



# Liberia Investment Conference

August 5th – 8<sup>th</sup>, 2024

**OPPORTUNITIES IN  
LIBERIA'S  
HYDROCARBON SECTOR**

**National Oil Company of  
Liberia**





# This Presentation Covers

- UP STREAM OPERATIONS

- Offshore
- Available Data
- Prospects
- Onshore

- DOWN STREAM OPERATIONS

- New Vision
- Current Status
- Major Prospects
- Partnership for Funding
- Benefits



# Upstream Operations - Offshore

## **Petroleum Rights in Liberia are given through:**

- Competitive Bidding after pre-qualification (We had a Licensing Round in 2020)
- Direct Negotiation, where interested investors are required to send a letter of intent to the LPRA, get pre-qualified and then move on to the negotiation process and subsequent signing of the PSC (presently ongoing)
- **Executive Allocation to NOCAL, where the President (in consultation with the Legislature) announces 100% Interest in a Block to NOCAL and some of this interest is divested through farm-out**



# Upstream Operations - Offshore

## Our Basins

Our offshore is divided into two basins:

- ✓ 33 Offshore Blocks
- ✓ Liberia Basin (1 – 24)
- ✓ Harper Basin (25 – 33)
- ✓ A Total Area of 98,453.96 km<sup>2</sup>

