



**AGÊNCIA NACIONAL DE PETRÓLEO, GÁS
E BIOCOMBUSTÍVEIS**





ANGOLA

Geographic description

Angola is located on the South Atlantic coast of West Africa, between Namibia and the Republic of Congo, also bordering the Democratic Republic of Congo and Zambia, to the east. The country is divided into an arid coastal strip that extends from the Republic of Namibia, practically reaching Luanda.

The Zambezi River and several tributaries of the Congo River have their sources in the country, which has a maritime border of 1,650 km and a land border of 4,837 km.

Angola has an extensive territory, with an area of 1,246,700 km², divided into 18 provinces.

Bengo	Área: 199.049 km ²	Capital: N'Dalatando	Moxico
Capital: Caxito	Cunene	Área: 24.110 km ²	Capital: Luena
Área: 33.016 km ²	Capital: Ondjiva	Luanda	Área: 223.023 km ²
Benguela	Área: 87.342 km ²	Capital: Luanda	Namibe
Capital: Benguela	Huambo	Área: 2.257 km ²	Capital: Namibe
Área: 31.788 km ²	Capital: Huambo	Lunda Norte	Área: 58.137 km ²
Bié	Área: 34.270 km ²	Capital: Lucapa	Uíge
Capital: Cuito	Huíla	Área: 103.000 km ²	Capital: Uíge
Área: 70.314 km ²	Capital: Lubango	Lunda Sul	Área: 58.698 km ²
Cabinda	Área: 75.002 km ²	Capital: Saurimo	Zaire
Capital: Cabinda	Cuanza Sul	Área: 77.637 km ²	Capital: M'Banza Congo
Área: 7.270 km ²	Capital: Sumbe	Malanje	Área: 40.130 km ²
Quando Cubango	Área: 55.660 km ²	Capital: Malanje	
Capital: Menongue	Cuanza Norte	Área: 97.602 km ²	

ABOUT ANPG

The National Agency for Oil, Gas and Biofuels, referred to in short as “Agência” or “ANPG”, was created in 2019 by means of Presidential Decree No. oilfield in Angola. Among the actions taken to restructure the sector, the transfer of the Concessionaire function, previously held by Sonangol E.P., to the newly created Agency was approved, in order to ensure greater political coordination, increase the effectiveness of processes and create conditions for private investment activities in the national oil industry.

ANPG became the National Concessionaire with the specific attributions of regulating, supervising and promoting the execution of petroleum activities in the field of operations and contracting of the oil, gas and biofuels sector.

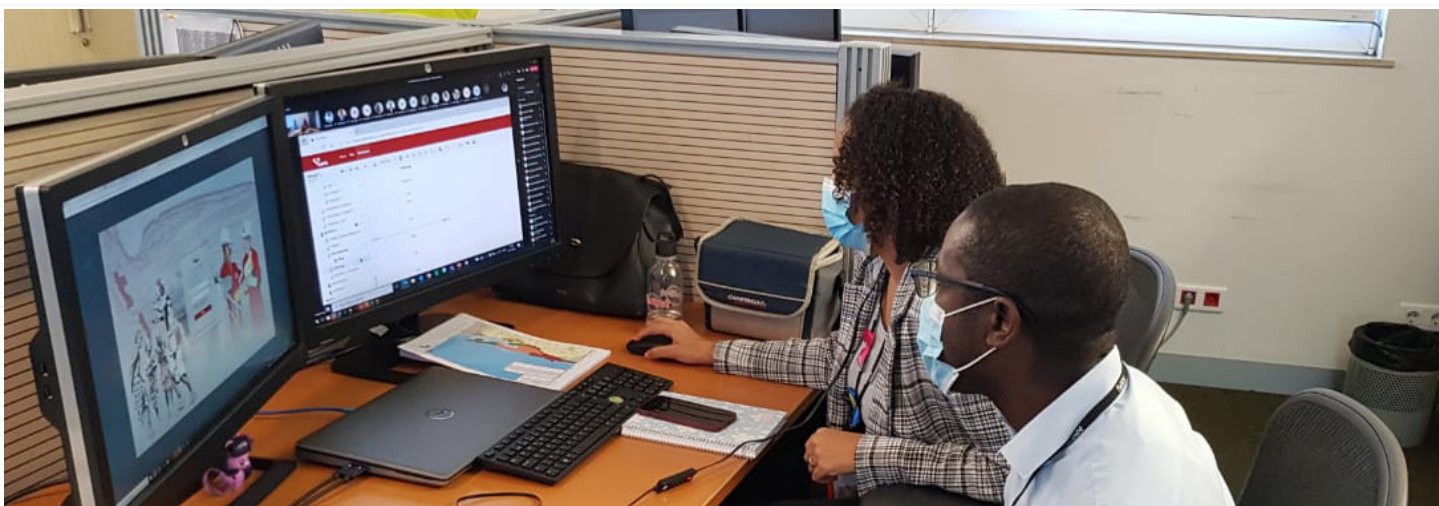
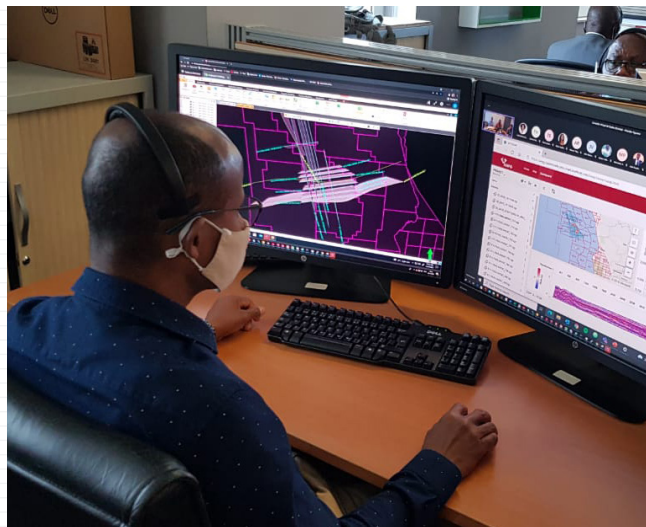
Through Presidential Decree No. 52/19, of February 18, the General Strategy for the Allocation of Petroleum Concessions for the period 2019-2025 was approved.



