

Wisdom Panel[®] 2.0

Congratulations!

Alaskan's Jim Brown Of Anadyr is
a Siberian Husky

In the following pages, you will learn about:

- **KEY BREED DETECTED**
- **KEY BREED HISTORY, APPEARANCE, & BEHAVIOR**
- **PRINCIPAL COMPONENT ANALYSIS CHARTS**
- **ADDITIONAL INFORMATION**



May 28, 2015

Dear John,

As part of the **Wisdom Panel** analysis, we have considered if Alaskan's Jim Brown Of Anadyr's results are consistent with the purebred Siberian Husky samples in our database using a variety of analyses. The results show that Alaskan's Jim Brown Of Anadyr's results are indeed consistent with the purebred Siberian Husky samples in the **Wisdom Panel** database.

Our findings are based on the following results:

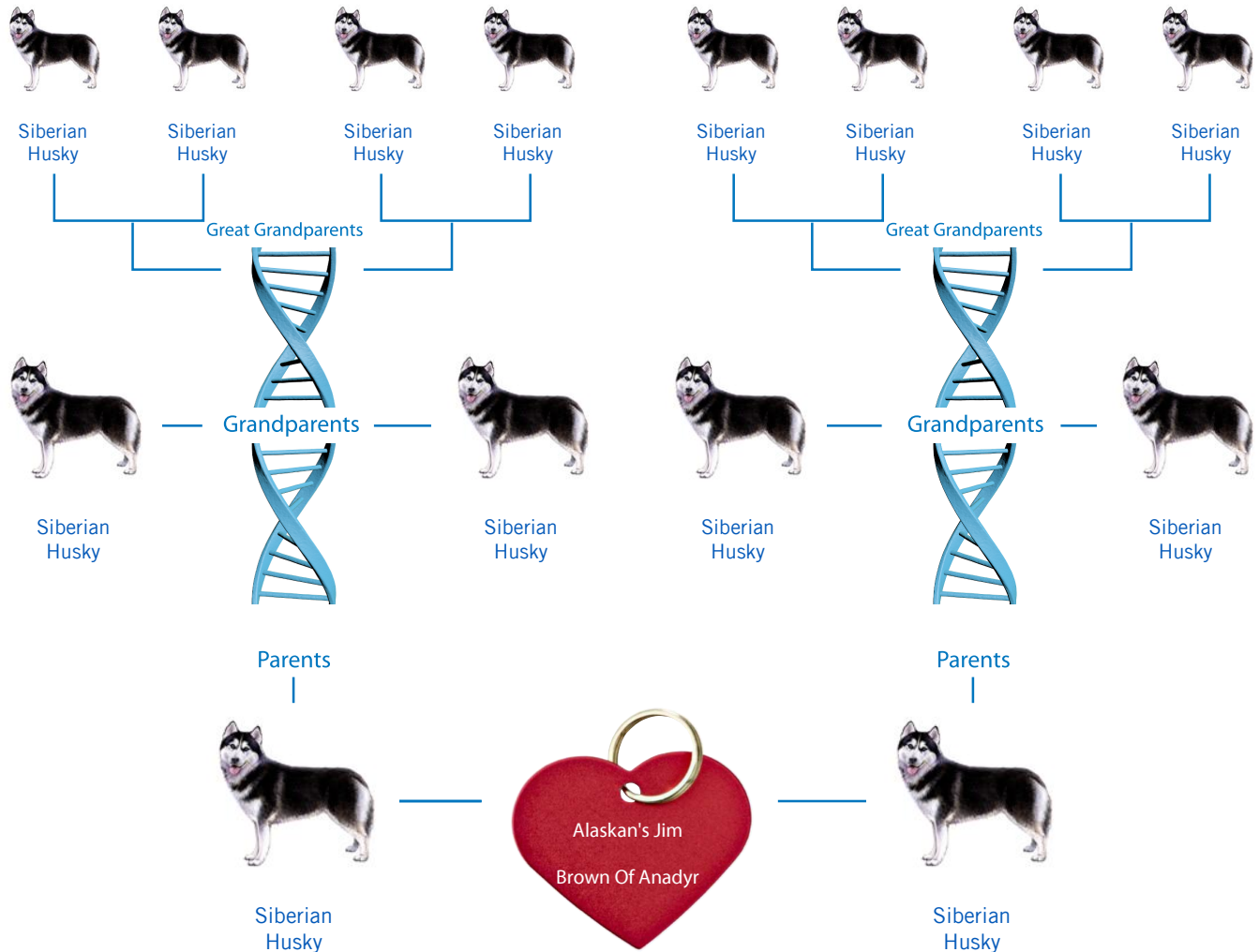
- In a Principal Component Analysis (PCA), Alaskan's Jim Brown Of Anadyr's DNA sample appears within the Siberian Husky cluster.
- In a PCA, Alaskan's Jim Brown Of Anadyr's DNA sample appears within the Siberian Husky cluster when also compared to an outgroup.
- In a PCA, Alaskan's Jim Brown Of Anadyr's DNA sample appears within the Siberian Husky cluster when compared to samples of the two next best matched breeds in the Wisdom Panel Ancestry analysis.
- The Siberian Husky is detected as the sole predominant breed in a Wisdom Panel ancestry analysis.
- The Siberian Husky is the top matching breed in a pairwise comparison analysis between Alaskan's Jim Brown Of Anadyr's DNA data and all the purebred dogs in the Wisdom Panel database.
- The Siberian Husky is detected most frequently in the top 20 best matched dogs in an individual pairwise comparison analysis with all of the nearly 10,000 dogs in the Wisdom Panel database.
- The observed homozygosity of Alaskan's Jim Brown Of Anadyr's DNA data is within the expected range for this breed.

