

# Infrared Inspection Report



***David A. Andersen & Associates***

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Equipment: Flir BX320 27.4mm Lens  
S/N 25202715

CLIENT:Ms. Beverly Wright  
 ADDRESS: Clarksville, TN.  
 EMAIL ADDRESS:

HOME PHONE:            WORK PHONE:            CELL PHONE:

INSPECTION ADDRESS:    Clarksville, TN

DATE OF INSPECTION:    21 Feb 2009  
 TIME: 1120am

Subject: Murphy; Equine Scan

**TESTING AIR CONDITIONS**

Dry Bulb Temperature:52.6° F.  
 Wet Bulb Temperature:41.0° F.  
 Relative Humidity:33.5%

**National Weather Service Report**

Date	Time (cst)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond.	Temperature (°F)			Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour	altimeter (in.)	sea level (mb)	1 hr	3 hr	6 hr
21	12:52	SW 10	5.00	Light Rain Fog/Mist	OVC025	42	38		30.06	1018.2	0.06		
21	11:52	SW 15 G 29	7.00	Light Rain	BKN028 OVC042	45	35	51	36	30.07	1018.4	0.01	0.01
21	10:52	SW 18 G 30	10.00	Mostly Cloudy	SCT060 BKN070 BKN085	50	25			30.08	1018.6		

**Description:**

Andersen & Associates was contracted by the client to conduct infrared thermal imaging on a horse that appeared lame on the right front leg. There appeared to be bruising of the sole of the horses right front hoof.

The horse was previously scanned 2008:11:16 for a condition associated with hoof wall separation. These previous thermal imaging scans are being utilized as baseline reference as the horse was determined to be sound through veterinarian examination on this date.

**Findings:**

IR thermology revealed: that in addition to minor stone bruising of the right front hoof, a more substantial injury was present on the left rear leg below the knee. Elevated temperature in the right rear leg was also evident which may be associated with compensation of the injured left rear leg.

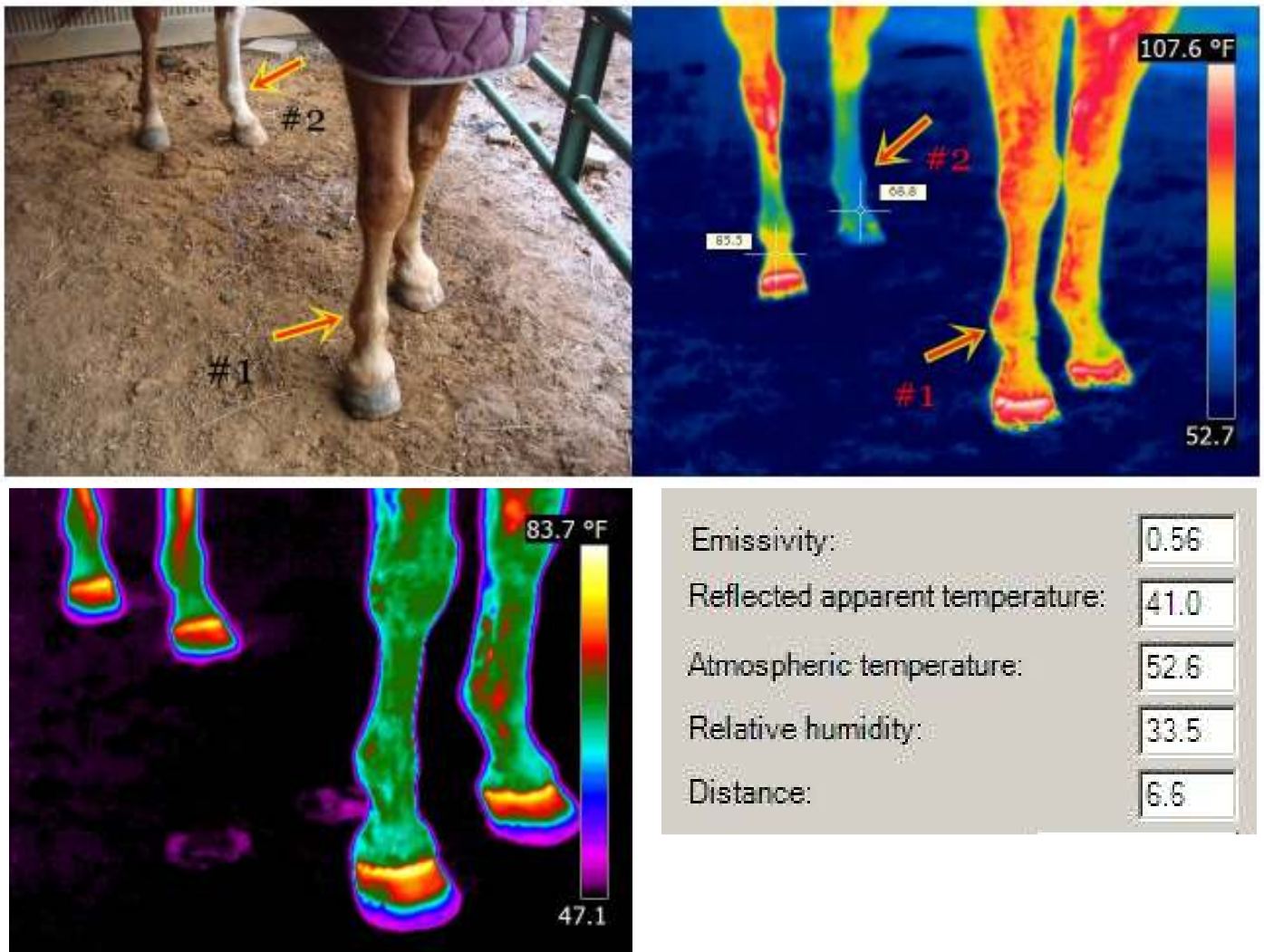
**Location:** View of all four legs from the right front quarter.

