

Chemical Analysis Report

NE-DIST-2016-07-28-01

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

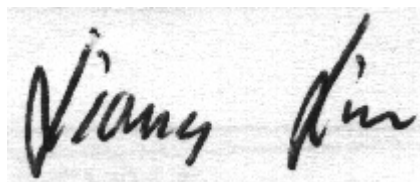
Event Description: **Suwannee 3**
Request ID: **RQ-2016-07-25-04**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 19-AUG-2016 16:29

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

NON-CONFORMANCE REPORT INCLUDED

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: 21030152 HAUGUE BRANCH @441

Collection Date/Time: 07/26/2016 10:05

Field ID: 21030152 HAUGUE BRANCH @441

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819843	EPA 180.1 Rev. 2.0	Turbidity	0.75	Q	NTU	P308804	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P309378	
		Sulfate	34		mg SO4/L	P309382	
	SM 2120 B	Color (true)	31	Q	PCU	P308810	
	SM 2320 B-97	Total Alkalinity	155		mg CaCO3/L	P308919	
	SM 2540 C-97	TDS	254		mg/L	P309555	
	SM 2540 D-97	TSS	2	U	mg/L	P309445	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P308922	
1819845	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P308956	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P309245	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.8		mg N/L	P309034	
	EPA 365.1 Rev. 2.0	Total-P	0.62		mg P/L	P309283	
	SM 5310 B-00	Organic Carbon	6.3		mg C/L	P309198	
1819847	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.55	Q	mg P/L	P308824	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired prior to receipt.

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2120 B: The sample expired prior to receipt.

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 dissolved: O-Phosphate-P: The sample expired prior to receipt.

Sample Location: FIELD BLANK

Collection Date/Time: 07/26/2016 10:15

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819844	EPA 180.1 Rev. 2.0	Turbidity	0.10	UQ	NTU	P308804	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P309378	
		Sulfate	0.20	U	mg SO4/L	P309382	
	SM 2120 B	Color (true)	2.5	UQ	PCU	P308810	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P308919	
	SM 2540 C-97	TDS	15	U	mg/L	P309555	
	SM 2540 D-97	TSS	2	U	mg/L	P309445	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P308922	
1819846	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P308956	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P309245	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P309034	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P309283	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P309198	
1819848	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P308824	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired prior to receipt.

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2120 B: The sample expired prior to receipt.

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 dissolved: O-Phosphate-P: The sample expired prior to receipt.

Sample Location: 21030152 HAUGUE BRANCH @441

Collection Date/Time: 07/26/2016 10:05

Field ID: 21030152 HAUGUE BRANCH @441

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819863	EPA 8321B	Glyphosate**	10	U	ug/L	P308897	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P308915	
		Diuron	0.0040	U	ug/L	P308915	
		2,4-DB	0.0020	U	ug/L	P308915	
		Fenuron	0.0080	U	ug/L	P308915	
		2,4,5-T	0.0020	U	ug/L	P308915	
		Acifluorfen	0.0020	U	ug/L	P308915	
		Imidacloprid	0.0040	UJ	ug/L	P308915	MS
		Bentazon	0.0020	U	ug/L	P308915	
		Linuron	0.0040	U	ug/L	P308915	
		Dichlorprop	0.0020	U	ug/L	P308915	
		Dinoseb	0.020	U	ug/L	P308915	
		MCPA	0.0040	U	ug/L	P308915	
		Acetaminophen**	0.0040	U	ug/L	P308915	
		MCP	0.0040	U	ug/L	P308915	
		Picloram	0.050	U	ug/L	P308915	
		Carbamazepine**	4.0E-04	U	ug/L	P308915	
		Silvex	0.0020	U	ug/L	P308915	
		Triclopyr**	0.0040	U	ug/L	P308915	
		Primidone**	0.0080	U	ug/L	P308915	
		Fluridone**	4.0E-04	U	ug/L	P308915	
1819865	EPA 8270D	Dieldrin	0.40	U	ng/L	P309130	MS, RPD
1819867		Ametryn	2.0		ng/L	P308912	
		Atrazine	5.5		ng/L	P308912	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P308912	
		Chlorpyrifos Methyl	0.10	U	ng/L	P308912	
		Disulfoton	0.32	U	ng/L	P308912	
		Ethion	0.15	U	ng/L	P308912	
		Ethoprop	0.10	U	ng/L	P308912	
		Hexazinone	5.1		ng/L	P308912	
		Malathion	0.35	U	ng/L	P308912	
		Metribuzin	0.20	UJ	ng/L	P308912	LCS
		Mevinphos	0.50	U	ng/L	P308912	
		Norflurazon	0.50	U	ng/L	P308912	
		Phorate	0.25	U	ng/L	P308912	
		Prometryn	0.20	U	ng/L	P308912	
		Simazine	0.50	U	ng/L	P308912	
		Atrazine Desethyl	1.8	I	ng/L	P308912	
		Prometon	3.8		ng/L	P308912	
		Fipronil	0.25	U	ng/L	P308912	
		Molinate	0.30	U	ng/L	P308912	
		Pendimethalin	1.5	U	ng/L	P308912	
		Terbufos	0.10	U	ng/L	P308912	
		EPTC	1.2	U	ng/L	P308912	
		Terbutylazine	0.42	U	ng/L	P308912	

