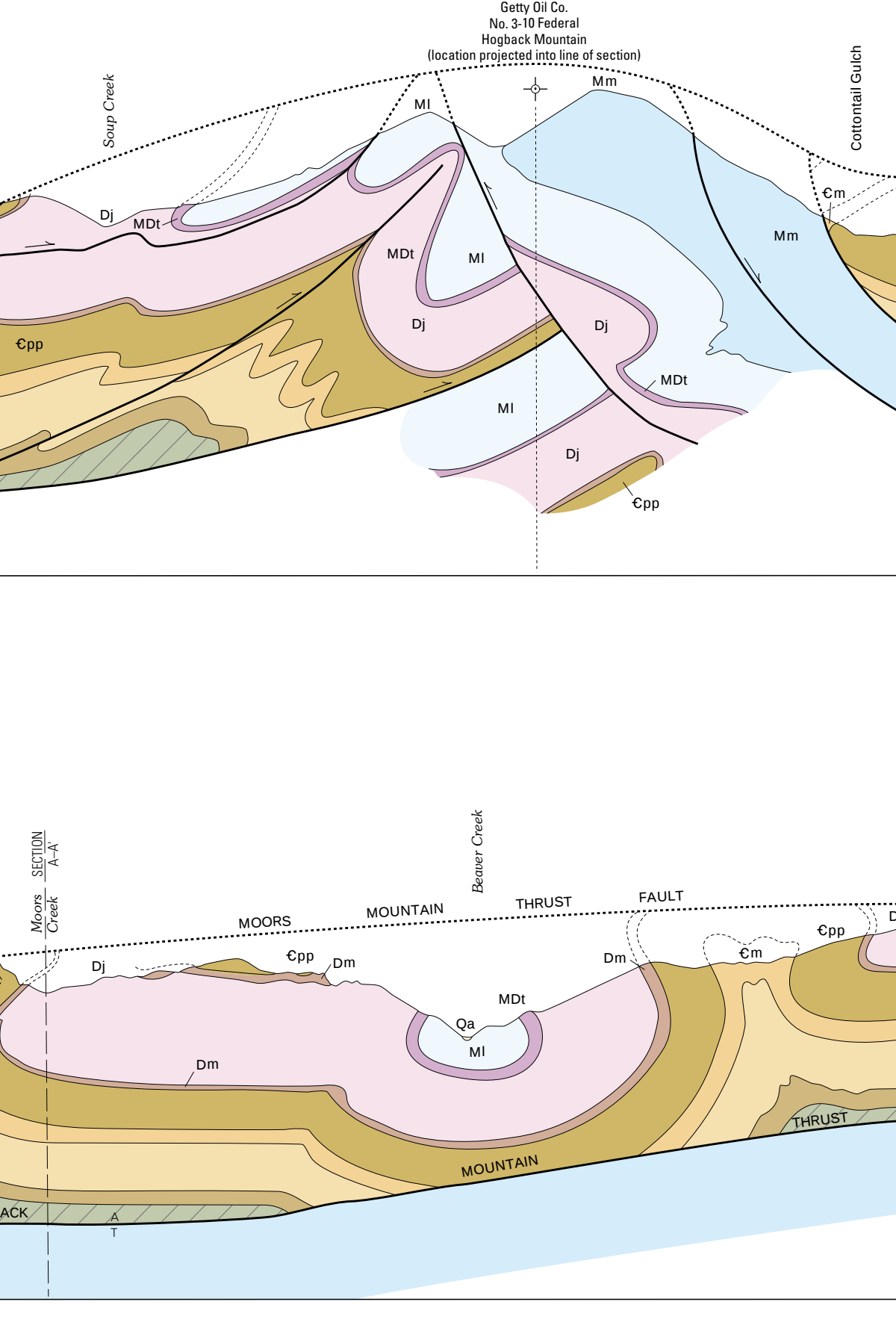
