Chemical Analysis Report

CEN-DIST-2016-11-03-04

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

Event Description: **Upper Apopka Beau+HA+Pest**
Request ID: **RQ-2016-10-17-61**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 29-NOV-2016 14:56

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: APOPKA BEAUCLAIR @ 200M S OF LOCK **Collection Date/Time: 11/02/2016 11:30**

Field ID: G1CE0025 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847076	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P314545	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P315509	
		Sulfate	19		mg SO4/L	P315502	
	SM 2120 B	Color (true)	100		PCU	P314578	
	SM 2320 B-97	Total Alkalinity	144		mg CaCO3/L	P314921	
	SM 2540 C-97	TDS	262		mg/L	P315442	
	SM 2540 D-97	TSS	2	I	mg/L	P315125	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P314924	
1847077	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P315026	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P315343	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P314723	
	EPA 365.1 Rev. 2.0	Total-P	0.42		mg P/L	P315087	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P314656	
1847078	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.36		mg P/L	P314540	
1847080	EPA 8321B	Glyphosate**	10	UJ	ug/L	P314475	MS, SUR
	USGS O-2060-01	2,4-D	0.011	I	ug/L	P314514	
		Diuron	0.0040	UJ	ug/L	P314514	MS
		Fenuron	0.0080	U	ug/L	P314514	
		2,4,5-T	0.0020	U	ug/L	P314514	
		Acifluorfen	0.0020	U	ug/L	P314514	
		Imidacloprid	0.0040	U	ug/L	P314514	
		Bentazon	0.033	J	ug/L	P314514	MS
		Linuron	0.0040	U	ug/L	P314514	
		Acetaminophen**	0.0040	U	ug/L	P314514	
		Carbamazepine**	4.0E-04	U	ug/L	P314514	
		Silvex	0.0020	UJ	ug/L	P314514	MS
		Primidone**	0.0080	U	ug/L	P314514	
		Fluridone**	4.0E-04	U	ug/L	P314514	
1847081	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	0.0020	U	ug/L	P314510	
		Alpha-BHC	0.0020	U	ug/L	P314510	
		Beta-BHC	0.0020	U	ug/L	P314510	
		Delta-BHC	0.0020	U	ug/L	P314510	
		Gamma-BHC	0.0020	U	ug/L	P314510	
		Carbophenothion	0.0060	UJ	ug/L	P314510	CCV
		Chlordane	0.020	U	ug/L	P314510	
		Chlorothalonil	0.0080	U	ug/L	P314510	
		Cypermethrin	0.012	U	ug/L	P314510	
		DDD-p,p'	0.0040	U	ug/L	P314510	
		DDE-p,p'	0.0040	U	ug/L	P314510	
		DDT-p,p'	0.0040	U	ug/L	P314510	
		Dicofol	0.024	UJ	ug/L	P314510	CCV
		Dieldrin	0.0020	U	ug/L	P314510	

Field ID: G1CE0025 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847081	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Endosulfan I	0.0020	U	ug/L	P314510	
		Endosulfan II	0.0020	U	ug/L	P314510	
		Endosulfan Sulfate	0.0040	U	ug/L	P314510	
		Endrin	0.0040	U	ug/L	P314510	
		Endrin Aldehyde	0.0040	U	ug/L	P314510	
		Heptachlor	0.0020	U	ug/L	P314510	
		Heptachlor Epoxide	0.0020	U	ug/L	P314510	
		Methoxychlor	0.010	U	ug/L	P314510	
		Mirex	0.0040	U	ug/L	P314510	
		Permethrin	0.010	U	ug/L	P314510	
		Toxaphene	0.10	U	ug/L	P314510	
		PCB-1016	0.020	U	ug/L	P314510	
		PCB-1221	0.020	U	ug/L	P314510	
		PCB-1232	0.020	U	ug/L	P314510	
		PCB-1242	0.020	U	ug/L	P314510	
		PCB-1248	0.020	U	ug/L	P314510	
		PCB-1254	0.020	U	ug/L	P314510	
		PCB-1260	0.020	U	ug/L	P314510	
		Trifluralin	0.0080	U	ug/L	P314510	
1847082	EPA 8270D	Ametryn	1.9		ng/L	P314752	
		Atrazine	21		ng/L	P314752	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P314752	
		Chlorpyrifos Methyl	0.10	U	ng/L	P314752	
		Disulfoton	0.33	U	ng/L	P314752	
		Ethion	0.15	U	ng/L	P314752	
		Ethoprop	0.10	U	ng/L	P314752	
		Hexazinone	6.9		ng/L	P314752	
		Malathion	0.35	U	ng/L	P314752	
		Metribuzin	0.20	U	ng/L	P314752	
		Mevinphos	0.50	U	ng/L	P314752	
		Norflurazon	0.50	U	ng/L	P314752	
		Phorate	0.25	U	ng/L	P314752	
		Prometryn	0.20	U	ng/L	P314752	
		Simazine	0.50	U	ng/L	P314752	
		Atrazine Desethyl	2.7	I	ng/L	P314752	
		Prometon	0.90	U	ng/L	P314752	
		Fipronil	0.25	U	ng/L	P314752	
		Molinate	0.30	U	ng/L	P314752	
		Pendimethalin	1.5	U	ng/L	P314752	
		Terbufos	0.10	U	ng/L	P314752	
		EPTC	1.3	U	ng/L	P314752	
		Terbuthylazine	0.43	U	ng/L	P314752	
		Bromacil	0.50	U	ng/L	P314752	
		Fipronil Sulfide	0.15	U	ng/L	P314752	

