
Methomyl	89.9	89.8	P/P	50 - 150
Oxamyl	101	94.9	P/P	50 - 150
Propoxur	102	105	P/P	50 - 150

Reference Method: SM 2320 B-97

Run ID: A88097

Included Lab Sample IDs: 2043255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A88097

Included Lab Sample IDs: 2043255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A88119
 Included Lab Sample IDs: 2043264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	111		P	80 - 120
Alachlor	115		P	80 - 120
Ametryn	105		P	80 - 120
Atrazine	91.5		P	80 - 120
Atrazine Desethyl	95.1		P	80 - 120
Azinphos Methyl	90.8		P	80 - 120
Bromacil	115		P	80 - 120
Butylate	96.5		P	80 - 120
Chlorpyrifos Ethyl	98.8		P	80 - 120
Chlorpyrifos Methyl	115		P	80 - 120
Cyanazine	94.8		P	80 - 120
Demeton	98.8		P	80 - 120
Diazinon	106		P	80 - 120
Dimethenamid	107		P	80 - 120
Disulfoton	112		P	80 - 120
Dithiopyr	112		P	80 - 120
EPTC	100		P	80 - 120
Ethion	98.7		P	80 - 120
Ethoprop	93.4		P	80 - 120
Fenamiphos	95.8		P	80 - 120
Fipronil	117		P	80 - 120
Fipronil Desulfinyl	107		P	80 - 120
Fipronil Sulfide	117		P	80 - 120
Fipronil Sulfone	128*		F	80 - 120
Fonofos	110		P	80 - 120
Hexazinone	96.5		P	80 - 120
Malathion	106		P	80 - 120
Metaxyl	118		P	80 - 120
Metolachlor	112		P	80 - 120
Metribuzin	97.9		P	80 - 120
Mevinphos	104		P	80 - 120
Molinate	96.8		P	80 - 120
Norflurazon	96.4		P	80 - 120
Oxadiazon	113		P	80 - 120
Parathion Ethyl	97.7		P	80 - 120
Parathion Methyl	110		P	80 - 120
Pendimethalin	109		P	80 - 120
Phorate	110		P	80 - 120
Prodiamine	114		P	80 - 120
Prometon	99.6		P	80 - 120
Prometryn	124*		F	80 - 120
Simazine	103		P	80 - 120
Tebuconazole	92.7		P	80 - 120
Terbufos	103		P	80 - 120
Terbutylazine	106		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							2.32	
EPA 200.7 Rev. 4.4	Calcium	100		97.0					0.0061
	Iron	104		97.4	98.1	100			0.634
	Magnesium	100		98.1					0.426
	Potassium	102		95.8					0.671
	Sodium	96.9		97.3					1.62
	Zinc	99.8		96.2	96.3	94.7			0.0857
EPA 200.8 Rev. 5.4	Arsenic	109		115	115	107			0.360
	Cadmium	105		103	102	108			1.66
	Chromium	104		84.4	82.9	102			1.84
	Copper	105		97.0	96.5	100			0.537
	Lead	104		107	105	102			1.71
	Nickel	105		92.4	91.8	99.4			0.611
	Silver	104		96.8	93.6	102			3.41
EPA 300.0 Rev. 2.1	Chloride	100		99.0	100			0.111	
	Sulfate	100		99.3	100			1.00	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0		93.1	101				4.95
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.5							0.989
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		99.2					0.564
EPA 365.1 Rev. 2.0	Total-P	103		100	100				0.0243
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6		97.6	99.3				1.09
EPA 8270D	Acetochlor	99.2	102	86.0	96.5		2.75		11.5
	Alachlor	94.1	91.8	86.6	75.9		2.48		13.2
	Aldrin	63.2	63.3	72.6	65.3		0.0518		10.7
	Alpha-BHC	102	98.4	106	99.4		3.25		6.25
	Alpha-Chlordane	89.8	90.9	95.5	81.1		1.19		16.3
	Ametryn	84.2	81.2	86.2	65.5		3.62		27.3
	Atrazine	94.0	89.2	92.4	86.5		5.29		6.61
	Atrazine Desethyl	73.6	65.8	57.2	49.8		11.2		13.9
	Azinphos Methyl	89.1	95.9	78.6	79.3		7.40		0.868
	Beta-BHC	118	120	128	97.2		1.54		27.3
	Bromacil	72.7	76.5	54.4	69.6		5.14		24.5
	Butylate	42.4	63.9	47.6	41.4		40.5		13.9
	Carbophenothion	68.2	70.8	105	143		3.70		31.3
	Chlorothalonil	115	114	135	236		0.633		54.4
	Chlorpyrifos Ethyl	90.7	95.0	92.4	105		4.57		12.4
	Chlorpyrifos Methyl	112	88.2	92.0	96.6		24.1		4.86
	Cyanazine	99.5	79.3	73.7	75.1		22.6		1.84
	Cypermethrin	69.2	71.3	79.6	93.1		2.99		15.6
	DDD-p,p'	97.9	103	88.5	103		4.72		14.9
	DDE-p,p'	87.5	88.0	92.0	78.9		0.625		15.3
	DDT-p,p'	93.1	95.9	94.3	86.3		2.92		8.86
	Delta-BHC	154	147	189	146		4.51		25.9
	Demeton	71.1	80.6	70.9	79.2		12.6		11.1
