



# Thermal Imaging Report

## Missy Pep Major



*Thermal Imaging completed by  
a Certified Thermographer  
Authorized with the EquineIR™  
Network.*



*Interpretative results  
completed by Licensed  
Veterinarians in contract with  
Integrated Equine Infrared.*



***Equine Resources Imaging Services***  
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**PATIENT:** Missy Pep Major

**THERMOGRAPHY DATE:** July 16, 2013

**IMAGING TIME:** 6:10 pm

August 2, 2013

Laura Stokes  
Box 2227  
Carman, MB R0G 0J0

Dear Laura Stokes:

EquineIR was recently requested to perform a full body thermal imaging scan of: **Missy Pep Major**

The following photo report was completed by your EquineIR™ Certified Thermographer and all interpretative results were channeled through interpretir.com and subsequently formulated and input by a licensed veterinary team member with Integrated Equine Infrared.

The interpretation is intended to aid your state-licensed veterinarian in providing a diagnostic or treatment protocol. All follow-up testing and treatments should be conducted and administered by your primary veterinarian. The interpretation provided is based solely on the conditions at the time of survey and the thermal images included in this report. Thermography is a diagnostic tool that measures heat emitted from the surface of the patient. The thermal imaging camera converts infrared energy into a visible image. Emitted heat is related to circulation; as such, the thermal camera can help detect areas of inflammation as well as decreased circulation. Thermal symmetry is key, so you compare one anatomic area with the same area on the other side. The EquineIR™ report is prepared in this manner. It should be understood that correct patient preparation and environment are vital to a successful survey. Your EquineIR™ technician is also a Certified Infrared Thermographer and has been trained in the proper use and the proven techniques of thermal imaging as it is used with horses. There are however certain situations which may reduce the quality of the survey including the improper preparation of the horse prior to technician's arrival. The interpreting veterinarians who review the imagery base their findings and recommendations on information provided, so it is critical that proper care be taken in the preparation process to ensure success.

Thermal imaging is a physiologic modality and should not be relied upon as the sole diagnostic tool. A complete clinical examination by your state-licensed veterinarian is always recommended for the best diagnosis and follow-up treatment. This Report is not a definitive diagnosis of any illness or disease. It is intended for use only by licensed veterinary professionals to evaluate patient health, diagnose medical conditions, and provide treatment. It is not to be used by individuals for self-diagnosis or self-evaluation, nor for the diagnosis or evaluation of other non-qualified personnel. This report does not replace, nor is intended to replace a complete clinical evaluation by your state-licensed veterinarian. Under no circumstances will EquineIR™, Integrated Equine Infrared or its affiliates be held responsible for illness, injury, or death to the patient as a result of the information contained herein. This report does not replace, nor is intended to replace a complete clinical evaluation.

Your EquineIR™ Technician looks forward to working with you in the future. If you would like to set up an ongoing maintenance imaging program for your horse(s), we can arrange this at discounted rates along with multiple horse discounts. Please call our office with any questions as we would love to assist you in your success.

Sincerely,

*Connie Friesen*

Connie Friesen, *Certified Infrared Thermographer*  
Equine Resources



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## EQUINE CLIENT INFORMATION

**CLIENT NAME:** Laura Stokes  
**MAILING ADDRESS:** Box 2227, Carman, MB R0G 0J0  
**CLIENT EMAIL:** lstokes.rdh@gmail.com  
**CLIENT PHONE:** 807-728-0340

**HORSE AGE:** 8  
**HORSE BREED:** Quarter Horse  
**HORSE PRIMARY USE:** Barrel Racing

## SURVEY INFORMATION

**THERMOGRAPHER:** Connie Friesen  
**INFRARED CERTIFICATION #:** 9036  
**INFRARED CAMERA MODEL:** Flir T420      **CAMERA SERIAL NUMBER:** 62101463  
**NUMBER OF THERMAL IMAGES SUBMITTED:** 30

**WEATHER:** Calm, Sunny, Humid  
**APPROXIMATE TEMPERATURE:** 80 °F  
**IMAGING LOCATION:** Outside in shade

**EXERCISED PRIOR:** Yes      **HOW LONG:** 15 minutes, horse started to sweat      **WHEN:** 5:20pm  
**TYPE OF EXERCISE:** Lunged

**BOOTS OR WRAPS ON HORSE?** Yes, within 12 hours  
**FLYSPRAY OR LINIMENTS APPLIED WITHIN 24 HOURS:** No

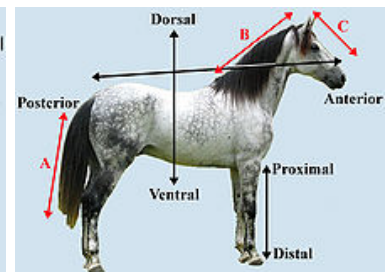
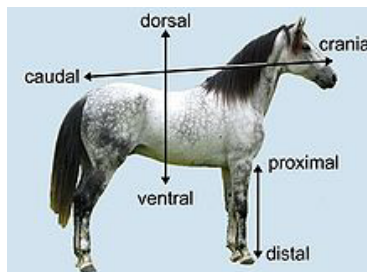
**REASON FOR SCAN or HISTORY RECEIVED:** Competing in barrels 1-3x/week. Working on finding a proper fitting saddle. Always been a bit "cinchy", and will stretch hind feet out behind her when saddle is tightened. Owner has been finding her a bit stiff. Not working well to the left, dropping shoulder and starts bucking on the left barrel turn. Last farrier visit was 4 weeks prior. Vet papers completed by Dr. Paula Conrad for trip into US. Owner states Missy isn't very cooperative with the farrier, will stamp feet down and refusing to lift left hind foot. Wanting to put hind shoes on at the next visit as she wears them down really good. Note: Horse has Lifewave patches at lumbar, as well as many flies present and some can be seen in images. Right side of hock has wet spot present.

