

Chemical Analysis Report

SW-DIST-2019-03-01-01

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

Event Description: **SCI Kit**
Request ID: **RQ-2019-02-25-25**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 21-MAR-2019 17:22



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: HOWELL BRANCH IN BEALSVILLE PARK

Collection Date/Time: 02/28/2019 12:30

Field ID: G2SW0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066468	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P359779	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P360205	
		Sulfate	22		mg SO4/L	P360210	
	SM 2120 B	Color (true)	75		PCU	P359787	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P359960	
	SM 2540 C-97	TDS	218		mg/L	P360132	
	SM 2540 D-97	TSS	3	I	mg/L	P360070	
	SM 4500 F-C-97	Fluoride	0.63		mg F/L	P359962	
2066469	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P360138	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P360025	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.3		mg N/L	P359873	
	EPA 365.1 Rev. 2.0	Total-P	2.4		mg P/L	P360073	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P360281	
2066470	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	2.1		mg P/L	P359785	
2066476	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P359705	
		2,4-D	0.0024	I	ug/L	P359682	
		AMPA**	2.3	J	ug/L	P359705	CCV, RPD
		Sucralose**	0.35		ug/L	P359705	
		Endothall**	0.25	U	ug/L	P359705	
		Acetaminophen**	0.0080	U	ug/L	P359682	
		Glufosinate**	0.10	U	ug/L	P359705	
		Glyphosate**	1.6		ug/L	P359705	
		Bentazon	0.0077		ug/L	P359682	
		Carbamazepine**	0.0023	I	ug/L	P359682	
		Diuron	0.080		ug/L	P359682	
		Fenuron	0.016	U	ug/L	P359682	
		Fluridone**	0.0080		ug/L	P359682	
		Imazapyr**	0.087		ug/L	P359682	
		Hydrocodone**	0.0020	U	ug/L	P359682	
		Ibuprofen**	0.020	U	ug/L	P359682	
		Imidacloprid	0.031		ug/L	P359682	MS
		Linuron	0.0040	U	ug/L	P359682	
		MCPP	0.0020	U	ug/L	P359682	
		Naproxen**	0.0080	U	ug/L	P359682	
		Primidone**	0.0040	U	ug/L	P359682	
		Pyraclostrobin**	0.0020	U	ug/L	P359682	
		Triclopyr**	0.0040	U	ug/L	P359682	
2066477	EPA 200.7 Rev. 4.4	Barium	3.7	I	ug/L	P360229	
		Calcium	36.2		mg/L	P360229	
		Iron	400		ug/L	P360229	
		Magnesium	14.9		mg/L	P360229	
		Potassium	4.0		mg/L	P360229	
		Sodium	15.9		mg/L	P360229	

Field ID: G2SW0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066477	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P360229	
	EPA 200.8 Rev. 5.4	Aluminum	145		ug/L	P360229	
		Antimony	0.12	I	ug/L	P360229	
		Arsenic	2.11		ug/L	P360229	
		Boron**	182		ug/L	P360229	
		Cadmium	0.042	I	ug/L	P360229	
		Chromium	0.67	I	ug/L	P360229	
		Copper	3.08		ug/L	P360229	
		Lead	0.22	I	ug/L	P360229	
		Nickel	1.4	I	ug/L	P360229	
		Selenium	0.29	I	ug/L	P360229	
		Silver	0.010	U	ug/L	P360229	
		Thallium	0.12	I	ug/L	P360229	
2066478	EPA 8270D	Acetochlor	0.24	U	ng/L	P359947	
		Alachlor	0.24	U	ng/L	P359947	
		Ametryn	0.58	U	ng/L	P359947	
		Atrazine	9.3		ng/L	P359947	
		Atrazine Desethyl	1.4	U	ng/L	P359947	
		Azinphos Methyl	4.8	U	ng/L	P359947	
		Bromacil	82	J	ng/L	P359947	RPD
		Butylate	0.38	UJ	ng/L	P359947	LCS
		Chlorpyrifos Ethyl	0.77	I	ng/L	P359947	
		Chlorpyrifos Methyl	0.096	U	ng/L	P359947	
		Cyanazine	3.1	U	ng/L	P359947	
		Demeton	6.7	U	ng/L	P359947	
		Diazinon	0.12	U	ng/L	P359947	
		Dimethenamid**	9.2		ng/L	P359947	
		Disulfoton	0.48	U	ng/L	P359947	
		Dithiopyr**	0.20	I	ng/L	P359947	
		EPTC	1.2	U	ng/L	P359947	RPD
		Ethion	0.14	U	ng/L	P359947	
		Ethoprop	0.096	U	ng/L	P359947	
		Fenamiphos	0.48	U	ng/L	P359947	
		Fipronil	2.0		ng/L	P359947	
		Fipronil Desulfinyl**	4.3		ng/L	P359947	
		Fipronil Sulfide	3.1		ng/L	P359947	
		Fipronil Sulfone	4.8		ng/L	P359947	
		Fonofos	0.19	U	ng/L	P359947	
		Hexazinone	1.5	I	ng/L	P359947	
		Malathion	0.34	U	ng/L	P359947	
		Metalaxyl	22		ng/L	P359947	
		Metolachlor	44		ng/L	P359947	
		Metribuzin	0.72	UJ	ng/L	P359947	RPD
		Mevinphos	0.48	U	ng/L	P359947	
		Molinate	0.29	U	ng/L	P359947	

