Wisdom Panel® Insights™

BREED ANCESTRY CERTIFICATE

MARS veterinary™

Letzty is a Bluetick Coonhound, Chow Chow Mix

Letzty

Dog's name:
Letzty

DR. NEALE FRETWELL
R&D Director

February 13, 2014

Ancestry Tree — Bluetick Coonhound side

Parents: Bluetick Coonhound Mix — MIXED BREED

Grandparents:
- Bluetick Coonhound — Mixed Breed / MIXED BREED

Great Grandparents:
- Bluetick Coonhound
- Bluetick Coonhound
- Mixed Breed — MIXED BREED
- Mixed Breed — MIXED BREED

Ancestry Tree — Chow Chow side

Parents: Chow Chow Mix — MIXED BREED

Grandparents:
- Chow Chow Mix — Mixed Breed / MIXED BREED

Great Grandparents:
- Chow Chow* — MIXED BREED
- Mixed Breed — MIXED BREED
- Mixed Breed — MIXED BREED
- Mixed Breed — MIXED BREED

Wisdom Panel® Insights™

Congratulations!

Letzty is a Bluetick Coonhound, Chow Chow Mix

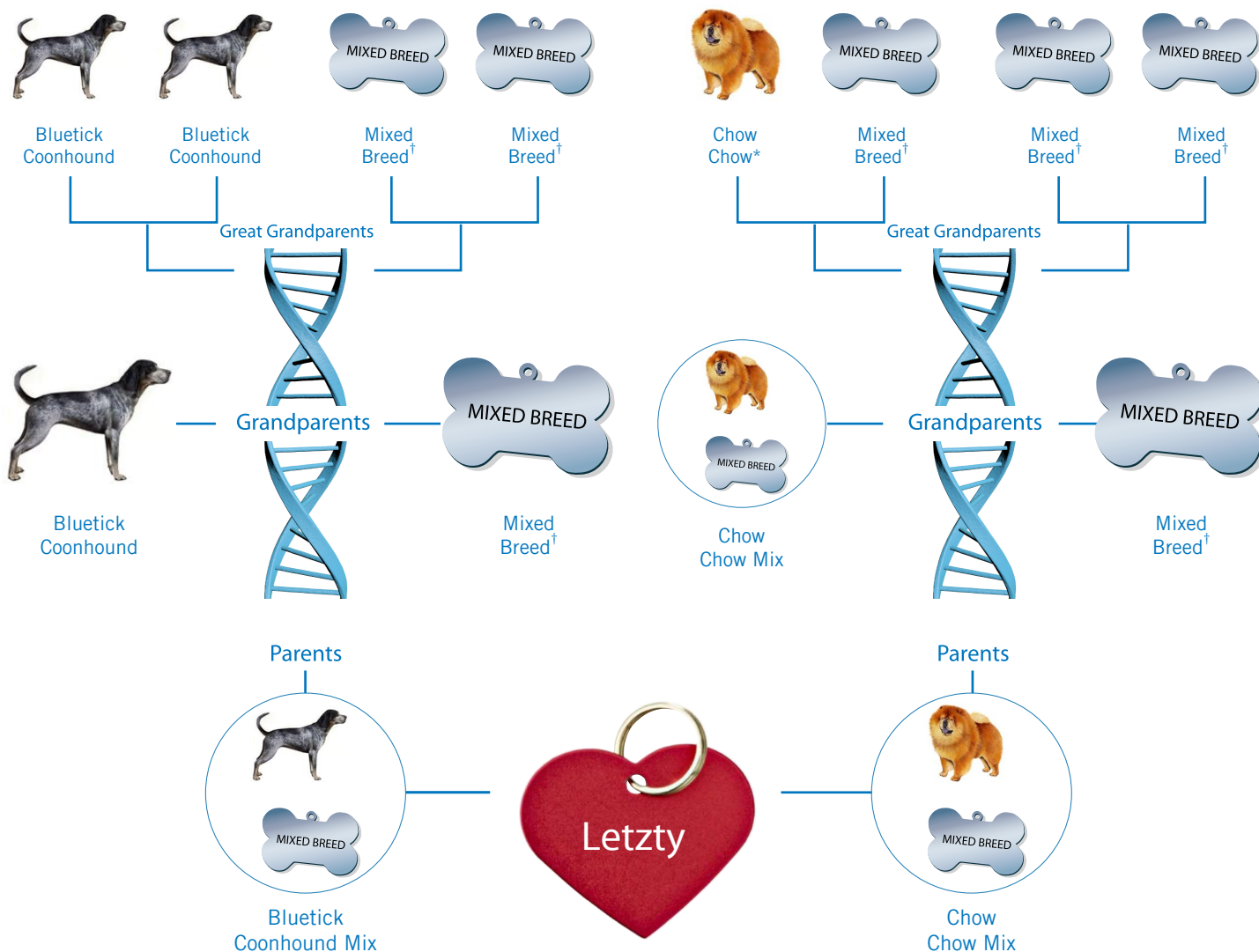**In the following pages, you will learn about:**

