

Chemical Analysis Report

SO-DIST-2016-07-13-01

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

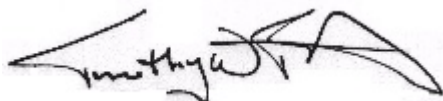
Event Description: **2016 - Pesticide Kits w/A-kit**
Request ID: **RQ-2016-07-11-16**
Customer: **SO-DIST**
Project ID: **SMP**

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

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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 05-AUG-2016 11:12

A handwritten signature in black ink, appearing to read 'Timothy W. Fitzpatrick', with a stylized flourish at the end.

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 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: Six Mile Cypress Slough @ MGR Pkwy

Collection Date/Time: 07/12/2016 15:10

Field ID: G1SD0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815470	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P307900	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P308871	
		Sulfate	2.6		mg SO4/L	P308874	
	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P308418	RPD
	SM 2540 C-97	TDS	232		mg/L	P308585	
	SM 2540 D-97	TSS	2	I	mg/L	P308395	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P308422	
1815471	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P308064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P308569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P308293	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P308013	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P308412	
1815472	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P307858	
1815504	EPA 8321B	Glyphosate**	10	U	ug/L	P307804	
	USGS O-2060-01	2,4-D	0.75		ug/L	P307803	
		Diuron	0.0040	U	ug/L	P307803	
		Fenuron	0.0080	U	ug/L	P307803	
		2,4,5-T	0.0020	U	ug/L	P307803	
		Acifluorfen	0.0020	U	ug/L	P307803	
		Imidacloprid	0.034		ug/L	P307803	
		Bentazon	0.24		ug/L	P307803	
		Linuron	0.0040	U	ug/L	P307803	
		Acetaminophen**	0.0040	U	ug/L	P307803	
		Carbamazepine**	4.0E-04	U	ug/L	P307803	
		Silvex	0.0020	U	ug/L	P307803	
		Primidone**	0.0080	U	ug/L	P307803	
		Fluridone**	0.13		ug/L	P307803	
1815505	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P308240	
1815506	EPA 200.7 Rev. 4.4	Calcium	49.6		mg/L	P308145	
		Magnesium	6.22		mg/L	P308145	
		Potassium	2.5		mg/L	P308145	
		Sodium	25.4		mg/L	P308145	
1815525	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	0.0019	U	ug/L	307990	
		Alpha-BHC	0.0019	U	ug/L	307990	
		Beta-BHC	0.0019	U	ug/L	307990	
		Delta-BHC	0.0019	U	ug/L	307990	
		Gamma-BHC	0.0019	U	ug/L	307990	
		Carbophenothion	0.0057	U	ug/L	307990	
		Chlorothalonil	0.0076	U	ug/L	307990	
		Cypermethrin	0.011	U	ug/L	307990	
		DDD-p,p'	0.0038	U	ug/L	307990	
		DDE-p,p'	0.0038	U	ug/L	307990	

Field ID: G1SD0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815525	DEP SOP: GC-011-5 (based on EPA 608 and 617)	DDT-p,p'	0.0038	U	ug/L	307990	
		Dicofol	0.023	U	ug/L	307990	
		Dieldrin	0.0019	U	ug/L	307990	
		Endosulfan I	0.0019	U	ug/L	307990	
		Endosulfan II	0.0019	U	ug/L	307990	
		Endosulfan Sulfate	0.0038	U	ug/L	307990	
		Endrin	0.0038	U	ug/L	307990	
		Endrin Aldehyde	0.0038	U	ug/L	307990	
		Heptachlor	0.0019	U	ug/L	307990	
		Heptachlor Epoxide	0.0019	U	ug/L	307990	
		Methoxychlor	0.0095	U	ug/L	307990	
		Mirex	0.0038	U	ug/L	307990	
		Permethrin	0.0095	U	ug/L	307990	
		Toxaphene	0.095	U	ug/L	307990	
		Trifluralin	0.0076	UJ	ug/L	307990	CCV
1815526	EPA 8270D	Ametryn	1.5		ng/L	P307909	
		Atrazine	25		ng/L	P307909	
		Chlorpyrifos Ethyl	0.42	I	ng/L	P307909	
		Chlorpyrifos Methyl	0.097	U	ng/L	P307909	
		Disulfoton	0.31	U	ng/L	P307909	
		Ethion	0.14	U	ng/L	P307909	
		Ethoprop	0.097	U	ng/L	P307909	
		Hexazinone	2.4		ng/L	P307909	
		Malathion	0.34	U	ng/L	P307909	
		Metribuzin	0.17	TJ	ng/L	P307909	CCV
		Mevinphos	0.48	U	ng/L	P307909	
		Norflurazon	0.48	UJ	ng/L	P307909	RPD
		Phorate	0.24	U	ng/L	P307909	
		Prometryn	0.19	U	ng/L	P307909	
		Simazine	1.1	I	ng/L	P307909	
		Atrazine Desethyl	4.1	IJ	ng/L	P307909	RPD
		Prometon	13		ng/L	P307909	
		Fipronil	0.24	UJ	ng/L	P307909	RPD
		Molinate	0.29	U	ng/L	P307909	
		Pendimethalin	1.4	U	ng/L	P307909	
		Terbufos	0.097	U	ng/L	P307909	
		EPTC	1.2	UJ	ng/L	P307909	LCS, RPD
		Terbuthylazine	0.41	U	ng/L	P307909	
		Bromacil	0.48	U	ng/L	P307909	
		Fipronil Sulfide	0.19	IJ	ng/L	P307909	RPD
		Fipronil Sulfone	0.62	J	ng/L	P307909	RPD
		Alachlor	0.57	I	ng/L	P307909	
		Azinphos Methyl	2.2	U	ng/L	P307909	
		Butylate	0.39	U	ng/L	P307909	

