

Butterfield Overland National Historic Trail Digitization Methodology and Application



L O G A N S I M P S O N

Introduction and Contents

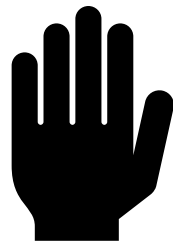
Brian Taylor – Logan Simpson GIS Analyst

Mary Geisinger – Logan Simpson GIS Analyst

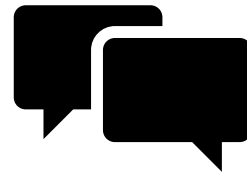
Brian Deaton – National Park Service



Keep Microphones Muted



Raise Your Hand for
Questions



Utilize the Chat!

Background of the Trail



Mail route connecting Missouri/Arkansas to California



Period of Significance
1858 -1861



Designated as a National Historic Trail in 2023



Original Length - 3,292 miles



The Texas Frontier
AND THE
Butterfield Overland Mail,
1858-1861



GLEN SAMPLE ELY

Established Data and Historic Resources

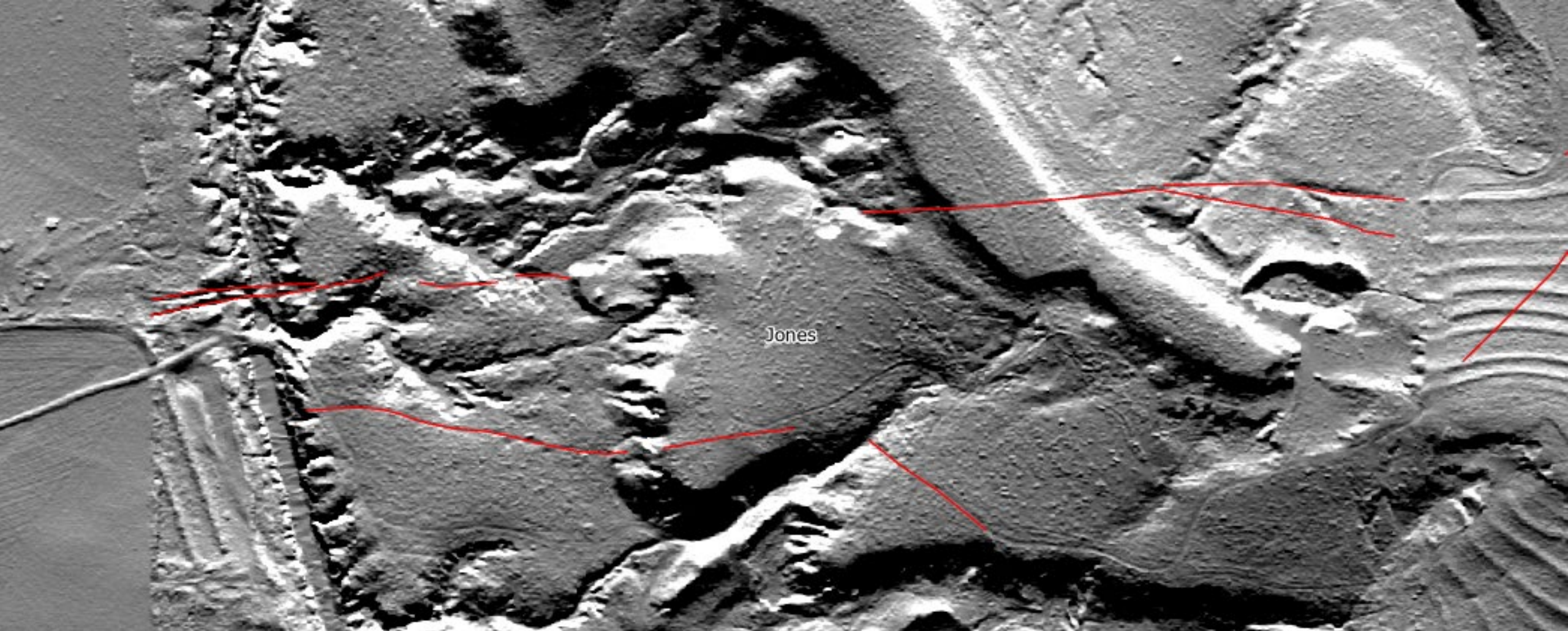
- i** USGS and General Land Office Maps 1850s -1890s (pre-digitized)
- i** Textbooks and other educational texts such as The Texas Frontier and the Butterfield Overland Mail 1858-1861
- i** Local research and landmarks
- i** Historic accounts and articles
- i** Historic scanned maps



Reference Data

Public data was utilized to compare impressions on the landscape to insure a higher degree of confidence with the digitization of potential traces:

- ✓ National highway and roads
- ✓ State highway and roads
- ✓ Natural gas pipelines
- ✓ Transmission lines
- ✓ National Hydrology Database – Wetland and Streams
- ✓ Aerial Imagery
- ✓ USGS topographical maps
- ✓ USGS Digital elevation models (DEMs)