A more detailed explanation of the specific tests performed on Alaskan's Jim Brown Of Anadyr's DNA data are explained at the end of the report. If you have any questions about the information enclosed, please contact our customer care team at customercare@marsveterinary.com.

Best wishes,
Mars Veterinary

YOU HAVE A SIBERIAN HUSKY

The *Wisdom Panel* computer algorithm performed over seven million calculations using 11 different models (from a single breed to complex combinations of breeds) to predict the most likely combination of pure and mixed breed dogs in the last 3 ancestral generations that best fit the DNA marker pattern observed in Alaskan's Jim Brown Of Anadyr. The ancestry chart depicting the best statistical result of this analysis is shown in the picture below.



While *Wisdom Panel* is not designed as a pure bred test our results indicate that the recent ancestry of Alaskan's Jim Brown Of Anadyr only includes **Siberian Husky**.



SIBERIAN HUSKY

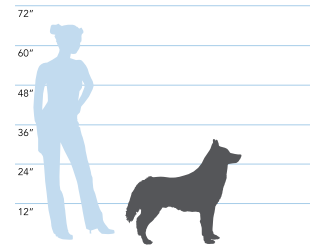
All dogs should be considered individual animals. Because each is a product of their unique environment and handling, they may exhibit different traits and behaviors than those listed here.



HEIGHT:
21 - 23 in

WEIGHT (SHOW):
35 - 60 lb

WEIGHT (PET):
34 - 67 lb



EARS



MUZZLE

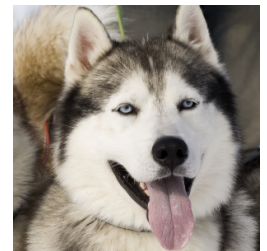
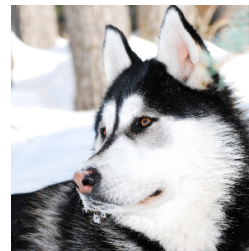
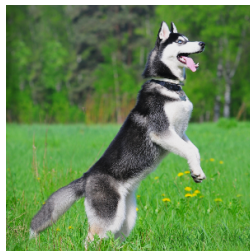


TAIL



The Siberian Husky is an ancient breed that has a long history of helping mankind. The breed is believed to have started with the Chukchi tribe of Siberia, though various other tribes are occasionally credited with its development. The Siberian Husky has been used for a number of purposes throughout history, including herding of reindeer, pulling sleds and keeping children warm. This breed was made famous in 1925 when they were used to deliver diphtheria serum after a city was stricken by an epidemic. They were also used for transporting various other medications to the ill. The Siberian Husky found its way to America in 1909 and since that time the popularity of the breed has grown significantly. The Siberian Husky was not recognized by the American Kennel Club until 1930. Ironically, that is the same year in which the exportation of this breed was stopped by the Soviet government, who closed the borders of Siberia to external trade.

