FOOD & ENVIRONMENT SAFETY ANALYTICAL LAB

Sample ID: 64150507-2
Date Issued: 5/14/25
Batch Result: Pass

Certificate of Analysis

For R&D Use Only - Not a California Compliance Certificate.

Grape Gas

Client:
Sample Name: Grape Gas
Batch Number: N/A

Matrix: Plant
Unit Mass: 1 g per unit

Sample ID: 64150507-2
Date Received: 5/7/2025

Total CBD	**ND**
Delta 9-THC	**0.12 %**
THCA	**28.89 %**
Total Cannabinoids	**29.01 %**

Analysis Summary

Residual Pesticides	Pass
Residual Solvents & Processing Chemicals	Pass
Mycotoxins	Pass
Heavy Metals	Pass
Microbial Impurities	Pass
Total Terpenes	2.22 %

Cannabinoid Analysis

Complete

Analyte	LOD (%)	LOQ (%)	Mass (%)	Mass (mg/g)
CBDV	0.0035	0.011	ND	ND
CBD	0.0030	0.0090	ND	ND
CBG	0.0038	0.011	ND	ND
CBDA	0.0017	0.0052	ND	ND
CBN	0.00080	0.0024	ND	ND
Delta 9-THC	**0.0022**	**0.0067**	**0.118**	**1.18**
Delta 8-THC	0.0020	0.0059	ND	ND
CBC	0.00070	0.0021	ND	ND
THCA	**0.0024**	**0.0073**	**28.894**	**288.94**
Total CBD			ND	ND
Total THC			**25.46**	**254.58**
Total Cannabinoids			**29.01**	**290.12**

Date Tested: 5/8/2025

Total THC = THCa * 0.877 + d9-THC + d8-THC; Total CBD = CBDa * 0.877 + CBD

References: limit of detection (LOD), limit of quantitation (LOQ), not detected (ND), not tested (NT)

FESA Labs
(714) 540-0172
www.fesalabs.com

Approved By:
Marie True, M.S.
Laboratory Manager

Certificate of Analysis

For R&D Use Only - Not a California Compliance Certificate.

Pesticide Analysis

Pass

Analyte	LOQ (ppm)	Limit (ppm)	Mass (ppm)	Status
Abamectin	0.050	0.10	ND	Pass
Acephate	0.050	0.10	ND	Pass
Acequinocyl	0.050	0.10	ND	Pass
Acetamiprid	0.050	0.10	ND	Pass
Aldicarb	0.050	0.00	ND	Pass
Azoxystrobin	0.050	0.10	ND	Pass
Bifenazate	0.050	0.10	ND	Pass
Bifenthrin	0.050	3.00	ND	Pass
Boscalid	0.050	0.10	ND	Pass
Captan	0.050	0.70	ND	Pass
Carbaryl	0.050	0.50	ND	Pass
Carbofuran	0.050	0.00	ND	Pass
Chlorantraniliprole	0.050	10.00	ND	Pass
Chlordane	0.050	0.00	ND	Pass
Chlorfenapyr	0.050	0.00	ND	Pass
Chlorpyrifos	0.050	0.00	ND	Pass
Clofentezine	0.050	0.10	ND	Pass
Coumaphos	0.050	0.00	ND	Pass
Cyfluthrin	0.050	2.00	ND	Pass
Cypermethrin	0.050	1.00	ND	Pass
Daminozide	0.050	0.00	ND	Pass
DDVP	0.050	0.00	ND	Pass
Diazinon	0.050	0.10	ND	Pass
Dimethoate	0.050	0.00	ND	Pass
Dimethomorph	0.050	2.00	ND	Pass
Ethoprophos	0.050	0.00	ND	Pass
Etofenprox	0.050	0.00	ND	Pass
Etoxazole	0.050	0.10	ND	Pass
Fenhexamid	0.050	0.10	ND	Pass
Fenoxycarb	0.050	0.00	ND	Pass
Fenpyroximate	0.050	0.10	ND	Pass
Fipronil	0.050	0.00	ND	Pass
Flonicamid	0.050	0.10	ND	Pass
Fludioxonil	0.050	0.10	ND	Pass
Hexythiazox	0.050	0.10	ND	Pass
Imazalil	0.050	0.00	ND	Pass
Imidacloprid	0.050	5.00	ND	Pass
Kresoxim Methyl	0.050	0.10	ND	Pass
Malathion	0.050	0.50	ND	Pass
Metalaxyl	0.050	2.00	ND	Pass
Methiocarb	0.050	0.00	ND	Pass
Methomyl	0.050	1.00	ND	Pass
Methyl Parathion	0.050	0.00	ND	Pass
Mevinphos	0.050	0.00	ND	Pass
Myclobutanil	0.050	0.10	ND	Pass
Naled	0.050	0.10	ND	Pass
Oxamyl	0.050	0.50	ND	Pass
Paclobutrazol	0.050	0.00	ND	Pass
Pentachloronitrobenzene	0.050	0.10	ND	Pass
Permethrin	0.050	0.50	0.340	Pass
Phosmet	0.050	0.10	ND	Pass
Piperonyl Butoxide	0.050	3.00	ND	Pass
Prallethrin	0.050	0.10	ND	Pass
Propiconazole	0.050	0.10	ND	Pass