Field ID: G1SD0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1815526	EPA 8270D	Demeton	0.97	U	ng/L	P307909	
		Diazinon	0.12	U	ng/L	P307909	
		Fenamiphos	0.24	U	ng/L	P307909	
		Fonofos	0.19	U	ng/L	P307909	
		Metalaxyl	0.25	I	ng/L	P307909	
		Metolachlor	0.34	I	ng/L	P307909	
		Acetochlor	0.24	U	ng/L	P307909	
		Cyanazine	0.48	U	ng/L	P307909	
		Parathion Ethyl	0.24	UJ	ng/L	P307909	CCV
		Parathion Methyl	0.24	U	ng/L	P307909	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

USGS O-2060-01: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

DEP SOP: GC-011-5 (based on EPA 608 and 617): Refer to the narrative for an explanation of QC Codes.

EPA 8270D: MS accuracy for Atrazine and Prometon not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Batch ID: 307990

Component	Result	Code	Units
Aldrin	0.0020	U	ug/L
Alpha-BHC	0.0020	U	ug/L
Beta-BHC	0.0020	U	ug/L
Carbophenothion	0.0060	U	ug/L
Chlorothalonil	0.0080	U	ug/L
Cypermethrin	0.012	U	ug/L
DDD-p,p'	0.0040	U	ug/L
DDE-p,p'	0.0040	U	ug/L
DDT-p,p'	0.0040	U	ug/L
Delta-BHC	0.0020	U	ug/L
Dicofol	0.024	U	ug/L
Dieldrin	0.0020	U	ug/L
Endosulfan I	0.0020	U	ug/L
Endosulfan II	0.0020	U	ug/L
Endosulfan Sulfate	0.0040	U	ug/L
Endrin	0.0040	U	ug/L
Endrin Aldehyde	0.0040	U	ug/L
Gamma-BHC	0.0020	U	ug/L
Heptachlor	0.0020	U	ug/L
Heptachlor Epoxide	0.0020	U	ug/L
Methoxychlor	0.010	U	ug/L
Mirex	0.0040	U	ug/L
Permethrin	0.010	U	ug/L
Toxaphene	0.10	U	ug/L
Trifluralin	0.0080	U	ug/L

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P307900

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P307900

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P308145

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308871

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308874

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308569

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308293

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308013

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307858

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P307909

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	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	0.50	U	ng/L
Demeton	1.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.32	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	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
Metaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.5	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P307804

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P308240

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P308418

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

Reference Method: SM 2540 C-97
 Batch ID: P308585

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P308395

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P308422

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P308412

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

Reference Method: USGS O-2060-01
 Batch ID: P307803

Component	Result	Code	Units
2,4,5-T	0.0020	U	ug/L
2,4-D	0.0040	U	ug/L
Acetaminophen	0.0040	U	ug/L
Acifluorfen	0.0020	U	ug/L
Bentazon	0.0020	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Silvex	0.0020	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
 Batch ID: 307990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Batch ID: 307990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	98.6	98.3	P/P	70 - 130
Alpha-BHC	92.5	90.8	P/P	70 - 130
Beta-BHC	119	109	P/P	70 - 130
DDD-p,p'	113	107	P/P	70 - 130
DDE-p,p'	103	100	P/P	70 - 130
DDT-p,p'	128	122	P/P	70 - 130
Delta-BHC	96.5	94.3	P/P	70 - 130
Dieldrin	104	101	P/P	70 - 130
Endosulfan I	108	106	P/P	70 - 130
Endosulfan II	111	108	P/P	70 - 130
Endosulfan Sulfate	126	116	P/P	70 - 130
Endrin	132	120	P/P	81 - 147
Endrin Aldehyde	108	95.3	P/P	70 - 130
Gamma-BHC	87.7	80.8	P/P	70 - 130
Heptachlor	98.0	101	P/P	70 - 130
Heptachlor Epoxide	106	106	P/P	70 - 130
Methoxychlor	140	135	P/P	86 - 145

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P308145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	105		P	85 - 115
Sodium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P308871

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P308874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P308064

