

Chemical Analysis Report

SO-DIST-2022-07-20-02

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

Event Description: **2022 SMP: Hatchett Creek**
Request ID: **RQ-2022-07-18-55**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

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: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 03-AUG-2022 18:07



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: 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: Hatchett Creek Tidal 2

Collection Date/Time: 07/19/2022 11:15

Field ID: G3SD0192

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2342781	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P416927	
	SM 2320 B-2011	Total Alkalinity	146		mg CaCO3/L	P417217	
	SM 2540 D-2011	TSS	5	I	mg/L	P417293	
	SM 4500-F- C-2011	Fluoride	1.0		mg F/L	P417220	
2342782	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P417257	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P417154	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P417166	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P416948	
	SM 5310 B-2011	Organic Carbon	7.1		mg C/L	P417158	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 07/19/2022 11:30

Field ID: FB_07192022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2342783	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P416926	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P417354	
	SM 2540 D-2011	TSS	2	U	mg/L	P417290	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P417356	
2342784	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P417258	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P417162	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417226	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P417094	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P417152	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Hatchett Creek @ Grove St. N

Collection Date/Time: 07/19/2022 10:40

Field ID: G3SD0194

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2342789	EPA 8270E	Oxybenzone**	9.8	U	ng/L	P416814	
		Acetochlor	0.24	U	ng/L	P416814	
		Octinoxate**	29	I	ng/L	P416814	
		Alachlor	0.24	U	ng/L	P416814	
		Avobenzone**	98	U	ng/L	P416814	
		Ametryn	8.8		ng/L	P416814	
		Atrazine	24		ng/L	P416814	
		PBDE-47**	3.9	U	ng/L	P416814	
		Atrazine Desethyl	1.5	U	ng/L	P416814	
		PBDE-99**	4.9	U	ng/L	P416814	
		Azinphos Methyl	2.0	U	ng/L	P416814	
		Tri-o-cresyl Phosphate**	5.9	U	ng/L	P416814	
		Azoxystrobin	0.55	I	ng/L	P416814	
		Bromacil	0.49	U	ng/L	P416814	
		2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)**	12	U	ng/L	P416814	
		Butylate	0.39	U	ng/L	P416814	
		Caffeine**	21	I	ng/L	P416814	
		Carbophenothion	0.20	U	ng/L	P416814	
		Carfentrazone Ethyl	0.098	U	ng/L	P416814	
		Chlorfenapyr	0.17	U	ng/L	P416814	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P416814	
		Chlorpyrifos Methyl	0.049	U	ng/L	P416814	
		Coumaphos	0.49	U	ng/L	P416814	
		Cyanazine	3.2	U	ng/L	P416814	
		Cyprodinil	0.098	U	ng/L	P416814	
		Demeton	1.5	U	ng/L	P416814	
		Diazinon	0.12	U	ng/L	P416814	
		Difenoconazole	0.59	U	ng/L	P416814	
		Dimethenamid	0.098	U	ng/L	P416814	
		Dimethomorph	0.17	U	ng/L	P416814	
		Disulfoton	0.49	U	ng/L	P416814	
		Dithiopyr	0.35	I	ng/L	P416814	
		EPTC	1.2	U	ng/L	P416814	
		Ethion	0.15	U	ng/L	P416814	
		Ethoprop	0.098	U	ng/L	P416814	
		Etridiazole	0.15	U	ng/L	P416814	
		Fenamiphos	0.49	U	ng/L	P416814	
		Fenbuconazole	0.12	U	ng/L	P416814	
		Fipronil	0.82	I	ng/L	P416814	
		Fipronil Desulfinyl**	2.3		ng/L	P416814	
		Fipronil Sulfide	0.45	I	ng/L	P416814	
		Fipronil Sulfone	3.3		ng/L	P416814	
		Fluazifop-P-butyl	0.098	U	ng/L	P416814	

