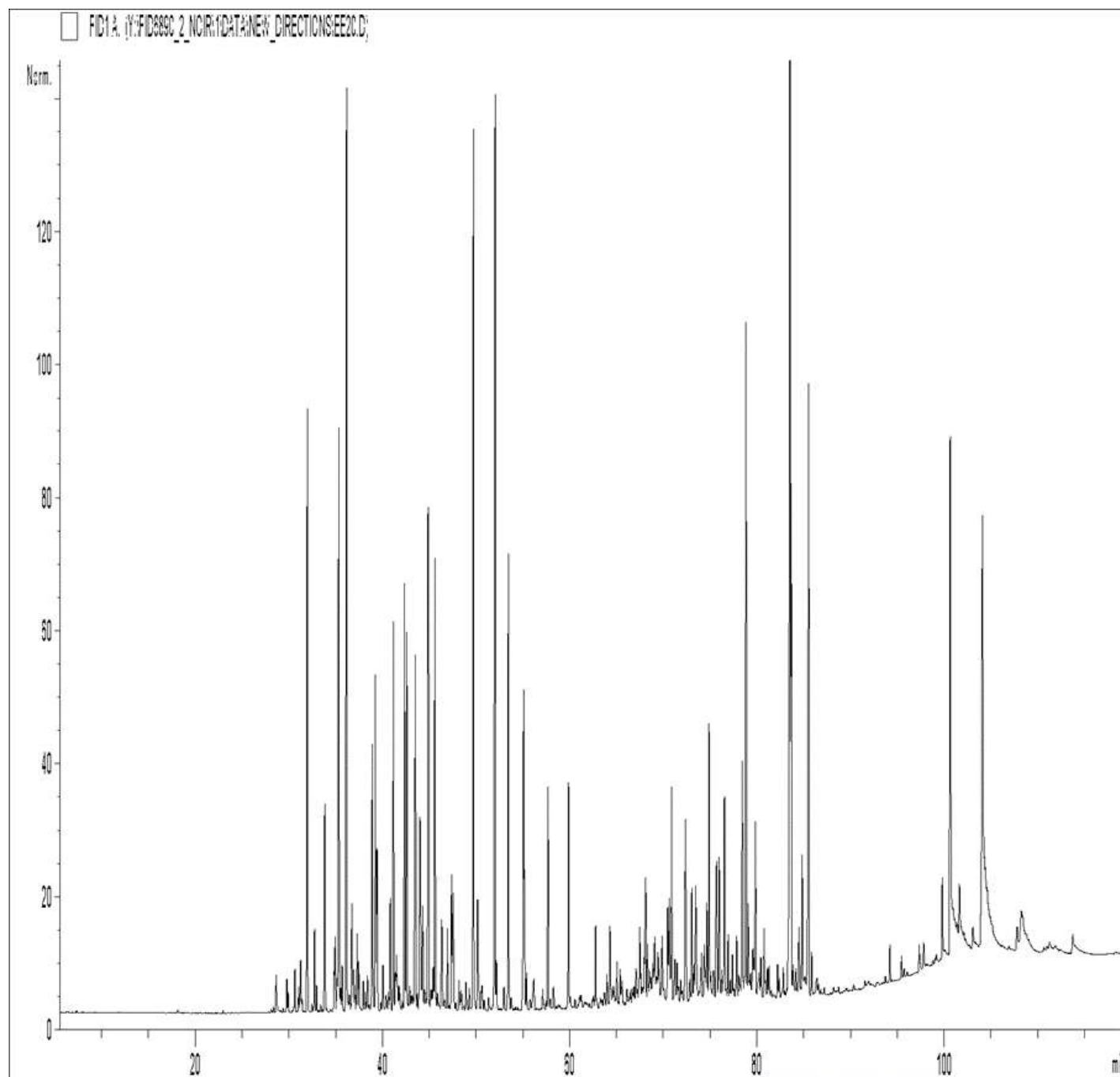


GCMS ANALYSIS

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

DATE: March 30, 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: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
1	4,68	ACETONE	0,02
2	28,63	FURFURAL	0,17
3	29,76	CYCLOSATIVENE	0,12
4	29,91	YLANGENE	0,08
5	30,64	AROMATIC COMPOUND	0,16
6	31,05	SESQUITERPENE	0,09
7	31,25	ALKYL BENZENE Mw=190	0,25
8	31,39	ALKYL BENZENE Mw=190	0,05
9	31,97	ALKYL BENZENE Mw=190	2,28
10	32,73	ALKYL BENZENE Mw=190	0,31
11	32,96	ALKYL BENZENE Mw=190	0,10
12	33,83	ALKYL BENZENE Mw=190	0,80
13	34,84	SESQUITERPENE	0,15
14	34,93	SESQUITERPENE	0,29
15	35,13	SESQUITERPENE	0,15
16	35,34	ALKYL BENZENE Mw=190	2,53
17	35,52	SESQUITERPENE	0,09
18	35,68	CHAMIGRENE ISOMER	0,18
19	36,16	ALKYL BENZENE Mw=190	4,06
20	36,46	ALKYL BENZENE Mw=188	0,09
21	36,72	ALKYL BENZENE Mw=190	0,42
22	36,85	SESQUITERPENE	0,19
23	37,05	SESQUITERPENE	0,08
24	37,28	SESQUITERPENE	0,31
25	37,45	6,9-GUAIADIENE	0,19
26	37,95	SESQUITERPENE	0,12
27	38,38	SESQUITERPENE Mw=202	0,19
28	38,89	PREZIZA-7-ENE	1,02
29	38,97	ISOSATIVENE	0,12
30	39,25	KHUSIMENE	1,26

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
31	39,42	GURJUNENE ISOMER	0,91
32	40,06	ALKYL BENZENE Mw=190	0,21
33	40,38	SESQUITERPENE	0,10
34	40,65	ALKYL BENZENE Mw=190	0,08
35	40,85	SESQUITERPENE	0,47
36	41,18	ALKYL BENZENE Mw=190	1,42
37	41,39	SESQUITERPENE	0,18
38	41,50	SESQUITERPENE Mw=202	0,34
39	41,75	gamma-SELINENE	0,11
40	42,37	gamma-MUUROLENE	1,67
41	42,60	CALARENE	1,38
42	42,91	gamma-CURCUMENE	0,16
43	43,44	alpha-VETISPIRENE	0,34