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P308569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P308293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P308013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P307858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	105		P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P307909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	92.3	94.0	P/P	80 - 119
Alachlor	81.6	82.4	P/P	80 - 120
Ametryn	116	122	P/P	60 - 135
Atrazine	106	102	P/P	72 - 121
Atrazine Desethyl	78.3	82.4	P/P	14 - 124
Azinphos Methyl	167	172	P/P	74 - 186
Bromacil	79.2	89.0	P/P	38 - 125
Butylate	46.8	36.7	P/P	34 - 88.0
Chlorpyrifos Ethyl	103	97.5	P/P	53 - 108
Chlorpyrifos Methyl	101	96.1	P/P	29 - 119
Cyanazine	98.2	118	P/P	30 - 240
Demeton	68.0	66.0	P/P	35 - 127
Diazinon	95.1	99.4	P/P	75 - 121
Disulfoton	126	114	P/P	40 - 141
EPTC	46.2	31.3	P/F	36 - 96.0
Ethion	106	96.6	P/P	64 - 127
Ethoprop	85.2	81.7	P/P	65 - 108
Fenamiphos	108	103	P/P	62 - 140
Fipronil	79.2	82.3	P/P	59 - 127
Fipronil Sulfide	90.3	88.1	P/P	55 - 126
Fipronil Sulfone	84.7	83.5	P/P	56 - 127
Fonofos	99.3	92.7	P/P	64 - 111
Hexazinone	100	99.3	P/P	43 - 153
Malathion	112	111	P/P	70 - 129
Metalaxyl	73.6	77.5	P/P	49 - 135
Metolachlor	81.8	82.9	P/P	81 - 120
Metribuzin	98.1	93.1	P/P	66 - 133
Mevinphos	95.9	89.3	P/P	33 - 128
Molinate	90.0	72.8	P/P	46 - 101
Norflurazon	80.6	82.1	P/P	62 - 131
Parathion Ethyl	88.2	91.7	P/P	80 - 109
Parathion Methyl	126	124	P/P	76 - 126
Pendimethalin	76.6	74.3	P/P	47 - 137
Phorate	84.2	77.4	P/P	51 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P307909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	104	111	P/P	67 - 123
Prometryn	94.9	97.8	P/P	66 - 122
Simazine	114	129	P/P	60 - 134
Terbufos	103	103	P/P	56 - 116
Terbuthylazine	88.1	91.8	P/P	77 - 114

Reference Method: EPA 8321B
Batch ID: P307804

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	87.8		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P308240

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	70.0		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P308418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P308422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P308412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P307803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	90.4		P	40 - 140
2,4-D	95.2		P	40 - 140
Acetaminophen	110		P	40 - 140
Acifluorfen	104		P	40 - 140
Bentazon	102		P	40 - 140
Carbamazepine	114		P	40 - 140
Diuron	66.4		P	40 - 140
Fenuron	96.0		P	40 - 140
Fluridone	87.2		P	40 - 140
Imidacloprid	103		P	40 - 160
Linuron	102		P	40 - 140
Primidone	92.0		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P307803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silvex	94.8		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
 Batch ID: 307990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815525	Aldrin	92.1	84.7	P/P	70 - 130
1815525	Alpha-BHC	91.3	77.3	P/P	70 - 130
1815525	Beta-BHC	106	87.3	P/P	70 - 130
1815525	DDD-p,p'	115	116	P/P	70 - 130
1815525	DDE-p,p'	107	102	P/P	70 - 130
1815525	DDT-p,p'	124	126	P/P	70 - 130
1815525	Delta-BHC	95.2	89.6	P/P	70 - 130
1815525	Dieldrin	120	116	P/P	70 - 130
1815525	Endosulfan I	108	101	P/P	70 - 130
1815525	Endosulfan II	114	113	P/P	70 - 130
1815525	Endosulfan Sulfate	123	126	P/P	70 - 130
1815525	Endrin	119	115	P/P	81 - 147
1815525	Endrin Aldehyde	103	107	P/P	70 - 130
1815525	Gamma-BHC	80.5	70.8	P/P	70 - 130
1815525	Heptachlor	90.5	85.7	P/P	70 - 130
1815525	Heptachlor Epoxide	105	97.5	P/P	70 - 130
1815525	Methoxychlor	134	140	P/P	86 - 145

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P308145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815900	Calcium	107		P	80 - 120
1815900	Magnesium	104		P	80 - 120
1815900	Potassium	104	103	P/P	80 - 120
1815900	Sodium	107		P	80 - 120
1816541	Calcium	107		P	80 - 120
1816541	Magnesium	109		P	80 - 120
1816541	Potassium	112		P	80 - 120
1816541	Sodium	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P308871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815347	Chloride	100		P	90 - 110
1815541	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P308874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815347	Sulfate	96.1		P	90 - 110
1815541	Sulfate	94.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815496	Ammonia-N	99.9	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815441	Kjeldahl Nitrogen	98.9	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815471	NO2NO3-N	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815471	Total-P	95.5	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815543	O-Phosphate-P	100	101	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P307909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815526	Acetochlor	94.0	93.7	P/P	77 - 125
1815526	Alachlor	78.7	82.4	P/P	75 - 127
1815526	Ametryn	99.8	113	P/P	53 - 150
1815526	Atrazine Desethyl	57.5	31.2	P/P	8.0 - 105
1815526	Azinphos Methyl	166	159	P/P	63 - 204
1815526	Bromacil	81.4	65.0	P/P	43 - 132
1815526	Butylate	20.4	17.9	P/P	7.0 - 87.0
1815526	Chlorpyrifos Ethyl	92.0	92.9	P/P	53 - 111
1815526	Chlorpyrifos Methyl	88.5	88.2	P/P	38 - 117
1815526	Cyanazine	90.0	70.9	P/P	18 - 222
1815526	Demeton	96.7	86.4	P/P	10 - 157
1815526	Diazinon	91.9	96.4	P/P	73 - 127
1815526	Disulfoton	105	84.2	P/P	43 - 141
1815526	EPTC	19.6	16.4	P/P	11 - 86.0
1815526	Ethion	106	101	P/P	68 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P307909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815526	Ethoprop	79.3	84.9	P/P	60 - 108
1815526	Fenamiphos	108	79.9	P/P	56 - 139
1815526	Fipronil	83.8	50.5	P/P	29 - 143
1815526	Fipronil Sulfide	83.2	47.1	P/P	35 - 129
1815526	Fipronil Sulfone	74.9	29.2	P/P	16 - 146
1815526	Fonofos	85.6	102	P/P	59 - 112
1815526	Hexazinone	102	99.7	P/P	68 - 145
1815526	Malathion	112	103	P/P	69 - 131
1815526	Metalaxyl	73.9	74.7	P/P	67 - 119
1815526	Metolachlor	82.0	80.6	P/P	77 - 124
1815526	Metribuzin	94.7	92.4	P/P	63 - 134
1815526	Mevinphos	67.5	70.0	P/P	40 - 127
1815526	Molinate	32.3	28.1	P/P	27 - 98.0
1815526	Norflurazon	76.2	43.7	P/P	39 - 141
1815526	Parathion Ethyl	88.0	86.3	P/P	74 - 113
1815526	Parathion Methyl	116	118	P/P	61 - 133
1815526	Pendimethalin	65.1	65.1	P/P	26 - 179
1815526	Phorate	68.0	83.2	P/P	44 - 126
1815526	Prometryn	94.4	95.5	P/P	68 - 126
1815526	Simazine	93.7	75.0	P/P	47 - 156
1815526	Terbufos	93.1	108	P/P	53 - 125
1815526	Terbutylazine	91.9	83.4	P/P	76 - 113