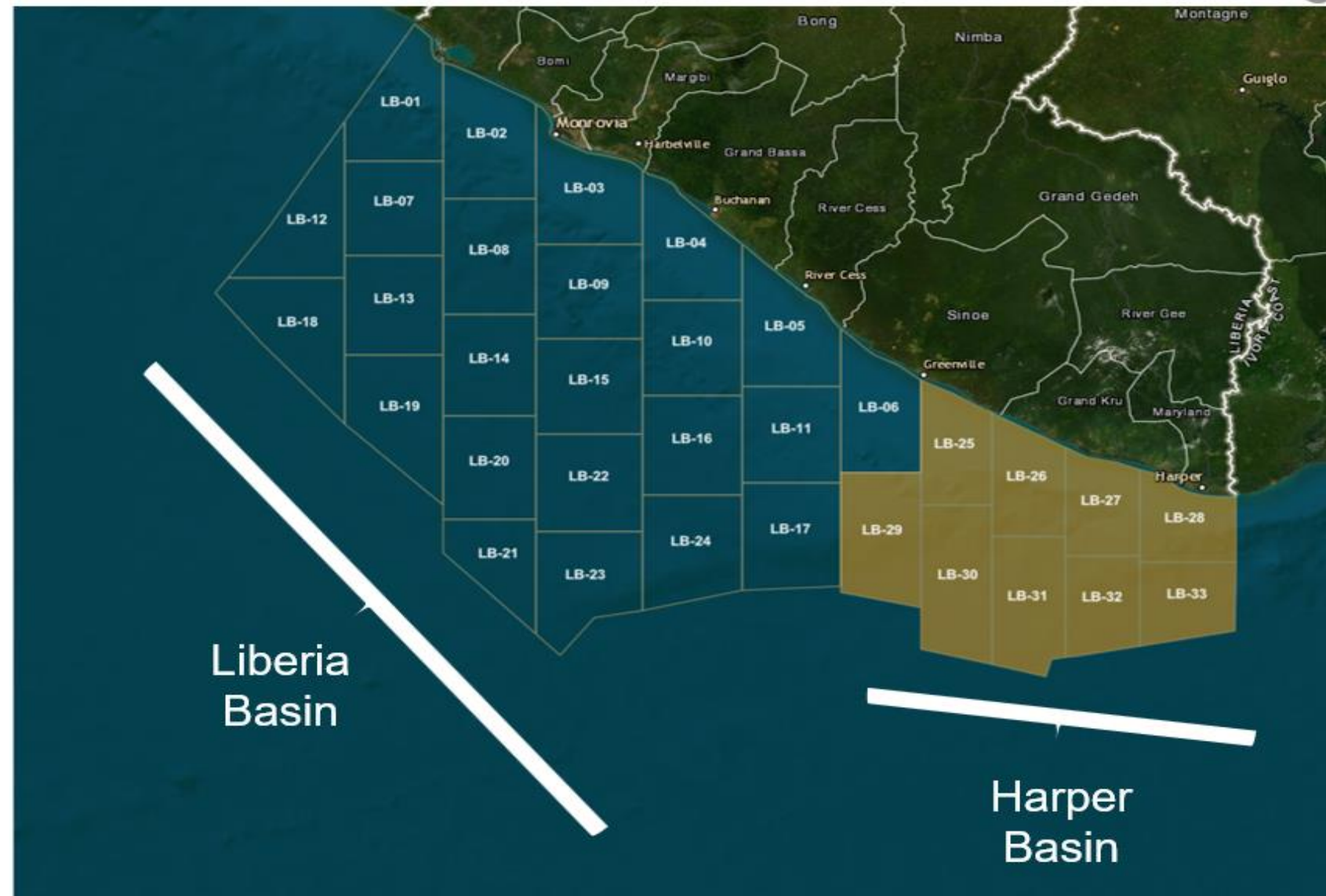


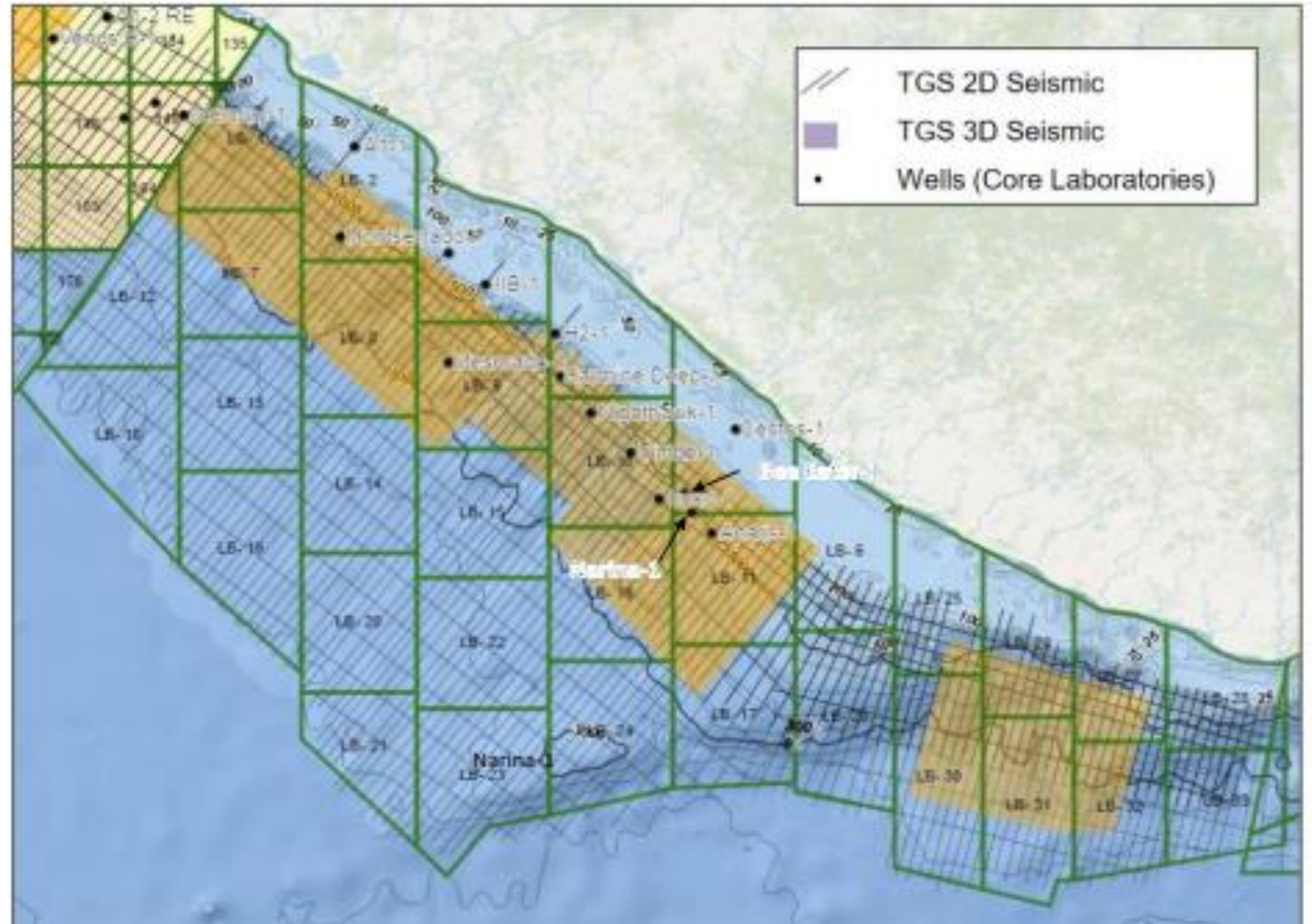
Figure 1: Map showing offshore Liberia with Liberia and Harper basins



# Upstream Operations – Offshore: **Seismic from TGS**

## DATA AVAILABLE

- **2D**  
**Seismic: 34,000 km**  
**10,000 km in Depth**
- **3D**  
**Seismic: 24,000 km<sup>2</sup>**  
**21,500 km<sup>2</sup> in Depth**
- **2D gravity and magnetic data:**  
**24,408 km**
- **You may have access to reprocessed data or legacy data**



**Figure 2:** Map showing offshore Liberia with seismic distribution



# Upstream Operations – Offshore: Well Data (Core Lab)

NOCAL-Core Lab approach is to evaluate legacy Liberian well datasets in a greater regional context to apply regional learnings regarding controls on reservoir presence & reservoir quality

## DATA AVAILABLE

- Petrophysical Data
- Geochemical Reports
- End of Well reports (for all ten recent wells)
- Biostratigraphy Reports

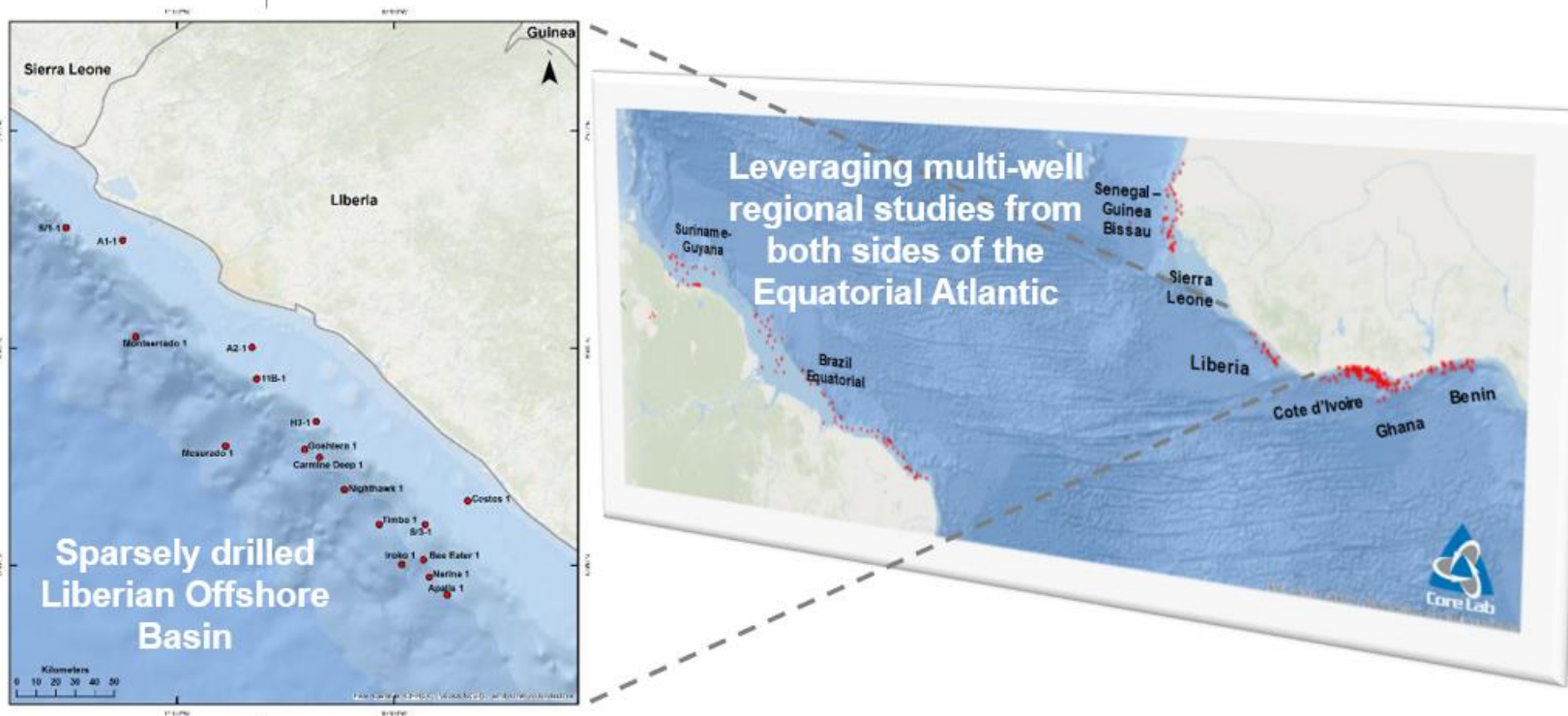


Figure 3: Map showing offshore Liberia with Well distribution in a regional context



