



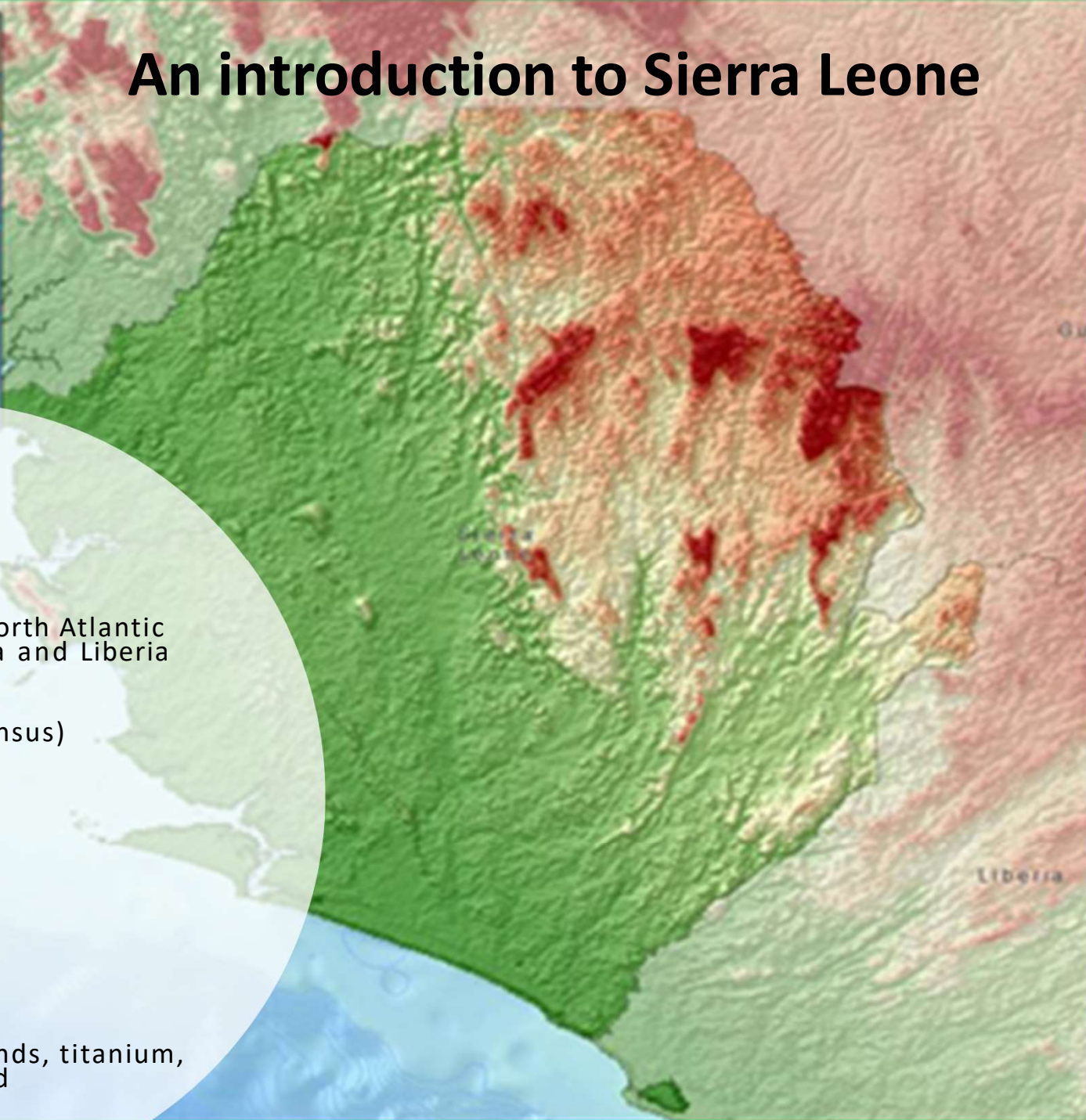
# Re-opening of the Sierra Leone Fourth Licensing Round

AAPG 19-22 May 2019

San Antonio, USA



# An introduction to Sierra Leone



- Location
  - West Africa
  - Bordering the North Atlantic between Guinea and Liberia
- Population 

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  - 7.1 Mn (2015 census)
- Capital
  - Freetown
- Area
  - 71,740 km<sup>2</sup>
- Coastline
  - 402 km
- Other natural resources
  - Iron ore, diamonds, titanium, bauxite and gold

