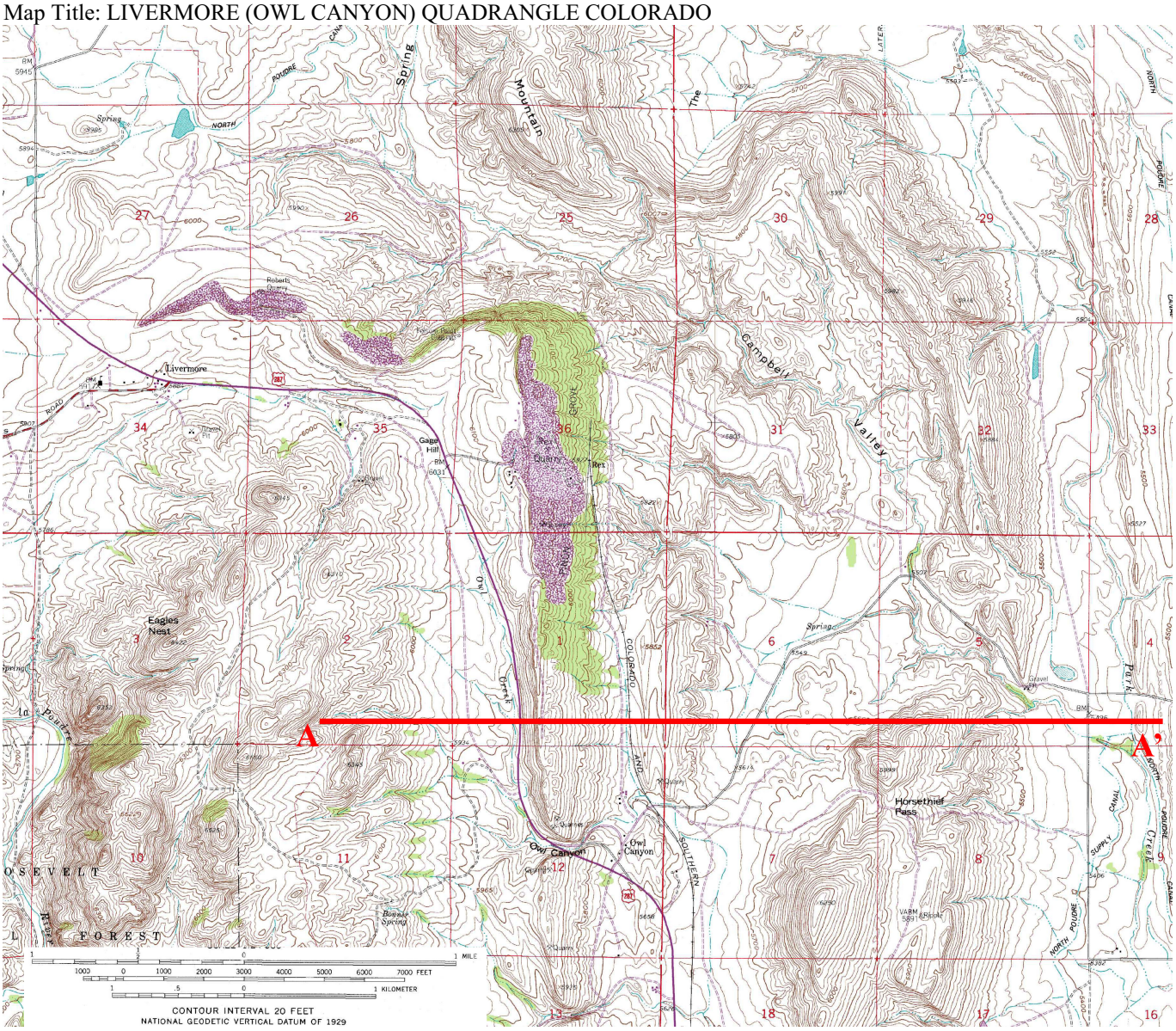
LAB EXERCISE 16 - MAP INTERPRETATIONS: DIPPING GEOLOGIC STRUCTURES

Name:	Course ID:

For each of the maps below please answer the following questions and complete the worksheet!

