

Chemical Analysis Report

WAS-SECT-2019-03-19-01

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

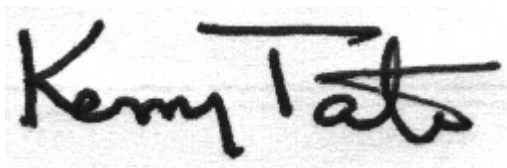
Event Description: **Group 2 SCIs**
Request ID: **RQ-2018-10-08-27**
Customer: **WAS-SECT**
Project ID: **SMP**

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

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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 11-APR-2019 10:15

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: BIG BRANCH DOWNSTREAM OF ROAD 5

Collection Date/Time: 03/19/2019 10:30

Field ID: G2WA0010

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071232	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P360704	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P361110	
		Sulfate	0.29	I	mg SO4/L	P361112	
	SM 2120 B	Color (true)	84	A	PCU	P360748	
	SM 2320 B-97	Total Alkalinity	1.1	I	mg CaCO3/L	P361243	
	SM 2540 C-97	TDS	27		mg/L	P361340	
	SM 2540 D-97	TSS	5	I	mg/L	P361351	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P361247	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P361179	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P360912	
2071233	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P360962	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P361118	
	SM 5310 B-00	Organic Carbon	9.7		mg C/L	P361059	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360707	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P360626	
2071238		Acesulfame K**	0.10	U	ug/L	P360627	MS
		AMPA**	0.10	U	ug/L	P360627	
		Acetaminophen**	0.0080	U	ug/L	P360626	
		Endothall**	0.25	U	ug/L	P360627	MS
		Glufosinate**	0.10	U	ug/L	P360627	
		Bentazon	8.0E-04	U	ug/L	P360626	
		Glyphosate**	0.10	U	ug/L	P360627	
		Carbamazepine**	8.0E-04	U	ug/L	P360626	
		Sucralose**	0.010	U	ug/L	P360627	
		Diuron	0.0020	U	ug/L	P360626	
		Fenuron	0.016	U	ug/L	P360626	
		Fluridone**	8.0E-04	U	ug/L	P360626	
		Imazapyr**	0.0050	I	ug/L	P360626	
		Hydrocodone**	0.0020	U	ug/L	P360626	
		Ibuprofen**	0.020	U	ug/L	P360626	
		Imidacloprid	0.0020	U	ug/L	P360626	
		Linuron	0.0040	U	ug/L	P360626	
		MCP	0.0020	U	ug/L	P360626	
		Naproxen**	0.0080	U	ug/L	P360626	
		Primidone**	0.0040	U	ug/L	P360626	
		Pyraclostrobin**	0.0020	U	ug/L	P360626	
		Triclopyr**	0.0040	U	ug/L	P360626	
2071239	EPA 200.7 Rev. 4.4	Barium	6.3		ug/L	P360846	
		Calcium	0.96		mg/L	P360846	
		Iron	760		ug/L	P360846	
		Magnesium	0.31		mg/L	P360846	
		Potassium	0.30	U	mg/L	P360846	
		Sodium	2.2		mg/L	P360846	

Field ID: G2WA0010

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071239	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P360846	
		Aluminum	493		ug/L	P360846	
	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P360846	
		Arsenic	0.16	I	ug/L	P360846	
		Boron**	6.8	I	ug/L	P360846	
		Cadmium	0.020	U	ug/L	P360846	
		Chromium	0.47	I	ug/L	P360846	
		Copper	0.40	U	ug/L	P360846	
		Lead	0.59		ug/L	P360846	
		Nickel	0.50	U	ug/L	P360846	
		Selenium	0.20	U	ug/L	P360846	
		Silver	0.010	U	ug/L	P360846	
		Thallium	0.10	U	ug/L	P360846	
2071240	EPA 8270D	Acetochlor	0.24	U	ng/L	P360678	
		Alachlor	0.24	U	ng/L	P360678	
		Ametryn	0.58	U	ng/L	P360678	
		Atrazine	0.30	I	ng/L	P360678	
		Atrazine Desethyl	1.5	U	ng/L	P360678	RPD
		Azinphos Methyl	4.8	U	ng/L	P360678	
		Bromacil	0.48	U	ng/L	P360678	
		Butylate	0.39	U	ng/L	P360678	RPD
		Chlorpyrifos Ethyl	0.24	U	ng/L	P360678	
		Chlorpyrifos Methyl	0.097	U	ng/L	P360678	
		Cyanazine	3.2	U	ng/L	P360678	
		Demeton	6.8	U	ng/L	P360678	
		Diazinon	0.12	U	ng/L	P360678	
		Dimethenamid**	0.097	U	ng/L	P360678	
		Disulfoton	0.48	U	ng/L	P360678	
		Dithiopyr**	0.097	U	ng/L	P360678	
		EPTC	1.2	U	ng/L	P360678	RPD
		Ethion	0.15	U	ng/L	P360678	
		Ethoprop	0.097	U	ng/L	P360678	
		Fenamiphos	0.48	U	ng/L	P360678	
		Fipronil	0.24	U	ng/L	P360678	
		Fipronil Desulfinyl**	0.12	U	ng/L	P360678	MS, RPD
		Fipronil Sulfide	0.15	U	ng/L	P360678	
		Fipronil Sulfone	0.15	U	ng/L	P360678	RPD
		Fonofos	0.19	U	ng/L	P360678	
		Hexazinone	0.48	U	ng/L	P360678	
		Malathion	0.34	U	ng/L	P360678	
		Metalaxyl	0.29	U	ng/L	P360678	
		Metolachlor	0.48	U	ng/L	P360678	
		Metribuzin	0.73	U	ng/L	P360678	
		Mevinphos	0.48	U	ng/L	P360678	
		Molinate	0.29	U	ng/L	P360678	