Field ID: G1CE0025 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847082	EPA 8270D	Fipronil Sulfone	0.15	U	ng/L	P314752	
		Alachlor	0.25	U	ng/L	P314752	
		Azinphos Methyl	2.3	U	ng/L	P314752	
		Butylate	0.40	U	ng/L	P314752	
		Demeton	1.0	U	ng/L	P314752	
		Diazinon	0.13	U	ng/L	P314752	
		Fenamiphos	0.25	U	ng/L	P314752	
		Fonofos	0.20	U	ng/L	P314752	
		Metalaxyl	9.8		ng/L	P314752	
		Metolachlor	290		ng/L	P314752	
		Acetochlor	0.25	U	ng/L	P314752	
		Cyanazine	0.50	U	ng/L	P314752	
		Parathion Ethyl	0.25	U	ng/L	P314752	
		Parathion Methyl	0.25	U	ng/L	P314752	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Refer to the narrative for an explanation of QC Codes.
USGS O-2060-01: 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: MS accuracy for Atrazine and Metolachlor 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: P314510

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
Chlordane	0.020	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

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P314510

Component	Result	Code	Units
PCB-1016	0.020	U	ug/L
PCB-1221	0.020	U	ug/L
PCB-1232	0.020	U	ug/L
PCB-1242	0.020	U	ug/L
PCB-1248	0.020	U	ug/L
PCB-1254	0.020	U	ug/L
PCB-1260	0.020	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: P314545

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315026

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315343

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314723

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315087

Component	Result	Code	Units
Total-P	0.007		mg P/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314540

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

Reference Method: EPA 8270D
Batch ID: P314752

Component	Result	Code	Units
Alachlor	0.25	U	ng/L

Reference Method: EPA 8321B
Batch ID: P314475

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P314578

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P314921

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

Reference Method: SM 2540 C-97
Batch ID: P315442

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P315125

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P314924

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P314656

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

Quality Assurance Report
Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P314514

Component	Result	Code	Units
2,4,5-T	0.00200	U	ug/L
2,4-D	0.00400	U	ug/L
Acetaminophen	0.0040	U	ug/L
Acifluorfen	0.00200	U	ug/L
Bentazon	0.00200	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	0.00200	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: P314510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Toxaphene	107	95.9	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315026

