

**HGS INTERNATIONAL EXPLORATIONISTS
GROUP
EVENING MEETING—MAY 16, 1984**

GLEN Y. S. BISHOP—Biographical Sketch



Glen Bishop is a Staff Geologist with Conoco, Inc. working in the International Exploration Division in Ponca City, Oklahoma. He received his B.S. degree in Natural Sciences at Cambridge University, England, in 1976. After working as a formation mud logger and pressure engineer with NEC Gas in the North Sea, he joined Conoco, (U.K.) Limited in 1978. While there, Glen was involved with exploration projects in

the Moray Firth, Central Graben, U.K. onshore, English Channel and the U.K. west coast. Since moving to International Exploration in Ponca City, he has been working on Indonesian and U.K. projects.

**ONSHORE EXPLORATION AND THE PETROLEUM
GEOLOGY OF SOUTHEAST ENGLAND**

Onshore oil and gas production in the U.K. is dwarfed by the production from the prolific North Sea fields. At a little over 5,000 barrels of oil per day, onshore yields less in a year than the offshore fields do in a day. Nevertheless, onshore exploration activity has increased dramatically in the last few years. The discovery of the giant Wytch Farm field by British Gas in 1974, combined with oil price rises of the seventies and early eighties, have in part been responsible for the increased level of activity. A large number of companies, both multi-nationals and small independents, now have a stake in the onshore exploration scene. Over a quarter of the U.K. is currently covered by exploration or production licenses and both seismic and drilling activity is set to rise further. Recent exploration has been rewarded by several discoveries with successful strikes in northern England, the East Midlands and southeastern England.

The hydrocarbon potential of southeast England is limited to the Hampshire and Weald basins and the immediate flanking areas both to the north and south. The Weald itself is an inverted Mesozoic basin with up to 9,000 feet of post Triassic sediments preserved in its east-west trending central axis. The basin is limited to the north by the Paleozoic high of the London-Brabant platform and to the south by the very much more subdued basement feature of the Portsdown-Paris Plage Ridge. The basin has undergone two main structural phases: the first is related to the Mesozoic development of the basin and is characterized by syndepositional growth faulting and subsidence. By contrast, the compressive tectonics of the early to mid-tertiary Alpine events produced regional inversion and erosion of up to 4,000 feet of section. Apart from the inversion, shortening of the Mesozoic section occurred in several discreet lineaments, primarily by folding or reverse faulting. The two structural phases have generated a variety of trap types throughout the area.

Reservoir potential for the region is provided by the regressive sandstones and limestones of the Jurassic, while the transgressive shales of this interval have fair-to-excellent source rock characteristics. Thermal maturity of the Jurassic shales is limited to the central part of the basin, with oil generation primarily occurring prior to the Alpine inversion. As a result, pre-Tertiary traps formed during the Mesozoic development of the basin provide the most attractive exploration targets in this very prospective but complex area. Continued exploration in this and other basins should ensure that onshore oil and gas will make an increasingly significant contribution to the overall hydrocarbon production of the U.K.