



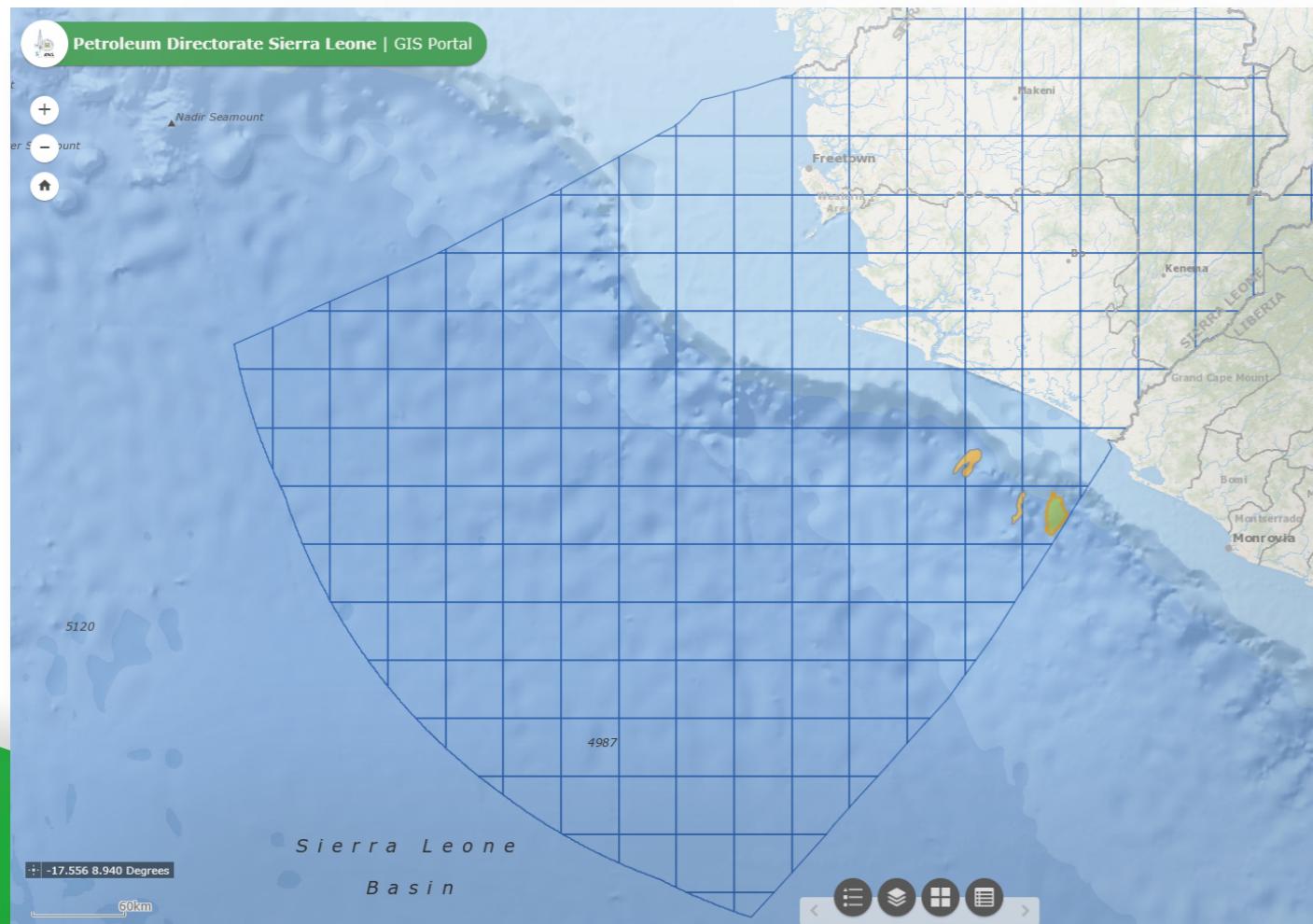
Sierra Leone Fourth Licensing Round Data Catalogue



Introduction to the Prospectiveity of Sierra Leone

Since the launch of the Fourth Licensing Round in January 2018, the Petroleum Directorate Sierra Leone has continued to further develop and enhance its institutional protocols, operations and capacities; establishing an in-country data repository and centralizing its world-class inventory of 2D and 3D geophysical and well data. Sierra Leone currently holds exclusive rights to its highly regarded and extensive data catalogue.