**Comments:**

#1 The horse was visibly favoring the right front leg at the fetlock joint. Though there was obvious lameness, there was no indication of significant increased temperature at the fetlock joint which would be an indication of inflammation.

#2 There was a decrease in temperature noted in the left rear leg below the knee. A temperature differential of 16.6°F was noted below the fetlock joint of both rear legs. Occasionally a skin wound will injure underlying arteries and cause decreased blood flow to the area below the injury. Changes such as tingling, burning, numbness, or moderate to severe pain may indicate an injured artery that supplies the blood flow to the leg.

The bottom left scan is a baseline thermograph of the horse after a previous veterinary check indicating no pre-existing condition.

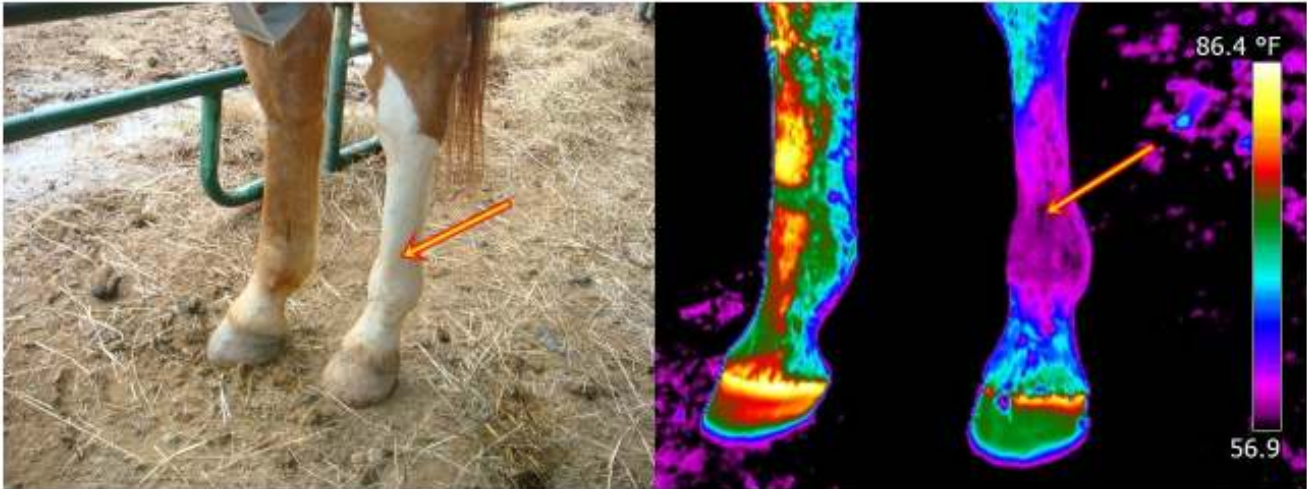


**Location:** Left rear leg view quartering forward.

**Comments:**

A scan comparing both hind legs indicated a temperature differential of 30.9°F. The maximum temperature of the right hind leg was 113.7°F which is above the 100.5°F average rectal temperature of a horse.

