Chemical Analysis Report

NE-DIST-2016-06-02-04

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

Event Description: **Di water QC check**
Request ID: **RQ-2016-05-30-22**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 28-JUN-2016 13:56

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: Metals 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: DI WATER CHECK **Collection Date/Time: 06/01/2016 16:00**

Field ID: DI WATER CHECK Matrix: W-LAB-BLK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1804186	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P305755	
		Diuron	0.0055	I	ug/L	P305755	
		2,4-DB	0.0020	U	ug/L	P305755	
		Fenuron	0.0080	U	ug/L	P305755	
		2,4,5-T	0.0020	U	ug/L	P305755	
		Acifluorfen	0.0020	U	ug/L	P305755	
		Imidacloprid	0.0040	U	ug/L	P305755	
		Bentazon	0.0020	U	ug/L	P305755	
		Linuron	0.0040	U	ug/L	P305755	
		Dichlorprop	0.0020	U	ug/L	P305755	
		Dinoseb	0.020	U	ug/L	P305755	
		MCPA	0.0040	U	ug/L	P305755	
		Acetaminophen**	0.0040	U	ug/L	P305755	
		MCPP	0.0040	U	ug/L	P305755	
		Carbamazepine**	4.0E-04	U	ug/L	P305755	
		Silvex	0.0020	U	ug/L	P305755	
		Primidone**	0.0080	U	ug/L	P305755	
		Fluridone**	4.0E-04	U	ug/L	P305755	
1804187	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P305643	
		Iron	30	U	ug/L	P305643	
		Magnesium	0.040	U	mg/L	P305643	
		Potassium	0.30	U	mg/L	P305643	
		Sodium	0.50	U	mg/L	P305643	
		Zinc	5.0	U	ug/L	P305643	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P305643	
		Cadmium	0.020	U	ug/L	P305643	
		Chromium	0.050	U	ug/L	P305643	
		Copper	0.10	U	ug/L	P305643	
		Lead	0.050	U	ug/L	P305643	
		Nickel	0.050	U	ug/L	P305643	
		Silver	0.0050	U	ug/L	P305643	
1804188	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	0.0019	U	ug/L	P305797	
		Alpha-BHC	0.0019	U	ug/L	P305797	
		Beta-BHC	0.0019	U	ug/L	P305797	
		Delta-BHC	0.0019	U	ug/L	P305797	
		Gamma-BHC	0.0019	U	ug/L	P305797	
		Carbophenothion	0.0057	U	ug/L	P305797	
		Chlorothalonil	0.0076	U	ug/L	P305797	
		Cypermethrin	0.011	U	ug/L	P305797	
		DDD-p,p'	0.0038	U	ug/L	P305797	
		DDE-p,p'	0.0038	U	ug/L	P305797	
		DDT-p,p'	0.0038	U	ug/L	P305797	RPD
		Dicofol	0.023	U	ug/L	P305797	

Field ID: DI WATER CHECK Matrix: W-LAB-BLK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1804188	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Dieldrin	0.0019	U	ug/L	P305797	
		Endosulfan I	0.0019	U	ug/L	P305797	
		Endosulfan II	0.0019	U	ug/L	P305797	
		Endosulfan Sulfate	0.0038	U	ug/L	P305797	
		Endrin	0.0038	U	ug/L	P305797	
		Endrin Aldehyde	0.0038	U	ug/L	P305797	
		Heptachlor	0.0019	U	ug/L	P305797	
		Heptachlor Epoxide	0.0019	U	ug/L	P305797	
		Methoxychlor	0.0095	U	ug/L	P305797	
		Mirex	0.0038	U	ug/L	P305797	
		Permethrin	0.0095	U	ug/L	P305797	
1804189	EPA 8270D	Ametryn	0.31	U	ng/L	P305411	
		Atrazine	0.24	U	ng/L	P305411	
		Chlorpyrifos Ethyl	0.096	U	ng/L	P305411	
		Chlorpyrifos Methyl	0.096	U	ng/L	P305411	
		Disulfoton	0.31	U	ng/L	P305411	
		Ethion	0.14	U	ng/L	P305411	
		Ethoprop	0.096	U	ng/L	P305411	
		Hexazinone	0.48	U	ng/L	P305411	
		Malathion	0.33	U	ng/L	P305411	
		Metribuzin	0.19	U	ng/L	P305411	
		Mevinphos	0.48	U	ng/L	P305411	
		Norflurazon	0.48	U	ng/L	P305411	
		Phorate	0.24	U	ng/L	P305411	
		Prometryn	0.19	U	ng/L	P305411	
		Simazine	0.48	U	ng/L	P305411	
		Atrazine Desethyl	1.4	U	ng/L	P305411	
		Prometon	0.86	U	ng/L	P305411	
		Fipronil	0.24	U	ng/L	P305411	
		Molinate	0.29	U	ng/L	P305411	
		Pendimethalin	1.4	U	ng/L	P305411	
		Terbufos	0.096	U	ng/L	P305411	
		EPTC	1.2	U	ng/L	P305411	
		Terbuthylazine	0.41	U	ng/L	P305411	
		Bromacil	0.48	U	ng/L	P305411	
		Fipronil Sulfide	0.14	U	ng/L	P305411	
		Fipronil Sulfone	0.14	U	ng/L	P305411	
		Alachlor	0.24	U	ng/L	P305411	
		Azinphos Methyl	2.1	U	ng/L	P305411	
		Butylate	0.38	U	ng/L	P305411	
		Demeton	0.96	U	ng/L	P305411	
		Diazinon	0.12	U	ng/L	P305411	
		Fenamiphos	0.24	U	ng/L	P305411	
		Fonofos	0.19	U	ng/L	P305411	

