

# CHAPTER I

## GEOLOGIC SETTING

### I.1. INTRODUCTION:

The area under investigation covers the north central part of the Gulf of Suez. It is located between latitudes  $28^{\circ} 48'$  and  $28^{\circ} 59'$  to the north, and longitudes  $33^{\circ} 02'$  and  $33^{\circ} 15'$  to the east of the geographic coordinates, which correspond to the kilometric coordinates X: 680,000 and 700,000 m.N. and y: 815,000 and 835,000 m.E ( Fig.1).

This area occupies three important oil fields, Ras Budran oil field to the north, Abu Rudeis – Sidri oil field to the south and Abu Zenima oil field between them, added to East October oil field to the west.

Abu Rudeis – Sidri field is located at the eastern coast of the Gulf of Suez, about 25Km. north of Belayim land field, to the south east of October and Ras Budran fields. Its concession occupies an area of about 89 Sq.Km. (approximately 56 Sq.Km. on shore and 33 Sq.Km. off shore). Thirty – Five wells have been drilled in Abu Rudies – Sidri development lease since 1947.

Ras Budran field lies 4 Km, west the Sinai coast of the Gulf of Suez of approximately 42m. water depth. The field was discovered in 1978 by EE85-1 well, drilled by Deminex / BP / Shell. The field occupies an area of about 12 Sq.Km., twenty – nine wells have been drilled in this area. Ras Budran at present, is under development from three platforms.

Abu Zenima field is located between the oil fields of Rudeis-Sidri, October and Ras Budran. The concession occupies an area of almost 180 Sq.Km. (Fig.1). In this concession, twelve wells are drilled without any commercial discovery. South east Abu Zenima development lease " by Petrobel " occupies an area of 14 Sq.Km. in the South eastern corner of Abu Zenima exploratory concession, between Ras Budran and Rudeis – Sidri oil fields, where two producing wells were drilled (AZ 13 - 1 and AZSE – 1).

The Abu Rudeis field is producing an average of 2700 BOPD, mostly from Nukhul reservoir, with smaller contributions from the Thebes Limestone, Matulla, Turonian and