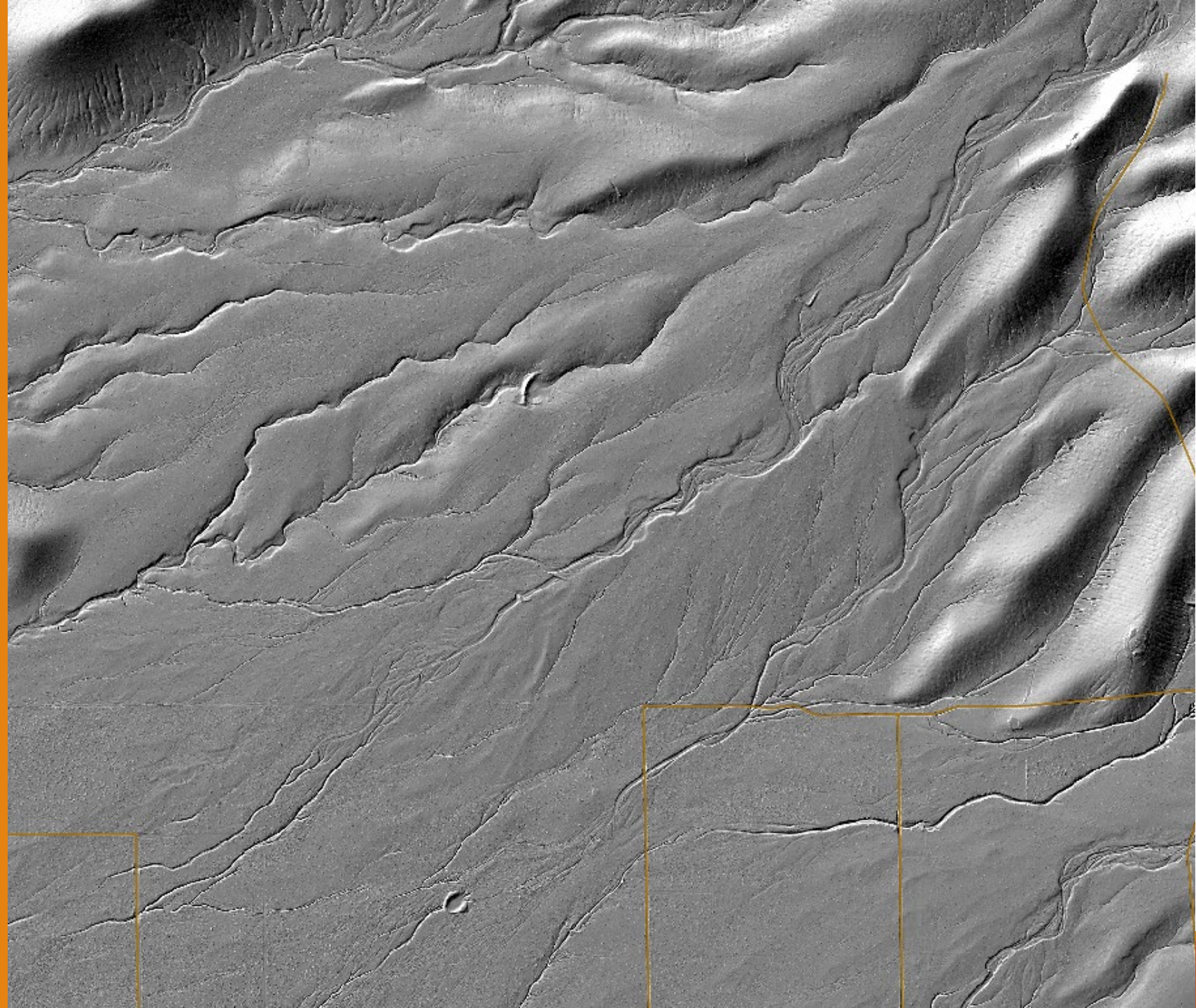


Step by Step Digitization

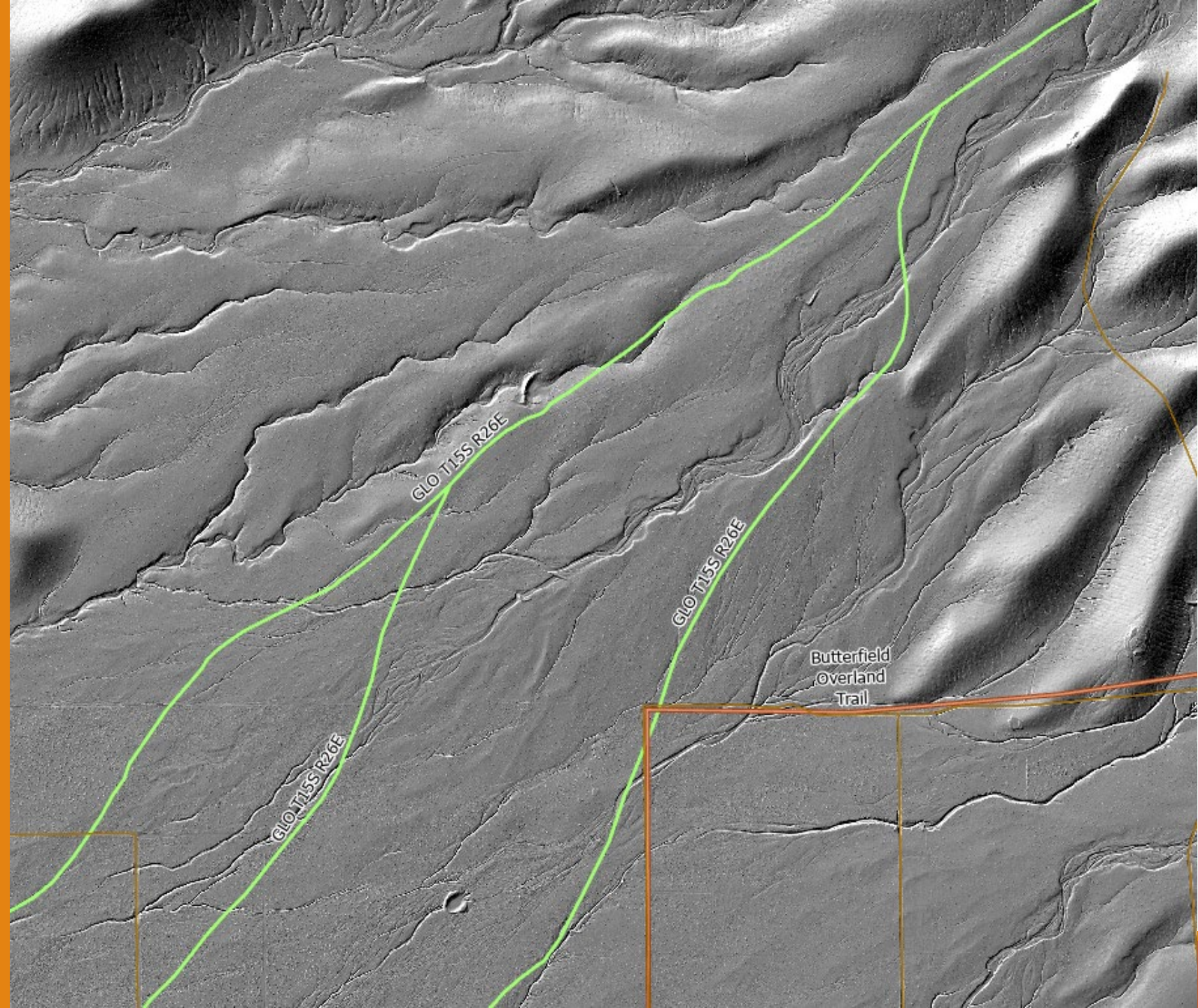
Base – Aerial
Imagery and
Modern
Reference Data



