

CERTIFICATE OF ANALYSIS COVER PAGE

SAMPLE NAME	WVOM-25-02-P04A		
CLIENT	Waikura Limited	ARL JOB NUMBER	A25-00-0929
CUSTOMER REFERENCE	WVOM-25-02-P04A	SAMPLE ID	A25-00-0929-0002
SAMPLE FORM	Essential oil	CERTIFICATE ISSUE NUMBER	1
METHOD	ARL-TM101-4	CERTIFICATE DATE	17 April 2025
ANALYSIS	GCFID- area % analysis of manuka (<i>Leptospermum scoparium</i>) with b-triketone sum		
CERTIFICATE ID	A25-00-0929-0002_GC_Manuka_FULL_ARL2		

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CLIENT	Waikura Limited	ARL JOB NUMBER	A25-00-0929
CUSTOMER REFERENCE	WVOM-25-02-P04A	SAMPLE ID	A25-00-0929-0002
SAMPLE FORM	Essential oil	CERTIFICATE ISSUE NUMBER	1
METHOD	ARL-TM101-4	CERTIFICATE DATE	17 April 2025
ANALYSIS	GCFID- area % analysis of manuka (<i>Leptospermum scoparium</i>) with b-triketone sum		
CERTIFICATE ID	A25-00-0929-0002_GC_Manuka_FULL_ARL2		
QC AUTHORISED	<i>A. Mann</i>		

TEST	RESULTS
Optical Rotation (°) @ 20°C	-36.566
Refractive Index @ 20°C	1.501
Relative Density @ 20°C	0.946

TEST	RESULTS
	Area %
α -pinene	1.9
α -cubebene	5.2
α -ylangene	0.2
α -copaene	4.4
β -elemene	1.7
β -caryophyllene	5.0
aromadendrene	1.4
muurolo-3,5-diene	7.6
α -humulene	2.7
trans-cadina-1(6),4-diene	4.2
cis-cadina-1(6),4-diene	0.7
germacrene D	2.9
β -selinene	3.1
α -selinene	3.4

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TEST	RESULTS
	Area %
epi-bicyclosesquiphellandrene	1.3
δ -cadinene	4.3
trans-cadina-1,4-diene	5.1
cis-calamenene	10.5
flavesone	3.4
spathulenol	0.5
caryophyllene oxide	0.5
isoleptospermone	3.4
leptospermone	10.7
cubenol	0.8
intermedeol	0.2
grandiflorone	Not Detected
M β TK**	17.4

Analysis Notes:

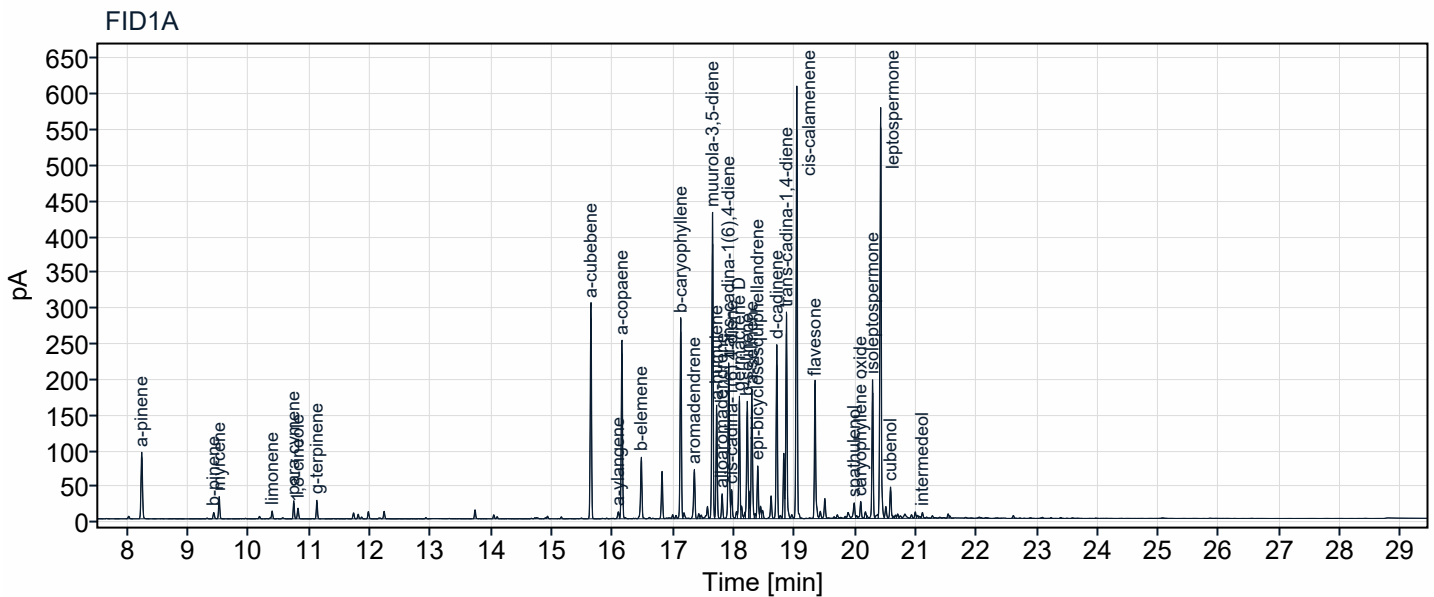
- *Assay by GC(FID detection)
- **Total β -triketones is the sum of flavesone, iso leptospermone, leptospermone and grandiflorone.

