



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



Report Number: 24-001612/D002.R000
Report Date: 02/19/2024
ORELAP#: OR100028
Purchase Order:
Received: 02/13/24 13:31

Customer: NW Natural Goods
Product identity: HEMP - LM 0091
Client/Metric ID: .
Laboratory ID: 24-001612-0001

Summary

Potency:

Analyte per 4g	Result	Limits	Units	Status	
CBD per 4g	24.6		mg/4g		CBD-Total per Serving Size 24.6 mg/4g
CBT per 4g	0.358		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 - LM 0091

Client/Metric ID: .

Sample Date:

Laboratory ID: 24-001612-0001

Evidence of Cooling: No

Temp: 17 °C

Relinquished by: ramos

Serving Size #1: 4 g

Sample Results

Potency per 4g						
Method: J AOAC 2015 V98-6 (mod)						
Units mg/se Batch: 2401199 Analyze: 2/14/24 4:26:00 PM						
Analyte	Result	Limits	Units	LOQ	Notes	
CBC per 4g	< LOQ		mg/4g	0.132		
CBC-A per 4g	< LOQ		mg/4g	0.132		
CBC-Total per 4g	< LOQ		mg/4g	0.248		
CBD per 4g	24.6		mg/4g	0.132		
CBD-A per 4g ^L	< LOQ		mg/4g	0.132		
CBD-Total per 4g ^L	24.6		mg/4g	0.248		
CBDV per 4g	< LOQ		mg/4g	0.132		
CBDV-A per 4g	< LOQ		mg/4g	0.132		
CBDV-Total per 4g	< LOQ		mg/4g	0.247		
CBE per 4g	< LOQ		mg/4g	0.132		
CBG per 4g	< LOQ		mg/4g	0.132		
CBG-A per 4g	< LOQ		mg/4g	0.132		
CBG-Total per 4g	< LOQ		mg/4g	0.247		
CBL per 4g	< LOQ		mg/4g	0.132		
CBL-A per 4g	< LOQ		mg/4g	0.132		
CBL-Total per 4g	< LOQ		mg/4g	0.248		
CBN per 4g	< LOQ		mg/4g	0.132		
CBT per 4g	0.358		mg/4g	0.132		
Δ8-THCV per 4g	< LOQ		mg/4g	0.132		
Δ10-THC-9R per 4g	< LOQ		mg/4g	0.132		
Δ10-THC-9S per 4g	< LOQ		mg/4g	0.132		
Δ10-THC-Total per 4g	< LOQ		mg/4g	0.264		
Δ8-THC per 4g ^L	< LOQ		mg/4g	0.132		
Δ9-THC per 4g ^L	< LOQ		mg/4g	0.132		
delta-9-THCP per 4g	< LOQ		mg/4g	0.132		
exo-THC per 4g	< LOQ		mg/4g	0.132		
THC-A per 4g ^L	< LOQ		mg/4g	0.132		
THC-Total per 4g	< LOQ		mg/4g	0.248		
THCV per 4g	< LOQ		mg/4g	0.132		
THCV-A per 4g	< LOQ		mg/4g	0.132		
THCV-Total per 4g	< LOQ		mg/4g	0.248		
Total Cannabinoids per 4g	24.9		mg/4g			



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Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2401146	02/16/24 AOAC 991.14 (Petrifilm) ^P		
Total Coliforms	< LOQ		cfu/g	10	2401146	02/16/24 AOAC 991.14 (Petrifilm) ^P		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2401148	02/17/24 AOAC 2014.05 (RAPID) ^P		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2401148	02/17/24 AOAC 2014.05 (RAPID) ^P		

Solvents Method: Residual Solvents by GC/MS^b Units µg/g Batch 2401248 Analyze 02/16/24 01:07 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-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 2401245 Analyze 02/16/24 12:33 PM