# Upstream Operations – Offshore: Prospects

- **Hydrocarbon** presence at multiple stratigraphic levels
- **Reservoir** quality sandstones Albian to Campanian age
- Effective **source rocks** in Albian & Upper Cretaceous
- Effective **seal rocks**

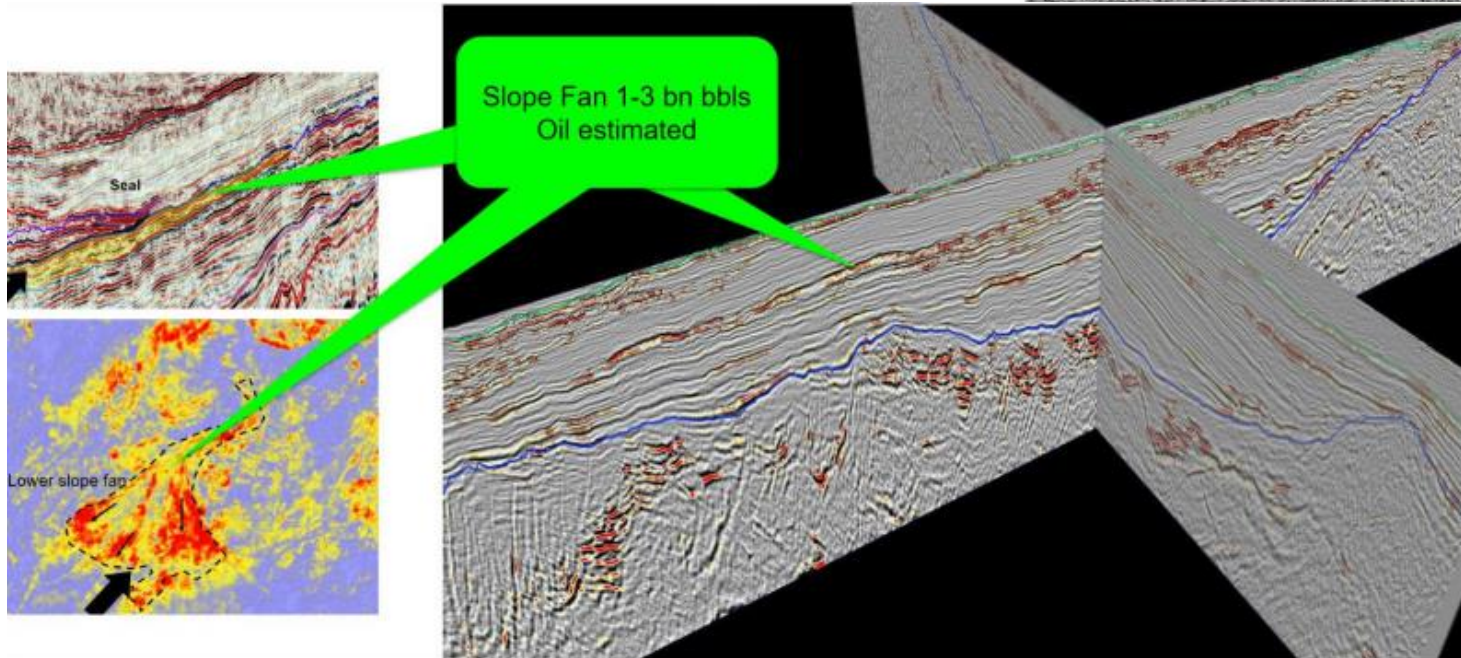
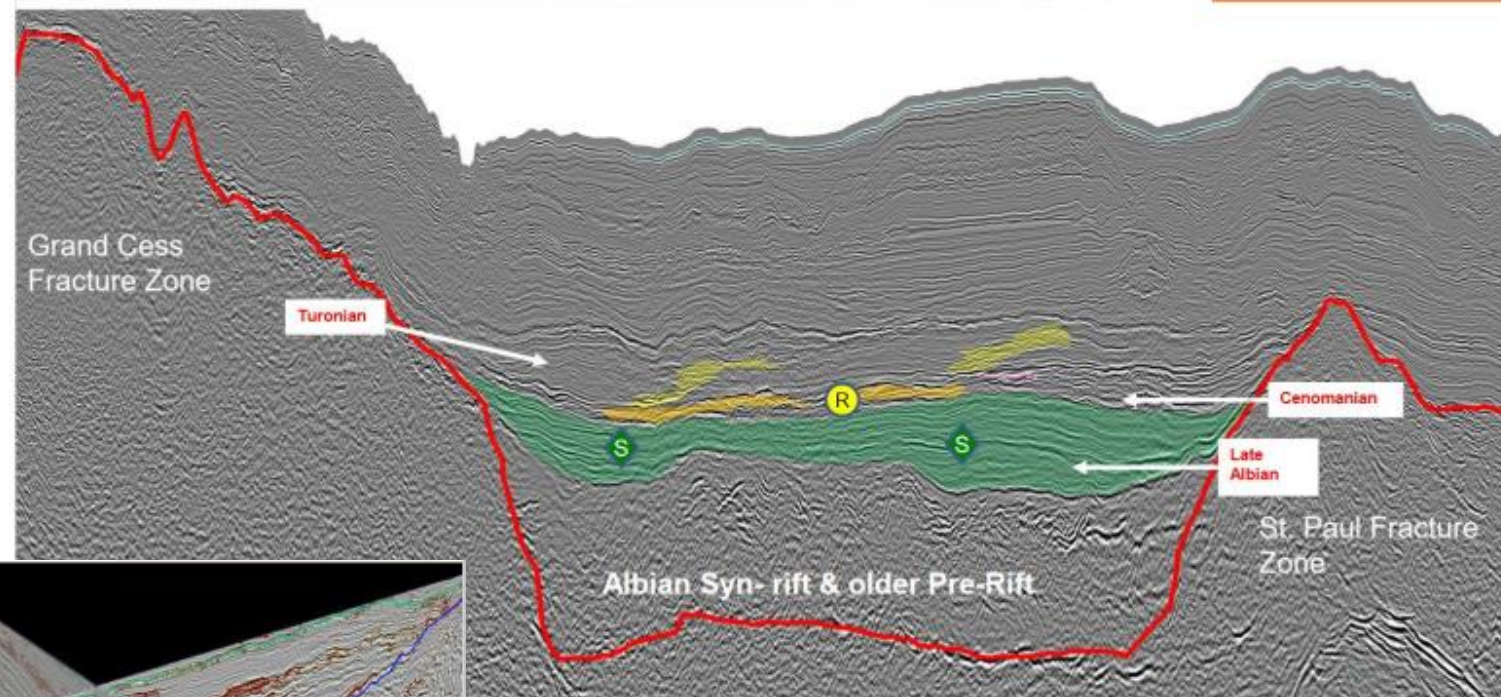


