

# **A DETAILED STRUCTURAL ANALYSIS OF THE HINGE AREA OF THE MURPHY SYNCLINE, ELLIJAY, GEORGIA**

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The Murphy Syncline includes the youngest rocks in the Western Blue Ridge terrain of the Appalachian Mountains. The syncline is a very large overturned isoclinal fold that extends from near Asheville, North Carolina, to the north end of Lake Allatoona, Georgia. A detailed structural analysis was made of four outcrops in Ellijay, Georgia. This area was chosen because of the high density of structural elements in these outcrops and its location in the hinge area of the Murphy Syncline. These structural elements include stretched pebbles in metaconglomerates, fold hinge lines, L1 intersection lineations, and mineral lineations. Stereographic analysis of these data was completed using NetProg, a structural analysis software suite. Results from this study indicate a near-horizontal southwesterly trend for the syncline and are consistent with other regional studies. Moderate scattering of the data suggests minor interference by F2 and later cross folds. Data were consistent across the study area.