The Siberian Husky breed standard permits any color, though the dog can be black, silver, or a variety of tans. These are generally shaded and mixed with white markings leading to varied wolfish markings on the head and muzzle. Blue or amber eyes are possible.



Do You Recognize Any of These Siberian Husky Traits In Alaskan's Jim Brown Of Anadyr?

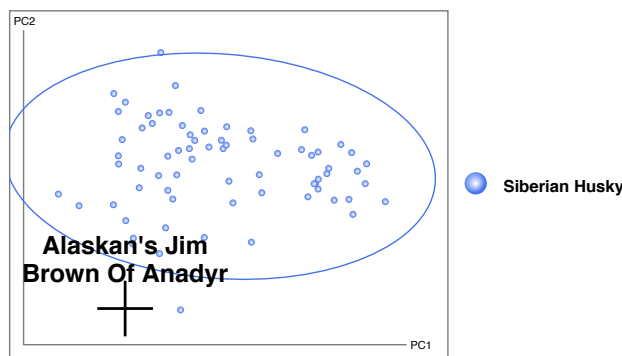
- Active, social, and usually friendly dogs; often do well with children and other dogs.
- Stubborn tendencies may be lessened by using reward-based training involving small treats and favorite toys.
- Siberian Huskies are energetic dogs and participate in dog sports such as sledding, skijoring (pulling a skier), and carting.
- May engage in digging; might chase wildlife.



Comparison against purebred samples of Siberian Husky, and your dog Alaskan's Jim Brown Of Anadyr

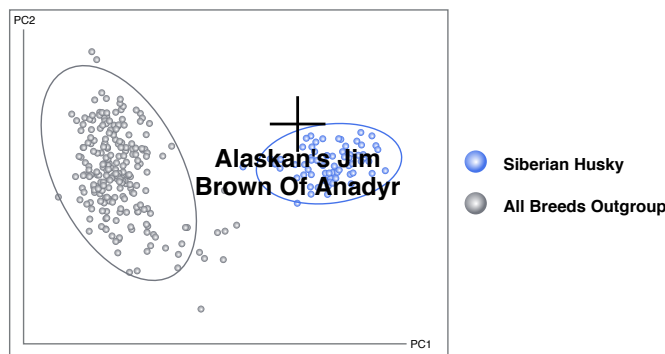
PCA Analysis of Alaskan's Jim Brown Of Anadyr's DNA sample and Siberian Husky samples from the Wisdom Panel database:

Principle Component Analysis (PCA) allows us to see how similar samples are. Closely related samples, like dogs from the same breed, will be expected to be closer together than samples from other breeds. This tends to create a cluster of points for each breed or sub-population within a breed. If a sample is within the cluster for the breed, this is a very good indication that it is likely a pure member of this breed. The PCA below shows Alaskan's Jim Brown Of Anadyr's data compared to Siberian Husky samples from the Wisdom Panel database. The sample falls within the Siberian Husky cluster indicating that its genetic profile is consistent with other dogs from this breed.



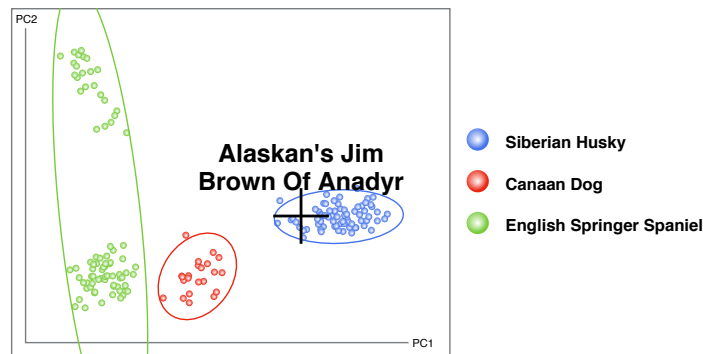
PCA Analysis of Alaskan's Jim Brown Of Anadyr's DNA data including Siberian Husky samples and an All Breeds outgroup:

The PCA below shows Alaskan's Jim Brown Of Anadyr's data compared to samples of Siberian Husky, as well as an All Breeds outgroup comprised of a single representative sample from the other breeds in the Wisdom Panel database. This is another means of verifying that Alaskan's Jim Brown Of Anadyr's data is more consistent with the Siberian Husky than with any other breed and here the sample is clustering closely with the purebred Siberian Husky cluster.



