Columbia LABORATORIES
A Tentamus Company

12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 22-012671/D002.R000
Report Date: 10/26/2022
ORELAP#: OR100028
Purchase Order:
Received: 10/19/22 11:32

Customer: NW Natural Goods
Product identity: HEMP - RB 0089
Client/Metrc ID: .
Laboratory ID: 22-012671-0001

Summary

Potency:

Analyte per 4g	Result	Limits	Units	Status
CBC per 4g	0.207		mg/4g	
CBD per 4g	24.8		mg/4g	
CBG per 4g	0.281		mg/4g	
CBT per 4g	0.206		mg/4g	

CBD-Total per Serving Size 24.8 mg/4g

THC-Total per Serving Size <LOQ

(Reported in milligrams per serving)

Residual Solvents:

All analytes passing and less than LOQ.

Pesticides:

Analyte	Result (mg/kg)	Limits (mg/kg)	Status
Multi-Residue Pesticide Profile	< LOQ for all analytes		

Metals:

Less than LOQ for all analytes.

Microbiology:

Less than LOQ for all analytes.

Testing in accordance with: OAR 333-007-0430

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Customer: NW Natural Goods

Product identity: HEMP - RB 0089
Client/Metrc ID: .
Sample Date:
Laboratory ID: 22-012671-0001
Evidence of Cooling: No
Temp: 20.1 °C
Relinquished by: Ramos
Serving Size #1: 4 g

Sample Results

Potency per 4g **Method:** J AOAC 2015 V98-6 (mod)[b] **Units** mg/se **Batch:** 2209020 **Analyze:** 10/20/22 3:48:00 PM

Analyte	Result	Limits	Units	LOQ	Notes
CBC per 4g	0.207		mg/4g	0.130	
CBC-A per 4g	< LOQ		mg/4g	0.130	
CBC-Total per 4g	< LOQ		mg/4g	0.245	
CBD per 4g	24.8		mg/4g	0.130	
CBD-A per 4g	< LOQ		mg/4g	0.130	
CBD-Total per 4g	24.8		mg/4g	0.245	
CBDV per 4g	< LOQ		mg/4g	0.130	
CBDV-A per 4g	< LOQ		mg/4g	0.130	
CBDV-Total per 4g	< LOQ		mg/4g	0.243	
CBE per 4g	< LOQ		mg/4g	0.130	
CBG per 4g	0.281		mg/4g	0.130	
CBG-A per 4g	< LOQ		mg/4g	0.130	
CBG-Total per 4g	0.281		mg/4g	0.243	
CBL per 4g	< LOQ		mg/4g	0.130	
CBL-A per 4g	< LOQ		mg/4g	0.130	
CBL-Total per 4g	< LOQ		mg/4g	0.245	
CBN per 4g	< LOQ		mg/4g	0.130	
CBT per 4g	0.206		mg/4g	0.130	
Δ8-THCV per 4g	< LOQ		mg/4g	0.130	
Δ10-THC per 4g	< LOQ		mg/4g	0.130	
Δ8-THC per 4g	< LOQ		mg/4g	0.130	
Δ9-THC per 4g	< LOQ		mg/4g	0.130	
exo-THC per 4g	< LOQ		mg/4g	0.130	
THC-A per 4g	< LOQ		mg/4g	0.130	
THC-Total per 4g	< LOQ		mg/4g	0.245	
THCV per 4g	< LOQ		mg/4g	0.130	
THCV-A per 4g	< LOQ		mg/4g	0.130	
THCV-Total per 4g	< LOQ		mg/4g	0.245	
Total Cannabinoids per 4g	25.7		mg/4g		

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Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2208940	10/22/22	AOAC 991.14 (Petrifilm)þ		
Total Coliforms	< LOQ		cfu/g	10	2208940	10/22/22	AOAC 991.14 (Petrifilm)þ		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2208941	10/23/22	AOAC 2014.05 (RAPID)þ		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2208941	10/23/22	AOAC 2014.05 (RAPID)þ		

Solvents

Method: Residual Solvents by GC/MSþ **Units** µg/g **Batch** 2209085 **Analyze** 10/24/22 11:46 AM