- **KEY BREEDS DETECTED**
- **KEY BREED HISTORY, APPEARANCE, AND BEHAVIOR**
- **HOW KEY PHYSICAL TRAITS ARE INHERITED**
- **OTHER POSSIBLE MIXED BREED SIGNATURES**
- **PREDICTED WEIGHT**
- **HOW TO UPLOAD A PHOTO AND SHARE YOUR STORY**
- **ADDITIONAL INFORMATION**

LETZTY

Wisdom Panel® Insights™

➢ **KEY BREEDS DETECTED**
➢ KEY BREED HISTORY, APPEARANCE & BEHAVIOR
➢ HOW KEY PHYSICAL TRAITS ARE INHERITED

➢ MIXED BREED SIGNATURES (IF DETECTED)
➢ ADDITIONAL INFORMATION
➢ CERTIFICATE

YOU HAVE A BLUETICK COONHOUND, CHOW CHOW MIX

The **Wisdom Panel® Insights™** 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 Letzty. The ancestry chart depicting the best statistical result of this analysis is shown in the picture below.

Bluetick Coonhound — Bluetick Coonhound — Mixed Breed† — Mixed Breed† — Chow Chow* — Mixed Breed† — Mixed Breed† — Mixed Breed†

Great Grandparents — Great Grandparents

Bluetick Coonhound — Grandparents — Mixed Breed† — Chow Chow Mix — Grandparents — Mixed Breed†

Parents — Parents

Bluetick Coonhound Mix — Letzty — Chow Chow Mix

† Interested in the Mixed Breed ancestry? Look for the Mixed Breed Signatures page later in the report!

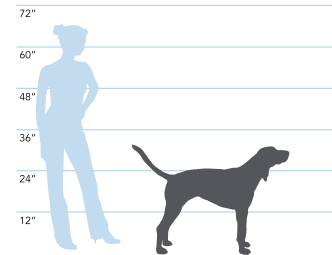*Breed detected, however at a lower confidence. Such results are not included in accuracy calculations.

Wisdom Panel® Insights™

➤ KEY BREEDS DETECTED

➤ *KEY BREED HISTORY, APPEARANCE & BEHAVIOR*

➤ HOW KEY PHYSICAL TRAITS ARE INHERITED

➤ MIXED BREED SIGNATURES (IF DETECTED)

➤ ADDITIONAL INFORMATION

➤ CERTIFICATE

BLUETICK COONHOUND

Bluetick Coonhound

HEIGHT:

21 - 27 in

WEIGHT (SHOW):

44 - 79 lb

WEIGHT (PET):

50 - 78 lb

72"
60"
48"
36"
24"
12"

EARS

MUZZLE

TAIL

This Coonhound is typically bred in the southern states, and has arisen through the selective breeding of the Bleu de Gascogne hound of southwest France, the English Foxhound, the cur dog, the American Foxhound, and the Black And Tan Virginia Foxhound. They are excellent hunting dogs that excel in tracking and treeing raccoons, bear and cougars. George Washington owned Bluetick Coonhounds and described their musical voices as the "bells of Moscow". The United Kennel Club initially recognized this breed as the English Foxhound and Coonhound, which encompassed many breeds including the Bluetick, Treeing Walker and English Coonhounds. They are now recognized as separate breeds. The breed was recognized by the American Kennel Club in 2009.

