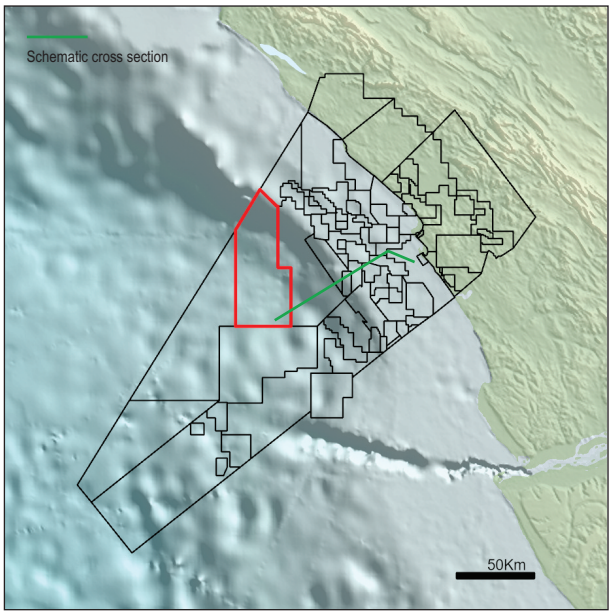
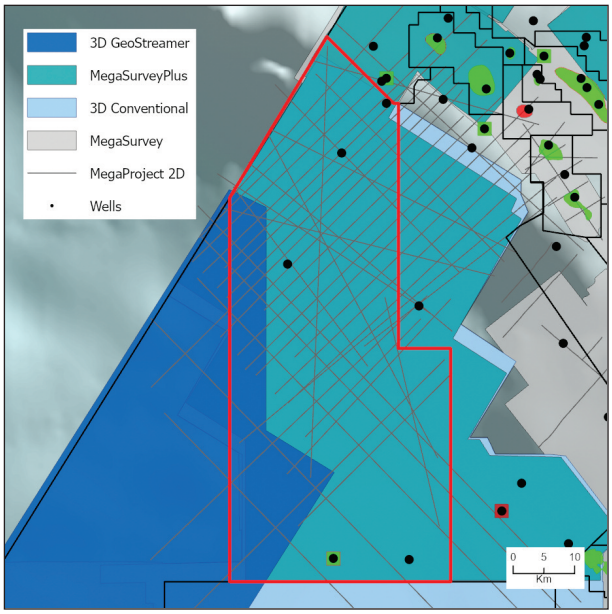
Ministère des Hydrocarbures
République du Congo

SNPC

Permis Marine XXIII



Congo Coastal Basin



Seismic available, Permis Marine XXIII

Permis Marine XXIII is located offshore in the Congo Coastal Basin. It has an area of 2473.4 Km². The bathymetry ranges between 175 m to 2000 m extending from the shelf to the deep water.

Permis Marine XXIII contains five wells including one oil discovery. Titane Marine-1 encountered oil within Miocene sandstones and two of the other wells in the block recorded oil shows. The remaining wells were dry, although they encountered good quality Lower Miocene reservoirs. Typical plays expected in Permis Marine XXIII include Upper Miocene channel systems, Lower Miocene turbidite channels, Sendji carbonates and Pre-salt sandstones.

Miocene Sandstones

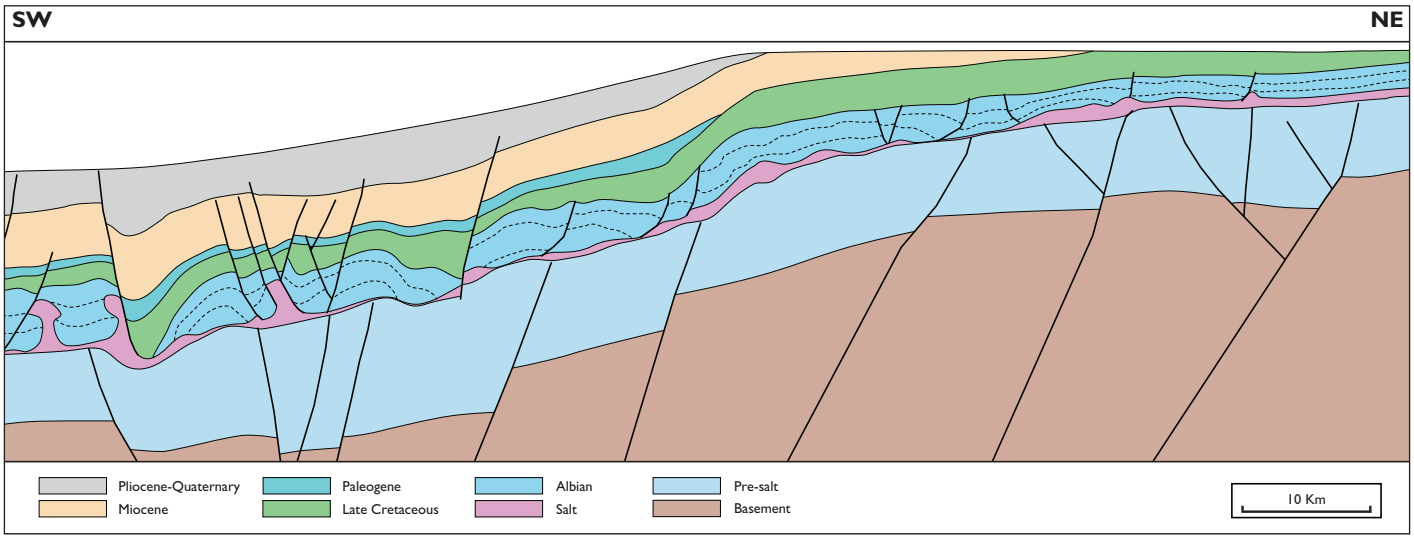
Miocene channels and turbidites of the Paloukou Formation (Fm) consist largely of medium grained, well sorted sandstone. These sandstones form the reservoir for the nearby Moho Bilondo Field.

