

Chemical Analysis Report

SO-DIST-2016-04-05-03

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-2016-04-04-30**
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: Liang Lin, Environmental Administrator

Date Certified: 28-APR-2016 16:42

A handwritten signature in black ink, appearing to read "Liang Lin", is written on a light-colored, textured background.

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: 04/04/2016 10:30

Field ID: G1SD040416-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1786506	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P301670	
	EPA 300.0 Rev. 2.1	Chloride	91		mg Cl/L	P301853	
		Sulfate	4.8		mg SO4/L	P301856	
	SM 2320 B-97	Total Alkalinity	203		mg CaCO3/L	P301934	
	SM 2540 C-97	TDS	401		mg/L	P302204	
	SM 2540 D-97	TSS	3	I	mg/L	P302209	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P301937	
1786507	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P302135	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P302242	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P301917	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P302050	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P301928	
1786508	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P301606	
1786547	EPA 8321B	Glyphosate**	10	U	ug/L	P301783	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P301789	MS
		Diuron	0.0020	U	ug/L	P301786	
		Fenuron	0.0080	U	ug/L	P301786	
		2,4,5-T	0.0020	U	ug/L	P301789	
		Acifluorfen	0.0020	U	ug/L	P301789	
		Imidacloprid	0.0078	I	ug/L	P301786	
		Bentazon	0.066		ug/L	P301789	
		Linuron	0.0040	U	ug/L	P301786	
		Acetaminophen**	0.0040	U	ug/L	P301786	
		Carbamazepine**	4.0E-04	U	ug/L	P301786	
		Silvex	0.0020	U	ug/L	P301789	
		Primidone**	0.0080	U	ug/L	P301786	
		Fluridone**	0.11		ug/L	P301786	
	EPA 8321B	Pyraclostrobin**	0.0020	UJ	ug/L	P301825	RPD
	EPA 200.7 Rev. 4.4	Calcium	79.4		mg/L	P301826	
		Magnesium	11.1		mg/L	P301826	
		Potassium	3.5		mg/L	P301826	
		Sodium	48.8		mg/L	P301826	
1786566	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	0.0020	U	ug/L	P301793	
		Alpha-BHC	0.0020	U	ug/L	P301793	
		Beta-BHC	0.0020	U	ug/L	P301793	
		Delta-BHC	0.0020	U	ug/L	P301793	
		Gamma-BHC	0.0020	U	ug/L	P301793	
		Carbophenothion	0.0060	UJ	ug/L	P301793	CCV
		Chlorothalonil	0.0080	UJ	ug/L	P301793	CCV
		Cypermethrin	0.012	U	ug/L	P301793	
		DDD-p,p'	0.0040	U	ug/L	P301793	
		DDE-p,p'	0.0040	U	ug/L	P301793	

Field ID: G1SD040416-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1786566	DEP SOP: GC-011-5 (based on EPA 608 and 617)	DDT-p,p'	0.0040	U	ug/L	P301793	
		Dicofol	0.024	U	ug/L	P301793	
		Dieldrin	0.0020	U	ug/L	P301793	
		Endosulfan I	0.0020	U	ug/L	P301793	
		Endosulfan II	0.0020	U	ug/L	P301793	
		Endosulfan Sulfate	0.0040	U	ug/L	P301793	
		Endrin	0.0040	U	ug/L	P301793	
		Endrin Aldehyde	0.0040	U	ug/L	P301793	
		Heptachlor	0.0020	U	ug/L	P301793	
		Heptachlor Epoxide	0.0020	U	ug/L	P301793	
		Methoxychlor	0.010	U	ug/L	P301793	
		Mirex	0.0040	UJ	ug/L	P301793	CCV
		Permethrin	0.010	U	ug/L	P301793	
1786567	EPA 8270D	Toxaphene	0.10	U	ug/L	P301793	
		Trifluralin	0.0080	UJ	ug/L	P301793	CCV
		Ametryn**	3.7	J	ng/L	P301891	LCS
		Atrazine**	29		ng/L	P301891	
		Chlorpyrifos Ethyl**	0.095	U	ng/L	P301891	
		Chlorpyrifos Methyl**	0.095	U	ng/L	P301891	
		Disulfoton**	0.31	U	ng/L	P301891	
		Ethion**	0.14	U	ng/L	P301891	
		Ethoprop**	0.095	U	ng/L	P301891	MS
		Hexazinone**	8.3		ng/L	P301891	
		Malathion**	0.33	U	ng/L	P301891	
		Metribuzin**	0.19	U	ng/L	P301891	
		Mevinphos**	0.48	U	ng/L	P301891	
		Norflurazon**	0.48	U	ng/L	P301891	RPD
		Phorate**	0.24	U	ng/L	P301891	
		Prometryn**	0.19	U	ng/L	P301891	
		Simazine**	0.48	UJ	ng/L	P301891	LCS
		Atrazine Desethyl**	3.8	I	ng/L	P301891	
		Prometon**	0.86	U	ng/L	P301891	
		Fipronil**	0.24	U	ng/L	P301891	RPD
		Molinate**	0.29	U	ng/L	P301891	MS, RPD
		Pendimethalin**	1.9	U	ng/L	P301891	
		Terbufos**	0.095	U	ng/L	P301891	
		EPTC**	1.2	U	ng/L	P301891	MS, RPD
		Terbutylazine**	0.40	U	ng/L	P301891	
		Bromacil**	0.48	U	ng/L	P301891	
		Fipronil Sulfide**	0.14	U	ng/L	P301891	RPD
		Fipronil Sulfone**	0.50	I	ng/L	P301891	MS, RPD
		Alachlor**	0.24	U	ng/L	P301891	
		Azinphos Methyl**	2.1	U	ng/L	P301891	
		Butylate**	0.38	U	ng/L	P301891	MS, RPD