Field ID: 21030152 HAUGUE BRANCH @441

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819867	EPA 8270D	Bromacil	7.0		ng/L	P308912	
		Fipronil Sulfide	0.15	U	ng/L	P308912	
		Fipronil Sulfone	0.15	U	ng/L	P308912	
		Alachlor	0.25	U	ng/L	P308912	
		Azinphos Methyl	2.2	U	ng/L	P308912	
		Butylate	0.40	U	ng/L	P308912	
		Demeton	1.0	U	ng/L	P308912	
		Diazinon	0.12	U	ng/L	P308912	
		Fenamiphos	0.25	U	ng/L	P308912	
		Fonofos	0.20	U	ng/L	P308912	
		Metalaxyl	0.20	U	ng/L	P308912	
		Metolachlor	0.25	U	ng/L	P308912	
		Acetochlor	0.25	U	ng/L	P308912	
		Cyanazine	0.50	U	ng/L	P308912	
		Parathion Ethyl	0.25	U	ng/L	P308912	
		Parathion Methyl	0.25	U	ng/L	P308912	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

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

Sample Location: FIELD BLANK

Collection Date/Time: 07/26/2016 10:15

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819864	EPA 8321B	Glyphosate**	10	U	ug/L	P308897	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P308915	
		Diuron	0.0040	U	ug/L	P308915	
		2,4-DB	0.0020	U	ug/L	P308915	
		Fenuron	0.0080	U	ug/L	P308915	
		2,4,5-T	0.0020	U	ug/L	P308915	
		Acifluorfen	0.0020	U	ug/L	P308915	
		Imidacloprid	0.0040	U	ug/L	P308915	MS
		Bentazon	0.0020	U	ug/L	P308915	
		Linuron	0.0040	U	ug/L	P308915	
		Dichlorprop	0.0020	U	ug/L	P308915	
		Dinoseb	0.020	U	ug/L	P308915	
		MCPA	0.0040	U	ug/L	P308915	
		Acetaminophen**	0.0040	U	ug/L	P308915	
		MCPP	0.0040	U	ug/L	P308915	
		Picloram	0.050	U	ug/L	P308915	
		Carbamazepine**	4.0E-04	U	ug/L	P308915	
		Silvex	0.0020	U	ug/L	P308915	
		Triclopyr**	0.0040	U	ug/L	P308915	
		Primidone**	0.0080	U	ug/L	P308915	
		Fluridone**	4.0E-04	U	ug/L	P308915	
1819866	EPA 8270D	Diieldrin	0.38	UJ	ng/L	P309130	MS, RPD, SUR

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1819868	EPA 8270D	Ametryn	0.31	U	ng/L	P308912	
		Atrazine	0.24	U	ng/L	P308912	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P308912	
		Chlorpyrifos Methyl	0.096	U	ng/L	P308912	
		Disulfoton	0.31	U	ng/L	P308912	
		Ethion	0.14	U	ng/L	P308912	
		Ethoprop	0.096	U	ng/L	P308912	
		Hexazinone	0.48	U	ng/L	P308912	
		Malathion	0.34	U	ng/L	P308912	
		Metribuzin	0.19	UJ	ng/L	P308912	LCS
		Mevinphos	0.48	U	ng/L	P308912	
		Norflurazon	0.48	U	ng/L	P308912	
		Phorate	0.24	U	ng/L	P308912	
		Prometryn	0.19	U	ng/L	P308912	
		Simazine	0.48	U	ng/L	P308912	
		Atrazine Desethyl	1.4	U	ng/L	P308912	
		Prometon	0.86	U	ng/L	P308912	
		Fipronil	0.24	U	ng/L	P308912	
		Molinate	0.29	U	ng/L	P308912	
		Pendimethalin	1.4	U	ng/L	P308912	
		Terbufos	0.096	U	ng/L	P308912	
		EPTC	1.2	U	ng/L	P308912	
		Terbutylazine	0.41	U	ng/L	P308912	
		Bromacil	0.48	U	ng/L	P308912	
		Fipronil Sulfide	0.14	U	ng/L	P308912	
		Fipronil Sulfone	0.14	U	ng/L	P308912	
		Alachlor	0.24	U	ng/L	P308912	
		Azinphos Methyl	2.2	U	ng/L	P308912	
		Butylate	0.38	U	ng/L	P308912	
		Demeton	0.96	U	ng/L	P308912	
		Diazinon	0.12	U	ng/L	P308912	
		Fenamiphos	0.24	U	ng/L	P308912	
		Fonofos	0.19	U	ng/L	P308912	
		Metalaxyl	0.19	U	ng/L	P308912	
		Metolachlor	0.24	U	ng/L	P308912	
		Acetochlor	0.24	U	ng/L	P308912	
		Cyanazine	0.48	U	ng/L	P308912	
		Parathion Ethyl	0.24	U	ng/L	P308912	
		Parathion Methyl	0.24	U	ng/L	P308912	

Ref. Method and Comment:

EPA 8270D: Refer to the narrative for an explanation of QC Codes. Reported results qualified with J due to surrogate below control limits; the sample was subsequently re-extracted and re-analyzed (after expiration). The same analytical results were obtained.

