

## PennHIP Report

<b>Referring Veterinarian:</b> Dr Jason Beck	<b>Clinic Name:</b> Queensland Veterinary Specialists- Northlakes
<b>Email:</b> northlakes@qldvetspecialists.com.au	<b>Clinic Address:</b> 53 Finders Parade Northlakes 4509
	<b>Phone:</b> 6 (173) 384-2222
	<b>Fax:</b> 6 (173) 384-2244

## Patient Information

<b>Client:</b> CAREER DOGS, AUSTRALIA	<b>Tattoo Num:</b>
<b>Patient Name:</b> SIOUX	<b>Patient ID:</b> 92679
<b>Reg. Name:</b> CAREER DOGS' STONEY SIOUX	<b>Registration Num:</b>
<b>PennHIP Num:</b> 109567	<b>Microchip Num:</b> 900079000175364
<b>Species:</b> Canine	<b>Breed:</b> LABRADOR RETRIEVER
<b>Date of Birth:</b> 15 Jul 2016	<b>Age:</b> 12 months
<b>Sex:</b> Female	<b>Weight:</b> 61.1 lbs/27.7 kgs
<b>Date of Study:</b> 18 Jul 2017	<b>Date Submitted:</b> 18 Jul 2017
<b>Date of Report:</b> 21 Jul 2017	

## Findings

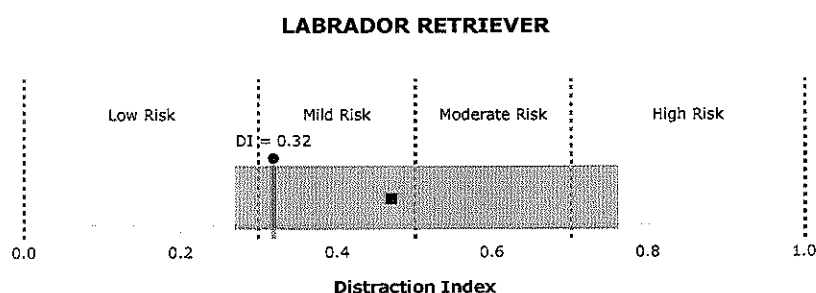
**Distraction Index (DI):** Right DI = 0.32, Left DI = 0.32.  
**Osteoarthritis (OA):** No radiographic evidence of OA for either hip.  
**Cavitation/Other Findings:** None.

## Interpretation

**Distraction Index (DI):** The laxity ranking is based on the hip with the greater laxity (larger DI). In this case the DI used is 0.32.

**OA Risk Category:** The DI is between 0.31 and 0.49. This patient is at mild risk for hip OA.

**Distraction Index Chart:**



**Breed Statistics:** This interpretation is based on a cross-section of 30533 canine patients of the LABRADOR RETRIEVER breed in the AIS PennHIP database. The gray strip represents the central 90% range of DIs (0.27 - 0.76) for the breed. The breed average DI is 0.47 (solid square). The patient DI is the solid circle (0.32).

**Summary:** The degree of laxity (DI = 0.32) falls within the central 90% range of DIs for the breed. This amount of hip laxity places the hip at a mild risk to develop hip OA. No radiographic evidence of OA for either hip.

**Interpretation and Recommendations:** No OA/Mild Risk: Low risk to develop radiographic evidence of hip OA early in life, however OA may manifest after 6 years of age or later. Risk of OA increases as DI, age, body weight, and activity level increase. OA susceptibility is breed specific, larger breeds being more susceptible. **Recommendations:** Evidence-based strategies to lower the risk of dogs developing hip OA or to treat those having OA fall into 5 modalities.\* For detailed information, consult these documents.\* Use any or all of these modalities as needed:

- 1) For acute or chronic pain prescribe NSAID PO short or long term. Amantadine can be added if response is marginal or if a neuropathic component to the pain is suspected.
- 2) Optimize body weight, keep lean, at BCS = 5/9.
- 3) Prescribe therapeutic exercise at intensities that do not precipitate lameness.
- 4) Administer polysulfated glycosaminoglycans IM or SQ, so-called DMOAD.
- 5) Feed an EPA-rich prescription diet preventatively for dogs at risk for OA or therapeutically for dogs already showing radiographic signs of OA.

At the present time there is inadequate evidence to confidently recommend any of the many other remedies to prevent or treat OA. Studies are in progress. Consider repeating radiographs at periodic intervals to determine the rate of OA progression and adjust treatment accordingly. Older dogs may show clinical signs such as chronic pain, reluctance to go stairs or jump onto the bed, and stiffness particularly after resting. It is unlikely that end-stage hip disease will develop for dogs at this risk level so surgical therapy for the pain of hip OA would rarely be indicated.