Field ID: G1SD040416-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1786567	EPA 8270D	Demeton**	0.95	U	ng/L	P301891	
		Diazinon**	0.12	U	ng/L	P301891	
		Fenamiphos**	0.24	U	ng/L	P301891	
		Fonofos**	0.19	U	ng/L	P301891	
		Metalaxyl**	0.38	I	ng/L	P301891	
		Metolachlor**	0.23	T	ng/L	P301891	
		Acetochlor**	0.24	U	ng/L	P301891	
		Cyanazine**	0.48	U	ng/L	P301891	RPD
		Parathion Ethyl**	0.24	U	ng/L	P301891	
		Parathion Methyl**	0.24	U	ng/L	P301891	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Matrix spike recovery data for one of two spiked samples is unavailable due to high analyte concentration in the QC sample.

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

USGS O-2060-01: Triclopyr = 0.021 ug/L. Results confirmed in re-extraction.

USGS O-2060-01: Results confirmed in re-extraction.

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

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

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

Quality Assurance Report

Method Blank Results

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

Batch ID: P301793

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P301670

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301826

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: P301853

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301856

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P302135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P302242

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301917

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302050

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301606

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: P301891

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	0.10	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	2.0	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: P301783

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B

Batch ID: P301825

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P301934

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

Reference Method: SM 2540 C-97
Batch ID: P302204

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P302209

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P301937

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P301928

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

Reference Method: USGS O-2060-01
Batch ID: P301786

Component	Result	Code	Units
Acetaminophen	0.0040	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	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

Reference Method: USGS O-2060-01
Batch ID: P301789

Component	Result	Code	Units
2,4,5-T	0.0020	U	ug/L
2,4-D	0.0020	U	ug/L
Acifluorfen	0.0020	U	ug/L
Bentazon	0.0020	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: P301793

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	110	87.5	P/P	70 - 130
Alpha-BHC	79.9	92.7	P/P	70 - 130
Beta-BHC	93.6	106	P/P	70 - 130
DDD-p,p'	98.2	98.4	P/P	70 - 130
DDE-p,p'	91.8	88.9	P/P	70 - 130
DDT-p,p'	103	105	P/P	70 - 130
Delta-BHC	87.9	94.9	P/P	70 - 130
Dieldrin	94.0	91.0	P/P	70 - 130
Endosulfan I	86.4	90.3	P/P	70 - 130
Endosulfan II	101	99.2	P/P	70 - 130
Endosulfan Sulfate	115	110	P/P	70 - 130
Endrin	110	110	P/P	81 - 147
Endrin Aldehyde	92.1	97.2	P/P	70 - 130
Gamma-BHC	88.3	97.0	P/P	70 - 130
Heptachlor	117	100	P/P	70 - 130
Heptachlor Epoxide	96.5	86.3	P/P	70 - 130
Methoxychlor	113	117	P/P	86 - 145

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P301826

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P301853

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P301856

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P302135

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P302242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P301917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P302050

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P301606

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

Reference Method: EPA 8270D
 Batch ID: P301891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	101	97.9	P/P	84 - 119
Alachlor	102	95.2	P/P	84 - 121
Ametryn	148	118	F/P	66 - 127
Atrazine	95.5	92.2	P/P	72 - 119
Atrazine Desethyl	61.7	62.4	P/P	21 - 111
Azinphos Methyl	153	147	P/P	79 - 185
Bromacil	84.2	85.6	P/P	39 - 122
Butylate	62.0	54.2	P/P	36 - 94.0
Chlorpyrifos Ethyl	91.5	85.7	P/P	54 - 101
Chlorpyrifos Methyl	86.2	81.5	P/P	28 - 114
Cyanazine	119	123	P/P	58 - 201
Demeton	73.6	71.6	P/P	57 - 130
Diazinon	101	94.6	P/P	79 - 124
Disulfoton	82.2	89.9	P/P	45 - 140
EPTC	62.0	58.0	P/P	43 - 95.0
Ethion	99.4	91.7	P/P	65 - 125
Ethoprop	78.9	76.8	P/P	69 - 107
Fenamiphos	113	109	P/P	78 - 129
Fipronil	92.8	98.4	P/P	62 - 125
Fipronil Sulfide	80.8	83.8	P/P	65 - 119
Fipronil Sulfone	77.9	82.3	P/P	64 - 122
Fonofos	84.4	79.4	P/P	70 - 112
Hexazinone	107	99.9	P/P	44 - 147
Malathion	102	104	P/P	72 - 125
Metalaxyl	103	95.2	P/P	83 - 113
Metolachlor	102	97.3	P/P	85 - 120
Metribuzin	106	105	P/P	68 - 129
Mevinphos	81.7	76.6	P/P	35 - 125
Molinate	72.1	64.8	P/P	51 - 100
Norflurazon	95.7	101	P/P	66 - 127
Parathion Ethyl	96.6	89.9	P/P	86 - 108
Parathion Methyl	100	98.3	P/P	87 - 125
Pendimethalin	75.7	71.8	P/P	53 - 136
Phorate	83.0	67.9	P/P	52 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P301891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	110	98.2	P/P	67 - 125
Prometryn	113	99.5	P/P	73 - 114
Simazine	175	133	F/F	66 - 123
Terbufos	85.2	80.7	P/P	58 - 116
Terbuthylazine	88.3	95.9	P/P	77 - 113

