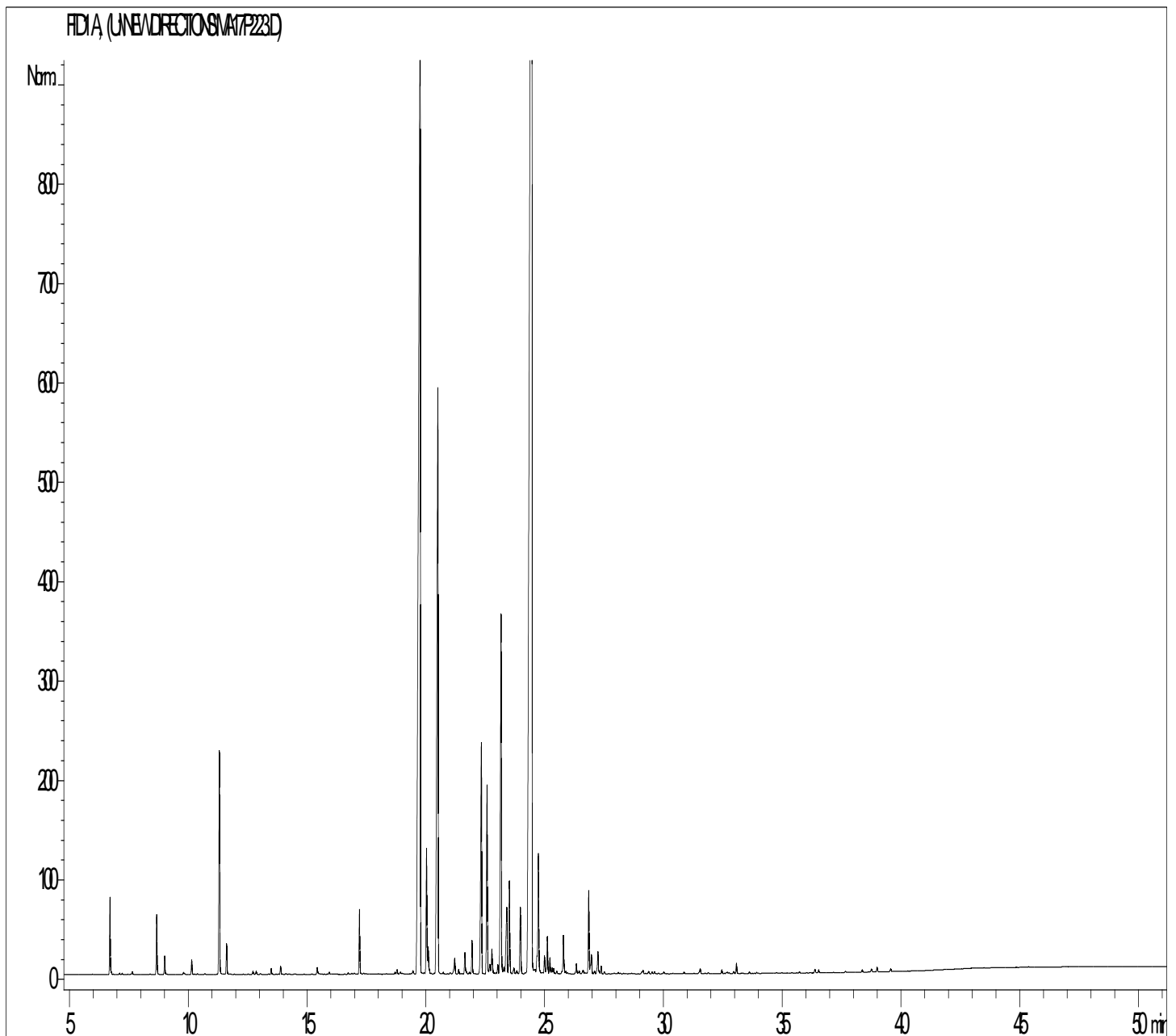




GCMS ANALYSIS

PRODUCT NAME: PEPPERMINT JAPANESE ESSENTIAL OIL - 11115

DATE: March 21, 2018



*Due to volume turnover, this report is not lot specific. It is representative of the quality of this oil produced by the manufacturer of this product. Specific lots may vary slightly as is the case in natural products.*