## INTERPRETATION INFORMATION (Completed by Veterinarian)

**INTERPRETATION TYPE:** Full Enhanced Survey

**DATE OF INTERPRETATION:** 8/2/2013

**REVIEWING VETERINARIAN:** Joanna Robson, DVM, CIT

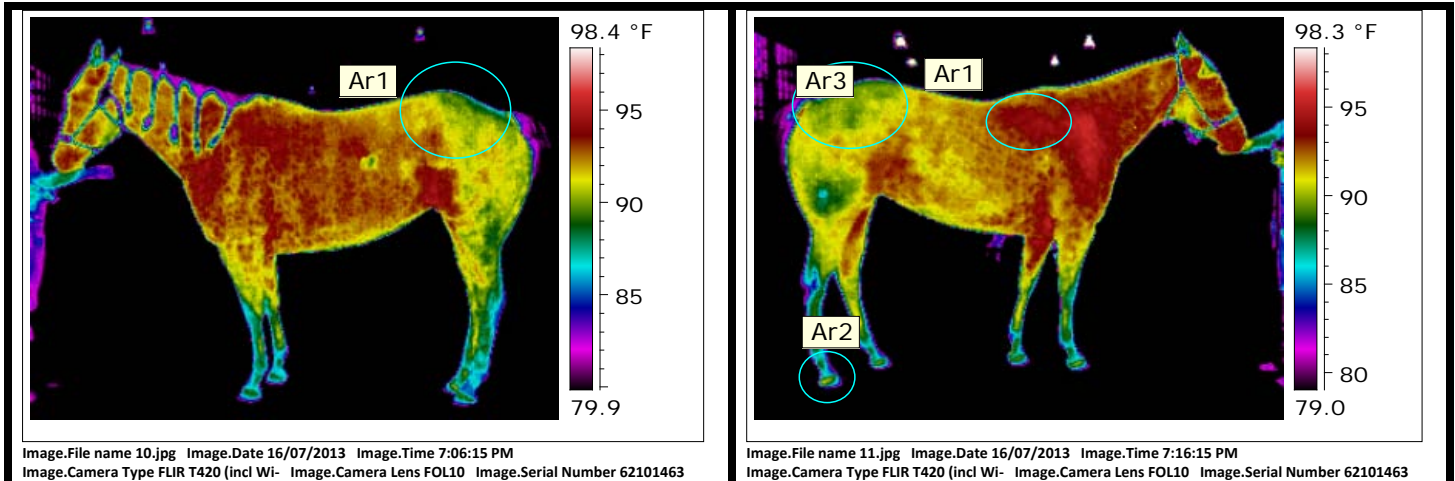




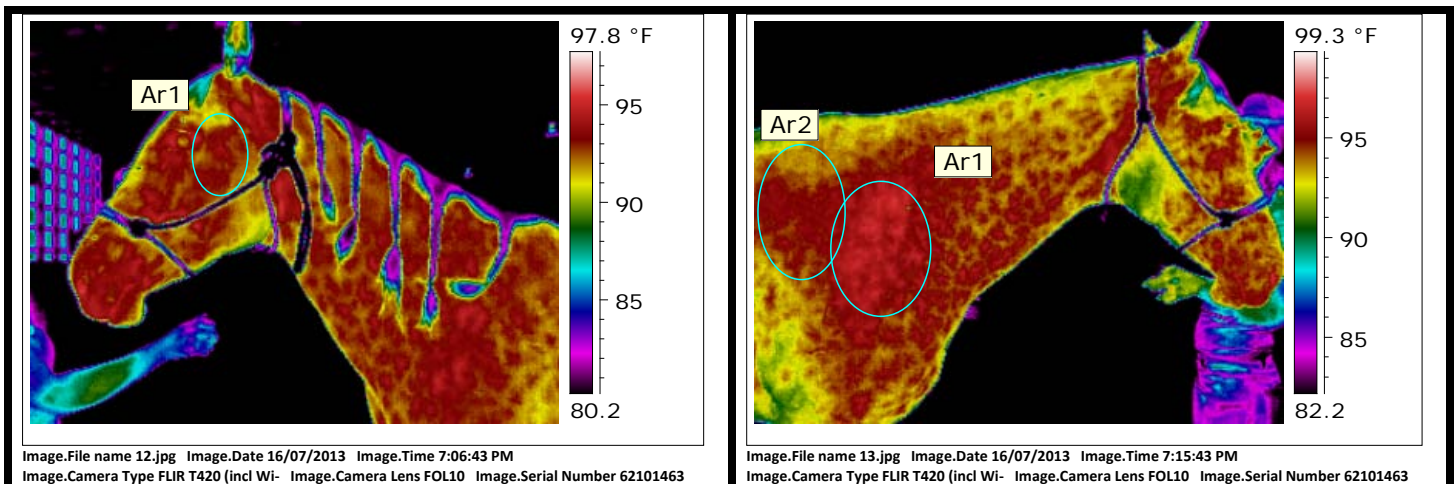
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**Good whole horse lateral views. Extensive inflammation over the right trapezius muscles. Prescapular heat is typical but increased bilaterally suggesting strain. Flank heat is typical. Rump musculing shows chronic strain. Increased heat at the RH foot. Gluteal asymmetry – could be evaporative? as wet spot on RH also noted.**



**Suspicious for TMJ and masseter inflammation on the left; trapezius and prescapular heat again noted on the right. Primary muscle injury of the right scalenus/deeper serratus/traps is indicated.**