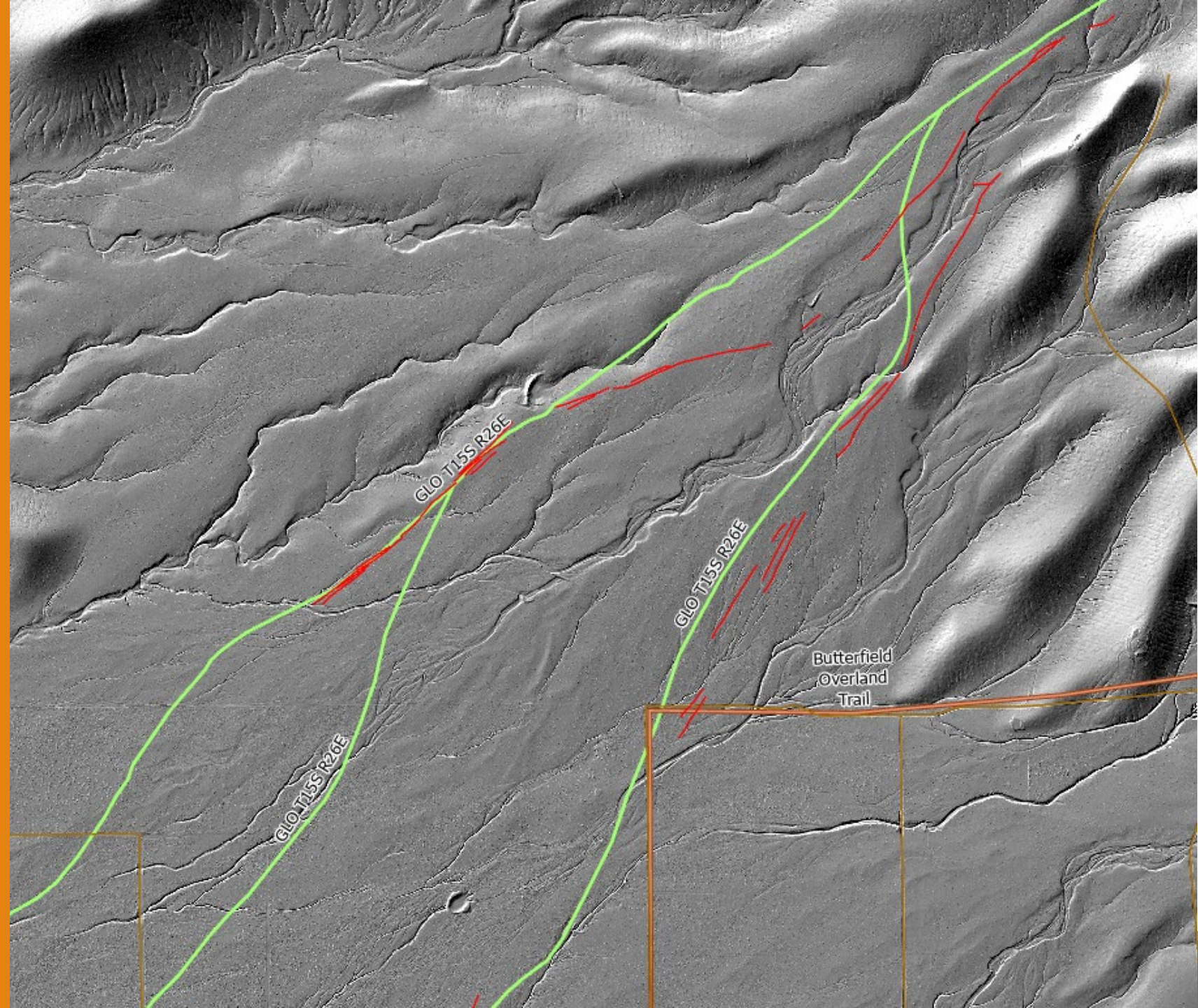
Source Map –
LiDAR Rendered
Hillshades



Historic References
– GLO and
Kirby Sanders
Feasibility Study



The Trail Traces

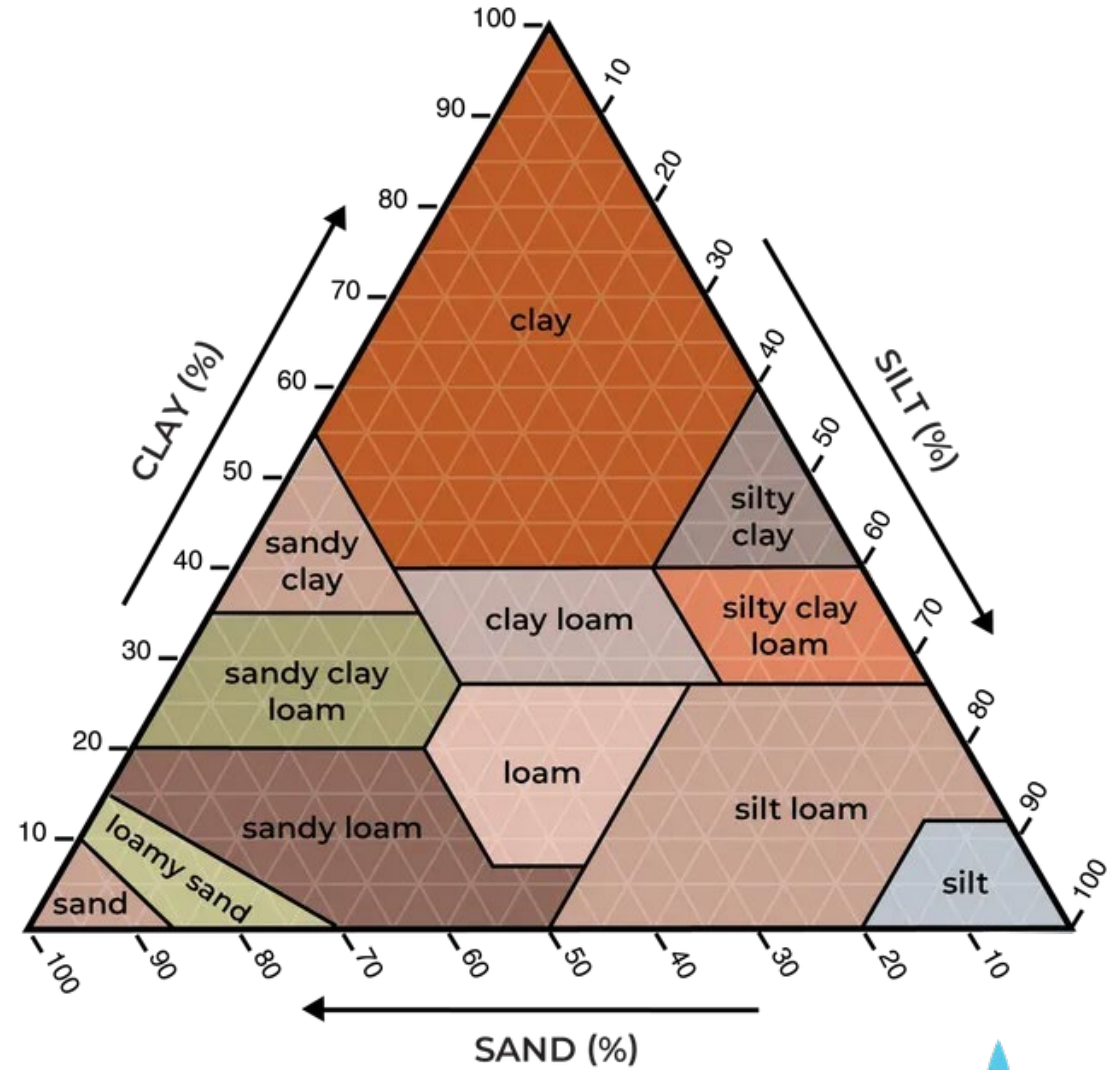




Soil Type Impressions



