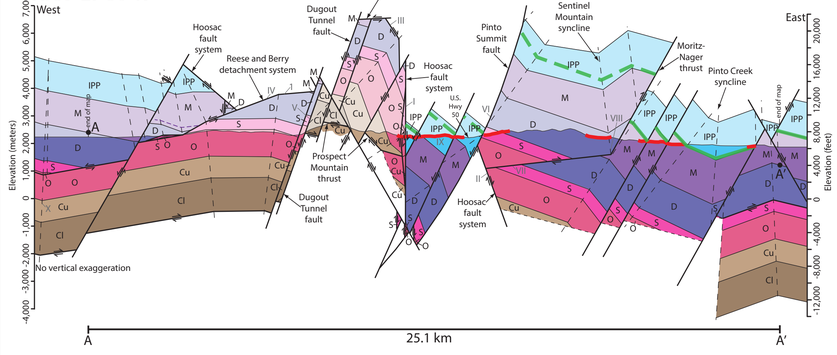
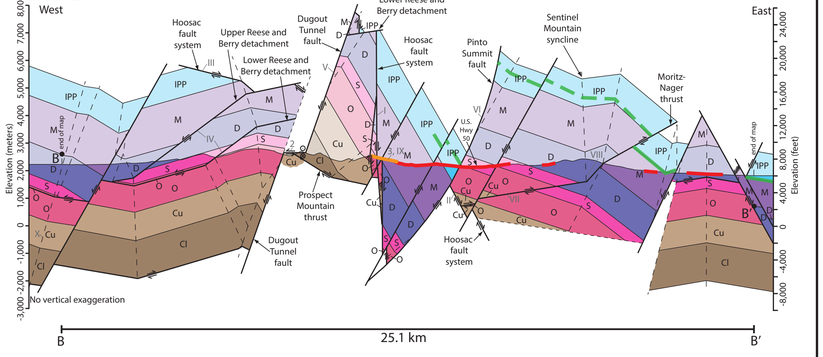
Plate 3

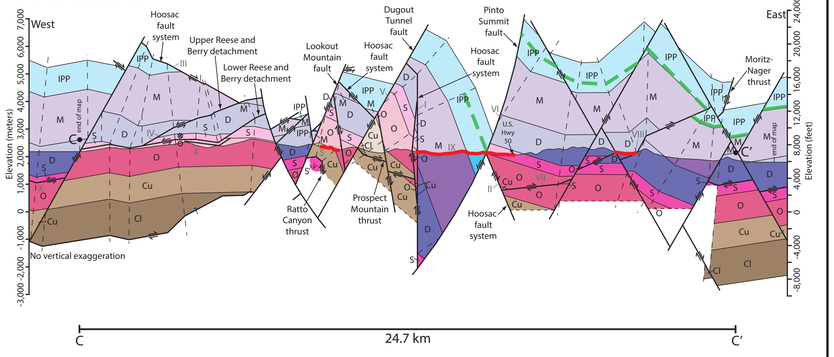
A. 39°27′30″N

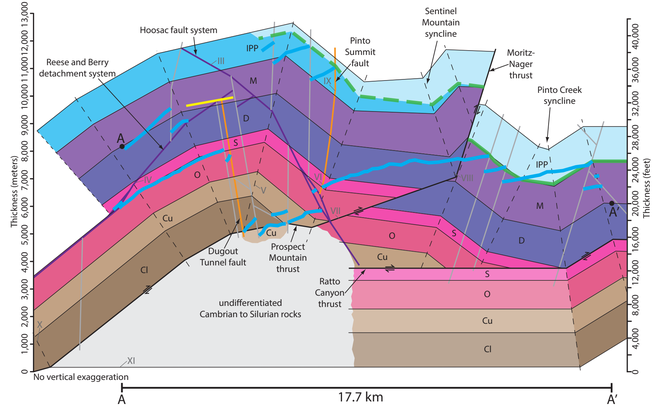


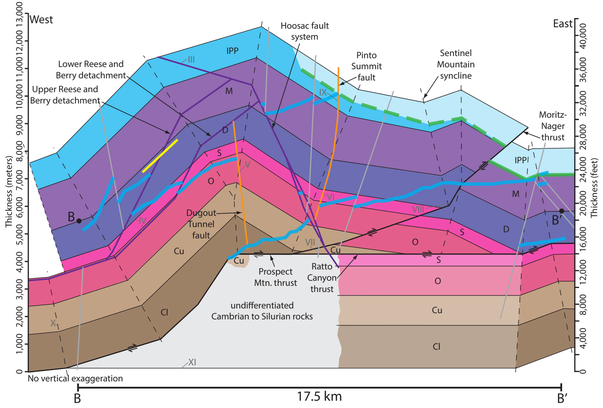
B. 39°26′15″N

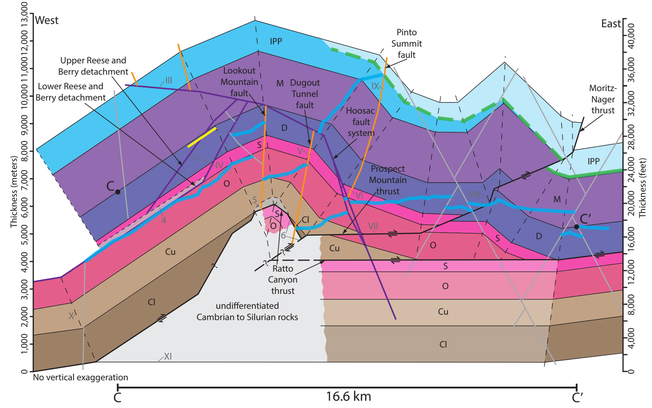


C. 39°24′20″N









Notes for A-A′ cross-section:

1. Reese and Berry detachment system is simplified as one detachment fault, because upper and lower detachments merge immediately south of cross-section line.

Notes for B-B′ cross-section:

2. Section of Dugout Tunnel fault is modeled as flat because cross-section line crosses an east-striking portion of fault, which likely has dominant oblique or strike-slip component of motion. Space in hanging wall of this flat portion is left empty for purpose of restoration, because dominant component of motion is likely in and out of page.
3. ~20-30° eastward tilting of Late Cretaceous to late Eocene conglomerate on Hoosac Mountain is attributed to down-to-west motion on listric Pinto Summit fault.

Notes for C-C′ cross-section:

4. Lower Reese and Berry detachment projects above modern erosion surface, and based on strike likely has a component of motion in and out of page; Silurian section is schematically thinned on deformed cross-section to show this. Silurian section is restored to full thickness on restored cross-section.
5. Upper Cambrian section is thinned ~300 m here based on collapse of Hamburg dolomite to ~50-100 m of breccia in alteration zone in footwall of Lookout Mountain fault. This is in part responsible for steep eastward dip of Ratto Canyon thrust shown here. Upper Cambrian section is restored to full thickness on lower, partially-restored cross-section.
6. Structural elevation and eastward dip of Ratto Canyon thrust could indicate emplacement of a small, younger thrust sheet comprised of units O and S carved off of top of footwall ramp that cuts the Ratto Canyon thrust and feeds slip into Moritz-Nager thrust.

Notes common to all cross-sections:

I. Hoosac fault system simplified as one master, eastern normal fault, with a smaller-offset western normal fault that merges into master fault above and below modern erosion surface.
II. Hoosac fault system shown retaining a steep dip at depth because it does not breach modern erosion surface in footwall of Pinto Summit fault.
III. Hoosac fault system above modern erosion surface is drafted with a flatter dip as it crosses fold axes, in order to retain ~20-30° hanging wall and footwall cutoff-angle relative to bedding. This is based on low hanging wall cutoff-angle of Permian rocks observed on cross-section A. Also, Hoosac fault system is shown cutting Reese and Berry detachment system above modern erosion surface. This relationship is not observed, and was drafted this way solely based on Hoosac fault system having a higher cumulative offset.
IV. Lower and upper Reese and Berry detachments are shown with ~20-30° cutoff-angle above modern erosion surface, and cut down-section westward to decollement at top of Eureka quartzite, after observations in Mountain Boy Range and Reese and Berry Canyon.
V. ~40° change in dip across Dugout Tunnel fault modeled as juxtaposition of opposite sides of a kink surface with steeper dip domain on east.
VI. ~40° dip change across Pinto Summit fault modeled as combination of ~20° of listricity and juxtaposition of opposite sides of kink surface with ~20° higher dips on west.
VII. Prospect Mountain and Moritz-Nager thrusts are connected at depth, based on similar vergence and offset magnitude, relative stratigraphic levels they deform, and lack of surface-breaching thrust faults observed between their traces. Modeled with ~30° hanging wall and footwall cutoff-angles east of Prospect Mountain.
VIII. Sentinel Mountain syncline modeled as fault-bend formed fold from motion of Moritz-Nager thrust sheet over footwall ramp. Ramp modeled as increase in footwall cutoff angle from 30° to ~70-80°.

Notes common to all cross-sections, continued:

IX. ~20-30° eastward tilting of Late Cretaceous to late Eocene conglomerate on Hoosac Mountain is attributed to down-to-west motion on listric Pinto Summit fault (cross-section B-B′). Retro-deformation of a similar amount of tilting is applied to cross-sections A-A′ and C-C′.
X. ~10-20°E dips in Devonian rocks to west of map area in Mahogany Hills are reported on map of Schalla (1978); this supports location of westernmost kink surface.
XI. Line connecting basal contact of lower Cambrian section at its intersection with westernmost kink surface (comment X) and Pinto Creek syncline axis is interpreted as paleo-horizontal. These fold axes define western and eastern limits of Eureka culmination. Under this interpretation, ~20° of eastward tilt was retro-deformed in hanging wall of Pinto Summit fault (with locally higher tilts [~30°] in its immediate hanging wall; this is corrobotated by eastward tilt of the Late Cretaceous-Early Tertiary conglomerate [comment IX]), and ~10° of eastward tilt was retro-deformed in footwall of Pinto Summit fault.

Erosion levels:

- Modern erosion surface (restored cross-sections only)
- Late Eocene, sub-volcanic erosion surface (deformed cross-sections only)
- Lowest possible erosion level prior to motion on Reese and Berry detachment system (deformed cross-sections only)
- Erosion surface below Late Cretaceous to late Eocene conglomerate on Hoosac Mountain (deformed cross-section B-B′ only)
- Approximate stratigraphic level of Early Cretaceous erosion surface at base of Newark Canyon Formation (projected from ~1-5 km N of map area, from mapping of Nolan et al., 1971; 1974)