

P: (800)325-7734 | F: (512)341-3931 | W: www.prlabs.com

CERTIFICATE OF ANALYSIS

Product	Hemp Extract	Lot Number	190731-2155
Item Number	2155	Country of Origin	USA

TEST	SPECIFICATION	RESULTS	METHOD
Identity			
Appearance	Liquid, To Match Standard	Matches	WI-QC-017
Color	Yellow to Greenish-Yellow to Brown	Pass	WI-QC-017
Identity by FTIR	Must conform to standard	Conforms	USP <197> or equivalent


Purity			
Total Aerobic Microbial Count	$\leq 2 \times 10^4$ (cfu/mL)	Pass	USP <2021> or equivalent
Total Combined Yeast and Mold Count	$\leq 2 \times 10^3$ (cfu/mL)	Pass	USP <2021> or equivalent
Total Coliform Count	$\leq 1 \times 10^3$ (cfu/mL)	Pass	BAM Chapter 4 or equivalent
<i>Staphylococcus aureus</i>	None detected in 10 mL	Not Detected	USP <2022> or equivalent
<i>Escherichia coli</i>	None detected in 10 mL	Not Detected	USP <2022> or equivalent
<i>Salmonella spp.</i>	None detected in 10 mL	Not Detected	USP <2022> or equivalent
Lead (Pb)	$\leq 5 \mu\text{g}$ per 1 mL	Not Detected	USP <730>
Arsenic (As)	$\leq 15 \mu\text{g}$ per 1 mL	Not Detected	USP <730>
Cadmium (Cd)	$\leq 5 \mu\text{g}$ per 1 mL	Not Detected	USP <730>
Mercury (Hg)	$\leq 2 \mu\text{g}$ per 1 mL	Not Detected	USP <730>

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TEST	SPECIFICATION	RESULTS	METHOD
Lack of Contaminants			
Pesticides	Conforms to USP limits	Conforms	USP <561> or equivalent
Synthetic Cannabinoids	Not Detected	Not Detected	USP <621> or equivalent
Residual Solvents	Conforms to Oregon Hemp Rule and USP limits	Conforms	EPA8260C

Composition			
TOTOX	Conforms to USP limits	Conforms	USP <401> or equivalent
Density	Report Only	0.88 g/ mL	WI-QC-007
Volume Verification	≥ 30 mL	Pass	WI-QC-007
Gluten Assay	< 20 ppm	Pass	Gluten ELISA
<u>Hemp Extract</u> Verification	≥ 55 mg Per 1 mL	Pass	Batch Record Verification

Strength			
Cannabinoids	Presence of CBD, CBC, CBCA, CBG, and CBL	Present	AOAC 2018.11
Total CBD	≥ 30 mg per 1 mL	Pass	AOAC 2018.11
Total THC	≤ 0.3 %	Pass	AOAC 2018.11
Terpenes	Presence Of	Present	CA/BCC & AHP AGC320A & USP
Hemp Extract	≥ 55 mg per 1 mL	Pass	Calculation

QUALITY APPROVAL		
Prepared By / Date	Approved By / Date	Final Disposition
 01/15/2020	M. Laraballo 1-15-2020	PASS

This product has been reviewed and approved by the Premier Research Labs Quality Unit. The results reported in this certificate of analysis (COA) are truthful and representative of the lot. The finished product and all raw materials used to manufacture the batch have been found to meet required specification limits in accordance with 21 CFR 111 (cGMP) regulations and the product is released.



860 Greenview Dr.
 Grand Prairie, Texas 75050-2439
 972 336 0336 / 1 800 242 6494
 Fax 972 623 0055
 afl@afltexas.com

Report Number:
AFSG190904-081

Received Date: 9/4/2019 6:19:00 PM

Client Reference:

Purchase Order:

Contact: Nancy Carballo
 Company: Premier Research Labs
 Address: 5300 Wedley Place, Building B
 Austin, TX 78728

Email: ncaraballo@prlabs.com
 Phone: 512-218-2562
 Fax:

Comments:

19AF62359	2155/2155BS	P Hemp Extract/BS Hemp Extract		
Lot #190731-	2155/2155BS Composite Boxes Q1, 297, 227BS			
<i>Test</i>	<i>Method Reference</i>	<i>Result</i>	<i>Unit</i>	<i>Approved Date</i>

Nickel

Nickel	EPA 3050/6020, USP730	<0.01 ppm		09/09/2019
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Tin

Tin	EPA 3050/6020, USP730	0.015 ppm		09/09/2019
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Tungsten

Tungsten	EPA 3050/6020, USP730	<0.01 ppm		09/09/2019
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Certified by:

Stated results apply only to items actually tested. This report shall not be reproduced except in full without written approval of the laboratory.
 * Estimated Count / ^ Subcontracted Test



Laboratory Report

860 Greenview Dr.
 Grand Prairie, Texas 75050-2439
 972 336 0336 / 1 800 242 6494
 Fax 972 623 0055
 afl@afltexas.com

Report Number:
AFSG190904-081

Received Date: 9/4/2019 6:19:00 PM	Client Reference:	Purchase Order:
Contact: Nancy Carballo		Email: ncaraballo@prlabs.com
Company: Premier Research Labs		Phone: 512-218-2562
Address: 5300 Wedley Place, Building B Austin, TX 78728		Fax:
Comments:		

Test	Method Reference	Result	Unit	Approved Date
19AF62359 2155/2155BS P Hemp Extract/BS Hemp Extract				
Lot #190731- 2155/2155BS Composite Boxes Q1, 297, 227BS				
<i>Antimony</i>				
Antimony	EPA 3050/6020, USP730	<0.01 ppm		09/09/2019
<i>Arsenic</i>				
Arsenic	EPA 3050/6020, USP730	<0.01 mcg/1mL		09/09/2019
<i>Cadmium</i>				
Cadmium	EPA 3050/6020, USP730	<0.001 ppm	= 20.00 mcg/1mL AV 09-13-19	09/09/2019
<i>Lead</i>				
Lead	EPA 3050/6020, USP730	<0.01 mcg/1mL		09/09/2019
<i>Mercury</i>				
Mercury	EPA 3050/6020, USP730	<0.005 mcg/1mL		09/09/2019

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 * Estimated Count / ^ Subcontracted Test