Field ID: DI WATER CHECK Matrix: W-LAB-BLK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1804189	EPA 8270D	Metalaxyl	0.19	U	ng/L	P305411	
		Metolachlor	0.24	U	ng/L	P305411	
		Acetochlor	0.24	U	ng/L	P305411	
		Cyanazine	0.48	U	ng/L	P305411	
		Parathion Ethyl	0.24	U	ng/L	P305411	
		Parathion Methyl	0.24	U	ng/L	P305411	

Ref. Method and Comment:
USGS O-2060-01: No sample available for matrix spikes.
USGS O-2060-01: No sample available for matrix spikes. Results confirmed in re-extraction.
EPA 8270D: MS accuracy for Atrazine, Simazine, Bromacil and Norflurazon 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: P305797

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305643

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P305643

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.050	U	ug/L
Silver	0.0050	U	ug/L

Reference Method: EPA 8270D
Batch ID: P305411

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
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.5	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P305755

Component	Result	Code	Units
2,4,5-T	0.0020	U	ug/L
2,4-D	0.0020	U	ug/L
2,4-DB	0.0020	U	ug/L
Acetaminophen	0.0040	U	ug/L
Acifluorfen	0.0020	U	ug/L
Bentazon	0.0020	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Dichlorprop	0.0020	U	ug/L
Dinoseb	0.020	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
MCPA	0.0040	U	ug/L
MCPP	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Silvex	0.0020	U	ug/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P305797

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	75.8	85.9	P/P	70 - 130
Alpha-BHC	72.5	83.7	P/P	70 - 130
Beta-BHC	70.3	88.1	P/P	70 - 130
DDD-p,p'	97.8	117	P/P	70 - 130
DDE-p,p'	86.7	108	P/P	70 - 130
DDT-p,p'	92.8	117	P/P	70 - 130
Delta-BHC	74.9	95.9	P/P	70 - 130
Dieldrin	88.7	110	P/P	70 - 130
Endosulfan I	86.6	107	P/P	70 - 130
Endosulfan II	92.6	115	P/P	70 - 130
Endosulfan Sulfate	93.9	118	P/P	70 - 130
Endrin	99.0	124	P/P	81 - 147
Endrin Aldehyde	89.0	108	P/P	70 - 130
Gamma-BHC	70.1	89.0	P/P	70 - 130
Heptachlor	100	110	P/P	70 - 130
Heptachlor Epoxide	86.2	102	P/P	70 - 130
Methoxychlor	96.3	121	P/P	86 - 145

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	109		P	85 - 115
Magnesium	106		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Potassium	103		P	85 - 115
Sodium	105		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P305643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.9		P	85 - 115
Cadmium	98.5		P	85 - 115
Chromium	99.2		P	85 - 115
Copper	98.3		P	85 - 115
Lead	100		P	85 - 115
Nickel	98.7		P	85 - 115
Silver	96.5		P	85 - 115

Reference Method: EPA 8270D
Batch ID: P305411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	93.5	98.0	P/P	84 - 119
Alachlor	91.8	98.2	P/P	84 - 121
Ametryn	91.2	94.2	P/P	66 - 127
Atrazine	98.9	98.0	P/P	72 - 119
Atrazine Desethyl	54.9	65.7	P/P	21 - 111
Azinphos Methyl	110	123	P/P	79 - 185
Bromacil	65.5	67.1	P/P	39 - 122
Butylate	60.9	65.9	P/P	36 - 94.0
Chlorpyrifos Ethyl	86.8	88.4	P/P	54 - 101
Chlorpyrifos Methyl	80.2	80.0	P/P	28 - 114
Cyanazine	121	131	P/P	58 - 201
Demeton	65.7	72.2	P/P	57 - 130
Diazinon	92.4	96.3	P/P	79 - 124
Disulfoton	72.8	81.6	P/P	45 - 140
EPTC	57.5	63.5	P/P	43 - 95.0
Ethion	103	105	P/P	65 - 125
Ethoprop	79.0	81.3	P/P	69 - 107
Fenamiphos	85.3	86.4	P/P	78 - 129
Fipronil	76.5	79.6	P/P	62 - 125
Fipronil Sulfide	70.5	73.9	P/P	65 - 119
Fipronil Sulfone	71.0	68.7	P/P	64 - 122
Fonofos	82.0	83.5	P/P	70 - 112
Hexazinone	95.7	97.7	P/P	44 - 147
Malathion	97.0	101	P/P	72 - 125
Metalaxyl	85.6	88.2	P/P	83 - 113
Metolachlor	93.9	98.5	P/P	85 - 120
Metribuzin	87.3	99.0	P/P	68 - 129
Mevinphos	80.7	83.4	P/P	35 - 125
Molinate	67.3	75.9	P/P	51 - 100
Norflurazon	80.4	86.4	P/P	66 - 127
Parathion Ethyl	89.9	90.4	P/P	86 - 108
Parathion Methyl	89.0	92.1	P/P	87 - 125

