

Hemp RX

Sample ID: SA-220505-9079
 Batch: 220430
 Type: Finished Products
 Matrix: Oil / Liquid - Hemp Seed Oil
 Unit Mass (g):

Received: 05/05/2022
 Completed: 05/19/2022

Client
 Permahlil Extracts
 427 Hume Bedford Pike
 Paris, KY 40361
 USA
 Lic. #: P_0413



Summary

Test	Date Tested	Status
Cannabinoids	05/19/2022	Tested
Foreign Matter	05/09/2022	Tested
Heavy Metals	05/09/2022	Tested
Microbials	05/10/2022	Tested
Mycotoxins	05/19/2022	Tested
Pesticides	05/19/2022	Tested
Residual Solvents	05/12/2022	Tested
Terpenes	05/19/2022	Tested

0.0140 mg/mL Total Δ9-THC	16.0 mg/mL CBD	18.5 mg/mL Total Cannabinoids	Not Tested Moisture Content	Not Detected Foreign Matter	Yes Internal Standard Normalization
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Cannabinoids by HPLC-PDA, LC-MS/MS, and/or GC-MS/MS

Analyte	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (%)	Result (mg/unit)
CBC	0.00095	0.00284	0.781	0.0862	23.4
CBCA	0.00181	0.00543	ND	ND	ND
CBCV	0.0006	0.0018	0.0110	0.00121	0.330
CBD	0.00081	0.00242	16.0	1.76	479
CBDA	0.00043	0.0013	ND	ND	ND
CBDV	0.00061	0.00182	0.203	0.0224	6.09
CBDVA	0.00021	0.00063	ND	ND	ND
CBG	0.00057	0.00172	0.437	0.0482	13.1
CBGA	0.00049	0.00147	ND	ND	ND
CBL	0.00112	0.00335	0.0470	0.00519	1.41
CBLA	0.00124	0.00371	ND	ND	ND
CBN	0.00056	0.00169	0.271	0.0299	8.13
CBNA	0.0006	0.00181	ND	ND	ND
CBT	0.0018	0.0054	0.730	0.0805	21.9
Δ8-THC	0.00104	0.00312	ND	ND	ND
Δ9-THC	0.00076	0.00227	0.0140	0.00154	0.420
Δ9-THCA	0.00084	0.00251	ND	ND	ND
Δ9-THCV	0.00069	0.00206	ND	ND	ND
Δ9-THCVA	0.00062	0.00186	ND	ND	ND
Δ9-cis-THC	0.00099	0.003	ND	ND	ND
Total Δ9-THC			0.0140	0.00154	0.420
Total CBD			16.0	1.76	479
Total			18.5	2.04	554

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; RL = Reporting Limit; Δ = Delta; Total Δ9-THC = Δ9-THCA * 0.877 + Δ9-THC; Total CBD = CBDA * 0.877 + CBD;



Generated By: Ryan Bellone
 Commercial Director
 Date: 05/19/2022



Tested By: Jared Burkhart
 Technical Manager
 Date: 05/19/2022



ISO/IEC 17025:2017 Accredited
 Accreditation #108651



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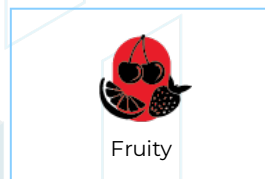
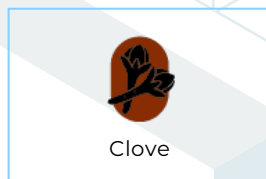
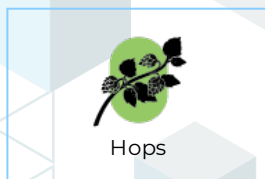
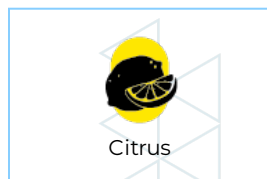
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Terpenes by HS-GC-MS/MS