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794



Job Number: 19-011252
Report Number: 19-011252-00
Report Date: 09/19/2019
Purchase Order: SW20190904
Received: 09/06/19 10:32 AM
Project Name: 19-010746

Customer: Analytical Food Laboratories
860 Greenview Dr.
Grand Prairie Texas 75050
United States

Sample ID: 19AF62320 Lot Hemp Extract
Sample Matrix: liquid
Laboratory ID: 19-011252-0001
Evidence of Cooling: No
Temp: 25 °C

Sample Results

Pesticides

Pesticides (Cannabis)

Method: AOAC 2007.01 & EN 15662 (mod)

Unit: mg/kg

Analyzed: 09/19/19

Analyte	Result	LOQ	Notes	Analyte	Result	LOQ	Notes	Analyte	Result	LOQ	Notes
Abamectin	< LOQ	0.25		Acephate	< LOQ	0.25		Acequinocyl	< LOQ	1.0	
Acetamiprid	< LOQ	0.10		Aldicarb	< LOQ	0.20		Azoxystrobin	< LOQ	0.10	
Bifenazate	< LOQ	0.10		Bifenthrin	< LOQ	0.10		Boscalid	< LOQ	0.10	
Carbaryl	< LOQ	0.10		Carbofuran	< LOQ	0.10		Chlorantranilprole	< LOQ	0.10	
Chlorfenapyr	< LOQ	0.50		Chlorpyrifos	< LOQ	0.10		Clofentezine	< LOQ	0.10	
Cyfluthrin (Incl. Beta-Cyfluthrin)	< LOQ	0.50		Cypermethrin	< LOQ	0.50		Daminozide	< LOQ	0.50	
Diazinon	< LOQ	0.10		Dichlorvos	< LOQ	0.50		Dimethoate	< LOQ	0.10	
Ethoprophos	< LOQ	0.10		Etofenprox	< LOQ	0.20		Etoxazole	< LOQ	0.10	
Fenoxycarb	< LOQ	0.10		Fenpyroximate	< LOQ	0.20		Flpronil	< LOQ	0.20	
Flonicamid	< LOQ	0.40		Fludoxonil	< LOQ	0.20		Hexythiazox	< LOQ	0.40	
Imazalil	< LOQ	0.10		Imidacloprid	< LOQ	0.20		Kresoxim-methyl	< LOQ	0.20	
Malathion	< LOQ	0.10		Metalaxyl	< LOQ	0.10		Methlocarb	< LOQ	0.10	
Methomyl	< LOQ	0.20		MGK-264	< LOQ	0.10		Myclobutanil	< LOQ	0.10	
Naled	< LOQ	0.25		Oxamyl	< LOQ	0.50		Paclobutrazole	< LOQ	0.20	
Parathion-Methyl	< LOQ	0.20		Permethrin	< LOQ	0.10		Phosmet	< LOQ	0.10	
Piperonyl butoxide	< LOQ	1.0		Prallethrin	< LOQ	0.10		Propiconazole	< LOQ	0.20	
Propoxur	< LOQ	0.10		Pyrethrin I (total)	< LOQ	0.50		Pyridaben	< LOQ	0.10	
Splinosad	< LOQ	0.10		Spiromesifen	< LOQ	0.10		Sprotetramat	< LOQ	0.10	
Spiroxamine	< LOQ	0.20		Tebuconazole	< LOQ	0.20		Thiacloprid	< LOQ	0.10	
Thiamethoxam	< LOQ	0.10		Trifloxystrobin	< LOQ	0.10					

1) Pesticides by HPLC/MS/MS



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Job Number: 19-011252
Report Number: 19-011252-00
Report Date: 09/19/2019
Purchase Order: SW20190904
Received: 09/06/19 10:32 AM
Project Name: 19-010746

