

Trip F-3

STRATIGRAPHY AND STRUCTURE OF THE METAMORPHIC ROCKS
OF THE STONY CREEK ANTIFORM (A "FOLDED FOLD") AND
RELATED STRUCTURAL FEATURES, SOUTHWESTERN SIDE
OF THE KILLINGWORTH DOME

by

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SUMMARY

The pre-Triassic metamorphic terrain of the Eastern Highlands province southwest of the Killingworth dome presents many problems. The prominent units of the dome, the Monson and Middletown Formations, evidently do not extend toward the southwest. Instead, what are thought to be older units have been brought up along faults. The structural unit most clearly displayed by these supposedly older rocks is the Stony Creek antiform, whose axial surface resembles a simple anticline plunging eastward. The Stony Creek antiform is clearly delineated by the Plainfield "quartzite." The Stony Creek granite lies within the outcrop belt of the Plainfield.

Other feldspathic gneisses and amphibolites are present north of the Connecticut Turnpike; these are of unknown age, but are thought to be younger than the Plainfield but older than the Monson.

North of Branford Center, intensely sheared and mylonitized rocks dip gently northward and lie north of a recumbent syncline that opens to the south. Although its area of exposure is close to the Triassic Border Fault, the mylonite is clearly unrelated to the Triassic fault and strikes eastward away from this fault. One possible interpretation is that the mylonite marks the Honey Hill fault. If so, then several large younger faults, probably of post-Triassic age, have cut the pre-Triassic rocks to isolate this stretch of the Honey Hill fault from its more continuous belt of exposure on the east side of the Killingworth dome.