Chemical Analysis Report

SO-DIST-2019-03-13-01

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

Event Description: **2019 SMP : P Cricks Part 1**
Request ID: **RQ-2019-03-11-26**
Customer: **SO-DIST**
Project ID: **SMP**

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FLDEP South District Office
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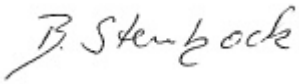
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 04-APR-2019 15:31



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: Shell Cr@HathawayPark **Collection Date/Time: 03/12/2019 09:25**

Field ID: G3SD0120 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069331	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P360386	
	EPA 300.0 Rev. 2.1	Chloride	130		mg Cl/L	P360814	
		Sulfate	70		mg SO4/L	P360816	
	SM 2120 B	Color (true)	55	A	PCU	P360404	
	SM 2320 B-97	Total Alkalinity	199		mg CaCO3/L	P360896	
	SM 2540 C-97	TDS	548		mg/L	P360930	
	SM 2540 D-97	TSS	2	I	mg/L	P360832	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P360903	
2069333	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P360578	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P360541	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.043		mg N/L	P360695	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P360601	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P360753	
2069335	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P360379	
2069364	EPA 8321B	Aldicarb	0.020	U	ug/L	P360341	
		Aldicarb Sulfone	0.0020	U	ug/L	P360341	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P360341	
		Carbaryl	0.0020	U	ug/L	P360341	
		Carbofuran	0.0020	U	ug/L	P360341	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P360341	
		Methiocarb	0.0020	U	ug/L	P360341	
		Methomyl	0.0020	U	ug/L	P360341	
		Oxamyl	0.0020	U	ug/L	P360341	
		Propoxur	0.0020	U	ug/L	P360341	
2069366		2,4-D	0.0028	I	ug/L	P360341	
		Acesulfame K**	0.10	U	ug/L	P360352	MS
		AMPA**	0.53		ug/L	P360352	
		Acetaminophen**	0.0080	U	ug/L	P360341	
		Endothall**	0.25	U	ug/L	P360352	
		Glufosinate**	0.10	U	ug/L	P360352	
		Bentazon	0.0012	I	ug/L	P360341	
		Glyphosate**	0.38	I	ug/L	P360352	
		Carbamazepine**	8.0E-04	U	ug/L	P360341	
		Sucralose**	0.010	U	ug/L	P360352	
		Diuron	0.018		ug/L	P360341	
		Fenuron	0.016	U	ug/L	P360341	
		Fluridone**	0.013		ug/L	P360341	
		Imazapyr**	0.016	I	ug/L	P360341	
		Hydrocodone**	0.0020	U	ug/L	P360341	
		Ibuprofen**	0.020	U	ug/L	P360341	
		Imidacloprid	0.17	J	ug/L	P360341	MS
		Linuron	0.0040	U	ug/L	P360341	
		MCPP	0.0020	UJ	ug/L	P360341	MS

Field ID: G3SD0120 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069366	EPA 8321B	Naproxen**	0.0080	U	ug/L	P360341	
		Primidone**	0.0040	U	ug/L	P360341	
		Pyraclostrobin**	0.0020	U	ug/L	P360341	
		Triclopyr**	0.0040	U	ug/L	P360341	
2069378	EPA 8270D	Aldrin	4.3	U	ng/L	P360367	
		Alpha-BHC	2.2	U	ng/L	P360367	
		Alpha-Chlordane	1.1	U	ng/L	P360367	
		Beta-BHC	11	U	ng/L	P360367	
		Bifenthrin**	4.3	U	ng/L	P360367	
		Delta-BHC	11	U	ng/L	P360367	
		Gamma-BHC	11	U	ng/L	P360367	
		Carbophenothion	13	U	ng/L	P360367	
		Chlorothalonil	2.2	U	ng/L	P360367	
		Cis-Nonachlor**	1.1	U	ng/L	P360367	
		Cypermethrin	22	U	ng/L	P360367	
		DDD-p,p'	8.6	U	ng/L	P360367	
		DDE-p,p'	8.6	U	ng/L	P360367	
		DDT-p,p'	11	U	ng/L	P360367	
		Dicofol	32	U	ng/L	P360367	
		Dieldrin	4.3	U	ng/L	P360367	
		Endosulfan I	4.3	U	ng/L	P360367	
		Endosulfan II	4.3	U	ng/L	P360367	
		Endosulfan Sulfate	2.2	U	ng/L	P360367	
		Endrin	2.2	U	ng/L	P360367	
		Endrin Aldehyde	2.2	U	ng/L	P360367	
		Endrin Ketone	2.2	U	ng/L	P360367	
		Ethalfluralin**	3.2	U	ng/L	P360367	
		Gamma-Chlordane	1.1	U	ng/L	P360367	
		Heptachlor	1.6	U	ng/L	P360367	
		Heptachlor Epoxide	2.2	U	ng/L	P360367	
		Hexachlorobenzene**	2.2	U	ng/L	P360367	
		Methoxychlor	4.3	U	ng/L	P360367	
		Mirex	2.2	U	ng/L	P360367	
		Permethrin	11	U	ng/L	P360367	
		Trans-Nonachlor**	1.1	U	ng/L	P360367	
		Trifluralin	2.7	U	ng/L	P360367	
	EPA 8276	Chlordane	5.4	U	ng/L	P360367	
		Toxaphene	32	U	ng/L	P360367	
2069380	EPA 8270D	Acetochlor	0.26	U	ng/L	P360553	
		Alachlor	0.26	U	ng/L	P360553	
		Ametryn	0.63	U	ng/L	P360553	
		Atrazine	12		ng/L	P360553	
		Atrazine Desethyl	1.6	U	ng/L	P360553	
		Azinphos Methyl	5.2	U	ng/L	P360553	
		Bromacil	200		ng/L	P360553	

Field ID: G3SD0120 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069380	EPA 8270D	Butylate	0.42	U	ng/L	P360553	RPD
		Chlorpyrifos Ethyl	0.26	U	ng/L	P360553	
		Chlorpyrifos Methyl	0.10	U	ng/L	P360553	
		Cyanazine	3.4	U	ng/L	P360553	
		Demeton	7.3	U	ng/L	P360553	
		Diazinon	0.13	U	ng/L	P360553	
		Dimethenamid**	0.10	U	ng/L	P360553	
		Disulfoton	0.52	U	ng/L	P360553	
		Dithiopyr**	0.10	U	ng/L	P360553	
		EPTC	1.3	U	ng/L	P360553	RPD
		Ethion	0.16	U	ng/L	P360553	
		Ethoprop	0.10	U	ng/L	P360553	
		Fenamiphos	0.52	U	ng/L	P360553	
		Fipronil	0.26	U	ng/L	P360553	
		Fipronil Desulfinyl**	0.13	U	ng/L	P360553	
		Fipronil Sulfide	0.16	U	ng/L	P360553	
		Fipronil Sulfone	0.16	U	ng/L	P360553	
		Fonofos	0.21	U	ng/L	P360553	
		Hexazinone	17		ng/L	P360553	
		Malathion	0.37	U	ng/L	P360553	
		Metalaxyl	28		ng/L	P360553	
		Metolachlor	17		ng/L	P360553	
		Metribuzin	1.6	I	ng/L	P360553	
		Mevinphos	0.52	U	ng/L	P360553	
		Molinate	0.31	U	ng/L	P360553	
		Norflurazon	580		ng/L	P360553	
		Oxadiazon**	0.74		ng/L	P360553	
		Parathion Ethyl	0.26	U	ng/L	P360553	
		Parathion Methyl	0.57	U	ng/L	P360553	
		Pendimethalin	1.0	U	ng/L	P360553	
		Phorate	0.26	U	ng/L	P360553	
		Prodiamine**	0.18	UJ	ng/L	P360553	LCS
		Prometon	0.94	U	ng/L	P360553	
		Prometryn	0.21	U	ng/L	P360553	
		Simazine	88		ng/L	P360553	
		Tebuconazole**	0.52	UJ	ng/L	P360553	RPD
		Terbufos	0.10	U	ng/L	P360553	
		Terbuthylazine	0.44	U	ng/L	P360553	
2069382	EPA 200.7 Rev. 4.4	Barium	41.3		ug/L	P360652	
		Calcium	110		mg/L	P360652	
		Iron	240		ug/L	P360652	
		Magnesium	13.6		mg/L	P360652	
		Potassium	6.4		mg/L	P360652	
		Sodium	66.1		mg/L	P360652	
		Zinc	5.0	U	ug/L	P360652	

Field ID: G3SD0120 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069382	EPA 200.8 Rev. 5.4	Aluminum	48		ug/L	P360652	
		Antimony	0.20	I	ug/L	P360652	
		Arsenic	0.93		ug/L	P360652	
		Boron**	63.9		ug/L	P360652	
		Cadmium	0.020	U	ug/L	P360652	
		Chromium	0.43	I	ug/L	P360652	
		Copper	0.91		ug/L	P360652	
		Lead	0.20	U	ug/L	P360652	
		Nickel	1.1	I	ug/L	P360652	
		Selenium	0.45	I	ug/L	P360652	
		Silver	0.010	U	ug/L	P360652	
		Thallium	0.10	U	ug/L	P360652	

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: Ms accuracies for atrazine, metalaxyl, oxidiazon, fipronil sulfide, fipronil sulfone and fipronil 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: PrairieCreek@WshgtnLoop **Collection Date/Time: 03/12/2019 09:50**