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: P315343

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314723

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314723

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315087

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314540

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

Reference Method: EPA 8270D
Batch ID: P314752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	84.3	83.0	P/P	80 - 119
Alachlor	86.1	86.6	P/P	80 - 120
Ametryn	102	108	P/P	60 - 135
Atrazine	94.4	92.4	P/P	72 - 121
Atrazine Desethyl	64.8	64.0	P/P	14 - 124
Azinphos Methyl	126	110	P/P	74 - 186
Bromacil	85.0	76.7	P/P	38 - 125
Butylate	40.6	42.6	P/P	34 - 88.0
Chlorpyrifos Ethyl	82.5	84.4	P/P	53 - 108
Chlorpyrifos Methyl	77.5	76.6	P/P	29 - 119
Cyanazine	97.3	79.3	P/P	30 - 240
Demeton	63.0	71.7	P/P	35 - 127
Diazinon	86.1	82.6	P/P	75 - 121
Disulfoton	93.9	88.2	P/P	40 - 141
EPTC	40.2	45.9	P/P	36 - 96.0
Ethion	99.9	95.9	P/P	64 - 127
Ethoprop	67.9	72.7	P/P	65 - 108
Fenamiphos	91.4	89.9	P/P	62 - 140
Fipronil	92.7	89.3	P/P	59 - 127
Fipronil Sulfide	93.2	89.4	P/P	55 - 126
Fipronil Sulfone	96.5	94.5	P/P	56 - 127
Fonofos	78.5	77.4	P/P	64 - 111
Hexazinone	103	98.9	P/P	43 - 153
Malathion	108	102	P/P	70 - 129
Metalaxyl	86.3	82.0	P/P	49 - 135
Metolachlor	86.9	88.2	P/P	81 - 120
Metribuzin	93.2	90.2	P/P	66 - 133
Mevinphos	66.6	73.3	P/P	33 - 128
Molinate	50.6	54.9	P/P	46 - 101
Norflurazon	92.9	89.6	P/P	62 - 131
Parathion Ethyl	95.3	88.2	P/P	80 - 109
Parathion Methyl	94.9	86.9	P/P	76 - 126
Pendimethalin	79.4	75.7	P/P	47 - 137
Phorate	73.9	88.4	P/P	51 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P314752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	91.7	90.0	P/P	67 - 123
Prometryn	90.8	87.5	P/P	66 - 122
Simazine	112	104	P/P	60 - 134
Terbufos	87.6	88.8	P/P	56 - 116
Terbuthylazine	94.0	89.5	P/P	77 - 114

Reference Method: EPA 8321B
Batch ID: P314475

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	54.0		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P314921

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P314924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P314656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P314514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	98.0		P	40 - 140
2,4-D	99.2		P	40 - 140
Acetaminophen	115		P	40 - 140
Acifluorfen	88.8		P	40 - 140
Bentazon	136		P	40 - 140
Carbamazepine	116		P	40 - 140
Diuron	60.8		P	40 - 140
Fenuron	100		P	40 - 140
Fluridone	102		P	40 - 140
Imidacloprid	81.2		P	40 - 160
Linuron	92.0		P	40 - 140
Primidone	90.4		P	40 - 140
Silvex	124		P	40 - 140

Quality Assurance Report
Matrix Spike Accuracy

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P314510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1846745	Toxaphene	91.5	110	P/P	70 - 130
1847206	Toxaphene	90.9		P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847117	Sulfate	94.4		P	90 - 110
1848093	Sulfate	95.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847117	Chloride	102		P	90 - 110
1848093	Chloride	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847022	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847120	Kjeldahl Nitrogen	109	111	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847077	NO2NO3-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847124	O-Phosphate-P	102	104	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P314752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847082	Acetochlor	81.9	80.8	P/P	77 - 125
1847082	Alachlor	85.6	82.8	P/P	75 - 127
1847082	Ametryn	87.0	85.0	P/P	53 - 150
1847082	Atrazine Desethyl	71.6	55.1	P/P	8.0 - 105
1847082	Azinphos Methyl	119	108	P/P	63 - 204
1847082	Bromacil	85.9	87.2	P/P	43 - 132
1847082	Butylate	19.5	17.0	P/P	7.0 - 87.0

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P314752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847082	Chlorpyrifos Ethyl	84.5	80.0	P/P	53 - 111
1847082	Chlorpyrifos Methyl	69.2	67.1	P/P	38 - 117
1847082	Cyanazine	81.1	80.4	P/P	18 - 222
1847082	Demeton	69.6	73.2	P/P	10 - 157
1847082	Diazinon	79.7	78.3	P/P	73 - 127
1847082	Disulfoton	87.0	81.3	P/P	43 - 141
1847082	EPTC	21.0	21.2	P/P	11 - 86.0
1847082	Ethion	98.7	94.8	P/P	68 - 130
1847082	Ethoprop	69.7	67.9	P/P	60 - 108
1847082	Fenamiphos	86.0	87.8	P/P	56 - 139
1847082	Fipronil	93.8	87.4	P/P	29 - 143
1847082	Fipronil Sulfide	91.0	92.7	P/P	35 - 129
1847082	Fipronil Sulfone	93.0	90.8	P/P	16 - 146
1847082	Fonofos	69.4	70.6	P/P	59 - 112
1847082	Hexazinone	101	96.6	P/P	68 - 145
1847082	Malathion	107	98.4	P/P	69 - 131
1847082	Metalaxyl	72.2	69.2	P/P	67 - 119
1847082	Metribuzin	91.7	88.0	P/P	63 - 134
1847082	Mevinphos	64.6	56.6	P/P	40 - 127
1847082	Molinate	29.3	30.0	P/P	27 - 98.0
1847082	Norflurazon	88.6	85.0	P/P	39 - 141
1847082	Parathion Ethyl	93.3	95.3	P/P	74 - 113
1847082	Parathion Methyl	91.2	76.6	P/P	61 - 133
1847082	Pendimethalin	83.3	86.5	P/P	26 - 179
1847082	Phorate	74.2	65.0	P/P	44 - 126
1847082	Prometon	90.7	93.5	P/P	43 - 147
1847082	Prometryn	86.4	86.0	P/P	68 - 126
1847082	Simazine	94.6	97.1	P/P	47 - 156
1847082	Terbufos	77.4	79.1	P/P	53 - 125
1847082	Terbuthylazine	86.6	91.1	P/P	76 - 113