	Diazinon	110	95.5	92.2	90.8		14.2		1.53
	Dicofol	99.2	107	107	88.7		7.33		18.8
	Dieldrin	95.3	95.4	105	90.9		0.133		14.0
	Dimethenamid	98.9	100	85.0	94.8		1.24		10.9
	Disulfoton	110	84.1	94.9	95.7		27.0		0.812
	Dithiopyr	103	106	87.7	97.5		2.48		10.5
	Endosulfan I	95.4	95.3	101	90.9		0.116		10.1
	Endosulfan II	105	117	130	95.4		11.0		30.5
	Endosulfan Sulfate	91.7	94.7	97.3	79.6		3.26		20.0
	Endrin	98.3	98.2	104	88.3		0.0651		16.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270D	Endrin Aldehyde	105	105	85.8	81.3	0.662		5.37
	Endrin Ketone	91.1	90.7	112	91.6	0.475		19.7
	EPTC	45.2	66.3	39.1	48.5	37.8		21.6
	Ethion	94.9	92.7	98.6	83.4	2.38		16.7
	Ethoprop	81.8	93.4	80.5	86.1	13.2		6.70
	Fenamiphos	95.5	91.7	84.9	95.9	4.06		12.1
	Fipronil	69.5	92.8	75.4	77.1	28.7		2.23
	Fipronil Sulfide	69.3	76.8	73.0	73.6	10.3		0.861
	Fipronil Sulfone	69.0	79.5	57.7	62.7	14.2		8.31
	Fonofos	102	83.6	94.1	92.7	20.2		1.53
	Gamma-BHC	109	107	127	139	1.52		8.77
	Gamma-Chlordane	86.5	88.5	92.1	76.6	2.28		18.3
	Heptachlor	74.5	71.7	73.5	68.7	3.84		6.76
	Heptachlor Epoxide	92.6	93.5	98.1	82.7	0.949		17.0
	Hexazinone	106	120	91.1	106	12.6		14.9
	Malathion	94.0	93.4	95.7	79.5	0.674		18.5
	Metalaxyl	88.2	87.2	74.1	88.2	1.09		17.5
	Methoxychlor	109	113	107	103	2.83		4.49
	Metolachlor	77.4	89.5	74.5	90.6	14.5		19.5
	Metribuzin	107	75.8	89.4	87.3	34.5		2.32
	Mevinphos	77.9	85.7	70.6	83.3	9.61		16.5
	Mirex	61.1	62.7	74.0	64.5	2.57		13.8
	Molinate	57.8	75.4	52.4	63.0	26.3		18.4
	Norflurazon	70.3	69.2	61.4	52.9	1.66		14.9
	Oxadiazon	91.2	114	98.1	97.3	21.8		0.749
	Parathion Ethyl	91.6	91.3	86.7	88.6	0.303		2.17
	Parathion Methyl	117	108	103	96.8	7.69		6.51
	Pendimethalin	107	109	130	104	2.18		21.9
	Permethrin	74.7	74.2	81.2	72.8	0.733		10.9
	Phorate	77.0	77.7	86.6	98.3	0.959		12.8
	Prodiamine	74.4	88.2	79.5	91.0	16.9		13.5
	Prometon	75.6	87.7	80.1	81.3	14.8		1.44
	Prometryn	81.2	91.7	82.2	72.6	12.1		12.4
	Simazine	98.9	95.5	100	93.4	3.51		6.86
	Tebuconazole	53.2	83.6	60.3	49.1	44.4		20.6
	Terbufos	102	83.9	99.3	88.3	19.7		11.7
	Terbutylazine	98.5	106	103	96.8	7.04		6.64
	Trifluralin	86.7	88.9	93.0	83.5	2.58		10.9
EPA 8276	Chlordane	69.5	73.8	81.3	80.5	6.01		1.01
	Toxaphene	71.8	70.2	80.6	79.2	2.20		1.70
EPA 8321B	2,4-D	85.1		107	120			11.0
	3-Hydroxycarbofuran	88.2		85.9	87.1			1.33
	Acesulfame K	94.5		137	131			4.13
	Acetaminophen	114		130	130			0.135
	Aldicarb	89.9		71.8	67.7			5.93
	Aldicarb Sulfone	95.2		77.5	82.1			5.79
	Aldicarb Sulfoxide	120		62.3	59.4			4.80
	AMPA	84.4		94.9	90.2			5.05
	Bentazon	72.6		53.3	62.0			15.2
	Carbamazepine	80.4		79.7	81.3			1.96
	Carbaryl	76.9		59.7	64.7			8.04
	Carbofuran	78.9		66.1	65.4			1.02
	Diuron	69.6		61.7	64.9			5.07
	Endothall	79.2		84.1	75.5			10.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Fenuron	101	81.5	84.7			3.92
	Fluridone	107	105	102			2.98
	Glufosinate	75.2	69.3	71.9			3.75
	Glyphosate	62.4	68.1	67.5			0.793
	Hydrocodone	98.6	84.1	85.3			1.37
	Ibuprofen	78.4	72.3	66.9			7.79
	Imazapyr	77.8					20.5
	Imidacloprid	108	125	128			2.12
	Linuron	76.9	67.2	68.2			1.51
	MCPP	113	134	129			4.01
	Methiocarb	63.9	56.0	60.5			7.73
	Methomyl	101	83.5	93.5			11.4
	Naproxen	91.5	86.6	59.7			36.8
	Oxamyl	91.9	78.7	76.9			2.35
	Primidone	80.0	79.8	131			48.9
	Propoxur	81.1	65.0	66.4			2.07
	Pyraclostrobin	71.7	54.7	53.1			2.97
	Sucralose	97.8	85.2	101			16.6
	Triclopyr	72.1	79.2	78.2			1.20
SM 2120 B	Color (true)	98.1				1.49	
SM 2320 B-97	Total Alkalinity	99.9				1.03	
SM 2540 C-97	TDS					3.22	
SM 4500 F-C-97	Fluoride	97.9	98.6	98.0			0.530
SM 5310 B-00	Organic Carbon	94.8	98.6	95.6			2.03

