Chemical Analysis Report

NE-DIST-2019-02-01-01

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

Event Description: **SCI 2204 Terrapin**
Request ID: **RQ-2019-01-21-22**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
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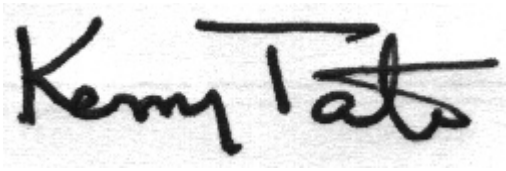
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 22-FEB-2019 13:05



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 by the Florida Department of Health Environmental Laboratory Certification Program 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: TERRAPIN CR @ FAYE RD **Collection Date/Time: 01/31/2019 10:15**

Field ID: 20030653 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058883	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P358222	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P358665	
		Sulfate	31		mg SO4/L	P358667	
	SM 2120 B	Color (true)	56		PCU	P358211	
	SM 2320 B-97	Total Alkalinity	11		mg CaCO3/L	P358652	
	SM 2540 C-97	TDS	117		mg/L	P358784	
	SM 2540 D-97	TSS	2	I	mg/L	P358777	
	SM 4500 F-C-97	Fluoride	0.050	I	mg F/L	P358656	
2058885	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P358567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P358280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P358418	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P358296	
	SM 5310 B-00	Organic Carbon	9.3		mg C/L	P358330	
2058887	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P358231	
2058901	EPA 8321B	2,4-D	0.0020	U	ug/L	P358179	
		Sucralose**	0.011	I	ug/L	P358148	
		Bentazon	8.0E-04	U	ug/L	P358179	
		MCPP	0.0020	U	ug/L	P358179	
		Triclopyr**	0.0040	U	ug/L	P358179	
		Imidacloprid	0.0020	U	ug/L	P358179	
		Diuron	0.012		ug/L	P358179	
		Pyraclostrobin**	0.0020	U	ug/L	P358179	
		Primidone**	0.0040	U	ug/L	P358179	
		Linuron	0.0040	U	ug/L	P358179	
		Acetaminophen**	0.0080	U	ug/L	P358179	
		Fenuron	0.016	U	ug/L	P358179	
		Imazapyr**	0.035		ug/L	P358179	
		Carbamazepine**	8.0E-04	U	ug/L	P358179	
		Fluridone**	0.15		ug/L	P358179	
		Hydrocodone**	0.0020	U	ug/L	P358179	
		Naproxen**	0.0080	U	ug/L	P358179	
		Ibuprofen**	0.020	U	ug/L	P358179	
		Glyphosate**	0.10	U	ug/L	P358148	
		AMPA**	0.10	U	ug/L	P358148	
		Endothall**	0.25	U	ug/L	P358148	
		Glufosinate**	0.10	U	ug/L	P358148	
		Acesulfame K**	0.10	U	ug/L	P358148	
2058910	EPA 200.7 Rev. 4.4	Barium	18.1		ug/L	P358340	
		Calcium	13.7		mg/L	P358340	
		Iron	500		ug/L	P358340	
		Magnesium	3.60		mg/L	P358340	
		Potassium	1.5		mg/L	P358340	
		Sodium	13.7		mg/L	P358340	

Field ID: 20030653 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058910	EPA 200.7 Rev. 4.4	Zinc	7.4	I	ug/L	P358340	
	EPA 200.8 Rev. 5.4	Aluminum	357		ug/L	P358340	
		Antimony	0.084	I	ug/L	P358340	
		Arsenic	0.26		ug/L	P358340	
		Boron**	16.5		ug/L	P358340	
		Cadmium	0.020	U	ug/L	P358340	
		Chromium	0.52	I	ug/L	P358340	
		Copper	0.48	I	ug/L	P358340	
		Lead	0.20	U	ug/L	P358340	
		Nickel	1.2	I	ug/L	P358340	
		Selenium	0.20	U	ug/L	P358340	
		Silver	0.010	U	ug/L	P358340	
		Thallium	0.10	U	ug/L	P358340	
2058913	EPA 8270D	Acetochlor	0.24	U	ng/L	P358410	
		Alachlor	0.24	U	ng/L	P358410	
		Ametryn	0.58	U	ng/L	P358410	
		Atrazine	14		ng/L	P358410	
		Atrazine Desethyl	1.5	U	ng/L	P358410	
		Azinphos Methyl	2.2	U	ng/L	P358410	
		Bromacil	0.49	U	ng/L	P358410	
		Butylate	0.39	U	ng/L	P358410	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P358410	
		Chlorpyrifos Methyl	0.097	U	ng/L	P358410	
		Cyanazine	3.2	UJ	ng/L	P358410	RPD
		Demeton	6.8	U	ng/L	P358410	
		Diazinon	0.12	U	ng/L	P358410	
		Dimethenamid**	0.097	U	ng/L	P358410	
		Disulfoton	0.49	U	ng/L	P358410	
		Dithiopyr**	0.10	I	ng/L	P358410	
		EPTC	1.2	U	ng/L	P358410	
		Ethion	0.15	UJ	ng/L	P358410	RPD
		Ethoprop	1.0		ng/L	P358410	
		Fenamiphos	0.49	U	ng/L	P358410	
		Fipronil	0.24	U	ng/L	P358410	
		Fipronil Desulfinyl**	0.12	U	ng/L	P358410	
		Fipronil Sulfide	0.15	U	ng/L	P358410	
		Fipronil Sulfone	0.15	U	ng/L	P358410	
		Fonofos	0.19	U	ng/L	P358410	
		Hexazinone	0.49	U	ng/L	P358410	
		Malathion	0.34	U	ng/L	P358410	
		Metalaxyl	0.29	U	ng/L	P358410	
		Metolachlor	0.75	I	ng/L	P358410	
		Metribuzin	0.19	UJ	ng/L	P358410	CCV
		Mevinphos	0.49	U	ng/L	P358410	
		Molinate	0.29	U	ng/L	P358410	

Field ID: 20030653 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058913	EPA 8270D	Norflurazon	0.49	U	ng/L	P358410	
		Oxadiazon**	0.19	I	ng/L	P358410	
		Parathion Ethyl	0.24	U	ng/L	P358410	
		Parathion Methyl	0.54	U	ng/L	P358410	
		Pendimethalin	0.97	U	ng/L	P358410	
		Phorate	0.24	U	ng/L	P358410	
		Prodiamine**	0.17	U	ng/L	P358410	
		Prometon	0.88	U	ng/L	P358410	
		Prometryn	0.19	U	ng/L	P358410	
		Simazine	2.3		ng/L	P358410	
		Tebuconazole**	0.49	U	ng/L	P358410	
		Terbufos	0.097	U	ng/L	P358410	
		Terbuthylazine	0.41	U	ng/L	P358410	

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 glyphosate and AMPA could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8270D: MS accuracies for Atrazine and Simazine not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Sample Location: TERRAPIN CR @ FAYE RD **Collection Date/Time: 01/31/2019 10:20**

