

**CERTIFICATE OF ANALYSIS**

**Order Type:** CBD      **Customer ID:** 32      **Harvest/Extract Lot:** T-79.4g  
**Order ID:** OR2019-2310      **Customer Name:** CBD Plus USA      **Harvest/Extract Batch:** None

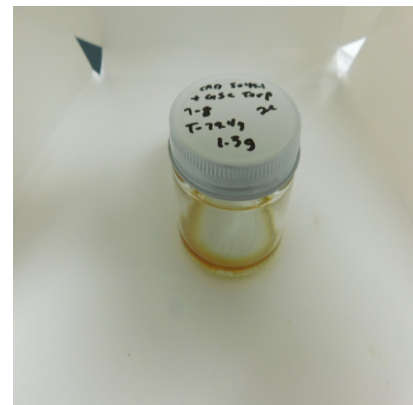
**Cultivar (Strain):** CRD 5045.1 + GSC Terp      **Lab ID:** SA2019-7497      **Sample Matrix:** Concentrate  
**Sample Date:** 07/08/2019      **Date Received:** 07/08/2019      **Date Completed:** 07/15/2019

**Remarks:**

**CANNABINOID (POTENCY) PROFILE**

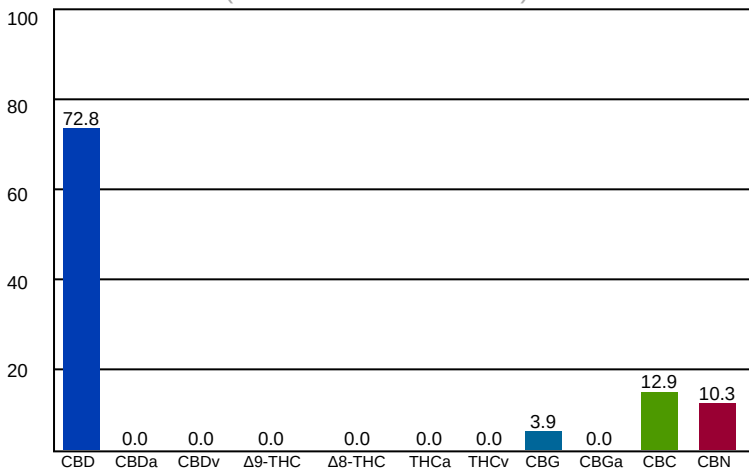
**Analysis Date/Time:** 07/09/2019 1245      **Method:** HPLC/DAD (Internal Method-001)      **Moisture Content (%):** -  
**Analyst:** OL      **Instrument:** Agilent 1100      **Water Activity (aw):** -

Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	43.2	432	0.507	-	432
CBDa	-	-	0.507	-	-
CBDv	-	-	0.507	-	-
Δ9-THC	-	-	0.507	-	-
Δ8-THC	-	-	0.507	-	-
THCa	-	-	0.507	-	-
THCv	-	-	0.507	-	-
CBC	7.66	76.6	0.507	-	77
CBG	2.33	23.3	0.507	-	23
CBGa	-	-	0.507	-	-
CBN	6.1	61	0.507	-	61



**TOTAL**      59.2      592      -      592      **UNIT MASS (g):** 1  
**TOTAL THC**      -      -      -      -      "- " Not detected above RL.  
**TOTAL CBD**      43.2      432      -      432

**Cannabinoid Distribution**  
(% of Total Cannabinoids)



Deviations from standard operating procedure: None

Recoveries for all analyte standards: 90-110%  
Replicate Uncertainties: <5% RSD, <20% RPD  
Sample/Reagent Blanks: <RL for all analytes

Values for plant matter are adjusted for moisture content.

Total THC = (THCa x 0.877) + Δ9-THC  
Total CBD = (CBDa x 0.877) + CBD

Percentage results are reported by mass.  
mg/g results are reported as mass component per mass material.

Abbreviations: UV - Ultraviolet, HPLC - High Pressure Liquid Chromatography, RL - Reporting Limit, RPD - Relative Percent Difference, RSD - Relative Standard Deviation

This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms.

