

Chemical Analysis Report

CEN-DIST-2018-08-02-02

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

Event Description: **Barber X2 / Bass**
Request ID: **RQ-2018-07-23-36**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 27-AUG-2018 15:43

A handwritten signature in black ink, appearing to read "Liang Lin", 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: LAKE BUCHANAN @ CENTER

Collection Date/Time: 08/01/2018 13:25

Field ID: G4CE0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012660	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P349587	
	EPA 300.0 Rev. 2.1	Chloride	9.1		mg Cl/L	P349707	
		Sulfate	3.8		mg SO4/L	P349708	
	SM 2120 B	Color (true)	49	A	PCU	P349583	
	SM 2320 B-97	Total Alkalinity	29		mg CaCO3/L	P350017	
	SM 2540 C-97	TDS	63		mg/L	P349823	
	SM 2540 D-97	TSS	2	U	mg/L	P349820	
	SM 4500 F-C-97	Fluoride	0.063	I	mg F/L	P350020	
2012661	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P349810	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P349666	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P349614	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P349877	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P349849	
2012662	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P349578	

Ref. Method and Comment:

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

Sample Location: LAKE BARBER WEST OF CENTER

Collection Date/Time: 08/01/2018 11:08

Field ID: G2CE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012654	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P349587	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P349707	
		Sulfate	16		mg SO4/L	P349708	
	SM 2120 B	Color (true)	13		PCU	P349582	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P350017	
	SM 2540 C-97	TDS	78		mg/L	P349823	
	SM 2540 D-97	TSS	2	U	mg/L	P349820	
	SM 4500 F-C-97	Fluoride	0.040	I	mg F/L	P350020	
2012656	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P349810	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P349666	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P349614	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P349671	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P349849	
2012658	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P349578	
2012690	EPA 200.7 Rev. 4.4	Calcium	12.1		mg/L	P349576	
		Iron	30	U	ug/L	P349576	
		Magnesium	2.51		mg/L	P349576	
		Potassium	3.0		mg/L	P349576	
		Sodium	9.3		mg/L	P349576	
		Zinc	5.0	U	ug/L	P349576	
	EPA 200.8 Rev. 5.4	Arsenic	2.58		ug/L	P349576	
		Cadmium	0.020	U	ug/L	P349576	
		Chromium	0.40	U	ug/L	P349576	
		Copper	0.63	I	ug/L	P349576	
		Lead	0.050	U	ug/L	P349576	
		Nickel	0.20	U	ug/L	P349576	
		Silver	0.010	U	ug/L	P349576	

Ref. Method and Comment:

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

Sample Location: LAKE BARBER WEST OF CENTER

Collection Date/Time: 08/01/2018 11:08

Field ID: G2CE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012675	EPA 8321B	Aldicarb	0.020	U	ug/L	P349520	
		Aldicarb Sulfone	0.0020	U	ug/L	P349520	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P349520	
		Carbaryl	0.0020	U	ug/L	P349520	
		Carbofuran	0.0020	U	ug/L	P349520	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P349520	
		Methiocarb	0.0020	U	ug/L	P349520	
		Methomyl	0.0020	U	ug/L	P349520	
		Oxamyl	0.0020	U	ug/L	P349520	
		Propoxur	0.0020	U	ug/L	P349520	
2012676		2,4-D	0.0050	I	ug/L	P349520	
		Sucralose**	0.22		ug/L	P349535	
		Bentazon	0.0055		ug/L	P349520	
		MCP	0.0020	U	ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.0024	I	ug/L	P349520	
		Diuron	0.0020	U	ug/L	P349520	
		Pyraclostrobin**	0.0020	U	ug/L	P349520	
		Primidone**	0.0040	U	ug/L	P349520	
		Linuron	0.0040	U	ug/L	P349520	
		Acetaminophen**	0.0080	U	ug/L	P349520	
		Fenuron	0.016	U	ug/L	P349520	
		Imazapyr**	0.047		ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	0.031		ug/L	P349520	
		Hydrocodone**	8.0E-04	U	ug/L	P349520	
		Naproxen**	0.0080	U	ug/L	P349520	
		Ibuprofen**	0.020	U	ug/L	P349520	
		Glyphosate**	0.10	U	ug/L	P349535	
		AMPA**	0.10	U	ug/L	P349535	
2012683	EPA 8270D	Endothall**	0.10	U	ug/L	P349535	
		Glufosinate**	0.10	U	ug/L	P349535	
		Acesulfame K**	0.10	U	ug/L	P349535	RPD
		Aldrin	4.2	U	ng/L	P349755	
		Alpha-BHC	2.1	U	ng/L	P349755	
		Beta-BHC	4.2	U	ng/L	P349755	
		Delta-BHC	4.2	U	ng/L	P349755	
		Gamma-BHC	4.2	U	ng/L	P349755	
		Carbophenothion	4.2	U	ng/L	P349755	
		Chlorothalonil	2.1	U	ng/L	P349755	
		Cypermethrin	21	UJ	ng/L	P349755	RPD
		DDD-p,p'	3.2	U	ng/L	P349755	
		DDE-p,p'	3.2	U	ng/L	P349755	
		DDT-p,p'	3.2	U	ng/L	P349755	

Field ID: G2CE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012683	EPA 8270D	Dieldrin	4.2	U	ng/L	P349755	
		Endosulfan I	4.2	U	ng/L	P349755	
		Endosulfan II	4.2	U	ng/L	P349755	
		Endosulfan Sulfate	2.1	U	ng/L	P349755	
		Endrin	2.1	U	ng/L	P349755	
		Endrin Aldehyde	2.1	U	ng/L	P349755	
		Heptachlor	1.6	U	ng/L	P349755	
		Heptachlor Epoxide	2.1	U	ng/L	P349755	
		Methoxychlor	4.2	U	ng/L	P349755	
		Mirex	2.1	UJ	ng/L	P349755	RPD
		Permethrin	11	UJ	ng/L	P349755	RPD
		Trifluralin	1.1	U	ng/L	P349755	
		Alpha-Chlordane	1.1	U	ng/L	P349755	
		Gamma-Chlordane	1.1	U	ng/L	P349755	
		Endrin Ketone	2.1	U	ng/L	P349755	
		Dicofol	32	U	ng/L	P349755	
		Chlordane	2.6	U	ng/L	P349755	
		Toxaphene	32	U	ng/L	P349755	
		Alachlor	0.25	U	ng/L	P349696	
		Ametryn	2.3		ng/L	P349696	
2012684	EPA 8270D	Atrazine	20		ng/L	P349696	
		Atrazine Desethyl	3.9	I	ng/L	P349696	
		Azinphos Methyl	2.2	U	ng/L	P349696	
		Bromacil	0.50	U	ng/L	P349696	
		Butylate	0.40	U	ng/L	P349696	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P349696	
		Chlorpyrifos Methyl	0.10	U	ng/L	P349696	
		Demeton	2.0	U	ng/L	P349696	
		Diazinon	0.12	UJ	ng/L	P349696	LCS
		Disulfoton	0.50	U	ng/L	P349696	
		EPTC	1.2	U	ng/L	P349696	
		Ethion	0.15	U	ng/L	P349696	
		Ethoprop	0.10	U	ng/L	P349696	
		Fenamiphos	0.25	U	ng/L	P349696	
		Fipronil	0.25	U	ng/L	P349696	
		Fipronil Sulfide	0.17	I	ng/L	P349696	
		Fipronil Sulfone	1.1		ng/L	P349696	
		Hexazinone	0.63	I	ng/L	P349696	
		Malathion	0.35	U	ng/L	P349696	
		Metribuzin	0.20	U	ng/L	P349696	
		Mevinphos	0.50	U	ng/L	P349696	
		Molinate	0.30	U	ng/L	P349696	
		Norflurazon	0.50	U	ng/L	P349696	
		Pendimethalin	1.0	U	ng/L	P349696	
		Phorate	0.25	U	ng/L	P349696	

