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Conventional core viewing display of the Upper Cretaceous, Lower Grudja Reservoirs, Onshore Mozambique

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Summary

This core view presentation focuses on the sedimentological analysis of shallow marine reservoirs from the Upper Cretaceous Lower Grudja reservoirs from the Sasol-operated, Pande and Temane fields of the Southern Mozambique basin. Conventional cores were acquired as part of the various exploration and appraisal drilling campaigns and although of highly variable quality, they can be used for sedimentological analysis and calibration of petrophysical and reservoir properties for the main reservoir sands, informally named in sequential order from the G6 to G12. This core viewing opportunity focuses on both legacy and recent conventional whole core acquisition from the G6 reservoir in Pande and G8 reservoirs in Temane Fields. The key sedimentological features and trends will be demonstrated along with how the core data is used for calibration of petrophysical properties and the basis for reservoir characterisation studies. In addition, the process of preserving this invaluable data source for the benefit of future use will be highlighted.

Introduction

Exploration activities in the Temane-Pande (Figure 1) area of the Southern Mozambique basin began in the 1950s and continue to the present day with activities focused on the Upper Cretaceous Lower Grudja reservoirs. In 2000, Sasol obtained the rights to carry out petroleum operations in Pande and Temane gas fields under two agreements with the government of Mozambique.

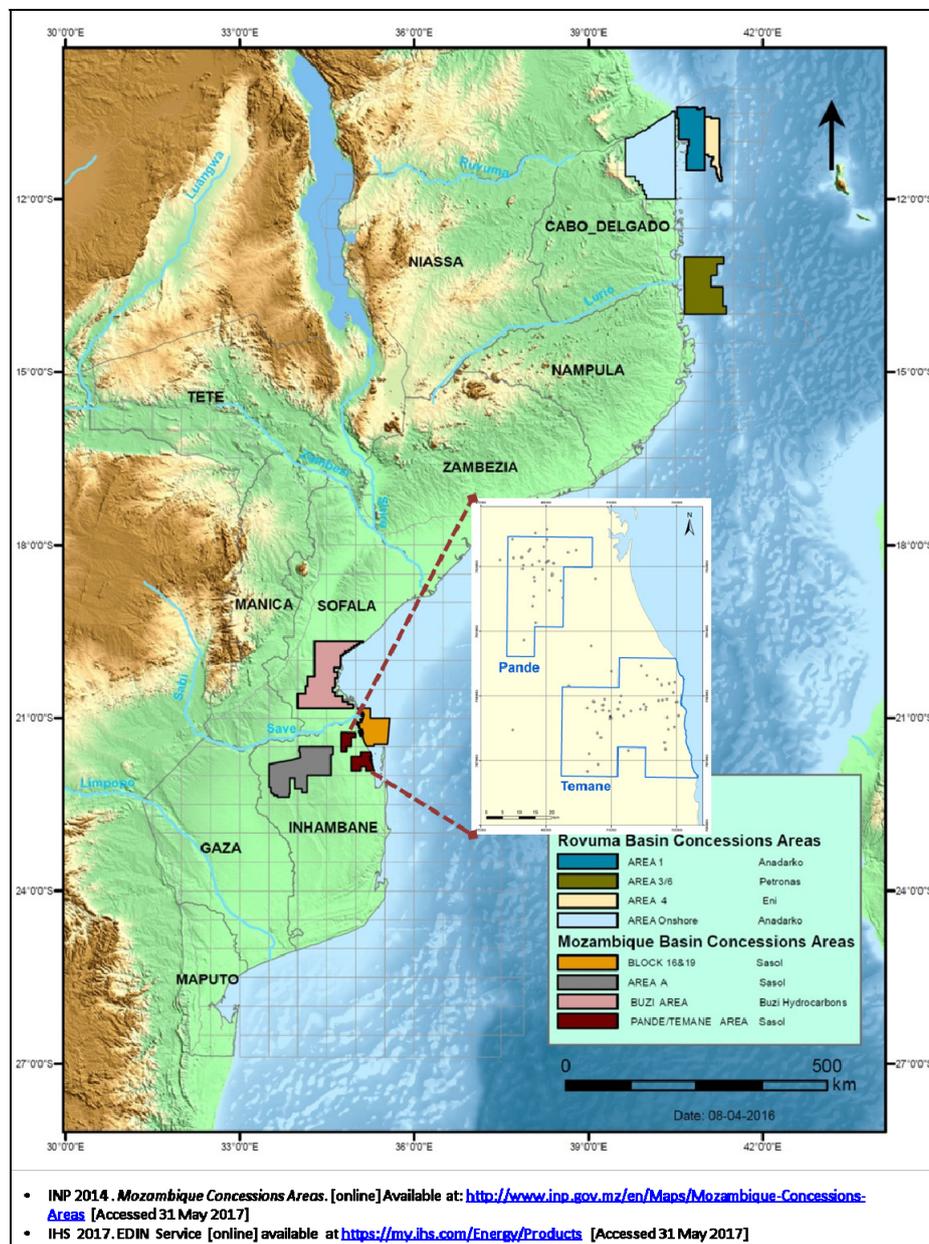


Figure 1 Map showing location of main Pande and Temane Field areas, Onshore Mozambique.

In total, eighty seven wells were drilled between the years 1956 and 2011 within the wider Temane-Pande area. Despite this coverage, data quality is variable, not unsurprising given the combination of long exploration history and a large number of companies involved in operations. However, it is the relative scarcity of core from the main reservoir accumulations which constrains the level of subsurface reservoir characterisation studies available to support field development. Typically, the evaluation of depositional environment, reservoir quality and heterogeneity is largely based on well log data and 2D seismic.

Core Display Aims and Objectives

Conventional cores were acquired as part of the various exploration and appraisal drilling campaigns and although of highly variable quality, they can be used for sedimentological analysis and calibration of petrophysical and reservoir properties for the main Lower Grudja reservoirs, informally named in sequential order from the G6 to G12. This core viewing opportunity focuses on both legacy and recent conventional whole core acquisition from the G6 reservoir in Pande and G8 reservoirs in Temane Fields. The key sedimentological features and trends will be demonstrated along with how the core data is used for calibration of petrophysical properties and the basis for reservoir characterisation studies. In addition, the process of preserving this invaluable data source for the benefit of future use will be highlighted.