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
1,4-Dioxane	< LOQ	380	100	pass		2-Butanol	< LOQ	5000	200	pass	
2-Ethoxyethanol	< LOQ	160	30.0	pass		2-Methylbutane (Isopentane)	< LOQ		200		
2-Methylpentane	< LOQ		30.0			2-Propanol (IPA)	< LOQ	5000	200	pass	
2,2-Dimethylbutane	< LOQ		30.0			2,2-Dimethylpropane (neo-pentane)	< LOQ		200		
2,3-Dimethylbutane	< LOQ		30.0			3-Methylpentane	< LOQ		30.0		
Acetone	< LOQ	5000	200	pass		Acetonitrile	< LOQ	410	100	pass	
Benzene	< LOQ	2.00	1.00	pass		Butanes (sum)	< LOQ	5000	400	pass	
Cyclohexane	< LOQ	3880	200	pass		Ethyl acetate	< LOQ	5000	200	pass	
Ethyl benzene	< LOQ		200			Ethyl ether	< LOQ	5000	200	pass	
Ethylene glycol	< LOQ	620	200	pass		Ethylene oxide	< LOQ	50.0	20.0	pass	
Hexanes (sum)	< LOQ	290	150	pass		Isopropyl acetate	< LOQ	5000	200	pass	
Isopropylbenzene (Cumene)	< LOQ	70.0	30.0	pass		m,p-Xylene	< LOQ		200		
Methanol	< LOQ	3000	200	pass		Methylene chloride	< LOQ	600	60.0	pass	
Methylpropane (Isobutane)	< LOQ		200			n-Butane	< LOQ		200		
n-Heptane	< LOQ	5000	200	pass		n-Hexane	< LOQ		30.0		
n-Pentane	< LOQ		200			o-Xylene	< LOQ		200		
Pentanes (sum)	< LOQ	5000	600	pass		Propane	< LOQ	5000	200	pass	
Tetrahydrofuran	< LOQ	720	100	pass		Toluene	< LOQ	890	100	pass	
Total Xylenes	< LOQ		400			Total Xylenes and Ethyl benzene	< LOQ	2170	600	pass	

Pesticides

Method: AOAC 2007.01 & EN 15662 (mod)þ **Units** mg/kg **Batch** 2209123 **Analyze** 10/25/22 04:02 PM

Analyte	Result	Limits	Status	Notes
Multi-Residue Pesticide Profile	< LOQ for all analytes			

Metals

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes
Arsenic	< LOQ	0.200	mg/kg	0.0175	2209102	10/24/22	AOAC 2013.06 (mod.)þ	pass	
Cadmium	< LOQ	0.200	mg/kg	0.0175	2209102	10/24/22	AOAC 2013.06 (mod.)þ	pass	
Lead	< LOQ	0.500	mg/kg	0.0175	2209102	10/24/22	AOAC 2013.06 (mod.)þ	pass	
Mercury	< LOQ	0.100	mg/kg	0.00877	2209102	10/24/22	AOAC 2013.06 (mod.)þ	pass	

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Nutrition

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes
Moisture (Loss on Drying)	18.4		g/100g	0.10	2209016	10/20/22	AOAC 925.10 (mod.)[þ]		
Water Activity	0.719		Aw	0.030	2209006	10/21/22	AOAC 978.18[þ]		

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These test results are representative of the individual sample selected and submitted by the client.

Abbreviations

Limits: Action Levels per OAR-333-007-0400, OAR-333-007-0210, OAR-333-007-0220, CCR title 16-division 42. BCC-section 5723

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

ᵇ = ISO/IEC 17025:2017 accredited method.

Units of Measure

cfu/g = Colony forming units per gram
g = g
g/100g = Grams per 100 Grams
µg/g = Microgram per gram
mg/kg = Milligram per kilogram = parts per million (ppm)
mg/4g = Milligram per 4g
% = Percentage of sample
Aw = Water Activity
% wt = µg/g divided by 10,000