Analyte	LOD (%)	LOQ (%)	Result (%)	Analyte	LOD (%)	LOQ (%)	Result (%)
α-Bisabolol	0.00100	0.00500	0.137953	Limonene	0.001	0.005	0.595428
(+)-Borneol	0.00100	0.00500	ND	Linalool	0.001	0.005	0.384765
Camphene	0.00100	0.00500	0.016076	β-myrcene	0.001	0.005	0.387052
Camphor	0.00100	0.00500	ND	Nerol	0.001	0.005	ND
3-Carene	0.00100	0.00500	ND	cis-Nerolidol	0.001	0.005	ND
β-Caryophyllene	0.00100	0.00500	0.417076	trans-Nerolidol	0.001	0.005	ND
Caryophyllene Oxide	0.00100	0.00500	ND	Ocimene	0.001	0.005	ND
α-Cedrene	0.00100	0.00500	ND	α-Phellandrene	0.001	0.005	0.027411
Cedrol	0.00100	0.00500	ND	α-Pinene	0.001	0.005	0.0575
Eucalyptol	0.00100	0.00500	0.011021	β-Pinene	0.001	0.005	0.113855
Fenchone	0.00100	0.00500	ND	Pulegone	0.001	0.005	ND
Fenchyl Alcohol	0.00100	0.00500	0.005453	Sabinene	0.001	0.005	ND
Geraniol	0.00100	0.00500	ND	Sabinene Hydrate	0.001	0.005	ND
Geranyl Acetate	0.00100	0.00500	ND	α-Terpinene	0.001	0.005	0.100893
Guaiol	0.00100	0.00500	ND	γ-Terpinene	0.001	0.005	ND
Hexahydrothymol	0.00100	0.00500	ND	α-Terpineol	0.001	0.005	<LOQ
α-Humulene	0.00100	0.00500	0.186224	γ-Terpineol	0.001	0.005	ND
Isoborneol	0.00100	0.00500	0.090518	Terpinolene	0.001	0.005	0.00565
Isopulegol	0.00100	0.00500	ND	Total Terpenes (%)			2.54

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Generated By: Ryan Bellone
 Commercial Director
 Date: 05/19/2022



Tested By: Scott Caudill
 Senior Scientist
 Date: 05/19/2022



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Heavy Metals by ICP-MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
Arsenic	2	20	ND
Cadmium	1	20	ND
Lead	2	20	ND
Mercury	12	50	ND

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 Commercial Director
 Date: 05/19/2022



Tested By: Nicholas Howard
 Scientist
 Date: 05/09/2022



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Pesticides by LC-MS/MS and GC-MS/MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)	Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
Acephate	30	100	ND	Hexythiazox	30	100	ND
Acetamiprid	30	100	ND	Imazalil	30	100	ND
Aldicarb	30	100	ND	Imidacloprid	30	100	ND
Azoxystrobin	30	100	ND	Kresoxim methyl	30	100	ND
Bifenazate	30	100	ND	Malathion	30	100	ND
Boscalid	30	100	ND	Metalaxyl	30	100	ND
Carbaryl	30	100	ND	Methiocarb	30	100	ND
Carbofuran	30	100	ND	Methomyl	30	100	ND
Chloranthraniliprole	30	100	ND	Mevinphos	30	100	ND
Chlorfenapyr	30	100	ND	Myclobutanil	30	100	ND
Chlorpyrifos	30	100	ND	Naled	30	100	ND
Clofentezine	30	100	ND	Oxamyl	30	100	ND
Coumaphos	30	100	ND	Paclobutrazol	30	100	ND
Diazinon	30	100	ND	Permethrin	30	100	ND
Dichlorvos	30	100	ND	Phosmet	30	100	ND
Dimethoate	30	100	ND	Piperonyl Butoxide	30	100	ND
Dimethomorph	30	100	ND	Prallethrin	30	100	ND
Ethoprophos	30	100	ND	Propiconazole	30	100	ND
Etofenprox	30	100	ND	Propoxur	30	100	ND
Etoxazole	30	100	ND	Pyrethrins	30	100	ND
Fenhexamid	30	100	ND	Pyridaben	30	100	ND
Fenoxycarb	30	100	ND	Spinetoram	30	100	ND
Fenpyroximate	30	100	ND	Spinosad	30	100	ND
Fipronil	30	100	ND	Spiromesifen	30	100	ND
Flonicamid	30	100	ND	Spirotetramat	30	100	ND
Fludioxonil	30	100	ND	Spiroxamine	30	100	ND
				Tebuconazole	30	100	ND
				Thiacloprid	30	100	ND
				Thiamethoxam	30	100	ND
				Trifloxystrobin	30	100	ND

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Generated By: Ryan Bellone
 Commercial Director
 Date: 05/19/2022



Tested By: Jared Burkhart
 Technical Manager
 Date: 05/19/2022



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Mycotoxins by LC-MS/MS

Analyte	LOD (ppb)	LOQ (ppb)	Result (ppb)
B1	1	5	ND
B2	1	5	ND
G1	1	5	ND
G2	1	5	ND
Ochratoxin A	1	5	ND

ND = Not Detected; NT = Not Tested; LOD = Limit of Detection; LOQ = Limit of Quantitation; P = Pass; F = Fail; RL = Reporting Limit