Field ID: 20030653DUP Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058884	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P358222	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P358665	
		Sulfate	31		mg SO4/L	P358667	
	SM 2120 B	Color (true)	57		PCU	P358211	
	SM 2320 B-97	Total Alkalinity	11		mg CaCO3/L	P358652	
	SM 2540 C-97	TDS	109		mg/L	P358784	
	SM 2540 D-97	TSS	2	I	mg/L	P358777	
	SM 4500 F-C-97	Fluoride	0.050	I	mg F/L	P358656	
2058886	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P358567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P358280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037		mg N/L	P358418	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P358296	
	SM 5310 B-00	Organic Carbon	9.4		mg C/L	P358330	
2058888	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P358231	
2058902	EPA 8321B	2,4-D	0.0020	U	ug/L	P358179	
		Sucralose**	0.012	I	ug/L	P358148	
		Bentazon	8.0E-04	U	ug/L	P358179	
		MCPP	0.0020	U	ug/L	P358179	
		Triclopyr**	0.0040	U	ug/L	P358179	
		Imidacloprid	0.0020	U	ug/L	P358179	
		Diuron	0.010		ug/L	P358179	
		Pyraclostrobin**	0.0020	U	ug/L	P358179	
		Primidone**	0.0040	U	ug/L	P358179	
		Linuron	0.0040	U	ug/L	P358179	
		Acetaminophen**	0.0080	U	ug/L	P358179	
		Fenuron	0.016	U	ug/L	P358179	
		Imazapyr**	0.036		ug/L	P358179	
		Carbamazepine**	8.0E-04	U	ug/L	P358179	
		Fluridone**	0.13		ug/L	P358179	
		Hydrocodone**	0.0020	U	ug/L	P358179	
		Naproxen**	0.0080	U	ug/L	P358179	
		Ibuprofen**	0.020	U	ug/L	P358179	
		Glyphosate**	0.10	U	ug/L	P358148	
		AMPA**	0.10	U	ug/L	P358148	
		Endothall**	0.25	U	ug/L	P358148	
		Glufosinate**	0.10	U	ug/L	P358148	
		Acesulfame K**	0.10	U	ug/L	P358148	
2058911	EPA 200.7 Rev. 4.4	Barium	18.1		ug/L	P358340	
		Calcium	14.0		mg/L	P358340	
		Iron	490		ug/L	P358340	
		Magnesium	3.64		mg/L	P358340	
		Potassium	1.5		mg/L	P358340	
		Sodium	13.8		mg/L	P358340	

Field ID: 20030653DUP Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058911	EPA 200.7 Rev. 4.4	Zinc	7.3	I	ug/L	P358340	
	EPA 200.8 Rev. 5.4	Aluminum	349		ug/L	P358340	
		Antimony	0.082	I	ug/L	P358340	
		Arsenic	0.27		ug/L	P358340	
		Boron**	16.9		ug/L	P358340	
		Cadmium	0.020	U	ug/L	P358340	
		Chromium	0.46	I	ug/L	P358340	
		Copper	0.50	I	ug/L	P358340	
		Lead	0.20	U	ug/L	P358340	
		Nickel	1.1	I	ug/L	P358340	
		Selenium	0.20	U	ug/L	P358340	
		Silver	0.010	U	ug/L	P358340	
		Thallium	0.10	U	ug/L	P358340	
2058914	EPA 8270D	Acetochlor	0.24	U	ng/L	P358410	
		Alachlor	0.24	U	ng/L	P358410	
		Ametryn	0.58	U	ng/L	P358410	
		Atrazine	14		ng/L	P358410	
		Atrazine Desethyl	1.4	U	ng/L	P358410	
		Azinphos Methyl	2.2	U	ng/L	P358410	
		Bromacil	0.48	U	ng/L	P358410	
		Butylate	0.39	U	ng/L	P358410	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P358410	
		Chlorpyrifos Methyl	0.097	U	ng/L	P358410	
		Cyanazine	3.1	UJ	ng/L	P358410	RPD
		Demeton	6.8	U	ng/L	P358410	
		Diazinon	0.12	U	ng/L	P358410	
		Dimethenamid**	0.097	U	ng/L	P358410	
		Disulfoton	0.48	U	ng/L	P358410	
		Dithiopyr**	0.097	U	ng/L	P358410	
		EPTC	1.2	U	ng/L	P358410	
		Ethion	0.14	UJ	ng/L	P358410	RPD
		Ethoprop	1.0		ng/L	P358410	
		Fenamiphos	0.48	U	ng/L	P358410	
		Fipronil	0.24	U	ng/L	P358410	
		Fipronil Desulfinyl**	0.12	U	ng/L	P358410	
		Fipronil Sulfide	0.14	U	ng/L	P358410	
		Fipronil Sulfone	0.14	U	ng/L	P358410	
		Fonofos	0.19	U	ng/L	P358410	
		Hexazinone	0.48	U	ng/L	P358410	
		Malathion	0.34	U	ng/L	P358410	
		Metalaxyl	0.29	U	ng/L	P358410	
		Metolachlor	0.79	I	ng/L	P358410	
		Metribuzin	0.19	UJ	ng/L	P358410	CCV
		Mevinphos	0.48	U	ng/L	P358410	
		Molinate	0.29	U	ng/L	P358410	

Field ID: 20030653DUP Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058914	EPA 8270D	Norflurazon	0.48	U	ng/L	P358410	
		Oxadiazon**	0.17	I	ng/L	P358410	
		Parathion Ethyl	0.24	U	ng/L	P358410	
		Parathion Methyl	0.53	U	ng/L	P358410	
		Pendimethalin	0.97	U	ng/L	P358410	
		Phorate	0.24	U	ng/L	P358410	
		Prodiamine**	0.17	U	ng/L	P358410	
		Prometon	0.87	U	ng/L	P358410	
		Prometryn	0.19	U	ng/L	P358410	
		Simazine	2.2		ng/L	P358410	
		Tebuconazole**	0.48	U	ng/L	P358410	
		Terbufos	0.097	U	ng/L	P358410	
		Terbuthylazine	0.41	U	ng/L	P358410	

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 glyphosate and AMPA could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8270D: MS accuracies for Atrazine and Simazine not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Sample Location: FIELD BLANK **Collection Date/Time: 01/31/2019 10:25**

Field ID: FB01232019 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058889	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P358222	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P358734	
		Sulfate	0.20	U	mg SO4/L	P358736	
	SM 2120 B	Color (true)	2.5	U	PCU	P358211	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P358652	
	SM 2540 C-97	TDS	15	U	mg/L	P358783	
	SM 2540 D-97	TSS	2	U	mg/L	P358776	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P358656	
2058890	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P358567	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P358281	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P358418	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P358296	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P358330	
2058891	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358231	
2058903	EPA 8321B	2,4-D	0.0020	U	ug/L	P358179	
		Sucralose**	0.010	U	ug/L	P358148	
		Bentazon	8.0E-04	U	ug/L	P358179	
		MCPP	0.0020	U	ug/L	P358179	
		Triclopyr**	0.0040	U	ug/L	P358179	
		Imidacloprid	0.0020	U	ug/L	P358179	
		Diuron	0.0020	U	ug/L	P358179	
		Pyraclostrobin**	0.0020	U	ug/L	P358179	
		Primidone**	0.0040	U	ug/L	P358179	
		Linuron	0.0040	U	ug/L	P358179	
		Acetaminophen**	0.0080	U	ug/L	P358179	
		Fenuron	0.016	U	ug/L	P358179	
		Imazapyr**	0.0040	U	ug/L	P358179	
		Carbamazepine**	8.0E-04	U	ug/L	P358179	
		Fluridone**	8.0E-04	U	ug/L	P358179	
		Hydrocodone**	0.0020	U	ug/L	P358179	
		Naproxen**	0.0080	U	ug/L	P358179	
		Ibuprofen**	0.020	U	ug/L	P358179	
		Glyphosate**	0.10	U	ug/L	P358148	
		AMPA**	0.10	U	ug/L	P358148	
		Endothall**	0.25	U	ug/L	P358148	
		Glufosinate**	0.10	U	ug/L	P358148	
		Acesulfame K**	0.10	U	ug/L	P358148	
2058915	EPA 8270D	Acetochlor	0.28	U	ng/L	P358410	
		Alachlor	0.28	U	ng/L	P358410	
		Ametryn	0.67	U	ng/L	P358410	
		Atrazine	0.28	U	ng/L	P358410	
		Atrazine Desethyl	1.7	U	ng/L	P358410	
		Azinphos Methyl	2.5	U	ng/L	P358410	

