Chemical Analysis Report

TLH-ROC-2019-03-28-01

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

Event Description: **SCI Kits**
Request ID: **RQ-2018-12-31-35**
Customer: **TLH-ROC**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 16-APR-2019 13:18

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: Wards Creek @ CR 259 **Collection Date/Time: 03/28/2019 11:15**

Field ID: G1TLHR0103 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2073507	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P361222	
	EPA 300.0 Rev. 2.1	Chloride	5.4		mg Cl/L	P361709	MS
		Sulfate	0.42	I	mg SO4/L	P361711	MS
	SM 2120 B	Color (true)	160		PCU	P361225	
	SM 2320 B-97	Total Alkalinity	11		mg CaCO3/L	P361653	
	SM 2540 C-97	TDS	58		mg/L	P361397	
	SM 2540 D-97	TSS	6	I	mg/L	P361344	
	SM 4500 F-C-97	Fluoride	0.061	I	mg F/L	P361657	
2073509	EPA 350.1 Rev. 2.0	Ammonia-N	0.090		mg N/L	P361695	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P361487	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P361623	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P361430	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P361358	
2073511	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.083		mg P/L	P361308	
2073517	EPA 8321B	2,4-D	0.0044	I	ug/L	P361218	
		Acesulfame K**	0.10	UJ	ug/L	P361316	MS, RPD
		AMPA**	0.10	U	ug/L	P361316	
		Sucralose**	0.028	I	ug/L	P361316	
		Endothall**	0.25	U	ug/L	P361316	
		Acetaminophen**	0.0080	U	ug/L	P361218	
		Glufosinate**	0.10	U	ug/L	P361316	
		Glyphosate**	0.10	U	ug/L	P361316	
		Bentazon	8.0E-04	U	ug/L	P361218	
		Carbamazepine**	8.0E-04	U	ug/L	P361218	
		Diuron	0.0059	I	ug/L	P361218	
		Fenuron	0.017	I	ug/L	P361218	
		Fluridone**	0.0023	I	ug/L	P361218	
		Imazapyr**	0.0091	I	ug/L	P361218	
		Hydrocodone**	0.0020	U	ug/L	P361218	
		Ibuprofen**	0.020	U	ug/L	P361218	
		Imidacloprid	0.0020	U	ug/L	P361218	
		Linuron	0.0040	U	ug/L	P361218	
		MCPP	0.0020	U	ug/L	P361218	
		Naproxen**	0.0080	U	ug/L	P361218	
		Primidone**	0.0040	U	ug/L	P361218	
		Pyraclostrobin**	0.0020	U	ug/L	P361218	
		Triclopyr**	0.0040	U	ug/L	P361218	
2073519	EPA 200.7 Rev. 4.4	Barium	21.6		ug/L	P361347	
		Calcium	4.01		mg/L	P361347	
		Iron	1.10E+03		ug/L	P361347	
		Magnesium	1.90		mg/L	P361347	
		Potassium	0.73	I	mg/L	P361347	
		Sodium	2.9		mg/L	P361347	

Field ID: G1TLHR0103 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2073519	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P361347	
	EPA 200.8 Rev. 5.4	Aluminum	541		ug/L	P361347	
		Antimony	0.050	U	ug/L	P361347	
		Arsenic	0.47		ug/L	P361347	
		Boron**	10.6		ug/L	P361347	
		Cadmium	0.020	U	ug/L	P361347	
		Chromium	1.2	I	ug/L	P361347	
		Copper	0.78	I	ug/L	P361347	
		Lead	0.53		ug/L	P361347	
		Nickel	0.62	I	ug/L	P361347	
		Selenium	0.20	U	ug/L	P361347	
		Silver	0.010	U	ug/L	P361347	
		Thallium	0.10	U	ug/L	P361347	
2073521	EPA 8270D	Acetochlor	0.26	U	ng/L	P361310	
		Alachlor	0.26	U	ng/L	P361310	
		Ametryn	0.62	U	ng/L	P361310	
		Atrazine	2.7		ng/L	P361310	
		Atrazine Desethyl	1.5	U	ng/L	P361310	
		Azinphos Methyl	5.1	U	ng/L	P361310	
		Bromacil	0.51	U	ng/L	P361310	
		Butylate	0.41	U	ng/L	P361310	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P361310	
		Chlorpyrifos Methyl	0.10	U	ng/L	P361310	
		Cyanazine	3.3	U	ng/L	P361310	
		Demeton	7.2	U	ng/L	P361310	
		Diazinon	0.13	U	ng/L	P361310	
		Dimethenamid**	0.10	U	ng/L	P361310	
		Disulfoton	0.51	U	ng/L	P361310	
		Dithiopyr**	0.10	U	ng/L	P361310	
		EPTC	1.3	U	ng/L	P361310	
		Ethion	0.15	U	ng/L	P361310	
		Ethoprop	0.10	U	ng/L	P361310	
		Fenamiphos	0.51	U	ng/L	P361310	MS, RPD
		Fipronil	0.26	U	ng/L	P361310	
		Fipronil Desulfinyl**	0.13	U	ng/L	P361310	
		Fipronil Sulfide	0.15	U	ng/L	P361310	RPD
		Fipronil Sulfone	0.15	U	ng/L	P361310	
		Fonofos	0.21	U	ng/L	P361310	
		Hexazinone	0.51	U	ng/L	P361310	
		Malathion	0.36	U	ng/L	P361310	
		Metalaxyl	0.31	U	ng/L	P361310	
		Metolachlor	6.8		ng/L	P361310	
		Metribuzin	0.77	UJ	ng/L	P361310	LCS
		Mevinphos	0.51	U	ng/L	P361310	
		Molinate	0.31	U	ng/L	P361310	

Field ID: G1TLHR0103 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2073521	EPA 8270D	Norflurazon	0.51	U	ng/L	P361310	
		Oxadiazon**	0.10	U	ng/L	P361310	
		Parathion Ethyl	0.26	U	ng/L	P361310	
		Parathion Methyl	0.56	U	ng/L	P361310	
		Pendimethalin	1.0	U	ng/L	P361310	
		Phorate	0.26	UJ	ng/L	P361310	LCS
		Prodiamine**	0.18	U	ng/L	P361310	
		Prometon	0.92	UJ	ng/L	P361310	LCS, RPD
		Prometryn	0.21	U	ng/L	P361310	
		Simazine	0.51	U	ng/L	P361310	
		Tebuconazole**	0.51	U	ng/L	P361310	RPD
		Terbufos	0.10	U	ng/L	P361310	
		Terbuthylazine	0.44	U	ng/L	P361310	

