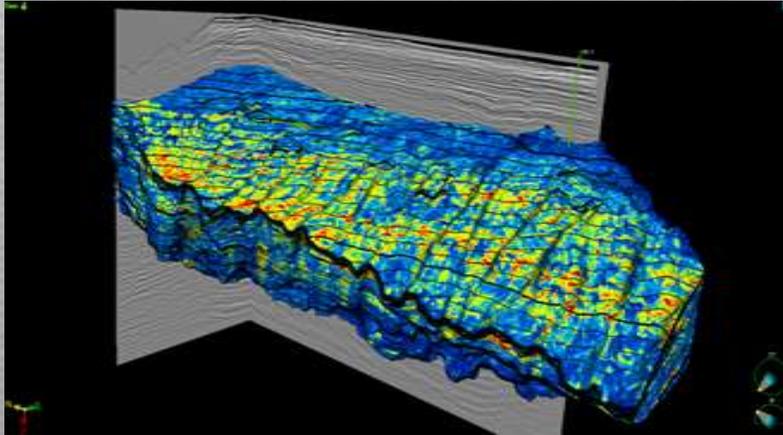




GeoPartners

Core Services

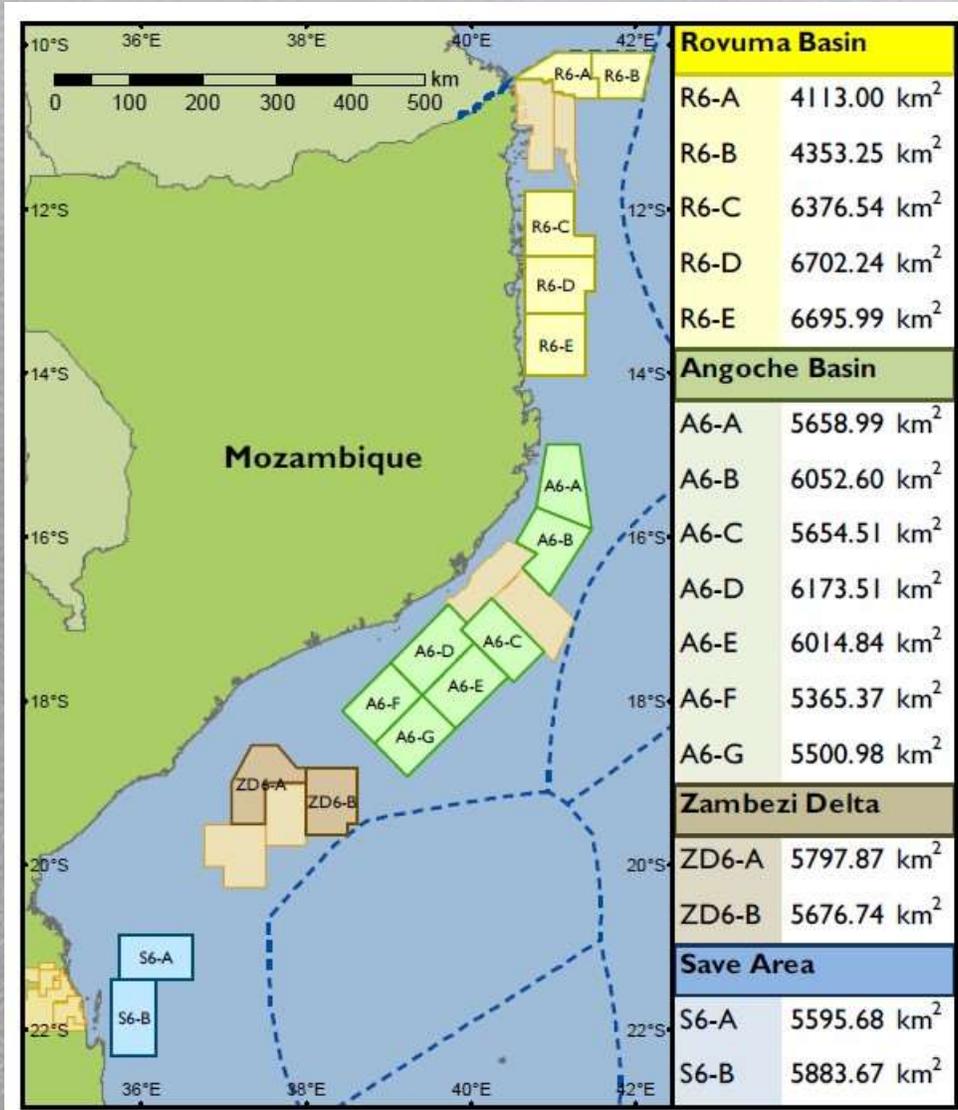


GeoPartners are an established International Geophysical Consultancy, specializing in providing Geophysical and Geological services to Government Agencies, National Oil Companies and the International Oil and Gas Industry. We have a global portfolio in the creation, acquisition, marketing and financing of Multi-Client Projects. In November 2021, we celebrated 12 years of activities in Europe and Africa.

CORE SERVICES:

- Survey Design
- Seismic Data Acquisition
- Land, Marine, TZ, 2D, 3D
- Seismic Data Processing
- Depth Imaging
- Multi-Client Surveys
- Interpretation Services
- Licence Rounds
- Technical Advisories
- Project and Quality Control
- Gravity/Magnetic/Resistivity
- Rock Physics

Mozambique 6th Licence Round



Licence Round opened November 2021

Prequalification completed March 2022

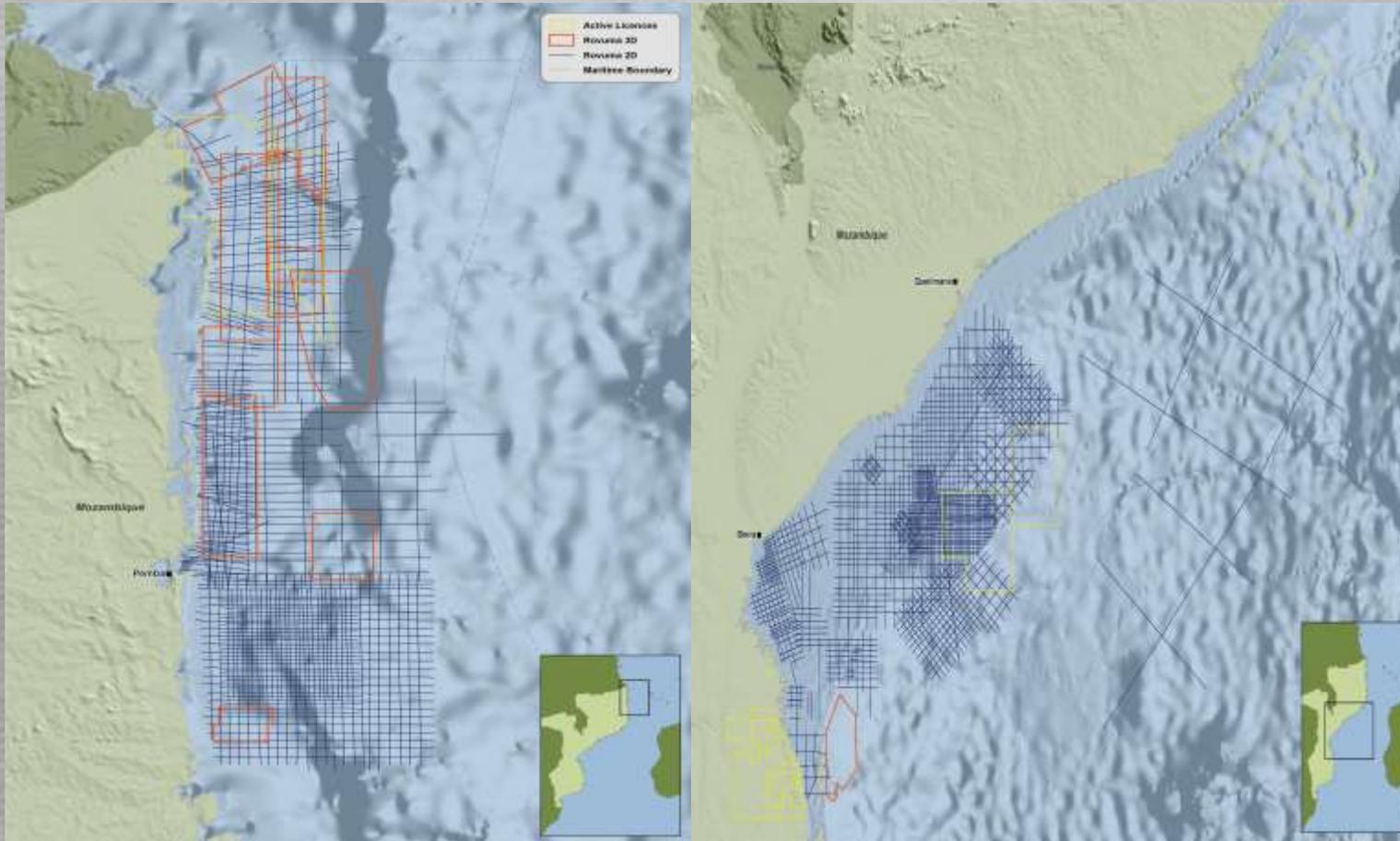
Licence Round closes August 2022, now extended to November 2022

