

CERTIFICATE OF ANALYSIS



Juniper Analytics, LLC
 1334 NE 2nd Street, Bend, OR, 97701
 541.382.3796
 ORELAP: 4101-001 / OLCC: 10035537931

Client Name: Arise Bioscience
 Contact Info: Brandon
 Sample Type: Cannabinoid
 External Batch ID: GDP-959
 Harvest/Prod. Date: NA
 Sample ID: Granddaddy Purple 350mg
 METRC ID: Personal
 Juniper Batch #: 19JA0521.01
 Intake Date: 2019-03-04

NOT FOR COMPLIANCE



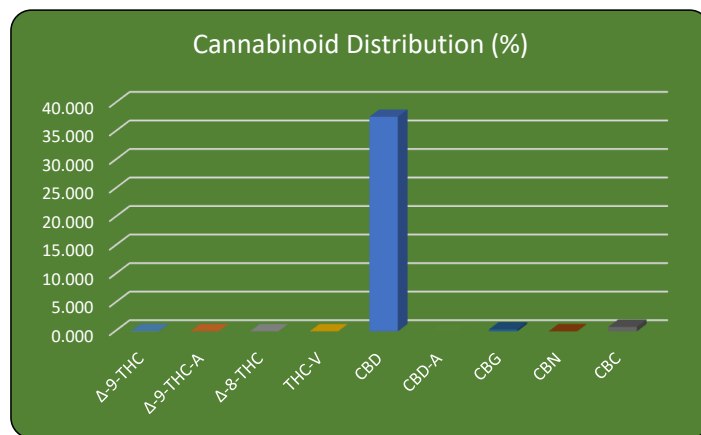
Potency Analysis (Oregon Compliance Standard OAR 333-007-0430)

ANALYSIS DATE: 2019-03-06

Instrument: HPLC/DAD

Method: JA-Potency-Proprietary

Compound	Weight (%)	Concentration (mg/g)	LOQ * (mg/g)
Δ-9-THC	0.031	0.31	0.14
Δ-9-THC-A	< LOQ	< LOQ	0.14
Δ-8-THC	< LOQ	< LOQ	0.14
THC-V	< LOQ	< LOQ	0.14
CBD	37.599	375.99	0.14
CBD-A	< LOQ	< LOQ	0.14
CBG	0.338	3.38	0.14
CBN	< LOQ	< LOQ	0.14
CBC	0.784	7.84	0.14



TOTAL THC/CBD	Weight (%)	Conc (mg/g)
THC Total =	0.031	0.31

THC_{Total} = (THC-A * 0.877) + Δ9THC

CBD Total =	37.599	375.99
-------------	--------	--------

CBD_{Total} = (CBD-A * 0.877) + CBD

* < LOQ - Less than the Limit of Quantification

Residual Solvent Analysis (Oregon Compliance Standard OAR 333-007-0410)

ANALYSIS DATE: 2019-03-12

Instrument: GC/MS

Method: USP 467 - Modified

Solvent	Result (ppm)	Action Level / LOQ (ppm)
1,4-Dioxane	<LOQ	380 / 100
2-Butanol	<LOQ	5000 / 500
2-Ethoxyethanol	<LOQ	160 / 100
2-Propanol (IPA)	<LOQ	5000 / 500
Acetone	<LOQ	5000 / 500
Acetonitrile	<LOQ	410 / 100
Benzene	<LOQ	2 / 1
Cumene	<LOQ	70 / 50
Cyclohexane	<LOQ	3880 / 500
Dichloromethane	<LOQ	600 / 100
Ethyl acetate	<LOQ	5000 / 500
Ethyl ether	<LOQ	5000 / 500
Ethylene glycol	<LOQ	620 / 300
Ethylene oxide	<LOQ	50 / 10
Heptane	<LOQ	5000 / 500
Isopropyl acetate	<LOQ	5000 / 500
Methanol	<LOQ	3000 / 500
Propane	<LOQ	5000 / 500
Tetrahydrofuran	<LOQ	720 / 100
Toluene	<LOQ	890 / 100

Solvent	Result (ppm)	Action Level / LOQ (ppm)
Pentanes;	<LOQ	5000 / 500
-n-pentane	<LOQ	**
-iso-pentane	<LOQ	**
-neo-pentane	<LOQ	**
Butanes;	<LOQ	5000 / 500
-n-butane	<LOQ	**
-iso-butane	<LOQ	**
Hexanes;	<LOQ	290 / 50
-n-hexane	<LOQ	**
-2-methylpentane	<LOQ	**
-3-methylpentane	<LOQ	**
-2,2-dimethylbutane	<LOQ	**
-2,3-dimethylbutane	<LOQ	**
Xylenes;	<LOQ	2170 / 300
-1,2-dimethylbenzene	<LOQ	**
-1,3-dimethylbenzene	<LOQ	**
-1,4-dimethylbenzene	<LOQ	**
-Ethyl benzene	<LOQ	**