Field ID: G3SD0067 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069332	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P360386	
	EPA 300.0 Rev. 2.1	Chloride	79		mg Cl/L	P360814	
		Sulfate	100		mg SO4/L	P360816	
	SM 2120 B	Color (true)	77		PCU	P360405	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P360896	
	SM 2540 C-97	TDS	411		mg/L	P360930	
	SM 2540 D-97	TSS	3	I	mg/L	P360832	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P360903	
2069334	EPA 350.1 Rev. 2.0	Ammonia-N	0.083		mg N/L	P360578	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P360541	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.40		mg N/L	P360695	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P360601	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P360753	
2069336	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P360379	
2069365	EPA 8321B	Aldicarb	0.020	U	ug/L	P360341	
		Aldicarb Sulfone	0.0020	U	ug/L	P360341	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P360341	
		Carbaryl	0.0020	U	ug/L	P360341	
		Carbofuran	0.0020	U	ug/L	P360341	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P360341	
		Methiocarb	0.0020	U	ug/L	P360341	
		Methomyl	0.0020	U	ug/L	P360341	
		Oxamyl	0.0020	U	ug/L	P360341	
		Propoxur	0.0020	U	ug/L	P360341	
2069367		2,4-D	0.0092		ug/L	P360341	
		Acesulfame K**	0.10	U	ug/L	P360352	MS
		AMPA**	1.8		ug/L	P360352	
		Acetaminophen**	0.0080	U	ug/L	P360341	
		Endothall**	0.25	U	ug/L	P360352	
		Glufosinate**	0.10	U	ug/L	P360352	
		Bentazon	0.0096		ug/L	P360341	
		Glyphosate**	0.96		ug/L	P360352	
		Carbamazepine**	8.0E-04	U	ug/L	P360341	
		Sucralose**	0.010	U	ug/L	P360352	
		Diuron	0.058		ug/L	P360341	
		Fenuron	0.016	U	ug/L	P360341	
		Fluridone**	0.012		ug/L	P360341	
		Imazapyr**	0.017		ug/L	P360341	
		Hydrocodone**	0.0020	U	ug/L	P360341	
		Ibuprofen**	0.020	U	ug/L	P360341	
		Imidacloprid	0.39		ug/L	P360341	MS
		Linuron	0.0040	U	ug/L	P360341	
		MCPP	0.0020	U	ug/L	P360341	MS

Field ID: G3SD0067 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069367	EPA 8321B	Naproxen**	0.0080	U	ug/L	P360341	
		Primidone**	0.0040	U	ug/L	P360341	
		Pyraclostrobin**	0.0020	U	ug/L	P360341	
		Triclopyr**	0.0040	U	ug/L	P360341	
2069379	EPA 8270D	Aldrin	4.4	U	ng/L	P360367	
		Alpha-BHC	2.2	U	ng/L	P360367	
		Alpha-Chlordane	1.1	U	ng/L	P360367	
		Beta-BHC	11	U	ng/L	P360367	
		Bifenthrin**	4.4	U	ng/L	P360367	
		Delta-BHC	11	U	ng/L	P360367	
		Gamma-BHC	11	U	ng/L	P360367	
		Carbophenothion	13	U	ng/L	P360367	
		Chlorothalonil	2.2	U	ng/L	P360367	
		Cis-Nonachlor**	1.1	U	ng/L	P360367	
		Cypermethrin	22	U	ng/L	P360367	
		DDD-p,p'	8.8	U	ng/L	P360367	
		DDE-p,p'	8.8	U	ng/L	P360367	
		DDT-p,p'	11	U	ng/L	P360367	
		Dicofol	33	U	ng/L	P360367	
		Dieldrin	4.4	U	ng/L	P360367	
		Endosulfan I	4.4	U	ng/L	P360367	
		Endosulfan II	4.4	U	ng/L	P360367	
		Endosulfan Sulfate	2.2	U	ng/L	P360367	
		Endrin	2.2	U	ng/L	P360367	
		Endrin Aldehyde	2.2	U	ng/L	P360367	
		Endrin Ketone	2.2	U	ng/L	P360367	
		Ethalfluralin**	3.3	U	ng/L	P360367	
		Gamma-Chlordane	1.1	U	ng/L	P360367	
		Heptachlor	1.6	U	ng/L	P360367	
		Heptachlor Epoxide	2.2	U	ng/L	P360367	
		Hexachlorobenzene**	2.2	U	ng/L	P360367	
		Methoxychlor	4.4	U	ng/L	P360367	
		Mirex	2.2	U	ng/L	P360367	
		Permethrin	11	U	ng/L	P360367	
		Trans-Nonachlor**	1.1	U	ng/L	P360367	
		Trifluralin	2.7	U	ng/L	P360367	
	EPA 8276	Chlordane	5.5	U	ng/L	P360367	
		Toxaphene	33	U	ng/L	P360367	
2069381	EPA 8270D	Acetochlor	0.26	U	ng/L	P360553	
		Alachlor	0.26	U	ng/L	P360553	
		Ametryn	0.63	U	ng/L	P360553	
		Atrazine	90		ng/L	P360553	
		Atrazine Desethyl	10		ng/L	P360553	
		Azinphos Methyl	5.2	U	ng/L	P360553	
		Bromacil	780		ng/L	P360553	

Field ID: G3SD0067 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069381	EPA 8270D	Butylate	0.42	U	ng/L	P360553	RPD
		Chlorpyrifos Ethyl	0.26	U	ng/L	P360553	
		Chlorpyrifos Methyl	0.10	U	ng/L	P360553	
		Cyanazine	3.4	U	ng/L	P360553	
		Demeton	7.3	U	ng/L	P360553	
		Diazinon	0.13	U	ng/L	P360553	
		Dimethenamid**	0.10	U	ng/L	P360553	
		Disulfoton	0.52	U	ng/L	P360553	
		Dithiopyr**	0.10	U	ng/L	P360553	
		EPTC	1.3	U	ng/L	P360553	RPD
		Ethion	0.16	U	ng/L	P360553	
		Ethoprop	0.10	U	ng/L	P360553	
		Fenamiphos	0.52	U	ng/L	P360553	
		Fipronil	0.26	U	ng/L	P360553	
		Fipronil Desulfinyl**	0.13	U	ng/L	P360553	
		Fipronil Sulfide	0.16	U	ng/L	P360553	
		Fipronil Sulfone	0.16	U	ng/L	P360553	
		Fonofos	0.21	U	ng/L	P360553	
		Hexazinone	36		ng/L	P360553	
		Malathion	0.37	U	ng/L	P360553	
		Metalaxyl	83		ng/L	P360553	
		Metolachlor	100		ng/L	P360553	
		Metribuzin	1.2	I	ng/L	P360553	
		Mevinphos	0.52	U	ng/L	P360553	
		Molinate	0.31	U	ng/L	P360553	
		Norflurazon	910		ng/L	P360553	
		Oxadiazon**	0.20	I	ng/L	P360553	
		Parathion Ethyl	0.26	U	ng/L	P360553	
		Parathion Methyl	0.58	U	ng/L	P360553	
		Pendimethalin	1.0	U	ng/L	P360553	
		Phorate	0.26	U	ng/L	P360553	
		Prodiamine**	0.18	UJ	ng/L	P360553	LCS
		Prometon	0.94	U	ng/L	P360553	
		Prometryn	0.21	U	ng/L	P360553	
		Simazine	29		ng/L	P360553	
		Tebuconazole**	0.52	UJ	ng/L	P360553	RPD
		Terbufos	0.10	U	ng/L	P360553	
		Terbuthylazine	0.45	U	ng/L	P360553	
2069383	EPA 200.7 Rev. 4.4	Barium	41.3		ug/L	P360652	
		Calcium	71.2		mg/L	P360652	
		Iron	700		ug/L	P360652	
		Magnesium	19.5		mg/L	P360652	
		Potassium	9.7		mg/L	P360652	
		Sodium	39.3		mg/L	P360652	
		Zinc	5.0	U	ug/L	P360652	

Field ID: G3SD0067 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069383	EPA 200.8 Rev. 5.4	Aluminum	115		ug/L	P360652	
		Antimony	0.15	I	ug/L	P360652	
		Arsenic	0.95		ug/L	P360652	
		Boron**	68.5		ug/L	P360652	
		Cadmium	0.020	U	ug/L	P360652	
		Chromium	0.74	I	ug/L	P360652	
		Copper	1.05		ug/L	P360652	
		Lead	0.20	U	ug/L	P360652	
		Nickel	1.0	I	ug/L	P360652	
		Selenium	0.47	I	ug/L	P360652	
		Silver	0.010	U	ug/L	P360652	
		Thallium	0.10	U	ug/L	P360652	

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: Ms accuracies for atrazine, metalaxyl, oxidiazon, fipronil sulfide, fipronil sulfone and fipronil 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: BobcatCreekPreserveEast **Collection Date/Time: 03/12/2019 11:05**

Field ID: G3SD0131 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2069337	EPA 180.1 Rev. 2.0	Turbidity	9.2	A	NTU	P360386	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P360814	
		Sulfate	15		mg SO4/L	P360816	
	SM 2120 B	Color (true)	96		PCU	P360405	
	SM 2320 B-97	Total Alkalinity	101		mg CaCO3/L	P360896	
	SM 2540 C-97	TDS	209		mg/L	P360930	
	SM 2540 D-97	TSS	5	I	mg/L	P360832	
	SM 4500 F-C-97	Fluoride	0.54		mg F/L	P360903	
2069338	EPA 350.1 Rev. 2.0	Ammonia-N	0.075		mg N/L	P360578	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P360541	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P360695	
	EPA 365.1 Rev. 2.0	Total-P	1.2		mg P/L	P360601	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P360753	
2069339	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.84		mg P/L	P360379	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360386

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360652

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: P360652

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: P360814

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360816

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360578

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: P360541

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360695

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360601

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360379

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

Reference Method: EPA 8270D
Batch ID: P360367

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	10	U	ng/L
Bifenthrin	4.0	U	ng/L
Carbophenothion	12	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	8.0	U	ng/L
DDE-p,p'	8.0	U	ng/L
DDT-p,p'	10	U	ng/L
Delta-BHC	10	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Ethalfluralin	3.0	U	ng/L
Gamma-BHC	10	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P360367

Component	Result	Code	Units
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8270D
Batch ID: P360553

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
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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P360553

Component	Result	Code	Units
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P360367

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P360341

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	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
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P360352