Non-Conformance Report

Non-Conformance Report

NCR ID: 5959

Event(s)

NE-DIST-2016-07-28-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

Observation: Samples containers had different information than what was documented on the submittal form.

Container is labeled as being collected at Field ID: Rhuda @ 192

Rhuda @ 192 is not documented on the submittal form. FIELD BLANK is the second entry on the submittal form and no container is labeled as a FIELD BLANK.

Resolution: Customer (Jeremy Parrish/Nicole Frederick) contacted and verified that there were no containers submitted for Field ID: Rhuda @ 192. All containers labeled Field ID: Rhuda @ 192 are FIELD BLANKS.

Authorised by/Date: Ramsey K. White 8/1/2016

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry Tim Fitzpatrick (850) 245-8085
Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P308804

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309378

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309382

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308956

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309245

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309034

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P309283

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308824

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

Reference Method: EPA 8270D
Batch ID: P308912

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P308912

Component	Result	Code	Units
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 8270D
Batch ID: P309130

Component	Result	Code	Units
Dieldrin	0.40	U	ng/L

Reference Method: EPA 8321B
Batch ID: P308897

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P308810

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P308919

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

Reference Method: SM 2540 C-97
Batch ID: P309555

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P309445

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P308922

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P309198

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P309198

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

Reference Method: USGS O-2060-01
Batch ID: P308915

Component	Result	Code	Units
2,4,5-T	0.0020	U	ug/L
2,4-D	0.0040	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
Picloram	0.050	U	ug/L
Primidone	0.0080	U	ug/L
Silvex	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308956

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309245

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P309283

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308824

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

Reference Method: EPA 8270D
Batch ID: P308912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	97.6	100	P/P	80 - 119
Alachlor	97.2	99.2	P/P	80 - 120
Ametryn	107	112	P/P	60 - 135
Atrazine	95.3	101	P/P	72 - 121
Atrazine Desethyl	83.4	90.0	P/P	14 - 124
Azinphos Methyl	113	135	P/P	74 - 186
Bromacil	79.6	76.7	P/P	38 - 125
Butylate	61.3	54.7	P/P	34 - 88.0
Chlorpyrifos Ethyl	93.8	93.9	P/P	53 - 108
Chlorpyrifos Methyl	82.9	85.7	P/P	29 - 119
Cyanazine	138	148	P/P	30 - 240
Demeton	76.3	82.5	P/P	35 - 127
Diazinon	95.0	99.7	P/P	75 - 121
Disulfoton	77.7	85.1	P/P	40 - 141
EPTC	55.0	51.0	P/P	36 - 96.0
Ethion	82.3	76.3	P/P	64 - 127
Ethoprop	81.5	87.0	P/P	65 - 108
Fenamiphos	102	102	P/P	62 - 140
Fipronil	103	106	P/P	59 - 127
Fipronil Sulfide	95.4	98.8	P/P	55 - 126
Fipronil Sulfone	89.2	84.3	P/P	56 - 127
Fonofos	86.8	90.1	P/P	64 - 111
Hexazinone	103	104	P/P	43 - 153
Malathion	95.5	105	P/P	70 - 129
Metaxyl	93.3	96.1	P/P	49 - 135
Metolachlor	94.9	95.3	P/P	81 - 120
Metribuzin	148	154	F/F	66 - 133
Mevinphos	87.6	91.7	P/P	33 - 128

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P308912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Molinate	63.6	61.4	P/P	46 - 101
Norflurazon	98.6	105	P/P	62 - 131
Parathion Ethyl	95.9	98.1	P/P	80 - 109
Parathion Methyl	94.2	98.4	P/P	76 - 126
Pendimethalin	87.3	88.3	P/P	47 - 137
Phorate	79.0	86.1	P/P	51 - 115
Prometon	99.6	103	P/P	67 - 123
Prometryn	111	111	P/P	66 - 122
Simazine	101	105	P/P	60 - 134
Terbufos	84.4	86.8	P/P	56 - 116
Terbuthylazine	99.7	99.3	P/P	77 - 114

Reference Method: EPA 8270D
Batch ID: P309130

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dieldrin	103	103	P/P	79 - 121

Reference Method: EPA 8321B
Batch ID: P308897

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	105		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P308919

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

Reference Method: SM 4500 F-C-97
Batch ID: P308922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P309198

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P308915

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	74.0		P	40 - 140
2,4-D	82.8		P	40 - 140
2,4-DB	68.4		P	40 - 140
Acetaminophen	116		P	40 - 140
Acifluorfen	92.0		P	40 - 140
Bentazon	91.6		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P308915

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	108		P	40 - 140
Dichlorprop	84.0		P	40 - 140
Dinoseb	84.8		P	40 - 140
Diuron	89.2		P	40 - 140
Fenuron	100		P	40 - 140
Fluridone	100		P	40 - 140
Imidacloprid	97.2		P	40 - 160
Linuron	95.2		P	40 - 140
MCPA	85.2		P	40 - 140
MCPP	88.4		P	40 - 140
Picloram	82.8		P	40 - 140
Primidone	98.8		P	40 - 140
Silvex	94.4		P	40 - 140
Triclopyr	79.2		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1820682	Chloride	98.4		P	90 - 110
1820719	Chloride	99.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309382