Approved Signatory

Derrick Tanner
General Manager

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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ (mg/kg)
Abamectin	0.100
Acephate	0.100
Acequinocyl	0.100
Acetamiprid	0.020
Acetochlor	0.100
Acrinathrin	0.100
Alachlor	0.100
Aldicarb	0.100
Aldicarb sulfoxide	0.100
Aldoxycarb (Aldicarb-sulfone)	0.100
Aldrin	0.100
Ametoctradin	0.020
Ametryn	0.500
Aspon	0.100
Asulam	0.100
Atrazine	0.100
Atrazine-desethyl	0.100
Azinphos-ethyl	0.020
Azinphos-methyl	0.020
Azoxystrobin	0.020
Benalaxyl	0.020
Bendiocarb	0.020
Benfluralin	0.100
Benoxacor	0.050
Bensulide	0.050
BHC alpha isomer	0.100
BHC beta isomer	0.100
BHC delta isomer	0.500
Bifenazate	0.020
Bifenthrin	0.020
Boscalid	0.020
Bromophos-ethyl	0.100
Bromophos-methyl	0.200
Bromopropylate	0.100
Bromuconazole	0.100
Bupirimate	0.020
Buprofezin	0.050
Butachlor	0.500
Butralin	0.200
Butylate	0.100
Cadusafos	0.020
Captan	1.000
Carbaryl	0.050
Carbendazim	0.100
Carbofuran	0.020
Carbophenothion	0.200
Carboxin	0.020
Carfentrazone-ethyl	0.100
Chlorantraniliprole	0.020
Chlordane, cis-	0.200
Chlordane, trans-	0.200
Chlorfenapyr	0.500
Chlorfenson	0.200
Chlorfenvinphos	0.050
Chlorobenzilate	0.100
Chloroneb	0.200
Chlorpyrifos	0.050
Chlorpyrifos-methyl	0.200
CIPC	1.000

Compound	LOQ(mg/kg)
Clethodim	0.050
Clethodim Sulfone	0.050
Clethodim Sulfoxide	0.050
Clofentezine	0.020
Clomazone	0.020
Clothianidin	0.200
Coumaphos	0.050
Crotoxyphos	0.020
Cyanazine	0.020
Cyanofenphos	0.020
Cyantraniliprole	0.050
Cyazofamid	0.020
Cycloate	0.100
Cyfluthrin	0.200
Cyhalothrin, lambda	0.200
Cymoxanil	0.050
Cypermethrin	0.200
Cyprodinil	0.100
Dacthal	0.100
Daminozide	0.100
DCPMU	0.050
DDD, o,p'-	0.100
DDD, p,p'-	0.100
DDE, o,p'-	0.100
DDE, p,p'-	0.100
DDT, o,p'-	0.100
DDT, p,p'-	0.100
DEF (Tribufos)	0.100
Deltamethrin	0.100
Desmedipham	0.100
Diallate	0.100
Diazinon	0.020
Diazoxon	0.100
Dichlobenil	0.100
Dichlofluanid	0.100
Dichlorvos	0.100
Diclobutrazol	0.050
Dicofol	0.100
Dicrotophos	0.050
Dieldrin	0.100
Diethofencarb	0.020
Diethyltoluamide (DEET)	0.050
Difenoconazole	0.100
Dimethenamid	0.050
Dimethoate	0.050
Dimethomorph	0.050
Diniconazole	0.200
Dinotefuran	0.200
Dioxathion	0.100
Diphenamid	0.020
Diphenylamine	0.100
Disulfoton	0.100
Disulfoton sulfone	0.100
Disulfoton sulfoxide	0.100
Diuron	0.050
Edifenphos	0.050
Endosulfan alpha	0.200
Endosulfan beta	0.200
Endosulfan sulfate	0.100

Compound	LOQ(mg/kg)
Endrin	0.100
EPN	0.050
EPTC	0.100
Esfenvalerate/Fenvalerate	0.200
Etaconazole	0.100
Ethalfluralin	0.100
Ethiofencarb	0.050
Ethion	0.200
Ethirimol	0.100
Ethofumesate	0.050
Ethoprophos	0.020
Etofenprox	0.020
Etoxazole	0.020
Etridiazole	0.100
Etrimfos	0.020
Famoxadone	0.200
Famphur	0.100
Fenamidone	0.020
Fenamiphos	0.020
Fenamiphos sulfone	0.020
Fenamiphos sulfoxide	0.020
Fenazaquin	0.100
Fenbuconazole	0.100
Fenchlorphos	0.100
Fenchlorphos-oxon	0.100
Fenhexamid	0.100
Fenitrothion	0.100
Fenobucarb	0.050
Fenoxycarb	0.020
Fenpropathrin	0.050
Fenpyroximate	0.020
Fenson	0.100
Fensulfothion	0.020
Fensulfothion oxon	0.020
Fensulfothion sulfone	0.100
Fensulfothion-oxon-sulfone	0.020
Fenthion	0.050
Fenthion oxon	0.020
Fenthion oxon sulfone	0.100
Fenthion sulfone	0.050
Fenuron	0.020
Fipronil	0.100
Flonicamid	0.100
Fluchloralin	0.100
Flucythrinate	0.100
Fludioxonil	0.200
Flufenacet	0.020
Flumioxazin	0.100
Fluometuron	0.020
Fluopicolide	0.050
Fluopyram	0.020
Fluoxastrobin	0.050
Flupyradifurone	0.020
Fluridone	0.100
Flusilazole	0.020
Flutolanil	0.020
Flutriafol	0.020
Fluvalinate, tau-	0.100
Fluxapyroxad	0.020