Figure 4: Seismic slides indicating prospects



# Liberia Exploration History

## Results:

- **Hydrocarbon** presence at multiple stratigraphic levels
- **Reservoir** quality sandstones Albian to Campanian age
- Effective **source rocks** in Albian & Upper Cretaceous
- Effective **seal rocks**

## Lower Cretaceous Reservoirs:

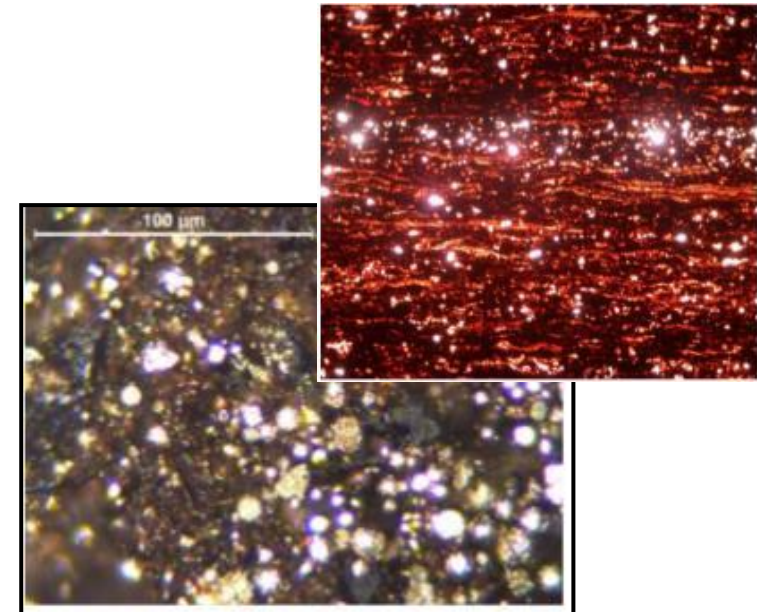
- **Narina-1/1z:** 11m Albian pay
- **Bee Eater-1:** 14m Albian Pay
- **IIB-1, H3-1, A1-1, A2-1, Apalis-1:**  
*oil shows in Albian sandstones*

## Upper Cretaceous Reservoirs:

- **Narina-1/1z:** 21m Upper Turonian pay
- **Montserrado-1:** 7m Turonian pay (in secondary objective)
- **Bee Eater-1:** non-commercial Turonian & Cenomanian pay
- **Nighthawk-1, Iroko-1 & Timbo-1:**  
*oil shows in Late Cretaceous sandstones*

## Source Rocks:

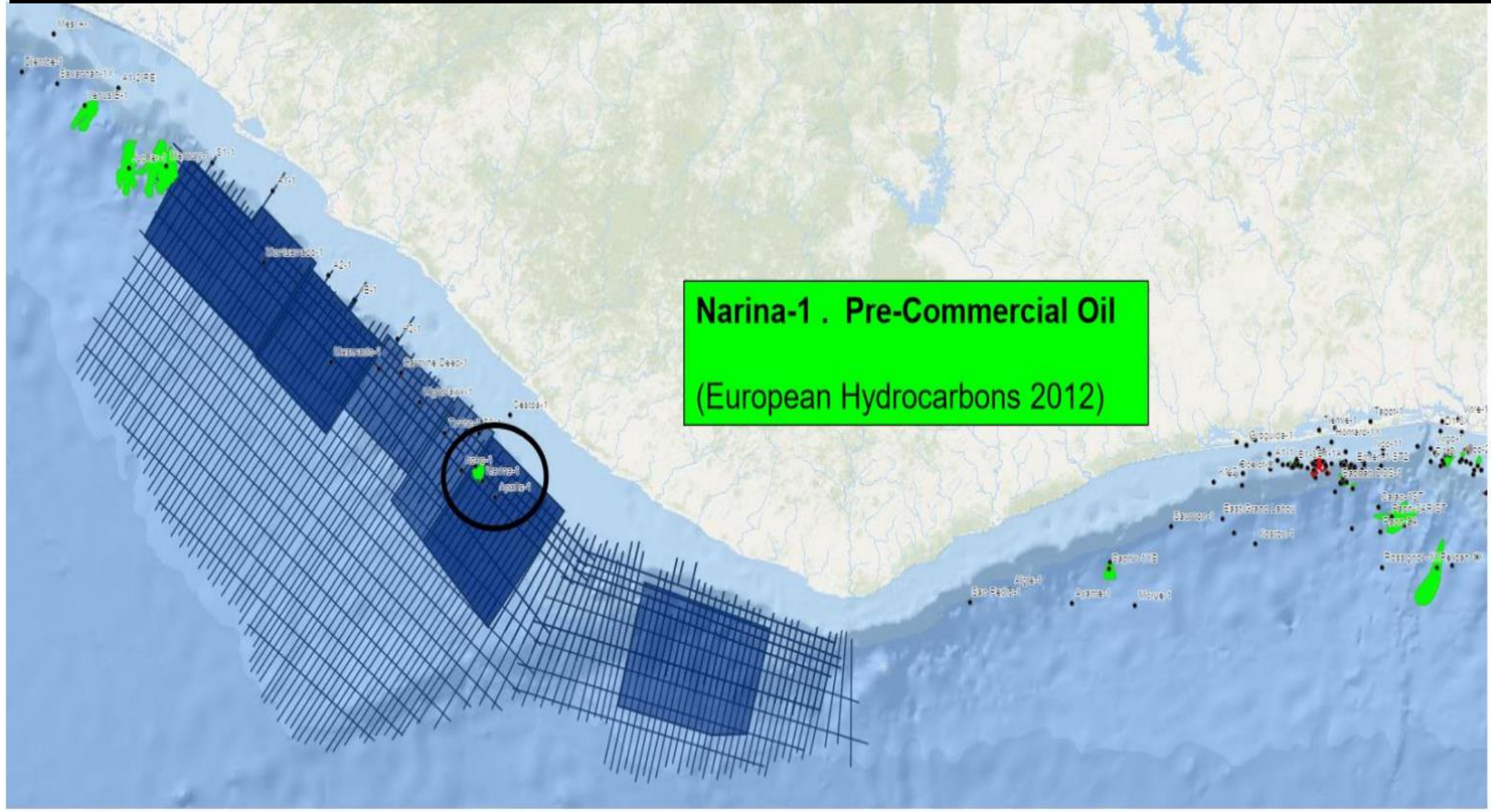
- **Aptian-Albian:** Three or more oil-prone marine and lacustrine source rocks (Type II/III kerogen)
- **Cenomanian-Turonian:** organic-rich marine shales (Type II kerogen)







