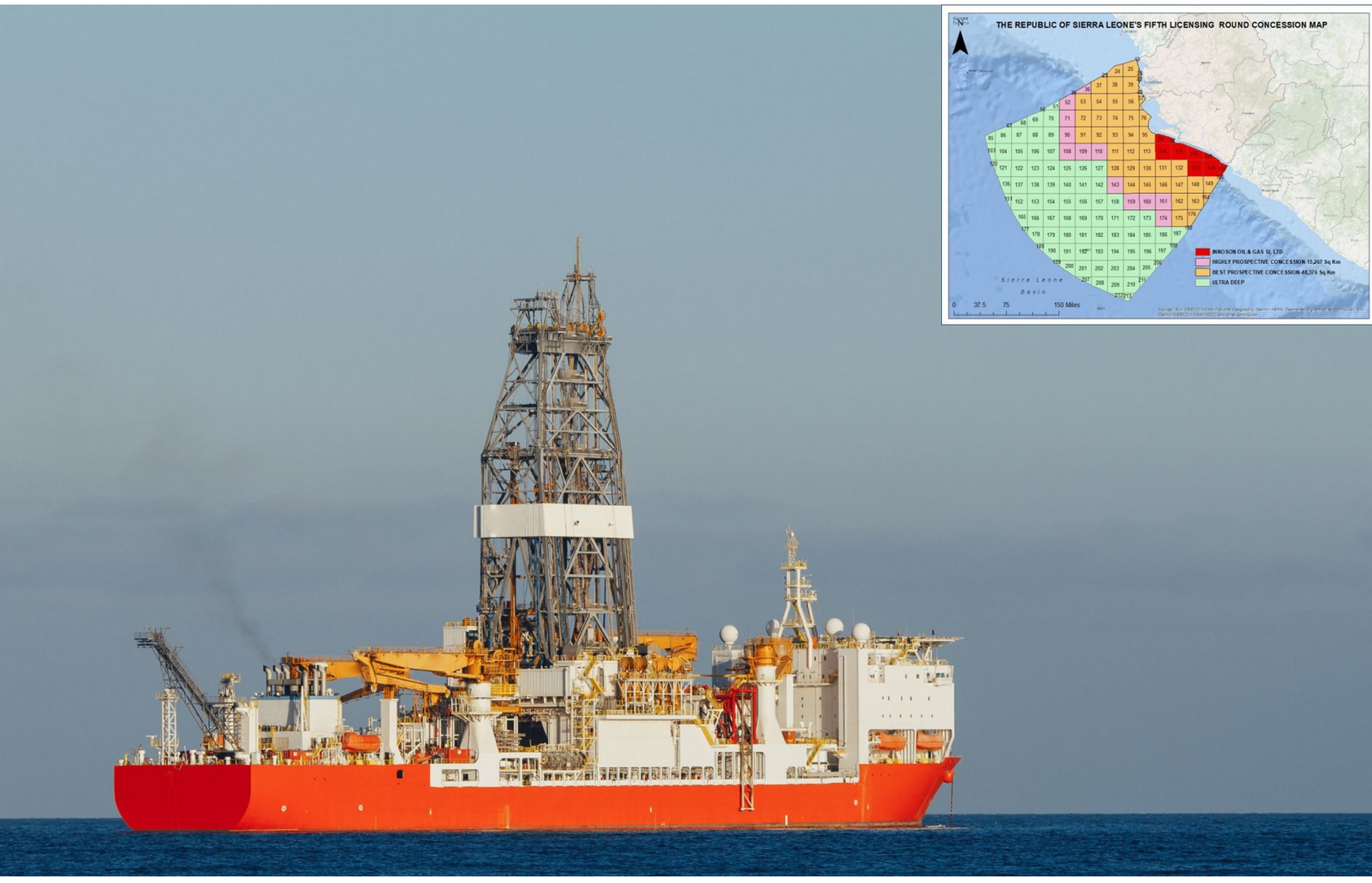
PETROLEUM DIRECTORATE
Of Sierra Leone

Office of the President

Data Catalogue

"Sierra Leone seeks to fill the energy gap created as a result of the global shortage of access to oil and gas" - Foday Mansaray



"Unlocking Sierra Leone's Oil and Gas Potential: Your gateway to informed investment in a promising frontier."

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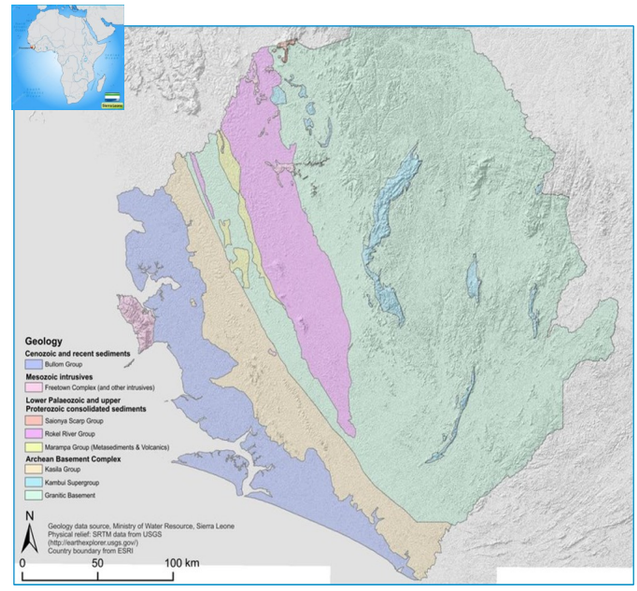
Introduction to Sierra Leone

Sierra Leone is a West African country situated between the Republic of Guinea and the Republic of Liberia. The country has approximately 8 million people who speak the official language of English, although many local dialects derived from a tribal past are still spoken. The country has a dense tropical rainforest and wetland environment making it a host to a great diversity of flora and fauna, as well as sandy white beaches. The country was originally named Serra Lyoa, which is Portuguese for 'Lion Mountains', referring to the Lion Mountains near the capital of Freetown.

Turtle Island

Following a study in 2016, about 12% of the population of Sierra Leone had access to electricity, of that 12%, 10% was in the capital Freetown, from the remaining 90% of the country, which equates to 7.2 million people, only 2% have access to grid-fed electricity (Energy Africa Access, 2018). With these low figures Sierra Leone is placed at 183 out of 187 in the development index, creating a real need for resources to be discovered, harnessed and distributed. There is however a positive view on the future for Sierra Leone from a hydrocarbon perspective.



Map Of Sierra Leone

Introduction to Sierra Leone

Fast-forwarding to 2023, we are now looking for the discoveries along the northern South American coastline to see where the highest potential could lie in West Africa. Sierra Leone, which has more than 400 km of Atlantic coastline can be tectonically-reconstructed to fit with the Guyana Basin.

Obviously, the exploration success in that region has led to truly world class oil discoveries (9 Bbbls at the date of publication, but with ever-growing satellite discoveries could be as large as 15 Bbbls), which should be waiting in their eastern twin in Africa.

ExxonMobil in Guyana have achieved great success, and Suriname is also surprising the oil industry with four recent similar discoveries by Apache and Petronas. However, French Guiana had the maiden discovery in the Zaedyus well before Guyana and Suriname, with recoverable resources estimated at 250 mmbbls.

The organic-rich source rocks that charge the Liza field complex (producing 120,000 bopd) and the surrounding discoveries from the Canje Formation (Late Cretaceous) were deposited at the same time as the similar source rocks that charge the Sierra Leonean discoveries of Venus and Jupiter (drilled by Anadarko in the early part of the last decade).

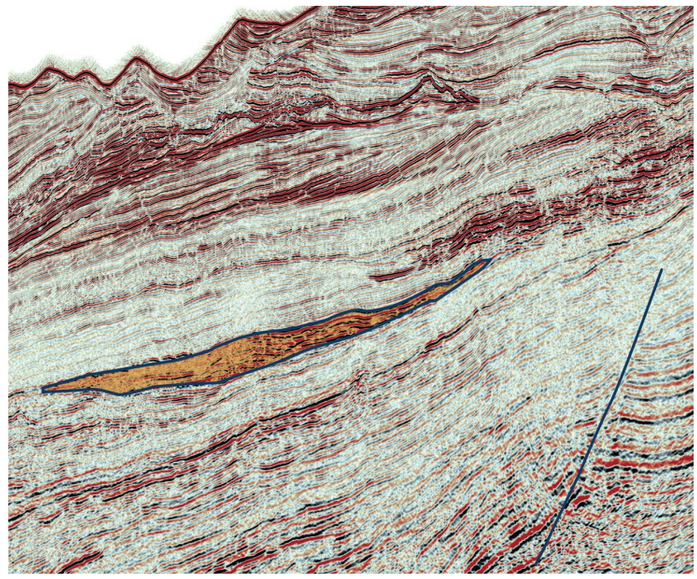


Figure 1 PSTM image showing the Venus non commercial discovery (2009) drilled in 1800 m of water.

The source rocks were deposited in this unique environment created after the rifting of the two continents. Further to the south on the West African margin, in Republic of Côte d'Ivoire and Ghana, the same age source rocks are deemed responsible for the sourcing of oil in several discoveries, among which Jubilee is the most important (producing 82,000 bopd in 2020).

The same successful petroleum system seems to be present along the entire South American margin of the Equatorial Atlantic Ocean. Interpretation of recently acquired high-resolution seismic data in the Foz do Amazonas and Pará-Maranhão Basins in northern Brazil indicates that the potential for replication of the success in neighboring countries is highly likely.

