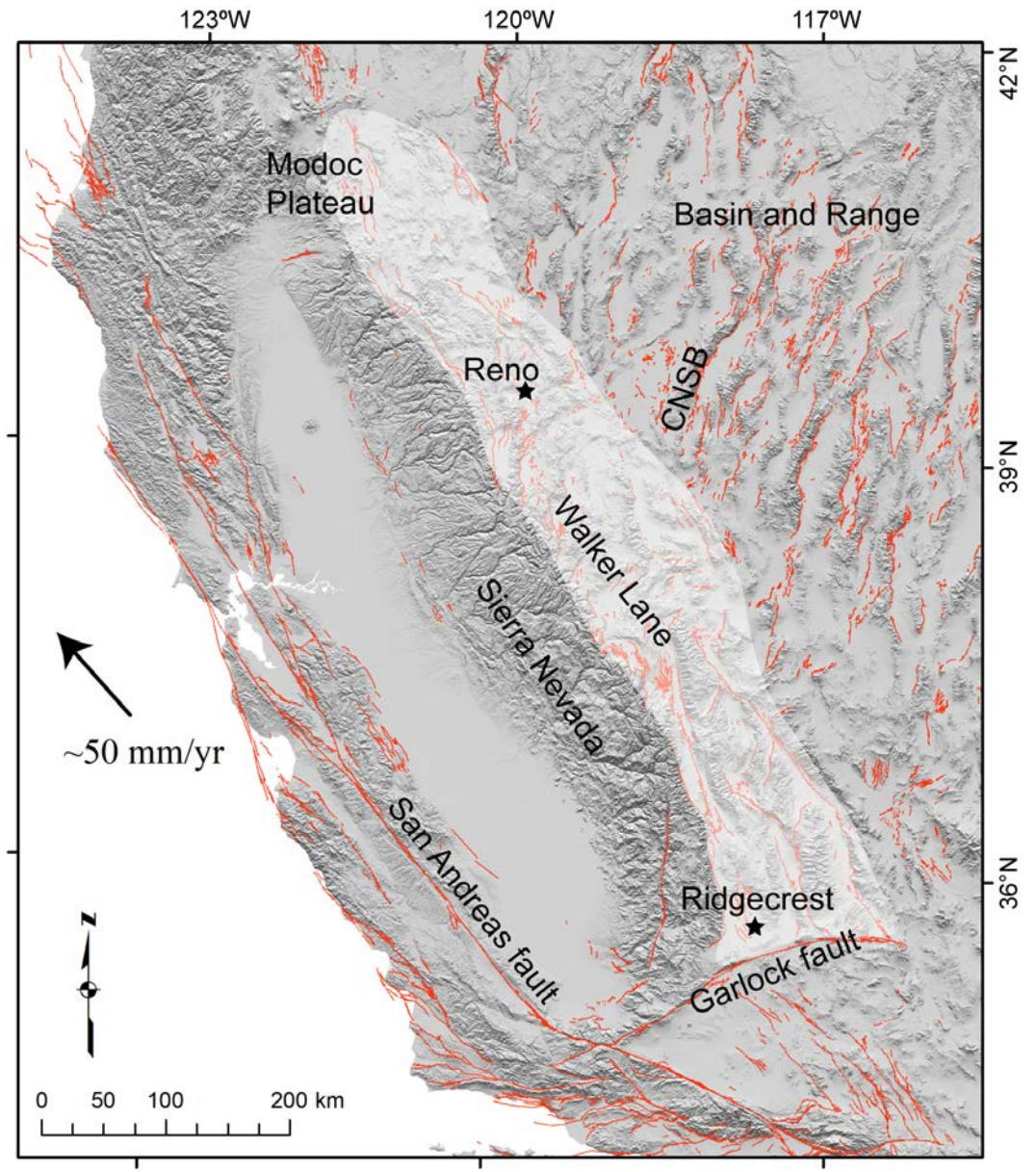
Mapping normal faults along the east side of the Sierra Nevada

Basin and Range structure some combination of tilted blocks and horst and graben formation.

Walker Lane shear along east side of Sierra Nevada.



Basin and Range structure some combination of tilted blocks and horst and graben formation.

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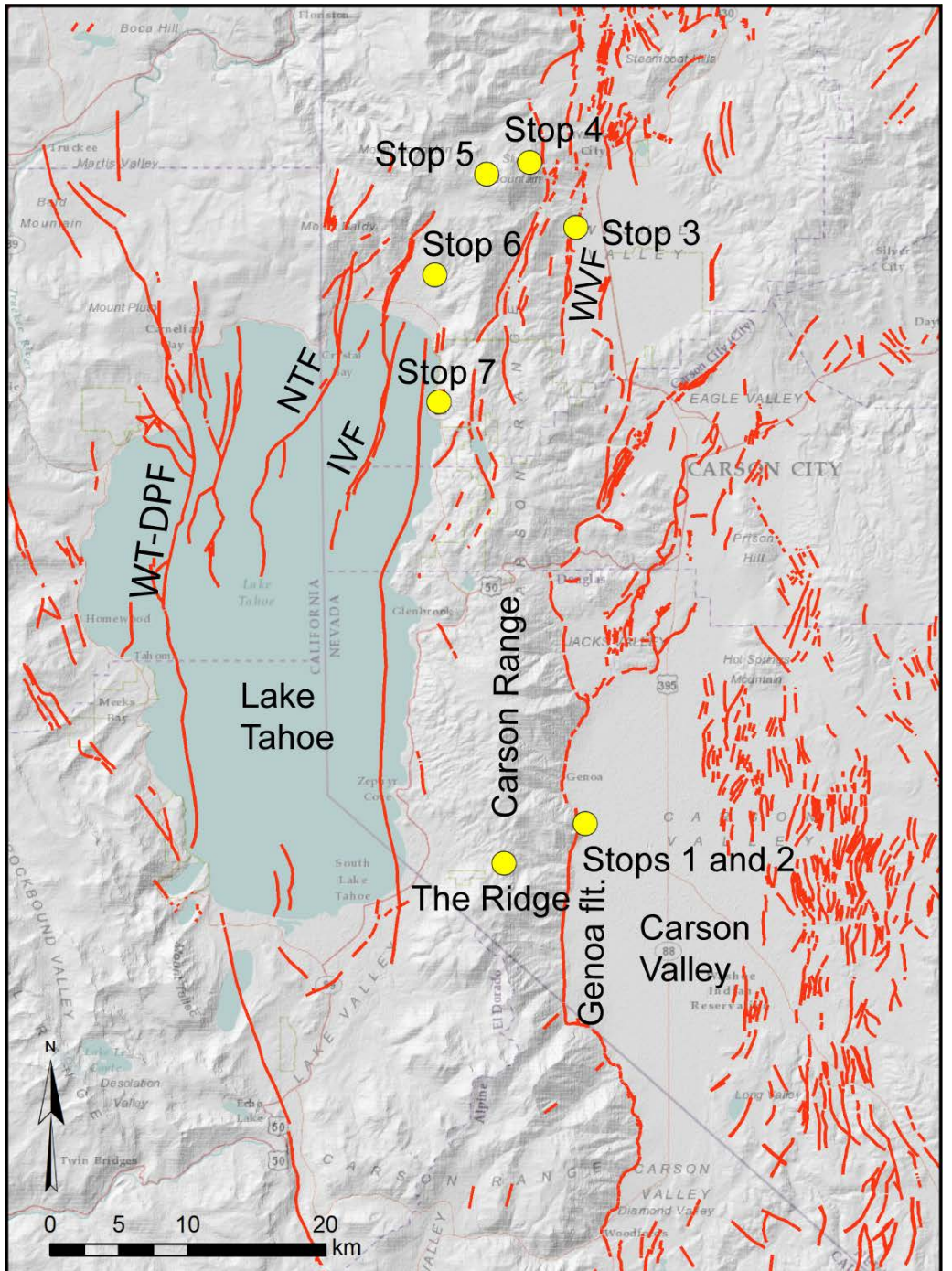