Reference Method: EPA 8321B
Batch ID: P307804

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815787	Glyphosate	41.4	41.8	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P308240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815505	Pyraclostrobin	94.0	98.0	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P308422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815541	Fluoride	104	104	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P308412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815471	Organic Carbon	93.6	93.0	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P307803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815504	2,4,5-T	91.2	98.4	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P307803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1815504	2,4-D	64.0	108	P/P	40 - 140
1815504	Acetaminophen	54.0	58.4	P/P	40 - 140
1815504	Acifluorfen	96.8	100	P/P	40 - 140
1815504	Carbamazepine	72.0	76.0	P/P	40 - 140
1815504	Diuron	45.6	47.2	P/P	40 - 140
1815504	Fenuron	63.2	67.2	P/P	40 - 140
1815504	Fluridone	58.8	69.2	P/P	40 - 140
1815504	Imidacloprid	157	159	P/P	40 - 160
1815504	Linuron	70.0	73.2	P/P	40 - 140
1815504	Primidone	72.4	66.8	P/P	40 - 140
1815504	Silvex	118	128	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: 307990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815525	Aldrin	4.76	Spike	P	0 - 30
1815525	Alpha-BHC	13.0	Spike	P	0 - 30
1815525	Beta-BHC	15.8	Spike	P	0 - 30
1815525	DDD-p,p'	4.14	Spike	P	0 - 30
1815525	DDE-p,p'	1.38	Spike	P	0 - 30
1815525	DDT-p,p'	5.02	Spike	P	0 - 30
1815525	Delta-BHC	2.38	Spike	P	0 - 30
1815525	Dieldrin	0.641	Spike	P	0 - 30
1815525	Endosulfan I	2.74	Spike	P	0 - 30
1815525	Endosulfan II	2.35	Spike	P	0 - 30
1815525	Endosulfan Sulfate	5.96	Spike	P	0 - 30
1815525	Endrin	0.780	Spike	P	0 - 30
1815525	Endrin Aldehyde	7.39	Spike	P	0 - 30
1815525	Gamma-BHC	9.07	Spike	P	0 - 30
1815525	Heptachlor	1.77	Spike	P	0 - 30
1815525	Heptachlor Epoxide	4.23	Spike	P	0 - 30
1815525	Methoxychlor	7.92	Spike	P	0 - 30
LFB	Aldrin	0.328	LCS	P	0 - 30
LFB	Alpha-BHC	1.88	LCS	P	0 - 30
LFB	Beta-BHC	8.35	LCS	P	0 - 30
LFB	DDD-p,p'	5.45	LCS	P	0 - 30
LFB	DDE-p,p'	2.98	LCS	P	0 - 30
LFB	DDT-p,p'	4.98	LCS	P	0 - 30
LFB	Delta-BHC	2.34	LCS	P	0 - 30
LFB	Dieldrin	2.73	LCS	P	0 - 30
LFB	Endosulfan I	1.34	LCS	P	0 - 30
LFB	Endosulfan II	2.84	LCS	P	0 - 30
LFB	Endosulfan Sulfate	8.11	LCS	P	0 - 30
LFB	Endrin	9.51	LCS	P	0 - 30
LFB	Endrin Aldehyde	12.2	LCS	P	0 - 30
LFB	Gamma-BHC	8.21	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: 307990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Heptachlor	2.98	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.349	LCS	P	0 - 30
LFB	Methoxychlor	3.49	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P307900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815439	Turbidity	6.06	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P308145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815900	Calcium	0.860	Spike	P	0 - 20
1815900	Magnesium	2.13	Spike	P	0 - 20
1815900	Potassium	0.897	Spike	P	0 - 20
1815900	Sodium	1.53	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815347	Chloride	0.132	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815347	Sulfate	0.285	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815496	Ammonia-N	0.0650	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815441	Kjeldahl Nitrogen	0.548	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815471	NO2NO3-N	1.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815471	Total-P	0.351	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815543	O-Phosphate-P	0.147	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P307909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815526	Acetochlor	0.276	Spike	P	0 - 30
1815526	Alachlor	4.34	Spike	P	0 - 30