**Limit based on combined results

Residual Solvents **PASS**

Tentatively Identified Compounds: Peak 1: Hit 1: (Z),(Z)-2, 4-Hexadiene Hits 2&4: 4-Methyl-1, 3-Pentadiene Hit 3: 1,3-Pentadiene, 2-Methyl-, (E)-

<LOQ - Less than the Limit of Quantification

APPROVAL

QA Review

Report Date: 2019-03-12



Juniper Batch #:	19JA0521.01
Intake Date:	2019-03-04

Pesticide Analysis (Oregon Compliance Standard OAR 333-007-0400)

ANALYSIS DATE: 2019-03-08			Instrument: LC/MS/MS			Method: AOAC 2007.1-Mod		
Pesticide	Result (ppm)	Action Level / LOQ (ppm)		Pesticide	Result (ppm)	Action Level / LOQ (ppm)		
Abamectin	<LOQ	0.5 / 0.25		Imazalil	<LOQ	0.2 / 0.10		
Acephate	<LOQ	0.4 / 0.20		Imidacloprid	<LOQ	0.4 / 0.20		
Acequinocyl	<LOQ	2.0 / 1.00		Kresoxim-methyl	<LOQ	0.4 / 0.20		
Acetamiprid	<LOQ	0.2 / 0.10		Malathion	<LOQ	0.2 / 0.10		
Aldicarb	<LOQ	0.4 / 0.20		Metalaxyl	<LOQ	0.2 / 0.10		
Azoxystrobin	<LOQ	0.2 / 0.10		Methiocarb	<LOQ	0.2 / 0.10		
Bifenazate	<LOQ	0.2 / 0.10		Methomyl	<LOQ	0.4 / 0.20		
Bifenthrin	<LOQ	0.2 / 0.10		Methyl Parathion	<LOQ	0.2 / 0.10		
Boscalid	<LOQ	0.4 / 0.20		MGK-264	<LOQ	0.2 / 0.10		
Carbaryl	<LOQ	0.2 / 0.10		Myclobutanil	<LOQ	0.2 / 0.10		
Carbofuran	<LOQ	0.2 / 0.10		Naled	<LOQ	0.5 / 0.25		
Chlorantraniliprole	<LOQ	0.2 / 0.10		Oxamyl	<LOQ	1.0 / 0.50		
Chlorfenapyr	<LOQ	1.0 / 0.50		Paclobutrazol	<LOQ	0.4 / 0.20		
Chlorpyrifos	<LOQ	0.2 / 0.10		Permethrins	<LOQ	0.2 / 0.10		
Clofentezine	<LOQ	0.2 / 0.10		Phosmet	<LOQ	0.2 / 0.10		
Cyfluthrin	<LOQ	1.0 / 0.50		Piperonyl butoxide	<LOQ	2.0 / 1.00		
Cypermethrin	<LOQ	1.0 / 0.50		Prallethrin	<LOQ	0.2 / 0.10		
Daminozide	<LOQ	1.0 / 0.50		Propiconazole	<LOQ	0.4 / 0.20		
DDVP (Dichlorvos)	<LOQ	1.0 / 0.50		Propoxur	<LOQ	0.2 / 0.10		
Diazinon	<LOQ	0.2 / 0.10		Pyrethrins	<LOQ	1.0 / 0.50		
Dimethoate	<LOQ	0.2 / 0.10		Pyridaben	<LOQ	0.2 / 0.10		
Ethoprophos	<LOQ	0.2 / 0.10		Spinosad	<LOQ	0.2 / 0.10		
Etofenprox	<LOQ	0.4 / 0.20		Spiromesifen	<LOQ	0.2 / 0.10		
Etoxazole	<LOQ	0.2 / 0.10		Spirotetramat	<LOQ	0.2 / 0.10		
Fenoxycarb	<LOQ	0.2 / 0.10		Spiroxamine	<LOQ	0.4 / 0.20		
Fenpyroximate	<LOQ	0.4 / 0.20		Tebuconazole	<LOQ	0.4 / 0.20		
Fipronil	<LOQ	0.4 / 0.20		Thiacloprid	<LOQ	0.2 / 0.10		
Flonicamid	<LOQ	1.0 / 0.50		Thiamethoxam	<LOQ	0.2 / 0.10		
Fludioxonil	<LOQ	0.4 / 0.20		Trifloxystrobin	<LOQ	0.2 / 0.10		
Hexythiazox	<LOQ	1.0 / 0.50						
Pesticide Screen	PASS							