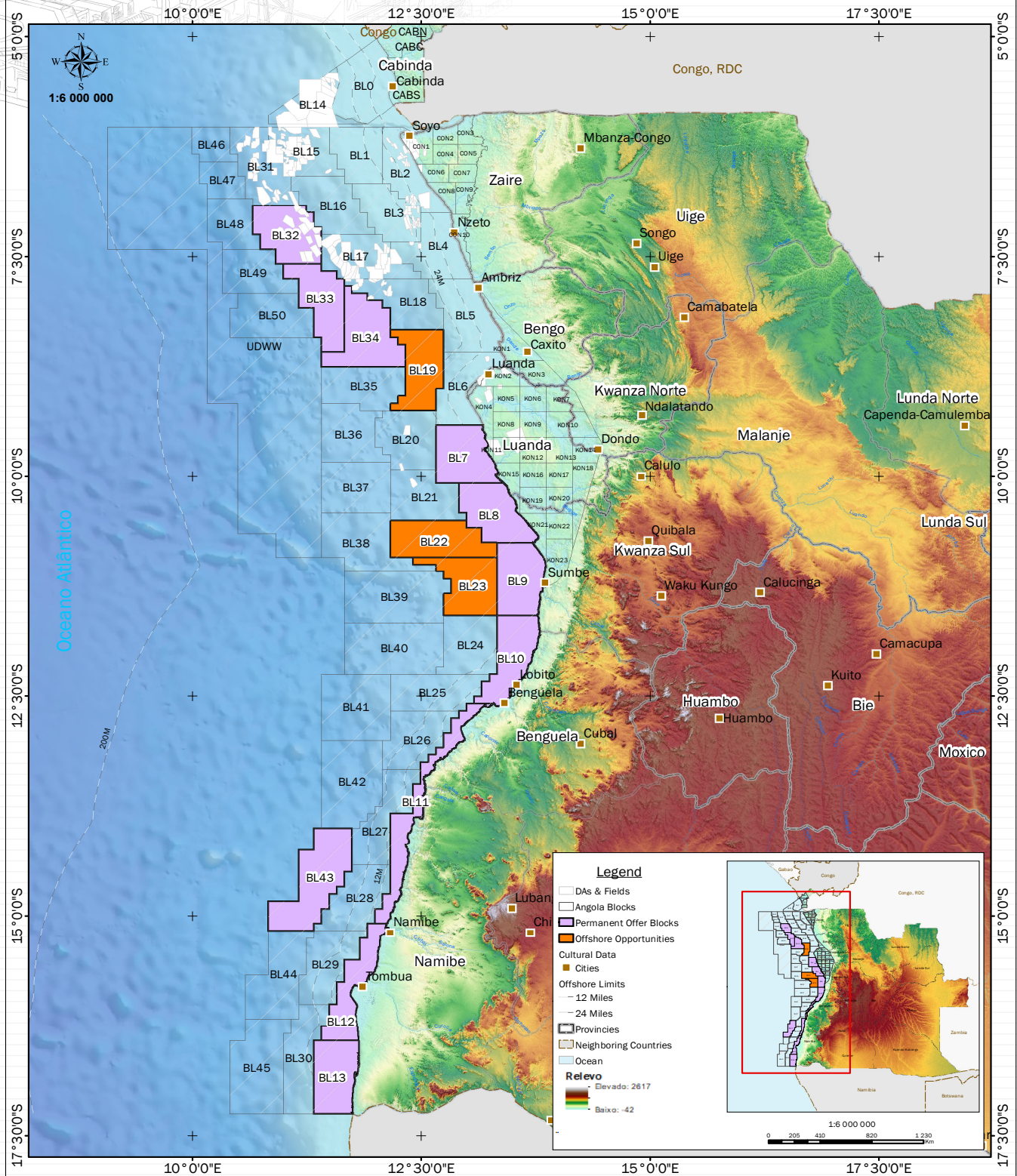
DATA CENTER AND TECHNICAL INFORMATION

In ANPG’s organizational framework, the data management function represents careful planning, control, storage and availability of Exploration and Production assets. The Centre, guarantees the management and archiving, as well as the execution of geological and cartographic mapping and the subsequent availability of this data to internal and external customers.

