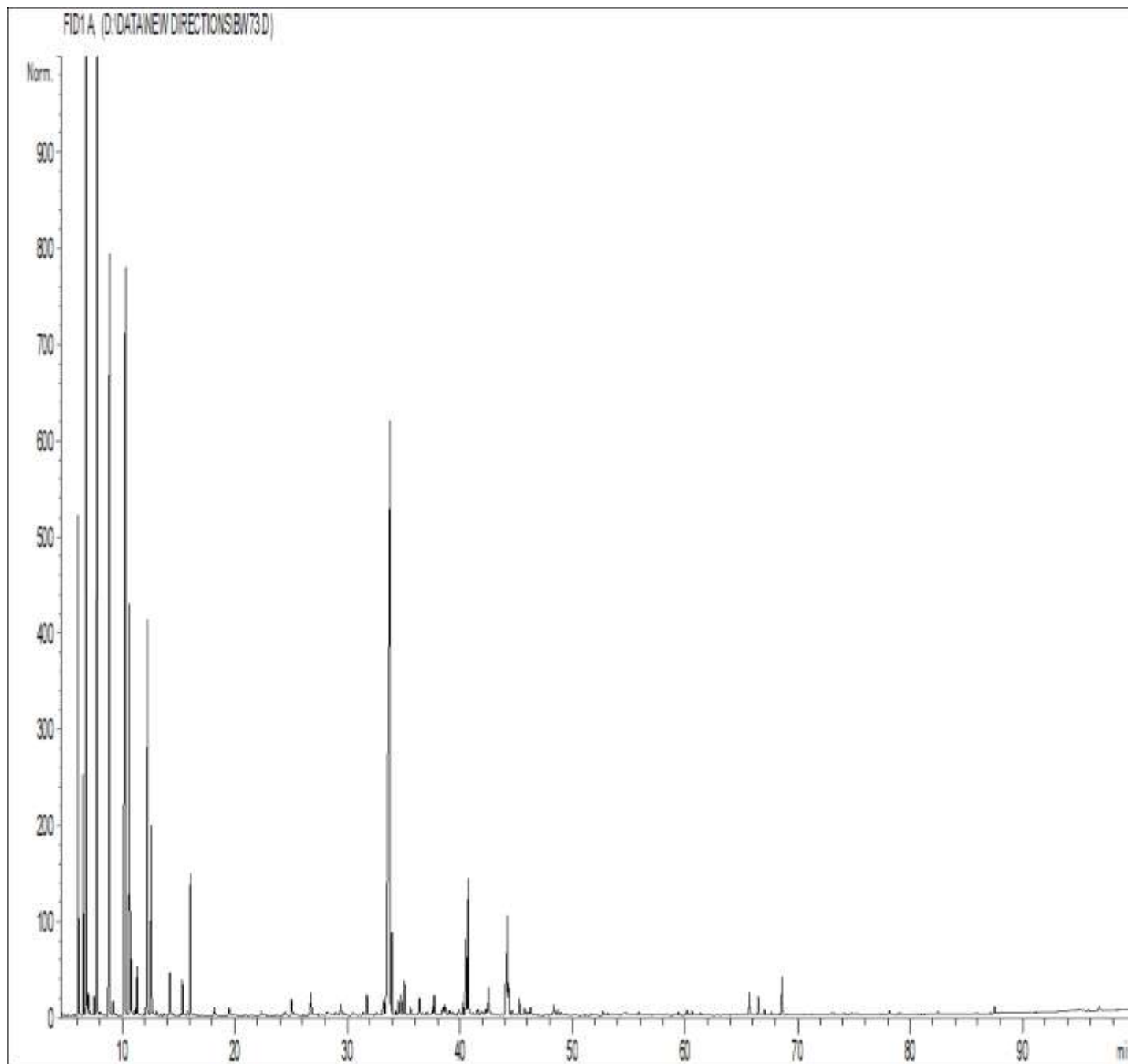


GCMS ANALYSIS

PRODUCT NAME: SPRUCE ESSENTIAL OIL (BLACK WILD) - 11137

DATE: September 8, 2020



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: SPRUCE ESSENTIAL OIL (BLACK WILD) - 11137