44	43,52	SESQUITERPENE	1,54
45	43,97	gamma-CADINENE	0,36
46	44,02	delta-CADINENE	0,90
47	44,31	ALKYL BENZENE Mw=190	0,56
48	44,88	SESQUITERPENE Mw=202	1,83
49	44,92	SESQUITERPENE	0,95
50	45,15	SESQUITERPENE Mw=202	0,09
51	45,28	SESQUITERPENE	0,11
52	45,43	COMPOUND Mw=220	0,18
53	45,61	EUDESMATRIENE ISOMER	1,71
54	46,31	SESQUITERPENE	0,16
55	46,34	SESQUITERPENE	0,38
56	46,94	SELINENE ISOMER	0,30
57	47,39	SESQUITERPENE Mw=202	0,57
58	47,55	SESQUITERPENE	0,66
59	48,19	SESQUITERPENE Mw=202	0,12
60	48,44	SESQUITERPENE	0,12

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
61	48,93	EUDESMATRIENE ISOMER	0,16
62	49,28	NAPHTHALENONE, DIHYDRO-TRIMETH-YL ISOMER	0,10
63	49,73	alpha-VETIVENENE	3,52
64	50,17	SESQUITERPENE	0,60
65	50,64	SESQUITERPENE Mw=202	0,20
66	51,34	SESQUITERPENE Mw=202	0,07
67	52,04	beta-VETIVENENE	3,99
68	52,18	SESQUITERPENE Mw=202	0,21
69	52,98	NAPHTHALENIC COMPOUND	0,10
70	53,46	gamma-VETIVENENE	1,71
71	55,02	SESQUITERPENE Mw=202	0,21
72	55,09	VETIVENENE ISOMER	1,26
73	55,18	alpha-CALACORENE	0,43
74	55,40	COMPOUND Mw=200	0,13
75	56,17	COMPOUND Mw=220	0,23
76	57,13	COMPOUND Mw=200	0,09
77	57,69	CADINATRIENE ISOMER Mw=202	0,83
78	58,27	METHYLENE CYCLOPENTENYL Mw=200	0,13
79	59,88	BENZOCYCLOHEPTENONE Mw=178	0,91
80	62,77	JUNEOL	0,37
81	63,71	CHRYSANthemOL ISOMER	0,13
82	63,98	ELEMOL	0,17
83	64,31	SESQUITERPENOL Mw=220	0,43
84	64,62	CEDRENE OXIDE	0,10
85	64,74	AROMATIC COMPOUND Mw=200	0,10
86	65,06	10-epi-gamma-EUDESMOL	0,19
87	65,40	SESQUITERPENIC EPOXIDE	0,18
88	65,60	COMPOUND Mw=200	0,16
89	66,71	SESQUITERPENOL Mw=220	0,12
90	66,89	SESQUITERPENOL Mw=220	0,07