Field ID: G2CE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012684	EPA 8270D	Prometon	0.90	U	ng/L	P349696	
		Prometryn	0.20	U	ng/L	P349696	
		Simazine	0.50	U	ng/L	P349696	
		Terbufos	0.10	U	ng/L	P349696	
		Terbutylazine	0.42	U	ng/L	P349696	
		Fonofos	0.20	U	ng/L	P349696	
		Metalaxyl	0.25	U	ng/L	P349696	
		Metolachlor	0.32	I	ng/L	P349696	
		Acetochlor	0.25	U	ng/L	P349696	
		Cyanazine	0.50	U	ng/L	P349696	
		Parathion Ethyl	0.25	U	ng/L	P349696	
		Parathion Methyl	0.25	U	ng/L	P349696	

Ref. Method and Comment:

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

EPA 8270D: MS accuracy for Atrazine, Fipronil, Fipronil Sulfide and Fipronil Sulfone not assessed due to high content of this parameter in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Sample Location: LAKE BARBER EAST OF CENTER

Collection Date/Time: 08/01/2018 12:11

Field ID: G2CE0153

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012655	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P349587	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P349707	
		Sulfate	16		mg SO4/L	P349708	
	SM 2120 B	Color (true)	13		PCU	P349583	
	SM 2320 B-97	Total Alkalinity	21		mg CaCO3/L	P350017	
	SM 2540 C-97	TDS	79		mg/L	P349823	
	SM 2540 D-97	TSS	2	U	mg/L	P349820	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P350020	
2012657	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P349810	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P349666	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P349614	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P349877	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P349849	
2012659	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P349578	
2012691	EPA 200.7 Rev. 4.4	Calcium	12.0		mg/L	P349576	
		Iron	30	U	ug/L	P349576	
		Magnesium	2.50		mg/L	P349576	
		Potassium	3.0		mg/L	P349576	
		Sodium	9.2		mg/L	P349576	
		Zinc	5.0	U	ug/L	P349576	
	EPA 200.8 Rev. 5.4	Arsenic	2.59		ug/L	P349576	
		Cadmium	0.020	U	ug/L	P349576	
		Chromium	0.40	U	ug/L	P349576	
		Copper	0.59	I	ug/L	P349576	
		Lead	0.050	U	ug/L	P349576	
		Nickel	0.28	I	ug/L	P349576	
		Silver	0.010	U	ug/L	P349576	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349587

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349576

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: P349576

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: P349707

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349708

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349810

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349666

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: P349614

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349877

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349578

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

Reference Method: EPA 8270D
Batch ID: P349696

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
Metaxyl	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P349696

Component	Result	Code	Units
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P349755

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: P349755

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: P349520

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: P349535

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P349582

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P349583

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P350017

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

Reference Method: SM 2540 C-97
Batch ID: P349823

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P349820

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P350020

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349849

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: P349576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	105		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	103		P	85 - 115
Sodium	97.6		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.3		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	93.5		P	85 - 115
Copper	96.3		P	85 - 115
Lead	95.3		P	85 - 115
Nickel	98.2		P	85 - 115
Silver	97.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349707

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349708

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349810

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349666

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349614

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349877

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349578

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

Reference Method: EPA 8270D
Batch ID: P349696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	110	114	P/P	74 - 119
Alachlor	110	114	P/P	75 - 118
Ametryn	104	108	P/P	59 - 137
Atrazine	106	110	P/P	73 - 120
Atrazine Desethyl	98.1	95.8	P/P	19 - 129
Azinphos Methyl	125	129	P/P	65 - 181
Bromacil	102	107	P/P	43 - 123
Butylate	79.3	66.6	P/P	28 - 85.0
Chlorpyrifos Ethyl	101	104	P/P	55 - 112
Chlorpyrifos Methyl	106	108	P/P	35 - 124
Cyanazine	130	128	P/P	26 - 262
Demeton	93.2	87.2	P/P	43 - 122
Diazinon	115	120	P/F	72 - 120
Disulfoton	99.3	110	P/P	45 - 137
EPTC	77.9	62.6	P/P	28 - 95.0
Ethion	101	100	P/P	63 - 127
Ethoprop	96.7	99.8	P/P	63 - 109
Fenamiphos	105	111	P/P	66 - 136
Fipronil	103	108	P/P	63 - 126
Fipronil Sulfide	91.9	95.6	P/P	59 - 123
Fipronil Sulfone	86.5	88.6	P/P	56 - 122
Fonofos	103	109	P/P	64 - 114
Hexazinone	104	111	P/P	49 - 144
Malathion	103	107	P/P	68 - 131
Metaxyl	107	110	P/P	57 - 126
Metolachlor	107	108	P/P	75 - 118
Metribuzin	130	128	P/P	46 - 169
Mevinphos	92.1	98.7	P/P	34 - 126
Molinate	89.5	80.5	P/P	37 - 101
Norflurazon	99.0	106	P/P	63 - 127
Parathion Ethyl	105	105	P/P	78 - 109
Parathion Methyl	109	112	P/P	74 - 123
Pendimethalin	124	128	P/P	51 - 130
Phorate	91.8	93.3	P/P	53 - 116

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P349696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	100	104	P/P	66 - 124
Prometryn	104	106	P/P	66 - 124
Simazine	111	113	P/P	62 - 134
Terbufos	97.4	101	P/P	59 - 115
Terbutylazine	106	106	P/P	76 - 113

Reference Method: EPA 8270D

Batch ID: P349755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	58.7	47.0	P/P	24 - 89.0
Alpha-BHC	92.2	87.6	P/P	58 - 117
Alpha-Chlordane	88.1	73.7	P/P	56 - 115
Beta-BHC	105	100	P/P	55 - 137
Carbophenothion	66.5	61.3	P/P	37 - 145
Chlorothalonil	78.4	77.0	P/P	26 - 163
Cypermethrin	70.0	47.6	P/P	42 - 156
DDD-p,p'	102	86.7	P/P	59 - 129
DDE-p,p'	90.8	72.6	P/P	52 - 117
DDT-p,p'	93.3	76.9	P/P	48 - 128
Delta-BHC	111	110	P/P	59 - 158
Dicofol	92.3	90.9	P/P	19 - 124
Dieldrin	97.6	85.5	P/P	57 - 126
Endosulfan I	100	91.9	P/P	59 - 133
Endosulfan II	100	95.9	P/P	58 - 148
Endosulfan Sulfate	102	102	P/P	56 - 135
Endrin	99.1	92.2	P/P	50 - 140
Endrin Aldehyde	108	105	P/P	47 - 141
Endrin Ketone	101	108	P/P	63 - 123
Gamma-BHC	85.4	99.8	P/P	59 - 132
Gamma-Chlordane	82.9	67.6	P/P	55 - 112
Heptachlor	75.2	58.3	P/P	45 - 102
Heptachlor Epoxide	91.6	84.7	P/P	61 - 116
Methoxychlor	102	97.1	P/P	60 - 133
Mirex	75.5	43.7	P/P	40 - 98.0
Permethrin	75.1	47.9	P/P	45 - 131
Trifluralin	80.8	66.2	P/P	38 - 179