The statements and results herein have not been approved and/or endorsed by the FDA.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology (F.A.S.T.), LLC

*Kyle W. Felling*  
Kyle W. Felling, Ph.D.  
Laboratory Director

## CERTIFICATE OF ANALYSIS

**Order Type:** CBD  
**Order ID:** OR2019-2310

**Customer ID:** 32  
**Customer Name:** CBD Plus USA

**Harvest/Extract Lot:** T-79.4g  
**Harvest/Extract Batch:** None

**Cultivar (Strain):** CRD 5045.1 + GSC  
 Terp

**Lab ID:** SA2019-7497

**Sample Matrix:** Concentrate

**Sample Date:** 07/08/2019

**Date Received:** 07/08/2019

**Date Completed:** 07/15/2019

**Remarks:**

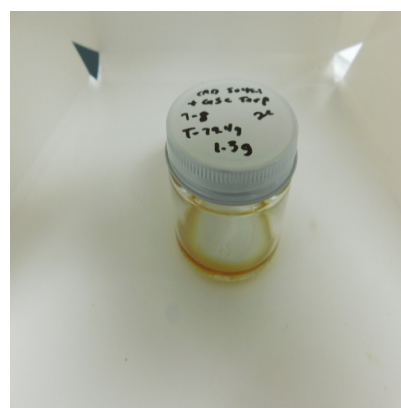
### TERPENOID PROFILE

**Analysis Date/Time:** 07/09/2019 1245  
**Analyst:** OL

**Method:** HS/GC/FID (Internal Method-002)  
**Instrument:** Agilent 6890

**Deviations from SOP:**  
 None

Terpene	Result (µg/g)	Result (%)	
α-Bisabolol	94	0.00936	
Camphene	-	-	
δ-3-Carene	77	0.00772	
β-Caryophyllene	300	0.03	
Caryophyllene oxide	85	0.00853	
p-Cymene	-	-	
Eucalyptol	-	-	
Geraniol	-	-	
Guaiol	22	0.00222	
α-Humulene	66	0.00656	
Isopulegol	-	-	
d-Limonene	1576	0.158	
Linalool	535	0.0535	
β-Myrcene	1478	0.148	
cis-Nerolidol	-	-	
trans-Nerolidol	-	-	
α-Ocimene	-	-	
β-Ocimene	-	-	
α-Pinene	1040	0.104	
β-Pinene	79	0.00789	
α-Terpinene	220	0.022	
γ-Terpinene	-	-	
Terpinolene	495	0.0495	
<b>TOTAL</b>	<b>6067</b>	<b>0.607</b>	



*Abbreviations:* HS - Headspace, GC - Gas Chromatography, MS - Mass Spectrometry, RL - Reporting Limit

This information is provided as a service and makes no claims of efficacy and/or safety of this product.

Results are applicable only for the sample(s) analyzed and for the specific analysis conducted.

This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms.

The statements and results herein have not been approved and/or endorsed by the FDA.

"-" Not detected above RL.

