Columbia LABORATORIES
A Tentamus Company

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

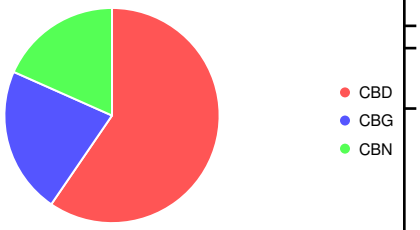
Report Number: 22-011232/D003.R000
Report Date: 09/27/2022
ORELAP#: OR100028
Purchase Order:
Received: 09/19/22 16:00

Customer: Brothers Apothecary
Product identity: Hemp Isolate
Client/Metrc ID: .
Laboratory ID: 22-011232-0002

Summary

Potency:

Analyte	Result (%)
CBD	55.7
CBG	20.7
CBN	17.2



CBD-Total	55.7%
THC-Total	<LOQ

(Reported in percent of total sample)

Residual Solvents:

All analytes passing and less than LOQ.

Pesticides:

All analytes passing and less than LOQ.

Metals:

Less than LOQ for all analytes.

Microbiology:

Less than LOQ for all analytes.

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ORELAP#: OR100028
Purchase Order:
Received: 09/19/22 16:00

Customer: Brothers Apothecary
3423 SE18th Ave
Portland OR, 97202
United States of America (USA)

Product identity: Hemp Isolate
Client/Metrc ID: .
Sample Date:
Laboratory ID: 22-011232-0002
Evidence of Cooling: No
Temp: 29 °C
Relinquished by: client

Sample Results

Potency **Method:** J AOAC 2015 V98-6 (mod)þ **Units** % **Batch:** 2207941 **Analyze:** 9/20/22 9:48:00 PM

Analyte	As Received	Dry weight	LOQ	Notes
CBD	55.7		0.667	
CBD-A	< LOQ		0.0667	
CBD-Total	55.7		0.726	
CBG	20.7		0.667	
CBG-A	< LOQ		0.0667	
CBG-Total	20.7		0.725	
CBN	17.2		0.0667	
Δ10-THC	< LOQ		0.0667	
Δ8-THC	< LOQ		0.0667	
Δ9-THC	< LOQ		0.0667	
THC-A	< LOQ		0.0667	
THC-Total	< LOQ		0.125	
Total Cannabinoids	93.6			

Microbiology

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes
E.coli	< LOQ	100.00	cfu/g	10	2207922	09/23/22	AOAC 991.14 (Petrifilm)þ	pass	
Total Coliforms	< LOQ	100.00	cfu/g	10	2207922	09/23/22	AOAC 991.14 (Petrifilm)þ	pass	
Mold (RAPID Petrifilm)	< LOQ	1,000.	cfu/g	10	2207923	09/24/22	AOAC 2014.05 (RAPID)þ	pass	
Yeast (RAPID Petrifilm)	< LOQ	1,000.	cfu/g	10	2207923	09/24/22	AOAC 2014.05 (RAPID)þ	pass	
Salmonella spp. by PCR	Negative		/25g		2207930	09/22/22	AOAC 2020.02þ		
EHEC including STEC	Negative		/25g		2207932	09/22/22	AOAC RI 121806þ		

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Purchase Order:
Received: 09/19/22 16:00

Solvents **Method:** Residual Solvents by GC/MS^{b} **Units** µg/g **Batch** 2208097 **Analyze** 09/26/22 12:54 PM