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P305411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pendimethalin	74.4	78.0	P/P	53 - 136
Phorate	79.2	82.6	P/P	52 - 113
Prometon	95.3	98.4	P/P	67 - 125
Prometryn	92.7	95.7	P/P	73 - 114
Simazine	94.0	97.5	P/P	66 - 123
Terbufos	82.0	86.2	P/P	58 - 116
Terbuthylazine	96.9	101	P/P	77 - 113

Reference Method: USGS O-2060-01
Batch ID: P305755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	95.2	97.6	P/P	40 - 140
2,4-D	100	111	P/P	40 - 140
2,4-DB	93.2	106	P/P	40 - 140
Acetaminophen	108	108	P/P	40 - 140
Acifluorfen	89.2	95.6	P/P	40 - 140
Bentazon	112	114	P/P	40 - 140
Carbamazepine	130	125	P/P	40 - 140
Dichlorprop	93.2	103	P/P	40 - 140
Dinoseb	90.0	94.0	P/P	40 - 140
Diuron	106	121	P/P	40 - 140
Fenuron	108	108	P/P	40 - 140
Fluridone	112	120	P/P	40 - 140
Imidacloprid	108	102	P/P	40 - 160
Linuron	112	105	P/P	40 - 140
MCPA	101	115	P/P	40 - 140
MCPP	96.0	108	P/P	40 - 140
Primidone	106	120	P/P	40 - 140
Silvex	106	118	P/P	40 - 140

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P305797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1804244	Aldrin	91.8	80.8	P/P	70 - 130
1804244	Alpha-BHC	96.5	85.4	P/P	70 - 130
1804244	Beta-BHC	112	99.0	P/P	70 - 130
1804244	DDD-p,p'	115	101	P/P	70 - 130
1804244	DDE-p,p'	113	97.1	P/P	70 - 130
1804244	DDT-p,p'	110	80.0	P/P	70 - 130
1804244	Delta-BHC	120	104	P/P	70 - 130
1804244	Dieldrin	109	94.8	P/P	70 - 130
1804244	Endosulfan I	108	91.6	P/P	70 - 130
1804244	Endosulfan II	116	97.0	P/P	70 - 130
1804244	Endosulfan Sulfate	126	108	P/P	70 - 130
1804244	Endrin	140	112	P/P	81 - 147
1804244	Endrin Aldehyde	108	90.8	P/P	70 - 130

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P305797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1804244	Gamma-BHC	96.2	86.5	P/P	70 - 130
1804244	Heptachlor	98.3	92.3	P/P	70 - 130
1804244	Heptachlor Epoxide	108	92.8	P/P	70 - 130
1804244	Methoxychlor	126	109	P/P	86 - 145

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1803728	Calcium	109		P	80 - 120
1803728	Iron	108		P	80 - 120
1803728	Magnesium	105		P	80 - 120
1803728	Potassium	106		P	80 - 120
1803728	Sodium	107		P	80 - 120
1803728	Zinc	97.8		P	80 - 120
1804052	Calcium	108		P	80 - 120
1804052	Iron	108	110	P/P	80 - 120
1804052	Magnesium	110		P	80 - 120
1804052	Potassium	107		P	80 - 120
1804052	Sodium	106		P	80 - 120
1804052	Zinc	98.8	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P305643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1803728	Arsenic	98.7		P	80 - 120
1803728	Cadmium	97.7		P	80 - 120
1803728	Chromium	98.0		P	80 - 120
1803728	Copper	92.5		P	80 - 120
1803728	Lead	98.6		P	80 - 120
1803728	Nickel	94.7		P	80 - 120
1803728	Silver	96.3		P	80 - 120
1804052	Arsenic	103	102	P/P	80 - 120
1804052	Cadmium	102	99.9	P/P	80 - 120
1804052	Chromium	100	99.4	P/P	80 - 120
1804052	Copper	96.8	95.1	P/P	80 - 120
1804052	Lead	102	101	P/P	80 - 120
1804052	Nickel	96.4	97.1	P/P	80 - 120
1804052	Silver	97.0	96.1	P/P	80 - 120