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



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Metals

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Arsenic*	< LOQ	0.200	mg/kg	0.0181	2401255	02/16/24 AOAC 2013.06 (mod.) ^p	pass	
Cadmium*	< LOQ	0.200	mg/kg	0.0181	2401255	02/16/24 AOAC 2013.06 (mod.) ^p	pass	
Lead*	< LOQ	0.500	mg/kg	0.0181	2401255	02/16/24 AOAC 2013.06 (mod.) ^p	pass	
Mercury*	< LOQ	0.100	mg/kg	0.00906	2401255	02/16/24 AOAC 2013.06 (mod.) ^p	pass	

Nutrition

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Moisture (Loss on Drying)	17.0		g/100g	0.10	2401205	02/14/24 AOAC 925.10 (mod.) ^p		
Water Activity	0.647		Aw	0.030	2401170	02/14/24 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.

^p = 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

Approved Signatory

Derrick Tanner
General Manager



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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)	Compound	LOQ (mg/kg)
Abamectin	0.100	Cethodim	0.050	Endrin	0.100
Acephate	0.100	Cethodim Sulfone	0.050	EPN	0.050
Acequinocyl	0.100	Cethodim Sulfoxide	0.050	EPIC	0.100
Acetamiprid	0.020	Cb fenfentzine	0.020	Esfenvalerate/ Fenvalerate	0.200
Acetochlor	0.100	Cb mazone	0.020	Etaconazole	0.100
Acrinathrin	0.100	Cb thianidin	0.200	Ethalfuralin	0.100
Alachlor	0.100	Cumaphos	0.050	Ethiofencarb	0.050
Aldicarb	0.100	Crtoxypfos	0.020	Ethion	0.200
Aldicarb sulfoxide	0.100	Cyarazine	0.020	Ethirimol	0.100
Aldoxycarb (Aldicarb-sulfone)	0.100	Cyartofenphos	0.020	Ethofumesate	0.050
Aldrin	0.100	Cyatraniiprole	0.050	Ethoprophos	0.020
Ametoctradin	0.020	Cyazflamid	0.020	Etofenprox	0.020
Ametryn	0.500	Cytoate	0.100	Etoazole	0.020
Aspon	0.100	Cyfluthrin	0.200	Eridiazole	0.100
Asulam	0.100	Cyhalothrin, lambda	0.200	Erimfos	0.020
Atrazine	0.100	Cymoxanil	0.050	Famoxadone	0.200
Atrazine-desethyl	0.100	Cypermethrin	0.200	Famphur	0.100
Azinphos-ethyl	0.020	Cyprodinil	0.100	Fenamidone	0.020
Azinphos-methyl	0.020	Dadhal	0.100	Fenamiphos	0.020
Azoxystrobin	0.020	Daminozide	0.100	Fenamiphos sulfone	0.020
Beralaxyl	0.020	DCEMU	0.050	Fenamiphos sulfoxide	0.020