PCA Analysis of Alaskan's Jim Brown Of Anadyr's DNA sample, Siberian Husky and the two next closest matching breeds in the Wisdom Panel analysis:

The PCA below shows Alaskan's Jim Brown Of Anadyr's data compared to Siberian Husky samples, as well as samples of the next two best matched breeds from the Wisdom Panel Ancestry analysis. Alaskan's Jim Brown Of Anadyr's DNA sample clusters tightly with the purebred Siberian Husky cluster. This is what we would expect from a purebred Siberian Husky.



Pairwise Comparison Testing for the Best Overall Breed Match:

A pairwise comparison test was performed between Alaskan's Jim Brown Of Anadyr's DNA data and that of each of nearly 10,000 dogs in the Wisdom Panel purebred dog database. In this analysis the top matching breed detected is the Siberian Husky.

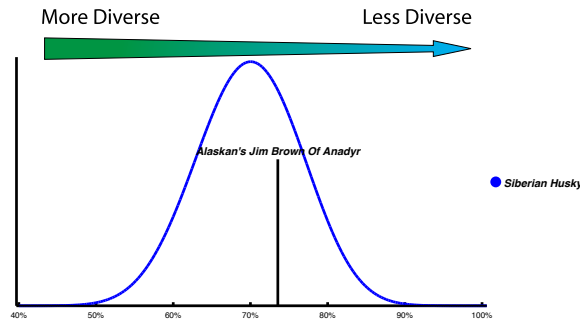
Pairwise Comparison Testing for Match to the Top 20 Database Samples:

A pairwise comparison test was performed between Alaskan's Jim Brown Of Anadyr's DNA profile and that of each of nearly 10,000 dogs in the Wisdom Panel purebred dog database. Looking at individual samples, the Siberian Husky occurred most often in the top 20 ranked sample matches in this analysis. This is what we would expect from a purebred Siberian Husky.



Homozygosity Profile:

Homozygosity is a measure of how many of Alaskan's Jim Brown Of Anadyr's genetic markers are identical because both the sire and dam passed down the same marker variant. Purebred dogs tend to have a higher homozygosity than most mixed breed dogs. Each breed within the Wisdom Panel database has a specific range of homozygosity scores. Alaskan's Jim Brown Of Anadyr's homozygosity score falls within the range that is seen for purebred Siberian Husky samples.



Further Information:

You may wish to research more information regarding the breeds found in Alaskan's Jim Brown Of Anadyr. The following links provide useful information into breed characteristics, training and health.

- The American Kennel Club (AKC) provides information on AKC registered and Foundation Stock Service breeds at www.akc.org.
- The United Kennel Club (UKC) has a range of information on UKC registered breeds at www.ukcdogs.com.
- The Kennel Club is the major British registry and their website contains information about the breeds they register at www.thekennelclub.org.uk.
- The free encyclopedia Wikipedia contains a range of information on most breeds, including breed histories, at www.wikipedia.org.
- The Dog Breed Info Center has information on most breeds at www.dogbreedinfo.com.
- The US Pedigree website provides information about dog breeds and many US breeders at www.pedigree.com.
- The Australian Pedigree website has a very detailed breed library which includes temperament and what breeds are like to live with at www.pedigree.com.au.
- The *Wisdom Panel* website contains additional information about the breeds, as well as our Photo Gallery at www.wisdompanel.com.

Breed standards may vary between registries and can result in ambiguity of breed traits, which may be acceptable with some registries but not others. Additionally, the requirements of registration may differ between registries. Please check with the specific kennel club or registry to determine their registration requirements.





