



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



Report Number: 23-002034/D002.R000
Report Date: 02/22/2023
ORELAP#: OR100028
Purchase Order:
Received: 02/16/23 11:31

Customer: NW Natural Goods
Product identity: HEMP- PR 0040
Client/Metric ID: .
Laboratory ID: 23-002034-0001

Summary

Potency:

Analyte per 4g	Result	Limits	Units	Status	
CBC per 4g	0.206		mg/4g		CBD-Total per Serving Size 21.3 mg/4g
CBD per 4g	21.3		mg/4g		
CBG per 4g	10.5		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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503-254-1794



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Received: 02/16/23 11:31

Customer: NW Natural Goods

Product identity: HEMP- PR 0040

Client/Metric ID: .

Sample Date:

Laboratory ID: 23-002034-0001

Evidence of Cooling: No

Temp: 17.9

Relinquished by: hinton

Serving Size #1: 4 g

Sample Results

Potency per 4g Method: J AOAC 2015 V98-6 (mod) ^b Units mg/se Batch: 2301585 Analyze: 2/18/23 12:13:00 AM					
Analyte	Result	Limits	Units	LOQ	Notes
CBC per 4g	0.206		mg/4g	0.133	
CBC-A per 4g	< LOQ		mg/4g	0.133	
CBC-Total per 4g	< LOQ		mg/4g	0.250	
CBD per 4g	21.3		mg/4g	0.133	
CBD-A per 4g	< LOQ		mg/4g	0.133	
CBD-Total per 4g	21.3		mg/4g	0.250	
CBDV per 4g	< LOQ		mg/4g	0.133	
CBDV-A per 4g	< LOQ		mg/4g	0.133	
CBDV-Total per 4g	< LOQ		mg/4g	0.248	
CBE per 4g	< LOQ		mg/4g	0.133	
CBG per 4g	10.5		mg/4g	0.133	
CBG-A per 4g	< LOQ		mg/4g	0.133	
CBG-Total per 4g	10.5		mg/4g	0.248	
CBL per 4g	< LOQ		mg/4g	0.133	
CBL-A per 4g	< LOQ		mg/4g	0.133	
CBL-Total per 4g	< LOQ		mg/4g	0.250	
CBN per 4g	< LOQ		mg/4g	0.133	
CBT per 4g	< LOQ		mg/4g	0.133	
Δ8-THCV per 4g	< LOQ		mg/4g	0.133	
Δ10-THC-9R per 4g	< LOQ		mg/4g	0.133	
Δ10-THC-9S per 4g	< LOQ		mg/4g	0.133	
Δ10-THC-Total per 4g	< LOQ		mg/4g	0.266	
Δ8-THC per 4g	< LOQ		mg/4g	0.133	
Δ9-THC per 4g	< LOQ		mg/4g	0.133	
exo-THC per 4g	< LOQ		mg/4g	0.133	
THC-A per 4g	< LOQ		mg/4g	0.133	
THC-Total per 4g	< LOQ		mg/4g	0.250	
THCV per 4g	< LOQ		mg/4g	0.133	
THCV-A per 4g	< LOQ		mg/4g	0.133	
THCV-Total per 4g	< LOQ		mg/4g	0.250	
Total Cannabinoids per 4g	32.2		mg/4g		



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Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2301524	02/19/23 AOAC 991.14 (Petrifilm) [®]		
Total Coliforms	< LOQ		cfu/g	10	2301524	02/19/23 AOAC 991.14 (Petrifilm) [®]		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2301525	02/20/23 AOAC 2014.05 (RAPID) [®]		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2301525	02/20/23 AOAC 2014.05 (RAPID) [®]		