**Reporting Limit (µg/g): 11.7**

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology (F.A.S.T.), LLC

*Kyle W. Felling*  
 Kyle W. Felling, Ph.D.  
 Laboratory Director

## CERTIFICATE OF ANALYSIS

**Order Type:** CBD  
**Order ID:** OR2019-2310

**Customer ID:** 32  
**Customer Name:** CBD Plus USA

**Harvest/Extract Lot:** T-79.4g  
**Harvest/Extract Batch:** None

**Cultivar (Strain):** CRD 5045.1 + GSC  
 Terp

**Lab ID:** SA2019-7497

**Sample Matrix:** Concentrate

**Sample Date:** 07/08/2019

**Date Received:** 07/08/2019

**Date Completed:** 07/15/2019

**Remarks:**

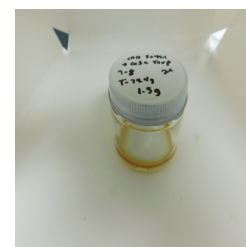
### RESIDUAL SOLVENT PROFILE

**Analysis Date/Time:** 07/09/2019 1245  
**Analyst:** OL

**Method:** USP <467>  
**Instrument:** Agilent 6890

**Deviations from SOP:**  
 None

Solvent	Result (µg/g)	Action Level (µg/g)	Solvent	Result (µg/g)	Action Level (µg/g)
Acetone (67-64-1)	-	5000	n-Heptane (142-82-5)	-	5000
Acetonitrile (75-5-8)	-	410	n-Hexane (110-54-3)	-	290
Benzene (71-43-2)	-	2	Isobutane (75-28-5)	-	5000
n-Butane (106-97-2)	-	5000	Isopropanol (67-63-0)	-	5000
1-Butanol (71-36-3)	-	5000	Isopropyl acetate (108-21-4)	-	5000
2-Butanol (78-92-2)	-	5000	Isopropyl benzene (98-82-8)	-	70
2-Butanone (78-93-3)	-	5000	Methanol (67-56-1)	-	3000
Cyclohexane (110-82-7)	-	3880	2-Methylbutane (78-78-4)	-	5000
1,2-Dimethoxyethane (110-71-4)	-	100	Methylene chloride (75-9-2)	-	600
N,N-Dimethylacetamide (127-19-5)	-	1090	2-Methylpentane (107-83-5)	-	290
2,2-Dimethylbutane (75-83-2)	-	290	3-Methylpentane (96-10-0)	-	290
2,3-Dimethylbutane (79-29-8)	-	290	n-Pentane (109-66-0)	-	5000
N,N-Dimethylformamide (68-12-2)	-	880	1-Pentanol (71-41-0)	-	5000
Dimethylsulfoxide (67-68-5)	-	5000	n-Propane (74-98-6)	-	5000
1,4-Dioxane (123-91-1)	-	380	1-Propanol (71-23-8)	-	5000
Ethanol (64-17-5)	-	5000	Pyridine (110-86-1)	-	200
2-Ethoxyethanol (110-80-5)	-	160	Tetrahydrofuran (109-99-9)	-	720
Ethyl ether (60-29-7)	-	5000	Tetramethylene sulfone (126-33-0)	-	160
Ethyl acetate (141-78-6)	-	5000	Toluene (108-88-3)	-	890
Ethyl benzene (100-41-4)	-	217	o-Xylene (95-47-6)	-	2170
Ethylene glycol (107-21-1)	-	620	m,p-Xylene (108-38-3 or 106-42-3)	-	2170
Ethylene oxide (75-21-8)	-	50	Xylenes* (1330-20-7)	-	2170



#### Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/g)**  
 1/2 of AL

"-" not detected above reporting limit

"\*" - o,m,p-Xylene and Ethylbenzene

Solvent	Synonym(s)	Solvent	Synonym(s)	Solvent	Synonym(s)
Acetonitrile	Methyl Cyanide, ACN	2-Ethoxyethanol	Cellosolve, Ethyl glycol	Methanol	Methyl alcohol
1-Butanol	n-Butanol, Butyl Alcohol	Ethyl ether	Diethyl ether, Ether	2-Methylbutane	Isopentane
2-Butanol	sec-Butyl alcohol	Ethyl acetate	EtOAc	Methylene chloride	Dichloromethane
2-Butanone	Methyl ethyl ketone, MEK	Ethyl benzene	Phenylethane	2-Methylpentane	Isohexane
1,2-Dimethoxyethane	Monoglyme	Ethylene glycol	1,2-Ethanediol	1-Pentanol	n-Amyl alcohol
2,3-Dimethylbutane	Neohexane	Ethylene oxide	Oxirane	1-Propanol	Propyl alcohol
2,3-Dimethylbutane	Diisopropyl	Isobutane	2-Methylpropane	Tetrahydrofuran	THF
N,N-Dimethylformamide	DMF	Isopropanol	2-Propanol, IPA	Tetramethylene sulfone	Sulfolane
Dimethylsulfoxide	DMSO	Isopropyl Acetate	Acetic acid isopropyl ester	Xylene	Dimethylbenzene

