



YAKIMA CHIEF HOPS™

306 Division Street
Yakima, WA 98902
Phone 800-952-4873
www.yakimachief.com

YAKIMA CHIEF HOPS LLC

Certificate of Analysis

Supplier: Yakima Chief Hops LLC
306 Division Street
Yakima, WA 98902

Date of Issue: 29-Jan-2020

Product Name: American Noble Hops™ Pellets

Lot Number: PN1-DUCAS6176

Variety: Cascade

Crop Year: 2019

Production Date: January 2020

Best Use Before Date: January 2023

<u>Characteristic</u>	<u>Typical Analysis</u>	<u>Actual Analysis</u>
Alpha Acids:	0.5 - 6.0% (w/w) UV Spectro by ASBC HOPS - 6A	1.1%
Beta Acids:	0.5 - 2.0% (w/w) UV Spectro by ASBC HOPS - 6A	1.9%
Hop Storage Index:	Varies by Variety and Time from Harvest Hop Storage Index by ASBC Hops - 12	0.355
Oil by Distillation:	Varies by Variety ASBC Hops - 13 (%v/w)	0.6%
Oil Profile by GC, EBC Analytica V 7.12:	B-Pinene: 0.5 % Myrcene: 38.3 % Linalool: 0.4 % Caryophyllene: 7.2 %	Farnesene: 8.8 % Humulene: 18.0 % Geraniol: 1.0 %

Lead:	< 1.0 ppm	passes test
Arsenic:	< 0.5 ppm	passes test
Cadmium:	< 0.03 ppm	passes test
Total Heavy Metals:	< 10 ppm (asPb)	passes test


Missy Raver
Quality Control Manager