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: P360404

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P360405

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P360896

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

Reference Method: SM 2540 C-97
Batch ID: P360930

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P360832

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P360903

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360753

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: P360652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	103		P	85 - 115
Iron	108		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	105		P	85 - 115
Sodium	100		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.8		P	85 - 115
Antimony	98.6		P	85 - 115
Arsenic	102		P	85 - 115
Boron	94.4		P	85 - 115
Cadmium	99.8		P	85 - 115
Chromium	91.9		P	85 - 115
Copper	98.1		P	85 - 115
Lead	98.3		P	85 - 115
Nickel	98.1		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	110		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360816

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360578

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360541

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360695

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360601

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: P360379

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

Reference Method: EPA 8270D
Batch ID: P360367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	62.8	64.1	P/P	20 - 93.0
Alpha-BHC	96.0	101	P/P	57 - 119
Alpha-Chlordane	87.9	88.1	P/P	58 - 112
Beta-BHC	118	114	P/P	56 - 149
Bifenthrin	84.2	87.8	P/P	50 - 130
Carbophenothion	58.9	73.3	P/P	26 - 147
Chlorothalonil	105	124	P/P	20 - 155
Cis-Nonachlor	91.4	89.0	P/P	50 - 130
Cypermethrin	76.8	83.1	P/P	40 - 137
DDD-p,p'	87.0	87.7	P/P	65 - 129
DDE-p,p'	76.2	75.0	P/P	57 - 116
DDT-p,p'	103	98.2	P/P	53 - 133
Delta-BHC	125	124	P/P	59 - 163
Dicofol	92.5	93.3	P/P	24 - 138
Dieldrin	92.4	90.7	P/P	60 - 120
Endosulfan I	91.8	94.0	P/P	64 - 118
Endosulfan II	101	95.7	P/P	58 - 142
Endosulfan Sulfate	92.2	90.2	P/P	60 - 127
Endrin	109	105	P/P	59 - 122
Endrin Aldehyde	90.2	101	P/P	49 - 132
Endrin Ketone	88.9	92.3	P/P	64 - 121
Ethalfluralin	86.2	87.5	P/P	50 - 130
Gamma-BHC	113	126	P/P	56 - 141
Gamma-Chlordane	87.5	86.6	P/P	56 - 110
Heptachlor	78.3	78.9	P/P	46 - 96.0
Heptachlor Epoxide	87.4	88.9	P/P	61 - 112
Hexachlorobenzene	70.8	74.6	P/P	50 - 130
Methoxychlor	109	114	P/P	63 - 134
Mirex	59.7	60.9	P/P	45 - 100
Permethrin	72.8	73.9	P/P	53 - 115
Trans-Nonachlor	85.0	84.3	P/P	50 - 130
Trifluralin	83.6	88.3	P/P	39 - 142

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P360553

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	75.7	93.2	P/P	71 - 121
Alachlor	74.5	92.1	P/P	72 - 119
Ametryn	73.9	90.3	P/P	47 - 144
Atrazine	83.0	108	P/P	75 - 123
Atrazine Desethyl	84.0	101	P/P	45 - 133
Azinphos Methyl	104	125	P/P	66 - 165
Bromacil	72.8	95.9	P/P	43 - 123
Butylate	62.2	72.2	P/P	27 - 83.0
Chlorpyrifos Ethyl	86.3	98.7	P/P	70 - 117
Chlorpyrifos Methyl	85.5	100	P/P	71 - 120
Cyanazine	210	237	P/P	34 - 264
Demeton	69.6	73.1	P/P	41 - 122
Diazinon	79.1	99.9	P/P	70 - 127
Dimethenamid	72.6	88.1	P/P	60 - 130
Disulfoton	85.5	102	P/P	56 - 127
Dithiopyr	75.9	96.4	P/P	60 - 130
EPTC	63.7	73.5	P/P	24 - 84.0
Ethion	65.1	79.3	P/P	53 - 132
Ethoprop	87.0	95.9	P/P	57 - 117
Fenamiphos	81.5	97.6	P/P	55 - 136
Fipronil	70.5	91.3	P/P	64 - 126
Fipronil Desulfinyl	68.4	87.9	P/P	60 - 130
Fipronil Sulfide	73.9	86.1	P/P	57 - 120
Fipronil Sulfone	68.0	84.1	P/P	52 - 115
Fonofos	86.4	104	P/P	61 - 121
Hexazinone	83.5	104	P/P	62 - 131
Malathion	79.8	96.4	P/P	67 - 126
Metalaxyl	76.9	95.0	P/P	54 - 128
Metolachlor	75.2	92.0	P/P	71 - 118
Metribuzin	192	205	P/P	42 - 221
Mevinphos	75.0	96.7	P/P	45 - 114
Molinate	70.1	80.2	P/P	33 - 91.0
Norflurazon	78.1	97.0	P/P	60 - 123
Oxadiazon	77.0	95.8	P/P	60 - 130
Parathion Ethyl	81.1	94.8	P/P	73 - 111
Parathion Methyl	85.5	101	P/P	74 - 126
Pendimethalin	88.9	97.7	P/P	63 - 131
Phorate	80.3	93.8	P/P	54 - 115
Prodiamine	41.8	44.3	F/F	60 - 130
Prometon	66.2	81.2	P/P	61 - 120
Prometryn	68.4	84.7	P/P	62 - 126
Simazine	85.8	110	P/P	75 - 126
Tebuconazole	32.5	44.6	P/P	30 - 100
Terbufos	82.3	97.8	P/P	65 - 116
Terbuthylazine	81.9	98.8	P/P	73 - 117

Reference Method: EPA 8276
Batch ID: P360367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	77.5	86.1	P/P	43 - 128
Toxaphene	85.9	80.8	P/P	38 - 140

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P360341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.2		P	40 - 150
3-Hydroxycarbofuran	79.5		P	40 - 150
Acetaminophen	93.1		P	30 - 150
Aldicarb	62.5		P	30 - 150
Aldicarb Sulfone	92.1		P	40 - 150
Aldicarb Sulfoxide	94.2		P	40 - 150
Bentazon	90.1		P	30 - 150
Carbamazepine	92.8		P	40 - 150
Carbaryl	70.4		P	40 - 150
Carbofuran	73.1		P	40 - 150
Diuron	70.0		P	40 - 150
Fenuron	118		P	40 - 150
Fluridone	113		P	40 - 150
Hydrocodone	98.4		P	40 - 150
Ibuprofen	64.5		P	40 - 150
Imazapyr	98.5		P	40 - 150
Imidacloprid	97.3		P	40 - 150
Linuron	72.6		P	40 - 150
MCPP	103		P	40 - 150
Methiocarb	65.8		P	40 - 150
Methomyl	78.2		P	40 - 150
Naproxen	43.1		P	40 - 150
Oxamyl	94.6		P	40 - 150
Primidone	90.8		P	40 - 150
Propoxur	57.6		P	40 - 150
Pyraclostrobin	55.9		P	40 - 150
Triclopyr	62.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P360352

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.2		P	40 - 150
AMPA	88.8		P	40 - 150
Endothall	91.1		P	40 - 150
Glufosinate	89.5		P	40 - 150
Glyphosate	93.9		P	40 - 140
Sucralose	56.9		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P360404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P360405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P360896

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

Reference Method: SM 4500 F-C-97
Batch ID: P360903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069273	Barium	98.5		P	80 - 120
2069273	Calcium	104		P	80 - 120
2069273	Iron	107		P	80 - 120
2069273	Magnesium	106		P	80 - 120
2069273	Potassium	103		P	80 - 120
2069273	Sodium	101		P	80 - 120
2069273	Zinc	101		P	80 - 120
2069327	Barium	99.9	99.7	P/P	80 - 120
2069327	Calcium	104		P	80 - 120
2069327	Iron	109	108	P/P	80 - 120
2069327	Magnesium	104		P	80 - 120
2069327	Potassium	105	105	P/P	80 - 120
2069327	Sodium	106		P	80 - 120
2069327	Zinc	100	99.5	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069273	Aluminum	100		P	80 - 120
2069273	Antimony	99.3		P	80 - 120
2069273	Arsenic	101		P	80 - 120
2069273	Boron	103		P	80 - 120
2069273	Cadmium	97.8		P	80 - 120
2069273	Chromium	87.2		P	80 - 120
2069273	Copper	95.2		P	80 - 120
2069273	Lead	98.6		P	80 - 120
2069273	Nickel	96.5		P	80 - 120
2069273	Selenium	99.5		P	80 - 120
2069273	Silver	107		P	80 - 120
2069273	Thallium	101		P	80 - 120
2069327	Aluminum	98.7	98.6	P/P	80 - 120
2069327	Antimony	99.2	98.1	P/P	80 - 120
2069327	Arsenic	99.5	99.5	P/P	80 - 120
2069327	Boron	103	104	P/P	80 - 120
2069327	Cadmium	99.0	100	P/P	80 - 120
2069327	Chromium	91.4	92.0	P/P	80 - 120
2069327	Copper	94.4	94.7	P/P	80 - 120
2069327	Lead	98.5	97.8	P/P	80 - 120
2069327	Nickel	96.0	95.0	P/P	80 - 120
2069327	Selenium	95.2	97.9	P/P	80 - 120
2069327	Silver	111	111	P/P	80 - 120
2069327	Thallium	101	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069322	Chloride	97.5		P	90 - 110
2069510	Chloride	100		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069322	Sulfate	96.8		P	90 - 110
2069510	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069259	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069333	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069333	NO2NO3-N	96.4	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360601

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069333	Total-P	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360379