1815526	Ametryn	9.48	Spike	P	0 - 30
1815526	Atrazine	3.76	Spike	P	0 - 30
1815526	Atrazine Desethyl	40.1	Spike	F	0 - 30
1815526	Azinphos Methyl	4.72	Spike	P	0 - 30
1815526	Bromacil	22.3	Spike	P	0 - 30
1815526	Butylate	12.9	Spike	P	0 - 30
1815526	Chlorpyrifos Ethyl	0.875	Spike	P	0 - 30
1815526	Chlorpyrifos Methyl	0.397	Spike	P	0 - 30
1815526	Cyanazine	23.7	Spike	P	0 - 30
1815526	Demeton	11.2	Spike	P	0 - 30
1815526	Diazinon	4.80	Spike	P	0 - 30
1815526	Disulfoton	22.2	Spike	P	0 - 30
1815526	EPTC	17.9	Spike	P	0 - 30
1815526	Ethion	4.40	Spike	P	0 - 30
1815526	Ethoprop	6.81	Spike	P	0 - 30
1815526	Fenamiphos	29.8	Spike	P	0 - 30
1815526	Fipronil	49.7	Spike	F	0 - 30
1815526	Fipronil Sulfide	52.3	Spike	F	0 - 30
1815526	Fipronil Sulfone	70.6	Spike	F	0 - 30
1815526	Fonofos	17.5	Spike	P	0 - 30
1815526	Hexazinone	1.80	Spike	P	0 - 30
1815526	Malathion	8.43	Spike	P	0 - 30
1815526	Metalaxyl	1.06	Spike	P	0 - 30
1815526	Metolachlor	1.69	Spike	P	0 - 30
1815526	Metribuzin	2.38	Spike	P	0 - 30
1815526	Mevinphos	3.67	Spike	P	0 - 30
1815526	Molinate	13.9	Spike	P	0 - 30
1815526	Norflurazon	54.1	Spike	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P307909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815526	Parathion Ethyl	1.88	Spike	P	0 - 30
1815526	Parathion Methyl	1.38	Spike	P	0 - 30
1815526	Pendimethalin	0.00883	Spike	P	0 - 30
1815526	Phorate	20.2	Spike	P	0 - 30
1815526	Prometon	12.8	Spike	P	0 - 30
1815526	Prometryn	1.19	Spike	P	0 - 30
1815526	Simazine	17.3	Spike	P	0 - 30
1815526	Terbufos	14.9	Spike	P	0 - 30
1815526	Terbuthylazine	9.73	Spike	P	0 - 30
LFB	Acetochlor	1.84	LCS	P	0 - 30
LFB	Alachlor	0.994	LCS	P	0 - 30
LFB	Ametryn	5.57	LCS	P	0 - 30
LFB	Atrazine	3.93	LCS	P	0 - 30
LFB	Atrazine Desethyl	5.09	LCS	P	0 - 30
LFB	Azinphos Methyl	2.53	LCS	P	0 - 30
LFB	Bromacil	11.7	LCS	P	0 - 30
LFB	Butylate	24.3	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.19	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	4.81	LCS	P	0 - 30
LFB	Cyanazine	18.7	LCS	P	0 - 30
LFB	Demeton	2.84	LCS	P	0 - 30
LFB	Diazinon	4.43	LCS	P	0 - 30
LFB	Disulfoton	10.2	LCS	P	0 - 30
LFB	EPTC	38.4	LCS	F	0 - 30
LFB	Ethion	9.58	LCS	P	0 - 30
LFB	Ethoprop	4.14	LCS	P	0 - 30
LFB	Fenamiphos	4.78	LCS	P	0 - 30
LFB	Fipronil	3.94	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.41	LCS	P	0 - 30
LFB	Fipronil Sulfone	1.42	LCS	P	0 - 30
LFB	Fonofos	6.91	LCS	P	0 - 30
LFB	Hexazinone	0.787	LCS	P	0 - 30
LFB	Malathion	1.70	LCS	P	0 - 30
LFB	Metaxyl	5.13	LCS	P	0 - 30
LFB	Metolachlor	1.33	LCS	P	0 - 30
LFB	Metribuzin	5.30	LCS	P	0 - 30
LFB	Mevinphos	7.16	LCS	P	0 - 30
LFB	Molinate	21.1	LCS	P	0 - 30
LFB	Norflurazon	1.89	LCS	P	0 - 30
LFB	Parathion Ethyl	3.90	LCS	P	0 - 30
LFB	Parathion Methyl	1.16	LCS	P	0 - 30
LFB	Pendimethalin	3.11	LCS	P	0 - 30
LFB	Phorate	8.42	LCS	P	0 - 30
LFB	Prometon	6.20	LCS	P	0 - 30
LFB	Prometryn	3.09	LCS	P	0 - 30
LFB	Simazine	12.4	LCS	P	0 - 30
LFB	Terbufos	0.666	LCS	P	0 - 30
LFB	Terbuthylazine	4.07	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P307804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815787	Glyphosate	0.962	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P308240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815505	Pyraclostrobin	4.17	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P308418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815541	Total Alkalinity	11.0	Sample	F	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P308585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815395	TDS	4.79	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P308422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815541	Fluoride	0.482	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P308412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815471	Organic Carbon	0.377	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P307803