Field ID: FB01232019 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058915	EPA 8270D	Bromacil	0.56	U	ng/L	P358410	
		Butylate	0.45	U	ng/L	P358410	
		Chlorpyrifos Ethyl	0.28	U	ng/L	P358410	
		Chlorpyrifos Methyl	0.11	U	ng/L	P358410	
		Cyanazine	3.6	UJ	ng/L	P358410	RPD
		Demeton	7.8	U	ng/L	P358410	
		Diazinon	0.14	U	ng/L	P358410	
		Dimethenamid**	0.11	U	ng/L	P358410	
		Disulfoton	0.56	U	ng/L	P358410	
		Dithiopyr**	0.11	U	ng/L	P358410	
		EPTC	1.4	U	ng/L	P358410	
		Ethion	0.17	UJ	ng/L	P358410	RPD
		Ethoprop	0.11	U	ng/L	P358410	
		Fenamiphos	0.56	U	ng/L	P358410	
		Fipronil	0.28	U	ng/L	P358410	
		Fipronil Desulfinyl**	0.14	U	ng/L	P358410	
		Fipronil Sulfide	0.17	U	ng/L	P358410	
		Fipronil Sulfone	0.17	U	ng/L	P358410	
		Fonofos	0.22	U	ng/L	P358410	
		Hexazinone	0.56	U	ng/L	P358410	
		Malathion	0.39	U	ng/L	P358410	
		Metalaxyl	0.33	U	ng/L	P358410	
		Metolachlor	0.56	U	ng/L	P358410	
		Metribuzin	0.22	UJ	ng/L	P358410	CCV
		Mevinphos	0.56	U	ng/L	P358410	
		Molinate	0.33	U	ng/L	P358410	
		Norflurazon	0.56	U	ng/L	P358410	
		Oxadiazon**	0.11	U	ng/L	P358410	
		Parathion Ethyl	0.28	U	ng/L	P358410	
		Parathion Methyl	0.61	U	ng/L	P358410	
		Pendimethalin	1.1	U	ng/L	P358410	
		Phorate	0.28	U	ng/L	P358410	
		Prodiamine**	0.20	U	ng/L	P358410	
		Prometon	1.0	U	ng/L	P358410	
		Prometryn	0.22	U	ng/L	P358410	
		Simazine	0.56	U	ng/L	P358410	
		Tebuconazole**	0.56	U	ng/L	P358410	
		Terbufos	0.11	U	ng/L	P358410	
		Terbuthylazine	0.47	U	ng/L	P358410	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for glyphosate and AMPA could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8270D: MS accuracies for Atrazine and Simazine not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358222

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358340

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P358340

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358665

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358667

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358567

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358281

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358418

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358296

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358231

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

Reference Method: EPA 8270D
Batch ID: P358410

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P358410

Component	Result	Code	Units
Cyanazine	3.2	U	ng/L
Demeton	7.0	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	0.50	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	0.30	U	ng/L
Metolachlor	0.50	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
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	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
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P358148

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
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P358179

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P358179

Component	Result	Code	Units
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	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
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P358211

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P358652

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

Reference Method: SM 2540 C-97
Batch ID: P358783

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P358784

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P358776

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P358777

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P358656

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P358330

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: P358340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	104		P	85 - 115
Iron	106		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	103		P	85 - 115
Sodium	106		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.7		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	106		P	85 - 115
Boron	95.6		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	98.4		P	85 - 115
Copper	98.3		P	85 - 115
Lead	100		P	85 - 115
Nickel	98.6		P	85 - 115
Selenium	97.3		P	85 - 115
Silver	103		P	85 - 115
Thallium	96.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358665

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358667

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358280

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358281

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358418

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358296

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358231

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

Reference Method: EPA 8270D
Batch ID: P358410

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	88.4	112	P/P	71 - 121
Alachlor	89.8	106	P/P	72 - 119
Ametryn	105	121	P/P	47 - 144
Atrazine	115	118	P/P	75 - 123
Atrazine Desethyl	84.0	95.6	P/P	45 - 133
Azinphos Methyl	104	135	P/P	66 - 165
Bromacil	56.6	60.1	P/P	43 - 123
Butylate	59.7	63.3	P/P	27 - 83.0
Chlorpyrifos Ethyl	86.6	87.4	P/P	70 - 117
Chlorpyrifos Methyl	85.9	93.7	P/P	71 - 120
Cyanazine	110	162	P/P	34 - 264
Demeton	84.0	102	P/P	41 - 122
Diazinon	89.4	113	P/P	70 - 127
Dimethenamid	84.5	106	P/P	60 - 130
Disulfoton	88.2	98.8	P/P	56 - 127
Dithiopyr	88.8	106	P/P	60 - 130

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P358410

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
EPTC	57.8	62.2	P/P	24 - 84.0
Ethion	92.4	61.1	P/P	53 - 132
Ethoprop	87.0	95.3	P/P	57 - 117
Fenamiphos	86.6	69.1	P/P	55 - 136
Fipronil	81.7	90.0	P/P	64 - 126
Fipronil Desulfinyl	78.6	79.1	P/P	60 - 130
Fipronil Sulfide	86.0	69.6	P/P	57 - 120
Fipronil Sulfone	83.7	83.0	P/P	52 - 115
Fonofos	84.7	89.3	P/P	61 - 121
Hexazinone	108	99.1	P/P	62 - 131
Malathion	94.8	82.7	P/P	67 - 126
Metalaxyl	93.5	91.3	P/P	54 - 128
Metolachlor	90.1	106	P/P	71 - 118
Metribuzin	142	160	P/P	42 - 221
Mevinphos	81.2	74.6	P/P	45 - 114
Molinate	67.8	78.7	P/P	33 - 91.0
Norflurazon	84.0	91.6	P/P	60 - 123
Oxadiazon	91.1	83.0	P/P	60 - 130
Parathion Ethyl	88.2	85.4	P/P	73 - 111
Parathion Methyl	102	122	P/P	74 - 126
Pendimethalin	89.9	92.0	P/P	63 - 131
Phorate	92.7	107	P/P	54 - 115
Prodiamine	104	98.3	P/P	60 - 130
Prometon	88.4	91.5	P/P	61 - 120
Prometryn	90.7	87.8	P/P	62 - 126
Simazine	101	94.4	P/P	75 - 126
Tebuconazole	85.9	72.0	P/P	30 - 100
Terbufos	88.7	97.3	P/P	65 - 116
Terbuthylazine	95.9	99.0	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P358148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	127		P	40 - 150
Endothall	93.8		P	40 - 150
Glufosinate	72.5		P	40 - 150
Glyphosate	85.0		P	40 - 140
Sucralose	82.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P358179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.7		P	40 - 150
Acetaminophen	101		P	30 - 150
Bentazon	86.8		P	30 - 150
Carbamazepine	95.7		P	40 - 150
Diuron	70.5		P	40 - 150
Fenuron	124		P	40 - 150
Fluridone	102		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P358179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Hydrocodone	112		P	40 - 150
Ibuprofen	91.2		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	105		P	40 - 160
Linuron	69.9		P	40 - 150
MCPP	128		P	40 - 150
Naproxen	53.2		P	40 - 150
Primidone	92.8		P	40 - 150
Pyraclostrobin	50.9		P	40 - 150
Triclopyr	76.8		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P358211