Reference Method: EPA 8270D
Batch ID: P305411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1804000	Acetochlor	100	108	P/P	84 - 119
1804000	Alachlor	96.1	108	P/P	84 - 121
1804000	Ametryn	115	120	P/P	66 - 127
1804000	Atrazine Desethyl	52.3	65.2	P/P	21 - 111
1804000	Azinphos Methyl	139	149	P/P	79 - 185
1804000	Butylate	53.7	66.1	P/P	36 - 94.0
1804000	Chlorpyrifos Ethyl	88.6	91.2	P/P	54 - 101

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P305411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1804000	Chlorpyrifos Methyl	84.7	87.8	P/P	28 - 114
1804000	Cyanazine	147	135	P/P	58 - 201
1804000	Demeton	76.5	85.0	P/P	57 - 130
1804000	Diazinon	104	108	P/P	79 - 124
1804000	Disulfoton	104	100	P/P	45 - 140
1804000	EPTC	57.6	66.7	P/P	43 - 95.0
1804000	Ethion	92.9	93.0	P/P	65 - 125
1804000	Ethoprop	91.3	93.4	P/P	69 - 107
1804000	Fenamiphos	108	108	P/P	78 - 129
1804000	Fipronil	90.9	100	P/P	62 - 125
1804000	Fipronil Sulfide	81.2	88.0	P/P	65 - 119
1804000	Fipronil Sulfone	88.4	89.9	P/P	64 - 122
1804000	Fonofos	82.3	87.0	P/P	70 - 112
1804000	Hexazinone	99.4	98.4	P/P	44 - 147
1804000	Malathion	103	104	P/P	72 - 125
1804000	Metalaxyl	102	108	P/P	83 - 113
1804000	Metolachlor	99.7	107	P/P	85 - 120
1804000	Metribuzin	105	106	P/P	68 - 129
1804000	Mevinphos	81.2	91.9	P/P	35 - 125
1804000	Molinate	65.8	87.7	P/P	51 - 100
1804000	Parathion Ethyl	87.3	88.0	P/P	86 - 108
1804000	Parathion Methyl	94.5	99.0	P/P	87 - 125
1804000	Pendimethalin	83.3	86.1	P/P	53 - 136
1804000	Phorate	85.0	93.8	P/P	52 - 113
1804000	Prometon	80.1	102	P/P	67 - 125
1804000	Prometryn	101	112	P/P	73 - 114
1804000	Terbufos	88.5	94.3	P/P	58 - 116
1804000	Terbuthylazine	86.7	101	P/P	77 - 113

Quality Assurance Report
Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P305797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1804244	Aldrin	12.9	Spike	P	0 - 30
1804244	Alpha-BHC	12.4	Spike	P	0 - 30
1804244	Beta-BHC	12.6	Spike	P	0 - 30
1804244	DDD-p,p'	12.6	Spike	P	0 - 30
1804244	DDE-p,p'	15.3	Spike	P	0 - 30
1804244	DDT-p,p'	32.1	Spike	F	0 - 30
1804244	Delta-BHC	14.3	Spike	P	0 - 30
1804244	Dieldrin	14.0	Spike	P	0 - 30
1804244	Endosulfan I	16.4	Spike	P	0 - 30
1804244	Endosulfan II	18.5	Spike	P	0 - 30
1804244	Endosulfan Sulfate	15.8	Spike	P	0 - 30
1804244	Endrin	21.7	Spike	P	0 - 30
1804244	Endrin Aldehyde	17.2	Spike	P	0 - 30
1804244	Gamma-BHC	10.8	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P305797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1804244	Heptachlor	6.56	Spike	P	0 - 30
1804244	Heptachlor Epoxide	15.7	Spike	P	0 - 30
1804244	Methoxychlor	14.9	Spike	P	0 - 30
LFB	Aldrin	12.5	LCS	P	0 - 30
LFB	Alpha-BHC	14.4	LCS	P	0 - 30
LFB	Beta-BHC	22.5	LCS	P	0 - 30
LFB	DDD-p,p'	18.2	LCS	P	0 - 30
LFB	DDE-p,p'	21.6	LCS	P	0 - 30
LFB	DDT-p,p'	22.8	LCS	P	0 - 30
LFB	Delta-BHC	24.6	LCS	P	0 - 30
LFB	Dieldrin	21.0	LCS	P	0 - 30
LFB	Endosulfan I	20.9	LCS	P	0 - 30
LFB	Endosulfan II	21.7	LCS	P	0 - 30
LFB	Endosulfan Sulfate	23.2	LCS	P	0 - 30
LFB	Endrin	22.6	LCS	P	0 - 30
LFB	Endrin Aldehyde	18.9	LCS	P	0 - 30
LFB	Gamma-BHC	23.8	LCS	P	0 - 30
LFB	Heptachlor	9.13	LCS	P	0 - 30
LFB	Heptachlor Epoxide	16.9	LCS	P	0 - 30
LFB	Methoxychlor	22.9	LCS	P	0 - 30

