

Certificate of Analysis

Customer: US Agro Logistics, LLC Davis Ritter dritter@usagrohemp.com 434-793-5555	Testing Lab: East Coast Cannalytics 3154 State Street, Suite 2010 Blacksburg, VA 24060 540-682-3765 info@eccanalytics.com
--	---

Sample: Sample Description: Dried Biomass Batch or Sample ID: RB6 Lab ID: 2003ECC0677.1797 Sample Received: 3/4/20 Sample Tested: 3/9/20
--

Cannabinoid Potency Testing:

Testing for cannabinoids was completed using high pressure liquid chromatography (HPLC) with a DAD detector.

Analyte	LOD mg/g	LOQ mg/g	Concentration mg/g	Concentration %
CBD	0.3	1.0	12.21	1.22%
CBDa	0.3	1.0	12.92	1.29%
delta-9 THC	0.3	1.0	<LOQ	<LOQ
THCa	0.3	1.0	<LOD	<LOD

nd = non-detect, LOD = limit of detection, LOQ = below limit of quantification

Total CBD**	23.54	2.35%
Total THC**	<LOQ	<LOQ

Total THC = THCa * 0.877 + delta-9 THC

Total CBD = CBDa * 0.877 + CBD



Pesticides:

Pesticides	
Analyte	PPM
Acetamiprid	ND
Abamectin	ND
Aldicarb	ND
Ancymidol	ND
Azoxystrobin	ND
Bifenazate	ND
Bifenthrin	ND
Boscalid	ND
Carbaryl	ND
Carbofuran	ND
Chlorantraniliprole	ND
Chlorpyrifos	ND
Clofentezine	ND
Cyfluthrin	ND
Daminozide (Alar)	ND
DDVP (Dichlorvos)	ND
Diazinon	ND
Dimethoate	ND
Ethephon	ND
Etoxazole	ND
Fenpyroximate	ND
Fipronil	ND
Flonicamid	ND
Fludioxonil	ND

Pesticides	
Analyte	PPM
Flurprimidol	ND
Hexythiazox	ND
Imazalil	ND
Imidacloprid	ND
Kresoxim-methyl	ND
Malathion	ND
Metalaxl	ND
Methiocarb	ND
Methomyl	ND
Myclobutanil	ND
Naled	ND
Oxamyl	ND
Paclobutrazol	ND
Permethrin (cis+trans)	ND
Phosmet	ND
Piperonyl butoxide	ND
Propicanazole	ND
Pyrethrins	ND
Spinosad	ND
Spiromesifen	ND
Spirotetramat	ND
Thiacloprid	ND
Thiamethoxam	ND
Trifloxystrobin	ND

Mycotoxins:

Mycotoxin		Virginia State Levels
Analyte	PPB	PPB
Aflatoxin B1	ND	<20
Aflatoxin B2	ND	<20
Aflatoxin G1	ND	<20
Aflatoxin G2	ND	<20
Ochratoxin	ND	<20

Heavy Metals:

Analyte	Concentration PPM	Virginia State Levels PPM
Arsenic (As)	0.103	<10
Cadmium (Cd)	0.044	<4.1
Lead (Pb)	0.286	<10
Mercury (Hg)	0.010	<20

Prepared by:



Rebecca Hobden
CEO & Lab Manager

This product has been tested by East Coast Cannalytics LLC using valid testing methodologies and validation practices. Values reported relate only to the product tested. East Coast Cannalytics LLC makes no claims as to the efficacy, safety, or other risks with any detected or non-detected levels of any compound reported herein. This Certificate of Analysis shall not be reproduced except in full without the express written consent of East Coast Cannalytics.



