

shallower depths from east to west across the thrust belt. The most favorable exploration trends appear to be along the deep frontal part of the northern Montana thrust belt, along the central Utah Hingeline and in the northern part of the Wyoming thrust belt. Anomalous shallow concentration of driller shows in the Southern thrust belt suggest that a detailed study of resource potential should be conducted before concluding exploration plans in the area. The widespread geographic and stratigraphic distribution of shows and moderate drilling densities support continued exploration of selected trends with petroleum potential in the western thrust belt.

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Hydrocarbon Distribution in The Thrust Belt

Hydrocarbon shows provide a means to evaluate petroleum potential. A trap, reservoir rocks and hydrocarbons are required for a petroleum prospect. In areas such as the western thrust belt, which have been explored by drilling, hydrocarbon shows can be evaluated from well completion records. The exploration concept would concentrate exploration to define reservoirs and traps in areas that have abundant shows. The abundance of reported shows can be quantified from well records as a show index. A *total* show index is defined as the total number of shows reported on production and formation tests, cores and driller shows divided by the number of dry holes.

Comparison of current exploratory drilling densities and show indexes with pre-discovery data for the producing fairway in the Wyoming thrust belt indicates petroleum potential for several parts of the western thrust belt. Show index maps in three depth ranges indicate that shows tend to decrease in abundance and to be concentrated in