



Utah Department of Agriculture and Food
Division of Laboratory Services
 4451 South 2700 West
 Taylorsville, Utah 84129
 (801) 816-3840

CERTIFICATE OF ANALYSIS

Sample Information

UDAF Lab #	CN23240-13	Issue Date:	9/5/2023
Client:	APRC	Client Email:	cgunn@aromaticplant.org
Producer:	NA	Sample Type:	Bulk Concentrate
Description:	100mL Muscle Gel		
Batch/Lot Number:	230817	Date Received:	08/28/2023
Date Collected:	08/25/2023	Collected By:	Leanne Krop




Notes:

Testing Summary

Status: PASS

Analysis:	Testing Date:	Status:	Notes:
Pesticides	09/05/2023	PASS	
Mycotoxins	09/05/2023	PASS	

Approved By:  Date: 9/5/2023
 Brandon Forsyth, Ph.D
 State Chemist

The results reported herein pertain only to the indicated sample and may not be used as an endorsement of a product. The results are given under applicable provisions of the Utah Code and represent a true statement of the outcomes of the analyses conducted on the sample received by the laboratory. This report may not be reproduced, except in its entirety. © 2023 All Rights Reserved.



CERTIFICATE OF ANALYSIS

Pesticide Analysis

Status: PASS

Sample ID:	CN23240-13	Description:	100mL Muscle Gel
Testing Date:	09/05/2023	Reviewed By:	Cameron Cheyne

Method: ACL.AM.008 Analysis performed using Liquid Chromatography - Mass Spectrometry (LC-MS/MS)

Analyte	CAS Number	Result (ppm)	Action Level (ppm)	Status	Analyte	CAS Number	Result (ppm)	Action Level (ppm)	Status
Abamectin	71751-41-2	ND	0.5	PASS	Imazilil	35554-44-0	ND	0.2	PASS
Acephate	30560-19-1	ND	0.4	PASS	Imidacloprid	138261-41-3	ND	0.4	PASS
Acequinocyl	57960-19-7	ND	2	PASS	Kresoxim-methyl	143390-89-0	ND	0.4	PASS
Acetamiprid	135410-20-7	ND	0.2	PASS	Malathion	121-75-5	ND	0.2	PASS
Aldicarb	0116-06-03	ND	0.4	PASS	Metalaxyl	57837-19-1	ND	0.2	PASS
Azoxystrobin	131860-33-8	ND	0.2	PASS	Methiocarb	2032-65-7	ND	0.2	PASS
Bifenazate	149877-41-8	ND	0.2	PASS	Methomyl	16752-77-5	ND	0.4	PASS
Bifenthrin	82657-04-03	ND	0.2	PASS	Methyl parathion	298-00-0	ND	0.2	PASS
Boscalid	188425-85-6	ND	0.4	PASS	MGK-264	113-48-4	ND	0.2	PASS
Carbaryl	63-25-2	ND	0.2	PASS	Myclobutanil	88671-89-0	ND	0.2	PASS
Carbofuran	1563-66-2	ND	0.2	PASS	Naled	300-76-5	ND	0.5	PASS
Chlorantraniliprole	500008-45-7	ND	0.2	PASS	Oxamyl	23135-22-0	ND	1	PASS
Chlorfenapyr	122453-73-0	ND	1	PASS	Paclobutrazol	76738-62-0	ND	0.4	PASS
Chlorpyrifos	2921-88-2	ND	0.2	PASS	Permethrins	52645-53-1	ND	0.2	PASS
Clofentezine	74115-24-5	ND	0.2	PASS	Phosmet	0732-11-6	ND	0.2	PASS
Cyfluthrin	68359-37-5	ND	1	PASS	Piperonyl Butoxide	51-03-6	ND	2	PASS
Cypermethrin	52315-07-08	ND	1	PASS	Prallethrin	23031-36-9	ND	0.2	PASS
Daminozide	1596-84-5	ND	1	PASS	Propiconazole	60207-90-1	ND	0.4	PASS
Dichlorvos	62-73-7	ND	0.1	PASS	Propoxur	114-26-1	ND	0.2	PASS
Diazinon	333-41-5	ND	0.2	PASS	Pyrethrins	8003-34-7	ND	1	PASS
Dimethoate	60-51-5	ND	0.2	PASS	Pyridaben	96489-71-3	ND	0.2	PASS
Ethoprophos	13194-48-4	ND	0.2	PASS	Spinosad	168316-95-8	ND	0.2	PASS
Etofenprox	80844-07-01	ND	0.4	PASS	Spiromesifen	283594-90-1	ND	0.2	PASS
Etoxazole	153233-91-1	ND	0.2	PASS	Spirotetramat	203313-25-1	ND	0.2	PASS
Fenoxycarb	72490-01-08	ND	0.2	PASS	Spiroxamine	118134-30-8	ND	0.4	PASS
Fenpyroximate	134098-61-6	ND	0.4	PASS	Tebuconazole	80443-41-0	ND	0.4	PASS
Fipronil	120068-37-3	ND	0.4	PASS	Thiacloprid	111988-49-9	ND	0.2	PASS
Flonicamid	158062-67-0	ND	1	PASS	Thiamethoxam	153719-23-4	ND	0.2	PASS
Fludioxonil	131341-86-1	ND	0.4	PASS	Trifloxystrobin	141517-21-7	ND	0.2	PASS
Hexythiazox	78587-05-0	ND	1	PASS					