Field ID: G2WA0010

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2071240	EPA 8270D	Norflurazon	0.48	U	ng/L	P360678	
		Oxadiazon**	0.097	U	ng/L	P360678	
		Parathion Ethyl	0.24	U	ng/L	P360678	
		Parathion Methyl	0.53	U	ng/L	P360678	
		Pendimethalin	0.97	U	ng/L	P360678	
		Phorate	0.24	U	ng/L	P360678	
		Prodiamine**	0.17	U	ng/L	P360678	
		Prometon	0.87	U	ng/L	P360678	
		Prometryn	0.19	U	ng/L	P360678	
		Simazine	0.48	U	ng/L	P360678	
		Tebuconazole**	0.48	U	ng/L	P360678	
		Terbufos	0.097	U	ng/L	P360678	
		Terbutylazine	0.41	U	ng/L	P360678	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 03/27/2019.

EPA 8270D: MS accuracies for atrazine, metolachlor, simazine, metalaxyl, bromacil, and norflurazon 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: P360704

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P360846

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: P360846

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: P361110

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P361112

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P361179

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: P360912

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360962

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361118

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360707

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

Reference Method: EPA 8270D
Batch ID: P360678

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P360678

Component	Result	Code	Units
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8321B

Batch ID: P360626

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P360627

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: P360748

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P361243

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

Reference Method: SM 2540 C-97
Batch ID: P361340

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P361351

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P361059

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: P360846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	97.3		P	85 - 115
Iron	100		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	98.9		P	85 - 115
Sodium	97.8		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P360846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.1		P	85 - 115
Antimony	94.8		P	85 - 115
Arsenic	100		P	85 - 115
Boron	93.0		P	85 - 115
Cadmium	95.3		P	85 - 115
Chromium	90.6		P	85 - 115
Copper	96.7		P	85 - 115
Lead	92.5		P	85 - 115
Nickel	96.6		P	85 - 115
Selenium	102		P	85 - 115
Silver	101		P	85 - 115
Thallium	97.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P361110

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P361112

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P361179

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P360912

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P360962

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: P361118

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P360707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.6		P	90 - 110

Reference Method: EPA 8270D

Batch ID: P360678

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	96.5	98.3	P/P	71 - 121
Alachlor	94.4	100	P/P	72 - 119
Ametryn	95.2	98.2	P/P	47 - 144
Atrazine	93.3	105	P/P	75 - 123
Atrazine Desethyl	74.3	77.8	P/P	45 - 133
Azinphos Methyl	106	111	P/P	66 - 165
Bromacil	86.0	80.6	P/P	43 - 123
Butylate	61.6	66.3	P/P	27 - 83.0
Chlorpyrifos Ethyl	102	98.2	P/P	70 - 117
Chlorpyrifos Methyl	101	102	P/P	71 - 120
Cyanazine	124	127	P/P	34 - 264
Demeton	95.0	91.7	P/P	41 - 122
Diazinon	95.4	97.9	P/P	70 - 127
Dimethenamid	93.9	103	P/P	60 - 130
Disulfoton	97.7	89.5	P/P	56 - 127
Dithiopyr	96.3	98.2	P/P	60 - 130
EPTC	61.8	62.2	P/P	24 - 84.0
Ethion	82.7	86.6	P/P	53 - 132
Ethoprop	85.4	88.6	P/P	57 - 117
Fenamiphos	97.4	93.3	P/P	55 - 136
Fipronil	84.4	81.5	P/P	64 - 126
Fipronil Desulfinyl	76.1	76.3	P/P	60 - 130
Fipronil Sulfide	84.5	78.9	P/P	57 - 120
Fipronil Sulfone	90.3	80.8	P/P	52 - 115
Fonofos	91.9	92.0	P/P	61 - 121
Hexazinone	88.0	96.2	P/P	62 - 131
Malathion	102	98.1	P/P	67 - 126
Metalaxyl	89.9	91.4	P/P	54 - 128
Metolachlor	94.8	97.3	P/P	71 - 118
Metribuzin	140	135	P/P	42 - 221
Mevinphos	86.0	80.1	P/P	45 - 114
Molinate	72.6	74.0	P/P	33 - 91.0
Norflurazon	88.0	83.9	P/P	60 - 123
Oxadiazon	87.2	97.7	P/P	60 - 130

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P360678

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	84.4	89.5	P/P	73 - 111
Parathion Methyl	96.0	109	P/P	74 - 126
Pendimethalin	82.7	89.3	P/P	63 - 131
Phorate	101	98.4	P/P	54 - 115
Prodiamine	99.3	93.3	P/P	60 - 130
Prometon	86.6	94.8	P/P	61 - 120
Prometryn	85.2	90.0	P/P	62 - 126
Simazine	97.1	108	P/P	75 - 126
Tebuconazole	74.3	73.1	P/P	30 - 100
Terbufos	96.9	95.4	P/P	65 - 116
Terbuthylazine	91.1	101	P/P	73 - 117