The Data Center’s role also includes disciplines for the development, execution and supervision of plans, policies, projects, processes and procedures aimed at adopting market practices and maximizing the use of the specialized information collection.



PERMANENT OFFER BLOCKS MAP & OFFSHORE OPPORTUNITIES



DATUM RSAO13

6908-JUL-24-GIS-GAD

ABOUT THE PERMANENT OFFER REGIME

Presidential Decree n.º 249/21, of October 5, approves the rules and procedures for the continuous offer of oil concessions, aiming to streamline access to Areas and Blocks in an uninterrupted manner, in order to attract potential investors and promote the expansion of the geological knowledge the oil potential of Angola.

Through the Permanent Offer Regime, it is possible to assign Free Areas in Concession Blocks, concessions that are not part of the General Strategy for the Allocation of Concessions 2019-2025, Concessions Assigned to the Concessionaire, as well as those that, arising from bidding processes, do not have received proposals.

In order to qualify for the mentioned regime, the investor must submit to the National Concessionaire the proposal for the award of the block of interest, and must prove the technical capacity of his company to associate as an

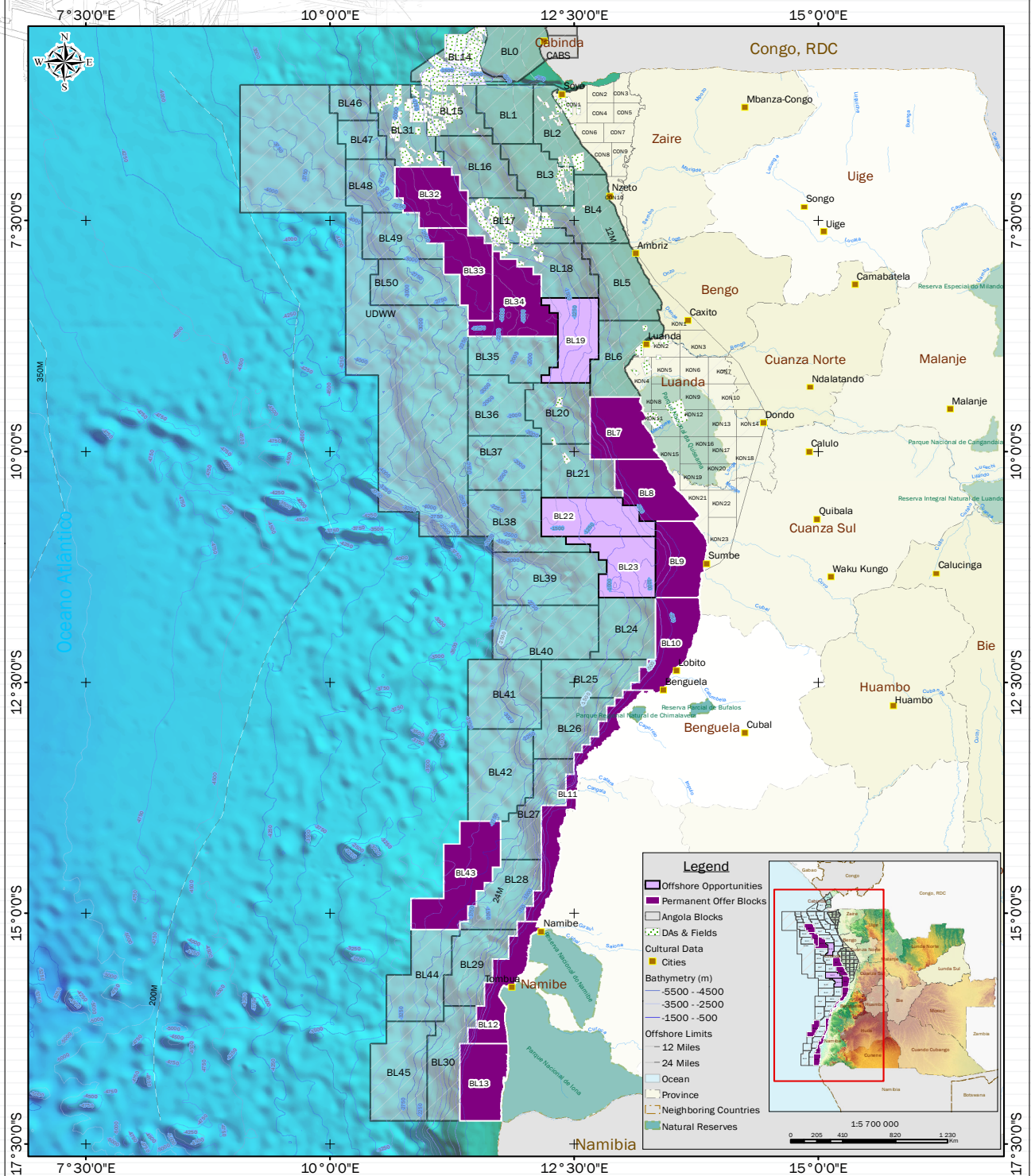
Operator, upon presentation of a set of information to indicate the its structure of human resources with professional experience in the management and execution of petroleum operations.

It must also prove its financial capacity, submitting annual reports including the balance sheet and accounts for the last three years or since its incorporation. In the case of a company incorporated less time ago, the reports must be those audited by an independent entity of recognized reputation. It should be noted that an eventual disqualification of the competitor, derived from non-compliance with the requirements, does not inhibit the investor from participating again.

Check out on the following pages the available opportunities in the Angolan oil sector, combined with our good business environment.



BATHYMETRY MAP OF PERMANENT OFFER BLOCKS



BLOCK 7/21

Block 7 is located in the shallow water of offshore Kwanza Basin, with an area of 4 849 km² approximately and water depth from 0 to 800 m deep.

Block 7/21 is flanked by:

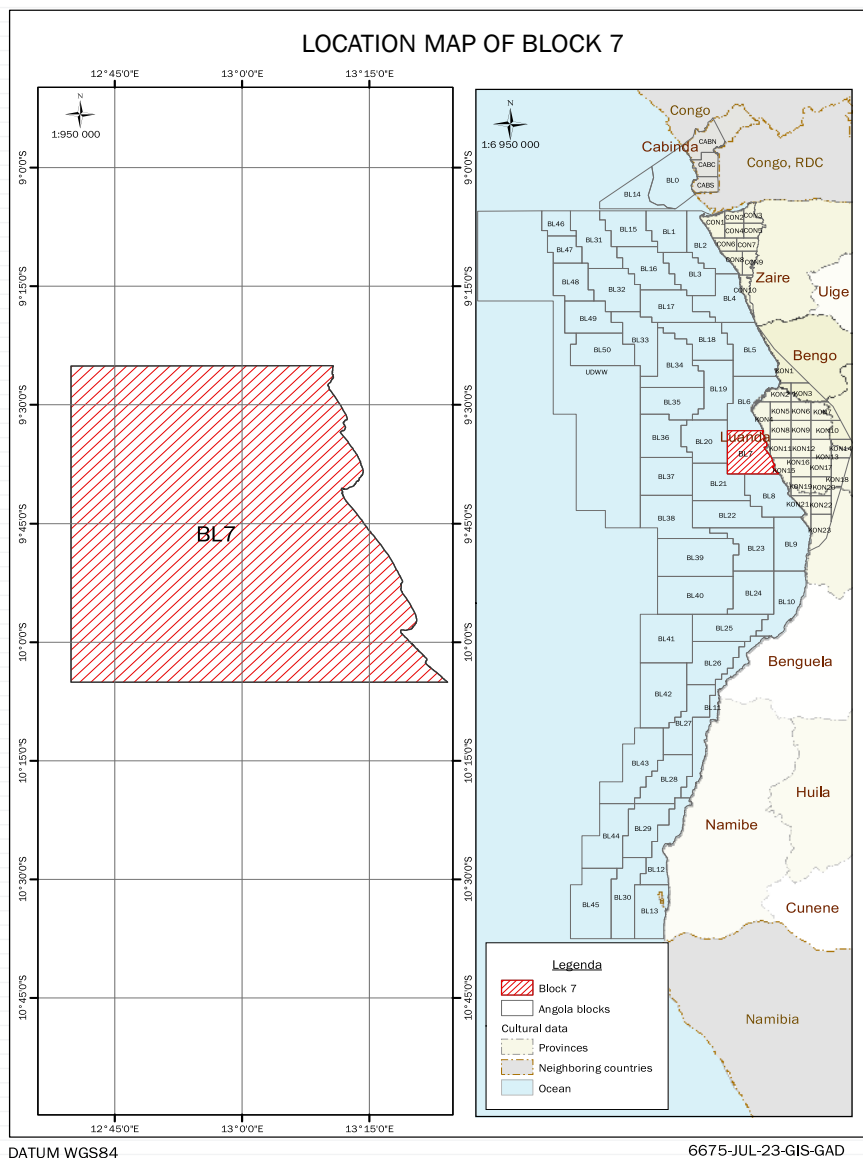
- North by Block 6;
- South through Blocks 8 and 21;
- East by the city of Luanda;
- West through Blocks 20 and 21.

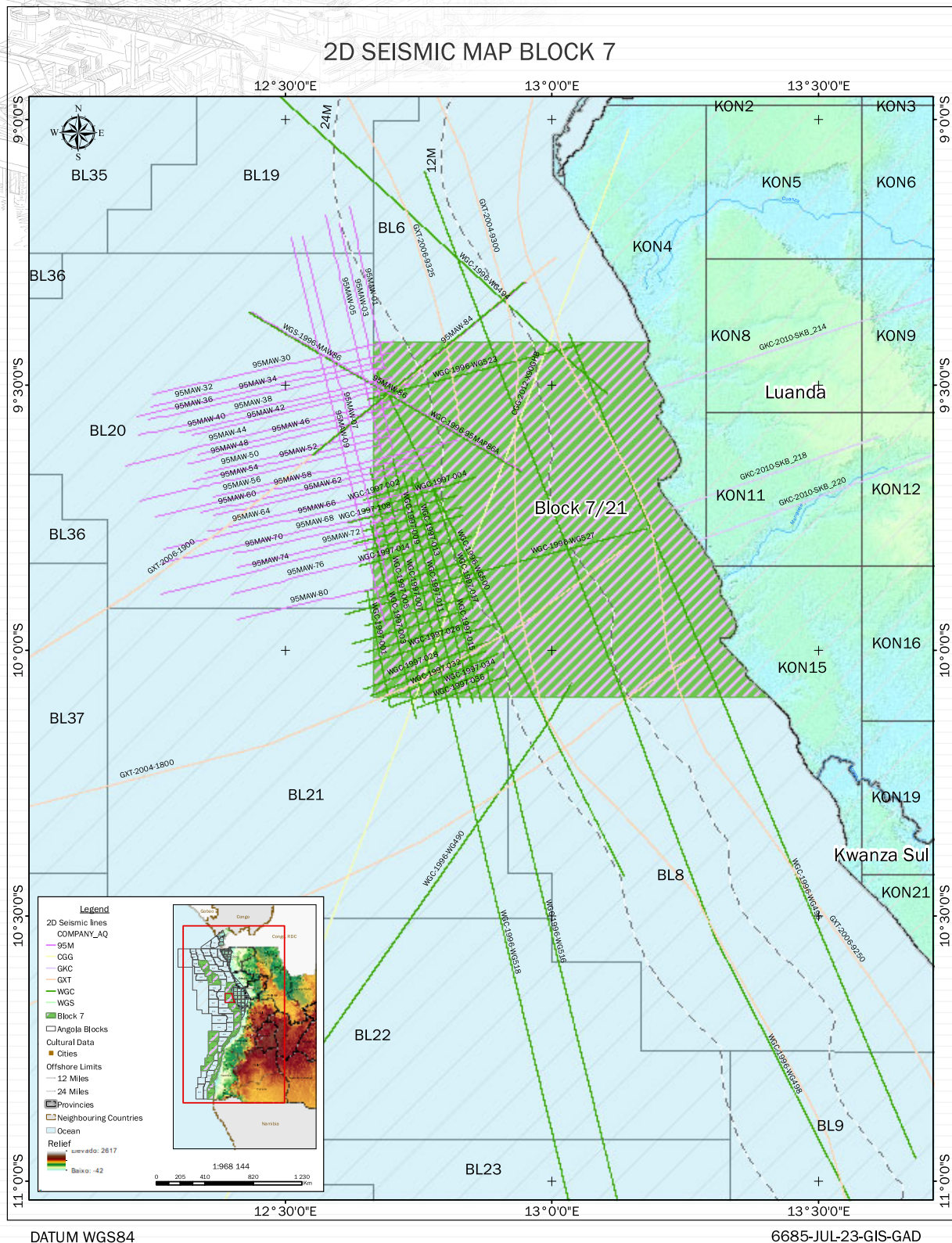
Block 7/21 has 2D seismic coverage of approximately 5 816 km and 1 557 km² of 3D seismic.

The Pre-Salt Unit is characterized by the presence of structures such as horsts and grabens, strongly influenced by plate tectonics, during the pre-rift to rift periods. Possible reservoirs in this lithostratigraphic are formed and deposited on flanks and in structural highs (lucula sandstones, coquinas and microbial carbonates).