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

Sample Location: Wards Creek @ W. Lake Rd **Collection Date/Time: 03/28/2019 11:50**

Field ID: G1TLHR0102 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2073508	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P361222	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P361709	MS
		Sulfate	0.20	U	mg SO4/L	P361711	MS
	SM 2120 B	Color (true)	120		PCU	P361225	
	SM 2320 B-97	Total Alkalinity	7.4		mg CaCO3/L	P361717	
	SM 2540 C-97	TDS	45		mg/L	P361398	
	SM 2540 D-97	TSS	2	U	mg/L	P361345	
	SM 4500 F-C-97	Fluoride	0.050	I	mg F/L	P361719	
2073510	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P361695	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P361487	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P361623	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P361430	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P361358	
2073512	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P361308	
2073518	EPA 8321B	2,4-D	0.0020	U	ug/L	P361218	
		Acesulfame K**	0.10	U	ug/L	P361316	MS, RPD
		AMPA**	0.10	U	ug/L	P361316	
		Sucralose**	0.043		ug/L	P361316	
		Acetaminophen**	0.0080	U	ug/L	P361218	
		Endothall**	0.25	U	ug/L	P361316	
		Glufosinate**	0.10	U	ug/L	P361316	
		Bentazon	8.0E-04	U	ug/L	P361218	
		Glyphosate**	0.10	U	ug/L	P361316	
		Carbamazepine**	8.0E-04	U	ug/L	P361218	
		Diuron	0.0025	I	ug/L	P361218	
		Fenuron	0.016	U	ug/L	P361218	
		Fluridone**	0.0011	I	ug/L	P361218	
		Imazapyr**	0.0077	I	ug/L	P361218	
		Hydrocodone**	0.0020	U	ug/L	P361218	
		Ibuprofen**	0.020	U	ug/L	P361218	
		Imidacloprid	0.0020	U	ug/L	P361218	
		Linuron	0.0040	U	ug/L	P361218	
		MCPP	0.0020	U	ug/L	P361218	
		Naproxen**	0.0080	U	ug/L	P361218	
		Primidone**	0.0040	U	ug/L	P361218	
		Pyraclostrobin**	0.0020	U	ug/L	P361218	
		Triclopyr**	0.0040	U	ug/L	P361218	
2073520	EPA 200.7 Rev. 4.4	Barium	16.2		ug/L	P361347	
		Calcium	3.15		mg/L	P361347	
		Iron	650		ug/L	P361347	
		Magnesium	1.38		mg/L	P361347	
		Potassium	0.33	I	mg/L	P361347	
		Sodium	2.2		mg/L	P361347	

Field ID: G1TLHR0102 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2073520	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P361347	
	EPA 200.8 Rev. 5.4	Aluminum	111		ug/L	P361347	
		Antimony	0.050	U	ug/L	P361347	
		Arsenic	0.29		ug/L	P361347	
		Boron**	11.6		ug/L	P361347	
		Cadmium	0.020	U	ug/L	P361347	
		Chromium	0.79	I	ug/L	P361347	
		Copper	0.40	I	ug/L	P361347	
		Lead	0.20	U	ug/L	P361347	
		Nickel	0.52	I	ug/L	P361347	
		Selenium	0.20	U	ug/L	P361347	
		Silver	0.010	U	ug/L	P361347	
		Thallium	0.10	U	ug/L	P361347	
2073522	EPA 8270D	Acetochlor	0.29	U	ng/L	P361310	
		Alachlor	0.29	U	ng/L	P361310	
		Ametryn	0.68	U	ng/L	P361310	
		Atrazine	1.4		ng/L	P361310	
		Atrazine Desethyl	1.7	U	ng/L	P361310	
		Azinphos Methyl	5.7	U	ng/L	P361310	
		Bromacil	0.57	U	ng/L	P361310	
		Butylate	0.46	U	ng/L	P361310	
		Chlorpyrifos Ethyl	0.29	U	ng/L	P361310	
		Chlorpyrifos Methyl	0.11	U	ng/L	P361310	
		Cyanazine	3.7	U	ng/L	P361310	
		Demeton	8.0	U	ng/L	P361310	
		Diazinon	0.14	U	ng/L	P361310	
		Dimethenamid**	0.11	U	ng/L	P361310	
		Disulfoton	0.57	U	ng/L	P361310	
		Dithiopyr**	0.11	U	ng/L	P361310	
		EPTC	1.4	U	ng/L	P361310	
		Ethion	0.17	U	ng/L	P361310	
		Ethoprop	0.11	U	ng/L	P361310	
		Fenamiphos	0.57	U	ng/L	P361310	MS, RPD
		Fipronil	0.29	U	ng/L	P361310	
		Fipronil Desulfinyl**	0.14	U	ng/L	P361310	
		Fipronil Sulfide	0.17	U	ng/L	P361310	RPD
		Fipronil Sulfone	0.17	U	ng/L	P361310	
		Fonofos	0.23	U	ng/L	P361310	
		Hexazinone	0.57	U	ng/L	P361310	
		Malathion	0.40	U	ng/L	P361310	
		Metalaxyl	0.34	U	ng/L	P361310	
		Metolachlor	2.9		ng/L	P361310	
		Metribuzin	0.86	UJ	ng/L	P361310	LCS
		Mevinphos	0.57	U	ng/L	P361310	
		Molinate	0.34	U	ng/L	P361310	

Field ID: G1TLHR0102 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2073522	EPA 8270D	Norflurazon	0.57	U	ng/L	P361310	
		Oxadiazon**	0.11	U	ng/L	P361310	
		Parathion Ethyl	0.29	U	ng/L	P361310	
		Parathion Methyl	0.63	U	ng/L	P361310	
		Pendimethalin	1.1	U	ng/L	P361310	
		Phorate	0.29	UJ	ng/L	P361310	LCS
		Prodiamine**	0.20	U	ng/L	P361310	
		Prometon	1.0	UJ	ng/L	P361310	LCS, RPD
		Prometryn	0.23	U	ng/L	P361310	
		Simazine	0.57	U	ng/L	P361310	
		Tebuconazole**	0.57	U	ng/L	P361310	RPD
		Terbufos	0.11	U	ng/L	P361310	
		Terbuthylazine	0.48	U	ng/L	P361310	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361222

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P361347

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: P361347

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: P361709

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361711

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361695

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361487

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361623

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361430

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361308

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

Reference Method: EPA 8270D
Batch ID: P361310

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	5.0	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	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P361310

Component	Result	Code	Units
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	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: P361218

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
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: EPA 8321B
Batch ID: P361316