Reference Method: EPA 8276

Batch ID: P349755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.0	71.3	P/P	47 - 125
Toxaphene	77.4	84.1	P/P	46 - 147

Reference Method: EPA 8321B

Batch ID: P349520

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.0		P	40 - 150
3-Hydroxycarbofuran	90.1		P	40 - 150
Acetaminophen	99.0		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P349520

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldicarb	50.3		P	30 - 150
Aldicarb Sulfone	77.8		P	40 - 150
Aldicarb Sulfoxide	72.4		P	40 - 150
Bentazon	54.5		P	30 - 150
Carbamazepine	102		P	40 - 150
Carbaryl	73.3		P	40 - 150
Carbofuran	90.1		P	40 - 150
Diuron	85.9		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	107		P	40 - 150
Hydrocodone	95.9		P	40 - 150
Ibuprofen	98.3		P	40 - 150
Imazapyr	91.0		P	40 - 150
Imidacloprid	108		P	40 - 160
Linuron	83.6		P	40 - 150
MCPP	97.7		P	40 - 150
Methiocarb	65.3		P	40 - 150
Methomyl	87.1		P	40 - 150
Naproxen	94.4		P	40 - 150
Oxamyl	69.3		P	40 - 150
Primidone	117		P	40 - 150
Propoxur	77.9		P	40 - 150
Pyraclostrobin	77.9		P	40 - 150
Triclopyr	104		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P349535

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 140
AMPA	80.1		P	40 - 140
Endothall	102		P	40 - 140
Glufosinate	99.0		P	40 - 140
Glyphosate	79.7		P	40 - 140
Sucralose	114		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P349582

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	85 - 115

Reference Method: SM 2120 B

Batch ID: P349583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	85 - 115

Reference Method: SM 2320 B-97

Batch ID: P350017

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

Reference Method: SM 2320 B-97
Batch ID: P350017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P350020

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012229	Calcium	106		P	80 - 120
2012229	Iron	107		P	80 - 120
2012229	Magnesium	111		P	80 - 120
2012229	Potassium	105		P	80 - 120
2012229	Sodium	101		P	80 - 120
2012229	Zinc	105		P	80 - 120
2012690	Calcium	105		P	80 - 120
2012690	Iron	110	109	P/P	80 - 120
2012690	Magnesium	114	114	P/P	80 - 120
2012690	Potassium	106	106	P/P	80 - 120
2012690	Sodium	101		P	80 - 120
2012690	Zinc	107	108	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012229	Arsenic	102		P	80 - 120
2012229	Cadmium	103		P	80 - 120
2012229	Chromium	95.7		P	80 - 120
2012229	Copper	98.8		P	80 - 120
2012229	Lead	98.2		P	80 - 120
2012229	Nickel	101		P	80 - 120
2012229	Silver	99.0		P	80 - 120
2012690	Arsenic	99.4	104	P/P	80 - 120
2012690	Cadmium	98.8	102	P/P	80 - 120
2012690	Chromium	94.1	97.1	P/P	80 - 120
2012690	Copper	93.8	98.4	P/P	80 - 120
2012690	Lead	94.3	97.8	P/P	80 - 120
2012690	Nickel	96.1	100	P/P	80 - 120
2012690	Silver	96.2	98.8	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012625	Chloride	100		P	90 - 110
2012655	Chloride	97.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012625	Sulfate	100		P	90 - 110
2012655	Sulfate	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012657	Ammonia-N	100	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012642	Kjeldahl Nitrogen	103	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012641	NO2NO3-N	99.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012641	Total-P	96.2	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012657	Total-P	90.2	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012658	O-Phosphate-P	95.8	94.1	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P349696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012191	Acetochlor	102	109	P/P	67 - 125
2012191	Alachlor	101	114	P/P	69 - 123
2012191	Ametryn	117	128	P/P	52 - 151
2012191	Atrazine Desethyl	61.0	56.9	P/P	10 - 129
2012191	Azinphos Methyl	97.9	102	P/P	48 - 200
2012191	Bromacil	83.9	85.0	P/P	46 - 130
2012191	Butylate	60.6	70.4	P/P	10 - 85.0
2012191	Chlorpyrifos Ethyl	93.7	102	P/P	54 - 115
2012191	Chlorpyrifos Methyl	90.8	103	P/P	44 - 117
2012191	Cyanazine	90.9	85.2	P/P	10 - 262
2012191	Demeton	83.6	94.2	P/P	24 - 145
2012191	Diazinon	107	119	P/P	66 - 129
2012191	Disulfoton	89.2	97.9	P/P	45 - 139
2012191	EPTC	62.9	73.3	P/P	10 - 86.0
2012191	Ethion	92.5	104	P/P	59 - 133
2012191	Ethoprop	84.5	91.5	P/P	54 - 116
2012191	Fenamiphos	85.0	100	P/P	55 - 140
2012191	Fonofos	89.2	105	P/P	55 - 118
2012191	Hexazinone	102	108	P/P	62 - 140
2012191	Malathion	94.2	104	P/P	64 - 132
2012191	Metalaxyl	94.7	99.9	P/P	55 - 129
2012191	Metolachlor	98.7	107	P/P	56 - 137

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P349696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012191	Metribuzin	113	118	P/P	16 - 218
2012191	Mevinphos	85.3	93.1	P/P	34 - 129
2012191	Molinate	78.6	91.8	P/P	16 - 99.0
2012191	Norflurazon	81.9	82.6	P/P	43 - 135
2012191	Parathion Ethyl	92.3	104	P/P	71 - 112
2012191	Parathion Methyl	97.8	105	P/P	65 - 127
2012191	Pendimethalin	125	140	P/P	35 - 159
2012191	Phorate	78.5	90.3	P/P	41 - 129
2012191	Prometon	93.5	100	P/P	56 - 140
2012191	Prometryn	93.5	101	P/P	65 - 130
2012191	Simazine	99.1	104	P/P	54 - 148
2012191	Terbufos	90.4	104	P/P	53 - 126
2012191	Terbutylazine	93.1	102	P/P	73 - 114

Reference Method: EPA 8270D

Batch ID: P349755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012798	Aldrin	75.6	61.5	P/P	26 - 96.0
2012798	Alpha-BHC	90.8	90.6	P/P	51 - 123
2012798	Alpha-Chlordane	87.1	78.4	P/P	45 - 120
2012798	Beta-BHC	99.1	113	P/P	43 - 146
2012798	Carbophenothion	105	90.6	P/P	26 - 179
2012798	Chlorothalonil	74.9	85.6	P/P	10 - 215
2012798	Cypermethrin	85.6	78.3	P/P	35 - 169
2012798	DDD-p,p'	96.0	92.5	P/P	49 - 131
2012798	DDE-p,p'	85.1	77.4	P/P	39 - 127
2012798	DDT-p,p'	94.0	84.0	P/P	49 - 120
2012798	Delta-BHC	133	129	P/P	49 - 187
2012798	Dicofol	95.4	83.7	P/P	10 - 129
2012798	Dieldrin	95.1	85.2	P/P	46 - 132
2012798	Endosulfan I	106	95.2	P/P	57 - 130
2012798	Endosulfan II	99.8	96.9	P/P	52 - 148
2012798	Endosulfan Sulfate	93.3	110	P/P	55 - 129
2012798	Endrin	93.5	90.4	P/P	45 - 133
2012798	Endrin Aldehyde	59.5	78.6	P/P	26 - 140
2012798	Endrin Ketone	109	103	P/P	60 - 125
2012798	Gamma-BHC	118	89.1	P/P	50 - 145
2012798	Gamma-Chlordane	83.5	74.1	P/P	44 - 118
2012798	Heptachlor	76.0	64.8	P/P	35 - 106
2012798	Heptachlor Epoxide	95.2	88.4	P/P	52 - 123
2012798	Methoxychlor	109	98.9	P/P	54 - 132
2012798	Mirex	83.5	66.9	P/P	36 - 107
2012798	Permethrin	89.1	72.5	P/P	47 - 135
2012798	Trifluralin	80.4	74.2	P/P	32 - 228

