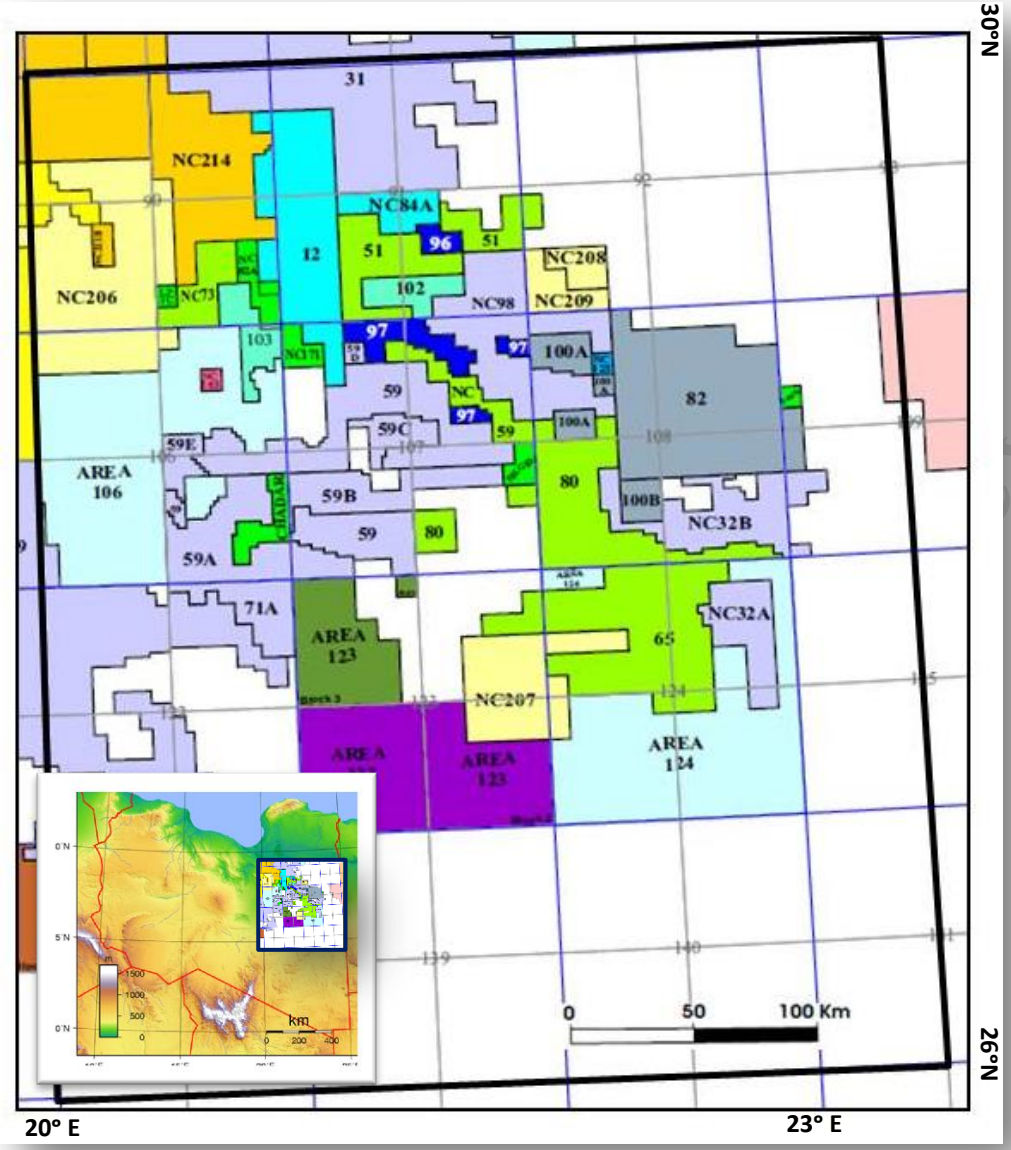
Target Exploration

Energy Geosciences Research & Development



Structural and Stratigraphic Play Fairways of Sirte Group, Eastern Sirte Basin; Libya

A Prospects Generation Study Of The Area Within
Longitude 20° To 23°.30' E
And Latitude 26° To 30° N

Target Exploration Report Tar1

Exploration.com

Report Summary

Sub-unconformity stratigraphic trapping situations induced by the deposition of post-unconformity seal facies over pre-unconformity reservoir facies in the Pre-Cenozoic sequences of Eastern Sirte Basin were studied and mapped in an attempt to identify proven sub-unconformity plays and outline the potential for similar or additional unconformable stratigraphic trapping plays in the Pre-Upper Cretaceous Sirte group sandstone reservoirs.