Reference Method: EPA 8321B

Batch ID: P360626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.3		P	40 - 150
Acetaminophen	111		P	30 - 150
Bentazon	93.5		P	30 - 150
Carbamazepine	94.1		P	40 - 150
Diuron	94.1		P	40 - 150
Fenuron	124		P	40 - 150
Fluridone	84.4		P	40 - 150
Hydrocodone	112		P	40 - 150
Ibuprofen	56.3		P	40 - 150
Imazapyr	102		P	40 - 150
Imidacloprid	111		P	40 - 150
Linuron	77.0		P	40 - 150
MCPP	92.5		P	40 - 150
Naproxen	73.4		P	40 - 150
Primidone	131		P	40 - 150
Pyraclostrobin	69.1		P	40 - 150
Triclopyr	58.4		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P360627

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.1		P	40 - 150
AMPA	98.7		P	40 - 150
Endothall	112		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	108		P	40 - 140
Sucralose	57.2		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P360748

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P361243

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P361059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P360846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071118	Barium	97.5		P	80 - 120
2071118	Calcium	98.3		P	80 - 120
2071118	Iron	97.7		P	80 - 120
2071118	Magnesium	96.6		P	80 - 120
2071118	Potassium	97.9		P	80 - 120
2071118	Sodium	96.9		P	80 - 120
2071118	Zinc	98.1		P	80 - 120
2071273	Barium	100	96.4	P/P	80 - 120
2071273	Calcium	97.3		P	80 - 120
2071273	Iron	100	98.2	P/P	80 - 120
2071273	Magnesium	102	97.8	P/P	80 - 120
2071273	Potassium	99.4	97.6	P/P	80 - 120
2071273	Sodium	95.7		P	80 - 120
2071273	Zinc	104	99.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P360846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071118	Aluminum	95.2		P	80 - 120
2071118	Antimony	97.7		P	80 - 120
2071118	Arsenic	99.1		P	80 - 120
2071118	Boron	96.7		P	80 - 120
2071118	Cadmium	98.9		P	80 - 120
2071118	Chromium	90.8		P	80 - 120
2071118	Copper	91.5		P	80 - 120
2071118	Lead	95.4		P	80 - 120
2071118	Nickel	92.0		P	80 - 120
2071118	Selenium	97.9		P	80 - 120
2071118	Silver	100		P	80 - 120
2071118	Thallium	102		P	80 - 120
2071273	Aluminum	95.5	93.3	P/P	80 - 120
2071273	Antimony	97.7	94.4	P/P	80 - 120
2071273	Arsenic	99.3	95.9	P/P	80 - 120
2071273	Boron	97.1	94.9	P/P	80 - 120
2071273	Cadmium	99.0	95.9	P/P	80 - 120
2071273	Chromium	92.3	90.0	P/P	80 - 120
2071273	Copper	94.8	91.7	P/P	80 - 120
2071273	Lead	97.0	94.3	P/P	80 - 120
2071273	Nickel	96.3	94.7	P/P	80 - 120
2071273	Selenium	99.4	92.8	P/P	80 - 120
2071273	Silver	101	103	P/P	80 - 120
2071273	Thallium	102	100	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P361110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071122	Chloride	96.2		P	90 - 110
2071200	Chloride	102		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071122	Sulfate	97.0		P	90 - 110
2071200	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071252	Ammonia-N	109	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071129	Kjeldahl Nitrogen	92.2	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360962

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071202	NO2NO3-N	97.1	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071176	Total-P	99.3	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071133	O-Phosphate-P	95.6	96.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P360678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071096	Acetochlor	103	101	P/P	63 - 129
2071096	Alachlor	103	102	P/P	65 - 127
2071096	Ametryn	83.3	98.8	P/P	40 - 164
2071096	Atrazine Desethyl	57.7	101	P/P	14 - 157
2071096	Azinphos Methyl	103	103	P/P	49 - 180
2071096	Butylate	39.1	58.2	P/P	10 - 94.0
2071096	Chlorpyrifos Ethyl	101	106	P/P	58 - 123
2071096	Chlorpyrifos Methyl	111	106	P/P	58 - 125
2071096	Cyanazine	100	127	P/P	24 - 253
2071096	Demeton	94.6	77.9	P/P	25 - 149
2071096	Diazinon	114	109	P/P	59 - 144
2071096	Dimethenamid	98.9	101	P/P	60 - 130
2071096	Disulfoton	101	92.2	P/P	54 - 132
2071096	Dithiopyr	103	103	P/P	60 - 130
2071096	EPTC	30.2	47.1	P/P	10 - 92.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P360678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071096	Ethion	96.1	94.9	P/P	30 - 148
2071096	Ethoprop	97.2	91.0	P/P	50 - 130
2071096	Fenamiphos	77.1	82.2	P/P	49 - 142
2071096	Fipronil	72.0	93.4	P/P	46 - 140
2071096	Fipronil Desulfinyl	56.7	82.3	F/P	60 - 130
2071096	Fipronil Sulfide	73.6	82.6	P/P	31 - 136
2071096	Fipronil Sulfone	41.9	67.9	P/P	16 - 136
2071096	Fonofos	97.2	93.8	P/P	55 - 129
2071096	Hexazinone	95.7	111	P/P	56 - 141
2071096	Malathion	81.4	75.2	P/P	56 - 135
2071096	Metribuzin	215	232	P/P	45 - 254
2071096	Mevinphos	79.2	83.4	P/P	33 - 131
2071096	Molinate	66.7	79.3	P/P	14 - 98.0
2071096	Oxadiazon	95.2	98.8	P/P	60 - 130
2071096	Parathion Ethyl	95.2	88.3	P/P	66 - 118
2071096	Parathion Methyl	105	98.7	P/P	64 - 136
2071096	Pendimethalin	112	97.9	P/P	59 - 144
2071096	Phorate	96.4	86.5	P/P	42 - 130
2071096	Prodiamine	115	115	P/P	60 - 130
2071096	Prometon	86.7	91.0	P/P	59 - 134
2071096	Prometryn	78.7	80.1	P/P	54 - 135
2071096	Tebuconazole	83.1	93.7	P/P	30 - 100
2071096	Terbufos	98.5	92.8	P/P	57 - 131
2071096	Terbutylazine	92.3	95.6	P/P	68 - 125