Reference Method: EPA 8276

Batch ID: P349755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011923	Chlordane	65.6	66.4	P/P	41 - 134
2011923	Toxaphene	55.7	57.8	P/P	39 - 158

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P349520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012675	3-Hydroxycarbofuran	74.8	77.9	P/P	40 - 150
2012675	Aldicarb	44.7	49.7	P/P	30 - 150
2012675	Aldicarb Sulfone	84.5	77.0	P/P	40 - 150
2012675	Aldicarb Sulfoxide	43.4	40.1	P/P	40 - 150
2012675	Carbaryl	59.3	56.3	P/P	40 - 150
2012675	Carbofuran	79.0	76.2	P/P	40 - 150
2012675	Methiocarb	64.0	71.2	P/P	40 - 150
2012675	Methomyl	76.6	67.6	P/P	40 - 150
2012675	Oxamyl	75.1	56.7	P/P	40 - 150
2012675	Propoxur	66.0	62.5	P/P	40 - 150
2012676	2,4-D	132	105	P/P	40 - 150
2012676	Acetaminophen	85.3	91.7	P/P	30 - 150
2012676	Bentazon	70.1	63.0	P/P	30 - 150
2012676	Carbamazepine	85.0	87.7	P/P	40 - 150
2012676	Diuron	66.4	68.3	P/P	40 - 150
2012676	Fenuron	95.4	101	P/P	40 - 150
2012676	Fluridone	81.7	106	P/P	40 - 150
2012676	Hydrocodone	83.1	98.0	P/P	40 - 150
2012676	Ibuprofen	65.7	72.5	P/P	40 - 150
2012676	Imazapyr	98.6	97.8	P/P	40 - 150
2012676	Imidacloprid	135	134	P/P	40 - 160
2012676	Linuron	62.7	70.7	P/P	40 - 150
2012676	MCPP	136	131	P/P	40 - 150
2012676	Naproxen	66.6	55.4	P/P	40 - 150
2012676	Primidone	126	111	P/P	40 - 150
2012676	Pyraclostrobin	75.6	79.2	P/P	40 - 150
2012676	Triclopyr	138	140	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P349535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2011995	Acesulfame K	137	96.5	P/P	40 - 140
2011995	Endothall	86.8	80.1	P/P	40 - 140
2011995	Sucralose	111	109	P/P	40 - 150
2012183	AMPA	65.9	64.4	P/P	40 - 140
2012183	Glufosinate	82.1	74.4	P/P	40 - 140
2012183	Glyphosate	78.8	76.1	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P350020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012921	Fluoride	97.8	97.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349849