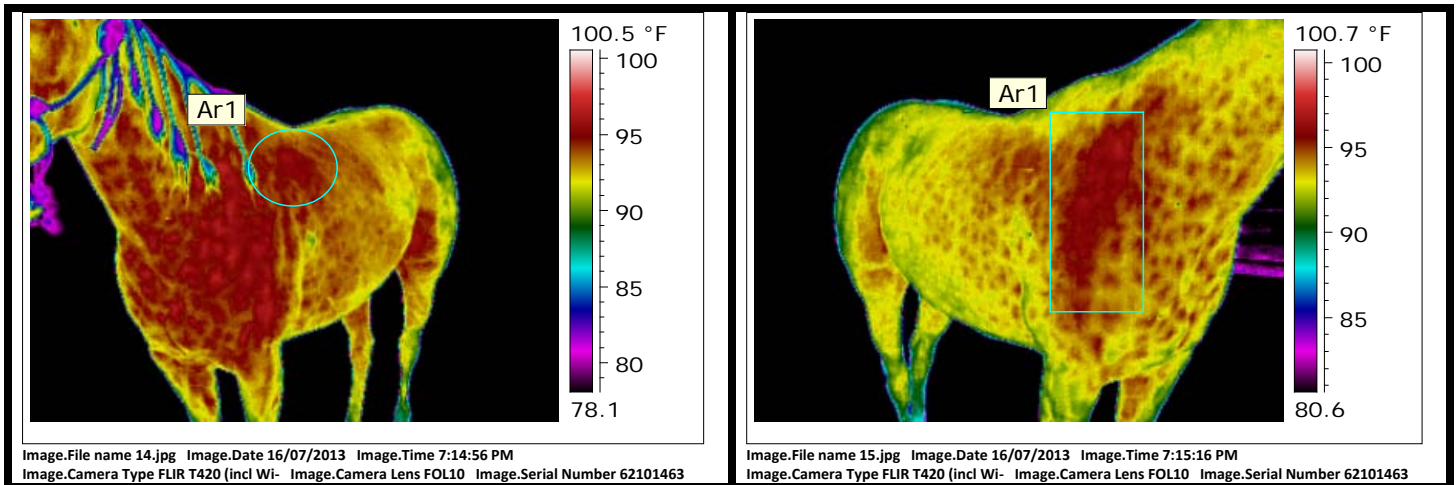




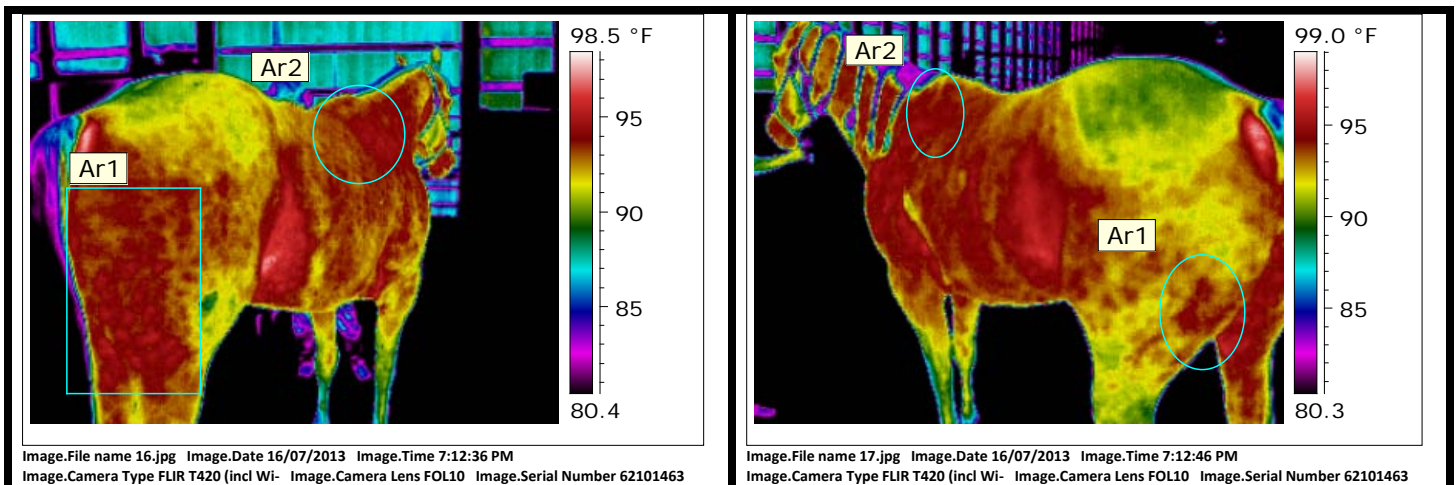
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**Left latissimus/traps inflammation; right muscle injury across the shoulder; localized treatment is needed – massage, rest, ice, acupuncture, anti-inflammatories, etc.**



**There is indication of hamstring inflammation bilaterally, more on the RH; croup cool patterning and asymmetry suggests sacral issues – chiropractic, or chronic gluteal strain. Flank heat is typical; tension lines are noted. Trapezius/shoulders are affected bilaterally.**



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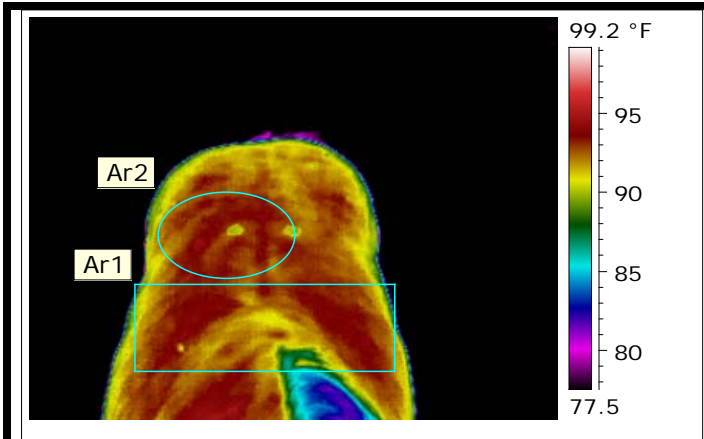