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
1-Butanol	< LOQ		500			1-Pentanol	< LOQ		500		
1,1-Dichloroethane	< LOQ		1.00			1,2-Dichloroethane	< LOQ		1.00		
1,2-Dimethoxyethane	< LOQ		50.0			1,4-Dioxane	< LOQ		100		
2-Butanol	< LOQ		200			2-Ethoxyethanol	< LOQ		30.0		
2-methyl-1-propanol	< LOQ		500			2-Methylbutane (Isopentane)	< LOQ	1000	200	pass	
2-Methylpentane	< LOQ	60.0	30.0	pass		2-Propanol (IPA)	< LOQ	1000	200	pass	
2,2-Dimethylbutane	< LOQ	60.0	30.0	pass		2,2-Dimethylpropane (neo-pentane)	< LOQ	1000	200	pass	
2,3-Dimethylbutane	< LOQ	60.0	30.0	pass		3-Methyl-(1)-Butanol	< LOQ		500		
3-Methylpentane	< LOQ	60.0	30.0	pass		Acetic Acid	< LOQ		250		
Acetone	< LOQ	1000	200	pass		Acetonitrile	< LOQ		100		
Anisole	< LOQ		500			Benzene	< LOQ	2.00	1.00	pass	
Butanes (sum)	< LOQ	1000	400	pass		Butyl acetate	< LOQ		500		
Chloroform	< LOQ		1.00			Cyclohexane	< LOQ		200		
DMSO	< LOQ		500			Ethanol	< LOQ	1000	200	pass	
Ethyl acetate	< LOQ	1000	200	pass		Ethyl benzene	< LOQ		200		
Ethyl ether	< LOQ		200			Ethyl Formate	< LOQ		500		
Ethylene glycol	< LOQ		200			Ethylene oxide	< LOQ		1.00		
Formic Acid	< LOQ		250			Hexanes (sum)	< LOQ	60.0	150	pass	
Isobutyl acetate	< LOQ		500			Isopropyl acetate	< LOQ		200		
Isopropylbenzene (Cumene)	< LOQ		30.0			m,p-Xylene	< LOQ	430	200	pass	
Methanol	< LOQ	600	200	pass		Methyl-t-butyl ether	< LOQ		500		
Methylacetat	< LOQ		500			Methylene chloride	< LOQ		1.00		
Methylethylketone	< LOQ		500			Methylisobutylketone	< LOQ		500		
Methylpropane (Isobutane)	< LOQ	1000	200	pass		n-Butane	< LOQ	1000	200	pass	
n-Heptane	< LOQ	1000	200	pass		n-Hexane	< LOQ	60.0	30.0	pass	
n-Pentane	< LOQ	1000	200	pass		n-Propanol	< LOQ		500		
N,N-dimethylacetamide	< LOQ		200			N,N-dimethylformamide	< LOQ		200		
o-Xylene	< LOQ	430	200	pass		Pentanes (sum)	< LOQ	1000	600	pass	
Propane	< LOQ	1000	200	pass		Propyl Acetate	< LOQ		500		
Pyridine	< LOQ		50.0			Sulfolane	pending		50.0		
Tetrahydrofuran	< LOQ		100			Toluene	< LOQ	180	100	pass	
Total Residual Solvents	< LOQ		5,000			Total Xylenes	< LOQ	430	400	pass	
Total Xylenes and Ethyl benzene	< LOQ		600			Trichloroethylene	< LOQ		1.00		
Triethylamine	< LOQ		500								

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ORELAP#: OR100028
Purchase Order:
Received: 09/19/22 16:00

Pesticides **Method:** AOAC 2007.01 & EN 15662 (mod) **Units** mg/kg **Batch** 2207934 **Analyze** 09/21/22 09:07 AM