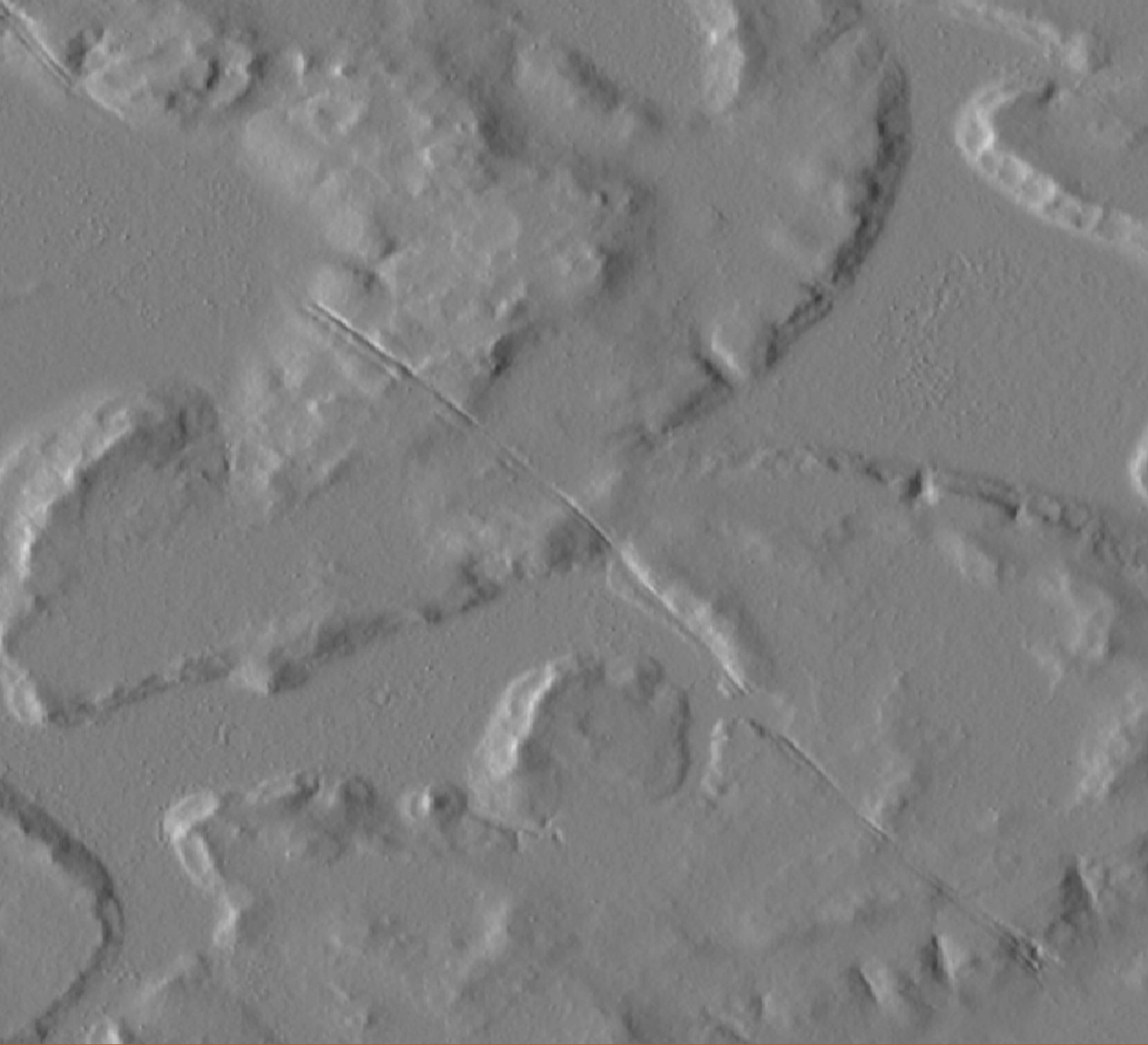
Soil types



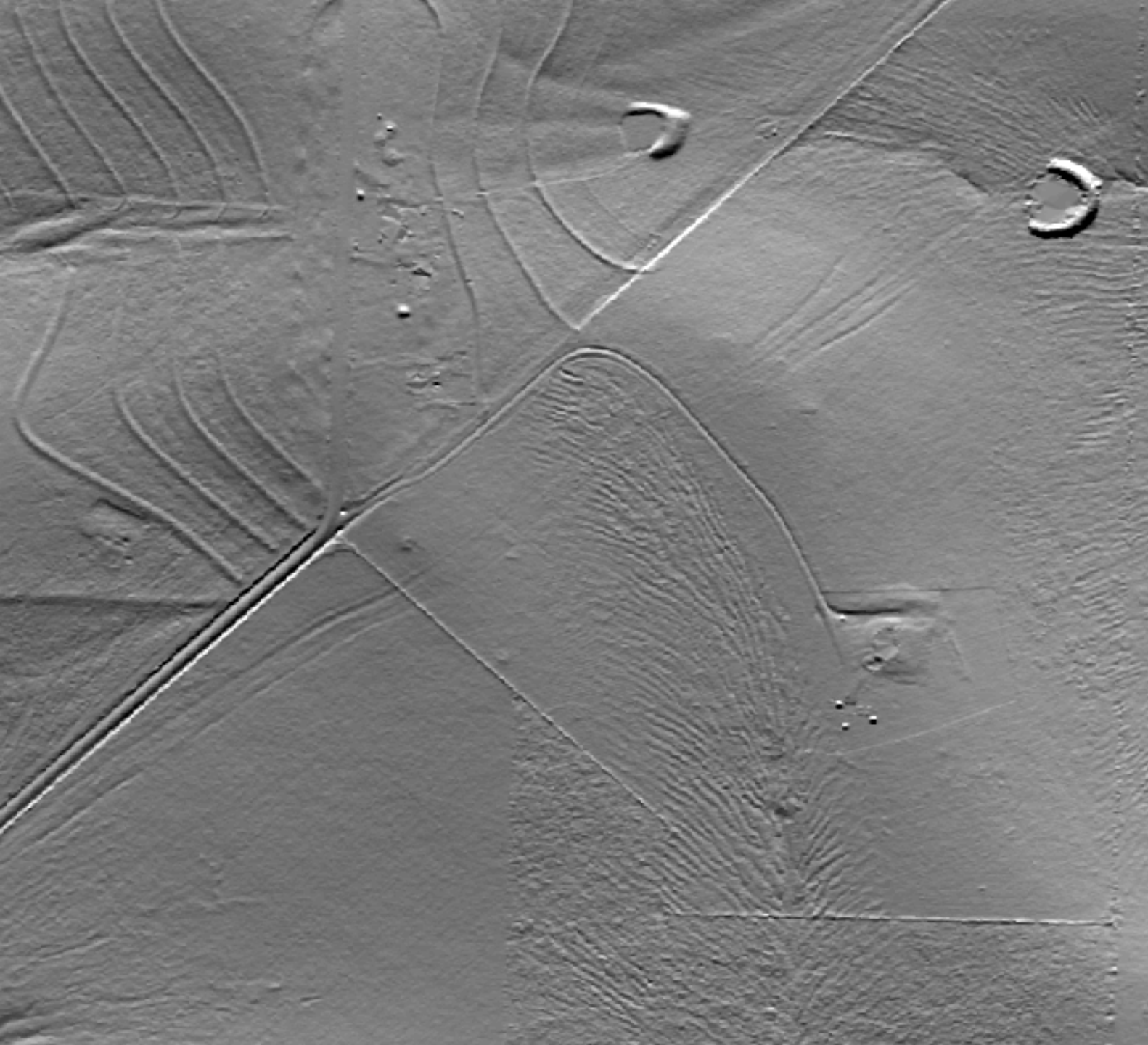
USDA soil textural triangle

Source: National Agronomy Manual, USDA

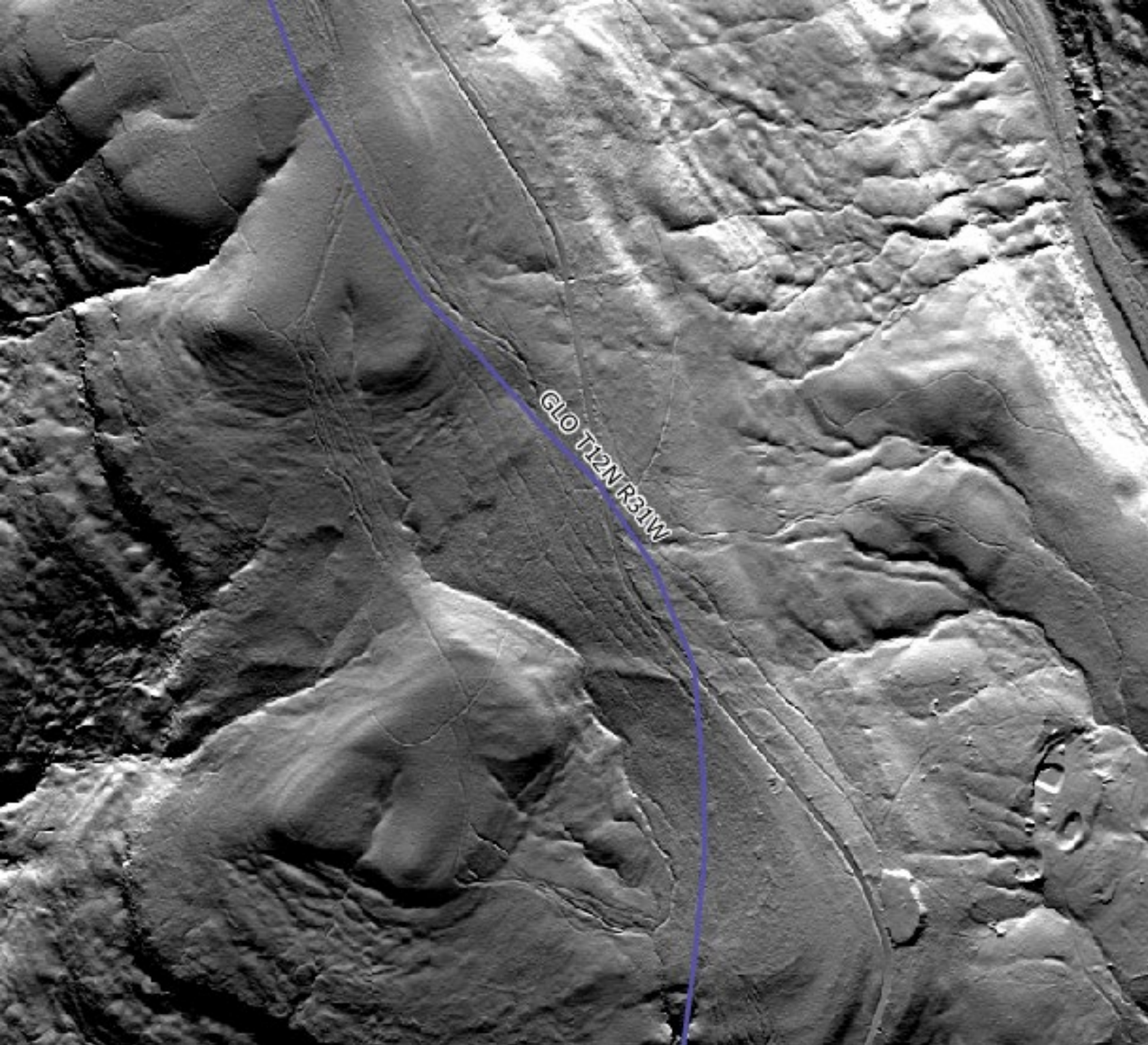




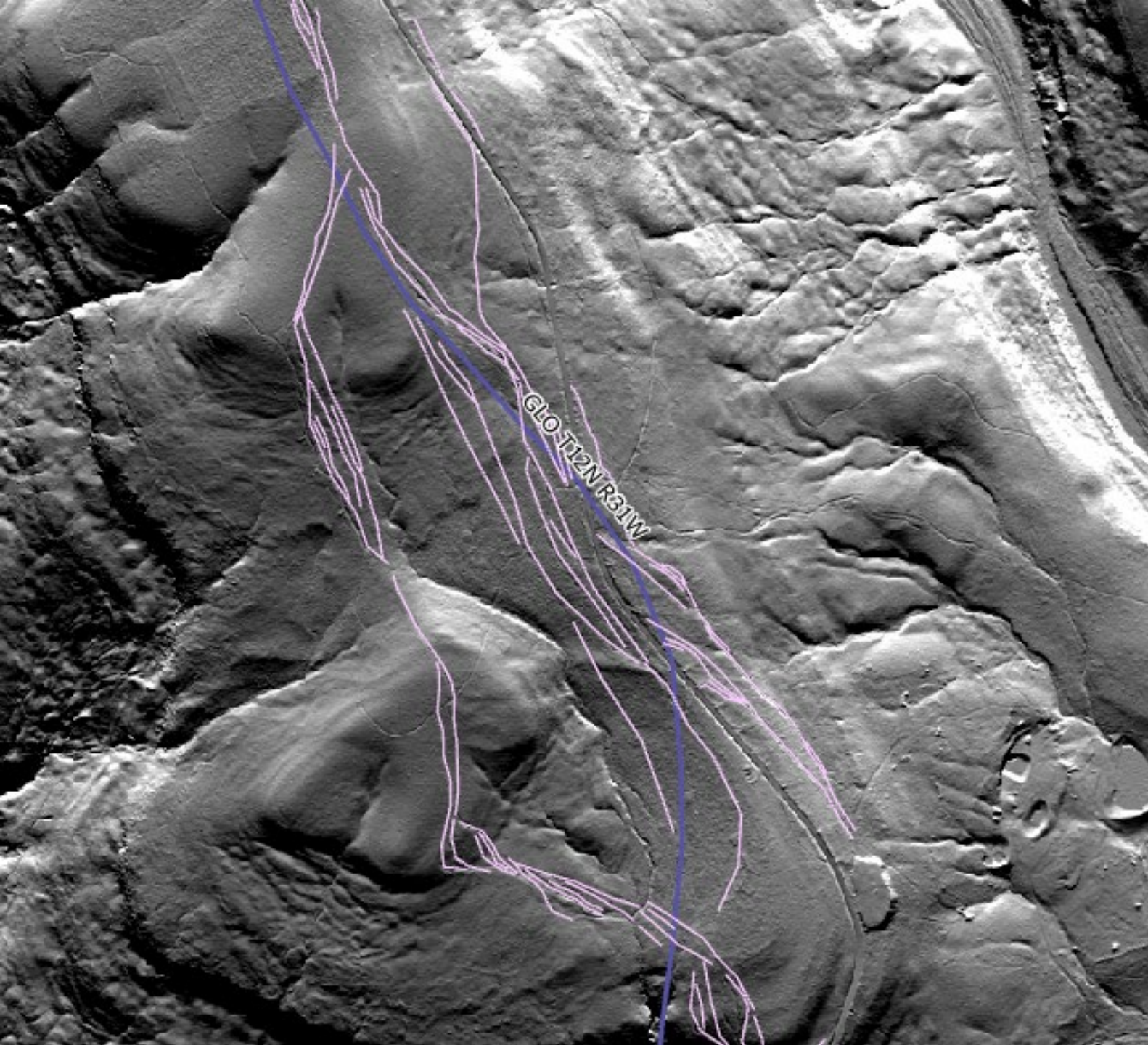