Certificate of Analysis

For R&D Use Only - Not a California Compliance Certificate.

Pesticide Analysis

Pass

Analyte	LOQ (ppm)	Limit (ppm)	Mass (ppm)	Status
Propoxur	0.050	0.00	ND	Pass
Pyrethrins	0.050	0.50	0.320	Pass
Pyridaben	0.050	0.10	ND	Pass
Spinetoram	0.050	0.10	ND	Pass
Spinosad	0.050	0.10	ND	Pass
Spiromesifen	0.050	0.10	ND	Pass
Spirotetramat	0.050	0.10	ND	Pass
Spiroxamine	0.050	0.00	ND	Pass
Tebuconazole	0.050	0.10	ND	Pass
Thiacloprid	0.050	0.00	ND	Pass
Thiamethoxam	0.050	5.00	ND	Pass
Trifloxystrobin	0.050	0.10	ND	Pass

Date Tested: 5/9/2025

Residual Solvents Analysis

Pass

Analyte	LOQ (µg/g)	Limit (µg/g)	Mass (µg/g)	Status
Acetone	100	5000	ND	Pass
Acetonitrile	100	410	ND	Pass
Benzene	1	1	ND	Pass
Butane	100	5000	ND	Pass
Chloroform	1	1	ND	Pass
1,2-Dichloroethane	1	1	ND	Pass
Ethanol	100	5000	ND	Pass
Ethyl Acetate	100	5000	ND	Pass
Ethyl Ether	100	5000	ND	Pass
Ethylene Oxide	1	1	ND	Pass
Heptane	100	5000	ND	Pass
n-Hexane	100	290	ND	Pass
Isopropanol	100	5000	ND	Pass
Methanol	100	3000	ND	Pass
Methylene Chloride	1	1	ND	Pass
Pentane	100	5000	ND	Pass
Propane	100	5000	ND	Pass
Toluene	100	890	ND	Pass
Trichloroethylene	1	1	ND	Pass
Xylenes	100	2170	ND	Pass

Date Tested: 5/12/2025

Mycotoxins

Pass

Analyte	LOQ (µg/g)	Limit (µg/g)	Mass (µg/g)	Status
Aflatoxin B1	0.02	0.02	ND	Pass
Aflatoxin B2	0.02	0.02	ND	Pass
Aflatoxin G1	0.02	0.02	ND	Pass
Aflatoxin G2	0.02	0.02	ND	Pass
Ochratoxin A	0.02	0.02	ND	Pass

Date Tested: 5/9/2025

Certificate of Analysis

For R&D Use Only - Not a California Compliance Certificate.