The Bluetick Coonhound is so named for the blue ticked (gray and white mottled) pattern in this breed. This is sometimes seen with varying shades of tan. Black patches of color are also possible in this breed.

DO YOU RECOGNIZE ANY OF THESE BLUETICK COONHOUND TRAITS IN LETZTY?

○ Intelligent, alert, active, loyal family dog. They excel in tracking and hunting.

○ They do not get on with non-canine pets and some may be aggressive with other dogs though this can be reduced through firm, consistent training.

○ They require mental and physical activity to prevent boredom and destructive behavior. They are hounds and are natural hunters so they will run off, given the opportunity.

○ Can be reserved and wary of strangers, although this can be overcome through socialization when young. They are loyal to their family and are best with older more considerate children.
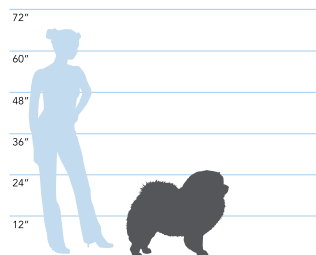
Wisdom Panel® Insights™

➢ KEY BREEDS DETECTED
➢ *KEY BREED HISTORY, APPEARANCE & BEHAVIOR*
➢ HOW KEY PHYSICAL TRAITS ARE INHERITED

➢ MIXED BREED SIGNATURES (IF DETECTED)
➢ ADDITIONAL INFORMATION
➢ CERTIFICATE

CHOW CHOW

Chow Chow

HEIGHT:
18 - 22 in

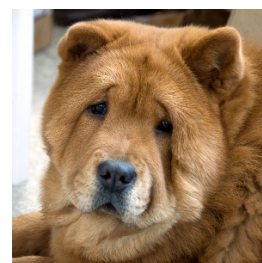**WEIGHT (SHOW):**
40 - 65 lb
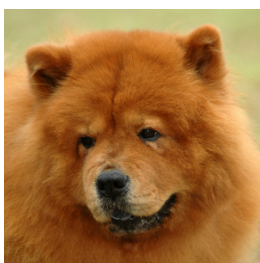
WEIGHT (PET):
42 - 69 lb

EARS

MUZZLE

TAIL

The Chow Chow is a venerable breed dating back at least two thousand years. Many believe that the breed originated in China, but there is some evidence that indicates the Chow Chow actually migrated to China from Mongolia and Manchuria. While no one can say for sure from which breeds the Chow Chow has descended, it is believed that the breed has Tibetan mastiff and Samoyed in its bloodline. The Chow Chow served a dual purpose in China. Some were used for hunting while others were used to guard the sacred temples from evil entities. The East Indian Company brought the Chow Chow to England in 1781 and Queen Victoria received Chow Chows as a gift in 1865. During the 1880's, the numbers of Chow Chows imported increased drastically. The Chow Chow is one of the oldest known breeds, recognized by the American Kennel Club in 1903.

The Chow Chow comes in either rough or smooth coat, with the rough having a more fluffy appearance. The coat may have lighter shading and be one of five colors; black, blue, cinnamon, cream, and red, which varies from a light golden to a deep mahogany. The Chow is famous for its blue mottled tongue, and sometimes has a black mask.

DO YOU RECOGNIZE ANY OF THESE CHOW CHOW TRAITS IN LETZTY?

○ Reputation as a loyal family dog.

○ Independent spirit, but responds to reward-based obedience training.

○ Reserved and wary with strangers.