Genoa fault, Sierra Range front

Photos courtesy of Jack Hurst, NBMG

Genoa fault, Sierra Range front

Fault plane exposed in quarry, Genoa fault

Carson Range-Kings Canyon-Mt. Rose fault system

Photos from Wahsoe Valley courtesy of Jack Hurst, NBMG

Photo courtesy of Jack Hurst, NBMG


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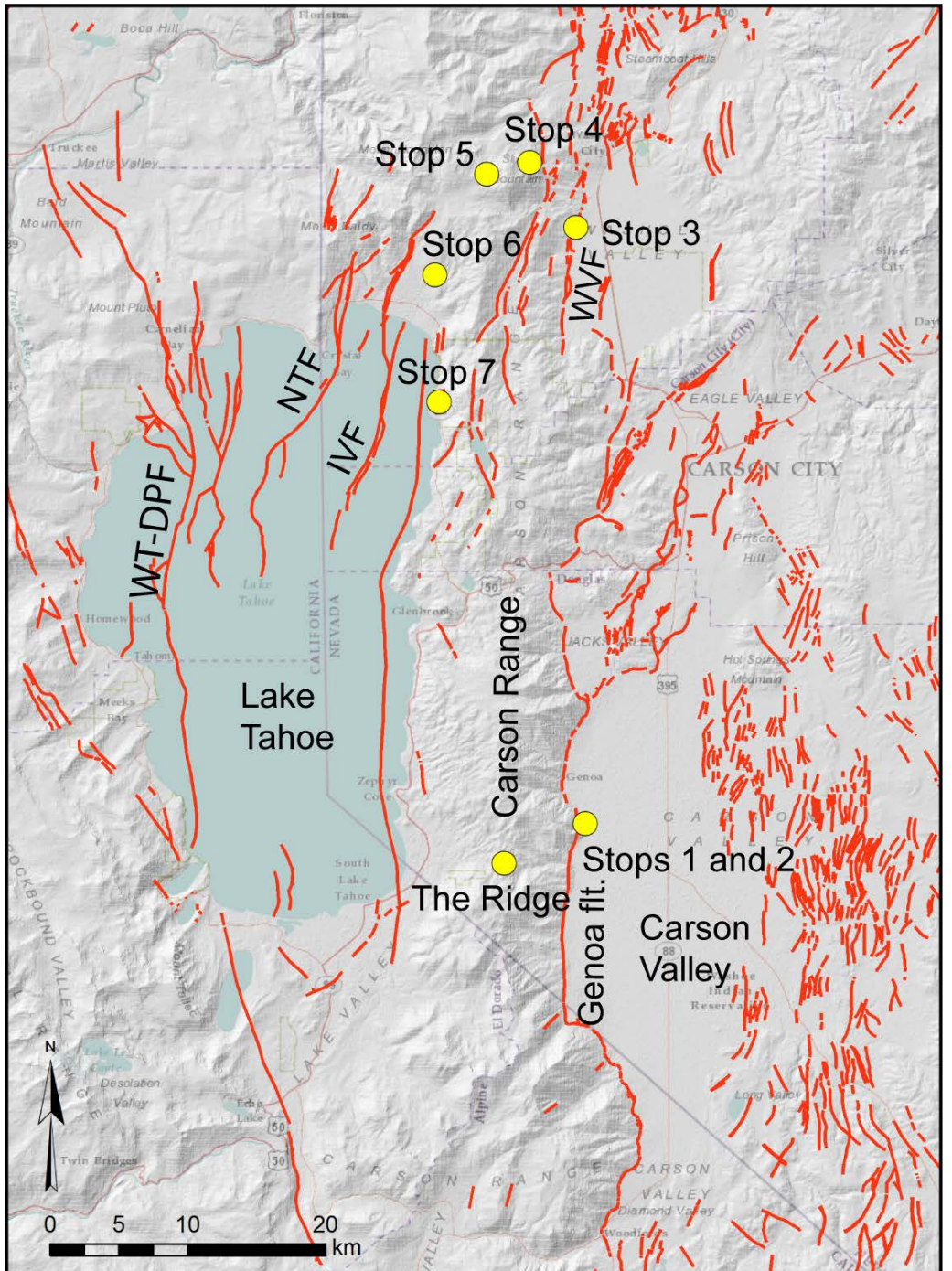
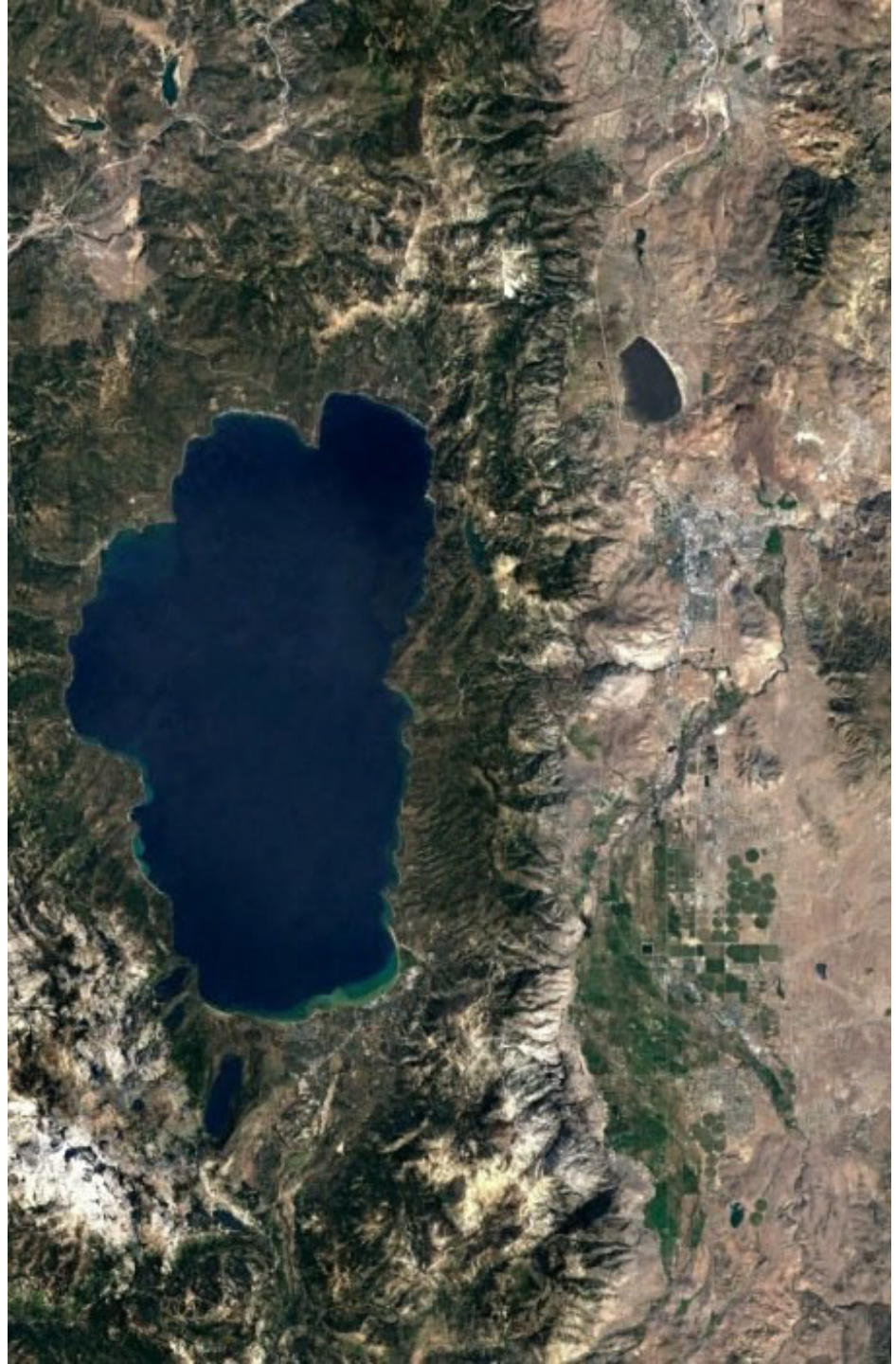
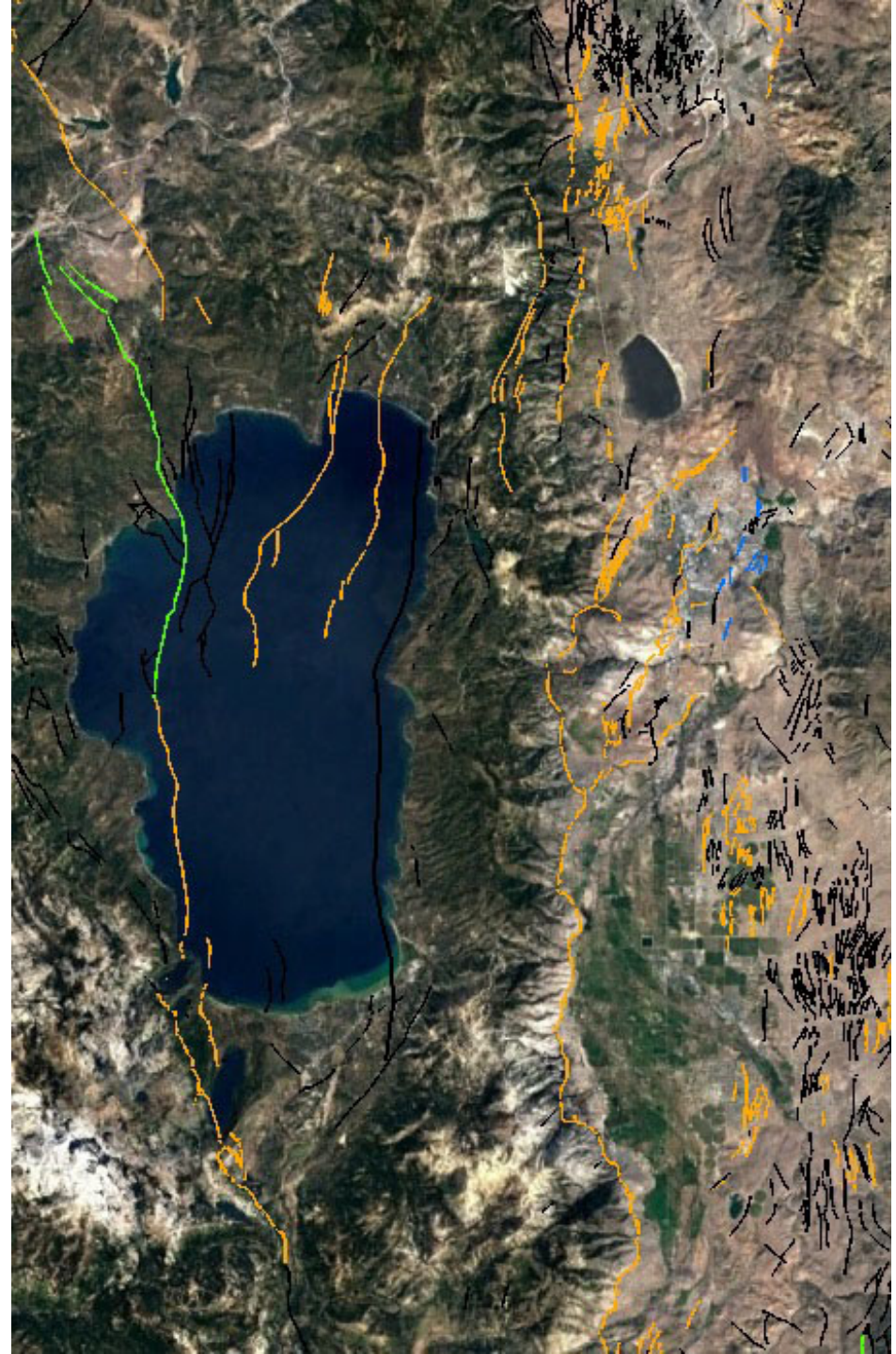
drwilliambowen@hotmail.com


Stop 4
Stop 5
Stop 6
Stop 3
Stop 7
WVF
NTF
IVF
WT-DPF
Lake Tahoe
Carson Range
Stops 1 and 2
The Ridge
Genoa flt.
Carson Valley
CARSON CITY
EAGLE VALLEY
CALIFORNIA
NEVADA
N
0 5 10 20
km



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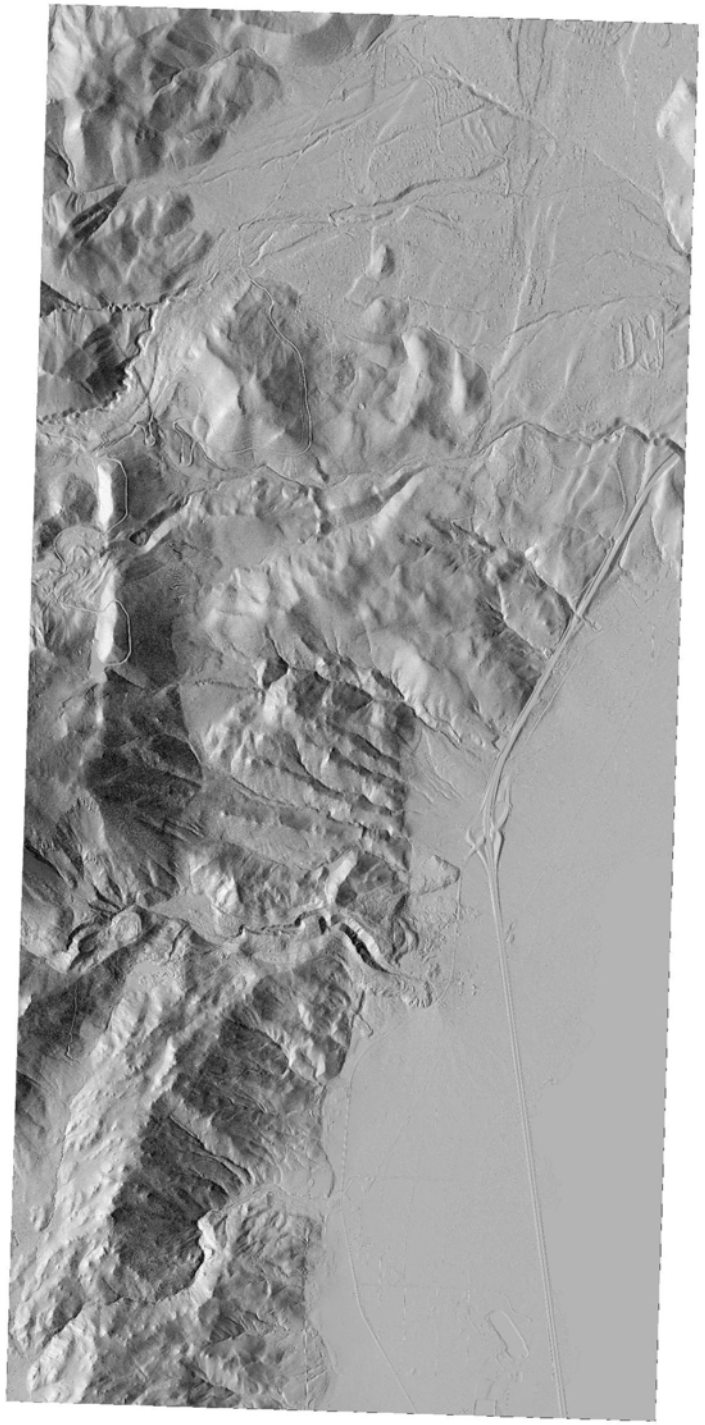
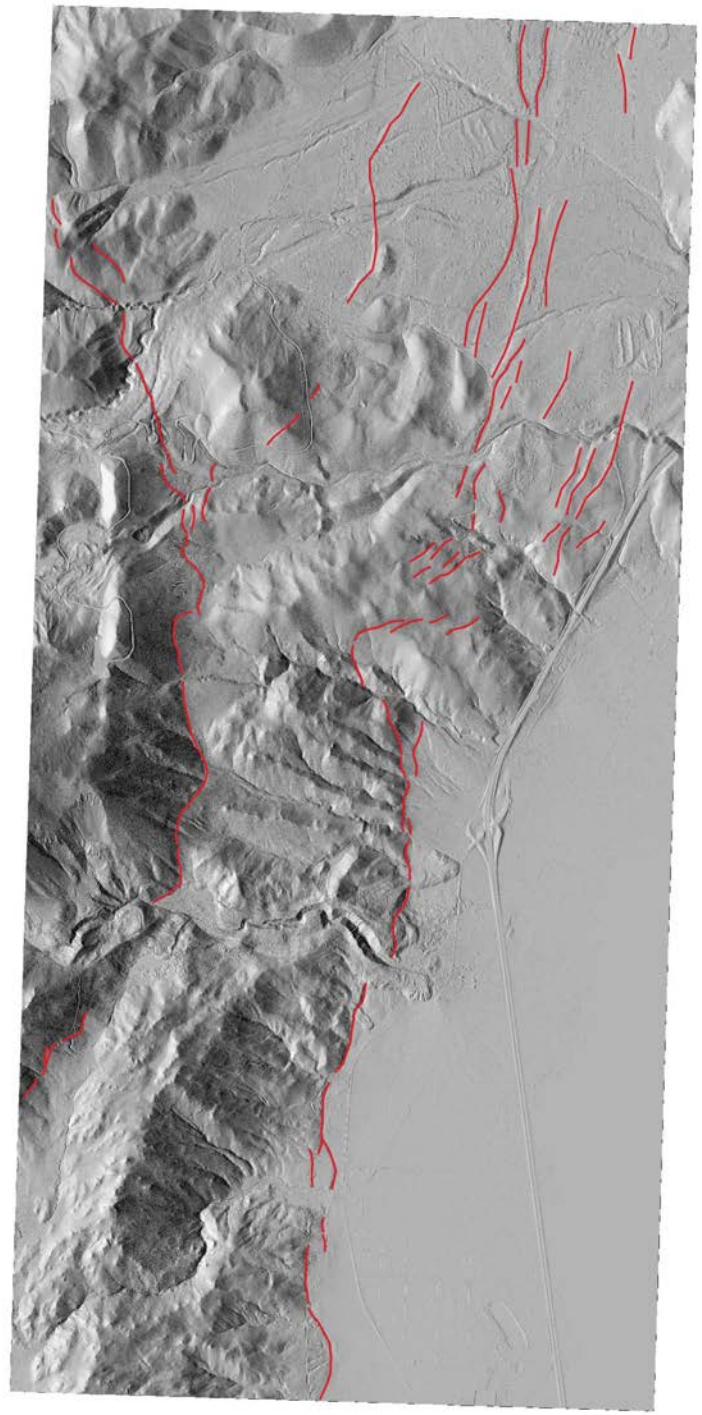
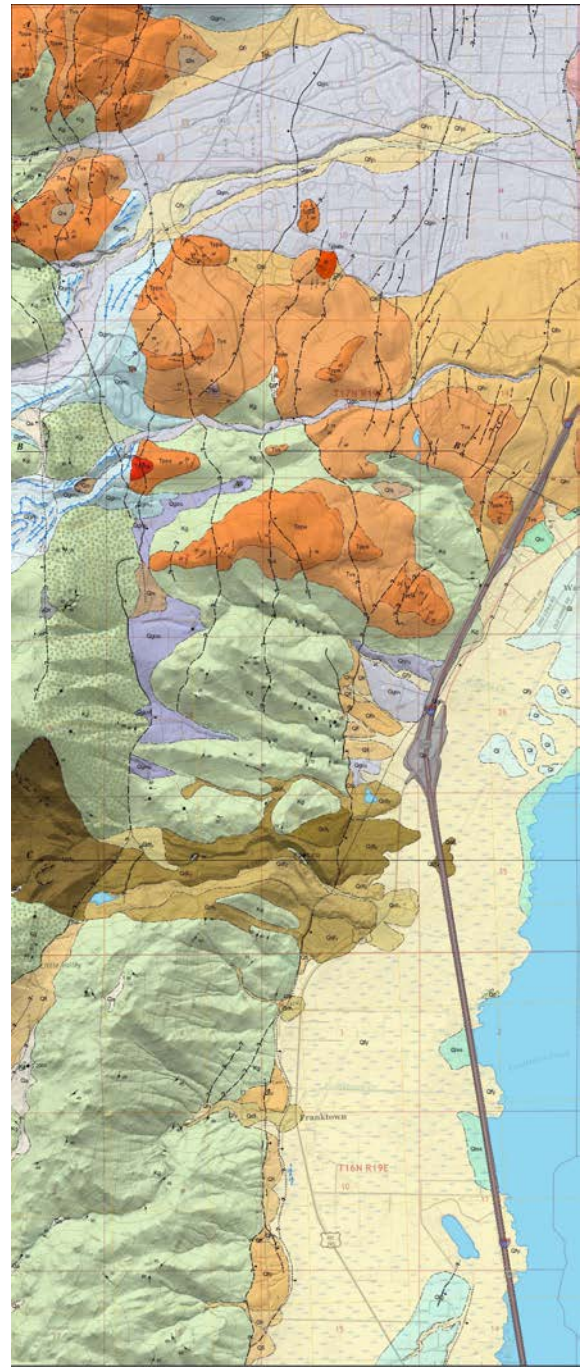
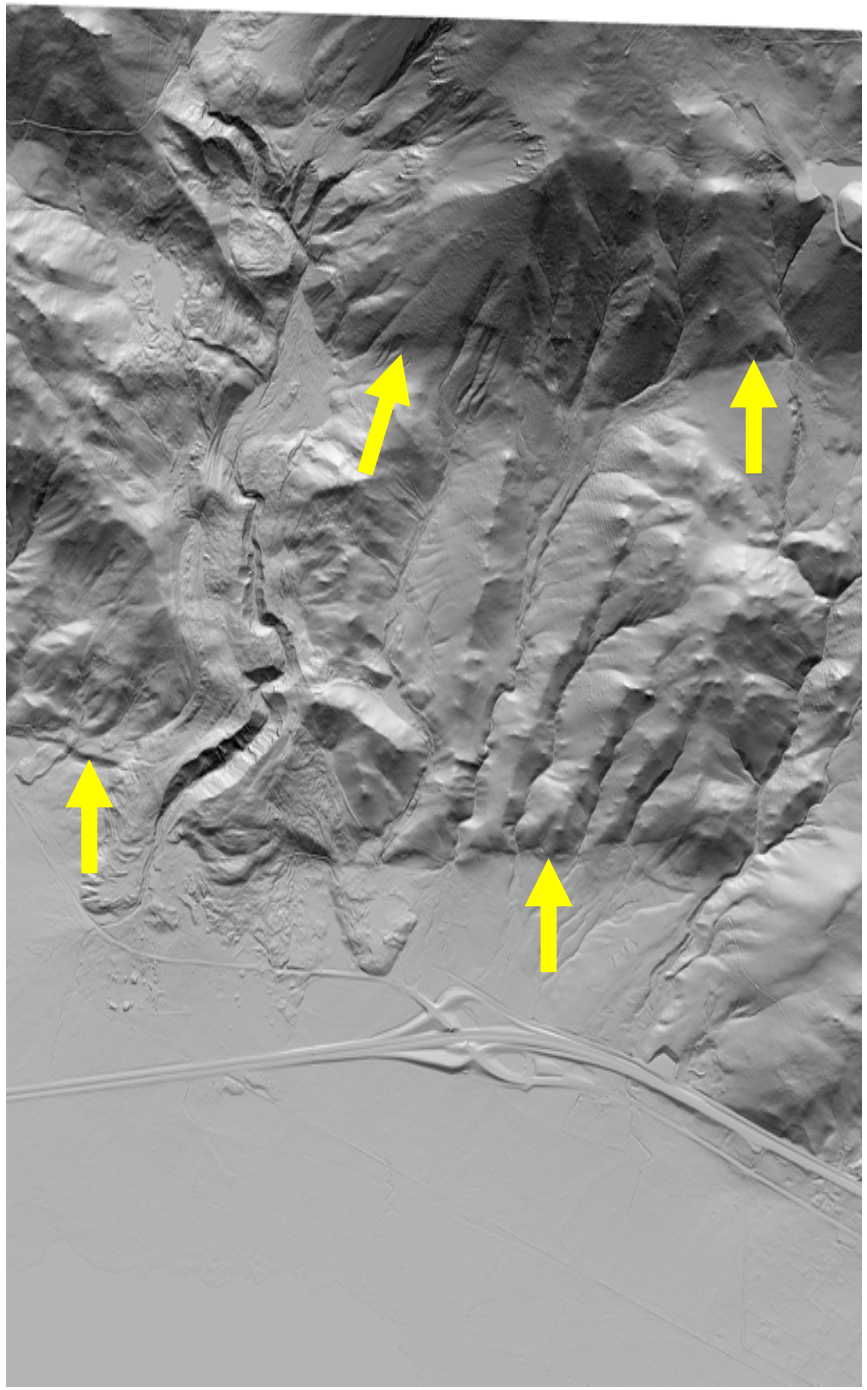
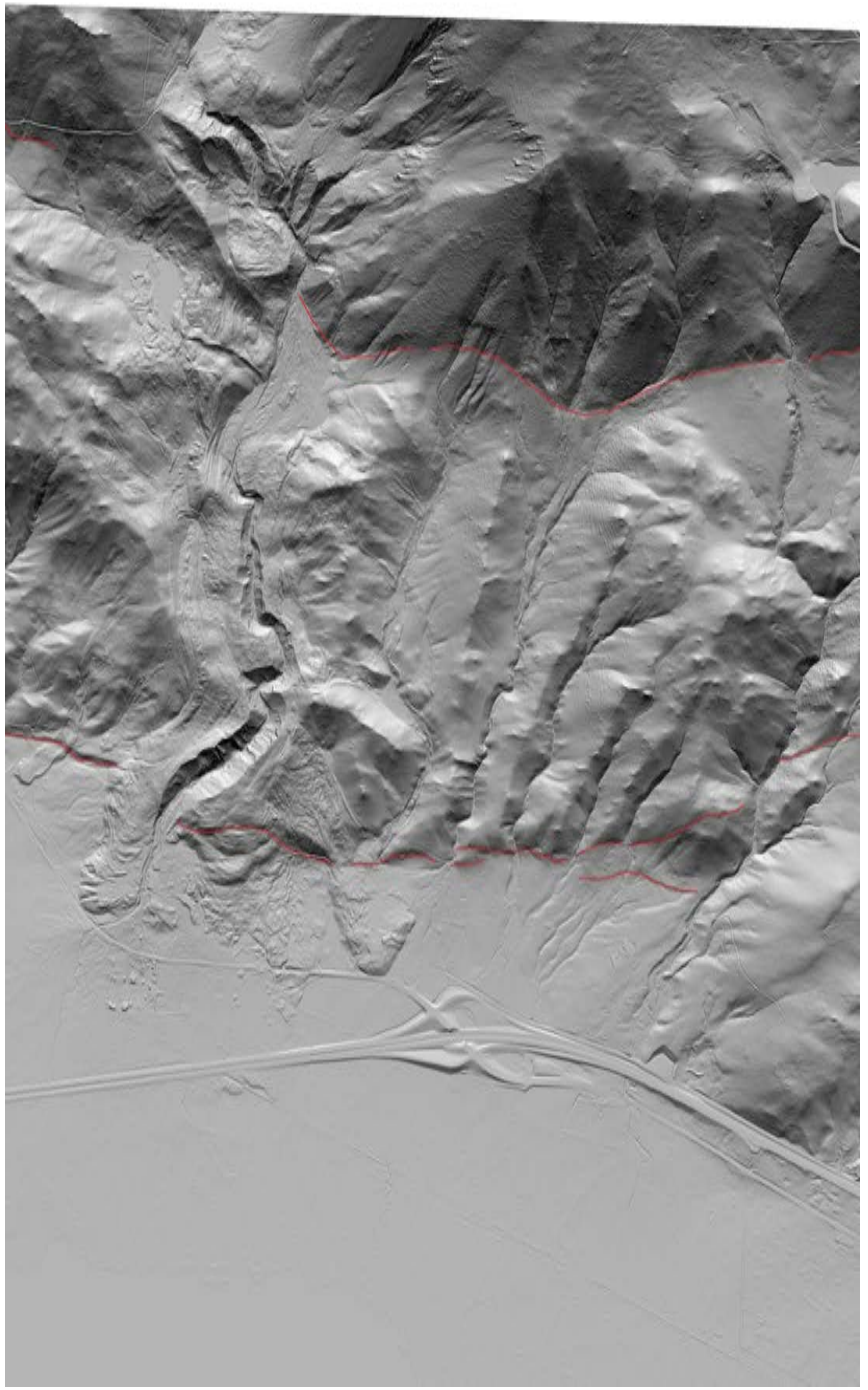
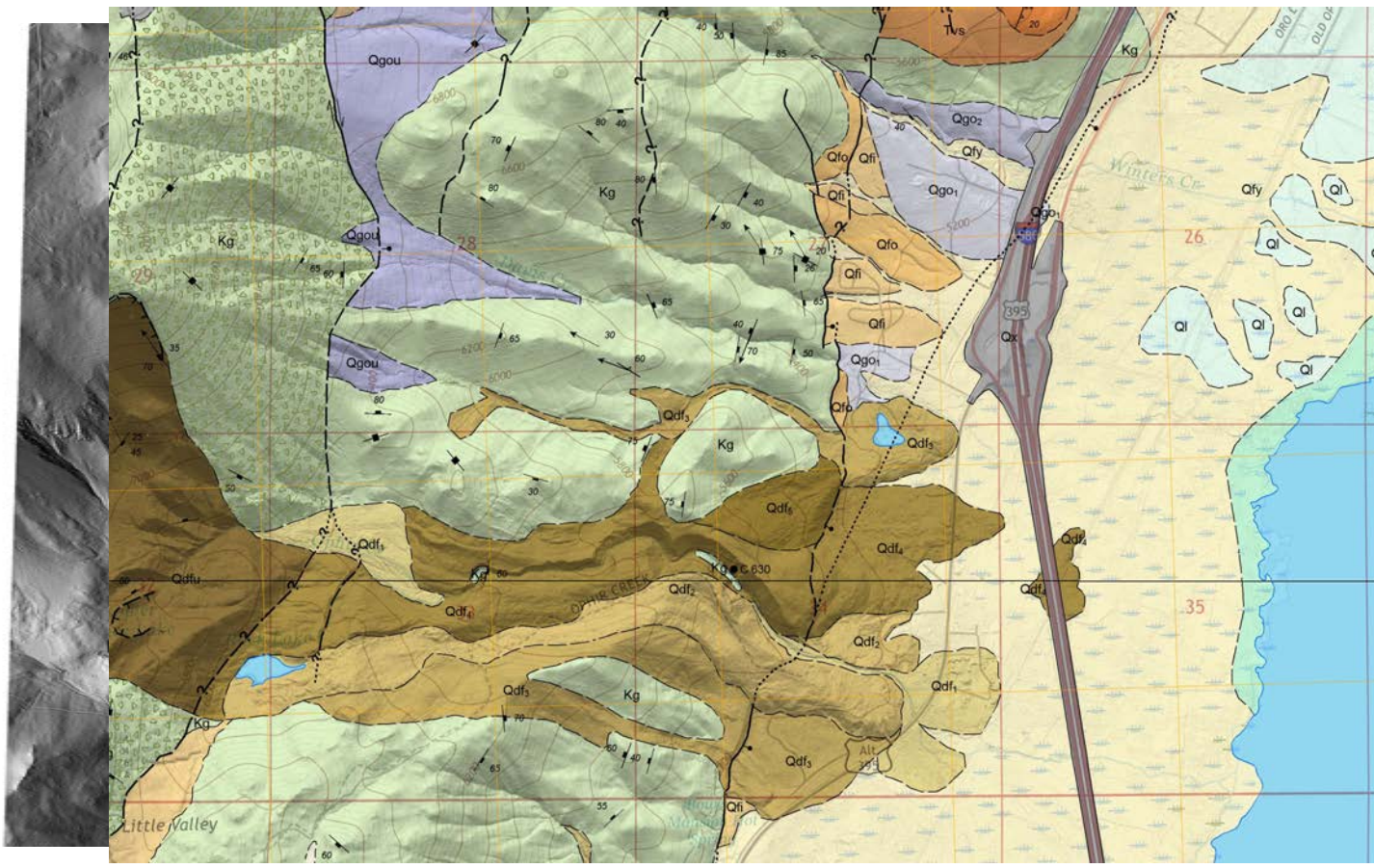