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069137	O-Phosphate-P	97.8	98.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P360367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068920	Aldrin	64.7	63.8	P/P	25 - 92.0
2068920	Alpha-BHC	90.9	87.8	P/P	49 - 130
2068920	Alpha-Chlordane	80.8	81.4	P/P	50 - 115
2068920	Beta-BHC	96.6	103	P/P	43 - 157
2068920	Bifenthrin	78.1	75.7	P/P	50 - 130
2068920	Carbophenothion	86.8	85.8	P/P	27 - 180
2068920	Chlorothalonil	153	149	P/P	10 - 216
2068920	Cis-Nonachlor	81.6	82.0	P/P	50 - 130
2068920	Cypermethrin	77.8	76.9	P/P	40 - 153
2068920	DDD-p,p'	78.6	77.8	P/P	53 - 128
2068920	DDE-p,p'	68.0	68.8	P/P	48 - 116
2068920	DDT-p,p'	88.0	89.4	P/P	47 - 128
2068920	Delta-BHC	115	117	P/P	51 - 196
2068920	Dicofol	81.2	81.4	P/P	10 - 147
2068920	Dieldrin	85.0	84.9	P/P	48 - 128

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P360367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068920	Endosulfan I	85.3	86.2	P/P	58 - 126
2068920	Endosulfan II	88.2	95.3	P/P	50 - 150
2068920	Endosulfan Sulfate	85.9	83.2	P/P	56 - 130
2068920	Endrin	91.0	88.2	P/P	50 - 126
2068920	Endrin Aldehyde	79.2	76.9	P/P	12 - 145
2068920	Endrin Ketone	89.1	91.0	P/P	59 - 132
2068920	Ethalfluralin	78.5	80.7	P/P	50 - 130
2068920	Gamma-BHC	109	109	P/P	50 - 155
2068920	Gamma-Chlordane	80.5	81.0	P/P	50 - 112
2068920	Heptachlor	71.9	71.7	P/P	41 - 98.0
2068920	Heptachlor Epoxide	81.9	81.4	P/P	55 - 117
2068920	Hexachlorobenzene	68.1	63.5	P/P	50 - 130
2068920	Methoxychlor	98.2	98.7	P/P	55 - 133
2068920	Mirex	55.9	55.3	P/P	44 - 101
2068920	Permethrin	64.3	62.2	P/P	52 - 124
2068920	Trans-Nonachlor	77.2	77.4	P/P	50 - 130
2068920	Trifluralin	77.9	78.2	P/P	10 - 201

Reference Method: EPA 8270D
Batch ID: P360553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068903	Acetochlor	75.7	89.8	P/P	63 - 129
2068903	Alachlor	75.1	88.3	P/P	65 - 127
2068903	Ametryn	90.6	110	P/P	40 - 164
2068903	Atrazine Desethyl	65.0	72.4	P/P	14 - 157
2068903	Azinphos Methyl	83.8	95.7	P/P	49 - 180
2068903	Bromacil	73.4	79.6	P/P	48 - 130
2068903	Butylate	39.4	27.8	P/P	10 - 94.0
2068903	Chlorpyrifos Ethyl	79.7	95.5	P/P	58 - 123
2068903	Chlorpyrifos Methyl	74.5	87.3	P/P	58 - 125
2068903	Cyanazine	111	129	P/P	24 - 253
2068903	Demeton	60.3	56.4	P/P	25 - 149
2068903	Diazinon	75.9	90.0	P/P	59 - 144
2068903	Dimethenamid	74.9	87.9	P/P	60 - 130
2068903	Disulfoton	71.4	84.1	P/P	54 - 132
2068903	Dithiopyr	75.0	88.6	P/P	60 - 130
2068903	EPTC	46.2	30.7	P/P	10 - 92.0
2068903	Ethion	80.6	101	P/P	30 - 148
2068903	Ethoprop	76.3	90.1	P/P	50 - 130
2068903	Fenamiphos	98.0	112	P/P	49 - 142
2068903	Fipronil Desulfinyl	79.3	81.3	P/P	60 - 130
2068903	Fonofos	74.9	90.5	P/P	55 - 129
2068903	Hexazinone	91.9	107	P/P	56 - 141
2068903	Malathion	79.7	93.0	P/P	56 - 135
2068903	Metolachlor	76.1	87.8	P/P	51 - 140
2068903	Metribuzin	175	207	P/P	45 - 254
2068903	Mevinphos	72.1	79.7	P/P	33 - 131
2068903	Molinate	56.0	55.9	P/P	14 - 98.0
2068903	Norflurazon	74.7	79.9	P/P	34 - 136
2068903	Parathion Ethyl	77.4	89.2	P/P	66 - 118
2068903	Parathion Methyl	78.8	93.3	P/P	64 - 136

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P360553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068903	Pendimethalin	93.5	112	P/P	59 - 144
2068903	Phorate	71.9	78.6	P/P	42 - 130
2068903	Prodiamine	94.8	98.9	P/P	60 - 130
2068903	Prometon	78.1	91.9	P/P	59 - 134
2068903	Prometryn	68.6	79.1	P/P	54 - 135
2068903	Simazine	86.0	95.9	P/P	53 - 156
2068903	Tebuconazole	52.6	59.1	P/P	30 - 100
2068903	Terbufos	73.3	87.4	P/P	57 - 131
2068903	Terbuthylazine	78.1	91.7	P/P	68 - 125

Reference Method: EPA 8276
Batch ID: P360367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069012	Chlordane	78.7	87.0	P/P	34 - 136
2069012	Toxaphene	117	99.5	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P360341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069364	3-Hydroxycarbofuran	76.3	75.7	P/P	40 - 150
2069364	Aldicarb	44.2	43.7	P/P	30 - 150
2069364	Aldicarb Sulfone	85.7	101	P/P	40 - 150
2069364	Aldicarb Sulfoxide	44.8	47.3	P/P	40 - 150
2069364	Carbaryl	55.1	56.4	P/P	40 - 150
2069364	Carbofuran	57.5	57.3	P/P	40 - 150
2069364	Methiocarb	51.9	56.7	P/P	40 - 150
2069364	Methomyl	61.0	64.6	P/P	40 - 150
2069364	Oxamyl	68.8	81.2	P/P	40 - 150
2069364	Propoxur	50.6	50.2	P/P	40 - 150
2069366	2,4-D	103	88.8	P/P	40 - 150
2069366	Acetaminophen	90.8	98.1	P/P	30 - 150
2069366	Bentazon	54.8	56.8	P/P	30 - 150
2069366	Carbamazepine	73.5	70.2	P/P	40 - 150
2069366	Diuron	66.0	58.3	P/P	40 - 150
2069366	Fenuron	89.9	88.2	P/P	40 - 150
2069366	Fluridone	114	110	P/P	40 - 150
2069366	Hydrocodone	81.4	82.3	P/P	40 - 150
2069366	Ibuprofen	68.5	75.8	P/P	40 - 150
2069366	Imazapyr	106	110	P/P	40 - 150
2069366	Imidacloprid	182	174	F/F	40 - 150
2069366	Linuron	68.3	66.9	P/P	40 - 150
2069366	MCPP	153	143	F/P	40 - 150
2069366	Naproxen	67.2	65.4	P/P	40 - 150
2069366	Primidone	70.3	85.2	P/P	40 - 150
2069366	Pyraclostrobin	58.4	63.0	P/P	40 - 150
2069366	Triclopyr	90.3	75.6	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P360352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069254	Acesulfame K	139	155	P/F	40 - 150
2069254	AMPA	87.8	97.9	P/P	40 - 150
2069254	Endothall	90.9	101	P/P	40 - 150
2069254	Glufosinate	87.0	86.8	P/P	40 - 150
2069254	Glyphosate	114	119	P/P	40 - 140
2069254	Sucralose	49.1	54.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P360903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069122	Fluoride	99.0	98.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069123	Organic Carbon	92.7	94.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069337	Turbidity	5.43	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069327	Barium	0.178	Spike	P	0 - 20
2069327	Calcium	0.707	Spike	P	0 - 20
2069327	Iron	1.27	Spike	P	0 - 20
2069327	Magnesium	1.04	Spike	P	0 - 20
2069327	Potassium	0.0172	Spike	P	0 - 20
2069327	Sodium	1.82	Spike	P	0 - 20
2069327	Zinc	0.566	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069327	Aluminum	0.0910	Spike	P	0 - 20
2069327	Antimony	1.16	Spike	P	0 - 20
2069327	Arsenic	0.0323	Spike	P	0 - 20
2069327	Boron	1.06	Spike	P	0 - 20
2069327	Cadmium	1.09	Spike	P	0 - 20
2069327	Chromium	0.659	Spike	P	0 - 20
2069327	Copper	0.345	Spike	P	0 - 20
2069327	Lead	0.720	Spike	P	0 - 20
2069327	Nickel	1.01	Spike	P	0 - 20
2069327	Selenium	2.76	Spike	P	0 - 20
2069327	Silver	0.743	Spike	P	0 - 20
2069327	Thallium	0.171	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069322	Chloride	2.14	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069322	Sulfate	1.95	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069259	Ammonia-N	0.589	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069333	Kjeldahl Nitrogen	0.0624	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069333	NO2NO3-N	1.68	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360601