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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ(mg/kg)
Fomesafen	0.100
Fonofos	0.100
Forchlorfenuron	0.050
Formetanate	0.050
Furathiocarb	0.020
Heptachlor	0.100
Heptachlor epoxide	0.100
Heptenophos	0.100
Hexachlorobenzene	0.100
Hexaconazole	0.100
Hexazinone	0.100
Hexythiazox	0.020
Imazalil	0.100
Imidadoprid	0.100
Indaziflam	0.020
Indoxacarb	0.020
Iprobenfos	0.100
Iprodione	0.100
Isobenzan	0.100
Isocarbophos	0.500
Isodrin	0.100
Isofenphos	0.050
Isofenphos-methyl	0.020
Isofenphos oxon	0.050
Isoprocarb	0.020
Isopropalin	0.200
Isoprothiolane	0.050
Isoproturon	0.050
Isoxaben	0.050
Isoxaflutole	0.050
Kresoxim-methyl	0.050
Lactofen	0.500
Lenacil	0.100
Lindane (gamma-BHC)	0.100
Linuron	0.020
Malaoxon	0.050
Malathion	0.050
Mandipropamid	0.020
Mecarbam	0.020
Mepanipyrim	0.050
Merphos	0.500
Metalaxyl	0.050
Metaldehyde	0.050
Metconazole	0.100
Methacrifos	0.100
Methamidophos	0.050
Methidathion	0.050
Methiocarb	0.050
Methiocarb sulfone	0.100
Methiocarb sulfoxide	0.100
Methomyl	0.100
Methoxychlor	0.100
Methoxyfenozide	0.020
Metobromuron	0.050
Metolachlor	0.100
Metolcarb	0.050
Metrafenone	0.050
Metribuzin	0.100
Mevinphos	0.100
Mexacarbate	0.020
MGK 264	0.020
Mirex	0.100
Molinate	0.050
Monocrotophos	0.100
Monolinuron	0.020
Myclobutanil	0.050
Naled	0.100
Napropamide	0.050
Neburon	0.020
Nitrapyrin	0.100
Norflurazon	0.050
Omethoate	0.100
O-Phenylphenol	0.100
Oxadixyl	0.100
Oxamyl	0.100
Oxamyl-oxime	0.100
Oxychlordane	0.100
Oxydemeton-Methyl	0.100
Oxythioquinox	0.200
Paclobutrazol	0.050
Paraoxon-ethyl	0.020
Paraoxon methyl	0.100
Parathion ethyl	0.100
Parathion methyl	0.200
Penconazole	0.050
Pendimethalin	0.050
Perflufen	0.020
Pertachloroaniline	0.100
Pertachloroanisole	0.100
Pentachlorobenzene (PCB)	0.100
Pentachlorothioanisole (PCTA)	0.100
Perthiopyrad	0.020
Permethrin	0.050
Petthane	0.100
Phenmedipham	0.050
Phenthoate	0.050
Phorate	0.050
Phorate Sulfone	0.050
Phorate Sulfoxide	0.050
Phosalone	0.050
Phosmet	0.100
Phosphamidon	0.050
Phoxim	0.050
Piroxaden	0.020
Piperonyl butoxide	0.050
Pirimicarb	0.020
Pirimiphos-methyl	0.050
Pirimiphos-ethyl	0.020
Prallethrin	0.100
Prochloraz	0.020
Procymidone	0.100
Profenofos	0.100
Profluralin	0.100
Promecarb	0.050
Prometon	0.100
Prometryn	0.020
Propachlor	0.020
Propamocarb	0.050
Propanil	0.050
Propargite	0.050
Propazine	0.020
Propetamphos	0.050
Propham	0.050
Propiconazole	0.050
Propoxur	0.050
Propoxycarbazone Na	0.050
Propyzamide	0.050
Prothiofos	0.100
Pyraclostrobin	0.020
Pyrazophos	0.050
Pyrethrins	0.050
Pyridaben	0.020
Pyridafol	0.100
Pyridate	0.020
Pyrimethanil	0.050
Pyriproxifen	0.020
Pyroxasulfone	0.020
Pyroxsulam	0.020
Quinalphos	0.050
Quinoxyfen	0.050
Quintozene (PCNB)	0.200
Resmethrin	0.050
Rotenone	0.050
S421	0.100
Simazine	0.100
Simetryn	0.200
Spinetoram	0.020
Spinosad	0.050
Spirodiclofen	0.100
Spiromesifen	0.050
Spirotetramat	0.050
Spiroxamine	0.020
Sulfotep	0.050
Sulfoxaflor	0.050
Sulprofos	0.020
Tebuconazole	0.100
Tebufenozide	0.020
Tebuthiuron	0.020
Tecnazene	0.100
Tefluthrin	0.100
Terbufos	0.020
Terbufos sulfone	0.050
Terbufos sulfoxide	0.050
Terbuthylazine	0.020
Terbutryn	0.020
Tetrachlorvinphos	0.050
Tetraconazole	0.050
Tetradifon	0.200
Tetramethrin	0.050
Tetrasul	0.100
Thiabendazole	0.100
Thiabendazole, 5-hydroxy	0.100
Thiadoprid	0.050
Thiamethoxam	0.100
Thiobencarb	0.050
Thiodicarb	0.050
Thiophanate-methyl	0.050

