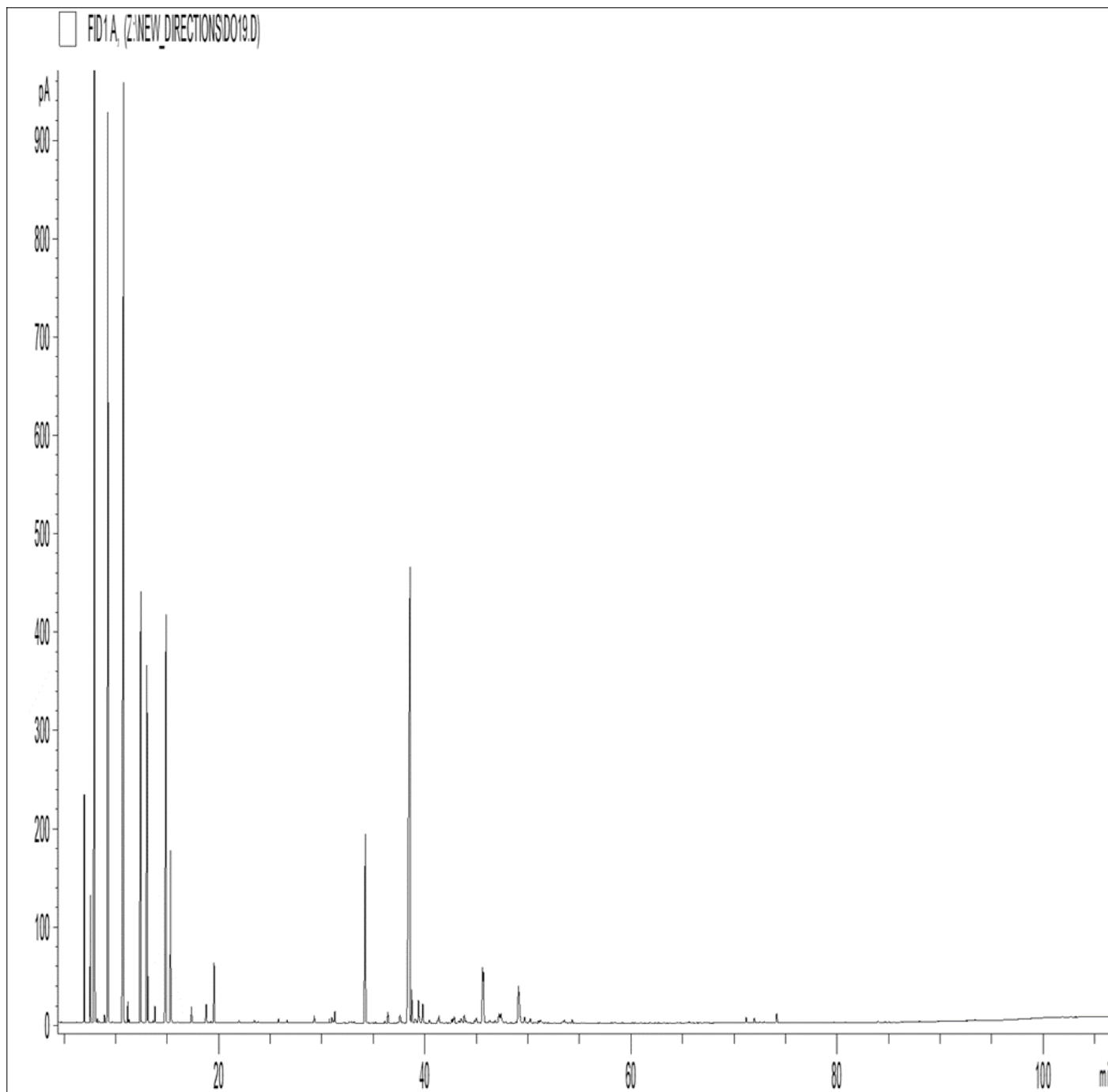


GCMS ANALYSIS

PRODUCT NAME: SPRUCE ESSENTIAL OIL (HEMLOCK) - 11135
DATE: January 12, 2021



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 (HEMLOCK)- 11135

Peak	RT (min)	Compound name	%
1	6,95	SANTENE	1,78
2	7,53	TRICYCLENE	1,24
3	7,97	alpha-PINENE	20,38
4	8,00	alpha-THUYENE	0,16
5	8,20	AROMATIC COMPOUND Mw=122	0,03
6	8,38	TOLUENE	0,01
7	8,91	alpha-FENCHENE	0,08
8	9,26	CAMPHENE	11,87
9	10,77	beta-PINENE	16,48
10	11,16	SABINENE	0,19
11	11,31	PINADIENE	0,03
12	12,44	delta3-CARENE	5,93
13	13,05	beta-MYRCENE	4,63
14	13,15	alpha-PHELLANDRENE	0,34
15	13,65	o-CYMENE	0,03
16	13,82	alpha-TERPINENE	0,20
17	14,89	LIMONENE	6,56
18	15,34	1,8-CINEOLE	2,31
19		beta-PHELLANDRENE	
20	16,02	2-HEXENAL	0,02
21	16,74	cis-beta-OCIMENE	0,01
22	17,37	gamma-TERPINENE	0,24
23	18,01	trans-beta-OCIMENE	0,01
24	18,79	p-CYMENE	0,31
25	19,20	ISOTERPINOLENE	0,03
26	19,55	TERPINOLENE	0,92
27	20,75	HEXADIENE DIMETHYL ISOMER	0,02
28	21,98	PINOL	0,04
29	23,45	CAMPHOLENAL ISOMER	0,05
30	23,85	1-HEXANOL	0,02

