



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



**Report Number:** 23-004303/D004.R000  
**Report Date:** 04/20/2023  
**ORELAP#:** OR100028  
**Purchase Order:**  
**Received:** 04/10/23 10:48

**Customer:** NW Natural Goods  
**Product identity:** HEMP - PR 0046  
**Client/Metric ID:** .  
**Laboratory ID:** 23-004303-0001

### Summary

**Potency:**

Analyte per 4g	Result	Limits	Units	Status	
CBC per 4g	0.194		mg/4g		CBD-Total per Serving Size 21.8 mg/4g
CBD per 4g	21.8		mg/4g		
CBG per 4g	10.4		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.*



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**Customer:** NW Natural Goods

**Product identity:** HEMP - PR 0046

**Client/Metric ID:** .

**Sample Date:**

**Laboratory ID:** 23-004303-0001

**Evidence of Cooling:** No

**Temp:** 17.8 °C

**Relinquished by:** Hinton

**Serving Size #1:** 4 g

### Sample Results

Potency per 4g					
Method: J AOAC 2015 V98-6 (mod) <sup>b</sup>		Units mg/se		Batch: 2306181	
				Analyze: 4/11/23 8:23:00 PM	
Analyte	Result	Limits	Units	LOQ	Notes
CBC per 4g	0.194		mg/4g	0.127	
CBC-A per 4g	< LOQ		mg/4g	0.127	
CBC-Total per 4g	< LOQ		mg/4g	0.238	
CBD per 4g	21.8		mg/4g	0.127	
CBD-A per 4g	< LOQ		mg/4g	0.127	
CBD-Total per 4g	21.8		mg/4g	0.238	
CBDV per 4g	< LOQ		mg/4g	0.127	
CBDV-A per 4g	< LOQ		mg/4g	0.127	
CBDV-Total per 4g	< LOQ		mg/4g	0.237	
CBE per 4g	< LOQ		mg/4g	0.127	
CBG per 4g	10.4		mg/4g	0.127	
CBG-A per 4g	< LOQ		mg/4g	0.127	
CBG-Total per 4g	10.4		mg/4g	0.237	
CBL per 4g	< LOQ		mg/4g	0.127	
CBL-A per 4g	< LOQ		mg/4g	0.127	
CBL-Total per 4g	< LOQ		mg/4g	0.238	
CBN per 4g	< LOQ		mg/4g	0.127	
CBT per 4g	< LOQ		mg/4g	0.127	
Δ8-THCV per 4g	< LOQ		mg/4g	0.127	
Δ10-THC-9R per 4g	< LOQ		mg/4g	0.127	
Δ10-THC-9S per 4g	< LOQ		mg/4g	0.127	
Δ10-THC-Total per 4g	< LOQ		mg/4g	0.254	
Δ8-THC per 4g	< LOQ		mg/4g	0.127	
Δ9-THC per 4g	< LOQ		mg/4g	0.127	
exo-THC per 4g	< LOQ		mg/4g	0.127	
THC-A per 4g	< LOQ		mg/4g	0.127	
THC-Total per 4g	< LOQ		mg/4g	0.238	
THCV per 4g	< LOQ		mg/4g	0.127	
THCV-A per 4g	< LOQ		mg/4g	0.127	
THCV-Total per 4g	< LOQ		mg/4g	0.239	
Total Cannabinoids per 4g	32.4		mg/4g		



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**Microbiology**

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2306080	04/13/23 AOAC 991.14 (Petrifilm) <sup>®</sup>		
Total Coliforms	< LOQ		cfu/g	10	2306080	04/13/23 AOAC 991.14 (Petrifilm) <sup>®</sup>		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2306081	04/14/23 AOAC 2014.05 (RAPID) <sup>®</sup>		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2306081	04/14/23 AOAC 2014.05 (RAPID) <sup>®</sup>		