Hemp Analytical Testing Services
Certificate of Analysis

Report Date 01.22.21

Client Company: USAL
Name: James Buchan or Nate Bruce
Address: 201 Eastwood Drive, Danville, VA 24540
Email: jbuchan@usagrohemp.com, nbruce.usal@gmail.com

Test Hemp Analysis – Cannabinoid Profile Analysis by HPLC

Results

Sample Name	Sample Identifier	Δ9 THC %	THCA %	Total THC %	CBD %	CBDA %	Total CBD %	THCV %	CBN %	CBC %	CBG %	CBGA %	Total CBG %
PPR-1	JHC120220B	0.19	0.06	0.24	3.17	4.70	7.29	ND	ND	ND	0.06	ND	ND

*ND: Not detected

** Measurement of uncertainty calculated as per the USDA guideline on determining delta-9 THC is 0.007%

$$\text{Total THC} = (0.877 \times \text{THCA}) + \text{THC}$$

$$\text{Total CBD} = (0.877 \times \text{CBDA}) + \text{CBD}$$

$$\text{Total CBG} = (0.877 \times \text{CBGA}) + \text{CBG}$$

Test

Hemp Analysis – Heavy Metal Analysis by ICPMS

Results

Sample	PPR-1			
Symbol	Metal	Concentration (ppm)	Maximum Residual Limit (ppm)	Pass/Fail
As	Arsenic	0.12	1.5	Pass
Cd	Cadmium	0.24	0.5	Pass
Hg	Mercury	0.05	3	Pass
Pb	Lead	0.09	0.5	Pass

Test

Hemp Analysis – Mycotoxin Analysis by LCMS

Results

Sample	PPR-1	
Mycotoxin Name	Concentration (ppb)	Pass/Fail
Aflatoxin B1	ND	Pass
Aflatoxin B2	ND	Pass
Aflatoxin G1	ND	Pass
Aflatoxin G2	ND	Pass
Ochratoxin A	ND	Pass

ND: Not Detected

Jack He

Jack He

Senior Analytical Chemist

Dr. Scott Lowman

Dr. Scott Lowman (Director of Research)

Signature: Jack He
Jack He (Jan 23, 2021 09:03 EST)

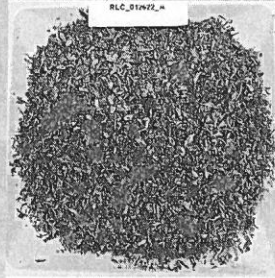
Email: yimeng.he@ialr.org

Signature: J Scott Lowman
J Scott Lowman (Jan 25, 2021 08:58 EST)

Email: scott.lowman@ialr.org



Hemp Analytical Testing Services
Certificate of Analysis



Report Date 01.28.21

Client Company: US Agro Logistics
Name: Kim Goble
Address: 201 Eastwood Drive, Danville, VA 24541
Phone: 434-793-5555
Email: kgoble@jebint.com

Test Hemp Analysis – Cannabinoid Profile Analysis by HPLC

Results

Sample Name	Sample Identifier	Δ9 THC %	THCA %	Total THC %	CBD %	CBDA %	Total CBD %	CBN %	Δ8 THC %	CBG %	CBGA %	Total CBG %
Hybrid 2022	RLC_012622_A	ND	0.11	0.11	2.42	3.89	5.83	ND	ND	ND	0.12	0.11

*ND: Not detected

** Measurement of uncertainty calculated as per the USDA guideline on determining delta-9 THC is 0.007%

Total THC = (0.877 x THCA) + THC
Total CBD = (0.877 x CBDA) + CBD
Total CBG = (0.877 x CBGA) + CBG

Sample Name	Pesticide	Concentration (ppb)	Pass/Fail
Hybrid 2022	None	N/A	Pass

None: not detected at or below the limit of quantitation (LOQ);

Pesticides included in the Method and the Limit of Quantitation (LOQ)