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P361225

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P361653

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

Reference Method: SM 2320 B-97
Batch ID: P361717

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

Reference Method: SM 2540 C-97
Batch ID: P361397

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P361398

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P361344

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P361345

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P361657

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P361719

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P361358

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: P361347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	98.6		P	85 - 115
Calcium	106		P	85 - 115
Iron	107		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	101		P	85 - 115
Sodium	98.6		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.6		P	85 - 115
Antimony	98.4		P	85 - 115
Arsenic	106		P	85 - 115
Boron	96.0		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	95.3		P	85 - 115
Copper	106		P	85 - 115
Lead	93.1		P	85 - 115
Nickel	105		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	97.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361709

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361711

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361695

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: P361487

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361623

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361430

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361308

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

Reference Method: EPA 8270D
Batch ID: P361310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	93.3	94.3	P/P	71 - 121
Alachlor	94.7	95.0	P/P	72 - 119
Ametryn	92.3	90.2	P/P	47 - 144
Atrazine	96.8	92.6	P/P	75 - 123
Atrazine Desethyl	102	103	P/P	45 - 133
Azinphos Methyl	131	119	P/P	66 - 165
Bromacil	82.5	80.7	P/P	43 - 123
Butylate	68.0	64.8	P/P	27 - 83.0
Chlorpyrifos Ethyl	101	104	P/P	70 - 117
Chlorpyrifos Methyl	107	106	P/P	71 - 120
Cyanazine	135	121	P/P	34 - 264
Demeton	93.3	93.3	P/P	41 - 122
Diazinon	92.3	92.1	P/P	70 - 127
Dimethenamid	92.6	93.2	P/P	60 - 130
Disulfoton	98.5	106	P/P	56 - 127
Dithiopyr	94.9	93.5	P/P	60 - 130
EPTC	65.4	66.9	P/P	24 - 84.0
Ethion	82.5	90.4	P/P	53 - 132
Ethoprop	95.6	91.8	P/P	57 - 117
Fenamiphos	101	101	P/P	55 - 136
Fipronil	86.0	87.1	P/P	64 - 126
Fipronil Desulfinyl	82.0	80.4	P/P	60 - 130
Fipronil Sulfide	101	95.5	P/P	57 - 120
Fipronil Sulfone	92.9	102	P/P	52 - 115
Fonofos	103	100	P/P	61 - 121
Hexazinone	102	98.4	P/P	62 - 131
Malathion	113	110	P/P	67 - 126
Metalaxyl	83.7	90.8	P/P	54 - 128
Metolachlor	88.9	89.6	P/P	71 - 118
Metribuzin	232	230	F/F	42 - 221
Mevinphos	86.5	79.3	P/P	45 - 114
Molinate	75.2	78.6	P/P	33 - 91.0
Norflurazon	86.9	82.1	P/P	60 - 123
Oxadiazon	81.2	83.7	P/P	60 - 130

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P361310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	87.3	88.2	P/P	73 - 111
Parathion Methyl	97.3	101	P/P	74 - 126
Pendimethalin	78.8	80.5	P/P	63 - 131
Phorate	114	117	P/F	54 - 115
Prodiamine	90.5	89.9	P/P	60 - 130
Prometon	81.2	56.9	P/F	61 - 120
Prometryn	82.3	83.4	P/P	62 - 126
Simazine	94.5	100	P/P	75 - 126
Tebuconazole	62.2	66.4	P/P	30 - 100
Terbufos	102	102	P/P	65 - 116
Terbuthylazine	90.1	91.5	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P361218

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	73.7		P	40 - 150
Acetaminophen	87.4		P	30 - 150
Bentazon	103		P	30 - 150
Carbamazepine	75.1		P	40 - 150
Diuron	89.8		P	40 - 150
Fenuron	98.4		P	40 - 150
Fluridone	121		P	40 - 150
Hydrocodone	105		P	40 - 150
Ibuprofen	72.2		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	104		P	40 - 150
Linuron	83.2		P	40 - 150
MCPP	82.9		P	40 - 150
Naproxen	70.9		P	40 - 150
Primidone	91.1		P	40 - 150
Pyraclostrobin	75.6		P	40 - 150
Triclopyr	50.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P361316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	141		P	40 - 150
AMPA	91.9		P	40 - 150
Endothall	89.4		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	105		P	40 - 140
Sucralose	110		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P361225

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P361653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P361717

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

Reference Method: SM 4500 F-C-97
Batch ID: P361657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P361719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P361358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.5		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P361347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073461	Barium	100	98.9	P/P	80 - 120
2073461	Calcium	109		P	80 - 120
2073461	Iron	108	106	P/P	80 - 120
2073461	Magnesium	104		P	80 - 120
2073461	Potassium	102	99.0	P/P	80 - 120
2073461	Sodium	102	97.9	P/P	80 - 120
2073461	Zinc	101	99.6	P/P	80 - 120
2073520	Barium	101		P	80 - 120
2073520	Calcium	110		P	80 - 120
2073520	Iron	108		P	80 - 120
2073520	Magnesium	107		P	80 - 120
2073520	Potassium	99.5		P	80 - 120
2073520	Sodium	98.1		P	80 - 120
2073520	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073461	Aluminum	98.7	100	P/P	80 - 120
2073461	Antimony	101	103	P/P	80 - 120
2073461	Arsenic	104	106	P/P	80 - 120
2073461	Boron	98.7	104	P/P	80 - 120
2073461	Cadmium	103	106	P/P	80 - 120
2073461	Chromium	95.8	97.3	P/P	80 - 120
2073461	Copper	99.8	100	P/P	80 - 120
2073461	Lead	94.2	96.3	P/P	80 - 120
2073461	Nickel	102	104	P/P	80 - 120
2073461	Selenium	102	103	P/P	80 - 120
2073461	Silver	99.7	100	P/P	80 - 120
2073461	Thallium	99.0	103	P/P	80 - 120
2073520	Aluminum	90.6		P	80 - 120
2073520	Antimony	92.1		P	80 - 120
2073520	Arsenic	95.1		P	80 - 120
2073520	Boron	92.3		P	80 - 120
2073520	Cadmium	95.3		P	80 - 120
2073520	Chromium	86.2		P	80 - 120
2073520	Copper	102		P	80 - 120
2073520	Lead	86.0		P	80 - 120
2073520	Nickel	97.2		P	80 - 120
2073520	Selenium	92.5		P	80 - 120
2073520	Silver	92.8		P	80 - 120
2073520	Thallium	92.3		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073199	Chloride	86.5		F	90 - 110
2073458	Chloride	97.1		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073199	Sulfate	87.4		F	90 - 110
2073458	Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073270	Ammonia-N	99.2	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073596	Kjeldahl Nitrogen	101	113	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073509	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073356	Total-P	99.9	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073511	O-Phosphate-P	92.9	91.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P361310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073235	Acetochlor	89.5	109	P/P	63 - 129
2073235	Alachlor	90.1	95.7	P/P	65 - 127
2073235	Ametryn	90.9	102	P/P	40 - 164
2073235	Atrazine	77.1	88.2	P/P	66 - 135
2073235	Atrazine Desethyl	105	103	P/P	14 - 157
2073235	Azinphos Methyl	148	167	P/P	49 - 180
2073235	Bromacil	70.7	88.8	P/P	48 - 130
2073235	Butylate	61.0	72.0	P/P	10 - 94.0
2073235	Chlorpyrifos Ethyl	86.9	94.0	P/P	58 - 123
2073235	Chlorpyrifos Methyl	95.0	103	P/P	58 - 125
2073235	Cyanazine	118	130	P/P	24 - 253
2073235	Demeton	95.2	101	P/P	25 - 149
2073235	Diazinon	92.0	105	P/P	59 - 144
2073235	Dimethenamid	78.5	99.6	P/P	60 - 130
2073235	Disulfoton	103	111	P/P	54 - 132