Reference Method: EPA 8321B
Batch ID: P301783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	78.6		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P301825

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	41.6		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P301934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P301937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P301928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.7		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P301786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	41.6		P	40 - 140
Carbamazepine	99.6		P	40 - 140
Diuron	86.8		P	40 - 140
Fenuron	99.6		P	40 - 140
Fluridone	101		P	40 - 140
Imidacloprid	83.2		P	40 - 160
Linuron	96.8		P	40 - 140
Primidone	119		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P301789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	91.6		P	40 - 140
2,4-D	101		P	40 - 140
Acifluorfen	78.4		P	40 - 140
Bentazon	47.6		P	40 - 140
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: P301793

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786566	Aldrin	105	104	P/P	70 - 130
1786566	Alpha-BHC	98.1	103	P/P	70 - 130
1786566	Beta-BHC	102	108	P/P	70 - 130
1786566	DDD-p,p'	114	109	P/P	70 - 130
1786566	DDE-p,p'	106	101	P/P	70 - 130
1786566	DDT-p,p'	120	112	P/P	70 - 130
1786566	Delta-BHC	93.2	96.7	P/P	70 - 130
1786566	Dieldrin	116	108	P/P	70 - 130
1786566	Endosulfan I	102	105	P/P	70 - 130
1786566	Endosulfan II	115	108	P/P	70 - 130
1786566	Endosulfan Sulfate	126	124	P/P	70 - 130
1786566	Endrin	123	116	P/P	81 - 147
1786566	Endrin Aldehyde	106	100	P/P	70 - 130
1786566	Gamma-BHC	96.1	95.5	P/P	70 - 130
1786566	Heptachlor	121	117	P/P	70 - 130
1786566	Heptachlor Epoxide	107	101	P/P	70 - 130
1786566	Methoxychlor	133	130	P/P	86 - 145

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786372	Calcium	106	101	P/P	80 - 120
1786372	Magnesium	105	103	P/P	80 - 120
1786372	Potassium	108	107	P/P	80 - 120
1786372	Sodium	104	101	P/P	80 - 120
1786439	Calcium	105		P	80 - 120
1786439	Magnesium	104		P	80 - 120
1786439	Potassium	106		P	80 - 120
1786439	Sodium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786718	Chloride	103		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786432	Sulfate	99.5		P	90 - 110
1786718	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P302135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786507	Ammonia-N	104	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P302242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786470	Kjeldahl Nitrogen	93.1	87.9	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786529	NO2NO3-N	94.0	92.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786479	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786482	O-Phosphate-P	99.0	99.4	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P301891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786582	Acetochlor	94.2	98.0	P/P	84 - 119
1786582	Alachlor	95.6	99.4	P/P	84 - 121
1786582	Atrazine Desethyl	39.5	34.1	P/P	21 - 111
1786582	Azinphos Methyl	139	144	P/P	79 - 185
1786582	Bromacil	98.3	80.3	P/P	39 - 122
1786582	Butylate	22.1	36.4	F/P	36 - 94.0
1786582	Chlorpyrifos Ethyl	95.1	85.8	P/P	54 - 101
1786582	Chlorpyrifos Methyl	81.1	81.1	P/P	28 - 114
1786582	Cyanazine	128	93.5	P/P	58 - 201
1786582	Demeton	57.7	61.3	P/P	57 - 130
1786582	Diazinon	80.8	95.4	P/P	79 - 124
1786582	Disulfoton	79.5	85.8	P/P	45 - 140
1786582	EPTC	21.4	31.1	F/F	43 - 95.0
1786582	Ethion	98.0	93.1	P/P	65 - 125
1786582	Ethoprop	65.1	72.1	F/P	69 - 107