Method References:

Hemp Profile (SOP HPLC Hemp by UV-Detection)

Multi-Residue Pesticide Analysis - (AOAC_200701)

Official Methods of Analysis, AOAC Official Method 2007.01, Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate, AOAC INTERNATIONAL (modified).

CEN Standard Method EN 15662: Food of plant origin - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE - QuEChERS method.

Residual Solvents Analysis - 20 compounds (USP_467)

USP current revision, Chapter 62.
United States Pharmacopeia, 38nd Rev. - National Formulary 33th Ed., Method <467>, USP Convention, Inc., Rockville, MD (2015) (modified).

Mycotoxins Analysis - 5 compounds (FDA_MYC)

Determination of Mycotoxins in Corn, Peanut Butter and Wheat Flour Using Stable Isotope Dilution Assay (SIDA) and Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) (modified).

Heavy Metals Analysis - 4 elements (EPA_200.8)

Methods for the Determination of Metals in Environmental Standards - Supplement 1, EPA-600/R-94-111, May 1994.

"Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Mass Spectrometry", USEPA Method 200.8, Revision 5.1, EMMC Version (modified).

Microbial Analysis - (FDABAM_4A_5_18)

U.S. Food and Drug Administration, Bacteriological Analytical Manual, Chapter 4A, Diarrheagenic Escherichia coli; Chapter 5, Salmonella; Chapter 18, Yeasts, Molds and Mycotoxins (modified).

Certificate of Analysis

For R&D Use Only - Not a California Compliance Certificate.

Heavy Metals Analysis

Pass

Analyte	LOQ (µg/g)	Limit (µg/g)	Mass (µg/g)	Status
Arsenic	0.050	0.200	ND	Pass
Cadmium	0.050	0.200	ND	Pass
Lead	0.125	0.500	0.142	Pass
Mercury	0.025	0.100	ND	Pass

Date Tested: 5/9/2025

Microbial Analysis

Pass

Test	Result (CFU/g)	Status
Aspergillus flavus	Absent / 1g	Pass
Aspergillus fumigatus	Absent / 1g	Pass
Aspergillus niger	Absent / 1g	Pass
Aspergillus terreus	Absent / 1g	Pass
Shiga-toxin producing *Escherichia coli*	Absent / 1g	Pass
Salmonella	Absent / 1g	Pass

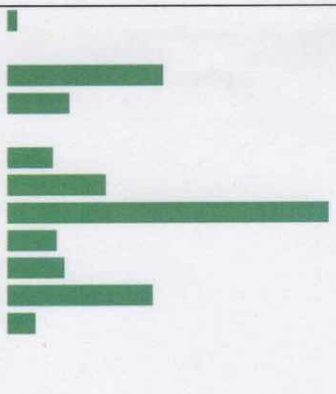
Date Tested: 5/13/2025

CFU = Colony Forming Units

Terpenoid Analysis

Complete

Analyte	LOQ (%)	Mass (%)	Mass (mg/g)
Camphene	0.0085	**0.0225**	**0.225**
3-Carene	0.0085	ND	ND
ß-Caryophyllene	0.0085	**0.355**	**3.550**
p-Cymene	0.0085	**0.142**	**1.420**
Eucalyptol	0.0085	ND	ND
Fenchol	0.0085	**0.1041**	**1.041**
α-Humulene	0.0085	**0.2249**	**2.249**
δ-Limonene	0.0085	**0.7337**	**7.337**
Linalool	0.0085	**0.1124**	**1.124**
ß-Myrcene	0.0085	**0.1302**	**1.302**
Nerolidol	0.0085	**0.3314**	**3.314**
α-Pinene	0.0085	**0.0639**	**0.639**
Terpinolene	0.0085	ND	ND
Total Terpenoids		**2.22**	**22.20**



Date Tested: 5/9/2025