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1804052	Calcium	6.01	Spike	P	0 - 20
1804052	Iron	1.84	Spike	P	0 - 20
1804052	Magnesium	3.84	Spike	P	0 - 20
1804052	Potassium	3.08	Spike	P	0 - 20
1804052	Sodium	4.89	Spike	P	0 - 20
1804052	Zinc	2.06	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P305643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1804052	Arsenic	1.16	Spike	P	0 - 20
1804052	Cadmium	2.44	Spike	P	0 - 20
1804052	Chromium	0.993	Spike	P	0 - 20
1804052	Copper	1.75	Spike	P	0 - 20
1804052	Lead	0.550	Spike	P	0 - 20
1804052	Nickel	0.697	Spike	P	0 - 20
1804052	Silver	0.999	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P305411

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

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P305411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1804000	Acetochlor	7.49	Spike	P	0 - 30
1804000	Alachlor	11.8	Spike	P	0 - 30
1804000	Ametryn	3.72	Spike	P	0 - 30
1804000	Atrazine	3.52	Spike	P	0 - 30
1804000	Atrazine Desethyl	14.3	Spike	P	0 - 30
1804000	Azinphos Methyl	6.89	Spike	P	0 - 30
1804000	Bromacil	15.2	Spike	P	0 - 30
1804000	Butylate	20.8	Spike	P	0 - 30
1804000	Chlorpyrifos Ethyl	2.57	Spike	P	0 - 30
1804000	Chlorpyrifos Methyl	3.65	Spike	P	0 - 30
1804000	Cyanazine	8.33	Spike	P	0 - 30
1804000	Demeton	10.5	Spike	P	0 - 30
1804000	Diazinon	4.09	Spike	P	0 - 30
1804000	Disulfoton	4.32	Spike	P	0 - 30
1804000	EPTC	14.7	Spike	P	0 - 30
1804000	Ethion	0.126	Spike	P	0 - 30
1804000	Ethoprop	2.28	Spike	P	0 - 30
1804000	Fenamiphos	0.366	Spike	P	0 - 30
1804000	Fipronil	10.0	Spike	P	0 - 30
1804000	Fipronil Sulfide	8.07	Spike	P	0 - 30
1804000	Fipronil Sulfone	1.67	Spike	P	0 - 30
1804000	Fonofos	5.64	Spike	P	0 - 30
1804000	Hexazinone	0.980	Spike	P	0 - 30
1804000	Malathion	1.08	Spike	P	0 - 30
1804000	Metalaxyl	3.06	Spike	P	0 - 30
1804000	Metolachlor	7.01	Spike	P	0 - 30
1804000	Metribuzin	1.26	Spike	P	0 - 30
1804000	Mevinphos	12.4	Spike	P	0 - 30
1804000	Molinate	28.5	Spike	P	0 - 30
1804000	Norflurazon	8.19	Spike	P	0 - 30
1804000	Parathion Ethyl	0.800	Spike	P	0 - 30
1804000	Parathion Methyl	4.66	Spike	P	0 - 30
1804000	Pendimethalin	3.32	Spike	P	0 - 30
1804000	Phorate	9.87	Spike	P	0 - 30
1804000	Prometon	13.2	Spike	P	0 - 30
1804000	Prometryn	9.59	Spike	P	0 - 30
1804000	Simazine	11.0	Spike	P	0 - 30
1804000	Terbufos	6.30	Spike	P	0 - 30
1804000	Terbuthylazine	15.3	Spike	P	0 - 30
LFB	Acetochlor	4.75	LCS	P	0 - 30
LFB	Alachlor	6.82	LCS	P	0 - 30
LFB	Ametryn	3.28	LCS	P	0 - 30
LFB	Atrazine	0.842	LCS	P	0 - 30
LFB	Atrazine Desethyl	17.8	LCS	P	0 - 30
LFB	Azinphos Methyl	11.5	LCS	P	0 - 30
LFB	Bromacil	2.37	LCS	P	0 - 30
LFB	Butylate	7.86	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	1.84	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	0.218	LCS	P	0 - 30
LFB	Cyanazine	7.91	LCS	P	0 - 30
LFB	Demeton	9.49	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P305411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	4.14	LCS	P	0 - 30
LFB	Disulfoton	11.4	LCS	P	0 - 30
LFB	EPTC	10.0	LCS	P	0 - 30
LFB	Ethion	2.32	LCS	P	0 - 30
LFB	Ethoprop	2.81	LCS	P	0 - 30
LFB	Fenamiphos	1.31	LCS	P	0 - 30
LFB	Fipronil	4.04	LCS	P	0 - 30
LFB	Fipronil Sulfide	4.61	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.40	LCS	P	0 - 30
LFB	Fonofos	1.81	LCS	P	0 - 30
LFB	Hexazinone	2.09	LCS	P	0 - 30
LFB	Malathion	3.84	LCS	P	0 - 30
LFB	Metalaxyl	2.94	LCS	P	0 - 30
LFB	Metolachlor	4.84	LCS	P	0 - 30
LFB	Metribuzin	12.6	LCS	P	0 - 30
LFB	Mevinphos	3.19	LCS	P	0 - 30
LFB	Molinate	12.1	LCS	P	0 - 30
LFB	Norflurazon	7.17	LCS	P	0 - 30
LFB	Parathion Ethyl	0.578	LCS	P	0 - 30
LFB	Parathion Methyl	3.46	LCS	P	0 - 30
LFB	Pendimethalin	4.64	LCS	P	0 - 30
LFB	Phorate	4.10	LCS	P	0 - 30
LFB	Prometon	3.14	LCS	P	0 - 30
LFB	Prometryn	3.19	LCS	P	0 - 30
LFB	Simazine	3.64	LCS	P	0 - 30
LFB	Terbufos	5.02	LCS	P	0 - 30
LFB	Terbuthylazine	4.35	LCS	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P305755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4,5-T	2.49	LCS	P	0 - 30
LFB	2,4-D	10.6	LCS	P	0 - 30
LFB	2,4-DB	13.2	LCS	P	0 - 30
LFB	Acetaminophen	0.370	LCS	P	0 - 30
LFB	Acifluorfen	6.93	LCS	P	0 - 30
LFB	Bentazon	2.12	LCS	P	0 - 30
LFB	Carbamazepine	4.07	LCS	P	0 - 30
LFB	Dichlorprop	10.2	LCS	P	0 - 30
LFB	Dinoseb	4.35	LCS	P	0 - 30
LFB	Diuron	13.0	LCS	P	0 - 30
LFB	Fenuron	0.371	LCS	P	0 - 30
LFB	Fluridone	6.92	LCS	P	0 - 30
LFB	Imidacloprid	5.32	LCS	P	0 - 30
LFB	Linuron	7.00	LCS	P	0 - 30
LFB	MCPA	13.3	LCS	P	0 - 30
LFB	MCPP	11.8	LCS	P	0 - 30
LFB	Primidone	12.1	LCS	P	0 - 30
LFB	Silvex	10.4	LCS	P	0 - 30