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Abamectin	< LOQ	0.25	0.070	pass		Acephate	< LOQ	0.050	0.020	pass	
Acequinocyl	< LOQ	0.030	0.025	pass		Acetamiprid	< LOQ	0.050	0.050	pass	
Aldicarb	< LOQ	0.50	0.100	pass		Allethrin	< LOQ	0.10	0.100	pass	
Atrazine	< LOQ	0.0250	0.025	pass		Azadirachtin	< LOQ	1.0	0.500	pass	
Azoxystrobin	< LOQ	0.010	0.010	pass		Benzovindiflupyr	< LOQ	0.010	0.010	pass	
Bifenazate	< LOQ	0.010	0.010	pass		Bifenthrin	< LOQ	1.0	0.100	pass	
Boscalid	< LOQ	0.010	0.010	pass		Buprofezin	< LOQ	0.020	0.010	pass	
Captan	< LOQ		0.700			Carbaryl	< LOQ	0.025	0.025	pass	
Carbofuran	< LOQ	0.010	0.010	pass		Chlorantraniliprole	< LOQ	0.020	0.010	pass	
Chlordane (cis+trans)	< LOQ		0.100			Chlorfenapyr	< LOQ	1.5	0.100	pass	
Chlorpyrifos	< LOQ	0.50	0.010	pass		Clofentezine	< LOQ	0.010	0.010	pass	
Clothianidin	< LOQ	0.025	0.025	pass		Coumaphos	< LOQ	0.010	0.010	pass	
Cyantraniliprole	< LOQ	0.010	0.010	pass		Cyfluthrin	< LOQ	0.20	0.400	pass	
Cyhalothrin,lambda	< LOQ	0.0200	0.250	pass		Cypermethrin	< LOQ	0.30	0.300	pass	
Cyprodinil	< LOQ	0.010	0.010	pass		Daminozide	< LOQ	0.10	0.050	pass	
Deltamethrin	< LOQ	0.50	0.500	pass		Diazinon	< LOQ	0.020	0.010	pass	
Dichlorvos	< LOQ	0.050	0.050	pass		Dimethoate	< LOQ	0.010	0.010	pass	
Dimethomorph	< LOQ	0.050	0.050	pass		Dinotefuran	< LOQ	0.050	0.050	pass	
Diuron	< LOQ	0.125	0.125	pass		Dodemorph	< LOQ	0.050	0.050	pass	
Endosulfan I (alpha)	< LOQ	2.5	0.050	pass		Endosulfan II (beta)	< LOQ	2.5	0.050	pass	
Endosulfan sulfate	< LOQ	2.5	0.050	pass		Ethoprophos	< LOQ	0.010	0.010	pass	
Etofenprox	< LOQ	0.050	0.010	pass		Etoxazole	< LOQ	0.020	0.010	pass	
Etridiazole	< LOQ	0.15	0.050	pass		Fenhexamid	< LOQ	0.13	0.100	pass	
Fenoxycarb	< LOQ	0.010	0.010	pass		Fenpyroximate	< LOQ	0.020	0.020	pass	
Fensulfothion	< LOQ	0.010	0.010	pass		Fenthion	< LOQ	0.010	0.010	pass	
Fenvalerate	< LOQ		0.200			Fipronil	< LOQ	0.010	0.010	pass	
Flonicamid	< LOQ	0.025	0.025	pass		Fludioxonil	< LOQ	0.010	0.010	pass	
Fluopyram	< LOQ	0.010	0.010	pass		Hexythiazox	< LOQ	0.010	0.010	pass	
Imazalil	< LOQ	0.010	0.010	pass		Imidacloprid	< LOQ	0.010	0.010	pass	
Iprodione	< LOQ	0.50	0.500	pass		Kinoprene	< LOQ	1.3	0.050	pass	
Kresoxim-methyl	< LOQ	0.15	0.010	pass		Malathion	< LOQ	0.010	0.010	pass	
Metalaxyl	< LOQ	0.010	0.010	pass		Methiocarb	< LOQ	0.010	0.010	pass	
Methomyl	< LOQ	0.025	0.025	pass		Methoprene	< LOQ	2.0	1.00	pass	
Mevinphos	< LOQ	0.025	0.025	pass		MGK-264	< LOQ	0.050	0.050	pass	
Myclobutanil	< LOQ	0.010	0.010	pass		Naled	< LOQ	0.10	0.100	pass	
Novaluron	< LOQ	0.025	0.025	pass		Oxamyl	< LOQ	1.5	0.500	pass	
Paclobutrazole	< LOQ	0.010	0.010	pass		Parathion-Methyl	< LOQ	0.050	0.030	pass	
Permethrin	< LOQ	0.50	0.040	pass		Phenothrin	< LOQ	0.050	0.025	pass	
Phosmet	< LOQ	0.020	0.010	pass		Piperonyl butoxide	< LOQ	1.3	0.200	pass	
Pirimicarb	< LOQ	0.010	0.010	pass		Prallethrin	< LOQ	0.050	0.050	pass	
Propiconazole	< LOQ	0.10	0.010	pass		Propoxur	< LOQ	0.010	0.010	pass	
Pyraclostrobin	< LOQ	0.010	0.010	pass		Pyrethrins (total)	< LOQ	0.050	0.025	pass	
Pyridaben	< LOQ	0.020	0.020	pass		Pyriproxyfen	< LOQ	0.0100	0.010	pass	
Quintozene	< LOQ	0.020	0.020	pass		Resmethrin	< LOQ	0.050	0.020	pass	
Spinetoram	< LOQ	0.010	0.010	pass		Spinosad	< LOQ	0.010	0.010	pass	
Spirodiclofen	< LOQ	0.25	0.250	pass		Spiromesifen	< LOQ	3.0	0.030	pass	