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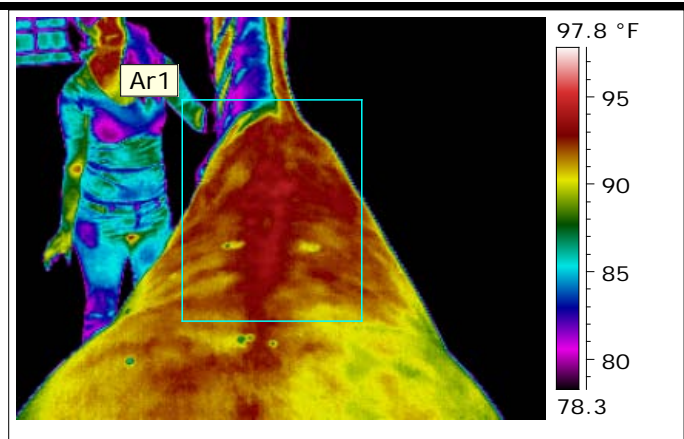


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Heat in the dorsal midline is typical due to the close interface of the skin with the dorsal spinous processes; however, the patterning seen here is indicative of ongoing inflammation, likely secondary to poor saddle-fit, especially on the right traps/latissimus and the left traps. This will create performance problems including bucking, slow turns, knocking barrels, etc. Unable to visualize the croup and tail head for comment in the right view.

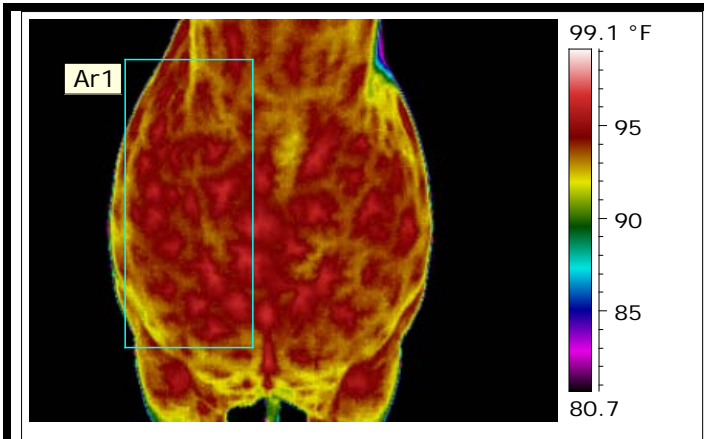


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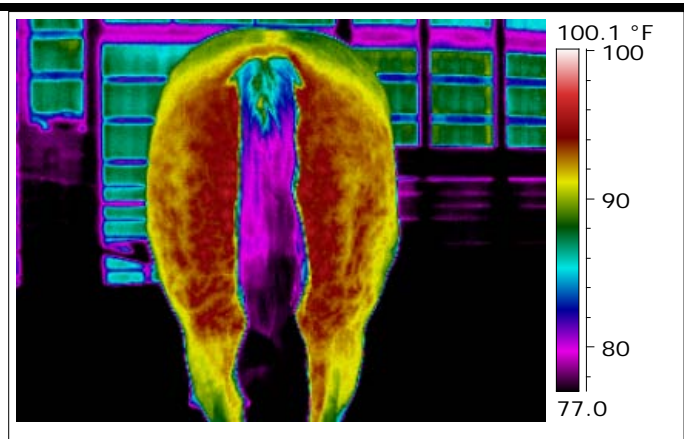


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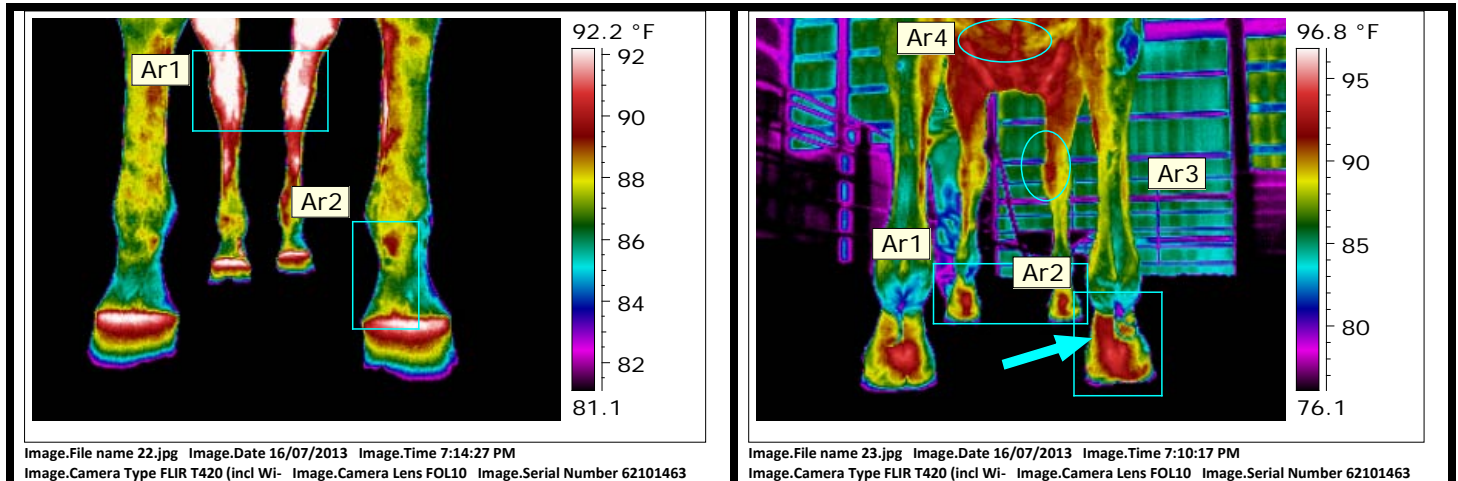
Right shoulder and pectorals increased; more symmetrical hind view here, but hamstrings increase bilaterally (typical for job, but indicating strain); right gluteals repeatedly cooler suggesting imbalanced use.