Reference Method: EPA 8321B
Batch ID: P314475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847080	Glyphosate	35.6	37.6	F/F	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P314924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1846901	Fluoride	99.4	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P314656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847077	Organic Carbon	101		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P314514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847080	2,4,5-T	117	109	P/P	40 - 140
1847080	2,4-D	128	124	P/P	40 - 140
1847080	Acetaminophen	62.0	62.8	P/P	40 - 140
1847080	Acifluorfen	107	114	P/P	40 - 140
1847080	Bentazon	207	209	F/F	40 - 140
1847080	Carbamazepine	64.0	69.2	P/P	40 - 140
1847080	Diuron	40.0	38.5	P/F	40 - 140
1847080	Fenuron	49.6	48.8	P/P	40 - 140
1847080	Fluridone	77.2	71.2	P/P	40 - 140
1847080	Imidacloprid	101	89.6	P/P	40 - 160
1847080	Linuron	73.2	74.4	P/P	40 - 140
1847080	Primidone	61.2	59.2	P/P	40 - 140
1847080	Silvex	171	164	F/F	40 - 140

Quality Assurance Report
Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P314510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1846745	Toxaphene	18.6	Spike	P	0 - 30
LFB	Toxaphene	10.7	LCS	P	0 - 30

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847048	Turbidity	16.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847117	Chloride	0.0198	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847022	Ammonia-N	0.621	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847120	Kjeldahl Nitrogen	1.19	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847077	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847057	Total-P	0.173	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847124	O-Phosphate-P	1.75	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P314752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847082	Acetochlor	1.39	Spike	P	0 - 30
1847082	Alachlor	3.41	Spike	P	0 - 30
1847082	Ametryn	1.60	Spike	P	0 - 30
1847082	Atrazine	2.29	Spike	P	0 - 30
1847082	Atrazine Desethyl	21.6	Spike	P	0 - 30
1847082	Azinphos Methyl	9.34	Spike	P	0 - 30
1847082	Bromacil	1.46	Spike	P	0 - 30
1847082	Butylate	13.9	Spike	P	0 - 30
1847082	Chlorpyrifos Ethyl	5.47	Spike	P	0 - 30
1847082	Chlorpyrifos Methyl	3.11	Spike	P	0 - 30
1847082	Cyanazine	0.862	Spike	P	0 - 30
1847082	Demeton	5.14	Spike	P	0 - 30
1847082	Diazinon	1.82	Spike	P	0 - 30
1847082	Disulfoton	6.73	Spike	P	0 - 30
1847082	EPTC	1.33	Spike	P	0 - 30
1847082	Ethion	4.13	Spike	P	0 - 30
1847082	Ethoprop	2.50	Spike	P	0 - 30
1847082	Fenamiphos	1.97	Spike	P	0 - 30
1847082	Fipronil	7.01	Spike	P	0 - 30
1847082	Fipronil Sulfide	1.89	Spike	P	0 - 30
1847082	Fipronil Sulfone	2.38	Spike	P	0 - 30
1847082	Fonofos	1.72	Spike	P	0 - 30
1847082	Hexazinone	2.71	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P314752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847082	Malathion	8.51	Spike	P	0 - 30
1847082	Metalaxyl	1.77	Spike	P	0 - 30
1847082	Metolachlor	3.33	Spike	P	0 - 30
1847082	Metribuzin	4.18	Spike	P	0 - 30
1847082	Mevinphos	13.2	Spike	P	0 - 30
1847082	Molinate	2.64	Spike	P	0 - 30
1847082	Norflurazon	4.09	Spike	P	0 - 30
1847082	Parathion Ethyl	2.14	Spike	P	0 - 30
1847082	Parathion Methyl	17.4	Spike	P	0 - 30
1847082	Pendimethalin	3.82	Spike	P	0 - 30
1847082	Phorate	13.1	Spike	P	0 - 30
1847082	Prometon	3.03	Spike	P	0 - 30
1847082	Prometryn	0.514	Spike	P	0 - 30