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815504	2,4,5-T	7.59	Spike	P	0 - 30
1815504	2,4-D	5.25	Spike	P	0 - 30
1815504	Acetaminophen	7.83	Spike	P	0 - 30
1815504	Acifluorfen	3.65	Spike	P	0 - 30
1815504	Bentazon	4.44	Spike	P	0 - 30
1815504	Carbamazepine	5.41	Spike	P	0 - 30
1815504	Diuron	3.45	Spike	P	0 - 30
1815504	Fenuron	6.13	Spike	P	0 - 30
1815504	Fluridone	5.42	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P307803

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1815504	Imidacloprid	1.04	Spike	P	0 - 30
1815504	Linuron	4.47	Spike	P	0 - 30
1815504	Primidone	8.05	Spike	P	0 - 30
1815504	Silvex	7.79	Spike	P	0 - 30

* 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: 1815504
Field Sample ID: G1SD0052

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	71.2	P	50 - 150
USGS O-2060-01	2,4-D-d3	110	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	52.8	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	71.0	P	40 - 160
USGS O-2060-01	Diuron-d6	49.2	P	40 - 150
USGS O-2060-01	Primidone-d5	68.6	P	40 - 150

Lab Sample ID: 1815505
Field Sample ID: G1SD0052

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	82.2	P	40 - 150

Lab Sample ID: 1815525
Field Sample ID: G1SD0052

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Decachlorobiphenyl	58.4	P	44 - 128

Lab Sample ID: 1815526
Field Sample ID: G1SD0052

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	105	P	67 - 131
EPA 8270D	Simazine-d10	104	P	75 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A70533
Included Lab Sample IDs: 1815472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A70533

Included Lab Sample IDs: 1815472

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70544

Included Lab Sample IDs: 1815470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	99.5	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70586

Included Lab Sample IDs: 1815471

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

Reference Method: EPA 8321B

Run ID: A70592

Included Lab Sample IDs: 1815504

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	86.0	84.8	P/P	70 - 130

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70640

Included Lab Sample IDs: 1815471

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70649

Included Lab Sample IDs: 1815471

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A70661

Included Lab Sample IDs: 1815506

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	102	102	P/P	90 - 110
Sodium	102	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00
Run ID: A70693
Included Lab Sample IDs: 1815471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	98.5	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A70694
Included Lab Sample IDs: 1815470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A70694
Included Lab Sample IDs: 1815470

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

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Run ID: A70699
Included Lab Sample IDs: 1815525

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.4	97.0	P/P	85 - 115
Alpha-BHC	90.5	93.3	P/P	85 - 115
Beta-BHC	94.4	97.5	P/P	85 - 115
Carbophenothion	107	108	P/P	90 - 110
Chlorothalonil	97.3	103	P/P	90 - 110
Cypermethrin	104	105	P/P	85 - 115
DDD-p,p'	90.0	95.3	P/P	85 - 115
DDE-p,p'	91.9	96.0	P/P	85 - 115
DDT-p,p'	95.4	101	P/P	85 - 115
Delta-BHC	89.9	91.9	P/P	85 - 115
Dicofol	91.8	103	P/P	90 - 110
Dieldrin	94.2	97.9	P/P	85 - 115
Endosulfan I	94.9	97.8	P/P	85 - 115
Endosulfan II	92.4	96.9	P/P	85 - 115
Endosulfan Sulfate	94.9	100	P/P	85 - 115
Endrin	92.8	96.9	P/P	85 - 115
Endrin Aldehyde	91.6	98.5	P/P	85 - 115
Gamma-BHC	90.3	93.5	P/P	85 - 115
Heptachlor	94.3	97.3	P/P	85 - 115
Heptachlor Epoxide	95.3	98.2	P/P	85 - 115
Methoxychlor	96.9	100	P/P	90 - 110
Mirex	105	109	P/P	90 - 110
Permethrin	106	105	P/P	90 - 110
Toxaphene	101	113	P/P	85 - 115
Trifluralin	103	113*	P/F	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A70719
Included Lab Sample IDs: 1815505

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	76.0	95.2	P/P	60 - 150

Reference Method: USGS O-2060-01
Run ID: A70719
Included Lab Sample IDs: 1815504

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	83.6	92.4	P/P	60 - 150
Carbamazepine	116	125	P/P	60 - 150
Diuron	81.2	91.2	P/P	60 - 150
Fenuron	109	112	P/P	60 - 150
Fluridone	94.0	98.4	P/P	60 - 150
Imidacloprid	99.2	100	P/P	60 - 150
Linuron	137	146	P/P	60 - 150
Primidone	114	110	P/P	60 - 150

Reference Method: USGS O-2060-01
Run ID: A70736
Included Lab Sample IDs: 1815504

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4,5-T	108	105	P/P	50 - 150
2,4-D	85.2	106	P/P	50 - 150
Acifluorfen	122	127	P/P	50 - 150
Bentazon	90.2	110	P/P	50 - 150
Silvex	111	108	P/P	50 - 150