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012656	Organic Carbon	96.0	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012710	Turbidity	6.28	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012690	Calcium	0.100	Spike	P	0 - 20
2012690	Iron	0.552	Spike	P	0 - 20
2012690	Magnesium	0.277	Spike	P	0 - 20
2012690	Potassium	0.331	Spike	P	0 - 20
2012690	Sodium	0.689	Spike	P	0 - 20
2012690	Zinc	0.608	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012690	Arsenic	4.00	Spike	P	0 - 20
2012690	Cadmium	3.50	Spike	P	0 - 20
2012690	Chromium	3.10	Spike	P	0 - 20
2012690	Copper	4.68	Spike	P	0 - 20
2012690	Lead	3.61	Spike	P	0 - 20
2012690	Nickel	3.90	Spike	P	0 - 20
2012690	Silver	2.68	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012625	Chloride	4.74	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012625	Sulfate	5.10	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012657	Ammonia-N	3.42	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012642	Kjeldahl Nitrogen	2.89	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012641	NO2NO3-N	1.81	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012641	Total-P	0.344	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012657	Total-P	5.29	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012658	O-Phosphate-P	1.79	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P349696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012191	Acetochlor	6.97	Spike	P	0 - 30
2012191	Alachlor	11.8	Spike	P	0 - 30
2012191	Ametryn	8.79	Spike	P	0 - 30
2012191	Atrazine	7.93	Spike	P	0 - 30
2012191	Atrazine Desethyl	5.11	Spike	P	0 - 30
2012191	Azinphos Methyl	4.44	Spike	P	0 - 30
2012191	Bromacil	0.949	Spike	P	0 - 30
2012191	Butylate	15.0	Spike	P	0 - 30
2012191	Chlorpyrifos Ethyl	8.87	Spike	P	0 - 30
2012191	Chlorpyrifos Methyl	12.5	Spike	P	0 - 30
2012191	Cyanazine	6.51	Spike	P	0 - 30
2012191	Demeton	11.9	Spike	P	0 - 30
2012191	Diazinon	10.1	Spike	P	0 - 30
2012191	Disulfoton	9.34	Spike	P	0 - 30
2012191	EPTC	15.2	Spike	P	0 - 30
2012191	Ethion	11.4	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P349696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012191	Ethoprop	7.94	Spike	P	0 - 30
2012191	Fenamiphos	16.5	Spike	P	0 - 30
2012191	Fipronil	2.97	Spike	P	0 - 30
2012191	Fipronil Sulfide	0.765	Spike	P	0 - 30
2012191	Fipronil Sulfone	3.17	Spike	P	0 - 30
2012191	Fonofos	16.3	Spike	P	0 - 30
2012191	Hexazinone	5.15	Spike	P	0 - 30
2012191	Malathion	9.83	Spike	P	0 - 30
2012191	Metalaxyl	5.27	Spike	P	0 - 30
2012191	Metolachlor	7.75	Spike	P	0 - 30
2012191	Metribuzin	4.31	Spike	P	0 - 30
2012191	Mevinphos	8.76	Spike	P	0 - 30
2012191	Molinate	15.5	Spike	P	0 - 30
2012191	Norflurazon	0.843	Spike	P	0 - 30
2012191	Parathion Ethyl	12.0	Spike	P	0 - 30
2012191	Parathion Methyl	7.32	Spike	P	0 - 30
2012191	Pendimethalin	10.9	Spike	P	0 - 30
2012191	Phorate	14.1	Spike	P	0 - 30
2012191	Prometon	5.50	Spike	P	0 - 30
2012191	Prometryn	6.90	Spike	P	0 - 30
2012191	Simazine	3.11	Spike	P	0 - 30
2012191	Terbufos	13.7	Spike	P	0 - 30
2012191	Terbuthylazine	8.66	Spike	P	0 - 30
LFB	Acetochlor	3.35	LCS	P	0 - 30
LFB	Alachlor	3.24	LCS	P	0 - 30
LFB	Ametryn	4.05	LCS	P	0 - 30
LFB	Atrazine	3.88	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.41	LCS	P	0 - 30
LFB	Azinphos Methyl	2.69	LCS	P	0 - 30
LFB	Bromacil	4.09	LCS	P	0 - 30
LFB	Butylate	17.5	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.00	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	2.51	LCS	P	0 - 30
LFB	Cyanazine	1.80	LCS	P	0 - 30
LFB	Demeton	6.62	LCS	P	0 - 30
LFB	Diazinon	4.27	LCS	P	0 - 30
LFB	Disulfoton	9.96	LCS	P	0 - 30
LFB	EPTC	21.8	LCS	P	0 - 30
LFB	Ethion	0.313	LCS	P	0 - 30
LFB	Ethoprop	3.13	LCS	P	0 - 30
LFB	Fenamiphos	5.64	LCS	P	0 - 30
LFB	Fipronil	4.54	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.94	LCS	P	0 - 30
LFB	Fipronil Sulfone	2.41	LCS	P	0 - 30
LFB	Fonofos	5.45	LCS	P	0 - 30
LFB	Hexazinone	5.96	LCS	P	0 - 30
LFB	Malathion	3.33	LCS	P	0 - 30
LFB	Metalaxyl	3.37	LCS	P	0 - 30
LFB	Metolachlor	1.30	LCS	P	0 - 30
LFB	Metribuzin	1.73	LCS	P	0 - 30
LFB	Mevinphos	6.85	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P349696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Molinate	10.6	LCS	P	0 - 30
LFB	Norflurazon	7.00	LCS	P	0 - 30
LFB	Parathion Ethyl	0.392	LCS	P	0 - 30
LFB	Parathion Methyl	2.19	LCS	P	0 - 30
LFB	Pendimethalin	2.50	LCS	P	0 - 30
LFB	Phorate	1.65	LCS	P	0 - 30
LFB	Prometon	4.22	LCS	P	0 - 30
LFB	Prometryn	1.86	LCS	P	0 - 30
LFB	Simazine	1.72	LCS	P	0 - 30
LFB	Terbufos	4.04	LCS	P	0 - 30
LFB	Terbuthylazine	0.623	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P349755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012798	Aldrin	20.5	Spike	P	0 - 30
2012798	Alpha-BHC	0.290	Spike	P	0 - 30
2012798	Alpha-Chlordane	10.5	Spike	P	0 - 30
2012798	Beta-BHC	13.3	Spike	P	0 - 30
2012798	Carbophenothion	15.0	Spike	P	0 - 30
2012798	Chlorothalonil	13.4	Spike	P	0 - 30
2012798	Cypermethrin	8.95	Spike	P	0 - 30
2012798	DDD-p,p'	3.79	Spike	P	0 - 30
2012798	DDE-p,p'	9.54	Spike	P	0 - 30
2012798	DDT-p,p'	11.3	Spike	P	0 - 30
2012798	Delta-BHC	3.55	Spike	P	0 - 30
2012798	Dicofol	13.0	Spike	P	0 - 30
2012798	Dieldrin	11.0	Spike	P	0 - 30
2012798	Endosulfan I	11.2	Spike	P	0 - 30
2012798	Endosulfan II	2.91	Spike	P	0 - 30
2012798	Endosulfan Sulfate	16.2	Spike	P	0 - 30
2012798	Endrin	3.32	Spike	P	0 - 30
2012798	Endrin Aldehyde	27.7	Spike	P	0 - 30
2012798	Endrin Ketone	6.30	Spike	P	0 - 30
2012798	Gamma-BHC	28.0	Spike	P	0 - 30
2012798	Gamma-Chlordane	11.8	Spike	P	0 - 30
2012798	Heptachlor	15.9	Spike	P	0 - 30
2012798	Heptachlor Epoxide	7.41	Spike	P	0 - 30
2012798	Methoxychlor	9.67	Spike	P	0 - 30
2012798	Mirex	22.0	Spike	P	0 - 30
2012798	Permethrin	20.5	Spike	P	0 - 30
2012798	Trifluralin	7.97	Spike	P	0 - 30
LFB	Aldrin	22.0	LCS	P	0 - 30
LFB	Alpha-BHC	5.12	LCS	P	0 - 30
LFB	Alpha-Chlordane	17.8	LCS	P	0 - 30
LFB	Beta-BHC	5.08	LCS	P	0 - 30
LFB	Carbophenothion	8.14	LCS	P	0 - 30
LFB	Chlorothalonil	1.79	LCS	P	0 - 30
LFB	Cypermethrin	38.2	LCS	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P349755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	DDD-p,p'	16.5	LCS	P	0 - 30
LFB	DDE-p,p'	22.3	LCS	P	0 - 30
LFB	DDT-p,p'	19.3	LCS	P	0 - 30
LFB	Delta-BHC	0.228	LCS	P	0 - 30
LFB	Dicofol	1.60	LCS	P	0 - 30
LFB	Dieldrin	13.3	LCS	P	0 - 30
LFB	Endosulfan I	8.45	LCS	P	0 - 30
LFB	Endosulfan II	4.18	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.190	LCS	P	0 - 30
LFB	Endrin	7.20	LCS	P	0 - 30
LFB	Endrin Aldehyde	2.76	LCS	P	0 - 30
LFB	Endrin Ketone	6.72	LCS	P	0 - 30
LFB	Gamma-BHC	15.6	LCS	P	0 - 30
LFB	Gamma-Chlordane	20.3	LCS	P	0 - 30
LFB	Heptachlor	25.2	LCS	P	0 - 30
LFB	Heptachlor Epoxide	7.79	LCS	P	0 - 30
LFB	Methoxychlor	4.50	LCS	P	0 - 30
LFB	Mirex	53.3	LCS	F	0 - 30
LFB	Permethrin	44.3	LCS	F	0 - 30
LFB	Trifluralin	19.8	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P349755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011923	Chlordane	1.11	Spike	P	0 - 30
2011923	Toxaphene	3.81	Spike	P	0 - 30
LFB	Chlordane	6.36	LCS	P	0 - 30
LFB	Toxaphene	8.29	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P349520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012675	3-Hydroxycarbofuran	3.99	Spike	P	0 - 30
2012675	Aldicarb	10.5	Spike	P	0 - 30
2012675	Aldicarb Sulfone	9.25	Spike	P	0 - 30
2012675	Aldicarb Sulfoxide	7.99	Spike	P	0 - 30
2012675	Carbaryl	5.23	Spike	P	0 - 30
2012675	Carbofuran	3.54	Spike	P	0 - 30
2012675	Methiocarb	10.6	Spike	P	0 - 30
2012675	Methomyl	12.4	Spike	P	0 - 30
2012675	Oxamyl	28.0	Spike	P	0 - 30
2012675	Propoxur	5.41	Spike	P	0 - 30
2012676	2,4-D	21.3	Spike	P	0 - 30
2012676	Acetaminophen	7.28	Spike	P	0 - 30
2012676	Bentazon	9.64	Spike	P	0 - 30
2012676	Carbamazepine	3.15	Spike	P	0 - 30
2012676	Diuron	2.82	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P349520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012676	Fenuron	5.33	Spike	P	0 - 30
2012676	Fluridone	18.6	Spike	P	0 - 30
2012676	Hydrocodone	16.5	Spike	P	0 - 30
2012676	Ibuprofen	9.83	Spike	P	0 - 30
2012676	Imazapyr	0.485	Spike	P	0 - 30
2012676	Imidacloprid	0.420	Spike	P	0 - 30
2012676	Linuron	12.1	Spike	P	0 - 30
2012676	MCP	3.74	Spike	P	0 - 30
2012676	Naproxen	18.4	Spike	P	0 - 30
2012676	Primidone	13.2	Spike	P	0 - 30
2012676	Pyraclostrobin	4.70	Spike	P	0 - 30
2012676	Triclopyr	1.47	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P349535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011995	Acesulfame K	34.6	Spike	F	0 - 30
2011995	Endothall	8.09	Spike	P	0 - 30
2011995	Sucralose	1.55	Spike	P	0 - 30
2012183	AMPA	1.93	Spike	P	0 - 30
2012183	Glufosinate	9.80	Spike	P	0 - 30
2012183	Glyphosate	2.95	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P349582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012625	Color (true)	2.59	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P349583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012660	Color (true)	0.217	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P350017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012921	Total Alkalinity	0.485	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P349823