1847082	Simazine	2.63	Spike	P	0 - 30
1847082	Terbufos	2.26	Spike	P	0 - 30
1847082	Terbuthylazine	5.07	Spike	P	0 - 30
LFB	Acetochlor	1.63	LCS	P	0 - 30
LFB	Alachlor	0.650	LCS	P	0 - 30
LFB	Ametryn	5.21	LCS	P	0 - 30
LFB	Atrazine	2.05	LCS	P	0 - 30
LFB	Atrazine Desethyl	1.18	LCS	P	0 - 30
LFB	Azinphos Methyl	13.8	LCS	P	0 - 30
LFB	Bromacil	10.3	LCS	P	0 - 30
LFB	Butylate	4.89	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.30	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.17	LCS	P	0 - 30
LFB	Cyanazine	20.4	LCS	P	0 - 30
LFB	Demeton	13.0	LCS	P	0 - 30
LFB	Diazinon	4.13	LCS	P	0 - 30
LFB	Disulfoton	6.22	LCS	P	0 - 30
LFB	EPTC	13.3	LCS	P	0 - 30
LFB	Ethion	4.13	LCS	P	0 - 30
LFB	Ethoprop	6.80	LCS	P	0 - 30
LFB	Fenamiphos	1.64	LCS	P	0 - 30
LFB	Fipronil	3.72	LCS	P	0 - 30
LFB	Fipronil Sulfide	4.21	LCS	P	0 - 30
LFB	Fipronil Sulfone	2.06	LCS	P	0 - 30
LFB	Fonofos	1.32	LCS	P	0 - 30
LFB	Hexazinone	3.83	LCS	P	0 - 30
LFB	Malathion	5.99	LCS	P	0 - 30
LFB	Metalaxyl	5.17	LCS	P	0 - 30
LFB	Metolachlor	1.53	LCS	P	0 - 30
LFB	Metribuzin	3.30	LCS	P	0 - 30
LFB	Mevinphos	9.55	LCS	P	0 - 30
LFB	Molinate	8.07	LCS	P	0 - 30
LFB	Norflurazon	3.63	LCS	P	0 - 30
LFB	Parathion Ethyl	7.73	LCS	P	0 - 30
LFB	Parathion Methyl	8.77	LCS	P	0 - 30
LFB	Pendimethalin	4.78	LCS	P	0 - 30
LFB	Phorate	17.8	LCS	P	0 - 30
LFB	Prometon	1.84	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P314752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometryn	3.72	LCS	P	0 - 30
LFB	Simazine	7.63	LCS	P	0 - 30
LFB	Terbufos	1.33	LCS	P	0 - 30
LFB	Terbuthylazine	4.91	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P314475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847080	Glyphosate	5.46	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P314578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847021	Color (true)	1.42	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P314921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1846901	Total Alkalinity	0.287	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P315442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847021	TDS	1.32	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P314924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1846901	Fluoride	0.494	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P314656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847077	Organic Carbon	0.938	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: USGS O-2060-01
Batch ID: P314514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847080	2,4,5-T	6.73	Spike	P	0 - 30
1847080	2,4-D	2.91	Spike	P	0 - 30
1847080	Acetaminophen	1.28	Spike	P	0 - 30
1847080	Acifluorfen	6.17	Spike	P	0 - 30
1847080	Bentazon	0.993	Spike	P	0 - 30
1847080	Carbamazepine	7.81	Spike	P	0 - 30
1847080	Diuron	3.87	Spike	P	0 - 30
1847080	Fenuron	1.63	Spike	P	0 - 30
1847080	Fluridone	8.09	Spike	P	0 - 30
1847080	Imidacloprid	12.2	Spike	P	0 - 30
1847080	Linuron	1.63	Spike	P	0 - 30
1847080	Primidone	3.32	Spike	P	0 - 30
1847080	Silvex	4.24	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: 1847080
Field Sample ID: G1CE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	40.0	F	50 - 150
USGS O-2060-01	2,4-D-d3	53.5	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	59.8	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	65.6	P	40 - 160
USGS O-2060-01	Diuron-d6	40.2	P	40 - 150
USGS O-2060-01	Primidone-d5	50.6	P	40 - 150