Peak	RT (min)	Compound name	%
1	4,60	ACETONE	0,01
2	6,10	SANTENE	2,62
3	6,54	TRICYCLENE	1,66
4	6,86	alpha-PINENE	20,69
5	6,88	alpha-THUYENE	0,16
6	6,98	COMPOUND Mw=122	0,14
7	7,09	TOLUENE	0,05
8	7,51	alpha-FENCHENE	0,15
9	7,78	CAMPHENE	14,78
10	8,07	HEXANAL	0,04
11	8,86	beta-PINENE	6,88
12	9,19	SABINENE	0,10
13	9,25	PINADIENE	0,05
14	9,51	delta2-CARENE	0,01
15	10,27	delta3-CARENE	9,01
16	10,66	beta-MYRCENE	3,35
17	10,77	alpha-PHELLANDRENE	0,44
18	10,84	psi-LIMONENE	0,01
19	11,15	o-CYMENE	0,07
20	11,31	alpha-TERPINENE	0,39
21	12,21	LIMONENE	3,76
22	12,57	1,8-CINEOLE + beta-PHELLANDRENE	1,63
23	12,76	1,3,8-p-MENTHARIENE	0,03
24	13,03	COMPOUND Mw=152	0,04
25	13,37	FURAN, 2-PENTYL	0,02
26	13,69	Cis-beta-OCIMENE	0,02
27	14,21	gamma-TERPINENE	0,37
28	14,51	Trans-beta-OCIMENE	0,02
29	15,19	m-CYMENE	0,01
30	15,34	p-CYMENE	0,33

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (BLACK WILD) - 11137

Peak	RT (min)	Compound name	%
31	15,74	ISOTERPINOLENE	0,04
32	16,06	TERPINOLENE	1,24
33	18,21	PINOL	0,08
34	19,48	CAMPHOLENE ALDEHYDE ISOMER	0,10
35	19,85	1-HEXANOL	0,02
36	20,93	3-METHYL-3-BUTENYL,ISOVALERATE	0,01
37	21,50	3-HEXEN-1-OL	0,02
38	22,36	COMPOUND Mw=152	0,05
39	24,28	ALIPHATIC ESTER	0,02
40	24,44	DIMETHYLSTYRENE ISOMER	0,05
41	25,03	alpha,p-DIMETHYLSTYRENE	0,24
42	26,57	alpha-CUBEBENE	0,02
43	26,77	FENCHYL ACETATE	0,26
44	27,36	alpha-LONGIPINENE	0,01
45	27,66	CITRONELLAL	0,01
46	28,21	alpha-CAMPHOLENAL	0,11
47	28,95	alpha-COPAENE + LONGICYCLENE	0,04
48	29,41	CAMPHOR	0,14
49	29,69	alpha-PINOCAMPHONE	0,04
50	30,49	CAMPHOLENIC ALCOHOL	0,05
51	31,41	ISOPINOCAMPHONE	0,04
52	31,55	SESQUITERPENE	0,02
53	31,74	LINALOOL	0,22
54	32,52	Trans-p-MENTH-2-EN-1-OL	0,02
55	32,64	PINOCARVONE	0,05
56	33,22	LONGIFOLENE	0,22
57	33,83	BORNYL ACETATE	18,57
58	33,96	ISOBORNYL ACETATE	0,67
59	34,27	METHYL THYMOL ETHER	0,06
60	34,53	beta-ELEMENE	0,13