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P361310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073235	Dithiopyr	80.9	96.5	P/P	60 - 130
2073235	EPTC	65.3	76.1	P/P	10 - 92.0
2073235	Ethion	39.9	53.6	P/P	30 - 148
2073235	Ethoprop	99.2	94.0	P/P	50 - 130
2073235	Fenamiphos	90.0	163	P/F	49 - 142
2073235	Fipronil	82.5	94.6	P/P	46 - 140
2073235	Fipronil Desulfinyl	73.5	86.9	P/P	60 - 130
2073235	Fipronil Sulfide	70.4	102	P/P	31 - 136
2073235	Fipronil Sulfone	89.8	97.7	P/P	16 - 136
2073235	Fonofos	101	102	P/P	55 - 129
2073235	Hexazinone	89.6	105	P/P	56 - 141
2073235	Malathion	88.3	102	P/P	56 - 135
2073235	Metalaxyl	73.2	86.8	P/P	54 - 135
2073235	Metolachlor	76.2	95.0	P/P	51 - 140
2073235	Metribuzin	211	246	P/P	45 - 254
2073235	Mevinphos	92.6	105	P/P	33 - 131
2073235	Molinate	80.9	94.2	P/P	14 - 98.0
2073235	Norflurazon	81.9	98.9	P/P	34 - 136
2073235	Oxadiazon	70.9	84.5	P/P	60 - 130
2073235	Parathion Ethyl	74.7	91.5	P/P	66 - 118
2073235	Parathion Methyl	97.5	116	P/P	64 - 136
2073235	Pendimethalin	81.0	92.1	P/P	59 - 144
2073235	Phorate	112	129	P/P	42 - 130
2073235	Prodiamine	107	104	P/P	60 - 130
2073235	Prometon	76.4	82.9	P/P	59 - 134
2073235	Prometryn	76.2	84.9	P/P	54 - 135
2073235	Simazine	82.9	102	P/P	53 - 156
2073235	Tebuconazole	34.0	53.4	P/P	30 - 100
2073235	Terbufos	101	107	P/P	57 - 131
2073235	Terbuthylazine	81.8	92.2	P/P	68 - 125