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

Reference Method: SM 2320 B-97
Batch ID: P358652

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

Reference Method: SM 4500 F-C-97
Batch ID: P358656

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

Reference Method: SM 5310 B-00
Batch ID: P358330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058652	Barium	100		P	80 - 120
2058652	Calcium	102		P	80 - 120
2058652	Iron	109		P	80 - 120
2058652	Magnesium	106		P	80 - 120
2058652	Potassium	102		P	80 - 120
2058652	Sodium	105		P	80 - 120
2058652	Zinc	102		P	80 - 120
2058985	Barium	100	101	P/P	80 - 120
2058985	Calcium	107		P	80 - 120
2058985	Iron	107	109	P/P	80 - 120
2058985	Magnesium	109	112	P/P	80 - 120
2058985	Potassium	100	102	P/P	80 - 120
2058985	Sodium	106		P	80 - 120
2058985	Zinc	104	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058652	Aluminum	104		P	80 - 120
2058652	Antimony	108		P	80 - 120
2058652	Arsenic	110		P	80 - 120
2058652	Boron	96.6		P	80 - 120
2058652	Cadmium	107		P	80 - 120
2058652	Chromium	95.7		P	80 - 120
2058652	Copper	97.4		P	80 - 120
2058652	Lead	101		P	80 - 120
2058652	Nickel	96.0		P	80 - 120
2058652	Selenium	99.3		P	80 - 120
2058652	Silver	104		P	80 - 120
2058652	Thallium	99.5		P	80 - 120
2058985	Aluminum	97.8	97.2	P/P	80 - 120
2058985	Antimony	107	108	P/P	80 - 120
2058985	Arsenic	110	110	P/P	80 - 120
2058985	Boron	95.6	94.9	P/P	80 - 120
2058985	Cadmium	105	105	P/P	80 - 120
2058985	Chromium	103	103	P/P	80 - 120
2058985	Copper	102	102	P/P	80 - 120
2058985	Lead	103	103	P/P	80 - 120
2058985	Nickel	100	101	P/P	80 - 120
2058985	Selenium	99.1	99.0	P/P	80 - 120
2058985	Silver	105	105	P/P	80 - 120
2058985	Thallium	100	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058864	Chloride	98.7		P	90 - 110
2058965	Chloride	99.3		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058864	Sulfate	100		P	90 - 110
2058965	Sulfate	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058908	Chloride	95.6		P	90 - 110
2058999	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058908	Sulfate	97.8		P	90 - 110
2058999	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058929	Ammonia-N	102	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058976	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358418

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058909	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058961	Total-P	97.3	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358231

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058963	O-Phosphate-P	94.4	96.1	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P358410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060276	Acetochlor	117	97.9	P/P	63 - 129

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P358410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2060276	Alachlor	110	88.3	P/P	65 - 127
2060276	Ametryn	137	101	P/P	40 - 164
2060276	Atrazine Desethyl	90.7	71.8	P/P	14 - 157
2060276	Azinphos Methyl	144	124	P/P	49 - 180
2060276	Bromacil	90.8	74.9	P/P	48 - 130
2060276	Butylate	63.0	54.8	P/P	10 - 94.0
2060276	Chlorpyrifos Ethyl	86.0	79.2	P/P	58 - 123
2060276	Chlorpyrifos Methyl	92.6	83.6	P/P	58 - 125
2060276	Cyanazine	159	134	P/P	24 - 253
2060276	Demeton	103	88.7	P/P	25 - 149
2060276	Diazinon	119	96.4	P/P	59 - 144
2060276	Dimethenamid	111	86.5	P/P	60 - 130
2060276	Disulfoton	102	86.8	P/P	54 - 132
2060276	Dithiopyr	114	92.0	P/P	60 - 130
2060276	EPTC	56.8	49.1	P/P	10 - 92.0
2060276	Ethion	56.7	52.7	P/P	30 - 148
2060276	Ethoprop	100	82.8	P/P	50 - 130
2060276	Fenamiphos	80.6	76.1	P/P	49 - 142
2060276	Fipronil	98.2	76.0	P/P	46 - 140
2060276	Fipronil Desulfinyl	83.7	70.6	P/P	60 - 130
2060276	Fipronil Sulfide	69.9	59.7	P/P	31 - 136
2060276	Fipronil Sulfone	77.7	65.5	P/P	16 - 136
2060276	Fonofos	90.9	84.5	P/P	55 - 129
2060276	Hexazinone	103	92.0	P/P	56 - 141
2060276	Malathion	77.5	75.7	P/P	56 - 135
2060276	Metalaxyl	98.8	83.5	P/P	54 - 135
2060276	Metolachlor	106	90.0	P/P	51 - 140
2060276	Metribuzin	154	132	P/P	45 - 254
2060276	Mevinphos	81.2	69.7	P/P	33 - 131
2060276	Molinate	79.1	70.5	P/P	14 - 98.0
2060276	Norflurazon	99.7	85.7	P/P	34 - 136
2060276	Oxadiazon	89.3	78.8	P/P	60 - 130
2060276	Parathion Ethyl	90.2	77.4	P/P	66 - 118
2060276	Parathion Methyl	117	106	P/P	64 - 136
2060276	Pendimethalin	101	85.9	P/P	59 - 144
2060276	Phorate	113	91.2	P/P	42 - 130
2060276	Prodiamine	95.7	77.0	P/P	60 - 130
2060276	Prometon	94.9	78.8	P/P	59 - 134
2060276	Prometryn	79.9	68.5	P/P	54 - 135
2060276	Tebuconazole	78.8	66.1	P/P	30 - 100
2060276	Terbufos	102	86.6	P/P	57 - 131
2060276	Terbuthylazine	106	85.5	P/P	68 - 125