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P301891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786582	Fenamiphos	114	95.4	P/P	78 - 129
1786582	Fipronil	108	77.2	P/P	62 - 125
1786582	Fipronil Sulfide	102	67.2	P/P	65 - 119
1786582	Fipronil Sulfone	106	57.0	P/F	64 - 122
1786582	Fonofos	77.3	76.1	P/P	70 - 112
1786582	Hexazinone	104	97.8	P/P	44 - 147
1786582	Malathion	104	95.9	P/P	72 - 125
1786582	Metalaxyl	98.9	89.4	P/P	83 - 113
1786582	Metolachlor	95.6	96.3	P/P	85 - 120
1786582	Metribuzin	121	111	P/P	68 - 129
1786582	Mevinphos	62.7	61.2	P/P	35 - 125
1786582	Molinate	31.1	48.2	F/F	51 - 100
1786582	Norflurazon	110	80.9	P/P	66 - 127
1786582	Parathion Ethyl	91.1	89.2	P/P	86 - 108
1786582	Parathion Methyl	100	94.9	P/P	87 - 125
1786582	Pendimethalin	76.7	79.0	P/P	53 - 136
1786582	Phorate	60.0	71.4	P/P	52 - 113
1786582	Prometon	101	111	P/P	67 - 125
1786582	Prometryn	97.3	97.2	P/P	73 - 114
1786582	Simazine	115	109	P/P	66 - 123
1786582	Terbufos	74.2	74.9	P/P	58 - 116
1786582	Terbutylazine	89.9	91.5	P/P	77 - 113

Reference Method: EPA 8321B
Batch ID: P301783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786547	Glyphosate	45.2	53.2	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P301825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786548	Pyraclostrobin	125	86.6	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P301937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786477	Fluoride	98.5	98.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P301928

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786384	Organic Carbon	94.0	93.7	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P301786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786569	Acetaminophen	59.6	64.8	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P301786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786569	Carbamazepine	79.6	86.0	P/P	40 - 140
1786569	Diuron	47.1	51.9	P/P	40 - 140
1786569	Fenuron	47.2	52.0	P/P	40 - 140
1786569	Fluridone	70.3	73.9	P/P	40 - 140
1786569	Imidacloprid	126	137	P/P	40 - 160
1786569	Linuron	70.8	74.4	P/P	40 - 140
1786569	Primidone	91.2	100	P/P	40 - 140