Reference Method: EPA 8321B
Batch ID: P361218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073321	2,4-D	69.0	79.9	P/P	40 - 150
2073321	Acetaminophen	67.9	76.1	P/P	30 - 150
2073321	Bentazon	74.0	81.4	P/P	30 - 150
2073321	Carbamazepine	77.9	83.2	P/P	40 - 150
2073321	Diuron	69.5	71.3	P/P	40 - 150
2073321	Fenuron	116	113	P/P	40 - 150
2073321	Fluridone	116	130	P/P	40 - 150
2073321	Hydrocodone	87.6	89.4	P/P	40 - 150
2073321	Ibuprofen	60.0	68.7	P/P	40 - 150
2073321	Imazapyr	73.4	79.2	P/P	40 - 150
2073321	Imidacloprid	138	135	P/P	40 - 150
2073321	Linuron	63.3	62.0	P/P	40 - 150
2073321	MCPP	94.6	111	P/P	40 - 150
2073321	Naproxen	69.5	66.0	P/P	40 - 150
2073321	Primidone	72.9	65.0	P/P	40 - 150
2073321	Pyraclostrobin	68.8	73.5	P/P	40 - 150
2073321	Triclopyr	54.2	59.2	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P361316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073517	Acesulfame K	183	123	F/P	40 - 150
2073517	AMPA	113	105	P/P	40 - 150
2073517	Endothall	118	114	P/P	40 - 150
2073517	Glufosinate	91.7	108	P/P	40 - 150
2073517	Glyphosate	103	109	P/P	40 - 140
2073517	Sucralose	83.7	89.3	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P361657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073355	Fluoride	98.0	99.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P361719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073957	Fluoride	99.8	98.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P361358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2073356	Organic Carbon	98.4	97.8	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073355	Turbidity	2.45	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P361347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073461	Barium	1.53	Spike	P	0 - 20
2073461	Calcium	0.769	Spike	P	0 - 20
2073461	Iron	1.79	Spike	P	0 - 20
2073461	Magnesium	1.82	Spike	P	0 - 20
2073461	Potassium	2.53	Spike	P	0 - 20
2073461	Sodium	2.22	Spike	P	0 - 20
2073461	Zinc	1.39	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P361347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073461	Aluminum	1.60	Spike	P	0 - 20
2073461	Antimony	1.73	Spike	P	0 - 20
2073461	Arsenic	1.47	Spike	P	0 - 20
2073461	Boron	4.75	Spike	P	0 - 20
2073461	Cadmium	2.63	Spike	P	0 - 20
2073461	Chromium	1.54	Spike	P	0 - 20
2073461	Copper	0.630	Spike	P	0 - 20
2073461	Lead	2.19	Spike	P	0 - 20
2073461	Nickel	2.36	Spike	P	0 - 20
2073461	Selenium	0.594	Spike	P	0 - 20
2073461	Silver	0.446	Spike	P	0 - 20
2073461	Thallium	3.89	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073458	Chloride	0.748	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073458	Sulfate	1.66	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073270	Ammonia-N	0.175	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073596	Kjeldahl Nitrogen	6.38	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073509	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073356	Total-P	1.80	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073511	O-Phosphate-P	0.683	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P361310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073235	Acetochlor	19.4	Spike	P	0 - 30
2073235	Alachlor	6.06	Spike	P	0 - 30
2073235	Ametryn	11.1	Spike	P	0 - 30
2073235	Atrazine	6.84	Spike	P	0 - 30
2073235	Atrazine Desethyl	2.06	Spike	P	0 - 30
2073235	Azinphos Methyl	11.7	Spike	P	0 - 30
2073235	Bromacil	22.7	Spike	P	0 - 30
2073235	Butylate	16.5	Spike	P	0 - 30
2073235	Chlorpyrifos Ethyl	7.87	Spike	P	0 - 30
2073235	Chlorpyrifos Methyl	8.59	Spike	P	0 - 30
2073235	Cyanazine	9.91	Spike	P	0 - 30
2073235	Demeton	5.71	Spike	P	0 - 30
2073235	Diazinon	12.9	Spike	P	0 - 30
2073235	Dimethenamid	23.7	Spike	P	0 - 30
2073235	Disulfoton	7.45	Spike	P	0 - 30
2073235	Dithiopyr	17.1	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P361310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073235	EPTC	15.2	Spike	P	0 - 30
2073235	Ethion	29.4	Spike	P	0 - 30
2073235	Ethoprop	5.44	Spike	P	0 - 30
2073235	Fenamiphos	57.8	Spike	F	0 - 30
2073235	Fipronil	13.7	Spike	P	0 - 30
2073235	Fipronil Desulfinyl	16.7	Spike	P	0 - 30
2073235	Fipronil Sulfide	37.0	Spike	F	0 - 30
2073235	Fipronil Sulfone	8.52	Spike	P	0 - 30
2073235	Fonofos	0.0739	Spike	P	0 - 30
2073235	Hexazinone	15.7	Spike	P	0 - 30
2073235	Malathion	14.3	Spike	P	0 - 30
2073235	Metalaxyl	17.0	Spike	P	0 - 30
2073235	Metolachlor	15.9	Spike	P	0 - 30
2073235	Metribuzin	15.3	Spike	P	0 - 30
2073235	Mevinphos	12.7	Spike	P	0 - 30
2073235	Molinate	15.2	Spike	P	0 - 30
2073235	Norflurazon	18.8	Spike	P	0 - 30
2073235	Oxadiazon	17.5	Spike	P	0 - 30
2073235	Parathion Ethyl	20.3	Spike	P	0 - 30
2073235	Parathion Methyl	17.3	Spike	P	0 - 30
2073235	Pendimethalin	12.8	Spike	P	0 - 30
2073235	Phorate	14.1	Spike	P	0 - 30
2073235	Prodiamine	3.26	Spike	P	0 - 30
2073235	Prometon	8.16	Spike	P	0 - 30
2073235	Prometryn	10.8	Spike	P	0 - 30
2073235	Simazine	20.2	Spike	P	0 - 30
2073235	Tebuconazole	35.3	Spike	F	0 - 30
2073235	Terbufos	5.24	Spike	P	0 - 30
2073235	Terbuthylazine	12.0	Spike	P	0 - 30
LFB	Acetochlor	1.03	LCS	P	0 - 30
LFB	Alachlor	0.378	LCS	P	0 - 30
LFB	Ametryn	2.33	LCS	P	0 - 30
LFB	Atrazine	4.49	LCS	P	0 - 30
LFB	Atrazine Desethyl	0.984	LCS	P	0 - 30
LFB	Azinphos Methyl	10.1	LCS	P	0 - 30
LFB	Bromacil	2.14	LCS	P	0 - 30
LFB	Butylate	4.76	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.74	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.30	LCS	P	0 - 30
LFB	Cyanazine	11.3	LCS	P	0 - 30
LFB	Demeton	0.0362	LCS	P	0 - 30
LFB	Diazinon	0.178	LCS	P	0 - 30
LFB	Dimethenamid	0.666	LCS	P	0 - 30
LFB	Disulfoton	7.74	LCS	P	0 - 30
LFB	Dithiopyr	1.52	LCS	P	0 - 30
LFB	EPTC	2.21	LCS	P	0 - 30
LFB	Ethion	9.04	LCS	P	0 - 30
LFB	Ethoprop	4.14	LCS	P	0 - 30
LFB	Fenamiphos	0.240	LCS	P	0 - 30
LFB	Fipronil	1.30	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.94	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P361310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	5.59	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.21	LCS	P	0 - 30
LFB	Fonofos	2.27	LCS	P	0 - 30
LFB	Hexazinone	3.18	LCS	P	0 - 30
LFB	Malathion	2.94	LCS	P	0 - 30
LFB	Metalaxyl	8.16	LCS	P	0 - 30
LFB	Metolachlor	0.865	LCS	P	0 - 30
LFB	Metribuzin	0.784	LCS	P	0 - 30
LFB	Mevinphos	8.75	LCS	P	0 - 30
LFB	Molinate	4.39	LCS	P	0 - 30
LFB	Norflurazon	5.70	LCS	P	0 - 30
LFB	Oxadiazon	3.04	LCS	P	0 - 30
LFB	Parathion Ethyl	1.04	LCS	P	0 - 30
LFB	Parathion Methyl	3.49	LCS	P	0 - 30
LFB	Pendimethalin	2.13	LCS	P	0 - 30
LFB	Phorate	2.78	LCS	P	0 - 30
LFB	Prodiamine	0.720	LCS	P	0 - 30
LFB	Prometon	35.1	LCS	F	0 - 30
LFB	Prometryn	1.32	LCS	P	0 - 30
LFB	Simazine	6.07	LCS	P	0 - 30
LFB	Tebuconazole	6.68	LCS	P	0 - 30
LFB	Terbufos	0.363	LCS	P	0 - 30
LFB	Terbuthylazine	1.52	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P361218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073321	2,4-D	14.6	Spike	P	0 - 30
2073321	Acetaminophen	11.3	Spike	P	0 - 30
2073321	Bentazon	9.55	Spike	P	0 - 30
2073321	Carbamazepine	6.54	Spike	P	0 - 30
2073321	Diuron	2.52	Spike	P	0 - 30
2073321	Fenuron	2.31	Spike	P	0 - 30
2073321	Fluridone	11.8	Spike	P	0 - 30
2073321	Hydrocodone	2.08	Spike	P	0 - 30
2073321	Ibuprofen	13.5	Spike	P	0 - 30
2073321	Imazapyr	7.58	Spike	P	0 - 30
2073321	Imidacloprid	1.91	Spike	P	0 - 30
2073321	Linuron	2.06	Spike	P	0 - 30
2073321	MCPP	16.1	Spike	P	0 - 30
2073321	Naproxen	5.05	Spike	P	0 - 30
2073321	Primidone	11.4	Spike	P	0 - 30
2073321	Pyraclostrobin	6.67	Spike	P	0 - 30
2073321	Triclopyr	8.92	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P361316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073517	Acesulfame K	38.9	Spike	F	0 - 30
2073517	AMPA	6.84	Spike	P	0 - 30
2073517	Endothall	3.06	Spike	P	0 - 30
2073517	Glufosinate	16.4	Spike	P	0 - 30
2073517	Glyphosate	5.76	Spike	P	0 - 30
2073517	Sucralose	6.45	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P361225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073355	Color (true)	0.310	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P361653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073355	Total Alkalinity	0.904	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P361717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073957	Total Alkalinity	0.566	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P361397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073254	TDS	0.927	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P361398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073458	TDS	2.90	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P361657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073355	Fluoride	0.948	Spike	P	0 - 3.5

