

AMERICAN KENNEL CLUB • FOUNDED 1884

# Certified Pedigree

**MAYBELLE**

BORDER COLLIE FEMALE GLD WH MKGS  
Date Whelped: 03/19/2015  
Breeder: JOE THIEBAUD

**Sire** **DIAMOND T CREED**

DN28504902 (12-13) OFA27G BLK WH MKGS

**Dam** **VISIONS BEYOND THE MOONLIGHT**

DN18534806 (12-13) OFA36F BLK WH MKGS

**INDIANA ANDY**  
DN21908701 (10-08) OFA25G BLK WH MKGS  
(USA) AKC DNA #V573348

**VISIONS HEAVENLY HOPE**  
DN11212606 (02-08) BLK WH MKGS AKC DNA  
#V577567

**AUGUSTUS MCCRAY**  
DN18298001 (10-07) RD MRL WH MKGS (USA)  
AKC DNA #V532904

**HBC EMMA**  
DL91776901 (06-03) BLK WH MKGS TAN PTS

**RMS TAKAYA**  
ABCA 231476

**TWIG**  
ABCA 188210 BLK WH MKGS

**VISIONS STONEWASHED STRAUSS**  
DL90430601 (09-04) BL MRL WH MKGS TAN  
PTS AKC DNA #V344802

**ZOE MAE MORRISON**  
DN03025902 (10-05) WH & BLK WH MKGS

**TANI MARAS BOLEE**  
ABCA 90545

**GOLD'S EMERALD**  
ABCA 166644

**MAVERICK BLUE**  
ABCA 130227

**HASTINGS KATE**  
ABCA 104889



**AMERICAN  
KENNEL CLUB®**

*Jane P. Bowler*  
Executive Secretary

The Seal of The American Kennel Club affixed hereto certifies that this pedigree was compiled from official Stud Book records on September 1, 2015.

NAME  
MAYBELLE

NUMBER  
[REDACTED]

BREED  
BORDER COLLIE

SEX  
FEMALE

COLOR  
GOLD, WHITE MARKINGS

DATE OF BIRTH  
MARCH 19, 2015

SIRE  
DIAMOND T CREED  
DN28504902 12-13 OFA27G

DAM  
VISIONS BEYOND THE MOONLIGHT  
DN18534806 12-13 OFA36F

BREEDER  
JOE THIEBAUD

OWNER

LOGAN ERAKER  
[REDACTED]  
FORT LITTLETON PA 17223-9603



AMERICAN  
KENNEL CLUB

CERTIFICATE ISSUED  
[REDACTED] 015

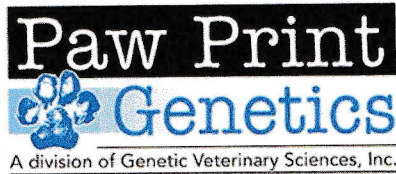
*This certificate invalidates all previous certificates issued.*

If a date appears after the name and number of the sire and dam, it indicates the issue of the Stud Book Register in which the sire or dam is published.

**For Transfer Instructions, see back of Certificate.**

*This Certificate issued with the right to correct or revoke by the American Kennel Club.*

REGISTRATION CERTIFICATE



## Canine Genetic Health Certificate <sup>TM</sup>

**Call Name:** Belle  
**Registered Name:** -  
**Breed:** Border Collie  
**Sex:** Female  
**DOB:** March 2015

**Laboratory #:** 15292  
**Registration #:** -  
**Certificate Date:** Sept. 29, 2015

### This canine's DNA showed the following genotype(s):

Disease	Gene	Genotype	Interpretation
Collie eye anomaly	<i>NHEJ1</i>	WT/WT	Normal
Degenerative myelopathy	<i>SOD1</i>	WT/WT	Normal
Intestinal cobalamin malabsorption (Border Collie type)	<i>CUBN</i>	WT/WT	Normal
Multidrug resistance 1	<i>ABCB1</i>	WT/WT	Normal
Neuronal ceroid lipofuscinosis 5	<i>CLN5</i>	WT/WT	Normal
Trapped neutrophil syndrome	<i>VPS13B</i>	WT/WT	Normal

WT, wild type (normal); M, mutant

Paw Print Genetics™ performed the tests listed on this dog. See the Laboratory Report for interpretation and recommendations based on these findings. The genes/diseases reported here were selected by the client. Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. These tests were developed and their performance determined by Paw Print Genetics. This laboratory has established and verified the tests' accuracy and precision. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory immediately for further evaluation. Genetic counseling is available at Paw Print Genetics.