Reference Method: EPA 8270D
Run ID: A70756
Included Lab Sample IDs: 1815526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.6		P	80 - 120
Alachlor	87.6		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	103		P	80 - 120
Atrazine Desethyl	96.6		P	80 - 120
Azinphos Methyl	109		P	80 - 120
Bromacil	99.6		P	80 - 120
Butylate	90.6		P	80 - 120
Chlorpyrifos Ethyl	103		P	80 - 120
Chlorpyrifos Methyl	107		P	80 - 120
Cyanazine	83.2		P	80 - 120
Demeton	108		P	80 - 120
Diazinon	97.7		P	80 - 120
Disulfoton	98.6		P	80 - 120
EPTC	90.3		P	80 - 120
Ethion	103		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	99.5		P	80 - 120
Fipronil	83.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A70756
Included Lab Sample IDs: 1815526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil Sulfide	97.1		P	80 - 120
Fipronil Sulfone	97.3		P	80 - 120
Fonofos	87.8		P	80 - 120
Hexazinone	95.1		P	80 - 120
Malathion	111		P	80 - 120
Metalaxyl	86.5		P	80 - 120
Metolachlor	89.6		P	80 - 120
Metribuzin	77.9*		F	80 - 120
Mevinphos	118		P	80 - 120
Molinate	85.0		P	80 - 120
Norflurazon	87.3		P	80 - 120
Parathion Ethyl	78.6*		F	80 - 120
Parathion Methyl	95.4		P	80 - 120
Pendimethalin	84.5		P	80 - 120
Phorate	99.1		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	86.9		P	80 - 120
Simazine	105		P	80 - 120
Terbufos	111		P	80 - 120
Terbutylazine	94.6		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A70772
Included Lab Sample IDs: 1815471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A70802
Included Lab Sample IDs: 1815470

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Sulfate	96.9	95.9	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
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	98.6	98.3	92.1	84.7	0.328		4.76
	Alpha-BHC	92.5	90.8	91.3	77.3	1.88		13.0
	Beta-BHC	119	109	106	87.3	8.35		15.8
	DDD-p,p'	113	107	115	116	5.45		4.14

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
DEP SOP: GC-011-5 (based on EPA 608 and 617)	DDE-p,p'	103	100	107	102	2.98		1.38
	DDT-p,p'	128	122	124	126	4.98		5.02
	Delta-BHC	96.5	94.3	95.2	89.6	2.34		2.38
	Dieldrin	104	101	120	116	2.73		0.641
	Endosulfan I	108	106	108	101	1.34		2.74
	Endosulfan II	111	108	114	113	2.84		2.35
	Endosulfan Sulfate	126	116	123	126	8.11		5.96
	Endrin	132	120	119	115	9.51		0.780
	Endrin Aldehyde	108	95.3	103	107	12.2		7.39
	Gamma-BHC	87.7	80.8	80.5	70.8	8.21		9.07
	Heptachlor	98.0	101	90.5	85.7	2.98		1.77
	Heptachlor Epoxide	106	106	105	97.5	0.349		4.23
	Methoxychlor	140	135	134	140	3.49		7.92
EPA 180.1 Rev. 2.0	Turbidity						6.06	
EPA 200.7 Rev. 4.4	Calcium	103		107	107			0.860
	Magnesium	104		104	109			2.13
	Potassium	105		104	103	112		0.897
	Sodium	104		107	107			1.53
EPA 300.0 Rev. 2.1	Chloride	100		100	98.3		0.132	
	Sulfate	95.9		96.1	94.5		0.285	
EPA 350.1 Rev. 2.0	Ammonia-N	100		99.9	99.8			0.0650
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		98.9	99.5			0.548
EPA 353.2 Rev. 2.0	NO2NO3-N	108		106	108			1.87
EPA 365.1 Rev. 2.0	Total-P	95.3		95.5	95.9			0.351
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	105		100	101			0.147
EPA 8270D	Acetochlor	92.3	94.0	94.0	93.7	1.84		0.276
	Alachlor	81.6	82.4	78.7	82.4	0.994		4.34
	Ametryn	116	122	99.8	113	5.57		9.48
	Atrazine	106	102			3.93		3.76
	Atrazine Desethyl	78.3	82.4	57.5	31.2	5.09		40.1
	Azinphos Methyl	167	172	166	159	2.53		4.72
	Bromacil	79.2	89.0	81.4	65.0	11.7		22.3
	Butylate	46.8	36.7	20.4	17.9	24.3		12.9
	Chlorpyrifos Ethyl	103	97.5	92.0	92.9	5.19		0.875
	Chlorpyrifos Methyl	101	96.1	88.5	88.2	4.81		0.397
	Cyanazine	98.2	118	90.0	70.9	18.7		23.7
	Demeton	68.0	66.0	96.7	86.4	2.84		11.2
	Diazinon	95.1	99.4	91.9	96.4	4.43		4.80
	Disulfoton	126	114	105	84.2	10.2		22.2
	EPTC	46.2	31.3	19.6	16.4	38.4		17.9
	Ethion	106	96.6	106	101	9.58		4.40
	Ethoprop	85.2	81.7	79.3	84.9	4.14		6.81
	Fenamiphos	108	103	108	79.9	4.78		29.8
	Fipronil	79.2	82.3	83.8	50.5	3.94		49.7
	Fipronil Sulfide	90.3	88.1	47.1	83.2	2.41		52.3
	Fipronil Sulfone	84.7	83.5	74.9	29.2	1.42		70.6
	Fonofos	99.3	92.7	85.6	102	6.91		17.5
	Hexazinone	100	99.3	102	99.7	0.787		1.80
	Malathion	112	111	112	103	1.70		8.43
	Metalaxyl	73.6	77.5	73.9	74.7	5.13		1.06
	Metolachlor	81.8	82.9	82.0	80.6	1.33		1.69
	Metribuzin	98.1	93.1	94.7	92.4	5.30		2.38
	Mevinphos	95.9	89.3	67.5	70.0	7.16		3.67