**Breeding Recommendations:** Please consult the PennHIP Manual.

\* From WSAVA Global Pain Council Guidelines and the 2015 AAHA/AAFP Pain Management Guidelines



## Certificate of Echocardiography

This is to certify that I, Dr Geoff Nicolson BVSc (Hons I) MVETSTUD Dipl. ECVIM-CA (Cardiology), a qualified **Specialist Veterinary Cardiologist**, have today 19-6-18 examined the following animal for evidence of cardiac disease:

Animal name: "SIOUX" - CAREER DOGS' STONEY SIOUX  
Age/DOB: 15/07/16 Sex: F Breed: LABRADOR RETRIEVER  
Colour: BLACK Reg no: N/A Microchip no: 900 079 000 175 364  
Owner: CAREER DOGS' AUSTRALIA  
Address: PO BOX 620, NORTH LAKES, QUEENSLAND 4509

### Echocardiographic Examination

(cardiologist to complete)

Findings: normal

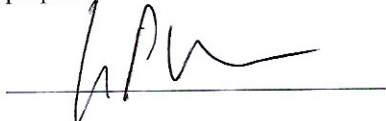
LVIDd 45mm LVIDs 31mm FS% 31  
IVSd 8mm LVFWd 8mm LA:Ao 1.4 (norm. < 1.6)  
Aortic velocity 0.5 m/s (norm. < 2m/s) Pulmonic velocity 0.8 m/s (norm. < 2m/s)  
MR velocity - m/s (norm. 5-6m/s) TR velocity - m/s (norm. < 3.0m/s)

### Certification Statement

(cardiologist to complete)

1) The above animal has no echocardiographic evidence  
of cardiac disease

- ☒ 1) The above animal has no echocardiographic evidence of cardiac disease  
☐ 2) The above animal has echocardiographic changes, which I consider to be of no significance with regards to breeding  
☐ 3) The above animal has an echocardiographic abnormality, which I consider makes it unsuitable for breeding purposes



**Dr Geoff Nicolson**

BVSc (Hons I) MVETSTUD Dipl. ECVIM-CA (Cardiology)  
Specialist Veterinary Cardiologist

**OPHTHALMIC EXAMINATION FORM**

Owner: Lauren Elgie  
Address: PO Box 620  
North Lakes QLD 4509

Animal Name: Sioux  
Microchip No: 900079000175364

ANIMAL: Species: dog Breed: Labrador  
Coat: colour/type: Black

Birthdate: 15/7/16  
Sex: F

PREVIOUS EXAMINATION: ☒ Not prev examined ☐ Not affected ☐ Undetermined ☐ Affected

Date of previous examination: 6/7/17

EXAMINATION TECHNIQUE: ☐ Direct ophthalmoscopy ☒ Indirect ophthalmoscopy  
☒ Biomicroscopy ☐ Other

MYDRIATIC: ☒ Yes ☐ No

REGIONS EXAMINED:	LIDS	CORNEA	IRIS	LENS	FUNDUS	OTHER
Not affected	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Undetermined/suspicious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Affected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Right Left

Right Left  
A P  
Lens

Cornea  
Fundus

Right Left  
Eyelids

INHERITED DISEASE: ☐ Yes ☒ NO ☐ Suspicious Date of examination: 6/7/17

Should be re-examined: \_\_\_ Months \_\_\_ Yearly SIGNED Lauren Elgie

# LAVELLE'S DIAGNOSTIC IMAGING

RB LAVELLE MA Vet MB MRCVS DVR FANZCVS FAVA

ABN755 75202799

## Canine Hip & Elbow Dysplasia Evaluation Report

KC Name:	CAREER DOGS' STONEY SIOUX	Identification No:	900 079 000 175 364
KC Reg No:		Pet Name:	

Date Radiograph taken:	18.07.2017	Breed:	Labrador Retriever
Sex:	Female	DOB:	15.07.2016
Name of Owner:	Career Dog	Address:	PO Box 620 Northlakes 4509
		Email:	<a href="mailto:info@careerdog.com.au">info@careerdog.com.au</a> northlakes@qldveterinaryspecialists.com.au
Sire:	Guidinglight Aztec	Dam:	Career Dogs' Petaluma Emma