**Solvents** Method: Residual Solvents by GC/MS<sup>®</sup> Units µg/g Batch 2306464 Analyze 04/18/23 12:01 PM

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-Dimethyl butane	< LOQ		30.0			2,2-Dimethylpropane (neo-pentane)	< LOQ		200		
2,3-Dimethyl butane	< 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	
Isopropyl benzene (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)<sup>®</sup> Units mg/kg Batch 2306468 Analyze 04/18/23 01:15 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	0.0195	2306509	04/18/23 AOAC 2013.06 (mod.) <sup>®</sup>	pass	
Cadmium*	< LOQ	0.200	mg/kg	0.0195	2306509	04/18/23 AOAC 2013.06 (mod.) <sup>®</sup>	pass	
Lead*	< LOQ	0.500	mg/kg	0.0195	2306509	04/18/23 AOAC 2013.06 (mod.) <sup>®</sup>	pass	
Mercury*	< LOQ	0.100	mg/kg	0.00974	2306509	04/18/23 AOAC 2013.06 (mod.) <sup>®</sup>	pass	



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Nutrition

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Moisture (Loss on Drying)	17.9		g/100g	0.10	2306168	04/11/23 AOAC 925.10 (mod.) <sup>p</sup>		N1
Water Activity	0.679		Aw	0.030	2306165	04/11/23 AOAC 978.18 <sup>p</sup>		



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**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.

Ⓟ = ISO/IEC 17025:2017 accredited method.

Ⓜ = TNI accredited analyte.

**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

**Glossary of Qualifiers**

N1: See case narrative.

Approved Signatory

Derrick Tanner  
General Manager



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Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
Abamec in	0.100	Cle hodim	0.050	ndrin	0.100
Acepha e	0.100	Cle hodim Sul one	0.050	PN	0.050
Acequinocyl	0.100	Cle hodim Sul oxide	0.050	PTC	0.100
Ace amiprid	0.020	Clo en ezine	0.020	s envalera e/ envalera e	0.200
Ace ochlor	0.100	Clomazone	0.020	aconazole	0.100
Acrina hrin	0.100	Clo hianidin	0.200	hal luralin	0.100
Alachlor	0.100	Coumaphos	0.050	hio encarb	0.050
Aldicarb	0.100	Cro oxyphos	0.020	hion	0.200
Aldicarb sul oxide	0.100	Cyanazine	0.020	hirimol	0.100
Aldoxycarb (Aldicarb-sul one)	0.100	Cyano enphos	0.020	ho umesa e	0.050
Aldrin	0.100	Cyan raniliprole	0.050	hoprophos	0.020
Ame ocr radin	0.020	Cyazo amid	0.020	o enprox	0.020
Ame ryn	0.500	Cycloa e	0.100	oxazole	0.020
Aspon	0.100	Cy lu hrin	0.200	ridiazole	0.100
Asulam	0.100	Cyhalo hrin, lambda	0.200	rim os	0.020
A razine	0.100	Cymoxanil	0.050	amoxadone	0.200
A razine-dese hyl	0.100	Cyperme hrin	0.200	amphur	0.100
Azinphos-e hyl	0.020	Cyprodinil	0.100	enamidone	0.020
Azinphos-me hyl	0.020	Dac hal	0.100	enamiphos	0.020
Azoxys robin	0.020	Daminozide	0.100	enamiphos sul one	0.020
Benalaxyl	0.020	DCPMU	0.050	enamiphos sul oxide	0.020
Bendiocarb	0.020	DDD, o,p'-	0.100	enazaquin	0.100
Ben luralin	0.100	DDD, p,p'-	0.100	enbuconazole	0.100
Benoxacor	0.050	DD , o,p'-	0.100	enchlorphos	0.100
Bensulide	0.050	DD , p,p'-	0.100	enchlorphos-oxon	0.100
B C alpha isomer	0.100	DDT, o,p'-	0.100	enhexamid	0.100
B C be a isomer	0.100	DDT, p,p'-	0.100	eni ro hion	0.100
B C del a isomer	0.500	D (Tribu os)	0.100	enobucarb	0.050
Bi enaza e	0.020	Del ame hrin	0.100	enoxycarb	0.020
Bi en hrin	0.020	Desmedipham	0.100	enpropa hrin	0.050
Boscalid	0.020	Dialla e	0.100	enpyroxima e	0.020
Bromophos-e hyl	0.100	Diazinon	0.020	enson	0.100
Bromophos-me hyl	0.200	Diazoxon	0.100	ensul o hion	0.020
Bromopropyla e	0.100	Dichlobenil	0.100	ensul o hion oxon	0.020
Bromuconazole	0.100	Dichlo luanid	0.100	ensul o hion sul one	0.100
Bupirima e	0.020	Dichlorvos	0.100	Fensulfothion-oxon-sulfone	0.020
Bupro ezin	0.050	Diclobu razol	0.050	en hion	0.050
Bu achlor	0.500	Dico ol	0.100	en hion oxon	0.020
Bu ralin	0.200	Dicro ophos	0.050	en hion oxon sul one	0.100
Bu yla e	0.100	Dieldrin	0.100	en hion sul one	0.050
Cadusa os	0.020	Die ho encarb	0.020	enuron	0.020
Cap an	1.000	Die hyl oluamide (D T)	0.050	ipronil	0.100
Carbaryl	0.050	Di enoconazole	0.100	lonicamid	0.100
Carbendazim	0.100	Dime henamid	0.050	luchloralin	0.100
Carbo uran	0.020	Dime hoa e	0.050	lucy hrina e	0.100
Carbopheno hion	0.200	Dime homorph	0.050	ludioxonil	0.200
Carboxin	0.020	Diniconazole	0.200	lu enace	0.020
Car en razone-e hyl	0.100	Dino e uran	0.200	lumioxazin	0.100
Chloran raniliprole	0.020	Dioxa hion	0.100	luome uron	0.020
Chlordane, cis-	0.200	Diphenamid	0.020	luopicolide	0.050
Chlordane, rans-	0.200	Diphenylamine	0.100	luopyram	0.020
Chlor enapyr	0.500	Disul o on	0.100	luoxas robin	0.050
Chlor enson	0.200	Disul o on sul one	0.100	lupyradi urone	0.020
Chlor envinphos	0.050	Disul o on sul oxide	0.100	luridone	0.100
Chlorobenzila e	0.100	Diuron	0.050	lusilazole	0.020
Chloroneb	0.200	di enphos	0.050	lu olanil	0.020
Chlorpyri os	0.050	ndosul an alpha	0.200	lu ria ol	0.020
Chlorpyri os-me hyl	0.200	ndosul an be a	0.200	luvalina e, au-	0.100
C PC	1.000	ndosul an sul a e	0.100	luxapyroxad	0.020