Reference Method: EPA 8321B

Batch ID: P360626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071084	2,4-D	70.9	82.2	P/P	40 - 150
2071084	Acetaminophen	88.8	88.3	P/P	30 - 150
2071084	Bentazon	66.3	66.2	P/P	30 - 150
2071084	Carbamazepine	84.1	88.2	P/P	40 - 150
2071084	Diuron	81.7	77.6	P/P	40 - 150
2071084	Fenuron	132	123	P/P	40 - 150
2071084	Fluridone	103	110	P/P	40 - 150
2071084	Hydrocodone	112	109	P/P	40 - 150
2071084	Ibuprofen	55.8	57.4	P/P	40 - 150
2071084	Imazapyr	71.3	69.3	P/P	40 - 150
2071084	Linuron	65.7	72.6	P/P	40 - 150
2071084	MCP	114	119	P/P	40 - 150
2071084	Naproxen	78.5	74.0	P/P	40 - 150
2071084	Primidone	80.5	71.4	P/P	40 - 150
2071084	Pyraclostrobin	86.5	96.7	P/P	40 - 150
2071084	Triclopyr	58.0	65.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P360627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070585	Acesulfame K	191	196	F/F	40 - 150
2070585	AMPA	92.5	90.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P360627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2070585	Endothall	147	150	P/F	40 - 150
2070585	Glufosinate	65.9	65.0	P/P	40 - 150
2070585	Glyphosate	84.2	86.3	P/P	40 - 140
2070585	Sucralose	63.3	58.7	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071227	Fluoride	97.3	97.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P361059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2071128	Organic Carbon	101	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071201	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071273	Barium	3.89	Spike	P	0 - 20
2071273	Calcium	2.55	Spike	P	0 - 20
2071273	Iron	1.63	Spike	P	0 - 20
2071273	Magnesium	2.39	Spike	P	0 - 20
2071273	Potassium	1.45	Spike	P	0 - 20
2071273	Sodium	1.50	Spike	P	0 - 20
2071273	Zinc	4.45	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071273	Aluminum	2.15	Spike	P	0 - 20
2071273	Antimony	3.45	Spike	P	0 - 20
2071273	Arsenic	3.41	Spike	P	0 - 20
2071273	Boron	1.73	Spike	P	0 - 20
2071273	Cadmium	3.18	Spike	P	0 - 20
2071273	Chromium	2.58	Spike	P	0 - 20
2071273	Copper	2.47	Spike	P	0 - 20
2071273	Lead	2.78	Spike	P	0 - 20
2071273	Nickel	1.70	Spike	P	0 - 20
2071273	Selenium	6.86	Spike	P	0 - 20
2071273	Silver	2.23	Spike	P	0 - 20
2071273	Thallium	1.76	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071122	Chloride	0.00704	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071122	Sulfate	1.14	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071252	Ammonia-N	0.143	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071129	Kjeldahl Nitrogen	8.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360962