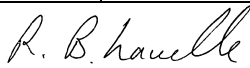
The results of the examination will be used at a future date for the purposes of statistical research which will be published. Please check that the particulars above are correct and relate to the dog submitted for radiographic examination by: Dr Jason Beck, Queensland Veterinary Specialists

Signature of owner: \_\_\_\_\_

Please inform Dr R B Lavelle, 80 Ashworths Road, Lancefield, Victoria, 3435 if you object to the use of the results. Telephone (03) 5429 1682 BH

**Film quality:** Satisfactory

**Positioning:** Satisfactory

HIP JOINT	RIGHT	LEFT	COMMENT
Norberg angle	1	2	
Subluxation	1	3	
Cranial acetabular edge	1	1	
Dorsal acetabular edge	0	0	
Cranial effective acetabular rim	0	0	
Acetabular fossa	0	0	
Caudal acetabular edge	0	0	
Femoral head/neck exostosis	0	0	
Femoral head recontouring	0	0	
<b>TOTAL</b>	3	6	<b>Total Score:</b> 9 (maximum score 106) Breed average cumulative: 12.13 Post 2005 to present: 9.00
<b>Comment:</b>			
Elbow Grade:	1 0.5mm	Left:	1 <0.5mm
Right :			
Date received for examination:	25.07.2017	 <b>RB LAVELLE</b> MA Vet MB MRCVS DVR FANZCVSc FAVA	
Date returned:	25.07.2017		



# GENETIC ANALYSIS SUMMARY REPORT

## OWNER'S DETAILS

Lauren Elgie  
35 WALLAROO CIRCUIT NORTH LAKES  
BRISBANE  
Queensland 4509 AU



## ANIMAL'S DETAILS

Registered Name:	CAREER DOGS' STONEY SIOUX	Pet Name:	SIOUX
Registration Number:		Breed:	Labrador Retriever
Microchip Number:	900079000175364	Sex:	Intact Female
Date of Birth:	15/7/2016	Colour:	BLACK

## COLLECTION DETAILS

Case Number:	17079676	Date of Test:	18/08/2017
Approved Collection Method:	NO (Collected by Owner)	Collected By:	

Sample with Lab ID Number 17079676 was received at Orivet Genetics, DNA was extracted and analysed with the following result reported:

## DISEASES REPORTED

## RESULT <sup>1</sup>

### Urogenital - Associated with the Urinary and Genital Tracts

CANINE HYPERURICOSURIA	NEGATIVE / CLEAR [NO VARIANT DETECTED]
CYSTINURIA	NEGATIVE / CLEAR [NO VARIANT DETECTED]

### Neurologic - Associated with the Brain, Spinal and Nerves

CENTRONUCLEAR MYOPATHY	NEGATIVE / CLEAR [NO VARIANT DETECTED]
DEGENERATIVE MYELOPATHY	NEGATIVE / CLEAR [NO VARIANT DETECTED]
EXERCISE INDUCED COLLAPSE	NEGATIVE / CLEAR [NO VARIANT DETECTED]
NARCOLEPSY (LABRADOR)	NEGATIVE / CLEAR [NO VARIANT DETECTED]

CONGENITAL MYASTHENIC SYNDROME (LABRADOR)	NEGATIVE / CLEAR [NO VARIANT DETECTED]
COPPER TOXICOSIS (ATP7B & ATP7A)	NEGATIVE / CLEAR [NO VARIANT DETECTED]
MALIGNANT HYPERTHERMIA	NEGATIVE / CLEAR [NO VARIANT DETECTED]
PYRUVATE KINASE DEFICIENCY (CANINE)	NEGATIVE / CLEAR [NO VARIANT DETECTED]

### Dermatologic - Associated with Skin

DRY NOSE (HEREDITARY NASAL PARAKERATOSIS)	NEGATIVE / CLEAR [NO VARIANT DETECTED]
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### Haemolymphatic - Associated with the Circulatory System

ELLIPTOCYTOSIS (B-SPECTRIN)	NEGATIVE / CLEAR [NO VARIANT DETECTED]
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### Musculoskeletal - Associated with Bones and Muscles

MYOTUBULAR MYOPATHY X-LINKED	NEGATIVE / CLEAR [NO VARIANT DETECTED]
SKELETAL DYSPLASIA 2	NEGATIVE / CLEAR [NO VARIANT DETECTED]

### Ophthalmologic - Associated with the Eyes

OCULAR SKELETAL DYSPLASIA	NEGATIVE / CLEAR [NO VARIANT DETECTED]
PROGRESSIVE ROD CONE DEGENERATION (PRCD) - PRA	NEGATIVE / CLEAR [NO VARIANT DETECTED]

<sup>1</sup> - Please note this is a summary report. To view more details on each test including clarification of the type of test and result please view the single detailed report.