# Pre-Commercial Success, Narina-1





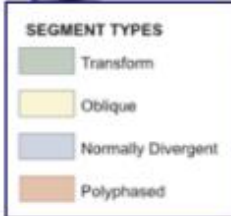
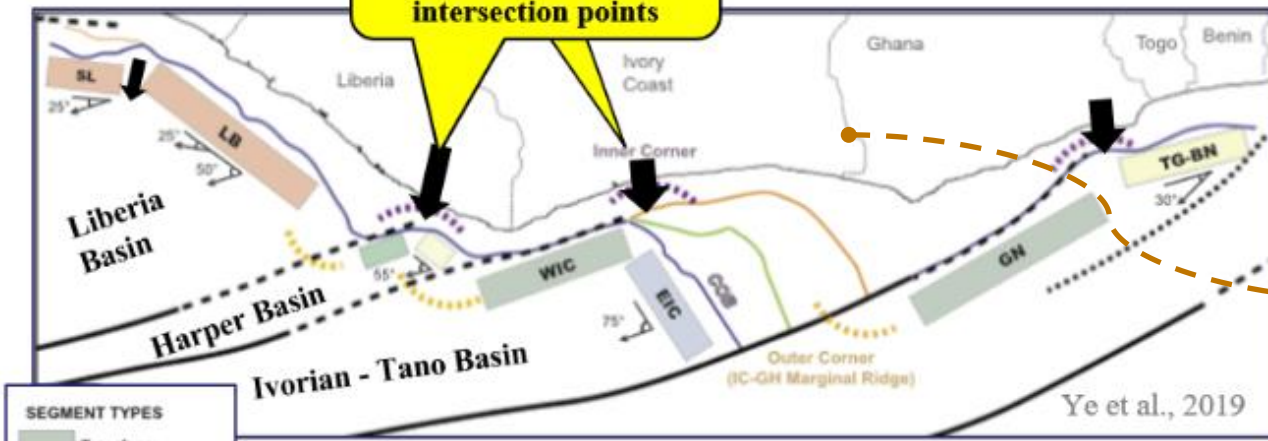
# Future Exploration Success Harper Basin Albian?

## Albian Analogue

### River Entry Points

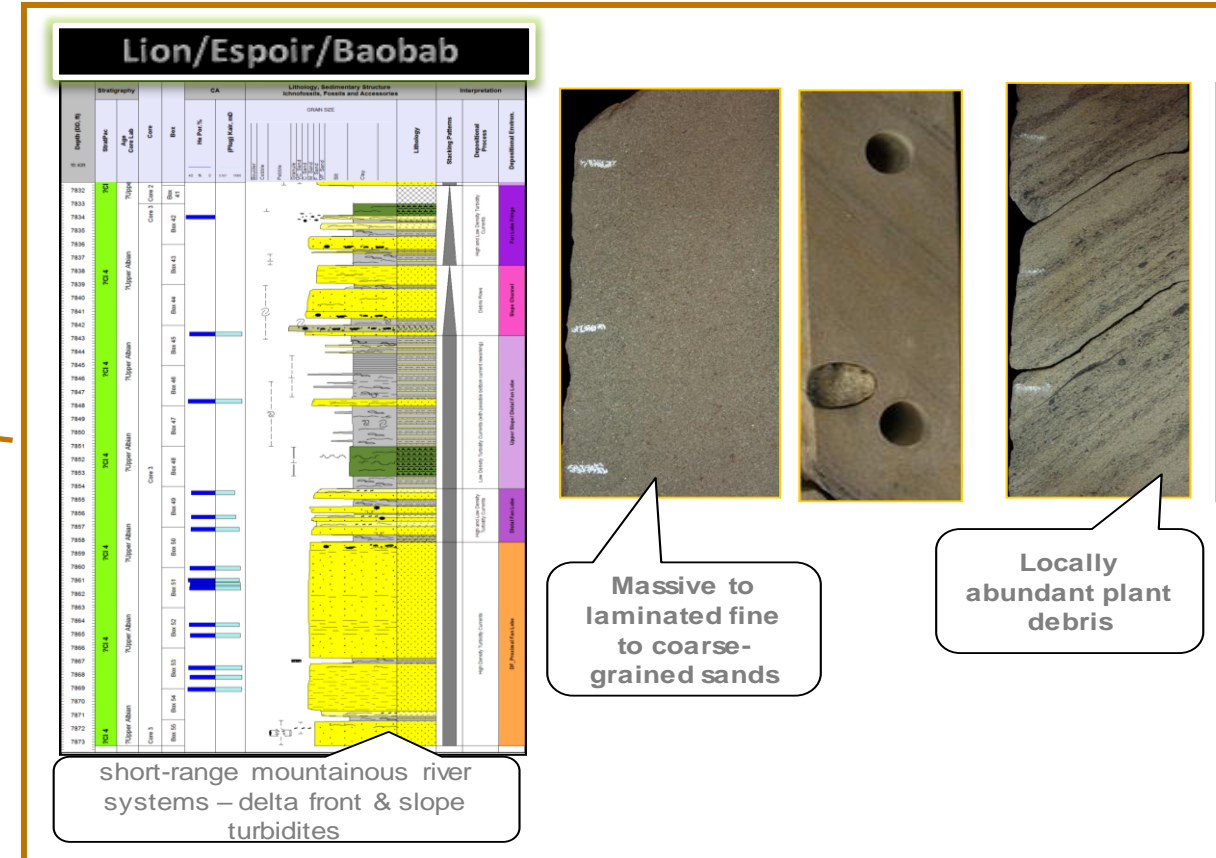
Reservoir quality influenced by structural setting