Field ID: G3SD0194

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2342789	EPA 8270E	Fludioxonil	0.12	U	ng/L	P416814	
		Flumioxazin	5.1	I	ng/L	P416814	
		Flutolanil	0.36	I	ng/L	P416814	
		Fluxapyroxad	1.9		ng/L	P416814	
		Fonofos	0.20	U	ng/L	P416814	
		Hexazinone	1.3	I	ng/L	P416814	
		Imazalil	0.73	U	ng/L	P416814	
		Iprodione	0.59	U	ng/L	P416814	
		Loratadine**	0.098	U	ng/L	P416814	
		Malathion	0.34	U	ng/L	P416814	
		Metalaxyl	0.73	U	ng/L	P416814	
		Metolachlor	0.34	U	ng/L	P416814	
		Metribuzin	2.4	U	ng/L	P416814	
		Mevinphos	1.0	U	ng/L	P416814	
		Molinate	0.29	U	ng/L	P416814	
		Myclobutanil	0.24	U	ng/L	P416814	
		Naled	1.5	U	ng/L	P416814	
		Napropamide	0.39	U	ng/L	P416814	
		Norflurazon	0.49	U	ng/L	P416814	
		Oxadiazon	3.0		ng/L	P416814	
		Oxyfluorfen	0.15	U	ng/L	P416814	
		Parathion Ethyl	0.24	U	ng/L	P416814	
		Parathion Methyl	0.54	U	ng/L	P416814	
		Pendimethalin	0.98	U	ng/L	P416814	
		Phenytol**	3.4	U	ng/L	P416814	MS
		Phorate	0.51	U	ng/L	P416814	
		Prodiamine	0.17	U	ng/L	P416814	
		Prometon	0.88	U	ng/L	P416814	
		Prometryn	0.20	U	ng/L	P416814	
		Pronamide	0.15	U	ng/L	P416814	
		Propanil	0.12	U	ng/L	P416814	
		Propargite	1.5	U	ng/L	P416814	
		Propiconazole	0.49	U	ng/L	P416814	
		Pyraflufen Ethyl	0.24	U	ng/L	P416814	
		Pyridaben	0.44	U	ng/L	P416814	
		Pyriproxyfen	0.12	U	ng/L	P416814	
		Simazine	0.49	U	ng/L	P416814	
		Stirophos	0.12	U	ng/L	P416814	MS
		Sulfentrazone	47		ng/L	P416814	
		Tebuconazole	0.49	U	ng/L	P416814	
		Terbufos	0.098	U	ng/L	P416814	
		Terbuthylazine	0.42	U	ng/L	P416814	
		Thiobencarb	0.59	U	ng/L	P416814	
		Triadimefon	0.24	U	ng/L	P416814	

Field ID: G3SD0194

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
-----------	-------------	-----------	--------	------	-------	----------	----------

Ref. Method and Comment:
EPA 8270E: MS accuracy for multiple parameters not assessed due to high content of these parameters in the sample spiked.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416926

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416927

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417257

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417258

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417154

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417162

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417166

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417226

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416948

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417094

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

Reference Method: EPA 8270E

Batch ID: P416814

Component	Result	Code	Units
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.20	U	ng/L
Carbophenothion	0.20	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416814

Component	Result	Code	Units
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416814

Component	Result	Code	Units
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	2.5	U	ng/L
Metribuzin	2.5	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Napropamide	0.40	U	ng/L
Napropamide	0.40	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Octinoxate	20	U	ng/L
Octinoxate	20	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-99	5.0	U	ng/L
PBDE-99	5.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytol	3.5	U	ng/L
Phenytol	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416814

Component	Result	Code	Units
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Stirophos	0.12	U	ng/L
Stirophos	0.12	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L
Terbutylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: SM 2320 B-2011

Batch ID: P417217

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

Reference Method: SM 2320 B-2011

Batch ID: P417354

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

Reference Method: SM 2540 D-2011

Batch ID: P417290

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P417293

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P417220

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417152

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P417158

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	94.7		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	94.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417257

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417258

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417154

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417226

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: P416948

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417094

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

Reference Method: EPA 8270E

Batch ID: P416814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	104		P	50 - 150
Acetochlor	101		P	70 - 121
Alachlor	84.1		P	68 - 119
Ametryn	67.1		P	64 - 139
Atrazine	97.6		P	76 - 120
Atrazine Desethyl	65.1		P	44 - 126
Avobenzone	101		P	76 - 212
Azinphos Methyl	102		P	43 - 192
Azoxystrobin	110		P	36 - 224
Bromacil	84.6		P	52 - 121
Butylate	57.6		P	28 - 91.0
Caffeine	64.9		P	50 - 134
Carbophenothion	88.3		P	56 - 129
Carfentrazone Ethyl	83.1		P	60 - 141
Chlorfenapyr	81.2		P	56 - 115
Chlorpyrifos Ethyl	86.0		P	60 - 118
Chlorpyrifos Methyl	98.9		P	68 - 119
Coumaphos	94.9		P	18 - 250
Cyanazine	110		P	61 - 250
Cyprodinil	78.0		P	55 - 145
Demeton	81.6		P	30 - 159
Diazinon	91.5		P	70 - 123
Difenoconazole	129		P	49 - 204
Dimethenamid	89.4		P	64 - 115
Dimethomorph	112		P	12 - 219
Disulfoton	87.8		P	44 - 125
Dithiopyr	83.2		P	64 - 115
EPTC	42.3		P	28 - 86.0
Ethion	84.0		P	33 - 125
Ethoprop	92.9		P	64 - 116
Etridiazole	53.4		P	34 - 91.0
Fenamiphos	84.6		P	12 - 127
Fenbuconazole	91.0		P	59 - 151
Fipronil	88.2		P	67 - 129
Fipronil Desulfinyl	87.3		P	65 - 127
Fipronil Sulfide	85.3		P	61 - 116
Fipronil Sulfone	83.2		P	55 - 117
Fluazifop-P-butyl	96.7		P	62 - 127
Fludioxonil	100		P	62 - 128
Flumioxazin	136		P	33 - 250
Flutolanil	88.5		P	56 - 127
Fluxapyroxad	87.6		P	45 - 128
Fonofos	94.3		P	62 - 111
Hexazinone	97.9		P	46 - 139
Imazalil	92.0		P	38 - 142
Iprodione	100		P	47 - 135