Reference Method: USGS O-2060-01
Batch ID: P301789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1786569	2,4,5-T	110	115	P/P	40 - 140
1786569	2,4-D	149	142	F/F	40 - 140
1786569	Acifluorfen	73.6	72.4	P/P	40 - 140
1786569	Bentazon	51.6	53.2	P/P	40 - 140
1786569	Silvex	128	134	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P301793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786566	Aldrin	1.53	Spike	P	0 - 30
1786566	Alpha-BHC	5.10	Spike	P	0 - 30
1786566	Beta-BHC	5.43	Spike	P	0 - 30
1786566	DDD-p,p'	3.85	Spike	P	0 - 30
1786566	DDE-p,p'	4.40	Spike	P	0 - 30
1786566	DDT-p,p'	7.37	Spike	P	0 - 30
1786566	Delta-BHC	3.67	Spike	P	0 - 30
1786566	Dieldrin	6.91	Spike	P	0 - 30
1786566	Endosulfan I	3.01	Spike	P	0 - 30
1786566	Endosulfan II	6.34	Spike	P	0 - 30
1786566	Endosulfan Sulfate	1.40	Spike	P	0 - 30
1786566	Endrin	5.73	Spike	P	0 - 30
1786566	Endrin Aldehyde	5.74	Spike	P	0 - 30
1786566	Gamma-BHC	0.576	Spike	P	0 - 30
1786566	Heptachlor	2.89	Spike	P	0 - 30
1786566	Heptachlor Epoxide	6.61	Spike	P	0 - 30
1786566	Methoxychlor	2.24	Spike	P	0 - 30
LFB	Aldrin	22.5	LCS	P	0 - 30
LFB	Alpha-BHC	14.8	LCS	P	0 - 30
LFB	Beta-BHC	12.2	LCS	P	0 - 30
LFB	DDD-p,p'	0.195	LCS	P	0 - 30
LFB	DDE-p,p'	3.26	LCS	P	0 - 30
LFB	DDT-p,p'	1.41	LCS	P	0 - 30
LFB	Delta-BHC	7.60	LCS	P	0 - 30
LFB	Dieldrin	3.19	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P301793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan I	4.41	LCS	P	0 - 30
LFB	Endosulfan II	2.02	LCS	P	0 - 30
LFB	Endosulfan Sulfate	4.53	LCS	P	0 - 30
LFB	Endrin	0.356	LCS	P	0 - 30
LFB	Endrin Aldehyde	5.47	LCS	P	0 - 30
LFB	Gamma-BHC	9.35	LCS	P	0 - 30
LFB	Heptachlor	15.5	LCS	P	0 - 30
LFB	Heptachlor Epoxide	11.2	LCS	P	0 - 30
LFB	Methoxychlor	3.86	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P301670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786475	Turbidity	1.20	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786372	Calcium	2.21	Spike	P	0 - 20
1786372	Magnesium	1.15	Spike	P	0 - 20
1786372	Potassium	0.982	Spike	P	0 - 20
1786372	Sodium	1.84	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786718	Chloride	0.0325	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786718	Sulfate	11.4	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P302135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786507	Ammonia-N	2.83	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P302242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786470	Kjeldahl Nitrogen	3.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786529	NO2NO3-N	1.39	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786479	Total-P	0.583	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P301606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786482	O-Phosphate-P	0.380	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P301891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786582	Acetochlor	3.91	Spike	P	0 - 30
1786582	Alachlor	3.84	Spike	P	0 - 30
1786582	Ametryn	0.600	Spike	P	0 - 30
1786582	Atrazine	12.4	Spike	P	0 - 30
1786582	Atrazine Desethyl	6.30	Spike	P	0 - 30
1786582	Azinphos Methyl	3.61	Spike	P	0 - 30
1786582	Bromacil	20.2	Spike	P	0 - 30
1786582	Butylate	48.8	Spike	F	0 - 30
1786582	Chlorpyrifos Ethyl	10.3	Spike	P	0 - 30
1786582	Chlorpyrifos Methyl	0.0357	Spike	P	0 - 30
1786582	Cyanazine	31.1	Spike	F	0 - 30
1786582	Demeton	6.06	Spike	P	0 - 30
1786582	Diazinon	16.6	Spike	P	0 - 30
1786582	Disulfoton	7.62	Spike	P	0 - 30
1786582	EPTC	37.1	Spike	F	0 - 30
1786582	Ethion	5.05	Spike	P	0 - 30
1786582	Ethoprop	10.2	Spike	P	0 - 30
1786582	Fenamiphos	17.9	Spike	P	0 - 30
1786582	Fipronil	32.9	Spike	F	0 - 30
1786582	Fipronil Sulfide	40.9	Spike	F	0 - 30
1786582	Fipronil Sulfone	60.1	Spike	F	0 - 30
1786582	Fonofos	1.54	Spike	P	0 - 30
1786582	Hexazinone	5.07	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P301891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786582	Malathion	7.98	Spike	P	0 - 30
1786582	Metalaxyl	9.24	Spike	P	0 - 30
1786582	Metolachlor	0.675	Spike	P	0 - 30
1786582	Metribuzin	4.27	Spike	P	0 - 30
1786582	Mevinphos	2.34	Spike	P	0 - 30
1786582	Molinate	43.0	Spike	F	0 - 30
1786582	Norflurazon	30.6	Spike	F	0 - 30
1786582	Parathion Ethyl	2.03	Spike	P	0 - 30
1786582	Parathion Methyl	5.67	Spike	P	0 - 30
1786582	Pendimethalin	2.97	Spike	P	0 - 30
1786582	Phorate	17.4	Spike	P	0 - 30
1786582	Prometon	9.48	Spike	P	0 - 30
1786582	Prometryn	0.0777	Spike	P	0 - 30
1786582	Simazine	5.03	Spike	P	0 - 30
1786582	Terbufos	0.943	Spike	P	0 - 30
1786582	Terbutylazine	1.71	Spike	P	0 - 30
LFB	Acetochlor	3.26	LCS	P	0 - 30
LFB	Alachlor	6.97	LCS	P	0 - 30
LFB	Ametryn	23.0	LCS	P	0 - 30
LFB	Atrazine	3.51	LCS	P	0 - 30
LFB	Atrazine Desethyl	1.14	LCS	P	0 - 30
LFB	Azinphos Methyl	4.36	LCS	P	0 - 30
LFB	Bromacil	1.68	LCS	P	0 - 30
LFB	Butylate	13.5	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	6.58	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.60	LCS	P	0 - 30
LFB	Cyanazine	3.29	LCS	P	0 - 30
LFB	Demeton	2.69	LCS	P	0 - 30
LFB	Diazinon	6.25	LCS	P	0 - 30
LFB	Disulfoton	8.95	LCS	P	0 - 30
LFB	EPTC	6.81	LCS	P	0 - 30
LFB	Ethion	8.13	LCS	P	0 - 30
LFB	Ethoprop	2.60	LCS	P	0 - 30
LFB	Fenamiphos	3.99	LCS	P	0 - 30
LFB	Fipronil	5.83	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.54	LCS	P	0 - 30
LFB	Fipronil Sulfone	5.50	LCS	P	0 - 30
LFB	Fonofos	6.07	LCS	P	0 - 30
LFB	Hexazinone	6.84	LCS	P	0 - 30
LFB	Malathion	1.57	LCS	P	0 - 30
LFB	Metalaxyl	7.91	LCS	P	0 - 30
LFB	Metolachlor	5.16	LCS	P	0 - 30
LFB	Metribuzin	1.03	LCS	P	0 - 30
LFB	Mevinphos	6.43	LCS	P	0 - 30
LFB	Molinate	10.7	LCS	P	0 - 30
LFB	Norflurazon	5.19	LCS	P	0 - 30
LFB	Parathion Ethyl	7.24	LCS	P	0 - 30
LFB	Parathion Methyl	1.96	LCS	P	0 - 30
LFB	Pendimethalin	5.28	LCS	P	0 - 30
LFB	Phorate	20.0	LCS	P	0 - 30
LFB	Prometon	11.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P301891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometryn	12.5	LCS	P	0 - 30
LFB	Simazine	27.2	LCS	P	0 - 30
LFB	Terbufos	5.43	LCS	P	0 - 30
LFB	Terbuthylazine	8.26	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P301783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786547	Glyphosate	16.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P301825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786548	Pyraclostrobin	34.5	Spike	F	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P301934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786477	Total Alkalinity	0.122	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P302204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786432	TDS	3.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P301937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786477	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P301928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786384	Organic Carbon	0.142	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P301786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786569	Acetaminophen	8.36	Spike	P	0 - 30
1786569	Carbamazepine	7.73	Spike	P	0 - 30
1786569	Diuron	9.23	Spike	P	0 - 30
1786569	Fenuron	9.68	Spike	P	0 - 30
1786569	Fluridone	4.36	Spike	P	0 - 30
1786569	Imidacloprid	7.80	Spike	P	0 - 30
1786569	Linuron	4.96	Spike	P	0 - 30
1786569	Primidone	9.60	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P301789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1786569	2,4,5-T	4.63	Spike	P	0 - 30
1786569	2,4-D	4.44	Spike	P	0 - 30
1786569	Acifluorfen	1.64	Spike	P	0 - 30
1786569	Bentazon	1.54	Spike	P	0 - 30
1786569	Silvex	4.28	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: 1786547
Field Sample ID: G1SD040416-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	105	P	50 - 150
USGS O-2060-01	2,4-D-d3	78.8	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	65.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	97.6	P	40 - 160
USGS O-2060-01	Diuron-d6	46.2	P	40 - 150
USGS O-2060-01	Primidone-d5	82.2	P	40 - 150

