Maximizing Insights from Wells Drilled in Offshore Gambia's Block A2 and Its Prospectivity

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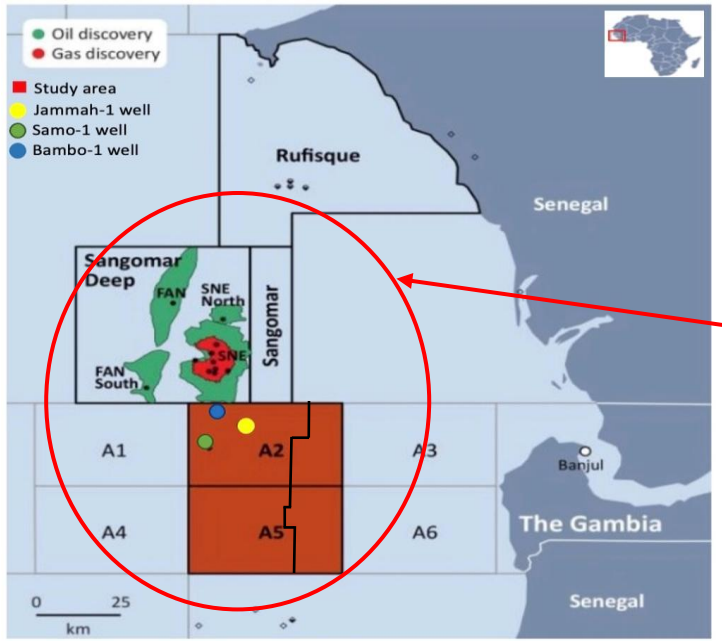
Introduction

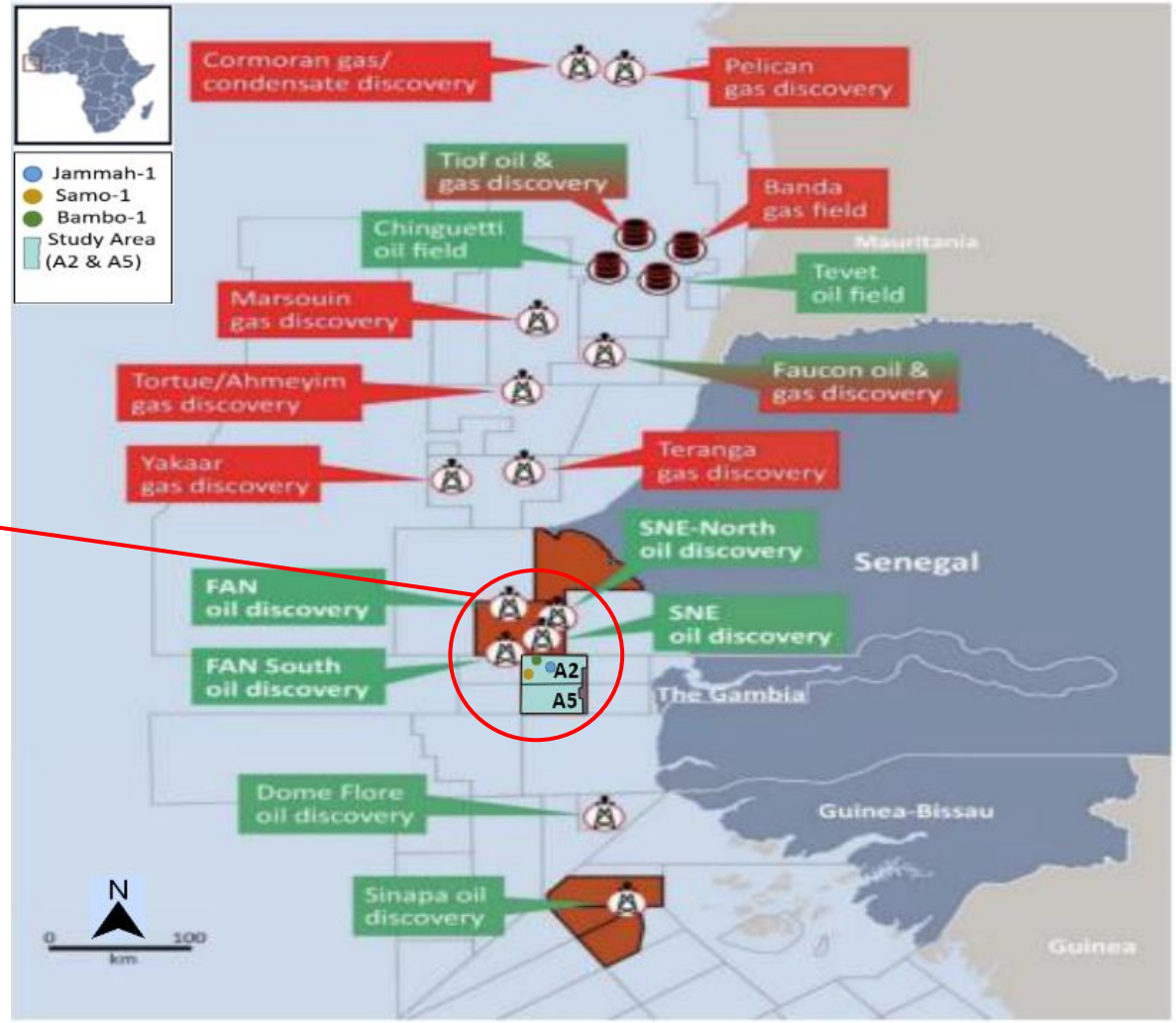
The Gambia is located within a basin comprising:

- Mauritania
- Senegal
- The Gambia
- Guinea Bissau
- Guinea Conakry

Location Map from MSGBC Basin (FAR)