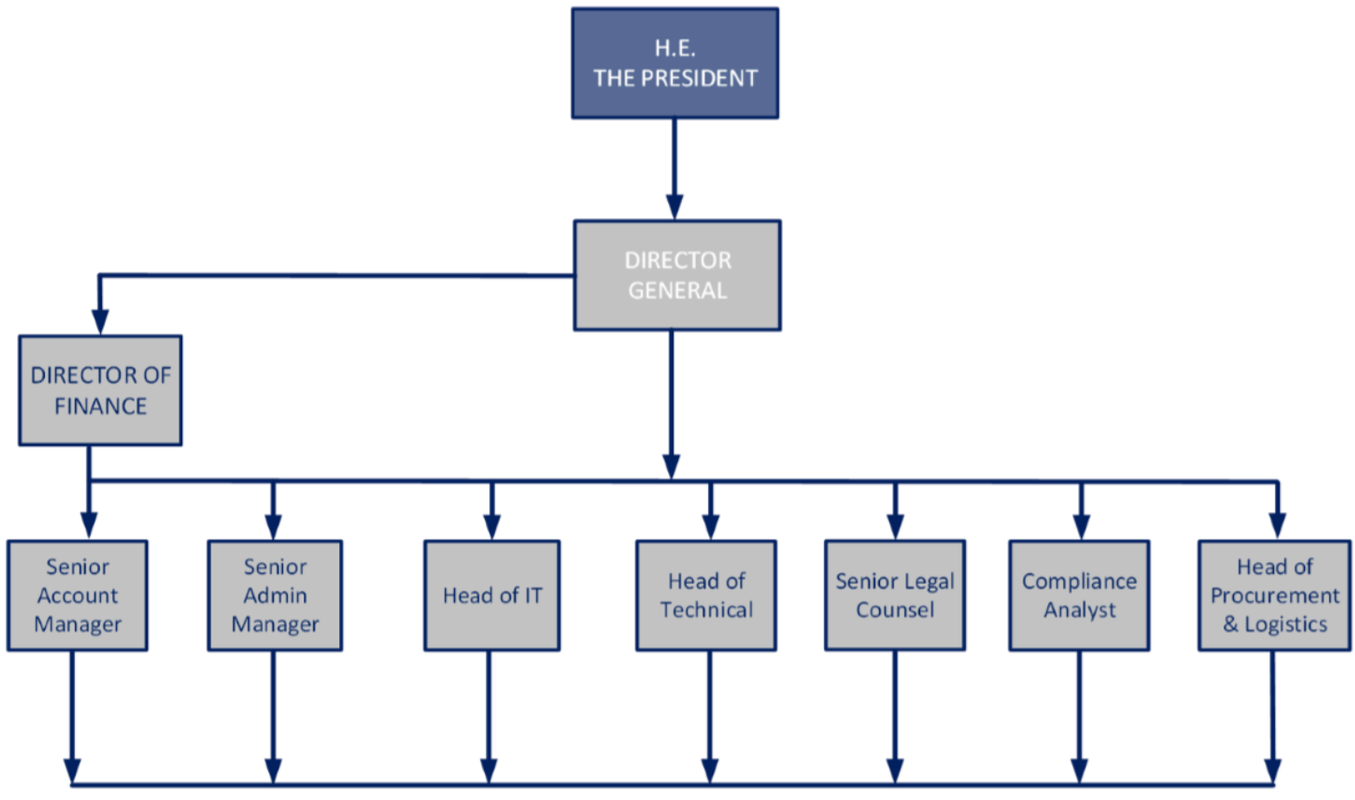
Petroleum Directorate Sierra Leone

Who We Are

- Due to its unique position under the Office of the President, the Director General reports directly to the President of the Republic of Sierra Leone.
- This set up reduces bureaucracy and promotes efficiency which is in the best interest of the State and investor.

What We do

- Custodian of all upstream and mid-stream oil and gas activities for the State.
- Create, Review and Amend Petroleum Law for the State.
- Facilitate Licensing Rounds and Direct Negotiations and Negotiate Petroleum Agreements.



Petroleum Directorate Sierra Leone

Our Mission is to :

"Facilitate the optimal exploration, development and production of Sierra Leone's Potential Petroleum Resources for the long term benefit of its people, through the development of regulatory guidelines and monitoring contract compliance, having due regard for the economy, the environment, safety, technology, as well as balancing the interests of the nation and investor"

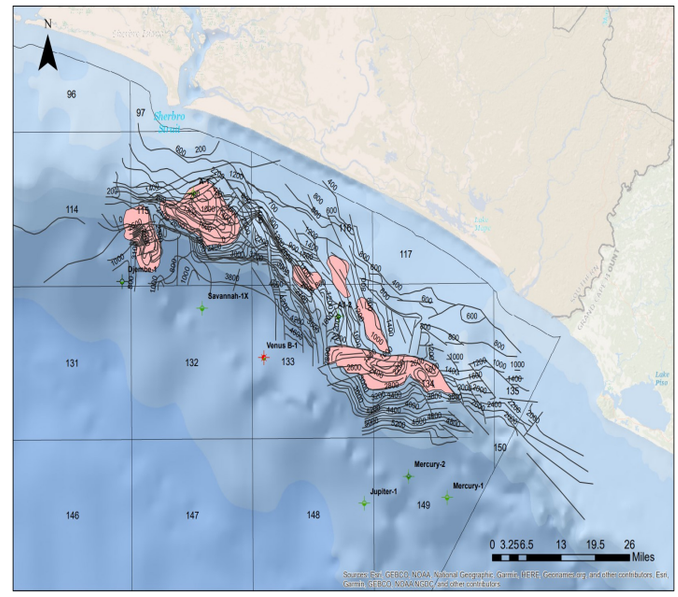
Our Vision is to :

"Lead the process of unlocking and realizing The Republic of Sierra Leone's petroleum resource potential and transform the country's growth agenda through the sustainable development of the petroleum sector."

Petroleum Directorate Sierra Leone office Building

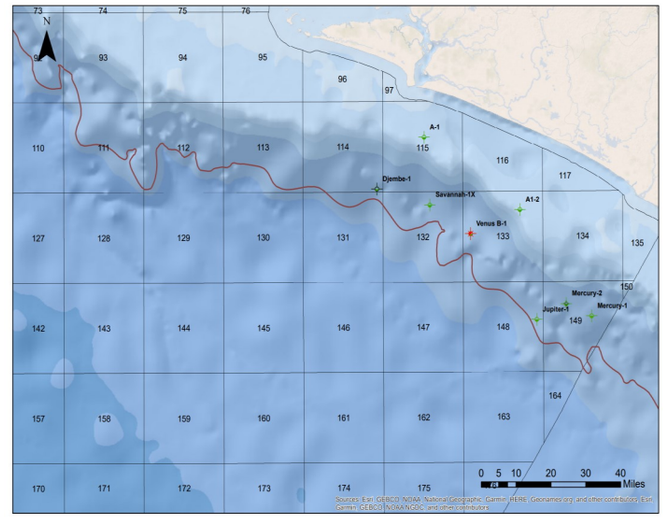
Exploration History

- Exploration began in the early 1980s, with initial work focused on shallow waters, with acquisition of 2D seismic & gravimetric surveys offshore.
- Subsequent drilling of A-1 (Mobil) and A1-2 (Amoco) between 1982-85 on the inner shelf (<100m water depth) encountered hydrocarbon shows.
- More exploration work followed with the acquisition of speculative 2D data (5,800 sq. km) by TGS-NOPEC between 2000-01, which sparked a new exploration cycle.



Time structure map of shallow water areas offshore Sierra Leone.

- From the early 1980s to present, eight wells have been drilled within the offshore Sierra Leone basin.
- The source rock potential of the basin has been identified in the Aptian, Turonian and Cenomanian intervals of the Cretaceous.



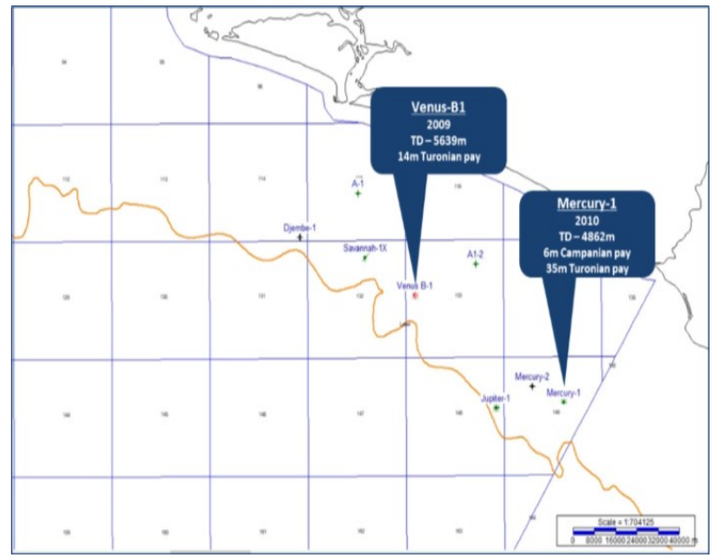
Well locations offshore Sierra Leone

Exploration History

1. Venus – B1 (2009) - Anadarko

Water Depth: **1800m** TD: 5636m in Albian

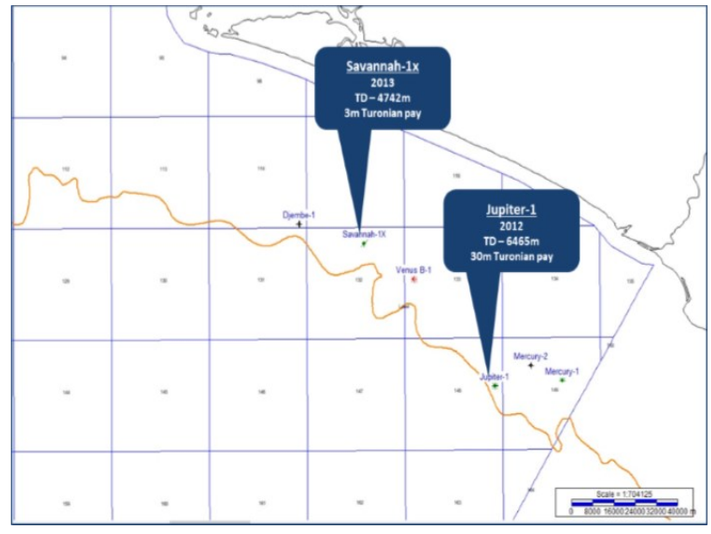
* Hydrocarbons: ~ **14m net oil pay** (condensate) in Cretaceous age sediments
* Good quality reservoir sand (channel/fan)
* Several good reservoir quality intervals all way down to TD.



2. Mercury – 1 (2010) - Anadarko

Water Depth: **1600m** TD: 4862m in Albian

* **41m net oil pay** in Cretaceous age fan system.
* 35m net oil pay in primary objective—light sweet crude (34° – 42° API oil) 6.4m
* 6.4m of 24° API oil in a shallower secondary objective.



3. Jupiter-1 (2011) - Anadarko

Water Depth: **2199m** TD: 6465m

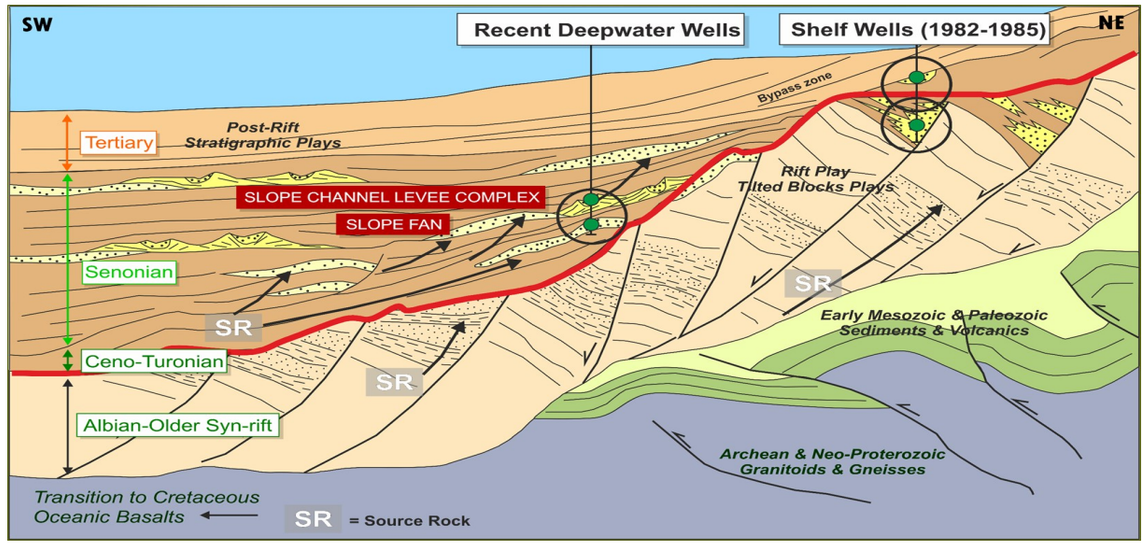
* The well intersected ~ **30m of pay** (condensate) in the primary Upper Cretaceous objective and encountered an OWC.