Sandy



Clay



Silt/Loam



Silt/Loam

Modern Impacts



Transmission Lines



Pipeline scarring



Roads – paved and gravel



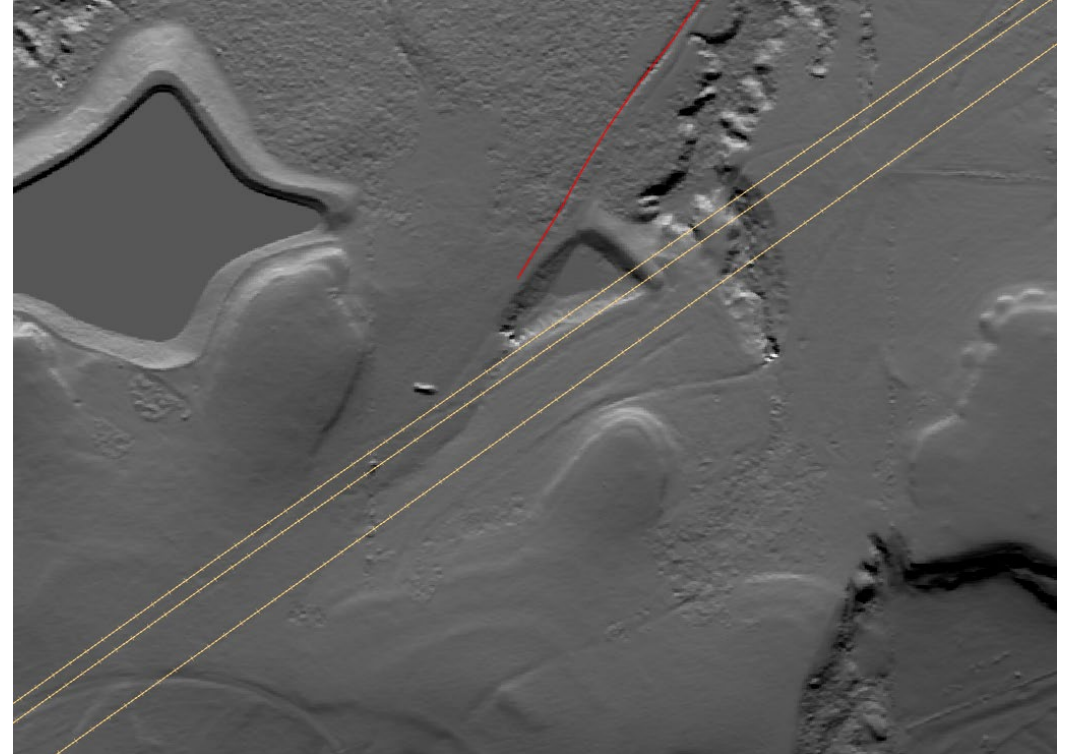
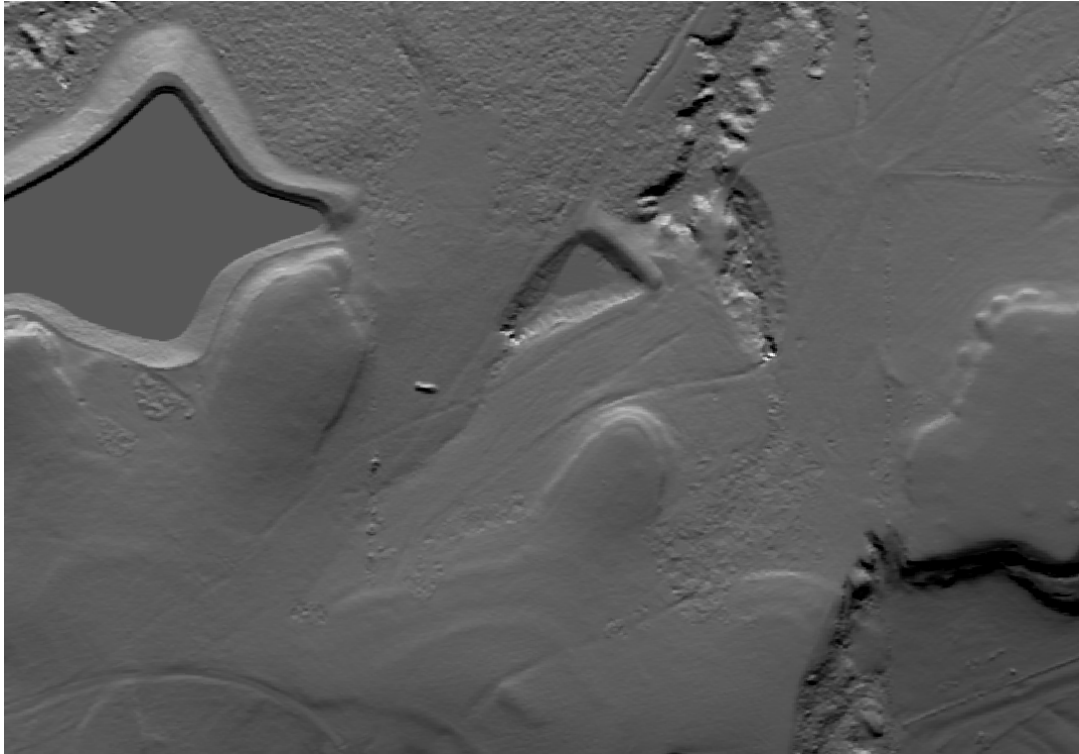
OHV trails