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069333	Total-P	0.665	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069137	O-Phosphate-P	0.916	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P360367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068920	Aldrin	1.43	Spike	P	0 - 30
2068920	Alpha-BHC	3.49	Spike	P	0 - 30
2068920	Alpha-Chlordane	0.725	Spike	P	0 - 30
2068920	Beta-BHC	6.22	Spike	P	0 - 30
2068920	Bifenthrin	3.21	Spike	P	0 - 30
2068920	Carbophenothion	1.17	Spike	P	0 - 30
2068920	Chlorothalonil	3.17	Spike	P	0 - 30
2068920	Cis-Nonachlor	0.519	Spike	P	0 - 30
2068920	Cypermethrin	1.19	Spike	P	0 - 30
2068920	DDD-p,p'	1.03	Spike	P	0 - 30
2068920	DDE-p,p'	1.18	Spike	P	0 - 30
2068920	DDT-p,p'	1.66	Spike	P	0 - 30
2068920	Delta-BHC	1.96	Spike	P	0 - 30
2068920	Dicofol	0.190	Spike	P	0 - 30
2068920	Dieldrin	0.126	Spike	P	0 - 30
2068920	Endosulfan I	1.09	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P360367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068920	Endosulfan II	7.69	Spike	P	0 - 30
2068920	Endosulfan Sulfate	3.22	Spike	P	0 - 30
2068920	Endrin	3.12	Spike	P	0 - 30
2068920	Endrin Aldehyde	2.86	Spike	P	0 - 30
2068920	Endrin Ketone	2.09	Spike	P	0 - 30
2068920	Ethalfluralin	2.71	Spike	P	0 - 30
2068920	Gamma-BHC	0.458	Spike	P	0 - 30
2068920	Gamma-Chlordane	0.653	Spike	P	0 - 30
2068920	Heptachlor	0.409	Spike	P	0 - 30
2068920	Heptachlor Epoxide	0.577	Spike	P	0 - 30
2068920	Hexachlorobenzene	6.95	Spike	P	0 - 30
2068920	Methoxychlor	0.463	Spike	P	0 - 30
2068920	Mirex	1.11	Spike	P	0 - 30
2068920	Permethrin	3.19	Spike	P	0 - 30
2068920	Trans-Nonachlor	0.341	Spike	P	0 - 30
2068920	Trifluralin	0.330	Spike	P	0 - 30
LFB	Aldrin	1.94	LCS	P	0 - 30
LFB	Alpha-BHC	4.58	LCS	P	0 - 30
LFB	Alpha-Chlordane	0.200	LCS	P	0 - 30
LFB	Beta-BHC	3.09	LCS	P	0 - 30
LFB	Bifenthrin	4.18	LCS	P	0 - 30
LFB	Carbophenothion	21.8	LCS	P	0 - 30
LFB	Chlorothalonil	17.1	LCS	P	0 - 30
LFB	Cis-Nonachlor	2.61	LCS	P	0 - 30
LFB	Cypermethrin	7.97	LCS	P	0 - 30
LFB	DDD-p,p'	0.898	LCS	P	0 - 30
LFB	DDE-p,p'	1.68	LCS	P	0 - 30
LFB	DDT-p,p'	4.56	LCS	P	0 - 30
LFB	Delta-BHC	1.14	LCS	P	0 - 30
LFB	Dicofol	0.837	LCS	P	0 - 30
LFB	Dieldrin	1.81	LCS	P	0 - 30
LFB	Endosulfan I	2.47	LCS	P	0 - 30
LFB	Endosulfan II	5.13	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.18	LCS	P	0 - 30
LFB	Endrin	4.02	LCS	P	0 - 30
LFB	Endrin Aldehyde	11.0	LCS	P	0 - 30
LFB	Endrin Ketone	3.76	LCS	P	0 - 30
LFB	Ethalfluralin	1.52	LCS	P	0 - 30
LFB	Gamma-BHC	10.5	LCS	P	0 - 30
LFB	Gamma-Chlordane	0.993	LCS	P	0 - 30
LFB	Heptachlor	0.792	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.70	LCS	P	0 - 30
LFB	Hexachlorobenzene	5.31	LCS	P	0 - 30
LFB	Methoxychlor	4.57	LCS	P	0 - 30
LFB	Mirex	1.95	LCS	P	0 - 30
LFB	Permethrin	1.48	LCS	P	0 - 30
LFB	Trans-Nonachlor	0.825	LCS	P	0 - 30
LFB	Trifluralin	5.44	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P360553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068903	Acetochlor	17.1	Spike	P	0 - 30
2068903	Alachlor	16.2	Spike	P	0 - 30
2068903	Ametryn	19.5	Spike	P	0 - 30
2068903	Atrazine	12.9	Spike	P	0 - 30
2068903	Atrazine Desethyl	9.24	Spike	P	0 - 30
2068903	Azinphos Methyl	13.3	Spike	P	0 - 30
2068903	Bromacil	8.08	Spike	P	0 - 30
2068903	Butylate	34.5	Spike	F	0 - 30
2068903	Chlorpyrifos Ethyl	18.1	Spike	P	0 - 30
2068903	Chlorpyrifos Methyl	15.8	Spike	P	0 - 30
2068903	Cyanazine	15.0	Spike	P	0 - 30
2068903	Demeton	6.65	Spike	P	0 - 30
2068903	Diazinon	17.1	Spike	P	0 - 30
2068903	Dimethenamid	15.9	Spike	P	0 - 30
2068903	Disulfoton	16.4	Spike	P	0 - 30
2068903	Dithiopyr	10.4	Spike	P	0 - 30
2068903	EPTC	40.2	Spike	F	0 - 30
2068903	Ethion	22.8	Spike	P	0 - 30
2068903	Ethoprop	16.6	Spike	P	0 - 30
2068903	Fenamiphos	13.1	Spike	P	0 - 30
2068903	Fipronil	0.967	Spike	P	0 - 30
2068903	Fipronil Desulfinyl	1.81	Spike	P	0 - 30
2068903	Fipronil Sulfide	8.94	Spike	P	0 - 30
2068903	Fipronil Sulfone	12.5	Spike	P	0 - 30
2068903	Fonofos	18.9	Spike	P	0 - 30
2068903	Hexazinone	14.1	Spike	P	0 - 30
2068903	Malathion	15.4	Spike	P	0 - 30
2068903	Metalaxyl	17.0	Spike	P	0 - 30
2068903	Metolachlor	14.3	Spike	P	0 - 30
2068903	Metribuzin	2.85	Spike	P	0 - 30
2068903	Mevinphos	10.0	Spike	P	0 - 30
2068903	Molinate	0.305	Spike	P	0 - 30
2068903	Norflurazon	6.64	Spike	P	0 - 30
2068903	Oxadiazon	7.73	Spike	P	0 - 30
2068903	Parathion Ethyl	14.1	Spike	P	0 - 30
2068903	Parathion Methyl	16.9	Spike	P	0 - 30
2068903	Pendimethalin	17.9	Spike	P	0 - 30
2068903	Phorate	8.87	Spike	P	0 - 30
2068903	Prodiamine	3.94	Spike	P	0 - 30
2068903	Prometon	16.3	Spike	P	0 - 30
2068903	Prometryn	14.3	Spike	P	0 - 30
2068903	Simazine	10.8	Spike	P	0 - 30
2068903	Tebuconazole	11.6	Spike	P	0 - 30
2068903	Terbufos	17.5	Spike	P	0 - 30
2068903	Terbuthylazine	16.0	Spike	P	0 - 30
LFB	Acetochlor	20.6	LCS	P	0 - 30
LFB	Alachlor	21.2	LCS	P	0 - 30
LFB	Ametryn	20.0	LCS	P	0 - 30
LFB	Atrazine	26.1	LCS	P	0 - 30
LFB	Atrazine Desethyl	18.3	LCS	P	0 - 30
LFB	Azinphos Methyl	18.9	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P360553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Bromacil	27.4	LCS	P	0 - 30
LFB	Butylate	14.9	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	13.3	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	16.0	LCS	P	0 - 30
LFB	Cyanazine	11.9	LCS	P	0 - 30
LFB	Demeton	4.90	LCS	P	0 - 30
LFB	Diazinon	23.3	LCS	P	0 - 30
LFB	Dimethenamid	19.3	LCS	P	0 - 30
LFB	Disulfoton	17.8	LCS	P	0 - 30
LFB	Dithiopyr	23.8	LCS	P	0 - 30
LFB	EPTC	14.3	LCS	P	0 - 30
LFB	Ethion	19.7	LCS	P	0 - 30
LFB	Ethoprop	9.74	LCS	P	0 - 30
LFB	Fenamiphos	18.0	LCS	P	0 - 30
LFB	Fipronil	25.7	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	24.8	LCS	P	0 - 30
LFB	Fipronil Sulfide	15.3	LCS	P	0 - 30
LFB	Fipronil Sulfone	21.1	LCS	P	0 - 30
LFB	Fonofos	18.8	LCS	P	0 - 30
LFB	Hexazinone	21.4	LCS	P	0 - 30
LFB	Malathion	18.9	LCS	P	0 - 30
LFB	Metalaxyl	21.1	LCS	P	0 - 30
LFB	Metolachlor	20.0	LCS	P	0 - 30
LFB	Metribuzin	6.58	LCS	P	0 - 30
LFB	Mevinphos	25.4	LCS	P	0 - 30
LFB	Molinate	13.4	LCS	P	0 - 30
LFB	Norflurazon	21.5	LCS	P	0 - 30
LFB	Oxadiazon	21.8	LCS	P	0 - 30
LFB	Parathion Ethyl	15.6	LCS	P	0 - 30
LFB	Parathion Methyl	17.1	LCS	P	0 - 30
LFB	Pendimethalin	9.35	LCS	P	0 - 30
LFB	Phorate	15.5	LCS	P	0 - 30
LFB	Prodiamine	5.77	LCS	P	0 - 30
LFB	Prometon	20.4	LCS	P	0 - 30
LFB	Prometryn	21.4	LCS	P	0 - 30
LFB	Simazine	25.1	LCS	P	0 - 30
LFB	Tebuconazole	31.6	LCS	F	0 - 30
LFB	Terbufos	17.2	LCS	P	0 - 30
LFB	Terbuthylazine	18.7	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P360367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069012	Chlordane	10.0	Spike	P	0 - 30
2069012	Toxaphene	16.5	Spike	P	0 - 30
LFB	Chlordane	10.5	LCS	P	0 - 30
LFB	Toxaphene	6.07	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P360341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069364	3-Hydroxycarbofuran	0.810	Spike	P	0 - 30
2069364	Aldicarb	1.03	Spike	P	0 - 30
2069364	Aldicarb Sulfone	16.5	Spike	P	0 - 30
2069364	Aldicarb Sulfoxide	5.47	Spike	P	0 - 30
2069364	Carbaryl	2.41	Spike	P	0 - 30
2069364	Carbofuran	0.332	Spike	P	0 - 30
2069364	Methiocarb	8.89	Spike	P	0 - 30
2069364	Methomyl	5.74	Spike	P	0 - 30
2069364	Oxamyl	16.5	Spike	P	0 - 30
2069364	Propoxur	0.730	Spike	P	0 - 30
2069366	2,4-D	14.6	Spike	P	0 - 30
2069366	Acetaminophen	7.71	Spike	P	0 - 30
2069366	Bentazon	3.23	Spike	P	0 - 30
2069366	Carbamazepine	4.58	Spike	P	0 - 30
2069366	Diuron	9.06	Spike	P	0 - 30
2069366	Fenuron	1.98	Spike	P	0 - 30
2069366	Fluridone	2.19	Spike	P	0 - 30
2069366	Hydrocodone	1.17	Spike	P	0 - 30
2069366	Ibuprofen	10.2	Spike	P	0 - 30
2069366	Imazapyr	3.05	Spike	P	0 - 30
2069366	Imidacloprid	2.01	Spike	P	0 - 30
2069366	Linuron	2.05	Spike	P	0 - 30
2069366	MCPP	6.95	Spike	P	0 - 30
2069366	Naproxen	2.79	Spike	P	0 - 30
2069366	Primidone	19.1	Spike	P	0 - 30
2069366	Pyraclostrobin	7.64	Spike	P	0 - 30
2069366	Triclopyr	17.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P360352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069254	Acesulfame K	11.2	Spike	P	0 - 30
2069254	AMPA	9.07	Spike	P	0 - 30
2069254	Endothall	10.9	Spike	P	0 - 30
2069254	Glufosinate	0.297	Spike	P	0 - 30
2069254	Glyphosate	3.08	Spike	P	0 - 30
2069254	Sucralose	9.68	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P360404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069331	Color (true)	0.101	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P360405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069257	Color (true)	3.39	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P360896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069122	Total Alkalinity	0.494	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P360930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069257	TDS	3.27	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P360903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069122	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069123	Organic Carbon	2.27	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: 2069364
Field Sample ID: G3SD0120

