

# COMPREHENSIVE HOP PROFILE CERTIFICATE OF ANALYSIS



Customer : Barntalk Hops - Jenny Napier

Sample ID: Allieigh - Bob

Variety:

Certifying Officer: Zach Lilla - Lab Manager

Date : 9/13/2019

Method			
Hops-4C	Moisture Analysis	% Moisture	10.3
		% Dry Matter	89.7
Hops-6A	Alpha and Beta Acids by SPEC	<b>% Alpha Acids</b>	<b>NT</b>
		<b>% Beta Acids</b>	<b>NT</b>
		a/b ratio	NT
Hops-12	Hop Storage Index	HSI	0.258
Hops-13	Essential Oil by Steam Distillation	<b>mL/100g</b>	<b>3.19</b>
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	40.6 (% of Total AA)
ICE-3		<b>% Alpha Acids</b>	<b>13.53</b>
		Colupulone	65.3 (% of Total BA)
		<b>% Beta Acids</b>	<b>5.48</b>
		a/b ratio	2.47
Hops-17	Hop Essential Oil by GC-FID (as is)		
		% area	mg/100g
		B-Pinene	0.49    19.15
		Myrcene	40.45    1566.64
		Linalool	0.72    28.02
		Caryophyllene	8.92    345.52
		Farnesene	0.46    17.80
		Humulene	17.66    683.91
		Geraniol	0.27    10.49
NT=NOT TESTED			

Signed: \_\_\_\_\_  
Zachary Lilla - Lab Manager - TTB Certified Chemist

# COMPREHENSIVE HOP PROFILE

## HOP QUALITY REPORT



ADVANCED ANALYTICAL RESEARCH

Customer : Barntalk Hops - Jenny Napier

Sample ID: Allieigh - Bob

Variety: 0

Certifying Officer: Zach Lilla - Lab Manager

Date : 9/13/2019

% Moisture	10.3	Typical Range 8 - 12%	✓
Total Oil ml/100g @ 10%	3.20	#N/A	#N/A
cohumulone	40.6	#N/A	#N/A
Alpha Acids @ 10%	13.57	#N/A	#N/A
Beta Acids @ 10%	5.50	#N/A	#N/A
<b>AROMA QUALITY (AQ)</b>			
	% Area		
B-Pinene	0.49	#N/A	#N/A
Myrcene	40.45	#N/A	#N/A
Linalool	0.72	#N/A	#N/A
Caryophyllene	8.92	#N/A	#N/A
Farnesene	0.46	#N/A	#N/A
Humulene	17.66	#N/A	#N/A
Geraniol	0.27	#N/A	#N/A
	mg/mL		
B-Pinene	6.00	#N/A	#N/A
Myrcene	490.57	#N/A	#N/A
Linalool	8.77	#N/A	#N/A
Caryophyllene	108.19	#N/A	#N/A
Farnesene	5.57	#N/A	#N/A
Humulene	214.15	#N/A	#N/A
Geraniol	3.28	#N/A	#N/A
	mg/100g @ 10% Moisture		
B-Pinene	19.21	#N/A	#N/A
Myrcene	1571.20	#N/A	#N/A
Linalool	28.10	#N/A	#N/A
Caryophyllene	346.52	#N/A	#N/A
Farnesene	17.85	#N/A	#N/A
Humulene	685.90	#N/A	#N/A
Geraniol	10.52	#N/A	#N/A