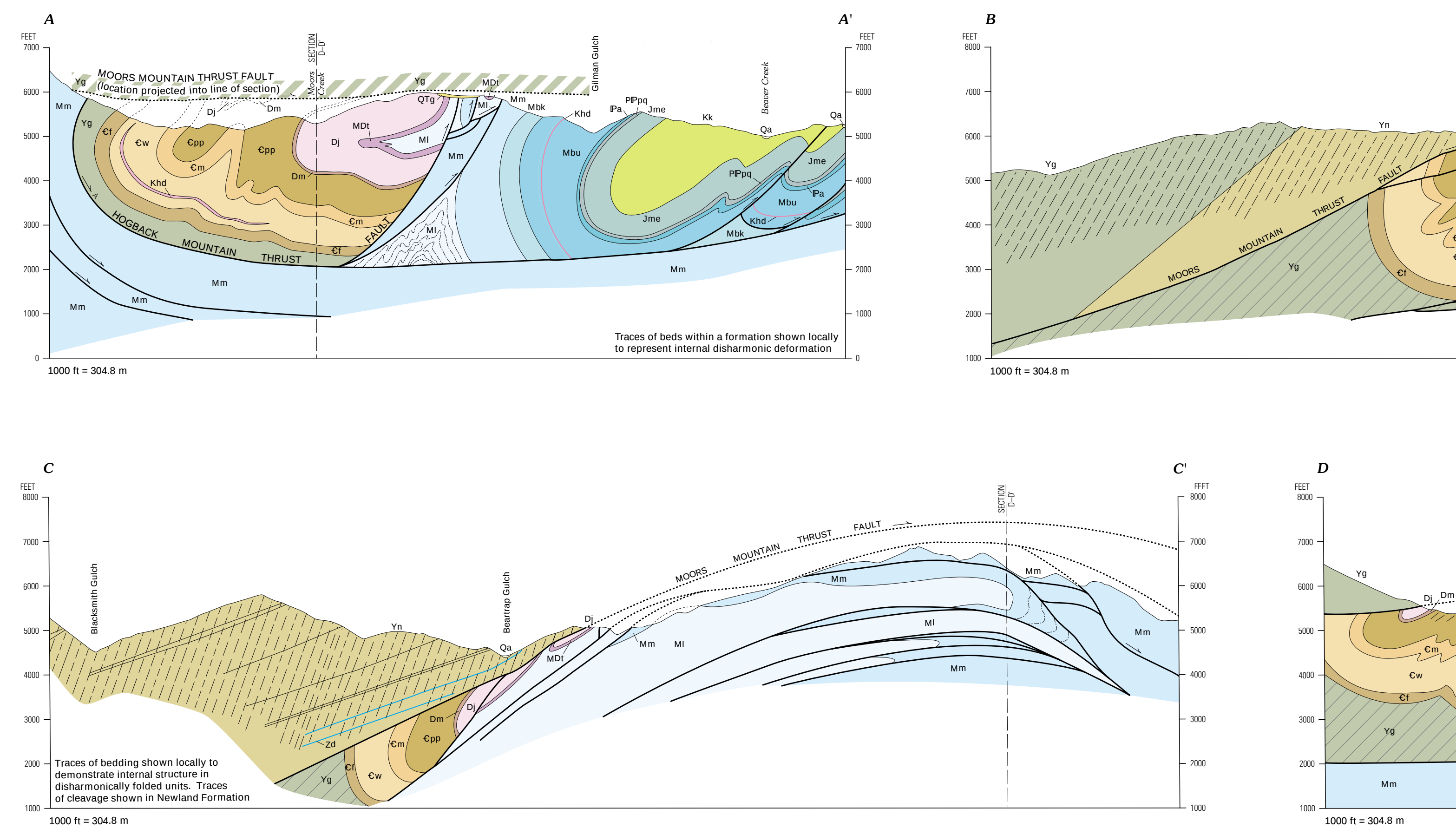