Field ID: G2SW0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2066478	EPA 8270D	Norflurazon	2.6		ng/L	P359947	
		Oxadiazon**	0.34	I	ng/L	P359947	
		Parathion Ethyl	0.24	U	ng/L	P359947	
		Parathion Methyl	0.53	U	ng/L	P359947	
		Pendimethalin	1.3	I	ng/L	P359947	
		Phorate	0.24	U	ng/L	P359947	
		Prodiamine**	1.9		ng/L	P359947	
		Prometon	0.87	U	ng/L	P359947	
		Prometryn	0.19	U	ng/L	P359947	
		Simazine	3.4		ng/L	P359947	
		Tebuconazole**	0.88	IJ	ng/L	P359947	RPD
		Terbufos	0.096	U	ng/L	P359947	
		Terbutylazine	0.41	U	ng/L	P359947	

Ref. Method and Comment:

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

EPA 8321B: Refer to the narrative for an explanation of QC Codes.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359779

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360229

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: P360229

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: P360205

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360210

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360138

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: P360025

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359873

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360073

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

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

Reference Method: EPA 8270D
Batch ID: P359947

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: P359947

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: P359682

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: P359705

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: P359787

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P359960

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

Reference Method: SM 2540 C-97
Batch ID: P360132

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P360070

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359962

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360281

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: P360229

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	106		P	85 - 115
Iron	106		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	104		P	85 - 115
Sodium	102		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.5		P	85 - 115
Arsenic	105		P	85 - 115
Boron	96.0		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	98.7		P	85 - 115
Copper	102		P	85 - 115
Lead	95.0		P	85 - 115
Nickel	101		P	85 - 115
Selenium	104		P	85 - 115
Silver	102		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360205

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360210

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360138

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360025

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P359873

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P360073

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P359785

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

Reference Method: EPA 8270D
 Batch ID: P359947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	112	109	P/P	71 - 121
Alachlor	109	96.4	P/P	72 - 119
Ametryn	112	110	P/P	47 - 144
Atrazine	103	101	P/P	75 - 123
Atrazine Desethyl	98.8	89.1	P/P	45 - 133
Azinphos Methyl	96.2	110	P/P	66 - 165
Bromacil	108	55.0	P/P	43 - 123
Butylate	84.6	65.3	F/P	27 - 83.0
Chlorpyrifos Ethyl	93.8	95.0	P/P	70 - 117
Chlorpyrifos Methyl	84.6	94.8	P/P	71 - 120
Cyanazine	99.0	94.0	P/P	34 - 264
Demeton	80.6	86.5	P/P	41 - 122
Diazinon	110	98.6	P/P	70 - 127
Dimethenamid	112	101	P/P	60 - 130
Disulfoton	87.8	94.8	P/P	56 - 127
Dithiopyr	110	97.0	P/P	60 - 130
EPTC	81.0	72.2	P/P	24 - 84.0
Ethion	103	77.8	P/P	53 - 132
Ethoprop	104	90.7	P/P	57 - 117
Fenamiphos	94.6	86.1	P/P	55 - 136
Fipronil	108	84.0	P/P	64 - 126
Fipronil Desulfinyl	99.4	88.7	P/P	60 - 130
Fipronil Sulfide	102	82.0	P/P	57 - 120
Fipronil Sulfone	104	82.7	P/P	52 - 115
Fonofos	87.6	93.1	P/P	61 - 121
Hexazinone	130	96.6	P/P	62 - 131
Malathion	98.5	97.9	P/P	67 - 126
Metalaxyl	111	98.0	P/P	54 - 128
Metolachlor	112	103	P/P	71 - 118
Metribuzin	86.2	145	P/P	42 - 221
Mevinphos	94.7	88.9	P/P	45 - 114
Molinate	84.4	76.6	P/P	33 - 91.0
Norflurazon	105	85.6	P/P	60 - 123
Oxadiazon	113	95.8	P/P	60 - 130

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P359947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	90.5	91.0	P/P	73 - 111
Parathion Methyl	96.6	117	P/P	74 - 126
Pendimethalin	88.6	93.6	P/P	63 - 131
Phorate	81.6	89.4	P/P	54 - 115
Prodiamine	93.6	91.8	P/P	60 - 130
Prometon	107	83.6	P/P	61 - 120
Prometryn	107	94.7	P/P	62 - 126
Simazine	101	105	P/P	75 - 126
Tebuconazole	100	73.9	P/P	30 - 100
Terbufos	89.7	91.5	P/P	65 - 116
Terbuthylazine	106	98.0	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P359682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.4		P	40 - 150
Acetaminophen	101		P	30 - 150
Bentazon	133		P	30 - 150
Carbamazepine	96.0		P	40 - 150
Diuron	82.8		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	109		P	40 - 150
Hydrocodone	110		P	40 - 150
Ibuprofen	76.6		P	40 - 150
Imazapyr	109		P	40 - 150
Imidacloprid	102		P	40 - 150
Linuron	73.1		P	40 - 150
MCPP	99.1		P	40 - 150
Naproxen	81.0		P	40 - 150
Primidone	96.5		P	40 - 150
Pyraclostrobin	76.2		P	40 - 150
Triclopyr	60.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P359705

