



**UC DAVIS**

**VETERINARY MEDICINE**

California Animal Health & Food Safety Laboratory System

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CAHFS Accession #: [REDACTED]

Addendum Version 1

Ref.#: [REDACTED]

Coordinator: Akinyi Nyaoke, DVM, PhD

E-Signed and Authorized by: Nyaoke, Akinyi on  
4/26/2022 10:22:53AM

Email To:  
Baker, Rita L  
[REDACTED]

Incident Track:

LOS ALAMITOS RACECOURSE  
4961 KATELLA AVE,  
LOS ALAMITOS CA 90720  
Orange County

**This report supersedes all previous reports for this case**

Date Collected: 03/12/2022      Date Received: 03/14/2022

Comments: CHRB

**Case Contacts**

Submitter	BECK, GARY	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Bill To	CALIFORNIA HORSE RACING BOARD	916-263-6000	1010 Hurley Way Suite 300	Sacramento	CA	95825
Owner	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Report To	UZAL, FRANCISCO	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Report To	Baker, Rita L	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Report To	Hill, Ashley	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Attending Vet	FITZGERALD, REBECCA	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Trainer	FARIAS, ADAN (License# 268,424)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**CHRB - Related Information**

Horse's Name:	[REDACTED]	Human Injury?	No
Tattoo:	[REDACTED]	Death Related to:	Race
Age:	6.00 Years	Track Surface:	Dirt
Gender:	[REDACTED]	Location on Track:	Past Wire
Taxonomy:	Thoroughbred Horse	Insured?	N

Medications: None Listed In The History;

**Laboratory Findings/Diagnosis**

Thoroughbred [REDACTED] with history of collapse and death following race

- Acute respiratory / cardiac failure, probable exercise induced pulmonary hemorrhage [EIPH] with:
  - severe, acute, pulmonary hemorrhage affecting the dorsal halves and caudal portions of both lobes with pleural / subpleural hematomas, and large numbers of hemosiderin-laden macrophages
  - marked pulmonary congestion and edema
  - abundant red frothy fluid in nasal cavities, trachea and bronchi
  - congestion of spleen, kidney and brain, moderate to marked
- Stomach, non-glandular mucosa: Several, chronic mucosal ulcers
- Body as a whole: Well fleshed with adequate internal fat reserves

Ancillary test result

- \* Liver minerals including selenium within acceptable ranges.
- \* Adequate vitamin E levels [liver]
- \* No toxic compounds detected by GC/MS organic chemical screen

### Case Summary

3/14/22. The presence of severe pulmonary congestion and edema with subpleural hematomas, and congestion of several organs is suggestive of acute cardiopulmonary arrest, and possible exercise-induced pulmonary hemorrhage (EIPH). Histopathologic examination of heart and lung sections may provide more information on the cause of exercise-associated sudden death in this case.

There was extensive ulceration of the non-glandular gastric mucosa of this [REDACTED].

Other tests are ongoing and the next version of this report will include updated results.

3/28/22. Histology confirms extensive pulmonary hemorrhage with edema. There were aggregates of hemosiderophages particularly around blood vessels and in the pleura, which would indicate previous episodes of hemorrhage in this horse. The most likely cause of death is acute cardiorespiratory failure secondary to exercise induced pulmonary hemorrhage. I cannot definitely rule out primary cardiac arrest e.g. due to conduction anomalies or peracute myocardial ischemic event. Other findings include congestion in some organs, and moderate, chronic ulceration of the non-glandular gastric mucosa. Liver minerals including selenium were within acceptable ranges. Additional toxicology to follow.

4/15/22. No toxic compounds were detected on the GC/MS organic chemical screen.

All testing completed.

Addendum 4/26/22.

Case re-opened to correct the microchip # in 'Gross observations' Section

### Clinical History

Ran race, was being unsaddled when it collapsed and died.