Pesticide	LOQ (ppb)	Action Level (ppm)	Pesticide	LOQ (ppb)	Action Level (ppm)
Abamectin	10	0.5	Imazalil	10	0.2
Acephate	10	0.4	Imidacloprid	10	0.4
Acequinocyl	10	2	Jasmolin I	10	
Acetamiprid	10	0.2	Jasmolin II	10	
Aldicarb	30	0.4	Kresoxim-methyl	10	0.4
Azoxystrobin	10	0.2	Malathion	10	0.2
Bifenazate	30	0.2	Metaxyl	10	0.2
Bifenthrin	100	0.2	Methiocarb	10	0.2
Boscalid	10	0.4	Methomyl	10	0.4
Carbaryl	10	0.2	Methyl parathion	30	0.2
Carbofuran	10	0.2	MGK-264	10	0.2
Chlorantraniliprole	10	0.2	Mydobutan I	10	0.2
Chlorfepipry	10	1	Naled	100	0.5
Chlorpyrifos	10	0.2	Okameyl	10	1
Cinerin I	300		Pactobutrazol	10	0.4
Cinerin II	300		Permethrins	100	0.2
Clofentezine	10	0.2	Phosmet	10	0.2
Cyfluthrin	10	1	Piperonyl butoxide	10	2
Cypermethrin	100	1	Prallethrin	10	0.2
Damprazole	100	1	Propiconazole	10	0.4
DDVP (Dichlorvos)	10	0.1	Propoxur	10	
Diazinon	10	0.2	Pyrethrin I	10	
Dinotefuran	10	0.2	Pyrethrin II	10	
Ethionox	10	0.2	Pyridaben	10	0.2
Etofenprox	10	0.4	Spinosad	10	0.2
Etoazox	10	0.2	Spironemsen	100	0.1
Fenoxycarb	10	0.2	Sproutstama	10	0
Fenpyroximate	10	0.4	Spraxamine	10	
Fipronil	10	0.4	Tebuconazole	10	0.4
Fonicamid	10	1	Thiacloprid	10	0.2
Fludioxonil	10	0.4	Thiamethoxam	10	0.2
Hexythiazox	10	1	Trifloxystrobin	30	0.2

*Pyrethrins (Action Level of 1ppm) is measured as the cumulative residues of pyrethrin I, cinerin I and Jasmolin I

Test

Hemp Analysis – Heavy Metal Analysis by ICPMS

Results

Sample	Hybrid 2022			
Symbol	Metal	Concentration (ppm)	Maximum Residual Limit (ppm)	Pass/Fail
As	Arsenic	0.09	10	Pass
Cd	Cadmium	0.28	4.1	Pass
Hg	Mercury	0.03	2	Pass
Pb	Lead	0.90	10	Pass

Test

Hemp Analysis – Mycotoxin Analysis by LCMS

Results

Sample	Hybrid 2022	
Mycotoxin Name	Concentration (ppb)	Pass/Fail
Aflatoxin B1	ND	Pass
Aflatoxin B2	ND	Pass
Aflatoxin G1	ND	Pass
Aflatoxin G2	ND	Pass
Ochratoxin A	ND	Pass