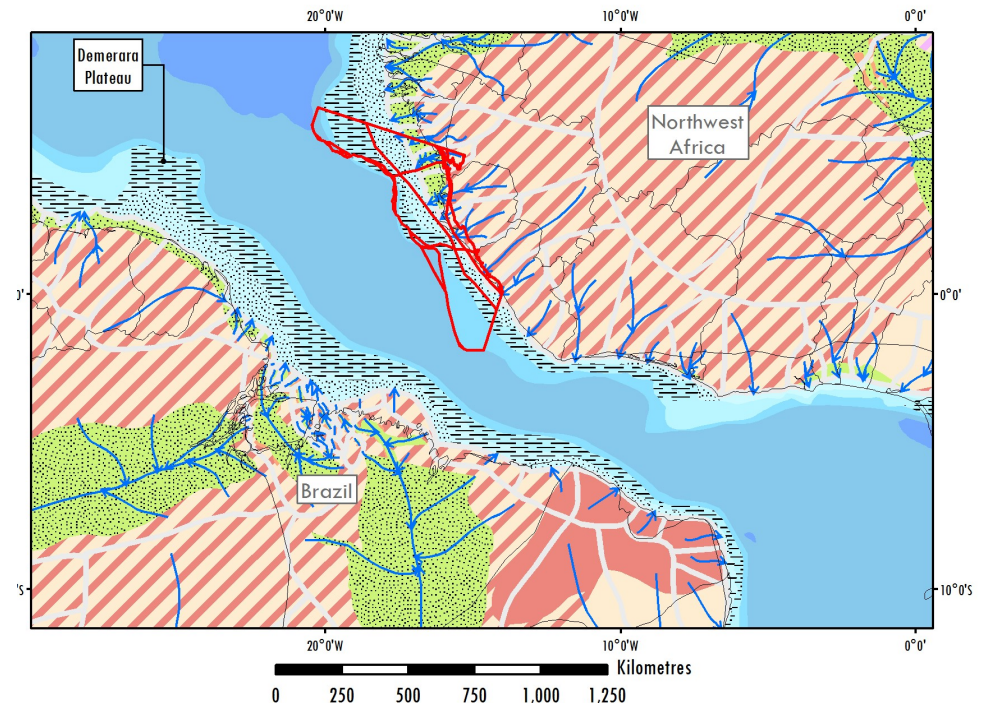
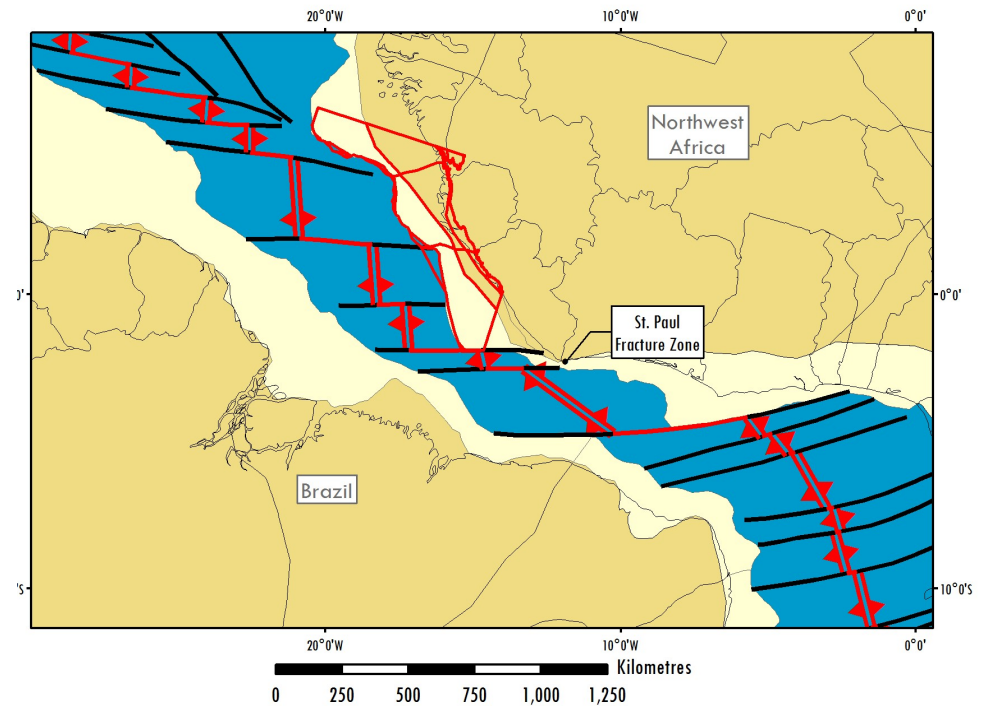