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

Reference Method: SM 2540 C-97
Batch ID: P349823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012710	TDS	0.466	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P350020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012921	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P349849

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012656	Organic Carbon	0.869	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: 2012675
Field Sample ID: G2CE0152

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	55.7	P	30 - 160

Lab Sample ID: 2012676
Field Sample ID: G2CE0152

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.7	P	30 - 160
EPA 8321B	Diuron-d6	74.1	P	30 - 160
EPA 8321B	Endothall-d6	75.0	P	40 - 160
EPA 8321B	Endothall-d6	75.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	94.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	94.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	61.2	P	30 - 160
EPA 8321B	Primidone-d5	95.5	P	30 - 160
EPA 8321B	Sucralose-d6	93.2	P	40 - 160
EPA 8321B	Sucralose-d6	93.2	P	40 - 160

Lab Sample ID: 2012683
Field Sample ID: G2CE0152

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	58.4	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	52.0	P	34 - 101
EPA 8276	Decachlorobiphenyl	50.1	P	31 - 108
EPA 8276	PCNB	78.2	P	62 - 142

Lab Sample ID: 2012684
Field Sample ID: G2CE0152

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	97.3	P	71 - 126
EPA 8270D	Terbufos-d10	85.7	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A85654

Included Lab Sample IDs: 2012658, 2012659, 2012662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	98.1	P/P	90 - 110
O-Phosphate-P	98.1	96.4	P/P	90 - 110
O-Phosphate-P	98.4	99.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A85656

Included Lab Sample IDs: 2012654, 2012655, 2012660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A85657

Included Lab Sample IDs: 2012654, 2012655, 2012660

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85677

Included Lab Sample IDs: 2012656, 2012657, 2012661

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

Reference Method: EPA 8321B

Run ID: A85681

Included Lab Sample IDs: 2012676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.3	85.5	P/P	60 - 150
Glufosinate	112	109	P/P	60 - 150
Glyphosate	98.6	98.4	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A85682

Included Lab Sample IDs: 2012676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	109	93.6	P/P	60 - 150
Endothall	109	76.6	P/P	60 - 150

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85708

Included Lab Sample IDs: 2012690, 2012691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85708

Included Lab Sample IDs: 2012690, 2012691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	103	103	P/P	90 - 110
Sodium	100	99.7	P/P	90 - 110
Zinc	106	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A85712

Included Lab Sample IDs: 2012654, 2012655, 2012660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	105	P/P	90 - 110
Chloride	97.7	105	P/P	90 - 110
Sulfate	104	104	P/P	90 - 110
Sulfate	97.3	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85716

Included Lab Sample IDs: 2012690, 2012691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	102	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Copper	100	100	P/P	90 - 110
Lead	98.5	99.2	P/P	90 - 110
Nickel	100	98.8	P/P	90 - 110
Silver	95.4	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85720

Included Lab Sample IDs: 2012656

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85727

Included Lab Sample IDs: 2012656, 2012657, 2012661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	96.4	P/P	90 - 110
Kjeldahl Nitrogen	104	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85738

Included Lab Sample IDs: 2012690, 2012691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.3	98.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85755

Included Lab Sample IDs: 2012656, 2012657, 2012661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	103	P/P	90 - 110
Ammonia-N	103	104	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A85775

Included Lab Sample IDs: 2012656, 2012657, 2012661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.8	P/P	90 - 110
Organic Carbon	96.8	97.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A85787

Included Lab Sample IDs: 2012676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	106	P/P	60 - 160

Reference Method: EPA 8270D

Run ID: A85803

Included Lab Sample IDs: 2012683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.2		P	80 - 120
Alpha-BHC	97.4		P	80 - 120
Alpha-Chlordane	97.6		P	80 - 120
Beta-BHC	98.3		P	80 - 120
Carbophenothion	87.1		P	80 - 120
Chlorothalonil	96.8		P	80 - 120
Cypermethrin	91.2		P	80 - 120
DDD-p,p'	102		P	80 - 120
DDE-p,p'	97.3		P	80 - 120
DDT-p,p'	110		P	80 - 120
Delta-BHC	99.2		P	80 - 120
Dicofol	99.3		P	80 - 120
Dieldrin	99.0		P	80 - 120
Endosulfan I	99.0		P	80 - 120
Endosulfan II	92.1		P	80 - 120
Endosulfan Sulfate	105		P	80 - 120
Endrin	98.5		P	80 - 120
Endrin Aldehyde	96.5		P	80 - 120
Endrin Ketone	100		P	80 - 120
Gamma-BHC	99.4		P	80 - 120
Gamma-Chlordane	97.5		P	80 - 120
Heptachlor	95.9		P	80 - 120
Heptachlor Epoxide	97.6		P	80 - 120
Methoxychlor	104		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	94.4		P	80 - 120
Trifluralin	99.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A85820

Included Lab Sample IDs: 2012683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	100		P	80 - 120
Toxaphene	102		P	80 - 120

Reference Method: EPA 8321B

Run ID: A85823

Included Lab Sample IDs: 2012676

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	81.7	104	P/P	50 - 150
3-Hydroxycarbofuran	93.6	95.6	P/P	50 - 150
Acetaminophen	124	97.9	P/P	60 - 160
Aldicarb	85.9	79.4	P/P	60 - 150
Aldicarb Sulfone	96.2	86.5	P/P	50 - 150
Aldicarb Sulfoxide	75.5	86.0	P/P	50 - 150
Bentazon	71.1	81.9	P/P	50 - 160
Carbamazepine	122	120	P/P	60 - 160
Carbaryl	97.5	89.6	P/P	60 - 150
Carbofuran	118	114	P/P	50 - 150
Diuron	109	107	P/P	60 - 150
Fenuron	85.3	82.4	P/P	60 - 150
Fluridone	117	106	P/P	60 - 160
Hydrocodone	110	93.6	P/P	60 - 150
Ibuprofen	149	108	P/P	50 - 160
Imazapyr	82.7	79.4	P/P	50 - 150
Imidacloprid	111	93.1	P/P	60 - 150
Linuron	110	118	P/P	60 - 150
MCPP	106	85.5	P/P	50 - 150
Methiocarb	113	101	P/P	50 - 150
Methomyl	96.9	81.4	P/P	50 - 150
Naproxen	149	77.0	P/P	50 - 160
Oxamyl	72.1	77.3	P/P	50 - 150
Primidone	104	96.1	P/P	60 - 150
Propoxur	93.2	99.5	P/P	50 - 150
Pyraclostrobin	101	96.1	P/P	60 - 150
Triclopyr	112	105	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85833