**Christina J Ramirez, PhD, DVM, DACVP**  
Medical Director

**Casey R Carl, DVM**  
Associate Medical Director

## Coat Color and Trait Certificate

**Call Name:** Belle  
**Registered Name:** Maybelle  
**Breed:** Border Collie  
**Sex:** Female  
**DOB:** March 2015

**Laboratory #:** 15292  
**Registration #:** XXXXXXXXXX  
**Certificate Date:** Dec. 18, 2017

**This canine's DNA showed the following genotype(s):**

Coat Color/Trait Test	Gene	Genotype	Interpretation
A Locus (Agouti)	<i>ASIP</i>	$a^w/a^t$	Wolf sable/gray (carries tricolor/black and tan)
B Locus (Brown)	<i>TYRP1</i>	B/B	Black coat, nose and foot pads
D Locus (Dilute)	<i>MLPH</i>	D/d	Non dilute (carrier)
E Locus (Yellow/Red)	<i>MC1R</i>	e/e	Yellow/red
K Locus (Dominant Black)	<i>CBD103</i>	$K^B/k^Y$	No agouti expression allowed (carrier)
M Locus (Merle)	<i>PMEL</i>	m/m	Non merle
S Locus (White Spotting, Parti, or Piebald)	<i>MITF</i>	$S/s^p$	Limited white spotting, flash, parti, or piebald (carrier)

**Interpretation:**

This dog carries one copy of  $a^w$  and one copy of  $a^t$  which results in a “wolf” sable/gray coat color. However, this dog’s coat color is also dependent on the E, K, and B genes. The “wolf” sable/gray coat color is only expressed if the dog is also E/E or E/e at the E locus and  $k^Y/k^Y$  at the K locus which allows for agouti gene expression. This dog will pass on  $a^w$  to 50% of its offspring and  $a^t$  to 50% of its offspring.

This dog carries two copies of **B** at all three of the  $b^c$ ,  $b^d$  and  $b^s$  loci making the overall B locus genotype of this dog **B/B**. The overall B locus genotype for a dog is determined by the combination of the genotypes at the  $b^c$ ,  $b^d$ , and  $b^s$  loci. The  $b^c$ ,  $b^d$ , and  $b^s$  variants confer brown coat, nose, and foot pads when at least one of these DNA changes is present on both genes of the dog at the B locus. If the dog has one or no copies of **b** then the dog will have a black coat, nose, and foot pads. However, this dog’s coat color is also dependent on the E, K, and A genes. This dog will pass on **B** to 100% of its offspring.

This dog carries one copy of **D** and one copy of **d** which does not result in the “dilution” or lightening of the black and yellow/red pigments that produce the dog’s coat color. The base coat color of this dog will be primarily determined by the E, K, A, and B genes. This dog will pass on **D** to 50% of its offspring and **d** to 50% of its offspring.

This dog carries two copies of **e** which inhibits production of black pigment. The coat color of this dog will be yellow/red (including shades of white, cream, yellow, apricot or red). This dog will pass **e** on to 100% of its offspring.

This dog carries one copy of  $K^B$  and one copy of  $k^Y$  which prevents expression of the agouti gene (A locus) and allows for solid eumelanin (black pigment) production in pigmented areas of the dog. However, this dog’s coat color is also dependent on its genotypes at the E and B genes. This dog will pass on  $K^B$  to 50% of its offspring and

**k<sup>y</sup>** to 50% of its offspring.

This dog carries two copies of **m** and, therefore, does not have a merle coat color. This dog will pass on **m** to 100% of its offspring.

This dog carries one copy of **S** and one copy of **s<sup>P</sup>** which results in limited white spotting, flash, parti, or piebald coat color due to the co-dominance of **S** and **s<sup>P</sup>**. This dog will pass on one copy of **S** to 50% of its offspring and one copy of **s<sup>P</sup>** to 50% of its offspring.

Paw Print Genetics<sup>®</sup> has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.



**Christina J Ramirez, PhD, DVM, DACVP**  
Medical Director



**Casey R Carl, DVM**  
Associate Medical Director

Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. These tests were developed and their performance determined by Paw Print Genetics<sup>®</sup>. This laboratory has established and verified the tests' accuracy and precision. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory immediately for further evaluation. In the event of a valid dispute of results claim, Paw Print Genetics will do its best to resolve such a claim to the customer's satisfaction. If no resolution is possible after investigation by Paw Print Genetics with the cooperation of the customer, the extent of the customer's sole remedy is a refund of the fee paid. In no event shall Paw Print Genetics be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results.