### Gross Observations

Necropsy of a 420 kg, [REDACTED] Thoroughbred [REDACTED],

commenced at 0815 hours on 14th March, 2022

The carcass was well fleshed with adequate subcutaneous and intra-abdominal fat stores and in fair post-mortem condition. Gingiva and ocular sclera were pale.

There was abundant red frothy fluid in the left and right nasal cavities, trachea and bronchi, and mucosae of the larynx and trachea were diffusely reddened. Both lungs were inflated, wet, spongy, and the dorsal halves and caudal portions were deeply reddened. Incised surface was dark red / purple, and blood oozed on compression of the lung parenchyma. There were few, variably sized, subpleural hematomas and emphysematous bullae randomly in the parenchyma. The liver, kidneys and spleen were markedly congested and the spleen was moderately enlarged and gaseous.

Stomach had scant tan / fluid green digesta and there were several, variably sized and shaped, ulcers in non-glandular mucosa along the margo plicatus. Intestinal contents ranged from thick creamy pink-red digesta in small intestine to watery and semisolid roughage in the large intestine; there were well formed feces in small colon and rectum. Urinary bladder was empty. The brain was congested. All else was unremarkable.

4/26/22. Case re-opened to correct microchip # to [REDACTED]

### Histology

Sections of brain, pituitary gland, thyroid gland, lung, heart [11 sections], diaphragm, liver, spleen, kidney, tongue, esophagus, stomach, intestine, pancreas, and skeletal muscle are examined, and findings summarized.

Lung: Marked vascular and interstitial congestion, regionally extensive edema, extensive hemorrhages and pleural / subpleural

hematomas. There are aggregates of hemosiderophages around medium and large caliber vessels, in pleura, and rarely in alveolar spaces. Few small caliber vessels contain fibrin thrombi while in few others there is margination of neutrophils. 3/30/22. Perl's iron stain. There is blue granular cytoplasmic staining in the aggregates of hemosiderin-laden macrophages, consistent with iron.

Spleen and kidney: Marked congestion

Brain: Moderate congestion.

Stomach, non-glandular mucosa: Multifocal, mucosal ulcers with fibrosis and mild, lymphoplasmacytic infiltrates in underlying submucosa.

**Toxicology**

Reporting Limit (Rep. Limit): The lowest routinely quantified concentration of an analyte in a sample. The analyte may be detected, but not quantified, at concentrations below the reporting limit. Sample volumes less than requested might result in reporting limits that are higher than those listed.

The detected liver mineral results are within acceptable or non-diagnostic ranges for this species.

Adequate liver vitamin E concentrations for horses have been reported in the literature as follows:

- Newborn (1-9 days) > 4.5 ppm
- Infant (10-29 days) > 3.0 ppm
- Juvenile (30-300 days) > 3.0 ppm
- Yearling (301-700 days) > 3.0 ppm
- Adult (>700 days) > 4.5 ppm

No toxic compounds were detected in the tested specimen(s) by our gas chromatography - mass spectrometry (GC/MS) organic chemical screen. The GC/MS screen is designed to potentially detect a large number of organic compounds belonging to diverse chemical classes (pesticides, environmental contaminants, drugs and natural products). Control matrices were obtained to compare analytical results with those obtained from the tested specimen. It is important to point out that identifications of compounds by the screens should be considered unconfirmed (they are most likely present as identified, but additional analysis using pure standards would be necessary for confirmation and, when appropriate, quantification). It is also important to know that a negative result does not necessarily preclude the presence of a chemical of concern since the GC/MS screen is not considered to be comprehensive (there is no single test that can completely rule out the presence of a toxic compound in a tested sample).