Quality Assurance Report
Precision

* 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: 1804186
Field Sample ID: DI WATER CHECK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	2,4-D-d3	99.8	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	122	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	127	P	40 - 160
USGS O-2060-01	Diuron-d6	88.6	P	40 - 150
USGS O-2060-01	Primidone-d5	114	P	40 - 150

Lab Sample ID: 1804188
Field Sample ID: DI WATER CHECK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Decachlorobiphenyl	88.3	P	44 - 128

Lab Sample ID: 1804189
Field Sample ID: DI WATER CHECK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	99.1	P	67 - 131
EPA 8270D	Simazine-d10	94.4	P	75 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A69904
Included Lab Sample IDs: 1804187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	104	P/P	95 - 105
Iron	105	103	P/P	95 - 105
Magnesium	105	103	P/P	95 - 105
Potassium	103	102	P/P	95 - 105
Sodium	103	102	P/P	95 - 105
Zinc	101	99.2	P/P	95 - 105

Reference Method: USGS O-2060-01
Run ID: A69931
Included Lab Sample IDs: 1804186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	110	104	P/P	60 - 150
Carbamazepine	140	127	P/P	60 - 150
Diuron	112	105	P/P	60 - 150
Fenuron	124	120	P/P	60 - 150
Fluridone	119	118	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A69931
Included Lab Sample IDs: 1804186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	110	110	P/P	60 - 150
Linuron	143	146	P/P	60 - 150
Primidone	110	123	P/P	60 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A69936
Included Lab Sample IDs: 1804187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	98.8	P/P	90 - 110
Cadmium	96.8	96.1	P/P	90 - 110
Chromium	98.1	98.4	P/P	90 - 110
Copper	100	98.8	P/P	90 - 110
Lead	95.8	96.1	P/P	90 - 110
Nickel	99.6	98.3	P/P	90 - 110
Silver	95.0	95.1	P/P	90 - 110

Reference Method: USGS O-2060-01
Run ID: A69958
Included Lab Sample IDs: 1804186

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4,5-T	113	107	P/P	50 - 150
2,4-D	100	107	P/P	50 - 150
2,4-DB	92.8	98.6	P/P	50 - 150
Acifluorfen	96.6	100	P/P	50 - 150
Bentazon	99.4	96.0	P/P	50 - 150
Dichlorprop	101	93.2	P/P	50 - 150
Dinoseb	99.4	96.2	P/P	50 - 150
MCPA	104	104	P/P	50 - 150
MCPP	105	104	P/P	50 - 150
Silvex	101	112	P/P	50 - 150