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270D	Molinate	90.0	72.8	32.3	28.1	21.1		13.9
	Norflurazon	80.6	82.1	76.2	43.7	1.89		54.1
	Parathion Ethyl	88.2	91.7	88.0	86.3	3.90		1.88
	Parathion Methyl	126	124	116	118	1.16		1.38
	Pendimethalin	76.6	74.3	65.1	65.1	3.11		0.0088
	Phorate	84.2	77.4	68.0	83.2	8.42		20.2
	Prometon	104	111			6.20		12.8
	Prometryn	94.9	97.8	94.4	95.5	3.09		1.19
	Simazine	114	129	93.7	75.0	12.4		17.3
	Terbufos	103	103	93.1	108	0.666		14.9
	Terbutylazine	88.1	91.8	91.9	83.4	4.07		9.73
	Glyphosate	87.8		41.4	41.8			0.962
EPA 8321B	Pyraclostrobin	70.0		94.0	98.0			4.17
SM 2320 B-97	Total Alkalinity	103					11.0	
SM 2540 C-97	TDS						4.79	
SM 4500 F-C-97	Fluoride	99.3		104	104			0.482
SM 5310 B-00	Organic Carbon	96.7		93.6	93.0			0.377
USGS O-2060-01	2,4,5-T	90.4		91.2	98.4			7.59
	2,4-D	95.2		64.0	108			5.25
	Acetaminophen	110		54.0	58.4			7.83
	Acifluorfen	104		96.8	100			3.65
	Bentazon	102						4.44
	Carbamazepine	114		76.0	72.0			5.41
	Diuron	66.4		47.2	45.6			3.45
	Fenuron	96.0		67.2	63.2			6.13
	Fluridone	87.2		69.2	58.8			5.42
	Imidacloprid	103		159	157			1.04
	Linuron	102		73.2	70.0			4.47
	Primidone	92.0		66.8	72.4			8.05
	Silvex	94.8		118	128			7.79

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
DEP SOP: GC-011-5 (based on EPA 608 and 617) / E31780	Organochlorine pesticides (low levels) in water matrices by GC/ECD.	1815525
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1815470
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1815506
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1815470
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1815470
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1815471
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1815471
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1815471
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1815471
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1815472

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1815526
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1815504
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1815505
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1815470
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1815470
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1815470
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1815470
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1815471
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1815504
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1815504

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: GC-011-5 (based on EPA 608 and 617)	07/13/2016	07/15/2016	Fe-Val Siddell	07/19/2016	Vandana T. Nagar	1815525
EPA 180.1 Rev. 2.0	07/13/2016			07/13/2016 15:26	Sima Feizi	1815470
EPA 200.7 Rev. 4.4	07/13/2016	07/18/2016	Elliott D. Healy	07/20/2016	Joshua Ayres	1815506
EPA 300.0 Rev. 2.1	07/13/2016			07/29/2016	Ping Hua	1815470
EPA 350.1 Rev. 2.0	07/13/2016			07/15/2016	Diana M. Turner	1815471
EPA 351.2 Rev. 2.0	07/13/2016	07/25/2016	Martin Acosta	07/26/2016	Christopher Armour	1815471
EPA 353.2 Rev. 2.0	07/13/2016			07/20/2016	Beverly Y. Sanders	1815471
EPA 365.1 Rev. 2.0	07/13/2016	07/15/2016	Vijayalakshmi Reddy	07/20/2016	Lipi Saha	1815471
EPA 365.1 Rev. 2.0 dissolved	07/13/2016			07/13/2016 15:47	Julia Storbeck	1815472
EPA 8270D	07/13/2016	07/14/2016	John Kaba	07/21/2016	Irina Carbone	1815526
EPA 8321B	07/13/2016	07/18/2016	Mohammad Ghaffari	07/18/2016	Mohammad Ghaffari	1815504
	07/13/2016	07/19/2016	Hoor Shaik	07/22/2016	Juyoung Kim	1815505
SM 2320 B-97	07/13/2016			07/20/2016	Dale L. Simmons	1815470
SM 2540 C-97	07/13/2016			07/15/2016	Yijie Li	1815470
SM 2540 D-97	07/13/2016			07/15/2016	Yijie Li	1815470
SM 4500 F-C-97	07/13/2016			07/20/2016	Dale L. Simmons	1815470
SM 5310 B-00	07/13/2016			07/20/2016	Sofia Elnemr	1815471
USGS O-2060-01	07/13/2016	07/19/2016	Hoor Shaik	07/23/2016	Juyoung Kim	1815504
	07/13/2016	07/19/2016	Hoor Shaik	07/24/2016	Juyoung Kim	1815504