Map Title: LIVERMORE (OWL CANYON) QUADRANGLE COLORADO



Calculated Map Scale: Contour interval:

Relief of Map (underline your answer):

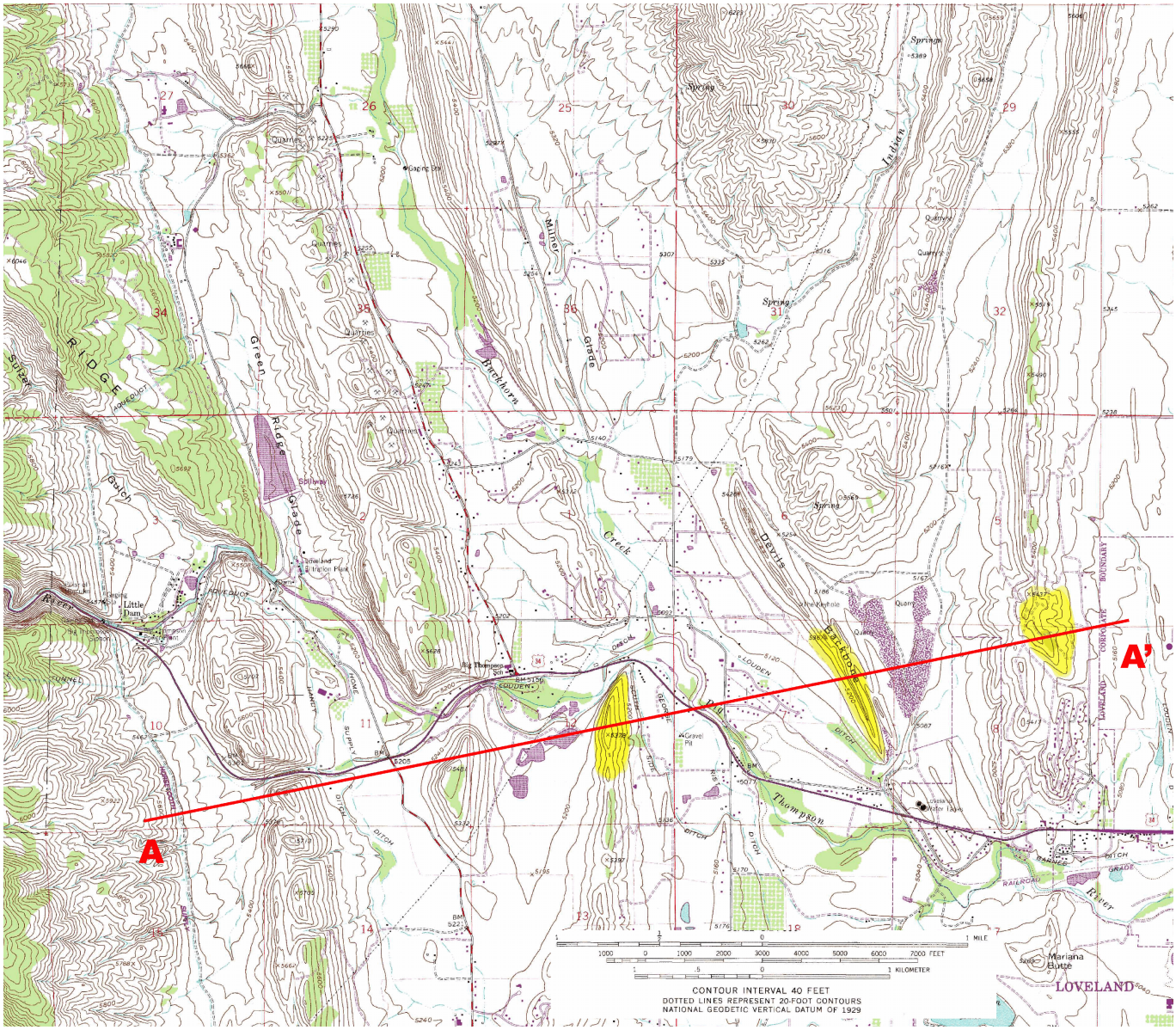
Place at least 6 STRIKE & DIP symbols on your map calculating correct dip angles.

Draw the cross section A - A' neatly on graph paper. Then use the map and your cross sectional profile to answer the following questions:

What tectonic event did most likely occur in this area? Give evidence for your conclusion:

Can you tell anything about the rock types (lithologies) present in the map? Summarize the criteria for your decision below, then use colored pencils to shade in the extent and position of your estimated lithologies on the map. (*Hint: The rocks for the eastern ~3/4 of your cross section line are sedimentary!*)

Map Title: MASONVILLE (DEVILS BACKBONE) QUADRANGLE COLORADO



Calculated Map Scale: Contour interval:

Relief of Map (underline your answer):

Place STRIKE & DIP symbols on the map at every hogback along the A-A' section showing dip angles. *(Hint: Draw cross section to find dip direction of Devils Backbone. Dip is toward the gentler slope!)*

Draw the cross section A - A' neatly on graph paper. Use map and cross sectional profiles to answer and do the following:

The yellow shaded areas on the map represent the presence of the Dakota Group comprised of very resilient conglomerates and coarse sandstones. Create a partial geologic map by completing the coloration on the map for the outcrop of the Dakota Group strata.

Transfer the coloration onto your cross sectional profile. Then show on your cross section how the Dakota group lithologies might be connected in the subsurface and indicate their extent above the present surface before erosion. What geologic structure is present on the map? Give evidence for your conclusion: