



Certificate of Analysis

Sample: DA91213008-001
Harvest/Lot ID: HS-TVF1212201901
Cultivation Facility: Miami Cultivation
Processing Facility: Homestead Processing
Seed to Sale #5936 5393 3445 1732
Batch Date :N/A
Batch#: HS-TVF1212201901
Sample Size Received: 7.0 gram
Total Weight/Volume: 2000 gram
Retail Product Size: 0.5 gram gram
Ordered : 12/13/19
sampled : 12/13/19
Completed: 12/30/19
Sampling Method: SOP Client Method

Dec 30, 2019 | CURALEAF FLORIDA LLC

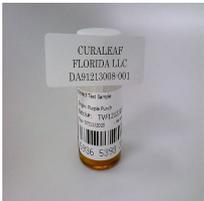
19000 SW 192 STREET
MIAMI, FL, 33187, US



PASSED

Page 1 of 5

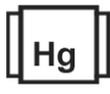
PRODUCT IMAGE



SAFETY RESULTS



Pesticides
PASSED



Heavy Metals
PASSED



Microbials
PASSED



Mycotoxins
PASSED



Residuals Solvents
PASSED



Filtration
PASSED



Water Activity
NOT TESTED



Moisture
NOT TESTED



Terpenes
TESTED

MISC.

CANNABINOID RESULTS



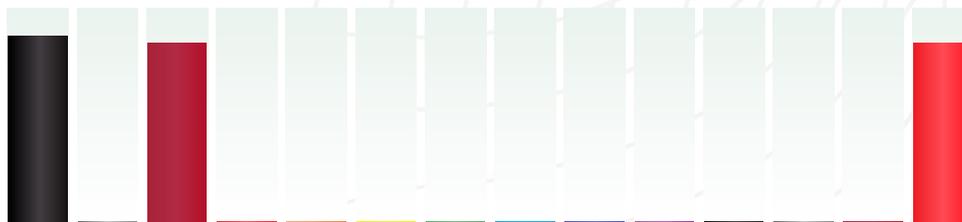
Total THC
85.957%
THC/Container :429.79 mg



Total CBD
0.195%
CBD/Container :0.98 mg



Total Cannabinoids
89.533%
Total Cannabinoids / Container :0.000



Filtration PASSED

Analyzed By 584	Weight 1g	Extraction date 12/13/19	Extracted By 584
Analyte Filtration and Foreign Material		LOD 0	Result ND
Analysis Method -SOP.T.40.013		Batch Date :	
Analytical Batch -DA008716FIL			
Instrument Used :			

This includes but is not limited to hair, insects, feces, packaging contaminants, and manufacturing waste and by-products. An SH-2B/T Stereo Microscope is used for inspection.

	TOTAL CA	TOTAL CB	TOTAL TH	CBC	CBGA	CBG	THCV	D8-THC	CBDV	CBN	CBDA	CBD	THCA	D9-THC
%	89.5330	0.1950	85.9569	1.0860	ND	1.5069	0.4540	ND	ND	0.3350	ND	0.1950	ND	85.9569
mg/g	895.3300	1.9500	859.5690	10.8600	ND	15.0700	4.5400	ND	ND	3.3500	ND	1.9500	ND	859.5700
LOD	0.0000	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0001	0.0010	0.0001
	%	%	%	%	%	%	%	%	%	%	%	%	%	%

Cannabinoid Profile Test

Analyzed by 450	Weight 0.1049g	Extraction date : 12/17/19 04:12:37	Extracted By : 357
Analysis Method -SOP.T.40.020, SOP.T.30.050	Instrument Used :	Batch Date :	
Analytical Batch -DA008785POT			

Reagent 121619.R15	Dilution 40	Consums. ID 76124-662 SPN-BX-1025 849CA-849AK 849CC-849H
-----------------------	----------------	--

Full spectrum cannabinoid analysis utilizing High Performance Liquid Chromatography with UV detection (HPLC-UV). (Method: SOP.T.30.050 for sample prep and Shimadzu High Sensitivity Method SOP.T.40.020 for analysis. LOQ for all cannabinoids is 1 mg/L).

This report shall not be reproduced, unless in its entirety, without written approval from Kaycha Labs. This report is a Kaycha Labs certification. The results relate only to the material or product analyzed. Test results are confidential unless explicitly waived otherwise. Void after 1 year from test end date. Cannabinoid content of batch material may vary depending on sampling error. IC=In-control QC parameter, NC=Non-controlled QC parameter, ND=Not Detected, NA=Not Analyzed, ppm=Parts Per Million, ppb=Parts Per Billion. Limit of Detection (LoD) and Limit of Quantitation (LoQ) are terms used to describe the smallest concentration that can be reliably measured by an analytical procedure. RPD=Reproducibility of two measurements. Action Levels are State determined thresholds for human safety for consumption and/or inhalation. The result >99% are variable based on uncertainty of measurement (UM) for the analyte. The UM error is available from the lab upon request. The "Decision Rule" for the pass/fail does not include the UM. The limits are based on F.S. Rule 64-4.310.

Jorge Segredo
Lab Director



Signature

12/30/19

Signed On

State License # CMTL-0002
ISO Accreditation # ISO/IEC
17025:2017 Accreditation
PJLA-Testing 97164



Certificate of Analysis

PASSED

19000 SW 192 STREET
MIAMI, FL, 33187, US
Telephone: 7865860672
Email: erick.ramirez@curaleaf.com

Sample : DA91213008-001
Harvest/LOT ID: HS-TVF1212201901
Batch# : HS-TVF1212201901
Sampled : 12/13/19
Ordered : 12/13/19

Sample Size Received : 7.0 gram
Total Weight/Volume : 2000 gram
Completed : 12/30/19 Expires: 12/30/20
Sample Method : SOP Client Method

Page 2 of 5



Terpenes

TESTED

Terpenes	LOD(%)	mg/g	%	Result (%)	Terpenes	LOD(%)	mg/g	%	Result (%)
ALPHA-CEDRENE	0.007	ND	ND		SABINENE	0.007	ND	ND	
ALPHA-HUMULENE	0.007	< 0.2	< 0.020		SABINENE HYDRATE	0.007	ND	ND	
ALPHA-PINENE	0.007	50.548	5.054		TERPINEOL	0.007	ND	ND	
ALPHA-TERPINENE	0.007	ND	ND		TERPINOLENE	0.007	ND	ND	
BETA-MYRCENE	0.007	0.563	0.056		BETA-CARYOPHYLLENE	0.007	1.648	0.164	
BETA-PINENE	0.007	5.311	0.531		TRANS-NEROLIDOL	0.007	< 0.2	< 0.020	
BORNEOL	0.013	ND	ND		VALENCENE	0.007	ND	ND	
CAMPHENE	0.007	0.777	0.077						
CAMPHOR	0.013	ND	ND						
CARYOPHYLLENE OXIDE	0.007	< 0.2	< 0.020						
CEDROL	0.007	ND	ND						
ALPHA-BISABOLOL	0.007	1.394	0.139						
ISOPULEGOL	0.007	ND	ND						
CIS-NEROLIDOL	0.007	ND	ND						
3-CARENE	0.007	ND	ND						
FENCHYL ALCOHOL	0.007	ND	ND						
HEXAHYDROTHYMOL	0.007	ND	ND						
EUCALYPTOL	0.007	ND	ND						
ISOBORNEOL	0.007	ND	ND						
FARNESENE	0.007	ND	ND						
FENCHONE	0.007	ND	ND						
GAMMA-TERPINENE	0.007	ND	ND						
GERANIOL	0.007	ND	ND						
GERANYL ACETATE	0.007	ND	ND						
GUAIOL	0.007	0.690	0.069						
LIMONENE	0.007	7.178	0.717						
LINALOOL	0.007	0.484	0.048						
NEROL	0.007	ND	ND						
OCIMENE	0.007	ND	ND						
ALPHA-PHELLANDRENE	0.007	ND	ND						
PULEGONE	0.007	ND	ND						
Total (%)		6.859							



Terpenes

TESTED

Analyzed by **1118** Weight **0.9161g** Extraction date **12/13/19 10:12:07** Extracted By **1118**

Analysis Method -SOP.T.40.090
Analytical Batch -DA008703TER
Instrument Used :
Running On :
Batch Date :

Reagent	Dilution	Consums. ID
	10	

Terpenoid profile screening is performed using GC-MS with Liquid Injection (Gas Chromatography - Mass Spectrometer) which can screen 38 terpenes using Method SOP.T.40.091 Terpenoid Analysis Via GC/MS.

This report shall not be reproduced, unless in its entirety, without written approval from Kaycha Labs. This report is an Kaycha Labs certification. The results relate only to the material or product analyzed. Test results are confidential unless explicitly waived otherwise. Void after 1 year from test end date. Cannabinoid content of batch material may vary depending on sampling error. IC=In-control QC parameter, NC=Non-controlled QC parameter, ND=Not Detected, NA=Not Analyzed, ppm=Parts Per Million, ppb=Parts Per Billion. Limit of Detection (LoD) and Limit of Quantitation (LoQ) are terms used to describe the smallest concentration that can be reliably measured by an analytical procedure. RPD=Reproducibility of two measurements. Action Levels are State determined thresholds for human safety for consumption and/or inhalation. The result >99% are variable based on uncertainty of measurement (UM) for the analyte. The UM error is available from the lab upon request. The "Decision Rule" for the pass/fail does not include the UM. The limits are based on F.S. Rule 64-4.310.

Jorge Segredo
Lab Director



Signature

12/30/19

State License # CMTL-0002
ISO Accreditation # ISO/IEC
17025:2017 Accreditation
PJLA-Testing 97164

Signed On



Certificate of Analysis

PASSED

19000 SW 192 STREET
MIAMI, FL, 33187, US
Telephone: 7865860672
Email: erick.ramirez@curaleaf.com

Sample : DA91213008-001
Harvest/LOT ID: HS-TVF1212201901

Batch# : HS-TVF1212201901
Sampled : 12/13/19
Ordered : 12/13/19

Sample Size Received : 7.0 gram
Total Weight/Volume : 2000 gram
Completed : 12/30/19 Expires: 12/30/20
Sample Method : SOP Client Method

Page 3 of 5



Pesticides

PASSED

Pesticides	LOD	Units	Action Level	Result	Pesticides	LOD	Units	Action Level	Result
CHLORDANE	0.005	ppm	0.1	ND	OXAMYL	0.01	ppm	0.5	ND
CAPTAN	0.05	ppm	0.7	ND	PACLOBUTRAZOL	0.01	ppm	0.1	ND
BOSCALID	0.01	PPM	0.1	ND	TRANS-PERMETHRIN	0.05	ppm	0.1	ND
DIMETHOATE	0.01	ppm	0.1	ND	PHOSMET	0.01	ppm	0.1	ND
ABAMECTIN B1A	0.02	ppm	0.1	ND	PIPERONYL BUTOXIDE	0.01	ppm	3	ND
CIS-PERMETHRIN	0.05	ppm	0.1	ND	PRALLETHRIN	0.05	ppm	0.1	ND
SPINETORAM	0.01	PPM	0.2	ND	PROPICONAZOLE	0.01	ppm	0.1	ND
ACEPHATE	0.001	ppm	0.1	ND	PROPOXUR	0.01	ppm	0.1	ND
DIMETHOMORPH	0.005	ppm	0.2	ND	PYRETHRIN I	0.01	ppm	0.5	ND
ETHOPROPHOS	0.01	ppm	0.1	ND	PYRIDABEN	0.01	ppm	0.2	ND
ACEQUINOXYL	0.01	ppm	0.1	ND	SPINOSAD (SPINOSYN A)	0.01	ppm	0.1	ND
ACETAMIPRID	0.01	ppm	0.1	ND	SPINOSAD (SPINOSYN D)	0.01	ppm	0.1	ND
ETOFENPROX	0.01	ppm	0.1	ND	SPIROMESIFEN	0.01	ppm	0.1	ND
ALDICARB	0.02	ppm	0.1	ND	SPIROTETRAMAT	0.02	ppm	0.1	ND
ETOXAZOLE	0.01	ppm	0.1	ND	SPIROXAMINE	0.01	ppm	0.1	ND
AZOXYSTROBIN	0.01	ppm	0.01	ND	TEBUCONAZOLE	0.01	ppm	0.1	ND
FENHEXAMID	0.01	ppm	0.1	ND	THIACLOPRID	0.01	ppm	0.1	ND
BIFENAZATE	0.01	ppm	0.1	ND	THIAMETHOXAM	0.01	ppm	0.5	ND
FENOXYCARB	0.01	ppm	0.1	ND	TRIFLOXYSTROBIN	0.01	ppm	0.1	ND
FENPYROXIMATE	0.01	ppm	0.1	ND					
BIFENTHRIN	0.01	ppm	0.1	ND					
CARBARYL	0.01	ppm	0.5	ND					
FIPRONIL	0.02	ppm	0.1	ND					
FLONICAMID	0.01	ppm	0.1	ND					
CARBOFURAN	0.01	ppm	0.1	ND					
CHLORANTRANILIPROLE	0.01	ppm	1	ND					
FLUDIOXONIL	0.01	ppm	0.1	ND					
HEXYTHIAZOX	0.01	ppm	0.1	ND					
CHLORFENAPYR	0.01	ppm	0.1	ND					
IMAZALIL	0.01	ppm	0.1	ND					
CHLORPYRIFOS	0.01	ppm	0.1	ND					
IMIDACLOPRID	0.01	ppm	0.4	ND					
CLOFENTEZINE	0.01	ppm	0.2	ND					
KRESOXIM-METHYL	0.01	ppm	0.1	ND					
COUMAPHOS	0.005	ppm	0.1	ND					
MALATHION	0.01	ppm	0.2	ND					
CYPERMETHRIN	0.01	ppm	0.5	ND					
DAMINOZIDE	0.02	ppm	0.1	ND					
METALAXYL	0.01	ppm	0.02	ND					
DICHLORVOS	0.05	ppm	0.1	ND					
METHIOCARB	0.01	ppm	0.05	ND					
METHOMYL	0.01	ppm	0.1	ND					
DIAZANON	0.01	ppm	0.1	ND					
MEVINPHOS	0.01	ppm	0.1	ND					
MYCLOBUTANIL	0.01	ppm	0.1	ND					
NALED	0.01	ppm	0.25	ND					



Pesticides

PASSED

Analyzed by 585	Weight 0.9548g	Extraction date 12/13/19 12:12:48	Extracted By 584
<small>Analysis Method - SOP.T.30.065, SOP.T.40.065, SOP.T.40.066, SOP.T.40.070 , SOP.T.30.065, SOP.T.40.070</small>			
<small>Analytical Batch - DA008708PES</small>			
<small>Instrument Used :</small>		<small>Batch Date :</small>	
<small>Running On :</small>	<small>Dilution</small>	<small>Consums. ID</small>	

Pesticide screen is performed using LC-MS and/or GC-MS which can screen down to below single digit ppb concentrations for regulated Pesticides. Currently we analyze for 67 Pesticides. (Method: SOP.T.30.060 Sample Preparation for Pesticides Analysis via LCMSMS and GCMSMS. SOP.T.40.065/SOP.T.40.066/SOP.T.40.070 Procedure for Pesticide Quantification Using LCMS and GCMS). * Volatile Pesticide screening is performed using GC-MS which can screen down to below single digit ppb concentrations for regulated Pesticides. Analytes marked with an asterisk were tested using GC-MS.

This report shall not be reproduced, unless in its entirety, without written approval from Kaycha Labs. This report is a Kaycha Labs certification. The results relate only to the material or product analyzed. Test results are confidential unless explicitly waived otherwise. Void after 1 year from test end date. Cannabinoid content of batch material may vary depending on sampling error. IC=In-control QC parameter, NC=Non-controlled QC parameter, ND=Not Detected, NA=Not Analyzed, ppm=Parts Per Million, ppb=Parts Per Billion. Limit of Detection (LoD) and Limit of Quantitation (LoQ) are terms used to describe the smallest concentration that can be reliably measured by an analytical procedure. RPD=Reproducibility of two measurements. Action Levels are State determined thresholds for human safety for consumption and/or inhalation. The result >99% are variable based on uncertainty of measurement (UM) for the analyte. The UM error is available from the lab upon request. The "Decision Rule" for the pass/fail does not include the UM. The limits are based on F.S. Rule 64-4.310.

Jorge Segredo
Lab Director



12/30/19

State License # CMTL-0002
ISO Accreditation # ISO/IEC
17025:2017 Accreditation
PJLA-Testing 97164

Signature

Signed On



Certificate of Analysis

PASSED

19000 SW 192 STREET
MIAMI, FL, 33187, US
Telephone: 7865860672
Email: erick.ramirez@curaleaf.com

Sample : DA91213008-001
Harvest/LOT ID: HS-TVF1212201901
Batch# : HS-TVF1212201901
Sampled : 12/13/19
Ordered : 12/13/19

Sample Size Received : 7.0 gram
Total Weight/Volume : 2000 gram
Completed : 12/30/19 Expires: 12/30/20
Sample Method : SOP Client Method

Page 4 of 5



Residual Solvents

PASSED



Residual Solvents

PASSED

Solvent	LOD	Units	Action Level (PPM)	Pass/Fail	Result
PROPANE	120	ppm	2100	PASS	ND
BUTANES (N-BUTANE)	96	ppm	2000	PASS	ND
ETHYLENE OXIDE	0.6	ppm	5	PASS	ND
METHANOL	22.5	ppm	250	PASS	ND
ETHANOL	90	ppm	5000	PASS	ND
PENTANES (N-PENTANE)	67.5	ppm	750	PASS	ND
ETHYL ETHER	45	ppm	500	PASS	ND
ACETONE	67.5	ppm	750	PASS	ND
2-PROPANOL	45	ppm	500	PASS	ND
ACETONITRILE	5.4	ppm	60	PASS	ND
DICHLOROMETHANE	11.25	ppm	125	PASS	ND
N-HEXANE	4.5	ppm	250	PASS	ND
ETHYL ACETATE	36	ppm	400	PASS	ND
BENZENE	0.09	ppm	1	PASS	ND
HEPTANE	45	ppm	500	PASS	ND
TOLUENE	13.5	ppm	150	PASS	ND
CHLOROFORM	0.18	ppm	2	PASS	ND
1,2-DICHLOROETHANE	0.18	ppm	2	PASS	ND
TRICHLOROETHYLENE	2.25	ppm	25	PASS	ND
1,1-DICHLOROETHENE	1	ppm	8	PASS	ND
TOTAL XYLENES	13.5	ppm	150	PASS	ND

Analyzed by	Weight	Extraction date	Extracted By
850	0.0249g	12/13/19 02:12:34	850
Analysis Method -SOP.T.40.032			
Analytical Batch -DA008719SOL			
Instrument Used :			
Running On :			
Batch Date :			
Reagent	Dilution	Consums. ID	
	1	00276446 161040-1 24152436	

Residual solvents screening is performed using GC-MS which can detect below single digit ppm concentrations. Currently we analyze for 21 Residual solvents. (Method: SOP.T.40.032 Residual Solvents Analysis via GC-MS).

This report shall not be reproduced, unless in its entirety, without written approval from Kaycha Labs. This report is an Kaycha Labs certification. The results relate only to the material or product analyzed. Test results are confidential unless explicitly waived otherwise. Void after 1 year from test end date. Cannabinoid content of batch material may vary depending on sampling error. IC=In-control QC parameter, NC=Non-controlled QC parameter, ND=Not Detected, NA=Not Analyzed, ppm=Parts Per Million, ppb=Parts Per Billion. Limit of Detection (LoD) and Limit Of Quantitation (LoQ) are terms used to describe the smallest concentration that can be reliably measured by an analytical procedure. RPD=Reproducibility of two measurements. Action Levels are State determined thresholds for human safety for consumption and/or inhalation. The result >99% are variable based on uncertainty of measurement (UM) for the analyte. The UM error is available from the lab upon request. The "Decision Rule" for the pass/fail does not include the UM. The limits are based on F.S. Rule 64-4.310.

Jorge Segredo
Lab Director



Signature

12/30/19

State License # CMTL-0002
ISO Accreditation # ISO/IEC
17025:2017 Accreditation
PJLA-Testing 97164

Signed On



Certificate of Analysis

PASSED

19000 SW 192 STREET
MIAMI, FL, 33187, US
Telephone: 7865860672
Email: erick.ramirez@curaleaf.com

Sample : DA91213008-001
Harvest/LOT ID: HS-TVF1212201901
Batch# : HS-TVF1212201901
Sampled : 12/13/19
Ordered : 12/13/19

Sample Size Received : 7.0 gram
Total Weight/Volume : 2000 gram
Completed : 12/30/19 Expires: 12/30/20
Sample Method : SOP Client Method

Page 5 of 5



Microbials

PASSED



Mycotoxins

PASSED

Analyte	LOD	Result	Action Level (cfu/g)
ASPERGILLUS_FLAVUS		not present in 1 gram.	
ASPERGILLUS_FUMIGATUS		not present in 1 gram.	
ASPERGILLUS_NIGER		not present in 1 gram.	
ASPERGILLUS_TERREUS		not present in 1 gram.	
ESCHERICHIA_COLI_SHIGELLA_SPP		not present in 1 gram.	
SALMONELLA_SPECIFIC_GENE		not present in 1 gram.	
TOTAL_YEAST_AND_MOLD		not present in 1 gram.	