This document provides details of the released technical data available for potential investors to license. All released data is available, subject to the signing of a Licensing Agreement with the Petroleum Directorate or with their selected partners, Getech Group Plc.

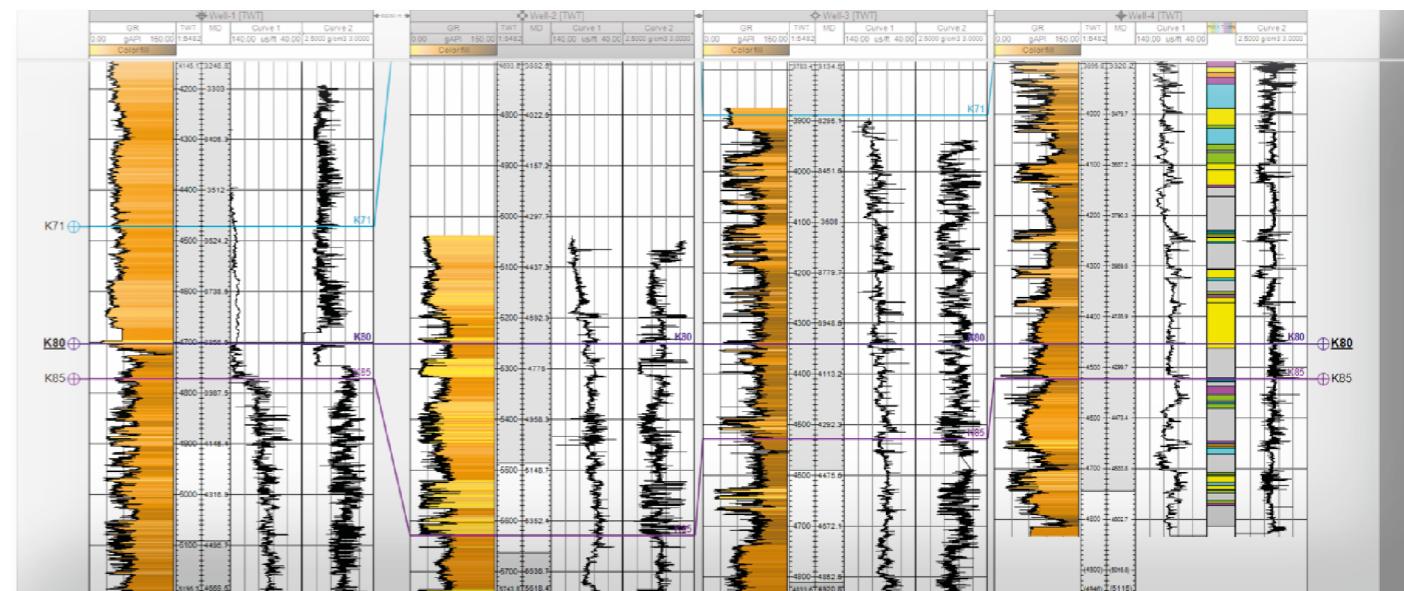


Well Data

Across Sierra Leone's 150,000km² of offshore waters, eight exploratory wells have been drilled. All have penetrated significant thicknesses of normally pressured reservoir quality sandstones. Five have encountered hydrocarbons and four have produced oil to the surface. Although none of the eight exploratory wells were deemed commercially viable, the results prove the existence of a working hydrocarbon system.

All eight offshore wells in Sierra Leone are released and available to license, including the well data from the Anadarko operated drilling campaign from 2009-2012. This high quality well data enables investors to calibrate geological and geophysical interpretation for the offshore acreage.

