



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



Report Number: 23-004761/D003.R000
Report Date: 04/27/2023
ORELAP#: OR100028
Purchase Order:
Received: 04/19/23 13:59

Customer: NW Natural Goods
Product identity: HEMP- EB 0077
Client/Metric ID: .
Laboratory ID: 23-004761-0001

Summary

Potency:

Analyte per 4g	Result	Limits	Units	Status	
CBC per 4g	0.229		mg/4g		CBD-Total per Serving Size 26.6 mg/4g
CBD per 4g	26.6		mg/4g		
CBG per 4g	0.740		mg/4g		THC-Total per Serving Size <LOQ
CBN per 4g	5.20		mg/4g		(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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Product identity: HEMP- EB 0077

Client/Metric ID: .

Sample Date:

Laboratory ID: 23-004761-0001

Evidence of Cooling: No

Temp: 17.8

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: 2306623		Analyze: 4/21/23 4:53:00 PM
Analyte	Result	Limits	Units	LOQ	Notes	
CBC per 4g	0.229		mg/4g	0.123		
CBC-A per 4g	< LOQ		mg/4g	0.123		
CBC-Total per 4g	< LOQ		mg/4g	0.232		
CBD per 4g	26.6		mg/4g	0.123		
CBD-A per 4g	< LOQ		mg/4g	0.123		
CBD-Total per 4g	26.6		mg/4g	0.232		
CBDV per 4g	< LOQ		mg/4g	0.123		
CBDV-A per 4g	< LOQ		mg/4g	0.123		
CBDV-Total per 4g	< LOQ		mg/4g	0.230		
CBE per 4g	< LOQ		mg/4g	0.123		
CBG per 4g	0.740		mg/4g	0.123		
CBG-A per 4g	< LOQ		mg/4g	0.123		
CBG-Total per 4g	0.740		mg/4g	0.230		
CBL per 4g	< LOQ		mg/4g	0.123		
CBL-A per 4g	< LOQ		mg/4g	0.123		
CBL-Total per 4g	< LOQ		mg/4g	0.232		
CBN per 4g	5.20		mg/4g	0.123		
CBT per 4g	< LOQ		mg/4g	0.123		
Δ8-THCV per 4g	< LOQ		mg/4g	0.123		
Δ10-THC-9R per 4g	< LOQ		mg/4g	0.123		
Δ10-THC-9S per 4g	< LOQ		mg/4g	0.123		
Δ10-THC-Total per 4g	< LOQ		mg/4g	0.247		
Δ8-THC per 4g	< LOQ		mg/4g	0.123		
Δ9-THC per 4g	< LOQ		mg/4g	0.123		
exo-THC per 4g	< LOQ		mg/4g	0.123		
THC-A per 4g	< LOQ		mg/4g	0.123		
THC-Total per 4g	< LOQ		mg/4g	0.232		
THCV per 4g	< LOQ		mg/4g	0.123		
THCV-A per 4g	< LOQ		mg/4g	0.123		
THCV-Total per 4g	< LOQ		mg/4g	0.232		
Total Cannabinoids per 4g	33.0		mg/4g			



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Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
E.coli	< LOQ		cfu/g	10	2306548	04/22/23 AOAC 991.14 (Petrifilm) [®]		
Total Coliforms	< LOQ		cfu/g	10	2306548	04/22/23 AOAC 991.14 (Petrifilm) [®]		
Mold (RAPID Petrifilm)	< LOQ		cfu/g	10	2306549	04/23/23 AOAC 2014.05 (RAPID) [®]		
Yeast (RAPID Petrifilm)	< LOQ		cfu/g	10	2306549	04/23/23 AOAC 2014.05 (RAPID) [®]		

