

AN ABSTRACT OF THE THESIS OF Rauno Perttu for the Master of Science in Geology presented June 1976.

Title: Structural Geology of the Northeast Quarter of the Dutchman Butte Quadrangle, Southwest Oregon.

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The northeast quarter of the Dutchman Butte quadrangle straddles the boundary of the Mesozoic Klamath Mountains province and the Tertiary Coast Range province. The boundary in this area is controlled by a major east-trending fault zone, herein named the Canyonville fault zone. Jurassic Rogue, Dothan, and Otter Point Formations have been offset right-laterally at least 40 kilometers. In latest Jurassic and early Cretaceous time, the fault zone formed the shoreline along which sediments of the Myrtle Group were deposited.

Movement on the Canyonville fault zone became down-to-the-north in Eocene time forming the southern margin of the Eocene Coast Range basin. Rocks of the lower to middle Eocene Roseburg and Lookingglass Formations thin and pinch-out, and become shallow marine to nonmarine in character southward across the fault zone. Fault movement decreased in Lookingglass time, and essentially ceased by Tyee (middle Eocene) time.

Eocene structures in the thesis area formed contemporaneously with sedimentation; individual structures controlled and were controlled by the stratigraphy of the Eocene units.