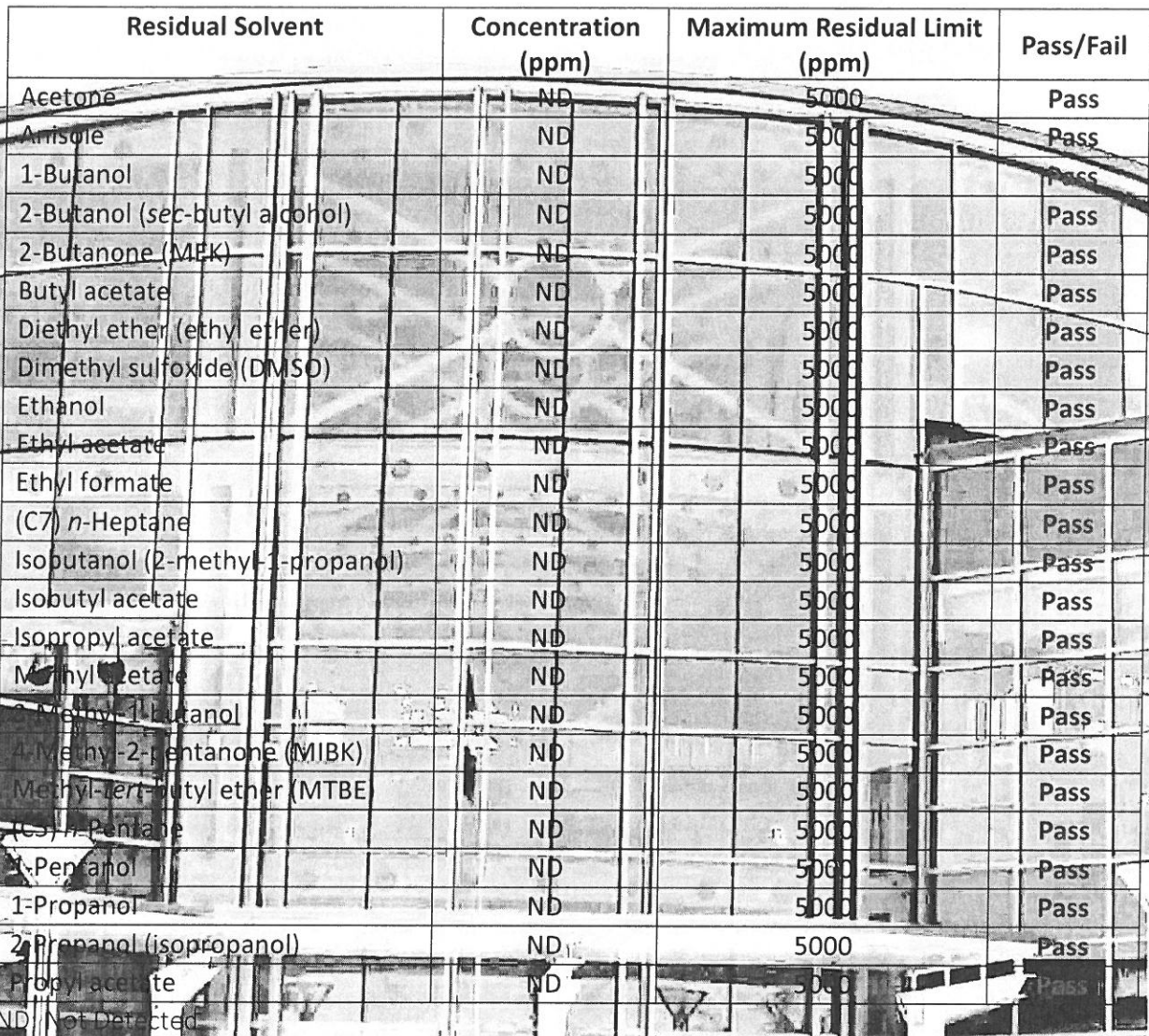
ND: Not Detected

Test

Residual Solvent Analysis by Headspace GCMS

Sample Name

Hybrid 2022



Residual Solvent	Concentration (ppm)	Maximum Residual Limit (ppm)	Pass/Fail
Acetone	ND	5000	Pass
Anisole	ND	5000	Pass
1-Butanol	ND	5000	Pass
2-Butanol (sec-butyl alcohol)	ND	5000	Pass
2-Butanone (MEK)	ND	5000	Pass
Butyl acetate	ND	5000	Pass
Diethyl ether (ethyl ether)	ND	5000	Pass
Dimethyl sulfoxide (DMSO)	ND	5000	Pass
Ethanol	ND	5000	Pass
Ethyl acetate	ND	5000	Pass
Ethyl formate	ND	5000	Pass
(C7) n-Heptane	ND	5000	Pass
Isobutanol (2-methyl-1-propanol)	ND	5000	Pass
Isobutyl acetate	ND	5000	Pass
Isopropyl acetate	ND	5000	Pass
Methyl acetate	ND	5000	Pass
2-Methyl-1-butanol	ND	5000	Pass
4-Methyl-2-pentanone (MIBK)	ND	5000	Pass
Methyl-tert-butyl ether (MTBE)	ND	5000	Pass
(C5) n-Pentane	ND	5000	Pass
1-Pentanol	ND	5000	Pass
1-Propanol	ND	5000	Pass
2-Propanol (isopropanol)	ND	5000	Pass
Propyl acetate	ND	5000	Pass