Reference Method: EPA 8321B
Batch ID: P358148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058683	Acesulfame K	78.4	77.0	P/P	40 - 150
2058683	Endothall	98.1	85.0	P/P	40 - 150
2058683	Glufosinate	95.7	128	P/P	40 - 150
2058683	Sucralose	78.4	82.8	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P358179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058649	2,4-D	91.0	101	P/P	40 - 150
2058649	Acetaminophen	93.7	94.8	P/P	30 - 150
2058649	Bentazon	37.1	32.9	P/P	30 - 150
2058649	Carbamazepine	73.4	74.9	P/P	40 - 150
2058649	Diuron	58.2	50.9	P/P	40 - 150
2058649	Fenuron	80.7	87.4	P/P	40 - 150
2058649	Fluridone	85.8	82.8	P/P	40 - 150
2058649	Hydrocodone	97.9	102	P/P	40 - 150
2058649	Ibuprofen	87.6	82.4	P/P	40 - 150
2058649	Imazapyr	109	98.1	P/P	40 - 150
2058649	Imidacloprid	140	150	P/P	40 - 160
2058649	Linuron	55.6	52.8	P/P	40 - 150
2058649	MCPP	121	121	P/P	40 - 150
2058649	Naproxen	70.3	65.7	P/P	40 - 150
2058649	Primidone	101	99.2	P/P	40 - 150
2058649	Pyraclostrobin	65.0	54.8	P/P	40 - 150
2058649	Triclopyr	79.8	77.6	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P358656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058695	Fluoride	99.0	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P358330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058905	Organic Carbon	93.4	93.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058908	Turbidity	0.444	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P358340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058985	Barium	0.539	Spike	P	0 - 20
2058985	Calcium	0.599	Spike	P	0 - 20
2058985	Iron	1.64	Spike	P	0 - 20
2058985	Magnesium	2.41	Spike	P	0 - 20
2058985	Potassium	1.48	Spike	P	0 - 20
2058985	Sodium	0.288	Spike	P	0 - 20
2058985	Zinc	0.720	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P358340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058985	Aluminum	0.562	Spike	P	0 - 20
2058985	Antimony	0.548	Spike	P	0 - 20
2058985	Arsenic	0.167	Spike	P	0 - 20
2058985	Boron	0.561	Spike	P	0 - 20
2058985	Cadmium	0.690	Spike	P	0 - 20
2058985	Chromium	0.0339	Spike	P	0 - 20
2058985	Copper	0.137	Spike	P	0 - 20
2058985	Lead	0.585	Spike	P	0 - 20
2058985	Nickel	0.0985	Spike	P	0 - 20
2058985	Selenium	0.134	Spike	P	0 - 20
2058985	Silver	0.273	Spike	P	0 - 20
2058985	Thallium	2.10	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058864	Chloride	0.139	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058864	Sulfate	0.0478	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058908	Chloride	0.202	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P358736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058908	Sulfate	0.0840	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P358567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058929	Ammonia-N	2.30	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058689	Kjeldahl Nitrogen	0.857	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058976	Kjeldahl Nitrogen	0.0378	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P358418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058909	NO2NO3-N	0.320	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058961	Total-P	5.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058963	O-Phosphate-P	1.78	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P358410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2060276	Acetochlor	18.1	Spike	P	0 - 30
2060276	Alachlor	21.8	Spike	P	0 - 30
2060276	Ametryn	29.8	Spike	P	0 - 30
2060276	Atrazine	16.2	Spike	P	0 - 30
2060276	Atrazine Desethyl	20.4	Spike	P	0 - 30
2060276	Azinphos Methyl	14.6	Spike	P	0 - 30
2060276	Bromacil	16.3	Spike	P	0 - 30
2060276	Butylate	13.9	Spike	P	0 - 30
2060276	Chlorpyrifos Ethyl	8.19	Spike	P	0 - 30
2060276	Chlorpyrifos Methyl	10.3	Spike	P	0 - 30
2060276	Cyanazine	17.1	Spike	P	0 - 30
2060276	Demeton	15.2	Spike	P	0 - 30
2060276	Diazinon	21.1	Spike	P	0 - 30
2060276	Dimethenamid	16.5	Spike	P	0 - 30
2060276	Disulfoton	16.4	Spike	P	0 - 30
2060276	Dithiopyr	21.7	Spike	P	0 - 30
2060276	EPTC	14.6	Spike	P	0 - 30
2060276	Ethion	7.26	Spike	P	0 - 30
2060276	Ethoprop	18.8	Spike	P	0 - 30
2060276	Fenamiphos	5.78	Spike	P	0 - 30
2060276	Fipronil	17.9	Spike	P	0 - 30
2060276	Fipronil Desulfinyl	16.0	Spike	P	0 - 30
2060276	Fipronil Sulfide	12.2	Spike	P	0 - 30
2060276	Fipronil Sulfone	10.4	Spike	P	0 - 30
2060276	Fonofos	7.28	Spike	P	0 - 30
2060276	Hexazinone	11.0	Spike	P	0 - 30
2060276	Malathion	2.35	Spike	P	0 - 30
2060276	Metalaxyl	16.9	Spike	P	0 - 30
2060276	Metolachlor	14.3	Spike	P	0 - 30
2060276	Metribuzin	15.4	Spike	P	0 - 30
2060276	Mevinphos	15.2	Spike	P	0 - 30
2060276	Molinate	11.5	Spike	P	0 - 30
2060276	Norflurazon	15.1	Spike	P	0 - 30
2060276	Oxadiazon	12.1	Spike	P	0 - 30
2060276	Parathion Ethyl	15.3	Spike	P	0 - 30
2060276	Parathion Methyl	10.3	Spike	P	0 - 30
2060276	Pendimethalin	16.2	Spike	P	0 - 30
2060276	Phorate	21.0	Spike	P	0 - 30
2060276	Prodiamine	21.7	Spike	P	0 - 30
2060276	Prometon	18.5	Spike	P	0 - 30
2060276	Prometryn	13.6	Spike	P	0 - 30
2060276	Simazine	18.2	Spike	P	0 - 30
2060276	Tebuconazole	16.0	Spike	P	0 - 30
2060276	Terbufos	16.4	Spike	P	0 - 30
2060276	Terbuthylazine	21.8	Spike	P	0 - 30
LFB	Acetochlor	23.2	LCS	P	0 - 30
LFB	Alachlor	16.2	LCS	P	0 - 30
LFB	Ametryn	13.9	LCS	P	0 - 30
LFB	Atrazine	3.24	LCS	P	0 - 30
LFB	Atrazine Desethyl	12.9	LCS	P	0 - 30
LFB	Azinphos Methyl	25.6	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P358410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Bromacil	6.09	LCS	P	0 - 30
LFB	Butylate	5.84	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	1.01	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	8.67	LCS	P	0 - 30
LFB	Cyanazine	38.4	LCS	F	0 - 30
LFB	Demeton	19.9	LCS	P	0 - 30
LFB	Diazinon	23.1	LCS	P	0 - 30
LFB	Dimethenamid	22.4	LCS	P	0 - 30
LFB	Disulfoton	11.4	LCS	P	0 - 30
LFB	Dithiopyr	17.6	LCS	P	0 - 30
LFB	EPTC	7.28	LCS	P	0 - 30
LFB	Ethion	40.7	LCS	F	0 - 30
LFB	Ethoprop	9.12	LCS	P	0 - 30
LFB	Fenamiphos	22.5	LCS	P	0 - 30
LFB	Fipronil	9.66	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	0.635	LCS	P	0 - 30
LFB	Fipronil Sulfide	21.2	LCS	P	0 - 30
LFB	Fipronil Sulfone	0.842	LCS	P	0 - 30
LFB	Fonofos	5.34	LCS	P	0 - 30
LFB	Hexazinone	8.86	LCS	P	0 - 30
LFB	Malathion	13.7	LCS	P	0 - 30
LFB	Metalaxyl	2.38	LCS	P	0 - 30
LFB	Metolachlor	15.8	LCS	P	0 - 30
LFB	Metribuzin	11.9	LCS	P	0 - 30
LFB	Mevinphos	8.54	LCS	P	0 - 30
LFB	Molinate	14.9	LCS	P	0 - 30
LFB	Norflurazon	8.67	LCS	P	0 - 30
LFB	Oxadiazon	9.37	LCS	P	0 - 30
LFB	Parathion Ethyl	3.19	LCS	P	0 - 30
LFB	Parathion Methyl	18.3	LCS	P	0 - 30
LFB	Pendimethalin	2.30	LCS	P	0 - 30
LFB	Phorate	14.5	LCS	P	0 - 30
LFB	Prodiamine	5.88	LCS	P	0 - 30
LFB	Prometon	3.43	LCS	P	0 - 30
LFB	Prometryn	3.18	LCS	P	0 - 30
LFB	Simazine	6.59	LCS	P	0 - 30
LFB	Tebuconazole	17.6	LCS	P	0 - 30
LFB	Terbufos	9.20	LCS	P	0 - 30
LFB	Terbuthylazine	3.18	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P358148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058683	Acesulfame K	1.77	Spike	P	0 - 30
2058683	AMPA	19.0	Spike	P	0 - 30
2058683	Endothall	14.3	Spike	P	0 - 30
2058683	Glufosinate	28.8	Spike	P	0 - 30
2058683	Glyphosate	20.5	Spike	P	0 - 30
2058683	Sucralose	3.73	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P358179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058649	2,4-D	9.79	Spike	P	0 - 30
2058649	Acetaminophen	0.953	Spike	P	0 - 30
2058649	Bentazon	1.92	Spike	P	0 - 30
2058649	Carbamazepine	2.09	Spike	P	0 - 30
2058649	Diuron	12.3	Spike	P	0 - 30
2058649	Fenuron	8.01	Spike	P	0 - 30
2058649	Fluridone	2.37	Spike	P	0 - 30
2058649	Hydrocodone	4.19	Spike	P	0 - 30
2058649	Ibuprofen	6.11	Spike	P	0 - 30
2058649	Imazapyr	4.09	Spike	P	0 - 30
2058649	Imidacloprid	5.89	Spike	P	0 - 30
2058649	Linuron	5.19	Spike	P	0 - 30
2058649	MCPP	0.337	Spike	P	0 - 30
2058649	Naproxen	6.74	Spike	P	0 - 30
2058649	Primidone	2.08	Spike	P	0 - 30
2058649	Pyraclostrobin	17.1	Spike	P	0 - 30
2058649	Triclopyr	2.87	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P358211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058960	Color (true)	1.27	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P358652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058695	Total Alkalinity	0.0584	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P358783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058864	TDS	4.06	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P358784

