



VETERINARY GENETICS LABORATORY
SCHOOL OF VETERINARY MEDICINE
TELEPHONE: (530) 752-2211
FAX: (530) 752-3556

ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8744

September 21, 2015

New Mexico Livestock Board
300 San Mateo Blvd NE, Ste 1000
Albuquerque, NM 87108

Re: VGL Case numbers **NQ26839 – NQ26842**

Breed analyses were performed on the hair samples of the four horses listed below. The analyses were based on 25 unlinked microsatellite markers used to estimate the likelihood of the complete DNA type for each horse in each of the 29 reference breeds listed below. The values shown in the table below represent estimates of the highest breed contributions obtained. For inclusion in a breed, i.e., to be considered member of a breed, likelihood values are 0.80 or greater. Values lower than 0.80 in any of the reference populations are indicative of crossbreeding and suggest genetic similarity to, or possible contribution from, those breeds or closely related breeds. The results of analyses are summarized below.

Case #	Horse ID	Likelihood in Spanish Mustang
NQ26839	985111000867406	0.95
NQ26840	985111000867408	0.96
NQ26841	985111000867409	0.91
NQ26842	985111000867410	0.95

The four horses most closely resemble the Spanish Mustang breed. There was no significant, detectable contribution from other breeds in any of the four horses. Our database does not include Colonial Spanish Horse (CSH) as a reference breed. Spanish Mustang is considered to be derived from CSH. Our findings support a "Spanish" heritage but cannot verify that the 4 horses are CSH.

Attached is the DNA profile for our standard 15-marker panel which can be used for horse identification.

Regards,

Cecilia Penedo, PhD
Director

Reference breed database: Akhal-Teke, Andalusian, Arabian, Belgian, Clydesdale, Connemara Pony, Curly Horse, Friesian, Hackney Horse, Hanoverian, Holstein, Icelandic Horse, Lippizan, Miniature Horse, Morgan Horse, Mustang, Norwegian Fjord, Oldenburg, Paso Fino, Percheron, Peruvian Paso, Quarter Horse, Rocky Mountain Horse, Saddlebred, Shire, Spanish Mustang, Tennessee Walking Horse, Thoroughbred and Welsh Pony.