## PDSL – what we do

- Pursuant to executive powers conferred by H.E. the President, the Director General of the Petroleum Directorate administers the Petroleum Exploration and Production Act (PEPA), 2011 and reports directly to H.E. the President
- The Petroleum Directorate under PEPA 2011 has a statutory responsibility for regulating the upstream oil and gas sector, and ensuring that all Operators conducting petroleum operations comply with the applicable Petroleum Legislation and any other regulation(s) or guideline(s) governing upstream oil and gas operations in Sierra Leone.

# Regional geology

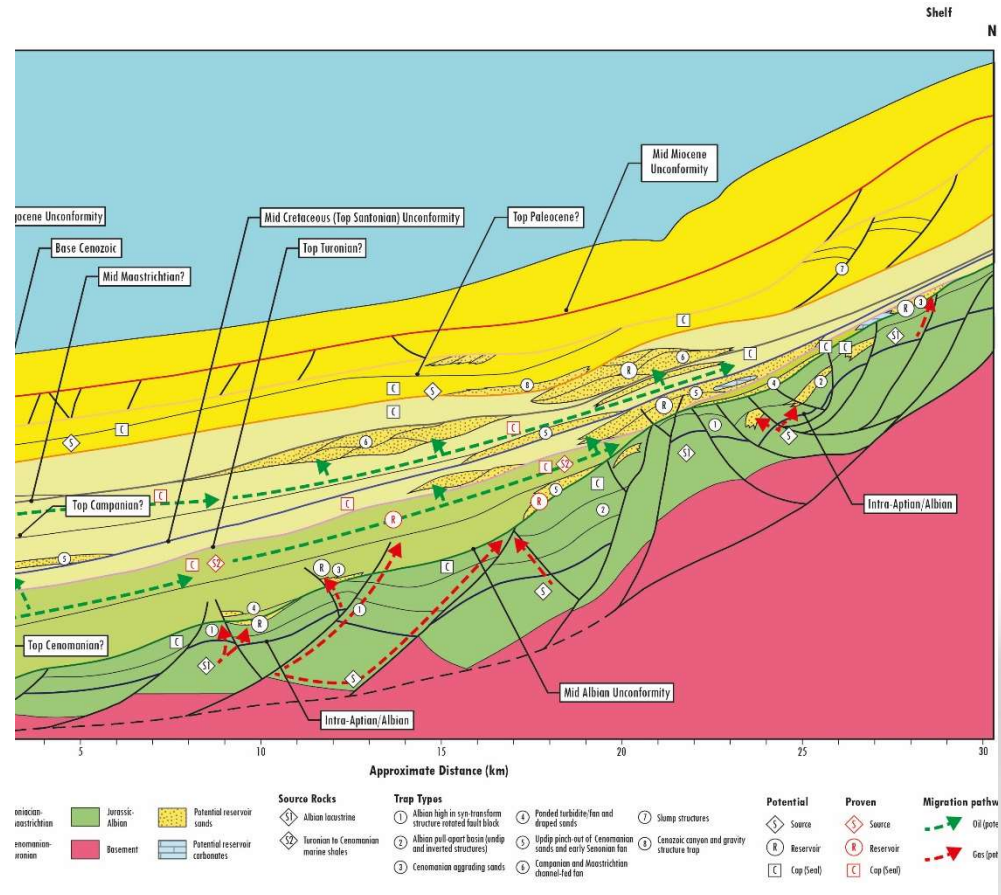
- A transition zone between the MSGBC basins and the West African Transform Margin
- Formed during the initial stages of rifting – basin development associated with early Cretaceous opening of the Equatorial Atlantic



# Elements of the Working Hydrocarbon System



- Source rock
  - Aptian to Cenomanian
  - Late Cretaceous Cenomanian to Turonian shales
- Reservoir
  - Potential reservoir sequences include the Aptian, Albian, Cenomanian, Maastrichtian and Paleocene to Eocene
- Traps
  - Stratigraphic, structural and combination
- Seal
  - The seals may be lateral and intraformational shales or regional hemi-pelagic shales



# Exploration history



- Exploration began in the early eighties with 2D seismic & gravimetric surveys acquired offshore
- Two (2) wells were drilled by Mobil and Amoco in the shallow water – the presence of hydrocarbon was confirmed
- The wells penetrated a significant thickness of reservoir quality sandstone – Early to Late Cretaceous.
- Wells provided sufficient evidence of sedimentary cover and source rock to spur further exploration in the basin
- In 2001, TGS Nopec acquired spec 2D seismic
- A further six wells were drilled offshore Sierra Leone between 2009 and 2013 resulting in four discoveries.