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058908	TDS	6.16	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P358656

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

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P358656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058695	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P358330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058905	Organic Carbon	0.0644	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: 2058901
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.5	P	30 - 160
EPA 8321B	Diuron-d6	70.5	P	30 - 160
EPA 8321B	Endothall-d6	88.1	P	40 - 160
EPA 8321B	Endothall-d6	88.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	73.8	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	73.8	P	40 - 160
EPA 8321B	Ibuprofen-d3	94.5	P	30 - 160
EPA 8321B	Primidone-d5	89.4	P	30 - 160
EPA 8321B	Sucralose-d6	78.9	P	40 - 160
EPA 8321B	Sucralose-d6	78.9	P	40 - 160

Lab Sample ID: 2058902
Field Sample ID: 20030653DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.1	P	30 - 160
EPA 8321B	Diuron-d6	62.5	P	30 - 160
EPA 8321B	Endothall-d6	87.6	P	40 - 160
EPA 8321B	Endothall-d6	87.6	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	69.8	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	69.8	P	40 - 160
EPA 8321B	Ibuprofen-d3	93.1	P	30 - 160
EPA 8321B	Primidone-d5	93.3	P	30 - 160
EPA 8321B	Sucralose-d6	81.4	P	40 - 160
EPA 8321B	Sucralose-d6	81.4	P	40 - 160

Lab Sample ID: 2058903
Field Sample ID: FB01232019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	65.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.8	P	30 - 160
EPA 8321B	Diuron-d6	69.6	P	30 - 160
EPA 8321B	Endothall-d6	93.1	P	40 - 160
EPA 8321B	Endothall-d6	93.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	60.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	60.3	P	40 - 160
EPA 8321B	Ibuprofen-d3	87.9	P	30 - 160
EPA 8321B	Primidone-d5	71.7	P	30 - 160
EPA 8321B	Sucralose-d6	77.6	P	40 - 160
EPA 8321B	Sucralose-d6	77.6	P	40 - 160

Lab Sample ID: 2058913
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	99.9	P	68 - 130

Quality Assurance Report
Surrogates

Lab Sample ID: 2058913
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Terbufos-d10	99.0	P	61 - 136

Lab Sample ID: 2058914
Field Sample ID: 20030653DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	105	P	68 - 130
EPA 8270D	Terbufos-d10	97.2	P	61 - 136

Lab Sample ID: 2058915
Field Sample ID: FB01232019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	118	P	68 - 130
EPA 8270D	Terbufos-d10	111	P	61 - 136

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A89147
Included Lab Sample IDs: 2058883, 2058884, 2058889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89150
Included Lab Sample IDs: 2058883, 2058884, 2058889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A89152
Included Lab Sample IDs: 2058887, 2058888, 2058891

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

Reference Method: EPA 8321B
Run ID: A89191
Included Lab Sample IDs: 2058901, 2058902, 2058903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	105	109	P/P	60 - 160
Endothall	83.5	88.3	P/P	60 - 160

Reference Method: SM 5310 B-00
Run ID: A89193
Included Lab Sample IDs: 2058885, 2058886, 2058890

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89196
Included Lab Sample IDs: 2058885, 2058886

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89203
Included Lab Sample IDs: 2058890

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A89205
Included Lab Sample IDs: 2058883, 2058884

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

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Reference Method: EPA 300.0 Rev. 2.1
Run ID: A89205
Included Lab Sample IDs: 2058883, 2058884

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

Reference Method: EPA 8321B
Run ID: A89207
Included Lab Sample IDs: 2058901, 2058902, 2058903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	78.8	75.4	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89209
Included Lab Sample IDs: 2058885, 2058886, 2058890

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.8	P/P	90 - 110
Total-P	99.2	98.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A89212
Included Lab Sample IDs: 2058903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	100	104	P/P	60 - 160
Glufosinate	93.9	93.4	P/P	60 - 160
Glyphosate	104	98.6	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A89215
Included Lab Sample IDs: 2058885, 2058886, 2058890

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A89233
Included Lab Sample IDs: 2058910, 2058911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.8	99.3	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	100	99.5	P/P	90 - 110
Sodium	106	103	P/P	90 - 110
Zinc	99.6	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89276
Included Lab Sample IDs: 2058885, 2058886, 2058890

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

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Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89276
Included Lab Sample IDs: 2058885, 2058886, 2058890

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	98.7	P/P	90 - 110
Ammonia-N	98.7	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A89286
Included Lab Sample IDs: 2058901, 2058902, 2058903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	79.7	81.6	P/P	50 - 150
Acetaminophen	87.6	101	P/P	60 - 160
Bentazon	104	97.7	P/P	50 - 160
Carbamazepine	95.8	90.9	P/P	60 - 150
Diuron	87.5	88.0	P/P	60 - 150
Fenuron	92.6	93.2	P/P	60 - 150
Fluridone	98.1	97.0	P/P	60 - 160
Hydrocodone	88.1	81.0	P/P	60 - 150
Ibuprofen	84.9	72.6	P/P	50 - 160
Imazapyr	88.1	78.9	P/P	50 - 150
Imidacloprid	85.4	82.7	P/P	60 - 150
Linuron	97.1	95.8	P/P	60 - 150
MCPP	87.5	83.8	P/P	50 - 150
Naproxen	82.5	92.2	P/P	50 - 160
Primidone	86.0	94.7	P/P	60 - 150
Pyraclostrobin	94.1	94.4	P/P	60 - 150
Triclopyr	88.7	89.8	P/P	50 - 150

Reference Method: SM 2320 B-97
Run ID: A89314
Included Lab Sample IDs: 2058883, 2058884, 2058889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A89314
Included Lab Sample IDs: 2058883, 2058884, 2058889

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89350
Included Lab Sample IDs: 2058910, 2058911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	97.3	P/P	90 - 110
Aluminum	98.2	97.5	P/P	90 - 110
Antimony	102	103	P/P	90 - 110
Antimony	103	104	P/P	90 - 110
Boron	94.1	94.2	P/P	90 - 110
Boron	95.2	92.9	P/P	90 - 110