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	120		P	40 - 150
AMPA	87.3		P	40 - 150
Endothall	100		P	40 - 150
Glufosinate	135		P	40 - 150
Glyphosate	123		P	40 - 140
Sucralose	97.7		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P359787

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P359960

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

Reference Method: SM 4500 F-C-97
Batch ID: P359962

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360281

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067591	Barium	98.1		P	80 - 120
2067591	Iron	102		P	80 - 120
2067591	Magnesium	102		P	80 - 120
2067591	Potassium	101		P	80 - 120
2067591	Sodium	93.8		P	80 - 120
2067591	Zinc	103		P	80 - 120
2067975	Barium	100	104	P/P	80 - 120
2067975	Calcium	104	105	P/P	80 - 120
2067975	Iron	104	106	P/P	80 - 120
2067975	Magnesium	109	110	P/P	80 - 120
2067975	Potassium	103	102	P/P	80 - 120
2067975	Sodium	102	99.1	P/P	80 - 120
2067975	Zinc	102	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067591	Aluminum	101		P	80 - 120
2067591	Antimony	103		P	80 - 120
2067591	Arsenic	105		P	80 - 120
2067591	Boron	101		P	80 - 120
2067591	Cadmium	103		P	80 - 120
2067591	Chromium	99.6		P	80 - 120
2067591	Copper	100		P	80 - 120
2067591	Lead	96.4		P	80 - 120
2067591	Nickel	99.4		P	80 - 120
2067591	Selenium	104		P	80 - 120
2067591	Silver	102		P	80 - 120
2067591	Thallium	105		P	80 - 120
2067975	Aluminum	102	102	P/P	80 - 120
2067975	Antimony	98.7	99.7	P/P	80 - 120
2067975	Arsenic	102	104	P/P	80 - 120
2067975	Boron	101	100	P/P	80 - 120
2067975	Cadmium	100	102	P/P	80 - 120
2067975	Chromium	99.8	99.2	P/P	80 - 120
2067975	Copper	102	102	P/P	80 - 120
2067975	Lead	95.4	97.1	P/P	80 - 120
2067975	Nickel	101	101	P/P	80 - 120
2067975	Selenium	101	104	P/P	80 - 120
2067975	Silver	101	101	P/P	80 - 120
2067975	Thallium	102	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066165	Chloride	107		P	90 - 110
2066320	Chloride	109		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P360210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066165	Sulfate	106		P	90 - 110
2066320	Sulfate	108		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066379	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066469	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066377	NO2NO3-N	99.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066866	Total-P	99.6	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066340	O-Phosphate-P	95.8	96.7	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P359947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2065382	Acetochlor	107	106	P/P	63 - 129
2065382	Alachlor	106	103	P/P	65 - 127
2065382	Ametryn	102	98.6	P/P	40 - 164
2065382	Atrazine	108	119	P/P	66 - 135
2065382	Atrazine Desethyl	89.1	77.1	P/P	14 - 157
2065382	Azinphos Methyl	133	124	P/P	49 - 180
2065382	Bromacil	91.8	88.4	P/P	48 - 130
2065382	Butylate	63.3	48.6	P/P	10 - 94.0
2065382	Chlorpyrifos Ethyl	88.6	99.9	P/P	58 - 123
2065382	Chlorpyrifos Methyl	92.5	95.3	P/P	58 - 125
2065382	Cyanazine	97.4	109	P/P	24 - 253
2065382	Demeton	89.6	90.9	P/P	25 - 149
2065382	Diazinon	101	102	P/P	59 - 144
2065382	Dimethenamid	103	108	P/P	60 - 130
2065382	Disulfoton	97.8	99.0	P/P	54 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P359947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2065382	Dithiopyr	100	101	P/P	60 - 130
2065382	EPTC	65.1	45.8	P/P	10 - 92.0
2065382	Ethion	49.7	60.1	P/P	30 - 148
2065382	Ethoprop	100	97.1	P/P	50 - 130
2065382	Fenamiphos	105	78.5	P/P	49 - 142
2065382	Fipronil	89.5	96.9	P/P	46 - 140
2065382	Fipronil Desulfinyl	73.0	76.3	P/P	60 - 130
2065382	Fipronil Sulfide	80.9	82.0	P/P	31 - 136
2065382	Fipronil Sulfone	81.5	92.3	P/P	16 - 136
2065382	Fonofos	96.1	100	P/P	55 - 129
2065382	Hexazinone	91.2	95.0	P/P	56 - 141
2065382	Malathion	92.5	96.9	P/P	56 - 135
2065382	Metalaxyl	97.4	98.1	P/P	54 - 135
2065382	Metolachlor	109	110	P/P	51 - 140
2065382	Metribuzin	149	150	P/P	45 - 254
2065382	Mevinphos	82.6	91.0	P/P	33 - 131
2065382	Molinate	85.2	75.0	P/P	14 - 98.0
2065382	Norflurazon	97.4	98.2	P/P	34 - 136
2065382	Oxadiazon	88.6	90.4	P/P	60 - 130
2065382	Parathion Ethyl	88.9	92.9	P/P	66 - 118
2065382	Parathion Methyl	120	124	P/P	64 - 136
2065382	Pendimethalin	71.9	71.8	P/P	59 - 144
2065382	Phorate	96.7	91.8	P/P	42 - 130
2065382	Prodiamine	89.6	80.9	P/P	60 - 130
2065382	Prometon	85.0	81.5	P/P	59 - 134
2065382	Prometryn	88.1	88.0	P/P	54 - 135
2065382	Simazine	105	111	P/P	53 - 156
2065382	Tebuconazole	64.3	72.1	P/P	30 - 100
2065382	Terbufos	99.4	99.0	P/P	57 - 131
2065382	Terbutylazine	96.9	98.5	P/P	68 - 125