Included Lab Sample IDs: 2012657, 2012661

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

Reference Method: SM 2320 B-97

Run ID: A85838

Included Lab Sample IDs: 2012654, 2012655, 2012660

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A85838

Included Lab Sample IDs: 2012654, 2012655, 2012660

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

Reference Method: EPA 8270D

Run ID: A85914

Included Lab Sample IDs: 2012684

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.4		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	99.0		P	80 - 120
Atrazine	97.6		P	80 - 120
Atrazine Desethyl	96.2		P	80 - 120
Azinphos Methyl	95.6		P	80 - 120
Bromacil	93.1		P	80 - 120
Butylate	97.6		P	80 - 120
Chlorpyrifos Ethyl	97.6		P	80 - 120
Chlorpyrifos Methyl	96.6		P	80 - 120
Cyanazine	89.7		P	80 - 120
Demeton	103		P	80 - 120
Diazinon	99.1		P	80 - 120
Disulfoton	98.8		P	80 - 120
EPTC	99.1		P	80 - 120
Ethion	94.7		P	80 - 120
Ethoprop	96.5		P	80 - 120
Fenamiphos	94.0		P	80 - 120
Fipronil	96.9		P	80 - 120
Fipronil Sulfide	94.0		P	80 - 120
Fipronil Sulfone	95.7		P	80 - 120
Fonofos	97.2		P	80 - 120
Hexazinone	97.7		P	80 - 120
Malathion	97.8		P	80 - 120
Metalaxyl	98.9		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	95.0		P	80 - 120
Mevinphos	97.0		P	80 - 120
Molinate	109		P	80 - 120
Norflurazon	93.2		P	80 - 120
Parathion Ethyl	92.4		P	80 - 120
Parathion Methyl	93.6		P	80 - 120
Pendimethalin	99.8		P	80 - 120
Phorate	97.5		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	96.9		P	80 - 120
Simazine	103		P	80 - 120
Terbufos	95.2		P	80 - 120
Terbuthylazine	97.0		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							6.28	
EPA 200.7 Rev. 4.4	Calcium	102		106	105				0.100
	Iron	105		107	110	109			0.552
	Magnesium	110		111	114	114			0.277
	Potassium	103		105	106	106			0.331
	Sodium	97.6		101	101				0.689
	Zinc	103		105	107	108			0.608
EPA 200.8 Rev. 5.4	Arsenic	99.3		102	99.4	104			4.00
	Cadmium	101		103	98.8	102			3.50
	Chromium	93.5		95.7	94.1	97.1			3.10
	Copper	96.3		98.8	93.8	98.4			4.68
	Lead	95.3		98.2	94.3	97.8			3.61
	Nickel	98.2		101	96.1	100			3.90
	Silver	97.6		99.0	96.2	98.8			2.68
EPA 300.0 Rev. 2.1	Chloride	98.7		100	97.1			4.74	
	Sulfate	97.3		100	95.2			5.10	
EPA 350.1 Rev. 2.0	Ammonia-N	101		100	104				3.42
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.0		103	108				2.89
EPA 353.2 Rev. 2.0	NO2NO3-N	101		99.4	101				1.81
EPA 365.1 Rev. 2.0	Total-P	95.0		96.2	95.9				0.344
	Total-P	94.3		90.2	95.2				5.29
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		95.8	94.1				1.79
EPA 8270D	Acetochlor	110	114	102	109		3.35		6.97
	Alachlor	110	114	101	114		3.24		11.8
	Aldrin	58.7	47.0	75.6	61.5		22.0		20.5
	Alpha-BHC	92.2	87.6	90.8	90.6		5.12		0.290
	Alpha-Chlordane	88.1	73.7	87.1	78.4		17.8		10.5
	Ametryn	104	108	117	128		4.05		8.79
	Atrazine	106	110				3.88		7.93
	Atrazine Desethyl	98.1	95.8	61.0	56.9		2.41		5.11
	Azinphos Methyl	125	129	97.9	102		2.69		4.44
	Beta-BHC	105	100	99.1	113		5.08		13.3
	Bromacil	102	107	83.9	85.0		4.09		0.949
	Butylate	79.3	66.6	60.6	70.4		17.5		15.0
	Carbophenothion	66.5	61.3	105	90.6		8.14		15.0
	Chlorothalonil	78.4	77.0	74.9	85.6		1.79		13.4
	Chlorpyrifos Ethyl	101	104	93.7	102		3.00		8.87
	Chlorpyrifos Methyl	106	108	90.8	103		2.51		12.5
	Cyanazine	130	128	90.9	85.2		1.80		6.51
	Cypermethrin	70.0	47.6	85.6	78.3		38.2		8.95
	DDD-p,p'	102	86.7	96.0	92.5		16.5		3.79
	DDE-p,p'	90.8	72.6	85.1	77.4		22.3		9.54
	DDT-p,p'	93.3	76.9	94.0	84.0		19.3		11.3
	Delta-BHC	111	110	133	129		0.228		3.55
	Demeton	93.2	87.2	83.6	94.2		6.62		11.9
	Diazinon	115	120	107	119		4.27		10.1
	Dicofol	92.3	90.9	95.4	83.7		1.60		13.0
	Dieldrin	97.6	85.5	95.1	85.2		13.3		11.0
	Disulfoton	99.3	110	89.2	97.9		9.96		9.34
	Endosulfan I	100	91.9	106	95.2		8.45		11.2
	Endosulfan II	100	95.9	99.8	96.9		4.18		2.91
	Endosulfan Sulfate	102	102	93.3	110		0.190		16.2
	Endrin	99.1	92.2	93.5	90.4		7.20		3.32
	Endrin Aldehyde	108	105	59.5	78.6		2.76		27.7

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Endrin Ketone	101	108	109	103	6.72	6.30
	EPTC	77.9	62.6	62.9	73.3	21.8	15.2
	Ethion	101	100	92.5	104	0.313	11.4
	Ethoprop	96.7	99.8	84.5	91.5	3.13	7.94
	Fenamiphos	105	111	85.0	100	5.64	16.5
	Fipronil	103	108			4.54	2.97
	Fipronil Sulfide	91.9	95.6			3.94	0.765
	Fipronil Sulfone	86.5	88.6			2.41	3.17
	Fonofos	103	109	89.2	105	5.45	16.3
	Gamma-BHC	85.4	99.8	118	89.1	15.6	28.0
	Gamma-Chlordane	82.9	67.6	83.5	74.1	20.3	11.8
	Heptachlor	75.2	58.3	76.0	64.8	25.2	15.9
	Heptachlor Epoxide	91.6	84.7	95.2	88.4	7.79	7.41
	Hexazinone	104	111	102	108	5.96	5.15
	Malathion	103	107	94.2	104	3.33	9.83
	Metalaxyl	107	110	94.7	99.9	3.37	5.27
	Methoxychlor	102	97.1	109	98.9	4.50	9.67
	Metolachlor	107	108	98.7	107	1.30	7.75
	Metribuzin	130	128	113	118	1.73	4.31
	Mevinphos	92.1	98.7	85.3	93.1	6.85	8.76
	Mirex	75.5	43.7	83.5	66.9	53.3	22.0
	Molinate	89.5	80.5	78.6	91.8	10.6	15.5
	Norflurazon	99.0	106	81.9	82.6	7.00	0.843
	Parathion Ethyl	105	105	92.3	104	0.392	12.0
	Parathion Methyl	109	112	97.8	105	2.19	7.32
	Pendimethalin	124	128	125	140	2.50	10.9
	Permethrin	75.1	47.9	89.1	72.5	44.3	20.5
	Phorate	91.8	93.3	78.5	90.3	1.65	14.1
	Prometon	100	104	93.5	100	4.22	5.50
	Prometryn	104	106	93.5	101	1.86	6.90
	Simazine	111	113	99.1	104	1.72	3.11
	Terbufos	97.4	101	90.4	104	4.04	13.7
	Terbuthylazine	106	106	93.1	102	0.623	8.66
	Trifluralin	80.8	66.2	80.4	74.2	19.8	7.97
EPA 8276	Chlordane	76.0	71.3	65.6	66.4	6.36	1.11
	Toxaphene	77.4	84.1	55.7	57.8	8.29	3.81
EPA 8321B	2,4-D	85.0		132	105		21.3
	3-Hydroxycarbofuran	90.1		77.9	74.8		3.99
	Acesulfame K	101		137	96.5		34.6
	Acetaminophen	99.0		85.3	91.7		7.28
	Aldicarb	50.3		49.7	44.7		10.5
	Aldicarb Sulfone	77.8		77.0	84.5		9.25
	Aldicarb Sulfoxide	72.4		40.1	43.4		7.99
	AMPA	80.1		65.9	64.4		1.93
	Bentazon	54.5		70.1	63.0		9.64
	Carbamazepine	102		85.0	87.7		3.15
	Carbaryl	73.3		56.3	59.3		5.23
	Carbofuran	90.1		76.2	79.0		3.54
	Diuron	85.9		66.4	68.3		2.82
	Endothall	102		86.8	80.1		8.09
	Fenuron	111		95.4	101		5.33
	Fluridone	107		81.7	106		18.6
	Glufosinate	99.0		82.1	74.4		9.80
	Glyphosate	79.7		78.8	76.1		2.95

