



Jodie & Warren Woroniecki  
7075 28<sup>th</sup> St.  
Hebron, ND 58638  
701-878-4088

Check us out online at-----  
[www.WoronieckiRanchQuarterHorses.com](http://www.WoronieckiRanchQuarterHorses.com)  
Or email, call or stop by the ranch  
[woronieckiranch@westriv.com](mailto:woronieckiranch@westriv.com)

## **7 Identified Diseases Information as it Pertains to Woroniecki Ranch Quarter Horses**

At Woroniecki Ranch Quarter Horses we take an ethical response to any genetic diseases as they are identified. AQHA previously had a 5-panel test requirement for breeding stallions since 2015. Two more diseases have been identified and AQHA has now required a 6-panel test. A 7<sup>th</sup> disease has been identified and could soon be added to the panel. We, as well as many other breeders, have decided to test for that (EJSCA). We also know that there could be many more diseases yet to be discovered. We order our tests through the VGL laboratory of the School of Veterinary Medicine at the University of California, Davis and provide those results to AQHA and buyers. VGL is internationally recognized as a pioneer and expert in DNA-based animal testing. The effects of these equine diseases are wide-ranging, from mild and manageable to severe and terminal. We have compiled a short description of each disorder tested. **In many instances we only test the necessary specific test based upon the parents' test results. If both parents are N/N on all or some diseases then the offspring is also N/N on those diseases by default. Please see ALL PAGES of this document link.**

**Glycogen Branching Enzyme Deficiency (GBED)** is a fatal genetic disorder that results from the inability to correctly store glycogen in several organs of the body. Most die within couple weeks of age, but none have been known to survive more than 2 months of age. These foals are often still born. **GBED is a recessive trait and only horses that inherit both recessive genes from each parent (G/G) will be afflicted. Carriers (N/G) and non-carriers (N/N) will have no problems in their lives as they will NOT be afflicted at all, and they will be able to perform all performance activities. If you decide to breed a carrier (N/G) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

**Hereditary Equine Regional Dermal Asthenia (HERDA)** is an inherited skin condition primarily found in Quarter Horses that is characterized by hyperextensible skin, scarring, and severe lesions along the back of affected horses. **HERDA is a recessive trait and only horses that inherit both recessive genes from each parent (HDR/HDR) will be afflicted. Carriers (N/HDR) and non-carriers (N/N) will have no problems in their lives as they will NOT be afflicted at all, and they will be able to perform all performance activities. If you decide to breed a carrier (N/HDR) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

**Hyperkalemic Periodic Paralysis (HYPP)** is an inherited disease of the muscles primarily found in Quarter Horses which is characterized by sporadic episodes of muscle tremors or paralysis. **HYPP is a dominant trait and carriers (N/H) will be afflicted but can be managed with careful nutritional care. It is highly recommended NOT to breed a carrier.**

**Formerly known as IMM, Myosin-heavy chain myopathy (MYHM)** is a muscle disease in Quarter Horses and related breeds that results in two distinct clinical disease presentations. The first presentation is called immune-mediated myositis or IMM and it is characterized by episodes of severe muscle atrophy following an autoimmune event. The second is severe muscle pain and damage termed non-exertional rhabdomyolysis or "tying-up" that is not associated with exercise and may or may not have muscle atrophy. **MYHM is a codominant trait and carriers (N/My) may develop a myosin-heavy chain myopathy. Horses with (My/My) may develop a more severe form of a myosin-heavy chain myopathy. It is highly recommended NOT to breed a carrier.** After consulting with veterinarians and experts in breeding who deem this disorder to not be as severe or common as HYPP or PSSM1, we have decided at this time to continue to breed certain individuals identified at WRQH. We will not breed carriers to carriers to minimize the potential. We have several aged horses that carry MYHM and have had no problems with them. If things prove differently, we will adjust at that time.

**Malignant Hyperthermia (MH)** is an inherited disease in which affected horses can be triggered by halogenated anesthetics, succinylcholine, stress, or excitement, which can induce a hyper-metabolic state characterized by symptoms including muscle contracture, elevated temperature, and an irregular heart rhythm. **MH is a dominant trait, and carriers (N/MH) will be afflicted if undergoing surgery or extreme stress. It is highly recommended NOT to breed a carrier.**

**Polysaccharide Storage Myopathy (PSSM1)** is a glycogen storage disease that results in the accumulation of abnormal complex sugars in muscle cells, which can lead to muscle pain, weakness, and reluctance to move. **PSSM1 is a dominant trait but carriers (N/PSSM1) can be managed with proper diet and exercise. It is highly recommended NOT to breed a carrier.**

**Equine Juvenile Spinocerebellar Ataxia (EJSCA)** is an inherited neurologic disease that causes ataxia. Affected foals develop ataxia, or incoordination, between 1 and 4 weeks of age. The disorder progresses within a few days until affected foals are unable to stand without assistance. **EJSCA is a recessive trait and only horses that inherit both recessive genes from each parent (JSA/JSA) will be afflicted. Carriers (N/JSA) and non-carriers (N/N) will have no problems in their lives as they will NOT be afflicted at all and they will be able to perform all performance activities. If deciding to breed a carrier (N/JSA) it is highly advised to not breed to another carrier to avoid producing afflicted offspring.**