4. Savannah-1X (2013) - Lukoil

Water Depth: **2153m** TD: 4737m

* The well intersected **~3m oil pay** in the primary objective.
* Tested numerous high-quality reservoirs.

Petroleum System



Offshore Sierra Leone margin

Reservoirs

* Reservoir sequences in the Aptian, Albian, Cenomanian, Maastrichtian and Eocene
* Net sand thickness estimated at 1500m for all sequences
* Average porosity expected to exceed 15% for all sequences.

Traps

* Structural, stratigraphic and combination traps

Seals

* Lateral Transformational Shales (effective seals), regional hemi-pelagic shales and sealing faults.

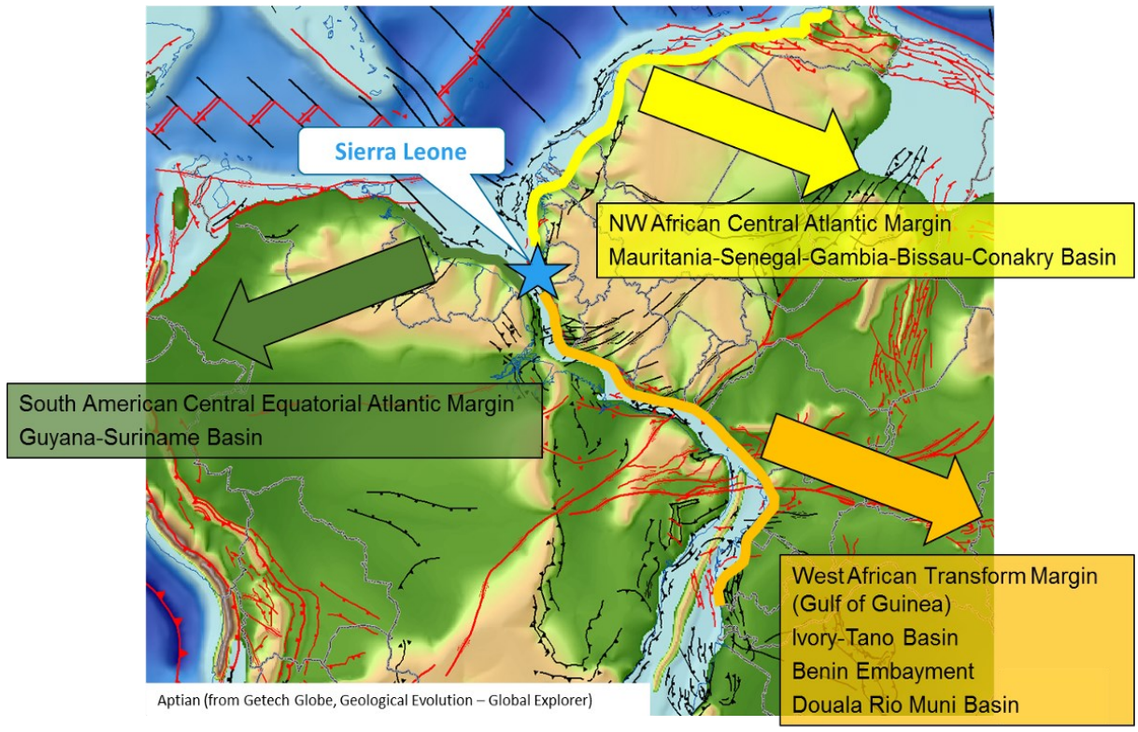
Source Rocks

- **Aptian-Early Cenomanian [Lacustrine Shales Type—II/III}**
- **Cenomanian-Turonian {Marine Shales—Type-II}**
* Hydrogen Index
* SL: 482-795
* Guyana: 450-613

Total Organic Carbon (TOC):

* SL: 4-20%
* Guyana: 4-10%(Liza-1)
* Source Rocks have been proven on the conjugate margin.

Conjugate Analogues



- The conjugate margin analogues—there is a lot of industry interest in the oil discoveries since 2014 offshore Senegal/Mauritania/Guinea Bissau and Guyana in South America, which are of similar age to the prospective plays of Sierra Leone.
- Sierra Leone hosts highly prospective Upper and Lower Cretaceous Structural and Stratigraphic plays with light sweet oil tested in some of these intervals.

Country	Field/Discovery	Type	Age	Reservoir
Guyana	Liza (2015)	Oil	Upper Cretaceous	Sandstone
Guyana	Payara (2016)	Oil	Upper Cretaceous	Sandstone
Guyana	Snoek (2017)	Oil	Upper Cretaceous	Sandstone

Prospectivity (Shallow Water)

New Plays Up-Dip

In Figure 4 we can see a series of tilted fault blocks with high amplitude indicative of clastic sediments that were deposited in the pre-rift environment before they were faulted and rotated during the mid-Albian continental break-up.

The unconformity eroded the tops of these fault blocks and provided a thick sealing shale layer that forms the perfect top seal for these rotated traps, providing confidence that they were faulted and rotated during the mid-Albian continental break-up. This thick top seal is comprised of the Apto-Albian and Turonian world-class source rocks that have both been tested in the previous exploration campaigns and have been prolific in the nearby production in the Ivorian and Tano basins (i.e. Jubilee field, 82,000 bpd in 2020, proven reserves 3Bbbls, source: Tullow).

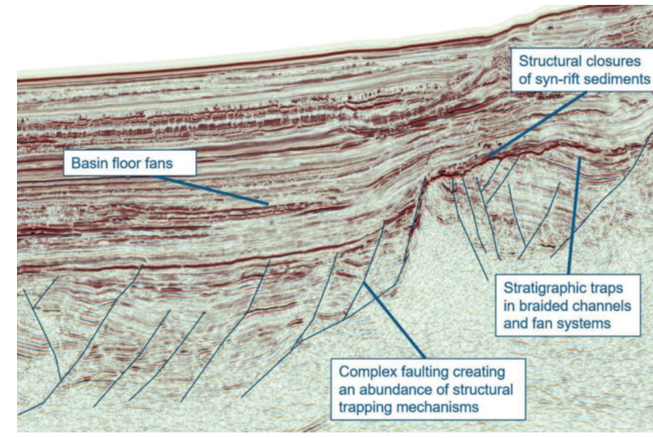
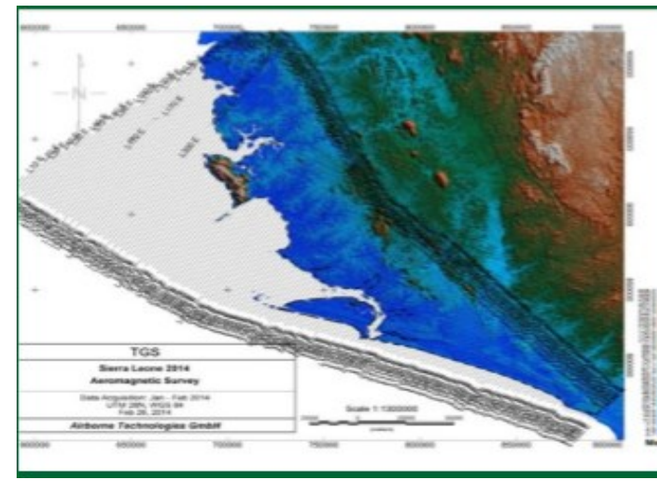
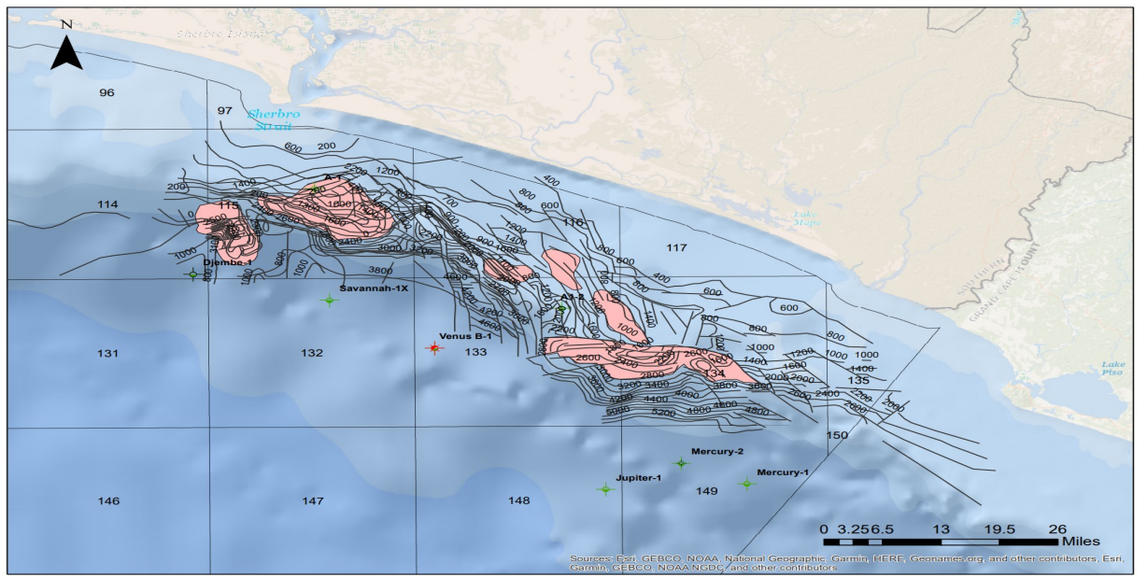


Figure 4 3D PSTM seismic example indicating untested potential of the perched basins in the syn-rift.

