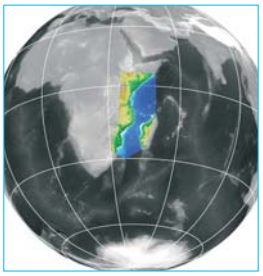
STUDIES



AFRICA

geodynamics and petroleum geology of

the east african margins

GETECH

This new non-exclusive study examines the geodynamics and petroleum geology of East Africa from Mozambique to Somalia, including Madagascar.

The study is an evaluation of the tectonostratigraphic evolution of the East African passive margin basins and the key issues of source, reservoir and seal development and maturation history.

project rationale *and objectives*

The study builds on GETECH's unique global gravity and magnetic data to underpin a re-evaluation of the structural development of the margins of East Africa. This forms the basis for the mapping of ten critical palaeogeographic and palaeo-landscape timeslice reconstructions. Aided by an analysis of the modern day drainage, the study reviews the landscape evolution and likely effects on sediment dispersal. It also contains a review of the geochemical literature, new geochemical modelling, a synthesis of the stratigraphic framework and a basin-by-basin petroleum systems review. All these have been used to generate new insights into the petroleum systems of the East African margins.

Some critical issues addressed in the study include:

- Are the Karroo 'Organic Rich Mudstones' lacustrine and/or restricted marine?
- What is the effect of tectonic activity along the Davie Fracture Zone on petroleum systems?
- What does palaeogeographic analysis indicate about the distribution of potential play fairways in the deep water?
- What was the hinterland extent of Cretaceous and Tertiary drainages in Mozambique and Madagascar?
- Is Oligo-Miocene delta progradation in the Rovuma Basin a result of glacio-eustacy or superplume activity?
- Did the Anza Rift/Lamu Embayment extend into the Sudanese Rift System?
- Has the East Africa Rift radically changed the position of the drainage divide?

study area

BASINS COVERED

Somali Coastal
Lamu
Anza
Tanzania Coastal
Rovuma
Mozambique
Morondava
Majunga

Drainage basins
Sedimentary basins
2D gravity and magnetic profiles
1D geochemical models

deliverables

The study is delivered as:

A multivolume A3 Report, with accompanying A0 enclosures (hardcopy and pdf)

GIS Project (ArcGIS 9.x)

the report

Executive Summary and Introduction

Tectonic and Structural Framework
Structural interpretation of the gravity and magnetic data
Re-evaluation and testing of published structures
Images of the gravity and magnetic data to illustrate key features
Two regional 2D modelled gravity profiles

Palaeogeography and Palaeolandscape
Ten palaeogeographic reconstructions
(maps of rotated data locating palaeoenvironments, tectonophysiographic terrains and lithologies)
Palaeoelevation interpretation and derived palaeo-digital elevation models
Palaeodrainage reconstruction
(including drainage basin geometry and evolution through time)

Drainage and Landscape Analysis

Petroleum Geochemistry
Source rock characterisation and evaluation
Burial history modelling
Correlation of available source rock and oil data

Petroleum Systems Identification and Evaluation

Conclusion, References and Appendices

13 A0 Enclosures

the GIS project

A series of .mxds illustrating:

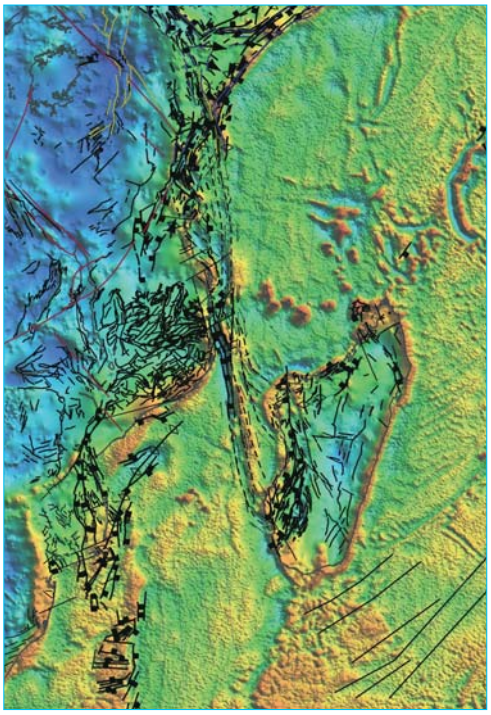
Potential Field Data
Images of gravity and magnetic data and derivatives

Structural Framework
Structures and tectonic boundaries

Palaeogeographies
A series of maps for each of ten timeslices:
- Palaeoenvironments and tectonophysiographic terranes
- Palaeotopography
- PalaeoDEM (digital elevation model)
- Palaeodrainage

Modern Day Drainage
Landscape analysis grids and shape files

This non-exclusive study is licensed to companies under GETECH's standard License Agreement.



STUDIES

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other products

geodynamics and petroleum geology of the south atlantic margins

This major new GETECH study examines the geodynamics and petroleum geology of the conjugate margins of the South Atlantic from the Niger Delta to the Cape of Good Hope, and from the Potiguar Basin to Tierra del Fuego. The study will assist oil companies exploring in these exciting emergent basins through integration of key gravity and magnetic data and the expertise of GETECH's team of geoscientists.

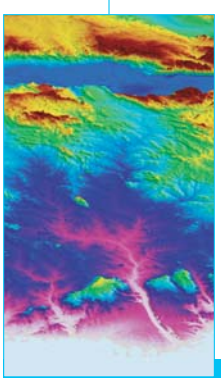
gravity and magnetic data

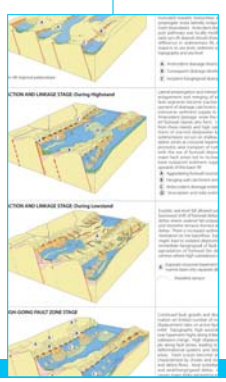
The underlying digital grids of gravity and magnetic data which have been utilised in our studies are also available separately or as a complementary dataset to the study.

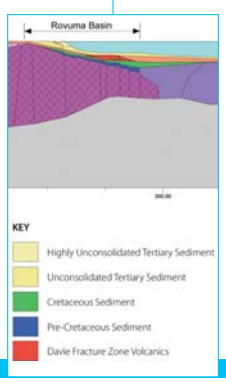
SERVICES — Multi-disciplinary teams of technical experts

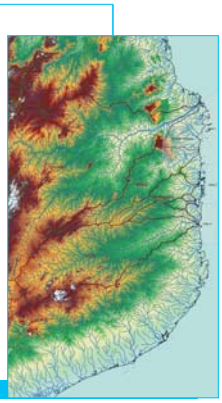
DATA — Including the world's largest gravity and magnetic library

STUDIES — A global portfolio of focussed exploration reports









GETECH

GLOBAL EXPLORATION STARTS HERE