**RESULTS REVIEWED AND CONFIRMED BY:**

A handwritten signature in black ink, appearing to read 'N. Pik'.

Dr. Noam Pik BVSc, BMVS, MBA, MACVS

A handwritten signature in black ink, appearing to read 'George Sofronidis'.

George Sofronidis BSc (Hons)



# GENETIC ANALYSIS SUMMARY REPORT

## OWNER'S DETAILS

Lauren Elgie  
35 WALLAROO CIRCUIT NORTH LAKES  
BRISBANE  
Queensland 4509 AU



e labresults@orivet.com  
p +61 9534 1544  
www.orivet.com

## ANIMAL'S DETAILS

Registered Name: CAREER DOGS' STONEY SIOUX  
Registration Number:  
Microchip Number: 900079000175364  
Date of Birth: 15/7/2016

Pet Name: SIOUX  
Breed: Labrador Retriever  
Sex: Intact Female  
Colour: BLACK

## COLLECTION DETAILS

Case Number: 17079676  
Approved Collection Method: NO (Collected by Owner)

Date of Test: 18/08/2017  
Collected By:

## TRAITS REPORTED

## RESULT

### Trait - Associated with Phenotype

A LOCUS (FAWN/SABLE; TRI/TAN POINTS)  
B LOCUS TYRP1 (BROWN/LIVER/CHOCOLATE)  
D (DILUTE) LOCUS  
E LOCUS - (CREAM/RED/YELLOW)  
K LOCUS (DOMINANT BLACK)  
LONG HAIR GENE (CANINE)

a<sup>t</sup>/a - TRI COLOUR / TAN POINTS (CARRYING BICOLOUR GENE)  
BB - DOES NOT CARRY BROWN or CHOCOLATE  
DD - NO COPY OF MLPH-D ALLELE (DILUTE) - PIGMENT IS NORMAL  
Ee - CARRIES EXTENSION (YELLOW/WHITE/APRICOT/RUBY/RED)  
K/k<sup>br</sup> or k or k<sup>n</sup> - ONE COPY DOMINANT BLACK and ONE COPY NON BLACK  
NORMAL - NOT SHOWING THE PHENOTYPE



## RESULTS REVIEWED AND CONFIRMED BY:

A handwritten signature in black ink, appearing to read "N. Pik", located below the "RESULTS REVIEWED AND CONFIRMED BY:" heading.

Dr. Noam Pik BVSc, BMVS, MBA, MACVS

A handwritten signature in black ink, appearing to read "George", located below the "RESULTS REVIEWED AND CONFIRMED BY:" heading.

George Sofronidis BSc (Hons)



## **EXPLANATION of RESULT TERMINOLOGY**

The terms below are provided to help clarify certain results phrases on your genetic report. The phrases below are those as reported by Orivet and may vary from one laboratory to the other.

### **NORMAL/CLEAR/NEGATIVE - NO VARIANT DETECTED**

No presence of the variant (mutation) has been detected. The animal is clear of the disease and will not pass on any disease-causing mutation.

### **CARRIER - ONE COPY OF THE VARIANT DETECTED**

This is also referred to as HETEROZYGOUS. One copy of the normal gene and copy of the affected (mutant) gene has been detected. The animal will not exhibit disease symptoms or develop the disease. Consideration needs to be taken if breeding this animal - if breeding with another carrier or affected or unknown then it may produce an affected offspring.

### **AFFECTED/POSITIVE FOR THE VARIANT**

Two copies of the disease gene variant (mutation) have been detected also referred to as HOMOZYGOUS for the variant. The animal may show symptoms (affected) associated with the disease. Appropriate treatment should be pursued by consulting a Veterinarian.

### **POSITIVE/AFFECTED – HETEROZYGOUS ONE COPY (AUTOSOMAL DOM)**

Also referred to as POSITIVE ONE COPY or POSITIVE HETEROZYGOUS. This result is associated with a disease that has a dominant mode of inheritance. One copy of the normal gene (wild type) and affected (mutant) gene is present. Appropriate treatment should be pursued by consulting a Veterinarian. This result can still be used to produce a clear offspring.

### **POSITIVE/AFFECTED – HOMOZYGOUS TWO COPIES (AUTOSOMAL DOM)**

Also referred to as POSITIVE HOMOZYGOUS. Two copies of the disease gene variant (mutant) have been detected and the animal may show symptoms associated with the disease. Please Note: This disease has dominant mode of inheritance so if mated to a clear animal ALL offspring with be AFFECTED – HETEROZYGOUS ONE COPY.