River Entry Pathways at segment intersection points



## Ivorian Basin

Good to excellent reservoir quality in delta front sandstones (lobes & channels) sourced by hinterland river systems





# Activity Map: Areas of Interest

## Interested Companies

- **ExxonMobil** started to look at our data some months back, now they have applied for pre-qualification to enter the Direct Negotiation process
- **Another Super-major Company** is presently reviewing data from the Harper and Liberia basins with intentions to go into the Direct Negotiation process as well
- **A smaller company** is looking at data from Block LB 11





# Upstream Operations - Onshore

- ❑ The Mineral map shows sediments in the Cape Mount (Piso Basin) area and the Montserrado/Margibi (Robert/Bassa Basin) area
- ❑ Gravity and magnetic data confirmed sedimentary basins of about 5km thick
- ❑ Geological reconnaissance revealed oil seeps in Robert/Bassa Basin areas, and it has a geological history and petroleum system analogous to the conjugate Guyana
- ❑ We are presently working to get companies to come in for reconnaissance and subsequently exploration

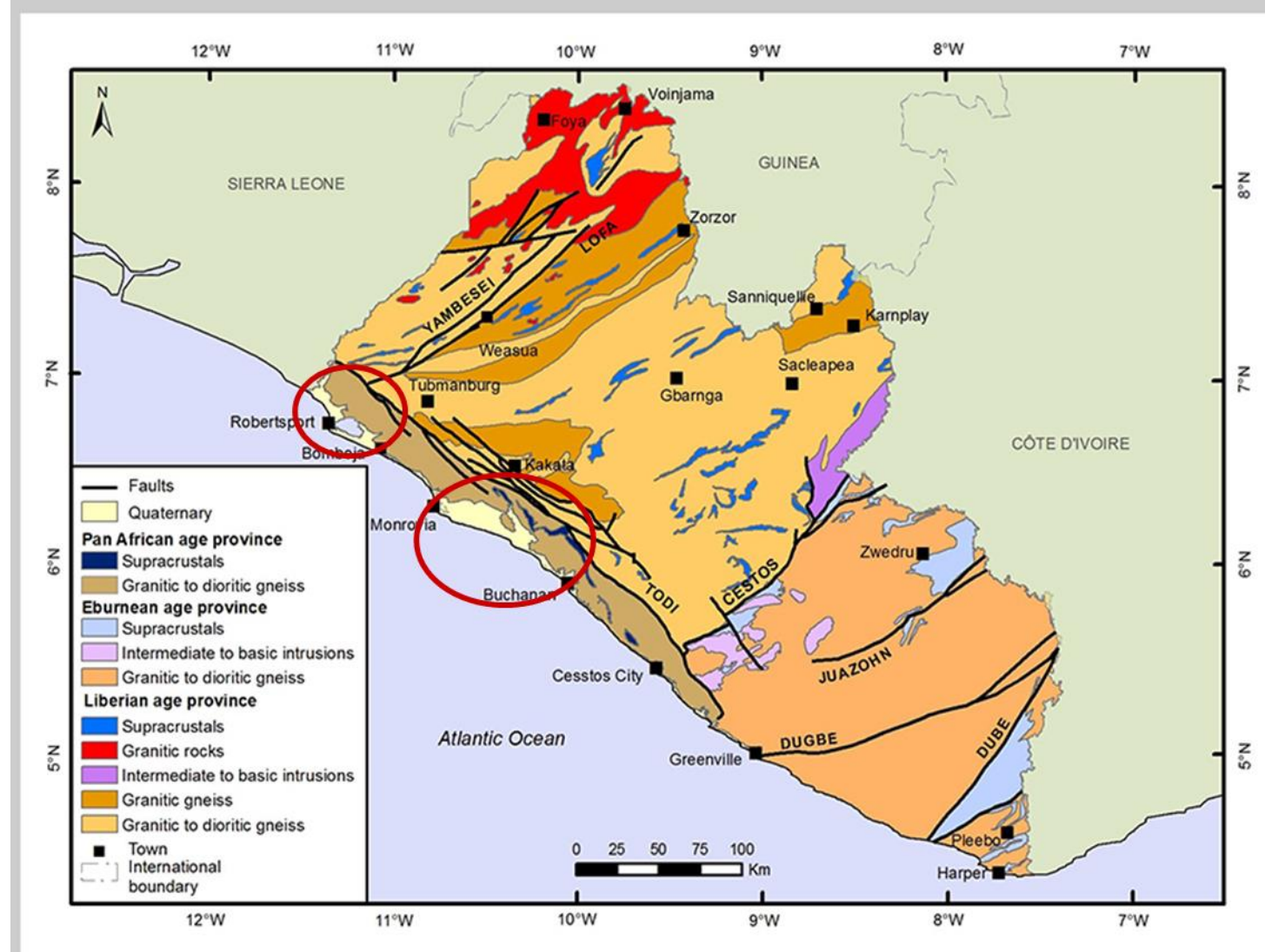


Figure 5: Geological Map of Liberia with areas for Hydrocarbon potential



# Downstream Operations – New Vision

- In the NEW NOCAL, DOWNSTREAM Operations is going to be our major COMMERCIAL mainstream. This will include:
  - the construction and operation of a 200,000 metric tons capacity Tank Farm, at first, near the Port of Buchanan, then in other major port cities across Liberia. This will be done with strategic financial partners
  - the building of branded and entirely digitized filling stations across Liberia to provide affordable finished petroleum products (AGO, PMS, Jet A-1 and HFO) to government agencies, private citizens and businesses
  - the provision of LPG on the Liberian market for private citizens and businesses
  - the provision of lubricants to vehicles and generator users across the country