# Prospectivity

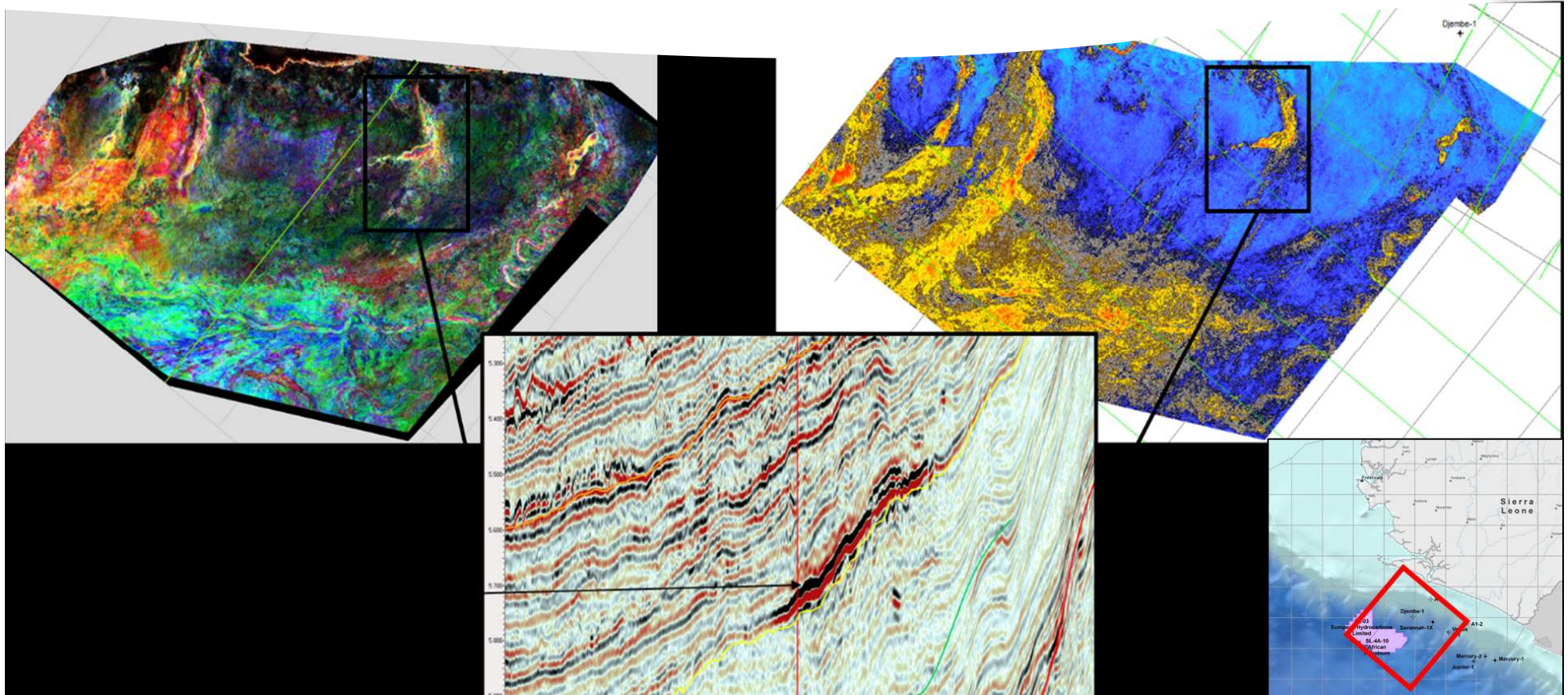


- Proven hydrocarbons:
  - Five wells found hydrocarbons in the Cretaceous.
  - Four of those wells produced hydrocarbons to surface.
- Prospectivity:
  - Shallow Water:
    - Cretaceous tilted fault blocks within the syn-rift section.
    - Undrilled Palaeozoic basin under the northern shelf.
  - Deep to Ultra-deep Water:
    - Structural plays associated with the Sulima Plateau and transform system.
    - Cretaceous stratigraphic pinch-out plays.