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P416814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Loratadine	95.9		P	10 - 244
Malathion	87.4		P	61 - 139
Metalaxyl	79.1		P	10 - 119
Metolachlor	82.3		P	65 - 118
Metribuzin	83.7		P	51 - 250
Mevinphos	89.3		P	53 - 121
Molinate	77.3		P	42 - 96.0
Myclobutanil	83.8		P	55 - 128
Naled	85.0		P	10 - 98.0
Napropamide	80.5		P	49 - 121
Norflurazon	82.3		P	61 - 126
Octinoxate	99.0		P	30 - 159
Oxadiazon	77.2		P	59 - 116
Oxybenzone	80.4		P	61 - 139
Oxyfluorfen	116		P	64 - 137
Parathion Ethyl	88.7		P	70 - 112
Parathion Methyl	119		P	76 - 133
PBDE-47	90.0		P	50 - 150
PBDE-99	91.4		P	50 - 150
Pendimethalin	98.4		P	52 - 117
Phenytol	25.8		P	10 - 199
Phorate	93.2		P	48 - 121
Prodiamine	37.6		P	26 - 142
Prometon	81.3		P	43 - 123
Prometryn	86.9		P	66 - 127
Pronamide	93.0		P	75 - 121
Propanil	115		P	45 - 150
Propargite	57.4		P	42 - 208
Propiconazole	77.8		P	60 - 125
Pyraflufen Ethyl	83.4		P	70 - 138
Pyridaben	80.3		P	35 - 245
Pyriproxyfen	82.0		P	30 - 149
Simazine	87.8		P	72 - 125
Stirophos	69.1		P	29 - 164
Sulfentrazone	113		P	21 - 139
Tebuconazole	53.6		P	10 - 115
Terbufos	103		P	60 - 123
Terbuthylazine	88.0		P	72 - 115
Thiobencarb	72.0		P	31 - 139
Tri-o-cresyl Phosphate	96.8		P	50 - 150
Triadimefon	79.6		P	65 - 116

Reference Method: SM 2320 B-2011

Batch ID: P417217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 2320 B-2011

Batch ID: P417354

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P417354

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P417220

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	104		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417152

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P417158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342782	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343037	Ammonia-N	94.8	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342195	Kjeldahl Nitrogen	98.1	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342904	Kjeldahl Nitrogen	102	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342782	NO2NO3-N	106	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342904	NO2NO3-N	98.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342195	Total-P	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342042	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P416814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341420	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	94.0	95.7	P/P	50 - 150
2341420	Acetochlor	104	106	P/P	65 - 124
2341420	Alachlor	94.7	114	P/P	61 - 121
2341420	Ametryn	176	128	P/P	52 - 216