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1820682	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819781	Ammonia-N	98.6	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819816	Kjeldahl Nitrogen	91.9	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819838	NO2NO3-N	104		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P309283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819838	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P308824

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819839	O-Phosphate-P	97.6	98.1	P/P	90 - 110

Reference Method: EPA 8270D

Batch ID: P308912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819121	Acetochlor	96.0	96.9	P/P	77 - 125
1819121	Alachlor	96.8	98.4	P/P	75 - 127
1819121	Ametryn	111	111	P/P	53 - 150
1819121	Atrazine	102	103	P/P	70 - 126
1819121	Atrazine Desethyl	72.2	73.8	P/P	8.0 - 105
1819121	Azinphos Methyl	120	122	P/P	63 - 204
1819121	Bromacil	99.1	99.0	P/P	43 - 132
1819121	Butylate	25.9	27.1	P/P	7.0 - 87.0
1819121	Chlorpyrifos Ethyl	86.3	90.6	P/P	53 - 111
1819121	Chlorpyrifos Methyl	72.0	74.0	P/P	38 - 117
1819121	Cyanazine	120	119	P/P	18 - 222
1819121	Demeton	55.0	58.7	P/P	10 - 157
1819121	Diazinon	88.2	90.1	P/P	73 - 127
1819121	Disulfoton	60.7	62.0	P/P	43 - 141
1819121	EPTC	24.8	28.6	P/P	11 - 86.0
1819121	Ethion	94.0	94.6	P/P	68 - 130
1819121	Ethoprop	72.7	70.9	P/P	60 - 108
1819121	Fenamiphos	99.0	102	P/P	56 - 139
1819121	Fipronil	103	104	P/P	29 - 143
1819121	Fipronil Sulfide	96.3	96.6	P/P	35 - 129
1819121	Fipronil Sulfone	82.2	84.0	P/P	16 - 146
1819121	Fonofos	70.5	72.3	P/P	59 - 112
1819121	Hexazinone	106	107	P/P	68 - 145
1819121	Malathion	99.8	95.2	P/P	69 - 131
1819121	Metalaxyl	93.2	96.4	P/P	67 - 119
1819121	Metolachlor	94.5	96.6	P/P	77 - 124
1819121	Metribuzin	132	133	P/P	63 - 134
1819121	Mevinphos	71.1	71.9	P/P	40 - 127
1819121	Molinate	33.8	41.6	P/P	27 - 98.0
1819121	Norflurazon	95.9	99.2	P/P	39 - 141
1819121	Parathion Ethyl	94.2	97.5	P/P	74 - 113
1819121	Parathion Methyl	91.7	92.2	P/P	61 - 133
1819121	Pendimethalin	93.0	92.9	P/P	26 - 179
1819121	Phorate	57.0	62.1	P/P	44 - 126
1819121	Prometon	105	106	P/P	43 - 147
1819121	Prometryn	109	109	P/P	68 - 126
1819121	Simazine	93.7	100	P/P	47 - 156
1819121	Terbufos	66.1	69.7	P/P	53 - 125
1819121	Terbutylazine	99.0	99.6	P/P	76 - 113

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P309130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819120	Dieldrin	102	184	P/F	79 - 121

Reference Method: EPA 8321B
 Batch ID: P308897

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819863	Glyphosate	47.2	48.2	P/P	40 - 140

Reference Method: SM 4500 F-C-97
 Batch ID: P308922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819631	Fluoride	98.0	98.5	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P309198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819637	Organic Carbon	106	106	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P308915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1819863	2,4,5-T	79.2	82.8	P/P	40 - 140
1819863	2,4-D	88.4	94.4	P/P	40 - 140
1819863	2,4-DB	68.0	70.8	P/P	40 - 140
1819863	Acetaminophen	84.4	66.0	P/P	40 - 140
1819863	Acifluorfen	92.8	88.8	P/P	40 - 140
1819863	Bentazon	122	111	P/P	40 - 140
1819863	Carbamazepine	93.2	98.4	P/P	40 - 140
1819863	Dichlorprop	91.2	90.8	P/P	40 - 140
1819863	Dinoseb	91.2	92.8	P/P	40 - 140
1819863	Diuron	94.0	94.8	P/P	40 - 140
1819863	Fenuron	90.8	91.6	P/P	40 - 140
1819863	Fluridone	106	108	P/P	40 - 140
1819863	Imidacloprid	219	244	F/F	40 - 160
1819863	Linuron	92.4	103	P/P	40 - 140
1819863	MCPA	89.2	97.2	P/P	40 - 140
1819863	MCPP	102	104	P/P	40 - 140
1819863	Picloram	108	102	P/P	40 - 140
1819863	Primidone	105	96.0	P/P	40 - 140
1819863	Silvex	111	117	P/P	40 - 140
1819863	Triclopyr	95.2	96.0	P/P	40 - 140