# Deepwater Prospectivity



- Proven hydrocarbons in deep water Cretaceous turbidite plays
- Structural and stratigraphic plays identified in deep water by PDSL
- Abundant remaining potential





# Fourth Licensing Round 1



- January 2018
  - The Petroleum Directorate of Sierra Leone launched the country's Fourth Offshore Petroleum Licensing Round at London's Geological Society
- September 2018
  - Director General of Sierra Leone's Petroleum Directorate, Mr Timothy Kabba announced a six-month period of Industry Consultation, the purpose of which was to hear feedback from participants in the country's Fourth Licensing Round
- April 2019
  - Meetings have been held with a broad spectrum of high-quality international oil and gas companies, and this has resulted in a wide-ranging dialogue.

# Fourth Licensing Round 2



- May 2019
- Fourth Licensing Round is formally re-launched today 21<sup>st</sup> May 2019
  - **As published in the Sierra Leone Gazette on 16<sup>th</sup> May, 2019.**

# Conclusions of Consultation (1)



1. Companies recognise the proven nature of Sierra Leone's working hydrocarbon system.
2. Licence Round Participants have considered a broad basis of prospectivity, which spans a range of geographic locations, play types and water depths.
3. This prospectivity extends beyond the boundaries of the Licence Areas made available at the start of the Fourth Licensing Round.

In light of the above, a key conclusion drawn by the Directorate is that the conditions offered pursuant to the original tender process no longer provide the Government of Sierra Leone with a structure broad enough to explore the full range of investor interest that has been expressed.

## Conclusions of Consultation (2)



4. The Directorate has noted that a portion of the interest shown lies in water depths in excess of 2,500 meters, the boundary between deep and ultra-deep water.

It is the view of the Directorate that the number of companies with the financial and technical capability to operate safely in such ultra-deep water areas is limited.

5. Potential investors acknowledge that their understanding of Sierra Leone's prospectivity will benefit from working with the world-class inventory of seismic, gravity, magnetic and well data and studies that is owned by the Government.

# Structure of the Reopening of the Licensing Round

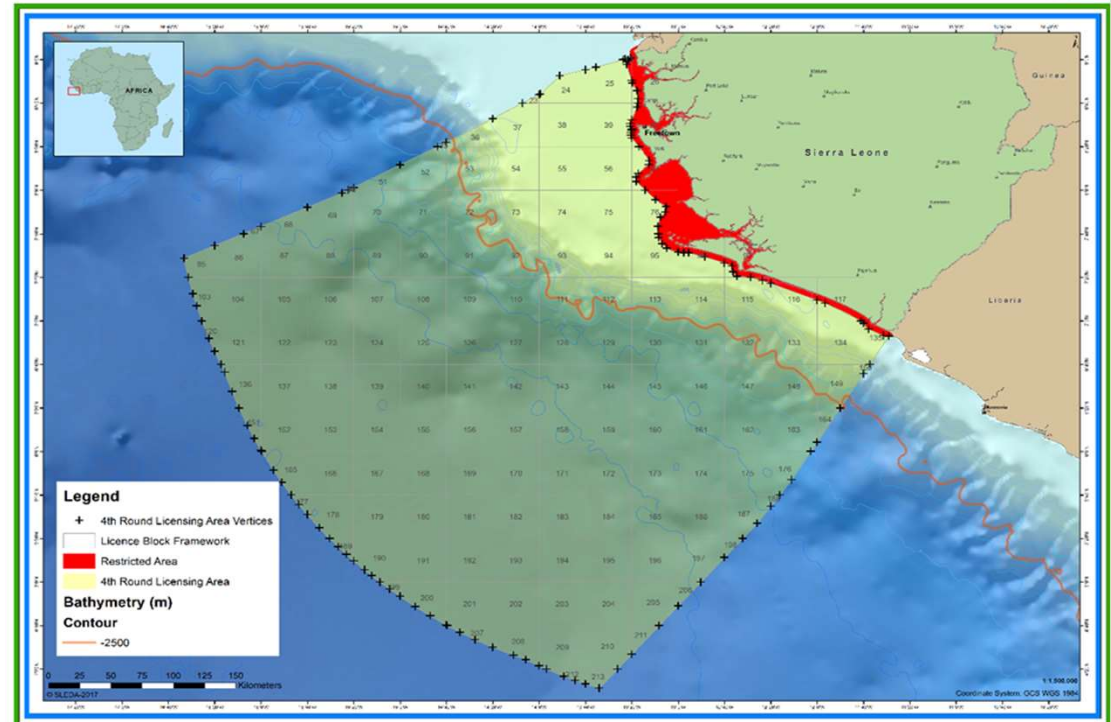


- Fully open the Republic's offshore waters for petroleum licensing.
- Utilise a more flexible Block framework as the basis for licensing.
- Launch a Direct Tender for Licence Applications where 50% or more of the application area is in water depths in excess of 2,500 m
- Launch an Open Tender for all other Licence Applications