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P416814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341420	Atrazine	96.7	101	P/P	68 - 133
2341420	Atrazine Desethyl	33.0	19.8	P/P	15 - 160
2341420	Avobenzone	89.5	91.5	P/P	59 - 206
2341420	Azinphos Methyl	99.9	121	P/P	40 - 292
2341420	Azoxystrobin	133	140	P/P	12 - 242
2341420	Bromacil	80.9	113	P/P	54 - 167
2341420	Butylate	61.1	62.7	P/P	14 - 94.0
2341420	Caffeine	78.5	71.3	P/P	10 - 226
2341420	Carbophenothion	83.7	83.7	P/P	49 - 122
2341420	Carfentrazone Ethyl	110	101	P/P	53 - 138
2341420	Chlorfenapyr	73.1	69.1	P/P	50 - 150
2341420	Chlorpyrifos Ethyl	83.2	99.9	P/P	52 - 122
2341420	Chlorpyrifos Methyl	106	107	P/P	66 - 117
2341420	Coumaphos	80.5	83.1	P/P	50 - 220
2341420	Cyanazine	105	126	P/P	43 - 245
2341420	Cyprodinil	75.7	101	P/P	50 - 150
2341420	Demeton	84.8	102	P/P	43 - 188
2341420	Diazinon	108	102	P/P	69 - 131
2341420	Difenoconazole	116	118	P/P	34 - 231
2341420	Dimethenamid	89.4	92.5	P/P	55 - 118
2341420	Dimethomorph	131	144	P/P	50 - 150
2341420	Disulfoton	92.6	96.1	P/P	38 - 141
2341420	Dithiopyr	64.5	77.9	P/P	42 - 116
2341420	EPTC	33.6	36.3	P/P	18 - 85.0
2341420	Ethion	77.2	114	P/P	10 - 131
2341420	Ethoprop	108	114	P/P	65 - 129
2341420	Etridiazole	61.4	65.0	P/P	50 - 150
2341420	Fenamiphos	95.7	78.0	P/P	31 - 137
2341420	Fenbuconazole	82.1	110	P/P	57 - 160
2341420	Fipronil	79.3	121	P/P	62 - 132
2341420	Fipronil Desulfinyl	101	119	P/P	57 - 131
2341420	Fluazifop-P-butyl	106	103	P/P	54 - 133
2341420	Fludioxonil	82.2	102	P/P	58 - 127
2341420	Flumioxazin	126	121	P/P	33 - 300
2341420	Flutolanil	72.0	81.7	P/P	42 - 130
2341420	Fluxapyroxad	95.3	93.4	P/P	23 - 141
2341420	Fonofos	103	107	P/P	58 - 119
2341420	Hexazinone	121	119	P/P	68 - 172
2341420	Imazalil	95.0	87.5	P/P	48 - 283
2341420	Iprodione	74.4	100	P/P	38 - 140
2341420	Loratadine	113	128	P/P	50 - 150
2341420	Malathion	81.1	109	P/P	40 - 137
2341420	Metalaxyl	111	121	P/P	21 - 129
2341420	Metolachlor	85.6	98.0	P/P	55 - 122
2341420	Metribuzin	73.9	74.3	P/P	38 - 187
2341420	Mevinphos	101	115	P/P	54 - 134
2341420	Molinate	85.9	83.1	P/P	41 - 97.0
2341420	Myclobutanil	86.3	101	P/P	56 - 125
2341420	Naled	68.7	78.3	P/P	10 - 108
2341420	Napropamide	74.5	86.1	P/P	50 - 150
2341420	Norflurazon	72.6	89.9	P/P	32 - 122
2341420	Octinoxate	80.8	86.5	P/P	25 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P416814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341420	Oxadiazon	63.7	77.8	P/P	40 - 119
2341420	Oxybenzone	83.2	80.1	P/P	59 - 147
2341420	Oxyfluorfen	121	126	P/P	61 - 153
2341420	Parathion Ethyl	96.0	91.5	P/P	59 - 130
2341420	Parathion Methyl	137	120	P/P	65 - 155
2341420	PBDE-47	87.1	83.0	P/P	50 - 150
2341420	PBDE-99	85.0	80.8	P/P	50 - 150
2341420	Pendimethalin	120	122	P/P	49 - 138
2341420	Phenytoin	24.3	27.2	F/F	50 - 200
2341420	Phorate	104	126	P/P	54 - 161
2341420	Prodiamine	61.0	66.5	P/P	33 - 161
2341420	Prometon	80.8	101	P/P	48 - 140
2341420	Prometryn	67.9	75.1	P/P	55 - 134
2341420	Pronamide	96.4	91.6	P/P	66 - 137
2341420	Propanil	116	113	P/P	50 - 150
2341420	Propargite	61.0	66.7	P/P	50 - 200
2341420	Propiconazole	50.9	80.0	P/P	36 - 150
2341420	Pyraflufen Ethyl	87.5	86.8	P/P	50 - 150
2341420	Pyridaben	80.6	91.5	P/P	50 - 200
2341420	Pyriproxyfen	69.0	78.4	P/P	10 - 165
2341420	Simazine	89.1	88.4	P/P	57 - 145
2341420	Stirophos	27.3	29.8	F/F	50 - 150
2341420	Tebuconazole	23.0	50.8	P/P	10 - 127
2341420	Terbufos	121	125	P/P	59 - 138
2341420	Terbutylazine	107	108	P/P	68 - 119
2341420	Thiobencarb	69.1	74.2	P/P	50 - 150
2341420	Tri-o-cresyl Phosphate	91.2	85.0	P/P	50 - 150
2341420	Triadimefon	76.7	87.5	P/P	50 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P417220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343211	Fluoride	99.4	98.6	P/P	94 - 104

Reference Method: SM 4500-F- C-2011

Batch ID: P417356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342914	Fluoride	103	103	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P417152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342715	Organic Carbon	94.0	94.6	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P417158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341796	Organic Carbon	91.1	90.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342499	Turbidity	2.30	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342714	Turbidity	8.31	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342782	Ammonia-N	1.88	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343037	Ammonia-N	1.72	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342195	Kjeldahl Nitrogen	0.108	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342904	Kjeldahl Nitrogen	4.61	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342782	NO2NO3-N	0.456	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342904	NO2NO3-N	1.69	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P416948

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342195	Total-P	0.435	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417094

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342042	Total-P	0.990	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P416814