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Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
omosa en	0.100	Mexacarba e	0.020	Propamocarb	0.050
ono os	0.100	MGK 264	0.020	Propanil	0.050
orchlor enuron	0.050	Mirex	0.100	Propargi e	0.050
orme ana e	0.050	Molina e	0.050	Propazine	0.020
ura hiocarb	0.020	Monocro ophos	0.100	Prope amphos	0.050
ep achlor	0.100	Monolinuron	0.020	Propham	0.050
ep achlor epoxide	0.100	Myclobu anil	0.050	Propiconazole	0.050
ep enphos	0.100	Naled	0.100	Propoxur	0.050
exachlorobenzene	0.100	Napropamide	0.050	Propoxycarbazona Na	0.050
exaconazole	0.100	Neburon	0.020	Propyzamide	0.050
exazinone	0.100	Ni rapyrin	0.100	Pro hio os	0.100
exy hiazox	0.020	Nor lurazon	0.050	Pyraclos robin	0.020
mazalil	0.100	Ome hoa e	0.100	Pyrazophos	0.050
midacloprid	0.100	O-Phenylphenol	0.100	Pyre hrins	0.050
ndazi lam	0.020	Oxadixyl	0.100	Pyridaben	0.020
ndoxacarb	0.020	Oxamyl	0.100	Pyrida ol	0.100
proben os	0.100	Oxamyl-oxime	0.100	Pyrida e	0.020
prodione	0.100	Oxychlorthane	0.100	Pyrima hanil	0.050
sobenzan	0.100	Oxydeme on-Me hyl	0.100	Pyriproxi en	0.020
socarbophos	0.500	Oxy hioquinox	0.200	Pyroxasul one	0.020
sodrin	0.100	Paclobu razol	0.050	Pyroxulam	0.020
so enphos	0.050	Paraaxon-e hyl	0.020	Quinalphos	0.050
so enphos-me hyl	0.020	Paraaxon me hyl	0.100	Quinoxy en	0.050
so enphos oxon	0.050	Para hion e hyl	0.100	Quin ozene (PCNB)	0.200
soproc carb	0.020	Para hion me hyl	0.200	Resme hrin	0.050
sopropalin	0.200	Penconazole	0.050	Ro enone	0.050
sopro hiolane	0.050	Pendime halin	0.050	S421	0.100
sopro uron	0.050	Pen lu en	0.020	Simazine	0.100
soxaben	0.050	Pen achloroaniline	0.100	Sime ryn	0.200
soxa lu ole	0.050	Pen achloroanisole	0.100	Spine oram	0.020
Kresoxim-me hyl	0.050	Pen achlorobenzene (PCB)	0.100	Spinosad	0.050
ac o en	0.500	Pentachlorothioanisole (PCTA)	0.100	Spirodiclo en	0.100
enacil	0.100	Pen hiopyrad	0.020	Spiromesi en	0.050
indane (gamma B C)	0.100	Perme hrin	0.050	Spiro e rama	0.050
inuron	0.020	Per hane	0.100	Spiroxamine	0.020
Malaaxon	0.050	Phenmedipham	0.050	Sul o ep	0.050
Mala hion	0.050	Phen hoa e	0.050	Sul oxa lor	0.050
Mandipropamid	0.020	Phora e	0.050	Sulpro os	0.020
Mecarbam	0.020	Phora e Sul one	0.050	Tebuconazole	0.100
Mepanipirim	0.050	Phora e Sul oxide	0.050	Tebu enozide	0.020
Merphos	0.500	Phosalone	0.050	Tebu hiuron	0.020
Me alaxyl	0.050	Phosme	0.100	Tecnazene	0.100
Me aldehide	0.050	Phosphamidon	0.050	Te lu hrin	0.100
Me conazole	0.100	Phoxim	0.050	Terbu os	0.020
Me hacri os	0.100	Pinoxaden	0.020	Terbu os sul one	0.050
Me hamidophos	0.050	Piperonyl bu oxide	0.050	Terbu os sul oxide	0.050
Me hida hion	0.050	Pirimicarb	0.020	Terbu hylazine	0.020
Me hiocarb	0.050	Pirimiphos-me hyl	0.050	Terbu ryn	0.020
Me hiocarb sul one	0.100	Pirimiphos-e hyl	0.020	Te rachlorvinphos	0.050
Me hiocarb sul oxide	0.100	Pralle hrin	0.100	Te raconazole	0.050
Me homyl	0.100	Prochloraz	0.020	Te radi on	0.200
Me hoxychlor	0.100	Procymidone	0.100	Te rame hrin	0.050
Me hoxy enozide	0.020	Pro eno os	0.100	Te rasul	0.100
Me obromuron	0.050	Pro luralin	0.100	Thiabendazole	0.100
Me olachlor	0.100	Promecarb	0.050	Thiabendazole, 5-hydroxy	0.100
Me olcarb	0.050	Prome on	0.100	Thiacloprid	0.050
Me ra enone	0.050	Prome ryn	0.020	Thiame hoxam	0.100
Me ribuzin	0.100	Propachlor	0.020	Thiobencarb	0.050
Mevinphos	0.100			Thiodicarb	0.050
				Thiophana e-me hyl	0.050



