

HOP CERTIFICATE OF ANALYSIS



ADVANCED ANALYTICAL RESEARCH

Customer : Hidden Valley Hops - Justin Gloede

Sample ID: 2 Variety: Cascade

(Pre-Harvest)

Certifying Officer: Zach Lilla - Lab Manager

Date : 8/16/2019

Method			
Hops-4C	Moisture Analysis	% Moisture	82.7
		% Dry Matter	17.3
Hops-6A	Alpha & Beta Acids by SPEC	% Alpha	NT (as is)
		%Beta	NT (as is)
		a/b ratio	NT
Hops-12	Hop Storage Index	HSI	0.210
Hops-13	Total Essential Oil	mL/100g	NT (as is)
Hops-14	Alpha & Beta Acids by HPLC	Cohumulone	31.2 (% of Total AA)
ICE-3		Total % Alpha Acids	1.22 (as is)
		Colupulone	47.1 (% of Total BA)
		Total % Beta Acids	1.58 (as is)
		a/b ratio	0.78
Hops-17	Hop Essential Oil by GC-FID as a % of total oil	B-Pinene	NT
		Myrcene	NT
		Linalool	NT
		Caryophyllene	NT
		Farnesene	NT
		Humulene	NT
		Geraniol	NT

NT=NOT TESTED

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Note: Target ranges are only a general guideline, they may differ based on regional differences.

Note: With fresh wet hops, due to variations in handling, values corrected for moisture are no indication of a dried post processed A/B or oil content.

Cascade	Typical Ranges
% Alpha	5.5 - 9%
% Beta	6 - 7.5%
Cohumulone	30 - 35%
Total Oil	0.8 - 2.5 mL

Calculations (Brewing Values @ 10% moisture)

	SPEC	HPLC
% Alpha	NT	6.36
% Beta	NT	8.20
Cohumulone		31.2
Total Oil	NT	mL/100g

Signed: _____

Zachary Lilla - Lab Manager