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P308804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819775	Turbidity	5.17	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1820682	Chloride	0.0581	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1820682	Sulfate	0.177	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819781	Ammonia-N	0.426	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819816	Kjeldahl Nitrogen	5.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819838	NO2NO3-N	0.469	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P309283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819838	Total-P	0.0417	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P308824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819839	O-Phosphate-P	0.340	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P308912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819121	Acetochlor	0.960	Spike	P	0 - 30
1819121	Alachlor	1.71	Spike	P	0 - 30
1819121	Ametryn	0.514	Spike	P	0 - 30
1819121	Atrazine	0.943	Spike	P	0 - 30
1819121	Atrazine Desethyl	2.18	Spike	P	0 - 30
1819121	Azinphos Methyl	1.75	Spike	P	0 - 30
1819121	Bromacil	0.154	Spike	P	0 - 30
1819121	Butylate	4.32	Spike	P	0 - 30
1819121	Chlorpyrifos Ethyl	4.80	Spike	P	0 - 30
1819121	Chlorpyrifos Methyl	2.73	Spike	P	0 - 30
1819121	Cyanazine	0.167	Spike	P	0 - 30
1819121	Demeton	6.61	Spike	P	0 - 30
1819121	Diazinon	2.15	Spike	P	0 - 30
1819121	Disulfoton	2.13	Spike	P	0 - 30
1819121	EPTC	14.2	Spike	P	0 - 30
1819121	Ethion	0.599	Spike	P	0 - 30
1819121	Ethoprop	2.54	Spike	P	0 - 30
1819121	Fenamiphos	3.01	Spike	P	0 - 30
1819121	Fipronil	1.05	Spike	P	0 - 30
1819121	Fipronil Sulfide	0.300	Spike	P	0 - 30
1819121	Fipronil Sulfone	2.20	Spike	P	0 - 30
1819121	Fonofos	2.52	Spike	P	0 - 30
1819121	Hexazinone	0.574	Spike	P	0 - 30
1819121	Malathion	4.69	Spike	P	0 - 30
1819121	Metaxyl	3.02	Spike	P	0 - 30
1819121	Metolachlor	1.32	Spike	P	0 - 30
1819121	Metribuzin	1.10	Spike	P	0 - 30
1819121	Mevinphos	1.12	Spike	P	0 - 30
1819121	Molinate	20.7	Spike	P	0 - 30
1819121	Norflurazon	3.44	Spike	P	0 - 30
1819121	Parathion Ethyl	3.46	Spike	P	0 - 30
1819121	Parathion Methyl	0.623	Spike	P	0 - 30
1819121	Pendimethalin	0.0503	Spike	P	0 - 30
1819121	Phorate	8.62	Spike	P	0 - 30
1819121	Prometon	1.30	Spike	P	0 - 30
1819121	Prometryn	0.470	Spike	P	0 - 30
1819121	Simazine	5.55	Spike	P	0 - 30
1819121	Terbufos	5.19	Spike	P	0 - 30
1819121	Terbutylazine	0.578	Spike	P	0 - 30
LFB	Acetochlor	2.44	LCS	P	0 - 30
LFB	Alachlor	2.02	LCS	P	0 - 30
LFB	Ametryn	4.11	LCS	P	0 - 30
LFB	Atrazine	6.06	LCS	P	0 - 30
LFB	Atrazine Desethyl	7.57	LCS	P	0 - 30
LFB	Azinphos Methyl	17.8	LCS	P	0 - 30
LFB	Bromacil	3.75	LCS	P	0 - 30
LFB	Butylate	11.4	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.196	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	3.23	LCS	P	0 - 30
LFB	Cyanazine	7.22	LCS	P	0 - 30
LFB	Demeton	7.79	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P308912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diazinon	4.85	LCS	P	0 - 30
LFB	Disulfoton	9.11	LCS	P	0 - 30
LFB	EPTC	7.64	LCS	P	0 - 30
LFB	Ethion	7.51	LCS	P	0 - 30
LFB	Ethoprop	6.60	LCS	P	0 - 30
LFB	Fenamiphos	0.528	LCS	P	0 - 30
LFB	Fipronil	2.96	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.51	LCS	P	0 - 30
LFB	Fipronil Sulfone	5.68	LCS	P	0 - 30
LFB	Fonofos	3.75	LCS	P	0 - 30
LFB	Hexazinone	0.736	LCS	P	0 - 30
LFB	Malathion	9.89	LCS	P	0 - 30
LFB	Metalaxyl	2.91	LCS	P	0 - 30
LFB	Metolachlor	0.454	LCS	P	0 - 30
LFB	Metribuzin	3.72	LCS	P	0 - 30
LFB	Mevinphos	4.52	LCS	P	0 - 30
LFB	Molinate	3.52	LCS	P	0 - 30
LFB	Norflurazon	6.02	LCS	P	0 - 30
LFB	Parathion Ethyl	2.31	LCS	P	0 - 30
LFB	Parathion Methyl	4.35	LCS	P	0 - 30
LFB	Pendimethalin	1.15	LCS	P	0 - 30
LFB	Phorate	8.61	LCS	P	0 - 30
LFB	Prometon	3.48	LCS	P	0 - 30
LFB	Prometryn	0.0235	LCS	P	0 - 30
LFB	Simazine	3.62	LCS	P	0 - 30
LFB	Terbufos	2.82	LCS	P	0 - 30
LFB	Terbutylazine	0.362	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P309130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819120	Dieldrin	58.8	Spike	F	0 - 30
LFB	Dieldrin	0.542	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P308897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819863	Glyphosate	2.10	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P308810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819815	Color (true)	0.229	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P308919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819631	Total Alkalinity	0.260	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P309555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819780	TDS	1.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P308922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819631	Fluoride	0.482	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P309198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819637	Organic Carbon	0.497	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P308915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1819863	2,4,5-T	4.44	Spike	P	0 - 30
1819863	2,4-D	6.56	Spike	P	0 - 30
1819863	2,4-DB	4.03	Spike	P	0 - 30
1819863	Acetaminophen	24.5	Spike	P	0 - 30
1819863	Acifluorfen	4.41	Spike	P	0 - 30
1819863	Bentazon	9.62	Spike	P	0 - 30
1819863	Carbamazepine	5.43	Spike	P	0 - 30
1819863	Dichlorprop	0.440	Spike	P	0 - 30
1819863	Dinoseb	1.74	Spike	P	0 - 30
1819863	Diuron	0.847	Spike	P	0 - 30
1819863	Fenuron	0.877	Spike	P	0 - 30
1819863	Fluridone	2.62	Spike	P	0 - 30
1819863	Imidacloprid	10.5	Spike	P	0 - 30
1819863	Linuron	10.7	Spike	P	0 - 30
1819863	MCPA	8.58	Spike	P	0 - 30
1819863	MCP	1.17	Spike	P	0 - 30
1819863	Picloram	6.48	Spike	P	0 - 30
1819863	Primidone	8.76	Spike	P	0 - 30
1819863	Silvex	5.61	Spike	P	0 - 30
1819863	Triclopyr	0.837	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: 1819863

Field Sample ID: 21030152 HAUGUE BRANCH @441

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	52.4	P	50 - 150
USGS O-2060-01	2,4-D-d3	79.4	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	59.8	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	102	P	40 - 160
USGS O-2060-01	Diuron-d6	76.2	P	40 - 150
USGS O-2060-01	Primidone-d5	93.2	P	40 - 150

Lab Sample ID: 1819864

Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	81.0	P	50 - 150
USGS O-2060-01	2,4-D-d3	86.4	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	115	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	114	P	40 - 160
USGS O-2060-01	Diuron-d6	86.8	P	40 - 150
USGS O-2060-01	Primidone-d5	86.8	P	40 - 150

Lab Sample ID: 1819865

Field Sample ID: 21030152 HAUGUE BRANCH @441

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	99.0	P	58 - 128
EPA 8270D	Tetrachloro-m-xylene	58.5	P	51 - 93.0

Lab Sample ID: 1819866

Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	89.0	P	58 - 128
EPA 8270D	Tetrachloro-m-xylene	47.9	F	51 - 93.0

Lab Sample ID: 1819867

Field Sample ID: 21030152 HAUGUE BRANCH @441

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	80.5	P	65 - 132
EPA 8270D	Simazine-d10	97.4	P	72 - 128

Lab Sample ID: 1819868

Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	81.5	P	65 - 132
EPA 8270D	Simazine-d10	94.7	P	72 - 128

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70811

Included Lab Sample IDs: 1819843, 1819844

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

Reference Method: SM 2120 B

Run ID: A70813

Included Lab Sample IDs: 1819843, 1819844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	99.6	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A70815

Included Lab Sample IDs: 1819847, 1819848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110
O-Phosphate-P	99.9	98.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A70856

Included Lab Sample IDs: 1819843, 1819844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A70856

Included Lab Sample IDs: 1819843, 1819844

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

Reference Method: EPA 8321B

Run ID: A70860

Included Lab Sample IDs: 1819863, 1819864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	112	114	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70871

Included Lab Sample IDs: 1819845, 1819846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A70885

Included Lab Sample IDs: 1819843, 1819844

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A70885

Included Lab Sample IDs: 1819843, 1819844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	96.4	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70894

Included Lab Sample IDs: 1819845, 1819846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A70945

Included Lab Sample IDs: 1819845, 1819846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	100	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A70985

Included Lab Sample IDs: 1819863, 1819864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4,5-T	104	92.2	P/P	50 - 150
2,4-D	87.8	99.4	P/P	50 - 150
2,4-DB	102	83.4	P/P	50 - 150
Acifluorfen	113	112	P/P	50 - 150
Bentazon	99.0	93.4	P/P	50 - 150
Dichlorprop	93.0	90.4	P/P	50 - 150
Dinoseb	116	105	P/P	50 - 150
MCPA	101	101	P/P	50 - 150
MCPP	108	108	P/P	50 - 150
Picloram	88.8	104	P/P	50 - 150
Silvex	96.6	109	P/P	50 - 150
Triclopyr	109	102	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70992

Included Lab Sample IDs: 1819845

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

Reference Method: USGS O-2060-01

Run ID: A70995

Included Lab Sample IDs: 1819863, 1819864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	110	118	P/P	60 - 150
Carbamazepine	108	121	P/P	60 - 150
Diuron	96.0	109	P/P	60 - 150
Fenuron	118	122	P/P	60 - 150
Fluridone	95.6	102	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A70995

Included Lab Sample IDs: 1819863, 1819864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	115	105	P/P	60 - 150
Linuron	130	135	P/P	60 - 150
Primidone	128	119	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A71009

