

Chemical Analysis Report

SO-DIST-2017-09-20-01

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

Event Description: **Lee County Tracers & Markers**
Request ID: **RQ-2017-08-21-03**
Customer: **SO-DIST**
Project ID: **SMP**

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

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 05-OCT-2017 13:26



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 group are included in this report: 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: Cypress Creek @ SR78: upstream side

Collection Date/Time: 09/19/2017 10:22

Field ID: AD52567

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1930034	EPA 8321B	Sucralose**	0.010	U	ug/L	P331875	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P331876	
		Diuron	0.0043		ug/L	P331876	
		Fenuron	0.0080	U	ug/L	P331876	
		Imidacloprid	0.0078		ug/L	P331876	MS
		Bentazon	8.0E-04	U	ug/L	P331876	MS
		Linuron	0.0040	U	ug/L	P331876	
		Acetaminophen**	0.0080	U	ug/L	P331876	
		MCP	0.0020	U	ug/L	P331876	
		Carbamazepine**	4.0E-04	U	ug/L	P331876	
		Triclopyr**	0.0040	U	ug/L	P331876	
		Primidone**	0.0040	U	ug/L	P331876	
		Fluridone**	4.0E-04	U	ug/L	P331876	

Sample Location: Telegraph Creek @ SR78: upstream side

Collection Date/Time: 09/19/2017 10:56

Field ID: AD52569

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1930035	EPA 8321B	Sucralose**	0.010	U	ug/L	P331875	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P331876	
		Diuron	8.0E-04	U	ug/L	P331876	
		Fenuron	0.0080	U	ug/L	P331876	
		Imidacloprid	0.0016	I	ug/L	P331876	MS
		Bentazon	8.0E-04	U	ug/L	P331876	MS
		Linuron	0.0040	U	ug/L	P331876	
		Acetaminophen**	0.0080	U	ug/L	P331876	
		MCP	0.0020	U	ug/L	P331876	
		Carbamazepine**	4.0E-04	U	ug/L	P331876	
		Triclopyr**	0.0040	U	ug/L	P331876	
		Primidone**	0.0040	U	ug/L	P331876	
		Fluridone**	4.0E-04	U	ug/L	P331876	

Sample Location: Trout Creek @ SR78; upstream side

Collection Date/Time: 09/19/2017 11:29

Field ID: AD52571

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1930036	EPA 8321B	Sucralose**	0.010	U	ug/L	P331893	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P331892	
		Diuron	8.0E-04	U	ug/L	P331892	
		Fenuron	0.0080	U	ug/L	P331892	
		Imidacloprid	0.0011	I	ug/L	P331892	MS
		Bentazon	8.0E-04	U	ug/L	P331892	
		Linuron	0.0040	U	ug/L	P331892	
		Acetaminophen**	0.0080	U	ug/L	P331892	

Field ID: AD52571

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1930036	USGS O-2060-01	MCP	0.0020	U	ug/L	P331892	
		Carbamazepine**	4.0E-04	U	ug/L	P331892	
		Triclopyr**	0.0040	U	ug/L	P331892	
		Primidone**	0.0040	U	ug/L	P331892	
		Fluridone**	4.0E-04	U	ug/L	P331892	

Ref. Method and Comment:

EPA 8321B: MS accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Owl Creek @ SR78; upstream side

Collection Date/Time: 09/19/2017 11:44

Field ID: AD52572

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1930037	EPA 8321B	Sucralose**	0.010	U	ug/L	P331893	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P331892	
		Diuron	8.0E-04	U	ug/L	P331892	
		Fenuron	0.0080	U	ug/L	P331892	
		Imidacloprid	0.0014	I	ug/L	P331892	MS
		Bentazon	8.0E-04	U	ug/L	P331892	
		Linuron	0.0040	U	ug/L	P331892	
		Acetaminophen**	0.0080	U	ug/L	P331892	
		MCP	0.0020	U	ug/L	P331892	
		Carbamazepine**	4.0E-04	U	ug/L	P331892	
		Triclopyr**	0.0040	U	ug/L	P331892	
		Primidone**	0.0040	U	ug/L	P331892	
		Fluridone**	4.0E-04	U	ug/L	P331892	

Ref. Method and Comment:

EPA 8321B: MS accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P331875

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P331893

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: USGS O-2060-01

Batch ID: P331876

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P331876

Component	Result	Code	Units
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P331892

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P331875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	78.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P331893

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	102		P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P331876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	65.1		P	40 - 150
Acetaminophen	41.6		P	30 - 150
Bentazon	51.3		P	40 - 150
Carbamazepine	128		P	40 - 150
Diuron	104		P	40 - 150
Fenuron	109		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P331876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluridone	114		P	40 - 150
Imidacloprid	98.7		P	40 - 160
Linuron	95.0		P	40 - 150
MCPP	60.2		P	40 - 150
Primidone	96.6		P	40 - 150
Triclopyr	57.5		P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P331892