Sendji Carbonates

The Albian Sendji Fm is the primary carbonate reservoir for the nearby N'Kossa Field. Hydrocarbons are sourced from the Neocomian Marnes Noires Fm. Trapping structures are typically related to salt withdrawal turtle-back features.

Pre-Salt Sandstones

Pre-salt reservoirs include the Chela, Djeno and Vandji formations. The Louvessi Marine-1 well to the east encountered hydrocarbons within the Pre-salt Argiles Vertes Fm sandstones.

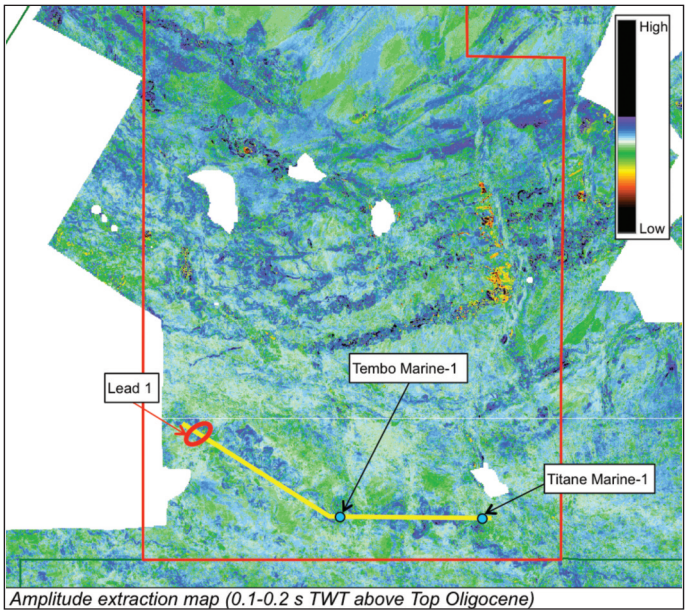


Schematic cross section

Lead 1 – Post-salt (Multiple targets)

This lead is a Paloukou Fm Miocene turbidite channel sitting on a structural high, similar to the nearby Turquoise Field. The lead appears to be part of the same channel complex as drilled by Tembo Marine-1, which encountered a thin oil bearing sandstone interval, and Titane Marine-1 which intercepted Miocene reservoir sandstones.

Furthermore there is potential within the Albian Sendji Fm carbonates, Cenomanian sands and Oligocene sands within a four-way dip closure above the salt. Hydrocarbons are likely sourced from the Neocomian Sialivakou shales, with vertical migration up faults. Reservoir units are expected to be sealed by overlying marine shales.