Generated By: Ryan Bellone
 Commercial Director
 Date: 05/19/2022



Tested By: Jared Burkhart
 Technical Manager
 Date: 05/19/2022



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Microbials by PCR and Plating

Analyte	LOD (CFU/g)	Result (CFU/g)	Result (Qualitative)
Coliforms	1	ND	
Aerobic Bacteria	1	ND	
Salmonella			Not Detected per 1 gram
Total Enterobacteriaceae			Not Detected per 1 gram

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Generated By: Ryan Bellone
 Commercial Director
 Date: 05/19/2022



Tested By: Alex Morris
 Quality Assurance Manager
 Date: 05/10/2022



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Residual Solvents by HS-GC-MS/MS

Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)	Analyte	LOD (ppm)	LOQ (ppm)	Result (ppm)
Acetone	167	500	ND	Heptane	167	500	ND
Acetonitrile	14	41	ND	n-Hexane	10	29	ND
2-Butanol	167	500	ND	Isopropyl Acetate	167	500	ND
Cyclohexane	129	388	ND	Isopropyl Alcohol	167	500	ND
1,4-Dioxane	13	38	ND	Methanol	100	300	ND
Ethanol	167	500	ND	2-Methylbutane	10	29	ND
2-Ethoxyethanol	6	16	ND	Methylene Chloride	20	60	ND
Ethyl Acetate	167	500	ND	2-Methylpentane	10	29	ND
Ethyl Ether	167	500	ND	3-Methylpentane	10	29	ND
Ethylbenzene	3	7	ND	n-Pentane	167	500	ND
				Tetrahydrofuran	24	72	ND
				Toluene	30	89	ND
				Xylenes (o-, m-, and p-)	73	217	ND

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 Commercial Director
 Date: 05/19/2022



Tested By: Scott Caudill
 Senior Scientist
 Date: 05/12/2022



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Reporting Limit Appendix

Heavy Metals - Colorado CDPHE

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Arsenic	1500	Lead	500
Cadmium	500	Mercury	1500

Microbials - Colorado CDPHE

Analyte	Limit (CFU/g)	Analyte	Limit (CFU/g)
Coliforms	100	Aerobic Bacteria	10000

Residual Solvents - USP 467

Analyte	Limit (ppm)	Analyte	Limit (ppm)
Acetone	5000	Heptane	5000
Acetonitrile	410	n-Hexane	290
2-Butanol	5000	Isopropyl Acetate	5000
Cyclohexane	3880	Isopropyl Alcohol	5000
1,4-Dioxane	380	Methanol	3000
Ethanol	5000	2-Methylbutane	290
2-Ethoxyethanol	160	Methylene Chloride	600
Ethyl Acetate	5000	2-Methylpentane	290
Ethyl Ether	5000	3-Methylpentane	290
Ethylbenzene	70	n-Pentane	5000

Pesticides - CA DCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Dimethoate	30	Piperonyl Butoxide	8000
Dimethomorph	20000	Prallethrin	400
Ethoprophos	30	Propiconazole	20000
Etofenprox	30	Propoxur	30
Etoazole	1500	Pyrethrins	1000
Fenhexamid	10000	Pyridaben	3000
Fenoxycarb	30	Spinetoram	3000
Fenpyroximate	2000	Spinosad	3000
Fipronil	30	Spiromesifen	12000
Fonicamid	2000	Spirotetramat	13000
Fludioxonil	30000	Spiroxamine	30

Mycotoxins - Colorado CDPHE

Analyte	Limit (ppm)	Analyte	Limit (ppm)
B1	5	B2	5
G1	5	G2	5
Ochratoxin A	5		

Pesticides - CA DCC

Analyte	Limit (ppb)	Analyte	Limit (ppb)
Acephate	5000	Hexythiazox	2000
Acetamiprid	5000	Imazalil	30
Aldicarb	30	Imidacloprid	3000
Azoxystrobin	40000	Kresoxim methyl	1000
Bifenazate	5000	Malathion	5000
Boscalid	10000	Metalaxyl	15000
Carbaryl	500	Methiocarb	30
Carbofuran	30	Methomyl	100
Chloranthraniliprole	40000	Mevinphos	30
Chlorfenapyr	30	Myclobutanil	9000
Chlorpyrifos	30	Naled	500
Clofentezine	500	Oxaryl	200
Coumaphos	30	Paclbutrazol	30
Diazinon	200	Permethrin	20000
Dichlorvos	30	Phosmet	200