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	40.0	P	30 - 160

Lab Sample ID: 2069365
Field Sample ID: G3SD0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	42.0	P	30 - 160

Lab Sample ID: 2069366
Field Sample ID: G3SD0120

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.7	P	30 - 160
EPA 8321B	Diuron-d6	48.1	P	30 - 160
EPA 8321B	Endothall-d6	115	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	50.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.6	P	30 - 160
EPA 8321B	Primidone-d5	67.6	P	30 - 160
EPA 8321B	Sucralose-d6	58.4	P	30 - 160

Lab Sample ID: 2069367
Field Sample ID: G3SD0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.6	P	30 - 160
EPA 8321B	Diuron-d6	55.3	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	53.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.7	P	30 - 160
EPA 8321B	Primidone-d5	61.4	P	30 - 160
EPA 8321B	Sucralose-d6	45.3	P	30 - 160

Lab Sample ID: 2069378
Field Sample ID: G3SD0120

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	72.0	P	39 - 109
EPA 8270D	Tetrachloro-m-xylene	62.0	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	61.3	P	30 - 103
EPA 8276	PCNB	80.8	P	37 - 143

Lab Sample ID: 2069379
Field Sample ID: G3SD0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	57.8	P	39 - 109
EPA 8270D	Tetrachloro-m-xylene	51.0	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	48.7	P	30 - 103

Quality Assurance Report
Surrogates

Lab Sample ID: 2069379
Field Sample ID: G3SD0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	PCNB	66.2	P	37 - 143

Lab Sample ID: 2069380
Field Sample ID: G3SD0120

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	85.9	P	68 - 130
EPA 8270D	Terbufos-d10	89.6	P	61 - 136

Lab Sample ID: 2069381
Field Sample ID: G3SD0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	79.6	P	68 - 130
EPA 8270D	Terbufos-d10	79.4	P	61 - 136

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A89987
Included Lab Sample IDs: 2069335, 2069336, 2069339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.1	95.6	P/P	90 - 110
O-Phosphate-P	97.8	97.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89988
Included Lab Sample IDs: 2069331, 2069332, 2069337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A89998
Included Lab Sample IDs: 2069331, 2069332, 2069337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115
Color (true)	103	102	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A90054
Included Lab Sample IDs: 2069333, 2069334, 2069338

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A90071
Included Lab Sample IDs: 2069331, 2069332, 2069337

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

Reference Method: EPA 8321B
Run ID: A90083
Included Lab Sample IDs: 2069366, 2069367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	117	107	P/P	60 - 160
Endothall	93.1	101	P/P	60 - 160
Sucralose	77.9	69.0	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A90091
Included Lab Sample IDs: 2069366, 2069367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	82.8	87.2	P/P	50 - 150
2,4-D	83.2	82.8	P/P	50 - 150
3-Hydroxycarbofuran	106	86.3	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A90091
Included Lab Sample IDs: 2069366, 2069367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	106	73.1	P/P	60 - 160
Acetaminophen	110	106	P/P	60 - 160
Aldicarb	71.5	85.6	P/P	60 - 150
Aldicarb Sulfone	99.2	94.5	P/P	50 - 150
Aldicarb Sulfoxide	94.4	92.6	P/P	50 - 150
Bentazon	83.3	94.3	P/P	50 - 160
Bentazon	86.5	83.3	P/P	50 - 160
Carbamazepine	101	95.2	P/P	60 - 150
Carbamazepine	99.9	101	P/P	60 - 150
Carbaryl	98.4	97.6	P/P	60 - 150
Carbofuran	109	111	P/P	50 - 150
Diuron	102	96.3	P/P	60 - 150
Diuron	105	102	P/P	60 - 150
Fenuron	102	104	P/P	60 - 150
Fenuron	104	95.9	P/P	60 - 150
Fluridone	109	108	P/P	60 - 160
Fluridone	111	109	P/P	60 - 160
Hydrocodone	101	79.4	P/P	60 - 150
Hydrocodone	85.0	101	P/P	60 - 150
Ibuprofen	82.9	84.4	P/P	50 - 160
Ibuprofen	84.4	95.5	P/P	50 - 160
Imazapyr	82.5	90.1	P/P	50 - 150
Imazapyr	96.0	82.5	P/P	50 - 150
Imidacloprid	85.5	96.6	P/P	60 - 150
Imidacloprid	96.6	87.3	P/P	60 - 150
Linuron	101	110	P/P	60 - 150
Linuron	110	101	P/P	60 - 150
MCPP	92.4	98.3	P/P	50 - 150
MCPP	98.3	88.8	P/P	50 - 150
Methiocarb	98.3	93.4	P/P	50 - 150
Methomyl	93.1	100	P/P	50 - 150
Naproxen	103	86.3	P/P	50 - 160
Naproxen	92.1	103	P/P	50 - 160
Oxamyl	92.3	92.6	P/P	50 - 150
Primidone	102	83.7	P/P	60 - 150
Primidone	91.6	102	P/P	60 - 150
Propoxur	101	100	P/P	50 - 150
Pyraclostrobin	69.7	85.7	P/P	60 - 150
Pyraclostrobin	85.7	84.7	P/P	60 - 150
Triclopyr	104	91.4	P/P	50 - 150
Triclopyr	91.4	99.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A90092
Included Lab Sample IDs: 2069333, 2069334, 2069338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	100	101	P/P	90 - 110
Total-P	97.8	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A90093
Included Lab Sample IDs: 2069366, 2069367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	104	105	P/P	60 - 160
Glufosinate	97.3	90.6	P/P	60 - 160
Glyphosate	96.1	95.4	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A90094
Included Lab Sample IDs: 2069333, 2069334, 2069338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	101	P/P	90 - 110
Kjeldahl Nitrogen	97.2	95.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A90099
Included Lab Sample IDs: 2069333, 2069334, 2069338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A90103
Included Lab Sample IDs: 2069382, 2069383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	105	P/P	90 - 110
Antimony	99.8	100	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Boron	108	107	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Copper	102	103	P/P	90 - 110
Lead	103	103	P/P	90 - 110
Nickel	102	102	P/P	90 - 110
Selenium	99.4	98.9	P/P	90 - 110
Thallium	98.4	97.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A90113
Included Lab Sample IDs: 2069382, 2069383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	104	101	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	106	105	P/P	90 - 110
Zinc	102	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 5310 B-00
Run ID: A90118
Included Lab Sample IDs: 2069333, 2069334, 2069338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	93.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A90136
Included Lab Sample IDs: 2069382, 2069383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	108	108	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A90174
Included Lab Sample IDs: 2069378, 2069379

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	101		P	80 - 120
Toxaphene	115		P	80 - 120

Reference Method: SM 2320 B-97
Run ID: A90183
Included Lab Sample IDs: 2069331, 2069332, 2069337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	102	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A90183
Included Lab Sample IDs: 2069331, 2069332, 2069337

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

Reference Method: EPA 8270D
Run ID: A90188
Included Lab Sample IDs: 2069378, 2069379

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	92.5		P	80 - 120
Alpha-BHC	96.6		P	80 - 120
Alpha-Chlordane	93.3		P	80 - 120
Beta-BHC	97.2		P	80 - 120
Bifenthrin	90.1		P	80 - 120
Carbophenothion	102		P	80 - 120
Chlorothalonil	102		P	80 - 120
Cis-Nonachlor	92.7		P	80 - 120
Cypermethrin	85.5		P	80 - 120
DDD-p,p'	97.2		P	80 - 120
DDE-p,p'	96.0		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	100		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A90188
Included Lab Sample IDs: 2069378, 2069379