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341420	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	1.76	Spike	P	0 - 30
2341420	Acetochlor	2.13	Spike	P	0 - 27
2341420	Alachlor	18.9	Spike	P	0 - 27
2341420	Ametryn	31.4	Spike	P	0 - 34
2341420	Atrazine	2.64	Spike	P	0 - 41
2341420	Atrazine Desethyl	22.8	Spike	P	0 - 38
2341420	Avobenzone	2.14	Spike	P	0 - 30
2341420	Azinphos Methyl	18.8	Spike	P	0 - 62
2341420	Azoxystrobin	5.25	Spike	P	0 - 32
2341420	Bromacil	22.4	Spike	P	0 - 30
2341420	Butylate	2.53	Spike	P	0 - 59
2341420	Caffeine	8.70	Spike	P	0 - 60
2341420	Carbophenothion	0.0385	Spike	P	0 - 25
2341420	Carfentrazone Ethyl	8.55	Spike	P	0 - 26
2341420	Chlorfenapyr	5.55	Spike	P	0 - 30
2341420	Chlorpyrifos Ethyl	18.3	Spike	P	0 - 27
2341420	Chlorpyrifos Methyl	0.687	Spike	P	0 - 26
2341420	Coumaphos	3.26	Spike	P	0 - 30
2341420	Cyanazine	17.8	Spike	P	0 - 58
2341420	Cyprodinil	28.9	Spike	P	0 - 30
2341420	Demeton	18.8	Spike	P	0 - 25
2341420	Diazinon	5.10	Spike	P	0 - 29
2341420	Difenoconazole	1.78	Spike	P	0 - 25
2341420	Dimethenamid	3.40	Spike	P	0 - 30
2341420	Dimethomorph	9.22	Spike	P	0 - 30
2341420	Disulfoton	3.74	Spike	P	0 - 33
2341420	Dithiopyr	16.8	Spike	P	0 - 22
2341420	EPTC	7.47	Spike	P	0 - 38
2341420	Ethion	38.7	Spike	P	0 - 79
2341420	Ethoprop	5.41	Spike	P	0 - 23
2341420	Etridiazole	5.77	Spike	P	0 - 30
2341420	Fenamiphos	20.4	Spike	P	0 - 58
2341420	Fenbuconazole	29.0	Spike	P	0 - 37
2341420	Fipronil	29.4	Spike	P	0 - 33
2341420	Fipronil Desulfinyl	15.6	Spike	P	0 - 26
2341420	Fipronil Sulfide	33.9	Spike	P	0 - 37
2341420	Fipronil Sulfone	24.0	Spike	P	0 - 50

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P416814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341420	Fluazifop-P-butyl	2.95	Spike	P	0 - 24
2341420	Fludioxonil	21.8	Spike	P	0 - 26
2341420	Flumioxazin	3.66	Spike	P	0 - 37
2341420	Flutolanil	12.7	Spike	P	0 - 26
2341420	Fluxapyroxad	2.10	Spike	P	0 - 34
2341420	Fonofos	4.44	Spike	P	0 - 27
2341420	Hexazinone	1.54	Spike	P	0 - 36
2341420	Imazalil	8.19	Spike	P	0 - 65
2341420	Iprodione	29.9	Spike	P	0 - 33
2341420	Loratadine	12.7	Spike	P	0 - 30
2341420	Malathion	29.2	Spike	P	0 - 44
2341420	Metalaxyl	8.27	Spike	P	0 - 38
2341420	Metolachlor	13.5	Spike	P	0 - 36
2341420	Metribuzin	0.464	Spike	P	0 - 63
2341420	Mevinphos	13.7	Spike	P	0 - 26
2341420	Molinate	3.28	Spike	P	0 - 40
2341420	Myclobutanil	15.5	Spike	P	0 - 21
2341420	Naled	13.0	Spike	P	0 - 26
2341420	Napropamide	14.4	Spike	P	0 - 30
2341420	Norflurazon	21.3	Spike	P	0 - 24
2341420	Octinoxate	5.48	Spike	P	0 - 30
2341420	Oxadiazon	20.0	Spike	P	0 - 27
2341420	Oxybenzone	3.83	Spike	P	0 - 30
2341420	Oxyfluorfen	3.60	Spike	P	0 - 24
2341420	Parathion Ethyl	4.87	Spike	P	0 - 28
2341420	Parathion Methyl	13.3	Spike	P	0 - 27
2341420	PBDE-47	4.89	Spike	P	0 - 30
2341420	PBDE-99	5.05	Spike	P	0 - 30
2341420	Pendimethalin	1.32	Spike	P	0 - 31
2341420	Phenytoin	11.4	Spike	P	0 - 30
2341420	Phorate	18.6	Spike	P	0 - 27
2341420	Prodiamine	8.55	Spike	P	0 - 52
2341420	Prometon	22.1	Spike	P	0 - 31
2341420	Prometryn	10.1	Spike	P	0 - 28
2341420	Pronamide	5.13	Spike	P	0 - 26
2341420	Propanil	2.53	Spike	P	0 - 30
2341420	Propargite	8.97	Spike	P	0 - 30
2341420	Propiconazole	25.3	Spike	P	0 - 31
2341420	Pyraflufen Ethyl	0.794	Spike	P	0 - 30
2341420	Pyridaben	12.6	Spike	P	0 - 30
2341420	Pyriproxyfen	12.8	Spike	P	0 - 50
2341420	Simazine	0.752	Spike	P	0 - 29
2341420	Stirophos	8.76	Spike	P	0 - 30
2341420	Sulfentrazone	25.9	Spike	P	0 - 33
2341420	Tebuconazole	36.0	Spike	P	0 - 44
2341420	Terbufos	3.52	Spike	P	0 - 29
2341420	Terbuthylazine	0.176	Spike	P	0 - 27
2341420	Thiobencarb	7.14	Spike	P	0 - 30
2341420	Tri-o-cresyl Phosphate	6.93	Spike	P	0 - 30
2341420	Triadimefon	13.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P417217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343211	Total Alkalinity	0.165	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P417354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342914	Total Alkalinity	0.352	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P417220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343211	Fluoride	0.483	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P417356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342914	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P417152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342715	Organic Carbon	0.355	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P417158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341796	Organic Carbon	0.767	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2342789
Field Sample ID: G3SD0194