Berdicarb	0.020	DDD, op'	0.100	Fenazaquin	0.100
Berfluralin	0.100	DDD, p,p'	0.100	Fenbuconazole	0.100
Berxacor	0.050	DCE, o,p'	0.100	Fenchlorphos	0.100
Bersulide	0.050	DCE, p,p'	0.100	Fenchlorphos-oxon	0.100
BHC alpha isomer	0.100	DDT, o,p'	0.100	Fenhexamid	0.100
BHC beta isomer	0.100	DDT, p,p'	0.100	Fenitrothion	0.100
BHC delta isomer	0.500	DEF (Tribufos)	0.100	Fenobucarb	0.050
Bifenazate	0.020	Deltamethrin	0.100	Fenoxycarb	0.020
Bifenthrin	0.020	Desmedipham	0.100	Fenpropathrin	0.050
Boscalid	0.020	Diallate	0.100	Fenpyroximate	0.020
Bromophos-ethyl	0.100	Diazinon	0.020	Fenson	0.100
Bromophos-methyl	0.200	Diazoxon	0.100	Fensulfthion	0.020
Bromopropylate	0.100	Dichlobenil	0.100	Fensulfthion oxon	0.020
Bromuconazole	0.100	Dichlofluanid	0.100	Fensulfthion sulfone	0.100
Bupirimate	0.020	Dichlorvos	0.100	Fensulfthion-oxon-sulfone	0.020
Buprofezin	0.050	Diclobutrazol	0.050	Fenthion	0.050
Butachlor	0.500	Dicofol	0.100	Fenthion oxon	0.020
Butralin	0.200	Dicrotophos	0.050	Fenthion oxon sulfone	0.100
Butylate	0.100	Dieldrin	0.100	Fenthion sulfone	0.050
Cadusafos	0.020	Diethofencarb	0.020	Fenuron	0.020
Captan	1.000	Diethyltoluamide (DEET)	0.050	Fipronil	0.100
Carbaryl	0.050	Difenoconazole	0.100	Fonicamid	0.100
Carbendazim	0.100	Dimethenamid	0.050	Fuchloralin	0.100
Carbofuran	0.020	Dimethoate	0.050	Flucythrinate	0.100
Carbophenothion	0.200	Dimethomorph	0.050	Fludioxonil	0.200
Carboxin	0.020	Diniconazole	0.200	Flufenacet	0.020
Carfentrazone-ethyl	0.100	Dinotefuran	0.200	Flumioxazin	0.100
Chlorantraniliprole	0.020	Dioxathion	0.100	Flumeturon	0.020
Chordane, cis-	0.200	Diphenamid	0.020	Fluopicolide	0.050
Chordane, trans-	0.200	Diphenylamine	0.100	Fluopyram	0.020
Chlorfenapyr	0.500	Disulfoton	0.100	Fluoxastrobin	0.050
Chlorfenson	0.200	Disulfoton sulfone	0.100	Flupyradifurone	0.020
Chlorfenvinphos	0.050	Disulfoton sulfoxide	0.100	Fluridone	0.100
Chlorobenzilate	0.100	Diuron	0.050	Flusilazole	0.020
Chloroneb	0.200	Edifenphos	0.050	Flutolanil	0.020
Chlorpyrifos	0.050	Endosulfan alpha	0.200	Flutriafol	0.020
Chlorpyrifos-methyl	0.200	Endosulfan beta	0.200	Fluvalinate, tau-	0.100
CIPC	1.000	Endosulfan sulfate	0.100	Fluxapyroxad	0.020