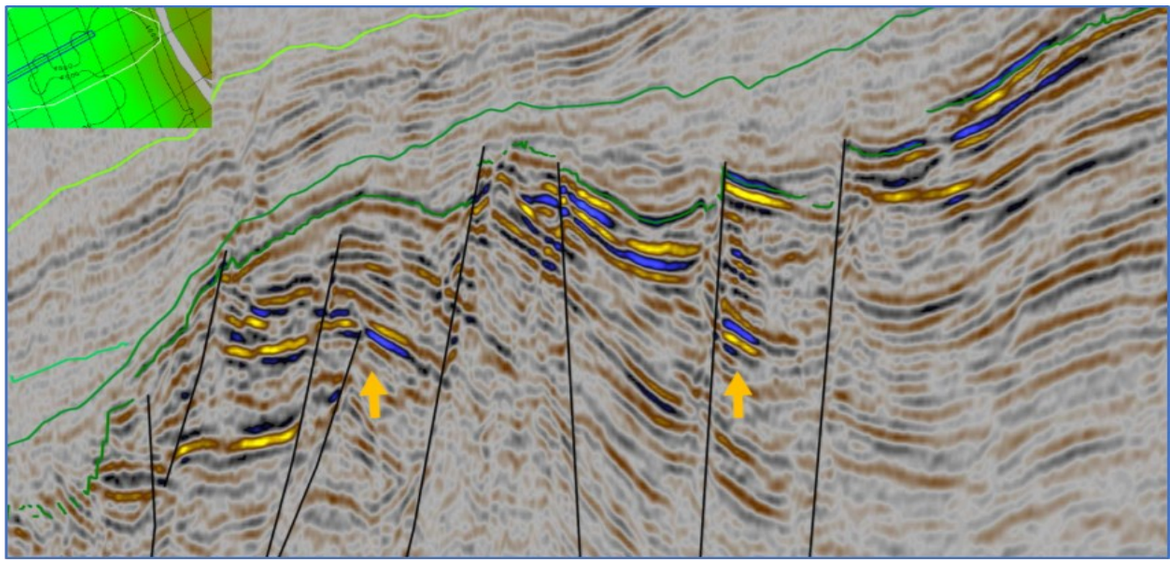
- Rifted fault blocks present in proximal offshore area of Sierra Leone basin.
- Targets are up dip of deep water discoveries & provide significant prospectivity with reduced drilling costs.
- Prolongations of the Sierra Leone FZs onto the shelf and onshore are clearly visible as ridges in the high pass filtered magnetic merge.



Prospectivity (Shallow Water)



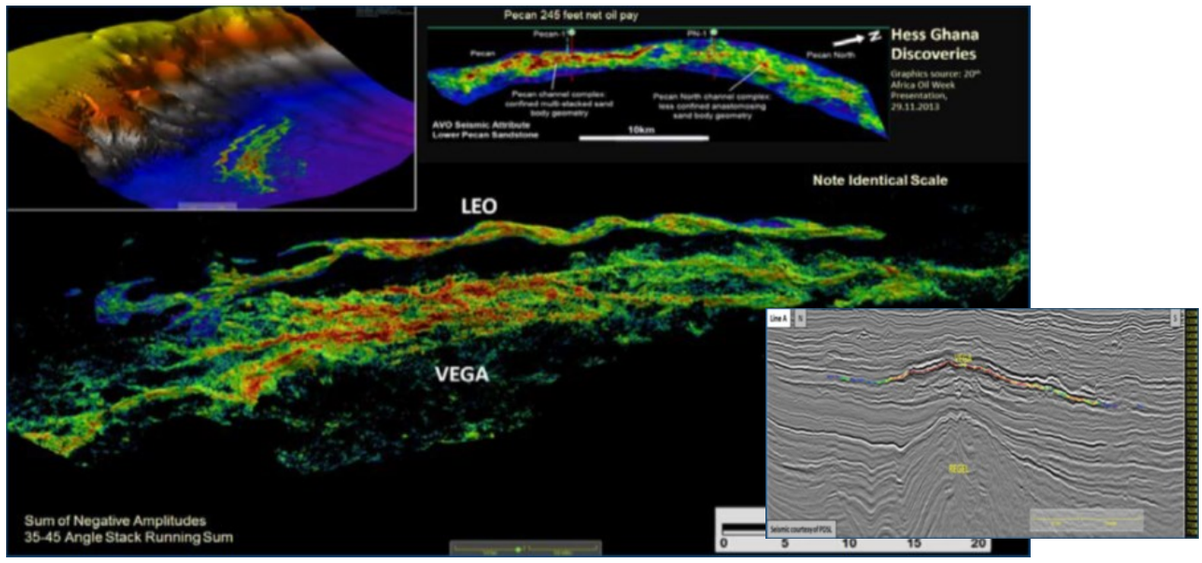
Re-digitalized 80's data with ArcGIS [PDSL, 2022]



Rotated Fault Blocks in the syn-rift

- Targets in water depths less than 150m
- Additional seal and traps due to Sierra Leone Fracture zones extending onto shore, as detected in high pass filtered magnetics.

Prospectivity (Deep Water)



Geo-body Mapping from Vega & Leo Prospects [African Petroleum; 2017]

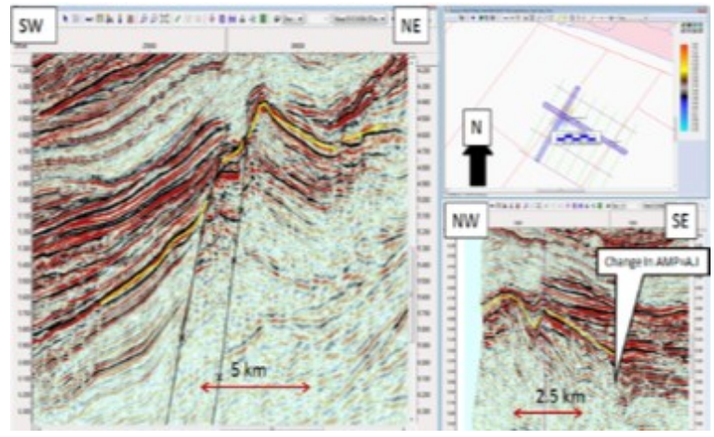
The current knowledge is that submarine fan development in the basin was mainly concentrated over the :

- Late Albian Unconformity (MCU)
- Santonian Unconformity, and
- Base Tertiary Unconformity (K/T Boundary)

Prospectivity (Deep Water)

What we can expect going forward?

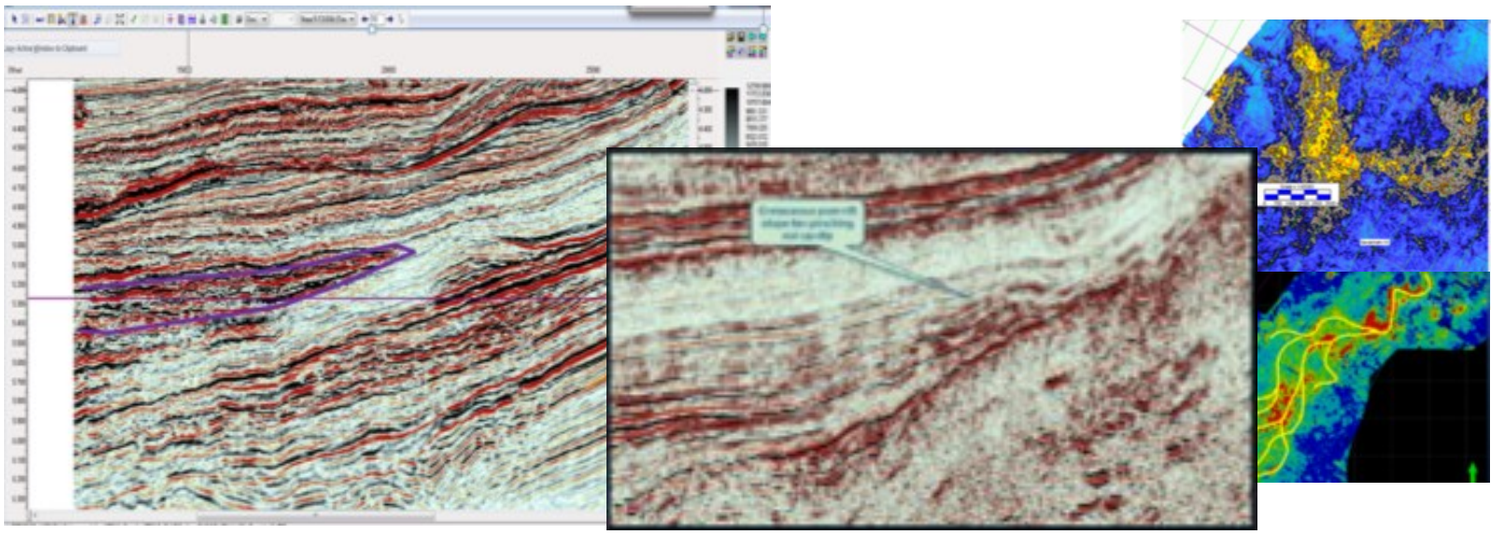
So far there have been eight wells to test the deep-water setting on the continental slope. All have been submarine fan systems with prominent AVO anomalies. There is further evidence to suggest that there are also completely untested opportunities for commercial discoveries on the basin floor as well as in the more proximal northern domain of the Sierra Leone basin.



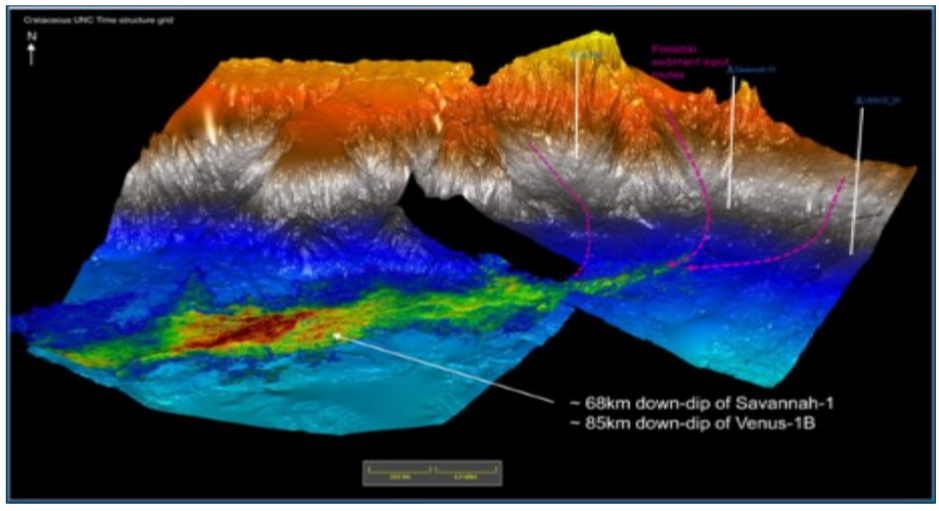
Moving down-dip

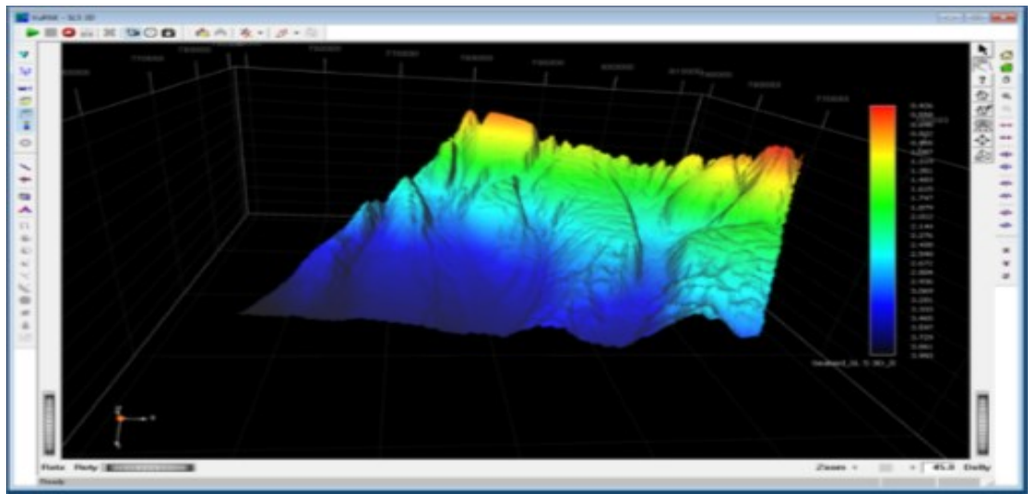
"Go deeper" has been the mantra of the industry over the last decade and technical drilling capabilities have progressed so much that water depths of 4000 m are now in sight (Total's Venus and Ondjaba wells in Namibia and Angola in 2021). This opens up the basin floor domain in the Sierra Leone offshore, where larger lobate sand bodies are more distal, providing better sorted reservoirs, with greater connectivity and ultimately larger spatial areas. They constitute the real prize for chasing the proven plays into deeper water.