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	100	P	20 - 200
EPA 8270E	Simazine-d10	106	P	71 - 140
EPA 8270E	Terbufos-d10	113	P	62 - 131
EPA 8270E	Terphenyl-d14	91.7	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113620

Included Lab Sample IDs: 2342781, 2342783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105
Turbidity	98.5	98.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113685

Included Lab Sample IDs: 2342782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113701

Included Lab Sample IDs: 2342784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.9	98.1	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113703

Included Lab Sample IDs: 2342782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	91.2	93.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113707

Included Lab Sample IDs: 2342782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A113723

Included Lab Sample IDs: 2342789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	101		P	80 - 120
Avobenzene	98.6		P	80 - 120
Octinoxate	97.1		P	80 - 120
Oxybenzone	103		P	80 - 120
PBDE-47	97.8		P	80 - 120
PBDE-99	97.8		P	80 - 120
Tri-o-cresyl Phosphate	99.0		P	80 - 120

Reference Method: SM 2320 B-2011

Run ID: A113724

Included Lab Sample IDs: 2342781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A113724

Included Lab Sample IDs: 2342781

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113726

Included Lab Sample IDs: 2342784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113731

Included Lab Sample IDs: 2342782

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113735

Included Lab Sample IDs: 2342784

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113739

Included Lab Sample IDs: 2342782, 2342784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.4	P/P	90 - 110
Ammonia-N	99.6	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113748

Included Lab Sample IDs: 2342784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	98.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A113778

Included Lab Sample IDs: 2342783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.3	99.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113778

Included Lab Sample IDs: 2342783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	106	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A113779
 Included Lab Sample IDs: 2342789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	106		P	80 - 120
Alachlor	97.6		P	80 - 120
Ametryn	110		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	89.0		P	80 - 120
Azinphos Methyl	94.7		P	80 - 120
Azoxystrobin	95.5		P	80 - 120
Bromacil	109		P	80 - 120
Caffeine	94.6		P	80 - 120
Carbophenothion	99.0		P	80 - 120
Carfentrazone Ethyl	103		P	80 - 120
Chlorfenapyr	114		P	80 - 120
Chlorpyrifos Ethyl	101		P	80 - 120
Chlorpyrifos Methyl	111		P	80 - 120
Coumaphos	110		P	80 - 120
Cyanazine	95.9		P	80 - 120
Cyprodinil	104		P	80 - 120
Demeton	94.7		P	80 - 120
Diazinon	102		P	80 - 120
Difenoconazole	114		P	80 - 120
Dimethenamid	107		P	80 - 120
Dimethomorph	107		P	80 - 120
Disulfoton	98.6		P	80 - 120
Dithiopyr	110		P	80 - 120
EPTC	101		P	80 - 120
Ethion	108		P	80 - 120
Ethoprop	102		P	80 - 120
Etridiazole	96.7		P	80 - 120
Fenamiphos	108		P	80 - 120
Fenbuconazole	103		P	80 - 120
Fipronil	100		P	80 - 120
Fipronil Desulfinyl	114		P	80 - 120
Fipronil Sulfide	108		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fluazifop-P-butyl	115		P	80 - 120
Fludioxonil	105		P	80 - 120
Flumioxazin	99.2		P	80 - 120
Flutolanil	107		P	80 - 120
Fluxapyroxad	96.4		P	80 - 120
Fonofos	92.0		P	80 - 120
Hexazinone	101		P	80 - 120
Imazalil	106		P	80 - 120
Iprodione	110		P	80 - 120
Loratadine	93.1		P	80 - 120
Malathion	104		P	80 - 120
Metalaxyl	105		P	80 - 120
Metolachlor	107		P	80 - 120
Metribuzin	104		P	80 - 120
Mevinphos	110		P	80 - 120
Molinate	107		P	80 - 120
Myclobutanil	96.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113779
Included Lab Sample IDs: 2342789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Naled	114		P	80 - 120
Napropamide	116		P	80 - 120
Norflurazon	98.8		P	80 - 120
Oxadiazon	99.0		P	80 - 120
Oxyfluorfen	96.9		P	80 - 120
Parathion Ethyl	89.3		P	80 - 120
Parathion Methyl	109		P	80 - 120
Pendimethalin	97.7		P	80 - 120
Phenytol	102		P	80 - 120
Phorate	98.5		P	80 - 120
Prodiamine	94.7		P	80 - 120
Prometon	118		P	80 - 120
Prometryn	114		P	80 - 120
Pronamide	98.3		P	80 - 120
Propanil	118		P	80 - 120
Propargite	96.0		P	80 - 120
Propiconazole	98.6		P	80 - 120
Pyraflufen Ethyl	119		P	80 - 120
Pyridaben	97.5		P	80 - 120
Pyriproxyfen	91.7		P	80 - 120
Simazine	94.6		P	80 - 120
Stirophos	119		P	80 - 120
Sulfentrazone	100		P	80 - 120
Tebuconazole	99.7		P	80 - 120
Terbufos	112		P	80 - 120
Terbuthylazine	113		P	80 - 120
Thiobencarb	104		P	80 - 120
Triadimefon	103		P	80 - 120