**Abbreviations:** HS-Headspace, GC-Gas Chromatography, MS-Mass Spectrometry, RL-Reporting Limit, AL-Action Level  
 CAS-Chemical Abstract Services

**Disclaimer:** This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

#### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology (F.A.S.T.), LLC

*Kyle W. Felling*  
 Kyle W. Felling, Ph.D.  
 Laboratory Director

## CERTIFICATE OF ANALYSIS

**Order Type:** CBD  
**Order ID:** OR2019-2310

**Customer ID:** 32  
**Customer Name:** CBD Plus USA

**Harvest/Extract Lot:** T-79.4g  
**Harvest/Extract Batch:** None

**Cultivar (Strain):** CRD 5045.1 + GSC  
 Terp

**Lab ID:** SA2019-7497

**Sample Matrix:** Concentrate

**Sample Date:** 07/08/2019

**Date Received:** 07/08/2019

**Date Completed:** 07/15/2019

**Remarks:**

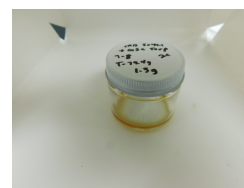
### PESTICIDES PROFILE

**Analysis Date/Time:** 07/09/2019 1245  
**Analyst:** OL

**Method:** LC/MS/MS and GC/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
 None

Pesticide	Result (µg/g)	Action Level (µg/g)	Pesticide	Result (µg/g)	Action Level (µg/g)
Abamectin (71751-41-2)	-	0.5	Imazalil (35554-44-0)	-	0.2
Acephate (30560-19-1)	-	0.4	Imidacloprid (138261-41-3)	-	0.4
Acequinocyl (57960-19-7)	-	2	Kresoxim-methyl* (143390-89-0)	-	0.4
Acetamiprid (135410-20-7)	-	0.2	Malathion (121-75-5)	-	0.2
Aldicarb (116-06-3)	-	0.4	Metalaxyl* (57837-19-1)	-	0.2
Azoxystrobin (131860-33-8)	-	0.2	Methiocarb (2032-65-7)	-	0.2
Bifenazate* (149877-41-8)	-	0.2	Methomyl (16752-77-5)	-	0.4
Bifenthrin* (82657-04-3)	-	0.2	Methyl parathion* (298-0-0)	-	0.2
Boscalid* (188425-85-6)	-	0.4	MGK 264* (113-48-4)	-	0.2
Carbaryl (63-25-2)	-	0.2	Myclobutanil (88671-89-0)	-	0.2
Carbofuran (1563-66-2)	-	0.2	Naled (300-76-5)	-	0.5
Chlorantraniliprole (800008-45-7)	-	0.2	Oxamyl (23135-22-0)	-	1
Chlorfenapyr* (122453-73-0)	-	1	Paclobutrazol* (76738-62-0)	-	0.4
Chlorpyrifos* (2921-88-2)	-	0.2	Permethrins* (52645-53-1)	-	0.2
Clofentezine (74115-24-5)	-	0.2	Phosmet* (732-11-6)	-	0.2
Cyfluthrin* (68359-37-5)	-	1	Piperonyl butoxide* (51-03-6)	-	2
Cypermethrin* (52315-07-8)	-	1	Prallethrin* (2331-36-9)	-	0.2
Daminozide (1596-84-5)	-	1	Propiconazole (60207-90-1))	-	0.4
DDVP (62-73-7)	-	0.1	Propoxur* (114-26-1)	-	0.2
Diazinon* (333-41-5)	-	0.2	Pyrethrins* (8003-34-7)	-	1
Dimethoate (60-51-5)	-	0.2	Pyridaben* (96489-71-3)	-	0.2
Ethoprophos* (13194-48-4)	-	0.2	Spinosad A (168316-95-8)	-	0.2
Etofenprox (80844-07-1)	-	0.4	Spinosad D (168316-95-8)	-	0.2
Etoxazole (153233-91-1)	-	0.2	Spiromesifen (283594-90-1)	-	0.2
Fenoxycarb (72490-01-8)	-	0.2	Spirotetramat (203313-25-1)	-	0.2
(E)-Fenpyroximate (134098-61-6)	-	0.4	Spiroxamine (118134-30-8)	-	0.4
Fipronil* (120068-37-3)	-	0.4	Tebuconazole (80443-41-0)	-	0.4
Fonicamid (158062-67-0)	-	1	Thiacloprid (111988-49-9)	-	0.2
Fludioxinil (131341-86-1)	-	0.4	Thiamethoxam (153719-23-4)	-	0.2
Hexythiazox (78587-05-0)	-	1	Trifloxystrobin* (141517-21-7)	-	0.2



#### Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/g)**  
 1/2 of AL

"-" not detected above reporting limit

"\*\*" analyzed by GC/MS (all others analyzed by LC/MS/MS)

Permethrins measured as the cumulative residue of the *cis*- and *trans*-permethrin isomers.

Pyrethrin measures as the cumulative residue of pyrethrin I, cinerin I, and jasmolin I.

**Abbreviations:** LC - Liquid Chromatography, GC - Gas Chromatography, MS - Mass Spectrometry, RK - Reporting Limit, AL - Action Level, CAS - Chemical Abstract Services

Pesticide	Synonym(s)	Pesticide	Synonym(s)	Pesticide	Synonym(s)
Cyfluthrin	Baythroid	Myclobutanil	Systhane	Propiconazole	Tilt
DDVP	Dichlorvos	Naled	Dibrom	Propoxur	Baygon
Ethoprophos	Prophos	Phosmet	Imidan		

**Disclaimer:** This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology (F.A.S.T.), LLC

*Kyle W. Felling*  
 Kyle W. Felling, Ph.D.  
 Laboratory Director

**CERTIFICATE OF ANALYSIS**

**Order Type:** CBD  
**Order ID:** OR2019-2310

**Customer ID:** 32  
**Customer Name:** CBD Plus USA

**Harvest/Extract Lot:** T-79.4g  
**Harvest/Extract Batch:** None

**Cultivar (Strain):** CRD 5045.1 + GSC  
Terp  
**Sample Date:** 07/08/2019

**Lab ID:** SA2019-7497  
**Date Received:** 07/08/2019

**Sample Matrix:** Concentrate  
**Date Completed:** 07/15/2019

**Remarks:**

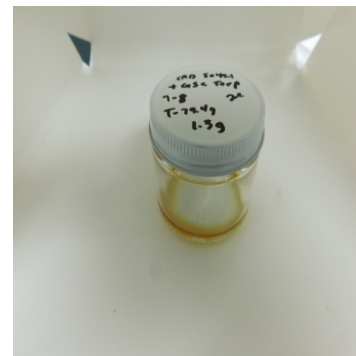
**MYCOTOXIN PROFILE**

**Analysis Date/Time:** 07/09/2019 1245  
**Analyst:** OL

**Method:** LC/MS/MS  
**Instrument:** Waters Acquity/TQD

**Deviations from SOP:**  
None

<u>Mycotoxin</u>	<u>Result</u> (µg/kg)	<u>Action Level</u> (µg/kg)
Aflatoxin B1	-	20
Aflatoxin B2	-	20
Aflatoxin G1	-	20
Aflatoxin G2	-	20
Ochratoxin A	-	20



*Abbreviations:* EC - Escherichia Coli, CFU - Colony-Forming Unit,  
RL - Reporting Limit, AL - Action Level

Color Key

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (CFU/g)**  
1

"-" not detected above reporting limit

*Disclaimer:* This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of  
Felling Analytical Services and Technology (F.A.S.T.), LLC