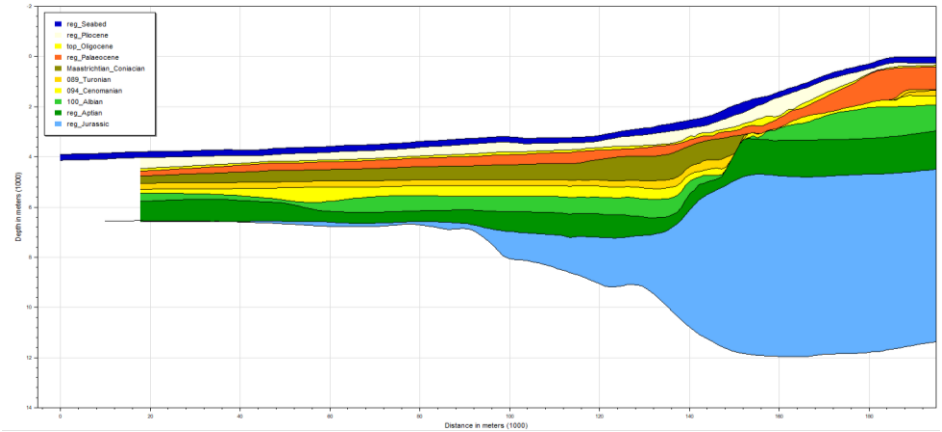
MSGBC Discoveries and Wells Drilled





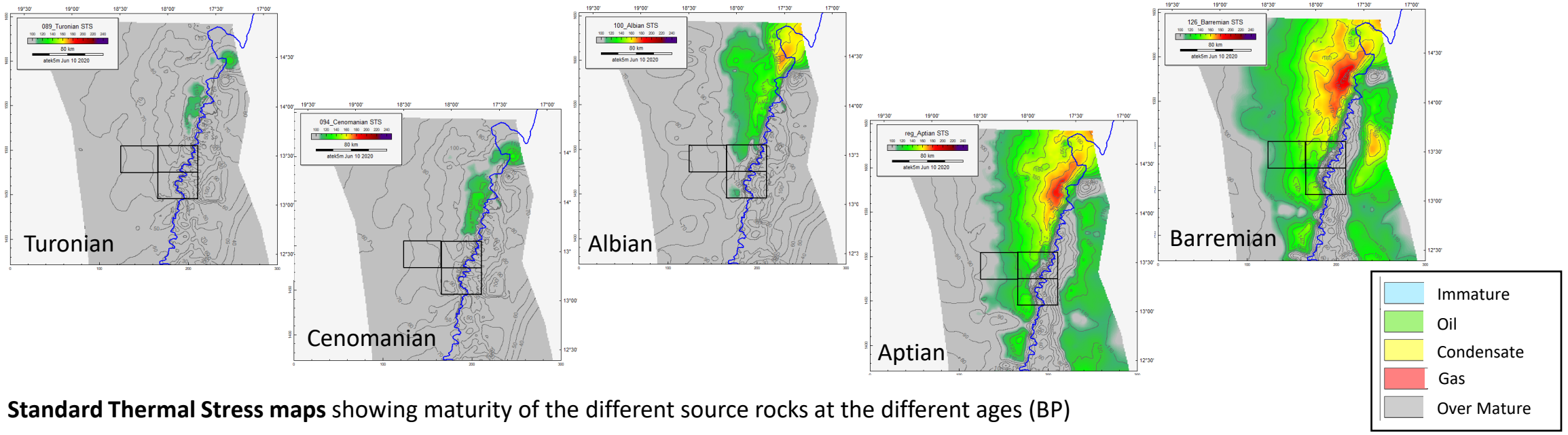
Location map of the study area including Jammah-1, Samo-1, and Bambo-1 wells on Blocks A2 offshore The Gambia and the discoveries within MSGBC Basin (Modified from FAR Gambia Ltd).

Regional petroleum systems model



- The Cenomanian and Turonian source rocks are proven but immature.
- The Albian source rocks are proven and mature (marine class II organofacies)
- The Aptian and Barremian source rocks are unproven but will be mature if present.

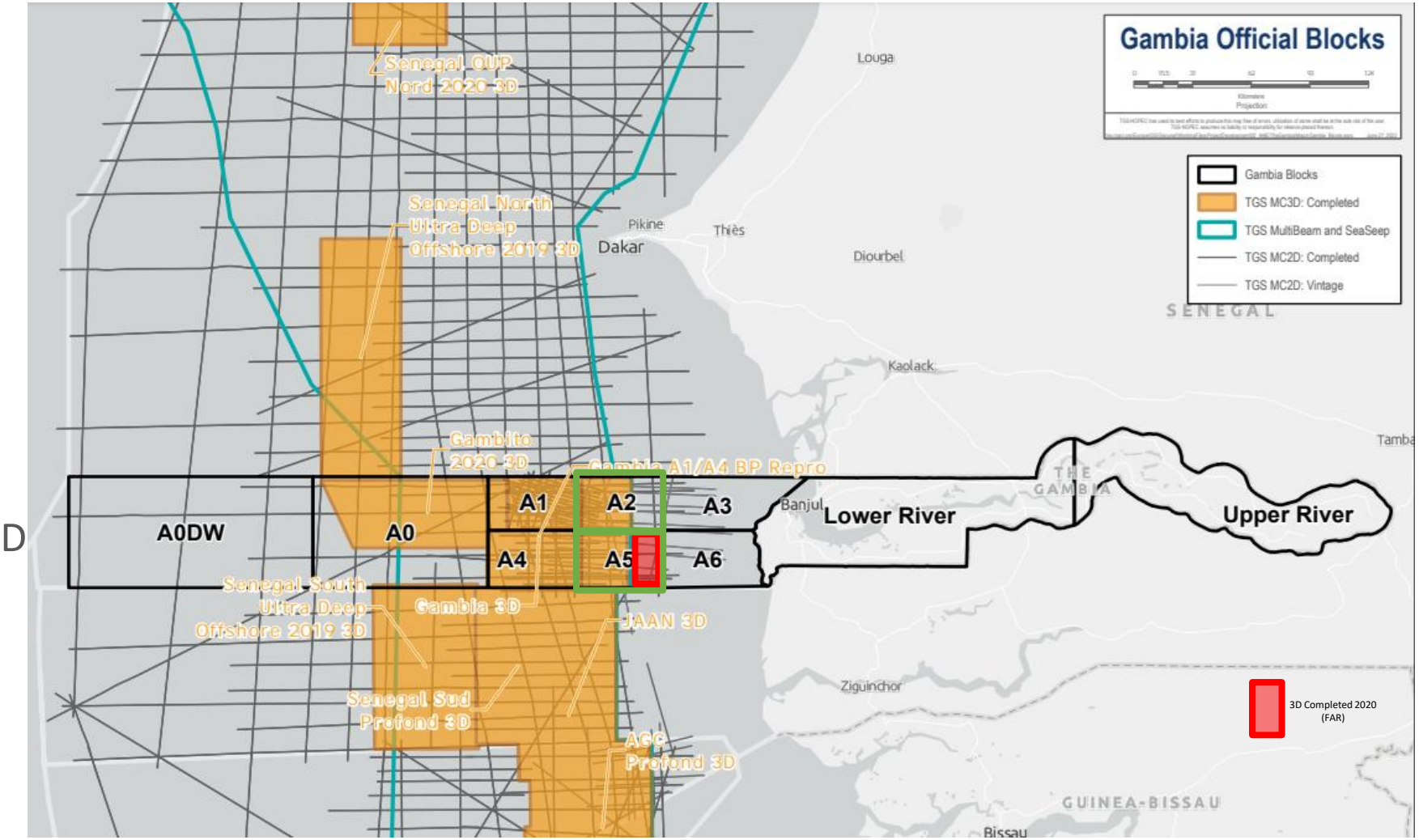
Stratigraphic Cross Section showing layers used in the petroleum systems model



Standard Thermal Stress maps showing maturity of the different source rocks at the different ages (BP)

Available Data

- 2D Seismic Data
  - VER01FG
  - FG99
  - NWAAM2012
  - NWAAM2017
- 3D Seismic Data
  - A2/A5 – 3D
  - Jaan Project incl A1/A4 3D Merger
  - Gambito (Ultra-deep)
  - A5 3D
- Well Data
  - Sarakunda-1
  - Brikama-1
  - Samo-1
  - Bambo-1/ST1