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Pesticides

Method: AOAC 2007.01 & EN 15662 (mod) **Units** mg/kg **Batch** 2207934 **Analyze** 09/21/22 09:07 AM

Analyte	Result	Limits	LOQ	Status	Notes	Analyte	Result	Limits	LOQ	Status	Notes
Spirotetramat	< LOQ	0.010	0.010	pass		Spiroxamine	< LOQ	0.10	0.010	pass	
Tebuconazole	< LOQ	0.010	0.010	pass		Tebufenozide	< LOQ	0.010	0.010	pass	
Teflubenzuron	< LOQ	0.025	0.025	pass		Tetrachlorvinphos	< LOQ	0.010	0.010	pass	
Tetramethrin	< LOQ	0.10	0.050	pass		Thiabendazole	< LOQ	0.0200	0.020	pass	
Thiacloprid	< LOQ	0.010	0.010	pass		Thiamethoxam	< LOQ	0.010	0.010	pass	
Thiophanate-Methyl	< LOQ	0.050	0.030	pass		Trifloxystrobin	< LOQ	0.010	0.010	pass	

Metals

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes
Arsenic	< LOQ	1.50	mg/kg	0.0895	2208028	09/22/22	AOAC 2013.06 (mod.)þ	pass	
Cadmium	< LOQ	0.50	mg/kg	0.0895	2208028	09/22/22	AOAC 2013.06 (mod.)þ	pass	
Lead	< LOQ	0.50	mg/kg	0.0895	2208028	09/22/22	AOAC 2013.06 (mod.)þ	pass	
Mercury	< LOQ	1.50	mg/kg	0.0447	2208028	09/22/22	AOAC 2013.06 (mod.)þ	pass	

Mycotoxins

Analyte	Result	Limits	Units	LOQ	Batch	Analyzed	Method	Status	Notes
Aflatoxin B2¥	< LOQ	5.00	µg/kg	5.00	2207994	09/22/22	AOAC 2007.01 & EN 15662 (mod)þ	pass	
Aflatoxin B1¥	< LOQ	5.00	µg/kg	5.00	2207994	09/22/22	AOAC 2007.01 & EN 15662 (mod)þ	pass	
Aflatoxin G1¥	< LOQ	5.00	µg/kg	5.00	2207994	09/22/22	AOAC 2007.01 & EN 15662 (mod)þ	pass	
Aflatoxin G2¥	< LOQ	5.00	µg/kg	5.00	2207994	09/22/22	AOAC 2007.01 & EN 15662 (mod)þ	pass	
Ochratoxin A¥	< LOQ	5.00	µg/kg	5.00	2207994	09/22/22	AOAC 2007.01 & EN 15662 (mod)þ	pass	
Total Aflatoxins¥	0.000		µg/kg	20.0		09/27/22	AOAC 2007.01 & EN 15662 (mod)þ		

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

Abbreviations

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

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

Threshold Note: Action levels per 6 CCR 1010-21 CDPHE requirements

ᵇ = ISO/IEC 17025:2017 accredited method.
¥ = TNI accredited analyte.

Units of Measure

/25g = Per 25g
cfu/g = Colony forming units per gram
µg/g = Microgram per gram
µg/kg = Micrograms per kilogram = parts per billion (ppb)
mg/kg = Milligram per kilogram = parts per million (ppm)
% = Percentage of sample
% wt = µg/g divided by 10,000

Approved Signatory

Derrick Tanner
General Manager

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

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

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

Company: Brothers Apothecary
Contact: Jesse Richardson
Address: 3423 SE 18th Ave
City: Portland **State:** OR **Zip Code:** 97202
☐ **Email Results:** jesse@brotherstea.com
☐ **Ph:** (818) - 653 4634

Billing Contact (if different)

Name: _____ **Email:** _____
Address: _____
City: _____ **State:** _____ **Zip:** _____
Ph: (____) - _____