Reference Method: EPA 8321B
Batch ID: P359682

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2065893	2,4-D	96.8	89.0	P/P	40 - 150
2065893	Acetaminophen	118	107	P/P	30 - 150
2065893	Bentazon	116	110	P/P	30 - 150
2065893	Carbamazepine	98.9	92.1	P/P	40 - 150
2065893	Diuron	77.8	77.8	P/P	40 - 150
2065893	Fenuron	120	111	P/P	40 - 150
2065893	Fluridone	108	102	P/P	40 - 150
2065893	Hydrocodone	121	113	P/P	40 - 150
2065893	Ibuprofen	79.4	77.2	P/P	40 - 150
2065893	Imazapyr	126	115	P/P	40 - 150
2065893	Imidacloprid	157	151	F/F	40 - 150
2065893	Linuron	80.6	74.1	P/P	40 - 150
2065893	MCPP	125	112	P/P	40 - 150
2065893	Naproxen	84.2	81.0	P/P	40 - 150
2065893	Primidone	106	98.0	P/P	40 - 150
2065893	Pyraclostrobin	76.4	75.2	P/P	40 - 150
2065893	Triclopyr	59.4	53.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P359705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2065894	Acesulfame K	120	118	P/P	40 - 150
2065894	AMPA	99.1	67.4	P/P	40 - 150
2065894	Endothall	83.4	81.8	P/P	40 - 150
2065894	Glufosinate	119	99.7	P/P	40 - 150
2065894	Glyphosate	122	104	P/P	40 - 140
2065894	Sucralose	96.7	91.8	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P359962