# Block System Framework



- The Republic's offshore waters are now fully open to licensing (bar environmentally protected estuaries and a 5km coastal fisheries zone).
- The Directorate has decided to utilize a pre-defined graticular Block framework.
- The size of each full Block is 1,360km<sup>2</sup>



# Milestones



- The **Open Tender** process will run for six months
- The **Direct Tender** process will run for four months
- The deadline for Open Tenders is **22nd November 2019**
- Direct Tender negotiations will close on **20th September 2019**
- To participate in either the Direct or Open Tender, companies must prequalify for that process by fulfilling all financial, technical and HSE elements relevant to their specific application.

# Tender Process

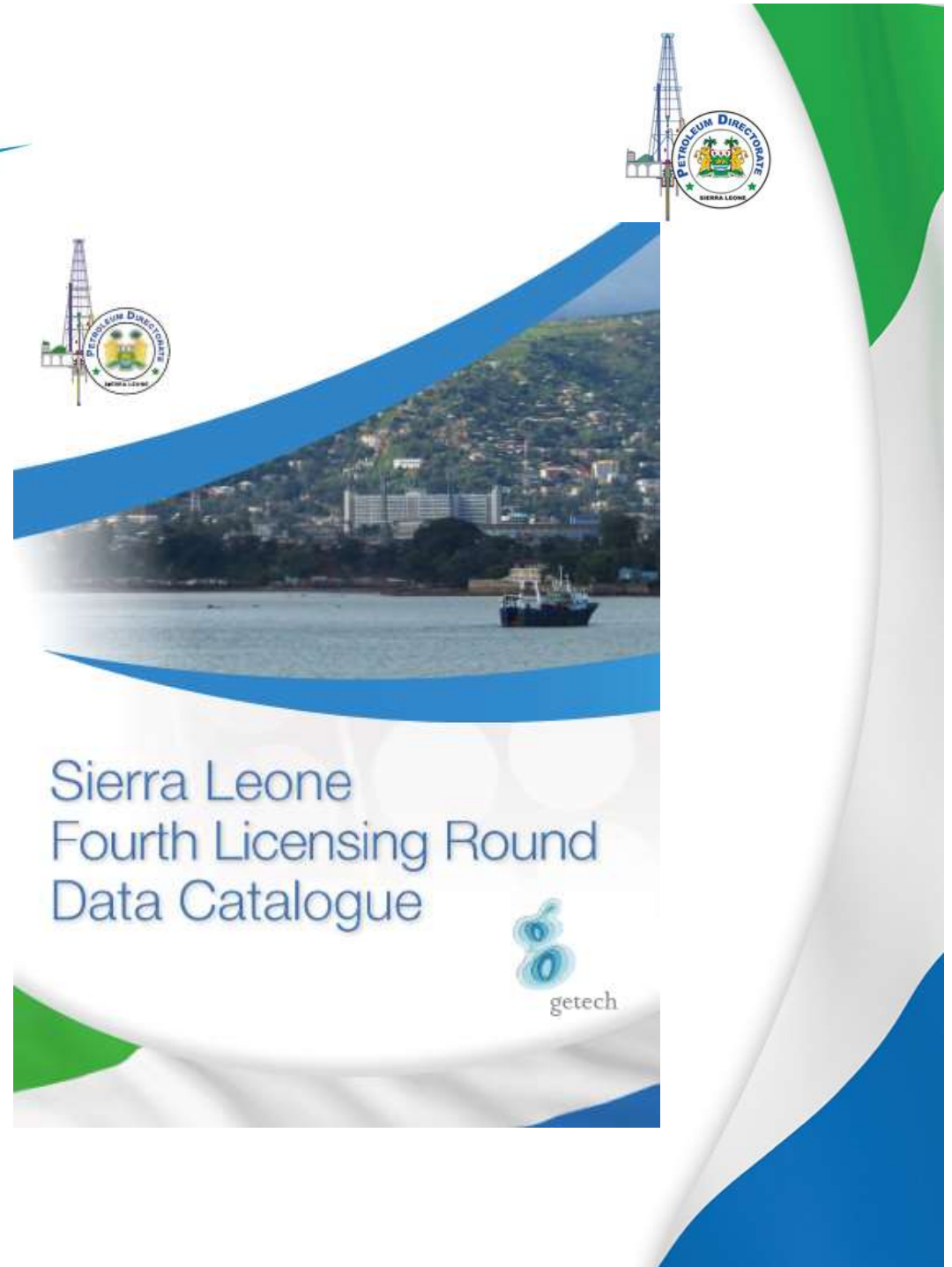


- Given the predominance of ultra-deep water areas in the **Direct Tender** process, each Applicant will be expected to evidence that they possess the financial and technical capability to safely operate in ultra-deep water.
- The **Open Tender** process, being focused on shallower water depths, will provide the opportunity for a broad range of companies to apply for offshore acreage.