Awards Anticipated December 2022

Information: www.inp.gov.mz

Covers 16 Blocks in 4 offshore basins

Mozambique Legacy Brokerage



Legacy data brokerage

42,000 km 2D

23,000 km 3D

Covers all 16 blocks in the 6th LR

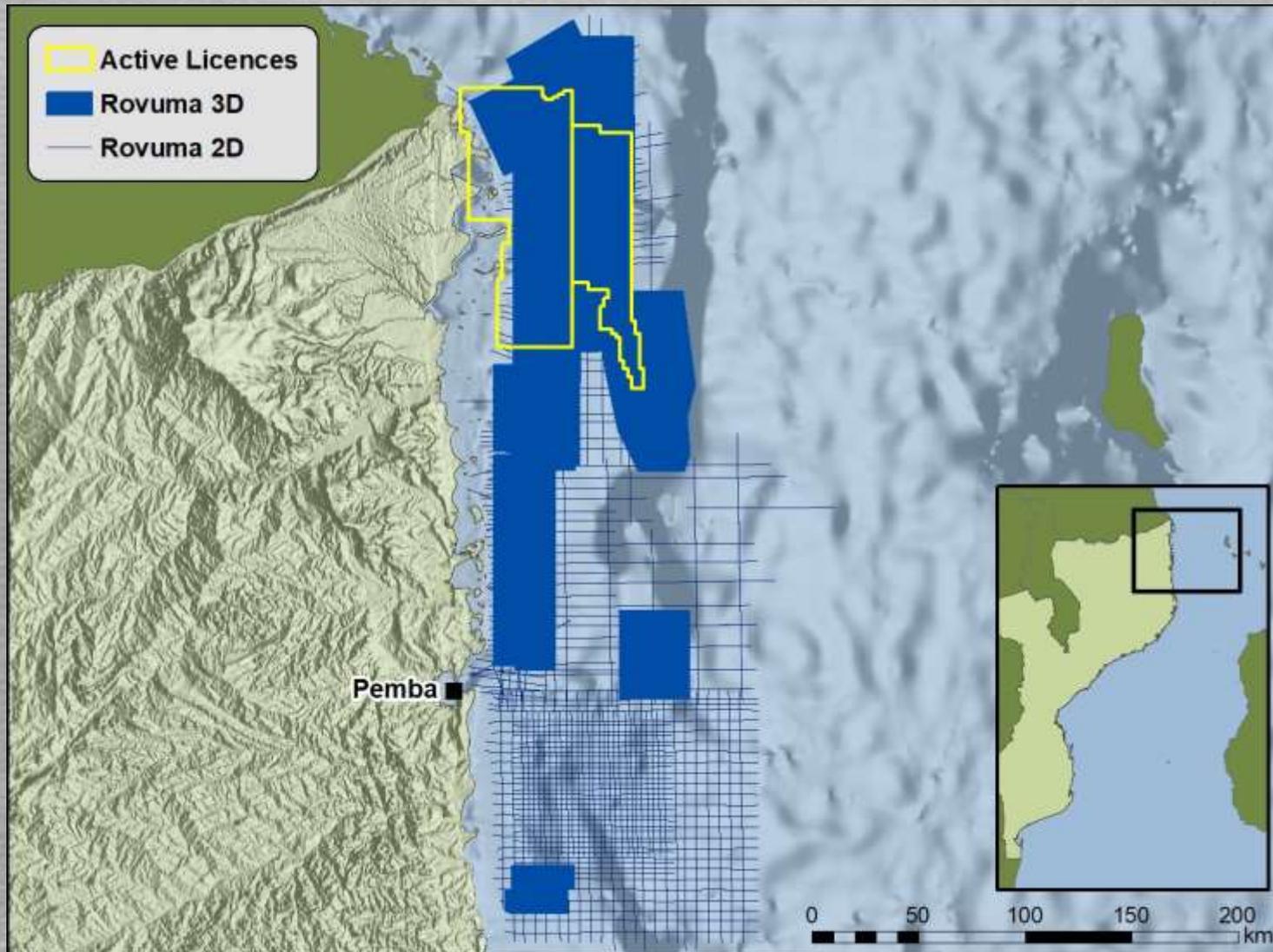
Regional perspective

Legacy 2D onshore data also available

Reconditioning project
RovumaMerge 21

Information: www.inp-legacy-seismic-mz.com

Mozambique RovumaMerge 21



Reconditioning project covering the entire Rovuma Basin

Provides data on all the blocks in the 6th LR

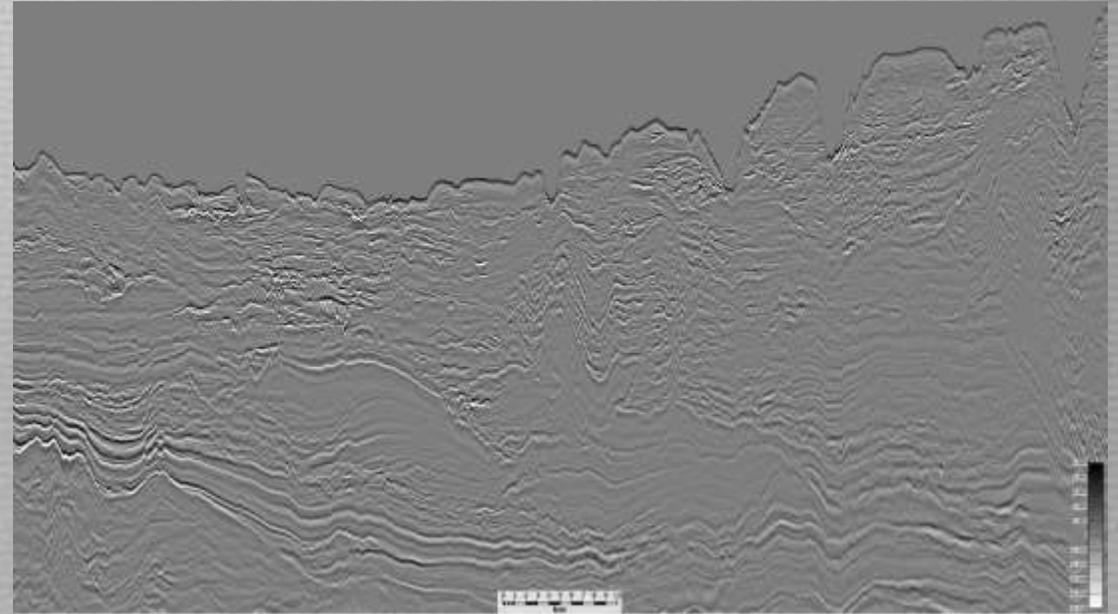
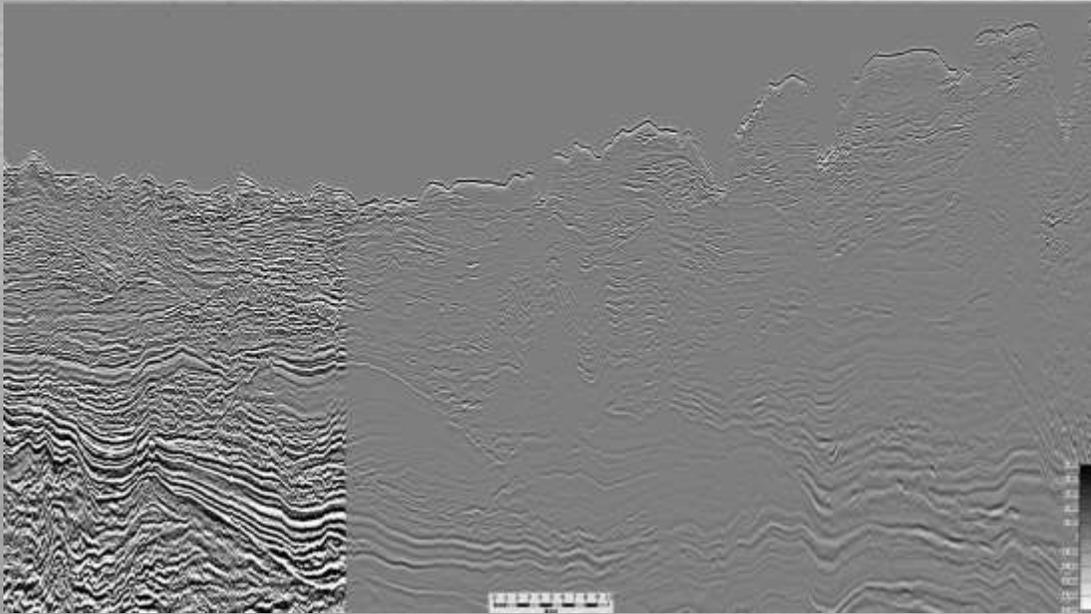
Total area re-gridded:

20,000 sq. km 3D

16,000 km 2D

Deliverables full offset and angle stacks

Mozambique RovumaMerge 21



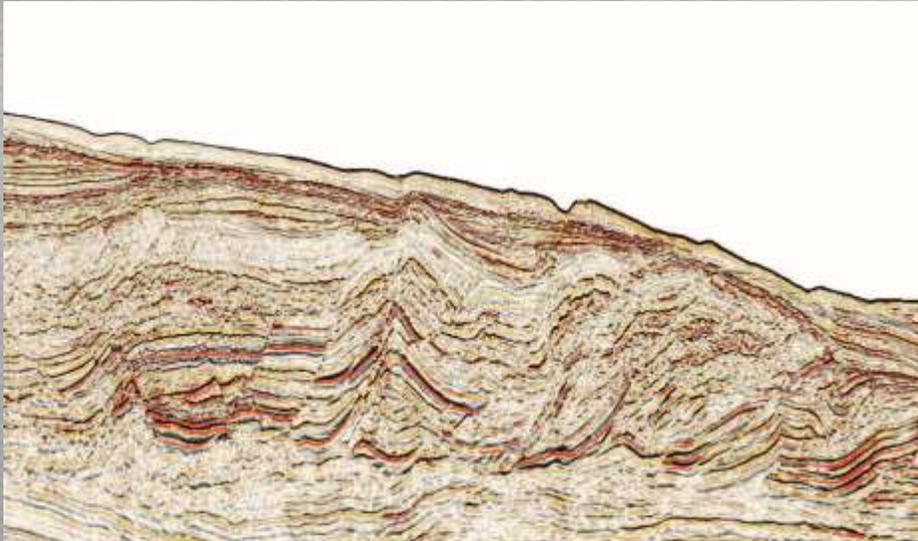
Before and after

Provides single interpretable volume across the entire Rovuma Basin

Sequence includes:

- static correction
- notch correction
- frequency and amplitude scaling
- 1D deghosting
- phase matching
- seabed filtering and mute
- time variant bandpass filtering
- re-gridding

Mozambique RovumaMerge 21

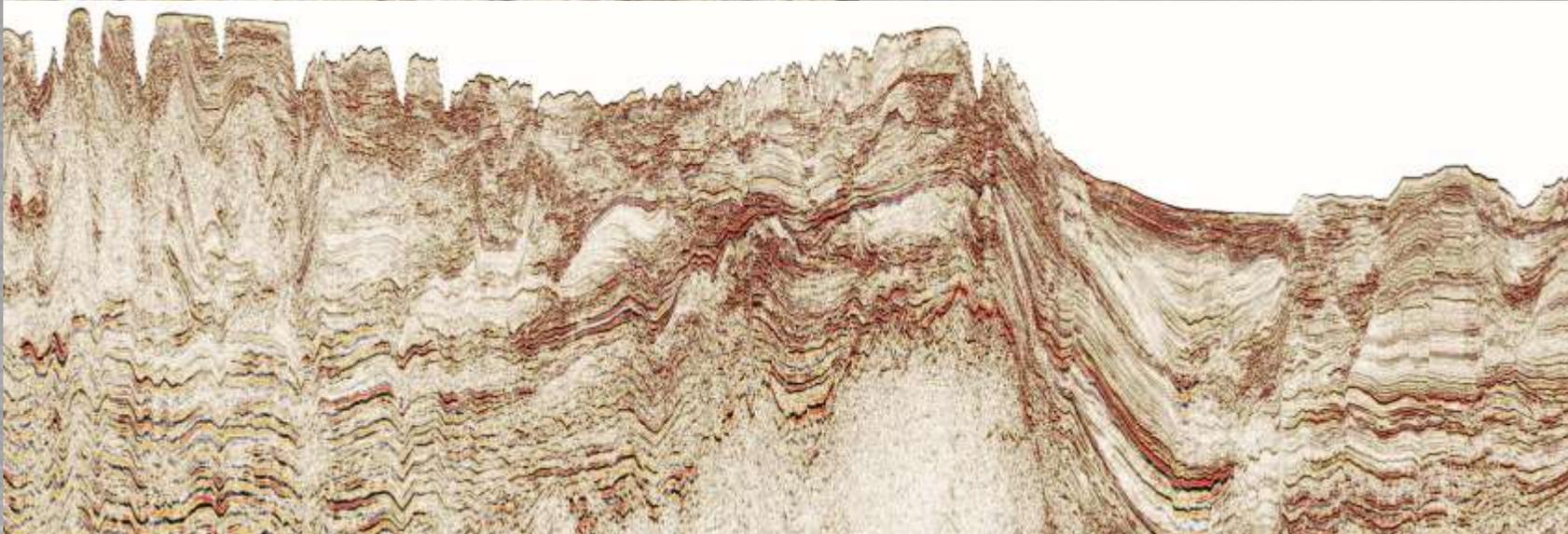


Final images show benefits of reconditioning

Single unique interpretable volume

Excellent opportunity for investment in basin of imminent production

Additional surveys can be added as required



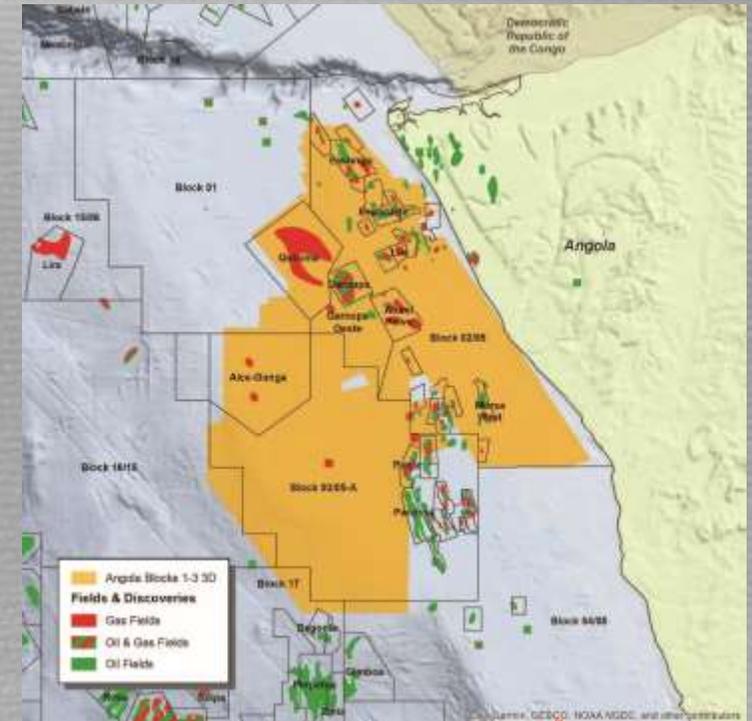
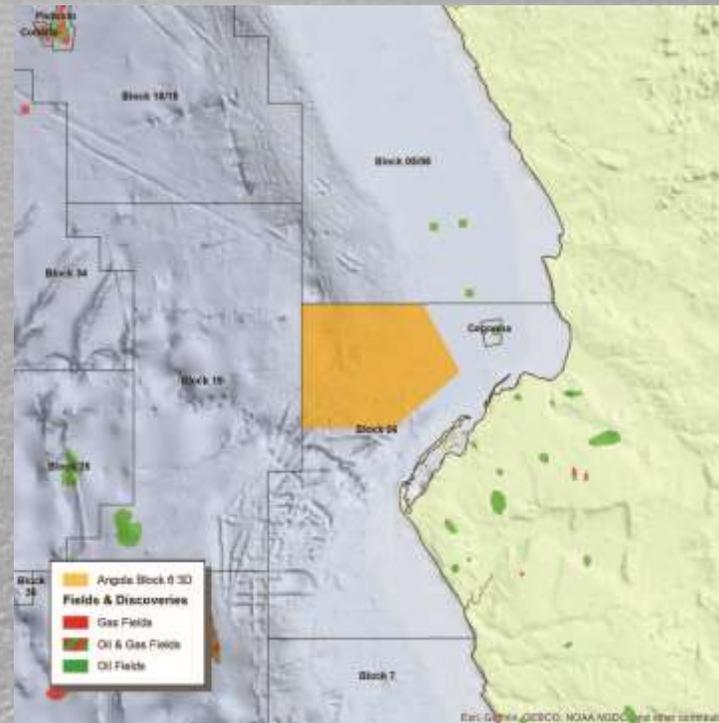
Angola 22 – Data Brokerage



Block 6, offshore Lower Congo basin

1200 sq. km 2007 3D survey

Full offset and angle stack time deliverables



Onshore Lower Congo basin

1,700 km 2D legacy data

Covers area including blocks awarded in recent LR commitments and previous commercial discoveries

Blocks 1,2,3 full reprocessing

8 legacy surveys totalling over 10,000 sq. km

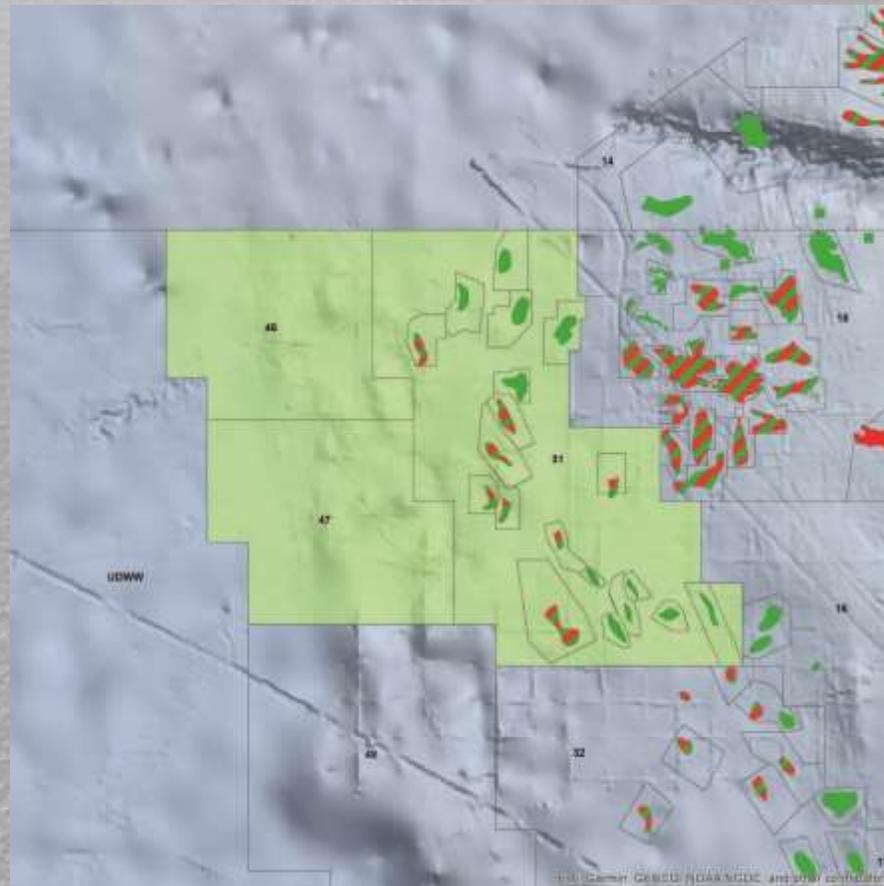
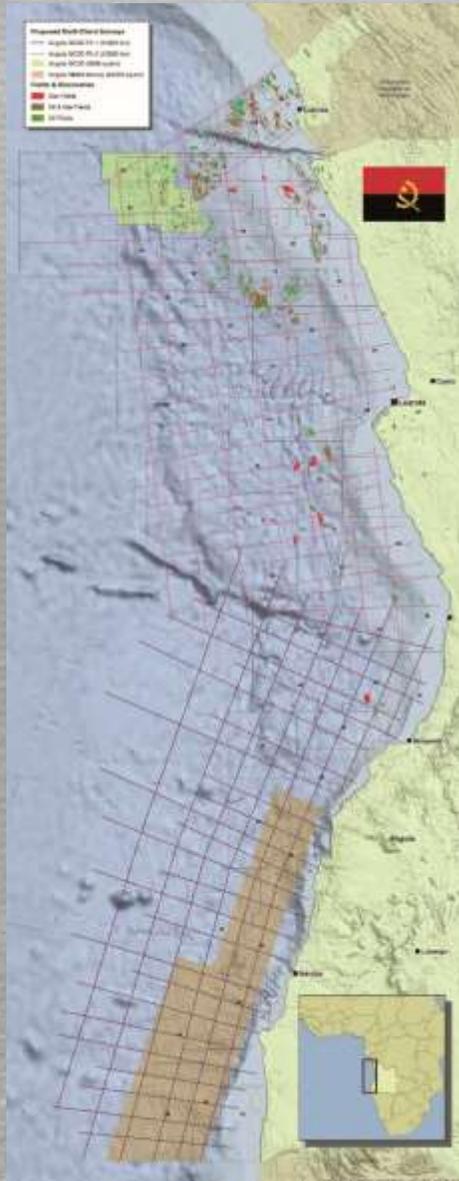
Start date September 2022

Full suite deliverables Q3 2023

Angola 22 – New Data Acquisition

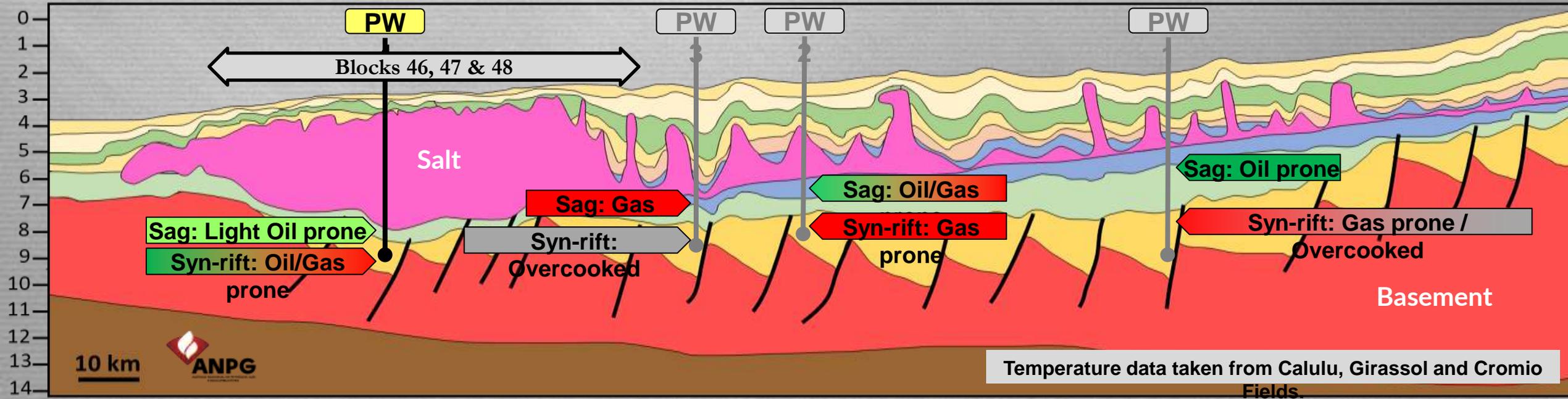
3 new acquisition proposals offshore Angola

- New phased 2D survey for source rock distribution and maturity assessment
- New sparse node 3D acquisition to enable existing data reprocessing with FWI
- New Multi-Beam Echo Sounder seep finding survey in Namibe basin



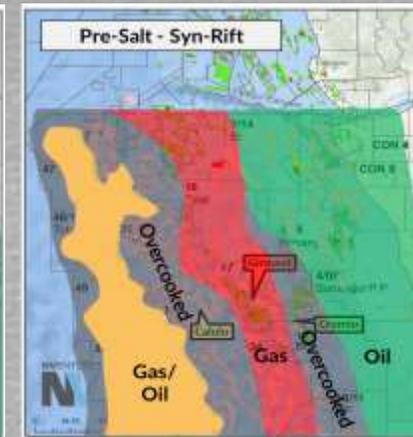
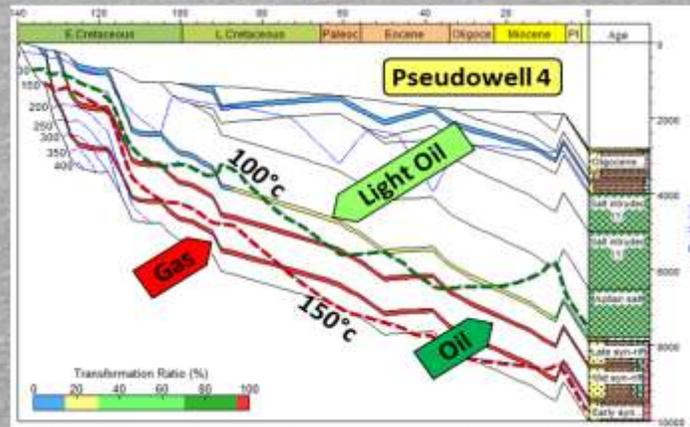
Angola Lower Congo Basin Deepwater Pre-salt Basin Modelling Study

Objective: Is the pre-salt beneath massive salt cool enough for oil generation?