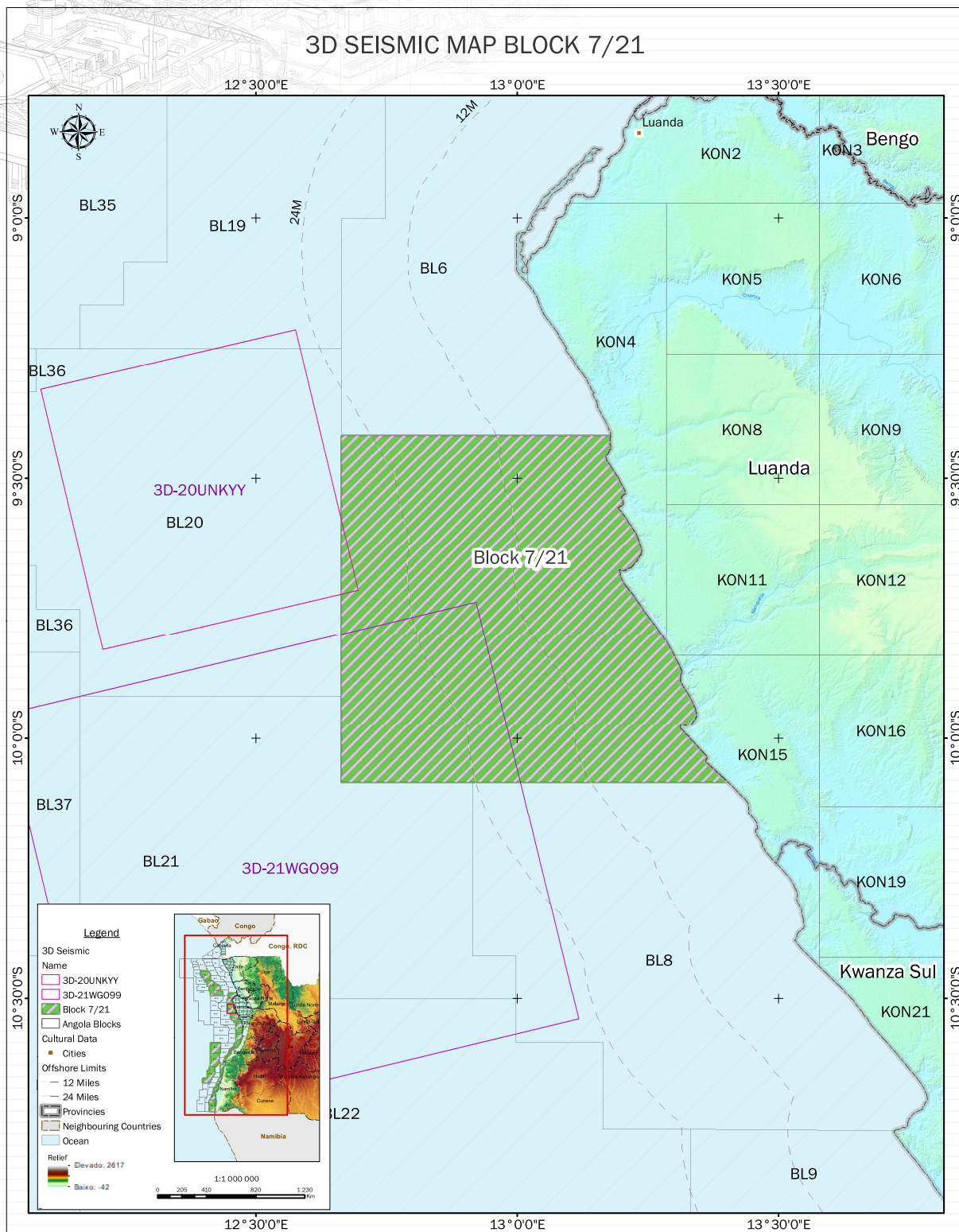
The source rocks were deposited in the structural lows, composed by a lacustrine silt-clay and carbonate sequence.

In the Post-Salt, the presence of raft-like structures (turtle shell) of Albian age are visible, strongly influenced by salt tectonics, and formation of listric growth faults. Antiforms and synforms structures from upper Cretaceous to Tertiary are also observed. At the Tertiary level, turbidite channels equivalent to those tested and proven in the Lower Congo Basin are evident.





2D Seismic Coverage Map



3D Seismic Coverage Map

BLOCK 8/21

Block 8 is localized in offshore Kwanza Basin, in an area close to 4 835 Km² where the water depth ranges from 30 to 600 m.

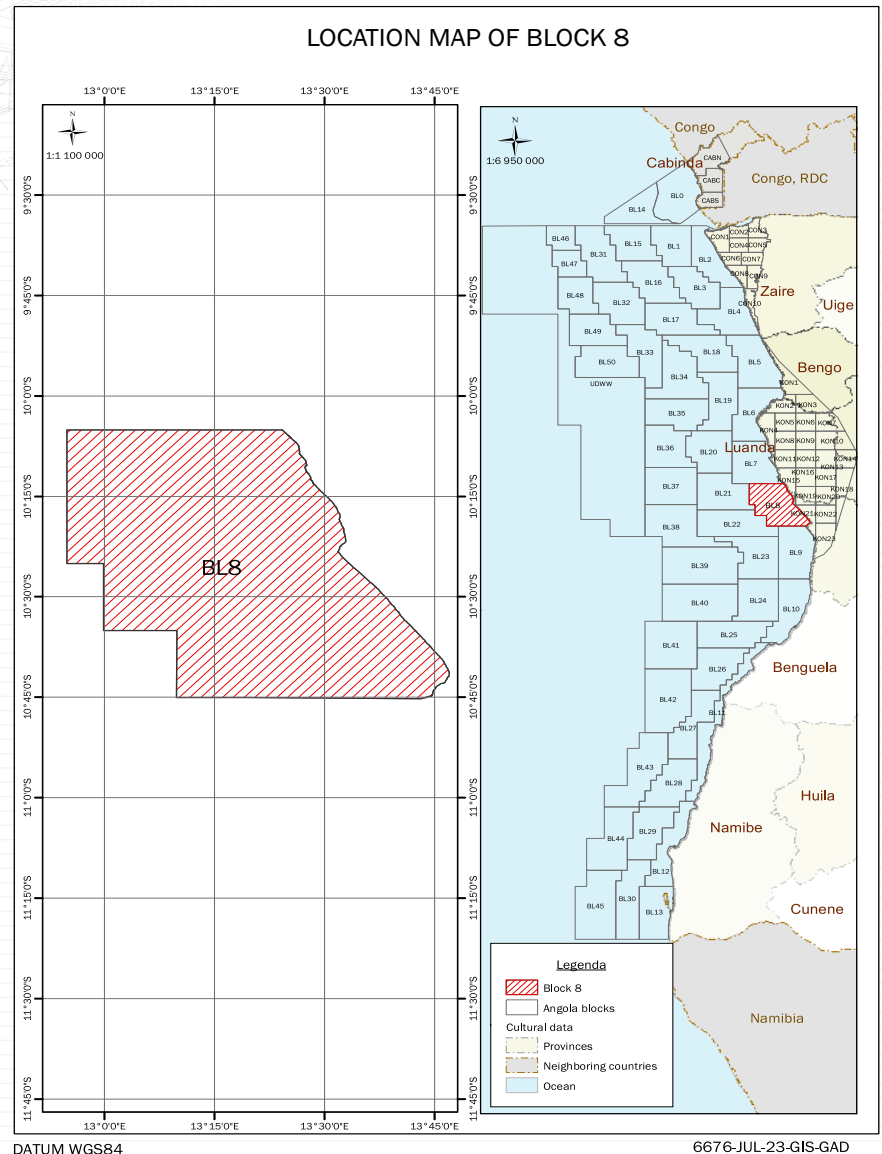
Block 8/21 is flanked by:

- North by block 7
- South by blocks 9 and 22
- East by blocks KON15 and KON21
- West by blocks 21 and 22.

Block 8/21 has 2D seismic coverage of approximately 5 376 km and 1 200 km² of 3D seismic.

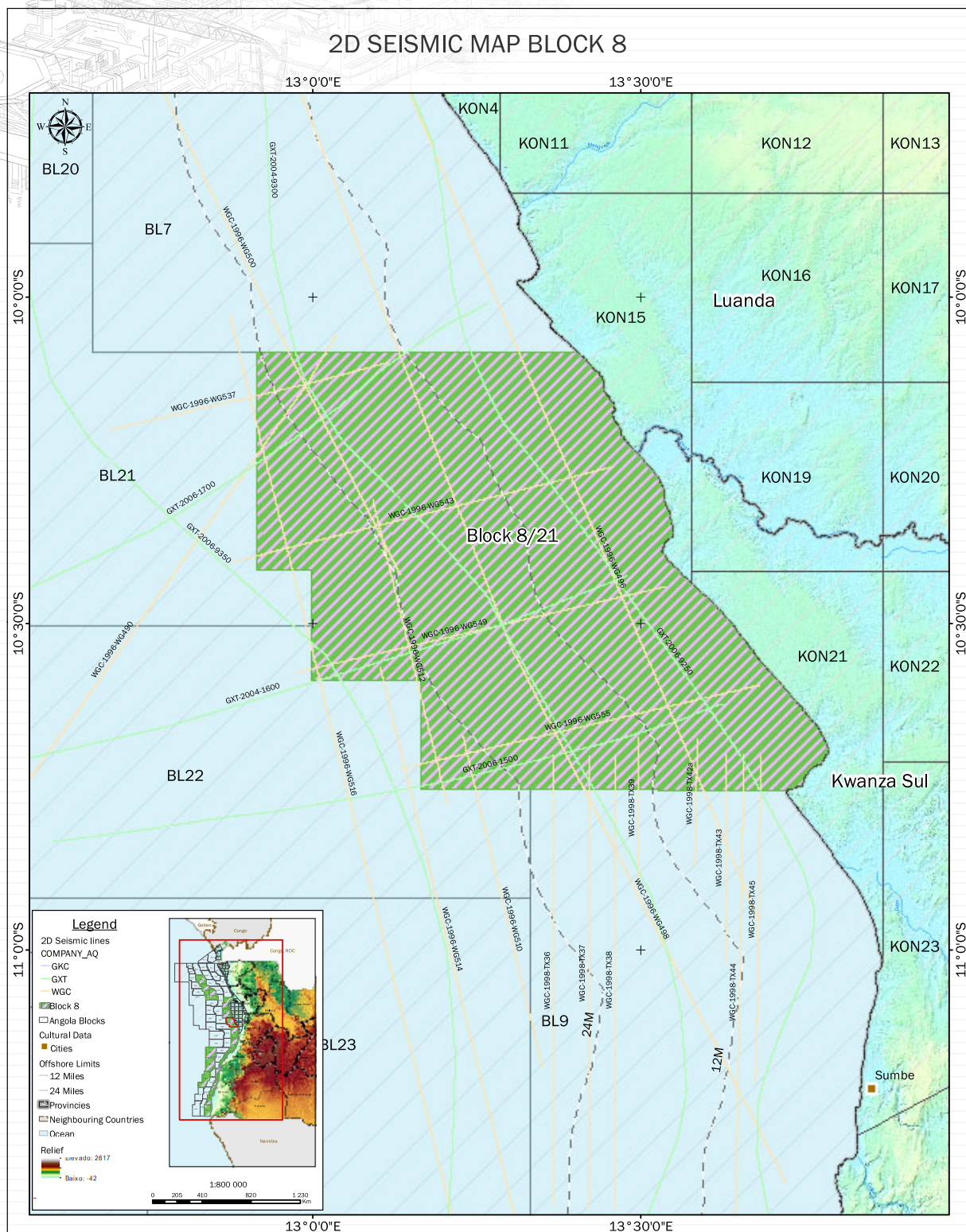
2 wells drilled (Ametista-1 and Berilio-1, in Oligocene, Albian and Pre-salt).

