

HOP QUALITY REPORT CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 24CHI2608-01TH

Variety: Chinook

Product: T-90 Pellet

Date : 4/1/2025



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

<u>Method</u>			
Hops-4C	Moisture Analysis	% Moisture	9.7
		% Dry Matter	90.3
AAR	Xanthohumol by HPLC		NT mg/g
Hops-12	Hop Storage Index	HSI	0.282
Hops-13	Essential Oil by Steam Distillation	mL/100g	1.63
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	29.2 (% of Total AA)
ICE-3		% Alpha Acids	11.65
		Colupulone	54.3 (% of Total BA)
		% Beta Acids	3.43
		a/b ratio	3.39
Hops-17	Hop Essential Oil by GC-FID (as is)	% area	mg/100g
		B-Pinene	0.30 4.75
		Myrcene	22.40 403.85
		Linalool	0.31 5.51
		Caryophyllene	11.63 192.48
		Farnesene	0.18 3.72
		Humulene	24.57 403.35
		Geraniol	0.73 13.74

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



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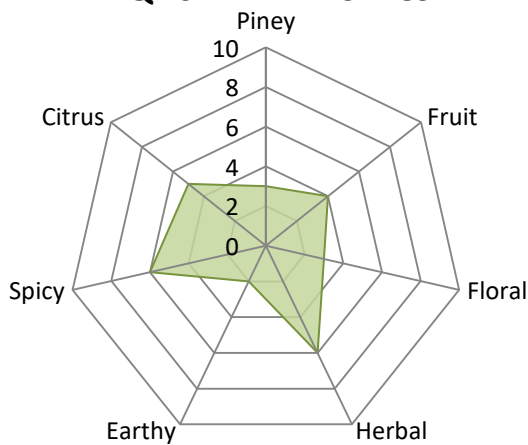
Certifying Officer: Zach Lilla - Lab Manager
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	Typical Range	
% Moisture 9.7	8 - 12 %	✓
HOP QUALITY (adjusted to 10% moisture)		
Total Oil ml/100g 1.63	1.0 - 2.5 mL	✓
cohumulone 29.2	27 - 31%	✓
Alpha Acids 11.61	11.5 - 15%	✓
Beta Acids 3.42	3.0 - 4.0%	✓
Myrcene 22.40	20.00 - 30.00 %	✓

AROMA QUALITY (AQ)

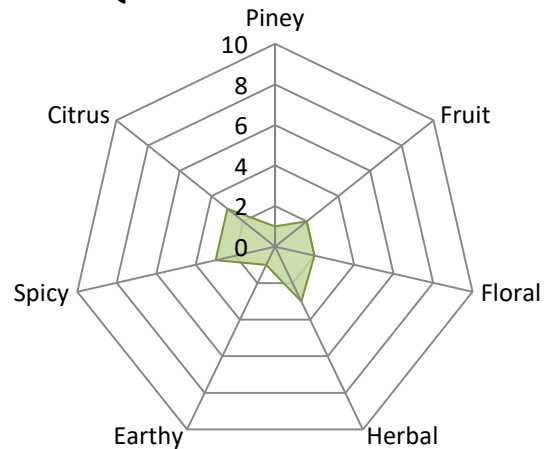
	% Area		mg/mL of Hop Oil			mg/100g of Hops (@10%H2O)			
B-Pinene	0.30	0.20 - 0.60 %	✓	2.91	2.0 - 6.0	✓	4.73	2.0 - 15.0	✓
Myrcene	22.40	20.00 - 30.00 %	✓	247.40	200 - 300	✓	402.48	200 - 750	✓
Linalool	0.31	0.30 - 0.60 %	✓	3.38	3.0 - 6.0	✓	5.50	3.0 - 15.0	✓
Caryophyllene	11.63	8.00 - 12.00 %	✓	117.91	80 - 120	✓	191.83	80 - 300	✓
Farnesene	0.18	0.01 - 1.00 %	✓	2.28	0.1 - 10	✓	3.70	0.1 - 25	✓
Humulene	24.57	18.00 - 24.00 %	↑	247.09	180 - 240	↑	401.99	180 - 600	✓
Geraniol	0.73	0.50 - 1.00 %	✓	8.42	5.0 - 10.0	✓	13.69	5.0 - 25.0	✓

AQ vs VARIETY SPECS



Aroma Intensity= 16

AQ vs ALL HOP VARIETIES



Aroma Intensity= 4

Signed: _____

Zachary Lilla - Lab Manager - TTB Certified Chemist

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