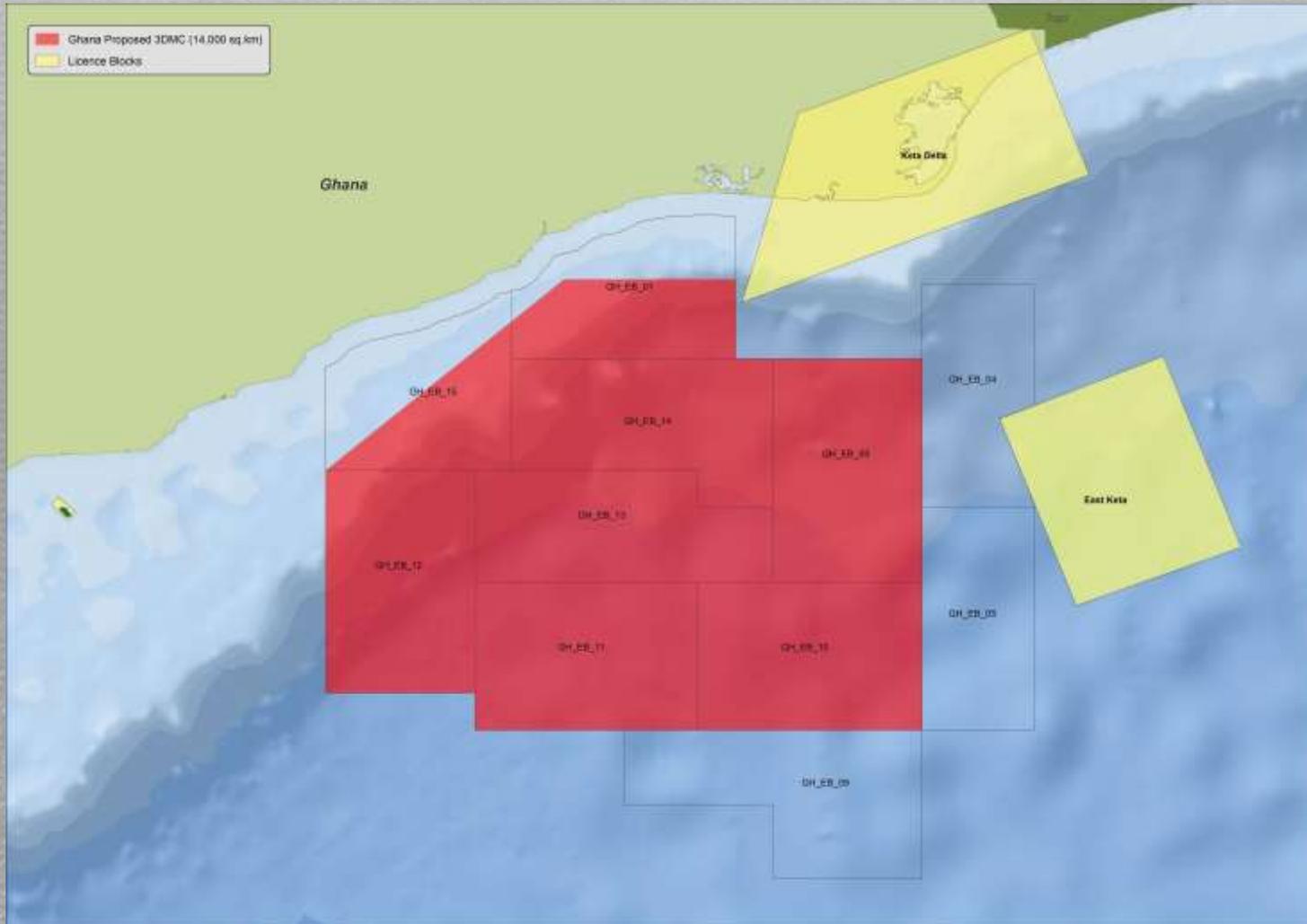


Conclusions:

- In deepwater, with thin salt, the pre-salt is overcooked.
- However massive salt conducts heat away from the pre-salt keeping it oil/gas prone.
- Blocks 46, 47 & 48 likely have presalt plays which have not yet been drilled.



Ghana 22 - Keta Basin 3D Multi-Client Survey



New survey proposal of approx. 14,000 sq. km

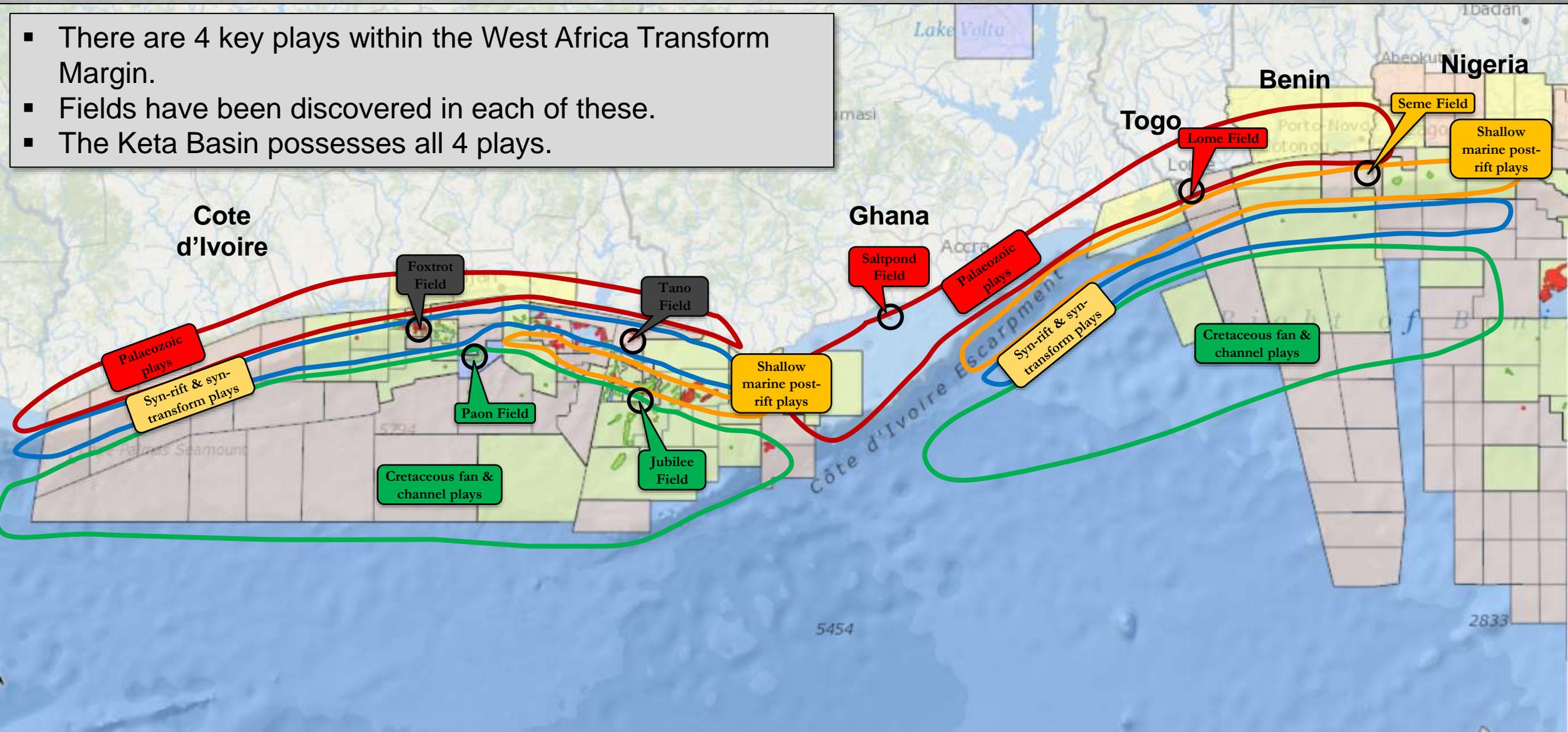
Covers the majority of the Ministry designated blocks in the Keta basin

Commencing Q4 2022 with a duration of 6 months

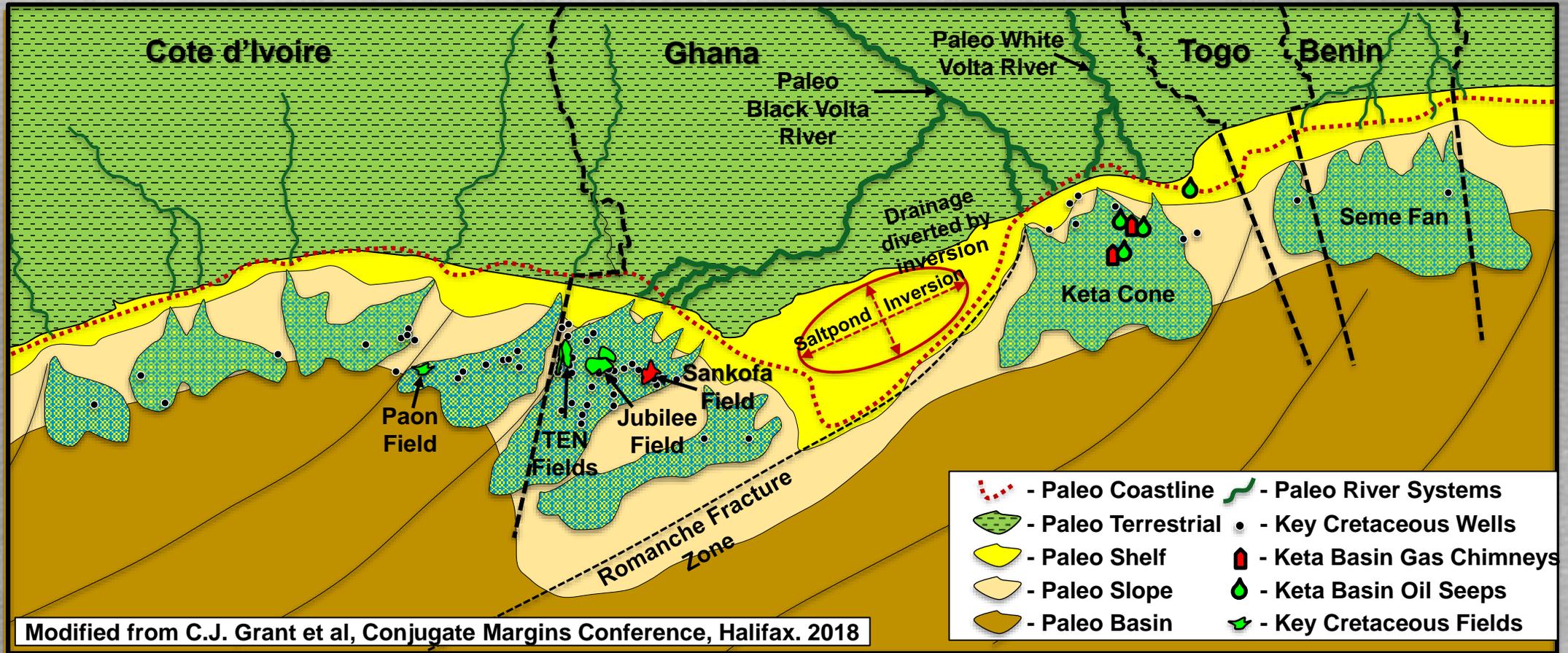
Early provision of processed volumes to allow initial overview of exploration potential

Successful and tested plays in the West Africa Transform Margin

- There are 4 key plays within the West Africa Transform Margin.
- Fields have been discovered in each of these.
- The Keta Basin possesses all 4 plays.



Cretaceous paleoenvironment map showing dominant deepwater fan systems (predominantly Cenomanian-Turonian-Coniacian)



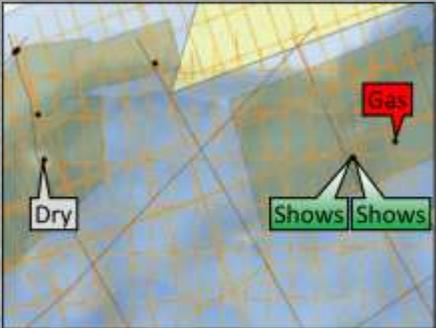
5 key reasons to look again at the Keta Basin

#1

Historically under-explored basin:

Only 6 wells drilled on 3D data.