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071202	NO2NO3-N	0.766	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071176	Total-P	1.68	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071133	O-Phosphate-P	0.873	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P360678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071096	Acetochlor	2.38	Spike	P	0 - 30
2071096	Alachlor	1.41	Spike	P	0 - 30
2071096	Ametryn	12.4	Spike	P	0 - 30
2071096	Atrazine	4.33	Spike	P	0 - 30
2071096	Atrazine Desethyl	38.0	Spike	F	0 - 30
2071096	Azinphos Methyl	0.490	Spike	P	0 - 30
2071096	Bromacil	12.7	Spike	P	0 - 30
2071096	Butylate	39.2	Spike	F	0 - 30
2071096	Chlorpyrifos Ethyl	4.78	Spike	P	0 - 30
2071096	Chlorpyrifos Methyl	4.67	Spike	P	0 - 30
2071096	Cyanazine	23.4	Spike	P	0 - 30
2071096	Demeton	19.4	Spike	P	0 - 30
2071096	Diazinon	4.00	Spike	P	0 - 30
2071096	Dimethenamid	1.64	Spike	P	0 - 30
2071096	Disulfoton	8.77	Spike	P	0 - 30
2071096	Dithiopyr	0.291	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P360678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071096	EPTC	43.6	Spike	F	0 - 30
2071096	Ethion	1.32	Spike	P	0 - 30
2071096	Ethoprop	6.53	Spike	P	0 - 30
2071096	Fenamiphos	6.44	Spike	P	0 - 30
2071096	Fipronil	25.8	Spike	P	0 - 30
2071096	Fipronil Desulfinyl	36.9	Spike	F	0 - 30
2071096	Fipronil Sulfide	11.5	Spike	P	0 - 30
2071096	Fipronil Sulfone	47.3	Spike	F	0 - 30
2071096	Fonofos	3.56	Spike	P	0 - 30
2071096	Hexazinone	9.00	Spike	P	0 - 30
2071096	Malathion	7.95	Spike	P	0 - 30
2071096	Metalaxyl	7.53	Spike	P	0 - 30
2071096	Metolachlor	1.93	Spike	P	0 - 30
2071096	Metribuzin	7.46	Spike	P	0 - 30
2071096	Mevinphos	5.14	Spike	P	0 - 30
2071096	Molinate	17.2	Spike	P	0 - 30
2071096	Norflurazon	21.4	Spike	P	0 - 30
2071096	Oxadiazon	3.74	Spike	P	0 - 30
2071096	Parathion Ethyl	7.46	Spike	P	0 - 30
2071096	Parathion Methyl	6.25	Spike	P	0 - 30
2071096	Pendimethalin	13.8	Spike	P	0 - 30
2071096	Phorate	10.8	Spike	P	0 - 30
2071096	Prodiamine	0.196	Spike	P	0 - 30
2071096	Prometon	4.80	Spike	P	0 - 30
2071096	Prometryn	1.72	Spike	P	0 - 30
2071096	Simazine	3.04	Spike	P	0 - 30
2071096	Tebuconazole	12.1	Spike	P	0 - 30
2071096	Terbufos	5.94	Spike	P	0 - 30
2071096	Terbutylazine	3.48	Spike	P	0 - 30
LFB	Acetochlor	1.89	LCS	P	0 - 30
LFB	Alachlor	5.78	LCS	P	0 - 30
LFB	Ametryn	3.05	LCS	P	0 - 30
LFB	Atrazine	11.4	LCS	P	0 - 30
LFB	Atrazine Desethyl	4.63	LCS	P	0 - 30
LFB	Azinphos Methyl	4.43	LCS	P	0 - 30
LFB	Bromacil	6.47	LCS	P	0 - 30
LFB	Butylate	7.21	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.63	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.20	LCS	P	0 - 30
LFB	Cyanazine	1.90	LCS	P	0 - 30
LFB	Demeton	3.54	LCS	P	0 - 30
LFB	Diazinon	2.58	LCS	P	0 - 30
LFB	Dimethenamid	8.87	LCS	P	0 - 30
LFB	Disulfoton	8.77	LCS	P	0 - 30
LFB	Dithiopyr	1.97	LCS	P	0 - 30
LFB	EPTC	0.724	LCS	P	0 - 30
LFB	Ethion	4.67	LCS	P	0 - 30
LFB	Ethoprop	3.62	LCS	P	0 - 30
LFB	Fenamiphos	4.32	LCS	P	0 - 30
LFB	Fipronil	3.52	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	0.266	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D

Batch ID: P360678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	6.87	LCS	P	0 - 30
LFB	Fipronil Sulfone	11.2	LCS	P	0 - 30
LFB	Fonofos	0.109	LCS	P	0 - 30
LFB	Hexazinone	8.90	LCS	P	0 - 30
LFB	Malathion	3.58	LCS	P	0 - 30
LFB	Metalaxyl	1.69	LCS	P	0 - 30
LFB	Metolachlor	2.56	LCS	P	0 - 30
LFB	Metribuzin	4.05	LCS	P	0 - 30
LFB	Mevinphos	7.03	LCS	P	0 - 30
LFB	Molinate	1.92	LCS	P	0 - 30
LFB	Norflurazon	4.80	LCS	P	0 - 30
LFB	Oxadiazon	11.4	LCS	P	0 - 30
LFB	Parathion Ethyl	5.78	LCS	P	0 - 30
LFB	Parathion Methyl	12.5	LCS	P	0 - 30
LFB	Pendimethalin	7.77	LCS	P	0 - 30
LFB	Phorate	2.56	LCS	P	0 - 30
LFB	Prodiamine	6.22	LCS	P	0 - 30
LFB	Prometon	9.10	LCS	P	0 - 30
LFB	Prometryn	5.52	LCS	P	0 - 30
LFB	Simazine	10.5	LCS	P	0 - 30
LFB	Tebuconazole	1.70	LCS	P	0 - 30
LFB	Terbufos	1.55	LCS	P	0 - 30
LFB	Terbuthylazine	10.2	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P360626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071084	2,4-D	14.2	Spike	P	0 - 30
2071084	Acetaminophen	0.646	Spike	P	0 - 30
2071084	Bentazon	0.0887	Spike	P	0 - 30
2071084	Carbamazepine	3.49	Spike	P	0 - 30
2071084	Diuron	4.76	Spike	P	0 - 30
2071084	Fenuron	7.26	Spike	P	0 - 30
2071084	Fluridone	6.64	Spike	P	0 - 30
2071084	Hydrocodone	2.30	Spike	P	0 - 30
2071084	Ibuprofen	2.78	Spike	P	0 - 30
2071084	Imazapyr	2.60	Spike	P	0 - 30
2071084	Imidacloprid	3.12	Spike	P	0 - 30
2071084	Linuron	9.95	Spike	P	0 - 30
2071084	MCP	4.10	Spike	P	0 - 30
2071084	Naproxen	5.88	Spike	P	0 - 30
2071084	Primidone	10.9	Spike	P	0 - 30
2071084	Pyraclostrobin	11.2	Spike	P	0 - 30
2071084	Triclopyr	12.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P360627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2070585	Acesulfame K	2.22	Spike	P	0 - 30
2070585	AMPA	1.95	Spike	P	0 - 30
2070585	Endothall	2.28	Spike	P	0 - 30
2070585	Glufosinate	1.42	Spike	P	0 - 30
2070585	Glyphosate	2.48	Spike	P	0 - 30
2070585	Sucralose	7.04	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P360748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071232	Color (true)	2.01	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P361243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071227	Total Alkalinity	0.471	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P361340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071260	TDS	1.78	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P361247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071227	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P361059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2071128	Organic Carbon	0.846	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: 2071238**Field Sample ID: G2WA0010**