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**Journey Topsail JW (AQHA)**  
**2026 Black Mare**

**All results are N/N through parentage and genetic testing.**  
**Only genes for which a parent carries a copy of the variant were tested.**

|              |     |
|--------------|-----|
| GBED Status  | N/N |
| HERDA Status | N/N |
| HYPP Status  | N/N |
| MYHM Status  | N/N |
| MH Status    | N/N |
| PSSM1 Status | N/N |
| EJSCA Status | N/N |

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## GLYCOGEN BRANCHING ENZYME DEFICIENCY (GBED) TEST REPORT

|                                                                                                      |  |                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Provided Information:</b><br><b>Name:</b> JOURNEY TOPSAIL JW<br><b>Registration:</b> AQHA PENDING |  | <b>Case:</b> NQ139991<br><b>Date Received:</b> 22-Jun-2026<br><b>Report Issue Date:</b> 29-Jun-2026<br><b>Report ID:</b> 2064-9805-3093-5120<br><br>Verify report at <a href="http://vgl.ucdavis.edu/verify">vgl.ucdavis.edu/verify</a> |
| <b>DOB:</b> 05/12/2026 <b>Sex:</b> Mare <b>Breed:</b> Quarter Horse                                  |  |                                                                                                                                                                                                                                         |
| <b>Sire:</b> GOLDUN TOPSAIL<br><b>Reg:</b> 5857711<br><b>Microchip:</b>                              |  | <b>Dam:</b> ANGEL LACE REED JW<br><b>Reg:</b> 5629044<br><b>Microchip:</b>                                                                                                                                                              |

### RESULT

### INTERPRETATION

|                                                    |            |
|----------------------------------------------------|------------|
| <b>Glycogen Branching Enzyme Deficiency (GBED)</b> | <b>N/N</b> |
|----------------------------------------------------|------------|

Normal. No copies of the GBED allele detected.

## HORSE COAT COLOR / PATTERN TEST REPORT

|                                                           |                           |                                                                                     |                           |
|-----------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|---------------------------|
| <b>Provided Information:</b>                              |                           | <b>Case:</b>                                                                        | <b>NQ139991</b>           |
| <b>Name:</b>                                              | <b>JOURNEY TOPSAIL JW</b> | <b>Date Received:</b>                                                               | 22-Jun-2026               |
| <b>Registration:</b>                                      | <b>AQHA PENDING</b>       | <b>Report Issue Date:</b>                                                           | 30-Jun-2026               |
|                                                           |                           | <b>Report ID:</b>                                                                   | 7080-8264-9386-3177       |
|                                                           |                           | Verify report at <a href="http://vgl.ucdavis.edu/verify">vgl.ucdavis.edu/verify</a> |                           |
| <b>DOB: 05/12/2026   Sex: Mare   Breed: Quarter Horse</b> |                           |                                                                                     |                           |
| <b>Sire:</b>                                              | <b>GOLDUN TOPSAIL</b>     | <b>Dam:</b>                                                                         | <b>ANGEL LACE REED JW</b> |
| <b>Reg:</b>                                               | <b>5857711</b>            | <b>Reg:</b>                                                                         | <b>5629044</b>            |
| <b>Microchip:</b>                                         |                           | <b>Microchip:</b>                                                                   |                           |

| RESULT                                  |                | INTERPRETATION                                                    | RESULT                   |               | INTERPRETATION                                        |
|-----------------------------------------|----------------|-------------------------------------------------------------------|--------------------------|---------------|-------------------------------------------------------|
| RED FACTOR                              | <b>E/E</b>     | No red factor detected. Offspring cannot be chestnut/sorrel.      | SPLASHED WHITE           |               | Not requested.                                        |
| AGOUTI                                  | <b>a/a</b>     | If present, black pigment is distributed uniformly over the body. | TOBIANO                  |               | Not requested.                                        |
| CREAM                                   | <b>N/N</b>     | No copies of Cream dilution detected.                             | LEOPARD                  |               | Not requested.                                        |
| PEARL                                   | <b>N/N</b>     | No copies of Pearl dilution detected.                             | PATTERN-1                |               | Not requested.                                        |
| SILVER                                  | <b>N/N</b>     | No copies of Silver dilution detected.                            | BRINDLE 1                |               | Not requested.                                        |
| DUN                                     | <b>nd1/nd1</b> | Horse is not Dun dilute but may have primitive markings.          | TIGER EYE                |               | Not requested.                                        |
| CHAMPAGNE                               | <b>N/N</b>     | No copies of Champagne dilution detected.                         | MUSHROOM (SHETLAND PONY) |               | Not requested.                                        |
| LETHAL WHITE OVERO                      |                | Not requested.                                                    | GRAY PRESENCE OR ABSENCE | <b>Absent</b> | Gray variants were not detected. Horse will not gray. |
| SABINO 1                                |                | Not requested.                                                    | ROAN                     |               | Not requested.                                        |
| DOMINANT WHITE (W5, W10, W13, W20, W22) |                | Not requested.                                                    |                          |               |                                                       |