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2043255
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2043265
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2043265
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2043255
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2043255
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2043256
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2043256
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2043256
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2043256
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2043257
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2043263
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2043264
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2043263
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2043261
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2043262
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2043262

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2120 B / E31780	True Color measured at 450 nm	2043255
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2043255
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2043255
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2043255
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2043255
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2043256

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	11/20/2018			11/21/2018 15:37	Megan Treadwell	2043255
EPA 200.7 Rev. 4.4	11/20/2018	11/26/2018 17:30	Elliott D. Healy	11/28/2018 15:06	Betina Topolski	2043265
EPA 200.8 Rev. 5.4	11/20/2018	11/26/2018 17:30	Elliott D. Healy	11/29/2018 16:52	Robert K Palmer	2043265
EPA 300.0 Rev. 2.1	11/20/2018			11/30/2018 06:59	Lipi Saha	2043255
EPA 350.1 Rev. 2.0	11/20/2018			11/29/2018 10:24	Ping Hua	2043256
EPA 351.2 Rev. 2.0	11/20/2018	11/28/2018 11:50	Adrian Shelby	11/29/2018 09:22	Joseph Suarez	2043256
EPA 353.2 Rev. 2.0	11/20/2018			11/29/2018 11:45	Lauren Bottorf	2043256
EPA 365.1 Rev. 2.0	11/20/2018	11/26/2018 12:15	Sima Feizi	11/27/2018 11:17	Beverly Y. Sanders	2043256
EPA 365.1 Rev. 2.0 dissolved	11/20/2018			11/21/2018 15:54	Jhamieka S. Greenwood	2043257
EPA 8270D	11/20/2018	11/21/2018 08:00	Fe-Val Siddell	11/27/2018 19:57	Vandana T. Nagar	2043264
	11/20/2018	11/21/2018 08:30	Rasheda Ghaffari	11/28/2018 02:31	Arthur Maknenko	2043263
EPA 8276	11/20/2018	11/21/2018 08:30	Rasheda Ghaffari	11/28/2018 07:26	Dinesh Mishra	2043263
EPA 8321B	11/20/2018	11/21/2018 08:15	Rebecca Ware	11/21/2018 09:48	Rebecca Ware	2043262
	11/20/2018	11/21/2018 08:15	Rebecca Ware	11/21/2018 15:48	Rebecca Ware	2043262
	11/20/2018	11/21/2018 08:15	Rebecca Ware	11/28/2018 13:22	Rebecca Ware	2043262
	11/20/2018	11/27/2018 08:50	Hoor Shaik	11/29/2018 05:57	Juyoung Kim	2043262
	11/20/2018	11/27/2018 08:50	Hoor Shaik	12/01/2018 04:33	Juyoung Kim	2043261
SM 2120 B	11/20/2018			11/21/2018 16:00	Chelsea Hernandez	2043255
SM 2320 B-97	11/20/2018			11/30/2018 06:10	Dale L. Simmons	2043255
SM 2540 C-97	11/20/2018			11/26/2018 16:02	Yijie Li	2043255
SM 2540 D-97	11/20/2018			11/26/2018 16:02	Yijie Li	2043255
SM 4500 F-C-97	11/20/2018			11/30/2018 06:10	Dale L. Simmons	2043255
SM 5310 B-00	11/20/2018			11/28/2018 20:17	Megan Treadwell	2043256