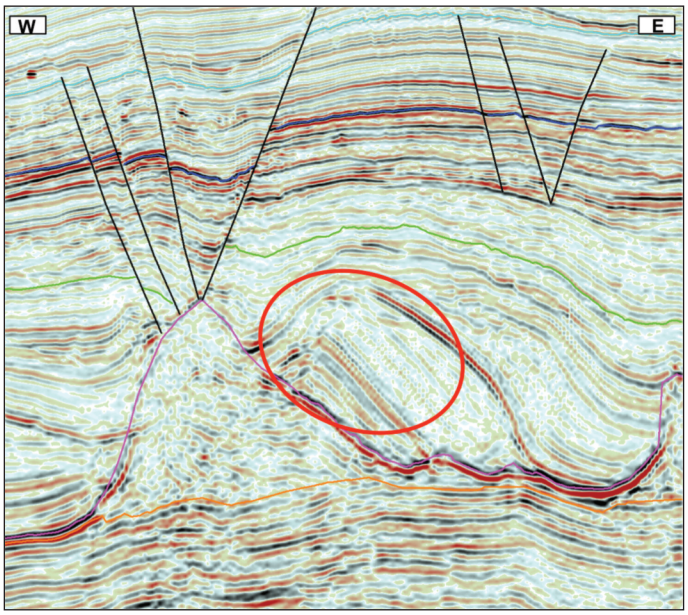


Amplitude extraction map (0.1-0.2 s TWT above Top Oligocene)

Lead 2 – Sendji Carbonates

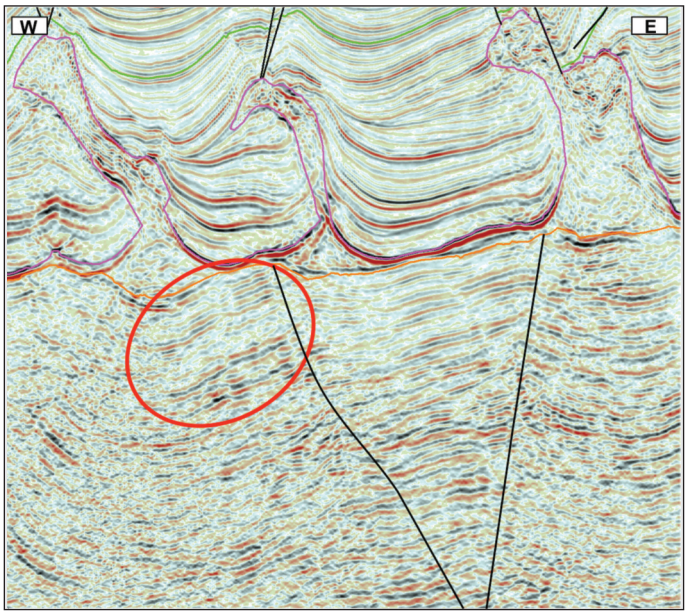
This lead is a rafted block of Sendji carbonates, with a potential Direct Hydrocarbon Indicator (DHI). These carbonates consist of dolomites, oolitic limestones and interbedded sandstone units, deposited in tidal channels in the lower part and as offshore bars and shoreface units in the upper part.

Hydrocarbons are predicted to be sourced from the Neocomian Sialivakou shales migrating up faults. The rotated nature of the blocks forms an excellent trap. The nearby Sendji and Yanga fields have working reservoirs within the Sendji Fm.



Lead 3 – Pre-salt

This lead is a tilted fault block beneath the salt. The postulated reservoirs are sandstones of the Chela and Djeno formations. The Pointe Noire Marl and lacustrine shales of the Djeno Sandstone Fm provide effective source rocks and the Loeme salt acts as a seal.