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Cannabis Multi-Residue Profile, Limits of Quantitation

Compound	LOQ(mg/kg)	Compound	LOQ(mg/kg)	Compound	LOQ(mg/kg)
Fomesafen	0.100	Mexacarbate	0.020	Propamocarb	0.050
Fonofos	0.100	MGK 264	0.020	Proparil	0.050
Forchlorfenuron	0.050	Mirex	0.100	Propargite	0.050
Formetanate	0.050	Molinate	0.050	Propazine	0.020
Furathiocarb	0.020	Monocrotophos	0.100	Propetamphos	0.050
Heptachlor	0.100	Monolinuron	0.020	Propham	0.050
Heptachlor epoxide	0.100	Myclobutanil	0.050	Propiconazole	0.050
Heptenophos	0.100	Naled	0.100	Propoxur	0.050
Hexachlorobenzene	0.100	Napropamide	0.050	Propoxycarbazone Na	0.050
Hexaconazole	0.100	Neburon	0.020	Propyzamide	0.050
Hexazinone	0.100	Nitrapyrin	0.100	Prthiofos	0.100
Hexythiazox	0.020	Norflurazon	0.050	Pyraclostrobin	0.020
Imazalil	0.100	Omethoate	0.100	Pyrazophos	0.050
Imidacoprid	0.100	O-Phenylphenol	0.100	Pyrethrins	0.050
Indaziflam	0.020	Oxadixyl	0.100	Pyridaben	0.020
Indoxacarb	0.020	Oxamyl	0.100	Pyridafol	0.100
Iprobenfos	0.100	Oxamyl-oxime	0.100	Pyridate	0.020
Iprodione	0.100	Oxychlorane	0.100	Pyrimethanil	0.050
Isobenzan	0.100	Oxydemeton-Methyl	0.100	Pyriproxifen	0.020
Isocarbophos	0.500	Oxythioquinox	0.200	Pyroxasulfone	0.020
Isodrin	0.100	Padlobutrazol	0.050	Pyroxulam	0.020
Isofenphos	0.050	Paraoxon-ethyl	0.020	Quinalphos	0.050
Isofenphos-methyl	0.020	Paraoxon methyl	0.100	Quinoxyfen	0.050
Isofenphos oxon	0.050	Parathion ethyl	0.100	Quintozene (PQNB)	0.200
Isoprocarb	0.020	Parathion methyl	0.200	Resmethrin	0.050
Isopropalin	0.200	Perconazole	0.050	Rotenone	0.050
Isoprothiolane	0.050	Perdimethalin	0.050	S421	0.100
Isoproturon	0.050	Perflufen	0.020	Smaazine	0.100
Isoxaben	0.050	Pertachloroaniline	0.100	Smectryn	0.200
Isoxaflutole	0.050	Pertachloroanisole	0.100	Spinetoram	0.020
Kresoxim-methyl	0.050	Pentachlorobenzene (PCB)	0.100	Spinosad	0.050
Lactofen	0.500	Pentachlorothiobenzene (PCTA)	0.100	Spirodiclofen	0.100
Lenacl	0.100	Perthiopyrad	0.020	Spiromesifen	0.050
Lindane (gammaBHC)	0.100	Permethrin	0.050	Spirotetramat	0.050
Linuron	0.020	Pethane	0.100	Spiroxamine	0.020
Malaaxon	0.050	Phenmedipharm	0.050	Sulfotep	0.050
Malathion	0.050	Phanthoate	0.050	Sulfoxaflor	0.050
Mandipropamid	0.020	Phorate	0.050	Sulprofos	0.020
Mecarbam	0.020	Phorate Sulfone	0.050	Tebuconazole	0.100
Mepanipyrim	0.050	Phorate Sulfoxide	0.050	Tebufenozide	0.020
Merphos	0.500	Phosalone	0.050	Tebuthiuron	0.020
Metalaxyl	0.050	Phosmet	0.100	Tecnazene	0.100
Metaldehyde	0.050	Phosphamidon	0.050	Tefluthrin	0.100
Metconazole	0.100	Phoxim	0.050	Terbufos	0.020
Methacifos	0.100	Pinoxaden	0.020	Terbufos sulfone	0.050
Methamidophos	0.050	Piperonyl butoxide	0.050	Terbufos sulfoxide	0.050
Methidathion	0.050	Pirimicarb	0.020	Terbutylazine	0.020
Methiocarb	0.050	Pirimiphos-methyl	0.050	Terbutryn	0.020
Methiocarb sulfone	0.100	Pirimiphos-ethyl	0.020	Tetrachlorvinphos	0.050
Methiocarb sulfoxide	0.100	Prallethrin	0.100	Tetraconazole	0.050
Methomyl	0.100	Prochloraz	0.020	Tetradfon	0.200
Methoxychlor	0.100	Procyimdone	0.100	Tetramethrin	0.050
Methoxyfenozide	0.020	Prfenofos	0.100	Tetrasul	0.100
Metobromuron	0.050	Prfluralin	0.100	Thiabendazole	0.100
Metolachlor	0.100	Prmecarb	0.050	Thiabendazole, 5-hydroxy	0.100
Metolcarb	0.050	Prometon	0.100	Thiadoprid	0.050
Metraferone	0.050	Prometryn	0.020	Thiamethoxam	0.100
Metribuzin	0.100	Propachlor	0.020	Thiobencarb	0.050
Mevinphos	0.100			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	Tolyfluarid	0.050	Triticonazole	0.050
Tralkoxydim	0.100	Tridiphane	0.500	Vindozolin	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
 Chain of Custody

