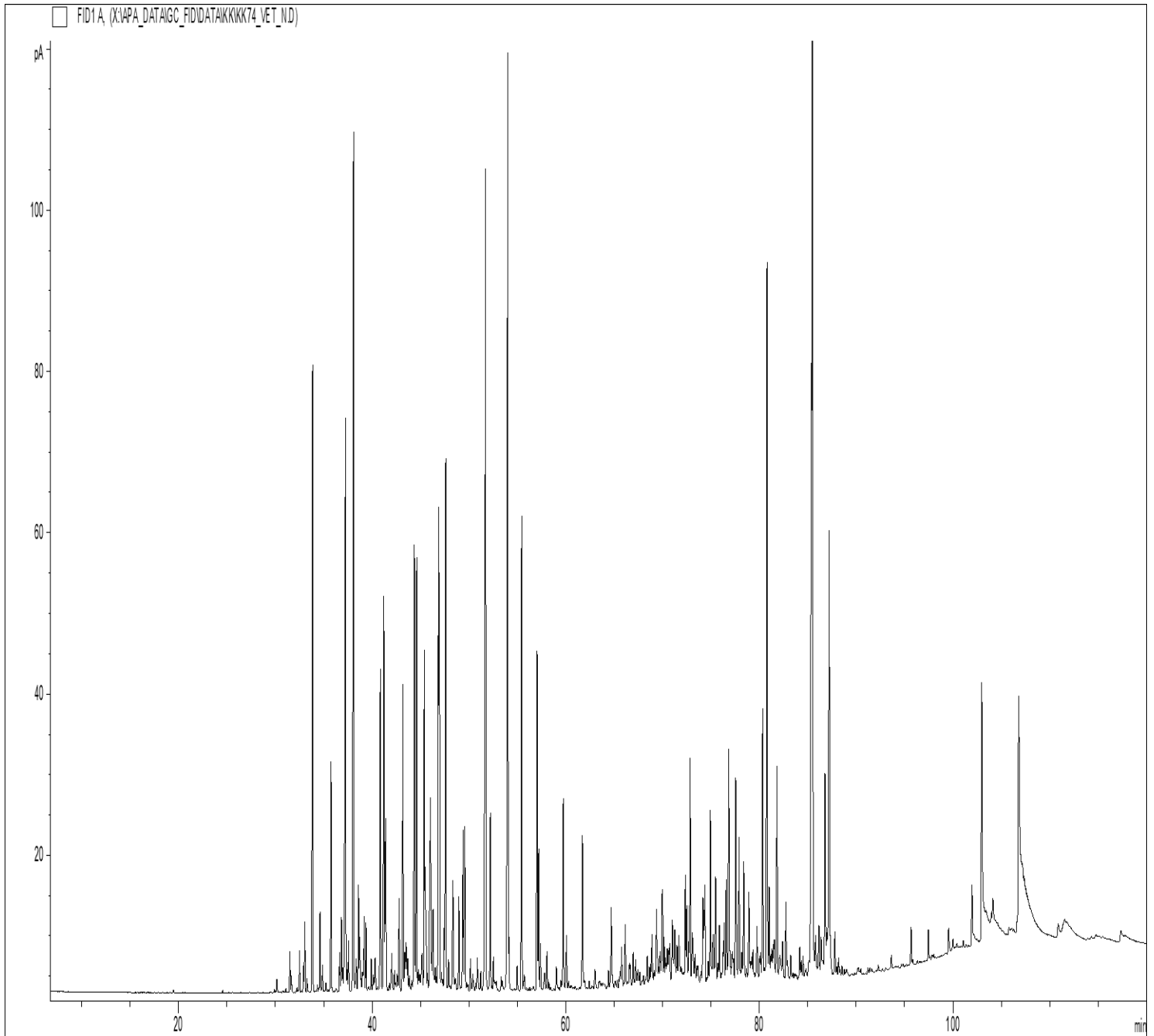


GCMS ANALYSIS

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

DATE: August 30, 2023



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	30.17	FURFURAL	0.06
2	31.51	ISOLEDENE	0.14
3	31.66	YLANGENE	0.06
4	32.50	ALKYL BENZENE	0.14
5	32.91	ALKYL BENZENE Mw=190	0.09
6	33.04	CEDRENE ISOMER	0.26
7	33.86	ALKYL BENZENE Mw=190	2.40
8	34.62	ALKYL BENZENE Mw=190	0.27
9	34.88	ALKYL BENZENE Mw=190	0.10
10	35.75	ALKYL BENZENE Mw=190	0.85
11	36.64	SESQUITERPENE	0.15
12	36.83	SESQUITERPENE	0.30
13	36.96	CEDRENE ISOMER	0.09
14	37.25	ALKYL BENZENE Mw=190	2.59
15	37.43	SESQUITERPENE	0.08
16	37.57	DAUCENE ISOMER	0.18
17	38.08	ALKYL BENZENE Mw=190	3.68
18	38.35	SESQUITERPENE	0.18
19	38.60	ALKYL BENZENE Mw=190	0.39
20	38.73	SESQUITERPENE	0.22
21	39.00	ALKYL BENZENE Mw=188	0.07
22	39.17	CADINADIENE ISOMER	0.30
23	39.35	6,9-GUAIADIENE	0.25
24	39.89	SESQUITERPENE	0.12
25	40.11	SESQUITERPENE Mw=202	0.08
26	40.29	SESQUITERPENE	0.18
27	40.84	PREZIZA-7-ENE	1.27
28	41.20	KHUSIMENE	1.50
29	41.39	SESQUITERPENE	0.94