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (BLACK WILD) - 11137

Peak	RT (min)	Compound name	%
61	34,55	CAMPHENE HYDRATE	0,10
62	34,81	beta-CARYOPHYLLENE	0,26
63	35,08	TERPINENE-4-OL	0,41
64	35,60	TERPENIC ACETATE	0,10
65	36,40	MYRTENAL	0,06
66	36,41	Cis-PINOCARVYL ACETATE	0,19
67	36,71	TERPENIC ESTER	0,04
68	37,05	CADINA-3,5-DIENE	0,04
69	37,34	GERMACRENE A	0,03
70	37,60	Trans-PINOCARVYL ACETATE	0,11
71	37,75	VERBENYL ACETATE	0,26
72	38,47	ZONARENE	0,12
73	38,64	ISOBORNEOL	0,12
74	38,74	CITRONELLYL ACETATE	0,09
75	39,08	alpha-HUMULENE	0,09
76	39,37	Cis-4,5-MUUROLADIENE	0,05
77	39,48	E-beta-FARNESENE	0,02
78	39,90	gamma-TERPINEOL	0,10
79	40,26	gamma-MUUROLENE	0,17
80	40,53	alpha-TERPINEOL	0,96
81	40,75	BORNEOL	1,52
82	41,17	GERMACRENE D	0,04
83	41,52	CADINADIENE ISOMER	0,06
84	41,60	PELLANDRAL	0,08
85	41,90	beta-SELINENE	0,07
86	42,02	SESQUITERPENE	0,04
87	42,18	PIPERITONE	0,02
88	42,32	alpha-SELINENE	0,08
89	42,54	alpha-MUUROLENE	0,41
90	42,79	Trans-CARVYL ACETATE	0,04

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (BLACK WILD) - 11137

Peak	RT (min)	Compound name	%
91	44,09	alpha-FARNESENE	0,30
92	44,22	delta-CADINENE	1,36
93	44,34	gamma-CADINENE	0,38
94	44,63	CITRONELLOL	0,08
95	44,82	METHYL SALICYLATE	0,01
96	45,29	alpha-BISABOLENE	0,18
97	45,76	CADINA-1,4-DIENE + MYRTENOL	0,13
98	46,00	CAMPHOLENOL	0,04
99	46,16	SESQUITERPENE	0,03
100	46,29	alpha-AMORPHENE	0,11
101	46,55	SESQUITERPENE	0,04
102	48,22	COMPOUND Mw=152	0,03
103	48,36	Cis-CALAMENENE	0,14
104	48,70	Trans-CALAMENE	0,09
105	48,95	CAPROIC ACID	0,02
106	49,04	p-CYMENE-8-OL	0,03
107	49,40	GERANIOL	0,01
108	51,66	ALIPHATIC ESTER	0,02
109	52,71	alpha-CALACORENE	0,05
110	53,13	ALIPHATIC ALCOHOL	0,03
111	54,08	TERPENIC KETONE	0,02
112	54,73	SESQUITERPENIC OXID	0,10
113	55,88	1-DODECANOL	0,05
114	59,42	NEROLIDOL	0,03
115	59,99	SESQUITERPENIC OXID	0,02
116	60,22	épi-CUBENOL	0,08
117	60,36	SESQUITERPENOL	0,01
118	60,62	CUBENOL	0,05
119	60,97	SESQUITERPENOL	0,01
120	61,42	SESQUITERPENOL	0,02

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (BLACK WILD) - 11137

Peak	RT (min)	Compound name	%
121	65,71	T-CADINOL	0,26
122	66,53	alpha-MUUROLOL	0,25
123	67,05	delta-CADINOL	0,07
124	67,66	AROMATIC COMPOUND	0,03
125	68,61	alpha-CADINOL	0,45
126	73,03	DITERPENE Mw=272	0,02
127	73,19	SANDAROCOPIMARADIENE Mw=272	0,03
128	74,15	AROMATIC COMPOUND	0,03
129	74,81	MANOYL OXIDE	0,02
130	75,19	AROMATIC COMPOUND	0,03
131	78,18	AROMATIC COMPOUND	0,05
132	78,98	AROMATIC COMPOUND	0,01
133	79,19	AROMATIC COMPOUND	0,02
134	80,35	AROMATIC COMPOUND	0,02
135	82,45	GERANYLLINALOOL ISOMER	0,03
136	87,49	MANOOL	0,09
137	95,83	AROMATIC COMPOUND	0,02
138	96,79	PALMITIC ACID	0,08
		TOTAL	100,00

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