ADVANCED ANALYTICAL RESEARCH
2517 Advance Rd, Ste A
Madison WI 53718
www.aarlab.com

HOP QUALITY REPORT
CERTIFICATE OF ANALYSIS

To: Wisconsin Hop Exchange

Sample ID: 22ND1104-01LH

Variety: Northern Discovery ☐

Date : 2/21/2023 Pellet ☑

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

Method				
Hops-4C	Moisture Analysis	% Moisture	10.4	
		% Dry Matter	89.6	
AAR	Xanthohumol by HPLC		**NT**	**mg/g**
Hops-12	Hop Storage Index	HSI	0.296	
Hops-13	Essential Oil by Steam Distillation	**mL/100g**	**0.33**	
Hops-14	Alpha and Beta Acids by HPLC	Cohumulone	52.4	(% of Total AA)
ICE-3		**% Alpha Acids**	**5.67**	
		Colupulone	75.4	(% of Total BA)
		% Beta Acids	**4.18**	
		a/b ratio	1.36	

Hops-17 Hop Essential Oil by GC-FID (as is)	% area	mg/100g
B-Pinene	NT	NT
Myrcene	NT	NT
Linalool	NT	NT
Caryophyllene	NT	NT
Farnesene	NT	NT
Humulene	NT	NT
Geraniol	NT	NT

NT=NOT TESTED

Signed: _____

Zachary Lilla - Lab Manager - TTB Certified Chemist
AAR LAB - ADVANCED ANALYTICAL RESEARCH
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AROMA QUALITY (AQ)
HOP QUALITY REPORT

Customer : Wisconsin Hop Exchange

Sample ID: 22ND1104-01LH

Variety: Northern Discovery 0 ☐

Pellet ☑

Date : 2/21/2023

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

		Typical Range	
% Moisture	10.4	8 - 12%	✓

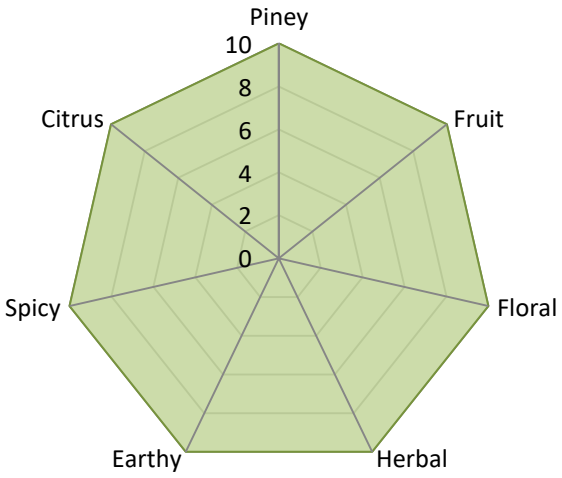
HOP QUALITY (adjusted to 10% moisture)

Total Oil ml/100g	0.33	0.4 - 0.8 mL/100g	↓
cohumulone	52.4	48 - 54%	✓
Alpha Acids	5.70	7.0 - 9%	↓
Beta Acids	4.20	4.0 - 6.0%	✓

AROMA QUALITY (AQ)

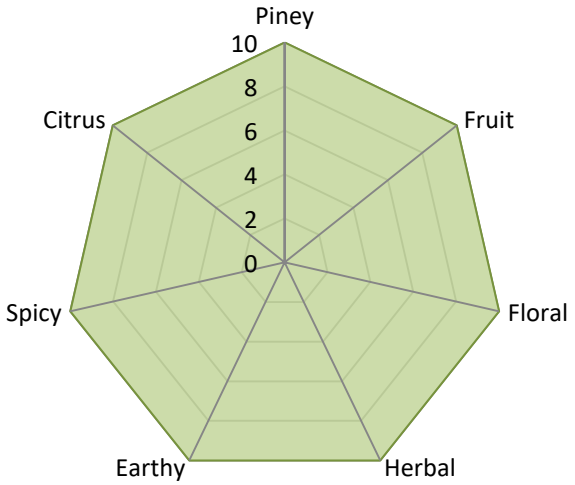
	% Area			mg/mL of Hop Oil			mg/100g of Hops (@10%H20)		
B-Pinene	NT	0		NT	0		NT	0	
Myrcene	NT	0		NT	0		NT	0	
Linalool	NT	0		NT	0		NT	0	
Caryophyllene	NT	0		NT	0		NT	0	
Farnesene	NT	0		NT	0		NT	0	
Humulene	NT	0		NT	0		NT	0	
Geraniol	NT	0		NT	0		NT	0	

AQ vs VARIETY SPECS



Aroma Intensity= 100

AQ vs ALL HOP VARIETIES



Aroma Intensity= 100

Signed: _____

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