Revision: 1.00 Control: CFL-C21
Revised: 08/12/2019 Effective: 08/15/2019

Laboratory Pesticide Quality Control Results

AOAC 2007.1 & EN 15662	Units: mg/Kg				Batch ID: 1908432					
Matrix Spike/Matrix Spike Duplicate Recoveries	Sample ID: 19-011252-0001									
Analyte	Result	MS Res	MSD Res	Spike	RPD%	Limit	MS % Rec	MSD % Rec	Limits	Notes
Acephate	0.000	1.181	1.145	1.000	3.1	< 30	118.1	114.5	50 - 150	
Acequinocyl	0.000	3.705	4.585	4.000	21.2	< 30	92.6	114.6	50 - 150	
Acetamiprid	0.000	0.455	0.442	0.400	3.0	< 30	113.8	110.5	50 - 150	
Aldicarb	0.000	0.931	0.869	0.800	7.6	< 30	116.4	107.8	50 - 150	
Abamectin	0.041	1.414	1.359	1.000	4.0	< 30	137.3	131.8	50 - 150	
Azoxystrobin	0.000	0.519	0.494	0.400	4.9	< 30	129.7	123.5	50 - 150	
Bifenazate	0.011	0.471	0.417	0.400	12.0	< 30	114.9	101.5	50 - 150	
Bifenthrin	0.048	1.462	1.412	0.400	3.5	< 30	359.5	341.0	50 - 150	Q1
Boscalid	0.018	0.932	0.974	0.800	4.4	< 30	114.2	119.5	50 - 150	
Carbaryl	0.009	0.456	0.460	0.400	0.8	< 30	112.0	112.9	50 - 150	
Carbofuran	0.000	0.487	0.478	0.400	2.0	< 30	121.8	119.4	50 - 150	
Chlorantraniliprol	0.000	0.406	0.405	0.400	0.1	< 30	101.4	101.3	50 - 150	
Chlorfenapyr	0.097	2.958	3.005	2.000	1.6	< 30	143.1	145.4	50 - 150	
Chlorpyrifos	0.078	1.138	1.268	0.400	10.8	< 30	265.0	297.4	50 - 150	Q1
Clofentezine	0.009	0.517	0.510	0.400	1.5	< 30	127.2	125.3	50 - 150	
Cyfluthrin	0.000	3.907	4.091	2.000	4.6	< 30	195.3	204.5	30 - 150	Q1
Cypermethrin	0.000	2.971	2.981	2.000	0.4	< 30	148.5	149.1	50 - 150	
Daminozide	0.000	2.281	2.265	2.000	0.7	< 30	114.1	113.3	30 - 150	
Diazinon	0.010	0.497	0.493	0.400	0.8	< 30	121.7	120.8	50 - 150	
Dichlorvos	0.042	2.413	2.342	2.000	3.0	< 30	118.6	115.0	50 - 150	
Dimethoat	0.003	0.452	0.433	0.400	4.3	< 30	112.2	107.4	50 - 150	
Ethionphos	0.036	0.470	0.476	0.400	1.1	< 30	108.5	109.8	50 - 150	
Etofenprox	0.000	1.218	1.132	0.800	7.3	< 30	152.2	141.5	50 - 150	Q1
Etoxazol	0.000	0.489	0.458	0.400	6.5	< 30	122.3	114.6	50 - 150	
Fenoxycarb	0.000	0.446	0.453	0.400	1.7	< 30	111.4	113.3	50 - 150	
Fenpyroximat	0.000	0.810	0.817	0.800	0.9	< 30	101.2	102.1	50 - 150	
Fipronil	0.000	0.985	0.950	0.800	3.5	< 30	123.1	118.8	50 - 150	
Flonicamid	0.040	1.092	1.066	1.000	2.4	< 30	105.2	102.6	50 - 150	
Fludoxonil	0.000	0.897	0.911	0.800	1.5	< 30	112.1	113.9	50 - 150	
Hexythiazox	0.009	1.837	1.914	1.000	4.1	< 30	182.8	190.5	50 - 150	Q1
Imazalil	0.009	0.433	0.409	0.400	5.9	< 30	106.1	99.9	50 - 150	
Imidacloprid	0.010	0.954	0.930	0.800	2.6	< 30	118.0	115.0	50 - 150	
Kresoxim-Methyl	0.010	0.900	0.893	0.800	0.7	< 30	111.2	110.4	50 - 150	
Malathion	0.000	0.450	0.474	0.400	5.2	< 30	112.4	118.5	50 - 150	
Metaxyl	0.019	0.479	0.431	0.400	10.4	< 30	115.0	103.2	50 - 150	
Methlocarb	0.006	0.466	0.473	0.400	1.6	< 30	114.9	116.8	50 - 150	
Methomyl	0.021	0.910	0.924	0.800	1.5	< 30	111.2	112.9	50 - 150	
MGK 264	0.000	0.491	0.463	0.400	5.9	< 30	122.9	115.8	50 - 150	
Myclobutanil	0.000	0.431	0.452	0.400	4.8	< 30	107.8	113.0	50 - 150	
Naled	0.018	1.237	1.237	1.000	0.0	< 30	121.9	121.9	50 - 150	
Oxamyl	0.129	2.375	2.266	2.000	4.7	< 30	112.3	106.9	50 - 150	
Paclobutrazol	0.000	1.010	0.999	0.800	1.1	< 30	126.3	124.9	50 - 150	
Parathion Methyl	0.001	1.079	1.066	0.800	1.3	< 30	134.8	133.1	30 - 150	
Permethrin	0.009	0.551	0.539	0.400	2.1	< 30	135.5	132.6	50 - 150	
Phosmet	0.003	0.446	0.484	0.400	8.2	< 30	110.9	120.4	50 - 150	
Piperonyl butoxide	0.000	2.305	2.291	2.000	0.6	< 30	115.3	114.6	50 - 150	
Prallethrin	0.021	0.531	0.557	0.400	4.7	< 30	127.6	134.0	50 - 150	
Propiconazole	0.000	0.992	0.972	0.800	1.9	< 30	123.9	121.6	50 - 150	
Propoxur	0.008	0.459	0.448	0.400	2.4	< 30	112.8	110.0	50 - 150	
Pyrethrins	0.002	0.314	0.307	0.284	3.5	< 30	110.0	107.3	50 - 150	
Pyridaben	0.006	0.752	0.765	0.400	1.8	< 30	186.5	189.9	50 - 150	Q1
Spinosad	0.000	0.424	0.400	0.388	5.7	< 30	109.3	103.2	50 - 150	
Spiromesifen	0.010	0.503	0.509	0.400	1.2	< 30	123.2	124.7	50 - 150	
Spirotetramat	0.001	0.421	0.408	0.400	3.0	< 30	104.9	101.8	50 - 150	
Spiroxamine	0.000	0.946	0.893	0.800	5.8	< 30	118.3	111.6	50 - 150	
Tebuconazol	0.004	0.959	0.912	0.800	5.1	< 30	119.4	113.5	50 - 150	
Thiacloprid	0.000	0.455	0.449	0.400	1.2	< 30	113.7	112.3	50 - 150	
Thiamethoxam	0.000	0.388	0.458	0.400	16.6	< 30	96.9	114.5	50 - 150	
Trifloxystrobin	0.000	0.501	0.495	0.400	0.8	< 30	125.3	123.7	50 - 150	

Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of the Columbia Food Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be kept a maximum of 15 days from the report date unless prior arrangements have been made.



12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Job Number: 19-010746
Report Number: 19-010746-00
Report Date: 09/16/2019
Purchase Order: SW20190904
Received: 09/06/19 10:32 AM



Customer: Analytical Food Laboratories
860 Greenview Dr.
Grand Prairie Texas 75050
United States

Sample ID: 19AF62320 Lot Hemp Extract
Sample Matrix: liquid
Laboratory ID: 19-010746-0001
Evidence of Cooling: No
Temp: 25 °C

Sample Results

Individual Analyses

USP-561 Pesticides

Analyte	Result	Units	LOQ	Analyzed	Method	Notes
Bromidat	< LOQ	mg/kg	50.0	09/09/19	Methyl Bromide (reported as Bromide) by GC/ECD	
Dithiocarbamates (CS2) [†]	< LOQ	mg/kg	0.100	09/12/19	P510 by GC-pFPD	