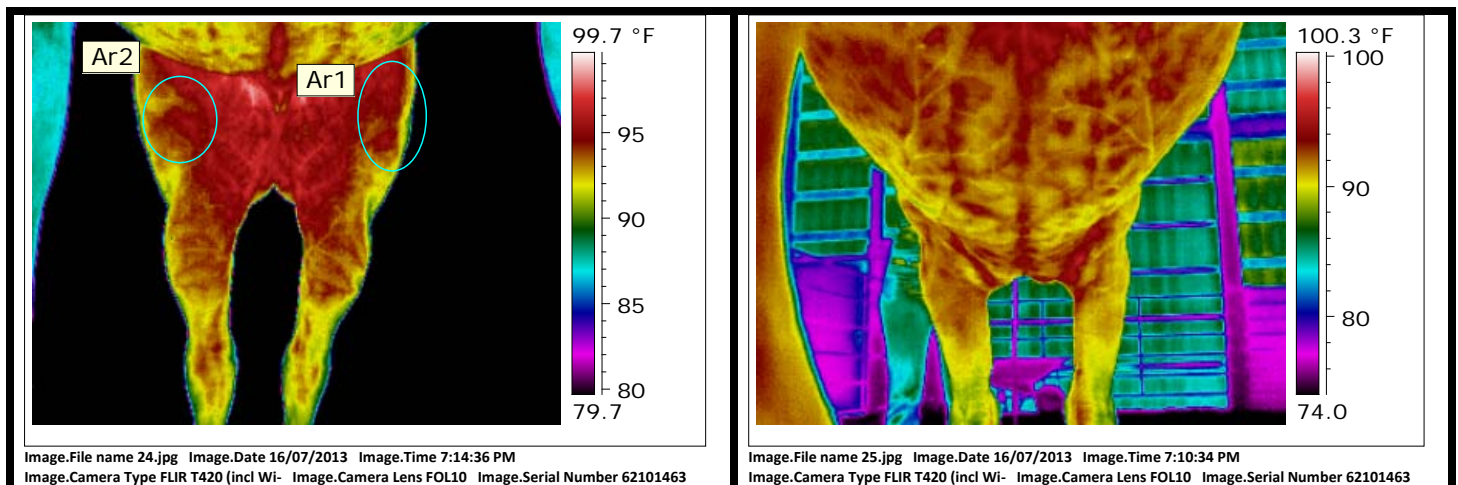
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Tuning altered to highlight lesions. Coronary bands are fairly typical except for an increased RH, and increased LF just lateral to the extensor process or at the collateral ligament area and into the pastern. Radiographs would be useful. Both hocks are slightly increased suggesting tarsitis, more at the RH. The RH shows pathology at the heels and pasterns; both fronts are increased at the heels.



Gaskins look generally symmetrical, with a slight increase at the right hock seen in the above view. Both stifle regions show inflammation which could be secondary, and palpation and flexions would be useful.