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P361719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073957	Fluoride	1.00	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P361358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2073356	Organic Carbon	0.424	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: 2073517
Field Sample ID: G1TLHR0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.0	P	30 - 160
EPA 8321B	Diuron-d6	79.9	P	30 - 160
EPA 8321B	Endothall-d6	99.4	P	30 - 160
EPA 8321B	Endothall-d6	99.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.1	P	30 - 160
EPA 8321B	Primidone-d5	60.4	P	30 - 160
EPA 8321B	Sucralose-d6	71.8	P	30 - 160
EPA 8321B	Sucralose-d6	71.8	P	30 - 160

Lab Sample ID: 2073518
Field Sample ID: G1TLHR0102

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	74.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	59.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.3	P	30 - 160
EPA 8321B	Diuron-d6	77.7	P	30 - 160
EPA 8321B	Endothall-d6	116	P	30 - 160
EPA 8321B	Endothall-d6	116	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	96.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	96.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.6	P	30 - 160
EPA 8321B	Primidone-d5	63.7	P	30 - 160
EPA 8321B	Sucralose-d6	97.3	P	30 - 160
EPA 8321B	Sucralose-d6	97.3	P	30 - 160

Lab Sample ID: 2073521
Field Sample ID: G1TLHR0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	110	P	68 - 130
EPA 8270D	Terbufos-d10	111	P	61 - 136

Lab Sample ID: 2073522
Field Sample ID: G1TLHR0102

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	113	P	68 - 130
EPA 8270D	Terbufos-d10	104	P	61 - 136

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A90304
Included Lab Sample IDs: 2073507, 2073508

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

Reference Method: SM 2120 B
Run ID: A90305
Included Lab Sample IDs: 2073507, 2073508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115
Color (true)	99.5	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A90332
Included Lab Sample IDs: 2073511, 2073512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.1	96.9	P/P	90 - 110
O-Phosphate-P	99.0	97.1	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A90345
Included Lab Sample IDs: 2073509, 2073510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A90403
Included Lab Sample IDs: 2073509

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A90408
Included Lab Sample IDs: 2073510

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A90420
Included Lab Sample IDs: 2073519, 2073520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	96.3	98.0	P/P	90 - 110
Barium	98.0	97.5	P/P	90 - 110
Calcium	103	104	P/P	90 - 110
Calcium	104	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	100	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A90420
Included Lab Sample IDs: 2073519, 2073520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Magnesium	101	101	P/P	90 - 110
Potassium	95.3	96.5	P/P	90 - 110
Potassium	96.5	96.8	P/P	90 - 110
Sodium	93.2	95.8	P/P	90 - 110
Sodium	95.8	94.4	P/P	90 - 110
Zinc	98.1	99.9	P/P	90 - 110
Zinc	99.9	98.1	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A90421
Included Lab Sample IDs: 2073517, 2073518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	94.2	P/P	50 - 150
Acetaminophen	122	119	P/P	60 - 160
Bentazon	100	105	P/P	50 - 160
Carbamazepine	117	110	P/P	60 - 150
Diuron	103	115	P/P	60 - 150
Fenuron	110	107	P/P	60 - 150
Fluridone	103	110	P/P	60 - 160
Hydrocodone	118	107	P/P	60 - 150
Ibuprofen	94.0	76.3	P/P	50 - 160
Imazapyr	73.5	98.6	P/P	50 - 150
Imidacloprid	104	94.0	P/P	60 - 150
Linuron	104	101	P/P	60 - 150
MCPP	92.2	90.8	P/P	50 - 150
Naproxen	105	83.7	P/P	50 - 160
Primidone	122	94.2	P/P	60 - 150
Pyraclostrobin	115	106	P/P	60 - 150
Triclopyr	94.5	90.8	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A90436
Included Lab Sample IDs: 2073509, 2073510

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A90439
Included Lab Sample IDs: 2073519, 2073520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.0	99.3	P/P	90 - 110
Antimony	99.9	99.8	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Boron	98.6	98.6	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	95.6	95.3	P/P	90 - 110
Nickel	101	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A90439
Included Lab Sample IDs: 2073519, 2073520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	99.6	101	P/P	90 - 110
Silver	99.7	99.6	P/P	90 - 110
Thallium	93.7	92.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A90441
Included Lab Sample IDs: 2073509, 2073510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	94.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A90466
Included Lab Sample IDs: 2073517, 2073518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.3	79.1	P/P	60 - 160
Glufosinate	110	112	P/P	60 - 160
Glyphosate	109	120	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A90467
Included Lab Sample IDs: 2073517, 2073518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	88.5	152	P/P	60 - 160
Endothall	99.2	115	P/P	60 - 160

Reference Method: SM 2320 B-97
Run ID: A90475
Included Lab Sample IDs: 2073507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.9	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A90475
Included Lab Sample IDs: 2073507

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A90496
Included Lab Sample IDs: 2073519, 2073520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	96.2	96.3	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A90502
Included Lab Sample IDs: 2073509, 2073510

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A90506
Included Lab Sample IDs: 2073507, 2073508

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

Reference Method: SM 2320 B-97
Run ID: A90507
Included Lab Sample IDs: 2073508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A90507
Included Lab Sample IDs: 2073508

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

Reference Method: EPA 8321B
Run ID: A90573
Included Lab Sample IDs: 2073517, 2073518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	101	P/P	60 - 160
Sucralose	99.6	103	P/P	60 - 160