### **NORMAL BY PARENTAGE HISTORY**

The sample submitted has had its parentage verified by DNA. By interrogating the DNA profiles of the Dam, Sire and Offspring this information together with the history submitted for the parents excludes this animal from having this disease. The controls run confirm that the dog is NORMAL for the disease requested.

### **NORMAL BY PEDIGREE**

The sample submitted has had its parentage verified by Pedigree. The pedigree has been provided and details (genetic testing reports) of the parents have been included. Parentage could not be determined via DNA profile as no sample was submitted.

### **NO RESULTS AVAILABLE**

Insufficient information has been provided to provide a result for this test. Sire and Dam information and/or sample may be required. This result is mostly associated with tests that have a patent/license and therefore certain restrictions apply. Please contact the laboratory to discuss.

### **INDETERMINABLE**

The sample submitted has failed to give a conclusive result. This result is mainly due to the sample failing to "cluster" or result in the current grouping. This will be repeated and looked at manually; if a result cannot be determined, a recollection may be requested.

### **DNA PROFILE**

Also known as a DNA fingerprint. This is unique for the animal. No animal shares the same DNA profile. An individual's DNA profile is inherited from both parents and can be used for verifying parentage (pedigrees). This profile contains no disease or trait information and is simply a unique DNA signature for that animal.

### **PARENTAGE VERIFICATION**

#### **QUALIFIES/CONFIRMED or DOES NOT QUALIFY/EXCLUDED**

Parentage is determined by examining the markers on the DNA profile. A result is generated and stated for all DNA parentage requests. Parentage confirmation reports can only be generated if a DNA profile has been carried out for Dam, Offspring and possible Sire/s.

### **PENDING**

Results for this test are still being processed. Some tests are run independently and are reported at a later date. When completed, the result will be emailed.

### **APPROVED COLLECTION METHOD (YES)**

The sample submitted for testing HAS met the requirements recommended by member bodies for the DNA collection process. The animal has been identified via its microchip number (Positive ID) and collected by a Veterinarian or Approved Collection Agent. APPROVED COLLECTION METHOD (NO)

The sample submitted for testing HAS NOT met the requirements recommended by member bodies for the DNA collection process.

### **TRAIT (PHENOTYPE)**

A feature that an animal is born with (a genetically determined characteristic). Traits are a visual phenotype that range from colour to hair length, and also includes certain features such as tail length. If an individual is AFFECTED for a trait then it will show that characteristic eg. AFFECTED for the B (Brown) Locus or bb will be brown/chocolate.

### **POSITIVE – SHOWING THE PHENOTYPE**

The animal is showing the trait or phenotype tested.

## **CLARIFICATION OF GENETIC TESTING**



The goal of genetic testing is to provide breeders with relevant information to improve breeding practices in the interest of animal health. However, genetic inheritance is not a simple process, and may be complicated by several factors. Below is some information to help clarify these factors.

- 1) Some diseases may demonstrate signs of what Geneticists call “genetic heterogeneity”. This is a term to describe an apparently single condition that may be caused by more than one mutation and/or gene.
- 2) It is possible that there exists more than one disease that presents in a similar fashion and segregates in a single breed. These conditions - although phenotypically similar - may be caused by separate mutations and/or genes.
- 3) It is possible that the disease affecting your breed may be what Geneticists call an “oligogenic disease”. This is a term to describe the existence of additional genes that may modify the action of a dominant gene associated with a disease. These modifier genes may for example give rise to a variable age of onset for a particular condition, or affect the penetrance of a particular mutation such that some animals may never develop the condition.

The range of hereditary diseases continues to increase and we see some that are relatively benign and others that can cause severe and/or fatal disease. Diagnosis of any disease should be based on pedigree history, clinical signs, history (incidence) of the disease and the specific genetic test for the disease.

Penetrance of a disease will always vary not only from breed to breed but within a breed, and will vary with different diseases. Factors that influence penetrance are genetics, nutrition and environment. Although genetic testing should be a priority for breeders, we strongly recommend that temperament and phenotype also be considered when breeding.

**Orivet Genetic Pet Care** aims to frequently update breeders with the latest research from the scientific literature. If breeders have any questions regarding a particular condition, please contact us on **(03) 9534 1544** or **admin@orivet.com** and we will be happy to work with you to answer any relevant questions.