Sample: WVOM-25-02-P04A

Sample ID: A25-00-0929-0002~GC_Manuka_DD231

Data file: /GC/DB-35/Results/QCB2504-00533-20250409 163353.rsl\20250409 16335312_19.dx

Instrument:	GC-03	Sample amount:	1.000
Injection date:	2025-04-10 03:50:09+10:00	Location:	12
Acq. method:	EO Base - FID - 6850.amx	Injection:	1 of 1
Analysis method:	GCFID_Manuka_EOBASE_LIMS.pmx	Injection volume:	1.000 µL
Analyst:	STAFF\rbarker	Multiplier:	1
Report Date:	2025-04-10 07:30:23+10:00	Dilution:	1



Name	RT [min]	Area	Peak Area Percent
a-pinene	8.233	160.3448	1.9357
b-pinene	9.421	14.3815	0.1736
myrcene	9.509	43.0546	0.5198
limonene	10.382	17.2216	0.2079
para cymene	10.739	33.8484	0.4086
1,8-cineole	10.808	23.4057	0.2826
g-terpinene	11.120	34.8746	0.4210
a-cubebene	15.639	431.8412	5.2132
a-ylangene	16.090	16.1368	0.1948
a-copaene	16.149	362.5220	4.3764
b-elemene	16.469	137.9455	1.6653
b-caryophyllene	17.120	411.1696	4.9637
aromadendrene	17.343	113.3390	1.3682

Name	RT [min]	Area	Peak Area Percent
muurolo-3,5-diene	17.644	632.2117	7.6321
a-humulene	17.711	224.4372	2.7094
alloaromadendrene	17.801	50.5019	0.6097
trans-cadina-1(6),4-diene	17.911	348.8805	4.2117
cis-cadina-1(6),4-diene	17.958	60.6410	0.7321
germacrene D	18.086	238.7931	2.8827
b-selinene	18.215	255.4381	3.0837
a-selinene	18.291	282.0525	3.4050
epi-bicyclosesquiphellandrene	18.389	110.6947	1.3363
d-cadinene	18.704	354.6937	4.2819
trans-cadina-1,4-diene	18.862	419.6535	5.0661
cis-calamenene	19.033	866.8274	10.4645
flavesone	19.333	283.8158	3.4263
spathulenol	19.978	41.1428	0.4967
caryophyllene oxide	20.086	38.5305	0.4651
isoleptospermone	20.282	277.7658	3.3532
leptospermone	20.415	882.3288	10.6516
cubenol	20.578	67.0287	0.8092
intermedeol	21.103	13.0116	0.1571
	Sum	7248.5347	87.51