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dicofol	97.5		P	80 - 120
Dieldrin	94.6		P	80 - 120
Endosulfan I	94.9		P	80 - 120
Endosulfan II	93.2		P	80 - 120
Endosulfan Sulfate	90.5		P	80 - 120
Endrin	91.5		P	80 - 120
Endrin Aldehyde	92.3		P	80 - 120
Endrin Ketone	93.8		P	80 - 120
Ethalfluralin	93.0		P	80 - 120
Gamma-BHC	99.0		P	80 - 120
Gamma-Chlordane	92.7		P	80 - 120
Heptachlor	88.2		P	80 - 120
Heptachlor Epoxide	92.8		P	80 - 120
Hexachlorobenzene	98.0		P	80 - 120
Methoxychlor	102		P	80 - 120
Mirex	91.9		P	80 - 120
Permethrin	91.3		P	80 - 120
Trans-Nonachlor	93.3		P	80 - 120
Trifluralin	92.6		P	80 - 120

Reference Method: EPA 8270D
Run ID: A90253
Included Lab Sample IDs: 2069380, 2069381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	108		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	92.9		P	80 - 120
Azinphos Methyl	100		P	80 - 120
Butylate	95.1		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	98.2		P	80 - 120
Cyanazine	91.6		P	80 - 120
Demeton	96.8		P	80 - 120
Diazinon	99.2		P	80 - 120
Dimethenamid	103		P	80 - 120
Disulfoton	95.5		P	80 - 120
Dithiopyr	104		P	80 - 120
EPTC	99.4		P	80 - 120
Ethion	98.8		P	80 - 120
Ethoprop	96.0		P	80 - 120
Fenamiphos	96.9		P	80 - 120
Fipronil	102		P	80 - 120
Fipronil Desulfinyl	102		P	80 - 120
Fipronil Sulfide	95.7		P	80 - 120
Fipronil Sulfone	94.8		P	80 - 120
Fonofos	95.3		P	80 - 120
Malathion	96.5		P	80 - 120
Metalaxyl	106		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A90253
Included Lab Sample IDs: 2069380, 2069381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Metolachlor	109		P	80 - 120
Metribuzin	87.2		P	80 - 120
Mevinphos	98.7		P	80 - 120
Molinate	97.5		P	80 - 120
Oxadiazon	106		P	80 - 120
Parathion Ethyl	96.5		P	80 - 120
Parathion Methyl	96.7		P	80 - 120
Pendimethalin	99.4		P	80 - 120
Phorate	92.3		P	80 - 120
Prodiamine	104		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	97.9		P	80 - 120
Tebuconazole	98.0		P	80 - 120
Terbufos	95.3		P	80 - 120
Terbuthylazine	99.5		P	80 - 120

Reference Method: EPA 8270D
Run ID: A90284
Included Lab Sample IDs: 2069380, 2069381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	98.4		P	80 - 120
Bromacil	104		P	80 - 120
Hexazinone	100		P	80 - 120
Norflurazon	102		P	80 - 120
Simazine	97.0		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							5.43	
EPA 200.7 Rev. 4.4	Barium	101		98.5	99.9	99.7			0.178
	Calcium	103		104	104				0.707
	Iron	108		107	109	108			1.27
	Magnesium	104		106	104				1.04
	Potassium	105		103	105	105			0.0172
	Sodium	100		101	106				1.82
	Zinc	102		101	100	99.5			0.566
EPA 200.8 Rev. 5.4	Aluminum	96.8		100	98.7	98.6			0.0910
	Antimony	98.6		99.3	99.2	98.1			1.16
	Arsenic	102		101	99.5	99.5			0.0323
	Boron	94.4		103	103	104			1.06
	Cadmium	99.8		97.8	99.0	100			1.09
	Chromium	91.9		87.2	91.4	92.0			0.659
	Copper	98.1		95.2	94.4	94.7			0.345
	Lead	98.3		98.6	98.5	97.8			0.720
	Nickel	98.1		96.5	96.0	95.0			1.01
	Selenium	99.0		99.5	95.2	97.9			2.76
	Silver	110		107	111	111			0.743
	Thallium	100		101	101	101			0.171
EPA 300.0 Rev. 2.1	Chloride	98.1		97.5	100			2.14	
	Sulfate	99.5		96.8	100			1.95	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6		101	101				0.589
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100		102	102				0.0624
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		96.4	98.4				1.68
EPA 365.1 Rev. 2.0	Total-P	102		100	101				0.665
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		97.8	98.7				0.916
EPA 8270D	Acetochlor	75.7	93.2	75.7	89.8		20.6		17.1
	Alachlor	74.5	92.1	75.1	88.3		21.2		16.2
	Aldrin	62.8	64.1	64.7	63.8		1.94		1.43
	Alpha-BHC	96.0	101	90.9	87.8		4.58		3.49
	Alpha-Chlordane	87.9	88.1	81.4	80.8		0.200		0.725
	Ametryn	73.9	90.3	90.6	110		20.0		19.5
	Atrazine	83.0	108				26.1		12.9
	Atrazine Desethyl	84.0	101	65.0	72.4		18.3		9.24
	Azinphos Methyl	104	125	83.8	95.7		18.9		13.3
	Beta-BHC	118	114	103	96.6		3.09		6.22
	Bifenthrin	84.2	87.8	75.7	78.1		4.18		3.21
	Bromacil	72.8	95.9	73.4	79.6		27.4		8.08
	Butylate	62.2	72.2	39.4	27.8		14.9		34.5
	Carbophenothion	58.9	73.3	85.8	86.8		21.8		1.17
	Chlorothalonil	105	124	149	153		17.1		3.17
	Chlorpyrifos Ethyl	86.3	98.7	79.7	95.5		13.3		18.1
	Chlorpyrifos Methyl	85.5	100	74.5	87.3		16.0		15.8
	Cis-Nonachlor	91.4	89.0	81.6	82.0		2.61		0.519
	Cyanazine	210	237	111	129		11.9		15.0
	Cypermethrin	76.8	83.1	77.8	76.9		7.97		1.19
	DDD-p,p'	87.0	87.7	78.6	77.8		0.898		1.03
	DDE-p,p'	76.2	75.0	68.0	68.8		1.68		1.18
	DDT-p,p'	103	98.2	88.0	89.4		4.56		1.66
	Delta-BHC	125	124	117	115		1.14		1.96
	Demeton	69.6	73.1	60.3	56.4		4.90		6.65
	Diazinon	79.1	99.9	75.9	90.0		23.3		17.1
	Dicofol	92.5	93.3	81.2	81.4		0.837		0.190

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Dieldrin	92.4	90.7	85.0	84.9	1.81		0.126
	Dimethenamid	72.6	88.1	74.9	87.9	19.3		15.9
	Disulfoton	85.5	102	71.4	84.1	17.8		16.4
	Dithiopyr	75.9	96.4	75.0	88.6	23.8		10.4
	Endosulfan I	91.8	94.0	85.3	86.2	2.47		1.09
	Endosulfan II	101	95.7	88.2	95.3	5.13		7.69
	Endosulfan Sulfate	92.2	90.2	85.9	83.2	2.18		3.22
	Endrin	109	105	91.0	88.2	4.02		3.12
	Endrin Aldehyde	90.2	101	76.9	79.2	11.0		2.86
	Endrin Ketone	88.9	92.3	91.0	89.1	3.76		2.09
	EPTC	63.7	73.5	46.2	30.7	14.3		40.2
	Ethalfluralin	86.2	87.5	80.7	78.5	1.52		2.71
	Ethion	65.1	79.3	80.6	101	19.7		22.8
	Ethoprop	87.0	95.9	76.3	90.1	9.74		16.6
	Fenamiphos	81.5	97.6	98.0	112	18.0		13.1
	Fipronil	70.5	91.3			25.7		0.967
	Fipronil Desulfinyl	68.4	87.9	79.3	81.3	24.8		1.81
	Fipronil Sulfide	73.9	86.1			15.3		8.94
	Fipronil Sulfone	68.0	84.1			21.1		12.5
	Fonofos	86.4	104	74.9	90.5	18.8		18.9
	Gamma-BHC	113	126	109	109	10.5		0.458
	Gamma-Chlordane	87.5	86.6	81.0	80.5	0.993		0.653
	Heptachlor	78.3	78.9	71.7	71.9	0.792		0.409
	Heptachlor Epoxide	87.4	88.9	81.4	81.9	1.70		0.577
	Hexachlorobenzene	70.8	74.6	63.5	68.1	5.31		6.95
	Hexazinone	83.5	104	91.9	107	21.4		14.1
	Malathion	79.8	96.4	79.7	93.0	18.9		15.4
	Metalaxyl	76.9	95.0			21.1		17.0
	Methoxychlor	109	114	98.7	98.2	4.57		0.463
	Metolachlor	75.2	92.0	76.1	87.8	20.0		14.3
	Metribuzin	192	205	175	207	6.58		2.85
	Mevinphos	75.0	96.7	72.1	79.7	25.4		10.0
	Mirex	59.7	60.9	55.3	55.9	1.95		1.11
	Molinate	70.1	80.2	56.0	55.9	13.4		0.305
	Norflurazon	78.1	97.0	74.7	79.9	21.5		6.64
	Oxadiazon	77.0	95.8			21.8		7.73
	Parathion Ethyl	81.1	94.8	77.4	89.2	15.6		14.1
	Parathion Methyl	85.5	101	78.8	93.3	17.1		16.9
	Pendimethalin	88.9	97.7	93.5	112	9.35		17.9
	Permethrin	72.8	73.9	62.2	64.3	1.48		3.19
	Phorate	80.3	93.8	71.9	78.6	15.5		8.87
	Prodiamine	41.8	44.3	94.8	98.9	5.77		3.94
	Prometon	66.2	81.2	78.1	91.9	20.4		16.3
	Prometryn	68.4	84.7	68.6	79.1	21.4		14.3
	Simazine	85.8	110	86.0	95.9	25.1		10.8
	Tebuconazole	32.5	44.6	52.6	59.1	31.6		11.6
	Terbufos	82.3	97.8	73.3	87.4	17.2		17.5
	Terbuthylazine	81.9	98.8	78.1	91.7	18.7		16.0
	Trans-Nonachlor	85.0	84.3	77.4	77.2	0.825		0.341
	Trifluralin	83.6	88.3	78.2	77.9	5.44		0.330
EPA 8276	Chlordane	77.5	86.1	78.7	87.0	10.5		10.0
	Toxaphene	85.9	80.8	117	99.5	6.07		16.5
EPA 8321B	2,4-D	86.2		103	88.8			14.6
	3-Hydroxycarbofuran	79.5		76.3	75.7			0.810