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Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
Tolclo os-me hyl	0.100	Triazophos	0.020	Tri loxys robin	0.020
Tri orin	0.100	Tolyl luanid	0.050	Tri iconazole	0.050
Tralkoxydim	0.100	Tridiphane	0.500	Vinclozolin	0.100
Triadime on	0.050	Tri lumizole	0.020	Zoxamide	0.020
Trialla e	0.100	Tri luralin	0.100		

LOQ= Limit of Quantitation, mg/kg

Factors affecting the LOQ include instrument sensitivity or 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



Client Sample Identification			Analysis Requested										Material		Weight (Units)	Comments/Metric ID
Lab ID	Sample date		Pesticides - OF 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	Type †			
	HEMP - PR 0046	04/10/23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			80g	
Signature - Relinquished By:			Date	Time	Signature - Received By:			Date	Time	Lab Use Only:						
Annie Nair			04/10/23		MRE			4/10	10:18	<input type="checkbox"/> Shipped Via: _____ or <input type="checkbox"/> Client drop off Evidence of cooling: <input type="checkbox"/> Yes   <input type="checkbox"/> No - Temp (°C): <u>17.9</u> Sample in good condition: <input type="checkbox"/> Yes   <input type="checkbox"/> No Payment: <input type="checkbox"/> Cash   <input type="checkbox"/> Check   <input type="checkbox"/> CC   <input type="checkbox"/> Net: _____ Prelog storage: _____						
MRE			4/10	10:43	RBS			4/10	10:48							