Franktown
T16N R19E






Qgou
Kg
Tvs
Qgo2
Qfo
Qfi
Qfy
Qgo1
Qdf5
Qdf6
Qdf4
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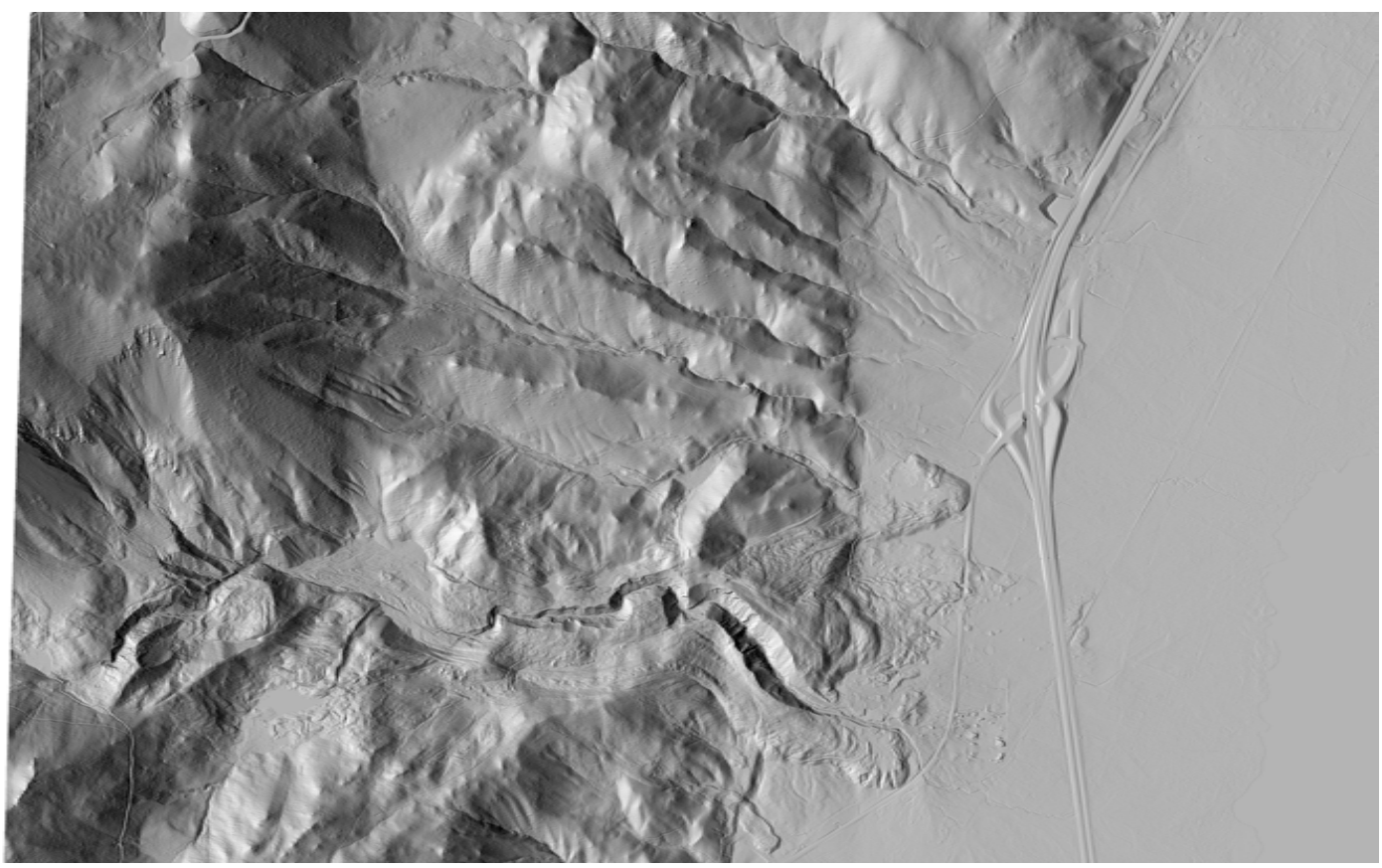
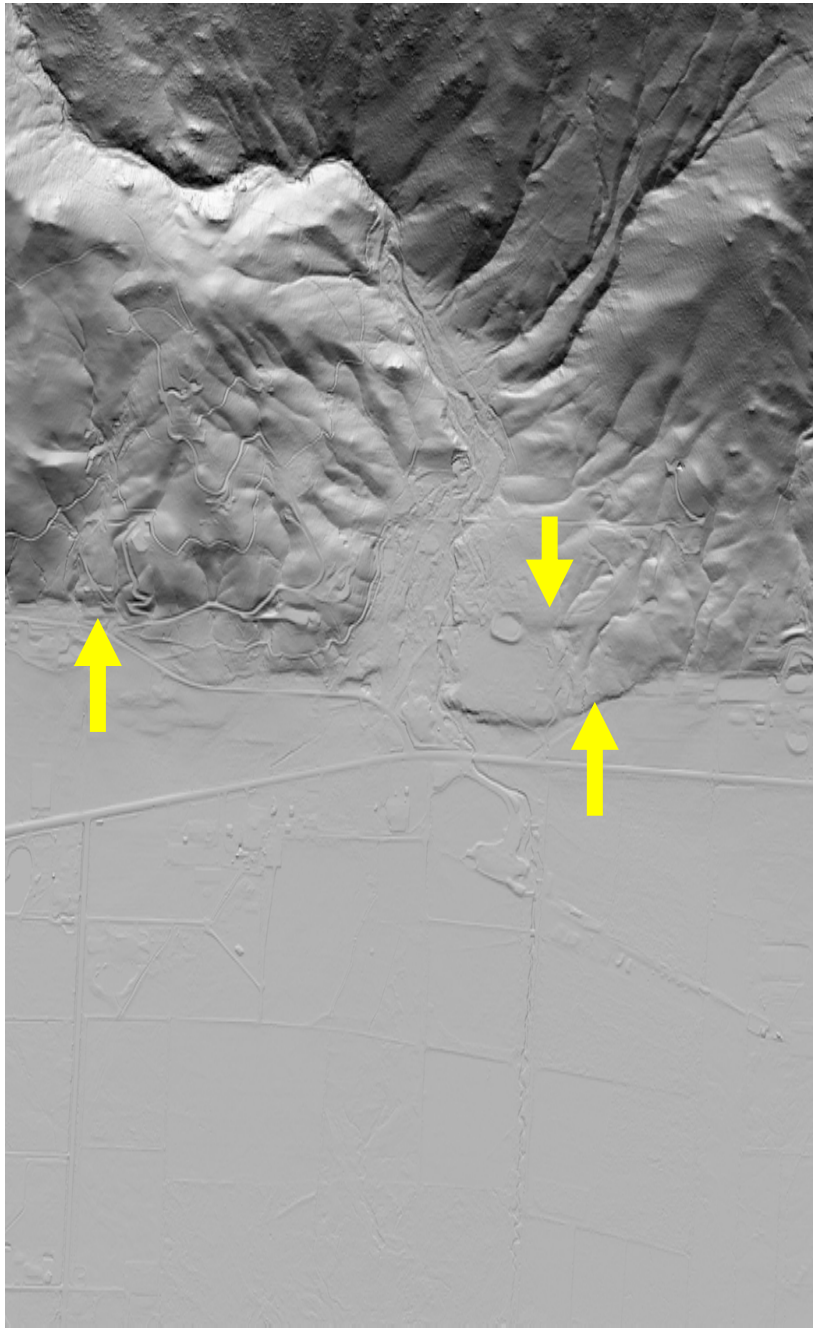
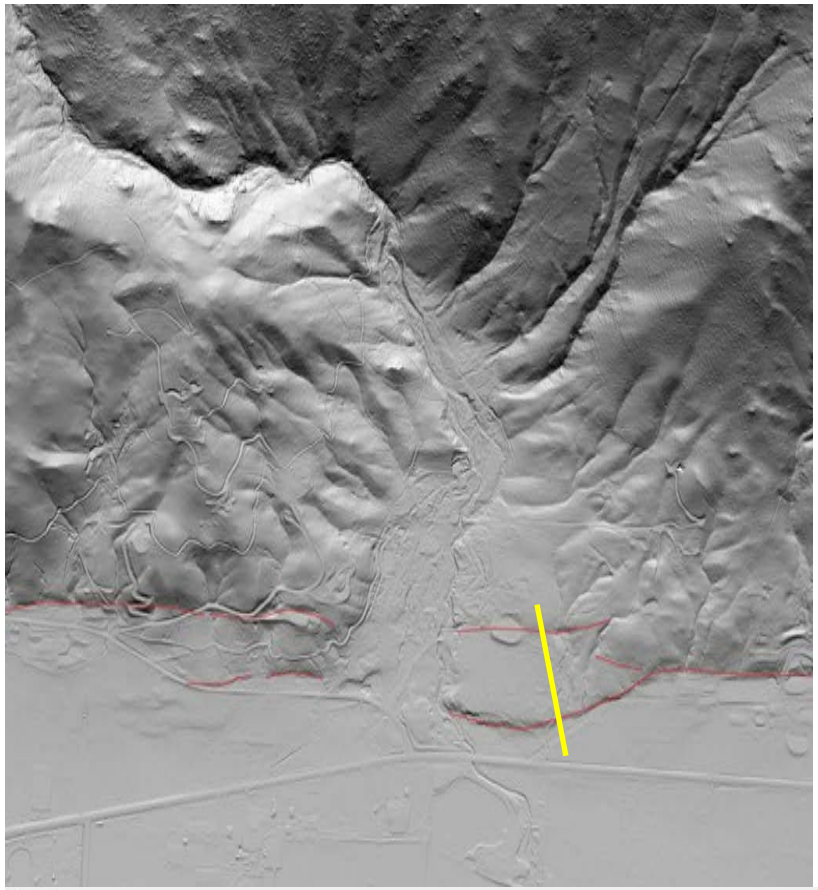
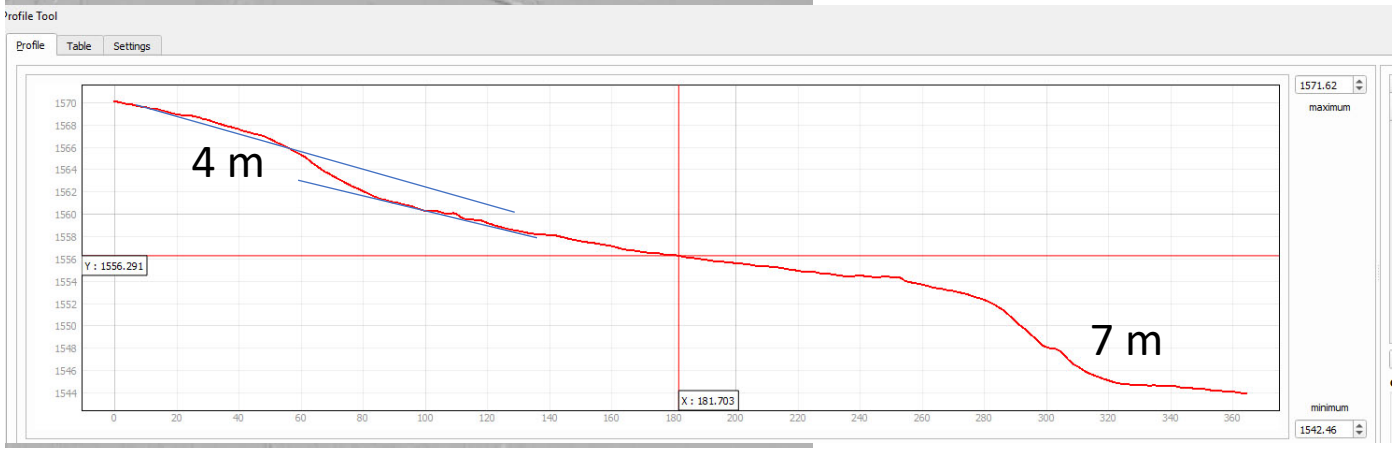
Qdf3
Qdfu
Qx
Ql
Winters Cr.
DIXIE CREEK
Little Valley
395
26
35