ND: Not Detected

Test

Terpene Profile Analysis by Headspace GCMS

Sample Name

Hybrid 2022 *

Terpene Name	Concentration (ppm)
alpha-Pinene	364.52
Camphene	12.26
beta-Myrcene	465.81
(-)-beta-Pinene	168.39
delta-3-Carene	ND
alpha-Terpinene	ND
D-Limonene	90.97
beta-Ocimene	58.05
p-Cymene	1.94
gamma-Terpinene	ND
Terpinolene	ND
Linalool	34.19
(-)-sopulegol	ND
Geraniol	ND
beta-Caryophyllene	1619.35
alpha-Humulene	522.58
cis-Nerolidol	41.94
trans-Nerolidol	ND
Guaiol	98.71
(-)-alpha-Bisabolol	160.00

ND: Not Detected

Sample weight used in the terpene analysis: 15.5 mg

4176 11 10:46 EST

me g He (Senior Analytical Chemist)

J. Scott Lowman (J. # 28, 2022 10:46 EST)

Dr. Scott Lowman (Director of Research)







CoA_USAL_Hybrid2022

Final Audit Report

2022-01-28

Created:	2022-01-28
By:	Jack He (yimeng.he@ialr.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAA8t4u-FLGULc0yZ2aRhUQlrNYGkf1cuY

"CoA_USAL_Hybrid2022" History

-  Document created by Jack He (yimeng.he@ialr.org)
2022-01-28 - 3:45:38 PM GMT- IP address: 64.203.145.132
-  Document e-signed by Jack He (yimeng.he@ialr.org)
Signature Date: 2022-01-28 - 3:46:18 PM GMT - Time Source: server- IP address: 64.203.145.132
-  Document emailed to J. Scott Lowman (scott.lowman@ialr.org) for signature
2022-01-28 - 3:46:20 PM GMT
-  Email viewed by J. Scott Lowman (scott.lowman@ialr.org)
2022-01-28 - 3:57:31 PM GMT- IP address: 64.203.145.132
-  Document e-signed by J. Scott Lowman (scott.lowman@ialr.org)
Signature Date: 2022-01-28 - 3:57:53 PM GMT - Time Source: server- IP address: 64.203.145.132
-  Agreement completed.
2022-01-28 - 3:57:53 PM GMT



Hemp Analytical Testing Services Certificate of Analysis

Report Date 04.20.21

Client Company: USAL
 Name: James Buchan or Nate Bruce
 Address: 201 Eastwood Drive, Danville, VA 24540
 Email: jbuchan@usagrohemp.com, nbruce.usal@gmail.com



Test Hemp Analysis – Cannabinoid Profile Analysis by LCMS

Results

Sample Name	Sample Identifier	Δ9 THC %	THCA %	Total THC %	CBD %	CBDA %	Total CBD %	THCV %	CBN %	CBC %	CBG %	CBGA %	Total CBG %
CBG 70/30	USAL_CBG_70-30_YHE_032_421_A1	0.12	0.07	0.19	0.40	1.58	1.87	0.03	0.03	0.30	2.59	5.86	7.73

*ND: Not detected

** Measurement of uncertainty calculated as per the USDA guideline on determining delta-9 THC is 0.007%

Total THC = (0.877 x THCA) + THC
 Total CBD = (0.877 x CBDA) + CBD
 Total CBG = (0.877 x CBGA) + CBG