1. Sirte Group is an informal stratigraphic name applied to the Nubian and Amal rock formations; but due to their hydraulic inter-communications the name Sirte Group (Senso Stricto) in this report includes the Bahi-Maragh sands as well.

2. During the sixties, successive discoveries of the Sarir, Bu-Attifel and Augila-Nafoora giant oil fields proved the Sirte group sandstones as primary structural exploration targets.

3. Bahi, Maragh, Nubian, Amal and Hofra sandstones Formations are the main reservoirs of fields in eastern Sirte Basin, such as Amal (discovered by Mobil Oil in 1959 and estimated to hold 6,000 MMSTBOIIP), Nafoora, Sarir, Bu-Attifel, Messla and Remal oil fields.

4. An estimated 3,000 MMSTBOIIP trapped in the giant stratigraphic pinch-out Messla oil field, was discovered by BP (AGOCO) in 1971, which established the Sirte Group sandstones as stratigraphic exploration targets, although Amal field has similar stratigraphic pinch-out motif.

www.targetexploration.com

5. Large cumulative number of Libyan single well discoveries indicates that Libyan structural prospects are becoming smaller, and exploration of giant stratigraphic traps is overdue.

Objectives

1. This study of the geology and prospectivity of the basal pre-Rakb Sirte group sandstones in Eastern Sirte Basin was carried out by using trade and scouting data of ED&P wells drilled between **Long. 20° to 23°.30 E and Lat. 26° to 30° N, and covering more than 150,000 Km^2.**

2. Stratigraphic studies of the Phanerozoic rocks of Libya re-traced 19 regional unconformities; which are amalgamated into 4 major unconformities in Eastern Sirte Basin

3. The studied rock units are the three stratigraphic components of a Rakb petroleum system (i.e. mature Rakb source, Sirte group reservoir and Rakb seal rocks).

4. The reservoir and carrier Sirte Group sands are sandwiched between the underlying igneous and metamorphic Basement (lateral and under seal) and Upper Cretaceous Rakb source rocks (top seal).

5. Each of the above listed rock-units were structurally modelled and analysed for geometric inter-relations in order to delineate structural and stratigraphic anomalies capable of trapping early and late migrating hydrocarbons.

www.targetexploration.com

Results

1. The study identified four types of exploration plays, delineated several areas of interests, leads, and anomalies, and plotted several structural or stratigraphic sub-unconformity play fairways.

2. The listed anomalies are in the proven Bahi-Maragh, Nubian, Amal, Hofra-Gargaf sandstones reservoirs, sealed and charged by Upper Cretaceous Rakb and Kalash carbonate-shale facies below the regional Pre-Upper Cretaceous unconformity, and laterally sealed and under-sealed by igneous and metamorphic basement rocks below the regional Caledonian Unconformity.

3. The delineated fairways in this study may embrace some of the undiscovered large stratigraphic or subtle structural hydrocarbon traps of Sirte Basin, Libya.

4. The report is in 61 pages of text and 17 maps, sections and other illustrations. It also includes 16 pages of descriptions, discussions and prospectivity rankings of individual Areas of Interest, Leads and Anomalies generated through this study.

www.targetexploration.com

Table of Contents

www.targetexploration.com

Maps, Sections and Illustrations

www.jaegetexploration.com

This report is available for immediate dispatch from

Target Exploration

Click here to purchase your copy

For further information, contact

M. Casey, Target Exploration, 65 Kenton Court, London W14 8NW, UK.
Tel: (+44) (0) 207 371 2240 Email: target@targetexploration.com

www.targetexploration.com