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	84.6		P	40 - 150
Acetaminophen	127		P	30 - 150
Bentazon	44.0		P	40 - 150
Carbamazepine	138		P	40 - 150
Diuron	120		P	40 - 150
Fenuron	116		P	40 - 150
Fluridone	132		P	40 - 150
Imidacloprid	112		P	40 - 160
Linuron	119		P	40 - 150
MCPP	78.7		P	40 - 150
Primidone	114		P	40 - 150
Triclopyr	75.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P331875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929674	Sucralose	56.6	48.4	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P331876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929569	2,4-D	47.7	51.7	P/P	40 - 150
1929569	Acetaminophen	46.4	57.8	P/P	30 - 150
1929569	Bentazon	21.8	24.3	F/F	40 - 150
1929569	Carbamazepine	99.1	101	P/P	40 - 150
1929569	Diuron	73.1	75.7	P/P	40 - 150
1929569	Fenuron	87.3	91.3	P/P	40 - 150
1929569	Fluridone	112	110	P/P	40 - 150
1929569	Imidacloprid	173	182	F/F	40 - 160
1929569	Linuron	94.0	90.2	P/P	40 - 150
1929569	MCPP	47.0	47.8	P/P	40 - 150
1929569	Primidone	96.0	97.0	P/P	40 - 150
1929569	Triclopyr	42.0	46.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P331892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1930130	2,4-D	85.5	82.6	P/P	40 - 150
1930130	Acetaminophen	102	96.8	P/P	30 - 150
1930130	Bentazon	54.1	40.2	P/P	40 - 150
1930130	Carbamazepine	110	113	P/P	40 - 150
1930130	Diuron	86.8	89.5	P/P	40 - 150
1930130	Fenuron	93.1	99.4	P/P	40 - 150
1930130	Fluridone	90.7	113	P/P	40 - 150
1930130	Imidacloprid	244	250	F/F	40 - 160
1930130	Linuron	106	115	P/P	40 - 150
1930130	MCP	68.7	70.5	P/P	40 - 150
1930130	Primidone	125	118	P/P	40 - 150
1930130	Triclopyr	64.2	71.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P331875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929674	Sucralose	9.29	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P331893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930069	Sucralose	5.96	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P331876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929569	2,4-D	8.09	Spike	P	0 - 30
1929569	Acetaminophen	21.9	Spike	P	0 - 30
1929569	Bentazon	10.9	Spike	P	0 - 30
1929569	Carbamazepine	2.33	Spike	P	0 - 30
1929569	Diuron	3.47	Spike	P	0 - 30
1929569	Fenuron	4.48	Spike	P	0 - 30
1929569	Fluridone	2.49	Spike	P	0 - 30
1929569	Imidacloprid	4.95	Spike	P	0 - 30
1929569	Linuron	4.15	Spike	P	0 - 30
1929569	MCP	1.69	Spike	P	0 - 30
1929569	Primidone	1.08	Spike	P	0 - 30
1929569	Triclopyr	10.4	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P331892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930130	2,4-D	3.45	Spike	P	0 - 30
1930130	Acetaminophen	5.17	Spike	P	0 - 30
1930130	Bentazon	11.6	Spike	P	0 - 30
1930130	Carbamazepine	2.70	Spike	P	0 - 30
1930130	Diuron	3.06	Spike	P	0 - 30
1930130	Fenuron	6.51	Spike	P	0 - 30
1930130	Fluridone	21.9	Spike	P	0 - 30
1930130	Imidacloprid	1.63	Spike	P	0 - 30
1930130	Linuron	8.49	Spike	P	0 - 30
1930130	MCP	2.59	Spike	P	0 - 30
1930130	Primidone	5.54	Spike	P	0 - 30
1930130	Triclopyr	10.2	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: 1930034
Field Sample ID: AD52567

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	60.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.0	P	30 - 160
EPA 8321B	Diuron-d6	55.1	P	30 - 160
EPA 8321B	Primidone-d5	75.4	P	30 - 160
EPA 8321B	Sucralose-d6	50.0	P	40 - 160
USGS O-2060-01	2,4-D-d3	53.4	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	60.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	77.0	P	30 - 160
USGS O-2060-01	Diuron-d6	55.1	P	30 - 160
USGS O-2060-01	Primidone-d5	75.4	P	30 - 160
USGS O-2060-01	Sucralose-d6	50.0	P	40 - 160

Lab Sample ID: 1930035
Field Sample ID: AD52569

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	62.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.5	P	30 - 160
EPA 8321B	Diuron-d6	45.0	P	30 - 160
EPA 8321B	Primidone-d5	71.2	P	30 - 160
EPA 8321B	Sucralose-d6	52.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	44.9	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	62.7	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	64.5	P	30 - 160
USGS O-2060-01	Diuron-d6	45.0	P	30 - 160
USGS O-2060-01	Primidone-d5	71.2	P	30 - 160
USGS O-2060-01	Sucralose-d6	52.8	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1930036
 Field Sample ID: AD52571