Reference Method: EPA 8270D
Run ID: A90657
Included Lab Sample IDs: 2073521, 2073522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.9		P	80 - 120
Alachlor	99.1		P	80 - 120
Ametryn	91.7		P	80 - 120
Atrazine	95.9		P	80 - 120
Atrazine Desethyl	95.4		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	98.4		P	80 - 120
Butylate	96.9		P	80 - 120
Chlorpyrifos Ethyl	94.4		P	80 - 120
Chlorpyrifos Methyl	98.4		P	80 - 120
Cyanazine	93.3		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	97.2		P	80 - 120
Dimethenamid	96.2		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A90657
Included Lab Sample IDs: 2073521, 2073522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Disulfoton	101		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	96.8		P	80 - 120
Ethion	103		P	80 - 120
Ethoprop	97.3		P	80 - 120
Fenamiphos	98.0		P	80 - 120
Fipronil	95.1		P	80 - 120
Fipronil Desulfinyl	98.6		P	80 - 120
Fipronil Sulfide	96.4		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Fonofos	96.1		P	80 - 120
Hexazinone	97.0		P	80 - 120
Malathion	98.4		P	80 - 120
Metalaxyl	99.9		P	80 - 120
Metolachlor	99.3		P	80 - 120
Metribuzin	82.3		P	80 - 120
Mevinphos	104		P	80 - 120
Molinate	92.1		P	80 - 120
Norflurazon	94.3		P	80 - 120
Oxadiazon	97.6		P	80 - 120
Parathion Ethyl	99.1		P	80 - 120
Parathion Methyl	100		P	80 - 120
Pendimethalin	93.7		P	80 - 120
Phorate	96.5		P	80 - 120
Prodiamine	103		P	80 - 120
Prometon	98.4		P	80 - 120
Prometryn	98.0		P	80 - 120
Simazine	95.2		P	80 - 120
Tebuconazole	94.6		P	80 - 120
Terbufos	98.5		P	80 - 120
Terbuthylazine	99.0		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			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							2.45	
EPA 200.7 Rev. 4.4	Barium	98.6		100	98.9	101			1.53
	Calcium	106		109	110				0.769
	Iron	107		108	106	108			1.79
	Magnesium	102		104	107				1.82
	Potassium	101		102	99.0	99.5			2.53
	Sodium	98.6		102	97.9	98.1			2.22
	Zinc	99.3		101	99.6	102			1.39
EPA 200.8 Rev. 5.4	Aluminum	98.6		98.7	100	90.6			1.60
	Antimony	98.4		101	103	92.1			1.73
	Arsenic	106		104	106	95.1			1.47
	Boron	96.0		98.7	104	92.3			4.75
	Cadmium	100		103	106	95.3			2.63
	Chromium	95.3		95.8	97.3	86.2			1.54
	Copper	106		99.8	100	102			0.630
	Lead	93.1		94.2	96.3	86.0			2.19
	Nickel	105		102	104	97.2			2.36
	Selenium	100		102	103	92.5			0.594
	Silver	101		99.7	100	92.8			0.446
	Thallium	97.2		99.0	103	92.3			3.89
EPA 300.0 Rev. 2.1	Chloride	100		97.1	86.5			0.748	
	Sulfate	101		98.1	87.4			1.66	
EPA 350.1 Rev. 2.0	Ammonia-N	101		99.2	99.5				0.175
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		101	113				6.38
EPA 353.2 Rev. 2.0	NO2NO3-N	101		100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	102		99.9	98.0				1.80
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.1		92.9	91.7				0.683
EPA 8270D	Acetochlor	93.3	94.3	89.5	109		1.03		19.4
	Alachlor	94.7	95.0	95.7	90.1		0.378		6.06
	Ametryn	92.3	90.2	102	90.9		2.33		11.1
	Atrazine	96.8	92.6	88.2	77.1		4.49		6.84
	Atrazine Desethyl	102	103	103	105		0.984		2.06
	Azinphos Methyl	131	119	167	148		10.1		11.7
	Bromacil	82.5	80.7	88.8	70.7		2.14		22.7
	Butylate	68.0	64.8	72.0	61.0		4.76		16.5
	Chlorpyrifos Ethyl	101	104	94.0	86.9		2.74		7.87
	Chlorpyrifos Methyl	107	106	95.0	103		1.30		8.59
	Cyanazine	135	121	118	130		11.3		9.91
	Demeton	93.3	93.3	95.2	101		0.0362		5.71
	Diazinon	92.3	92.1	105	92.0		0.178		12.9
	Dimethenamid	92.6	93.2	99.6	78.5		0.666		23.7
	Disulfoton	98.5	106	111	103		7.74		7.45
	Dithiopyr	94.9	93.5	96.5	80.9		1.52		17.1
	EPTC	65.4	66.9	76.1	65.3		2.21		15.2
	Ethion	82.5	90.4	53.6	39.9		9.04		29.4
	Ethoprop	95.6	91.8	94.0	99.2		4.14		5.44
	Fenamiphos	101	101	163	90.0		0.240		57.8
	Fipronil	86.0	87.1	94.6	82.5		1.30		13.7
	Fipronil Desulfinyl	82.0	80.4	86.9	73.5		1.94		16.7
	Fipronil Sulfide	101	95.5	102	70.4		5.59		37.0
	Fipronil Sulfone	92.9	102	97.7	89.8		9.21		8.52
	Fonofos	103	100	102	101		2.27		0.0739
	Hexazinone	102	98.4	105	89.6		3.18		15.7
	Malathion	113	110	102	88.3		2.94		14.3

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Metalaxyl	83.7	90.8	86.8	73.2	8.16		17.0
	Metolachlor	88.9	89.6	95.0	76.2	0.865		15.9
	Metribuzin	232	230	246	211	0.784		15.3
	Mevinphos	86.5	79.3	105	92.6	8.75		12.7
	Molinate	75.2	78.6	94.2	80.9	4.39		15.2
	Norflurazon	86.9	82.1	98.9	81.9	5.70		18.8
	Oxadiazon	81.2	83.7	84.5	70.9	3.04		17.5
	Parathion Ethyl	87.3	88.2	91.5	74.7	1.04		20.3
	Parathion Methyl	97.3	101	116	97.5	3.49		17.3
	Pendimethalin	78.8	80.5	92.1	81.0	2.13		12.8
	Phorate	114	117	129	112	2.78		14.1
	Prodiamine	90.5	89.9	104	107	0.720		3.26
	Prometon	81.2	56.9	82.9	76.4	35.1		8.16
	Prometryn	82.3	83.4	84.9	76.2	1.32		10.8
	Simazine	94.5	100	102	82.9	6.07		20.2
	Tebuconazole	62.2	66.4	53.4	34.0	6.68		35.3
	Terbufos	102	102	107	101	0.363		5.24
	Terbuthylazine	90.1	91.5	92.2	81.8	1.52		12.0
EPA 8321B	2,4-D	73.7		69.0	79.9			14.6
	Acesulfame K	141		183	123			38.9
	Acetaminophen	87.4		67.9	76.1			11.3
	AMPA	91.9		113	105			6.84
	Bentazon	103		74.0	81.4			9.55
	Carbamazepine	75.1		77.9	83.2			6.54
	Diuron	89.8		69.5	71.3			2.52
	Endothall	89.4		118	114			3.06
	Fenuron	98.4		116	113			2.31
	Fluridone	121		116	130			11.8
	Glufosinate	105		91.7	108			16.4
	Glyphosate	105		103	109			5.76
	Hydrocodone	105		87.6	89.4			2.08
	Ibuprofen	72.2		68.7	60.0			13.5
	Imazapyr	101		73.4	79.2			7.58
	Imidacloprid	104		138	135			1.91
	Linuron	83.2		63.3	62.0			2.06
	MCPP	82.9		94.6	111			16.1
	Naproxen	70.9		69.5	66.0			5.05
	Primidone	91.1		72.9	65.0			11.4
	Pyraclostrobin	75.6		68.8	73.5			6.67
	Sucralose	110		83.7	89.3			6.45
	Triclopyr	50.8		54.2	59.2			8.92
SM 2120 B	Color (true)	99.7					0.310	
SM 2320 B-97	Total Alkalinity	99.6					0.904	
	Total Alkalinity	101					0.566	
SM 2540 C-97	TDS						0.927	
	TDS						2.90	
SM 4500 F-C-97	Fluoride	98.3		98.0	99.1			0.948
	Fluoride	99.3		99.8	98.6			1.00
SM 5310 B-00	Organic Carbon	99.5		98.4	97.8			0.424