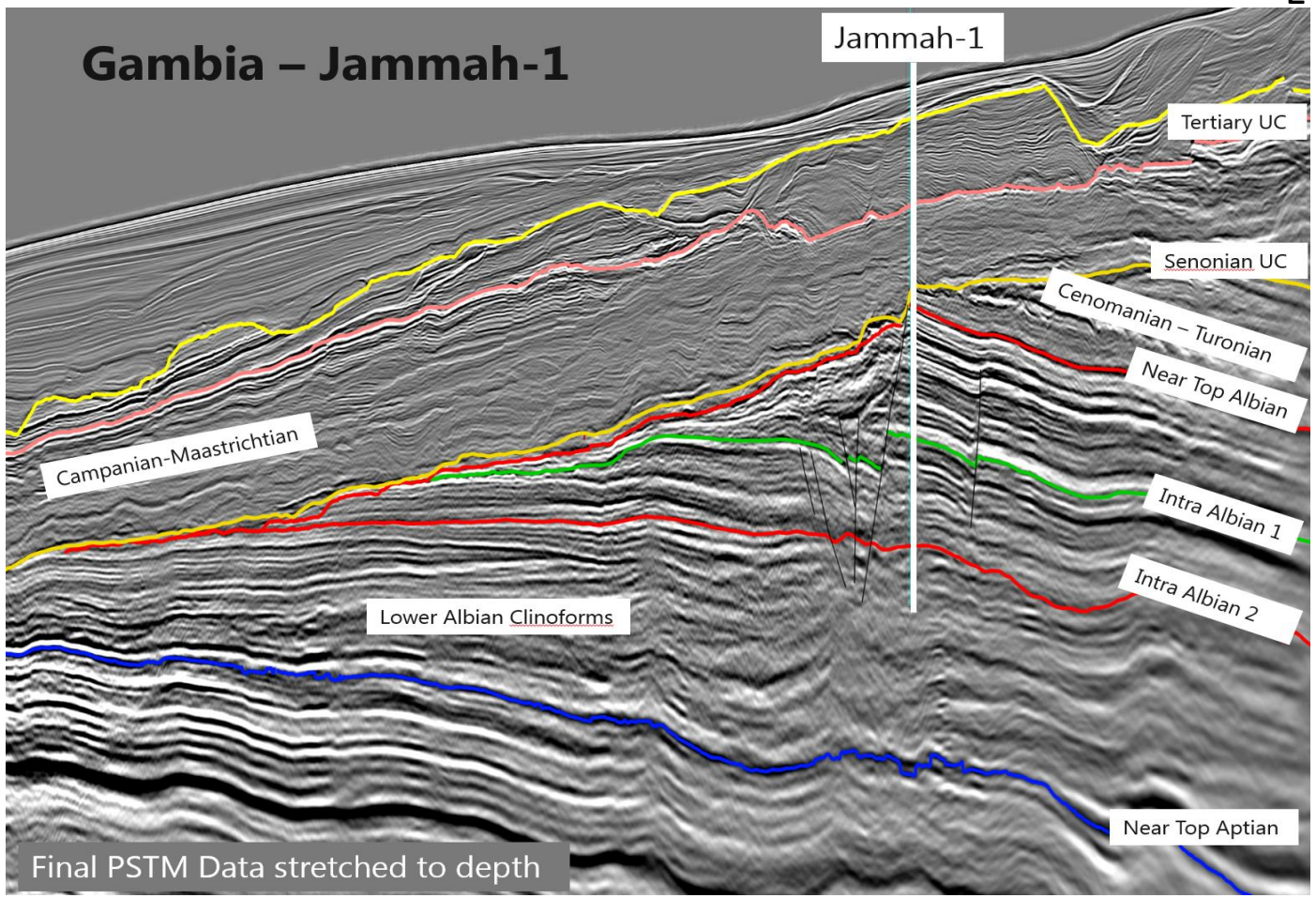


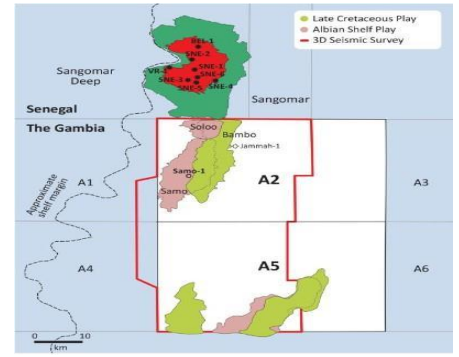
Map showing 2D and 3D seismic data coverage within offshore MSGBC Basin (Modified from TGS)

Well Results and Post Well Studies on Blocks A2

Jammah-1 Well - Block A2

W E





Objective:

- Upper Cretaceous carbonates & S/s within a large N-S trending anticline, on carbonate margin,

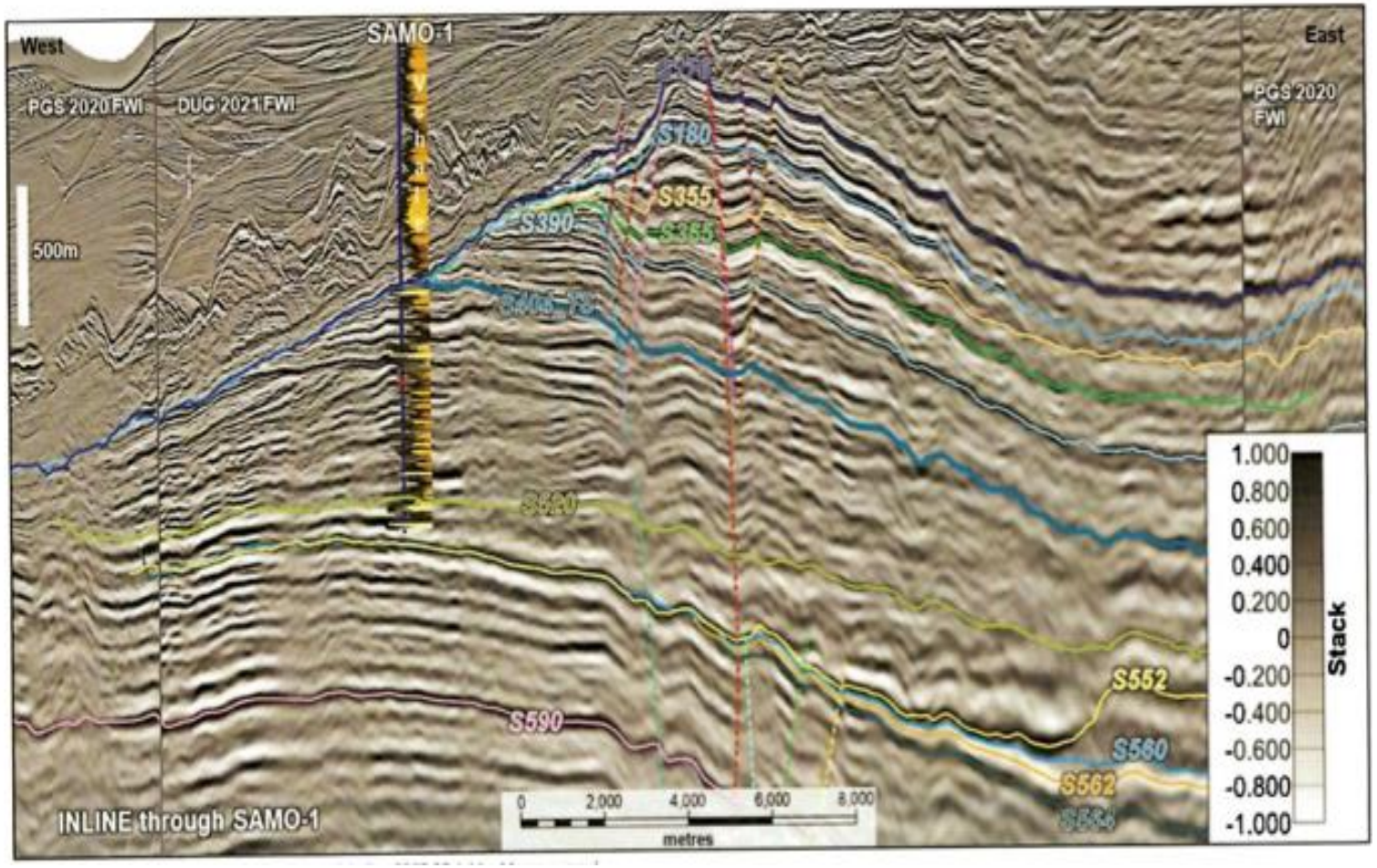
Results:

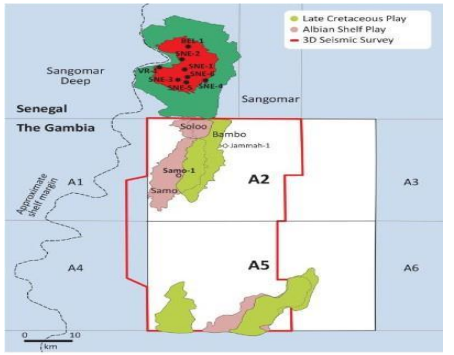
- Encounter Oil shows in target horizons.
- Cause of failure probably due to faulting.
- Excellent reservoir quality.

Impact on A2/A5 Prospectivity:

- Charge: HC extractions confirmed migrated oil from source to reservoirs encountered in the well

Samo-1 Well - Block A2





Objective:

- A 4-way dip closure primarily Albian such as the S410 and 440 found to be oil bearing in the SNE, with multiply stacked Late Albian as secondary targets,

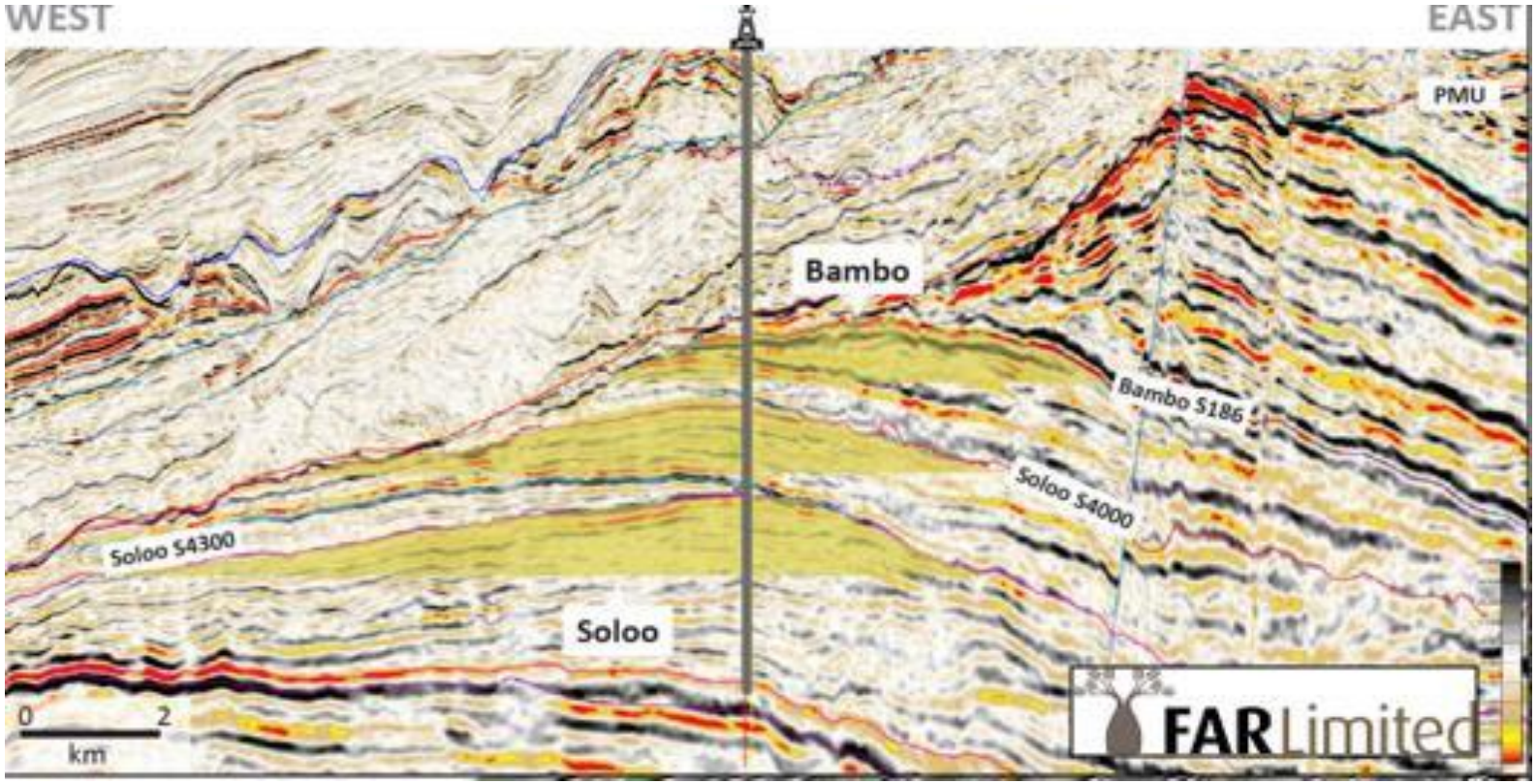
Results:

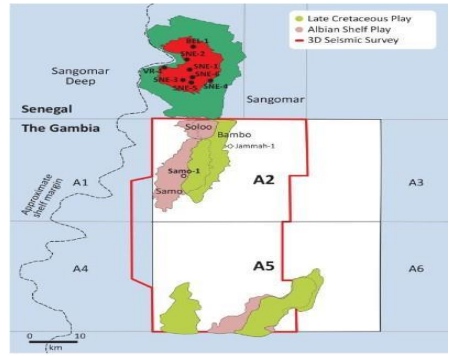
- All target horizons found to be water bearing, with minor oil shows.
- Moderate to good quality reservoirs.
- The late Aptian S552 sandstone is well-developed and contains HC inclusions.