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Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89350
Included Lab Sample IDs: 2058910, 2058911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	98.8	99.2	P/P	90 - 110
Cadmium	99.6	99.7	P/P	90 - 110
Chromium	95.1	99.2	P/P	90 - 110
Chromium	99.4	99.4	P/P	90 - 110
Copper	101	99.3	P/P	90 - 110
Copper	97.1	99.6	P/P	90 - 110
Lead	100	101	P/P	90 - 110
Lead	99.6	100	P/P	90 - 110
Nickel	100	98.2	P/P	90 - 110
Nickel	96.3	98.7	P/P	90 - 110
Silver	100	99.3	P/P	90 - 110
Silver	99.2	100	P/P	90 - 110
Thallium	90.5	90.9	P/P	90 - 110
Thallium	90.8	90.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A89353
Included Lab Sample IDs: 2058889

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89414
Included Lab Sample IDs: 2058910, 2058911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.2	99.8	P/P	90 - 110
Selenium	96.8	97.2	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A89520
Included Lab Sample IDs: 2058913, 2058914, 2058915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	97.7		P	80 - 120
Atrazine	98.2		P	80 - 120
Atrazine Desethyl	95.4		P	80 - 120
Azinphos Methyl	94.0		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	101		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	83.5		P	80 - 120
Demeton	96.8		P	80 - 120
Diazinon	98.5		P	80 - 120
Dimethenamid	103		P	80 - 120
Disulfoton	99.1		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A89520
Included Lab Sample IDs: 2058913, 2058914, 2058915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dithiopyr	102		P	80 - 120
EPTC	98.9		P	80 - 120
Ethion	99.7		P	80 - 120
Ethoprop	99.2		P	80 - 120
Fenamiphos	98.1		P	80 - 120
Fipronil	99.9		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	100		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Fonofos	98.2		P	80 - 120
Hexazinone	100		P	80 - 120
Malathion	98.1		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	106		P	80 - 120
Metribuzin	79.9*		F	80 - 120
Mevinphos	102		P	80 - 120
Molinate	106		P	80 - 120
Norflurazon	100		P	80 - 120
Oxadiazon	103		P	80 - 120
Parathion Ethyl	93.9		P	80 - 120
Parathion Methyl	96.2		P	80 - 120
Pendimethalin	95.7		P	80 - 120
Phorate	98.3		P	80 - 120
Prodiamine	99.4		P	80 - 120
Prometon	99.2		P	80 - 120
Prometryn	99.7		P	80 - 120
Simazine	96.8		P	80 - 120
Tebuconazole	99.7		P	80 - 120
Terbufos	97.7		P	80 - 120
Terbuthylazine	99.7		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			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							0.444	
EPA 200.7 Rev. 4.4	Barium	101		100	100	101			0.539
	Calcium	104		102	107				0.599
	Iron	106		109	107	109			1.64
	Magnesium	111		106	109	112			2.41
	Potassium	103		102	100	102			1.48
	Sodium	106		105	106				0.288
	Zinc	101		102	104	105			0.720
EPA 200.8 Rev. 5.4	Aluminum	99.7		104	97.8	97.2			0.562
	Antimony	103		108	107	108			0.548
	Arsenic	106		110	110	110			0.167
	Boron	95.6		96.6	95.6	94.9			0.561
	Cadmium	102		107	105	105			0.690
	Chromium	98.4		95.7	103	103			0.0339
	Copper	98.3		97.4	102	102			0.137
	Lead	100		101	103	103			0.585
	Nickel	98.6		96.0	100	101			0.0985
	Selenium	97.3		99.3	99.1	99.0			0.134
	Silver	103		104	105	105			0.273
	Thallium	96.2		99.5	100	103			2.10
EPA 300.0 Rev. 2.1	Chloride	100		98.7	99.3			0.139	
	Chloride	99.3		95.6	98.8			0.202	
	Sulfate	97.9		100	99.5			0.0478	
	Sulfate	98.9		97.8	99.2			0.0840	
EPA 350.1 Rev. 2.0	Ammonia-N	97.5		102	99.6				2.30
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104							0.857
	Kjeldahl Nitrogen	109		102	102				0.0378
EPA 353.2 Rev. 2.0	NO2NO3-N	100		101	102				0.320
EPA 365.1 Rev. 2.0	Total-P	106		97.3	103				5.69
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8		94.4	96.1				1.78
EPA 8270D	Acetochlor	88.4	112	117	97.9		23.2		18.1
	Alachlor	89.8	106	110	88.3		16.2		21.8
	Ametryn	105	121	137	101		13.9		29.8
	Atrazine	115	118				3.24		16.2
	Atrazine Desethyl	84.0	95.6	90.7	71.8		12.9		20.4
	Azinphos Methyl	104	135	144	124		25.6		14.6
	Bromacil	56.6	60.1	90.8	74.9		6.09		16.3
	Butylate	63.3	59.7	63.0	54.8		5.84		13.9
	Chlorpyrifos Ethyl	87.4	86.6	86.0	79.2		1.01		8.19
	Chlorpyrifos Methyl	85.9	93.7	92.6	83.6		8.67		10.3
	Cyanazine	110	162	159	134		38.4		17.1
	Demeton	84.0	102	103	88.7		19.9		15.2
	Diazinon	89.4	113	119	96.4		23.1		21.1
	Dimethenamid	84.5	106	111	86.5		22.4		16.5
	Disulfoton	88.2	98.8	102	86.8		11.4		16.4
	Dithiopyr	88.8	106	114	92.0		17.6		21.7
	EPTC	57.8	62.2	56.8	49.1		7.28		14.6
	Ethion	92.4	61.1	56.7	52.7		40.7		7.26
	Ethoprop	87.0	95.3	100	82.8		9.12		18.8
	Fenamiphos	86.6	69.1	80.6	76.1		22.5		5.78
	Fipronil	81.7	90.0	98.2	76.0		9.66		17.9
	Fipronil Desulfinyl	78.6	79.1	83.7	70.6		0.635		16.0
	Fipronil Sulfide	86.0	69.6	69.9	59.7		21.2		12.2
	Fipronil Sulfone	83.7	83.0	77.7	65.5		0.842		10.4

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Fonofos	84.7	89.3	90.9	84.5	5.34		7.28
	Hexazinone	108	99.1	103	92.0	8.86		11.0
	Malathion	94.8	82.7	77.5	75.7	13.7		2.35
	Metalaxyl	93.5	91.3	98.8	83.5	2.38		16.9
	Metolachlor	90.1	106	106	90.0	15.8		14.3
	Metribuzin	142	160	154	132	11.9		15.4
	Mevinphos	81.2	74.6	81.2	69.7	8.54		15.2
	Molinate	67.8	78.7	79.1	70.5	14.9		11.5
	Norflurazon	84.0	91.6	99.7	85.7	8.67		15.1
	Oxadiazon	91.1	83.0	89.3	78.8	9.37		12.1
	Parathion Ethyl	88.2	85.4	90.2	77.4	3.19		15.3
	Parathion Methyl	102	122	117	106	18.3		10.3
	Pendimethalin	89.9	92.0	101	85.9	2.30		16.2
	Phorate	92.7	107	113	91.2	14.5		21.0
	Prodiamine	104	98.3	95.7	77.0	5.88		21.7
	Prometon	88.4	91.5	94.9	78.8	3.43		18.5
	Prometryn	90.7	87.8	79.9	68.5	3.18		13.6
	Simazine	101	94.4			6.59		18.2
	Tebuconazole	85.9	72.0	78.8	66.1	17.6		16.0
	Terbufos	88.7	97.3	102	86.6	9.20		16.4
	Terbuthylazine	95.9	99.0	106	85.5	3.18		21.8
EPA 8321B	2,4-D	89.7		91.0	101			9.79
	Acesulfame K	115		78.4	77.0			1.77
	Acetaminophen	101		93.7	94.8			0.953
	AMPA	127						19.0
	Bentazon	86.8		37.1	32.9			1.92
	Carbamazepine	95.7		73.4	74.9			2.09
	Diuron	70.5		58.2	50.9			12.3
	Endothall	93.8		98.1	85.0			14.3
	Fenuron	124		80.7	87.4			8.01
	Fluridone	102		85.8	82.8			2.37
	Glufosinate	72.5		95.7	128			28.8
	Glyphosate	85.0						20.5
	Hydrocodone	112		97.9	102			4.19
	Ibuprofen	91.2		87.6	82.4			6.11
	Imazapyr	101		109	98.1			4.09
	Imidacloprid	105		140	150			5.89
	Linuron	69.9		55.6	52.8			5.19
	MCPP	128		121	121			0.337
	Naproxen	53.2		70.3	65.7			6.74
	Primidone	92.8		101	99.2			2.08
	Pyraclostrobin	50.9		65.0	54.8			17.1
	Sucralose	82.5		78.4	82.8			3.73
	Triclopyr	76.8		79.8	77.6			2.87
SM 2120 B	Color (true)	101					1.27	
SM 2320 B-97	Total Alkalinity	103					0.0584	
SM 2540 C-97	TDS						4.06	
	TDS						6.16	
SM 4500 F-C-97	Fluoride	96.8		99.0	98.2			0.480
SM 5310 B-00	Organic Carbon	96.8		93.4	93.2			0.0644

