

## HOP QUALITY REPORT CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 22CHI03WI-01LH

Variety: Chinook

Whole Cone

Date : 1/11/2023

Pellet



Certifying Officer: Zach Lilla - Lab Manager  
 TTB Certified Chemist - Member AOAC - ASBC - BJCP

Method			
Hops-4C	Moisture Analysis	% Moisture	10.0
		% Dry Matter	90.0
AAR	Xanthohumol by HPLC		<b>NT</b> mg/g
Hops-12	Hop Storage Index	HSI	0.301
Hops-13	Essential Oil by Steam Distillation	mL/100g	<b>1.61</b>
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	29.4 (% of Total AA)
ICE-3		<b>% Alpha Acids</b>	<b>10.53</b>
		Colupulone	55.3 (% of Total BA)
		<b>% Beta Acids</b>	<b>3.06</b>
		a/b ratio	3.44
Hops-17	Hop Essential Oil by GC-FID (as is)	% area	mg/100g
		B-Pinene	NT
		Myrcene	NT
		Linalool	NT
		Caryophyllene	NT
		Farnesene	NT
		Humulene	NT
		Geraniol	NT

NT=NOT TESTED

Signed:

Zachary Lilla - Lab Manager - TTB Certified Chemist  
 AAR LAB - ADVANCED ANALYTICAL RESEARCH  
 2517 Advance Rd Ste. A Madison WI 53718



# AROMA QUALITY (AQ) HOP QUALITY REPORT



Customer : Wisconsin Hop Exchange

Sample ID: 22CHI03WI-01LH

Variety: Chinook

Whole Cone

Pellet

Date : 1/11/2023

Certifying Officer: Zach Lilla - Lab Manager  
TTB Certified Chemist - Member AOAC - ASBC - BJCP

	% Moisture <input style="width: 80px;" type="text" value="10.0"/>	Typical Range 8 - 12%	<input checked="" type="checkbox"/>			
<b>HOP QUALITY (adjusted to 10% moisture)</b>						
	Total Oil ml/100g <input style="width: 80px;" type="text" value="1.61"/>	1.0 - 2.5 mL	<input checked="" type="checkbox"/>			
	cohumulone <input style="width: 80px;" type="text" value="29.4"/>	27 - 31%	<input checked="" type="checkbox"/>			
	Alpha Acids <input style="width: 80px;" type="text" value="10.53"/>	11.5 - 15%	<input type="checkbox"/>			
	Beta Acids <input style="width: 80px;" type="text" value="3.06"/>	3.0 - 4.0%	<input checked="" type="checkbox"/>			
<b>AROMA QUALITY (AQ)</b>						
	% Area		mg/mL of Hop Oil		mg/100g of Hops (@10%H2O)	
B-Pinene	NT	0.20 - 0.60 %	NT	2.0 - 6.0	NT	2.0 - 15.0
Myrcene	NT	20.00 - 30.00 %	NT	200 - 300	NT	200 - 750
Linalool	NT	0.30 - 0.60 %	NT	3.0 - 6.0	NT	3.0 - 15.0
Caryophyllene	NT	8.00 - 12.00 %	NT	80 - 120	NT	80 - 300
Farnesene	NT	0.01 - 1.00 %	NT	0.1 - 10	NT	0.1 - 25
Humulene	NT	18.00 - 24.00 %	NT	180 - 240	NT	180 - 600
Geraniol	NT	0.50 - 1.00 %	NT	5.0 - 10.0	NT	5.0 - 25.0
<b>AQ vs VARIETY SPECS</b>						
<b>Aroma Intensity= 100</b>						
<b>AQ vs ALL HOP VARIETIES</b>						
<b>Aroma Intensity= 100</b>						

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