**GCMS ANALYSIS (cont'd.)**
**PRODUCT NAME: PEPPERMINT JAPANESE ESSENTIAL OIL - 11115**

Peak	RT (min)	Compound name	%
1	4,3	ACETONE	0,04
2	6,7	alpha-PINENE	0,67
3	6,8	alpha-THUYENE	0,02
4	7,1	TETRAHYDROFURAN, 2,5-DIETHYL	0,01
5	7,2	CYCLOPENTENE, DIMETHYL METHYLETHYL	0,01
6	7,5	alpha-FENCHENE	0,01
7	7,6	CAMPHENE	0,02
8	8,6	beta-PINENE	0,58
9	9,0	SABINENE	0,18
10	9,1	PINADIENE	0,01
11	9,7	delta3-CARENE	0,02
12	9,8	OCTANE-1-METHOXY	0,01
13	10,1	beta-MYRCENE	0,14
14	10,2	alpha-PHELLANDRENE	0,01
15	10,3	psi-LIMONENE	0,01
16	10,7	alpha-TERPINENE	0,01
17	11,3	<b>LIMONENE</b>	<b>2,26</b>
18	11,6	<b>1,8-CINEOLE</b>	<b>0,30</b>
19	12,7	gamma-TERPINENE	0,03
20	12,8	Trans- $\beta$ -OCIMENE	0,03
21	13,1	3-OCTANONE	0,01
22	13,3	m-CYMENE	0,01
23	13,5	p-CYMENE	0,06
24	13,8	ISOAMYL, 2-METHYLBUTYRATE	0,01
25	13,9	TERPINOLENE	0,08
26	14,1	TERPENE ISOMER	0,01
27	15,4	3-METHYLCYCLOHEXANONE	0,08
28	15,5	6-METHYL-5-HEPTEN-2-ONE	0,02
29	15,9	1-HEXANOL	0,02
30	16,7	ALLO OCIMENE	0,02

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**GCMS ANALYSIS (cont'd.)**
**PRODUCT NAME: PEPPERMINT JAPANESE ESSENTIAL OIL - 11115**

Peak	RT (min)	Compound name	%
31	16,8	3-HEXEN-1-OL	0,01
32	17,0	COMPOUND Mw=152	0,02
33	17,2	<b>3-OCTANOL</b>	<b>0,62</b>
34	17,3	NONANAL	0,02
35	17,5	TERPENIC ACETATE	0,02
36	18,0	PERILLENE	0,01
37	18,7	alpha,p-DIMETHYLSTYRENE	0,02
38	18,8	LINALOOL Cis-OXIDE	0,05
39	18,9	alpha-THUYONE	0,01
40	19,0	LIMONENE cis-EPOXIDE	0,02
41	19,1	1-OCTEN-3-OL	0,01
42	19,2	Trans-3-METHYLCYCLOHEXANOL	0,01
43	19,4	Trans-THUYANOL	0,07
44	19,8	<b>MENTHONE</b>	<b>22,71</b>
45	19,9	OCTYL ACETATE	0,02
46	20,0	1-HEXANOL, 2-ETHYL-	1,26
47	20,1	cis-3-HEXENYL-n-VALERATE	0,34
48	20,5	<b>ISOMENTHONE</b>	<b>9,07</b>
49	20,6	alpha-COPAENE	0,05
50	20,7	LONGICYCLENE	0,03
51	21,0	alpha-PINOCAMPHONE	0,02
52	21,2	beta-BOURBONENE	0,24
53	21,3	NEOMENTHYL ACETATE	0,05
54	21,6	LINALOOL	0,21
55	21,7	Cis-THUYANOL	0,05
56	21,8	p-MENTHAN-4-OL	0,02
57	21,9	1-OCTANOL	0,34
58	22,3	<b>MENTHYL ACETATE</b>	<b>2,99</b>
59	22,5	ISOPULEGOL	2,05
60	22,6	Cis-ISOPULEGONE	0,12

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### GCMS ANALYSIS (cont'd.)

