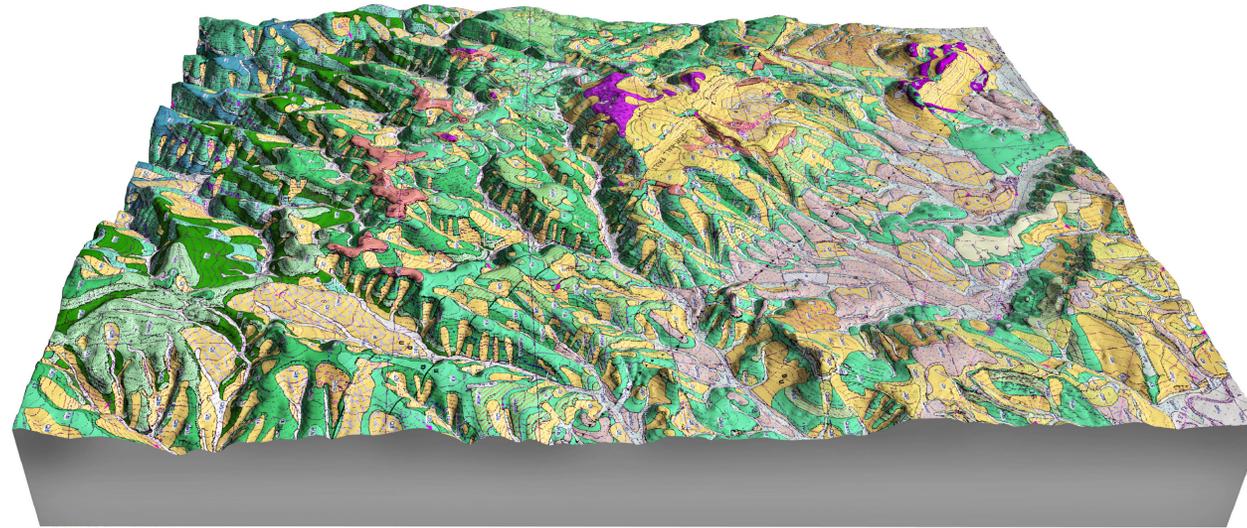


3-D OBLIQUE VIEW



Vertical Scale Exaggeration 2:1

CORRELATION OF MAP UNITS



STRUCTURAL GEOLOGY

The quadrangle is located on the southwest flank of the northwest-trending Sand Wash Basin. Generally, strata in this region strike southeast to northwest, dipping gently to the northeast. This produces an overall outcrop pattern of older formations exposed in the southwestern corner of the quadrangle, with younger formations exposed in the northeast corner. This general northeast dipping fabric is modified by northwest-trending folds and faults segmented by northeast trending monoclines and faults. Buck Peak dome is a double-plunging anticline with a northwest-trending axis parallel to the general trend of Sand Wash Basin. Two additional subtle northwest plunging anticlines, parallel to the Buck Peak structure, deform the strata in the northeast corner of the quadrangle. Structural relief appears to be low for these subtle anticlines and evidence for the structures consists of opposing dips observed in the field. Low relief synclines separate the anticlines.

The general northwest-trending structural fabric is further segmented by a series of low-relief, northeast plunging, monoclines that exhibit northwest-side down displacements. These subtle features effectively create a stair-step overprint, dropping the otherwise northeast dipping flank of the basin to the northwest. Another larger structure, also with down to the northwest displacement, extends beneath Buck Peak and forms a distinct linear ridge in aerial photos. This feature appears to truncate the Big Bottom Syncline as it enters the quadrangle from the west beneath Deacon Gulch. A similar, but much larger, northeast-trending structure crosses the southeast corner of the quadrangle but has an opposite sense of displacement down to the southeast. The pattern of these northeast-trending features suggests that they are expressions of deeper concealed faults that attenuate upward into subtle folds as they pass through the underlying Mancos Shale. A normal fault having a similar trend and down to the northwest displacement truncates the southeast closure of Buck Peak Dome.

