THE RELATIVE AGES OF MAJOR AND MINOR FOLDING AND OIL ACCUMULATION IN WYOMING

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INTRODUCTION

The question of the relative ages of major and minor folding in Wyoming has been seriously raised in the past few years in connection with problems of oil accumulation. It has been said that the major anticlines of the region were formed earlier than the minor anticlines; that under the influence of mountain building pressures the greater part of the oil originally in the shales migrated to the sandstones and, prior to the formation of the minor folds, along the sandstones to the crests of the major folds, from which erosion has since removed it; and that the minor anticlines, those beneath which Cretaceous rocks are still present, received only such small remnants of oil as were left over from the principal migrations.

At first thought it is natural to conclude that the minor folds resulted from dying spasms of the mountain-making forces, and that they were formed, therefore, after the major folds before the formation of the minor folds. Further thought, however, has led me to a contrary, though tentative, conclusion. This conclusion, and the reasons leading to it, are here presented, in the hope that discussion may be provoked, and may bring forth facts on which a final conclusion can be based. I want to acknowledge my indebtedness for facts and suggestions to W. van Waterschoot van der Gracht, A. T. Schwennesen, T. K. Harshberger, and E. F. Davis.

The discussion that follows is confined, even where not specifically so stated, to Wyoming east of Green river. The part of the State lying west of that stream in some respects resembles Appalachian more than typical Rocky Mountain conditions, and is not considered here.