Lab Sample ID: 1786548
Field Sample ID: G1SD040416-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	67.0	P	40 - 150

Lab Sample ID: 1786566
Field Sample ID: G1SD040416-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Decachlorobiphenyl	82.4	P	44 - 128

Quality Assurance Report Surrogates

Lab Sample ID: 1786567
Field Sample ID: G1SD040416-1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	72.1	P	67 - 131
EPA 8270D	Simazine-d10	98.2	P	75 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A68637
Included Lab Sample IDs: 1786506

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	103	P/P	90 - 110
Sulfate	102	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A68657
Included Lab Sample IDs: 1786508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	99.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A68679
Included Lab Sample IDs: 1786506

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A68762
Included Lab Sample IDs: 1786507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.0	95.0	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A68767
Included Lab Sample IDs: 1786507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	96.4	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A68768
Included Lab Sample IDs: 1786506

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A68768

Included Lab Sample IDs: 1786506

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

Reference Method: EPA 8321B

Run ID: A68769

Included Lab Sample IDs: 1786547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	112	126	P/P	70 - 130

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A68775

Included Lab Sample IDs: 1786549

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	100	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	101	99.6	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A68809

Included Lab Sample IDs: 1786547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	86.4	109	P/P	60 - 150
Carbamazepine	110	121	P/P	60 - 150
Diuron	88.0	88.8	P/P	60 - 150
Fenuron	100	105	P/P	60 - 150
Fluridone	82.4	83.2	P/P	60 - 150
Imidacloprid	99.2	93.6	P/P	60 - 150
Linuron	105	106	P/P	60 - 150
Primidone	110	105	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A68841

Included Lab Sample IDs: 1786507

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68849

Included Lab Sample IDs: 1786507

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A68857

Included Lab Sample IDs: 1786548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	100	100	P/P	60 - 150

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

Run ID: A68906

Included Lab Sample IDs: 1786566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	90.2	100	P/P	85 - 115
Alpha-BHC	91.3	102	P/P	85 - 115
Beta-BHC	92.4	101	P/P	85 - 115
Carbophenothion	102	114*	P/F	90 - 110
Chlorothalonil	97.8	112*	P/F	90 - 110
Cypermethrin	97.4	112	P/P	85 - 115
DDD-p,p'	89.7	101	P/P	85 - 115
DDE-p,p'	89.2	100	P/P	85 - 115
DDT-p,p'	87.8	97.5	P/P	85 - 115
Delta-BHC	86.7	96.6	P/P	85 - 115
Dicofol	106	98.0	P/P	90 - 110
Dieldrin	90.9	101	P/P	85 - 115
Endosulfan I	91.4	102	P/P	85 - 115
Endosulfan II	90.9	101	P/P	85 - 115
Endosulfan Sulfate	89.4	101	P/P	85 - 115
Endrin	86.6	98.0	P/P	85 - 115
Endrin Aldehyde	90.9	104	P/P	85 - 115
Gamma-BHC	89.1	99.2	P/P	85 - 115
Heptachlor	89.7	101	P/P	85 - 115
Heptachlor Epoxide	91.7	101	P/P	85 - 115
Methoxychlor	90.9	101	P/P	90 - 110
Mirex	101	111*	P/F	90 - 110
Permethrin	101	109	P/P	90 - 110
Toxaphene	103	113	P/P	85 - 115
Trifluralin	101	112*	P/F	90 - 110