Solvents		Method: Residual Solvents by GC/MS [®]				Units µg/g	Batch 2301590	Analyze 02/20/23 11:52 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) ^b		Units mg/kg	Batch 2301660	Analyze 02/21/23 04:23 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	0.0166	2301618	02/20/23	AOAC 2013.06 (mod.) ^b	pass	
Cadmium	< LOQ	0.200	mg/kg	0.0166	2301618	02/20/23	AOAC 2013.06 (mod.) ^b	pass	
Lead	< LOQ	0.500	mg/kg	0.0166	2301618	02/20/23	AOAC 2013.06 (mod.) ^b	pass	
Mercury	< LOQ	0.100	mg/kg	0.00830	2301618	02/20/23	AOAC 2013.06 (mod.) ^b	pass	



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Nutrition

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Moisture (Loss on Drying)	18.9		g/100g	0.10	2301621	02/20/23 AOAC 925.10 (mod.) ^p		
Water Activity	0.682		Aw	0.030	2301532	02/17/23 AOAC 978.18 ^p		



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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.

¹ = 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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P2320 Multi-Residue Pesticide Profile
Cannabis

Analyte	LOQ (mg/kg)
2,4-D	0.1
Abamectin	0.1
Acephate	0.2
Acequinocyl	0.2
Acetamiprid	0.1
Acetochlor	0.2
Acrinathrin	0.1
Alachlor	0.1
Aldicarb	0.1
Aldoxycarb	0.1
Aldrin	0.1
Ametoctradin	0.1
Ametryn	0.1
Anilazine	0.1
Aspon	0.1
Asulam	0.1
Atrazine	0.1
Atrazine-desethyl	0.1
Azinphos-ethyl	0.1
Azinphos-methyl	0.1
Azoxystrobin	0.1
Benalaxyl	0.1
Bendiocarb	0.1
Benoxacor	0.1
Bensulide	0.1
Bentazon	0.1
Bifenazate	0.1
Bifenox	0.1
Bifenthrin	0.1
Binapacryl	0.1
Boscalid	0.1
Bromacil	0.1
Bromophos-ethyl	0.1
Bromopropylate	0.1
Bromoxynil	0.1
Bupirimate	0.1
Buprofezin	0.1
Butachlor	0.1
Butylate	0.1
Cadusafos	0.1
Captan	0.2
Carbaryl	0.1
Carbendazim	0.1
Carbofuran	0.1
Carbofuran 3-hydroxy	0.1
Carbophenothion	0.1
Carbophenothion-methyl	0.1
Carboxin	0.1

Analyte	LOQ (mg/kg)
Chlorantraniliprol	0.1
Chlordane, cis-	0.1
Chlordane, trans-	0.1
Chlorfenapyr	0.1
Chlorfenvinphos	0.1
Chlorobenzilate	0.1
Chlorpyrifos-ethyl	0.1
Chlorpyrifos-methyl	0.1
Chlorthal-dimethyl (Dacthal)	0.1
Clethodim	0.1
Clethodim sulfone	0.1
Clethodim sulfoxide	0.1
Clofentezine	0.1
Clomazone	0.1
Clopyralid	0.1
Clothianidin	0.1
Coumaphos	0.1
Crotoxypheos	0.1
Cyanofenphos	0.1
Cyanophos	0.1
Cyantraniliprole	0.1
Cyazofamid	0.1
Cyfluthrin	0.1
Cyhalothrin, lambda	0.1
Cymoxanil	0.1
Cypermethrin	0.1
Cyprodinil	0.1
DDD, o,p'-	0.1
DDD, p,p'-	0.1
DDE, o,p'-	0.1
DDE, p,p'-	0.1
DDT, o,p'-	0.1
DDT, p,p'-	0.1
DEET	0.1
Deltamethrin	0.1
Demeton-S	0.1
Demeton-S-methyl	0.1
Demeton-S-methyl-sulfone	0.1
Desmedipham	0.1
Diazinon	0.1
Dicamba	0.1
Dichlofenthion	0.1
Dichlofluanid	0.1
Dichlorbenzamid	0.1
Dichlorvos	0.1
Diclofop	0.1
Diclofop-methyl	0.1
Diclotophos	0.1