○ May require socialization to reduce defensive aggressive tendencies. There have been reported incidents of Chow Chows being aggressive with other pets or people.

Wisdom Panel® Insights™

➤ KEY BREEDS DETECTED
➤ KEY BREED HISTORY, APPEARANCE & BEHAVIOR
➤ *HOW KEY PHYSICAL TRAITS ARE INHERITED*

➤ MIXED BREED SIGNATURES (IF DETECTED)
➤ ADDITIONAL INFORMATION
➤ CERTIFICATE

HOW ARE KEY PHYSICAL TRAITS INHERITED?

THE INFLUENCE OF BREEDS ON APPEARANCE

This report reveals the breeds detected in your dog's DNA. It also includes checklists of physical traits associated with these breeds. Breeds can combine their influences in countless, fascinating ways. It's a unique combination that makes your dog one-of-a-kind.

Your dog may behave like - or strongly resemble - just one of the breeds in its makeup, but - much more commonly - your dog's looks and personality will blend aspects of these breeds. Consider the example below...

In this example, you can see how many of Tula's physical traits are due to a blending of breed influences.

YELLOW COAT COLOR
requires two copies of a gene variant and is available from the Labrador Retriever, Poodle, and Golden Retriever.

BLACK NOSE
eyerims, lips, and pads on her feet are all due to one copy of the black gene variant that is available from all three ancestral breeds.

SOFT CURL
is coming from one copy of the curly gene variant from the Poodle and one copy of the straight variant from the Golden Retriever parent.

FURNISHINGS
- the "beard" and "eyebrows" - is due to one copy of the furnishing gene variant from the Poodle.

SHORT HAIR
is due to one copy of one gene variant from the Labrador Retriever that is dominant to the long coat of the Golden Retriever and Poodle.

Wisdom Panel® Insights™ found these breeds in our example dog Tula:

Golden Retriever

Labrador Retriever

Standard Poodle

For additional information, watch an illustrative video at **http://youtu.be/UAcPOch4-C8** - it provides educational content around canine DNA, the basic blueprint for life, and a closer look at inherited genes.

