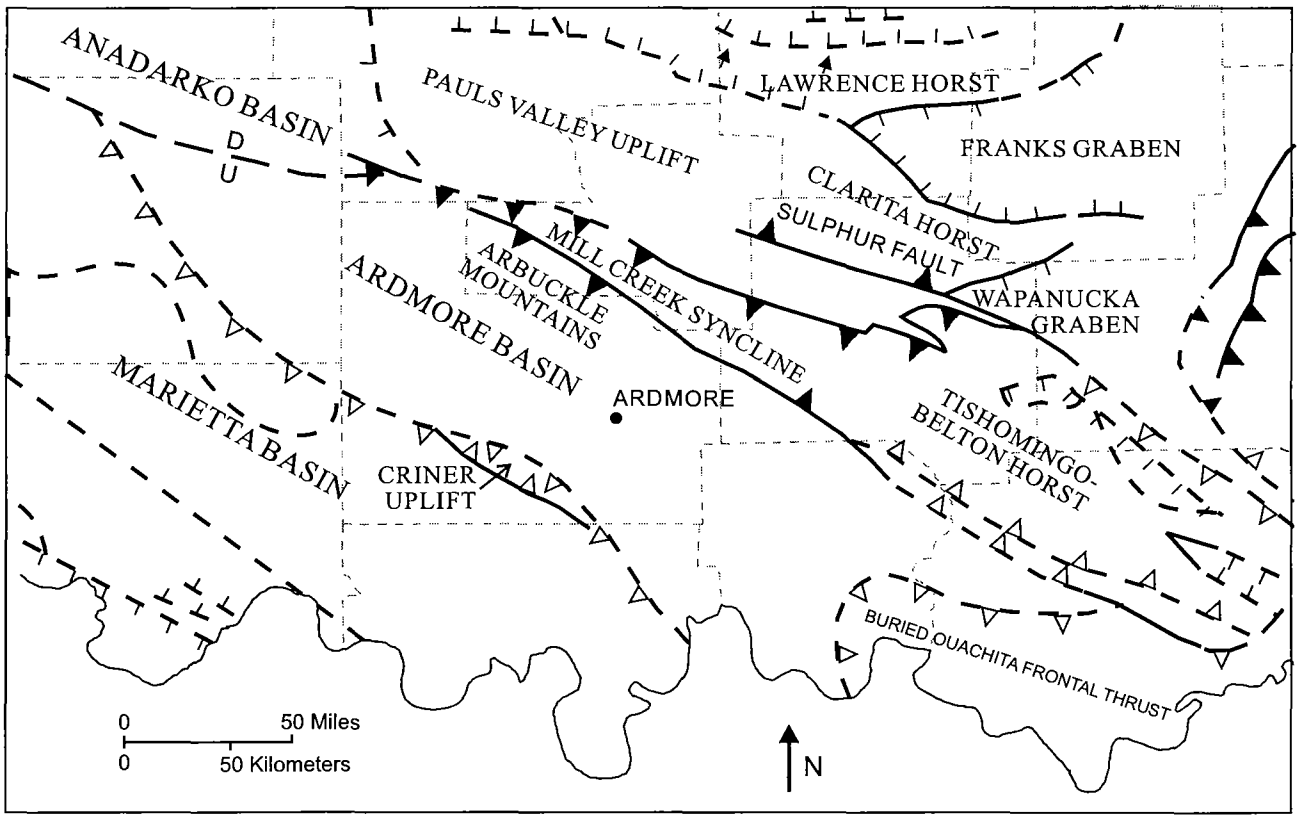
PART I

General Geology

INTRODUCTION

Exposures of rocks in the Springer Group (Chesterian–Morrowan) and in the lower part of the Dornick Hills Group (Primose Member of the lower Golf Course Formation [Morrowan]) are found only within the Ardmore basin (Meek and others, 1988) (Fig. 1). In Oklahoma, the Springer Formation is known to be present in the subsurface only in the Anadarko and Ardmore basins, and in very few, if any, other places in the United States (Robert Allen, personal communication, 2000). Exposures of the named sandstone units in the Springer and Golf Course Formations are of particular interest because, in the subsurface, the sandstones are important hydrocarbon reservoirs. Subsurface nomenclature differs from that of the surface. More sandstone units have been named informally in the subsurface, which makes correlation with the formally named surface units problematic (inside back cover).



Explanation

- Major fault at the surface
- Overthrust fault
- Major subsurface fault
- Subsurface overthrust fault
- Major vertical fault; D, downthrown side; U, upthrown side
- Plunge of subsurface structure
- Buried contact, structural contour or trend

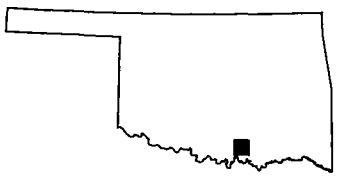


Figure 1. Map of the geologic provinces of south-central Oklahoma showing the positions of the Ardmore basin and related provinces. Modified from Northcutt and Campbell (1995).