Solvents Method: Residual Solvents by GC/MS[®] Units µg/g Batch 2306734 Analyze 04/26/23 10:58 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-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)[®] Units mg/kg Batch 2306743 Analyze 04/26/23 12:54 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	0.0193	2306742	04/25/23 AOAC 2013.06 (mod.) [®]	pass	
Cadmium*	< LOQ	0.200	mg/kg	0.0193	2306742	04/25/23 AOAC 2013.06 (mod.) [®]	pass	
Lead*	< LOQ	0.500	mg/kg	0.0193	2306742	04/25/23 AOAC 2013.06 (mod.) [®]	pass	
Mercury*	< LOQ	0.100	mg/kg	0.00963	2306742	04/25/23 AOAC 2013.06 (mod.) [®]	pass	



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Nutrition

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed Method	Status	Notes
Moisture (Loss on Drying)	18.0		g/100g	0.10	2306781	04/26/23 AOAC 925.10 (mod.) ^p		
Water Activity	0.673		Aw	0.030	2306596	04/21/23 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.

^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	Clethodim	0.050	Endrin	0.100
Acephate	0.100	Clethodim Sulfone	0.050	EPN	0.050
Acetaminophen	0.100	Clethodim Sulfoxide	0.050	EPIC	0.100
Acetochlor	0.020	Cb fenfentazine	0.020	Esfenvalerate/ Fenvalerate	0.200
Acrinathrin	0.100	Cb mazone	0.020	Etaconazole	0.100
Alachlor	0.100	Cb thianidin	0.200	Ethalfuralin	0.100
Aldicarb	0.100	Cumaphos	0.050	Ethiofencarb	0.050
Aldicarb sulfoxide	0.100	Crtoxypfos	0.020	Ethion	0.200
Aldoxycarb (Aldicarb-sulfone)	0.100	Cyazazine	0.020	Ethirimol	0.100
Aldrin	0.100	Cyazofenphos	0.020	Ethofumesate	0.050
Ametoctradin	0.020	Cyaztraniiprole	0.050	Ethoprophos	0.020
Ametryn	0.500	Cyazflamid	0.020	Etofenprox	0.020
Aspon	0.100	Cydoate	0.100	Etozazole	0.020
Asulam	0.100	Cyfluthrin	0.200	Eridiazole	0.100
Atrazine	0.100	Cyhalothrin, lambda	0.200	Erimfos	0.020
Atrazine-desethyl	0.100	Cymoxanil	0.050	Fenoxadone	0.200
Azinphos-ethyl	0.020	Cypermethrin	0.200	Famphur	0.100
Azinphos-methyl	0.020	Cyprodinil	0.100	Fenamidon	0.020
Azoxystrobin	0.020	Dadhal	0.100	Fenamiphos	0.020
Berlaxyl	0.020	Damnozide	0.100	Fenamiphos sulfone	0.020
Berdicarb	0.020	DCEMU	0.050	Fenamiphos sulfoxide	0.020
Berfluralin	0.100	DDD, op'	0.100	Fenazaquin	0.100
Berxacor	0.050	DDD, p,p'	0.100	Fenbuconazole	0.100
Bersulide	0.050	DDE, o,p'	0.100	Fenchlorphos	0.100
BHC alpha isomer	0.100	DDE, p,p'	0.100	Fenchlorphos-oxon	0.100
BHC beta isomer	0.100	DDT, o,p'	0.100	Fenhexam d	0.100
BHC delta isomer	0.500	DDT, p,p'	0.100	Fenitrothion	0.100
Bifenazate	0.020	DEF (Tribufos)	0.100	Fenobucarb	0.050
Bifenthrin	0.020	Deltamethrin	0.100	Fenoxycarb	0.020
Boscalid	0.020	Desmedipham	0.100	Fenpropathrin	0.050
Bromophos-ethyl	0.100	Diallate	0.100	Fenpyroximate	0.020
Bromophos-methyl	0.200	Diazinon	0.020	Fenson	0.100
Bromopropylate	0.100	Diazoxon	0.100	Fensulfiothion	0.020
Bromuconazole	0.100	Dichlobenil	0.100	Fensulfiothion oxon	0.020
Bupirimate	0.020	Dchlorfluand	0.100	Fensulfiothion sulfone	0.100
Buprofezin	0.050	Dchlorvos	0.100	Fensulfiothion-oxon-sulfone	0.020
Butachlor	0.500	Dclobutrazol	0.050	Fenthion	0.050
Butralin	0.200	Dcofol	0.100	Fenthion oxon	0.020
Butylate	0.100	Dicrotophos	0.050	Fenthion oxon sulfone	0.100
Cadusafos	0.020	Deldrin	0.100	Fenthion sulfone	0.050
Captan	1.000	Dethofencarb	0.020	Fenuron	0.020
Carbaryl	0.050	Dethyltoluam de (DEET)	0.050	Fipronil	0.100
Carbendazim	0.100	Difenoconazole	0.100	Fonicamid	0.100
Carbofuran	0.020	Dimethenamid	0.050	Fuchloralin	0.100
Carbophenothion	0.200	Dimethoate	0.050	Flucythrinate	0.100
Carboxin	0.020	Dimethomorph	0.050	Fludioxonil	0.200
Carfentrazone-ethyl	0.100	Diconazole	0.200	Flufenacet	0.020
Chlorantraniliprole	0.020	Dnotefuran	0.200	Flumioxazin	0.100
Chordane, cis	0.200	Doxathion	0.100	Flumeturon	0.020
Chordane, trans	0.200	Dphenamid	0.020	Fluopicolide	0.050
Chorfenapyr	0.500	Dphenylamine	0.100	Fluopyram	0.020
Chorfenoson	0.200	Disulfoton	0.100	Fluoxastrobin	0.050
Chorfenvinphos	0.050	Disulfoton sulfone	0.100	Flupyradifurone	0.020
Chorbenzilate	0.100	Disulfoton sulfoxide	0.100	Fluridone	0.100
Choroneb	0.200	Duron	0.050	Flusilazole	0.020
Chorpyrifos	0.050	Edifenphos	0.050	Flutolanil	0.020
Chorpyrifos-methyl	0.200	Endosulfan alpha	0.200	Flutriafol	0.020
CIPC	1.000	Endosulfan beta	0.200	Fluvalinate, tau-	0.100
		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	Padobutrazol	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	Smectryl	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	Promecarb	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	Propadchlor	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: Usable / Extract / Finished
Chain of Custody Record