Wisdom Panel® Insights™

➤ KEY BREEDS DETECTED
➤ KEY BREED HISTORY, APPEARANCE & BEHAVIOR
➤ HOW KEY PHYSICAL TRAITS ARE INHERITED

➤ **MIXED BREED SIGNATURES (IF DETECTED)**
➤ ADDITIONAL INFORMATION
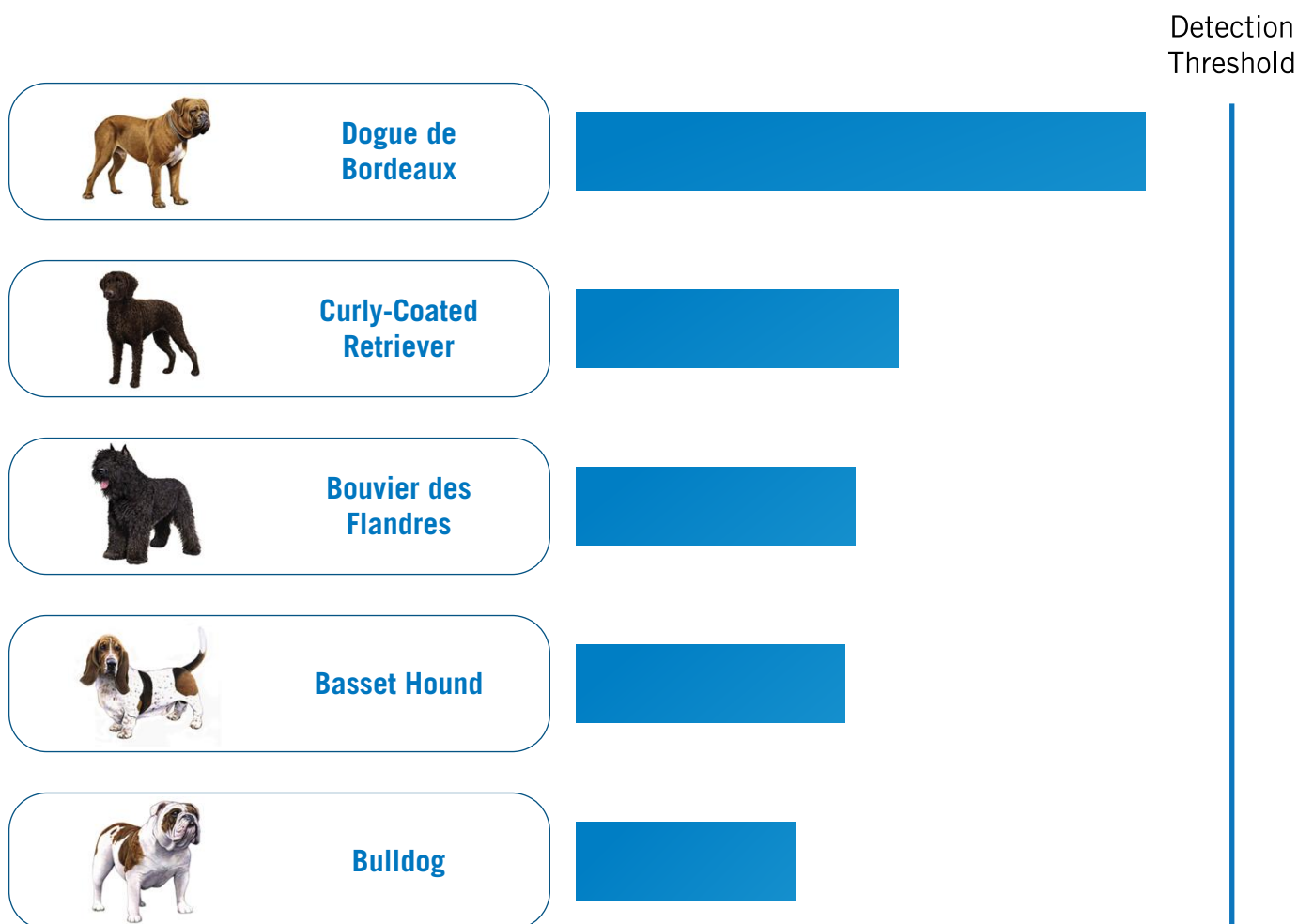➤ CERTIFICATE

MIXED BREED

WHAT DOES THE MIXED BREED ANCESTRY MEAN FOR LETZTY?

A portion of Letzty's ancestry was predicted to be mixed beyond 3 generations. While it is difficult to identify strong breed signals in this mixed portion, the 5 breeds with the strongest statistical likelihood identified in the analysis of your dog's DNA are listed below.

The breeds are listed by the relative strength of each result in the analysis with the most likely at the top of the list. One or more of these breeds **could have** contributed to the genetic makeup of the ancestors indicated by the mixed breed icon. Note that it is highly unlikely that all these breeds are present in Letzty's ancestry.

There could also be a breed or breeds present in the mixed breed component that cannot be detected with the current database of over 200 breeds.

Detection Threshold

Dogue de Bordeaux

Curly-Coated Retriever

Bouvier des Flandres

Basset Hound

Bulldog

For more information about how Wisdom Panel Insights is performed, please see the "HOW WISDOM PANEL INSIGHTS WORKS" section later in this report.

Wisdom Panel® Insights™

➤ KEY BREEDS DETECTED
➤ KEY BREED HISTORY, APPEARANCE & BEHAVIOR
➤ HOW KEY PHYSICAL TRAITS ARE INHERITED
➤ MIXED BREED SIGNATURES (IF DETECTED)
➤ *ADDITIONAL INFORMATION*
➤ CERTIFICATE

PREDICTED ADULT WEIGHT PROFILE:

Based upon the breeds detected in Letzty's ancestry and the genetic markers analyzed by **Wisdom Panel® Insights™**, as well as the information provided that Letzty is **Female** and **Spayed**, we have calculated the likely weight that Letzty should reach when an adult. The **Wisdom Panel Insights** target weight profile is presented as a range based on the unique mix and proportion of breeds detected.