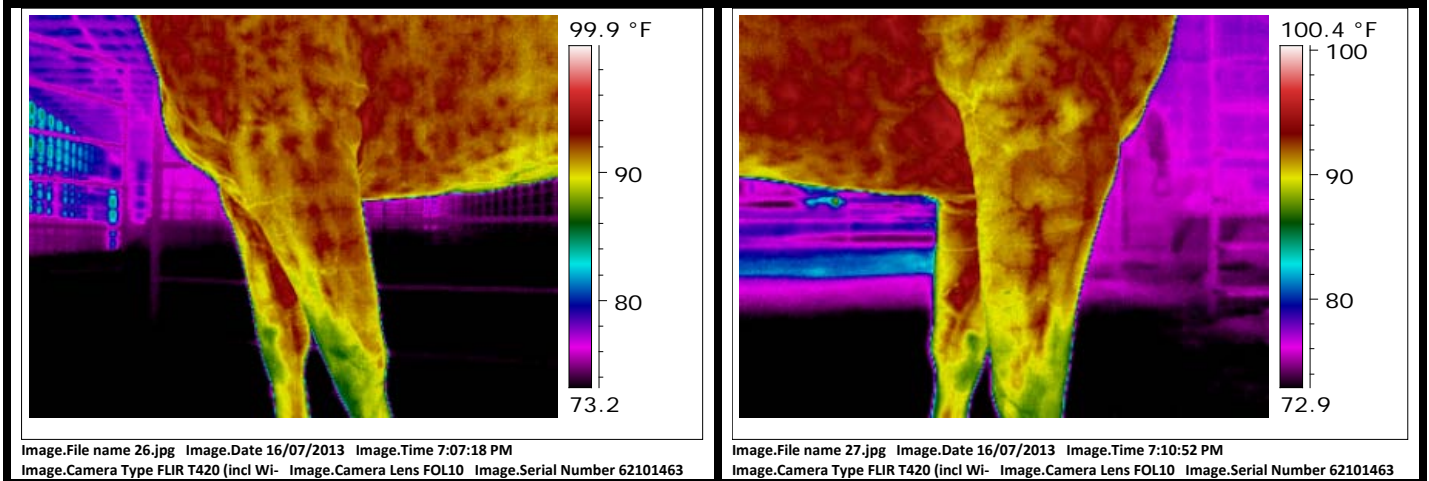


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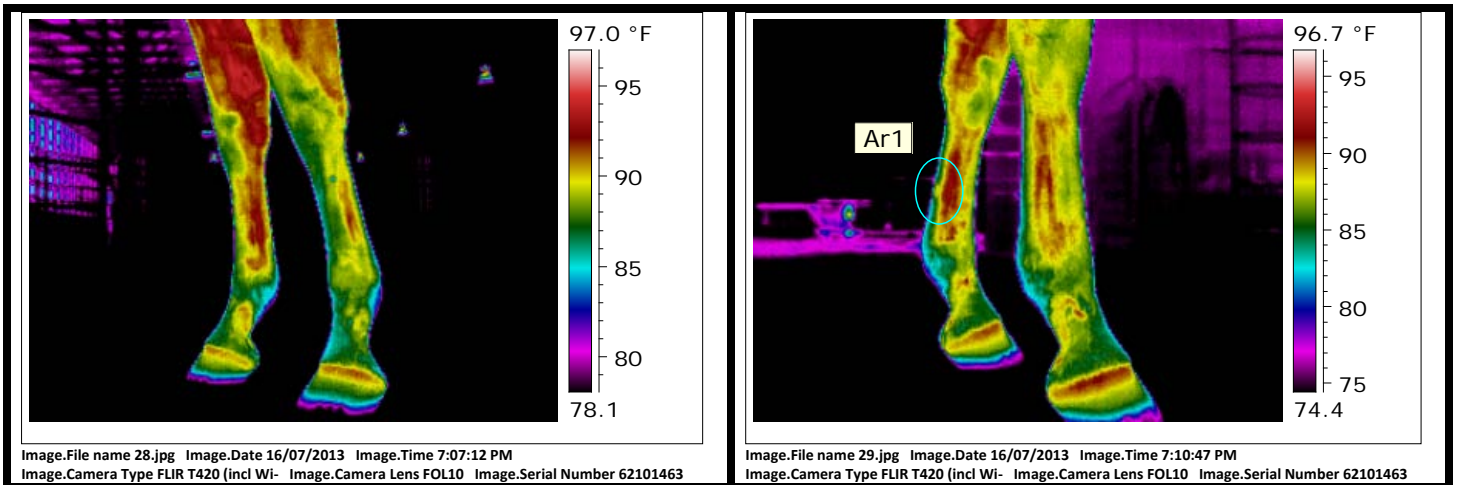
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NSF: No Significant Findings



Distal limbs appear more symmetrical in these views. Coronary bands are fairly typical. Angles appear to be fairly well balanced. There may be some strain at the LF, though this could be in the area of the transverse vessel.

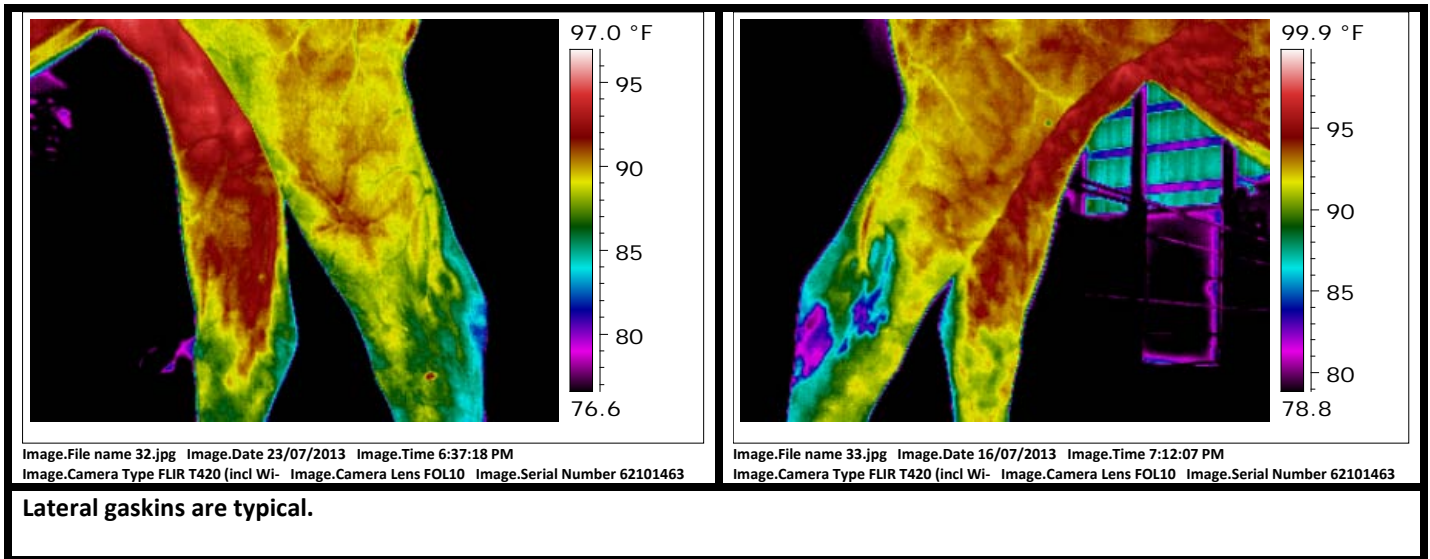
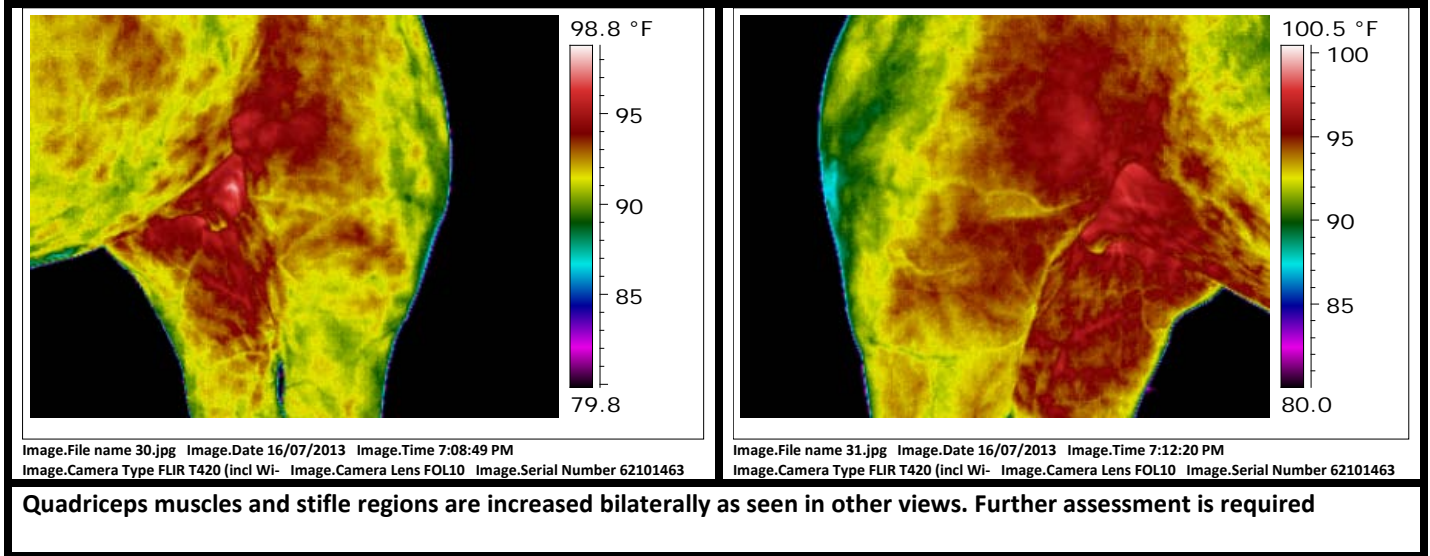




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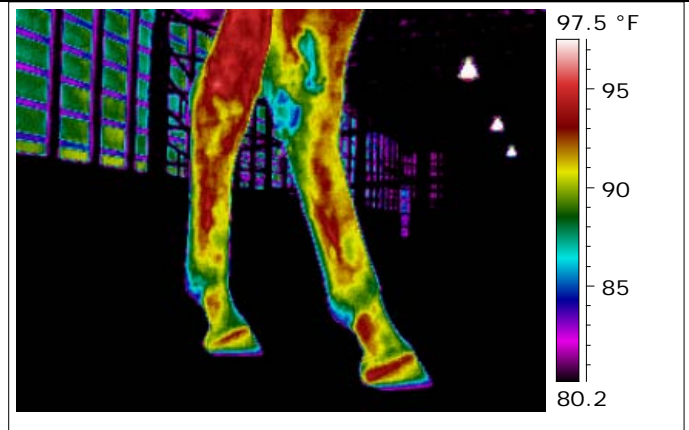
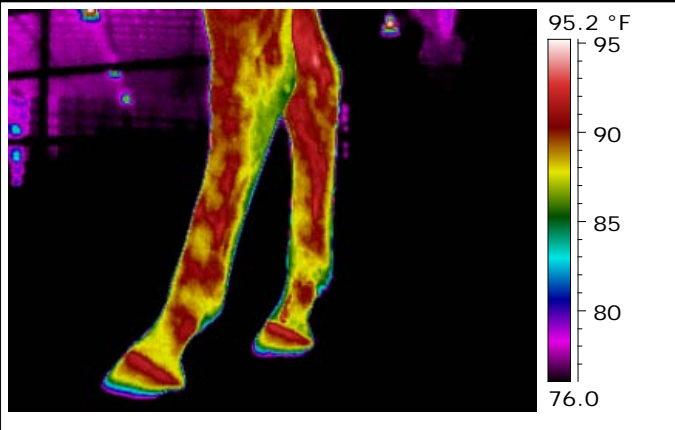


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Image.File name 35.jpg Image.Date 16/07/2013 Image.Time 7:19:38 PM  
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**RH showing more circulatory stress than the LH. Coronary bands are fairly typical for a barefooted horse, with some increase noted at the heels.**

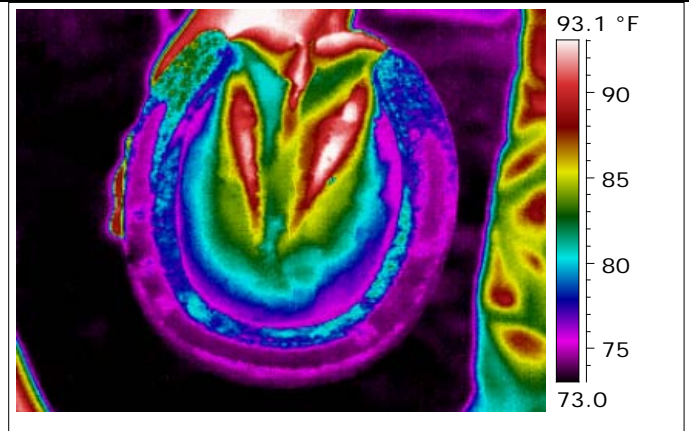
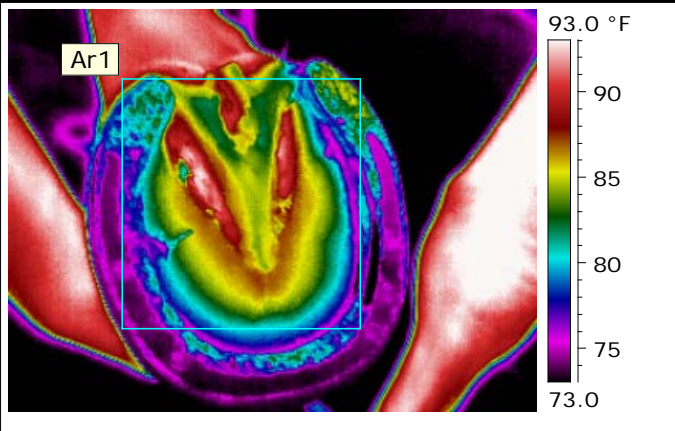


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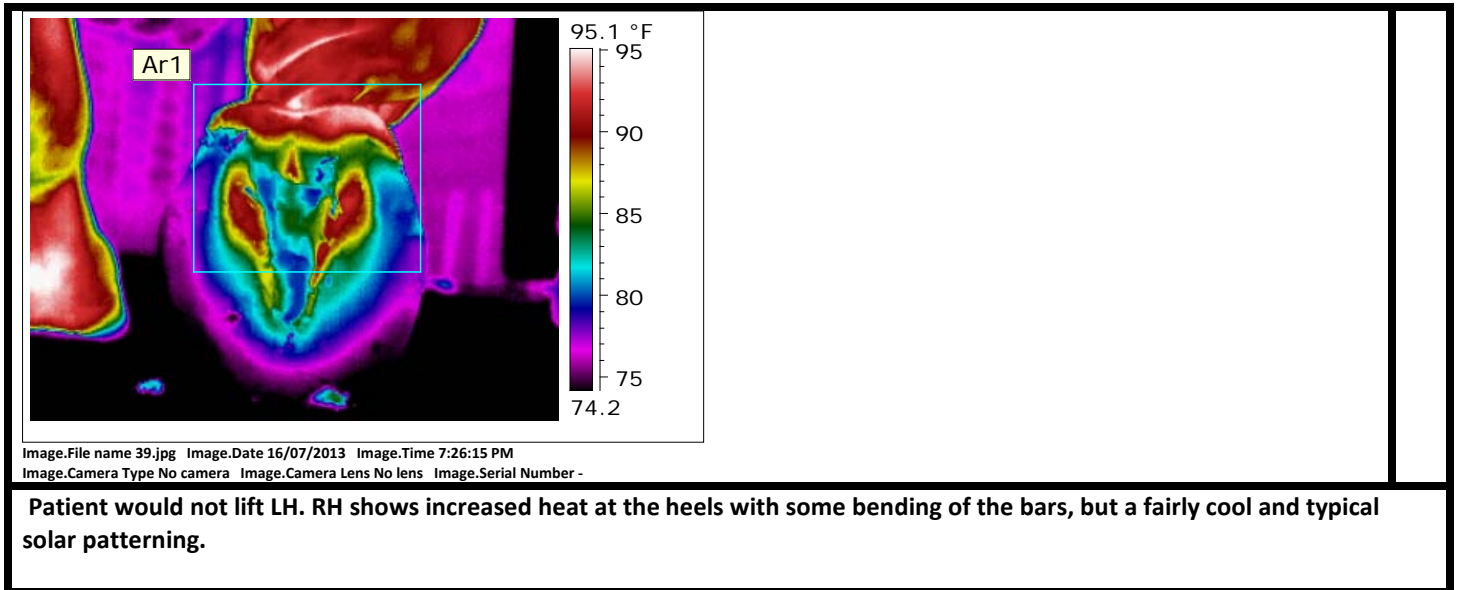
**Increased heat LF solar view, confirms increased circulation seen in other views. Some bending of the bars on the lateral RF with increased heat at the sulci. Medial lateral branch left shoe, medial branch right shoe may be encroaching on the heels and frog.**



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#### **SUMMARY AND RECOMMENDATIONS:**

Missy is a cute mare who appears to be well-suited to her job. However, there are changes here that warrant further evaluation and which are consistent with her performance history.

Most notably, there is inflammation at both trapezius muscles and the right latissimus that is consistent with chronic saddle-fit problems. This mare also shows flank stress lines bilaterally in the plain images, which further suggests poor fitting equipment. Her history of bucking at the left turn is consistent with saddle-pressure impinging on already sore right muscles, in addition to an apparent right shoulder muscle pull. The technician writes that the owner is seeking a better-fitting saddle. I would recommend looking at the Crates Meleta Brown barrel series with the Freedom Tree – an open-angles flared tree which fits many broad horses beautifully and open the shoulder range of motion. This mare also shows signs of a primary muscle pull on the right side across the shoulder, and palpation for pain and soreness is warranted. She may require extended rest and supportive therapy – ice, massage, heat, acupuncture, etc. in order to heal and return to work. Muscle inflammation may take 3-8 weeks to fully resolve. Based on her current patterning, she should not be ridden until inflammation has resolved.

There is a subtle increase in heat at the LF coronary band and pastern, and also in the sole. Some of this may be compensatory strain, but palpation is warranted, and baseline radiographs of the distal limb could be useful. RH medial pastern area is also increased, though only seen in one view, but could



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**suggest a soft-tissue injury at this site, and should be carefully palpated. Not wanting to pick up the Lh could suggest discomfort with standing loaded on the RH. Bilateral stifle soreness would also affect lifting and flexing the hind limbs.**

**The right hock is increased, though neither hock shows a significant pattern of tarsitis, unusual for a barrel horse. The stifles regions/quadriceps muscles however, are increased bilaterally and should be carefully palpated, with flexions, and possibly imaging. She may benefit from joint support – oral, injectable, or intra-articular, based on the attending veterinarian.**

**Bilateral hamstring strain is also present, typical for her use; equine bodywork would be useful to alleviate her muscle tension, and also to address an apparent asymmetry in the gluteals which may be coming from lumbar or sacral changes.**

**Start by addressing the primary muscle inflammation seen here, and use that time to locate a properly fitted saddle. Many changes will subside with rest, time, and correct tack, then remaining issues can be properly addressed.**

**Thank You!**

Reviewing Veterinarian: Joanna Robson, DVM, CVSMT, CMP, CVA, CSFT, CIT