Impact on A2/A5 Prospectivity:

- Charge: Migrated oil extraction from the deeper Late Aptian section, suggest eastern kitchen
- Seal: Basal Late Aptian top seal confirmed, log and MICP.
- Reservoir: S410 & S400 confirmed, as well as new Late Aptian (S552) turbidite reservoir

Bambo-1/ST1 Well - Block A2





Objective:

- The primary Mid to Late Albian S410/440 targets were an appraisal of the southern extent of the Senegalese Sangomar oil field.
- Stacked, secondary targets in the Late Albian (S390/S400) and Late Aptian (S552/S562)

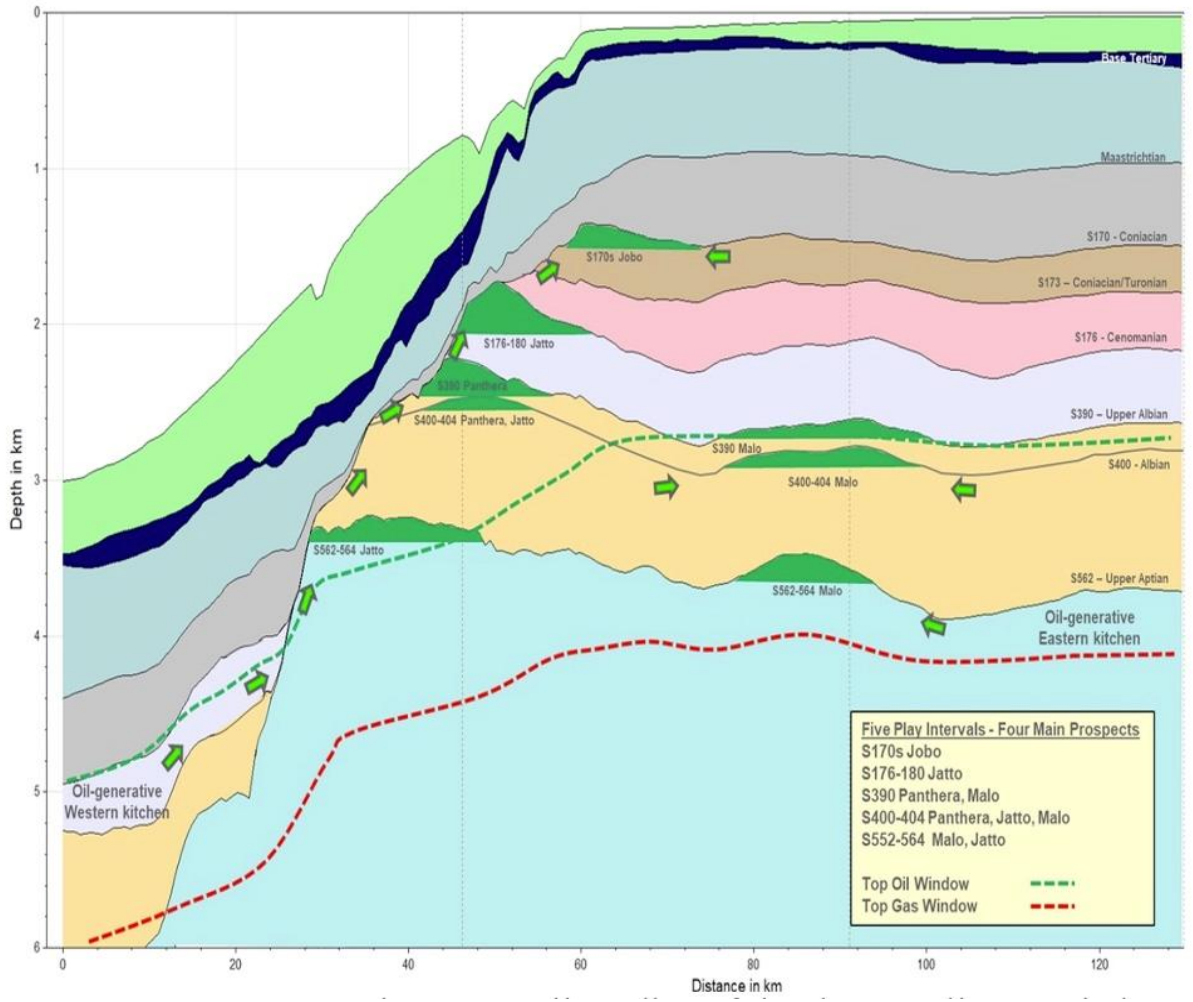
Results:

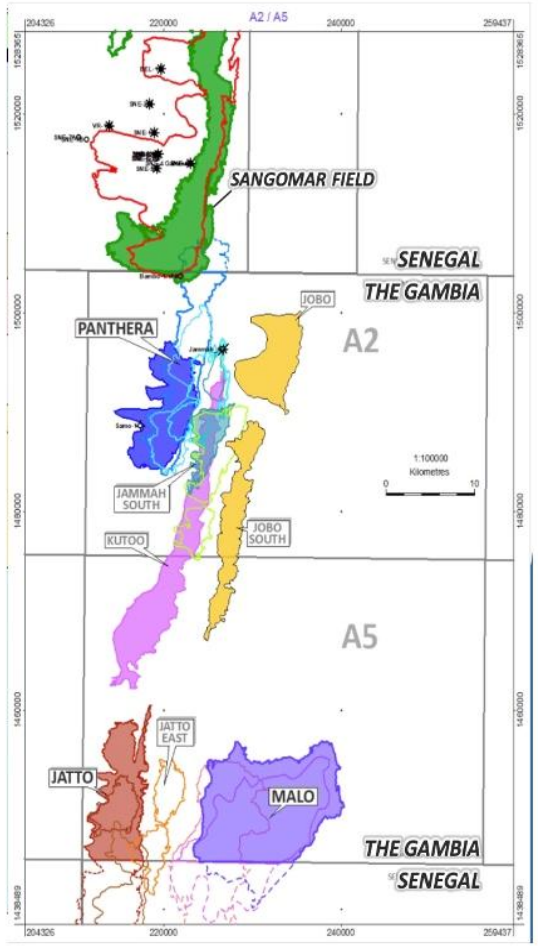
- Contacts for primary Albian targets confirmed, limited column in poor reservoir.
- Deeper Late Aptian secondary targets contained minor oil shows

Impact on A2/A5 Prospectivity:

- Trap: Multiples HC columns interpreted to have been intersected close to structural spill (Sangomar field not extend into A2).
- Reservoir: S390 reservoir section pinched out updip of well. Late Aptian clastic turbidite deposition confirmed.
- Seal: Regionally extensive flooding event confirmed(S560-S568), seen at the TD of the sidetrack well.