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
91	67,11	CADINOL ISOMER	0,25
92	67,25	SESQUITERPENOL Mw=222	0,07
93	67,49	8-OXO NEOISOLONGIFOLENE Mw=218	0,41
94	67,98	T-CADINOL	0,21
95	68,12	gamma-EUDESOL	0,66
96	68,32	VETISELINENOL ISOMER	0,36
97	68,57	CADINOL ISOMERE	0,26
98	68,89	SESQUITERPENONE Mw=218	0,25
99	69,09	SESQUITERPENONE Mw=218	0,44
100	69,44	AROMATIC COMPOUND	0,26
101	69,58	alpha-MUUROLOL	0,17
102	69,88	SESQUITERPENOL	0,43
103	70,48	delta-CADINOL	0,47
104	70,66	VALERIANOL	0,53
105	70,90	COMPOUND Mw=220	0,89
106	71,22	alpha-NOOTKATOL	0,14
107	71,25	alpha-EUDESOL	0,19
108	71,49	beta-EUDESOL	0,20
109	71,64	alpha-CADINOL	0,08
110	71,86	SESQUITERPENOL Mw=220	0,10
111	72,04	SESQUITERPENIC EPOXIDE	0,08
112	72,38	SESQUITERPENONE Mw=218	0,89
113	72,49	SESQUITERPENIC EPOXIDE	0,13
114	72,83	SESQUITERPENIC EPOXIDE	0,13
115	73,06	SESQUITERPENIC COMPOUND Mw=218	0,52
116	73,31	SESQUITERPENOL	0,17
117	73,47	COMPOUND Mw=220	0,54
118	73,54	SESQUITERPENOL	0,21
119	74,08	SESQUITERPENOL	0,30
120	74,39	SESQUITERPENOL	0,28

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
121	74,51	SESQUITERPENIC COMPOUND Mw=218	0,12
122	74,66	SESQUITERPENIC EPOXIDE	0,45
123	74,90	BICYCLOVETIVENOL	1,28
124	75,09	SESQUITERPENOL	0,15
125	75,35	SESQUITERPENIC EPOXIDE	0,11
126	75,42	SESQUITERPENOL	0,13
127	75,63	SESQUITERPENOL	0,44
128	75,71	SESQUITERPENOL	0,56
129	75,98	SESQUITERPENOL	0,78
130	76,27	SESQUITERPENOL	0,14
131	76,41	SESQUITERPENONE	0,08
132	76,54	ISOEUGENOL	0,82
133	76,94	SESQUITERPENIC EPOXIDE	0,28
134	77,17	SESQUITERPENIC EPOXIDE	0,12
135	77,39	COMPOUND Mw=216	0,22
136	77,85	COMPOUND Mw=220	0,29
137	78,08	SESQUITERPENOL	0,20
138	78,45	ZIZANOL	1,24
139	78,67	SESQUITERPENOL Mw=220	0,09
140	78,85	VETIVENOL	2,88
141	79,08	SESQUITERPENIC EPOXIDE	0,48
142	79,22	SESQUITERPENOL	0,08
143	79,36	SESQUITERPENONE	0,12
144	79,58	SESQUITERPENOL	0,28
145	79,69	SESQUITERPENOL	0,16
146	79,85	VETISELINENOL	0,79
147	80,24	SESQUITERPENOL	0,25
148	80,43	SESQUITERPENONE	0,21
149	80,77	AROMATIC COMPOUND Mw=220	0,30
150	80,91	AROMATIC COMPOUND Mw=220	0,08

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
151	81,15	COMPOUND Mw=220	0,13
152	81,29	SESQUITERPENONE	0,14
153	82,22	SESQUITERPENIC EPOXIDE	0,15
154	82,39	SESQUITERPENOL Mw=220	0,09
155	82,82	SESQUITERPENOL Mw=220	0,13
156	83,41	AROMATIC COMPOUND	0,38
157	83,53	KHUSIMOL	4,88
158	83,67	beta-VETIVONE	2,17
159	83,87	SESQUITERPENOL	0,21
160	84,18	NOOTKATOL	0,16
161	84,51	AROMATIC COMPOUND	0,45
162	84,85	ISOVALENCENOL	0,62
163	85,44	Z-gamma-CURCUMENE-12-OL	0,35
164	85,52	alpha-VETIVONE	2,53
165	85,86	SESQUITERPENONE	0,20
166	86,42	COMPOUND Mw=216	0,17
167	94,21	COMPOUND Mw=216	0,17
168	95,46	AROMATIC COMPOUND	0,10
169	97,35	AROMATIC ACID Mw=234	0,15
170	97,83	AROMATIC ACID Mw=234	0,17
171	99,82	AROMATIC ACID Mw=234	0,55
172	100,67	ISOKHUSENIC ACID	5,20
173	101,66	AROMATIC ACID Mw=234	0,32
174	103,07	AROMATIC ACID Mw=234	0,17
175	104,10	KHUSENIC ACID	5,38
176	107,81	AROMATIC ACID Mw=234	0,22
177	108,27	AROMATIC ACID Mw=234	1,19
178	113,77	LINOLEIC ACID	0,16
		TOTAL	99,97

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.