- The adult weight is predicted to be between 55 - 84 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. If your dog's body condition is different from the ideal body condition score, we anticipate that your dog might be under (if underweight) or over (if overweight) the weight predicted by **Wisdom Panel Insights**.

To learn more about assessing body condition score, please use the Royal Canin™ Body Condition Score Chart: **http://www.royalcanin.co.uk/products/products/dog-s-body-condition2**

More information on this can be found at: **http://www.wisdompanelpro.com/sizeprediction/**

CUSTOMIZE YOUR DOG'S CERTIFICATE:

You can now include a photo of your dog on your certificate.

• Simply go to: **http://www.wisdompanel.com/test_status_checker/** or go to **www.wisdompanel.com** and click on the TEST STATUS CHECKER box at the top

• Enter your last name and test sample ID #

• Click on the UPLOAD PHOTO button

• Follow the pop-up instructions to upload your dog's photo

BECAUSE YOU LOVE YOUR DOG - SHARE THEIR STORY!

Join our online community of dog owners and share your dog's **Wisdom Panel Insights** story with the world. At **WisdomPanel.com** you can:

• Register your dog and upload photos into our Wisdom Panel photo gallery at: **http://www.wisdompanel.com/photo_gallery/**

• Get help to show off your dog's breed profile on your blog, Facebook and Twitter

Use these details to create your dog's profile at **wisdompanel.com**:

Owner: Geoffrey Marsh
Report Code: 3503305

You can also post your story on our Facebook page, Doggie DNA, and don't forget to follow us on Twitter!

Wisdom Panel® Insights™

➢ KEY BREEDS DETECTED
➢ KEY BREED HISTORY, APPEARANCE & BEHAVIOR
➢ HOW KEY PHYSICAL TRAITS ARE INHERITED

➢ MIXED BREED SIGNATURES (IF DETECTED)
➢ *ADDITIONAL INFORMATION*
➢ CERTIFICATE

Thank you for using Wisdom Panel® Insights™ to uncover the story of your dog's ancestry!

Congratulations on taking the steps to learn about Letzty's ancestry and to understand what breeds are in your mixed breed dog using **Wisdom Panel Insights**! Knowing your dog's breeds is more than a novelty - it is a medical necessity. Each breed in your pooch's genetic paw print has 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 Insights** report to help better care for Letzty. 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 INSIGHTS 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 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.

MORE BREED INFORMATION

Visit **www.Genesis4Pets.com** to find out more about your dog's health-care needs: you'll feel better knowing that you're doing everything you can to keep your pal happy and healthy. In addition to loads of free, easy-to-understand information based on the latest medical research, you will receive a 50% discount on all downloadable health-care booklets that explain the common health concerns for individual breeds. Simply enter promotional code **WISDOM** when you check out to receive your discount (expires 30 days after you receive your Wisdom Panel report).

Accessing your test status checker online also lets you view Mixed-Breed Genesis health reports provided by VetThink™ which are designed to assist you to take the best possible care of your dog throughout its life.

Genesis Breed-Specific Health Care™
Because every pet is unique.™

Wisdom Panel® Insights™

➢ KEY BREEDS DETECTED

➢ KEY BREED HISTORY, APPEARANCE & BEHAVIOR

➢ HOW KEY PHYSICAL TRAITS ARE INHERITED

➢ MIXED BREED SIGNATURES (IF DETECTED)

➢ *ADDITIONAL INFORMATION*

➢ CERTIFICATE

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® 2.0** product can provide insight into the breed ancestry of your dog. The **Wisdom Panel 2.0** product is designed and intended to be used solely to either identify the genetic breed makeup and predict the adult size of such a mixed-breed dog or to confirm the genetic profile observed in a tested dog matches a particular breed profile. No other purpose is intended, authorized, or permitted.