Post Well Studies

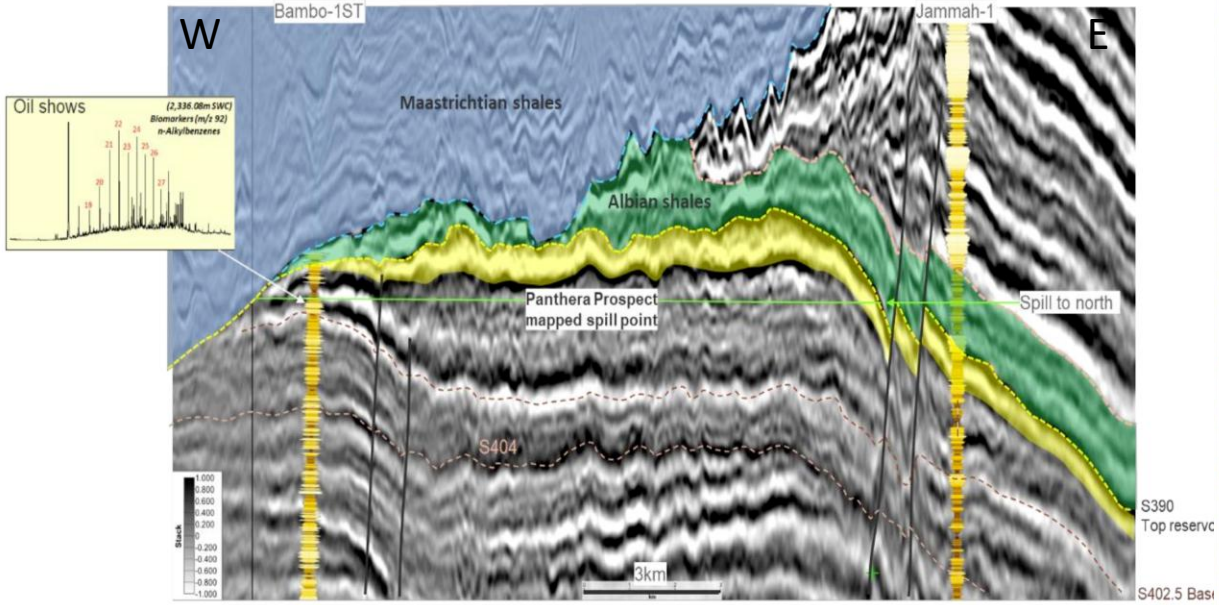




Gambia Prospects	Best Estimate (mmstb)
Panthera (S400 – S404)	215
Panthera (S390 – S395)	258
Jatto (S176)	390
Jobo (S170 – S172)	306
Malo (S390)	350

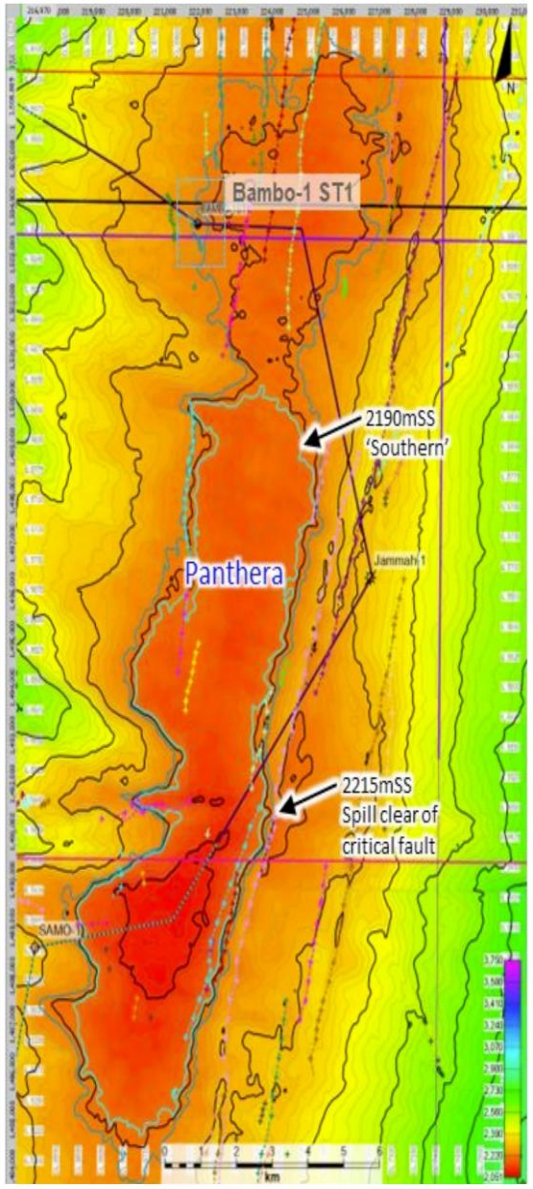
The discovery of oil in the Sangomar Field, Senegal, immediately north and adjacent to permit A2 demonstrated the success of the Albian shelf edge play where oil is trapped in a three-way dip closure truncated to the west by the Pre-Maastrichtian Unconformity (PMU).

Panthera Prospect
Play Elements (S390 & S400)

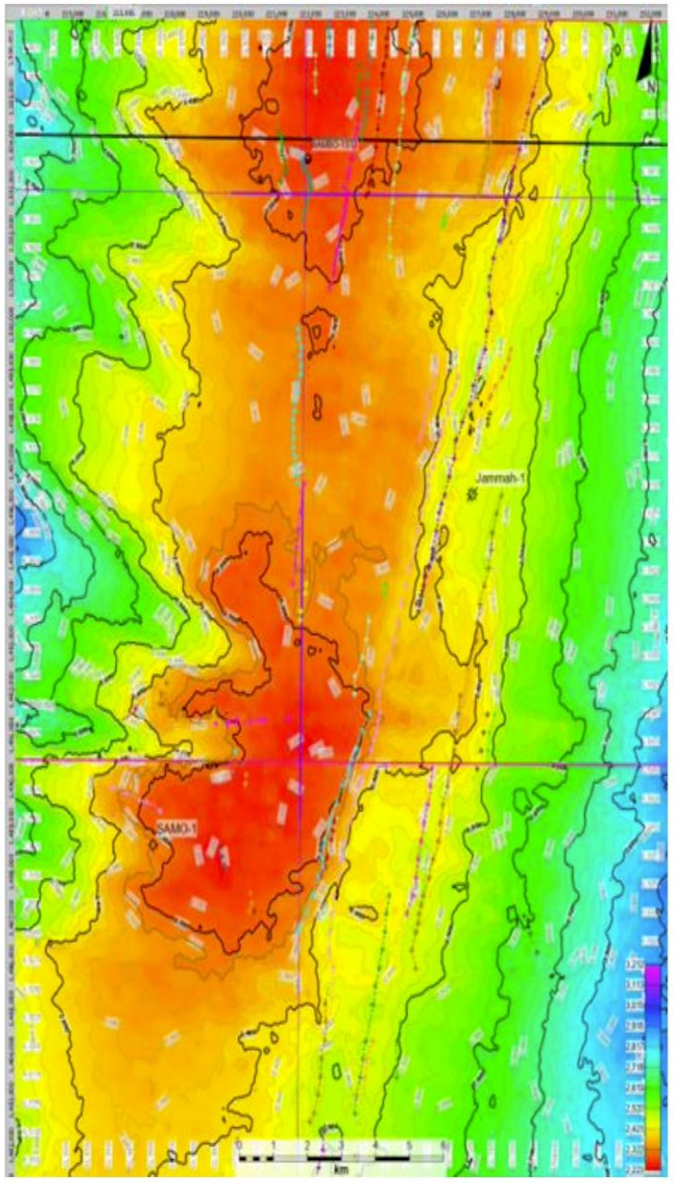


Panthera Seismic profile through Jammah-1 and Bambo-1/ST-1 wells (FAR)

Panthera prospect is in the central eastern and north-eastern part of The Gambia offshore exploration block A2. The prospect is on the slope in approximately 900m of water.