† - 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.  
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 www.columbialaboratories.com



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**ORELAP#:** OR100028  
**Purchase Order:**  
**Received:** 04/10/23 10:48



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

Document Control ID: 2832 Revision: 5  
Effective: 01/04/2022

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

<input type="checkbox"/> Ph: ( ) - _____ <small>Billng Contact (if different)</small> Name: _____ Email: _____ Address: _____ City: _____ State: _____ Zip: _____ Ph: ( ) - _____			<b>Analysis Requested</b>										PO Number: _____ Project ID: _____ Batch ID: _____ Sampled by: _____ Custom Reporting: _____	
			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	Source Material: <input type="checkbox"/> - Ind. Hemp product   <input type="checkbox"/> - Rec. Cannabis Reporting Type: <input type="checkbox"/> - Compliance   <input type="checkbox"/> - R&D Report to: <input type="checkbox"/> - METRC   <input type="checkbox"/> - ODA   <input type="checkbox"/> - USDA   <input type="checkbox"/> - Other:		Turnaround time (TAT - Business Days): <input checked="" type="checkbox"/> - 5BD   <input type="checkbox"/> - 3BD*   <input type="checkbox"/> - 2BD* <small>*Check for availability</small>								
Lab ID	Client Sample Identification	Sample date											Material Type †	Weight (Units)
	HEMP - RB 0103	04/07/23	✓	✓	✓	✓	✓	✓	✓	✓	✓		80g	
Signature - Relinquished By:			Date	Time	Signature - Received By:			Date	Time	Lab Use Only:				
Annie Nair			04/07/23		MNA			10:10		<input type="checkbox"/> Shipped Via: _____ or <input type="checkbox"/> Client drop off Evidence of cooling: <input type="checkbox"/> Yes   <input type="checkbox"/> No - Temp (°C): 17.8 Sample in good condition: <input type="checkbox"/> Yes   <input type="checkbox"/> No Payment: <input type="checkbox"/> Cash   <input type="checkbox"/> Check   <input type="checkbox"/> CC   <input type="checkbox"/> Net: Prelog storage: _____				
MNA			4/10	10:43	KBS			4/10	10:48					

† - 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.  
 12423 NE Whitaker Way  
Portland, OR 97230  
 P: (503) 254-1794 | Fax: (503) 254-1452  
[info@columbialaboratories.com](mailto:info@columbialaboratories.com)  
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[www.columbialaboratories.com](http://www.columbialaboratories.com)



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Revision 1 Documen D 7148  
 Legacy D Workshee Valida ed 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6 Batch ID: 2306181

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits		Evaluation	Notes
CBDVA	2	0.0345	0.033	%	104	80.0	- 120	Acceptable	
CBDV	2	0.0346	0.033	%	104	80.0	- 120	Acceptable	
CBE	2	0.0347	0.033	%	104	80.0	- 120	Acceptable	
CBDA	1	0.0319	0.031	%	103	90.0	- 110	Acceptable	
CBGA	1	0.0271	0.026	%	105	80.0	- 120	Acceptable	
CBG	1	0.0326	0.031	%	105	80.0	- 120	Acceptable	
CBD	1	0.0287	0.027	%	105	90.0	- 110	Acceptable	
THCV	2	0.0339	0.033	%	102	80.0	- 120	Acceptable	
d8THCV	2	0.0342	0.033	%	103	80.0	- 120	Acceptable	
THCVA	2	0.0318	0.033	%	95.5	80.0	- 120	Acceptable	
CBN	1	0.0284	0.027	%	105	80.0	- 120	Acceptable	
exo-THC	2	0.0325	0.033	%	97.4	80.0	- 120	Acceptable	
d9THC	1	0.0319	0.031	%	102	90.0	- 110	Acceptable	
d8THC	1	0.0321	0.031	%	103	90.0	- 110	Acceptable	
9S-d10THC	1	0.0325	0.031	%	103	80.0	- 120	Acceptable	
CBL	2	0.0349	0.033	%	105	80.0	- 120	Acceptable	
9R-d10THC	1	0.0315	0.032	%	98.5	80.0	- 120	Acceptable	
CB	2	0.0340	0.033	%	102	80.0	- 120	Acceptable	
THCA	1	0.0380	0.036	%	106	90.0	- 110	Acceptable	
CBCA	2	0.0354	0.033	%	106	80.0	- 120	Acceptable	
CBLA	2	0.0353	0.033	%	106	80.0	- 120	Acceptable	
CBT	2	0.0330	0.033	%	99.0	80.0	- 120	Acceptable	