[illegible]

apparent shortening product of c. 200% (see Fig. 10a). The discontinuity is very poor exposed in secs. 29 and 30, 12 N, 1 E, and locally in NE $\frac{1}{2}$ sec. 25, T. 12 N., R. 1 W. Age determination on a similar but stratigraphically higher intrusive sill in the adjacent Canyon Ferry 7.5-minute quadrangle is 741.3 $\pm$ 32.2 Ma (sample collected by M.W. Reynolds; K/Ar determination by H.H. Mehnert, U.S. Geological Survey, written commun., 1985). Estimated thickness 4.5–8 m

[illegible][illegible]

Mountain—Hogback Mountain placed across the Hogback Mountain quadrangle. Along the fault, the Hogback Mountain and the Newburg and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice).

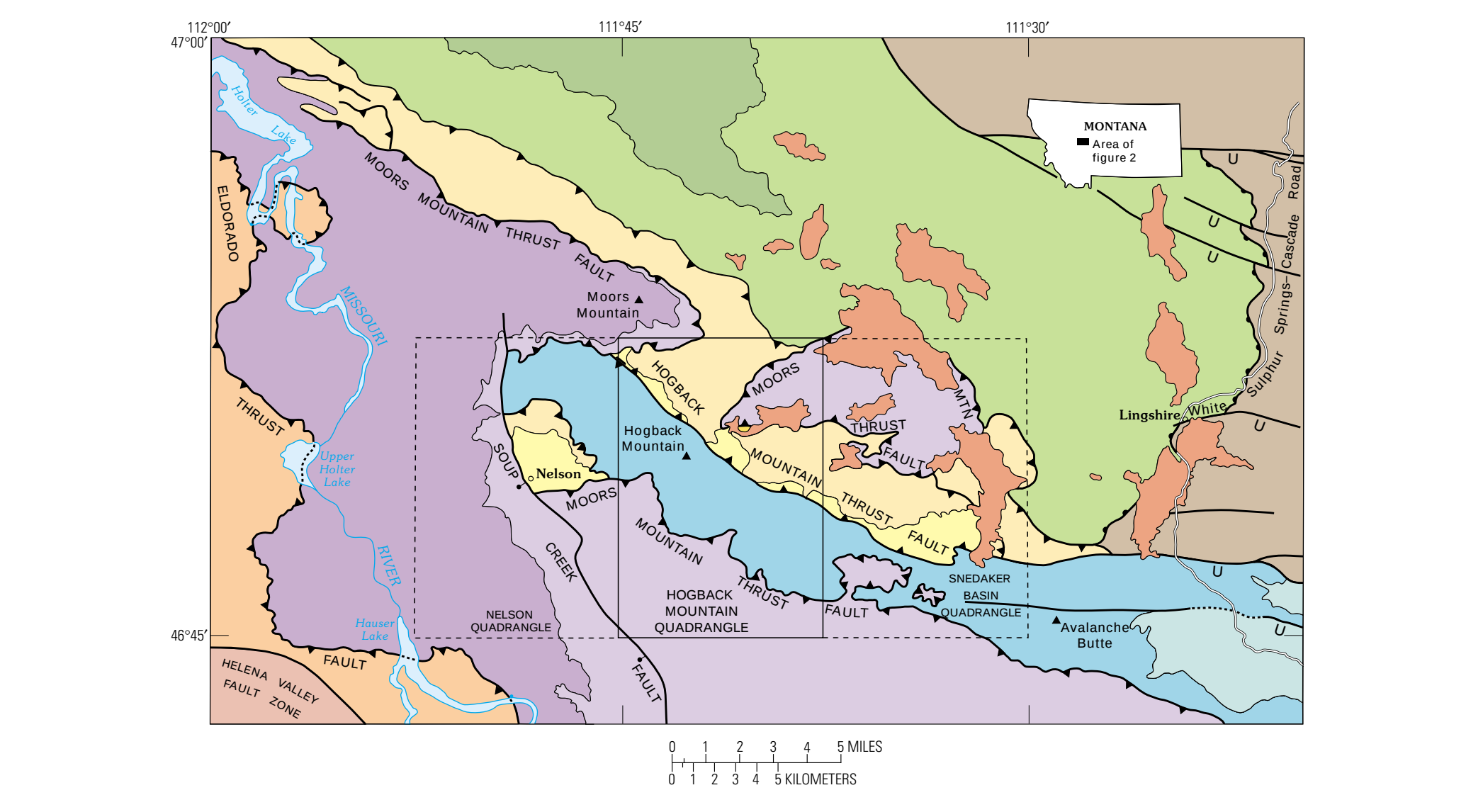
Overturned anticline—In the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice).

