

Order #: 55984 Order Name: Royal Earth -Tincture - Spearmint - 2000mg Batch#: TSPE2000001 Received: 06/18/2020 Completed: 06/25/2020



Cannabinoids Test

SHIMADZU INTEGRATED UPLC-PDA

Royal Earth 6285 Mcleod Drive, Unit 4 Las Vegas NV, 89120 (855) 510-8273 info@royalearth.com



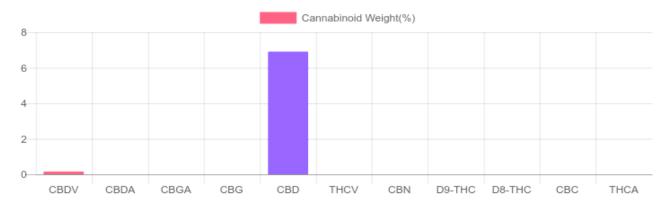
Sample



2,004.1 mg Cannabinoids per unit L,958.9 mg CBD per unit

1 unit = 30 ml per unit x density (.945) x Cannabinoid concentration

GSL SOP 400	PREPARED: 06/	/19/2020 12:03:53		
Cannabinoids	LOQ	weight(%)	mg/g	mg/unit
D9-THC	10 PPM	N/D	N/D	N/D
THCA	10 PPM	N/D	N/D	N/D
CBD	10 PPM	6.910%	69.096	1,958.9
CBDA	20 PPM	N/D	N/D	N/D
CBDV	20 PPM	0.160%	1.596	45.2
CBC	10 PPM	N/D	N/D	N/D
CBN	10 PPM	N/D	N/D	N/D
CBG	10 PPM	N/D	N/D	N/D
CBGA	20 PPM	N/D	N/D	N/D
D8-THC	10 PPM	N/D	N/D	N/D
THCV	10 PPM	N/D	N/D	N/D
TOTAL D9-THC		N/D	N/D	N/D
TOTAL CBD*		6.910%	69.096	1,958.9
TOTAL CANNABINOID	S	7.070%	70.692	2,004.1



Reporting Limit 10 ppm *Total CBD = CBD + CBDA x 0.877

N/D - Not Detected, B/LOQ - Below Limit of Quantification

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

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Ben Witten, MS, MT., Lab Director

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Order #: 55984 Order Name: Royal Earth -Tincture - Spearmint - 2000mg Batch#: TSPE2000001 Received: 06/18/2020 Completed: 06/25/2020



GSL SOP 404

Prepared: 06/19/2020 17:17:02

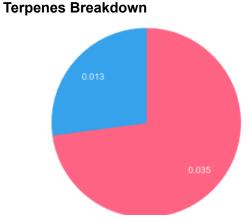
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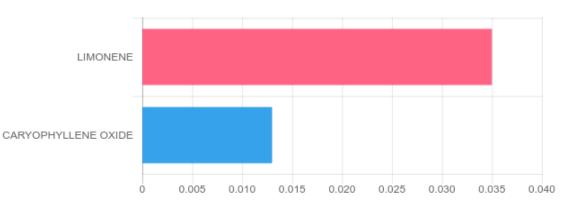
TERPENES: TOTAL (0.060%)

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

Terpene	Results (%)	LOQ (%) LOD	(%)
CARYOPHYLLENE	B/LOQ	0.0067% 0.006	3%
CARYOPHYLLENE OXIDE	0.013%	0.0067% 0.006	3%
GUAIOL	B/LOQ	0.0067% 0.006	3%
LIMONENE	0.035%	0.0067% 0.006	3%



Top Terpenes Results:



Tested for but not present:

ALPHA-PINENE, CAMPHENE, BETA-MYRCENE, BETA-PINENE, 3-CARENE, ALPHA-TERPINENE, TRANS-BETA-OCIMENE, P-CYMENE, CIS-BETA-OCIMENE, EUCALYPTOL, GAMMA-TERPINENE, TERPINOLENE, LINALOOL, ISOPULEGOL, GERANIOL, HUMULENE, CIS-NEROLIDOL, TRANS-NEROLIDOL, ALPHA-BISABOLOL

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

Ben Witten, MS, MT., Lab Director

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Order #: 55984 Order Name: Royal Earth -Tincture - Spearmint - 2000mg Batch#: TSPE2000001 Received: 06/18/2020 Completed: 06/25/2020



PREPARED: 06/19/2020 15:46:25

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PESTICIDE ANALYSIS:

GSL SOP 401

GCMS-MS - Shimadzu GCMS-TQ8040

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
CAPTAN	0.700	N/D	0.003	0.001
CHLORDANE	0.100	N/D	0.003	0.001
CHLORFENAPYR	0.100	N/D	0.003	0.001
COUMAPHOS	0.100	N/D	0.003	0.001