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	56.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.2	P	30 - 160
EPA 8321B	Diuron-d6	66.1	P	30 - 160
EPA 8321B	Endothall-d6	120	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	44.9	P	30 - 160
EPA 8321B	Primidone-d5	80.1	P	30 - 160
EPA 8321B	Sucralose-d6	83.5	P	30 - 160

Lab Sample ID: 2071240**Field Sample ID: G2WA0010**

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	93.7	P	68 - 130
EPA 8270D	Terbufos-d10	102	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A90071

Included Lab Sample IDs: 2071232

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 180.1 Rev. 2.0

Run ID: A90100

Included Lab Sample IDs: 2071232

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A90101

Included Lab Sample IDs: 2071234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	98.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90161

Included Lab Sample IDs: 2071238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	116	115	P/P	60 - 160
Glufosinate	90.8	106	P/P	60 - 160
Glyphosate	78.6	79.5	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A90203

Included Lab Sample IDs: 2071238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	120	126	P/P	60 - 160
Endothall	122	117	P/P	60 - 160
Sucralose	91.5	108	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90208

Included Lab Sample IDs: 2071239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.1	99.3	P/P	90 - 110
Calcium	99.5	99.3	P/P	90 - 110
Iron	98.7	98.2	P/P	90 - 110
Magnesium	99.0	98.6	P/P	90 - 110
Potassium	96.7	95.9	P/P	90 - 110
Sodium	98.9	98.0	P/P	90 - 110
Zinc	99.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90215

Included Lab Sample IDs: 2071233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90235

Included Lab Sample IDs: 2071233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	95.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A90238

Included Lab Sample IDs: 2071233

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	93.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90254

Included Lab Sample IDs: 2071239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.7	98.3	P/P	90 - 110
Antimony	98.1	96.7	P/P	90 - 110
Arsenic	97.6	96.7	P/P	90 - 110
Boron	99.3	99.3	P/P	90 - 110
Cadmium	98.3	97.6	P/P	90 - 110
Chromium	98.7	98.3	P/P	90 - 110
Copper	96.5	96.2	P/P	90 - 110
Lead	97.1	97.5	P/P	90 - 110
Nickel	96.5	96.4	P/P	90 - 110
Selenium	98.7	97.8	P/P	90 - 110
Silver	103	102	P/P	90 - 110
Thallium	95.5	95.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90274

Included Lab Sample IDs: 2071238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	85.3	P/P	50 - 150
Acetaminophen	129	117	P/P	60 - 160
Bentazon	91.2	88.8	P/P	50 - 160
Carbamazepine	109	105	P/P	60 - 150
Diuron	115	107	P/P	60 - 150
Fenuron	109	110	P/P	60 - 150
Fluridone	110	106	P/P	60 - 160
Hydrocodone	104	101	P/P	60 - 150
Ibuprofen	111	103	P/P	50 - 160
Imazapyr	98.4	105	P/P	50 - 150
Imidacloprid	80.4	101	P/P	60 - 150
Linuron	96.0	92.9	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A90274
Included Lab Sample IDs: 2071238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCP	94.2	81.8	P/P	50 - 150
Naproxen	119	103	P/P	50 - 160
Primidone	108	82.8	P/P	60 - 150
Pyraclostrobin	130	121	P/P	60 - 150
Triclopyr	102	103	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A90288
Included Lab Sample IDs: 2071233

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A90303
Included Lab Sample IDs: 2071233

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

Reference Method: SM 2320 B-97
Run ID: A90311
Included Lab Sample IDs: 2071232

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A90311
Included Lab Sample IDs: 2071232

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

Reference Method: EPA 8270D
Run ID: A90451
Included Lab Sample IDs: 2071240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	103		P	80 - 120
Alachlor	105		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine	93.9		P	80 - 120
Atrazine Desethyl	99.5		P	80 - 120
Azinphos Methyl	93.0		P	80 - 120
Bromacil	99.9		P	80 - 120
Butylate	91.4		P	80 - 120
Chlorpyrifos Ethyl	97.3		P	80 - 120
Chlorpyrifos Methyl	99.1		P	80 - 120
Cyanazine	100		P	80 - 120
Demeton	99.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A90451