Lab Sample ID: 1847081
Field Sample ID: G1CE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Decachlorobiphenyl	69.3	P	41 - 134

Lab Sample ID: 1847082
Field Sample ID: G1CE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	97.7	P	65 - 132
EPA 8270D	Simazine-d10	90.9	P	72 - 128

Quality Assurance Report
Calibration Verification

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72602
Included Lab Sample IDs: 1847078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.2	97.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A72603
Included Lab Sample IDs: 1847076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A72614
Included Lab Sample IDs: 1847076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115

Reference Method: EPA 8321B
Run ID: A72641
Included Lab Sample IDs: 1847080

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	104	110	P/P	70 - 160

Reference Method: SM 5310 B-00
Run ID: A72642
Included Lab Sample IDs: 1847077

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72660
Included Lab Sample IDs: 1847077

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.0	92.5	P/P	90 - 110

Reference Method: USGS O-2060-01
Run ID: A72670
Included Lab Sample IDs: 1847080

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4,5-T	101	116	P/P	50 - 150
2,4-D	101	105	P/P	50 - 150
Acifluorfen	106	108	P/P	50 - 150
Bentazon	140	139	P/P	50 - 150
Silvex	115	123	P/P	50 - 150

Quality Assurance Report
Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A72716
Included Lab Sample IDs: 1847080

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	92.0	96.0	P/P	60 - 150
Carbamazepine	114	121	P/P	60 - 150
Diuron	97.2	98.8	P/P	60 - 150
Fenuron	106	111	P/P	60 - 150
Fluridone	116	114	P/P	60 - 150
Imidacloprid	87.6	93.6	P/P	60 - 150
Linuron	106	115	P/P	60 - 150
Primidone	85.2	87.6	P/P	60 - 150

Reference Method: SM 2320 B-97
Run ID: A72739
Included Lab Sample IDs: 1847076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A72739
Included Lab Sample IDs: 1847076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A72765
Included Lab Sample IDs: 1847077

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

Reference Method: EPA 8270D
Run ID: A72807
Included Lab Sample IDs: 1847082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	94.0		P	80 - 120
Alachlor	94.0		P	80 - 120
Ametryn	98.0		P	80 - 120
Atrazine	93.9		P	80 - 120
Atrazine Desethyl	92.4		P	80 - 120
Azinphos Methyl	93.4		P	80 - 120
Bromacil	95.0		P	80 - 120
Butylate	89.3		P	80 - 120
Chlorpyrifos Ethyl	92.1		P	80 - 120
Chlorpyrifos Methyl	91.0		P	80 - 120
Cyanazine	95.7		P	80 - 120
Demeton	97.7		P	80 - 120
Diazinon	95.6		P	80 - 120
Disulfoton	102		P	80 - 120
EPTC	94.0		P	80 - 120
Ethion	95.9		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A72807
Included Lab Sample IDs: 1847082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ethoprop	99.0		P	80 - 120
Fenamiphos	95.1		P	80 - 120
Fipronil	89.7		P	80 - 120
Fipronil Sulfide	96.5		P	80 - 120
Fipronil Sulfone	93.9		P	80 - 120
Fonofos	97.5		P	80 - 120
Hexazinone	98.4		P	80 - 120
Malathion	95.6		P	80 - 120
Metalaxyl	98.0		P	80 - 120
Metribuzin	93.9		P	80 - 120
Mevinphos	90.7		P	80 - 120
Molinate	95.0		P	80 - 120
Norflurazon	95.2		P	80 - 120
Parathion Ethyl	98.7		P	80 - 120
Parathion Methyl	86.3		P	80 - 120
Pendimethalin	95.3		P	80 - 120
Phorate	104		P	80 - 120
Prometon	88.3		P	80 - 120
Prometryn	90.3		P	80 - 120
Simazine	92.6		P	80 - 120
Terbufos	100		P	80 - 120
Terbuthylazine	96.1		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A72822
Included Lab Sample IDs: 1847077

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A72830
Included Lab Sample IDs: 1847076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	99.0	P/P	90 - 110
Sulfate	101	96.1	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A72876
Included Lab Sample IDs: 1847082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Metolachlor	102		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A72901
Included Lab Sample IDs: 1847077