Structural and stratigraphic plays as well as proven hydrocarbons in deep-water cretaceous turbidite plays identified in deep-water by PDSL indicates abundant remaining potential.



Prospectivity (Deep Water)





Vupak [Kingdom Software] rendering of the Seafloor around the Savannah Well Offshore Sierra Leone Wells

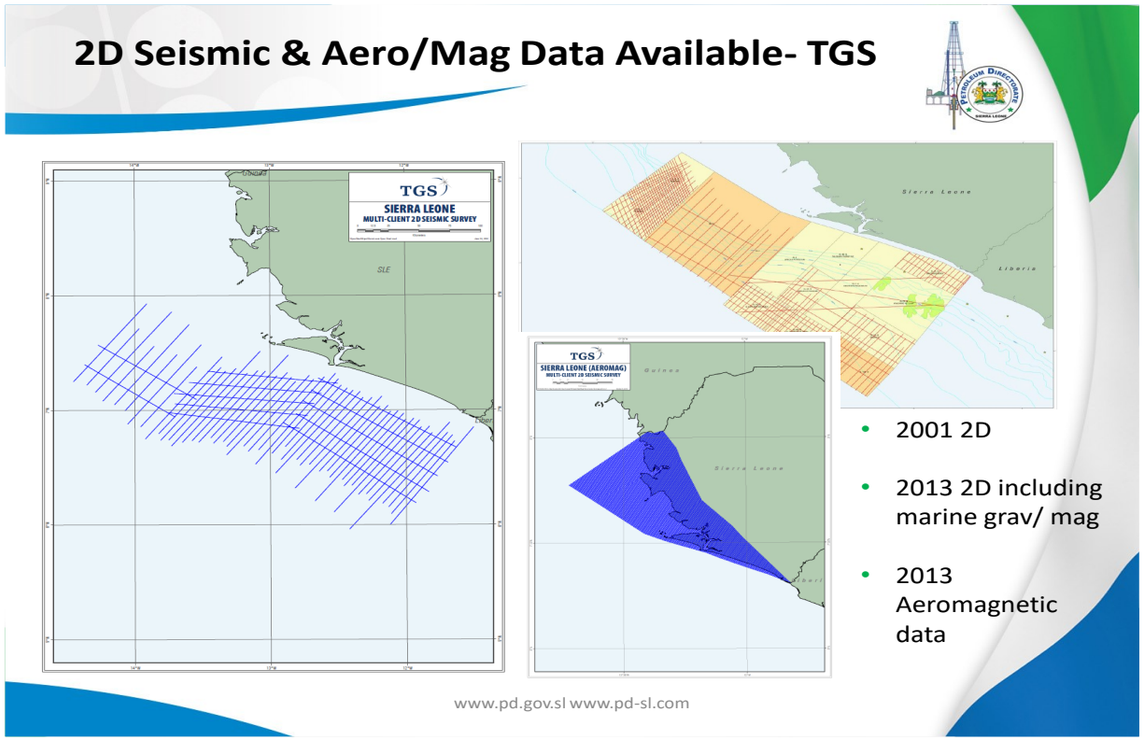
* Numerous untested deep water turbidite and basin floor fan plays.
* Low-angle down dip fans have potential to set up really large traps.
* Excellent quality reservoirs in Santonian and Campanian sediments.
* Down dip reservoir quality predicted to significantly improve due to reduce overburden, better sorting and low reservoir temperature.

Data Coverage (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 programs of 2001 and 2013, the MSL survey acquired by Mobil in 1980/81 and the UNCLOS survey acquired by Gardline for the EEZ program.

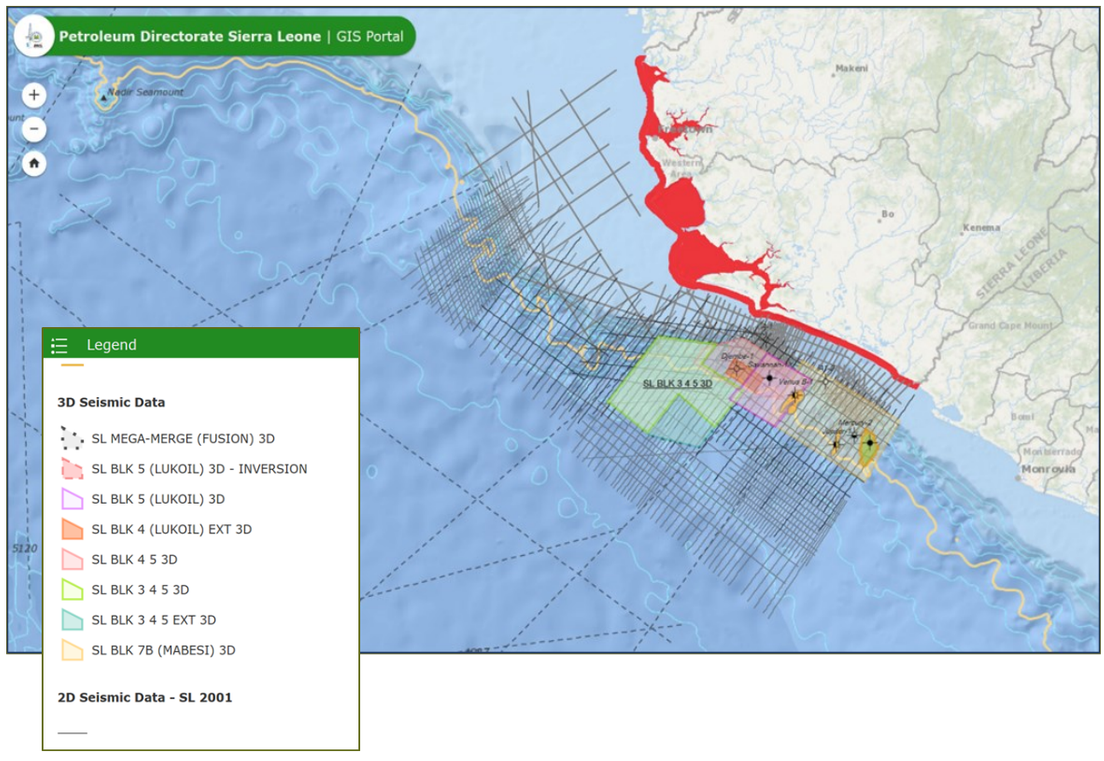
Survey Name	Coverage	Description
SL 2001 2D	5,784 line km	PSTM, Angle Stacks and PSDM processing available
SLI 2013 2D	10,487 line km	PSTM, Angle Stacks and PSDM Processing available
80/81 MSL 2D	5,840 line km	Seismic data acquired on behalf of Mobil Exploration in early 1980's
UNCLOS 2D	6,998 line km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



Data Coverage (3D Seismic Data)

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

Survey	Coverage	Acquired by	Reprocessing history
SL BLK 7B (MABESI) 3D	4191 sq. km	Acquired in 2004 on behalf of Repsol	Reprocessed to PSDM by Anadarko in 2009/2010
SL BLK 4 5 3D	2649 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	5080 sq. km	Acquired by TGS in stages between 2008-2014	PSTM processing and angle stacks available
SL MEGA-MERGE (FUSSION) 3D	7126 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



Data Coverage - Well Data

Across Sierra Leone's 140,000km² of offshore waters, eight exploratory wells have been drilled. All penetrated significant thickness of normally pressured reservoir quality sand-stones. Five have encountered hydrocarbons and four have produced oil to the surface. Albeit none of the eight exploratory wells were deemed commercially viable, the results prove the existence of a working hydrocarbon system.

Data from all eight offshore wells in Sierra Leone are released and available to license. These high quality well data enables investors to calibrate geological and geophysical interpretation for the offshore acreage.

		BASIC WELL DATA PACKAGE								
		WELL LOGS								
		LAS			DLIS			PDF/TIFF		
WELL NAME	YEAR DRILLED	WIRELINE	MWD/LWD	PWD	WIRELINE	MWD/LWD	PWD	WIRELINE	MWD/LWD	PWD
A-1	1982							✓		
A1-2	1985							✓		
DJEMBE-1	2012	✓	✓					✓	✓	
JUPITER-1	2011	✓	✓		✓			✓	✓	
MERCURY-1	2010	✓	✓		✓	✓		✓	✓	
MERCURY-2	2011	✓		✓	✓		✓	✓		✓
SAVANNAH-1X	2013	✓	✓	✓	✓	✓		✓	✓	✓
VENUS-B1	2009	✓			✓					

		BASIC WELL DATA PACKAGE											
		WELL LOGS							TIME-DEPTH				
WELL NAME	YEAR DRILLED	DRILLING DATA LOG	FORM EVAL LOG	PRESSURE EVAL LOG	TEMP DATA LOG	LITHOLOGY LOG	COMPOSITE LOG	MUD LOG	CHECK-SHOT	VSP	DEVIATION	FINAL WELL REPORT	RE-ENTRY WELL REPORT
A-1	1982								✓			✓	
A1-2	1985	✓	✓	✓	✓		✓	✓		✓		✓	✓
DJEMBE-1	2012					✓	✓						
JUPITER-1	2011	✓				✓	✓	✓	✓		✓		
MERCURY-1	2010	✓		✓		✓	✓	✓	✓	✓	✓	✓	
MERCURY-2	2011						✓			✓	✓	✓ (DRAFT)	
SAVANNAH-1X	2013	✓					✓	✓		✓	✓	✓	
VENUS-B1	2009	✓	✓	✓		✓	✓	✓ (gas log)		✓		✓	