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Run ID: A70011
Included Lab Sample IDs: 1804188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.7	97.7	P/P	85 - 115
Alpha-BHC	98.7	100	P/P	85 - 115
Beta-BHC	97.4	98.8	P/P	85 - 115
Carbophenothion	109	102	P/P	90 - 110
Chlorothalonil	107	100	P/P	90 - 110
Cypermethrin	106	103	P/P	85 - 115
DDD-p,p'	96.9	98.1	P/P	85 - 115
DDE-p,p'	96.1	98.1	P/P	85 - 115
DDT-p,p'	97.9	102	P/P	85 - 115
Delta-BHC	100	102	P/P	85 - 115
Dicofol	105	102	P/P	90 - 110
Dieldrin	96.2	98.4	P/P	85 - 115
Endosulfan I	96.7	98.4	P/P	85 - 115

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Run ID: A70011
Included Lab Sample IDs: 1804188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan II	96.4	98.7	P/P	85 - 115
Endosulfan Sulfate	96.8	99.4	P/P	85 - 115
Endrin	100	103	P/P	85 - 115
Endrin Aldehyde	94.2	95.5	P/P	85 - 115
Gamma-BHC	101	103	P/P	85 - 115
Heptachlor	97.8	101	P/P	85 - 115
Heptachlor Epoxide	96.6	98.4	P/P	85 - 115
Methoxychlor	96.4	102	P/P	90 - 110
Mirex	110	102	P/P	90 - 110
Permethrin	107	97.7	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A70189
Included Lab Sample IDs: 1804189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	103		P	80 - 120
Atrazine	99.0		P	80 - 120
Atrazine Desethyl	93.1		P	80 - 120
Azinphos Methyl	95.4		P	80 - 120
Bromacil	97.9		P	80 - 120
Butylate	100		P	80 - 120
Chlorpyrifos Ethyl	94.3		P	80 - 120
Chlorpyrifos Methyl	92.2		P	80 - 120
Cyanazine	96.6		P	80 - 120
Demeton	102		P	80 - 120
Diazinon	98.2		P	80 - 120
Disulfoton	92.8		P	80 - 120
EPTC	99.8		P	80 - 120
Ethion	104		P	80 - 120
Ethoprop	98.5		P	80 - 120
Fenamiphos	98.3		P	80 - 120
Fipronil	91.3		P	80 - 120
Fipronil Sulfide	94.4		P	80 - 120
Fipronil Sulfone	92.8		P	80 - 120
Fonofos	93.5		P	80 - 120
Hexazinone	98.9		P	80 - 120
Malathion	95.4		P	80 - 120
Metalaxyl	102		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	95.1		P	80 - 120
Mevinphos	98.2		P	80 - 120
Molinate	104		P	80 - 120
Norflurazon	97.9		P	80 - 120
Parathion Ethyl	96.5		P	80 - 120
Parathion Methyl	96.6		P	80 - 120
Pendimethalin	85.1		P	80 - 120
Phorate	95.1		P	80 - 120
Prometon	112		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A70189
Included Lab Sample IDs: 1804189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Prometryn	101		P	80 - 120
Simazine	95.9		P	80 - 120
Terbufos	96.7		P	80 - 120
Terbuthylazine	101		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	75.8	85.9	91.8	80.8		12.5		12.9
	Alpha-BHC	72.5	83.7	96.5	85.4		14.4		12.4
	Beta-BHC	70.3	88.1	112	99.0		22.5		12.6
	DDD-p,p'	97.8	117	115	101		18.2		12.6
	DDE-p,p'	86.7	108	113	97.1		21.6		15.3
	DDT-p,p'	92.8	117	110	80.0		22.8		32.1
	Delta-BHC	74.9	95.9	120	104		24.6		14.3
	Dieldrin	88.7	110	109	94.8		21.0		14.0
	Endosulfan I	86.6	107	108	91.6		20.9		16.4
	Endosulfan II	92.6	115	116	97.0		21.7		18.5
	Endosulfan Sulfate	93.9	118	126	108		23.2		15.8
	Endrin	99.0	124	140	112		22.6		21.7
	Endrin Aldehyde	89.0	108	108	90.8		18.9		17.2
	Gamma-BHC	70.1	89.0	96.2	86.5		23.8		10.8
	Heptachlor	100	110	98.3	92.3		9.13		6.56
	Heptachlor Epoxide	86.2	102	108	92.8		16.9		15.7
	Methoxychlor	96.3	121	126	109		22.9		14.9
EPA 200.7 Rev. 4.4	Calcium	107		109	108				6.01
	Iron	109		108	108	110			1.84
	Magnesium	106		105	110				3.84
	Potassium	103		106	107				3.08
	Sodium	105		107	106				4.89
	Zinc	100		97.8	98.8	101			2.06
EPA 200.8 Rev. 5.4	Arsenic	99.9		98.7	103	102			1.16
	Cadmium	98.5		97.7	102	99.9			2.44
	Chromium	99.2		98.0	100	99.4			0.993
	Copper	98.3		92.5	96.8	95.1			1.75
	Lead	100		98.6	102	101			0.550
	Nickel	98.7		94.7	96.4	97.1			0.697
	Silver	96.5		96.3	97.0	96.1			0.999
EPA 8270D	Acetochlor	93.5	98.0	100	108		4.75		7.49
	Alachlor	91.8	98.2	96.1	108		6.82		11.8
	Ametryn	91.2	94.2	115	120		3.28		3.72
	Atrazine	98.9	98.0				0.842		3.52
	Atrazine Desethyl	54.9	65.7	52.3	65.2		17.8		14.3