Farming infrastructure

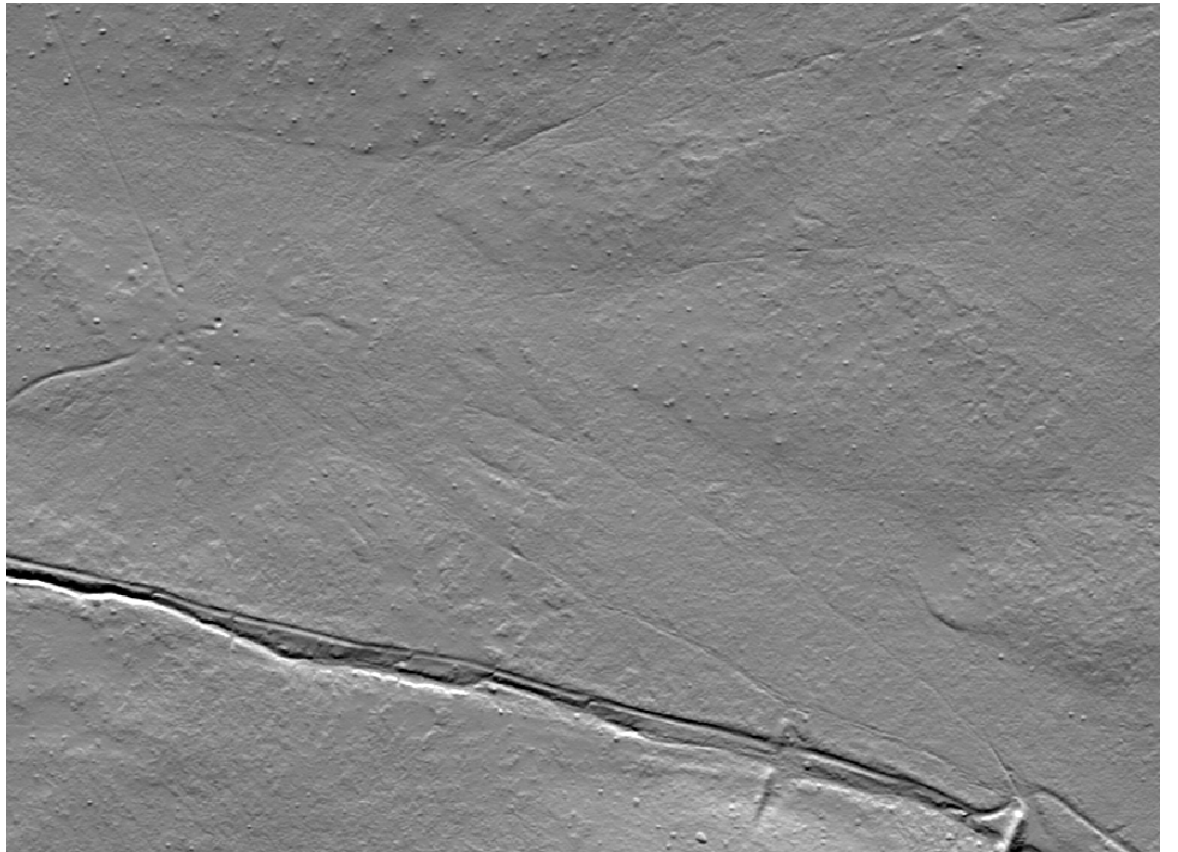
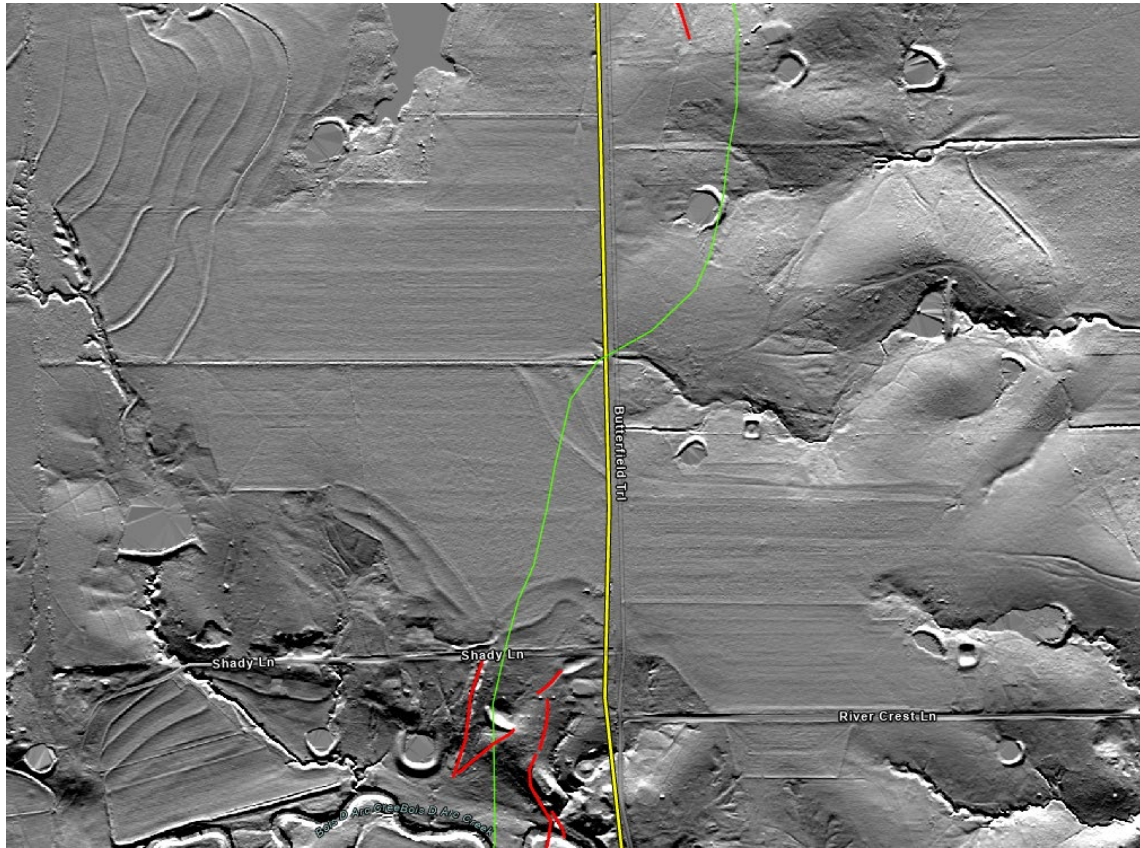