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Run ID: A72973
Included Lab Sample IDs: 1847081

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	106	111	P/P	85 - 115
Alpha-BHC	106	111	P/P	85 - 115
Beta-BHC	101	106	P/P	85 - 115
Carbophenothion	126*	131*	F/F	90 - 110
Chlordane	87.3	90.8	P/P	85 - 115
Chlorothalonil	98.7	101	P/P	90 - 110
Cypermethrin	112	108	P/P	85 - 115
DDD-p,p'	103	108	P/P	85 - 115
DDE-p,p'	106	112	P/P	85 - 115
DDT-p,p'	104	111	P/P	85 - 115
Delta-BHC	109	112	P/P	85 - 115
Dicofol	51.6*	59.2*	F/F	90 - 110
Dieldrin	106	112	P/P	85 - 115
Endosulfan I	101	107	P/P	85 - 115
Endosulfan II	102	108	P/P	85 - 115
Endosulfan Sulfate	104	109	P/P	85 - 115
Endrin	100	104	P/P	85 - 115
Endrin Aldehyde	103	112	P/P	85 - 115
Gamma-BHC	108	113	P/P	85 - 115
Heptachlor	111	113	P/P	85 - 115
Heptachlor Epoxide	107	113	P/P	85 - 115
Methoxychlor	104	110	P/P	90 - 110
Mirex	106	107	P/P	90 - 110
Permethrin	104	105	P/P	90 - 110
Toxaphene	113	107	P/P	85 - 115
Trifluralin	102	101	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		
							LCS	SMP	MS
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Toxaphene	107	95.9	91.5	110	90.9	10.7		18.6
EPA 180.1 Rev. 2.0	Turbidity							16.0	
EPA 300.0 Rev. 2.1	Chloride	103		102	101			0.0198	
	Sulfate	99.0		94.4	95.0				
EPA 350.1 Rev. 2.0	Ammonia-N	102		104	103				0.621
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104		111	109				1.19
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5		95.5	96.5				0.971
EPA 365.1 Rev. 2.0	Total-P	103							0.173
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	107		102	104				1.75
EPA 8270D	Acetochlor	84.3	83.0	80.8	81.9		1.63		1.39
	Alachlor	86.1	86.6	82.8	85.6		0.650		3.41
	Ametryn	102	108	85.0	87.0		5.21		1.60
	Atrazine	94.4	92.4				2.05		2.29

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Atrazine Desethyl	64.8	64.0	55.1	71.6	1.18		21.6
	Azinphos Methyl	126	110	108	119	13.8		9.34
	Bromacil	85.0	76.7	85.9	87.2	10.3		1.46
	Butylate	40.6	42.6	17.0	19.5	4.89		13.9
	Chlorpyrifos Ethyl	82.5	84.4	80.0	84.5	2.30		5.47
	Chlorpyrifos Methyl	77.5	76.6	67.1	69.2	1.17		3.11
	Cyanazine	97.3	79.3	81.1	80.4	20.4		0.862
	Demeton	63.0	71.7	69.6	73.2	13.0		5.14
	Diazinon	86.1	82.6	79.7	78.3	4.13		1.82
	Disulfoton	93.9	88.2	87.0	81.3	6.22		6.73
	EPTC	40.2	45.9	21.0	21.2	13.3		1.33
	Ethion	99.9	95.9	98.7	94.8	4.13		4.13
	Ethoprop	67.9	72.7	69.7	67.9	6.80		2.50
	Fenamiphos	91.4	89.9	86.0	87.8	1.64		1.97
	Fipronil	92.7	89.3	93.8	87.4	3.72		7.01
	Fipronil Sulfide	93.2	89.4	91.0	92.7	4.21		1.89
	Fipronil Sulfone	96.5	94.5	93.0	90.8	2.06		2.38
	Fonofos	78.5	77.4	69.4	70.6	1.32		1.72
	Hexazinone	103	98.9	101	96.6	3.83		2.71
	Malathion	108	102	107	98.4	5.99		8.51
	Metalaxyl	86.3	82.0	72.2	69.2	5.17		1.77
	Metolachlor	86.9	88.2			1.53		3.33
	Metribuzin	93.2	90.2	91.7	88.0	3.30		4.18
	Mevinphos	66.6	73.3	64.6	56.6	9.55		13.2
	Molinate	50.6	54.9	29.3	30.0	8.07		2.64
	Norflurazon	92.9	89.6	88.6	85.0	3.63		4.09
	Parathion Ethyl	95.3	88.2	93.3	95.3	7.73		2.14
	Parathion Methyl	94.9	86.9	91.2	76.6	8.77		17.4
	Pendimethalin	79.4	75.7	83.3	86.5	4.78		3.82
	Phorate	73.9	88.4	74.2	65.0	17.8		13.1
	Prometon	91.7	90.0	90.7	93.5	1.84		3.03
	Prometryn	90.8	87.5	86.4	86.0	3.72		0.514
	Simazine	112	104	94.6	97.1	7.63		2.63
	Terbufos	87.6	88.8	77.4	79.1	1.33		2.26
	Terbuthylazine	94.0	89.5	86.6	91.1	4.91		5.07
EPA 8321B	Glyphosate	54.0		35.6	37.6			5.46
SM 2120 B	Color (true)						1.42	
SM 2320 B-97	Total Alkalinity	102					0.287	
SM 2540 C-97	TDS						1.32	
SM 4500 F-C-97	Fluoride	98.5		99.4	100			0.494
SM 5310 B-00	Organic Carbon	98.2		101				0.938
USGS O-2060-01	2,4,5-T	98.0		117	109			6.73
	2,4-D	99.2		128	124			2.91
	Acetaminophen	115		62.8	62.0			1.28
	Acifluorfen	88.8		107	114			6.17
	Bentazon	136		207	209			0.993
	Carbamazepine	116		69.2	64.0			7.81
	Diuron	60.8		38.5	40.0			3.87
	Fenuron	100		48.8	49.6			1.63
	Fluridone	102		71.2	77.2			8.09
	Imidacloprid	81.2		89.6	101			12.2
	Linuron	92.0		74.4	73.2			1.63
	Primidone	90.4		59.2	61.2			3.32
	Silvex	124		171	164			4.24