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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ(mg/kg)	Compound	LOQ(mg/kg)	Compound	LOQ(mg/kg)
Tolclofos-methyl	0.100	Triazophos	0.020	Trifloxystrobin	0.020
Triforin	0.100	Tolylfluanid	0.050	Triticonazole	0.050
Tralkoxydim	0.100	Tridiphane	0.500	Vinclozolin	0.100
Triadimefon	0.050	Triflumizole	0.020	Zoxamide	0.020
Triallate	0.100	Trifluralin	0.100		

LOQ = Limit of Quantitation, mg/kg
Factors affecting the LOQ include instrumentation sensitivity for a particular analyte, sample size, moisture content (percent solids) of the sample, effectiveness of the cleanup on the sample extract, and especially the type of sample matrix.

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Hemp & Cannabis: Usable / Extract / Finished Product Chain of Custody Record

ORELAP ID: **OR100028** ANAB ISO 17025 ID: **AT-1508**

NWNATURALGOODS 22-012671
NW Natural Goods

Company: Northwest Natural Goods
Contact: Annie Nair
Address: 11791 SE HWY 212
City: Clackamas **State:** OR **Zip Code:** 97015
☑ **Email Results:** annienair@nwnaturalgoods.com
☐ **Ph:** (____) - _____

Billing Contact (if different)
Name: _____ **Email:** _____
Address: _____
City: _____ **State:** _____ **Zip:** _____
Ph: (____) - _____

PO Number:
Project ID:
Batch ID:
Sampled by:
Custom Reporting:

Source Material: ☐ - Ind. Hemp product | ☐ - Rec. Cannabis
Reporting Type: ☐ - Compliance | ☐ - R&D
Report to: ☐ - METRC | ☐ - ODA | ☐ - USDA |
☐ - Other:

Turnaround time (TAT - Business Days):
■ - 5BD | ☐ - 3BD* | ☐ - 2BD*
**Check for availability*

Lab ID	Client Sample Identification	Sample date	Pesticides - OR 59 Compounds	Pesticide Multi-Residue - 379 compounds	Potency	Residual Solvents	Water Activity	Moisture	Micro: Yeast and Mold	Micro: E.Coli and Total Coliform	Heavy Metals	Mycotoxins	Material Type †	Weight (Units)	Comments/Metrc ID
	HEMP - RB 0089	10/19/22		✔	✔	✔	✔	✔	✔	✔	✔			80g	

Signature - Relinquished By:	Date	Time	Signature - Received By:	Date	Time
Annie Nair	10/19/22	10:28		10/19	10:28
	10/19	10:56		10/19	11:32

Lab Use Only:
☐ Shipped Via: _____ or ☐ Client drop off
Evidence of cooling: ☐ Yes | ☐ No - Temp (°C): 20.1
Sample in good condition: ☐ Yes | ☐ No _____
Payment: ☐ Cash | ☐ Check | ☐ CC | ☐ Net: _____
Prelog storage:

† - **Material Type Codes:** Plant Material (P) ; Isolate (I) ; Concentrate/Extract (C) ; Tincture/Topical (T) ; Edible (E) ; Beverage (B) ; Vapor Product (V)

Samples submitted to Columbia Laboratories with testing requirements constitute an agreement for services in accordance with the current terms of service associated with this COC. By signing "Relinquished by" you are agreeing to these terms

Columbia LABORATORIES
A Tentamus Company

12423 NE Whitaker Way
Portland, OR 97230
503-254-1794

Report Number: 22-012671/D002.R000
Report Date: 10/26/2022
ORELAP#: OR100028
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Received: 10/19/22 11:32