Reference Method: EPA 8270E
Run ID: A113781
Included Lab Sample IDs: 2342789

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Butylate	99.9		P	80 - 120

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity	94.7				2.30	
	Turbidity	94.5				8.31	
EPA 350.1 Rev. 2.0	Ammonia-N	100	101	103			1.88
	Ammonia-N	97.8	94.8	97.0			1.72
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	98.1	98.2			0.108
	Kjeldahl Nitrogen	98.3	102	96.4			4.61
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103	106	107			0.456
	NO ₂ NO ₃ -N	101	98.8				1.69
EPA 365.1 Rev. 2.0	Total-P	99.8	100	100			0.435
	Total-P	101	102	103			0.990
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	104	94.0	95.7			1.76
	Acetochlor	101	104	106			2.13
	Alachlor	84.1	94.7	114			18.9
	Ametryn	67.1	176	128			31.4
	Atrazine	97.6	96.7	101			2.64
	Atrazine Desethyl	65.1	33.0	19.8			22.8
	Avobenzone	101	89.5	91.5			2.14
	Azinphos Methyl	102	99.9	121			18.8
	Azoxystrobin	110	133	140			5.25
	Bromacil	84.6	80.9	113			22.4
	Butylate	57.6	61.1	62.7			2.53
	Caffeine	64.9	78.5	71.3			8.70
	Carbophenothion	88.3	83.7	83.7			0.0385
	Carfentrazone Ethyl	83.1	110	101			8.55
	Chlorfenapyr	81.2	73.1	69.1			5.55
	Chlorpyrifos Ethyl	86.0	83.2	99.9			18.3
	Chlorpyrifos Methyl	98.9	106	107			0.687
	Coumaphos	94.9	80.5	83.1			3.26
	Cyanazine	110	105	126			17.8
	Cyprodinil	78.0	75.7	101			28.9
	Demeton	81.6	84.8	102			18.8
	Diazinon	91.5	108	102			5.10
	Difenoconazole	129	116	118			1.78
	Dimethenamid	89.4	89.4	92.5			3.40
	Dimethomorph	112	131	144			9.22
	Disulfoton	87.8	92.6	96.1			3.74
	Dithiopyr	83.2	64.5	77.9			16.8
	EPTC	42.3	33.6	36.3			7.47
	Ethion	84.0	77.2	114			38.7
	Ethoprop	92.9	108	114			5.41
	Etridiazole	53.4	61.4	65.0			5.77
	Fenamiphos	84.6	95.7	78.0			20.4
	Fenbuconazole	91.0	82.1	110			29.0
	Fipronil	88.2	79.3	121			29.4
	Fipronil Desulfinyl	87.3	101	119			15.6
	Fipronil Sulfide	85.3					33.9
	Fipronil Sulfone	83.2					24.0
	Fluazifop-P-butyl	96.7	106	103			2.95
	Fludioxonil	100	82.2	102			21.8
	Flumioxazin	136	126	121			3.66
	Flutolanil	88.5	72.0	81.7			12.7
	Fluxapyroxad	87.6	95.3	93.4			2.10