Notes:

ND = Not Detected, NQ = Not Quantifiable, NT = Not Tested, <LOQ = Below the limit of quantification

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CERTIFICATE OF ANALYSIS

Mycotoxin Analysis

Status: PASS

Sample ID: CN23240-13	Description: 100mL Muscle Gel
Testing Date: 09/05/2023	Reviewed By: Cameron Cheyne

Method: ACL.AM.004 Analysis performed using Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

Analyte	Result (ppb)	Action Level (ppb)	Status
AflatoxinB1	ND	See Total Aflatoxin	--
AflatoxinB2	ND	See Total Aflatoxin	--
AflatoxinG1	ND	See Total Aflatoxin	--
AflatoxinG2	ND	See Total Aflatoxin	--
Total Aflatoxin	0	20	PASS
Ochratoxin A	ND	20	PASS

Notes:

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Comprehensive Analysis Report

Sample Overview

Client: Boojum Group, LLC

2206 W 3000 S Suite F Heber, UT
84032

Date Received: 08/24/2023

Sample Name: 100mL Muscle Gel

APRC #: BG230825A

Sample Matrix: Topical Applicant

Sample Lot: 230817

Assay	Disposition	Date Tested
Hemp or R&D Cannabinoid Testing (Potency)	Tested	08-25-2023
Heavy Metals - Utah State Cannabis Panel	Tested	08-30-2023
Microbial: Quantitative Bacteria/Yeast/Mold	Tested	08-29-2023
Hemp or R&D Residual Solvents	Tested	08-25-2023



Accreditation #115229

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Instrument Analysis Report

Potency

Method: SOP 1-2026.03

Sample Name: 100mL Muscle Gel

APRC Lot Number: BG230825A

Cannabinoid	RT	Total %	Total mg/g
Cannabidivarinic Acid (CBDVA)	ND	ND	ND
Cannabidivarin (CBDV)	2.27	0.05	0.46
Cannabidiolic Acid (CBDA)	ND	ND	ND
Cannabigerolic Acid (CBGA)	ND	ND	ND
Cannabinol (CBN)	ND	ND	ND
Cannabidiol (CBD)	3.32	1.04	10.45
Cannabigerol (CBG)	ND	ND	ND
Tetrahydrocannabivarin (THCV)	ND	ND	ND
Tetrahydrocannabivarin Acid (THCVA)	ND	ND	ND
Delta-9-Tetrahydrocannabinol (Δ 9-THC)	6.04	0.05	0.47
Delta-8-Tetrahydrocannabinol (Δ 8-THC)	ND	ND	ND
Tetrahydrocannabinolic acid (THCA-A)	ND	ND	ND
Cannabichromene (CBC)	7.55	0.04	0.40
Cannabichromene Acid (CBCA)	ND	ND	ND
Δ 10 and Δ 6a,10a-Tetrahydrocannabinol	ND	ND	ND

Performed by: Sujan Timsina

Reviewed by: Tessa Crook

	%	mg/g
Total Cannabinoids	1.18	11.78
Total THC ^t	0.05	0.47
Total CBD ^s	1.04	10.45

^tTotal Thc is calculated by Δ 9-THC + (THCA-A*0.877)

^sTotal CBD is calculated by CBD + (CBDA*0.877)

LOD > 0.005% by mass, LOQ > 0.01% by mass

Instrument Analysis Report

Heavy Metals

Method: CTLA

Sample Name: 100mL Muscle Gel

APRC Lot Number: BG230825A

Analyte	Result (ppm)	LOD (ppm)	Threshold (ppm)	Pass/Fail
Arsenic	0.004	0.001	2.00	Pass
Cadmium	<0.001	0.001	0.82	Pass
Lead	0.378	0.001	1.20	Pass
Mercury	<0.001	0.001	0.40	Pass

Heavy metal analysis is completed in partnership with Contract Testing Laboratories of America, Orem UT.