**CERTIFICATE OF ANALYSIS**

**Order Type:** CBD  
**Order ID:** OR2019-2310

**Customer ID:** 32  
**Customer Name:** CBD Plus USA

**Harvest/Extract Lot:** T-79.4g  
**Harvest/Extract Batch:** None

**Cultivar (Strain):** CRD 5045.1 + GSC  
Terp

**Lab ID:** SA2019-7497

**Sample Matrix:** Concentrate

**Sample Date:** 07/08/2019

**Date Received:** 07/08/2019

**Date Completed:** 07/15/2019

**Remarks:**

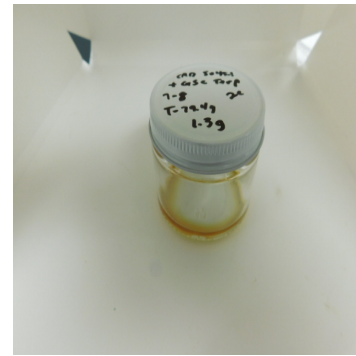
**HEAVY METAL PROFILE**

**Analysis Date/Time:** 07/09/2019 1245  
**Analyst:** OL

**Method:** ICP/MS  
**Instrument:** PerkinElmer Elan 9000

**Deviations from SOP:**  
None

<b>Heavy Metal</b>	<b>Result (µg/kg)</b>	<b>Action Level (µg/kg)</b>
Arsenic (As)	-	200
Cadmium (Cd)	-	200
Lead (Pb)	-	100
Mercury (Hg)	-	500



Abbreviations: ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy, RL - Reporting Limit, AL - Action Level

**Color Key**

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (µg/kg)**  
50

"-" not detected above reporting limit

**Disclaimer:** This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Felling Analytical Services and Technology (F.A.S.T.), LLC

*Kyle W. Felling*  
Kyle W. Felling, Ph.D.  
Laboratory Director

**CERTIFICATE OF ANALYSIS**

**Order Type:** CBD  
**Order ID:** OR2019-2310

**Customer ID:** 32  
**Customer Name:** CBD Plus USA

**Harvest/Extract Lot:** T-79.4g  
**Harvest/Extract Batch:** None

**Cultivar (Strain):** CRD 5045.1 + GSC  
Terp

**Lab ID:** SA2019-7497

**Sample Matrix:** Concentrate

**Sample Date:** 07/08/2019

**Date Received:** 07/08/2019

**Date Completed:** 07/15/2019

**Remarks:**

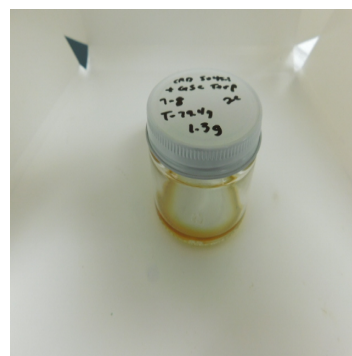
**MICROBIOLOGICAL PROFILE**

**Analysis Date/Time:** 07/09/2019 1245  
**Analyst:** OL

**Method:** Hardy Diagnostics CompactDry  
**Instrument:**

**Deviations from SOP:**  
None

<u>Bacteria/Microbe</u>	<u>Result (CFU/g)</u>	<u>Action Level (CFU/g)</u>
Aerobic Plate Count, Total	NT	100
Coliforms, Total	Absent	100
Escherichia Coli (E. Coli)	Absent	1
Mold	Absent	10000
Yeast	Absent	10000
Salmonella spp.	Absent	1



Abbreviations: EC - Escherichia Coli, CFU - Colony-Forming Unit,  
RL - Reporting Limit, AL - Action Level, NT - Not Tested

**Color Key**

RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

**Reporting Limit (CFU/g)**  
1

"-" not detected above reporting limit

*Disclaimer:* This information is provided as a service and makes no claims of efficacy and/or safety of this product. Results are applicable only for the sample(s) analyzed and for the specific analysis conducted. This report is for informational purposes only and should not be used to diagnose, treat, or prevent any medical-related symptoms. The statements and results herein have not been approved and/or endorsed by the FDA.

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of  
Felling Analytical Services and Technology (F.A.S.T.), LLC

*Kyle W. Felling*  
Kyle W. Felling, Ph.D.  
Laboratory Director