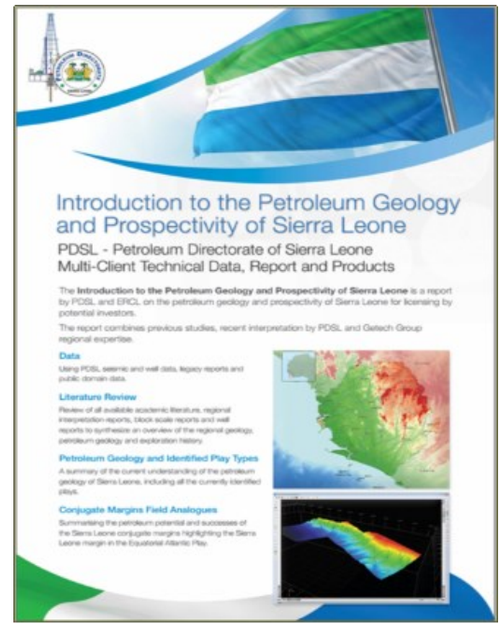
		ENHANCED WELL DATA PACKAGE													
						CORE									
WELL NAME	YEAR DRILLED	POST COMPLETION REPORT	PRE-DRILL REPORTS/ PROGNOSI	GEOLOGICAL REPORT	PETRO-GRAPHIC REPORT	CONVEN.	SWC	PETRO-PHYSICS	BIOSTRAT REPORT	GEOCHEM REPORT	FLUID INC. STUDY	FLUID ANALYSIS STUDY	MISC GEOLOGICAL REPORTS	GEOHAZARD REPORT/EIA	DRILLING REPORTS
A-1	1982	✓				✓	✓								✓
A1-2	1985					X	✓		✓	✓			✓		✓
DJEMBE-1	2012		✓			X	✓								✓
JUPITER-1	2011				✓		✓	✓	✓	✓			✓		✓
MERCURY-1	2010			✓	✓		✓	✓	✓	✓	✓		✓	✓	✓
MERCURY-2	2011				✓	✓	✓	✓	✓	✓	✓	✓			✓ (some)
SAVANNAH-1X	2013			✓	✓	X	X		✓		✓	✓	✓		✓
VENUS-B1	2009				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓

Data Coverage - Additional Data

Joint Studies

Combining the local technical knowledge of PDSL and 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.

1. Introduction to the Petroleum Geology and Prospectivity of Sierra Leone



Based on PDSL's 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 regional expertise to summarize current understanding of the petroleum geology of Sierra Leone, including all identified plays.

2. Digital Atlas

Delivered in ArcGIS compatible formats, the Sierra Leone Digital Atlas is a geospatial database product comprising materials from the PDSL archives supplemented by regional information, including GIS datasets for block boundaries, seismic navigation, well locations, well headers, well summaries, bathymetry, public domain gravity & magnetic grids, hyperlinks to key figures & sections, legacy maps from past Amoco & Mobil report and DSDP/ODP wells data.

3. Structural Evolution and Prospectivity [TGS]

4. Sierra Leone Structural Studies

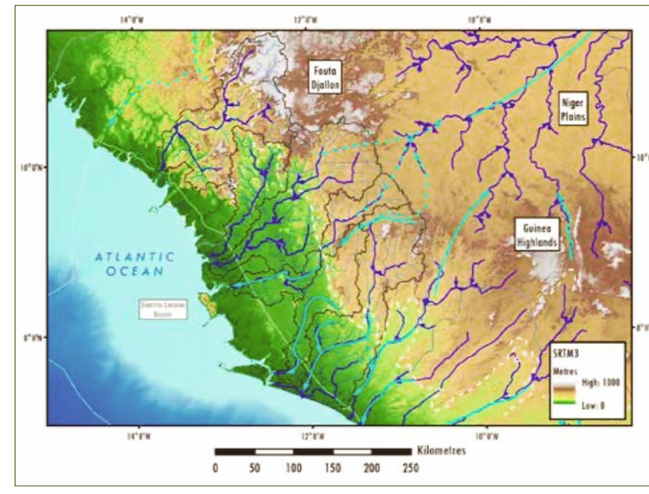
Additional Data Products

Regional Reports by Getech

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

1. Palaeo-drainage and Provenance Assessment of the African Equatorial Atlantic

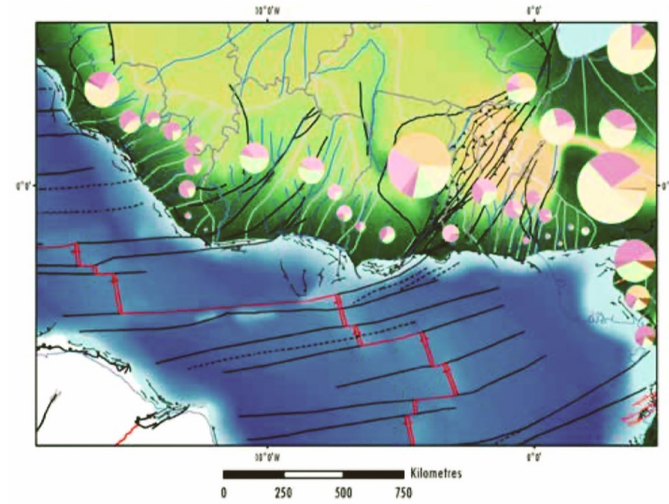
This Regional Report provides an evaluation of the African Equatorial Atlantic margin and investigates the palaeo-drainage history of the region. Using innovative methods of reconstructing the palaeogeology it assesses the impact that palaeo-climate and palaeo-weathering have had on the likely provenance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



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

2. 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.



Fiscal Framework

Non-Negotiable Elements

Royalty

- Sierra Leone operates a Tax-Royalty Hybrid System
- 10% on gross production for Crude Oil
- 5% for Gas

Corporate Income Tax

- 25% of Gross Profit

Petroleum Resource Rent Tax

- Superficial Tax based on excess profit.
- Financial modelling shows PRRT is only applicable when the price of oil is **$60/bbl** and above

Fiscal Framework

Negotiable Elements

1. Paid Interest	2. License Fees	3. Training, R&D Fund	4. Technology Bonus	5. Extension Fee
✓The State maintains the option to negotiate Paid Interest	✓Negotiable ✓Set per sq.km	✓Negotiable ✓Set per graticular block		

6. Production Bonus	7. CSR	8. Assignment / Farm-out Fees	9. Signature Bonus	10. Seismic Data Acquisition
✓Negotiable ✓When total average daily production reaches a defined threshold for a period of **30** consecutive producing days	✓Negotiable ✓Set per graticular block			✓Purchase existing or New Acquisition of 2D and/or 3D Seismic Data from **TGS**

Break Even Price

- The attractive fiscal regime helps with independent fiscal economic modelling from Ventura International Energy LLC detailing the break-even price to be approximately **$50/bbl** for a commercial discovery in the deep-water environment, placing the country firmly in the attractive zone when compared with other African countries.

- The latest oil price rally of the last months of 2022 bodes well for the attractive opportunity offshore Sierra Leone in the near-term.

Legal & Regulatory Framework

The contractual relationship between Investor and State is governed by the Petroleum Exploration and Production Act—PEPA 2011

- All Petroleum Rights are vested in the State – enshrined in the Sec. 7 of the Constitution of Sierra Leone, 1991 and Sec.2 of the PEPA 2011.

- Principal legislation governing upstream oil and gas operations is the PEPA 2011 and provides the Administration, Regulation and Management framework of the upstream and midstream petroleum sector.

- Due to the understanding of being a frontier nation, the legal framework governing petroleum operations in Sierra Leone is transparent, efficient and fluid and covers:

Environmental Protection Agency Act 2008

Local Content Act 2016

Income Tax Act 2000

Finance Act 2020

Types of Petroleum Rights

The Republic of Sierra Leone offers three(3) types of Licenses / Permits.

1. Petroleum Exploration & Production License (Up to 30yrs)

- Pre-qualification is required
- Payment of Prequalification and Application Fees required
- Application to be an Operator is required
- Applicant must demonstrate the following:
  - ◊ Technical
  - ◊ Financial
  - ◊ HSE Capabilities

2. Reconnaissance Permit (Up to 2 Years)

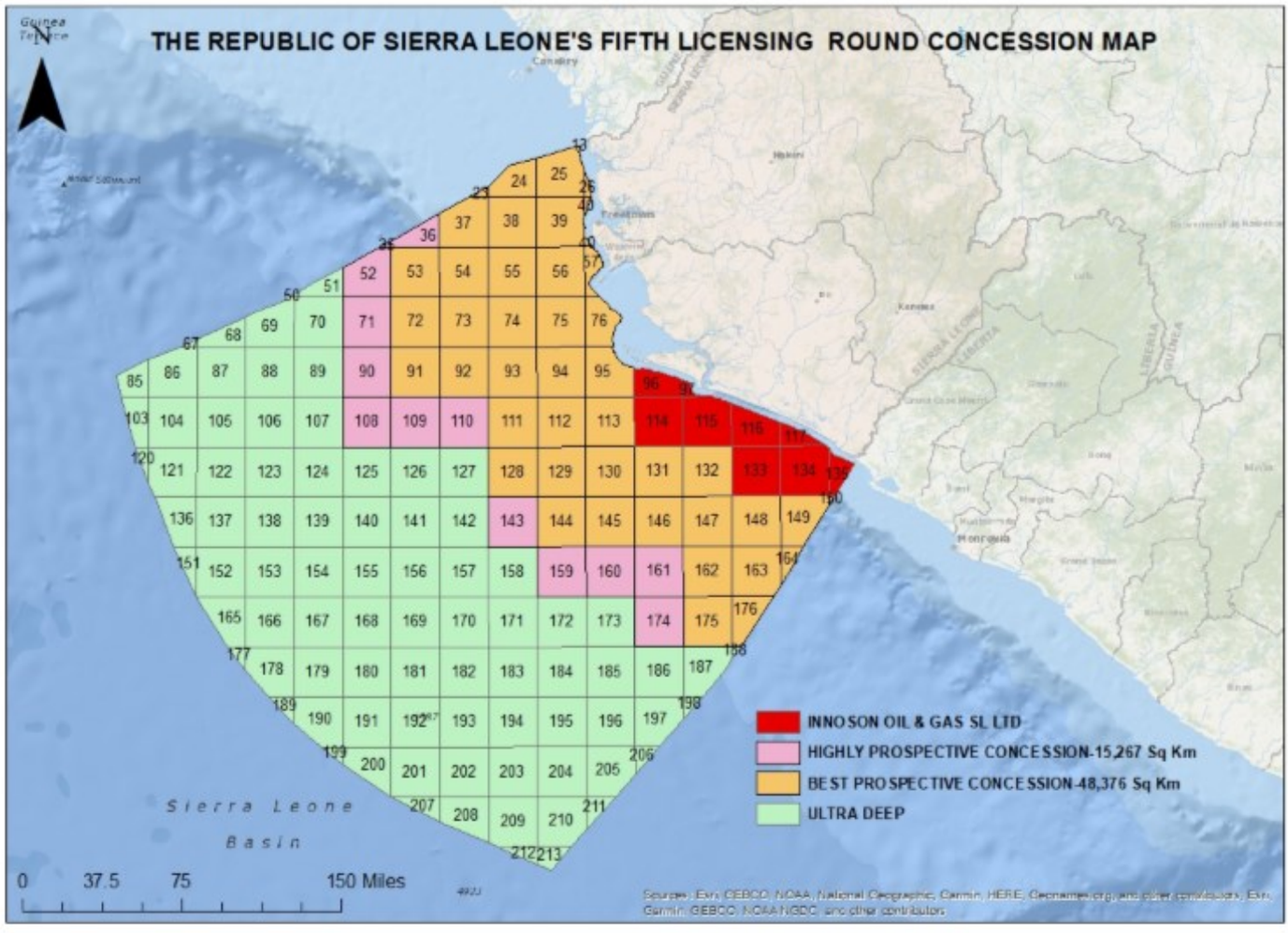
- Non-Exclusive
- Pre-qualification required
- Payment of Prequalification and Application Fees required
- Applicant must demonstrate the following:
  - ◊ Technical
  - ◊ Financial
  - ◊ HSE Capabilities

3. Permit for Laying & Operation of Pipeline

- A permit for the laying and operation of pipelines to transport petroleum produced from fields.