Reference Method: EPA 8270D

Run ID: A68928

Included Lab Sample IDs: 1786567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.9		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	105		P	80 - 120
Atrazine	104		P	80 - 120
Atrazine Desethyl	96.2		P	80 - 120
Azinphos Methyl	96.5		P	80 - 120
Bromacil	99.2		P	80 - 120
Butylate	104		P	80 - 120
Chlorpyrifos Ethyl	98.2		P	80 - 120
Chlorpyrifos Methyl	94.5		P	80 - 120
Cyanazine	95.4		P	80 - 120
Demeton	103		P	80 - 120
Diazinon	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A68928
 Included Lab Sample IDs: 1786567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Disulfoton	101		P	80 - 120
EPTC	107		P	80 - 120
Ethion	94.7		P	80 - 120
Ethoprop	94.5		P	80 - 120
Fenamiphos	94.3		P	80 - 120
Fipronil	97.4		P	80 - 120
Fipronil Sulfide	97.8		P	80 - 120
Fipronil Sulfone	99.2		P	80 - 120
Fonofos	98.1		P	80 - 120
Hexazinone	97.3		P	80 - 120
Malathion	92.8		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	104		P	80 - 120
Metribuzin	94.4		P	80 - 120
Mevinphos	90.5		P	80 - 120
Molinate	101		P	80 - 120
Norflurazon	101		P	80 - 120
Parathion Ethyl	100		P	80 - 120
Parathion Methyl	96.1		P	80 - 120
Pendimethalin	97.6		P	80 - 120
Phorate	91.6		P	80 - 120
Prometon	97.2		P	80 - 120
Prometryn	95.7		P	80 - 120
Simazine	111		P	80 - 120
Terbufos	94.1		P	80 - 120
Terbutylazine	101		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A68934
 Included Lab Sample IDs: 1786507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	96.4	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		Precision	MS
						SMP	
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	110	87.5	105	104	22.5	1.53
	Alpha-BHC	79.9	92.7	98.1	103	14.8	5.10
	Beta-BHC	93.6	106	102	108	12.2	5.43
	DDD-p,p'	98.2	98.4	114	109	0.195	3.85
	DDE-p,p'	91.8	88.9	106	101	3.26	4.40
	DDT-p,p'	103	105	120	112	1.41	7.37

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Delta-BHC	87.9	94.9	93.2	96.7	7.60		3.67
	Dieldrin	94.0	91.0	108	116	3.19		6.91
	Endosulfan I	86.4	90.3	102	105	4.41		3.01
	Endosulfan II	101	99.2	115	108	2.02		6.34
	Endosulfan Sulfate	115	110	126	124	4.53		1.40
	Endrin	110	110	123	116	0.356		5.73
	Endrin Aldehyde	92.1	97.2	106	100	5.47		5.74
	Gamma-BHC	88.3	97.0	96.1	95.5	9.35		0.576
	Heptachlor	117	100	121	117	15.5		2.89
	Heptachlor Epoxide	96.5	86.3	107	101	11.2		6.61
	Methoxychlor	113	117	133	130	3.86		2.24
EPA 180.1 Rev. 2.0	Turbidity						1.20	
EPA 200.7 Rev. 4.4	Calcium	103		106	101	105		2.21
	Magnesium	103		105	103	104		1.15
	Potassium	104		108	107	106		0.982
	Sodium	103		104	101	104		1.84
EPA 300.0 Rev. 2.1	Chloride	102		103			0.0325	
	Sulfate	100		101	99.5		11.4	
EPA 350.1 Rev. 2.0	Ammonia-N	102		104	100			2.83
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.5		93.1	87.9			3.26
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0		94.0	92.5			1.39
EPA 365.1 Rev. 2.0	Total-P	99.8		101	100			0.583
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		99.0	99.4			0.380
EPA 8270D	Acetochlor	101	97.9	94.2	98.0	3.26		3.91
	Alachlor	102	95.2	95.6	99.4	6.97		3.84
	Ametryn	148	118			23.0		0.600
	Atrazine	95.5	92.2			3.51		12.4
	Atrazine Desethyl	61.7	62.4	39.5	34.1	1.14		6.30
	Azinphos Methyl	153	147	139	144	4.36		3.61
	Bromacil	84.2	85.6	98.3	80.3	1.68		20.2
	Butylate	62.0	54.2	22.1	36.4	13.5		48.8
	Chlorpyrifos Ethyl	91.5	85.7	95.1	85.8	6.58		10.3
	Chlorpyrifos Methyl	86.2	81.5	81.1	81.1	5.60		0.0357
	Cyanazine	119	123	128	93.5	3.29		31.1
	Demeton	73.6	71.6	57.7	61.3	2.69		6.06
	Diazinon	101	94.6	80.8	95.4	6.25		16.6
	Disulfoton	82.2	89.9	79.5	85.8	8.95		7.62
	EPTC	62.0	58.0	21.4	31.1	6.81		37.1
	Ethion	99.4	91.7	98.0	93.1	8.13		5.05
	Ethoprop	78.9	76.8	65.1	72.1	2.60		10.2
	Fenamiphos	113	109	114	95.4	3.99		17.9
	Fipronil	92.8	98.4	108	77.2	5.83		32.9
	Fipronil Sulfide	80.8	83.8	102	67.2	3.54		40.9
	Fipronil Sulfone	77.9	82.3	106	57.0	5.50		60.1
	Fonofos	84.4	79.4	77.3	76.1	6.07		1.54
	Hexazinone	107	99.9	104	97.8	6.84		5.07
	Malathion	102	104	104	95.9	1.57		7.98
	Metalaxyl	103	95.2	98.9	89.4	7.91		9.24
	Metolachlor	102	97.3	95.6	96.3	5.16		0.675
	Metribuzin	106	105	121	111	1.03		4.27
	Mevinphos	81.7	76.6	62.7	61.2	6.43		2.34
	Molinate	72.1	64.8	31.1	48.2	10.7		43.0
	Norflurazon	95.7	101	110	80.9	5.19		30.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8270D	Parathion Ethyl	96.6	89.9	89.2	91.1	7.24		2.03
	Parathion Methyl	100	98.3	94.9	100	1.96		5.67
	Pendimethalin	75.7	71.8	76.7	79.0	5.28		2.97
	Phorate	83.0	67.9	60.0	71.4	20.0		17.4
	Prometon	110	98.2	101	111	11.0		9.48
	Prometryn	113	99.5	97.2	97.3	12.5		0.0777
	Simazine	175	133	109	115	27.2		5.03
	Terbufos	85.2	80.7	74.9	74.2	5.43		0.943
	Terbutylazine	88.3	95.9	91.5	89.9	8.26		1.71
EPA 8321B	Glyphosate	78.6		45.2	53.2			16.3
	Pyraclostrobin	41.6		125	86.6			34.5
SM 2320 B-97	Total Alkalinity	102					0.122	
SM 2540 C-97	TDS						3.64	
SM 4500 F-C-97	Fluoride	98.3		98.5	98.5			0.0
SM 5310 B-00	Organic Carbon	93.7		94.0	93.7			0.142
USGS O-2060-01	2,4,5-T	91.6		110	115			4.63
	2,4-D	101		149	142			4.44
	Acetaminophen	41.6		59.6	64.8			8.36
	Acifluorfen	78.4		73.6	72.4			1.64
	Bentazon	47.6		51.6	53.2			1.54
	Carbamazepine	99.6		79.6	86.0			7.73
	Diuron	86.8		47.1	51.9			9.23
	Fenuron	99.6		47.2	52.0			9.68
	Fluridone	101		70.3	73.9			4.36
	Imidacloprid	83.2		126	137			7.80
	Linuron	96.8		70.8	74.4			4.96
	Primidone	119		91.2	100			9.60
	Silvex	94.8		128	134			4.28