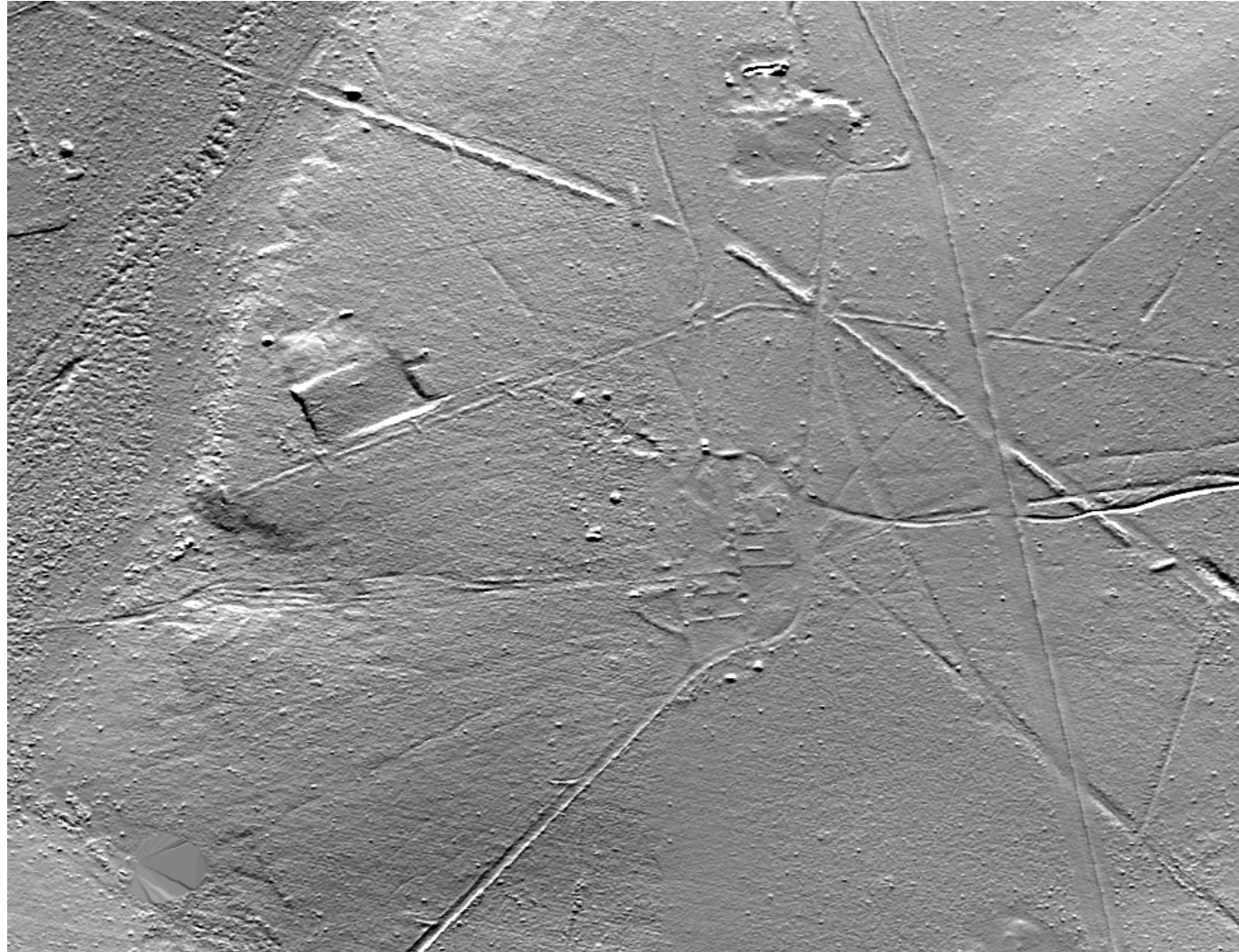
Cattle tracks



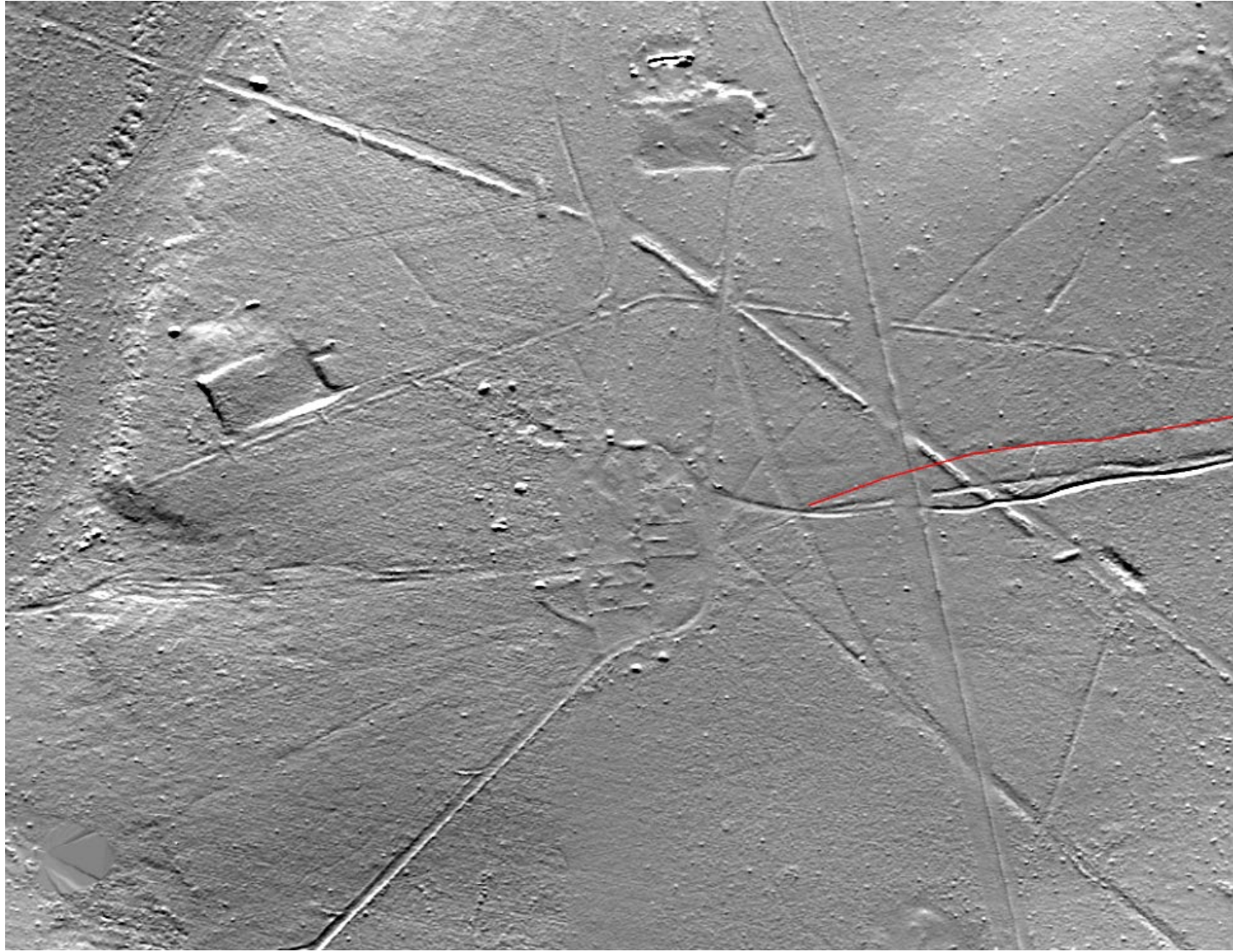
Transmission Line

Agriculture



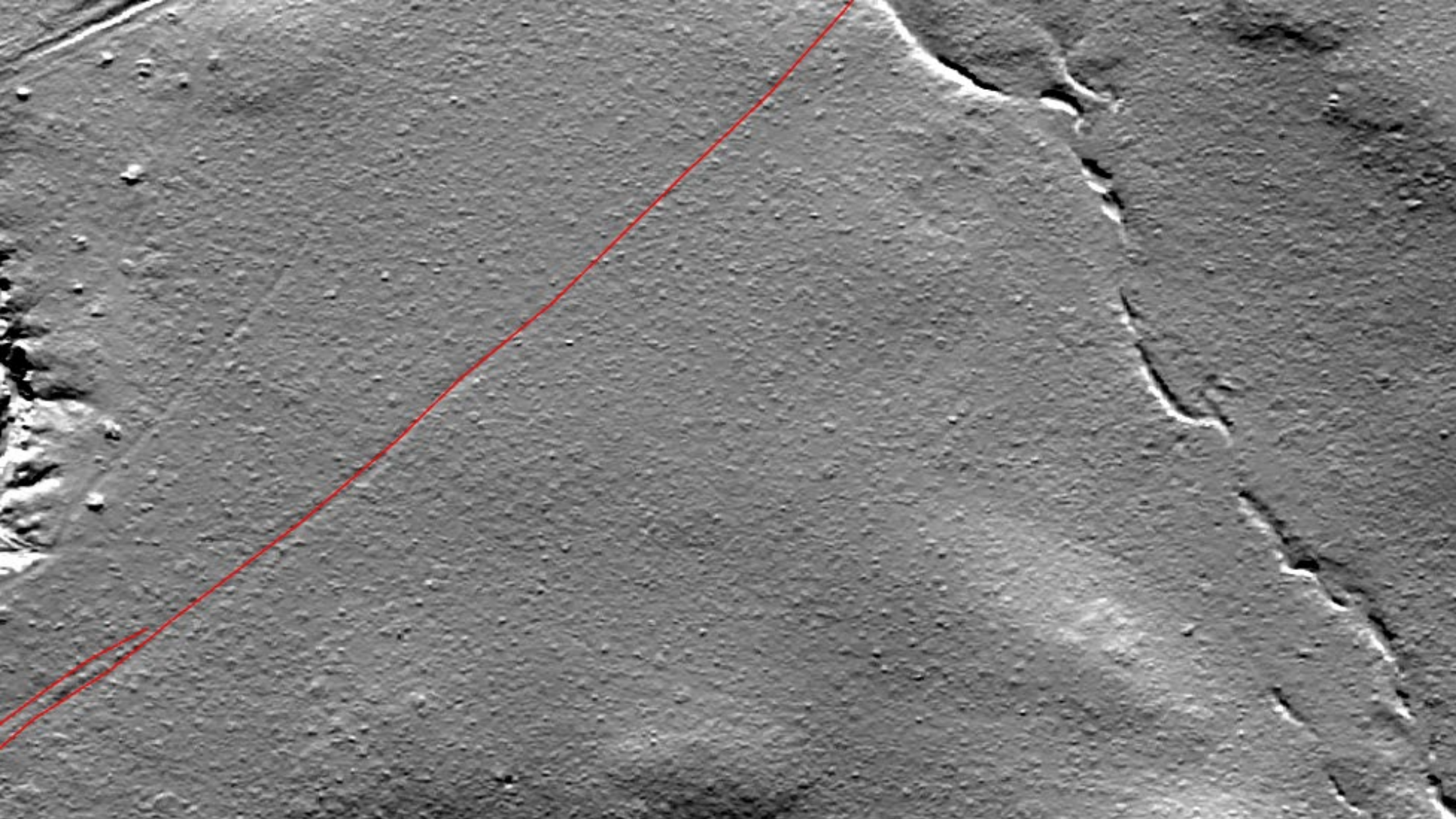


Pipelines and Roads









Limitations

Missing LiDAR Data

Modern Construction Overtop Traces

Development on the Trail

Human Error

Degree of Confidence

Application of the Trail Traces



IDENTIFYING HIGH
POTENTIAL HISTORIC SITES
AND SEGMENTS



REALIGNING THE
CENTERLINE OF THE TRAIL