Pesticides

USP-561 Pesticides

Method: USP 561 Pesticides

Unit: mg/kg

Analyzed: 09/13/19

Analyte	Result	LOQ	Notes	Analyte	Result	LOQ	Notes	Analyte	Result	LOQ	Notes
Acephate	< LOQ	0.020		Alachlor	< LOQ	0.020		Aldrin	< LOQ	0.020	
Alpha-BHC	< LOQ	0.020		Azinphos-ethyl	< LOQ	0.020		Azinphos-methyl	< LOQ	0.020	
Beta-BHC	< LOQ	0.020		Bromophos	< LOQ	0.02		Bromophos Ethyl	< LOQ	0.020	
Bromopropylate	< LOQ	0.020		Chlordane (Sum)	< LOQ	0.020		Chlorfenvinphos	< LOQ	0.0200	
Chlorpyrifos	< LOQ	0.020		Chlorpyrifos-methyl	< LOQ	0.020		Cyfluthrin (incl. Beta-Cyfluthrin)	< LOQ	0.10	
Cyhalothrin,lambda	< LOQ	0.10		Cypermethrin	< LOQ	0.020		Dacthal (chlorthal-dimethyl)	< LOQ	0.010	
DDD, o,p-	< LOQ	0.020		DDD, p,p-	< LOQ	0.020		DDE, o,p-	< LOQ	0.020	
DDE, p,p-	< LOQ	0.020		DDT	< LOQ	0.12		DDT, o,p-	< LOQ	0.020	
DDT, p,p-	< LOQ	0.020		Delta-BHC	< LOQ	0.020		Dellamethrin	< LOQ	0.10	
Diazinon	< LOQ	0.020		Dichlofuanid	< LOQ	0.020		Dichlorvos	< LOQ	0.020	
Dicofol-p,p	< LOQ	0.020		Dieldrin	< LOQ	0.020		Dimethoate	<LOQ	0.020	
Endosulfan	< LOQ	0.020		Endosulfan Sulfate	< LOQ	0.020		Endrin	< LOQ	0.020	
Epsilon-BHC	< LOQ	0.020		Ethion	< LOQ	0.10		Etrifos	< LOQ	0.020	
Fenclorphos	< LOQ	0.020		Fenclorphos-oxon	< LOQ	0.020		Fenitrothion	< LOQ	0.040	
Fenpropathrin	< LOQ	0.020		Fensulfothion	< LOQ	0.010		Fensulfothion-oxon	< LOQ	0.010	
Fensulfothion-Oxon Sulfone	< LOQ	0.010		Fensulfothion-sulfone	< LOQ	0.010		Fenthion	< LOQ	0.010	
Fenthion sulfoxide	< LOQ	0.010		Fenthion-Oxon	< LOQ	0.0050		Fenthion-Oxon sulfone	< LOQ	0.010	
Fenthion-oxon sulfoxide	< LOQ	0.010		Fenthion-Sulfone	< LOQ	0.0050		Fenvalerate	< LOQ	0.020	
Flucythrinate	< LOQ	0.050		Fonofos	< LOQ	0.020		Heptachlor	< LOQ	0.020	
Heptachlorepoxyde	< LOQ	0.020		Hexachlorobenzene	< LOQ	0.020		Lindane	< LOQ	0.020	
Malaoxon	< LOQ	0.020		Malathion	< LOQ	0.020		Mecarbam	< LOQ	0.020	



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Job Number: 19-010746
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Purchase Order: SW20190904
Received: 09/06/19 10:32 AM

Pesticides											
USP-561 Pesticides											
Method: USP 561 Pesticides				Unit: mg/kg				Analyzed: 09/13/19			
Analyte	Result	LOQ	Notes	Analyte	Result	LOQ	Notes	Analyte	Result	LOQ	Notes
Methacrifos	< LOQ	0.020		Methamidophos	< LOQ	0.020		Methidathion	< LOQ	0.020	
Methoxychlor	< LOQ	0.040		Mirex	< LOQ	0.010		Monocrotophos	< LOQ	0.020	
N-Desethyl-Pirimiphos-Methyl	< LOQ	0.020		Omethoat	< LOQ	0.020		Oxychlorane	< LOQ	0.020	
Paraoxon-ethyl	< LOQ	0.020		Paraoxon-Methyl	< LOQ	0.020		Parathion-ethyl	< LOQ	0.020	
Parathion-Methyl	< LOQ	0.10		Pendimethalin	< LOQ	0.020		Pentachloroanilin	< LOQ	0.020	
Pentachloroanisole	< LOQ	0.010		Pentachlorothioanisole	< LOQ	0.020		Permethrin	< LOQ	0.020	
Phosalone	< LOQ	0.020		Phosmet	< LOQ	0.020		Piperonyl butoxide	< LOQ	0.020	
Pirimiphos-Methyl	< LOQ	0.020		Procymidone	< LOQ	0.020		Profenofos	< LOQ	0.020	
Prothiophos	< LOQ	0.020		Pyrethrin I (total)	< LOQ	0.10		Quinalphos	< LOQ	0.020	
Quintozen	< LOQ	0.020		S-421	< LOQ	0.020		Tau-fluvalinate	< LOQ	0.020	
Tecnazene	< LOQ	0.020		Tetradifon	< LOQ	0.020		Vinclozalin	< LOQ	0.020	

1) Pesticides by QuEChERS & LCMSMS/GCMSMS



**FLORA RESEARCH LABORATORIES, LLC
ANALYTICAL REPORT**

Page 1 of 1

DATE: September 6, 2019 **FRL JOB:** J19-0829-B **FRL SAMPLE ID:** 190829007

REPORT: Quantitative Analysis of Pesticides in Botanical Dietary Supplements using FDA Modified QuEChERS Sample Preparation and Gas Chromatography-Tandem Mass Spectrometry (GC-QQQ) for USP<561> pesticides (less bromide ion and dithiocarbamates expressed as CS2).

CLIENT: Premier Research Labs **CLIENT SAMPLE ID:** 190731- 2155/2155BS 2155/2155BS - P.
Hemp Extract/BS, Hemp Extract - Composite Boxes Q1, 297, 227BS

RESULT:

Compound	Limit (PPM)	Result	Compound	Limit (PPM)	Result
Acephate	0.1	PASS	Fonophos	0.05	PASS
Alachlor	0.05	PASS	Heptachlor (sum of heptachlor, <i>cis</i> -heptachlorepoxide, and <i>trans</i> -heptachlorepoxide)	0.05	PASS
Aldrin and dieldrin (sum of)	0.05	PASS	Hexachlorobenzene	0.1	PASS
Azinphos-ethyl	0.1	PASS	Hexachlorocyclohexane (sum of isomers α -, β -, δ -, and ϵ)	0.3	PASS
Azinphos-methyl	1	PASS	Undan (γ -hexachlorocyclohexane)	0.6	PASS
Bromophos-ethyl	0.05	PASS	Malathion and malaoxon (sum of)	1	PASS
Bromophos-methyl	0.05	PASS	Mecarbam	0.05	PASS
Brompropylate	3	PASS	Methacrifos	0.05	PASS
Chlordane (sum of <i>cis</i> -, <i>trans</i> -, and oxychlordane)	0.05	PASS	Methamidophos	0.05	PASS
Chlorfenvinfos	0.5	PASS	Methidathion	0.2	PASS
Chlorpyrifos-ethyl	0.2	PASS	Methoxychlor	0.05	PASS
Chlorpyrifos-methyl	0.1	PASS	Mirex	0.01	PASS
Chlorthal-dimethyl	0.01	PASS	Monocrotophos	0.1	PASS
Cyfluthrin (sum of)	0.1	PASS	Parathion-ethyl and Paraoxon-ethyl (sum of)	0.5	PASS
λ -Cyhalothrin	1	PASS	Parathion-methyl and Paraoxon-methyl (sum of)	0.2	PASS
Cypermethrin and isomers (sum of)	1	PASS	Pendimethalin	0.1	PASS
DDT (sum of <i>o,p'</i> -DDE, <i>p,p'</i> -DDE, <i>o,p'</i> -DDT, <i>p,p'</i> -DDT, <i>o,p'</i> -TDE, and <i>p,p'</i> -TDE)	1	PASS	Pentachloranisol	0.01	PASS
Deltamethrin	0.5	PASS	Permethrin and isomers (sum of)	1	PASS
Diazinon	0.5	PASS	Phosalone	0.1	PASS
Dichlofluanid	0.1	PASS	Phosmet	0.05	PASS
Dichlorvos	1	PASS	Piperonyl butoxide	3	PASS
Dicofol	0.5	PASS	Pirimphos-ethyl	0.05	PASS
Dimethoate and omethoate (sum of)	0.1	PASS	Pirimphos-methyl (sum of pirimphos-methyl and <i>N</i> -desethyl-pirimphos-methyl)	4	PASS
Endosulfan (sum of isomers and endosulfan sulphate)	3	PASS	Procymidone	0.1	PASS
Endrin	0.05	PASS	Profenophos	0.1	PASS
Ethion	2	PASS	Prothiofos	0.05	PASS
Etrinfos	0.05	PASS	Pyrethrum (sum of cinerin I, cinerin II, jasmolin I, jasmolin II, pyrethrin I, and pyrethrin II)	3	PASS
Fenchlorphos (sum of fenchlorophos and fenchlorophos-oxon)	0.1	PASS	Quinalphos	0.05	PASS
Fenitrothion	0.5	PASS	Quintozene (sum of quintozene, pentachloraniline, and methyl pentachlorophenyl sulfide)	1	PASS
Fenpropathrin	0.03	PASS	S-421	0.02	PASS
Fensulfathion (sum of fensulfathion, fensulfathion-oxon, fensulfathion-oxonsulfon, and fensulfathion-sulfon)	0.05	PASS	Tecnazene	0.05	PASS
Fenthion (sum of fenthion, fenthion-oxon, fenthion-oxon-sulfon, fenthion-oxon-sulfoxid, fenthion-sulfon, and fenthion-sulfoxid)	0.05	PASS	Tetradifon	0.3	PASS
Fenvalerate	1.5	PASS	Vinclozolin	0.4	PASS
Flucytrinate	0.05	PASS			
t-Fluvalinate	0.05	PASS			

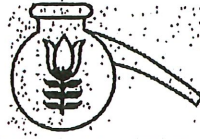
Assayed/Reported By:

Max Meade
Max Meade
Lab Technician II
Date: 9/16/19

QC Approval By:

James Neal-Kababick
James Neal-Kababick
Laboratory Director
Date: 9/16/19

Verified results per
USP 42 <561>
AV 09-13-19



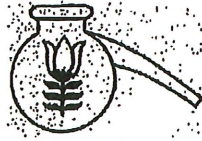
**FLORA RESEARCH LABORATORIES, LLC
ANALYTICAL REPORT**

September 3, 2019 FRL Sample ID: 190829007

Page 1 of 4

DATE: September 3, 2019
 REPORT: Qualitative Screen for Synthetic Cannabinoids by High Performance Liquid Chromatography-DAD-Accurate Mass Q-TOF (HPLC-DAD-AM-Q-TOF)
 CLIENT: Premier Research Labs
 FRL SAMPLE ID: 190829007 JOB: J19-0829-B
 CLIENT SAMPLE ID: 190731- 2155/2155BS 2155/2155BS - P. Hemp Extract/BS. Hemp Extract -
 Composite Boxes Q1, 297, 227BS