PRODUCT NAME: PEPPERMINT JAPANESE ESSENTIAL OIL - 11115

Peak	RT (min)	Compound name	%
61	22,8	epsilon-CADINENE + COMPOUND MENTHATRIENIC	0,31
62	22,8	ALIPHATIC ESTER	0,02
63	22,9	SESQUITERPENE	0,02
64	23,0	Trans-ISOPULEGONE	0,10
65	23,1	<b>NEOMENTHOL</b>	<b>4,38</b>
66	23,2	beta-CUBEBENE	0,05
67	23,3	TERPINENE-4-OL	0,10
68	23,4	<b>beta-CARYOPHYLLENE</b>	<b>0,90</b>
69	23,5	ISOISOPULEGONE	1,01
70	23,7	Cis-DIHYDROCARVONE	0,08
71	23,8	SESQUITERPENE	0,05
72	24,0	NEOISOMENTHOL	0,80
73	24,4	<b>MENTHOL</b>	<b>41,12</b>
74	24,5	SESQUITERPENE	0,08
75	24,6	SESQUITERPENE	0,19
76	24,7	<b>PULEGONE</b>	<b>1,39</b>
77	24,8	SESQUITERPENE	0,03
78	24,9	ISOMENTHOL	0,20
79	25,0	MENTHADIENOL ISOMER	0,10
80	25,1	LAVANDULOL	0,33
81	25,2	Cis-4,5-MUUROLADIENE	0,17
82	25,3	alpha-HUMULENE	0,07
83	25,4	gamma-MUUROLENE	0,06
84	25,5	SESQUITERPENE	0,03
85	25,7	Trans-SABINOL	0,03
86	25,8	alpha $\alpha$ -TERPINEOL	0,44
87	25,9	BORNEOL	0,03
88	26,0	SESQUITERPENE	0,02
89	26,3	GERMACRENE D	0,12
90	26,4	SESQUITERPENE	0,04

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**GCMS ANALYSIS (cont'd.)**
**PRODUCT NAME: PEPPERMINT JAPANESE ESSENTIAL OIL - 11115**

Peak	RT (min)	Compound name	%
91	26,6	alpha-MUUROLENE	0,07
92	26,8	PIPERITONE	0,78
93	26,9	CARVONE	0,10
94	27,0	BICYCLOGERMACRENE	0,28
95	27,1	Trans-ISOPIPERITENOL	0,03
96	27,2	1-DECANOL	0,25
97	27,3	CITRONELLOL	0,04
98	27,4	delta-CADINENE	0,08
99	27,5	gammaCADINENE	0,03
100	27,9	p-METHYLACETOPHENONE	0,02
101	28,0	MYRTENOL	0,02
102	28,2	alpha-MUUROLENE	0,01
103	29,1	Trans-CARVEOL	0,06
104	29,3	CALAMENE	0,03
105	29,5	p-CYMENE-8-OL	0,02
106	29,6	TERPEPENIC ESTER	0,02
107	29,8	E-GERANYL ACETONE	0,01
108	30,0	BENZYL ALCOHOL	0,03
109	30,8	PHENYLETHYL ALCOHOL	0,02
110	31,4	PIPERITENONE	0,04
111	31,5	HEXANOIC ACID, 2-ETHYL-	0,06
112	31,8	Trans-JASMONE	0,02
113	32,4	SESQUITERPENOL	0,04
114	32,6	AROMATIC COMPONENT	0,02
115	32,8	ISOCARYOPHYLLENE EPOXIDE	0,01
116	33,0	CARYOPHYLLENE OXIDE	0,02
117	33,1	METHYL DIISOPROPYLPHENOL ISOMER Mw=192	0,10
118	33,6	NEROLIDOL	0,02
119	33,9	METHYL DIISOPROPYLPHENOL ISOMER Mw=192	0,01
120	35,7	SPATHULENOL	0,02

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: PEPPERMINT JAPANESE ESSENTIAL OIL - 11115

Peak	RT (min)	Compound name	%
121	36,4	EUGENOL	0,04
122	36,5	THYMOL	0,03
123	37,6	Cis-3-HEXENYL PHENYL ACETATE	0,02
124	38,3	Trans-LIMONENE-1,2-DIOL	0,03
125	38,8	ISOCARVACROL	0,03
126	39,0	METHYL DIISOPROPYLPHENOL ISOMER Mw=192	0,05
127	39,6	CARVACROL	0,03
		<b>TOTAL</b>	<b>99,91</b>

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