



## Alpaca Consulting Services USA

Ian Watt  
805 772 1774

[info@alpacaconsultingusa.com](mailto:info@alpacaconsultingusa.com)

1540 San Bernardo Creek Road, Morro Bay California 93442

### Skin Biopsy Report

### The ORIGINAL 100% Alpaca Density Test™

**Date of test:** 29 June 2019

**Alpaca Name:** Red Granite Pinctus

**Owner name and address:** Howling Hill Alpacas  
Nelson NH

**Alpaca breed:** Huacaya

**Alpaca age:** 33 months

**Alpaca color:** Harlequin

**Alpaca sex:** Male

#### Data details:

**Density:** 127.2 /mm

**Secondary:Primary fiber ratio:** 12.7:1

**In-skin mean primary fiber diameter:** 20.2 $\mu$  Standard Deviation: 2.5  $\mu$  Range: 16.0  $\mu$  to 25.1  $\mu$

**In-skin mean secondary fiber diameter:** 16.7 $\mu$  Standard Deviation: 2.2  $\mu$  Range: 11.6  $\mu$  to 24.4  $\mu$

**Sample biopsy photograph:**



## **Fiber population histogram**

**No histogram available.**

### **Comments:**

This is an exceptional density number for any alpaca in the United States let alone a harlequin.

The uniformity of both fiber populations is exceptional as is the differential of 3.5 micron especially for a colored alpaca.

There is some disorganization in the skin that will need to be borne in mind when selecting suitably females for mating but overall this is the best alpaca I have tested in the US.

### **How we measure...**

Our biopsies are processed in a histology laboratory that does a lot of work for research institutions, universities, hospitals and private providers. The slides are returned to us, are sampled using a mini vid camera and then read using a US National Institutes of Health imaging program. Four fields of 1.2 sq. mm of area are photographed and then blown up (using a specially formulated program) and hand read for density, identification of both follicle types and micron counts.

We measure all follicles in a field for density then we measure all follicles within the follicle groups; these measurements are collated and presented as a histogram by the imaging program. In this way, our numbers reflect the direct proportion of primary to secondary fibers as they are leaving the skin and as they are represented in the fleece.

We then measure the biopsy slice on the slide in 5 places, average them and then apply a shrinkage factor so the final numbers reflect the true density within the 10mm biopsy sample. We do not measure or comment on gland development as we do not believe it contributes to the selection process of enhancing commercially important fleece traits.

[www.alpacastats.com](http://www.alpacastats.com) biopsy report number 1907

© Alpaca Consulting Services USA October 2011