# Downstream Operations

## Current situation in Liberia

- ❑ All Petroleum products are imported by private companies using several financial instruments including Letters of Credit.
- ❑ These imported products are stored in storage facilities that are mostly owned by these private companies and are regulated by the Liberian Petroleum Refining Company.
- ❑ The monthly national consumption of petroleum products is estimated around 23,000MT (PMS and AGO). However, during dry season AGO demand slightly increases.
- ❑ Entry barriers remain high due to high investment cost, lack of financing, strong regulatory framework, lack of storage etc.

| Company/Terminal             | Capacity (MT)                     |
|------------------------------|-----------------------------------|
| LPRC Terminal                | 17,000 PMS & 30,000 AGO           |
| Srimex/China Union Terminals | 20,000 PMS & 24,000 AGO           |
| Conex Terminal               | 10,000 HFO, 8,000 PMS & 7,000 AGO |
| Express Oil                  | 5,000 Mix Products                |
| <b>Total Capacity</b>        | <b>121,000MT (mixed products)</b> |

Table 1: Table showing current total storage capacity in Liberia



# Downstream Operations – Major Prospects

## ■ Tank Farm Project, Ex. Buchanan

- Our proposed tank farm project will be located in Buchanan in the proximity of the Port of Buchanan with direct access to the shore area
- This tank farm will:
  - Improve the supply finished petroleum products to smaller petroleum distributors, gasoline stations, petroleum refiners and other local and international companies across Liberia
  - Serve as a storage hub for West and Central Africa which will increase the overall storage capacity in Africa
  - Meet the petroleum demands of extractive concessions in Central, Northern and South-eastern Liberia and from Guinea by bringing the products closer to their area of operations through the railway running from Buchanan to southern Guinea (*where major mining concessions are located*)

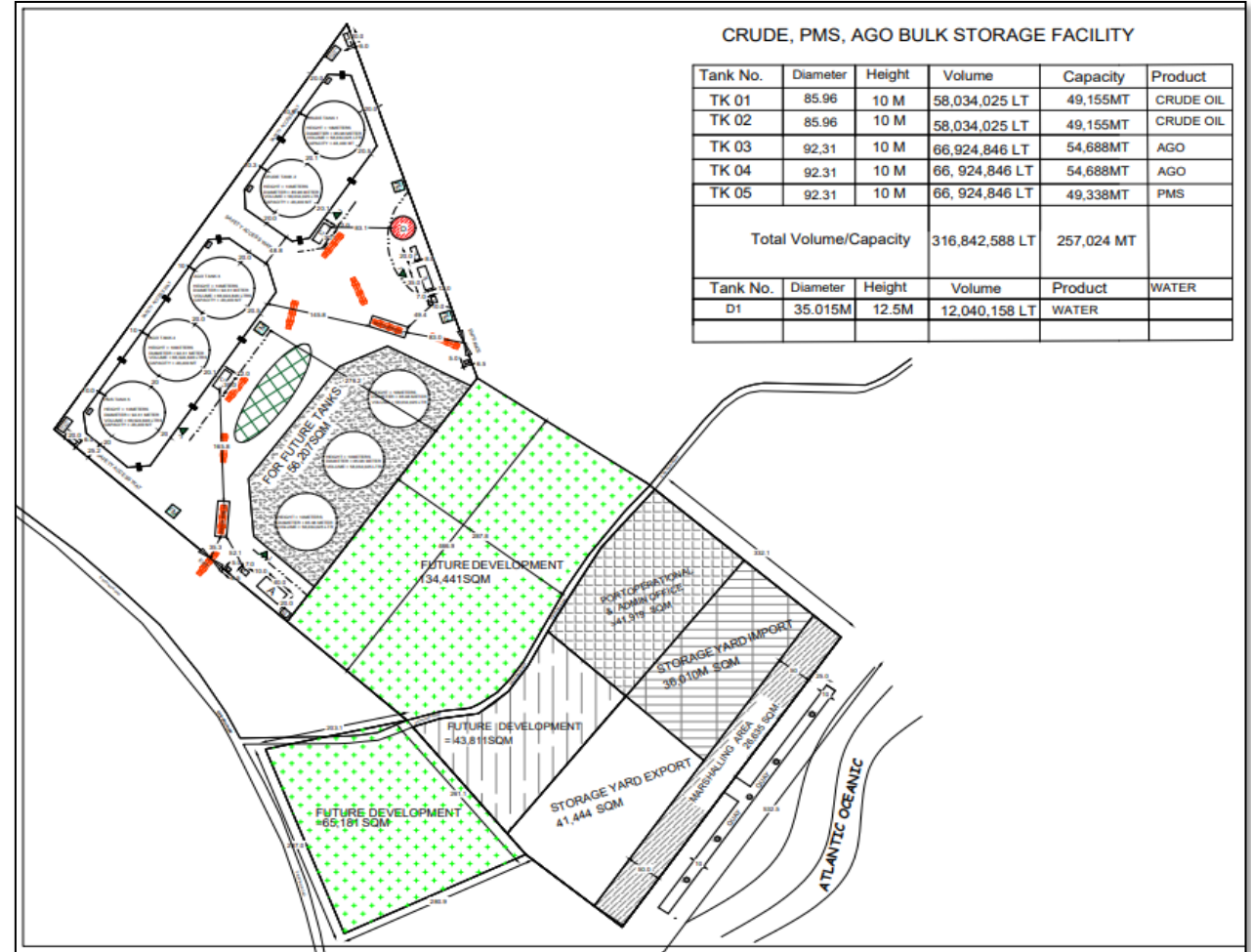


Figure r: Proposed Tank Farm and Shorebase layout in Buchanan



# Onshore Opportunities

- NOCAL acquired two parcels of property near the port for Buchanan.
- The purposes of getting the properties include the setting up of a shorebase and the building a tank farm.

**REPUBLIC OF LIBERIA**

Whereas, in pursuance of a policy of directed and controlled infrastructural development in Liberia, the Government of the Republic of Liberia, with a view of promoting, stimulating and encouraging such developments, will make free grants to such approved Liberian citizen to conform to the Conditions and Considerations prescribed by the Government of the Republic of Liberia, through the Liberia Land Authority; and

Whereas J. Nathaniel S. McThompson, County Land Administrator of the County of Grand Bassa, upon the receipt of an Application from the National Oil Company of Liberia (NOCAL), a State Owned Enterprise (SOE) of the Republic of Liberia, presenting itself as a Qualified Corporate Citizen of the Republic of Liberia and being willing to accept a land grant upon the Conditions and Considerations hereinafter enumerated, and the accept of this Deed is indicative of its agreement to said conditions.