Compound	Result	Compound	Result	Compound	Result
(-)-CP 47,497	ND	AM894 4-Iodo isomer	ND	JWH 180	ND
(-)-CP 55,940	ND	AMB	ND	JWH 182	ND
(+)-CP 47,497	ND	APINAC	ND	JWH 193	ND
(+)-CP 55,940	ND	APP-CHMINACA	ND	JWH 198	ND
(+)-WIN 55,212-2 (mesylate)	ND	APP-FUBINACA	ND	JWH 200	ND
(±)3-epi CP 47,497-C8-homolog	ND	APP-PICA	ND	JWH 200 2'-naphthyl isomer	ND
(±)5-epi CP 55,940	ND	ATHPINACA isomer 1	ND	JWH 200 analog 1	ND
(±)-CP 47,497	ND	ATHPINACA isomer 2	ND	JWH 201	ND
(±)-CP 47,497-C8-homolog	ND	Azidoindolene 1	ND	JWH 203	ND
(±)-CP 55,940	ND	BB-22	ND	JWH 203 3-chlorophenyl isomer	ND
(±)-epi CP 47,497	ND	BB-22 3-hydroxyquinoline isomer	ND	JWH 203 4-chlorophenyl isomer	ND
(±)-ORG 28811	ND	BB-22 4-hydroxyisoquinoline isomer	ND	JWH 210	ND
(±)-WIN 55,212 (mesylate)	ND	BB-22 4-hydroxyquinoline isomer	ND	JWH 210 2-ethylnaphthyl isomer	ND
(R)-AM1241	ND	BB-22 5-hydroxyisoquinoline isomer	ND	JWH 210 3-ethylnaphthyl isomer	ND
1-(4-Methoxyphenyl) piperazine (hydrochloride)	ND	BB-22 5-hydroxyquinoline isomer	ND	JWH 210 5-ethylnaphthyl isomer	ND
2-fluoro NNEI	ND	BB-22 6-hydroxyisoquinoline isomer	ND	JWH 210 6-ethylnaphthyl isomer	ND
3,4-MDMA methylene homolog (hydrochloride)	ND	BB-22 6-hydroxyquinoline isomer	ND	JWH 210 7-ethylnaphthyl isomer	ND
3-CAF	ND	BB-22 7-hydroxyisoquinoline isomer	ND	JWH 210 8-ethylnaphthyl isomer	ND
3-fluoro AMB	ND	BB-22 7-hydroxyquinoline isomer	ND	JWH 213	ND
3-fluoro NNEI	ND	CB-13	ND	JWH 249	ND
4-cyano CUMYL-BUTINACA	ND	CB-25	ND	JWH 250	ND
4-cyano CUMYL-BUTINACA isomer 2	ND	CB-62	ND	JWH 251	ND
4-fluoro ADB (CRM)	ND	CB-86	ND	JWH 251 3-methylphenyl isomer	ND
4-fluoro AMB	ND	CBL-018	ND	JWH 251 4-methylphenyl isomer	ND
4-fluoro NNEI	ND	CP 47,497-C6-homolog	ND	JWH 302	ND
5,3-AB-CHMFUPPYCA	ND	CP 47,497-C9-homolog	ND	JWH 307	ND
5-bromo THJ 018	ND	CP 47,497-para-quinone analog	ND	JWH 309	ND
5-chloro AB-PINACA	ND	CUMYL-PICA	ND	JWH 368	ND
5-chloro AKB48	ND	CUMYL-THPINACA	ND	JWH 369	ND
5-chloro THJ 018	ND	EAM2201	ND	JWH 370	ND
5-fluoro ABICA	ND	EG 018	ND	JWH 387	ND
5-fluoro AB-PINACA	ND	EG 2201	ND	JWH 398	ND
5-fluoro ADB	ND	EMB-FUBINACA	ND	JWH 398 2-chloronaphthyl isomer	ND
5-fluoro ADBICA	ND	F2201	ND	JWH 398 3-chloronaphthyl isomer (hydrate)	ND
5-fluoro ADB-PINACA	ND	FAB-144	ND	JWH 398 5-chloronaphthyl isomer	ND
5-fluoro ADB-PINACA isomer 2	ND	FDU-NNEI	ND	JWH 398 6-chloronaphthyl isomer	ND
5-fluoro AEB	ND	FDU-PB-22	ND	JWH 398 7-chloronaphthyl isomer	ND
5-fluoro AMB	ND	Flurazepam (CRM)	ND	JWH 398 8-chloronaphthyl isomer	ND
5-fluoro APINAC	ND	FUB-144	ND	JWH 412	ND
5-fluoro BEP RAPIM (hydrochloride)	ND	FUB-JWH 018	ND	JWH 424	ND
5-fluoro CUMYL-P7AICA	ND	FUBIMINA	ND	KM 233	ND
5-fluoro CUMYL-PICA	ND	FUB-NPB-22	ND	LY2183240	ND
5-fluoro CUMYL-PINACA (CRM)	ND	FUB-PB-22	ND	LY2183240 2'-isomer	ND