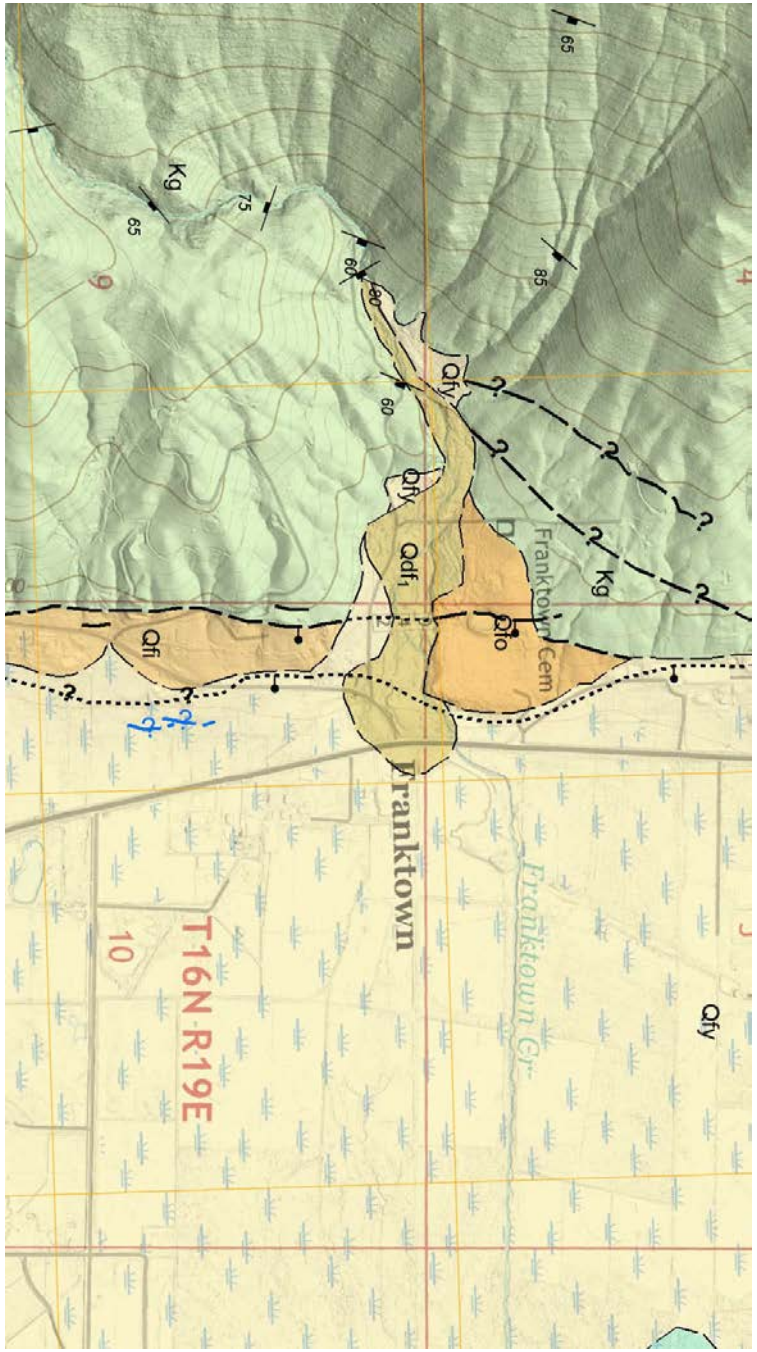


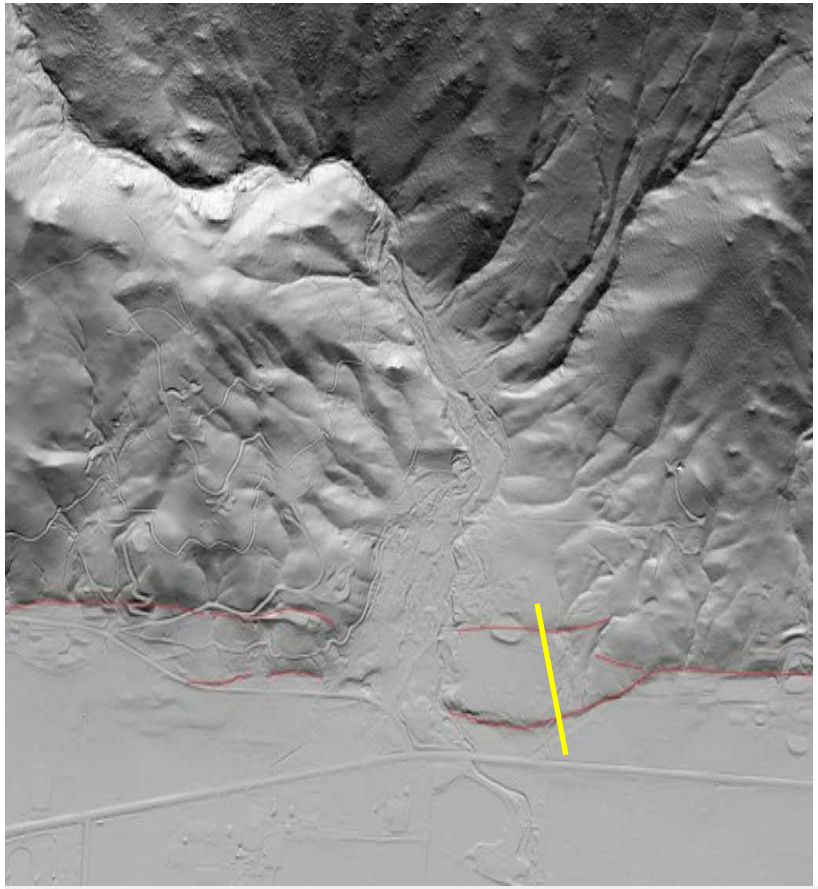


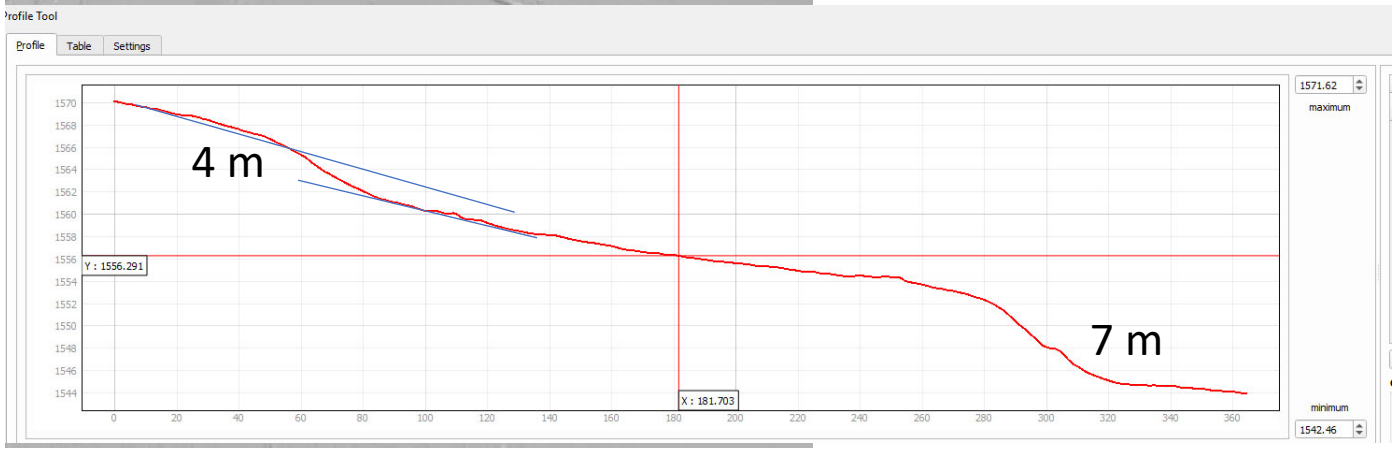




Using the profile tool in QGIS is a nice way to assess the location and offsets of faults.


Kg
Qfy
Qdf1
Qfo
Qfi
Franktown Cem
Franktown
Franktown Cr
T16N R19E
10

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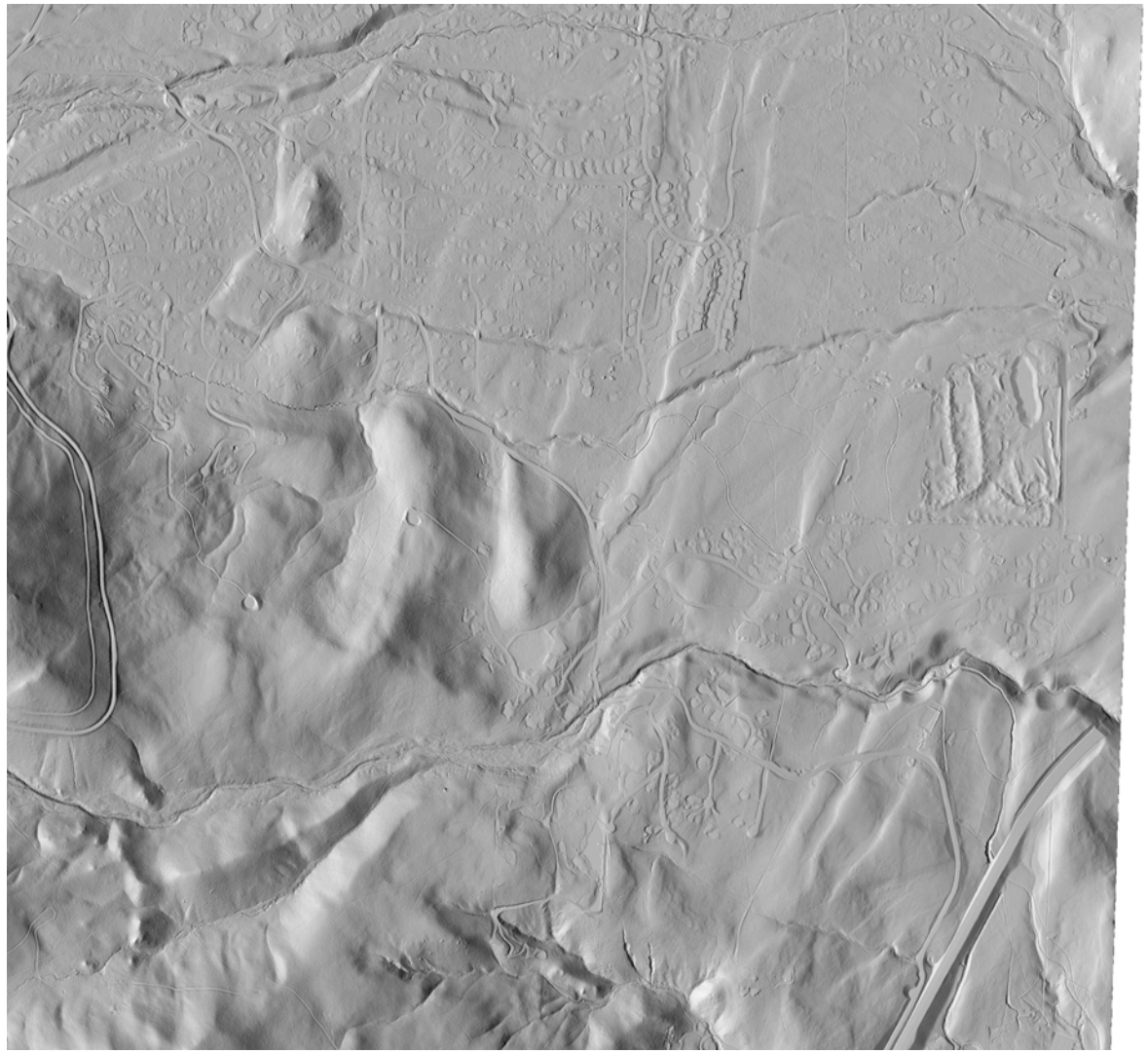
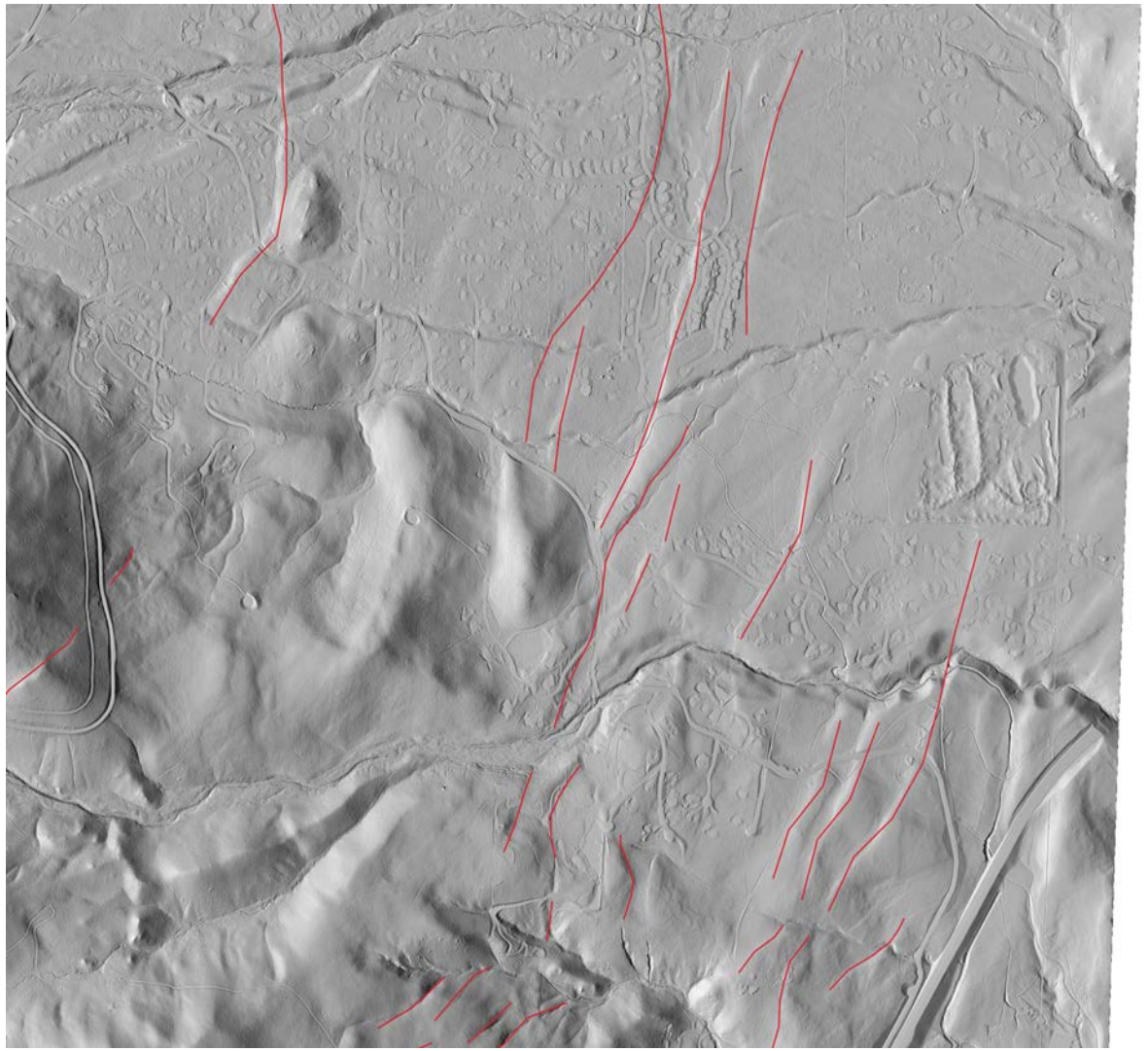
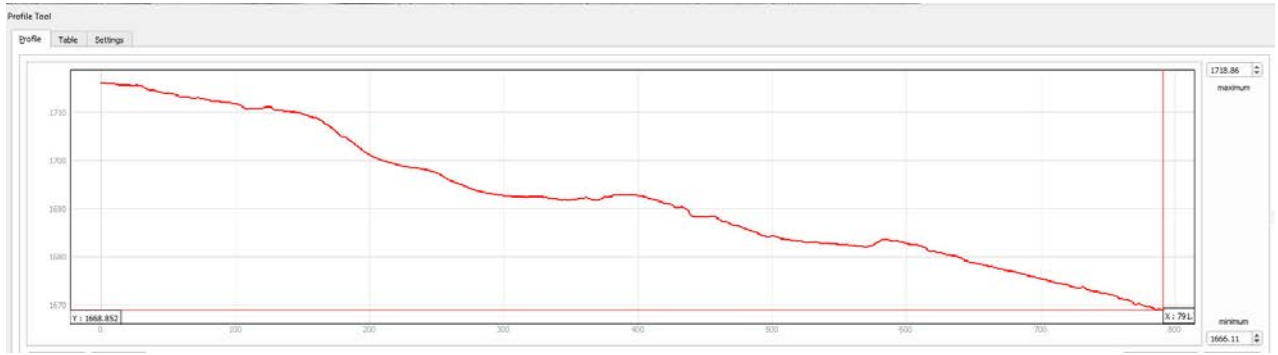
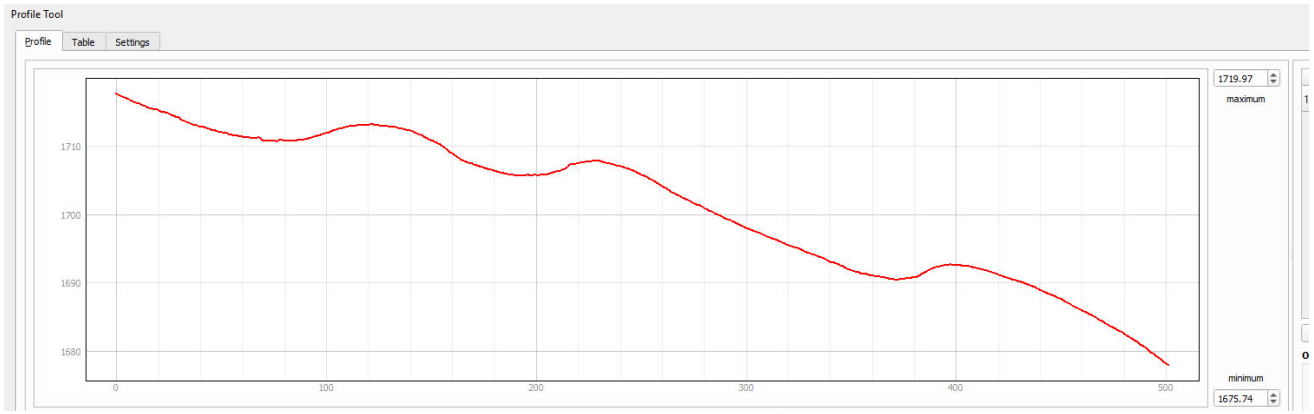
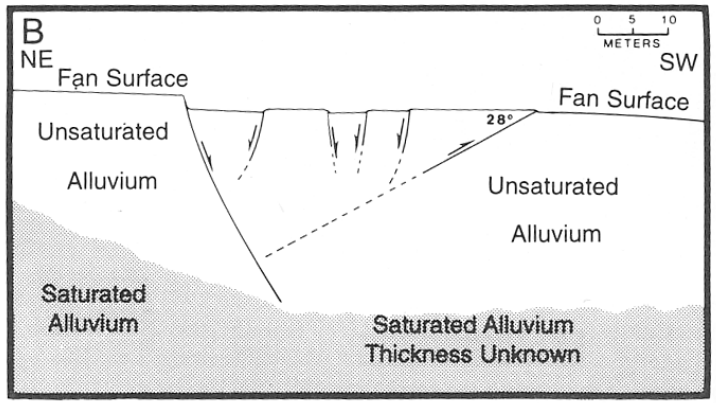
Profile
Table
Settings
4 m
7 m
Y : 1556.291
X : 181.703
1571.62
maximum
1542.46
minimum