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066484	Fluoride	94.5	94.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066357	Organic Carbon	96.4	99.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P359779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066320	Turbidity	3.06	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P360229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067975	Barium	3.43	Spike	P	0 - 20
2067975	Calcium	1.25	Spike	P	0 - 20
2067975	Iron	1.02	Spike	P	0 - 20
2067975	Magnesium	1.14	Spike	P	0 - 20
2067975	Potassium	0.506	Spike	P	0 - 20
2067975	Sodium	1.63	Spike	P	0 - 20
2067975	Zinc	3.68	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P360229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067975	Aluminum	0.0502	Spike	P	0 - 20
2067975	Antimony	1.02	Spike	P	0 - 20
2067975	Arsenic	1.42	Spike	P	0 - 20
2067975	Boron	0.639	Spike	P	0 - 20
2067975	Cadmium	2.14	Spike	P	0 - 20
2067975	Chromium	0.564	Spike	P	0 - 20
2067975	Copper	0.412	Spike	P	0 - 20
2067975	Lead	1.84	Spike	P	0 - 20
2067975	Nickel	0.352	Spike	P	0 - 20
2067975	Selenium	3.25	Spike	P	0 - 20
2067975	Silver	0.103	Spike	P	0 - 20
2067975	Thallium	2.61	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P360205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066165	Chloride	3.46	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P360210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066165	Sulfate	3.36	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066379	Ammonia-N	0.445	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066469	Kjeldahl Nitrogen	0.488	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066377	NO2NO3-N	1.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066866	Total-P	1.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066340	O-Phosphate-P	0.554	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P359947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065382	Acetochlor	1.28	Spike	P	0 - 30
2065382	Alachlor	3.28	Spike	P	0 - 30
2065382	Ametryn	3.84	Spike	P	0 - 30
2065382	Atrazine	10.1	Spike	P	0 - 30
2065382	Atrazine Desethyl	14.5	Spike	P	0 - 30
2065382	Azinphos Methyl	6.98	Spike	P	0 - 30
2065382	Bromacil	3.84	Spike	P	0 - 30
2065382	Butylate	26.3	Spike	P	0 - 30
2065382	Chlorpyrifos Ethyl	12.0	Spike	P	0 - 30
2065382	Chlorpyrifos Methyl	2.98	Spike	P	0 - 30
2065382	Cyanazine	11.2	Spike	P	0 - 30
2065382	Demeton	1.42	Spike	P	0 - 30
2065382	Diazinon	1.42	Spike	P	0 - 30
2065382	Dimethenamid	4.83	Spike	P	0 - 30
2065382	Disulfoton	1.27	Spike	P	0 - 30
2065382	Dithiopyr	1.14	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P359947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065382	EPTC	34.8	Spike	F	0 - 30
2065382	Ethion	19.0	Spike	P	0 - 30
2065382	Ethoprop	3.38	Spike	P	0 - 30
2065382	Fenamiphos	28.8	Spike	P	0 - 30
2065382	Fipronil	7.95	Spike	P	0 - 30
2065382	Fipronil Desulfinyl	4.40	Spike	P	0 - 30
2065382	Fipronil Sulfide	1.30	Spike	P	0 - 30
2065382	Fipronil Sulfone	12.4	Spike	P	0 - 30
2065382	Fonofos	4.35	Spike	P	0 - 30
2065382	Hexazinone	4.02	Spike	P	0 - 30
2065382	Malathion	4.68	Spike	P	0 - 30
2065382	Metalaxyl	0.716	Spike	P	0 - 30
2065382	Metolachlor	1.24	Spike	P	0 - 30
2065382	Metribuzin	0.341	Spike	P	0 - 30
2065382	Mevinphos	9.75	Spike	P	0 - 30
2065382	Molinate	12.8	Spike	P	0 - 30
2065382	Norflurazon	0.794	Spike	P	0 - 30
2065382	Oxadiazon	2.01	Spike	P	0 - 30
2065382	Parathion Ethyl	4.37	Spike	P	0 - 30
2065382	Parathion Methyl	2.71	Spike	P	0 - 30
2065382	Pendimethalin	0.106	Spike	P	0 - 30
2065382	Phorate	5.18	Spike	P	0 - 30
2065382	Prodiamine	10.2	Spike	P	0 - 30
2065382	Prometon	4.14	Spike	P	0 - 30
2065382	Prometryn	0.0766	Spike	P	0 - 30
2065382	Simazine	6.05	Spike	P	0 - 30
2065382	Tebuconazole	11.4	Spike	P	0 - 30
2065382	Terbufos	0.389	Spike	P	0 - 30
2065382	Terbutylazine	1.62	Spike	P	0 - 30
LFB	Acetochlor	2.61	LCS	P	0 - 30
LFB	Alachlor	12.0	LCS	P	0 - 30
LFB	Ametryn	1.53	LCS	P	0 - 30
LFB	Atrazine	1.95	LCS	P	0 - 30
LFB	Atrazine Desethyl	10.3	LCS	P	0 - 30
LFB	Azinphos Methyl	13.2	LCS	P	0 - 30
LFB	Bromacil	65.1	LCS	F	0 - 30
LFB	Butylate	25.8	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	1.25	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	11.3	LCS	P	0 - 30
LFB	Cyanazine	5.11	LCS	P	0 - 30
LFB	Demeton	7.02	LCS	P	0 - 30
LFB	Diazinon	11.1	LCS	P	0 - 30
LFB	Dimethenamid	10.5	LCS	P	0 - 30
LFB	Disulfoton	7.62	LCS	P	0 - 30
LFB	Dithiopyr	12.5	LCS	P	0 - 30
LFB	EPTC	11.5	LCS	P	0 - 30
LFB	Ethion	28.3	LCS	P	0 - 30
LFB	Ethoprop	13.4	LCS	P	0 - 30
LFB	Fenamiphos	9.40	LCS	P	0 - 30
LFB	Fipronil	25.4	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	11.4	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270D
Batch ID: P359947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	22.0	LCS	P	0 - 30
LFB	Fipronil Sulfone	23.0	LCS	P	0 - 30
LFB	Fonofos	6.10	LCS	P	0 - 30
LFB	Hexazinone	29.3	LCS	P	0 - 30
LFB	Malathion	0.580	LCS	P	0 - 30
LFB	Metalaxyl	12.6	LCS	P	0 - 30
LFB	Metolachlor	7.93	LCS	P	0 - 30
LFB	Metribuzin	51.1	LCS	F	0 - 30
LFB	Mevinphos	6.32	LCS	P	0 - 30
LFB	Molinate	9.68	LCS	P	0 - 30
LFB	Norflurazon	20.8	LCS	P	0 - 30
LFB	Oxadiazon	16.1	LCS	P	0 - 30
LFB	Parathion Ethyl	0.577	LCS	P	0 - 30
LFB	Parathion Methyl	18.7	LCS	P	0 - 30
LFB	Pendimethalin	5.45	LCS	P	0 - 30
LFB	Phorate	9.09	LCS	P	0 - 30
LFB	Prodiamine	1.90	LCS	P	0 - 30
LFB	Prometon	24.5	LCS	P	0 - 30
LFB	Prometryn	12.5	LCS	P	0 - 30
LFB	Simazine	4.64	LCS	P	0 - 30
LFB	Tebuconazole	30.1	LCS	F	0 - 30
LFB	Terbufos	2.01	LCS	P	0 - 30
LFB	Terbuthylazine	7.93	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P359682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065893	2,4-D	8.31	Spike	P	0 - 30
2065893	Acetaminophen	9.93	Spike	P	0 - 30
2065893	Bentazon	5.18	Spike	P	0 - 30
2065893	Carbamazepine	7.10	Spike	P	0 - 30
2065893	Diuron	0.0307	Spike	P	0 - 30
2065893	Fenuron	7.31	Spike	P	0 - 30
2065893	Fluridone	5.75	Spike	P	0 - 30
2065893	Hydrocodone	7.03	Spike	P	0 - 30
2065893	Ibuprofen	2.78	Spike	P	0 - 30
2065893	Imazapyr	9.19	Spike	P	0 - 30
2065893	Imidacloprid	3.86	Spike	P	0 - 30
2065893	Linuron	8.48	Spike	P	0 - 30
2065893	MCP	10.8	Spike	P	0 - 30
2065893	Naproxen	3.83	Spike	P	0 - 30
2065893	Primidone	7.84	Spike	P	0 - 30
2065893	Pyraclostrobin	1.54	Spike	P	0 - 30
2065893	Triclopyr	10.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P359705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065894	Acesulfame K	1.98	Spike	P	0 - 30
2065894	AMPA	38.1	Spike	F	0 - 30
2065894	Endothall	1.95	Spike	P	0 - 30
2065894	Glufosinate	17.5	Spike	P	0 - 30
2065894	Glyphosate	15.3	Spike	P	0 - 30
2065894	Sucralose	4.53	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P359787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066457	Color (true)	1.50	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066484	Total Alkalinity	0.179	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P360132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066373	TDS	5.97	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359962