Analyte	LOQ (mg/kg)
Dieldrin	0.1
Diethofencarb	0.1
Difenoconazol	0.1
Disulfobenzuron	0.1
Disulfenopyr	0.1
Dimethenamid	0.1
Dimethoat	0.1
Dimethomorph	0.1
Dinoseb	0.1
Dinotefuran	0.1
Dioxathion	0.1
Diphenamid	0.1
Diphenylamine (DPA)	0.1
Disulfoton	0.1
Disulfoton-sulfone	0.1
Disulfoton-Sulfoxide	0.1
Diuron	0.1
DNOC	0.1
Edifenphos	0.1
Endosulfan (alpha isomer)	0.1
Endosulfan (beta isomer)	0.1
Endosulfan-sulfate	0.1
Endrin	0.1
EPN	0.1
EPTC	0.1
Esfenvalerate/Fenvalerate	0.1
Ethiofencarb	0.1
Ethion	0.1
Ethofumesate	0.1
Ethoprophos	0.1
Etofenprox	0.1
Etoxazole	0.1
Etrifos	0.1
Famoxadone	0.1
Famphur	0.1
Fenamiphos	0.1
Fenamiphos-Sulfone	0.1
Fenamiphos-Sulfoxide	0.1
Fenazaquin	0.1
Fenbuconazole	0.1
Fenhexamid	0.1
Fenobucarb	0.1
Fenoxycarb	0.1
Fenpropathrin	0.1
Fensulfothion	0.1
Fenthion	0.1
Fenuron	0.1
Fipronil	0.1

LOQ= Limit of Quantitation
mg/kg= milligram per kilogram (ppm)



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P2320 Multi-Residue Pesticide Profile
Cannabis

Analyte	LOQ (mg/kg)
Flonicamid	0.1
Fluazifop	0.1
Fluazinam	0.1
Flucythrinate	0.1
Fludioxonil	0.1
Flufenacet	0.1
Flumioxazin	0.1
Flupicolide	0.1
Fluopyram	0.1
Fluoxastrobin	0.1
Flupyradifurone	0.1
Fluridone	0.1
Fluroxypyr	0.1
Fluthiacet-methyl	0.1
Flutolanil	0.1
Flutriafol	0.1
Fluvalinate	0.1
Fluxapyroxad	0.1
Fomesafen	0.1
Formetanate	0.1
Furathiocarb	0.1
Haloxypop	0.1
Heptachlor	0.1
Heptachlor epoxide	0.1
Hexaconazole	0.1
Hexazinone	0.1
Hexythiazox	0.1
Hydropene	0.1
Imazalil	0.1
Imazethapyr	0.1
Imidacloprid	0.1
Indaziflam	0.1
Indoxacarb	0.1
Iprobenfos	0.1
Iprodion	0.1
Isobenzan	0.1
Isafenphos	0.1
Isafenphos-methyl	0.1
Isafenphos-oxon	0.1
Isoprocab	0.1
Isoprothiolane	0.1
Isoproturon	0.1
Isoxaben	0.1
Kresoxim-methyl	0.1
Lindane	0.1
Linuron	0.1
Malaoxon	0.1
Malathion	0.1