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Fonofos	94.3	103	107			4.44
	Hexazinone	97.9	121	119			1.54
	Imazalil	92.0	95.0	87.5			8.19
	Iprodione	100	74.4	100			29.9
	Loratadine	95.9	113	128			12.7
	Malathion	87.4	81.1	109			29.2
	Metalaxyl	79.1	111	121			8.27
	Metolachlor	82.3	85.6	98.0			13.5
	Metribuzin	83.7	73.9	74.3			0.464
	Mevinphos	89.3	101	115			13.7
	Molinate	77.3	85.9	83.1			3.28
	Myclobutanil	83.8	86.3	101			15.5
	Naled	85.0	68.7	78.3			13.0
	Napropamide	80.5	74.5	86.1			14.4
	Norflurazon	82.3	72.6	89.9			21.3
	Octinoxate	99.0	80.8	86.5			5.48
	Oxadiazon	77.2	63.7	77.8			20.0
	Oxybenzone	80.4	83.2	80.1			3.83
	Oxyfluorfen	116	121	126			3.60
	Parathion Ethyl	88.7	96.0	91.5			4.87
	Parathion Methyl	119	137	120			13.3
	PBDE-47	90.0	87.1	83.0			4.89
	PBDE-99	91.4	85.0	80.8			5.05
	Pendimethalin	98.4	120	122			1.32
	Phenytol	25.8	24.3	27.2			11.4
	Phorate	93.2	104	126			18.6
	Prodiamine	37.6	61.0	66.5			8.55
	Prometon	81.3	80.8	101			22.1
	Prometryn	86.9	67.9	75.1			10.1
	Pronamide	93.0	96.4	91.6			5.13
	Propanil	115	116	113			2.53
	Propargite	57.4	61.0	66.7			8.97
	Propiconazole	77.8	50.9	80.0			25.3
	Pyraflufen Ethyl	83.4	87.5	86.8			0.794
	Pyridaben	80.3	80.6	91.5			12.6
	Pyriproxyfen	82.0	69.0	78.4			12.8
	Simazine	87.8	89.1	88.4			0.752
	Stirophos	69.1	27.3	29.8			8.76
	Sulfentrazone	113					25.9
	Tebuconazole	53.6	23.0	50.8			36.0
	Terbufos	103	121	125			3.52
	Terbuthylazine	88.0	107	108			0.176
	Thiobencarb	72.0	69.1	74.2			7.14
	Tri-o-cresyl Phosphate	96.8	91.2	85.0			6.93
	Triadimefon	79.6	76.7	87.5			13.1
SM 2320 B-2011	Total Alkalinity	100				0.165	
	Total Alkalinity	99.1				0.352	
SM 4500-F- C-2011	Fluoride	101	99.4	98.6			0.483
	Fluoride	104	103	103			0.0
SM 5310 B-2011	Organic Carbon	98.1	94.0	94.6			0.355
	Organic Carbon	97.1	91.1	90.3			0.767

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2342781, 2342783
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2342782, 2342784
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2342782, 2342784
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2342782, 2342784
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2342782, 2342784
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2342789
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2342789
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2342781, 2342783
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2342781, 2342783
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2342781, 2342783
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2342782, 2342784

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	07/20/2022			07/20/2022 13:44	Anna M. Plaviak	2342783
	07/20/2022			07/20/2022 13:53	Anna M. Plaviak	2342781
EPA 350.1 Rev. 2.0	07/20/2022			07/27/2022 11:18	Judith K. Clark	2342782
	07/20/2022			07/27/2022 13:11	Judith K. Clark	2342784
EPA 351.2 Rev. 2.0	07/20/2022	07/26/2022 11:30	Simonne.V. Calhoun	07/27/2022 11:52	Samantha L Bates	2342782
	07/20/2022	07/27/2022 09:57	Simonne.V. Calhoun	07/27/2022 17:01	Samantha L Bates	2342784
EPA 353.2 Rev. 2.0	07/20/2022			07/26/2022 10:57	Beverly Y. Sanders	2342782
	07/20/2022			07/27/2022 10:17	Beverly Y. Sanders	2342784
EPA 365.1 Rev. 2.0	07/20/2022	07/22/2022 16:03	Adam P Silver	07/25/2022 09:53	James L Waggerby	2342782
	07/20/2022	07/25/2022 15:50	Adam P Silver	07/27/2022 13:52	James L Waggerby	2342784
EPA 8270E	07/20/2022	07/20/2022 14:00	Rasheda Ghaffari	07/25/2022 00:15	Michael Poppell	2342789
	07/20/2022	07/20/2022 14:00	Rasheda Ghaffari	07/26/2022 18:13	Lipi Saha	2342789
	07/20/2022	07/20/2022 14:00	Rasheda Ghaffari	07/28/2022 22:44	Michael Poppell	2342789
SM 2320 B-2011	07/20/2022			07/27/2022 06:00	Dale L. Simmons	2342781
	07/20/2022			07/28/2022 22:20	Dale L. Simmons	2342783
SM 2540 D-2011	07/20/2022			07/22/2022 15:32	Yijie Li	2342781, 2342783
SM 4500-F- C-2011	07/20/2022			07/27/2022 00:39	Dale L. Simmons	2342781
	07/20/2022			07/28/2022 22:20	Dale L. Simmons	2342783
SM 5310 B-2011	07/20/2022			07/23/2022 08:51	Touraj Touran	2342782
	07/20/2022			07/26/2022 03:53	Khloe J Berg	2342784