Included Lab Sample IDs: 1819846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71014

Included Lab Sample IDs: 1819845, 1819846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	93.0	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A71045

Included Lab Sample IDs: 1819865, 1819866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dieldrin	108		P	80 - 120

Reference Method: EPA 8270D

Run ID: A71151

Included Lab Sample IDs: 1819867, 1819868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.6		P	80 - 120
Alachlor	99.9		P	80 - 120
Ametryn	99.0		P	80 - 120
Atrazine	112		P	80 - 120
Atrazine Desethyl	107		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Bromacil	97.6		P	80 - 120
Butylate	97.9		P	80 - 120
Chlorpyrifos Ethyl	94.9		P	80 - 120
Chlorpyrifos Methyl	95.3		P	80 - 120
Cyanazine	91.8		P	80 - 120
Demeton	96.5		P	80 - 120
Diazinon	96.1		P	80 - 120
Disulfoton	92.2		P	80 - 120
EPTC	95.2		P	80 - 120
Ethion	94.5		P	80 - 120
Ethoprop	98.8		P	80 - 120
Fenamiphos	96.2		P	80 - 120
Fipronil	97.5		P	80 - 120
Fipronil Sulfide	99.7		P	80 - 120
Fipronil Sulfone	96.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A71151

Included Lab Sample IDs: 1819867, 1819868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fonofos	97.1		P	80 - 120
Hexazinone	101		P	80 - 120
Malathion	99.3		P	80 - 120
Metalaxyl	87.1		P	80 - 120
Metolachlor	99.9		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	98.2		P	80 - 120
Norflurazon	94.9		P	80 - 120
Parathion Ethyl	88.3		P	80 - 120
Parathion Methyl	93.4		P	80 - 120
Pendimethalin	92.4		P	80 - 120
Phorate	101		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	98.4		P	80 - 120
Simazine	99.1		P	80 - 120
Terbufos	95.0		P	80 - 120
Terbutylazine	94.7		P	80 - 120

Reference Method: EPA 8270D

Run ID: A71157

Included Lab Sample IDs: 1819867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hexazinone	102		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		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						5.17	
EPA 300.0 Rev. 2.1	Chloride	98.9		98.4	99.8		0.0581	
	Sulfate	95.2		96.9			0.177	
EPA 350.1 Rev. 2.0	Ammonia-N	95.9		98.6	99.2			0.426
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		91.9	102			5.79
EPA 353.2 Rev. 2.0	NO2NO3-N	105		104				0.469
EPA 365.1 Rev. 2.0	Total-P	102		106	106			0.0417
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100		97.6	98.1			0.340
EPA 8270D	Acetochlor	97.6	100	96.0	96.9	2.44		0.960
	Alachlor	97.2	99.2	96.8	98.4	2.02		1.71
	Ametryn	107	112	111	111	4.11		0.514
	Atrazine	95.3	101	102	103	6.06		0.943
	Atrazine Desethyl	83.4	90.0	72.2	73.8	7.57		2.18
	Azinphos Methyl	113	135	120	122	17.8		1.75
	Bromacil	79.6	76.7	99.1	99.0	3.75		0.154

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Butylate	61.3	54.7	25.9	27.1	11.4	4.32
	Chlorpyrifos Ethyl	93.8	93.9	86.3	90.6	0.196	4.80
	Chlorpyrifos Methyl	82.9	85.7	72.0	74.0	3.23	2.73
	Cyanazine	138	148	120	119	7.22	0.167
	Demeton	76.3	82.5	55.0	58.7	7.79	6.61
	Diazinon	95.0	99.7	88.2	90.1	4.85	2.15
	Dieldrin	103	103	102	184	0.542	58.8
	Disulfoton	77.7	85.1	60.7	62.0	9.11	2.13
	EPTC	55.0	51.0	24.8	28.6	7.64	14.2
	Ethion	82.3	76.3	94.0	94.6	7.51	0.599
	Ethoprop	81.5	87.0	72.7	70.9	6.60	2.54
	Fenamiphos	102	102	99.0	102	0.528	3.01
	Fipronil	103	106	103	104	2.96	1.05
	Fipronil Sulfide	95.4	98.8	96.3	96.6	3.51	0.300
	Fipronil Sulfone	89.2	84.3	82.2	84.0	5.68	2.20
	Fonofos	86.8	90.1	70.5	72.3	3.75	2.52
	Hexazinone	103	104	106	107	0.736	0.574
	Malathion	95.5	105	99.8	95.2	9.89	4.69
	Metalaxyl	93.3	96.1	93.2	96.4	2.91	3.02
	Metolachlor	94.9	95.3	94.5	96.6	0.454	1.32
	Metribuzin	148	154	132	133	3.72	1.10
	Mevinphos	87.6	91.7	71.1	71.9	4.52	1.12
	Molinate	63.6	61.4	33.8	41.6	3.52	20.7
	Norflurazon	98.6	105	95.9	99.2	6.02	3.44
	Parathion Ethyl	95.9	98.1	94.2	97.5	2.31	3.46
	Parathion Methyl	94.2	98.4	91.7	92.2	4.35	0.623
	Pendimethalin	87.3	88.3	93.0	92.9	1.15	0.0503
	Phorate	79.0	86.1	57.0	62.1	8.61	8.62
	Prometon	99.6	103	105	106	3.48	1.30
	Prometryn	111	111	109	109	0.0235	0.470
	Simazine	101	105	93.7	100	3.62	5.55
	Terbufos	84.4	86.8	66.1	69.7	2.82	5.19
	Terbuthylazine	99.7	99.3	99.0	99.6	0.362	0.578
EPA 8321B	Glyphosate	105		47.2	48.2		2.10
SM 2120 B	Color (true)					0.229	
SM 2320 B-97	Total Alkalinity	103				0.260	
SM 2540 C-97	TDS					1.71	
SM 4500 F-C-97	Fluoride	101		98.0	98.5		0.482
SM 5310 B-00	Organic Carbon	102		106	106		0.497
USGS O-2060-01	2,4,5-T	74.0		79.2	82.8		4.44
	2,4-D	82.8		88.4	94.4		6.56
	2,4-DB	68.4		68.0	70.8		4.03
	Acetaminophen	116		84.4	66.0		24.5
	Acifluorfen	92.0		88.8	92.8		4.41
	Bentazon	91.6		122	111		9.62
	Carbamazepine	108		93.2	98.4		5.43
	Dichlorprop	84.0		91.2	90.8		0.440
	Dinoseb	84.8		92.8	91.2		1.74
	Diuron	89.2		94.0	94.8		0.847
	Fenuron	100		90.8	91.6		0.877
	Fluridone	100		106	108		2.62
	Imidacloprid	97.2		219	244		10.5
	Linuron	95.2		92.4	103		10.7
	MCPA	85.2		89.2	97.2		8.58