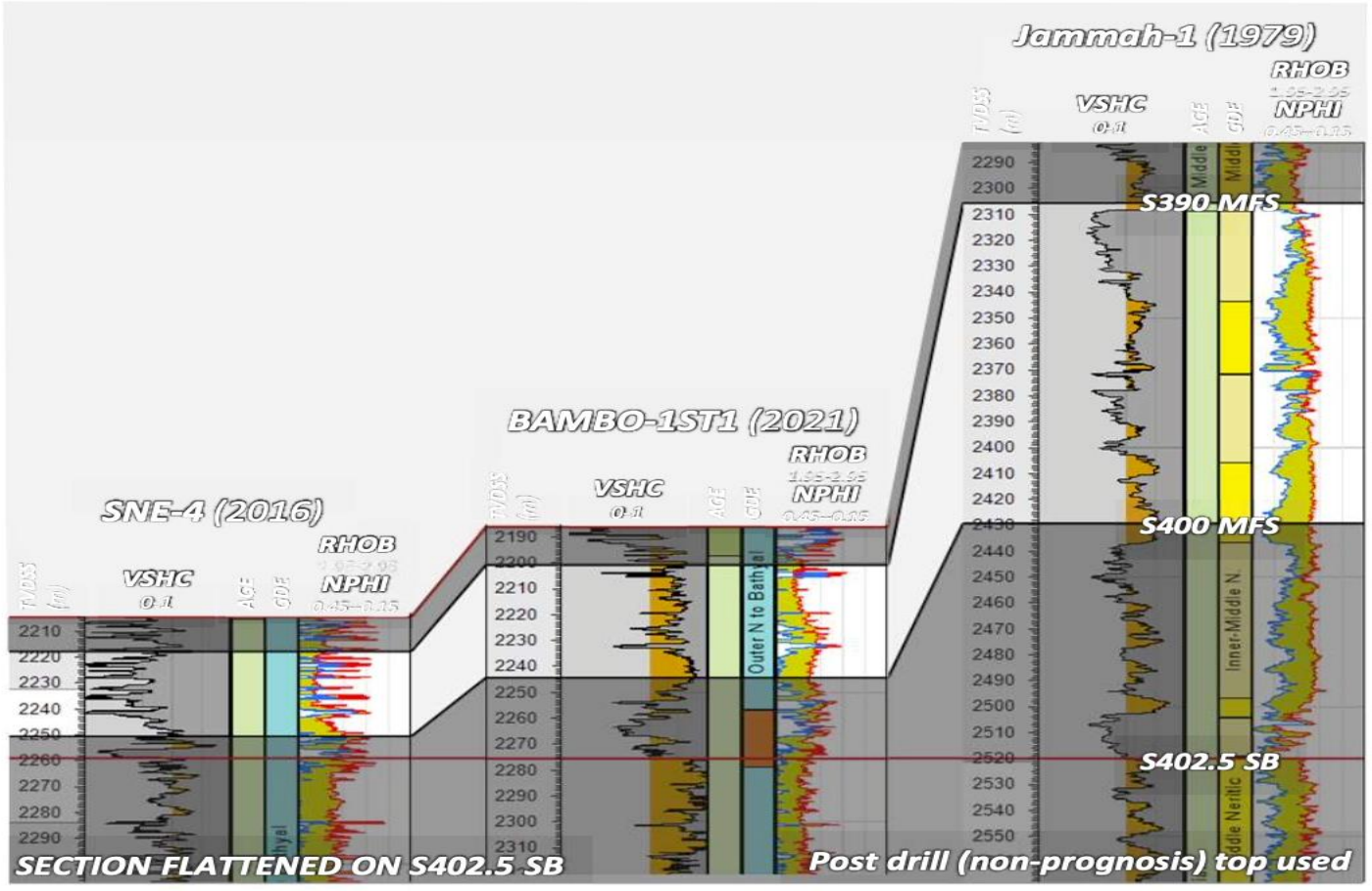


Top S390 structure map (FAR)



Top S400 structure map (FAR)

Panthera Prospect
Play Elements (S390)