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Acesulfame K	96.2	139	155			11.2
	Acetaminophen	93.1	90.8	98.1			7.71
	Aldicarb	62.5	44.2	43.7			1.03
	Aldicarb Sulfone	92.1	85.7	101			16.5
	Aldicarb Sulfoxide	94.2	44.8	47.3			5.47
	AMPA	88.8	87.8	97.9			9.07
	Bentazon	90.1	54.8	56.8			3.23
	Carbamazepine	92.8	73.5	70.2			4.58
	Carbaryl	70.4	55.1	56.4			2.41
	Carbofuran	73.1	57.5	57.3			0.332
	Diuron	70.0	66.0	58.3			9.06
	Endothall	91.1	90.9	101			10.9
	Fenuron	118	89.9	88.2			1.98
	Fluridone	113	114	110			2.19
	Glufosinate	89.5	87.0	86.8			0.297
	Glyphosate	93.9	114	119			3.08
	Hydrocodone	98.4	81.4	82.3			1.17
	Ibuprofen	64.5	68.5	75.8			10.2
	Imazapyr	98.5	106	110			3.05
	Imidacloprid	97.3	182	174			2.01
	Linuron	72.6	68.3	66.9			2.05
	MCPP	103	153	143			6.95
	Methiocarb	65.8	51.9	56.7			8.89
	Methomyl	78.2	61.0	64.6			5.74
	Naproxen	43.1	67.2	65.4			2.79
	Oxamyl	94.6	68.8	81.2			16.5
	Primidone	90.8	70.3	85.2			19.1
	Propoxur	57.6	50.6	50.2			0.730
	Pyraclostrobin	55.9	58.4	63.0			7.64
	Sucralose	56.9	49.1	54.5			9.68
	Triclopyr	62.8	90.3	75.6			17.6
SM 2120 B	Color (true)	104				0.101	
	Color (true)	102				3.39	
SM 2320 B-97	Total Alkalinity	101				0.494	
SM 2540 C-97	TDS					3.27	
SM 4500 F-C-97	Fluoride	98.1	99.0	98.3			0.470
SM 5310 B-00	Organic Carbon	95.2	92.7	94.9			2.27

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2069331, 2069332, 2069337
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2069382, 2069383
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2069382, 2069383
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2069331, 2069332, 2069337
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2069331, 2069332, 2069337
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2069333, 2069334, 2069338

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2069333, 2069334, 2069338
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2069333, 2069334, 2069338
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2069333, 2069334, 2069338
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2069335, 2069336, 2069339
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2069378, 2069379
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2069380, 2069381
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2069378, 2069379
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2069364, 2069365
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2069366, 2069367
SM 2120 B / E31780	True Color measured at 450 nm	2069331, 2069332, 2069337
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2069331, 2069332, 2069337
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2069331, 2069332, 2069337
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2069331, 2069332, 2069337
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2069331, 2069332, 2069337
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2069333, 2069334, 2069338

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	03/13/2019			03/13/2019 16:52	Adrian Shelby	2069331, 2069332, 2069337
EPA 200.7 Rev. 4.4	03/13/2019	03/18/2019 13:30	Elliott D. Healy	03/19/2019 15:39	Vijayalakshmi Reddy	2069382
	03/13/2019	03/18/2019 13:30	Elliott D. Healy	03/19/2019 15:45	Vijayalakshmi Reddy	2069383
EPA 200.8 Rev. 5.4	03/13/2019	03/18/2019 13:30	Elliott D. Healy	03/19/2019 18:43	Robert K Palmer	2069382
	03/13/2019	03/18/2019 13:30	Elliott D. Healy	03/19/2019 18:53	Robert K Palmer	2069383
	03/13/2019	03/18/2019 13:30	Elliott D. Healy	03/20/2019 14:26	Robert K Palmer	2069382
	03/13/2019	03/18/2019 13:30	Elliott D. Healy	03/20/2019 14:32	Robert K Palmer	2069383
EPA 300.0 Rev. 2.1	03/13/2019			03/21/2019 03:10	Lipi Saha	2069331
	03/13/2019			03/21/2019 03:22	Lipi Saha	2069332
	03/13/2019			03/21/2019 03:35	Lipi Saha	2069337
EPA 350.1 Rev. 2.0	03/13/2019			03/14/2019 12:56	Ping Hua	2069333
	03/13/2019			03/14/2019 12:57	Ping Hua	2069334
	03/13/2019			03/14/2019 13:05	Ping Hua	2069338
EPA 351.2 Rev. 2.0	03/13/2019	03/15/2019 16:30	Adrian Shelby	03/19/2019 13:37	Joseph Suarez	2069333
	03/13/2019	03/15/2019 16:30	Adrian Shelby	03/19/2019 13:45	Joseph Suarez	2069334
	03/13/2019	03/15/2019 16:30	Adrian Shelby	03/19/2019 13:47	Joseph Suarez	2069338
EPA 353.2 Rev. 2.0	03/13/2019			03/19/2019 12:50	Lauren Lees	2069333
	03/13/2019			03/19/2019 12:58	Lauren Lees	2069338
	03/13/2019			03/19/2019 14:58	Lauren Lees	2069334
EPA 365.1 Rev. 2.0	03/13/2019	03/18/2019 14:30	Sima Feizi	03/19/2019 09:17	Beverly Y. Sanders	2069333
	03/13/2019	03/18/2019 14:30	Sima Feizi	03/19/2019 09:27	Beverly Y. Sanders	2069334
	03/13/2019	03/18/2019 14:30	Sima Feizi	03/19/2019 11:23	Beverly Y. Sanders	2069338
EPA 365.1 Rev. 2.0 dissolved	03/13/2019			03/13/2019 16:19	Julia Storbeck	2069335
	03/13/2019			03/13/2019 16:20	Julia Storbeck	2069336
	03/13/2019			03/13/2019 16:30	Julia Storbeck	2069339
EPA 8270D	03/13/2019	03/14/2019 08:30	Rasheda Ghaffari	03/20/2019 01:33	Marek Topolski	2069378
	03/13/2019	03/14/2019 08:30	Rasheda Ghaffari	03/20/2019 02:04	Marek Topolski	2069379
	03/13/2019	03/18/2019 09:08	Dinesh Mishra	03/20/2019 17:47	Vandana T. Nagar	2069380
	03/13/2019	03/18/2019 09:08	Dinesh Mishra	03/20/2019 18:11	Vandana T. Nagar	2069381
	03/13/2019	03/18/2019 09:08	Dinesh Mishra	03/21/2019 15:27	Vandana T. Nagar	2069380
	03/13/2019	03/18/2019 09:08	Dinesh Mishra	03/21/2019 15:51	Vandana T. Nagar	2069381
	03/13/2019	03/18/2019 09:08	Dinesh Mishra	03/21/2019 16:39	Vandana T. Nagar	2069380
	03/13/2019	03/18/2019 09:08	Dinesh Mishra	03/21/2019 17:03	Vandana T. Nagar	2069381
EPA 8276	03/13/2019	03/14/2019 08:30	Rasheda Ghaffari	03/20/2019 09:35	Vandana T. Nagar	2069378
	03/13/2019	03/14/2019 08:30	Rasheda Ghaffari	03/20/2019 10:30	Vandana T. Nagar	2069379
EPA 8321B	03/13/2019	03/15/2019 13:00	Hoor Shaik	03/16/2019 16:06	Juyoung Kim	2069364
	03/13/2019	03/15/2019 13:00	Hoor Shaik	03/16/2019 16:40	Juyoung Kim	2069365
	03/13/2019	03/15/2019 13:00	Hoor Shaik	03/16/2019 21:17	Juyoung Kim	2069366
	03/13/2019	03/15/2019 13:00	Hoor Shaik	03/17/2019 03:04	Juyoung Kim	2069367
	03/13/2019	03/18/2019 08:00	Juyoung Kim	03/18/2019 14:27	Juyoung Kim	2069366

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/13/2019	03/18/2019 08:00	Juyoung Kim	03/18/2019 14:38	Juyoung Kim	2069367
	03/13/2019	03/18/2019 08:00	Juyoung Kim	03/18/2019 18:23	Juyoung Kim	2069366
	03/13/2019	03/18/2019 08:00	Juyoung Kim	03/18/2019 18:37	Juyoung Kim	2069367
SM 2120 B	03/13/2019			03/13/2019 16:38	Mariam Hanna	2069331
	03/13/2019			03/13/2019 16:53	Mariam Hanna	2069332
	03/13/2019			03/13/2019 16:54	Mariam Hanna	2069337
SM 2320 B-97	03/13/2019			03/21/2019 13:13	Dale L. Simmons	2069331
	03/13/2019			03/21/2019 14:09	Dale L. Simmons	2069332
	03/13/2019			03/21/2019 14:22	Dale L. Simmons	2069337
SM 2540 C-97	03/13/2019			03/18/2019 14:58	Yijie Li	2069331, 2069332, 2069337
SM 2540 D-97	03/13/2019			03/18/2019 14:58	Yijie Li	2069331, 2069332, 2069337
SM 4500 F-C-97	03/13/2019			03/21/2019 13:13	Dale L. Simmons	2069331
	03/13/2019			03/21/2019 14:09	Dale L. Simmons	2069332
	03/13/2019			03/21/2019 14:22	Dale L. Simmons	2069337
SM 5310 B-00	03/13/2019			03/20/2019 02:03	Julia Storbeck	2069333
	03/13/2019			03/20/2019 02:17	Julia Storbeck	2069334
	03/13/2019			03/20/2019 02:31	Julia Storbeck	2069338