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

NWNATURALGOODS 23-004761

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



Client Information			Analysis Requested										Material		Comments/Metric ID
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)	
	HEMP - EB 0077	04/19/23	✓	✓	✓	✓	✓	✓	✓	✓	✓			80g	
Ph: () - <i>Billing Contact (if different)</i> Name: _____ Email: _____ Address: _____ City: _____ State: _____ Zip: _____ Ph: () -			NW Natural Goods Batch ID: _____ Sampled by: _____ Custom Reporting: _____ 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* *Check for availability												
Signature - Relinquished By: _____ Date: _____ Time: _____ Annie Nair 04/19/23 1040 Signature - Received By: _____ Date: _____ Time: _____ [Signature] 4/19/23 1311 [Signature] 4/19/23 1040 [Signature] 4/19/23 1311 [Signature] 4/19/23 1359			Lab Use Only: <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>17.8</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:												

† - 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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Page _____ of _____
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Received: 04/19/23 13:59

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

Laboratory Quality Control Results

JAOAC2015 V986 Batch ID: 2306623

Laboratory Control Sample									
Analyte	LCS	Result	Spike	Units	% Rec	Limits	Evaluation	Notes	
CBDVA	2	0.0317	0.030	%	104	80.0 - 120	Acceptable		
CBDV	2	0.0305	0.030	%	103	80.0 - 120	Acceptable		
CBE	2	0.0348	0.034	%	103	80.0 - 120	Acceptable		
CBDA	1	0.0323	0.031	%	105	90.0 - 110	Acceptable		
CBGA	1	0.0275	0.026	%	107	80.0 - 120	Acceptable		
CBG	1	0.0333	0.031	%	107	80.0 - 120	Acceptable		
CBD	1	0.0290	0.027	%	106	90.0 - 110	Acceptable		
THCV	2	0.0228	0.023	%	101	80.0 - 120	Acceptable		
d8THCV	2	0.0281	0.027	%	106	80.0 - 120	Acceptable		
THCVA	2	0.0321	0.031	%	103	80.0 - 120	Acceptable		
CBN	1	0.0290	0.027	%	108	80.0 - 120	Acceptable		
exo-THC	2	0.0318	0.031	%	104	80.0 - 120	Acceptable		
d9THC	1	0.0327	0.031	%	105	90.0 - 110	Acceptable		
d8THC	1	0.0335	0.031	%	107	90.0 - 110	Acceptable		
9S-d10THC	1	0.0331	0.031	%	105	80.0 - 120	Acceptable		
CBL	2	0.0327	0.032	%	101	80.0 - 120	Acceptable		
9S-HHC	3	0.0304	0.033	%	91.1	80.0 - 120	Acceptable		
9R-d10THC	1	0.0324	0.032	%	102	80.0 - 120	Acceptable		
CBG	2	0.0311	0.030	%	103	80.0 - 120	Acceptable		
9R-HHC	3	0.0274	0.033	%	82.3	80.0 - 120	Acceptable		
THCA	1	0.0388	0.036	%	108	90.0 - 110	Acceptable		
CBGA	2	0.0329	0.032	%	102	80.0 - 120	Acceptable		
CBLA	2	0.0315	0.032	%	97.9	80.0 - 120	Acceptable		
d8THCO	3	0.0334	0.033	%	100	80.0 - 120	Acceptable		
CBT	2	0.0337	0.033	%	102	80.0 - 120	Acceptable		
d9THCO	3	0.0346	0.033	%	104	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		
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: 23-004761/D003.R000
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Revision 1 Document D 7148
Legacy D Worksheet Validated 04/20/2021

Laboratory Quality Control Results

JAOAC2015 V986		Batch ID: 2306623						
Sample Duplicate		Sample ID: 23-0047330001						
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	<LOQ	<LOQ	0.003	%	NA	< 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	<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	0.0038	0.0039	0.003	%	2.24	< 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	<LOQ	<LOQ	0.003	%	NA	< 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



12423 NE Whitaker Way
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 503-254-1794



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Revision 2 Document D 7087
 Legacy D CFL-E33Effective