Analyte	LOQ (mg/kg)
Mandipropamid	0.1
MCPA	0.1
MCPB	0.1
MCPB	0.1
MCPB	0.1
Mecabarm	0.1
Mepanipyrim	0.1
Mesotrione	0.1
Metalaxyl	0.1
Methamidophos	0.1
Methiocarb	0.1
Methiocarb sulfone	0.1
Methiocarb sulfoxide	0.1
Methomyl	0.1
Methoxyfenozide	0.1
Metolachlor	0.1
Metolcarb	0.1
Metrafenone	0.1
Mevinphos	0.1
MGK 264	0.1
Molinat	0.1
Monocrotophos	0.1
Monolinuron	0.1
Myclobutanil	0.1
Naled	0.1
Napropamide	0.1
Neburon	0.1
Norflurazon	0.1
Novaluron	0.1
Omethoat	0.1
Oryzalin	0.1
Oxadiazon	0.1
Oxadixyl	0.1
Oxamyl	0.1
Oxamyl-oxime	0.1
Oxydemeton-Methyl	0.1
Oxyfluorfen	0.1
Paclobutrazol	0.1
Paraaxon-ethyl	0.1
Paraaxon-methyl	0.1
Parathion-methyl	0.1
Penconazole	0.1
Pendimethalin	0.1
Penflufen	0.1
Penthiopyrad	0.1
Permethrin	0.1
Perthane	0.1
Phenmedipham	0.1

Analyte	LOQ (mg/kg)
Phenothrin	0.1
Phenthoate	0.1
Phorate	0.1
Phorate-Sulfone	0.1
Phorate-Sulfoxide	0.1
Phosalone	0.1
Phosmet	0.1
Phosphamidon	0.1
Phoxim	0.1
Pinoxaden	0.1
Piperonyl Butoxide	0.1
Pirimicarb	0.1
Pirimiphos-ethyl	0.1
Pirimiphos-methyl	0.1
Prallethrin	0.1
Prochloraz	0.1
Procymidone	0.1
Profenofos	0.1
Promecarb	0.1
Prometon	0.1
Prometryn	0.1
Propachlor	0.1
Propamocarb	0.1
Propanil	0.1
Propazine	0.1
Propetamophos	0.1
Propham	0.1
Propiconazole	0.1
Propoxur	0.1
Propyzamide	0.1
Prothiofos	0.1
Pyraclostrobin	0.1
Pyraflufen Ethyl	0.1
Pyrazophos	0.1
Pyrethrin	0.1
Pyridaben	0.1
Pyrimethanil	0.1
Pyriproxifen	0.1
Pyroxasulfone	0.1
Pyroxulam	0.1
Quinalphos	0.1
Quinclorac	0.1
Quinoxifen	0.1
Quintozene(PCNB)	0.2
Quizalofop	0.1
Resmethrin	0.1
Rotenone	0.1
Saflufenacil	0.1

LOQ= Limit of Quantitation
mg/kg= milligram per kilogram (ppm)



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P2320 Multi-Residue Pesticide Profile
Cannabis

Analyte	LOQ (mg/kg)
Sebuthylazin	0.1
Sethoxydim	0.1
Simazine	0.1
Simetryn	0.1
Spinetoram J/L	0.1
Spinosyn A/D	0.1
Spirodiclofen	0.1
Spiromesifen	0.1
Spirotetramat	0.1
Spiroxamine	0.1
Sulfentrazone	0.1
Sulfotep	0.1
Sulfoxafior	0.1
Sulprofos	0.1
Tebuconazole	0.1
Tebufenozide	0.1
Terbufos	0.1
Terbutylazine	0.1
Terbutryn	0.1
Tetrachlorvinphos	0.1
Tetraconazole	0.1
Tetramethrin	0.1
Thiabendazol	0.1
Thiabendazol-5-hydroxy	0.1
Thiacloprid	0.1
Thiamethoxam	0.1
Thiobencarb	0.1
Thiodicarb	0.1
Thiometon	0.1
Thiophanate-methyl	0.2
Tolfenpyrad	0.1
Tolyfluanid	0.1
Triadimefon	0.1
Triadimenol	0.1
Triazophos	0.1
Trifloxystrobin	0.1
Triflumizole	0.1
Triticonazole	0.1
Zoxamid	0.1

LOQ= Limit of Quantitation
mg/kg= milligram per kilogram (ppm)

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Updated: 09.12.2022



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Hemp & Cannabis: Usable / Extra NWNATURALGOODS 23-002034
Chain of Custody R
ORELAP ID: OR100028 ANAB ISO 170

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

Company: Northwest Natural Goods			Analysis:										Number:		
Contact: Annie Nair			NW Natural Goods										Subject ID:		
Address: 11791 SE HWY 212													Batch ID:		
City: Clackamas State: OR Zip Code: 97015													Sampled by:		
☒ Email Results: annienair@nwnaturalgoods.com													Custom Reporting:		
☐ Ph: () -													Source Material: ☐ Ind. Hemp product ☐ Rec. Cannabis		
Billing Contact (if different)													Reporting Type: ☐ Compliance ☐ R&D		
Name: Email:													Report to: ☐ METRC ☐ ODA ☐ USDA		
Address:													☐ Other:		
City: State: Zip:													Turnaround time (TAT - Business Days):		
Ph: () -													■ 5BD □ 3BD* □ 2BD* <i>*Check for availability</i>		
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 - PR 0040	02/15/23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		80g	
Signature - Relinquished By:			Signature - Received By:			Date			Time			Lab Use Only:			
Annie Nair			MRIA			2/16			10:19			☐ Shipped Via: _____ or ☐ Client drop off			
MRIA			RBS			2/16/23			11:31			Evidence of cooling: ☐ Yes ☐ No - Temp (°C): 17.9			
												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
12423 NE Whitaker Way
Portland, OR 97230
P: (503) 254-1794 | Fax: (503) 254-1452
info@columbialaboratories.com
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www.columbialaboratories.com



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Revision: 1 Document ID: 7148
Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

JAOAC2015 V986 Batch ID: 2301585

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits	Evaluation	Notes	
CBDVA	2	0.0473	0.040	%	119	80.0 - 120	Acceptable		
CBDV	2	0.0505	0.042	%	119	80.0 - 120	Acceptable		
CBE	2	0.0495	0.041	%	119	80.0 - 120	Acceptable		
CBD	1	0.0319	0.032	%	99.5	90.0 - 110	Acceptable		
CBGA	1	0.0318	0.032	%	99.6	80.0 - 120	Acceptable		
CBG	1	0.0334	0.033	%	100	80.0 - 120	Acceptable		
CBD	1	0.0322	0.033	%	96.8	90.0 - 110	Acceptable		
THCV	2	0.0469	0.040	%	116	80.0 - 120	Acceptable		
d8THCV	2	0.0503	0.042	%	120	80.0 - 120	Acceptable		
THCVA	2	0.0447	0.038	%	118	80.0 - 120	Acceptable		
CBN	1	0.0335	0.033	%	101	80.0 - 120	Acceptable		
exo-THC	2	0.0469	0.040	%	117	80.0 - 120	Acceptable		
d9THC	1	0.0337	0.033	%	103	90.0 - 110	Acceptable		
d8THC	1	0.0334	0.034	%	98.7	90.0 - 110	Acceptable		
9S-d10THC	1	0.0340	0.034	%	99.5	80.0 - 120	Acceptable		
CBL	2	0.0450	0.040	%	113	80.0 - 120	Acceptable		
9S-HHC	3	0.0312	0.033	%	93.5	80.0 - 120	Acceptable		
9R-d10THC	1	0.0317	0.032	%	98.9	80.0 - 120	Acceptable		
CBG	2	0.0496	0.042	%	118	80.0 - 120	Acceptable		
9R-HHC	3	0.0296	0.033	%	88.9	80.0 - 120	Acceptable		
THCA	1	0.0322	0.032	%	99.3	90.0 - 110	Acceptable		
CBGA	2	0.0471	0.040	%	117	80.0 - 120	Acceptable		
CBLA	2	0.0475	0.041	%	116	80.0 - 120	Acceptable		
d8THCO	3	0.0335	0.033	%	100	80.0 - 120	Acceptable		
CBT	2	0.0464	0.041	%	112	80.0 - 120	Acceptable		
d9THCO	3	0.0326	0.033	%	97.8	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	
CBD	<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	
9S-HHC	<LOQ	0.003	%	< 0.003	Acceptable	
9R-d10THC	<LOQ	0.003	%	< 0.003	Acceptable	
CBG	<LOQ	0.003	%	< 0.003	Acceptable	
9R-HHC	<LOQ	0.003	%	< 0.003	Acceptable	
THCA	<LOQ	0.003	%	< 0.003	Acceptable	
CBGA	<LOQ	0.003	%	< 0.003	Acceptable	
CBLA	<LOQ	0.003	%	< 0.003	Acceptable	
d8THCO	<LOQ	0.003	%	< 0.003	Acceptable	
CBT	<LOQ	0.003	%	< 0.003	Acceptable	
d9THCO	<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