Performed by: CTLA

Reviewed by: Tessa Crook

Instrument Analysis Report

Microbial Impurities

Method: SOP 1-2034.01

Sample Name: 100mL Muscle Gel

APRC Lot Number: BG230825A

Total Counts			
Microbial Group:	Result (CFU/g):	Specification:	Disposition:
Total Aerobic Bacteria	<10	≤100	Pass
Total Yeast and Mold	<10	≤100	Pass

Specific Organism Identification			
Microbial Organism:	Result:	Specification:	Disposition:
Aspergillus flavus	ND	Report Only	Tested
Aspergillus fumigatus	ND	Report Only	Tested
Aspergillus niger	ND	Report Only	Tested
Aspergillus terreus	ND	Report Only	Tested
Escherichia coli - Non shigella	ND	Not Detected	Pass
Escherichia coli - Shigella spp	ND	Not Detected	Pass
STEC	ND	Report Only	Tested
Listeria monocytogenes	ND	Report Only	Tested
Salmonella - Specific Gene	ND	Report Only	Tested
Staphylococcus aureus	ND	Not Detected	Pass
Pseudomonas aeruginosa	ND	Not Detected	Pass

Performed by: Jordan Morley

Notes: Foreign Matter: Not Detected.

Reviewed by: Tessa Crook

Instrument Analysis Report

Residual Solvents

Method: SOP 1-2027.03

Sample Name: 100mL Muscle Gel

APRC Lot Number: BG230825A

Residual Solvent	Finding (µg/g)	Action Level (µg/g)	Pass/Fail
Dimethyl sulfoxide	ND	5000	Pass
N,N-dimethylacetamide	ND	1090	Pass
1,2 Dimethoxyethane	ND	100	Pass
1,4 Dioxane	ND	380	Pass
1-Butanol	ND	5000	Pass
1-Pentanol	ND	5000	Pass
1-Propanol	ND	5000	Pass
2-Butanone	ND	5000	Pass
2-Butanol	ND	5000	Pass
2-Ethoxyethanol	ND	160	Pass
2-Methylbutane	ND	5000	Pass
2-Propanol	ND	5000	Pass
Acetone	ND	5000	Pass
Acetonitrile	ND	410	Pass
Benzene	ND	2	Pass
Butane	ND	5000	Pass
Cumene	ND	70	Pass
Cyclohexane	ND	3880	Pass
Dichloromethane	ND	600	Pass
2,2-Dimethylbutane	ND	290	Pass
2,3-Dimethylbutane	ND	290	Pass
m,p-Xylene	ND	See Total Xylenes	Pass
o-Xylene	ND	See Total Xylenes	Pass
Ethanol	2490.130	5000	Pass
Ethyl Acetate	ND	5000	Pass
Ethyl Benzene	ND	See Total Xylenes	Pass
Ethyl Ether	ND	5000	Pass
Ethylene Glycol	ND	620	Pass
Ethylene Oxide	ND	50	Pass

Residual Solvent	Finding (µg/g)	Action Level (µg/g)	Pass/Fail
Heptane	ND	5000	Pass
Hexane	ND	290	Pass
Isopropyl Acetate	ND	5000	Pass
Methanol	ND	3000	Pass
Methylpropane	ND	5000	Pass
2-Methylpentane	ND	290	Pass
3-Methylpentane	ND	290	Pass
N,N-Dimethylformamide	ND	880	Pass
Pentane	ND	5000	Pass
Propane	ND	5000	Pass
Pyridine	ND	100	Pass
Sulfolane	ND	160	Pass
Tetrahydrofuran	ND	720	Pass
Toluene	ND	890	Pass
Total Xylenes	ND	2170	Pass

† Per Utah state code 4-41a-701(3) Section R68-29-6

‡ Total Xylenes is a combination of the following: o-Xylene, m-Xylene, p-Xylene, and Ethylbenzene

Overall Disposition: Pass
 Performed By: Anil Rokaya
 Reviewed By: Riley Hunter



Approved By:
 Jordan Morley
 Laboratory Supervisor

09/06/2023