Well Name	Year	Operator	Result
A-1	1982	Mobil	Dry Hole
A1-2	1985	Amoco	Dry Hole
Venus B-1	2009	Anadarko	Condensate Discovery
Mercury-1	2010	Anadarko	Oil Discovery
Mercury-2	2012	Anadarko	Oil and Gas Shows
Jupiter-1	2012	Anadarko	Condensate Discovery
Djembe-1	2012	Talisman	Dry Hole
Savannah-1X	2013	Lukoil	Oil Discovery

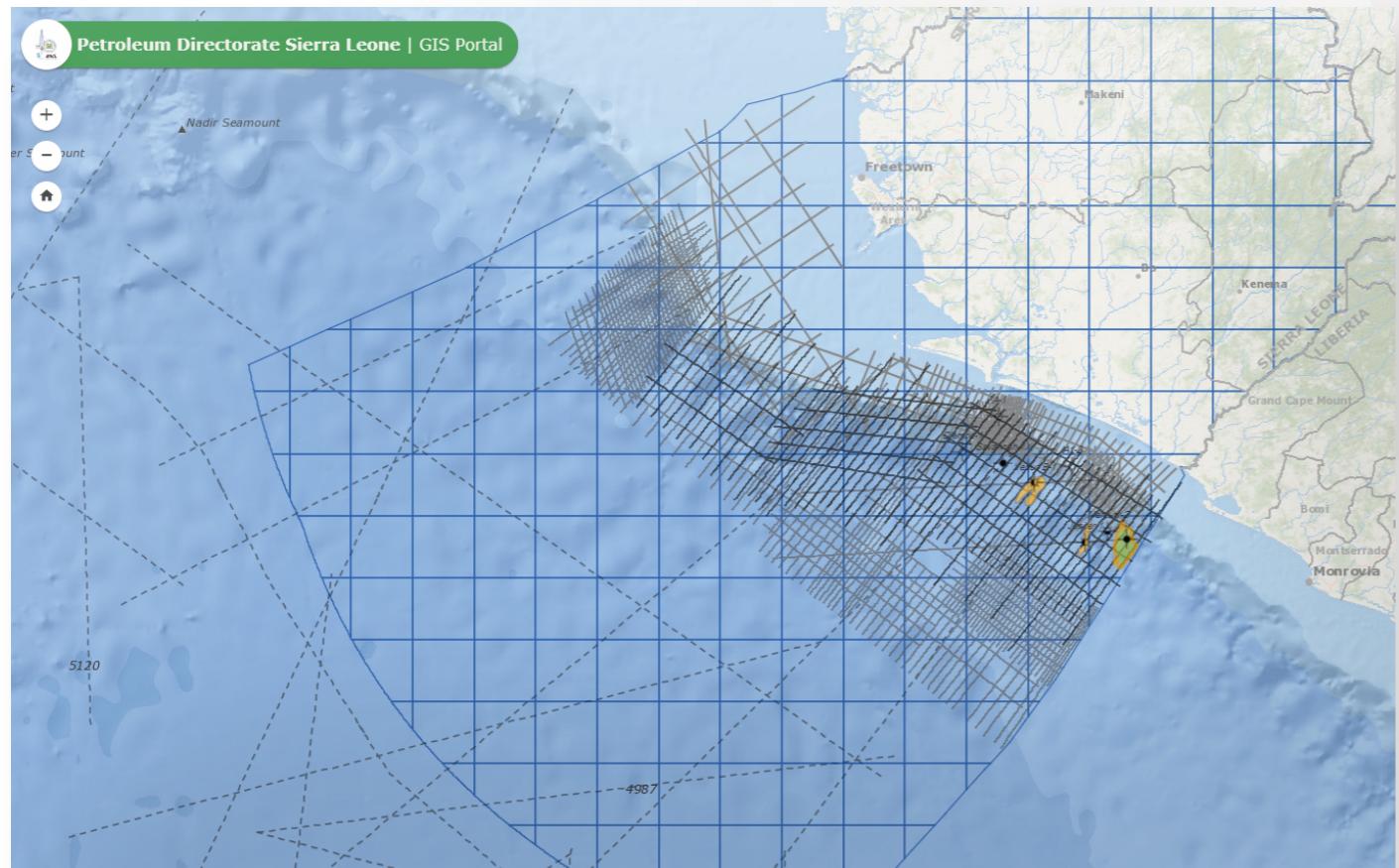


2D Seismic Data

Over 29,000 line km of high quality released 2D seismic data is available to license, providing extensive coverage of offshore Sierra Leone.