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



Report Number: 23-002034/D002.R000
Report Date: 02/22/2023
ORELAP#: OR100028
Purchase Order:
Received: 02/16/23 11:31

Revision: 1 Document ID: 7148
Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

JAOAC2015 V986								
Batch ID: 2301585								
Sample Duplicate								
Sample ID: 23-0019860001								
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.003	%	NA	< 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	0.0140	0.0138	0.003	%	1.39	< 20	Acceptable	
CBD	<LOQ	<LOQ	0.003	%	NA	< 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	0.0035	0.0034	0.003	%	2.07	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THC	0.263	0.259	0.003	%	1.65	< 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	
9S-HHC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
9R-d10THC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBG	0.0166	0.0163	0.003	%	1.69	< 20	Acceptable	
9R-HHC	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d8THCO	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
CBT	<LOQ	<LOQ	0.003	%	NA	< 20	Acceptable	
d9THCO	<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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Report Number: 23-002034/D002.R000
Report Date: 02/22/2023
ORELAP#: OR100028
Purchase Order:
Received: 02/16/23 11:31

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

Laboratory Quality Control Results

Residual Solvents				Batch ID: 2301590					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		547	572	µg/g	95.6	60 - 120	
Isobutane	ND	< 200		706	731	µg/g	96.6	60 - 120	
Butane	ND	< 200		709	731	µg/g	97.0	60 - 120	
2,2-Dimethylpropane	ND	< 200		873	936	µg/g	93.3	60 - 120	
Methanol	ND	< 200		1710	1620	µg/g	105.6	60 - 120	
Ethylene Oxide	ND	< 30		56.6	56.2	µg/g	100.7	60 - 120	
2-Methylbutane	ND	< 200		1670	1610	µg/g	103.7	60 - 120	
Pentane	ND	< 200		1680	1600	µg/g	105.0	60 - 120	
Ethanol	ND	< 200		1680	1610	µg/g	104.3	70 - 130	
Ethyl Ether	ND	< 200		1750	1630	µg/g	107.4	60 - 120	
2,2-Dimethylbutane	ND	< 30		181	171	µg/g	105.8	60 - 120	
Acetone	ND	< 200		1680	1630	µg/g	103.1	60 - 120	
2-Propanol	ND	< 200		1700	1620	µg/g	104.9	60 - 120	
Ethyl Formate	ND	< 500		1660	1670	µg/g	99.4	70 - 130	
Acetonitrile	ND	< 100		509	498	µg/g	102.2	60 - 120	
Methyl Acetate	ND	< 500		1660	1730	µg/g	96.0	70 - 130	
2,3-Dimethylbutane	ND	< 30		175	171	µg/g	102.3	60 - 120	
Dichloromethane	ND	< 60		522	483	µg/g	108.1	60 - 120	
2-Methylpentane	ND	< 30		174	168	µg/g	103.6	60 - 120	
MTBE	ND	< 500		1660	1650	µg/g	100.6	70 - 130	
3-Methylpentane	ND	< 30		162	167	µg/g	97.0	60 - 120	
Hexane	ND	< 30		229	182	µg/g	125.8	60 - 120	Q2
1-Propanol	ND	< 500		1440	1620	µg/g	88.9	70 - 130	
Methylethylketone	ND	< 500		1540	1620	µg/g	95.1	70 - 130	
Ethyl acetate	ND	< 200		1650	1610	µg/g	102.5	60 - 120	
2-Butanol	ND	< 200		1660	1600	µg/g	103.8	60 - 120	
Tetrahydrofuran	ND	< 100		495	483	µg/g	102.5	60 - 120	
Cyclohexane	ND	< 200		1740	1610	µg/g	108.1	60 - 120	
2-methyl-1-propanol	ND	< 500		1530	1620	µg/g	94.4	70 - 130	
Benzene	ND	< 1		5.79	5.02	µg/g	115.3	60 - 120	
Isopropyl Acetate	ND	< 200		1680	1620	µg/g	103.7	60 - 120	
Heptane	ND	< 200		1610	1610	µg/g	100.0	60 - 120	
1-Butanol	ND	< 500		1540	1630	µg/g	94.5	70 - 130	
Propyl Acetate	ND	< 500		1520	1610	µg/g	94.4	70 - 130	
1,4-Dioxane	ND	< 100		511	491	µg/g	104.1	60 - 120	
2-Ethoxyethanol	ND	< 30		178	181	µg/g	98.3	60 - 120	
Methylisobutylketone	ND	< 500		1630	1620	µg/g	100.6	70 - 130	
3-Methyl-1-butanol	ND	< 500		1520	1630	µg/g	95.1	70 - 130	
Ethylene Glycol	ND	< 200		445	484	µg/g	91.9	60 - 120	
Toluene	ND	< 100		502	485	µg/g	103.5	60 - 120	
Isobutyl Acetate	ND	< 500		1510	1630	µg/g	92.6	70 - 130	
1-Pentanol	ND	< 500		1450	1620	µg/g	89.5	70 - 130	
Butyl Acetate	ND	< 500		1480	1620	µg/g	91.4	70 - 130	
Ethylbenzene	ND	< 200		979	969	µg/g	101.0	60 - 120	
m,p-Xylene	ND	< 200		988	994	µg/g	99.4	60 - 120	
o-Xylene	ND	< 200		964	967	µg/g	99.7	60 - 120	
Cumene	ND	< 30		174	171	µg/g	101.8	60 - 120	
Anisole	ND	< 500		1530	1630	µg/g	93.9	70 - 130	
DMSO	ND	< 500		1570	1680	µg/g	93.5	70 - 130	
1,2-dimethoxyethane	ND	< 50		155	169	µg/g	91.7	70 - 130	
Triethylamine	ND	< 500		1580	1630	µg/g	96.9	70 - 130	
N,N-dimethylformamide	ND	< 150		506	482	µg/g	105.0	70 - 130	
N,N-dimethylacetamide	ND	< 150		455	510	µg/g	89.2	70 - 130	
Pyridine	ND	< 50		193	203	µg/g	95.1	70 - 130	
Sulfolane	ND	< 50		145	172	µg/g	84.3	70 - 130	
1,2-Dichloroethane	ND	< 1		0.936	1	µg/g	93.6	70 - 130	
Chloroform	ND	< 1		0.948	1	µg/g	94.8	70 - 130	
Trichloroethylene	ND	< 1		0.866	1	µg/g	86.6	70 - 130	
1,1-Dichloroethane	ND	< 1		0.915	1	µg/g	91.5	70 - 130	



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Report Number: 23-002034/D002.R000
Report Date: 02/22/2023
ORELAP#: OR100028
Purchase Order:
Received: 02/16/23 11:31

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

QC- Sample Duplicate

Sample ID: 23-001972-0001

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	
Methyl ethyl ketone	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	
Methyl isobutyl ketone	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
Q2 - Quality control outside QC limits. Data considered estimate.

Units of Measure:

µg/g- Microgram per gram or ppm



12423 NE Whitaker Way
Portland, OR 97230
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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.