Several other faults are also evident in the quadrangle. A reverse fault beneath the northeast flank of Buck Peak Dome is inferred based on apparent missing section of Lewis Shale between exposures of the three white sandstone member and sandstone member at Grati Hill. The fault is shown trending to the northwest to Breeze Mountain where a southwest-dipping dike appears to be a feeder to the northwest Breeze Mountain sill complex, as exposed in a dimension-stone quarry. It is interpreted that the feeder dike followed the zone of weakness formed by the fault. Two other faults, parallel to the main reverse fault, track the southwest flank of Buck Peak Dome. These appear to exhibit very linear, through-going trends. The main fault is informally named the "Great Wall" fault because of its through-going linear expression clearly seen from the air. At the northwest end, displacement is down to the northeast, forming two small half-grabens. To the southeast, the northern fault switches sense of displacement to down to the southwest, creating a small graben with the other fault.

As with the greater Sand Wash Basin, Buck Peak dome and the two other northwest-plunging anticlines appear to be Laramide structures. Miocene Browns Park Formation sediments appear to truncate the overall Buck Peak structure. It is likely that the reverse fault on the northeast flank of Buck Peak Dome is also Laramide, with the dome representing deformation on the hanging wall. Intrusion by the approximately 8.8 Ma diabase Breeze Mountain feeder dike along the fault may be evidence of later extensional reactivation of the fault. The "Great Wall" fault has evidence of younger displacement. Browns Park Formation appears to be preserved in, and tilted by, the half graben formed along the fault.

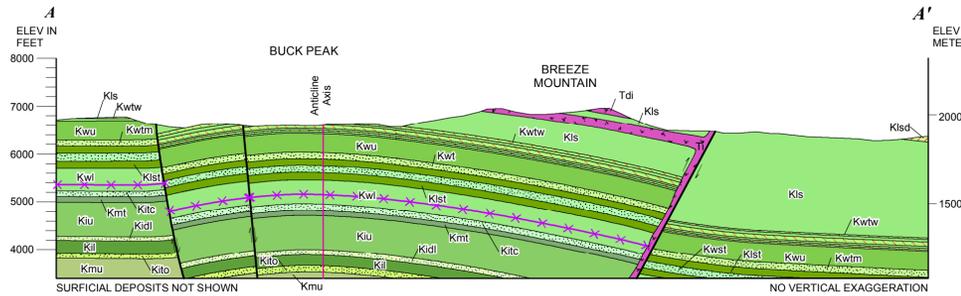
ACKNOWLEDGEMENTS

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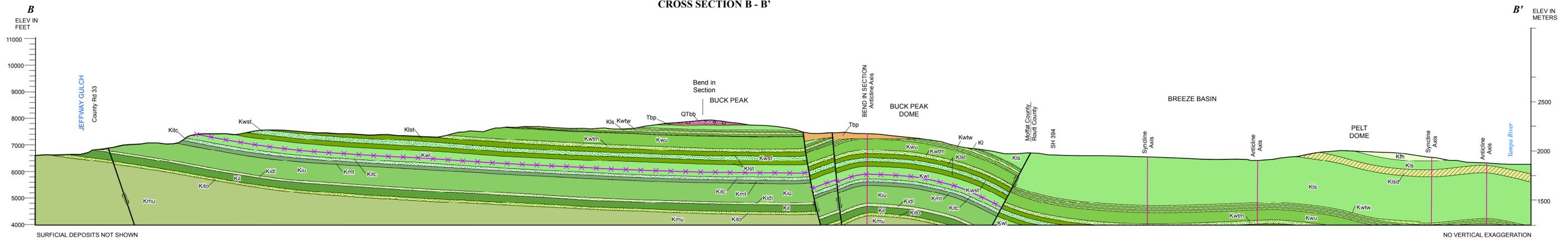
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CROSS SECTION A-A'



CROSS SECTION B-B'



GEOLOGIC MAP OF THE BREEZE MOUNTAIN QUADRANGLE, MOFFAT AND ROUTT COUNTIES, COLORADO

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