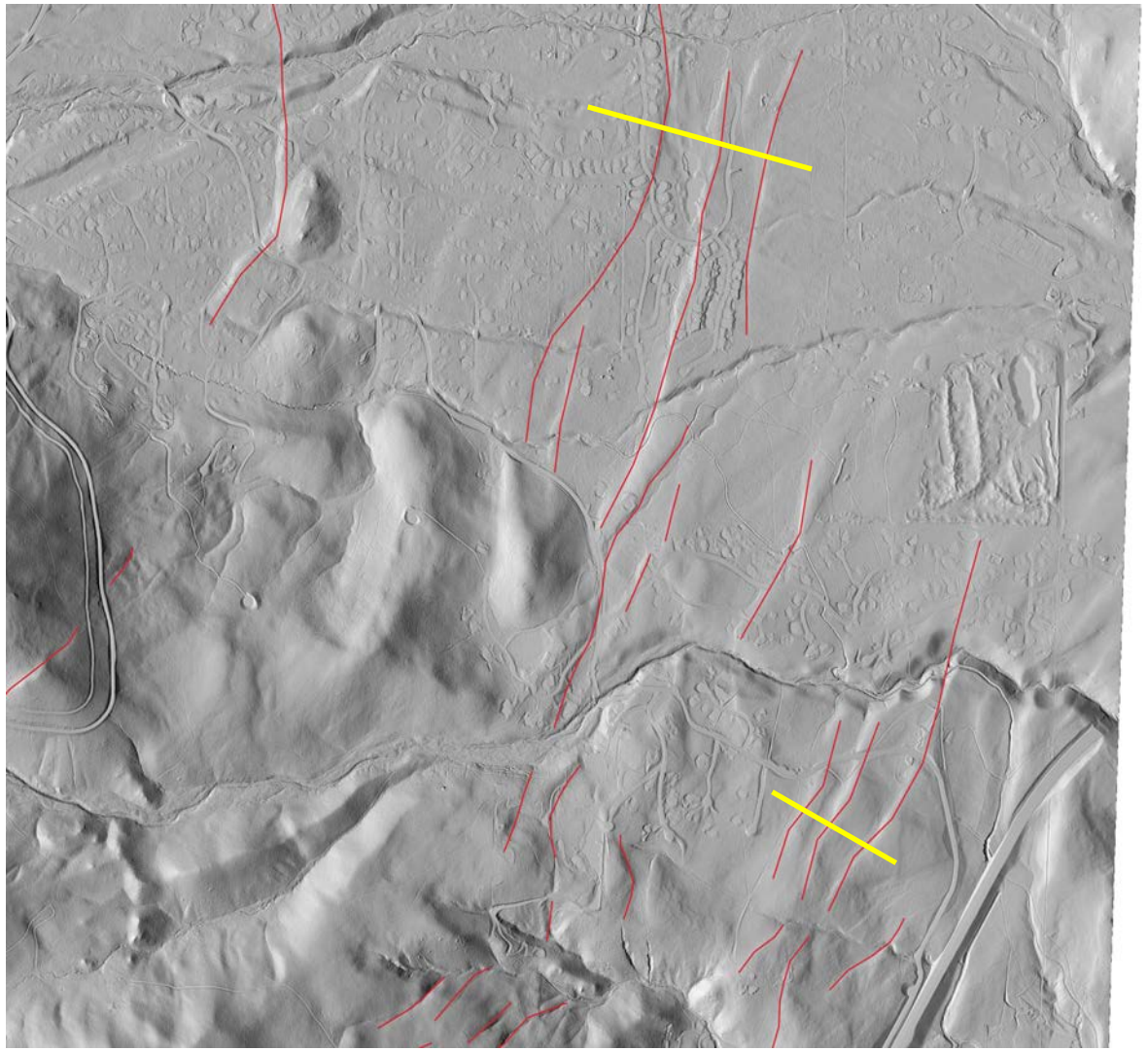




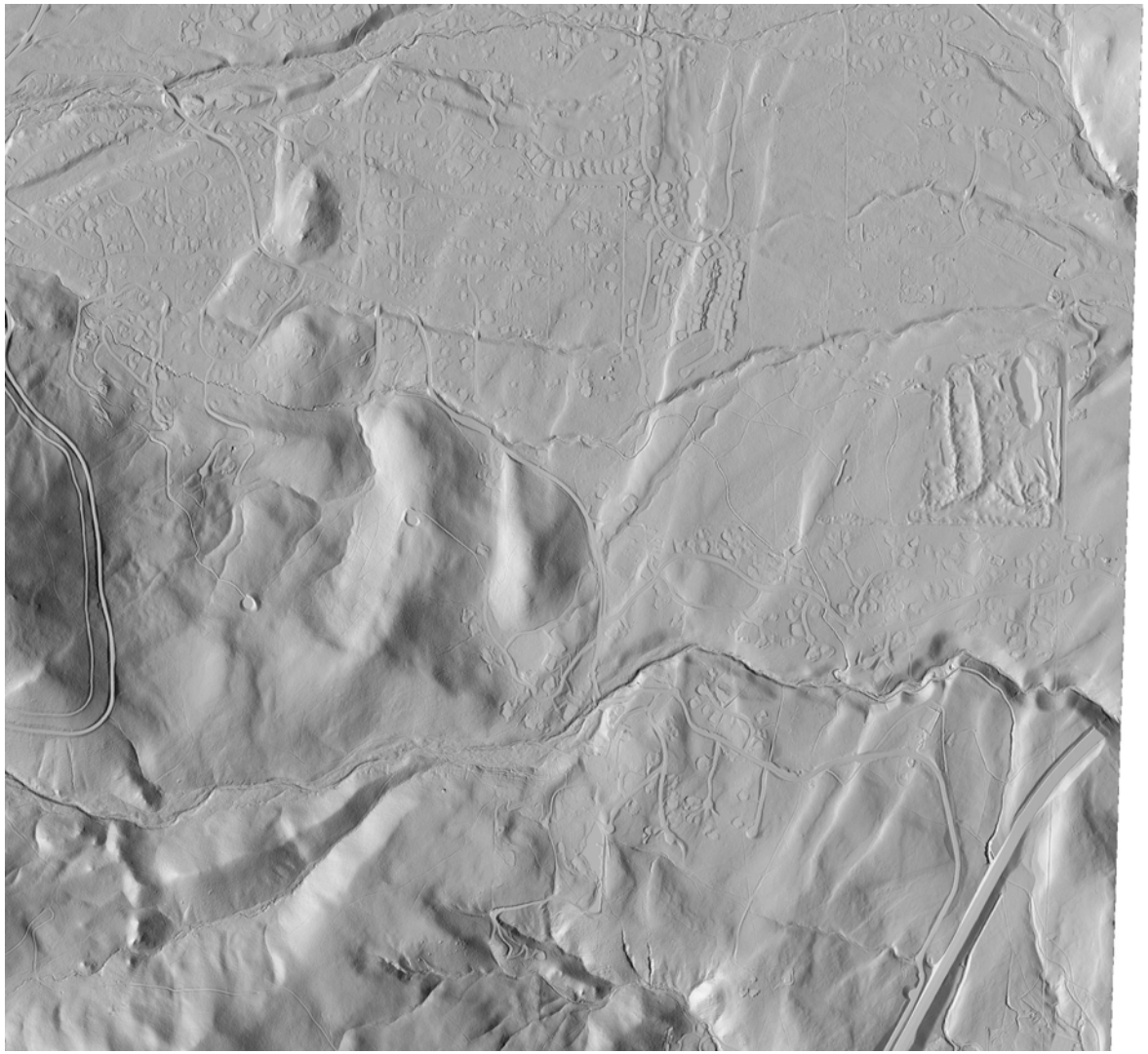


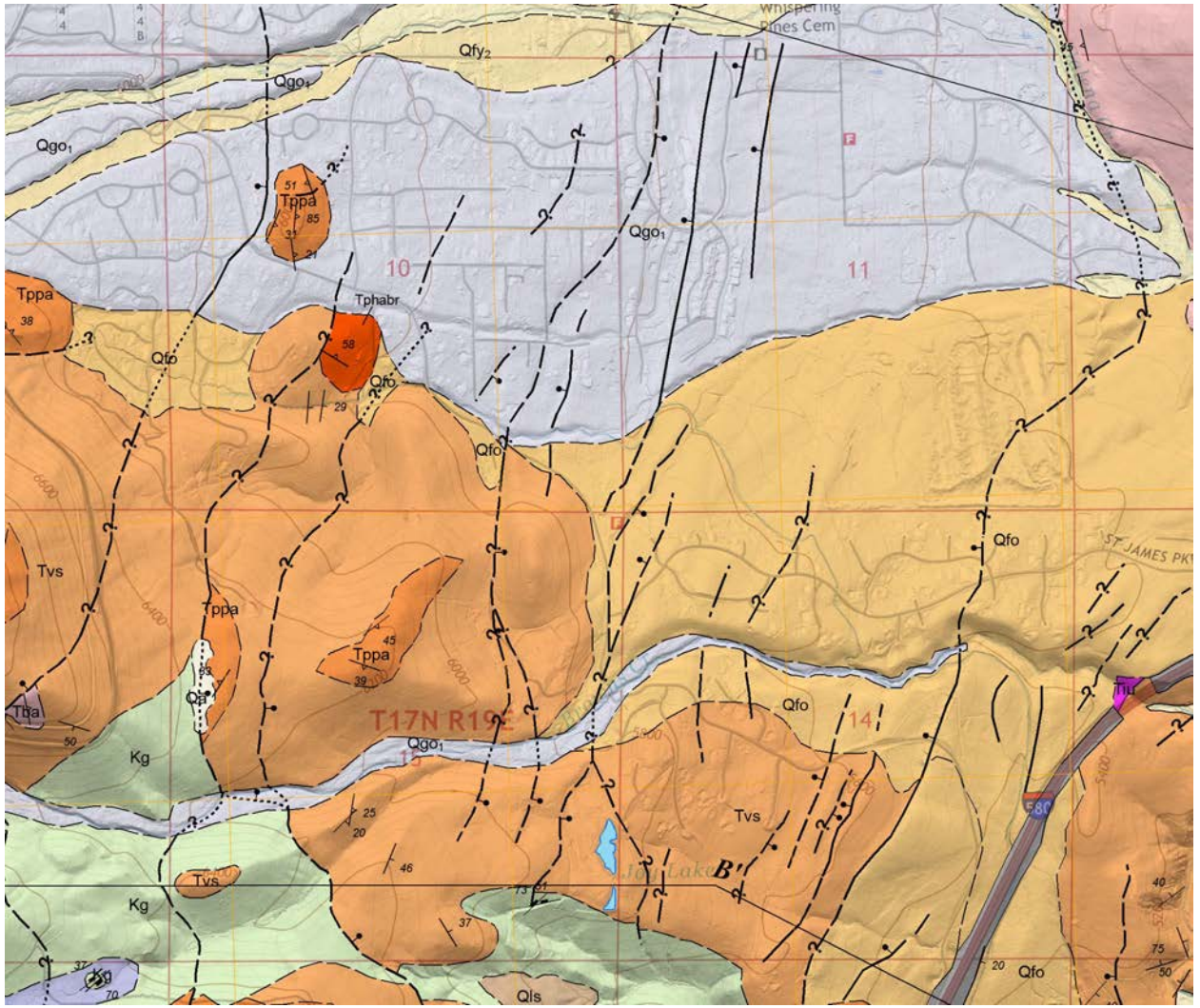






Generalized cross section, showing distributed grabens in the hanging wall
NOTE: cross section is not from the fault we are studying