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2058883, 2058884, 2058889
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2058910, 2058911
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2058910, 2058911
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2058883, 2058884, 2058889
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2058883, 2058884, 2058889
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2058885, 2058886, 2058890
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2058885, 2058886, 2058890
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2058885, 2058886, 2058890
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2058885, 2058886, 2058890
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2058887, 2058888, 2058891
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2058913, 2058914, 2058915
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2058901, 2058902, 2058903
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2058901, 2058902, 2058903
SM 2120 B / E31780	True Color measured at 450 nm	2058883, 2058884, 2058889
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2058883, 2058884, 2058889
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2058883, 2058884, 2058889
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2058883, 2058884, 2058889
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2058883, 2058884, 2058889
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2058885, 2058886, 2058890

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/01/2019			02/01/2019 15:49	Julia Storbeck	2058883, 2058884, 2058889
EPA 200.7 Rev. 4.4	02/01/2019	02/05/2019 15:15	Elliott D. Healy	02/06/2019 15:02	Betina Topolski	2058910
	02/01/2019	02/05/2019 15:15	Elliott D. Healy	02/06/2019 15:06	Betina Topolski	2058911
EPA 200.8 Rev. 5.4	02/01/2019	02/05/2019 15:15	Elliott D. Healy	02/09/2019 04:34	Allison Taylor	2058910
	02/01/2019	02/05/2019 15:15	Elliott D. Healy	02/09/2019 06:19	Allison Taylor	2058911
	02/01/2019	02/05/2019 15:15	Elliott D. Healy	02/14/2019 04:28	Allison Taylor	2058910
	02/01/2019	02/05/2019 15:15	Elliott D. Healy	02/14/2019 04:36	Allison Taylor	2058911
EPA 300.0 Rev. 2.1	02/01/2019			02/08/2019 02:47	Lipi Saha	2058883
	02/01/2019			02/08/2019 03:02	Lipi Saha	2058884
	02/01/2019			02/11/2019 22:27	Lipi Saha	2058889
EPA 350.1 Rev. 2.0	02/01/2019			02/07/2019 12:54	Ping Hua	2058885
	02/01/2019			02/07/2019 12:56	Ping Hua	2058886
	02/01/2019			02/07/2019 13:12	Ping Hua	2058890
EPA 351.2 Rev. 2.0	02/01/2019	02/04/2019 12:25	Adrian Shelby	02/05/2019 13:10	Joseph Suarez	2058885
	02/01/2019	02/04/2019 12:25	Adrian Shelby	02/05/2019 13:11	Joseph Suarez	2058886
	02/01/2019	02/04/2019 12:25	Adrian Shelby	02/05/2019 15:16	Joseph Suarez	2058890
EPA 353.2 Rev. 2.0	02/01/2019			02/06/2019 09:14	Beverly Y. Sanders	2058885
	02/01/2019			02/06/2019 09:16	Beverly Y. Sanders	2058886
	02/01/2019			02/06/2019 09:17	Beverly Y. Sanders	2058890
EPA 365.1 Rev. 2.0	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:00	Rosalyn Ballman	2058885
	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:08	Rosalyn Ballman	2058886
	02/01/2019	02/04/2019 13:15	Sima Feizi	02/05/2019 17:09	Rosalyn Ballman	2058890
EPA 365.1 Rev. 2.0 dissolved	02/01/2019			02/01/2019 16:29	Jhamieka S. Greenwood	2058887
	02/01/2019			02/01/2019 16:30	Jhamieka S. Greenwood	2058888
	02/01/2019			02/01/2019 16:36	Jhamieka S. Greenwood	2058891
EPA 8270D	02/01/2019	02/07/2019 08:30	Rasheda Ghaffari	02/08/2019 18:47	Vandana T. Nagar	2058913
	02/01/2019	02/07/2019 08:30	Rasheda Ghaffari	02/08/2019 19:11	Vandana T. Nagar	2058914
	02/01/2019	02/07/2019 08:30	Rasheda Ghaffari	02/08/2019 19:35	Vandana T. Nagar	2058915
EPA 8321B	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/02/2019 17:50	Rebecca Ware	2058901
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/02/2019 18:00	Rebecca Ware	2058902
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/03/2019 13:31	Rebecca Ware	2058901
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/03/2019 13:45	Rebecca Ware	2058902
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/03/2019 13:59	Rebecca Ware	2058903
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/05/2019 06:40	Rebecca Ware	2058901
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/05/2019 06:54	Rebecca Ware	2058902
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/05/2019 07:08	Rebecca Ware	2058903
	02/01/2019	02/01/2019 17:15	Rebecca Ware	02/06/2019 08:36	Rebecca Ware	2058903
	02/01/2019	02/06/2019 09:00	Hoor Shaik	02/07/2019 00:18	Juyoung Kim	2058901
	02/01/2019	02/06/2019 09:00	Hoor Shaik	02/07/2019 00:52	Juyoung Kim	2058902
	02/01/2019	02/06/2019 09:00	Hoor Shaik	02/07/2019 01:27	Juyoung Kim	2058903

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	02/01/2019			02/01/2019 14:55	Julia Storbeck	2058883
	02/01/2019			02/01/2019 14:56	Julia Storbeck	2058884, 2058889
SM 2320 B-97	02/01/2019			02/09/2019 13:56	Dale L. Simmons	2058883
	02/01/2019			02/09/2019 14:07	Dale L. Simmons	2058884
	02/01/2019			02/09/2019 14:21	Dale L. Simmons	2058889
SM 2540 C-97	02/01/2019			02/06/2019 15:36	Yijie Li	2058883, 2058884, 2058889
SM 2540 D-97	02/01/2019			02/06/2019 15:36	Yijie Li	2058883, 2058884, 2058889
SM 4500 F-C-97	02/01/2019			02/09/2019 13:56	Dale L. Simmons	2058883
	02/01/2019			02/09/2019 14:07	Dale L. Simmons	2058884
	02/01/2019			02/09/2019 14:21	Dale L. Simmons	2058889
SM 5310 B-00	02/01/2019			02/05/2019 10:08	Julia Storbeck	2058885
	02/01/2019			02/05/2019 10:20	Julia Storbeck	2058886
	02/01/2019			02/05/2019 10:34	Julia Storbeck	2058890