Method Blank						
Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBDV	<LOQ	0.003	%	< 0.003	Acceptable	
CBE	<LOQ	0.003	%	< 0.003	Acceptable	
CBDA	<LOQ	0.003	%	< 0.003	Acceptable	
CBGA	<LOQ	0.003	%	< 0.003	Acceptable	
CBG	<LOQ	0.003	%	< 0.003	Acceptable	
CBD	<LOQ	0.003	%	< 0.003	Acceptable	
THCV	<LOQ	0.003	%	< 0.003	Acceptable	
d8THCV	<LOQ	0.003	%	< 0.003	Acceptable	
THCVA	<LOQ	0.003	%	< 0.003	Acceptable	
CBN	<LOQ	0.003	%	< 0.003	Acceptable	
exo-THC	<LOQ	0.003	%	< 0.003	Acceptable	
d9THC	<LOQ	0.003	%	< 0.003	Acceptable	
d8THC	<LOQ	0.003	%	< 0.003	Acceptable	
9S-d10THC	<LOQ	0.003	%	< 0.003	Acceptable	
CBL	<LOQ	0.003	%	< 0.003	Acceptable	
9R-d10THC	<LOQ	0.003	%	< 0.003	Acceptable	
CB	<LOQ	0.003	%	< 0.003	Acceptable	
THCA	<LOQ	0.003	%	< 0.003	Acceptable	
CBCA	<LOQ	0.003	%	< 0.003	Acceptable	
CBLA	<LOQ	0.003	%	< 0.003	Acceptable	
CBT	<LOQ	0.003	%	< 0.003	Acceptable	

Abbreviations

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

Units of Measure:

% - Percent



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Revision 1 Documen D 7148  
 Legacy D Workshee Valida ed 04/20/2021

Laboratory Quality Control Results

J AOAC 2015 V98-6		Batch ID: 2306181						
Sample Duplicate		Sample ID Z1-012002-0004						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	0.0242	0.0240	0.003	%	0.900	< 20	Acceptable	
CBE	0.0314	0.0295	0.003	%	5.95	< 20	Acceptable	
CBDA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	0.0099	0.0098	0.003	%	0.633	< 20	Acceptable	
CBD	11.4	11.3	0.003	%	0.892	< 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	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
9S-d10THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
9R-d10THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBC	0.0031	0.0031	0.003	%	0.785	< 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	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	

Abbreviations

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

Units of Measure:

% - Percent



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Revision: 2 Document ID: 7087  
 Legacy ID: CFL-E33Effective:

Laboratory Quality Control Results

Residual Solvents				Batch D: 2306464						
Method Blank				Laboratory Control Sample						
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes	
Propane	ND	< 200		509	584	µg/g	87.2	60 - 120		
Isobutane	ND	< 200		615	767	µg/g	80.2	60 - 120		
Butane	ND	< 200		659	782	µg/g	84.3	60 - 120		
2,2-Dimethylpropane	ND	< 200		848	939	µg/g	90.3	60 - 120		
Methanol	ND	< 200		1420	1610	µg/g	88.2	60 - 120		
Ethylene Oxide	ND	< 30		50.8	57.1	µg/g	89.0	60 - 120		
2-Methylbutane	ND	< 200		1390	1600	µg/g	86.9	60 - 120		
Pentane	ND	< 200		1390	1610	µg/g	86.3	60 - 120		
Ethanol	ND	< 200		1330	1600	µg/g	83.1	70 - 130		
Ethyl Ether	ND	< 200		1360	1610	µg/g	84.5	60 - 120		
2,2-Dimethylbutane	ND	< 30		139	173	µg/g	80.3	60 - 120		
Acetone	ND	< 200		1350	1620	µg/g	83.3	60 - 120		
2-Propanol	ND	< 200		1310	1600	µg/g	81.9	60 - 120		
Ethyl Formate	ND	< 500		1560	1610	µg/g	96.9	70 - 130		
Acetonitrile	ND	< 100		392	488	µg/g	80.3	60 - 120		
Methyl Acetate	ND	< 500		1320	1610	µg/g	82.0	70 - 130		
2,3-Dimethylbutane	ND	< 30		141	165	µg/g	85.5	60 - 120		
Dichloromethane	ND	< 60		430	487	µg/g	88.3	60 - 120		
2-Methylpentane	ND	< 30		126	160	µg/g	78.8	60 - 120		
MTBE	ND	< 500		1360	1600	µg/g	85.0	70 - 130		
3-Methylpentane	ND	< 30		134	161	µg/g	83.2	60 - 120		
Hexane	ND	< 30		136	162	µg/g	84.0	60 - 120		
1-Propanol	ND	< 500		1350	1620	µg/g	83.3	70 - 130		
Methyl ethyl ketone	ND	< 500		1340	1610	µg/g	83.2	70 - 130		
Ethyl acetate	ND	< 200		1270	1600	µg/g	79.4	60 - 120		
2-Butanol	ND	< 200		1250	1610	µg/g	77.6	60 - 120		
Tetrahydrofuran	ND	< 100		390	483	µg/g	80.7	60 - 120		
Cyclohexane	ND	< 200		1280	1610	µg/g	79.5	60 - 120		
2-methyl-1-propanol	ND	< 500		1320	1630	µg/g	81.0	70 - 130		
Benzene	ND	< 1		3.34	4.98	µg/g	67.1	60 - 120		
Isopropyl Acetate	ND	< 200		1260	1610	µg/g	78.3	60 - 120		
Heptane	ND	< 200		1290	1620	µg/g	79.6	60 - 120		
1-Butanol	ND	< 500		1290	1600	µg/g	80.6	70 - 130		
Propyl Acetate	ND	< 500		1300	1620	µg/g	80.2	70 - 130		
1,4-Dioxane	ND	< 100		361	494	µg/g	73.1	60 - 120		
2-Ethoxyethanol	ND	< 30		124	165	µg/g	75.2	60 - 120		
Methylisobutylketone	ND	< 500		1320	1610	µg/g	82.0	70 - 130		
3-Methyl-1-butanol	ND	< 500		1270	1610	µg/g	78.9	70 - 130		
Ethylene Glycol	ND	< 200		278	488	µg/g	56.8	60 - 120	Q6	
Toluene	ND	< 100		362	513	µg/g	70.6	60 - 120		
Isobutyl Acetate	ND	< 500		1350	1600	µg/g	84.4	70 - 130		
1-Pentanol	ND	< 500		1190	1610	µg/g	73.9	70 - 130		
Butyl Acetate	ND	< 500		1330	1610	µg/g	82.6	70 - 130		
Ethylbenzene	ND	< 200		711	967	µg/g	73.5	60 - 120		
m,p-Xylene	ND	< 200		1100	994	µg/g	110.7	60 - 120		
o-Xylene	ND	< 200		694	992	µg/g	70.0	60 - 120		
Cumene	ND	< 30		118	171	µg/g	69.0	60 - 120		
Anisole	ND	< 500		1260	1610	µg/g	78.3	70 - 130		
DMSO	ND	< 500		1240	1610	µg/g	77.0	70 - 130		
1,2-dimethoxyethane	ND	< 50		145	172	µg/g	84.3	70 - 130		
Triethylamine	ND	< 500		1330	1620	µg/g	82.1	70 - 130		
N,N-dimethylformamide	ND	< 150		394	499	µg/g	79.0	70 - 130		
N,N-dimethylacetamide	ND	< 150		376	491	µg/g	76.6	70 - 130		
Pyridine	ND	< 50		133	171	µg/g	77.8	70 - 130		
Silofane	ND	< 50		117	160	µg/g	73.1	70 - 130		
1,2-Dichloroethane	ND	< 1		0.722	1	µg/g	72.2	70 - 130		
Chloroform	ND	< 1		0.84	1	µg/g	84.0	70 - 130		
Trichloroethylene	ND	< 1		0.722	1	µg/g	72.2	70 - 130		
1,1,1-Trichloroethane	ND	< 1		0.828	1	µg/g	82.8	70 - 130		



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Revision: 2 Document ID: 7087  
 Legacy ID: CFL-E33Effective:

QC- Sample Duplicate Sample ID: 23-004033-0001

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	
Dichloromethane	ND	ND	60 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	
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  
 Q6 - Quality control outside QC limits. Data acceptable based on remaining QC.

**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	Quantitation 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.