Republic of Congo Open Blocks

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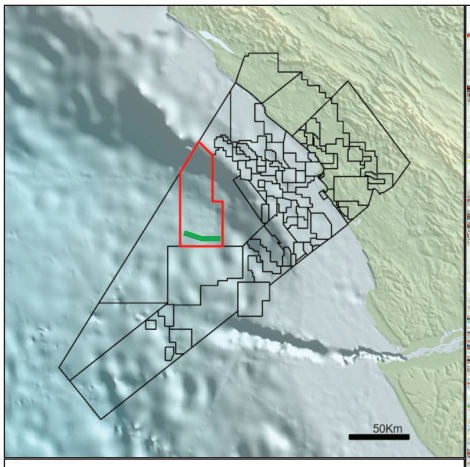
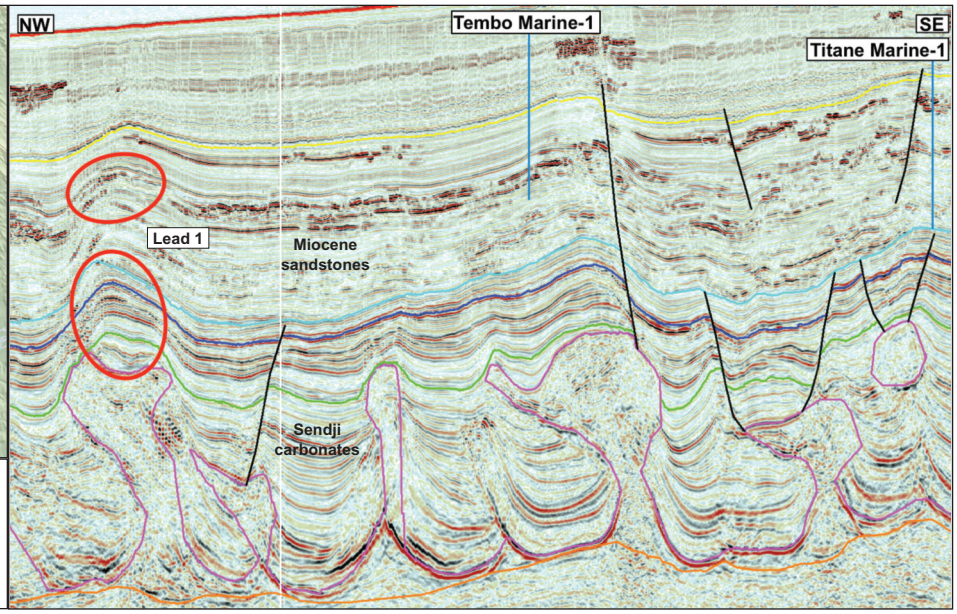
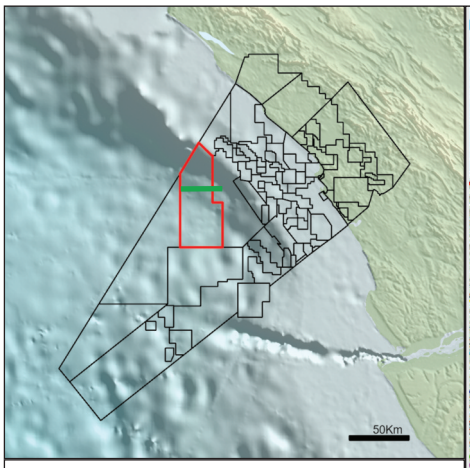


Seabed
Top Miocene
Top Oligocene
Top Cretaceous
Top Albian
Top Salt
Base Salt





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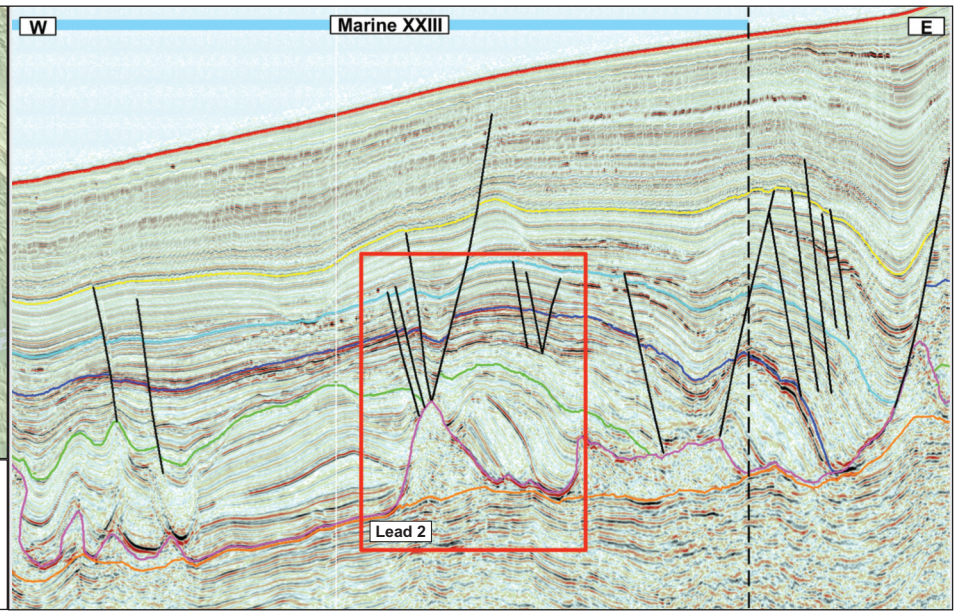

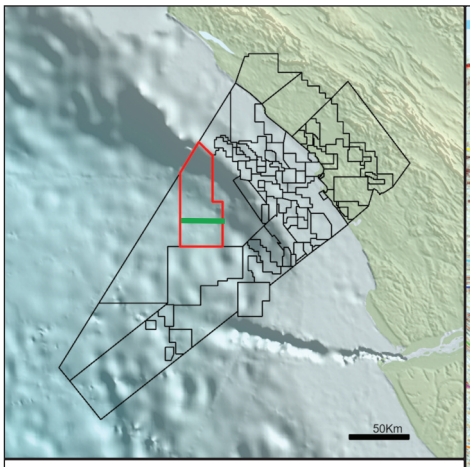

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