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2073507, 2073508
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2073519, 2073520
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2073519, 2073520
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2073507, 2073508
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2073507, 2073508
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2073509, 2073510
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2073509, 2073510
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2073509, 2073510
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2073509, 2073510
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2073511, 2073512
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2073521, 2073522
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2073517, 2073518
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2073517, 2073518
SM 2120 B / E31780	True Color measured at 450 nm	2073507, 2073508
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2073507, 2073508
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2073507, 2073508
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2073507, 2073508
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2073507, 2073508
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2073509, 2073510

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	03/28/2019			03/28/2019 16:32	Adrian Shelby	2073507, 2073508
EPA 200.7 Rev. 4.4	03/28/2019	04/01/2019 13:35	Elliott D. Healy	04/03/2019 14:43	Betina Topolski	2073519
	03/28/2019	04/01/2019 13:35	Elliott D. Healy	04/03/2019 15:32	Betina Topolski	2073520
EPA 200.8 Rev. 5.4	03/28/2019	04/01/2019 13:35	Elliott D. Healy	04/04/2019 11:35	Robert K Palmer	2073519
	03/28/2019	04/01/2019 13:35	Elliott D. Healy	04/04/2019 12:14	Robert K Palmer	2073520
	03/28/2019	04/01/2019 13:35	Elliott D. Healy	04/05/2019 22:43	Robert K Palmer	2073519
	03/28/2019	04/01/2019 13:35	Elliott D. Healy	04/05/2019 23:10	Robert K Palmer	2073520
EPA 300.0 Rev. 2.1	03/28/2019			04/04/2019 19:40	Lipi Saha	2073507
	03/28/2019			04/04/2019 19:52	Lipi Saha	2073508
EPA 350.1 Rev. 2.0	03/28/2019			04/04/2019 11:20	Ping Hua	2073509
	03/28/2019			04/04/2019 11:21	Ping Hua	2073510
EPA 351.2 Rev. 2.0	03/28/2019	04/03/2019 13:00	Adrian Shelby	04/04/2019 14:29	Joseph Suarez	2073509
	03/28/2019	04/03/2019 13:00	Adrian Shelby	04/04/2019 14:31	Joseph Suarez	2073510
EPA 353.2 Rev. 2.0	03/28/2019			04/04/2019 09:12	Beverly Y. Sanders	2073509
	03/28/2019			04/04/2019 09:18	Beverly Y. Sanders	2073510
EPA 365.1 Rev. 2.0	03/28/2019	04/02/2019 14:25	Sima Feizi	04/02/2019 19:18	Rosalyn Ballman	2073509
	03/28/2019	04/02/2019 14:25	Sima Feizi	04/03/2019 12:57	Rosalyn Ballman	2073510
EPA 365.1 Rev. 2.0 dissolved	03/28/2019			03/29/2019 17:31	Jhamieka S. Greenwood	2073511
	03/28/2019			03/29/2019 17:45	Jhamieka S. Greenwood	2073512
EPA 8270D	03/28/2019	04/01/2019 08:00	Rasheda Ghaffari	04/03/2019 15:43	Vandana T. Nagar	2073521
	03/28/2019	04/01/2019 08:00	Rasheda Ghaffari	04/03/2019 16:07	Vandana T. Nagar	2073522
EPA 8321B	03/28/2019	04/01/2019 15:45	Rebecca Ware	04/03/2019 18:09	Rebecca Ware	2073517
	03/28/2019	04/01/2019 15:45	Rebecca Ware	04/03/2019 18:23	Rebecca Ware	2073518
	03/28/2019	04/01/2019 15:45	Rebecca Ware	04/03/2019 22:20	Rebecca Ware	2073517
	03/28/2019	04/01/2019 15:45	Rebecca Ware	04/03/2019 22:28	Rebecca Ware	2073518
	03/28/2019	04/01/2019 15:45	Rebecca Ware	04/09/2019 14:33	Rebecca Ware	2073517
	03/28/2019	04/01/2019 15:45	Rebecca Ware	04/09/2019 16:37	Rebecca Ware	2073518
	03/28/2019	04/02/2019 12:00	Hoor Shaik	04/03/2019 11:44	Juyoung Kim	2073517
	03/28/2019	04/02/2019 12:00	Hoor Shaik	04/03/2019 12:18	Juyoung Kim	2073518
SM 2120 B	03/28/2019			03/28/2019 16:44	Mariam Hanna	2073508
	03/28/2019			03/28/2019 16:56	Mariam Hanna	2073507
SM 2320 B-97	03/28/2019			04/04/2019 23:21	Dale L. Simmons	2073507
	03/28/2019			04/06/2019 06:55	Dale L. Simmons	2073508
SM 2540 C-97	03/28/2019			03/29/2019 12:55	Mariam Hanna	2073507, 2073508
SM 2540 D-97	03/28/2019			03/29/2019 12:48	Mariam Hanna	2073507, 2073508
SM 4500 F-C-97	03/28/2019			04/04/2019 23:21	Dale L. Simmons	2073507
	03/28/2019			04/06/2019 06:55	Dale L. Simmons	2073508
SM 5310 B-00	03/28/2019			03/29/2019 23:14	Julia Storbeck	2073509
	03/28/2019			03/29/2019 23:27	Julia Storbeck	2073510