Included Lab Sample IDs: 2071240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diazinon	101		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	96.4		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	97.7		P	80 - 120
Ethion	93.0		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	95.0		P	80 - 120
Fipronil	93.3		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	96.5		P	80 - 120
Fipronil Sulfone	91.4		P	80 - 120
Fonofos	93.5		P	80 - 120
Hexazinone	99.6		P	80 - 120
Malathion	98.1		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	104		P	80 - 120
Metribuzin	88.3		P	80 - 120
Mevinphos	96.2		P	80 - 120
Molinate	97.2		P	80 - 120
Norflurazon	101		P	80 - 120
Oxadiazon	102		P	80 - 120
Parathion Ethyl	96.7		P	80 - 120
Parathion Methyl	97.3		P	80 - 120
Pendimethalin	98.5		P	80 - 120
Phorate	96.2		P	80 - 120
Prodiamine	101		P	80 - 120
Prometon	104		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	100		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	95.2		P	80 - 120
Terbutylazine	98.3		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							0.0	
EPA 200.7 Rev. 4.4	Barium	101		97.5	100	96.4			3.89
	Calcium	97.3		98.3	97.3				2.55
	Iron	100		97.7	100	98.2			1.63
	Magnesium	105		96.6	102	97.8			2.39
	Potassium	98.9		97.9	99.4	97.6			1.45
	Sodium	97.8		96.9	95.7				1.50
	Zinc	101		98.1	104	99.8			4.45
EPA 200.8 Rev. 5.4	Aluminum	95.1		95.2	95.5	93.3			2.15
	Antimony	94.8		97.7	97.7	94.4			3.45
	Arsenic	100		99.1	99.3	95.9			3.41
	Boron	93.0		96.7	97.1	94.9			1.73
	Cadmium	95.3		98.9	99.0	95.9			3.18
	Chromium	90.6		90.8	92.3	90.0			2.58
	Copper	96.7		91.5	94.8	91.7			2.47
	Lead	92.5		95.4	97.0	94.3			2.78
	Nickel	96.6		92.0	96.3	94.7			1.70
	Selenium	102		97.9	99.4	92.8			6.86
	Silver	101		100	101	103			2.23
	Thallium	97.5		102	102	100			1.76
EPA 300.0 Rev. 2.1	Chloride	101		96.2	102			0.0070	
	Sulfate	101		97.0	103			1.14	
EPA 350.1 Rev. 2.0	Ammonia-N	102		109	108				0.143
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.1		92.2	104				8.12
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		97.1	98.1				0.766
EPA 365.1 Rev. 2.0	Total-P	101		99.3	97.6				1.68
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6		95.6	96.7				0.873
EPA 8270D	Acetochlor	96.5	98.3	103	101	1.89			2.38
	Alachlor	94.4	100	103	102	5.78			1.41
	Ametryn	95.2	98.2	98.8	83.3	3.05			12.4
	Atrazine	93.3	105			11.4			4.33
	Atrazine Desethyl	74.3	77.8	101	57.7	4.63			38.0
	Azinphos Methyl	106	111	103	103	4.43			0.490
	Bromacil	86.0	80.6			6.47			12.7
	Butylate	61.6	66.3	58.2	39.1	7.21			39.2
	Chlorpyrifos Ethyl	102	98.2	106	101	3.63			4.78
	Chlorpyrifos Methyl	101	102	111	106	1.20			4.67
	Cyanazine	124	127	100	127	1.90			23.4
	Demeton	95.0	91.7	94.6	77.9	3.54			19.4
	Diazinon	95.4	97.9	114	109	2.58			4.00
	Dimethenamid	93.9	103	98.9	101	8.87			1.64
	Disulfoton	97.7	89.5	101	92.2	8.77			8.77
	Dithiopyr	96.3	98.2	103	103	1.97			0.291
	EPTC	61.8	62.2	30.2	47.1	0.724			43.6
	Ethion	82.7	86.6	96.1	94.9	4.67			1.32
	Ethoprop	85.4	88.6	97.2	91.0	3.62			6.53
	Fenamiphos	97.4	93.3	77.1	82.2	4.32			6.44
	Fipronil	84.4	81.5	72.0	93.4	3.52			25.8
	Fipronil Desulfinyl	76.1	76.3	56.7	82.3	0.266			36.9
	Fipronil Sulfide	84.5	78.9	73.6	82.6	6.87			11.5
	Fipronil Sulfone	90.3	80.8	41.9	67.9	11.2			47.3
	Fonofos	91.9	92.0	97.2	93.8	0.109			3.56
	Hexazinone	88.0	96.2	111	95.7	8.90			9.00
	Malathion	102	98.1	75.2	81.4	3.58			7.95