Northwest-Natural
 Goods-1707771825

ORELAP ID: OR100028 ANAB ISO 17025 ID: AT1508

Company Details					Testing											
Company: <u>Northwest Natural Goods</u> [Redacted] [Redacted] [Redacted] [Redacted] [Redacted] [Redacted]					Project Details Turnaround Time: <u>5 Business Days Req. For Micro Testing Standard</u> Relinquishment Sampling, Courier & Shipping Options: <u>Pick-Up Courier Service</u> Compliance: <u>Compliance</u> Project Name / ID: <u>HEMP - LM0091</u> Cannabis Type (select if applicable): <u>Industrial</u> Pick-Up Details Pick-Up Location Name: <u>Northwest Natural Goods</u> [Redacted] [Redacted] [Redacted]					H010 - Potency Cannabis (Basic/Expanded)	M053 - PAPPY/yeast and Mold Count (P/M) Petri. Im	N3600 - Water Activity & Moisture (as Loss on Drying) Food	H013 - Cannabis Heavy Metals Pro le CR	P2020 - Multi-Residue Pesticide Pro le (Cannabis)	M075 - E. coli/Coliform Count (EO) Petri. Im	H0008 - Residual Solvents (Cannabis - Oregon)
Receipt Information Sample Condition: Satisfactory																
#	Sample Name	Material	Amount Provided	Reporting Unit	Serving Size											
1	HEMP - LM0091	Cannabinoid Edible	20 each	mg/g & mg/serving	4 g	✓	✓	✓	✓	✓	✓	✓				

Relinquished By	Date	Time	Temp., °C	Received By	Date	Time	Received Temp., °C	Evidence of Cooling?
KRISTEN JOHNSON	02/12/2024	13:03	Temp., °C	BR	02/13/2024	10:09	25	No
BR	02/13/2024	11:52	17	rk	02/13/2024	13:31	25	No

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

Columbia Laboratories
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P: (503) 254-1794
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Test results relate only to the parameters tested and to the samples as received by the laboratory. Test results meet all requirements of NELAP and the Columbia Laboratories quality assurance plan unless otherwise noted. This report shall not be reproduced, except in full, without the written consent of this laboratory. Samples will be retained for a maximum of 30 days from the receipt date unless prior arrangements have been made.

Testing in accordance with: OAR 333-007-0390 OAR 333-007-0400 OAR 333-007-0410 OAR 333-007-0430



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Report Date: 02/19/2024
ORELAP#: OR100028
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 Legacy ID: Worksheet Validated 04/20/2021

Laboratory Quality Control Results

JAOAC2015 V986 Batch ID: 2401199

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits		Evaluation	Notes
CBDVA	2	0.0314	0.0322	%	97.5	80.0	- 120	Acceptable	
CBDV	2	0.0290	0.0297	%	97.7	80.0	- 120	Acceptable	
CBE	2	0.0344	0.0356	%	96.7	80.0	- 120	Acceptable	
CBDA	1	0.0309	0.0306	%	101	90.0	- 110	Acceptable	
CBGA	1	0.0301	0.0303	%	99.1	80.0	- 120	Acceptable	
CBG	1	0.0323	0.0327	%	98.9	80.0	- 120	Acceptable	
CBD	1	0.0339	0.0335	%	101	90.0	- 110	Acceptable	
THCV	2	0.0323	0.0333	%	96.9	80.0	- 120	Acceptable	
d8THCV	2	0.0275	0.0283	%	97.3	80.0	- 120	Acceptable	
THCVA	2	0.0305	0.0315	%	97.0	80.0	- 120	Acceptable	
CBN	1	0.0301	0.0301	%	99.7	80.0	- 120	Acceptable	
exo-THC	2	0.0322	0.0335	%	96.2	80.0	- 120	Acceptable	
d9THC	1	0.0319	0.0317	%	101	90.0	- 110	Acceptable	
d8THC	1	0.0298	0.0304	%	97.8	90.0	- 110	Acceptable	
9S-d10THC	1	0.0320	0.0324	%	98.7	80.0	- 120	Acceptable	
CBL	2	0.0314	0.0328	%	95.8	80.0	- 120	Acceptable	
9R-d10THC	1	0.0309	0.0317	%	97.4	80.0	- 120	Acceptable	
CBC	2	0.0292	0.0305	%	95.8	80.0	- 120	Acceptable	
THCA	1	0.0299	0.0296	%	101	90.0	- 110	Acceptable	
CBCA	2	0.0318	0.0327	%	97.3	80.0	- 120	Acceptable	
CBLA	2	0.0326	0.0336	%	97.1	80.0	- 120	Acceptable	
d9THCP	2	0.0313	0.0328	%	95.5	80.0	- 120	Acceptable	
CBT	2	0.0304	0.0327	%	93.0	80.0	- 120	Acceptable	