3 out of 4 deepwater wells found HCs.

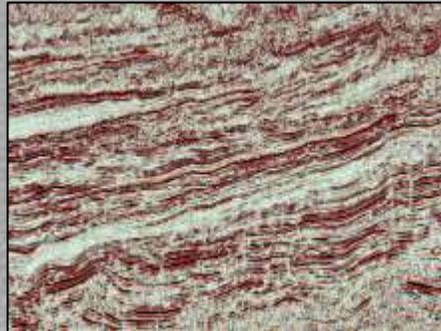


Opportunity:
Re-model deep water using well results

#2

Multiple stacked mass-flow sand systems:

Sand-rich system with stacked units



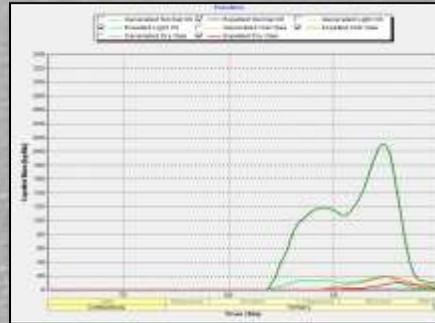
Opportunity:
Drill deepwater with modern 3D data

#3

Source Rocks:

Several mature source rocks across basin.

Miococene expulsion & charge modelled.

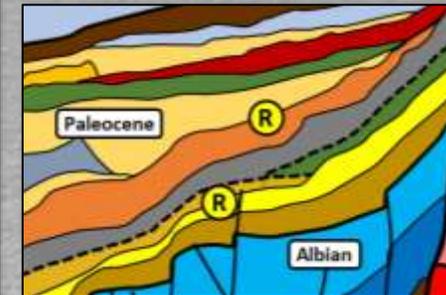


Opportunity:
Reduced risk to charge

#4

Pre-charge inversion forms traps:

Inversion of basin-bounding fault cuts-off sand systems.

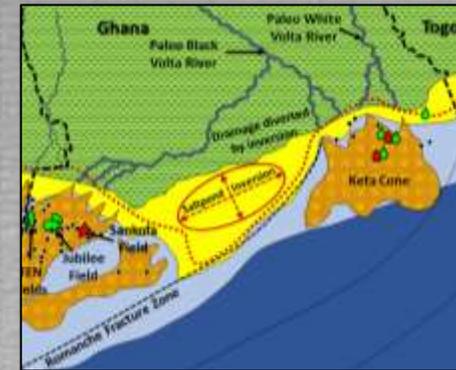


Opportunity:
Reduced risk to trap, especially stratigraphic

#5

Sand Provenance & Qualities:

Sand provenance indicates excellent reservoir qualities.



Opportunity:
Reservoir qualities likely similar to Tano.

Results of wells drilled

Most wells have shows indicating hydrocarbon charge:

- throughout the basin
- from multiple source rocks

Shows are seen in:

- Devonian,
- Lower Cretaceous
- Upper Cretaceous

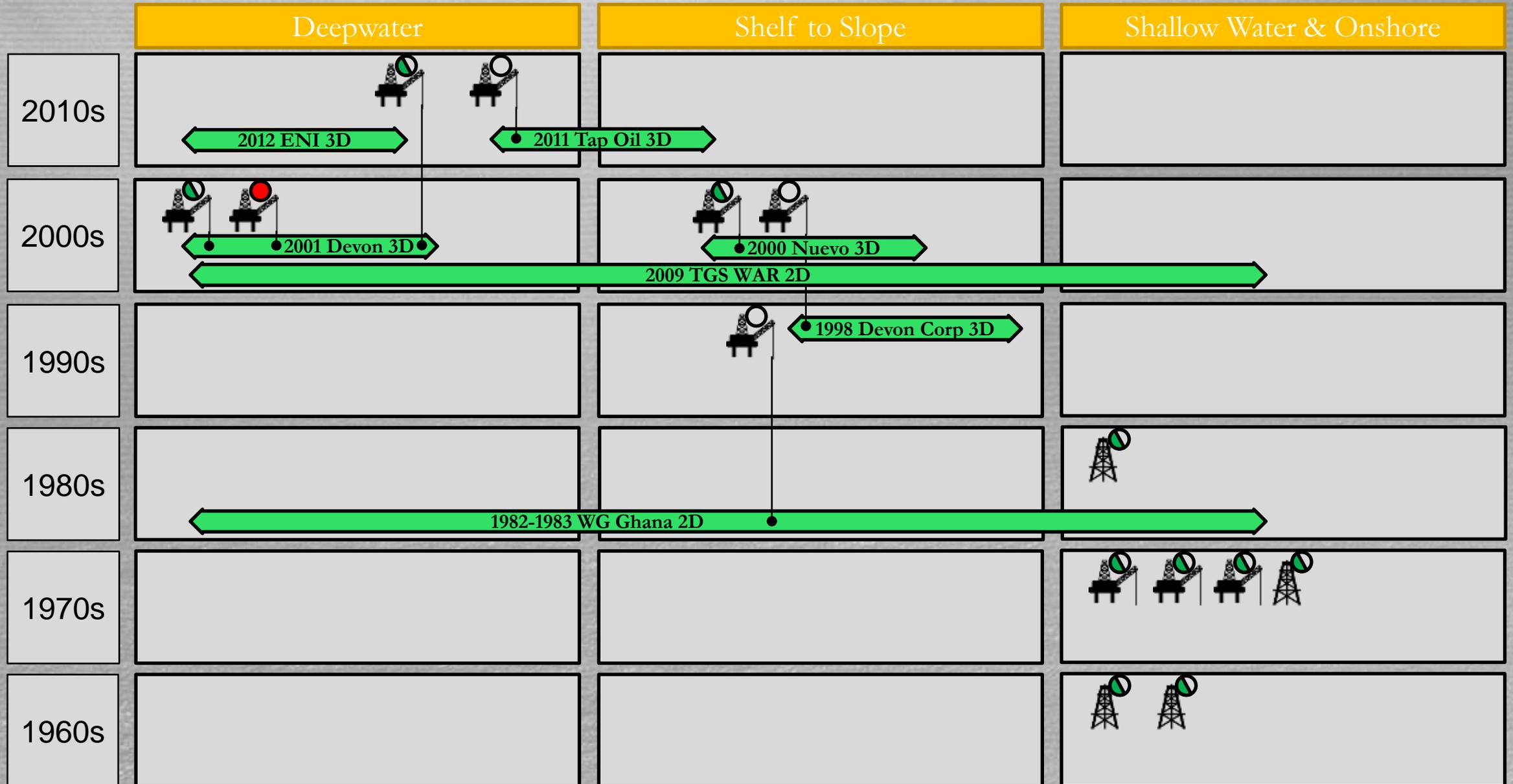
Deepwater wildcats found:

- Oil shows & Gas charge

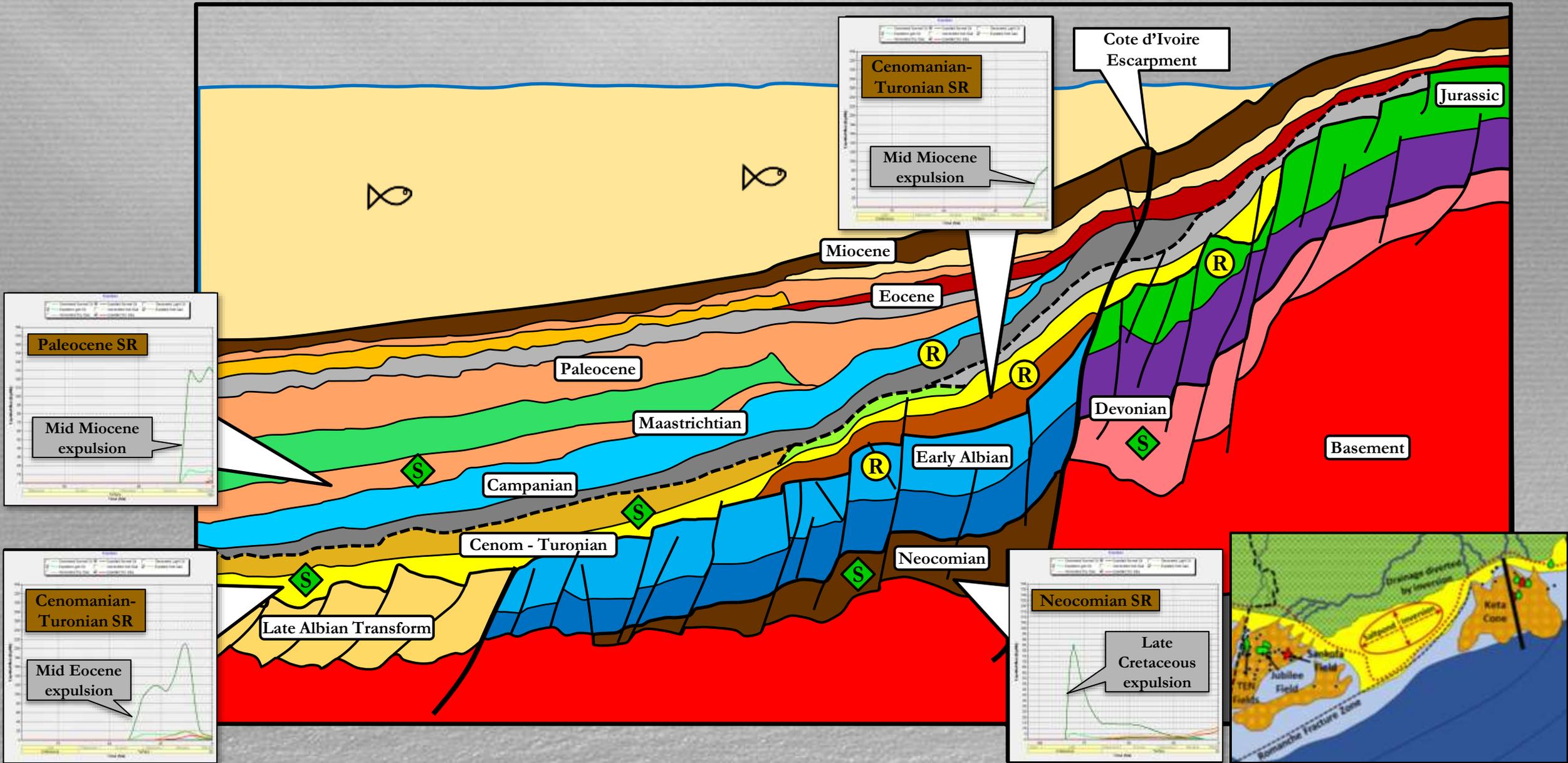


Timeline showing which wells and 2D or 3D seismic data

-  Dry Well
-  Oil or Gas Shows
-  Gas Discovery



Source Rocks in Several Intervals, Miocene Expulsion



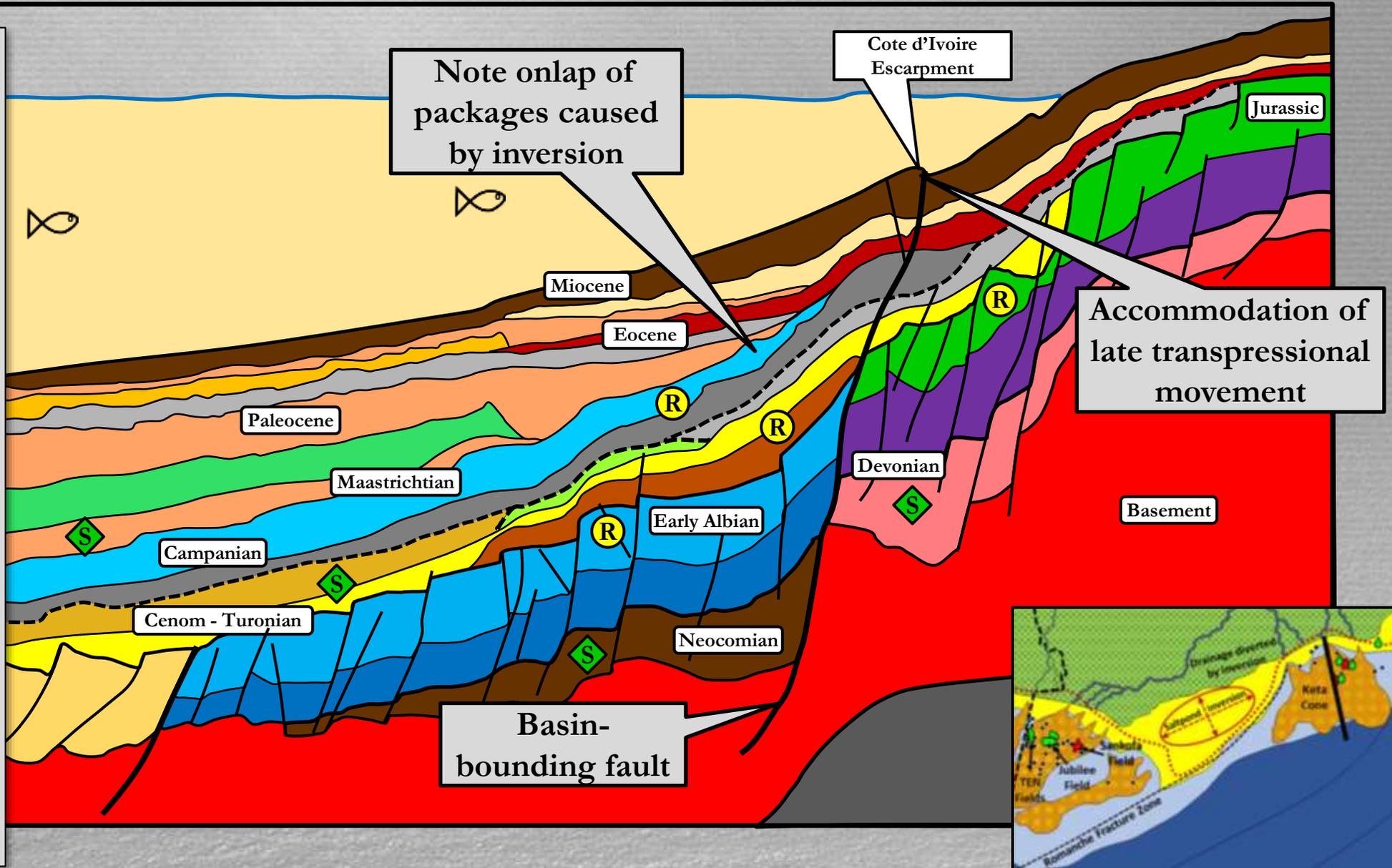
Campanian Inversion Forms Traps Prior to Charge

Throughout the WATM, a significant risk to exploration is created by late-stage tectonism resulting in trap breach.

In Cote d'Ivoire, this is the biggest cause of failure in deepwater wells.

In the Keta Basin, all post-rift tectonic strains are accommodated by the basin-bounding fault.

Inversion ceased in Campanian forming onlap traps. These were in place before charge.



Sand Provenance and Qualities – Volta Basin & Jubilee

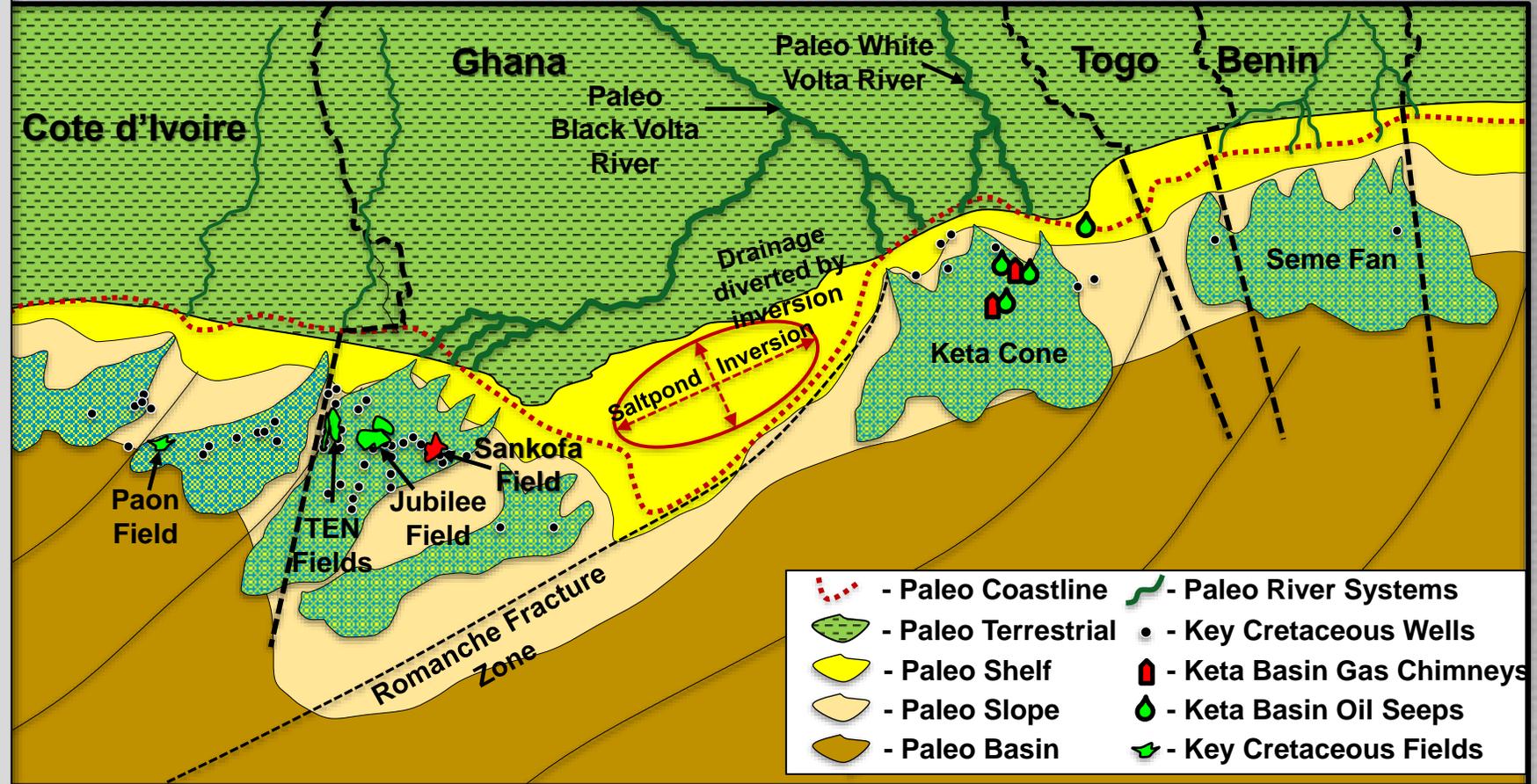
The two paleo-river systems in Ghana are the White & Black Volta Rivers.

These drain from the Volta Basin, reworking pre-rift clastic sediments.

This leads to mineralogical maturity and an absence of pore-clogging minerals.

The Saltpond Inversion in the Early Cretaceous diverted the Black Volta River to the Tano Basin where the Jubilee & Mahogany Sands were deposited.

The Keta Basin has the same sand provenance as the Tano Basin.



Modified from C.J. Grant et al, Conjugate Margins Conference, Halifax. 2018

Sierra Leone Survey – SL22/23



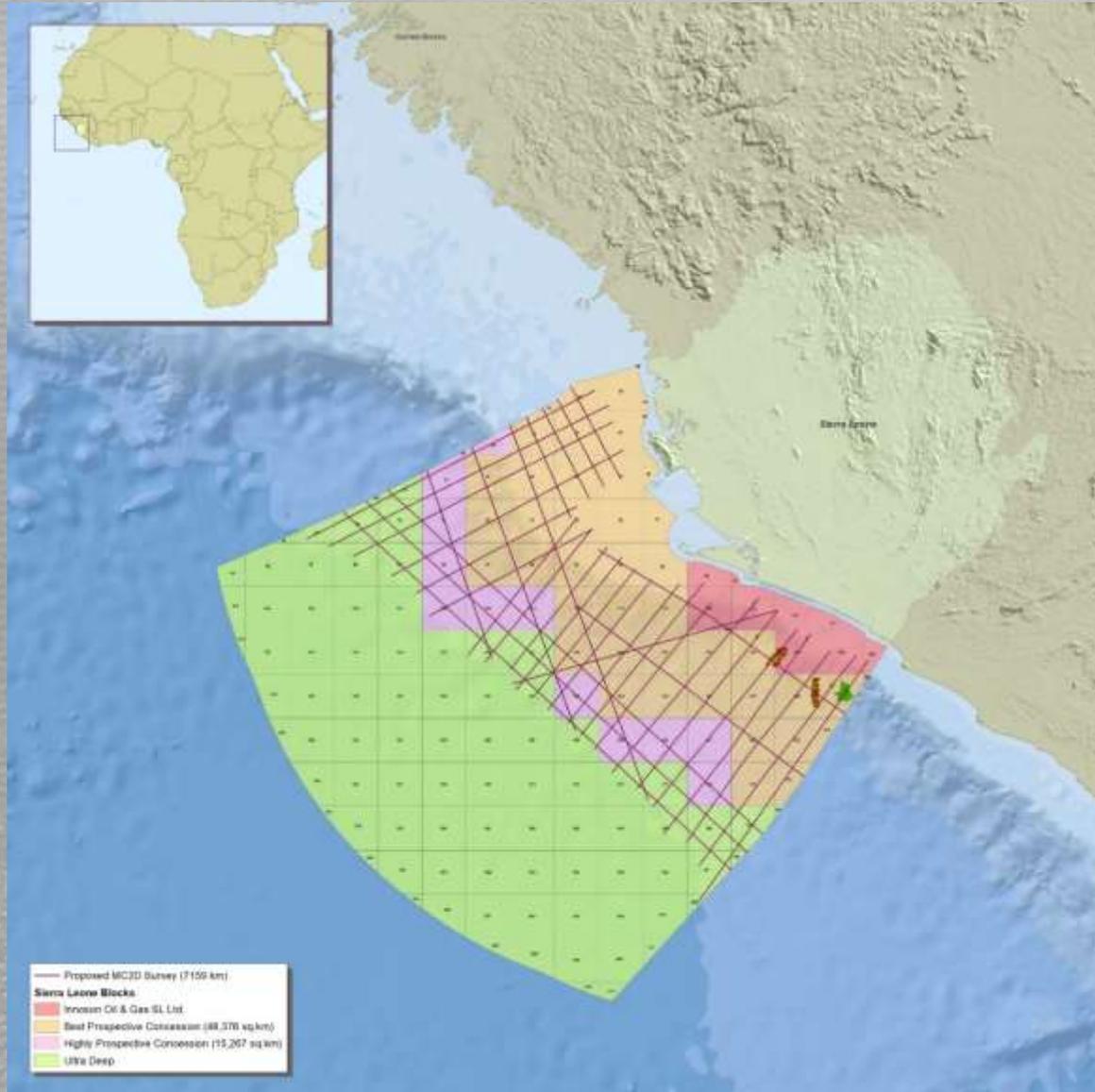
Ongoing 5th Licensing Round concluding September 2022