Palpation of the left leg indicated extreme sensitivity at the indicated area.



**IR\_0450Ave.jpg**  
Size: 122 KB  
Created: 2009:02:21 11:07:11  
Camera: ThemaCAM BX320  
Lens: FOV 25

**Image Description**  
Hind leg comparison: viewed quartering forward.

Text comments | Object parameters

Emissivity:   
Reflected apparent temperature:   
Atmospheric temperature:   
Relative humidity:   
Distance:

**Measurement**

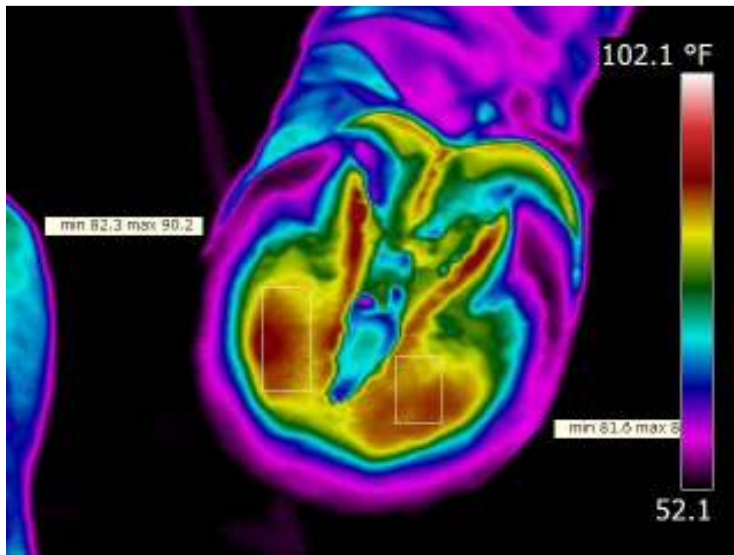
Label	Min	Max	Average
Image	51.1 °F	116.3 °F	
Ar1	84.6 °F	113.7 °F	103.3 °F
Ar2	69.9 °F	74.8 °F	72.4 °F



**Location:** Right front hoof viewed from the rear.

**Comments:** The horse was pointing the right front leg at rest and shows significant reluctance to load bodyweight on this digit when walking.

Thermal scans of the hoof wall and sole did not indicate significant increase in temperature in comparison with the left front hoof.



**IR\_0448.jpg**  
Size: 110 KB  
Created: 2009:02:21 11:03:39  
Camera: ThemaCAM BX320  
Lens: FOV 25

**Image Description**  
Right Front Hoof Sole

Text comments | Object parameters

Emissivity: 0.96  
Reflected apparent temperature: 41.0  
Atmospheric temperature: 52.6  
Relative humidity: 33.5  
Distance: 1.5

Apply

**Measurement**

Label	Min	Max	Average
Image	48.0 °F	91.0 °F	
Ar1	82.3 °F	90.2 °F	86.5 °F
Ar2	81.6 °F	88.1 °F	86.0 °F

**SUMMARY:**

The horse is in significant pain on the right front and left rear legs. The horse was free-roaming at pasture at the time of inspection. It is recommended that the horse be stalled pending veterinary evaluation.

Visual observation of the horse in motion indicates discomfort in the right front leg, however a more significant injury is indicated on the left rear. There is high probability that the front right leg condition is secondary to the left rear injury.

Further, there is indication that considerable strain is being applied to the right rear leg from overcompensation associated with the injury to the left rear and right front.

The horse should be put up and immobilized until further veterinary care can be provided.

Soft tissue injuries are difficult or impossible to detect using other methods of diagnostic imaging. Once the horse regains soundness and no longer shows signs of discomfort, veterinary diagnostic practices are no longer effective. It is recommended that a follow-up thermal imaging scan be conducted prior to placing the horse back into training to ensure total recuperation has been achieved.

If there are any questions concerning the terminology in this report or as to what and how the property elements were inspected feel free to call at any time (615) 406-6808.

  
David A. Andersen

ITC Certified Building Science  
Thermographer #33784  
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