Be it known by all to whom it may concern, that J. Adams Manobah, Sr. Chairman of the Liberia Land Authority, by virtue of the Authority in me vested by the Laws of the Republic of Liberia, has this day given, granted, and by these presents do hereby give and grant, upon Conditions and Considerations hereinafter enumerated to the said NOCAL, Its Successor in business forever, all that plot or parcel of land located, situated, lying and bearing in the authentic records of said County, the Number N.A. 1032 and bounded and described as follows:

Commencing the Northeastern corner of said property along the NPA facility Road mark "1" with a UTM Coordinates (Eastern) 383958.00 m E

Thence running North 59° 02' 10 West 47.83 feet parallel the NPA facility road to a point; thence running South 77° 20' 57" West 2172.16 feet parallel the NPA facility road to a point; thence running South 41° 47' 32" West 787.68 feet parallel the NPA facility road to a point; thence running South 50° 46' 36" East 1198.52 feet to a point; thence running North 36° 36' 47" East 365.82 feet parallel the NPA facility road to a point; North 45° 41' 05" East 582.34 feet to a point; thence running North 45° 40' 41" East 1568.37 feet to the place of commencement and containing 45.7 acres and no more.

The Conditions and Considerations governing this grant shall include:

(a) that the said State Owned Enterprise (SOE) will erect on the Land herein granted by developing and producing thereon from time to time, such development as may be prescribed by government regulations; (b) that within two years from the date hereof, at least one-half of the said area shall be improved by infrastructural developments; (c) that the grantee shall at all time conform to such sanitary standards prescribed by laws or regulations; (d) that the land hereby granted shall not be sold, sub-let, mortgaged or otherwise encumbered by any Obligation to any non-Liberian citizen, firm or corporation, except that such Obligation shall be for the purpose of promoting the development of the land, and has the prior approval of the Government of the Republic of Liberia and that upon failure to comply with the Conditions and Considerations hereof, the grantee shall forfeit all rights and title to the land hereby granted, and grantor shall have the right without suit or hindrance to enter in and upon the said land and have again and repossess the same as in its current state, and to transfer the same to any person or persons whomsoever who may comply with the conditions herein enumerated.

To have and to hold the said granted premises with all and singular the buildings, improvements, appurtenances thereof and thereto belonging unto the NOCAL and Its Successor in business.

And I, the said J. Adams Manobah, Sr. Chairman of the Liberia Land Authority, for myself and my successors in office, subject to the Conditions, Considerations, Reservations and Stipulations herein contained, do COVENANT and WARRANT to DEFEND the said NOCAL and that by virtue of my Office and Authority vested in me by the Laws of the Republic of Liberia, I had good Right and lawful Authority to convey the aforesaid premises to the said NOCAL or Its Successor in business; and that, I, the said J. Adams Manobah, Sr. Chairman of the Liberia Land Authority, and my successors in office will forever Warrant and Defend the said NOCAL and Its Successor in business against any person or persons claiming any part or the whole of the above granted premises.

IN WITNESS WHEREOF I the said J. Adams Manobah, Sr. Chairman of The Liberia Land Authority, have hereunto set my hand and caused the seal of this Liberia Land Authority to be affixed this 19<sup>th</sup> day of March A.D. 2021 and of the republic the one Hundred Seventy-Third Year.

CHAIRMAN  
Liberia Land Authority

NOYANCY LIC # 1032

March 10, 2021

| UTM Coordinates (Precision) | Eastern   | Northern  |
|-----------------------------|-----------|-----------|
| 648882.00 m N               | 384486.00 | 646825.00 |
| 648891.00 m N               | 384715.00 | 647082.00 |
| 648746.00 m N               | 384886.00 | 647322.00 |
| 648567.00 m N               | 385428.00 | 647507.00 |
| 648336.00 m N               | 384831.00 | 647834.00 |
| 648424.00 m N               | 384379.00 | 647431.00 |
| 648548.00 m N               | 384246.00 | 647640.00 |
|                             | 384074.00 | 647531.00 |
|                             | 384187.00 | 647266.00 |
|                             | 384074.00 | 647138.00 |

THIS DOCUMENT HAS BEEN LEGALLY REGISTERED AND FILED AT THE LIBERIA LAND AUTHORITY ON THIS DATE 20<sup>th</sup> DAY OF APRIL 2021 BY THE LIBERIA LAND AUTHORITY, R.L.





# Downstream Operations - Partnership

*NOCAL can apply for, obtain and exercise petroleum rights under the 2014 Petroleum Law, and pursuant thereto, undertake on behalf of the State reconnaissance activities, petroleum operations and petroleum transportation system operations, **alone** or in **combination with others.***

- NOCAL will seek strategic financial and/or technical partners for this downstream venture
- NOCAL as an equity partner is to invest with her partner for the construction of the storage facility and importation of petroleum products.
- NOCAL intends to engage a consortium whose primary mandate will be to lead new NOCAL management on a road show to raise funding and meet prospective investors and fund managers who are willing to partner NOCAL



# Benefits

INVESTMENT INTO DOWNSTREAM PROJECTS WILL BRING ABOUT THE FOLLOWING:

- ADDITIONAL INFLOWS TO THE COMPANY
- CREATION OF ADDITIONAL REVENUE SOURCES
- ESTABLISHMENT OF STRATEGIC RESERVES FOR THE COUNTRY
- CREATION OF OTHER DOWNSTREAM VALUE CHAIN OPPORTUNITIES
- JOBS CREATION

## New NOCAL-TGS Agreement:

- ◇ Reprocess, market, promote and broker 3D data in Harper basin (NOCAL 40% : 60% TGS)
- ◇ Evaluation of onshore datasets available (integration, interpretation, valuation of Liberia's onshore to start to market, promote and broker this data)
- ◇ To train technical staff of NOCAL and Liberia citizens (2% before revenue share < 150,000)
- ◇ To set up a data facility including data storage media and workstations with data viewing and retrieval capabilities.



➤ **NOCAL Act of 2016, Section 7 (f)** gives NOCAL the mandate to “Manage and market geological data and make the data available in a useful manner when needed”

➤ **New Petroleum E & P Law of 2016, Section 10.1 (f)** gives NOCAL the mandate to “conduct or contract for and supervise, geological, geophysical and other technical studies as it may deem useful for petroleum operations”