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	80.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.6	P	30 - 160
EPA 8321B	Diuron-d6	57.9	P	30 - 160
EPA 8321B	Primidone-d5	91.7	P	30 - 160
EPA 8321B	Sucralose-d6	66.0	P	40 - 160
USGS O-2060-01	2,4-D-d3	69.4	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	80.4	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	76.6	P	30 - 160
USGS O-2060-01	Diuron-d6	57.9	P	30 - 160
USGS O-2060-01	Primidone-d5	91.7	P	30 - 160
USGS O-2060-01	Sucralose-d6	66.0	P	40 - 160

Lab Sample ID: 1930037
 Field Sample ID: AD52572

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	77.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.1	P	30 - 160
EPA 8321B	Diuron-d6	53.4	P	30 - 160
EPA 8321B	Primidone-d5	88.2	P	30 - 160
EPA 8321B	Sucralose-d6	45.4	P	40 - 160
USGS O-2060-01	2,4-D-d3	75.9	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	77.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	72.1	P	30 - 160
USGS O-2060-01	Diuron-d6	53.4	P	30 - 160
USGS O-2060-01	Primidone-d5	88.2	P	30 - 160
USGS O-2060-01	Sucralose-d6	45.4	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A79086
 Included Lab Sample IDs: 1930034, 1930035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	76.5	82.4	P/P	60 - 150

Reference Method: USGS O-2060-01
 Run ID: A79179
 Included Lab Sample IDs: 1930036, 1930037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	110	P/P	50 - 150
Acetaminophen	101	101	P/P	60 - 150
Bentazon	145	141	P/P	50 - 150
Carbamazepine	109	112	P/P	60 - 150
Diuron	102	101	P/P	60 - 150
Fenuron	102	98.9	P/P	60 - 150
Fluridone	112	111	P/P	60 - 160
Imidacloprid	95.1	97.1	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79179

Included Lab Sample IDs: 1930036, 1930037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	106	110	P/P	60 - 150
MCP	98.7	108	P/P	50 - 150
Primidone	102	102	P/P	60 - 150
Triclopyr	101	109	P/P	50 - 150

Reference Method: USGS O-2060-01

Run ID: A79195

Included Lab Sample IDs: 1930034, 1930035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	87.2	78.3	P/P	50 - 150
Acetaminophen	94.2	92.2	P/P	60 - 150
Bentazon	87.8	87.3	P/P	50 - 150
Carbamazepine	115	116	P/P	60 - 150
Diuron	93.6	90.8	P/P	60 - 150
Fenuron	97.5	96.7	P/P	60 - 150
Fluridone	111	109	P/P	60 - 160
Imidacloprid	86.4	88.8	P/P	60 - 150
Linuron	93.3	97.2	P/P	60 - 150
MCP	86.6	87.5	P/P	50 - 150
Primidone	79.7	86.0	P/P	60 - 150
Triclopyr	88.5	87.2	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A79230

Included Lab Sample IDs: 1930036, 1930037

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	80.5	90.1	P/P	60 - 150

* 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 8321B	Sucralose	78.0	56.6	48.4		9.29
	Sucralose	102				5.96
USGS O-2060-01	2,4-D	65.1	47.7	51.7		8.09
	2,4-D	84.6	85.5	82.6		3.45
	Acetaminophen	41.6	46.4	57.8		21.9
	Acetaminophen	127	102	96.8		5.17
	Bentazon	51.3	21.8	24.3		10.9
	Bentazon	44.0	54.1	40.2		11.6
	Carbamazepine	128	99.1	101		2.33
	Carbamazepine	138	110	113		2.70
	Diuron	104	73.1	75.7		3.47

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
USGS O-2060-01	Diuron	120	86.8	89.5			3.06
	Fenuron	109	87.3	91.3			4.48
	Fenuron	116	93.1	99.4			6.51
	Fluridone	114	112	110			2.49
	Fluridone	132	90.7	113			21.9
	Imidacloprid	98.7	173	182			4.95
	Imidacloprid	112	244	250			1.63
	Linuron	95.0	94.0	90.2			4.15
	Linuron	119	106	115			8.49
	MCP	60.2	47.0	47.8			1.69
	MCP	78.7	68.7	70.5			2.59
	Primidone	96.6	96.0	97.0			1.08
	Primidone	114	125	118			5.54
	Triclopyr	57.5	42.0	46.6			10.4
	Triclopyr	75.5	64.2	71.2			10.2

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1930034, 1930035, 1930036, 1930037
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1930034, 1930035, 1930036, 1930037
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1930034, 1930035, 1930036, 1930037

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/20/2017	09/21/2017	Hoor Shaik	09/21/2017	Juyoung Kim	1930034, 1930035
	09/20/2017	09/22/2017	Fe-Val Siddell	09/28/2017	Juyoung Kim	1930036, 1930037
USGS O-2060-01	09/20/2017	09/21/2017	Hoor Shaik	09/23/2017	Julie Michelle Frank	1930034, 1930035
	09/20/2017	09/22/2017	Hoor Shaik	09/28/2017	Julie Michelle Frank	1930036, 1930037