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (HEMLOCK)- 11135

Peak	RT (min)	Compound name	%
31	25,80	3-HEXEN-1-OL	0,06
32	26,63	FENCHONE	0,05
33	28,08	COMPOUND Mw=150	0,01
34	28,51	ALIPHATIC ESTER	0,01
35	29,27	alpha-p-DIMETHYLSTYRENE	0,10
36	30,74	4,8-TERPINOLENE EPOXIDE	0,02
37	30,95	alpha-CUBEBENE	0,04
38	31,01	alpha-LONGIPINENE	0,04
39	31,26	FENCHYL ACETATE	0,22
40	32,67	alpha-CAMPHOLENAL	0,04
41	32,82	ALIPHATIC ESTER	0,04
42	33,13	LONGICYCLENE	0,03
43	34,22	CAMPHOR	3,30
44	34,49	alpha-PINOCAMPHONE	0,01
45	35,19	CAMPHOLENIC ALCOHOL	0,02
46	36,08	beta-PINOCAMPHONE	0,04
47	36,41	LINALOOL	0,19
48	37,35	PINOCARVONE	0,03
49	37,59	LONGIFOLENE	0,24
50	37,89	trans-p-MENTH-2-EN-1-OL	0,02
51	38,56	BORNYL ACETATE	14,10
52	38,73	ISOBORNYL ACETATE	0,42
53	39,05	METHYL THYMOL ETHER	0,08
54	39,10	beta-ELEMENE	0,06
55	39,37	CAMPHENE HYDRATE	0,24
56	39,40	beta-CARYOPHYLLENE	0,26
57	39,79	TERPINENE-4-OL	0,34
58	40,46	AROMATIC COMPOUND Mw=194	0,07
59	41,25	MYRTENAL	0,06
60	41,38	MYRTENIC ESTER	0,15

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (HEMLOCK)- 11135

Peak	RT (min)	Compound name	%
61	41,59	ALIPHATIC ESTER	0,02
62	42,03	CADINA-3,5-DIENE	0,02
63	42,62	cis-PINOCARVYL ACETATE	0,07
64	42,75	KETONIC COMPOUND Mw=150	0,07
65	42,87	trans-PINOCARVEOL	0,12
66	43,30	ISOBORNEOL	0,05
67	43,54	CITRONELLYL ACETATE	0,09
68	43,62	ZONARENE	0,06
69	43,84	alpha-HUMULENE	0,17
70	44,00	ESTRAGOL	0,05
71	44,24	cis-4,5-MUUROLADIENE	0,02
72	44,39	Z-beta-FARNESENE	0,02
73	44,84	TERPENIC ESTER	0,05
74	45,02	gamma-MUUROLENE	0,12
75	45,33	NERAL	0,02
76	45,61	BORNEOL	0,89
77	45,69	alpha-TERPINEOL	0,76
78	46,13	GERMACRENE D	0,02
79	46,29	MUUROLADIENE ISOMER	0,05
80	46,41	beta-SELINENE	0,02
81	46,61	EXO-2-HYDROXYCINEOLE ACETATE	0,02
82	46,84	alpha-SELINENE	0,05
83	47,21	PIPERITONE	0,23
84	47,39	alpha-MUUROLENE	0,20
85	47,48	beta-BISABOLENE	0,05
86	47,85	cis-CARVYL ACETATE	0,03
87	48,83	E,E-alpha-FARNESENE	0,03
88	49,10	delta-CADINENE	0,71
89	49,14	gamma-CADINENE	0,49
90	49,68	CITRONELLOL	0,16

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL (HEMLOCK)- 11135

Peak	RT (min)	Compound name	%
91	50,16	alpha-CURCUMENE	0,02
92	50,24	trans-alpha-BISABOLENE	0,10
93	50,69	CADINA-1,4-DIENE	0,02
94	51,03	MYRTENOL	0,04
95	51,21	alpha-AMORPHENE	0,10
96	51,94	CAMPHOLENOL	0,02
97	53,39	cis-CALAMENENE	0,03
98	53,55	trans-CALAMENENE	0,08
99	54,09	m-CYMENE-8-OL	0,01
100	54,29	p-CYMENE-8-OL	0,07
101	58,10	alpha-CALACORENE	0,01
102	60,95	CARYOPHYLLENE EPOXIDE	0,02
103	61,83	METHYLEUGENOL	0,01
104	64,72	NEROLIDOL	0,01
105	65,64	Epi-CUBENOL	0,03
106	66,02	CUBENOL	0,02
107	71,18	T-CADINOL	0,10
108	71,98	alpha-MUUROLOL	0,08
109	72,55	delta-CADINOL	0,03
110	72,96	KETONIC COMPOUND Mw=224	0,02
111	73,40	GERANYLGERANIADIENE	0,01
112	74,15	alpha-CADINOL	0,17
113	74,77	CITRONELIC ACID	0,01
114	77,16	CAMPHOLENIC COMPOUND	0,01
115	78,73	DITERPENE Mw=272	0,01
116	79,67	MANOYL OXIDE	0,01
117	83,98	AROMATIC COMPOUND	0,02
118	93,37	Epi-MANOOL	0,02
119	101,86	DITERPENIC COMPOUND Mw=286	0,01
120	102,65	DITERPENIC COMPOUND Mw=286	0,01
		TOTAL	99,99

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