These surveys include the TGS multi-client programmes of 2001 and 2013 and legacy data acquired by Mobil.

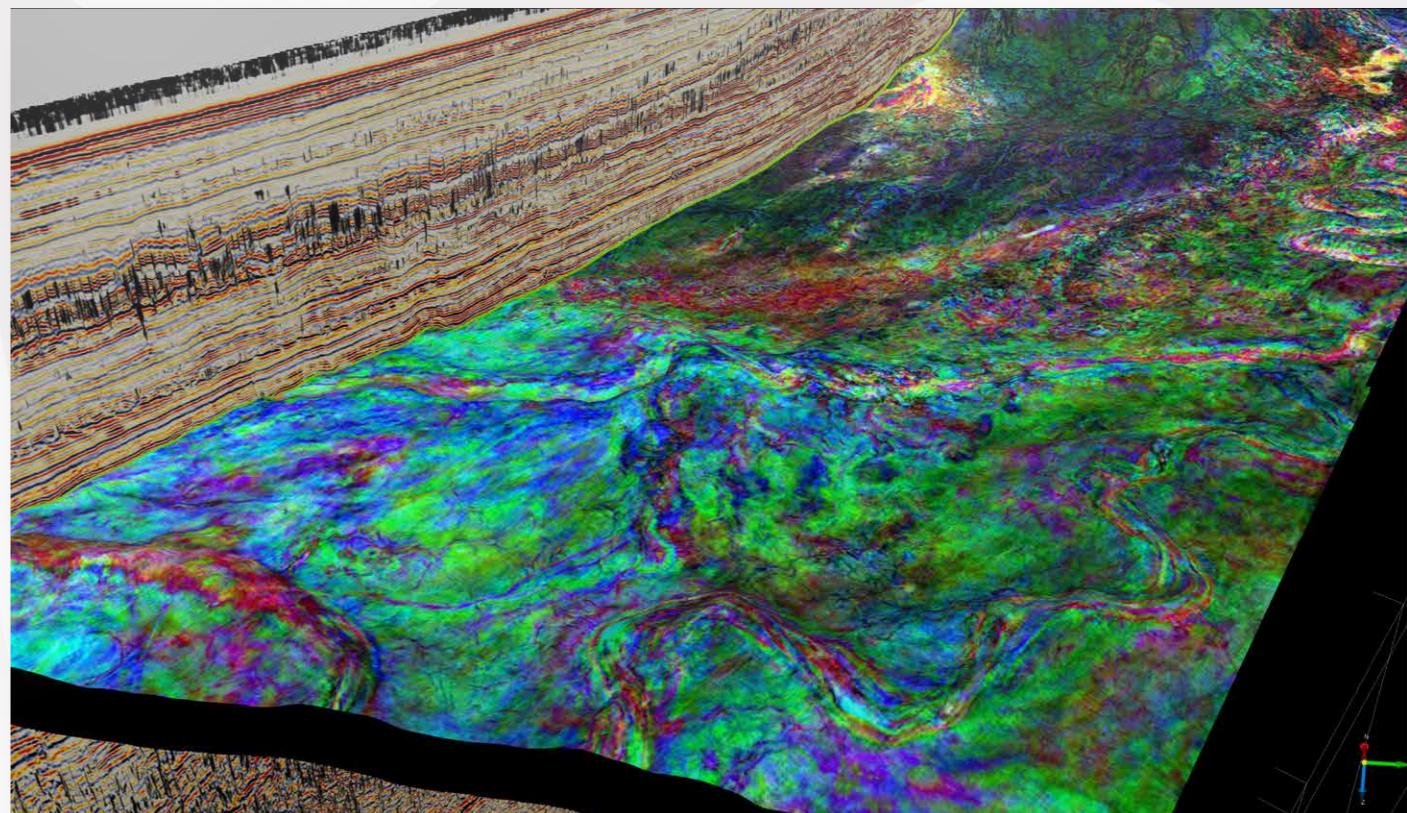
Survey Name	Coverage	Description
SL 2001 2D	5,784 line km	PSTM, Angle Stacks and PSDM processing available
SLI 2013 2D	10,487 line km	PSTM, Angle Stacks and PSDM Processing available
80/81 MSL 2D	5,840 line km	Seismic data acquired on behalf of Mobil Exploration in the early 1980s.
UNCLOS 2D	6,998 line-km	Regional 2D lines acquired to delineate the limit of the continental shelf along the coast of West Africa