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Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

JAOAC2015 V986 — Batch ID: 2209090

Laboratory Control Sample

Analyte	LCS	Result	Spike	Units	% Rec	Limits	Evaluation	Notes
CBDVA	2	0.0342	0.034	%	102	80.0 - 120	Acceptable	
CBDV	2	0.0368	0.037	%	101	80.0 - 120	Acceptable	
CBE	2	0.0344	0.034	%	101	80.0 - 120	Acceptable	
CBDA	1	0.0325	0.033	%	97.2	90.0 - 110	Acceptable	
CBGA	1	0.0326	0.034	%	97.2	80.0 - 120	Acceptable	
CBG	1	0.0338	0.034	%	98.5	80.0 - 120	Acceptable	
CBD	1	0.0331	0.034	%	96.8	90.0 - 110	Acceptable	
THCV	2	0.0348	0.035	%	98.8	80.0 - 120	Acceptable	
d8THCV	2	0.0350	0.035	%	99.1	80.0 - 120	Acceptable	
THCVA	2	0.0330	0.033	%	100	80.0 - 120	Acceptable	
CBN	1	0.0327	0.034	%	97.2	90.0 - 110	Acceptable	
exo-THC	2	0.0331	0.034	%	96.2	80.0 - 120	Acceptable	
d9THC	1	0.0332	0.035	%	96.3	90.0 - 110	Acceptable	
d8THC	1	0.0328	0.033	%	98.0	90.0 - 110	Acceptable	
CBL	2	0.0302	0.032	%	93.5	80.0 - 120	Acceptable	
d10THC	1	0.0291	0.032	%	91.1	80.0 - 120	Acceptable	
CBC	2	0.0346	0.036	%	96.5	80.0 - 120	Acceptable	
THCA	1	0.0336	0.033	%	101	90.0 - 110	Acceptable	
CBCA	2	0.0344	0.034	%	100	80.0 - 120	Acceptable	
CBLA	2	0.0341	0.035	%	97.9	80.0 - 120	Acceptable	
CBT	2	0.0324	0.036	%	90.3	80.0 - 120	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDVA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBDV	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBE	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBDA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBGA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBG	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBD	<LOQ	0.0006	%	< 0.0006	Acceptable	
THCV	<LOQ	0.0006	%	< 0.0006	Acceptable	
d8THCV	<LOQ	0.0006	%	< 0.0006	Acceptable	
THCVA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBN	<LOQ	0.0006	%	< 0.0006	Acceptable	
exo-THC	<LOQ	0.0006	%	< 0.0006	Acceptable	
d9THC	<LOQ	0.0006	%	< 0.0006	Acceptable	
d8THC	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBL	<LOQ	0.0006	%	< 0.0006	Acceptable	
d10THC	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBC	<LOQ	0.0006	%	< 0.0006	Acceptable	
THCA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBCA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBLA	<LOQ	0.0006	%	< 0.0006	Acceptable	
CBT	<LOQ	0.0006	%	< 0.0006	Acceptable	

Abbreviations

ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation

Units of Measure:

% - Percent

Columbia LABORATORIES
A Tentamus Company

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Laboratory Quality Control Results

JAOAC2015 V986 — Batch ID: 2209090
Sample Duplicate — Sample ID: 22-0126390001

Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	0.0719	0.0747	0.003	%	3.74	< 20	Acceptable	
CBE	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	2.59	2.63	0.003	%	1.48	< 20	Acceptable	
CBD	7.87	7.93	0.003	%	0.722	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBN	2.69	2.76	0.003	%	2.54	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THC	0.146	0.148	0.003	%	1.15	< 20	Acceptable	
d8THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBL	0.0144	0.0143	0.003	%	0.741	< 20	Acceptable	
d10THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBC	0.152	0.153	0.003	%	0.636	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBT	0.0845	0.0843	0.003	%	0.172	< 20	Acceptable	

Abbreviations
ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ- Limit of Quantitation

Units of Measure:

Columbia LABORATORIES
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Laboratory Quality Control Results

Residual Solvents							Batch ID:	2209085				
Method Blank					Laboratory Control Sample							
Analyte	Result		LOQ	Notes	Result	Spike	Units	% Rec	Limits			Notes
Propane	ND	<	200		568	572	µg/g	99.3	60	-	120	
Isobutane	ND	<	200		762	731	µg/g	104.2	60	-	120	
Butane	ND	<	200		739	731	µg/g	101.1	60	-	120	
2,2-Dimethylpropane	ND	<	200		1070	936	µg/g	114.3	60	-	120	
Methanol	ND	<	200		1840	1650	µg/g	111.5	60	-	120	
Ethylene Oxide	ND	<	30		55.2	56.2	µg/g	98.2	60	-	120	
2-Methylbutane	ND	<	200		1710	1650	µg/g	103.6	60	-	120	
Pentane	ND	<	200		1740	1650	µg/g	105.5	60	-	120	
Ethanol	ND	<	200		1830	1660	µg/g	110.2	70	-	130	
Ethyl Ether	ND	<	200		1770	1630	µg/g	108.6	60	-	120	
2,2-Dimethylbutane	ND	<	30		200	189	µg/g	105.8	60	-	120	
Acetone	ND	<	200		1840	1650	µg/g	111.5	60	-	120	
2-Propanol	ND	<	200		1850	1650	µg/g	112.1	60	-	120	
Ethyl Formate	ND	<	500		1400	1610	µg/g	87.0	70	-	130	
Acetonitrile	ND	<	100		576	504	µg/g	114.3	60	-	120	
Methyl Acetate	ND	<	500		1870	1630	µg/g	114.7	70	-	130	
2,3-Dimethylbutane	ND	<	30		187	174	µg/g	107.5	60	-	120	
2-Methylpentane	ND	<	30		196	187	µg/g	104.8	60	-	120	
MTBE	ND	<	500		1720	1600	µg/g	107.5	70	-	130	
3-Methylpentane	ND	<	30		200	188	µg/g	106.4	60	-	120	
Hexane	ND	<	30		202	182	µg/g	111.0	60	-	120	
1-Propanol	ND	<	500		1810	1610	µg/g	112.4	70	-	130	
Methylethylketone	ND	<	500		1820	1600	µg/g	113.8	70	-	130	
Ethyl acetate	ND	<	200		1860	1630	µg/g	114.1	60	-	120	
2-Butanol	ND	<	200		1910	1630	µg/g	117.2	60	-	120	
Tetrahydrofuran	ND	<	100		549	506	µg/g	108.5	60	-	120	
Cyclohexane	ND	<	200		1760	1640	µg/g	107.3	60	-	120	
2-methyl-1-propanol	ND	<	500		1620	1620	µg/g	100.0	70	-	130	
Benzene	ND	<	1		5.26	4.93	µg/g	106.7	60	-	120	
Isopropyl Acetate	ND	<	200		1850	1640	µg/g	112.8	60	-	120	
Heptane	ND	<	200		1640	1630	µg/g	100.6	60	-	120	
1-Butanol	ND	<	500		1650	1600	µg/g	103.1	70	-	130	
Propyl Acetate	ND	<	500		1820	1620	µg/g	112.3	70	-	130	
1,4-Dioxane	ND	<	100		545	493	µg/g	110.5	60	-	120	
2-Ethoxyethanol	ND	<	30		207	171	µg/g	121.1	60	-	120	Q1
Methylisobutylketone	ND	<	500		1570	1620	µg/g	96.9	70	-	130	
3-Methyl-1-butanol	ND	<	500		1630	1610	µg/g	101.2	70	-	130	
Ethylene Glycol	ND	<	200		568	494	µg/g	115.0	60	-	120	
Toluene	ND	<	100		555	506	µg/g	109.7	60	-	120	
Isobutyl Acetate	ND	<	500		1710	1620	µg/g	105.6	70	-	130	
1-Pentanol	ND	<	500		1560	1610	µg/g	96.9	70	-	130	
Butyl Acetate	ND	<	500		1620	1610	µg/g	100.6	70	-	130	
Ethylbenzene	ND	<	200		1130	996	µg/g	113.5	60	-	120	
m,p-Xylene	ND	<	200		1150	1010	µg/g	113.9	60	-	120	
o-Xylene	ND	<	200		1070	979	µg/g	109.3	60	-	120	
Cumene	ND	<	30		195	188	µg/g	103.7	60	-	120	
Anisole	ND	<	500		1460	1610	µg/g	90.7	70	-	130	
DMSO	ND	<	500		1470	1600	µg/g	91.9	70	-	130	
1,2-dimethoxyethane	ND	<	50		207	190	µg/g	108.9	70	-	130	
Triethylamine	ND	<	500		1600	1610	µg/g	99.4	70	-	130	
N,N-dimethylformamide	ND	<	150		432	496	µg/g	87.1	70	-	130	
N,N-dimethylacetamide	ND	<	150		475	483	µg/g	98.3	70	-	130	
Pyridine	ND	<	50		156	167	µg/g	93.4	70	-	130	
Sulfolane	ND	<	50		127	161	µg/g	78.9	70	-	130	
1,2-Dichloroethane	ND	<	1		1.13	1	µg/g	113.0	70	-	130	
Chloroform	ND	<	1		1.12	1	µg/g	112.0	70	-	130	
Trichloroethylene	ND	<	1		1.08	1	µg/g	108.0	70	-	130	
Dichloromethane	ND	<	1		1.09	1	µg/g	109.0	70	-	130	
1,1-Dichloroethane	ND	<	1		1.13	1	µg/g	113.0	70	-	130	