Test

Oregon Pesticides List Analysis by LCMS

Sample Name	Pesticide	Concentration (ppb)	Pass/Fail
CBG 70/30	No pesticide detected	None	Pass

None: not detected at or above the limit of quantitation (LOQ);

Pesticides Included in the Method and the Limit of Quantitation (LOQ)

Pesticide	LOQ (ppb)	Action Level (ppm)
Abamectin	10	0.5
Acephate	10	0.4
Acequinocyl	10	2
Acetamiprid	10	0.2
Aldicarb	30	0.4
Azoxystrobin	10	0.2
Bifenazate	30	0.2
Bifenthrin	100	0.2
Boscalid	10	0.4
Carbaryl	10	0.2
Carbofuran	10	0.2
Chlorantraniliprole	10	0.2
Chlorfenapyr	10	1
Chlorpyrifos	10	0.2
Cinerin I	300	*
Cinerin II	300	*
Clofentezine	10	0.2
Cyfluthrin	10	1
Cypermethrin	100	1
Daminozide	100	1
DDVP (Dichlorvos)	10	0.1
Diazinon	10	0.2
Dimethoate	10	0.2
Ethoprophos	10	0.2
Etofenprox	10	0.4
Etoxazole	10	0.2
Fenoxycarb	10	0.2
Fenpyroximate	10	0.4
Fipronil	10	0.4
Flonicamid	10	1
Fludoxonil	10	0.4
Hexythiazox	10	1

Pesticide	LOQ (ppb)	Action Level (ppm)
Imazalil	10	0.2
Imidacloprid	10	0.4
Jasmolin I	10	*
Jasmolin II	10	*
Kresoxim-methyl	10	0.4
Malathion	10	0.2
Metalaxyl	10	0.2
Methiocarb	10	0.2
Methomyl	10	0.4
Methyl parathion	30	0.2
MGK-264	10	0.2
Myclobutanil	10	0.2
Naled	100	0.5
Oxamyl	10	1
Paclobutrazol	10	0.4
Permethrins	100	0.2
Phosmet	10	0.2
Piperonyl butoxide	10	2
Prallethrin	10	0.2
Propiconazole	10	0.4
Propoxur	10	0.2
Pyrethrin I	10	*
Pyrethrin II	10	*
Pyridaben	10	0.2
Spinosad	10	0.2
Spiromesifen	300	0.2
Spirotetramat	10	0.2
Spiroxamine	10	0.4
Tebuconazole	10	0.4
Thiacloprid	10	0.2
Thiamethoxam	10	0.2
Trifloxystrobin	30	0.2

*Pyrethrins (Action Level of 1ppm) is measured as the cumulative residues of pyrethrin I, cinerin I and Jasmolin I

Test

Hemp Analysis – Heavy Metal Analysis by ICPMS

Results

Sample	CBG 70/30			
Symbol	Metal	Concentration (ppm)	Maximum Residual Limit (ppm)	Pass/Fail
As	Arsenic	0.15	10	Pass
Cd	Cadmium	0.11	4.1	Pass
Hg	Mercury	0.01	2	Pass
Pb	Lead	0.94	10	Pass

Test

Hemp Analysis – Mycotoxin Analysis by LCMS

Results

Sample	CBG 70/30	
Mycotoxin Name	Concentration (ppb)	Pass/Fail
Aflatoxin B1	ND	Pass
Aflatoxin B2	ND	Pass
Aflatoxin G1	ND	Pass
Aflatoxin G2	ND	Pass
Ochratoxin A	ND	Pass

ND: Not Detected

Jack He

Jack He (Apr 20, 2021 11:28 EDT)

Yimeng (Jack) He (Senior Analytical Chemist)

Mark Gignac

Mark Gignac (Executive Director)