Concession Areas on Offer

* The total offshore area of Sierra Leone covers approximately 170,000 km^2, with 140,000 km^2 of offshore open acreage available.
* MSGBC and Guyana-Suriname Basins are developing oil and gas from Cretaceous reservoirs. Sierra Leone is along trend with **63,643 km^2** of open acreage.
* After a block re-demarcation in 2018, DSL now has a series of smaller blocks that align with the ECOWAS north-south grid system. Each graticule is approximately **1360 km$^{2.}$**
* Minimum of **Three (3)** Graticular Blocks constitute a Contract Area.



APPLICATION PROCEDURE

Application Procedure

Prequalification Process

- The Petroleum Exploration and Production Act **(PEPA)** 2011 requires prequalification of applicants for Petroleum Rights
- **Application Fee for Prequalification is US$15,000**
- Petroleum Directorate will evaluate the application and then issue a **"Notice of Qualification"** for the Fifth Licensing Round within 10 Business days.


PETROLEUM DIRECTORATE OF SIERRA LEONE

PETROLEUM DIRECTORATE Of Sierra Leone

SIERRA LEONE
INVITATION FOR TENDER

PREQUALIFICATION GUIDELINES FOR INVESTORS

Prequalification Criteria:

- Financial Strength
- Operational / Technical Prequalification
- QHSE Policy Statement
- Data Room Visit and Purchase of Seismic Data.


STANDARD APPLICATIONS FOR ENTERING INTO PETROLEUM AGREEMENTS

Completed Applications should be sent to:

PETROLEUM DIRECTORATE SIERRA LEONE
20 Mandalay Street, Kingtom, Freetown Sierra Leone

www.pd.gov.sl/application

Applicant MUST clearly state their wish to apply as:

- Operator or
- Petroleum Right Holder (Partner/Non-Operator)

Application Procedure

Application for Petroleum Rights

- Application Guidelines for Investors can be found on Petroleum Directorate's website

www.pd.gov.sl/application

- Applicants must have Prequalified (**Note** that **ONLY** Operators can submit a bid)

- Download Application Templates and Complete:
  - Section A – Applicant Detail & Financial Information
  - Section B – Technical Application Summary
  - Section C – Commercial Proposal
  - Section D – HSE Summary
- Negotiations Termsheet

- **<u>Pay Application Fee US$30,000 per Contract Area (minimum 3 Graticular Blocks)</u>.**

- A fee of **<u>US$5,000</u>** applies for any additional graticular block above the minimum Contract Area

- Submit Application Online at info.pd.gov.sl or In-Person

Application Procedure

Application Forms:

Section A—Applicant(s) Details and Financial information

Part I – Name(s) of Applicant(s)

- List Details of Applicants (Operator and any Partners)

Part II – Contract Area Applied For

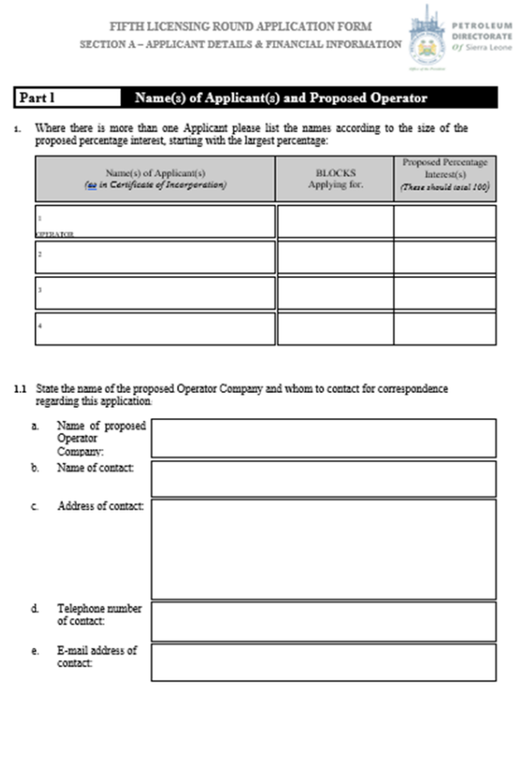
- Detail Contract Area applied for

Part III – Prequalification Information

- It should include a copy of each of the Applicant(s) (Operator and any Partners) Prequalification Application

Additional Information

- A brief description of technical and industrial information available to the Applicant
- Particulars of Financial Resources:
  - Capital
  - Credit Facilities
  - Guarantees (Bank and/or Parent Company)



FIFTH LICENSING ROUND APPLICATION FORM
SECTION A – APPLICANT DETAILS & FINANCIAL INFORMATION

PETROLEUM DIRECTORATE Of Sierra Leone

Part I **Name(s) of Applicant(s) and Proposed Operator**

1. Where there is more than one Applicant please list the names according to the size of the proposed percentage interest, starting with the largest percentage:

Name(s) of Applicant(s) *(as in Certificate of Incorporation)*	BLOCKS Applying for.	Proposed Percentage Interest(s) *(There should total 100)*
1. OPERATOR		
2.		
3.		
4.		

1.1 State the name of the proposed Operator Company and whom to contact for correspondence regarding this application.

a. Name of proposed Operator Company:	
b. Name of contact:	
c. Address of contact:	
d. Telephone number of contact:	
e. E-mail address of contact:	

Applicant Name Page 3 of 6

www.pd.gov.sl/application

Application Procedure

Application Forms:

Section B—Technical Proposal Summary

Part I – Technical Assessment

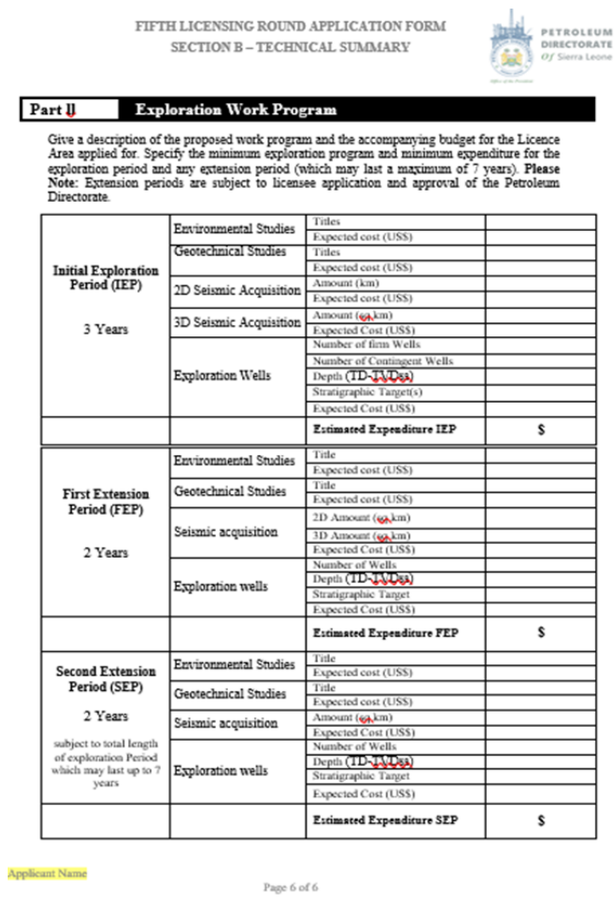
- Demonstrate Applicant's current assessment of the resource potential

Part II – Exploration Work Program

- Demonstrates Applicants future plans to undertake exploration work and evaluate the acreage

Note:

Section B forms a crucial part of the application and evaluation criteria



FIFTH LICENSING ROUND APPLICATION FORM
SECTION B – TECHNICAL SUMMARY

PETROLEUM DIRECTORATE Of Sierra Leone

Part II Exploration Work Program

Give a description of the proposed work program and the accompanying budget for the Licence Area applied for. Specify the minimum exploration program and minimum expenditure for the exploration period and any extension period (which may last a maximum of 7 years). **Please Note:** Extension periods are subject to licensee application and approval of the Petroleum Directorate.