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QC- Sample Duplicate — Sample ID: 22-012635-0006

Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Accept/ Fail	Notes
Propane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Isobutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Butane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylpropane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Methanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethylene Oxide	ND	ND	30	µg/g	0.0	< 20	Acceptable	
2-Methylbutane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Pentane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Ether	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2,2-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Acetone	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Propanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Ethyl Formate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Acetonitrile	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Methyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
2,3-Dimethylbutane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
2-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
MTBE	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methylpentane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Hexane	ND	ND	30	µg/g	0.0	< 20	Acceptable	
1-Propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Methylethylketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethyl acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-Butanol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Tetrahydrofuran	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Cyclohexane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
2-methyl-1-propanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Benzene	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Isopropyl Acetate	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Heptane	ND	ND	200	µg/g	0.0	< 20	Acceptable	
1-Butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Propyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,4-Dioxane	ND	ND	100	µg/g	0.0	< 20	Acceptable	
2-Ethoxyethanol	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Methylisobutylketone	ND	ND	500	µg/g	0.0	< 20	Acceptable	
3-Methyl-1-butanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylene Glycol	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Toluene	ND	ND	100	µg/g	0.0	< 20	Acceptable	
Isobutyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1-Pentanol	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Butyl Acetate	ND	ND	500	µg/g	0.0	< 20	Acceptable	
Ethylbenzene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
m,p-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
o-Xylene	ND	ND	200	µg/g	0.0	< 20	Acceptable	
Cumene	ND	ND	30	µg/g	0.0	< 20	Acceptable	
Anisole	ND	ND	500	µg/g	0.0	< 20	Acceptable	
DMSO	ND	ND	500	µg/g	0.0	< 20	Acceptable	
1,2-dimethoxyethane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Triethylamine	ND	ND	500	µg/g	0.0	< 20	Acceptable	
N,N-dimethylformamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
N,N-dimethylacetamide	ND	ND	150	µg/g	0.0	< 20	Acceptable	
Pyridine	ND	ND	50	µg/g	0.0	< 20	Acceptable	
Sulfolane	ND	ND	50	µg/g	0.0	< 20	Acceptable	
1,2-Dichloroethane	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Chloroform	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Trichloroethylene	ND	ND	1	µg/g	0.0	< 20	Acceptable	
Dichloromethane	2.73	2.98	1	µg/g	8.8	< 20	Acceptable	
1,1-Dichloroethane	ND	ND	1	µg/g	0.0	< 20	Acceptable	

Abbreviations

ND - None Detected at or above MRL
RPD - Relative Percent Difference
LOQ - Limit of Quantitation
Q1 - Quality control result biased high. Only non-detect samples reported.

Units of Measure:

µg/g - Microgram per gram or ppm

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Explanation of QC Flag Comments:

Code	Explanation
Q	Matrix interferences affecting spike or surrogate recoveries.
Q1	Quality control result biased high. Only non-detect samples reported.
Q2	Quality control outside QC limits. Data considered estimate.
Q3	Sample concentration greater than four times the amount spiked.
Q4	Non-homogenous sample matrix, affecting RPD result and/or % recoveries.
Q5	Spike results above calibration curve.
Q6	Quality control outside QC limits. Data acceptable based on remaining QC.
R	Relative percent difference (RPD) outside control limit.
R1	RPD non-calculable, as sample or duplicate results are less than five times the LOQ.
R2	Sample replicates RPD non-calculable, as only one replicate is within the analytical range.
LOQ1	Quantitation level raised due to low sample volume and/or dilution.
LOQ2	Quantitaion level raised due to matrix interference.
B	Analyte detected in method blank, but not in associated samples.
B1	The sample concentration is greater than 5 times the blank concentration.
B2	The sample concentration is less than 5 times the blank concentration.