

Chemical Analysis Report

SW-DIST-2018-02-01-02

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

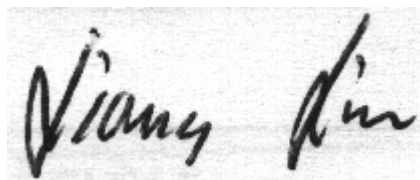
Event Description: **Pinellas LR7- Mckay Fresh**
Request ID: **RQ-2018-01-29-15**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Judy Ashton

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 16-FEB-2018 14:56

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

Case Narrative

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

Results for the following analytical 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: McKay Creek @ Bluff Drive

Collection Date/Time: 01/31/2018 13:27

Field ID: G5SW0145

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1963589	EPA 8321B	2,4-D	0.017		ug/L	P339135	
		Sucralose**	0.70		ug/L	P339296	
		Bentazon	0.014		ug/L	P339135	MS
		MCP	0.0033	I	ug/L	P339135	MS
		Triclopyr**	0.0040	U	ug/L	P339135	
		Imidacloprid	0.0074	I	ug/L	P339135	MS
		Diuron	0.0020	U	ug/L	P339135	
		Primidone**	0.0040	U	ug/L	P339135	
		Linuron	0.0040	U	ug/L	P339135	
		Acetaminophen**	0.0080	U	ug/L	P339135	
		Fenuron	0.0080	U	ug/L	P339135	
		Carbamazepine**	6.5E-04	I	ug/L	P339135	
		Fluridone**	0.15		ug/L	P339135	

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
 Batch ID: P339135

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	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
 Batch ID: P339296

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P339135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	68.1		P	40 - 150
Acetaminophen	96.9		P	30 - 150
Bentazon	82.7		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P339135

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	95.0		P	40 - 150
Diuron	79.2		P	40 - 150
Fenuron	102		P	40 - 150
Fluridone	84.6		P	40 - 150
Imidacloprid	98.6		P	40 - 160
Linuron	89.4		P	40 - 150
MCP	68.2		P	40 - 150
Primidone	107		P	40 - 150
Triclopyr	67.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P339296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	105		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P339135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963382	2,4-D	50.4	52.5	P/P	40 - 150
1963382	Acetaminophen	109	107	P/P	30 - 150
1963382	Bentazon	29.7	30.0	F/F	30 - 150
1963382	Carbamazepine	86.3	83.9	P/P	40 - 150
1963382	Diuron	65.6	68.2	P/P	40 - 150
1963382	Fenuron	80.7	81.7	P/P	40 - 150
1963382	Fluridone	68.0	66.6	P/P	40 - 150
1963382	Imidacloprid	161	148	F/P	40 - 160
1963382	Linuron	78.2	77.6	P/P	40 - 150
1963382	MCP	39.1	38.2	F/F	40 - 150
1963382	Primidone	109	104	P/P	40 - 150
1963382	Triclopyr	45.9	45.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P339296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1963387	Sucralose	116	112	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P339135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963382	2,4-D	3.75	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P339135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963382	Acetaminophen	1.85	Spike	P	0 - 30
1963382	Bentazon	0.771	Spike	P	0 - 30
1963382	Carbamazepine	2.69	Spike	P	0 - 30
1963382	Diuron	3.84	Spike	P	0 - 30
1963382	Fenuron	1.13	Spike	P	0 - 30
1963382	Fluridone	2.17	Spike	P	0 - 30
1963382	Imidacloprid	7.68	Spike	P	0 - 30
1963382	Linuron	0.693	Spike	P	0 - 30
1963382	MCPD	2.30	Spike	P	0 - 30
1963382	Primidone	4.59	Spike	P	0 - 30
1963382	Triclopyr	2.13	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P339296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1963387	Sucralose	3.87	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: 1963589
Field Sample ID: G5SW0145

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	54.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	97.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.0	P	30 - 160
EPA 8321B	Diuron-d6	77.4	P	30 - 160
EPA 8321B	Primidone-d5	97.1	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A81928
Included Lab Sample IDs: 1963589

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	101	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A81930
Included Lab Sample IDs: 1963589

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.4	93.4	P/P	50 - 150
Acetaminophen	125	116	P/P	60 - 150
Bentazon	129	130	P/P	50 - 150
Carbamazepine	113	115	P/P	60 - 150
Diuron	115	116	P/P	60 - 150
Fenuron	107	108	P/P	60 - 150
Imidacloprid	106	106	P/P	60 - 150
Linuron	118	133	P/P	60 - 150
MCP	97.8	100	P/P	50 - 150
Primidone	110	120	P/P	60 - 150
Triclopyr	100	97.4	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A81941
Included Lab Sample IDs: 1963589

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	116	110	P/P	60 - 160

* 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	2,4-D	68.1	52.5 50.4			3.75
	Acetaminophen	96.9	109 107			1.85
	Bentazon	82.7	30.0 29.7			0.771
	Carbamazepine	95.0	86.3 83.9			2.69
	Diuron	79.2	65.6 68.2			3.84
	Fenuron	102	80.7 81.7			1.13
	Fluridone	84.6	68.0 66.6			2.17
	Imidacloprid	98.6	161 148			7.68
	Linuron	89.4	78.2 77.6			0.693
	MCP	68.2	38.2 39.1			2.30
	Primidone	107	109 104			4.59
	Sucralose	105	116 112			3.87
	Triclopyr	67.6	45.0 45.9			2.13

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1963589
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1963589

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/01/2018	02/01/2018	Hoor Shaik	02/04/2018	Julie Michelle Frank	1963589
	02/01/2018	02/01/2018	Hoor Shaik	02/05/2018	Julie Michelle Frank	1963589
	02/01/2018	02/01/2018	Hoor Shaik	02/06/2018	Julie Michelle Frank	1963589
	02/01/2018	02/06/2018	Juyoung Kim	02/07/2018	Juyoung Kim	1963589