Analysis Requested

Lab ID	Client Sample Identification	Sample date	H0014 - basic potency	H0024 canam solvents	P2140 canam pesticides	M284 aspergillus	M7000 Colorado Profile	H0013 Metals	Mycotoxins (H0042)	Material Type *	Weight (Units)	Comments/Metrc ID
	Brothers Hemp Base (Tea, Capsules, Protein)		✔		✔	✔	✔	✔		P		
	Hemp Isolate		✔	✔	✔		✔	✔	✔	I		
	Hemp Distillate		✔	✔	✔		✔	✔	✔	C		

PO Number: _____
Project ID: _____
Batch ID: COL-BR-01
Sampled by: Richardson-Random
Custom Reporting:

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

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

Signature - Relinquished By:	Date	Time	Signature - Received By:	Date	Time
[signature]	9/19/22	3:08pm	JF	9/19	15:07

Lab Use Only:
☐ Shipped Via: _____ or ☒ Client drop off
Evidence of cooling: ☐ Yes | ☐ No - Temp (°C): 29.0
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 _____ associated with this COC. By signing "Relinquished by" you are agreeing to these terms

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Portland, OR 97230

P: (503) 254-1794 | Fax: (503) 254-1452

Page _____ of _____

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

Laboratory Quality Control Results

J AOAC 2015 V98-6 **Batch ID: 2207941**

Laboratory Control Sample

Analyte	LCS	Result	Spike	Units	% Rec	Limits	Evaluation	Notes
CBDVA	2	0.106	0.100	%	106	80.0 - 120	Acceptable	
CBDV	2	0.112	0.100	%	112	80.0 - 120	Acceptable	
CBE	2	0.106	0.100	%	106	80.0 - 120	Acceptable	
CBDA	1	0.105	0.100	%	105	90.0 - 110	Acceptable	
CBGA	1	0.104	0.0990	%	105	80.0 - 120	Acceptable	
CBG	1	0.116	0.108	%	107	80.0 - 120	Acceptable	
CBD	1	0.116	0.108	%	108	90.0 - 110	Acceptable	
THCV	2	0.107	0.100	%	107	80.0 - 120	Acceptable	
d8THCV	2	0.108	0.100	%	108	80.0 - 120	Acceptable	
THCVA	2	0.107	0.100	%	107	80.0 - 120	Acceptable	
CBN	1	0.114	0.108	%	105	90.0 - 110	Acceptable	
exo-THC	2	0.103	0.100	%	103	80.0 - 120	Acceptable	
d9THC	1	0.118	0.116	%	102	90.0 - 110	Acceptable	
d8THC	1	0.107	0.100	%	107	80.0 - 120	Acceptable	
CBL	2	0.101	0.100	%	101	80.0 - 120	Acceptable	
d10THC	1	0.0967	0.100	%	96.7	80.0 - 120	Acceptable	
CBC	2	0.105	0.100	%	105	80.0 - 120	Acceptable	
THCA	1	0.0962	0.0955	%	101	90.0 - 110	Acceptable	
CBCA	2	0.104	0.100	%	104	80.0 - 120	Acceptable	
CBLA	2	0.108	0.100	%	108	80.0 - 120	Acceptable	
CBT	2	0.0922	0.100	%	92.2	80.0 - 120	Acceptable	

Method Blank

Analyte	Result	LOQ	Units	Limits	Evaluation	Notes
CBDVA	<LOQ	0.077	%	< 0.077	Acceptable	
CBDV	<LOQ	0.077	%	< 0.077	Acceptable	
CBE	<LOQ	0.077	%	< 0.077	Acceptable	
CBDA	<LOQ	0.077	%	< 0.077	Acceptable	
CBGA	<LOQ	0.077	%	< 0.077	Acceptable	
CBG	<LOQ	0.077	%	< 0.077	Acceptable	
CBD	<LOQ	0.077	%	< 0.077	Acceptable	
THCV	<LOQ	0.077	%	< 0.077	Acceptable	
d8THCV	<LOQ	0.077	%	< 0.077	Acceptable	
THCVA	<LOQ	0.077	%	< 0.077	Acceptable	
CBN	<LOQ	0.077	%	< 0.077	Acceptable	
exo-THC	<LOQ	0.077	%	< 0.077	Acceptable	
d9THC	<LOQ	0.077	%	< 0.077	Acceptable	
d8THC	<LOQ	0.077	%	< 0.077	Acceptable	
CBL	<LOQ	0.077	%	< 0.077	Acceptable	
d10THC	<LOQ	0.077	%	< 0.077	Acceptable	
CBC	<LOQ	0.077	%	< 0.077	Acceptable	
THCA	<LOQ	0.077	%	< 0.077	Acceptable	
CBCA	<LOQ	0.077	%	< 0.077	Acceptable	
CBLA	<LOQ	0.077	%	< 0.077	Acceptable	
CBT	<LOQ	0.077	%	< 0.077	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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A Tentamus Company