First single complete offshore well tie survey

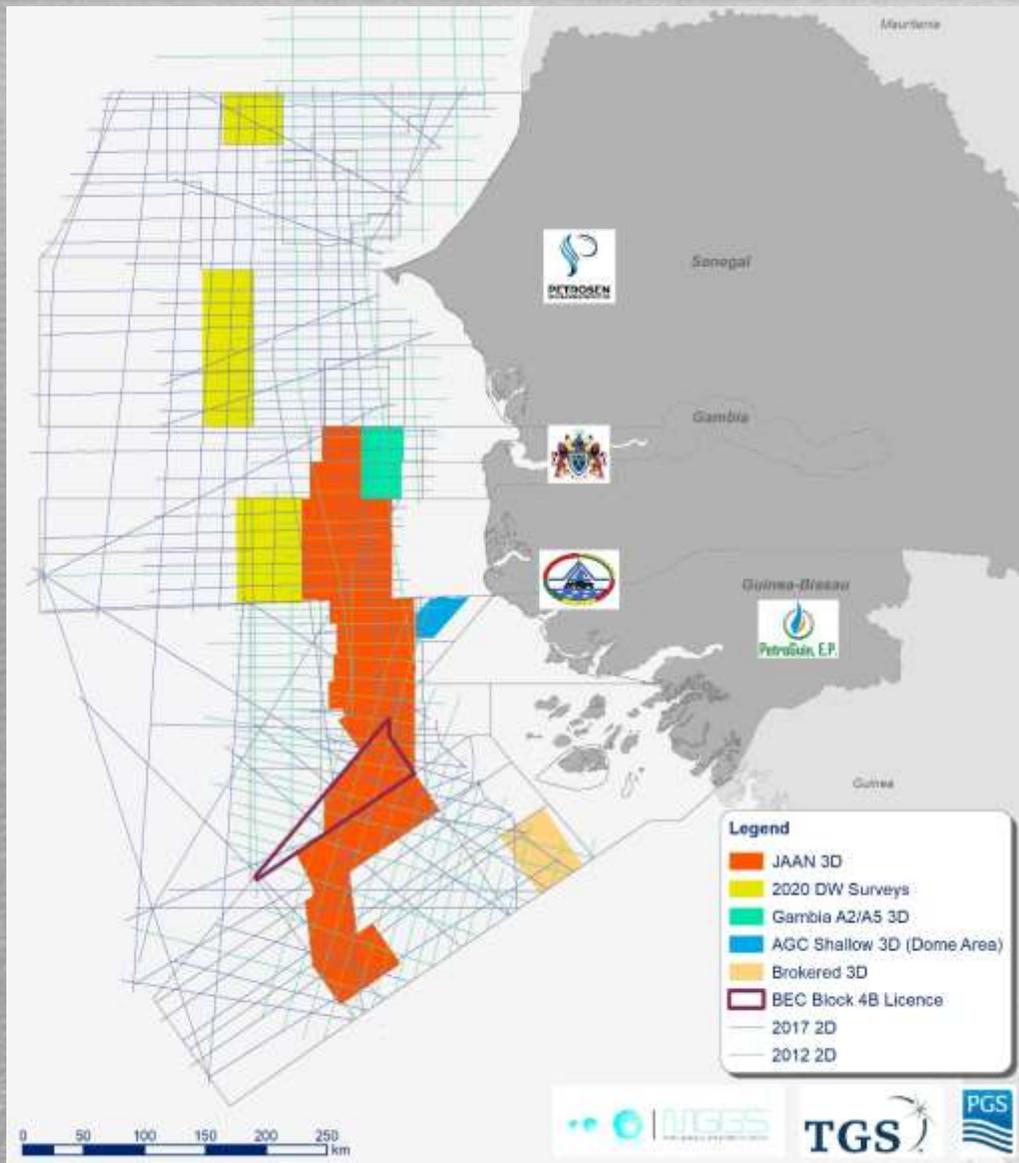
Covers inshore to ultra-deep and the full range of PDSL derived prospective concessions

Top reasons to invest in Sierra Leone's Upstream Oil & Gas Sector:

- Previous exploration and drilling history has been positive, Venus-B1, Jupiter-1, Mercury-1, and Savannah-1X wells.
- Sierra Leone is one of the most competitive African countries in regards to post-tax government share
- Working within Sierra Leone and PDSL is “fast-paced, efficient and transparent”.
- Recent and continued exploration successes in conjugate Guyana and Suriname.



MSGBC BASIN Current Activities



Access to the largest database of new and legacy seismic in the wider basin, some 52,000 km 2D and 48,000 sq. km of 3D seismic

Ongoing support for government activities and promotion of cross border cooperation and data sharing

Ongoing TGS/GP/PGS partnership to drive forward exploration on the region through new data acquisition

Current activities:

Senegal – support Petrosen post 2020 licence round and promotion of acquired DW 3D surveys and negotiable fiscal terms

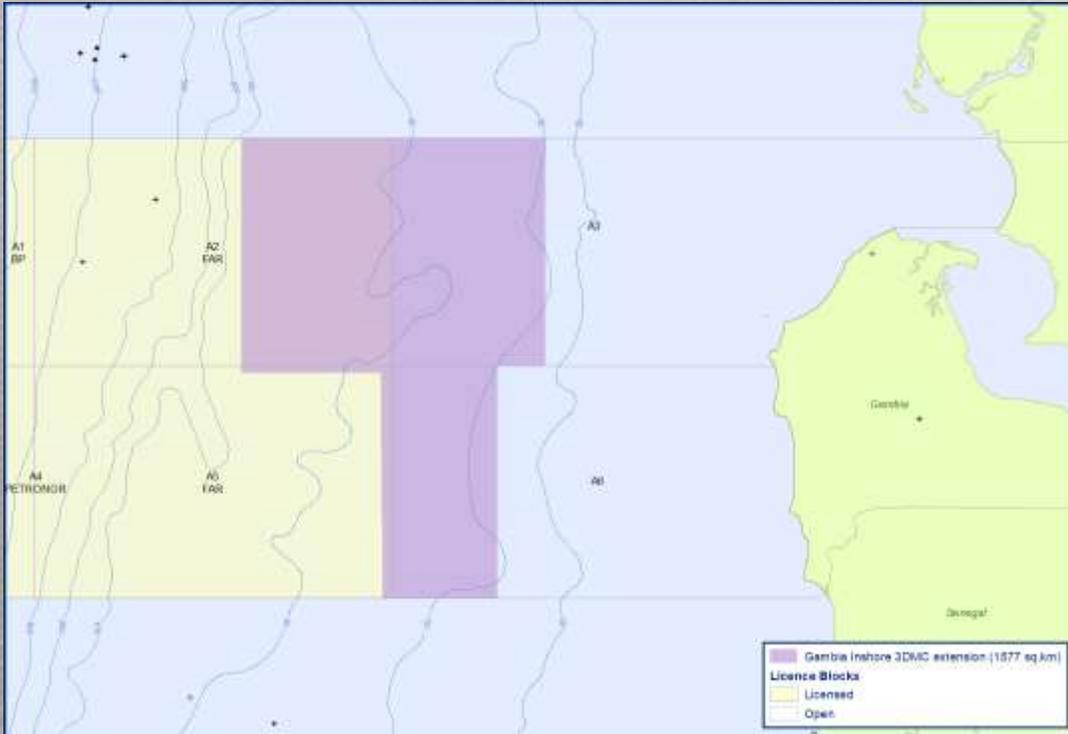
Gambia – new survey planning

AGC – promotion of inshore shallow water Dome Flore and Gea block

Guinea Bissau – continuing Block 4B promotion

Projects 2022/23 – Gambia 3D

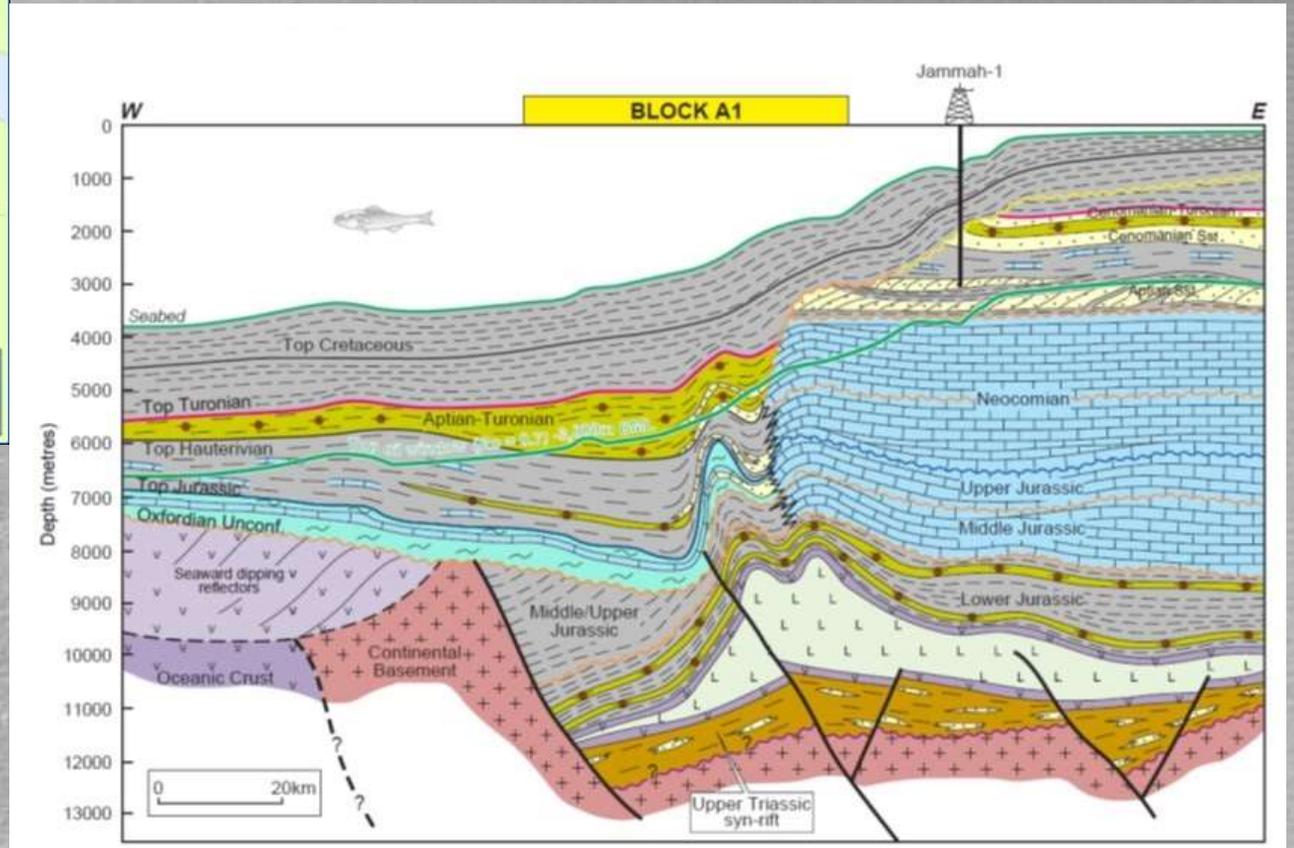
Current activities include support for Ministry data management reorganisation and new acquisition planning