3D Seismic Data

Over 11,000 sq km of released 3D seismic data is available covering offshore Sierra Leone, including previously unreleased PSDM and PSTM surveys and multiclient data covering the four hydrocarbon discoveries in Sierra Leone.

Survey	Coverage	Acquired by	Reprocessing history
SL BLK 7B (MABESI) 3D	4,191 sq km	Acquired in 2004 on behalf of Repsol	Reprocessed to PSDM by Anadarko in 2009/2010
SL BLK 4 5 3D	2,649 sq km	Acquired by TGS in 2008	Partly reprocessed to PSDM on behalf of Lukoil in 2013/2014.
SL BLK 3 4 5 EXT 3D	5,080 sq km	Acquired by TGS in stages between 2008-2014	PSTM processing and angle stacks available
SL MEGA-MERGE (FUSION) 3D	7,126 sq km		Post-stack merge of all TGS acquired surveys in Sierra Leone: SL BLK 4 5 3D SL BLK 3 4 5 EXT 3D



Spectral Decomposition of 3D
Data, offshore Sierra Leone

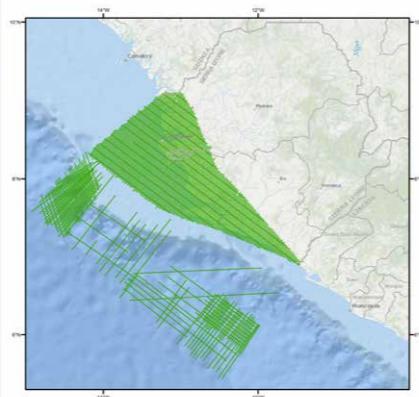
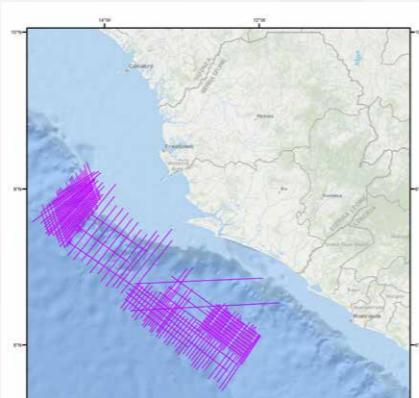
Gravity and Magnetic Data

PDSL Gravity and Magnetic Data

Shipborne potential field surveys and aeromagnetic surveys have been acquired over offshore Sierra Leone and are available to license.

The aeromagnetic survey was acquired by Airborne Technologies in 2014 and covers both shallow water and onshore areas.