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

Report Number: 22-011232/D003.R000
Report Date: 09/27/2022
ORELAP#: OR100028
Purchase Order:
Received: 09/19/22 16:00

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

Laboratory Quality Control Results

J AOAC 2015 V98-6					Batch ID: 2207941			
Sample Duplicate					Sample ID: 22-011064-0001			
Analyte	**Result**	**Org. Result**	**LOQ**	**Units**	**RPD**	**Limits**	**Evaluation**	**Notes**
CBDVA	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBDV	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBE	0.143	0.159	0.077	%	11.0	< 20	Acceptable	
CBDA	3.31	3.45	0.077	%	4.14	< 20	Acceptable	
CBGA	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBG	0.138	0.150	0.077	%	8.43	< 20	Acceptable	
CBD	2.38	2.51	0.077	%	5.22	< 20	Acceptable	
THCV	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
d8THCV	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
THCVA	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBN	0.275	0.287	0.077	%	4.54	< 20	Acceptable	
exo-THC	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
d9THC	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
d8THC	0.493	0.505	0.077	%	2.29	< 20	Acceptable	
CBL	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
d10THC	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBC	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
THCA	0.283	0.281	0.077	%	0.502	< 20	Acceptable	
CBCA	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBLA	<LOQ	<LOQ	0.077	%	NA	< 20	Acceptable	
CBT	0.485	0.476	0.077	%	1.94	< 20	Acceptable	

Abbreviations

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

Units of Measure:

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Revision: 1 Document ID: TBA

Laboratory Quality Control Results

Organic Acids **Batch ID:** 2207970

Method Blank | **Laboratory Control Sample**

Analyte	Result		LOQ	Notes	Result	Spike	Units	% Rec	Limits		Notes
Acetic Acid	<LOQ	<	250		479	522	µg/g	91.9	70	130	
Formic Acid	<LOQ	<	250		642	617	µg/g	104.1	70	130	

QC - Sample Duplicate **Sample ID: LCS**

Analyte	Result	Org. Result	LOQ	Units	RPD	Limits	Accept/Fail	Notes
Acetic Acid	<LOQ	<LOQ	250	µg/g	0.0	< 20	Acceptable	
Formic Acid	<LOQ	<LOQ	250	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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Legacy ID: Effective:

Laboratory Quality Control Results

Residual Solvents **Batch ID:** 2208097

Method Blank					Laboratory Control Sample							
Analyte	**Result**		**LOQ**	**Notes**	**Result**	**Spike**	**Units**	**% Rec**	**Limits**			**Notes**
Propane	ND	<	200		442	572	µg/g	77.3	60	-	120	
Isobutane	ND	<	200		555	731	µg/g	75.9	60	-	120	
Butane	ND	<	200		540	731	µg/g	73.9	60	-	120	
2,2-Dimethylpropane	ND	<	200		730	936	µg/g	78.0	60	-	120	
Methanol	ND	<	200		1360	1650	µg/g	82.4	60	-	120	
Ethylene Oxide	ND	<	30		41.7	56.2	µg/g	74.2	60	-	120	
2-Methylbutane	ND	<	200		1400	1650	µg/g	84.8	60	-	120	
Pentane	ND	<	200		1410	1650	µg/g	85.5	60	-	120	
Ethanol	ND	<	200		1340	1660	µg/g	80.7	70	-	130	
Ethyl Ether	ND	<	200		1360	1630	µg/g	83.4	60	-	120	
2,2-Dimethylbutane	ND	<	30		160	189	µg/g	84.7	60	-	120	
Acetone	ND	<	200		1370	1650	µg/g	83.0	60	-	120	
2-Propanol	ND	<	200		1320	1650	µg/g	80.0	60	-	120	
Ethyl Formate	ND	<	500		1540	1610	µg/g	95.7	70	-	130	
Acetonitrile	ND	<	100		390	504	µg/g	77.4	60	-	120	
Methyl Acetate	ND	<	500		1700	1630	µg/g	104.3	70	-	130	
2,3-Dimethylbutane	ND	<	30		127	174	µg/g	73.0	60	-	120	
Dichloromethane	ND	<	60		422	521	µg/g	81.0	60	-	120	
2-Methylpentane	ND	<	30		164	187	µg/g	87.7	60	-	120	
MTBE	ND	<	500		1650	1600	µg/g	103.1	70	-	130	
3-Methylpentane	ND	<	30		161	188	µg/g	85.6	60	-	120	
Hexane	ND	<	30		156	182	µg/g	85.7	60	-	120	
1-Propanol	ND	<	500		1710	1610	µg/g	106.2	70	-	130	
Methylethylketone	ND	<	500		1670	1600	µg/g	104.4	70	-	130	
Ethyl acetate	ND	<	200		1300	1630	µg/g	79.8	60	-	120	
2-Butanol	ND	<	200		1250	1630	µg/g	76.7	60	-	120	
Tetrahydrofuran	ND	<	100		398	506	µg/g	78.7	60	-	120	
Cyclohexane	ND	<	200		1300	1640	µg/g	79.3	60	-	120	
2-methyl-1-propanol	ND	<	500		1640	1620	µg/g	101.2	70	-	130	
Benzene	ND	<	1		3.67	4.93	µg/g	74.4	60	-	120	
Isopropyl Acetate	ND	<	200		1260	1640	µg/g	76.8	60	-	120	
Heptane	ND	<	200		1280	1630	µg/g	78.5	60	-	120	
1-Butanol	ND	<	500		1730	1600	µg/g	108.1	70	-	130	
Propyl Acetate	ND	<	500		1680	1620	µg/g	103.7	70	-	130	
1,4-Dioxane	ND	<	100		351	493	µg/g	71.2	60	-	120	
2-Ethoxyethanol	ND	<	30		127	171	µg/g	74.3	60	-	120	
Methylisobutylketone	ND	<	500		1720	1620	µg/g	106.2	70	-	130	
3-Methyl-1-butanol	ND	<	500		1720	1610	µg/g	106.8	70	-	130	
Ethylene Glycol	ND	<	200		289	494	µg/g	58.5	60	-	120	Q6
Toluene	ND	<	100		349	506	µg/g	69.0	60	-	120	
Isobutyl Acetate	ND	<	500		1840	1620	µg/g	113.6	70	-	130	
1-Pentanol	ND	<	500		2050	1610	µg/g	127.3	70	-	130	
Butyl Acetate	ND	<	500		1720	1610	µg/g	106.8	70	-	130	
Ethylbenzene	ND	<	200		702	996	µg/g	70.5	60	-	120	
m,p-Xylene	ND	<	200		716	1010	µg/g	70.9	60	-	120	
o-Xylene	ND	<	200		702	979	µg/g	71.7	60	-	120	
Cumene	ND	<	30		139	188	µg/g	73.9	60	-	120	
Anisole	ND	<	500		1660	1610	µg/g	103.1	70	-	130	
DMSO	ND	<	500		1670	1600	µg/g	104.4	70	-	130	
1,2-dimethoxyethane	ND	<	50		199	190	µg/g	104.7	70	-	130	
Triethylamine	ND	<	500		1650	1610	µg/g	102.5	70	-	130	
N,N-dimethylformamide	ND	<	150		520	496	µg/g	104.8	70	-	130	
N,N-dimethylacetamide	ND	<	150		506	483	µg/g	104.8	70	-	130	
Pyridine	ND	<	50		175	167	µg/g	104.8	70	-	130	
1,2-Dichloroethane	ND	<	1		1.13	1	µg/g	113.0	70	-	130	
Chloroform	ND	<	1		1.15	1	µg/g	115.0	70	-	130	
Trichloroethylene	ND	<	1		1.19	1	µg/g	119.0	70	-	130	

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QC - Sample Duplicate **Sample ID: 22-011013-0001**

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	
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	

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

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Explanation of QC Flag Comments:

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