Method Blank							
Analyte	Result	LOQ	Units	Limits		Evaluation	Notes
CBDVA	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBDV	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBE	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBDA	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBGA	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBG	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBD	<LOQ	0.00329	%	< 0.00329		Acceptable	
THCV	<LOQ	0.00329	%	< 0.00329		Acceptable	
d8THCV	<LOQ	0.00329	%	< 0.00329		Acceptable	
THCVA	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBN	<LOQ	0.00329	%	< 0.00329		Acceptable	
exo-THC	<LOQ	0.00329	%	< 0.00329		Acceptable	
d9THC	<LOQ	0.00329	%	< 0.00329		Acceptable	
d8THC	<LOQ	0.00329	%	< 0.00329		Acceptable	
9S-d10THC	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBL	<LOQ	0.00329	%	< 0.00329		Acceptable	
9R-d10THC	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBC	<LOQ	0.00329	%	< 0.00329		Acceptable	
THCA	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBCA	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBLA	<LOQ	0.00329	%	< 0.00329		Acceptable	
d9THCP	<LOQ	0.00329	%	< 0.00329		Acceptable	
CBT	<LOQ	0.00329	%	< 0.00329		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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Laboratory Quality Control Results

JAOAC2015 V986		Batch ID: 2401199						
Sample Duplicate		Sample ID: 24-0015860001						
Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Evaluation	Notes
CBDVA	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBE	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBD	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBD	0.606	0.608	0.00327	%	0.399	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBN	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
d9THC	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
d8THC	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
9S-d10THC	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
9R-d10THC	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBC	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
THCA	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
d9THCP	<LOQ	<LOQ	0.00327	%	NA	< 20	Acceptable	
CBT	0.00880	0.00890	0.00327	%	1.20	< 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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Laboratory Quality Control Results