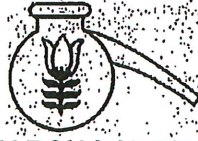


**FLORA RESEARCH LABORATORIES, LLC
ANALYTICAL REPORT**

September 3, 2019 FRL Sample ID: 190829007

Page 2 of 4

5-fluoro CYPICA	ND	HU-210	ND	M-144	ND
5-fluoro JWH 018 adamantyl analog	ND	HU-211	ND	MAB-CHMINACA	ND
5-fluoro MN-18	ND	HU-308	ND	MA-CHMINACA	ND
5-fluoro NNEI	ND	HU-331	ND	MAM2201	ND
5-fluoro NNEI 2'-naphthyl isomer	ND	IMMA	ND	MAM2201 N-(2-fluoropentyl) isomer	ND
5-fluoro NPB-22	ND	JP104	ND	MAM2201 N-(3-fluoropentyl) isomer	ND
5-fluoro PB-22 3-hydroxyquinoline isomer	ND	JWH 007	ND	MAM2201 N-(4-fluoropentyl) isomer	ND
5-fluoro PB-22 4-hydroxyisoquinoline isomer	ND	JWH 011	ND	MAM2201 N-(5-chloropentyl) analog	ND
5-fluoro PB-22 4-hydroxyquinoline isomer	ND	JWH 016	ND	MCHB-1	ND
5-fluoro PB-22 5-hydroxyisoquinoline isomer	ND	JWH 018	ND	MDA 19	ND
5-fluoro PB-22 5-hydroxyquinoline isomer	ND	JWH 018 2'-naphthyl isomer	ND	MDA 77	ND
5-fluoro PB-22 6-hydroxyisoquinoline isomer	ND	JWH 018 2'-naphthyl-N-(1,2-dimethylpropyl) isomer	ND	MDMB-CHMCZCA	ND
5-fluoro PB-22 6-hydroxyquinoline isomer	ND	JWH 018 2'-naphthyl-N-(1-ethylpropyl) isomer	ND	MDMB-CHMICA	ND
5-fluoro PB-22 7-hydroxyisoquinoline isomer	ND	JWH 018 2'-naphthyl-N-(1-methylbutyl) isomer	ND	MDMB-CHMINACA	ND
5-fluoro PB-22 7-hydroxyquinoline isomer	ND	JWH 018 2'-naphthyl-N-(2,2-dimethylpropyl) isomer	ND	MDMB-FUBICA	ND
5-fluoro PB-22 8-hydroxyisoquinoline isomer	ND	JWH 018 2'-naphthyl-N-(2-methylbutyl) isomer	ND	MDMB-FUBINACA	ND
5-fluoro PB-22 N-(2-fluoropentyl) isomer	ND	JWH 018 2'-naphthyl-N-(3-methylbutyl) isomer	ND	Mepirapim (hydrochloride)	ND
5-fluoro PB-22 N-(3-fluoropentyl) isomer	ND	JWH 018 6-methoxyindole analog	ND	MMB018	ND
5-fluoro PB-22 N-(4-fluoropentyl) isomer	ND	JWH 018 8-quinolinyl carboxamide	ND	MMB2201	ND
5-fluoro PCN	ND	JWH 018 adamantyl analog	ND	MMB-CHMICA	ND
5-fluoro PY-PICA	ND	JWH 018 adamantyl carboxamide	ND	MMB-FUBICA	ND
5-fluoro PY-PINACA (CRM)	ND	JWH 018 benzimidazole analog	ND	MMB-FUBINACA	ND
5-fluoro SDB-005	ND	JWH 018 N-(1,1-dimethylpropyl) isomer	ND	MN-18	ND
5-fluoro SDB-006	ND	JWH 018 N-(1,2-dimethylpropyl) isomer	ND	MN-25	ND
5-fluoro THJ	ND	JWH 018 N-(1-ethylpropyl) isomer	ND	MN-25-2-methyl derivative	ND
5-fluoro-2-ADB-PINACA isomer 2	ND	JWH 018 N-(1-methylbutyl) isomer	ND	MO-CHMINACA	ND
5-fluoro-3,5-AB-PFUPPYCA	ND	JWH 018 N-(2,2-dimethylpropyl) isomer	ND	NM2201	ND
5-fluoro-3,5-ADB-PFUPPYCA	ND	JWH 018 N-(2-methylbutyl) isomer	ND	NNEI	ND
5-Fluoropentyl-3-pyridinoylindole	ND	JWH 018 N-(3-methylbutyl) isomer	ND	NNEI 2'-indazole isomer	ND
A-796260	ND	JWH 018 N-(4,5-epoxypentyl) analog	ND	NNEI 2'-naphthyl isomer	ND
A-834735	ND	JWH 018 N-(5-bromopentyl) analog	ND	NPB-22	ND
A-836339	ND	JWH 018 N-(5-chloropentyl) analog	ND	PB-22 4-hydroxyisoquinoline isomer	ND
AB-005	ND	JWH 019	ND	PB-22 4-hydroxyquinoline isomer	ND
AB-005 azepane isomer	ND	JWH 019 N-(2-fluorohexyl) isomer	ND	PB-22 5-hydroxyisoquinoline isomer	ND
AB-BICA	ND	JWH 019 N-(3-fluorohexyl) isomer	ND	PB-22 5-hydroxyquinoline isomer	ND
AB-CHMICA	ND	JWH 019 N-(4-fluorohexyl) isomer	ND	PB-22 6-hydroxyisoquinoline isomer	ND
AB-CHMINACA	ND	JWH 019 N-(5-fluorohexyl) isomer	ND	PB-22 6-hydroxyquinoline isomer	ND
AB-CHMINACA 2'-indazole isomer	ND	JWH 019 N-(6-fluorohexyl) isomer	ND	PB-22 7-hydroxyisoquinoline isomer	ND
AB-FUBICA	ND	JWH 022	ND	PB-22 7-hydroxyquinoline isomer	ND
AB-FUBINACA	ND	JWH 030	ND	PB-22 8-hydroxyisoquinoline isomer	ND
AB-FUBINACA 2-fluorobenzyl isomer	ND	JWH 030 2-naphthoyl isomer	ND	PF-03550096	ND
AB-FUBINACA 3-fluorobenzyl isomer	ND	JWH 031	ND	Pravadoline	ND



**FLORA RESEARCH LABORATORIES, LLC
ANALYTICAL REPORT**

September 3, 2019 FRL Sample ID: 190829007

Page 4 of 4

ANALYSIS DATA: ND= Not Detected at or above 100 ug/g in matrix, POS=Positive

DISCUSSION: The sample was prepared with a spike for quality control. Analysis is conducted by HPLC using DAD and Accurate Mass Q-TOF Mass Spectrometry. The DAD traces are examined for peaks giving spectra indicative of known Synthetic Cannabinoids. MS data is processed and searched in the FRL SYNCAN Database. Accurate mass and formulae generated are compared to known Synthetic Cannabinoids. No Synthetic Cannabinoids were detected in this sample.

CONCLUSION: No evidence of adulteration with Synthetic Cannabinoids was detected in the sample.

Assayed/Reported By:

Chanze Jennings
Chanze Jennings
Scientist I

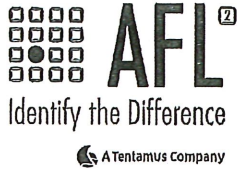
Date: 9-3-19

QC Approval By:

James Neal Kababick
James Neal Kababick
Laboratory Director

Date: 9/3/19

Laboratory Report



860 Greenview Dr.
Grand Prairie, Texas 75050-2439
972 336 0336 / 1 800 242 6494
Fax 972 623 0055
afl@afltexas.com

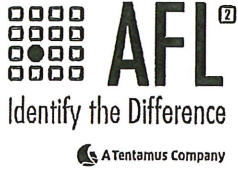
Report Number:
AFSG190904-082

Page 1 of 3

Received Date: 9/4/2019 6:29:00 PM	Client Reference:	Purchase Order:
Contact: Nancy Carballo		Email: ncaraballo@prlabs.com
Company: Premier Research Labs		Phone: 512-218-2562
Address: 5300 Wedley Place, Building B Austin, TX 78728		Fax:
Comments:		

Test	Method Reference	Result	Unit	Approved Date
19AF62360 2155/2155BS P Hemp Extract/BS Hemp Extract				
Lot #190731- 2155/2155BS Composite Boxes Q1, 297, 227BS				
<i>CBC (Cannabichromene)</i>				
CBC (Cannabichromene)	AOAC 2018.11	Non-detect		09/11/2019
<i>CBC-A (Cannabichromenonic acid)</i>				
CBC-A (Cannabichromenonic acid)	AOAC 2018.11	1.26 mg/mL		09/11/2019
<i>CBD (Cannabidiol)</i>				
CBD (Cannabidiol)	AOAC 2018.11	38.0 mg/mL		09/11/2019
<i>CBD-A (Cannabidiolic acid)</i>				
CBD-A (Cannabidiolic acid)	AOAC 2018.11	1.43 mg/mL		09/11/2019
<i>CBDV (Cannabidivarin)</i>				
CBDV (Cannabidivarin)	AOAC 2018.11	Non-detect		09/11/2019

*Stated results apply only to items actually tested. This report shall not be reproduced except in full without written approval of the laboratory.
* Estimated Count / ^ Subcontracted Test*



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 Grand Prairie, Texas 75050-2439
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Report Number:
AFSG190904-084