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.	1786566
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1786506
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1786549
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1786506
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1786506
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1786507
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1786507
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1786507
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1786507
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1786508
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1786567

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1786547
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1786548
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1786506
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1786506
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1786506
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1786506
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1786507
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1786547
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1786547

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)	04/05/2016	04/08/2016	Fe-Val Siddell	04/14/2016	Vandana T. Nagar	1786566
EPA 180.1 Rev. 2.0	04/05/2016			04/05/2016 18:39	Sima Feizi	1786506
EPA 200.7 Rev. 4.4	04/05/2016	04/07/2016	Elliott D. Healy	04/08/2016	Joshua Ayres	1786549
EPA 300.0 Rev. 2.1	04/05/2016			04/08/2016	Julia Storbeck	1786506
EPA 350.1 Rev. 2.0	04/05/2016			04/12/2016	Diana M. Turner	1786507
EPA 351.2 Rev. 2.0	04/05/2016	04/14/2016	Sofia Elnemr	04/18/2016	Virginia P. Brown	1786507
EPA 353.2 Rev. 2.0	04/05/2016			04/08/2016	Diana M. Turner	1786507
EPA 365.1 Rev. 2.0	04/05/2016	04/12/2016	Christopher Armour	04/13/2016	Lipi Saha	1786507
EPA 365.1 Rev. 2.0 dissolved	04/05/2016			04/05/2016 15:35	Ping Hua	1786508
EPA 8270D	04/05/2016	04/08/2016	John Kaba	04/15/2016	Irina Carbone	1786567
EPA 8321B	04/05/2016	04/05/2016	Hoor Shaik	04/13/2016	Juyoung Kim	1786548
	04/05/2016	04/08/2016	Mohammad Ghaffari	04/08/2016	Mohammad Ghaffari	1786547
SM 2320 B-97	04/05/2016			04/08/2016	Dale L. Simmons	1786506
SM 2540 C-97	04/05/2016			04/07/2016	Yijie Li	1786506
SM 2540 D-97	04/05/2016			04/07/2016	Yijie Li	1786506
SM 4500 F-C-97	04/05/2016			04/08/2016	Dale L. Simmons	1786506
SM 5310 B-00	04/05/2016			04/08/2016	Sofia Elnemr	1786507
USGS O-2060-01	04/05/2016	04/11/2016	Hoor Shaik	04/12/2016	Juyoung Kim	1786547