Initial Exploration Period (IEP) 3 Years	Environmental Studies	Titles	
		Expected cost (US$)	
	Geotechnical Studies	Titles	
		Expected cost (US$)	
	2D Seismic Acquisition	Amount (km)	
		Expected cost (US$)	
	3D Seismic Acquisition	Amount (sq.km)	
		Expected Cost (US$)	
	Exploration Wells	Number of firm Wells	
		Number of Contingent Wells	
		Depth (TD-TVDss)	
		Stratigraphic Target(s)	
		Expected Cost (US$)	
		Estimated Expenditure IEP	$
First Extension Period (FEP) 2 Years	Environmental Studies	Title	
		Expected cost (US$)	
	Geotechnical Studies	Title	
		Expected cost (US$)	
	Seismic acquisition	2D Amount (sq.km)	
		3D Amount (sq.km)	
		Expected Cost (US$)	
	Exploration wells	Number of Wells	
		Depth (TD-TVDss)	
		Stratigraphic Target	
		Expected Cost (US$)	
		Estimated Expenditure FEP	$
Second Extension Period (SEP) 2 Years subject to total length of exploration Period which may last up to 7 years	Environmental Studies	Title	
		Expected cost (US$)	
	Geotechnical Studies	Title	
		Expected cost (US$)	
	Seismic acquisition	Amount (sq.km)	
		Expected Cost (US$)	
	Exploration wells	Number of Wells	
		Depth (TD-TVDss)	
		Stratigraphic Target	
		Expected Cost (US$)	
		Estimated Expenditure SEP	$

Applicant Name

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www.pd.gov.sl/application

Application Procedure

Application Forms:

Section C—Commercial Summary

Section C contains the following:

Part I – Fees

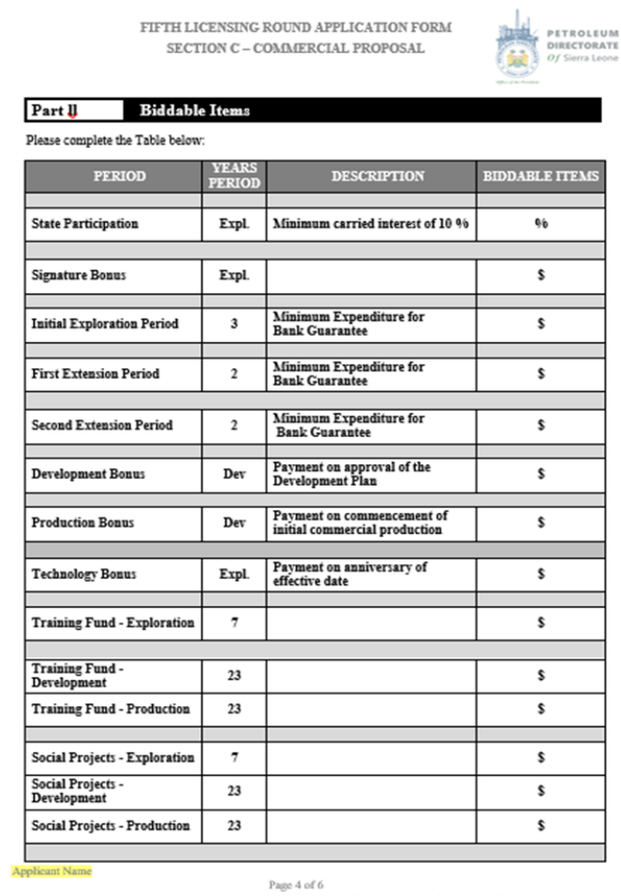
- Prequalification payment confirmation
- Licensing Round Application payment confirmation

Part II – Biddable Items

- Minimum expenditure for each period

Part III – Additional Aspects

- Applicant provides details of:
  - ⇒ Training and Development
  - ⇒ Social Projects
  - ⇒ Any other info that adds value to application



FIFTH LICENSING ROUND APPLICATION FORM
SECTION C – COMMERCIAL PROPOSAL

PETROLEUM DIRECTORATE Of Sierra Leone

Part II **Biddable Items**

Please complete the Table below:

PERIOD	YEARS PERIOD	DESCRIPTION	BIDDABLE ITEMS
State Participation	Expl.	Minimum carried interest of 10 %	%
Signature Bonus	Expl.		$
Initial Exploration Period	3	Minimum Expenditure for Bank Guarantee	$
First Extension Period	2	Minimum Expenditure for Bank Guarantee	$
Second Extension Period	2	Minimum Expenditure for Bank Guarantee	$
Development Bonus	Dev	Payment on approval of the Development Plan	$
Production Bonus	Dev	Payment on commencement of initial commercial production	$
Technology Bonus	Expl.	Payment on anniversary of effective date	$
Training Fund - Exploration	7		$
Training Fund - Development	23		$
Training Fund - Production	23		$
Social Projects - Exploration	7		$
Social Projects - Development	23		$
Social Projects - Production	23		$

Applicant Name

Page 4 of 6

www.pd.gov.sl/application

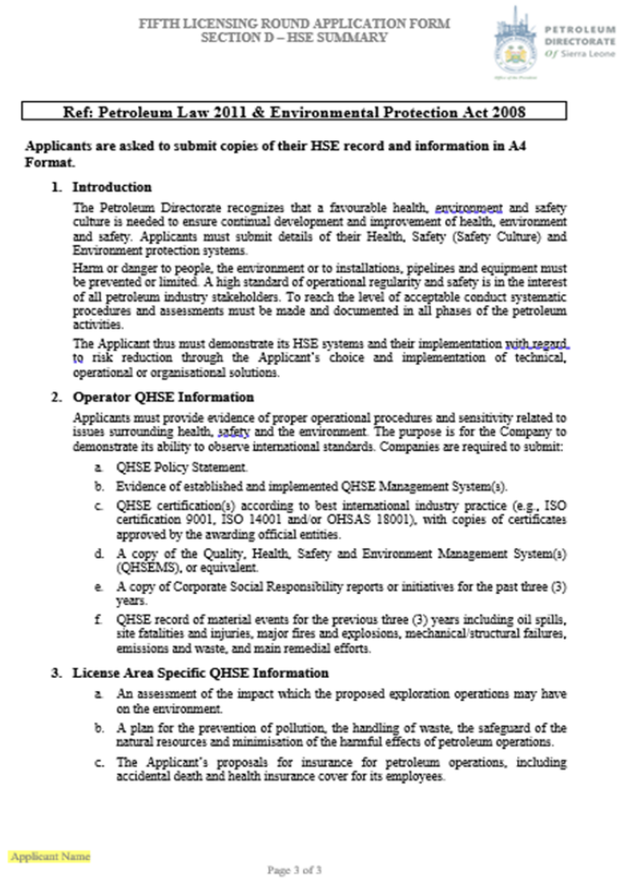
Application Procedure

Application Forms:

Section D—Health, Safety & Environment Summary

Applicant must demonstrate the following:

- Provide QHSE Policy
- Evidence of established and implemented QHSE Management System
- QHSE Certificates (ISO 9001, ISO 14001 etc)
- A copy of Corporate Social Responsibility (CSR) Reports
- QHSE record for past 3 years
- Plan for prevention of pollution



FIFTH LICENSING ROUND APPLICATION FORM
SECTION D – HSE SUMMARY

PETROLEUM DIRECTORATE Of Sierra Leone

Ref: Petroleum Law 2011 & Environmental Protection Act 2008

Applicants are asked to submit copies of their HSE record and information in A4 Format.

1. **Introduction**

   The Petroleum Directorate recognizes that a favourable health, environment and safety culture is needed to ensure continual development and improvement of health, environment and safety. Applicants must submit details of their Health, Safety (Safety Culture) and Environment protection systems.

   Harm or danger to people, the environment or to installations, pipelines and equipment must be prevented or limited. A high standard of operational regularity and safety is in the interest of all petroleum industry stakeholders. To reach the level of acceptable conduct systematic procedures and assessments must be made and documented in all phases of the petroleum activities.

   The Applicant thus must demonstrate its HSE systems and their implementation with regard to risk reduction through the Applicant's choice and implementation of technical, operational or organisational solutions.

2. **Operator QHSE Information**

   Applicants must provide evidence of proper operational procedures and sensitivity related to issues surrounding health, safety and the environment. The purpose is for the Company to demonstrate its ability to observe international standards. Companies are required to submit:

   a. QHSE Policy Statement.
   b. Evidence of established and implemented QHSE Management System(s).
   c. QHSE certification(s) according to best international industry practice (e.g., ISO certification 9001, ISO 14001 and/or OHSAS 18001), with copies of certificates approved by the awarding official entities.
   d. A copy of the Quality, Health, Safety and Environment Management System(s) (QHSEMS), or equivalent.
   e. A copy of Corporate Social Responsibility reports or initiatives for the past three (3) years.
   f. QHSE record of material events for the previous three (3) years including oil spills, site fatalities and injuries, major fires and explosions, mechanical/structural failures, emissions and waste, and main remedial efforts.

3. **License Area Specific QHSE Information**

   a. An assessment of the impact which the proposed exploration operations may have on the environment.
   b. A plan for the prevention of pollution, the handling of waste, the safeguard of the natural resources and minimisation of the harmful effects of petroleum operations.
   c. The Applicant's proposals for insurance for petroleum operations, including accidental death and health insurance cover for its employees.

Applicant Name

Page 3 of 3

www.pd.gov.sl/application

Bid Evaluation

- In awarding a Petroleum License, the Petroleum Directorate must be satisfied that the Applicant has developed an exploration strategy and work program that will advance the assessment and understanding of the petroleum potential of the permit area.
- The strategy must be underpinned by a sound technical assessment of the Contract Area, along with evidence of the technical, financial and other capabilities necessary to facilitate the smooth implementation of the work program.
- Consideration may also be given to any past performance issues, either within the jurisdiction of Sierra Leone or internationally, that may impact on the ability of the Applicant to undertake the proposed work program.

Bid Evaluation Scorecard

BID EVALUATION SCORE CARD		
Sierra Leone Fifth Licensing Round		
		SCORE
Section A	FINANCIAL STRENGTH	
	TECHNICAL EXPERTISE	
Section B / C	TECHNICAL / FINANCIAL WORK PROGRAM	
	Technical Database	
	Technical Assessment	
	Exploration Work Program	
	Initial Exploration Period Spend (US$)	
	First Extension Period Spend (US$)	
	Second Extension Period (US$)	
	State Participation	
	Extension Fee	
	Signature Bonus	
	Development Bonus	
	Production Bonus	
	Training, Research & Development Fund	
	Social Projects (CSR)	
	Local Content Provision	
Section D	HEALTH, SAFETY & ENVIRONMENT	P / F
	Pass or Fail	
	Health, Safety & Environment	
TOTAL		/100

Acquisition of Petroleum License

1. Licensing Rounds

A Petroleum License can be acquired under a Call for Tender.

2. Pre-Qualification

Only pre-qualified companies may submit a bid as an operator or petroleum rights holder.

3. Bid Opening

Bidders will be called for the bid opening.

4. Negotiation & Ratification

Successful bidders will be called for negotiation. After negotiation, License will be ratified in Parliament.

5. License Validity

License Valid for 30yrs maximum

Exploration Period for 7yrs

- Initial - 3yrs
- 1st Extension—2yrs
- 2nd Extension—2yrs

6. Relinquishment

- 50% at end of Initial Exploration period
- 25% at end of 1st Extension Period
- 25% at end of 2nd Extension Period

Final Remarks

There are many opportunities to develop new and exciting prospects within the northern area of the Sierra Leone basin that differ from the proven system in the south.

Considering also the potential waiting down-dip, Sierra Leone has all of the subsurface requirements to be the next big African exploration hotspot - especially when the new stable and transparent above ground investment environment is fully factored in.

1. Access to acreage
2. Good fiscal conditions
3. Transparent and stable government
4. A positive investment environment
5. Good quality data with reprocessing and new data on the agenda, plus
6. The world-leading conjugate discoveries

All indicate that Sierra Leone will soon join the exclusive club of African oil-producing nations.

'Unity, Freedom and Justice' is emblazoned on the country's coat of arms, but these three words also spell a great investment opportunity to those that look into the subsurface.

Foday B.L Mansaray
Director General
Petroleum Directorate Sierra Leone

Office of the President

IN PARTNERSHIP WITH