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066484	Fluoride	0.459	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066357	Organic Carbon	1.48	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: 2066476
Field Sample ID: G2SW0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.8	P	30 - 160
EPA 8321B	Diuron-d6	67.7	P	30 - 160
EPA 8321B	Endothall-d6	134	P	40 - 160
EPA 8321B	Endothall-d6	134	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	90.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	90.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	59.0	P	30 - 160
EPA 8321B	Primidone-d5	95.0	P	30 - 160
EPA 8321B	Sucralose-d6	95.0	P	30 - 160
EPA 8321B	Sucralose-d6	95.0	P	30 - 160

Lab Sample ID: 2066478
Field Sample ID: G2SW0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	113	P	68 - 130
EPA 8270D	Terbufos-d10	91.5	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A89747

Included Lab Sample IDs: 2066468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89750

Included Lab Sample IDs: 2066470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.6	95.7	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A89752

Included Lab Sample IDs: 2066468

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89797

Included Lab Sample IDs: 2066469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	102	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89826

Included Lab Sample IDs: 2066468

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

Reference Method: SM 4500 F-C-97

Run ID: A89826

Included Lab Sample IDs: 2066468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A89836

Included Lab Sample IDs: 2066476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	90.9	96.9	P/P	50 - 150
Acetaminophen	111	119	P/P	60 - 160
Bentazon	134	135	P/P	50 - 160
Carbamazepine	103	101	P/P	60 - 150
Diuron	108	109	P/P	60 - 150
Fenuron	103	99.6	P/P	60 - 150
Fluridone	107	103	P/P	60 - 160
Hydrocodone	103	105	P/P	60 - 150
Ibuprofen	107	101	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A89836
Included Lab Sample IDs: 2066476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	99.6	94.2	P/P	50 - 150
Imidacloprid	92.9	94.5	P/P	60 - 150
Linuron	94.1	102	P/P	60 - 150
MCPP	97.1	92.4	P/P	50 - 150
Naproxen	107	105	P/P	50 - 160
Primidone	89.0	96.9	P/P	60 - 150
Pyraclostrobin	92.4	93.0	P/P	60 - 150
Triclopyr	85.7	94.4	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A89843
Included Lab Sample IDs: 2066476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	125	P/P	60 - 160
Endothall	98.1	115	P/P	60 - 160

Reference Method: EPA 8270D
Run ID: A89854
Included Lab Sample IDs: 2066478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.6		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	100		P	80 - 120
Atrazine	95.3		P	80 - 120
Atrazine Desethyl	97.7		P	80 - 120
Azinphos Methyl	103		P	80 - 120
Butylate	95.3		P	80 - 120
Chlorpyrifos Ethyl	98.3		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	89.0		P	80 - 120
Demeton	97.4		P	80 - 120
Diazinon	93.0		P	80 - 120
Dimethenamid	97.8		P	80 - 120
Disulfoton	93.3		P	80 - 120
Dithiopyr	95.3		P	80 - 120
EPTC	96.4		P	80 - 120
Ethion	98.3		P	80 - 120
Ethoprop	100		P	80 - 120
Fenamiphos	94.3		P	80 - 120
Fipronil	95.6		P	80 - 120
Fipronil Desulfinyl	97.3		P	80 - 120
Fipronil Sulfide	96.3		P	80 - 120
Fipronil Sulfone	98.3		P	80 - 120
Fonofos	98.1		P	80 - 120
Hexazinone	99.3		P	80 - 120
Malathion	97.1		P	80 - 120
Metalaxyl	98.3		P	80 - 120
Metolachlor	99.7		P	80 - 120
Metribuzin	86.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A89854
Included Lab Sample IDs: 2066478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mevinphos	103		P	80 - 120
Molinate	95.9		P	80 - 120
Norflurazon	94.0		P	80 - 120
Oxadiazon	100		P	80 - 120
Parathion Ethyl	94.9		P	80 - 120
Parathion Methyl	97.5		P	80 - 120
Pendimethalin	93.0		P	80 - 120
Phorate	100		P	80 - 120
Prodiamine	97.9		P	80 - 120
Prometon	97.5		P	80 - 120
Prometryn	97.6		P	80 - 120
Simazine	102		P	80 - 120
Tebuconazole	95.8		P	80 - 120
Terbufos	99.1		P	80 - 120
Terbuthylazine	98.7		P	80 - 120

Reference Method: EPA 8321B
Run ID: A89859
Included Lab Sample IDs: 2066476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	64.6	56.1*	P/F	60 - 160
Glufosinate	92.9	77.4	P/P	60 - 160
Glyphosate	96.3	78.1	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A89885
Included Lab Sample IDs: 2066468

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A89900
Included Lab Sample IDs: 2066469

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89914
Included Lab Sample IDs: 2066469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.8	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89959

Included Lab Sample IDs: 2066469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.4	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89961

Included Lab Sample IDs: 2066469

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.9	92.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89965

Included Lab Sample IDs: 2066477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.7	101	P/P	90 - 110
Antimony	98.1	97.6	P/P	90 - 110
Arsenic	101	99.9	P/P	90 - 110
Boron	93.6	102	P/P	90 - 110
Cadmium	97.6	98.7	P/P	90 - 110
Chromium	97.2	98.3	P/P	90 - 110
Copper	101	100	P/P	90 - 110
Lead	93.7	94.1	P/P	90 - 110
Nickel	99.4	98.6	P/P	90 - 110
Silver	101	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A89966

Included Lab Sample IDs: 2066477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.5	98.2	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	99.2	99.8	P/P	90 - 110
Sodium	97.2	99.0	P/P	90 - 110
Zinc	101	100	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A89972

Included Lab Sample IDs: 2066478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromacil	109		P	80 - 120

Reference Method: EPA 8321B

Run ID: A90049

Included Lab Sample IDs: 2066476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	95.9	96.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90073

Included Lab Sample IDs: 2066477

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	98.8	100	P/P	90 - 110
Thallium	95.4	95.0	P/P	90 - 110

* 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						3.06	
EPA 200.7 Rev. 4.4	Barium	101		98.1	100	104		3.43
	Calcium	106		104	105			1.25
	Iron	106		102	104	106		1.02
	Magnesium	111		102	109	110		1.14
	Potassium	104		101	103	102		0.506
	Sodium	102		93.8	102	99.1		1.63
	Zinc	103		103	102	106		3.68
EPA 200.8 Rev. 5.4	Aluminum	101		101	102	102		0.0502
	Antimony	99.5		103	98.7	99.7		1.02
	Arsenic	105		105	102	104		1.42
	Boron	96.0		101	101	100		0.639
	Cadmium	101		103	100	102		2.14
	Chromium	98.7		99.6	99.8	99.2		0.564
	Copper	102		100	102	102		0.412
	Lead	95.0		96.4	95.4	97.1		1.84
	Nickel	101		101	99.4	101		0.352
	Selenium	104		104	101	104		3.25
	Silver	102		102	101	101		0.103
	Thallium	102		105	102	105		2.61
EPA 300.0 Rev. 2.1	Chloride	107		107	109		3.46	
	Sulfate	107		106	108		3.36	
EPA 350.1 Rev. 2.0	Ammonia-N	101		103	103			0.445
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		101	102			0.488
EPA 353.2 Rev. 2.0	NO2NO3-N	100		99.6	101			1.30
EPA 365.1 Rev. 2.0	Total-P	103		99.6	98.0			1.48
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		95.8	96.7			0.554
EPA 8270D	Acetochlor	112	109	107	106	2.61		1.28
	Alachlor	109	96.4	106	103	12.0		3.28
	Ametryn	112	110	102	98.6	1.53		3.84
	Atrazine	103	101	108	119	1.95		10.1
	Atrazine Desethyl	98.8	89.1	89.1	77.1	10.3		14.5
	Azinphos Methyl	96.2	110	133	124	13.2		6.98
	Bromacil	108	55.0	91.8	88.4	65.1		3.84
	Butylate	84.6	65.3	63.3	48.6	25.8		26.3
	Chlorpyrifos Ethyl	93.8	95.0	88.6	99.9	1.25		12.0
	Chlorpyrifos Methyl	84.6	94.8	92.5	95.3	11.3		2.98
	Cyanazine	99.0	94.0	97.4	109	5.11		11.2
	Demeton	80.6	86.5	89.6	90.9	7.02		1.42
	Diazinon	110	98.6	101	102	11.1		1.42
	Dimethenamid	112	101	103	108	10.5		4.83
	Disulfoton	87.8	94.8	97.8	99.0	7.62		1.27
	Dithiopyr	110	97.0	100	101	12.5		1.14
	EPTC	81.0	72.2	65.1	45.8	11.5		34.8
	Ethion	103	77.8	49.7	60.1	28.3		19.0
	Ethoprop	104	90.7	100	97.1	13.4		3.38
	Fenamiphos	94.6	86.1	105	78.5	9.40		28.8
	Fipronil	108	84.0	89.5	96.9	25.4		7.95
	Fipronil Desulfinyl	99.4	88.7	73.0	76.3	11.4		4.40
	Fipronil Sulfide	102	82.0	80.9	82.0	22.0		1.30
	Fipronil Sulfone	104	82.7	81.5	92.3	23.0		12.4
	Fonofos	87.6	93.1	96.1	100	6.10		4.35
	Hexazinone	130	96.6	91.2	95.0	29.3		4.02
	Malathion	98.5	97.9	92.5	96.9	0.580		4.68