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
USGS O-2060-01	MCCP	88.4	102	104			1.17
	Picloram	82.8	108	102			6.48
	Primidone	98.8	105	96.0			8.76
	Silvex	94.4	117	111			5.61
	Triclopyr	79.2	95.2	96.0			0.837

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1819843, 1819844
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1819843, 1819844
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1819843, 1819844
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1819845, 1819846
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1819845, 1819846
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1819845, 1819846
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1819845, 1819846
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1819847, 1819848
EPA 8270D / E31780	Organochlorine pesticides (ultra low level) in water matrices by GC/MS/MS	1819865, 1819866
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1819867, 1819868
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1819863, 1819864
SM 2120 B / E31780	True Color measured at 450 nm	1819843, 1819844
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1819843, 1819844
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1819843, 1819844
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1819843, 1819844
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1819843, 1819844
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1819845, 1819846
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1819863, 1819864
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1819863, 1819864

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/28/2016			07/28/2016 14:56	Sima Feizi	1819843, 1819844
EPA 300.0 Rev. 2.1	07/28/2016			08/06/2016	Ping Hua	1819843, 1819844
EPA 350.1 Rev. 2.0	07/28/2016			08/01/2016	Julie Michelle Frank	1819845, 1819846
EPA 351.2 Rev. 2.0	07/28/2016	08/05/2016	Sofia Elnemr	08/09/2016	Virginia P. Brown	1819845, 1819846
EPA 353.2 Rev. 2.0	07/28/2016			08/02/2016	Peter D. Kaus	1819845, 1819846
EPA 365.1 Rev. 2.0	07/28/2016	08/05/2016	Vijayalakshmi Reddy	08/08/2016	Lipi Saha	1819845
	07/28/2016	08/05/2016	Vijayalakshmi Reddy	08/09/2016	Lipi Saha	1819846
EPA 365.1 Rev. 2.0 dissolved	07/28/2016			07/28/2016 16:27	Julia Storbeck	1819848
	07/28/2016			07/28/2016 16:41	Julia Storbeck	1819847
EPA 8270D	07/28/2016	08/01/2016	John Kaba	08/12/2016	Irina Carbone	1819867
	07/28/2016	08/01/2016	John Kaba	08/15/2016	Irina Carbone	1819867, 1819868
	07/28/2016	08/01/2016	Rasheda Ghaffari	08/04/2016	Vandana T. Nagar	1819865, 1819866
EPA 8321B	07/28/2016	08/01/2016	Mohammad Ghaffari	08/01/2016	Mohammad Ghaffari	1819863, 1819864
SM 2120 B	07/28/2016			07/28/2016 15:09	Blanca Fach	1819843
	07/28/2016			07/28/2016 15:10	Blanca Fach	1819844
SM 2320 B-97	07/28/2016			07/30/2016	Dale L. Simmons	1819843, 1819844
SM 2540 C-97	07/28/2016			08/01/2016	Sima Feizi	1819843, 1819844
SM 2540 D-97	07/28/2016			08/01/2016	Sima Feizi	1819843, 1819844
SM 4500 F-C-97	07/28/2016			07/30/2016	Dale L. Simmons	1819843, 1819844
SM 5310 B-00	07/28/2016			08/04/2016	Sofia Elnemr	1819845, 1819846
USGS O-2060-01	07/28/2016	08/02/2016	Hoor Shaik	08/06/2016	Juyoung Kim	1819863, 1819864
	07/28/2016	08/02/2016	Hoor Shaik	08/07/2016	Juyoung Kim	1819863, 1819864