Upon receipt of your sample, Mars Veterinary will analyze your dog's DNA to determine the breed(s) present in your dog's recent ancestry. In the case of a likely purebred dog, this will involve a comparison of genetic profile in your dog to a proposed breed. In the case of a proposed crossbred dog (i.e. a dog with ancestry from two different purebred parents), this will involve determining the heritage of your dog's sire and dam. In all cases this is done with a reasonable degree of certainty.

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.

In the unlikely event that it is not possible to determine breed history 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.

Wisdom Panel 2.0 is based upon the Mars Veterinary database of validated breeds. If your dog contains other breeds, it may result in the identification of breeds, or a combination of breeds in the database, related to the breeds in your pet's history.

Many cities and communities 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 2.0** 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 community. Neither Mars Veterinary nor any related company is responsible for compliance or notification regarding these matters.

Wisdom Panel®
Insights™

BREED ANCESTRY CERTIFICATE

MARS
veterinary™

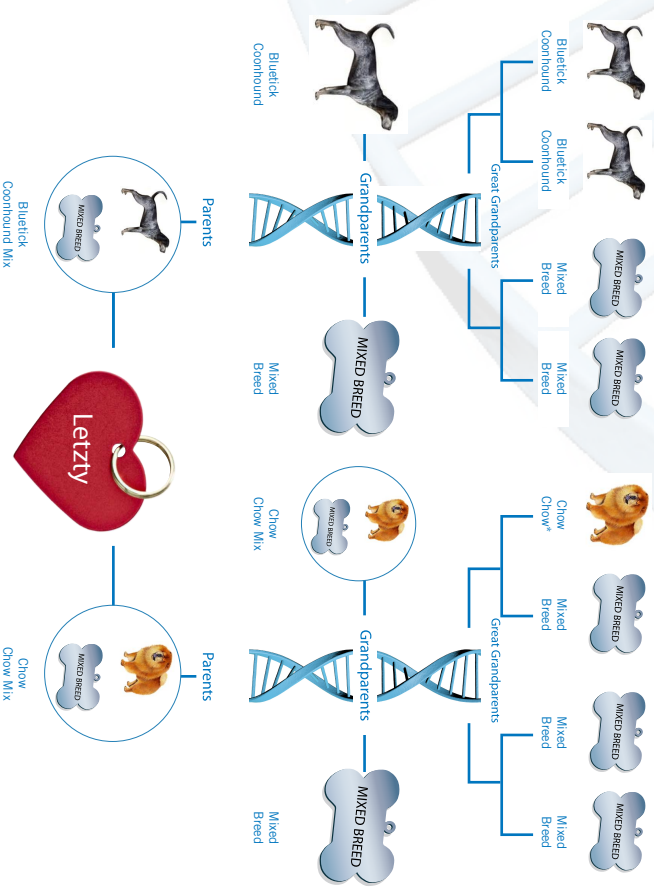# STATEMENT OF AUTHENTICATION

Owner's name: **Geoffrey Marsh**

Dog's name: **Letzty**

Date: **February 13, 2014**

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

DR. NEALE FRETWELL

Research & Development Director

Letzty is a Bluetick Coonhound, Chow Chow Mix

Bluetick
Coonhound

Bluetick
Coonhound

Bluetick
Coonhound

Great Grandparents

Mixed
Breed

Mixed
Breed

MIXED BREED

MIXED BREED

MIXED BREED

Grandparents

MIXED BREED

Bluetick
Coonhound Mix

Parents

MIXED BREED

Letzty

Chow
Chow Mix

Parents

Chow
Chow Mix

MIXED BREED

Chow
Chow™

Mixed
Breed

Grandparents

Great Grandparents

MIXED BREED

Mixed
Breed

MIXED BREED

Mixed
Breed

MIXED BREED

Mixed
Breed