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Metalaxyl	111	98.0	97.4	98.1	12.6	0.716
	Metolachlor	112	103	109	110	7.93	1.24
	Metribuzin	86.2	145	149	150	51.1	0.341
	Mevinphos	94.7	88.9	82.6	91.0	6.32	9.75
	Molinate	84.4	76.6	85.2	75.0	9.68	12.8
	Norflurazon	105	85.6	97.4	98.2	20.8	0.794
	Oxadiazon	113	95.8	88.6	90.4	16.1	2.01
	Parathion Ethyl	90.5	91.0	88.9	92.9	0.577	4.37
	Parathion Methyl	96.6	117	120	124	18.7	2.71
	Pendimethalin	88.6	93.6	71.9	71.8	5.45	0.106
	Phorate	81.6	89.4	96.7	91.8	9.09	5.18
	Prodiamine	93.6	91.8	89.6	80.9	1.90	10.2
	Prometon	107	83.6	85.0	81.5	24.5	4.14
	Prometryn	107	94.7	88.1	88.0	12.5	0.0766
	Simazine	101	105	105	111	4.64	6.05
	Tebuconazole	100	73.9	64.3	72.1	30.1	11.4
	Terbufos	89.7	91.5	99.4	99.0	2.01	0.389
	Terbuthylazine	106	98.0	96.9	98.5	7.93	1.62
EPA 8321B	2,4-D	89.4		96.8	89.0		8.31
	Acesulfame K	120		120	118		1.98
	Acetaminophen	101		118	107		9.93
	AMPA	87.3		99.1	67.4		38.1
	Bentazon	133		116	110		5.18
	Carbamazepine	96.0		98.9	92.1		7.10
	Diuron	82.8		77.8	77.8		0.0307
	Endothall	100		83.4	81.8		1.95
	Fenuron	120		120	111		7.31
	Fluridone	109		108	102		5.75
	Glufosinate	135		119	99.7		17.5
	Glyphosate	123		122	104		15.3
	Hydrocodone	110		121	113		7.03
	Ibuprofen	76.6		79.4	77.2		2.78
	Imazapyr	109		126	115		9.19
	Imidacloprid	102		157	151		3.86
	Linuron	73.1		80.6	74.1		8.48
	MCPP	99.1		125	112		10.8
	Naproxen	81.0		84.2	81.0		3.83
	Primidone	96.5		106	98.0		7.84
SM 2120 B	Pyraclostrobin	76.2		76.4	75.2		1.54
	Sucralose	97.7		96.7	91.8		4.53
SM 2320 B-97	Triclopyr	60.3		59.4	53.6		10.3
	Color (true)	98.3				1.50	
SM 2540 C-97	Total Alkalinity	101				0.179	
SM 4500 F-C-97	TDS					5.97	
SM 5310 B-00	Fluoride	94.4		94.5	94.0		0.459
	Organic Carbon	96.8		96.4	99.0		1.48

Reference Method Descriptions

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

Description
Turbidity in aqueous matrices

Associated Samples
2066468

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	2066477
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2066477
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2066468
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2066468
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2066469
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2066469
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2066469
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2066469
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2066470
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2066478
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2066476
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2066476
SM 2120 B / E31780	True Color measured at 450 nm	2066468
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2066468
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2066468
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2066468
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2066468
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2066469

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	03/01/2019			03/01/2019 15:18	Adrian Shelby	2066468
EPA 200.7 Rev. 4.4	03/01/2019	03/11/2019 17:45	Elliott D. Healy	03/12/2019 14:35	Betina Topolski	2066477
EPA 200.8 Rev. 5.4	03/01/2019	03/11/2019 17:45	Elliott D. Healy	03/12/2019 23:02	Robert K Palmer	2066477
	03/01/2019	03/11/2019 17:45	Elliott D. Healy	03/18/2019 12:41	Robert K Palmer	2066477
EPA 300.0 Rev. 2.1	03/01/2019			03/10/2019 06:06	Lipi Saha	2066468
EPA 350.1 Rev. 2.0	03/01/2019			03/07/2019 14:30	Ping Hua	2066469
EPA 351.2 Rev. 2.0	03/01/2019	03/06/2019 17:30	Adrian Shelby	03/07/2019 14:00	Joseph Suarez	2066469
EPA 353.2 Rev. 2.0	03/01/2019			03/05/2019 11:36	Beverly Y. Sanders	2066469
EPA 365.1 Rev. 2.0	03/01/2019	03/05/2019 13:25	Sima Feizi	03/11/2019 19:14	Rosalyn Ballman	2066469
EPA 365.1 Rev. 2.0 dissolved	03/01/2019			03/01/2019 15:30	Lipi Saha	2066470
EPA 8270D	03/01/2019	03/04/2019 08:30	Rasheda Ghaffari	03/06/2019 19:24	Vandana T. Nagar	2066478
	03/01/2019	03/04/2019 08:30	Rasheda Ghaffari	03/07/2019 15:19	Vandana T. Nagar	2066478
EPA 8321B	03/01/2019	03/04/2019 10:00	Rebecca Ware	03/04/2019 16:18	Rebecca Ware	2066476
	03/01/2019	03/04/2019 10:00	Rebecca Ware	03/05/2019 15:49	Rebecca Ware	2066476
	03/01/2019	03/04/2019 10:00	Rebecca Ware	03/12/2019 00:20	Rebecca Ware	2066476
	03/01/2019	03/05/2019 10:00	Hoor Shaik	03/06/2019 06:57	Juyoung Kim	2066476
SM 2120 B	03/01/2019			03/01/2019 16:00	Chelsea Hernandez	2066468
SM 2320 B-97	03/01/2019			03/05/2019 22:44	Dale L. Simmons	2066468
SM 2540 C-97	03/01/2019			03/05/2019 14:36	Yijie Li	2066468
SM 2540 D-97	03/01/2019			03/05/2019 14:36	Yijie Li	2066468
SM 4500 F-C-97	03/01/2019			03/05/2019 22:44	Dale L. Simmons	2066468
SM 5310 B-00	03/01/2019			03/12/2019 02:26	Chelsea Hernandez	2066469