The Western Cascades of Oregon were mapped on a reconnaissance basis by Dallas Peck in 1964. Detailed mapping of an area approximately 250 square kilometers reveals more stratigraphic and structural information within the Sardine Formation. The formation has been broken down into five lithologic units, i.e., volcanioclastic sedimentary rocks, mudflow, volcanic breccia, andesite, and younger intrusive rocks. Aerial photograph analysis and field work yielded more extensive information regarding the extent and location of these units.

This study was initiated to provide more information regarding the above-mentioned units, as well as to investi-
gate the possibility of east-west trending structural features in the vicinity of Third Creek, where extensive landsliding, a large intrusion, and steep dips had been noted during reconnaissance in the summer of 1977. While no such features were found, analysis of fault trends and dikes through rose diagrams and potential fold axes generated through a beta diagram revealed a pattern consistent with a right-lateral wrench fault stress system. Fault trends showed a strong N 40° W preference; dike trends were north-northeast; and fold axes of N 50°W-S 50°E were strongly indicated. These trends can be easily fit into a single wrench-fault system trending N 40° W-S 40° E. (Wilcox, 1973).