Signed: \_\_\_\_\_

Zachary Lilla - Lab Manager - TTB Certified Chemist

# COMPREHENSIVE HOP PROFILE CERTIFICATE OF ANALYSIS



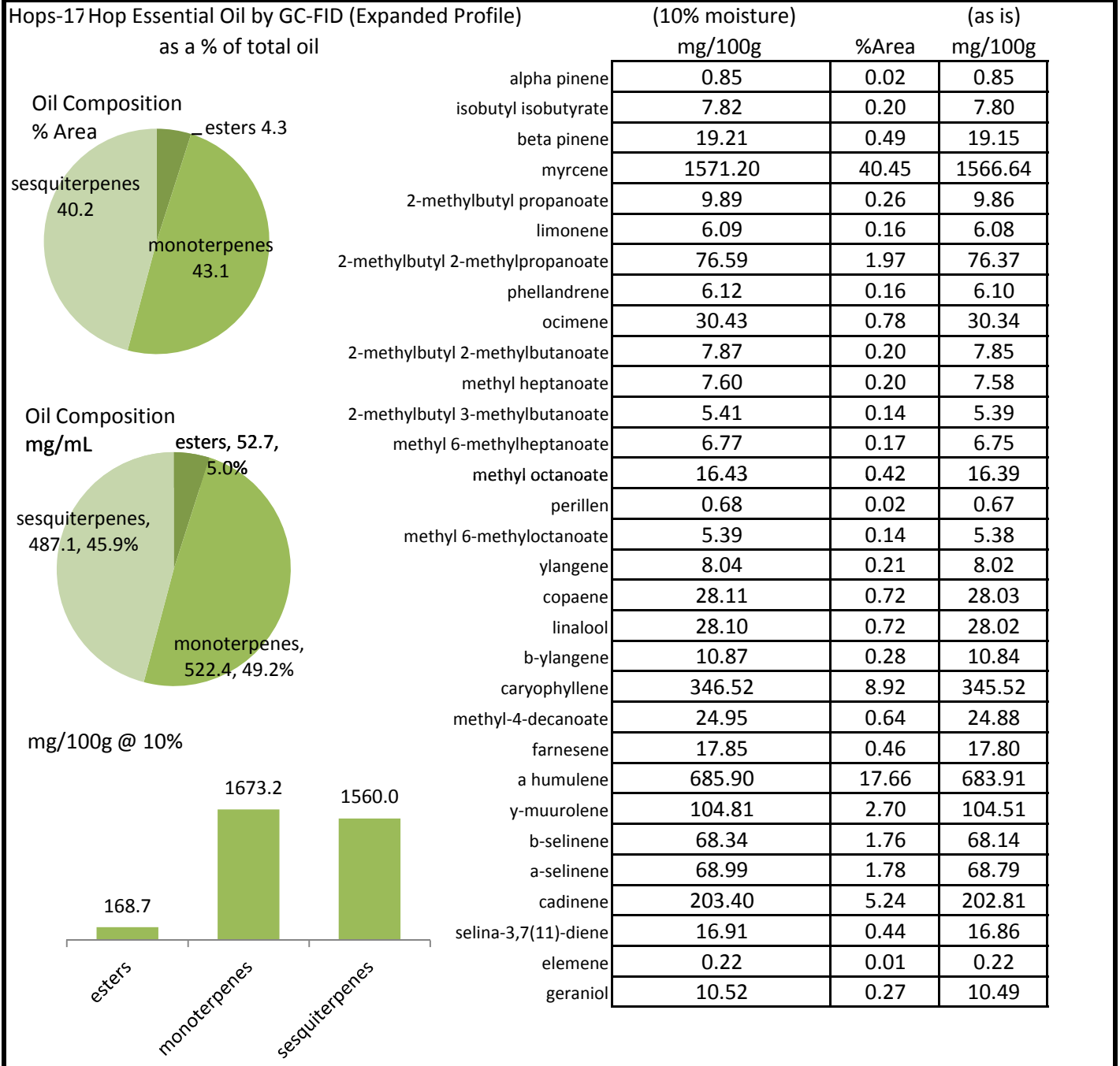
ADVANCED ANALYTICAL RESEARCH

Customer : Barntalk Hops - Jenny Napier

Sample ID: Allieigh - Bob

Certifying Officer: Zach Lilla - Lab Manager

Date : 9/13/2019



Signed: \_\_\_\_\_  
Zachary Lilla - Lab Manager - TTB Certified Chemist