Analysis Method -SOP.T.40.043 / SOP.T.40.044 / SOP.T.40.041
Analytical Batch -DA008707MIC Batch Date :
Instrument Used :
Running On :

Analyzed by	Weight	Extraction date	Extracted By
513,	0.9975g	12/13/19	1082,

Reagent	Consums. ID	Consums. ID
121019.R05	2802011	19193
	A02	
	2803021	
	009D	
	020	
	011	

Microbiological testing for Fungal and Bacterial Identification via Polymerase Chain Reaction (PCR) method consisting of sample DNA amplified via tandem Polymerase Chain Reaction (PCR) as a crude lysate which avoids purification. (Method SOP.T.40.043) If a pathogenic Escherichia Coli, Salmonella, Aspergillus fumigatus, Aspergillus flavus, Aspergillus niger, or Aspergillus terreus is detected in 1g of a sample, the sample fails the microbiological-impurity testing. Pour-plating is used for quantitation and confirmation, Total Yeast and Mold has an action limit of 100,000 CFU.

Analyte	LOD	Units	Result	Action Level (PPM)
AFLATOXIN G2	0.002	ppm	ND	
AFLATOXIN G1	0.002	ppm	ND	
AFLATOXIN B2	0.002	ppm	ND	
AFLATOXIN B1	0.002	ppm	ND	
OCHRATOXIN A+	0.002	ppm	ND	0.02
TOTAL AFLATOXINS	0.02	PPM	ND	0.02

Analysis Method -SOP.T.30.065, SOP.T.40.065
Analytical Batch -DA008709
Instrument Used :
Running On :
Batch Date :

Analyzed by	Weight	Extraction date	Extracted By
585	1g	NA	NA

Aflatoxins B1, B2, G1, G2, and Ochratoxins A testing using LC-MS. (Method: SOP.T.30.065 for Sample Preparation and SOP.T.40.065 Procedure for Mycotoxins Quantification Using LCMS. LOQ 1.0 ppb). Aflatoxin B1, B2, G1, and G2 must individually be <20ug/Kg. Ochratoxins must be <20µg/Kg.



Heavy Metals

PASSED

Reagent	Reagent	Dilution
121319.R01	052419.01	50
121219.R04		
121119.R03		
112119.R02		
120419.R01		
120419.R02		

Metal	LOD	Unit	Result	Action Level (PPM)
ARSENIC	0.01	PPM	ND	0.2
CADMIUM	0.01	PPM	ND	0.2
LEAD	0.01	PPM	0.063	0.5
MERCURY	0.01	PPM	ND	0.1

Analyzed by	Weight	Extraction date	Extracted By
53	0.2644g	12/13/19 02:12:22	457

Analysis Method -SOP.T.40.050, SOP.T.30.052
Analytical Batch -DA008715HEA
Instrument Used :
Running On :
Batch Date :

Heavy Metals screening is performed using ICP-MS (Inductively Coupled Plasma - Mass Spectrometer) which can screen down to below single digit ppb concentrations for regulated heavy metals using Method SOP.T.30.052 Sample Preparation for Heavy Metals Analysis via ICP-MS and SOP.T.40.050 Heavy Metals Analysis via ICP-MS.

This report shall not be reproduced, unless in its entirety, without written approval from Kaycha Labs. This report is an Kaycha Labs certification. The results relate only to the material or product analyzed. Test results are confidential unless explicitly waived otherwise. Void after 1 year from test end date. Cannabinoid content of batch material may vary depending on sampling error. IC=In-control QC parameter, NC=Non-controlled QC parameter, ND=Not Detected, NA=Not Analyzed, ppm=Parts Per Million, ppb=Parts Per Billion. Limit of Detection (LoD) and Limit Of Quantitation (LoQ) are terms used to describe the smallest concentration that can be reliably measured by an analytical procedure. RPD=Reproducibility of two measurements. Action Levels are State determined thresholds for human safety for consumption and/or inhalation. The result >99% are variable based on uncertainty of measurement (UM) for the analyte. The UM error is available from the lab upon request. The "Decision Rule" for the pass/fail does not include the UM. The limits are based on F.S. Rule 64-4.310.

Jorge Segredo
Lab Director



12/30/19

State License # CMTL-0002
ISO Accreditation # ISO/IEC
17025:2017 Accreditation
PJLA-Testing 97164

Signature

Signed On