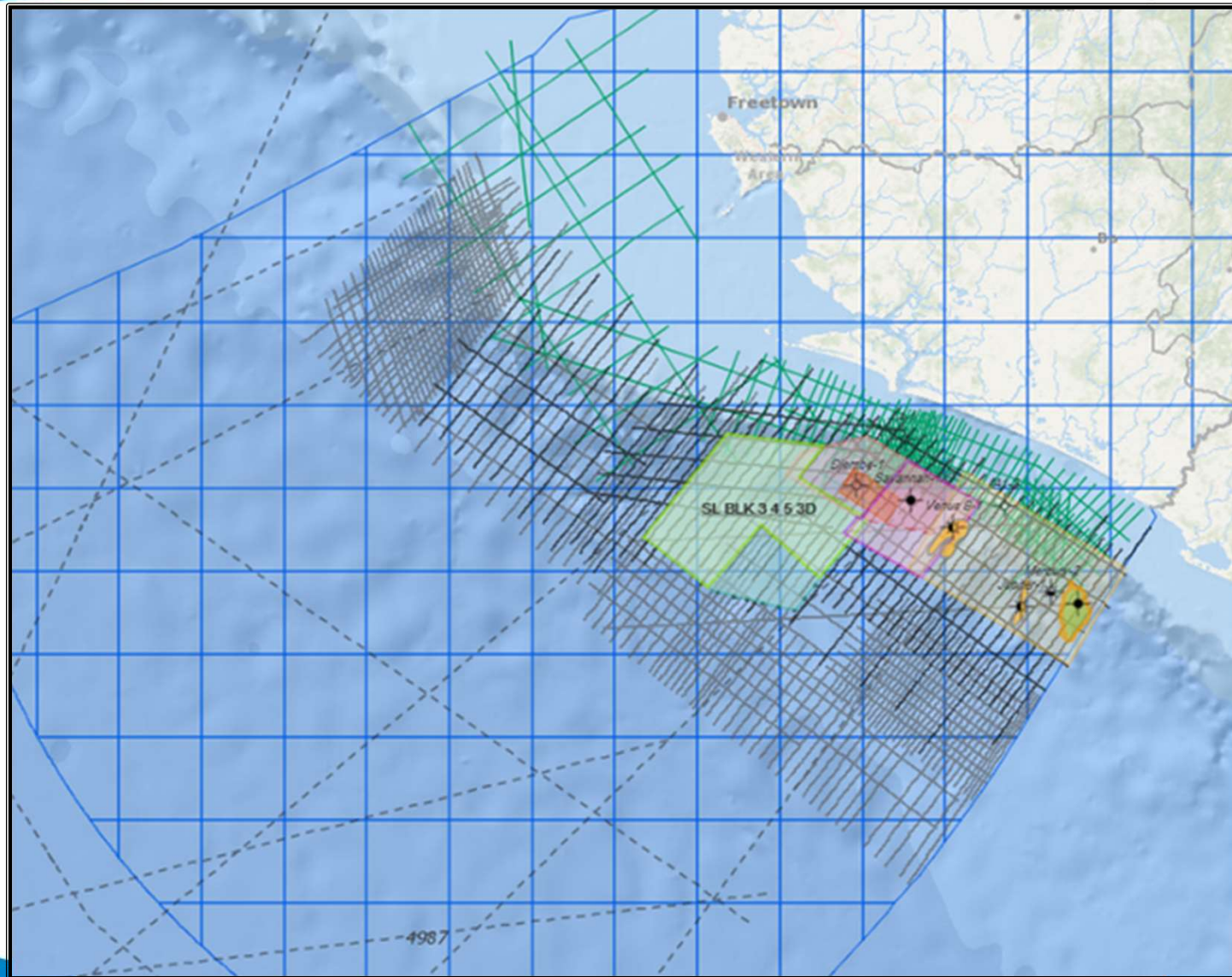


# Work Programme and Data Catalogue

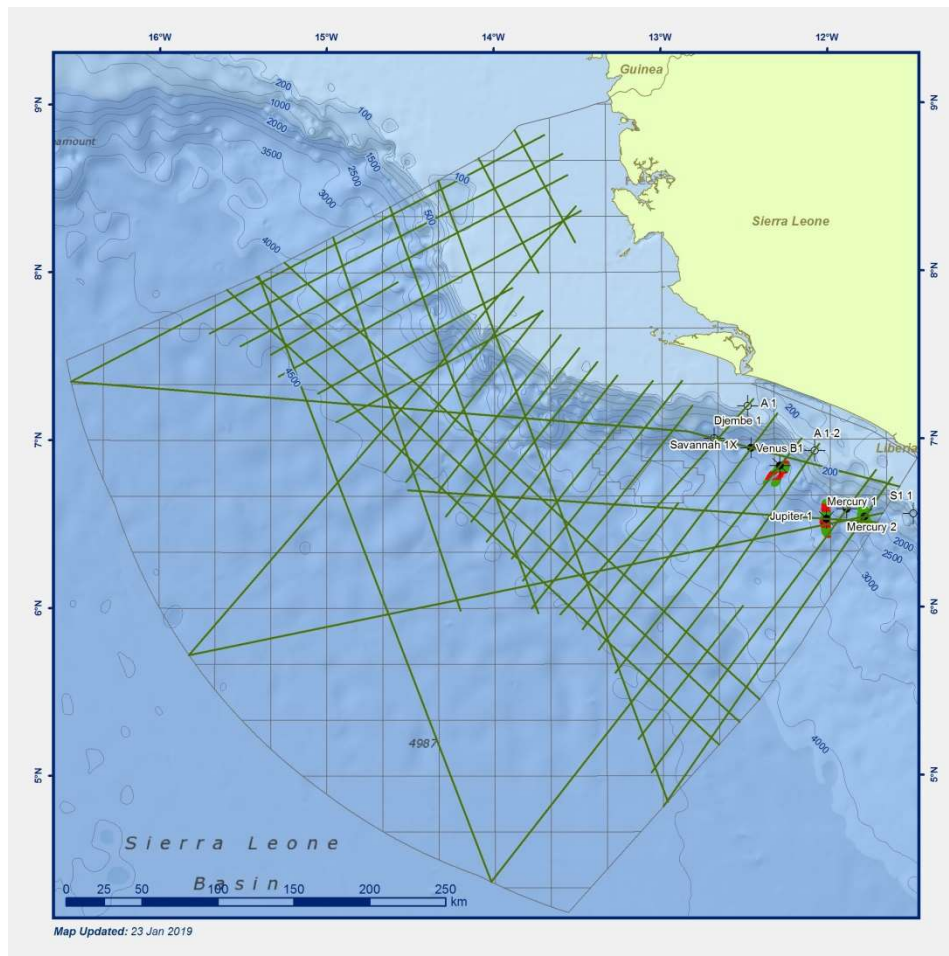
- Applicants are asked to propose a work programme for the Initial Exploration Period
- No minimum work programme has been set for the Initial Exploration Period, however the Directorate expects companies to invest in studies, data and other activities that build toward the drilling of exploration wells.



# Petroleum Directorate Released Data



# Sierra Leone- Proposed Long Offset 2D seismic



**GeoPartners**

- 9000km of new ultra-long offset broadband 2D seismic
- Ties all offshore wells
- First shallow to ultra-deep survey
- PreSTM and PreSDM deliverables
- Acquisition start date early Q2 2019
- Fast track deliverables provided early Q3 for acreage assessment



[www.pd.gov.sl](http://www.pd.gov.sl)

[www.pd-sl.com](http://www.pd-sl.com)



# Licence Award



- Applications for both Direct and Open Tender will be assessed against a publicly disclosed scoring system (see [www.pd-sl.com](http://www.pd-sl.com)).
- Successful applicants will be notified in a timely manner by the Directorate, following which the Applicant will have 30 days to accept the proposed award.
- Once accepted, an exclusive Licence Agreement will be signed and ratified by Parliament.

# Thank You from Sierra Leone



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