Qfy2
Qgo1
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Qfo
Tvs
Kg
Qls
Tta
10
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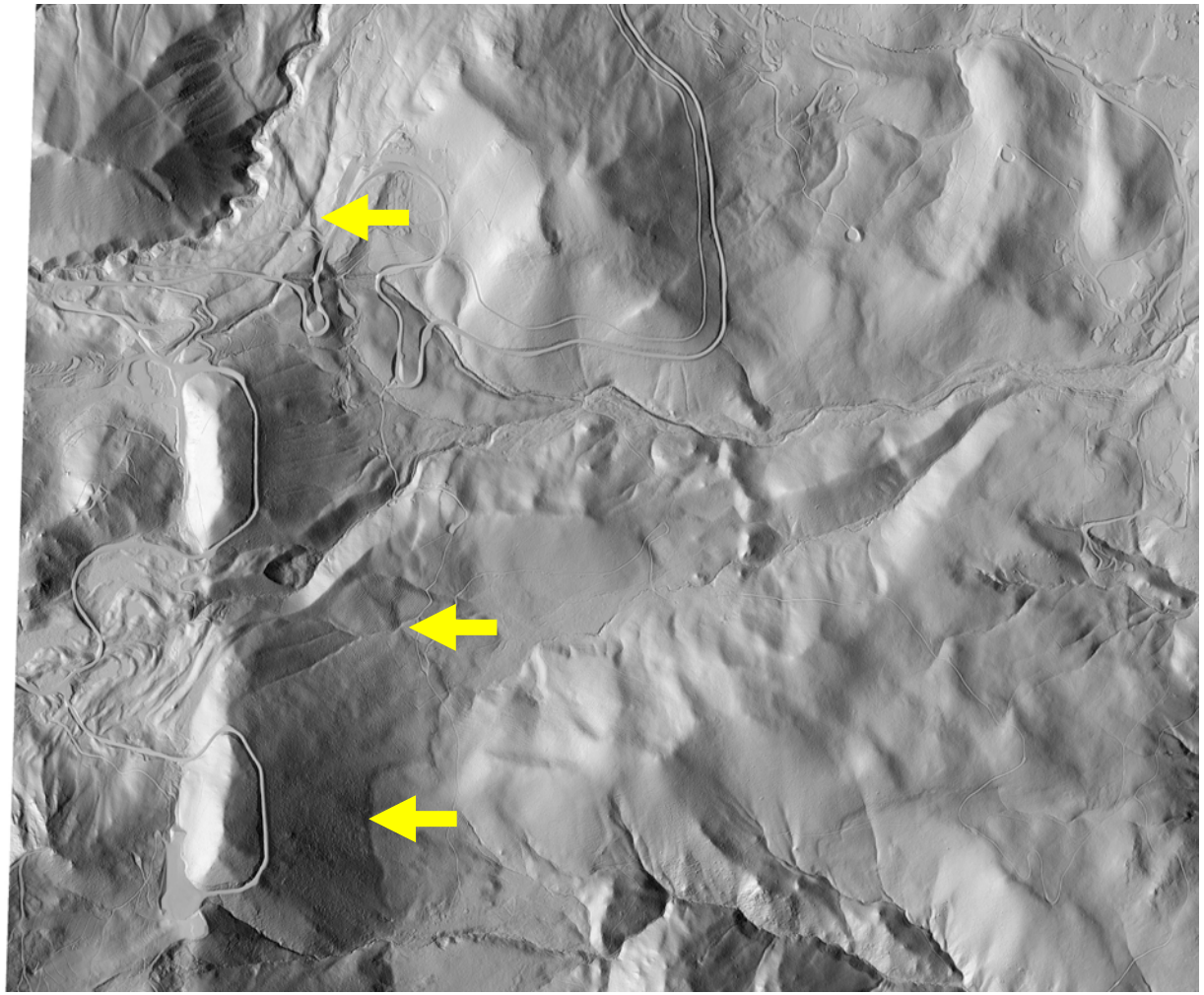
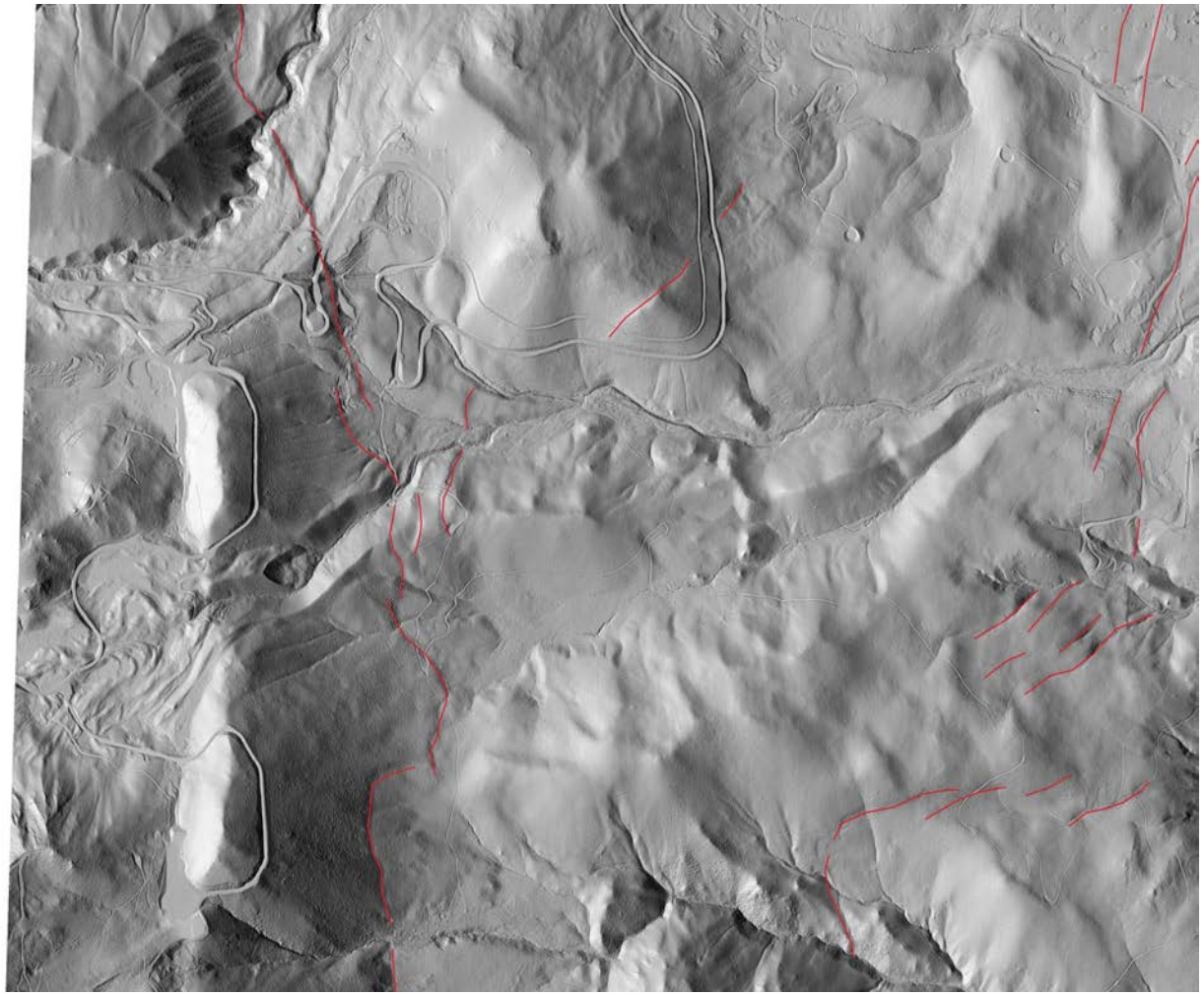
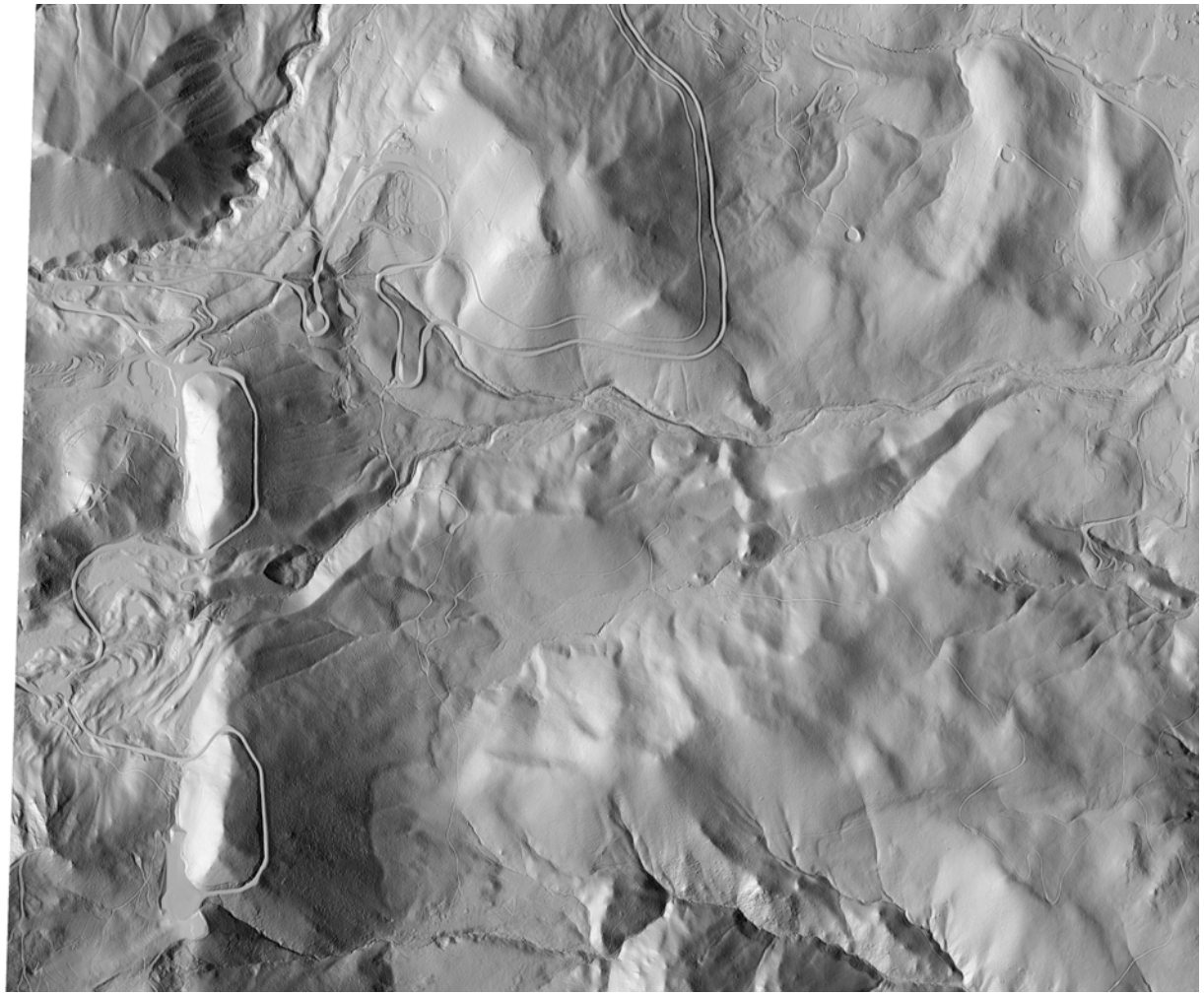
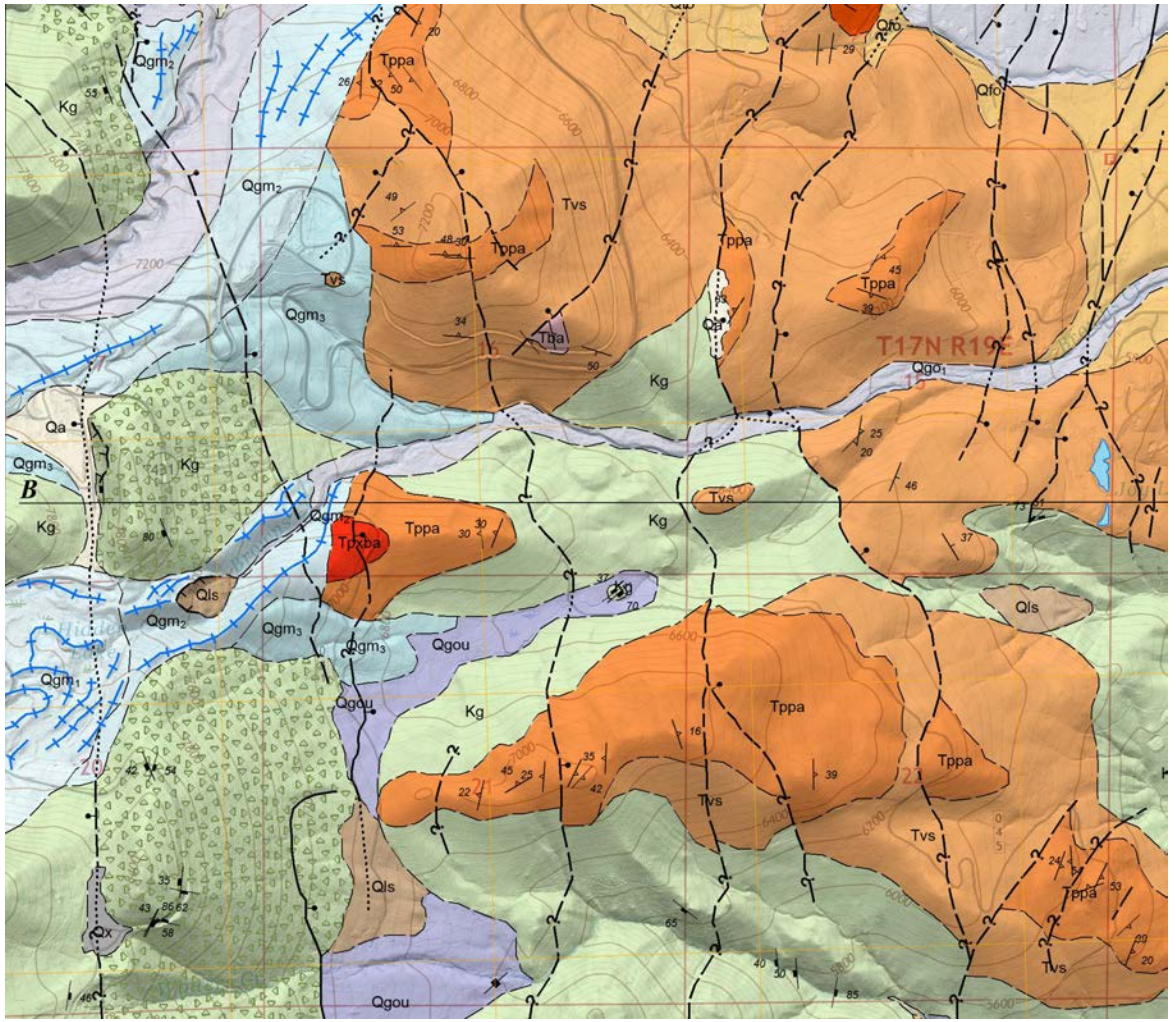
14
T17N R19E
B'
ST JAMES PKY