New survey proposal

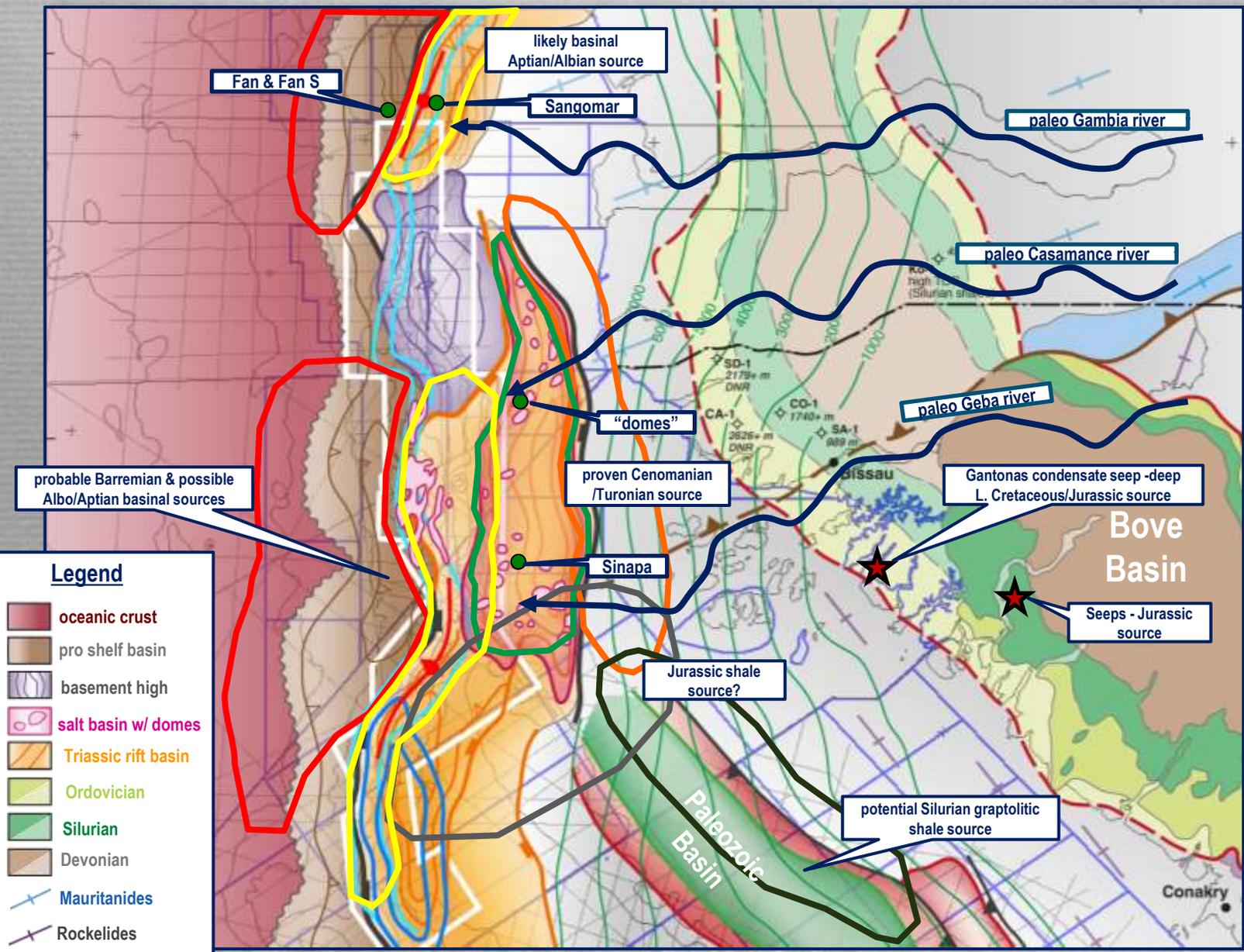
1,600 sq. km in shallow water

Final survey outline subject to legacy data reprocessing





Southern MSGBC Basin - 6 Play Fairways



probable Barremian & possible Albo/Aptian basinal sources

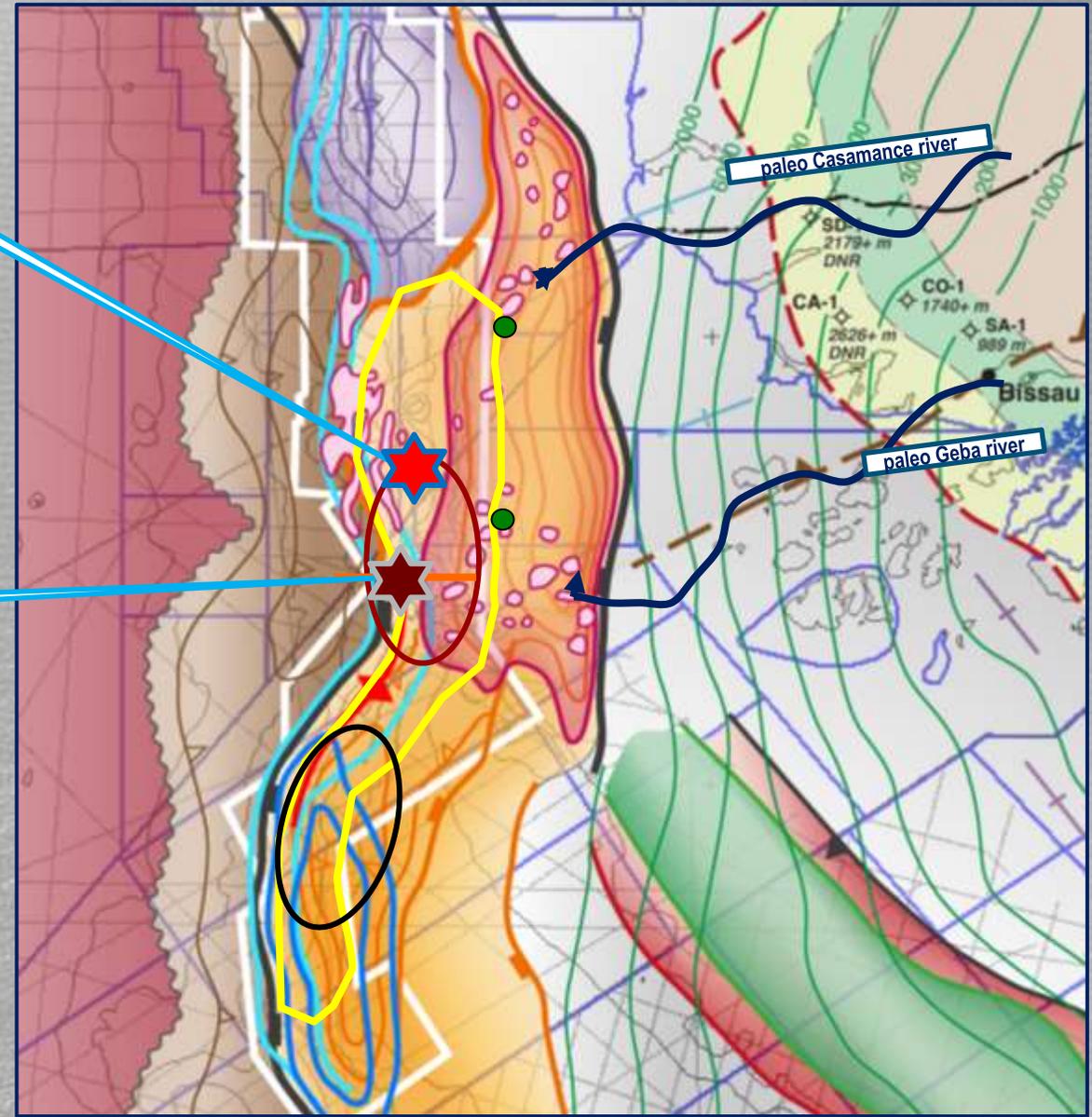
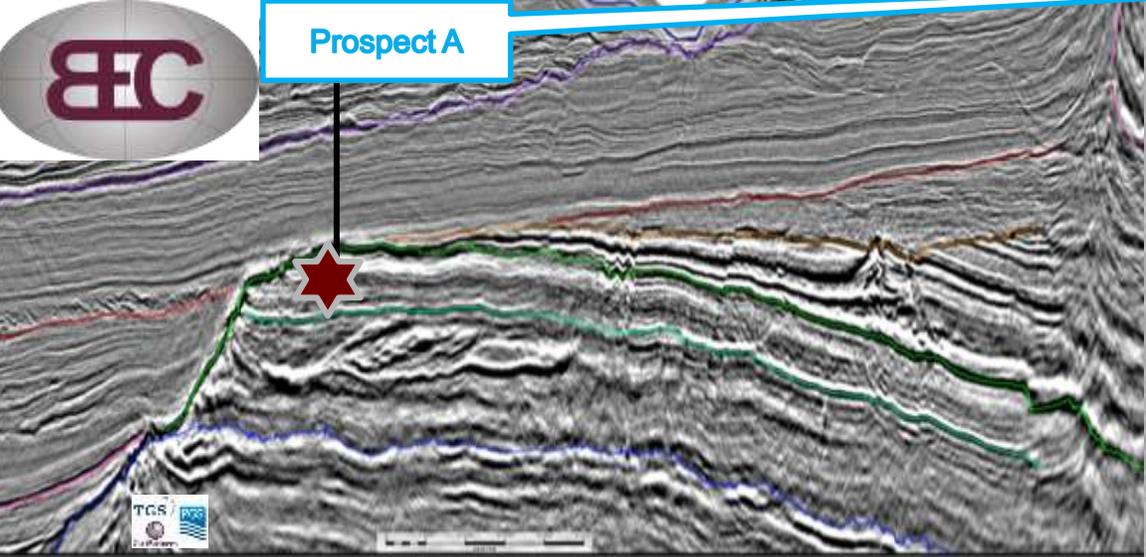
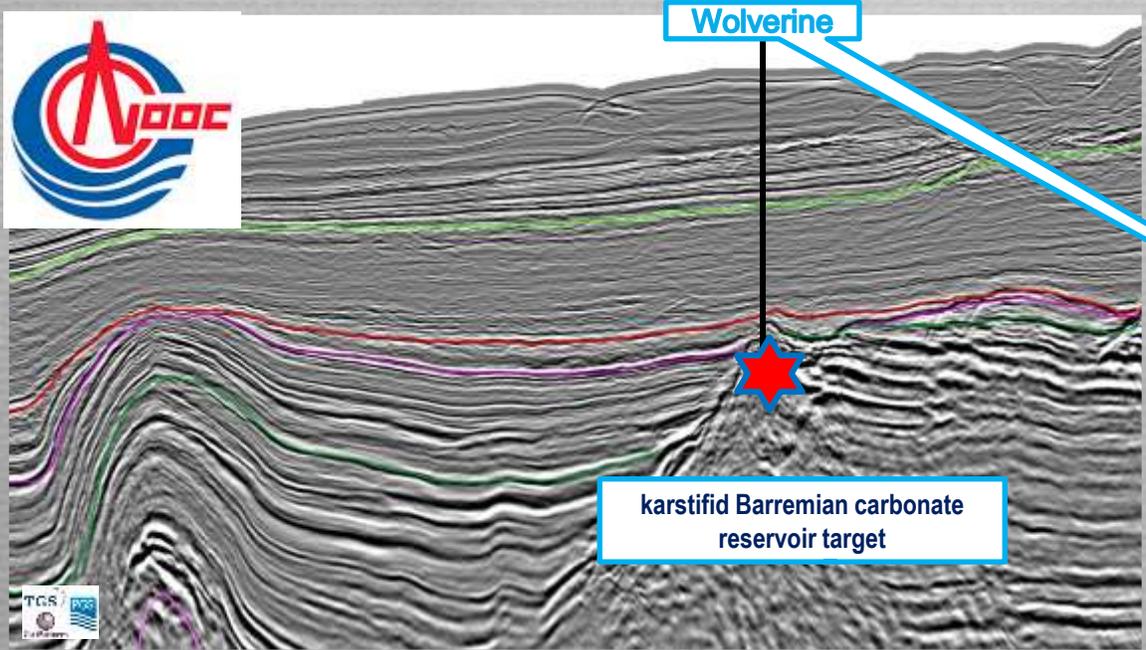
- Legend**
- oceanic crust
 - pro shelf basin
 - basement high
 - salt basin w/ domes
 - Triassic rift basin
 - Ordovician
 - Silurian
 - Devonian
 - Mauritanides
 - Rockelides

- 1 Deepwater fan fairway
- 2 Platform margin fairway
- 3 Diapir fairway
- 4 Hinge line/pinchout fairways
- 5 Deep platform fairway
- 6 Paleozoic source fairway





Block 4B and drill ready analogues





GeoPartners