Survey	Coverage	Acquired by
2D Marine Gravity	10,484 km	Acquired alongside SL 2001 2D and SLI 2013 2D seismic surveys
2D Marine Magnetics	8,589 km	Acquired alongside SL 2001 2D and SLI 2013 2D seismic surveys
Aeromagnetic Survey	15,500 km	Covers onshore to shallow water areas of Sierra Leone



PDSL's Gravity & Magnetic Data

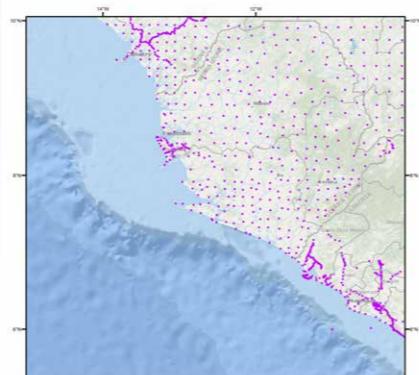
Getech Gravity and Magnetic Data

Since 1988, Getech's regional gravity and magnetic maps of Africa have been used by almost all the major oil companies to help resolve uncertainties in seismic interpretation and develop deeper insights into sub-surface exploration environments.

Getech's Multi-Sat is the most accurate, reliable and coherent gravity data available for all of the world's oceans and provides comparable resolution to regional 2D shipborne solutions.

Getech gravity & magnetic data available for Sierra Leone include:

Well Name	Onshore	Offshore	On and Offshore
Gravity data	Onshore, 575 gravity stations have been used to form 8 km regional gravity grids of Bouguer anomaly	Offshore, the Multi-Sat project provides 2 km gravity grids of free air anomaly	For the on- and offshore combined package, onshore data have been re-gridded to 2 km cell size and the isostatic residual anomaly has been calculated, along with several derivative grids
Magnetic Data	Three onshore aeromagnetic surveys are available in central and southeast Sierra Leone as 500 m grids of TMI	Offshore, a large regional marine magnetic survey is complemented by academic ship track data to form a 1 km grid of TMI	The countrywide package is delivered as 500 m grids of TMI, RTP and several derivative grids



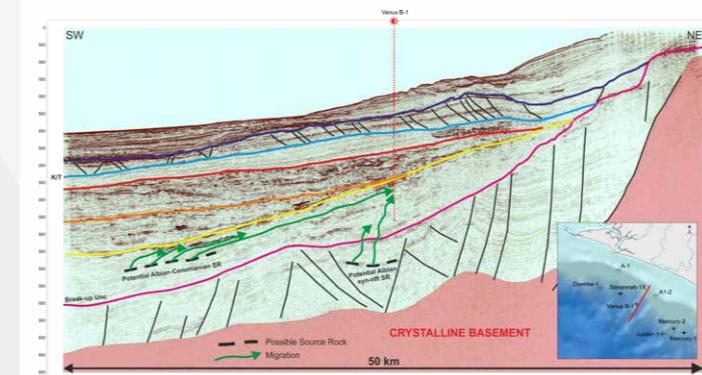
Getech's Gravity & Magnetic Data

Geoscience Information Products

Joint Studies

Combining the local technical knowledge of the Petroleum Directorate Sierra Leone and Getech's broader regional experience, a number of reports have been developed providing both first-pass information about the hydrocarbon prospectivity of the country and more detailed crustal and structural analysis; assessing Sierra Leone in a regional context.

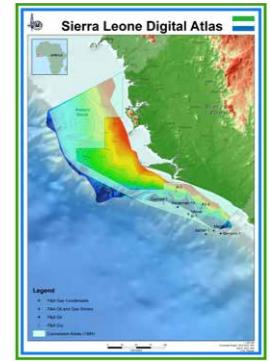
Available joint PDSL / Getech studies for Sierra Leone include:



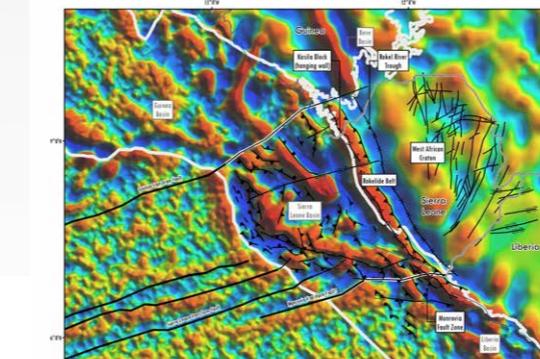
Potential hydrocarbon migration pathways for the syn-rift Aptian and Albian-Cenomanian source rocks.