Residual Solvents				Batch ID: 2401248					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		510	584	µg/g	87.3	60 - 120	
Isobutane	ND	< 200		628	767	µg/g	81.9	60 - 120	
Butane	ND	< 200		634	782	µg/g	81.1	60 - 120	
2,2-Dimethylpropane	ND	< 200		760	939	µg/g	80.9	60 - 120	
Methanol	ND	< 200		1960	1600	µg/g	122.5	60 - 120	Q1
Ethylene Oxide	ND	< 30		48.4	57.1	µg/g	84.8	60 - 120	
2-Methylbutane	ND	< 200		1840	1600	µg/g	115.0	60 - 120	
Pentane	ND	< 200		1810	1600	µg/g	113.1	60 - 120	
Ethanol	ND	< 200		1780	1600	µg/g	111.3	70 - 130	
Ethyl Ether	ND	< 200		1670	1600	µg/g	104.4	60 - 120	
2,2-Dimethylbutane	ND	< 30		174	163	µg/g	106.7	60 - 120	
Acetone	ND	< 200		1790	1610	µg/g	111.2	60 - 120	
2-Propanol	ND	< 200		1760	1600	µg/g	110.0	60 - 120	
Ethyl Formate	ND	< 500		1150	1620	µg/g	71.0	70 - 130	
Acetonitrile	ND	< 100		514	481	µg/g	106.9	60 - 120	
Methyl Acetate	ND	< 500		1300	1610	µg/g	80.7	70 - 130	
2,3-Dimethylbutane	ND	< 30		171	161	µg/g	106.2	60 - 120	
Dichloromethane	ND	< 60		480	481	µg/g	99.8	60 - 120	
2-Methylpentane	ND	< 30		165	162	µg/g	101.9	60 - 120	
MTBE	ND	< 500		1240	1610	µg/g	77.0	70 - 130	
3-Methylpentane	ND	< 30		167	163	µg/g	102.5	60 - 120	
Hexane	ND	< 30		169	163	µg/g	103.7	60 - 120	
1-Propanol	ND	< 500		1360	1600	µg/g	85.0	70 - 130	
Methyl ethyl ketone	ND	< 500		1390	1610	µg/g	86.3	70 - 130	
Ethyl acetate	ND	< 200		1730	1610	µg/g	107.5	60 - 120	
2-Butanol	ND	< 200		1680	1600	µg/g	105.0	60 - 120	
Tetrahydrofuran	ND	< 100		471	487	µg/g	96.7	60 - 120	
Cyclohexane	ND	< 200		1540	1610	µg/g	95.7	60 - 120	
2-methyl-1-propanol	ND	< 500		1290	1610	µg/g	80.1	70 - 130	
Benzene	ND	< 1		4.57	4.88	µg/g	93.6	60 - 120	
Isopropyl Acetate	ND	< 200		1710	1610	µg/g	106.2	60 - 120	
Heptane	ND	< 200		1720	1600	µg/g	107.5	60 - 120	
1-Butanol	ND	< 500		1360	1610	µg/g	84.5	70 - 130	
Propyl Acetate	ND	< 500		1470	1610	µg/g	91.3	70 - 130	
1,4-Dioxane	ND	< 100		444	484	µg/g	91.7	60 - 120	
2-Ethoxyethanol	ND	< 30		164	162	µg/g	101.2	60 - 120	
Methylisobutylketone	ND	< 500		1460	1630	µg/g	89.6	70 - 130	
3-Methyl-1-butanol	ND	< 500		1320	1610	µg/g	82.0	70 - 130	
Ethylene Glycol	ND	< 200		399	498	µg/g	80.4	60 - 120	
Toluene	ND	< 100		456	486	µg/g	93.8	60 - 120	
Isobutyl Acetate	ND	< 500		1460	1610	µg/g	90.7	70 - 130	
1-Pentanol	ND	< 500		1370	1600	µg/g	85.6	70 - 130	
Butyl Acetate	ND	< 500		1420	1600	µg/g	88.8	70 - 130	
Ethylbenzene	ND	< 200		870	961	µg/g	90.5	60 - 120	
m,p-Xylene	ND	< 200		880	973	µg/g	90.4	60 - 120	
o-Xylene	ND	< 200		857	963	µg/g	89.0	60 - 120	
Cumene	ND	< 30		132	164	µg/g	80.5	60 - 120	
Anisole	ND	< 500		1180	1600	µg/g	73.8	70 - 130	
DMSO	ND	< 500		1180	1610	µg/g	73.3	70 - 130	
1,2-dimethoxyethane	ND	< 50		160	170	µg/g	94.1	70 - 130	
Triethylamine	ND	< 500		1180	1600	µg/g	73.8	70 - 130	
N,N-dimethylformamide	ND	< 150		360	482	µg/g	74.7	70 - 130	
N,N-dimethylacetamide	ND	< 150		416	488	µg/g	85.2	70 - 130	
Pyridine	ND	< 50		129	164	µg/g	78.7	70 - 130	
Silolane	ND	< 50		113	169	µg/g	66.9	70 - 130	Q6
1,2-Dichloroethane	ND	< 1		0.956	1	µg/g	95.6	70 - 130	
Chloroform	ND	< 1		0.942	1	µg/g	94.2	70 - 130	
Trichloroethylene	ND	< 1		0.797	1	µg/g	79.7	70 - 130	
1,1,1-Trichloroethane	ND	< 1		1.02	1	µg/g	102.0	70 - 130	



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QC- Sample Duplicate		Sample ID: 24-001528-0001						
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

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.