Received 9/4/2019 6:47:00 PM
 Date:

Client
 Reference:

Purchase
 Order:

Contact: Nancy Carballo
 Company: Premier Research Labs
 Address: 5300 Wedley Place, Building B
 Austin, TX 78728

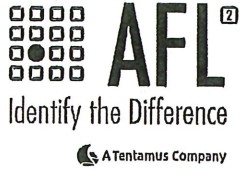
Email: ncaraballo@prlabs.com
 Phone: 512-218-2562
 Fax:

Comments: REVISED REPORT

19AF62374 2155 - P. Hemp Extract - Lot #190731-2155 - Box 297 3 of 6

Test	Method Reference	Result	Unit	Approved Date
<i>CBC-A (Cannabichromenic acid)</i>				
CBC-A (Cannabichromenic acid)	AOAC 2018.11	1.11 mg/mL		09/11/2019
<i>CBD (Cannabidiol)</i>				
CBD (Cannabidiol)	AOAC 2018.11	36.2 mg/mL		09/11/2019
<i>CBD-A (Cannabidiolic acid)</i>				
CBD-A (Cannabidiolic acid)	AOAC 2018.11	1.23 mg/mL		09/11/2019
<i>CBDV (Cannabidivarin)</i>				
CBDV (Cannabidivarin)	AOAC 2018.11	Non-detect		09/11/2019
<i>CBDV-A (Cannabidivarinic acid)</i>				
CBDV-A (Cannabidivarinic acid)	AOAC 2018.11	Non-detect		09/11/2019
<i>CBG (Cannabigerol)</i>				
CBG (Cannabigerol)	AOAC 2018.11	0.234 mg/mL		09/11/2019

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Contact: Nancy Carballo
 Company: Premier Research Labs
 Address: 5300 Wedley Place, Building B
 Austin, TX 78728

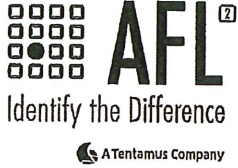
Email: ncaraballo@prlabs.com
 Phone: 512-218-2562
 Fax:

Comments: REVISED REPORT

19AF62374 2155 - P. Hemp Extract - Lot #190731-2155 - Box 297 3 of 6

Test	Method Reference	Result	Unit	Approved Date
<i>CBG-A (Cannabigerolic acid)</i>				
CBG-A (Cannabigerolic acid)	AOAC 2018.11	Non-detect		09/11/2019
<i>CBL (Cannabicyclol)</i>				
CBL (Cannabicyclol)	AOAC 2018.11	Non-detect		09/11/2019
<i>CBN (Cannabinol)</i>				
CBN (Cannabinol)	AOAC 2018.11	Non-detect		09/11/2019
<i>D8-THC (DELTA) 8-Tetrahydrocannabinol</i>				
D8-THC (DELTA) 8-Tetrahydrocannabinol	AOAC 2018.11	Non-detect		09/11/2019
<i>D9-THC (DELTA) 9-Tetrahydrocannabinol</i>				
D9-THC (DELTA) 9-Tetrahydrocannabinol	AOAC 2018.11	0.138 %		09/11/2019

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 * Estimated Count / ^ Subcontracted Test



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Report Number:
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Received Date: 9/4/2019 6:47:00 PM

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Contact: Nancy Carballo
 Company: Premier Research Labs
 Address: 5300 Wedley Place, Building B
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Email: ncarballo@prlabs.com
 Phone: 512-218-2562
 Fax:

Comments: REVISED REPORT

19AF62374	2155 - P. Hemp Extract - Lot #190731-2155 - Box 297 3 of 6			
Test	Method Reference	Result	Unit	Approved Date

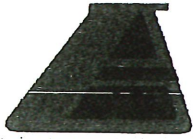
<i>THC-A (DELTA) 9-Tetrahydrocannabinolic acid</i>				
THC-A (DELTA) 9-Tetrahydrocannabinolic acid	AOAC 2018.11	Non-detect		09/11/2019
<i>THCV (Tetrahydrocannabivarin)</i>				
THCV (Tetrahydrocannabivarin)	AOAC 2018.11	Non-detect		09/11/2019
<i>THCV-A (Tetrahydrocannabivarinic acid)</i>				
THCV-A (Tetrahydrocannabivarinic acid)	AOAC 2018.11	0.759 mg/mL		09/11/2019

19AF62375	2155 - P. Hemp Extract - Lot #190731-2155 - Box 297 4 of 6			
Test	Method Reference	Result	Unit	Approved Date

<i>CBC (Cannabichromene)</i>				
CBC (Cannabichromene)	AOAC 2018.11	Non-detect		09/11/2019

Stated results apply only to items actually tested. This report shall not be reproduced except in full without written approval of the laboratory.
 * Estimated Count / ^ Subcontracted Test

Received Date: 8/29/2019
Report Date: 9/5/2019



Advanced Botanical Consulting & Testing Inc.

ABC TESTING, INC

1169 Warner Ave, Tustin, CA 92780, Phone:(714)259-0384 Fax: (714)259-0385

Premier Research Labs

3500 Wadley Place, Building B
Austin, TX 78728

ATTN: Nancy Caraballo

TEL# (512) 218-2589

FAX#

Sample Name: P., BS. Hemp Ext.

Item# Composite Boxes Q1, 297, 227BS

Lot# 190731- 2155/2155BS

Lab# 276618

PO#

Analysis:

Total Terpenes (GC)

(-)-alpha-Bisabolol

Borneol

Geraniol

trans-Beta Caryophyllene

Geranyl Acetate

Guaiol

Alpha-Humulene (alpha-Caryophyllene)

Nerol

(R)-(+)-Limonene

Linalool

beta-Myrcene

alpha-Pinene

Terpineol (2 isomere)

Method:

AHP

AHP

AHP

AHP

AHP

AGC320A

AGC320A

CA/BCC

CA/BCC

CA/BCC

CA/BCC

USP

USP

CA/BCC

Result:

1.0752%

0.0188 %

0.0092 %

0.0066 %

0.0117 %

0.0078 %

0.0087 %

0.0037 %

0.0538 %

0.8268 %

0.1084 %

0.0120 %

0.0027 %

0.0050 %

Spec:

Detected

Analyzed by:

Chemist

Approved by:

Wendi Wang, PhD, President



Cannabis Analytical
Science Program