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.	1847081
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1847076
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1847076
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1847076
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1847077
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1847077
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1847077
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1847077
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1847078
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1847082
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1847080
SM 2120 B / E31780	True Color measured at 450 nm	1847076
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1847076
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1847076
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1847076
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1847076
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1847077
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1847080
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1847080

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)	11/03/2016	11/04/2016	Fe-Val Siddell	11/15/2016	Vandana T. Nagar	1847081
EPA 180.1 Rev. 2.0	11/03/2016			11/03/2016 15:45	Julie Michelle Frank	1847076
EPA 300.0 Rev. 2.1	11/03/2016			11/18/2016	Ping Hua	1847076
EPA 350.1 Rev. 2.0	11/03/2016			11/10/2016	Julie Michelle Frank	1847077
EPA 351.2 Rev. 2.0	11/03/2016	11/17/2016	Martin Acosta	11/18/2016	Joseph Suarez	1847077
EPA 353.2 Rev. 2.0	11/03/2016			11/07/2016	Beverly Y. Sanders	1847077
EPA 365.1 Rev. 2.0	11/03/2016	11/14/2016	Adrian Shelby	11/15/2016	Lipi Saha	1847077
EPA 365.1 Rev. 2.0 dissolved	11/03/2016			11/03/2016 15:56	Julia Storbeck	1847078
EPA 8270D	11/03/2016	11/08/2016	John Kaba	11/09/2016	Irina Carbone	1847082
	11/03/2016	11/08/2016	John Kaba	11/16/2016	Irina Carbone	1847082
EPA 8321B	11/03/2016	11/04/2016	Mohammad Ghaffari	11/04/2016	Mohammad Ghaffari	1847080
SM 2120 B	11/03/2016			11/03/2016 15:44	Jared I. Manley	1847076
SM 2320 B-97	11/03/2016			11/10/2016	Dale L. Simmons	1847076
SM 2540 C-97	11/03/2016			11/07/2016	Sima Feizi	1847076
SM 2540 D-97	11/03/2016			11/07/2016	Sima Feizi	1847076
SM 4500 F-C-97	11/03/2016			11/10/2016	Dale L. Simmons	1847076
SM 5310 B-00	11/03/2016			11/04/2016	Julie Michelle Frank	1847077
USGS O-2060-01	11/03/2016	11/04/2016	Hoor Shaik	11/05/2016	Juyoung Kim	1847080
	11/03/2016	11/04/2016	Hoor Shaik	11/09/2016	Juyoung Kim	1847080