30	42.02	SESQUITERPENE	0.19

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
31	42.31	SESQUITERPENIC COMPOUND	0.08
32	42.58	AROMATIC COMPOUND	0.09
33	42.78	COMPOUND Mw=192	0.42
34	43.17	ALKYL BENZENE Mw=190	1.12
35	43.36	SESQUITERPENE Mw=202	0.18
36	43.48	SESQUITERPENE Mw=202	0.32
37	43.67	CURCUMENE ISOMERE	0.12
38	43.84	ALKYL BENZENE Mw=190	0.07
39	44.36	SESQUITERPENE	1.74
40	44.60	SESQUITERPENE	1.61
41	44.77	ALKYL BENZENE Mw=190	0.09
42	44.91	SESQUITERPENE	0.08
43	45.15	COMPOUND Mw=222	0.26
44	45.38	SESQUITERPENE	1.26
45	45.48	SESQUITERPENE Mw=202	0.56
46	45.71	AROMATIC COMPOUND	0.07
47	46.00	CADINENE ISOMER	1.33
48	46.28	SESQUITERPENE	0.44
49	46.51	SESQUITERPENE	0.11
50	46.65	SESQUITERPENIC COMPOUND	0.05
51	46.85	SESQUITERPENE	1.90
52	46.94	SESQUITERPENE	1.48
53	47.16	COMPOUND Mw=220	0.08
54	47.43	SESQUITERPENE Mw=202	0.21
55	47.59	alpha-VETISPIRENE	2.05
56	47.89	SESQUITERPENE	0.12
57	48.34	delta-CADINENE	0.58
58	48.61	AROMATIC COMPOUND	0.07
59	48.96	delta-SELINENE	0.35
60	49.38	SESQUITERPENE Mw=202	0.68
61	49.56	SESQUITERPENE Mw=202	0.69

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
62	50.15	SESQUITERPENE Mw=202	0.13
63	50.40	AROMATIC COMPOUND Mw=200	0.09
64	50.86	SESQUITERPENE	0.17
65	51.21	ALKYL BENZENE Mw=188	0.08
66	51.71	beta-VETISPIRENE	3.88
67	52.21	SESQUITERPENE Mw=202	0.68
68	52.52	CALAMENENE	0.13
69	53.32	SESQUITERPENE Mw=202	0.05
70	54.00	beta-VETIVENENE	4.02
71	54.10	SESQUITERPENE Mw=202	0.19
72	54.98	ALKYL BENZENE Mw=188	0.10
73	55.44	gamma-VETIVENENE	1.80
74	55.72	AROMATIC COMPOUND	0.10
75	57.03	VETIVENENE ISOMER	1.41
76	57.20	alpha-CALACORENE	0.53
77	57.38	COMPOUND Mw=200	0.18
78	57.82	SESQUITERPENE Mw=202	0.11
79	58.05	TERPENIC COMPOUND	0.16
80	59.02	beta-CALACORENE	0.11
81	59.74	CADINATRIENE ISOMER	0.78
82	60.07	COMPOUND Mw=200	0.25
83	61.71	BENZOCYCLOHEPTENONE Mw=178	0.67
84	63.01	AROMATIC COMPOUND	0.12
85	64.40	TERPENIC COMPOUND	0.08
86	64.69	JUNEOL	0.41
87	65.61	TERPENIC COMPOUND	0.08
88	65.77	ELEMOL	0.19
89	66.14	COMPOUND Mw=220	0.29
90	66.58	AROMATIC COMPOUND	0.11

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
91	66.66	COMPOUND Mw=218	0.10
92	66.96	10-epi-gamma-EUDESOL	0.17
93	67.22	AROMATIC COMPOUND	0.16
94	67.44	COMPOUND Mw=218	0.10
95	67.64	COMPOUND Mw=200	0.06
96	68.02	AROMATIC COMPOUND	0.05
97	68.41	COMPOUND Mw=220	0.19
98	68.63	COMPOUND Mw=220	0.09
99	68.76	T-CADINOL	0.08
100	68.90	SESQUITERPENIC COMPOUND Mw=218	0.25
101	69.13	AROMATIC COMPOUND	0.07
102	69.37	COMPOUND Mw=220	0.40
103	69.46	COMPOUND Mw=218	0.10
104	69.60	SESQUITERPENIC COMPOUND	0.08
105	69.75	SESQUITERPENIC COMPOUND	0.19
106	69.99	SESQUITERPENIC COMPOUND	0.64
107	70.15	EUDESOL ISOMER	0.18
108	70.30	COMPOUND Mw=220	0.15
109	70.48	COMPOUND Mw=220	0.23
110	70.65	COMPOUND Mw=220	0.15
111	70.73	SESQUITERPENIC COMPOUND	0.17
112	71.00	COMPOUND Mw=218	0.41
113	71.25	4-VINYL-GUAIACOL	0.32
114	71.47	SESQUITERPENIC COMPOUND	0.21
115	71.67	SESQUITERPENOL	0.38
116	71.92	AROMATIC COMPOUND	0.15
117	72.18	AROMATIC COMPOUND	0.06
118	72.34	SESQUITERPENOL	0.44
119	72.49	SESQUITERPENIC COMPOUND Mw=218	0.39
120	72.71	SESQUITERPENOL	0.17

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
121	72.85	COMPOUND Mw=220	0.87
122	73.08	beta-EUDESOL	0.36
123	73.35	alpha-CADINOL	0.17
124	73.54	SESQUITERPENIC COMPOUND	0.08
125	73.64	COMPOUND Mw=220	0.10
126	73.97	COMPOUND Mw=220	0.07
127	74.17	COMPOUND Mw=218	0.37
128	74.28	AROMATIC COMPOUND	0.21
129	74.36	AROMATIC COMPOUND	0.41
130	74.71	AROMATIC COMPOUND	0.12
131	74.93	COMPOUND Mw=218	0.68
132	75.19	SESQUITERPENIC COMPOUND	0.29
133	75.47	SESQUITERPENIC COMPOUND	0.60
134	75.71	COMPOUND Mw=220	0.09
135	75.85	AROMATIC COMPOUND	0.27
136	76.25	COMPOUND Mw=222	0.15
137	76.36	COMPOUND Mw=220	0.25
138	76.57	COMPOUND Mw=220	0.46
139	76.84	BICYCLOVETIVENOL	1.20
140	77.20	COMPOUND Mw=218	0.22
141	77.33	SESQUITERPENIC COMPOUND	0.11
142	77.55	SESQUITERPENIC COMPOUND	1.02
143	77.89	COMPOUND Mw=220	0.67
144	78.17	SESQUITERPENOL	0.15
145	78.38	ISOEUGENOL	0.60
146	78.67	AROMATIC COMPOUND	0.07
147	78.91	AROMATIC COMPOUND	0.46
148	79.10	COMPOUND Mw=218	0.09
149	79.20	SESQUITERPENIC COMPOUND	0.10
150	79.33	SESQUITERPENIC COMPOUND	0.13

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
151	79.75	COMPOUND Mw=220	0.32
152	80.02	COMPOUND Mw=220	0.09
153	80.12	COMPOUND Mw=220	0.14
154	80.34	ZIZANOL	1.17
155	80.53	SESQUITERPENIC COMPOUND	0.06
156	80.79	VETIVENOL	3.05
157	81.01	SESQUITERPENIC COMPOUND	0.43
158	81.18	AROMATIC COMPOUND	0.11
159	81.30	SESQUITERPENIC COMPOUND	0.15
160	81.45	SESQUITERPENOL	0.16
161	81.55	SESQUITERPENIC COMPOUND	0.19
162	81.82	VETISELINENOL	0.97
163	82.12	SESQUITERPENIC COMPOUND	0.24
164	82.39	SESQUITERPENIC COMPOUND	0.22
165	82.73	AROMATIC COMPOUND	0.32
166	82.88	AROMATIC COMPOUND	0.12
167	83.23	SESQUITERPENIC COMPOUND	0.11
168	84.17	COMPOUND Mw=220	0.15
169	84.33	COMPOUND Mw=216	0.08
170	84.51	SESQUITERPENIC COMPOUND	0.11
171	84.81	SESQUITERPENIC COMPOUND	0.08
172	85.11	SESQUITERPENIC COMPOUND	0.11
173	85.37	beta-VETIVONE	2.68
174	85.48	KHUSIMOL	5.56
175	85.80	AROMATIC COMPOUND	0.27
176	86.15	NOOTKATONE	0.31
177	86.37	AROMATIC COMPOUND	0.33
178	86.77	ISOVALENCENOL	0.99
179	86.98	SESQUITERPENIC COMPOUND	0.27
180	87.21	alpha-VETIVONE	2.18

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: VETIVER ESSENTIAL OIL - 11151

Peak	RT (min)	Compound name	%
181	87.30	COMPOUND Mw=220	0.19
182	87.80	COMPOUND Mw=220	0.21
183	88.18	SESQUITERPENONE	0.08
184	90.22	AROMATIC COMPOUND	0.08
185	92.27	AROMATIC COMPOUND	0.05
186	93.63	COMPOUND Mw=236	0.08
187	95.67	AROMATIC COMPOUND Mw=216	0.17
188	97.45	CALAMENENE, 5-HYDROXY-	0.12
189	99.55	COMPOUND Mw=234	0.15
190	99.99	COMPOUND Mw=234	0.05
191	101.97	PALMITIC ACID	0.33
192	102.97	ISOKHUSENIC ACID	1.90
193	104.12	AROMATIC ACID Mw=234	0.16
194	106.79	KHUSENIC ACID	4.13
195	110.87	AROMATIC COMPOUND	0.09
196	117.33	LINOLEIC ACID	0.08
		TOTAL	97.52

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