TO MATCH ACTUAL
LOCATION



PRESERVING AND
CONSERVING LANDSCAPES



EFFECTS EVALUATIONS FOR
FUTURE PROJECTS



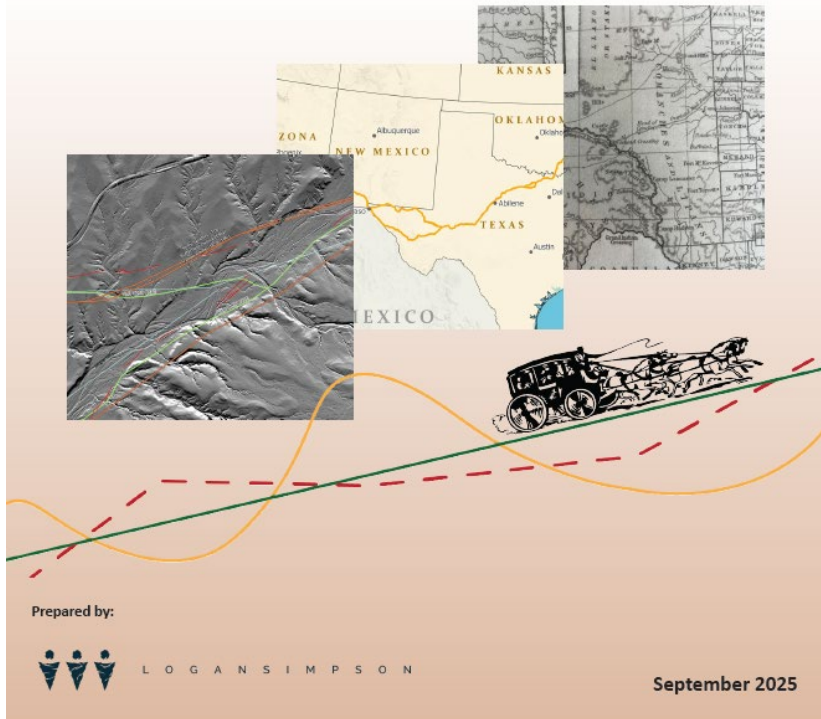
EXPLORING NEW VISITOR
EXPERIENCES ON PUBLIC
LANDS



NPS Butterfield Overland National Historic Trail Digitization Methodology

What comes next?

- ❖ Comprehensive Plan
- ❖ Ground-truthing trail traces
- ❖ Designating trail traces as historic resources
- ❖ Adjusting the designated alignment





Questions?