Pesticide	Action Level (ppm)	Results (ppm)		-
CYFLUTHRIN	2.000	N/D	0.003	0.001
CYPERMETHRIN	1.000	N/D	0.003	0.001
PARATHION-METHYL	0.100	N/D	0.003	0.001
PENTACHLORONITROBENZEN	E 0.100	N/D	0.003	0.001

LCMS-MS - Shima	0308-2M2 L UZ

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
ABAMECTIN B1A	0.100	N/D	0.005	0.001
ACEPHATE	0.100	N/D	0.001	0.001
ACEQUINOCYL	0.100	N/D	0.001	0.001
ACETAMIPRID	0.100	N/D	0.005	0.001
ALDICARB	0.100	N/D	0.005	0.001
AZOXYSTROBIN	0.100	N/D	0.001	0.001
BIFENAZATE	0.100	N/D	0.005	0.001
BIFENTHRIN	3.000	N/D	0.005	0.001
BOSCALID	0.100	N/D	0.005	0.001
CARBARYL	0.500	N/D	0.003	0.001
CARBOFURAN	0.100	N/D	0.001	0.001
CHLORANTRANILIPROLE	10.000	N/D	0.005	0.005
CHLORPYRIFOS	0.100	N/D	0.001	0.001
CLOFENTEZINE	0.100	N/D	0.001	0.001
DAMINOZIDE	0.100	N/D	0.005	0.001
DIAZINON	0.100	N/D	0.001	0.001
DICHLORVOS	0.100	N/D	0.005	0.001
DIMETHOATE	0.100	N/D	0.001	0.001
DIMETHOMORPH	2.000	N/D	0.005	0.001
ETHOPROPHOS	0.100	N/D	0.001	0.001
ETOFENPROX	0.100	N/D	0.001	0.001
ETOXAZOLE	0.100	N/D	0.010	0.005
FENHEXAMID	0.100	N/D	0.005	0.001
FENOXYCARB	0.100	N/D	0.005	0.001
FENPYROXIMATE	0.100	N/D	0.001	0.001
FIPRONIL	0.100	N/D	0.003	0.001
FLONICAMID	0.100	N/D	0.025	0.010
FLUDIOXONIL	0.100	N/D	0.003	0.001
HEXYTHIAZOX	0.100	N/D	0.005	0.001
IMAZALIL	0.100	N/D	0.005	0.001

Pesticide	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
IMIDACLOPRID	5.000	N/D	0.005	0.001
KRESOXIM-METHYL	0.100	N/D	0.010	0.005
MALATHION	0.500	N/D	0.005	0.001
METALAXYL	2.000	N/D	0.001	0.001
METHIOCARB	0.100	N/D	0.005	0.001
METHOMYL	1.000	N/D	0.001	0.001
MEVINPHOS	0.100	N/D	0.001	0.001
MYCLOBUTANIL	0.100	N/D	0.005	0.001
NALED	0.100	N/D	0.005	0.001
OXAMYL	0.500	N/D	0.001	0.001
PACLOBUTRAZOL	0.100	N/D	0.005	0.001
PERMETHRINS	0.500	N/D	0.005	0.001
PHOSMET	0.100	N/D	0.005	0.001
PIPERONYL	3.000	N/D	0.001	0.001
BUTOXIDE	3.000	N/D	0.001	0.001
PRALLETHRIN	0.100	N/D	0.005	0.005
PROPICONAZOLE	0.100	N/D	0.010	0.005
PROPOXUR	0.100	N/D	0.001	0.001
PYRETHRINS	0.500	N/D	0.005	0.005
(PYRETHRIN I)	0.000	N/B	0.000	
PYRIDABEN	0.100	N/D	0.005	0.001
SPINETORAM	0.100	N/D	0.001	0.001
SPINOSAD	0.100	N/D	0.001	0.001
SPIROMESIFEN	0.100	N/D	0.005	0.001
SPIROTETRAMAT	0.100	N/D	0.001	0.001
SPIROXAMINE	0.100	N/D	0.001	0.001
TEBUCONAZOLE	0.100	N/D	0.005	0.001
THIACLOPRID	0.100	N/D	0.001	0.001
THIAMETHOXAM	5.000	N/D	0.001	0.001
TRIFLOXYSTROBIN	0.100	N/D	0.001	0.001

N/D = Not Detected, A/LOQ = Above LOQ Level, B/LOQ = Below LOQ Level, B/LOD = Below LOD Level

Dr. Andrew Hall, Ph.D., Chief Scientific Officer

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Ben Witten, MS, MT., Lab Director

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RESIDUAL SOLVENTS:

Headspace GCMS - Shimadzu GCMS QP2020 with HS20

GSL SOP 405 Prepared: 06/19/2020 17:04:44

Residual Solvent	Action Level (ppm)	Results (ppm)	LOQ (ppm)	LOD (ppm)
1,1-DICHLOROETHENE	8	N/D	0.63	0.63
1,2- DICHLOROETHANE	2	N/D	0.12	0.02
ACETONE	5,000	N/D	140	20
ACETONITRILE	410	N/D	25	1
BENZENE	1	N/D	1	0.5
BUTANE	5,000	N/D	50	10
CHLOROFORM	1	N/D	1	0.5
CIS 1,2-DICHLOROETHENE	5	N/D	0.73	0.18
ETHANOL	5,000	340	140	20
ETHYL ACETATE	5,000	N/D	140	20
ETHYL ETHER	5,000	N/D	140	20
ETHYLENE OXIDE	1	N/D	0	0
ISOPROPYL ALCOHOL	5,000	N/D	140	20
METHANOL	3,000	N/D	100	20
METHYLENE CHLORIDE	125	N/D	0.15	0.15
N-HEPTANE	5,000	N/D	140	20
N-HEXANE	290	N/D	18	10
PENTANE	5,000	N/D	140	20
PROPANE	5,000	N/D	20	1
TOLUENE	890	N/D	53	1
TRANS 1,2-DICHLOROETHENE	5	N/D	0.73	0.18
TRICHLOROETHENE	1	N/D	1	0.5
XYLENES	150	N/D	130	20

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Order #: 55984 Order Name: Royal Earth -Tincture - Spearmint - 2000mg Batch#: TSPE20000001 Received: 06/18/2020 Completed: 06/25/2020



Royal Earth 6285 Mcleod Drive, Unit 4 Las Vegas NV, 89120 (855) 510-8273 info@royalearth.com



Microbial Analysis:

Microbial Analysis GSL SOP 406

Uploaded: 06/23/2020 16:13:25

PCR - Agilent AriaMX Test	Test Method Used	Device Used	LOD	Allowable Criteria	Actual Result	Pass/Fail
STEC E.COLI*	USP 61/62†	ARIAMX PCR	2 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
SALMONELLA*	USP 61/62†	ARIAMX PCR	5 COPIES OF DNA	PRESENCE / ABSENT	BELOW LOD	PASS
ASPERGILLUS	USP 61/62†	ARIAMX PCR	ASP_LOD***	PRESENCE / ABSENT	BELOW LOD	PASS
YEAST AND MOLD	USP 61/62†	ARIAMX PCR	363.05518 CFU/G**	1,000	BELOW THRESHOLD	PASS
TOTAL AEROBIC BACTERIA	USP 61/62†	ARIAMX PCR	0.25316 CFU/G**	10,000	BELOW THRESHOLD	PASS
COLIFORM	USP 61/62†	ARIAMX PCR	3.41539 CFU/G**	100	BELOW THRESHOLD	PASS
ENTEROBACTERIACEAE	USP 61/62†	ARIAMX PCR	0.32951 CFU/G**	100	BELOW THRESHOLD	PASS

† USP 61 (enumeration of bacteria TAC, TYM, and ENT/Coliform), USP 62 (identifying specific species E.coli Aspergillus etc) * STEC and Salmonella run as Multiplex

** CFU/g Calculation based on Select Category Type Gummy MIP/Extract Flower matrix

*** Flavus = 2 Copies of DNA / Furnigatis = 2 Copies of DNA Niger = 20 Copies of DNA / Terrus = 10 copies of DNA

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Mycotoxin Analysis:

LC-MS - Shimadzu LCMS-8060 GSL SOP 401

Uploaded: 06/22/2020 16:20:15

Analyte	Action Lvl (ppb)	Results (ppb)
AFLATOXIN B1	20	N/D
AFLATOXIN B2	20	N/D
AFLATOXIN G1	20	N/D
AFLATOXIN G2	20	N/D
OCHRATOXIN A	20	N/D

LOQ is 4ppb, LOD is 1ppb

Moisture Analysis:

Shimadzu MOC63U Moisture Balance - GSL SOP 411

Uploaded: 06/19/2020 17:09:21

Moisture % 3.8%

Filth and Foreign Materials Analysis:

Microscope - Amscope Simul-Focal Trinocular Stereo Zoom Microscope - GSL SOP 409

Uploaded: 06/22/2020 17:43:50

Pass: No Foreign Materials Detected

Heavy Metals Analysis:

ICP-MS - Shimadzu ICPMS-2030 GSL SOP 403

Uploaded: 06/24/2020 14:26:30

Metal	Action Level (ppb)	Result (ppb)
ARSENIC (AS)	200	B/LOQ
CADMIUM (CD)	200	B/LOQ
MERCURY (HG)	100	B/LOQ
LEAD (PB)	500	452

Lower Limit of Quantitation (LOQ) is 75 ppb

Water Activity:

HD-3A Water Activity Meter - GSL SOP 407

Uploaded: 06/19/2020 17:09:21

Water 0.77



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