Inverted anticline—In the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice).

Syncline—In the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice).

Overturned syncline—In the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice) and the Newburg and the Newburg fault, transported over all different rocks of the Hogback Mountain and Andalusite Range plate times (time-slice).

The structurally truncated contact of the Newland Formation with the Oregon ophiolite is a **thrust** fault. The **hanging wall** is the Newland Formation and the **footwall** is the ophiolite. The **slip** is **reverse** (the hanging wall moved up relative to the footwall). The **slip direction** is **up-slope** (the hanging wall moved up the slope of the fault). The **slip sense** is **reverse** (the hanging wall moved up relative to the footwall). The **slip vector** is **up-slope** (the hanging wall moved up the slope of the fault). The **slip magnitude** is **up-slope** (the hanging wall moved up the slope of the fault). The **slip direction** is **up-slope** (the hanging wall moved up the slope of the fault). The **slip sense** is **reverse** (the hanging wall moved up relative to the footwall). The **slip vector** is **up-slope** (the hanging wall moved up the slope of the fault). The **slip magnitude** is **up-slope** (the hanging wall moved up the slope of the fault).

[illegible]

[Thrust sheets stand in decreasing succession of increasing age]

OBGEOCLASTIC BASINS

- Oblique basal flows
- Autochthon, Phanerozoic rocks at surface

FRONTAL FOLDS AND FAULT BELTS

- Uppere: Muskegonian and younger rocks includes Adirondack Volcanics (Upper Devonian)
- Moons Mountain thrust sheet
- Phanerozoic rocks
- Middle Proterozoic rocks, includes Upper Proterozoic sills
- Hopkock Mountain and related thrust sheets
- Middle Proterozoic rocks
- Autochthonic Belt and related thrust sheets
- Phanerozoic rocks
- Middle Proterozoic rocks

EXPOSED CRATONS

- Eldorado thrust sheet
- Phanerozoic rocks
- Middle Proterozoic rocks

EDGE OF MAJOR THRUST SHEET

- ▲— Edge of major thrust sheet—Southwest on upper plate
- ▲— Edge of major thrust sheet, overturned—Base of southwren on upper plate
- ▲— Edge of décollement surface a base of frontal fold and fold belt
- U— Major high-angle normal fault—Up on southern block, west face (left) and east face (right) component of movement
- *— Major high-angle normal fault—left and had on southwren
- ▲— Stratigraphic boundary at termination of thrust sheets or between Phanerozoic, and pre-Phanerozoic rocks within a thrust sheet

Figure 2. Tectonic map of the northern Big Belt Mountains, Montana, showing thrust sheets, tectonic units, and the distribution of Middle Proterozoic rocks, Phanerozoic rocks, and Oligocene basalt flows in relation to the Hogback Mountain quadrangle.