Predicted Adult Weight Profile

Based upon the breeds detected in Alaskan's Jim Brown Of Anadyr's ancestry and the genetic markers analyzed by **Wisdom Panel**, as well as the information provided that Alaskan's Jim Brown Of Anadyr is **male** and intact, we have calculated the likely weight that Alaskan's Jim Brown Of Anadyr should reach when an adult. The **Wisdom Panel** target weight profile is presented as a range based on the unique mix and proportion of breeds detected.

- If intact, the adult weight is predicted to be between 44 - 67 lbs.
- If neutered, the adult weight is predicted to be between 48 - 73 lbs.

Many factors can influence an adult dog's weight, including sex and neuter status. Both of these factors have been used to calculate the predicted weight profile. Another major influence on canine weight is body condition score, which is a factor of your dog's lifetime nutrition and exercise regimen. For more information visit WisdomPanel.com and go to the "How it Works" section.

Talk to Your Veterinarian

Congratulations on taking the steps to learn about Alaskan's Jim Brown Of Anadyr's ancestry and to understand what breeds are in your mixed breed dog using **Wisdom Panel**! Knowing your dog's breeds is more than a novelty, it is a medical necessity. Each breed in your dog's genetic paw print may have unique health concerns you should know about so that you can provide a lifetime of excellent care.



We recommend discussing your dog's ancestry report with your veterinarian, as he or she can help you use your **Wisdom Panel** report to help better care for Alaskan's Jim Brown Of Anadyr. The next time you visit your veterinarian, consider asking these questions in addition to any you come up with on your own:

- Are there any specific issues that may be relevant to my dog's well-being?
- Are there any special techniques that may help in training a dog with this particular mix?
- Are there any particular dietary considerations to bear in mind for a dog like mine?

How Wisdom Panel Works

The process started when you sent a sample to our laboratory, where the DNA was extracted from the cells and examined for the 321 markers that are used in the test. The results for these markers were sent to a computer, that evaluated them using a program designed to consider all of the pedigree trees that are possible in the last three generations. The trees considered include a simple pedigree with a single breed (a likely pure-bred dog), two different breeds at the parental level (a first-generation cross), all the way up to a complex tree with eight different great-grandparent breeds allowed.

Our computer used information from over 200 breeds, types and varieties from our breed database to fill these potential pedigrees. For each of the millions of combinations of ancestry trees built and considered, the computer gave each a score representing how well that selected combination of breeds matched to your dog's data. The pedigree with the overall best score is the one which is shown on the ancestry chart. Only breeds that reached our set confidence threshold for reporting are reported in the ancestry chart.



...Or Another Kit for You!

We'd like to say thank you for purchasing a **Wisdom Panel** DNA kit with \$15 off another kit for you, or to pass along to friends or family. Just visit WisdomPanel.com and use this promo code* below at the time of checkout.

**PROMO CODE:
FF3620490JO**



Check Out the Dog Community!

Want to share your results with other **Wisdom Panel** users and dog lovers? We've got a Dog Community for you! Just visit WisdomPanel.com and click on "Dog Community" and you can search for dogs with the same mix of breeds as your own, or upload a photo and story about your own dog. It's easy, fun and a great way to share your results.

Terms and Conditions

Each dog is unique and their physical and behavioral traits will be the result of multiple factors, including genetics, training, handling, and environment. Using a proprietary analysis and database, **Wisdom Panel** products can provide insight into the breed ancestry of your dog, the predicted genetic adult weight range, and breed-related risks of developing certain genetic diseases. A dog's weight range can vary significantly depending on age, diet, and exercise.

Wisdom Panel products are not intended to diagnose diseases or predict behavior in any particular dog. **Wisdom Panel** products are designed and intended to be used solely to identify the genetic breed makeup and predict the adult size of such a mixed-breed dog; to confirm the genetic profile observed in a tested dog matches a particular breed profile; or in certain products to identify risks of developing certain genetic diseases or conditions. No other purpose is intended, authorized, or permitted.