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	95.9	83.1	98.0		16.5
	Ibuprofen	98.3	65.7	72.5		9.83
	Imazapyr	91.0	98.6	97.8		0.485
	Imidacloprid	108	135	134		0.420
	Linuron	83.6	62.7	70.7		12.1
	MCCP	97.7	136	131		3.74
	Methiocarb	65.3	64.0	71.2		10.6
	Methomyl	87.1	67.6	76.6		12.4
	Naproxen	94.4	66.6	55.4		18.4
	Oxamyl	69.3	56.7	75.1		28.0
	Primidone	117	126	111		13.2
	Propoxur	77.9	62.5	66.0		5.41
	Pyraclostrobin	77.9	75.6	79.2		4.70
	Sucralose	114	111	109		1.55
	Triclopyr	104	138	140		1.47
SM 2120 B	Color (true)	99.4			2.59	
	Color (true)	99.4			0.217	
SM 2320 B-97	Total Alkalinity	103			0.485	
SM 2540 C-97	TDS				0.466	
SM 4500 F-C-97	Fluoride	97.8	97.8	97.8		0.0
SM 5310 B-00	Organic Carbon	96.4	96.0	94.9		0.869

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2012654, 2012655, 2012660
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2012690, 2012691
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2012690, 2012691
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2012654, 2012655, 2012660
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2012654, 2012655, 2012660
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2012656, 2012657, 2012661
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2012656, 2012657, 2012661
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2012656, 2012657, 2012661
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2012656, 2012657, 2012661
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2012658, 2012659, 2012662
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2012683
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	2012684
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2012683
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2012675
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2012676
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2012676
SM 2120 B / E31780	True Color measured at 450 nm	2012654, 2012655, 2012660
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2012654, 2012655, 2012660

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2012654, 2012655, 2012660
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2012654, 2012655, 2012660
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2012654, 2012655, 2012660
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2012656, 2012657, 2012661

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	08/02/2018			08/02/2018 16:39	William L. Brown IV	2012654, 2012655, 2012660
EPA 200.7 Rev. 4.4	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/03/2018 19:24	Betina Topolski	2012690
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/03/2018 19:51	Betina Topolski	2012691
EPA 200.8 Rev. 5.4	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/06/2018 21:23	Allison Taylor	2012690
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/06/2018 21:52	Allison Taylor	2012691
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/07/2018 20:55	Allison Taylor	2012690
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/07/2018 21:15	Allison Taylor	2012691
EPA 300.0 Rev. 2.1	08/02/2018			08/06/2018 15:51	Lipi Saha	2012655
	08/02/2018			08/06/2018 18:15	Lipi Saha	2012654
	08/02/2018			08/06/2018 18:27	Lipi Saha	2012660
EPA 350.1 Rev. 2.0	08/02/2018			08/08/2018 14:11	Julia Storbeck	2012657
	08/02/2018			08/08/2018 14:32	Julia Storbeck	2012656
	08/02/2018			08/08/2018 14:34	Julia Storbeck	2012661
EPA 351.2 Rev. 2.0	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 12:27	Joseph Suarez	2012656
	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 12:31	Joseph Suarez	2012657
	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 12:33	Joseph Suarez	2012661
EPA 353.2 Rev. 2.0	08/02/2018			08/03/2018 12:16	Lauren Bottorf	2012656
	08/02/2018			08/03/2018 12:17	Lauren Bottorf	2012657
	08/02/2018			08/03/2018 12:18	Lauren Bottorf	2012661
EPA 365.1 Rev. 2.0	08/02/2018	08/06/2018 13:35	Sima Feizi	08/07/2018 12:05	Beverly Y. Sanders	2012656
	08/02/2018	08/10/2018 10:50	Sima Feizi	08/13/2018 11:29	Beverly Y. Sanders	2012657
	08/02/2018	08/10/2018 10:50	Sima Feizi	08/13/2018 11:30	Beverly Y. Sanders	2012661
EPA 365.1 Rev. 2.0 dissolved	08/02/2018			08/02/2018 15:19	Julia Storbeck	2012658
	08/02/2018			08/02/2018 15:47	Julia Storbeck	2012659
	08/02/2018			08/02/2018 15:52	Julia Storbeck	2012662
EPA 8270D	08/02/2018	08/03/2018 08:45	Arthur Maknenko	08/10/2018 01:24	Dinesh Mishra	2012683
	08/02/2018	08/06/2018 08:51	Dinesh Mishra	08/07/2018 17:04	Vandana T. Nagar	2012684
EPA 8276	08/02/2018	08/03/2018 08:45	Arthur Maknenko	08/11/2018 05:30	Arthur Maknenko	2012683
EPA 8321B	08/02/2018	08/03/2018 09:00	Mohammad Ghaffari	08/03/2018 13:59	Mohammad Ghaffari	2012676
	08/02/2018	08/03/2018 09:00	Mohammad Ghaffari	08/03/2018 18:50	Mohammad Ghaffari	2012676
	08/02/2018	08/03/2018 09:00	Mohammad Ghaffari	08/09/2018 08:22	Mohammad Ghaffari	2012676
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 10:54	Juyoung Kim	2012676
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/12/2018 20:21	Juyoung Kim	2012675
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/12/2018 22:39	Juyoung Kim	2012676
SM 2120 B	08/02/2018			08/02/2018 15:42	Tanya Welborn	2012654
	08/02/2018			08/02/2018 15:46	Tanya Welborn	2012655
	08/02/2018			08/02/2018 15:47	Tanya Welborn	2012660
SM 2320 B-97	08/02/2018			08/10/2018 12:02	Dale L. Simmons	2012654
	08/02/2018			08/10/2018 12:13	Dale L. Simmons	2012655
	08/02/2018			08/10/2018 12:23	Dale L. Simmons	2012660

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-97	08/02/2018			08/03/2018 17:00	William L. Brown IV	2012654, 2012655, 2012660
SM 2540 D-97	08/02/2018			08/03/2018 17:05	William L. Brown IV	2012654, 2012655, 2012660
SM 4500 F-C-97	08/02/2018			08/10/2018 12:02	Dale L. Simmons	2012654
	08/02/2018			08/10/2018 12:13	Dale L. Simmons	2012655
	08/02/2018			08/10/2018 12:23	Dale L. Simmons	2012660
SM 5310 B-00	08/02/2018			08/07/2018 18:59	Julia Storbeck	2012656
	08/02/2018			08/07/2018 22:31	Julia Storbeck	2012657
	08/02/2018			08/07/2018 22:45	Julia Storbeck	2012661