S390 Play Impact on Bambo-1/ST1

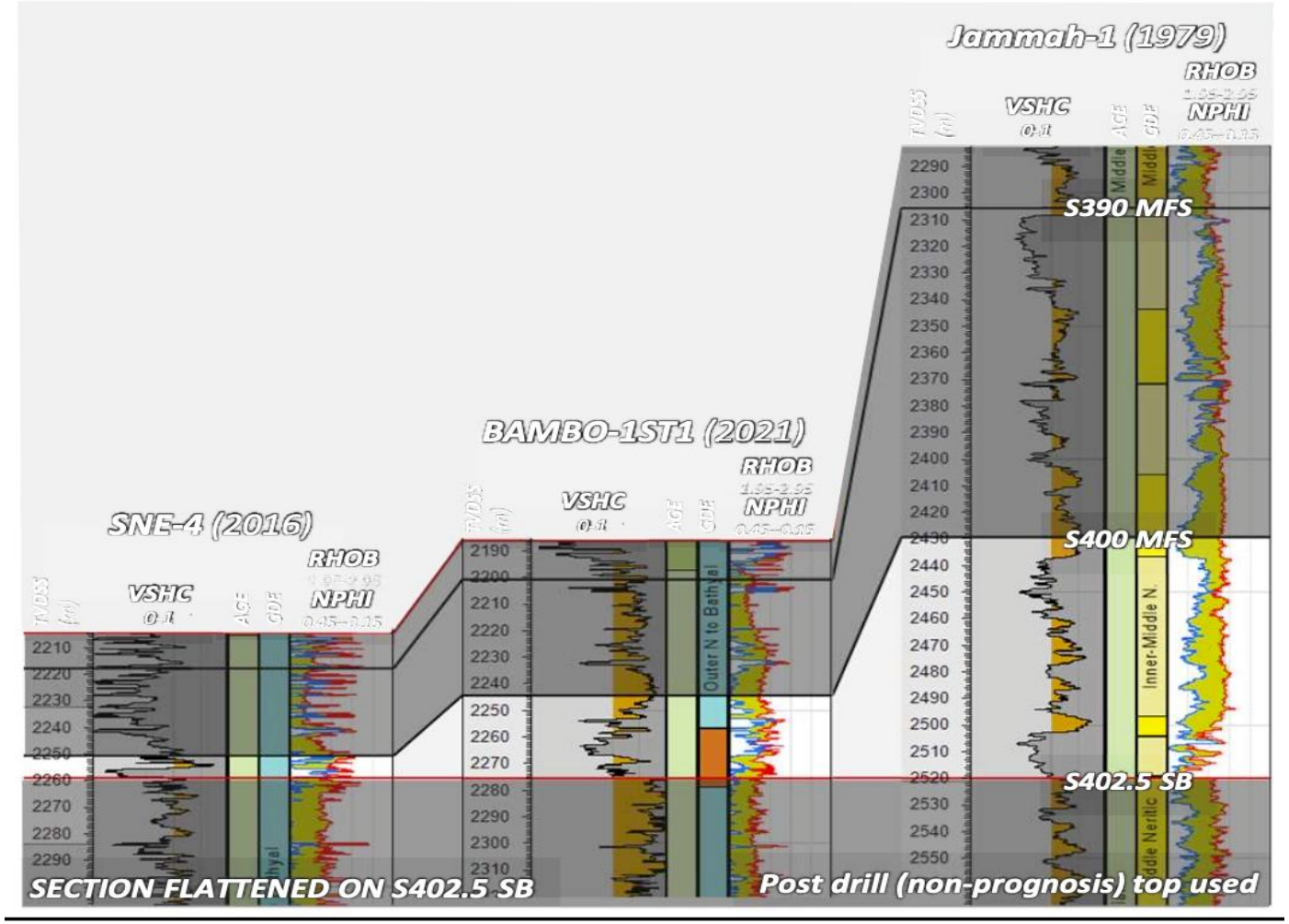
Key Play learnings

• Reservoir: The reservoir at this location is characterized by deepwater deposition with low potential, dominated by suspension drop out and muddy plumes.

• Seal: Excellent top seal capacity (>350m Oil) confirmed.

- Good quality source rock associated with an Oceanic Anoxic Event (OAE1d). Good TOC (3.3%) and Oil Potential.

Panthera Prospect
Play Elements (S400)



S400 Play Impact on Bambo-1/ST1

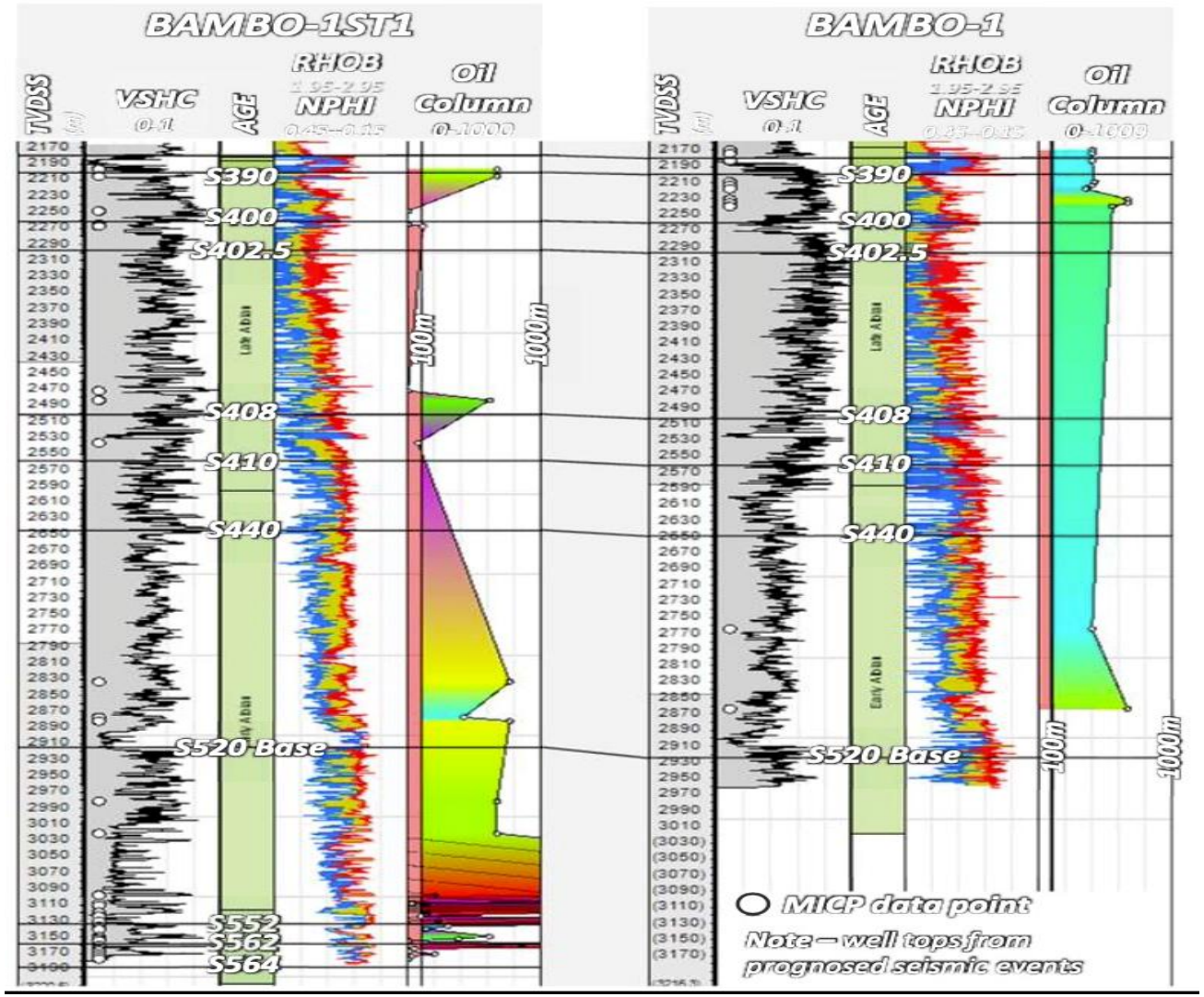
Key Play learnings

• Reservoir: presence confirmed, but thin & thinly interbedded turbidite lobes.

• Charge: unaltered Late Albian sourced medium Oil extracted, supports transition zone (MDT IFA “slugging”)

• Seal: Excellent (>500m) top seal capacity

Post well studies: MICP Seal Capacity



MICP seal capacity on Bambo-1 and Bambo-1ST1

- Better seals predicted in the BAMBO-1 well location due to more distal paleo-depositional environment.
- Excellent >300m Oil column seal capacities recorded for all the reservoir targets (Primary & Secondary).
- Failure in BAMBO-1 targets is not related to top seal capacity.

Conclusion

Bambo-1/ST1:

- Reservoir presence confirmed and Excellent top seal capacity (>350m Oil) confirmed.

- A thick and oil-prone marine source from the Late Albian period has been confirmed, with maturity below 3000m to the east.

Post Well:

- A petroleum system has been confirmed to be active in The Gambia, with a new and highly productive oil source identified in the Neocomian-Barremian formation.

- The basin model update shows potential for hydrocarbon charge from an eastern kitchen, in addition to the proven, prolific western kitchen.

- Chances of success in all the 4 prospects identified ranges from 20-30% as per the revised studies conducted by FAR.

Data room: Gambia and TGS

- Petroleum Commission and TGS have hosted a number of data rooms with IOCs. Any interested IOC is welcome to contact Petroleum Commission at infor@petcom.gm or jbarrow@petcom.gm or bbajo@petcom.gm.

THANK YOU ALL

FOR YOUR

KIND ATTENTION