Upon receipt of the sample, Mars Veterinary will analyze the dog's DNA to determine the breed(s) present in its recent ancestry. In all cases this is done with a reasonable degree of certainty. Portions of DNA samples of some dogs may not include any purebreds and those ancestors will simply be noted as being mixed breeds. **Wisdom Panel** products are based upon the Mars Veterinary database of validated breeds. If a dog's ancestry contains breeds not represented in our database, the results may identify related breeds that are contained in the database.

In the unlikely event that it is not possible to determine breed history, predicted adult weight range, or breed related health risks, or that an error in the analysis occurs, liability by Mars Veterinary or related companies and individuals is expressly disclaimed. Damages, if any, are limited to the payment actually received by Mars Veterinary for the specified analysis at issue.

Mars Veterinary's testing procedures are designed to provide reliable and accurate results. Mars Veterinary is not responsible for any errors in obtaining the swab sample or for any injuries or loss that may occur as a result.

Many countries and provinces have breed-specific ordinances and laws that may require special handling or prohibit the ownership of some dogs with a particular breed in their genetic background. **Wisdom Panel** is not intended to be used by regulatory or animal control officials to determine whether a particular breed is legislated or banned in a particular country or province. Nor is **Wisdom Panel** intended to be used in any judicial proceedings. Rather, it is intended to be used as a tool or resource in determining a dog's genetic history. Neither Mars Veterinary nor any related company is responsible for compliance or notification regarding these matters.

Use of the tests acknowledges consent that Mars Veterinary may use any portion of the leftover sample, as well as the data collected, for research and development purposes only.

*This code is good for one-time use, on wisdompanel.com only. It cannot be combined with any other promotions or discounts and cannot be used on/in any other retailer site(s) or storefronts.





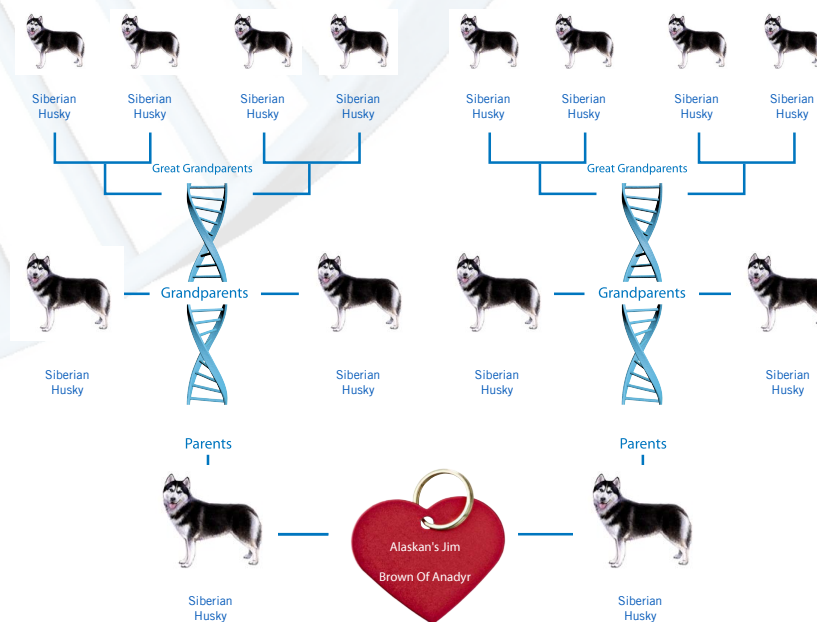
STATEMENT OF AUTHENTICATION

Owner's name: **John Norris**

Dog's name: **Alaskan's Jim Brown Of Anadyr**

Date: **May 28, 2015**

This certifies the authenticity of Alaskan's Jim Brown Of Anadyr's canine genetic background as determined following careful analysis of more than 300 genetic markers using **Wisdom Panel**. The purebred dog breed signature matches included in this analysis are those that were detected in the last three generations of Alaskan's Jim Brown Of Anadyr's ancestry using the proprietary breed detection algorithm at Mars Veterinary.



Cynthia Cole

Dr. Cynthia Cole DVM, PhD, DACVCP

Research & Development Director

Alaskan's Jim Brown Of Anadyr is a Siberian Husky