*LOQ = Limit of Quantification

Microbiological Contaminants (Oregon Compliance Standard OAR 333-007-0390)

ANALYSIS DATE: Not Tested			
Microbiological screening	Colony count	CFU/g	Results:
Total coliforms	Not tested	Not tested	N/A
<i>Escherichia coli (E. coli)</i>	Not tested	Not tested	N/A

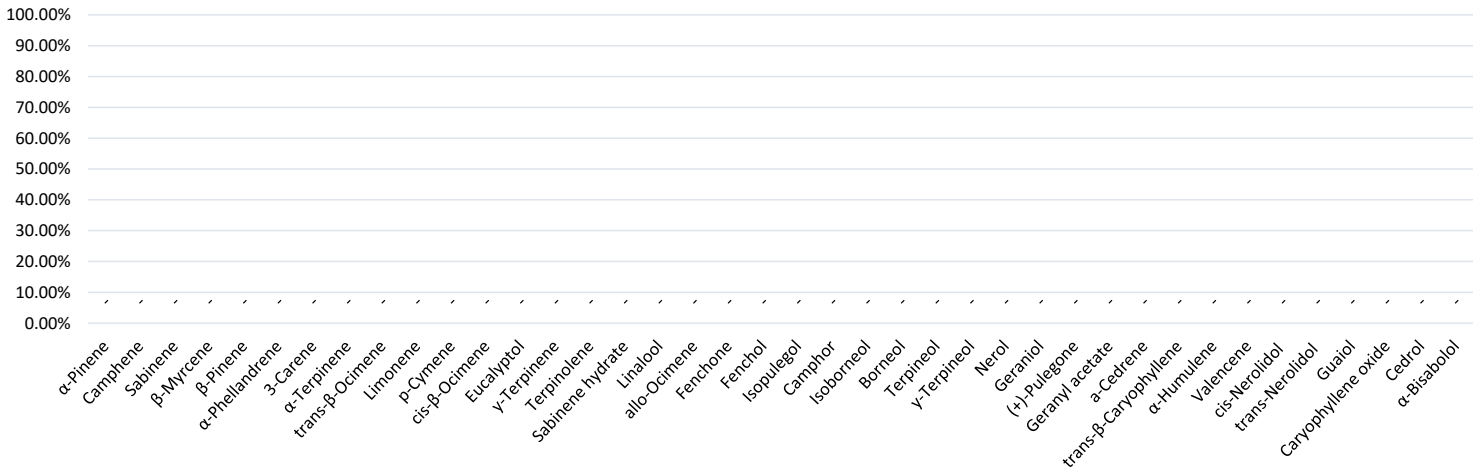


Juniper Batch #:	19JA0521.01
Intake Date:	2019-03-04

Terpene Profile

ANALYSIS DATE: Not Tested			Instrument: GC/MS	Method: JA-Terpene-Proprietary		
Compound	µg/g	%	Compound	µg/g	%	
α-Pinene			Isopulegol			
Camphene			Camphor			
Sabinene			Isoborneol			
β-Myrcene			Borneol			
β-Pinene			Terpineol			
α-Phellandrene			γ-Terpineol			
3-Carene			Nerol			
α-Terpinene			Geraniol			
trans-β-Ocimene			(+)-Pulegone			
Limonene			Geranyl acetate			
p-Cymene			α-Cedrene			
cis-β-Ocimene			trans-β-Caryophyllene			
Eucalyptol			α-Humulene			
γ-Terpinene			Valencene			
Terpinolene			cis-Nerolidol			
Sabinene hydrate			trans-Nerolidol			
Linalool			Guaiol			
allo-Ocimene			Caryophyllene oxide			
Fenchone			Cedrol			
Fenchol			α-Bisabolol			
			TOTAL	N/A	N/A	

Terpene Profile*



* Profile expressed as a percent of total terpenes

Batch QC WorkGroup ID:

Potency PO-2019-03-05-01

Residual Solvents RS-2019-03-08-01

Pesticide Pest-2019-03-05-01

Disclaimer

The results within this report apply only to the product tested and batched under the batch number identified above. These test results are for the exclusive use of the above named individual or entity. This report must not be altered, and may not be reproduced, except in their entirety, without written consent of Juniper Analytics, LLC. Requests for information regarding these results should be referred to the aforementioned individual or entity.