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Azinphos Methyl	110	123	139	149	11.5		6.89
	Bromacil	65.5	67.1			2.37		15.2
	Butylate	60.9	65.9	53.7	66.1	7.86		20.8
	Chlorpyrifos Ethyl	86.8	88.4	88.6	91.2	1.84		2.57
	Chlorpyrifos Methyl	80.2	80.0	84.7	87.8	0.218		3.65
	Cyanazine	121	131	147	135	7.91		8.33
	Demeton	65.7	72.2	76.5	85.0	9.49		10.5
	Diazinon	92.4	96.3	104	108	4.14		4.09
	Disulfoton	72.8	81.6	104	100	11.4		4.32
	EPTC	57.5	63.5	57.6	66.7	10.0		14.7
	Ethion	103	105	92.9	93.0	2.32		0.126
	Ethoprop	79.0	81.3	91.3	93.4	2.81		2.28
	Fenamiphos	85.3	86.4	108	108	1.31		0.366
	Fipronil	76.5	79.6	90.9	100	4.04		10.0
	Fipronil Sulfide	70.5	73.9	81.2	88.0	4.61		8.07
	Fipronil Sulfone	71.0	68.7	88.4	89.9	3.40		1.67
	Fonofos	82.0	83.5	82.3	87.0	1.81		5.64
	Hexazinone	95.7	97.7	99.4	98.4	2.09		0.980
	Malathion	97.0	101	103	104	3.84		1.08
	Metalaxyl	85.6	88.2	102	108	2.94		3.06
	Metolachlor	93.9	98.5	99.7	107	4.84		7.01
	Metribuzin	87.3	99.0	105	106	12.6		1.26
	Mevinphos	80.7	83.4	81.2	91.9	3.19		12.4
	Molinate	67.3	75.9	65.8	87.7	12.1		28.5
	Norflurazon	80.4	86.4			7.17		8.19
	Parathion Ethyl	89.9	90.4	87.3	88.0	0.578		0.800
	Parathion Methyl	89.0	92.1	94.5	99.0	3.46		4.66
	Pendimethalin	74.4	78.0	83.3	86.1	4.64		3.32
	Phorate	79.2	82.6	85.0	93.8	4.10		9.87
	Prometon	95.3	98.4	80.1	102	3.14		13.2
	Prometryn	92.7	95.7	101	112	3.19		9.59
	Simazine	94.0	97.5			3.64		11.0
	Terbufos	82.0	86.2	88.5	94.3	5.02		6.30
	Terbuthylazine	96.9	101	86.7	101	4.35		15.3
USGS O-2060-01	2,4,5-T	95.2	97.6			2.49		
	2,4-D	100	111			10.6		
	2,4-DB	93.2	106			13.2		
	Acetaminophen	108	108			0.370		
	Acifluorfen	89.2	95.6			6.93		
	Bentazon	112	114			2.12		
	Carbamazepine	130	125			4.07		
	Dichlorprop	93.2	103			10.2		
	Dinoseb	90.0	94.0			4.35		
	Diuron	106	121			13.0		
	Fenuron	108	108			0.371		
	Fluridone	112	120			6.92		
	Imidacloprid	108	102			5.32		
	Linuron	112	105			7.00		
	MCPA	101	115			13.3		
	MCPP	96.0	108			11.8		
	Primidone	106	120			12.1		
	Silvex	106	118			10.4		

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.	1804188
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1804187
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1804187
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1804189
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1804186
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1804186

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)	06/02/2016	06/06/2016	Rasheda Ghaffari	06/11/2016	Vandana T. Nagar	1804188
EPA 200.7 Rev. 4.4	06/02/2016	06/06/2016	Elliott D. Healy	06/07/2016	Joshua Ayres	1804187
EPA 200.8 Rev. 5.4	06/02/2016	06/06/2016	Elliott D. Healy	06/08/2016	Charles J. Peterson	1804187
EPA 8270D	06/02/2016	06/02/2016	Fe-Val Siddell	06/21/2016	Irina Carbone	1804189
USGS O-2060-01	06/02/2016	06/08/2016	Hoor Shaik	06/09/2016	Juyoung Kim	1804186