**GCMS Screen**

Animal/Source	Specimen	Specimen Type		
[REDACTED]	[REDACTED]	Liver Tissue		
Analyte	Result	Units	Rep. Limit	Units
Negative	See comment under Toxicology	NA	NA	NA

**Heavy Metals Screen-CHRB**

Animal/Source	Specimen	Specimen Type		
[REDACTED]	[REDACTED]	Liver Tissue		
Analyte	Result	Units	Rep. Limit	Units
Arsenic	Not Detected	ppm	0.05	ppm
Cadmium	0.91	ppm	0.3	ppm
Cobalt	0.076	ppm	0.01	ppm
Copper	4.7	ppm	0.3	ppm
Iron	370	ppm	1	ppm
Lead	Not Detected	ppm	1	ppm
Manganese	1.4	ppm	0.1	ppm
Mercury	Not Detected	ppm	1	ppm
Molybdenum	1	ppm	0.4	ppm

Selenium	0.53	ppm	0.02	ppm
Zinc	46	ppm	0.3	ppm

VITAMIN E					
Animal/Source	Specimen	Specimen Type	Results	Units	Rep. Limit
[REDACTED]	[REDACTED]	Liver Tissue	39	ppm	1

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[CAHFS Client Feedback Survey](#)

STATE OF CALIFORNIA  
 CALIFORNIA HORSE RACING BOARD  
 NECROPSY SUBMISSION FORM  
 CHRFB-72 (Rev. 06/04)

Accession# [Redacted] **AN** **12**

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RECEIVED - SAN BERNARDINO  
 FEB 14 AM 7:15

Additional necropsy examination(s) that exceed the standard necropsy or equine special necropsy required by and provided through the California Horse Racing Board (CHRFB) are the responsibility of the requesting individual (SEE REVERSE SIDE).

When a horse dies or is euthanized and the CHRFB Official Veterinarian is not available; the owner's or trainer's attending veterinarian must phone the laboratory within one hour and fax this completed Necropsy Submission Form to the laboratory. A copy of the completed Necropsy Submission Form must be given to the CHRFB Official Veterinarian on the official Veterinarian's next scheduled work day.

Delay of necropsy makes some test results questionable in value. A necropsy will not be performed until the following information has been provided:

Dr. Beck  [Redacted]  
 Name of CHRFB Official Veterinarian  
 Los Alamitos   
 Track Name  
 4961 E. Katella Avenue  
 Address  
 Los Alamitos CA 90720  
 City State Zip Code  
 [Redacted]  
 Phone

Name of Horse  
 6 Thoroughbred   
 Age (years) [Redacted] Breed  
 Sex [Redacted] Castrated  
 Tattoo  Yes#  No. Color and markings  
 Phone  
 Multiple Owner's Yes  No   
 Unknown

Dr. Rebecca Fitzgerald  
 Name of Attending Veterinarian  
 4961 E. Katella Avenue  
 Address  
 Los Alamitos CA 90720  
 City State Zip Code  
 [Redacted]  
 Phone

Adan Farias 268,424  
 Name of Trainer Trainer License #  
 [Redacted]  
 City State Zip Code  
 [Redacted]  
 Phone

or Dr. Rebecca Fitzgerald

Signature (electronically signed or typed)

Medications:  
 Los Alamitos  Past Wire  Synthetic  Main-dirt  Training-dirt   
 Track where injury occurred Location on track where injury occurred  
 History: Died  Euthanized  Agents used for Euthanasia  
 Time of death: 06:15 a.m.  p.m.   
 Horse insured: Yes  No  Unknown

Clinical findings & diagnosis:

Ran race, was being unsaddled when it collapsed.

The injury is related to one of the following:

*Larry J. Beck*  
 Signature of CHRFB Official Veterinarian

Official Form No. [Redacted]



### REQUEST FOR ADDITIONAL NECROPSY EXAMINATION(S)

I accept financial responsibility for all charges from the California Animal Health and Food Safety Laboratory System for the additional necropsy examination(s) requested below which exceed the standard necropsy or equine special necropsy required by and provided through the California Horse Racing Board.

Additional necropsy examination(s) requested:

NONE

Full insurance examination required by insurance company: Yes  No

Insurance Company \_\_\_\_\_ Address \_\_\_\_\_  
Phone \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Fax \_\_\_\_\_

Additional Owner Information:

Name of Owner \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Phone \_\_\_\_\_  
Name of Owner \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Phone \_\_\_\_\_

Print Name \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_