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8270D	Metalaxyl	89.9	91.4			1.69		7.53
	Metolachlor	94.8	97.3			2.56		1.93
	Metribuzin	140	135	232	215	4.05		7.46
	Mevinphos	86.0	80.1	83.4	79.2	7.03		5.14
	Molinate	72.6	74.0	79.3	66.7	1.92		17.2
	Norflurazon	88.0	83.9			4.80		21.4
	Oxadiazon	87.2	97.7	98.8	95.2	11.4		3.74
	Parathion Ethyl	84.4	89.5	88.3	95.2	5.78		7.46
	Parathion Methyl	96.0	109	98.7	105	12.5		6.25
	Pendimethalin	82.7	89.3	97.9	112	7.77		13.8
	Phorate	101	98.4	86.5	96.4	2.56		10.8
	Prodiamine	99.3	93.3	115	115	6.22		0.196
	Prometon	86.6	94.8	91.0	86.7	9.10		4.80
	Prometryn	85.2	90.0	80.1	78.7	5.52		1.72
	Simazine	97.1	108			10.5		3.04
	Tebuconazole	74.3	73.1	93.7	83.1	1.70		12.1
	Terbufos	96.9	95.4	92.8	98.5	1.55		5.94
	Terbuthylazine	91.1	101	95.6	92.3	10.2		3.48
EPA 8321B	2,4-D	82.3		70.9	82.2			14.2
	Acesulfame K	98.1		191	196			2.22
	Acetaminophen	111		88.8	88.3			0.646
	AMPA	98.7		92.5	90.7			1.95
	Bentazon	93.5		66.3	66.2			0.0887
	Carbamazepine	94.1		84.1	88.2			3.49
	Diuron	94.1		81.7	77.6			4.76
	Endothall	112		147	150			2.28
	Fenuron	124		132	123			7.26
	Fluridone	84.4		103	110			6.64
	Glufosinate	104		65.9	65.0			1.42
	Glyphosate	108		84.2	86.3			2.48
	Hydrocodone	112		112	109			2.30
	Ibuprofen	56.3		55.8	57.4			2.78
	Imazapyr	102		71.3	69.3			2.60
	Imidacloprid	111						3.12
	Linuron	77.0		65.7	72.6			9.95
	MCPP	92.5		114	119			4.10
	Naproxen	73.4		78.5	74.0			5.88
	Primidone	131		80.5	71.4			10.9
SM 2120 B	Color (true)	103					2.01	
	Total Alkalinity	105					0.471	
SM 2540 C-97	TDS						1.78	
SM 4500 F-C-97	Fluoride	101		97.3	97.3			0.0
SM 5310 B-00	Organic Carbon	97.6		101	100			0.846

Reference Method Descriptions

Method / DoH Cert #
EPA 180.1 Rev. 2.0 /
E31780

Description
Turbidity in aqueous matrices

Associated Samples
2071232

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2071239
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2071239
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2071232
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2071232
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2071233
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2071233
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2071233
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2071233
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2071234
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2071240
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2071238
SM 2120 B / E31780	True Color measured at 450 nm	2071232
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2071232
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2071232
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2071232
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2071232
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2071233

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	03/19/2019			03/19/2019 15:54	Adrian Shelby	2071232
EPA 200.7 Rev. 4.4	03/19/2019	03/21/2019 15:15	Elliott D. Healy	03/22/2019 17:04	Betina Topolski	2071239
EPA 200.8 Rev. 5.4	03/19/2019	03/21/2019 15:15	Elliott D. Healy	03/26/2019 20:22	Robert K Palmer	2071239
EPA 300.0 Rev. 2.1	03/19/2019			03/24/2019 02:48	Lipi Saha	2071232
EPA 350.1 Rev. 2.0	03/19/2019			03/27/2019 12:00	Ping Hua	2071233
EPA 351.2 Rev. 2.0	03/19/2019	03/22/2019 12:00	Adrian Shelby	03/26/2019 12:44	Joseph Suarez	2071233
EPA 353.2 Rev. 2.0	03/19/2019			03/22/2019 10:58	Beverly Y. Sanders	2071233
EPA 365.1 Rev. 2.0	03/19/2019	03/27/2019 12:00	Adrian Shelby	03/28/2019 14:48	Rosalyn Ballman	2071233
EPA 365.1 Rev. 2.0 dissolved	03/19/2019			03/19/2019 15:59	Julia Storbeck	2071234
EPA 8270D	03/19/2019	03/20/2019 09:00	Dinesh Mishra	03/25/2019 19:49	Vandana T. Nagar	2071240
EPA 8321B	03/19/2019	03/20/2019 12:00	Hoor Shaik	03/20/2019 16:34	Juyoung Kim	2071238
	03/19/2019	03/20/2019 12:00	Hoor Shaik	03/21/2019 05:34	Juyoung Kim	2071238
	03/19/2019	03/20/2019 14:00	Hoor Shaik	03/27/2019 10:58	Juyoung Kim	2071238
SM 2120 B	03/19/2019			03/19/2019 16:15	Mariam Hanna	2071232
SM 2320 B-97	03/19/2019			03/28/2019 14:32	Dale L. Simmons	2071232
SM 2540 C-97	03/19/2019			03/22/2019 14:59	Yijie Li	2071232
SM 2540 D-97	03/19/2019			03/22/2019 14:59	Yijie Li	2071232
SM 4500 F-C-97	03/19/2019			03/28/2019 14:32	Dale L. Simmons	2071232
SM 5310 B-00	03/19/2019			03/26/2019 12:13	Julia Storbeck	2071233