- **Introduction to the Petroleum Geology and Prospectivity of Sierra Leone**

Based on PDSL seismic and well data, legacy reports and public domain data, as well as a comprehensive literature review including all available academic literature, regional interpretation reports, block scale reports and well reports, this report combines previous studies, recent PDSL regional interpretation and Getech's regional expertise to summarise current understanding of the petroleum geology of Sierra Leone, including all identified plays.



Digitised legacy data and interpretation from the Sierra Leone Digital Atlas



Interpreted structures overlying Getech's gravity (isostatic anomaly with 100 km high-pass filter) and Getech's surface geology onshore. The Rokelides have been interpreted with various fault and fold features, mainly trending NNW-SSE. Sierra Leone Integrated Structural Study.

- **Sierra Leone Integrated Structural Study**

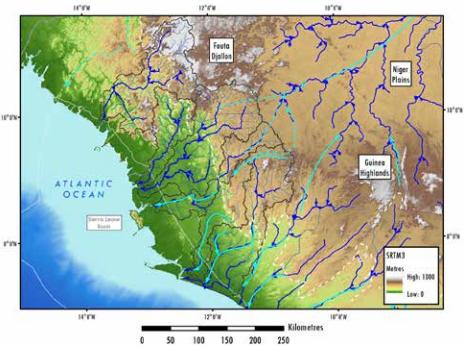
Focusing on the offshore and proximal onshore of Sierra Leone this study is an integrated analysis of all available gravity and magnetic data, together with selected PDSL and UNCLOS seismic, well and other geological data, that maps the local structural framework; estimates depth-to-basement and sediment thickness; and identifies local positive structures and depocentres.

Geoscience Information Products

Getech Regional Reports

Underpinned by the world's largest and most extensive gravity and magnetic database, Getech's Regional Reports provide valuable insight into the geological evolution and potential hydrocarbon prospectivity of specific hydrocarbon basins.

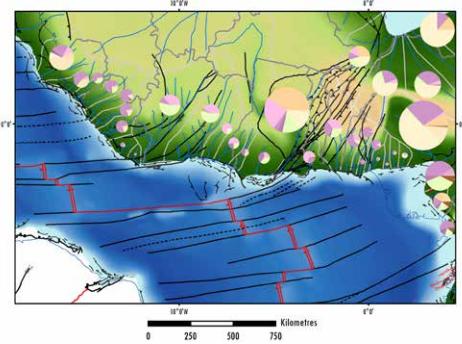
Reports available over Sierra Leone include:



Drainage patterns of the Corubal, Fatala, Great Scarcies, Mabole and Rokel Rivers.

- Palaeodrainage and Provenance Assessment of the African Equatorial Atlantic

This Regional Report provides an evaluation of the African Equatorial Atlantic margin and investigates the palaeodrainage history of the region. Using innovative methods of reconstructing the palaeogeology it assesses the impact that palaeo-climate and palaeo-weathering have had on the likely provenance and timing of sediment input to the offshore basins.



Summary of provenance lithotype assemblages in the hinterland of the Sierra Leone, Liberia, Côte d'Ivoire, Saltpond-Central, Benin, Benue Trough and Niger Delta depositional basins. Palaeodrainage and Provenance Assessment of the African Equatorial Atlantic.

- Equatorial Atlantic

This Regional Report describes the implications of the tectonics and hinterland evolution on the petroleum potential of the entire Equatorial Atlantic region. A basin-by-basin analysis of the tectonostratigraphic and palaeogeographic evolution of the margin provides answers to the key issues of source, reservoir, seal presence, quality and maturation history.