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Qgm2
Tppa
Kg
Tvs
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Qgm1
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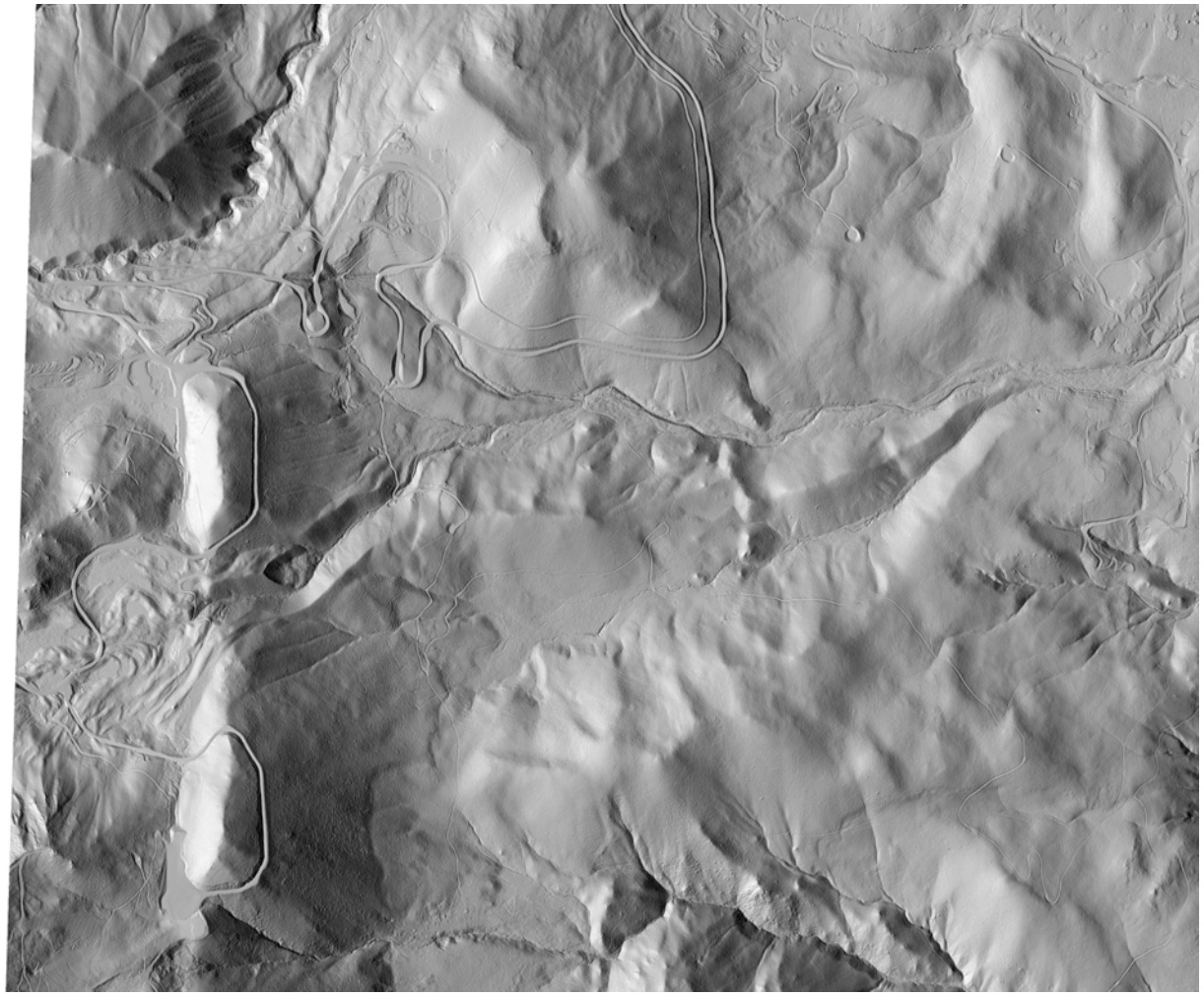
Qx
T17N R19E
B



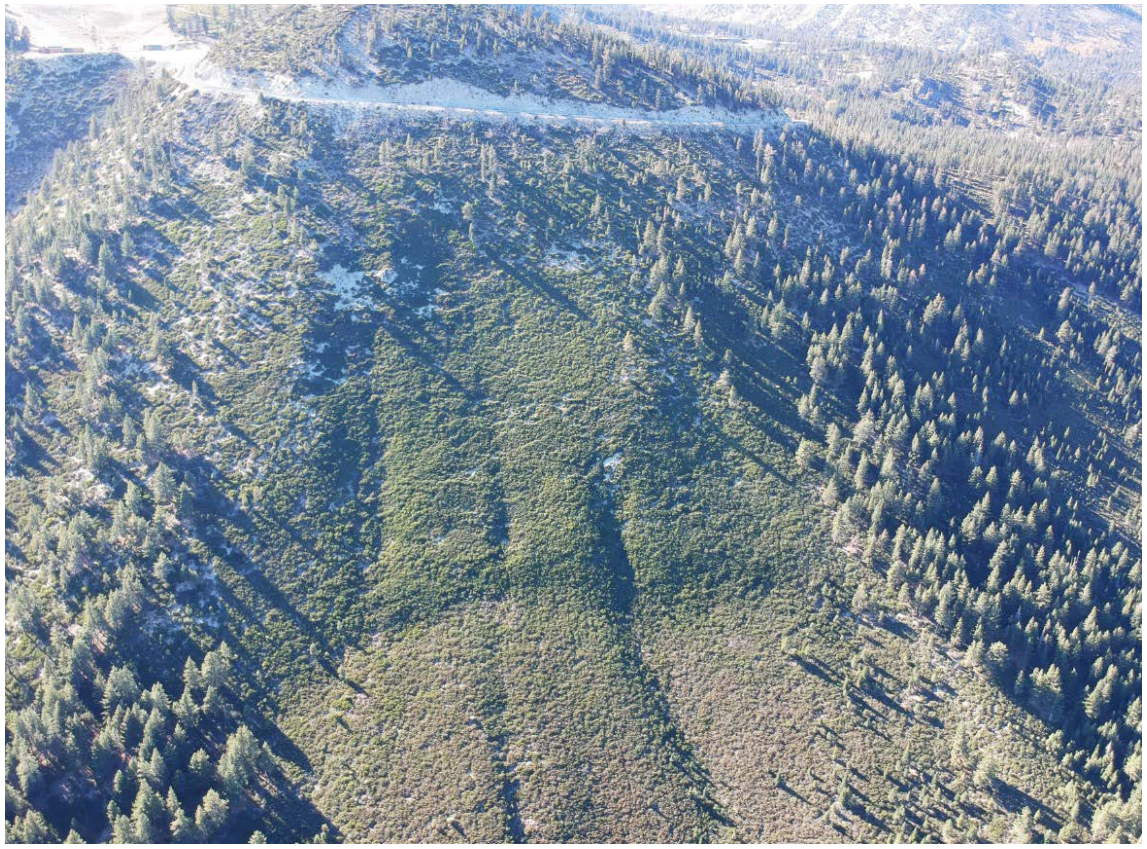
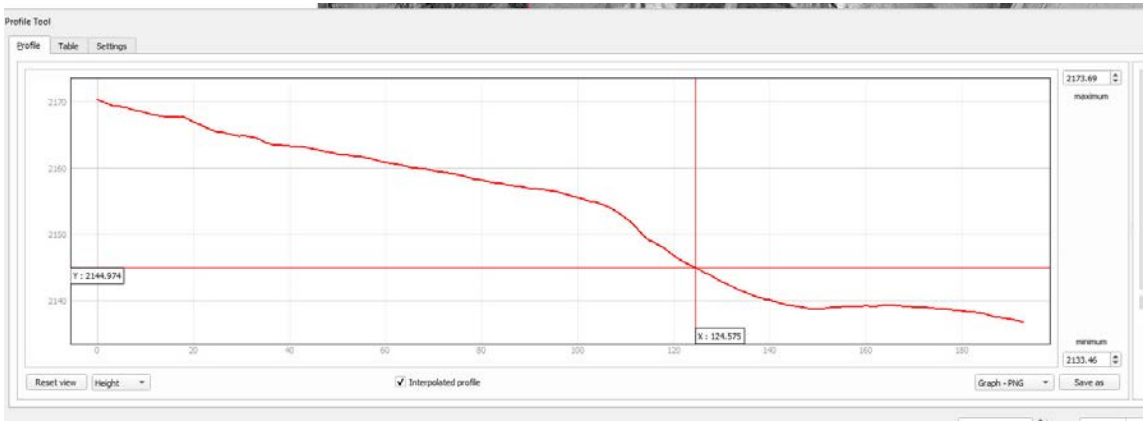


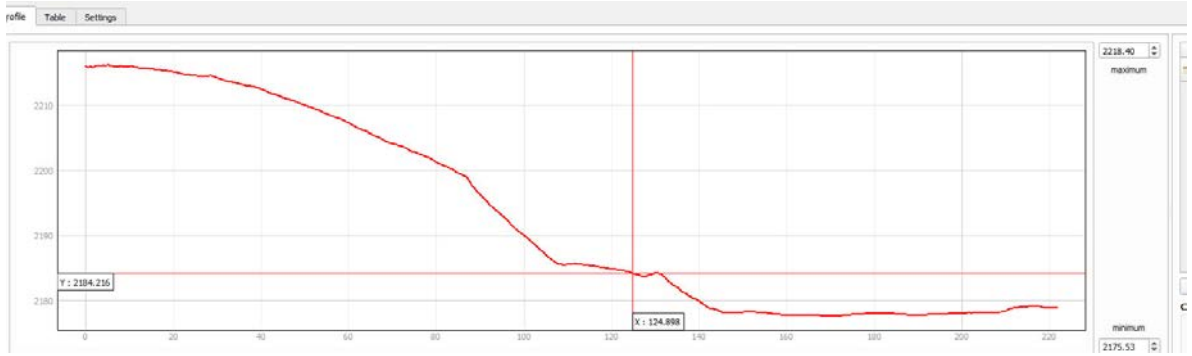
Photo S. Wesnousky

Offset erosion gullies across large normal Fault scarp may indicate a component of right-lateral shear

Knowing the slip rate, displacement can be estimated from profiles to infer the age of a faulted deposit.



0.4 mm/yr X yrs =16 m age of surface ~40,000 yrs



0.4 mm/yr X yrs = 37 m age of surface ~92,000 yrs