Laboratory Quality Control Results

Residual Solvents				Batch ID: 2306734					
Method Blank				Laboratory Control Sample					
Analyte	Result	LOQ	Notes	Result	Spike	Units	% Rec	Limits	Notes
Propane	ND	< 200		444	584	µg/g	76.0	60	120
Isobutane	ND	< 200		561	767	µg/g	73.1	60	120
Butane	ND	< 200		586	782	µg/g	74.9	60	120
2,2 Dimethylpropane	ND	< 200		749	939	µg/g	79.8	60	120
Methanol	ND	< 200		1650	1610	µg/g	102.5	60	120
Ethylene Oxide	ND	< 30		47.7	57.1	µg/g	83.5	60	120
2 Methylbutane	ND	< 200		1670	1600	µg/g	104.4	60	120
Pentane	ND	< 200		1680	1610	µg/g	104.3	60	120
Ethanol	ND	< 200		1680	1600	µg/g	105.0	70	130
Ethyl Ether	ND	< 200		1670	1610	µg/g	103.7	60	120
2,2 Dimethylbutane	ND	< 30		174	173	µg/g	100.6	60	120
Acetone	ND	< 200		1640	1620	µg/g	101.2	60	120
2 Propanol	ND	< 200		1640	1600	µg/g	102.5	60	120
Ethyl Formate	ND	< 500		1690	1610	µg/g	105.0	70	130
Acetonitrile	ND	< 100		480	488	µg/g	98.4	60	120
Methyl Acetate	ND	< 500		1490	1610	µg/g	92.5	70	130
2,3 Dimethylbutane	ND	< 30		164	165	µg/g	99.4	60	120
Dichloromethane	ND	< 60		519	487	µg/g	106.6	60	120
2 Methylpentane	ND	< 30		166	160	µg/g	103.8	60	120
M BE	ND	< 500		1530	1600	µg/g	95.6	70	130
3 Methylpentane	ND	< 30		160	161	µg/g	99.4	60	120
Hexane	ND	< 30		163	162	µg/g	100.6	60	120
1 Propanol	ND	< 500		1560	1620	µg/g	96.3	70	130
Methylethylketone	ND	< 500		1490	1610	µg/g	92.5	70	130
Ethyl acetate	ND	< 200		1600	1600	µg/g	100.0	60	120
2 Butanol	ND	< 200		1640	1610	µg/g	101.9	60	120
tetrahydrofuran	ND	< 100		482	483	µg/g	99.8	60	120
Cyclohexane	ND	< 200		1610	1610	µg/g	100.0	60	120
2 methyl 1 propanol	ND	< 500		1500	1630	µg/g	92.0	70	130
Benzene	ND	< 1		5.16	4.98	µg/g	103.6	60	120
Isopropyl Acetate	ND	< 200		1650	1610	µg/g	102.5	60	120
Heptane	ND	< 200		1650	1620	µg/g	101.9	60	120
1 Butanol	ND	< 500		1500	1600	µg/g	93.8	70	130
Propyl Acetate	ND	< 500		1440	1620	µg/g	88.9	70	130
1,4 Dioxane	ND	< 100		468	494	µg/g	94.7	60	120
2 Ethoxyethanol	ND	< 30		183	165	µg/g	110.9	60	120
Methylisobutylketone	ND	< 500		1470	1610	µg/g	91.3	70	130
3 Methyl 1 butanol	ND	< 500		1490	1610	µg/g	92.5	70	130
Ethylene Glycol	ND	< 200		461	486	µg/g	94.9	60	120
oluene	ND	< 100		461	513	µg/g	89.9	60	120
Isobutyl Acetate	ND	< 500		1430	1600	µg/g	89.4	70	130
1 Pentanol	ND	< 500		1450	1610	µg/g	90.1	70	130
Butyl Acetate	ND	< 500		1420	1610	µg/g	88.2	70	130
Ethylbenzene	ND	< 200		879	967	µg/g	90.9	60	120
m,p Xylene	ND	< 200		892	994	µg/g	89.7	60	120
o Xylene	ND	< 200		874	992	µg/g	88.1	60	120
Cumene	ND	< 30		149	171	µg/g	87.1	60	120
Anisole	ND	< 500		1240	1610	µg/g	77.0	70	130
DMSO	ND	< 500		1500	1610	µg/g	93.2	70	130
1,2 dimethoxyethane	ND	< 50		163	172	µg/g	94.8	70	130
riethylamine	ND	< 500		1430	1620	µg/g	88.3	70	130
N,N dimethylformamide	ND	< 150		469	499	µg/g	94.0	70	130
N,N dimethylacetamide	ND	< 150		453	491	µg/g	92.3	70	130
Pyridine	ND	< 50		156	171	µg/g	91.2	70	130
Sulfolane	ND	< 50		135	160	µg/g	84.4	70	130
1,2 Dichloroethane	ND	< 1		0.679	1	µg/g	67.9	70	130 Q6
Chloroform	ND	< 1		0.672	1	µg/g	67.2	70	130 Q6
richloroethylene	ND	< 1		0.632	1	µg/g	63.2	70	130 Q6
1,1 Dichloroethane	ND	< 1		0.654	1	µg/g	65.4	70	130 Q6



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QC - Sample Duplicate Sample ID: 23-004761-0001

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	
M BE	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	
oluene	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	
richloroethylene	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



12423 NE Whitaker Way
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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.