F.A.S.T. LABORATORIES/RESEARCH

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232 S Broadview St
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Oklahoma City, OK 73135
(405) 595-0344

Tulsa Location
14720 E Admiral Pl, Ste H
Tulsa, OK 74108
(918) 340-7139

CERTIFICATE OF ANALYSIS

Order Type: Cannabis
Order ID: OR2020-6746
Customer ID: 654
Customer Name: Goodfellas
Harvest/Extract Lot: None
Harvest/Extract Batch: 1LA

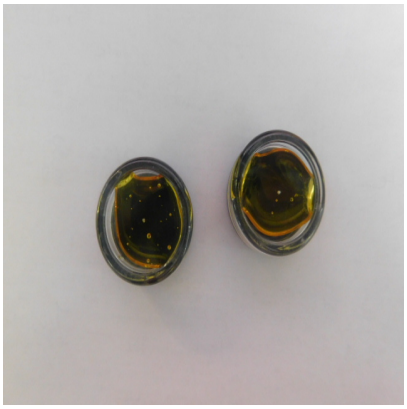
Cultivar (Strain): Distillate
Sample Date: 01/22/2020
Lab ID: SA2020-21338
Date Received: 01/22/2020
Sample Matrix: Concentrate
Date Completed: 01/29/2020

Remarks:

CANNABINOID (POTENCY) PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: JS
Method: HPLC/DAD
Instrument: Agilent 1100
Moisture Content (%): -
Water Activity (aw): -

Cannabinoid	Result (%)	Result (mg/g)	Reporting Limit (mg/g)	Result (mg/mL)	Per Unit (mg)
CBD	-	-	0.504	-	-
CBDa	-	-	0.504	-	-
CBDv	-	-	0.504	-	-
Δ9-THC	91.8	918	0.504	-	918
Δ8-THC	-	-	0.504	-	-
THCa	-	-	0.504	-	-
THCv	-	-	0.504	-	-
CBC	-	-	0.504	-	-
CBG	4.08	40.8	0.504	-	41
CBGa	-	-	0.504	-	-
CBN	-	-	0.504	-	-
TOTAL	95.9	959		-	959
TOTAL THC	91.8	918		-	918
TOTAL CBD	-	-		-	-

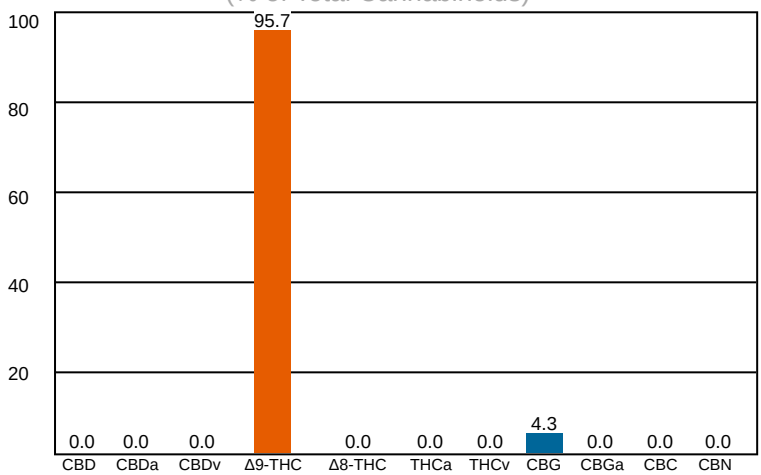


UNIT MASS (g): 1

"-" Not detected above RL.

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

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Laboratory Director

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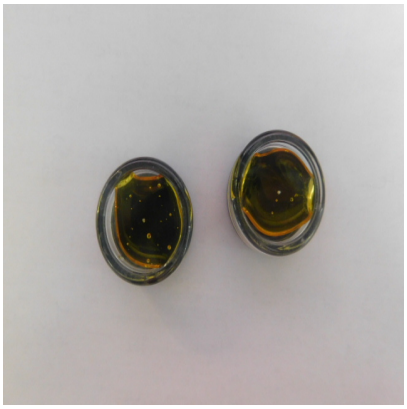
Date Completed: 01/29/2020

Remarks:

TERPENOID PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: JS
Method: HS/GC/FID (Internal Method-002)
Instrument: Agilent 6890
Deviations from SOP: None

Terpene	Result (µg/g)	Result (%)
α-Bisabolol	-	-
Camphene	-	-
δ-3-Carene	-	-
β-Caryophyllene	-	-
Caryophyllene oxide	-	-
p-Cymene	-	-
Eucalyptol	-	-
Geraniol	-	-
Guaiol	-	-
α-Humulene	-	-
Isopulegol	-	-
d-Limonene	-	-
Linalool	-	-
β-Myrcene	-	-
cis-Nerolidol	-	-
trans-Nerolidol	-	-
α-Ocimene	-	-
β-Ocimene	-	-
α-Pinene	-	-
β-Pinene	-	-
α-Terpinene	-	-
γ-Terpinene	-	-
Terpinolene	-	-
TOTAL	0	0



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

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"-" Not detected above RL.

Reporting Limit (µg/g): 20.2

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CERTIFICATE OF ANALYSIS

Order Type: Cannabis
Order ID: OR2020-6746
Customer ID: 654
Customer Name: Goodfellas
Harvest/Extract Lot: None
Harvest/Extract Batch: 1LA

Cultivar (Strain): Distillate
Sample Date: 01/22/2020
Lab ID: SA2020-21338
Date Received: 01/22/2020
Remarks:
Sample Matrix: Concentrate
Date Completed: 01/29/2020

RESIDUAL SOLVENT PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: JS
Method: USP <467>
Instrument: Agilent 6890
Deviations from SOP:
None

Solvent	Result (µg/g)	Action Level (µg/g)
Acetone (67-64-1)	-	1000
Benzene (71-43-2)	-	2
n-Butane (106-97-2)	-	1000
2,2-Dimethylbutane (75-83-2)	-	60
2,3-Dimethylbutane (79-29-8)	-	60
Ethyl benzene (100-41-4)	-	430
n-Heptane (142-82-5)	-	1000
n-Hexane (110-54-3)	-	60
Isobutane (75-28-5)	-	1000
Isopropanol (67-63-0)	-	1000
2-Methylbutane (78-78-4)	-	1000
2-Methylpentane (107-83-5)	-	60
3-Methylpentane (96-10-0)	-	60
n-Pentane (109-66-0)	-	1000
n-Propane (74-98-6)	-	1000
Toluene (108-88-3)	-	180
o-Xylene (95-47-6)	-	430
m,p-Xylene (108-38-3 or 106-42-3)	-	430
Xylenes* (1330-20-7)	-	430

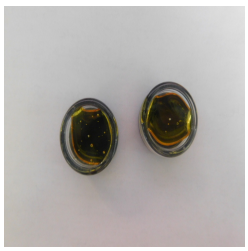
Color Key

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
Dimethysufoxide	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

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Customer ID: 654
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Harvest/Extract Batch: 1LA

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Remarks:
Sample Matrix: Concentrate
Date Completed: 01/29/2020

PESTICIDES PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: JS
Method: LC/MS/MS
Instrument: Waters Acquity/TQD
Deviations from SOP: None

Pesticide	Result (µg/g)	Action Level (µg/g)
Abamectin (71751-41-2)	-	0.5
Azoxystrobin (131860-33-8)	-	0.5
Bifenazate* (149877-41-8)	-	0.5
Etoxazole (153233-91-1)	-	0.5
Imazalil (35554-44-0)	-	0.5
Imidacloprid (138261-41-3)	-	0.5
Malathion (121-75-5)	-	0.5
Myclobutanil (88671-89-0)	-	0.5
Permethrins* (52645-53-1)	-	0.5
Spinosad A (168316-95-8)	-	0.5
Spinosad D (168316-95-8)	-	0.5
Spiromesifen (283594-90-1)	-	0.5
Spirotetramat (203313-25-1)	-	0.5
Tebuconazole (80443-41-0)	-	0.5

Color Key

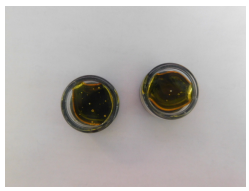
RESULT < 1/2 AL
1/2 AL < RESULT < AL
RESULT > AL

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.



Abbreviations: LC - Liquid Chromatography, GC - Gas Chromatography, MS - Mass Spectrometry, RL - 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		

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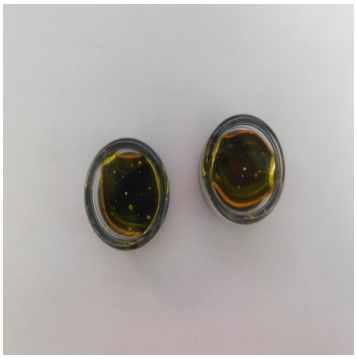
MYCOTOXIN PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: JS
Method: LC/MS/MS
Instrument: Waters Acquity/TQD
Deviations from SOP:
None

Mycotoxin	Result (µg/kg)	Action Level (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

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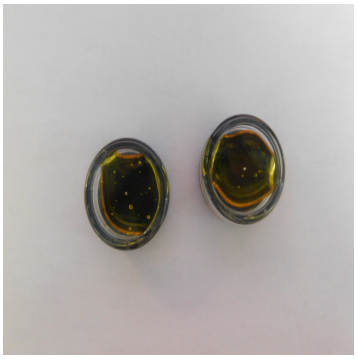
HEAVY METAL PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: CC
Method: ICP/MS
Instrument: PerkinElmer Elan 9000
Deviations from SOP: None

Heavy Metal	Result (µg/kg)	Action Level (µg/kg)
Arsenic (As)	-	400
Cadmium (Cd)	-	440
Lead (Pb)	-	1000
Mercury (Hg)	-	200



Abbreviations: ICP - Inductively-Coupled Plasma, OES - Optical Emission Spectroscopy, MS - Mass 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

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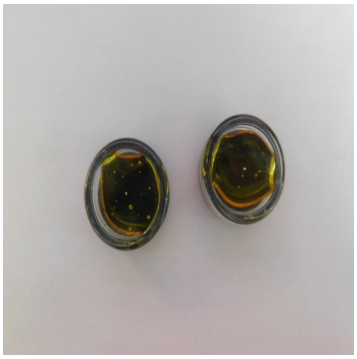
MICROBIOLOGICAL PROFILE

Analysis Date/Time: 01/27/2020 1310
Analyst: JD
Method: Hardy Diagnostics CompactDry
Instrument: Thermo Incubator
Deviations from SOP: None

Bacteria/Microbe	Result (CFU/g)	Action Level (CFU/g)
Aerobic Plate Count, Total	Absent	-
Escherichia Coli (E. Coli)	Absent	1
Mold	Absent	10000
Yeast	Absent	10000
Salmonella spp.	Absent	1



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1/2 AL < RESULT < AL
RESULT > AL

Reporting Limit (CFU/g)
1

"-" not detected above reporting limit

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