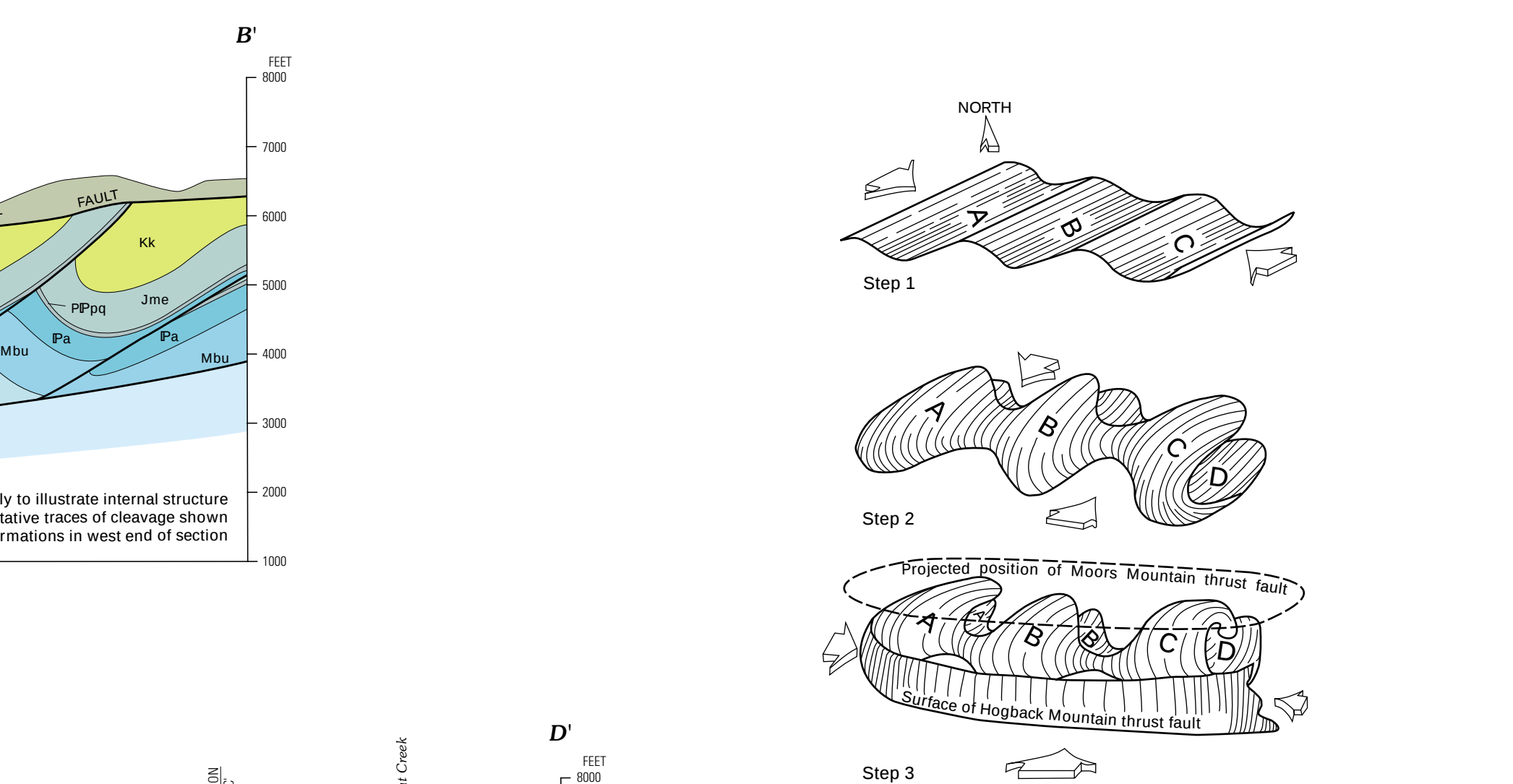


Figure 3 Suggested sequence of development of structure on the upper part of the Hugobuck-Mountain thrust belt. (a) Before the onset of the Hugobuck-Mountain thrusting, the basement part of the Hugobuck-Mountain quadrangle and the western part of the adjacent Grosbeck Basin quadrangle (Fig. 1) were folded (see Fig. 1 for location). (b) During the Hugobuck-Mountain thrusting, the basement part of the Hugobuck-Mountain quadrangle and the western part of the adjacent Grosbeck Basin quadrangle (Fig. 1) were folded (see Fig. 1 for location). (c) After the Hugobuck-Mountain thrusting, the basement part of the Hugobuck-Mountain quadrangle and the western part of the adjacent Grosbeck Basin quadrangle (Fig. 1) were folded (see Fig. 1 for location). The diagram includes labels for 'Hugobuck-Mountain thrust belt', 'Basement (B)', 'Syncline (S)', 'Thrust fault (T)', and 'Thrust belt (TB)'. A scale bar at the bottom indicates 100 km.

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