The geological model is characterized by a normal fault system on the basement forming horsts and grabens structures. In the grabens, sapropelic sediments rich in organic matter from the Cuvo Vermelho Formation were deposited forming the main pre-salt source rock.

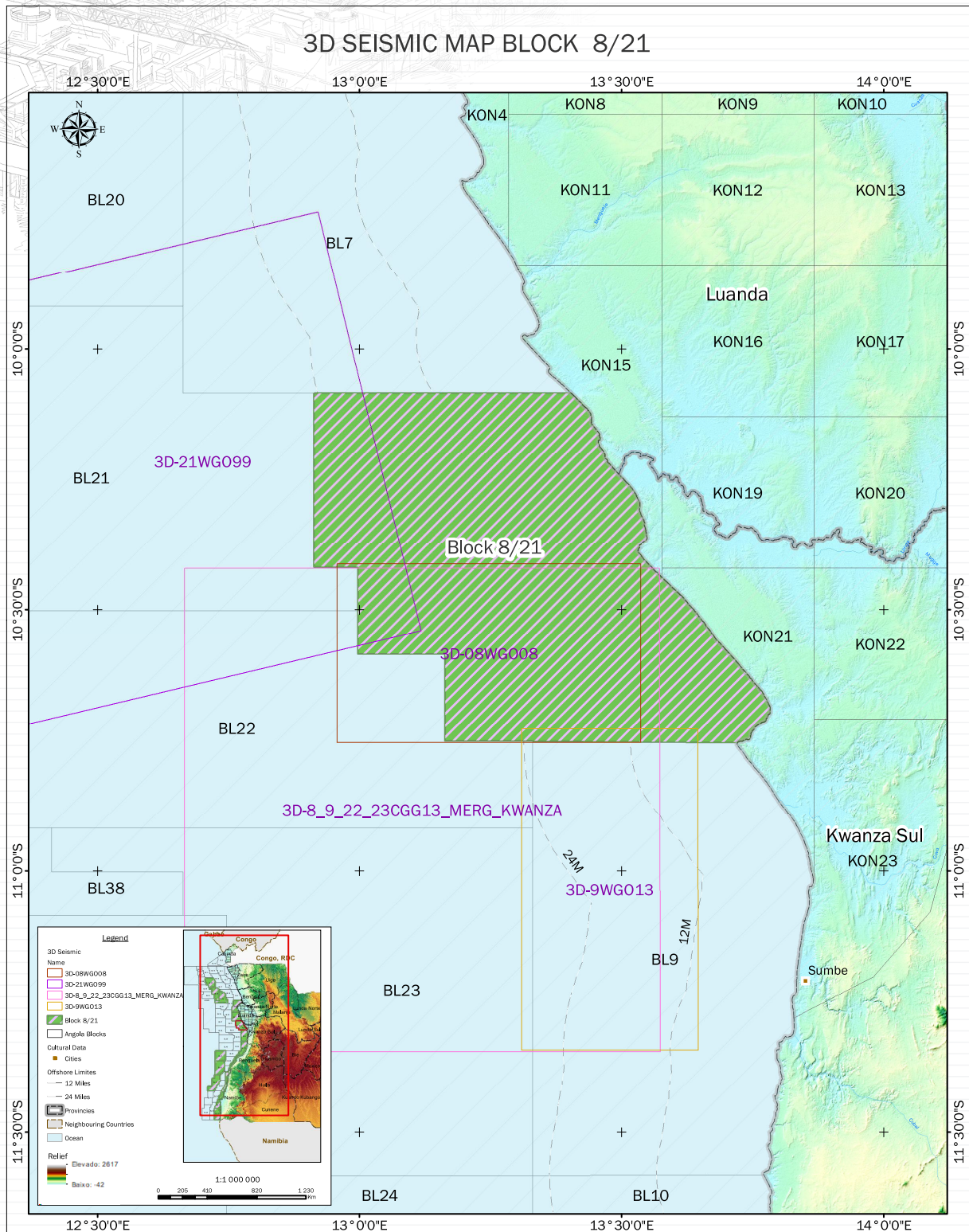


On the top of horsts, lacustrine carbonates equivalent to the Lower Congo Basin Toca Formation were deposited while on its flanks were deposited sandstone sediments in pinch out against fault planes, the probable reservoirs of the Erva Formation Equivalent.

The domes and diapirs of the salt layer, responsible for the post-salt structuring can act as a seal at this level. The Albian is characterized by syndepositional normal growth faults, anticlinals, rafts and salt walls structures. The Upper Cretaceous is characterized by faults resulting from the salt movement. The Tertiary is less faulted with a clastic sedimentation where possible reservoirs constituted by the Oligo-Miocene turbidite channels can be found.



2D Seismic Coverage Map



3D Seismic Coverage Map

BLOCK 9/21

Block 9/21 localized in offshore Kwanza Basin, in an area close to 4 001.36 Km² where the water depth ranges from 0 - 1000 m.

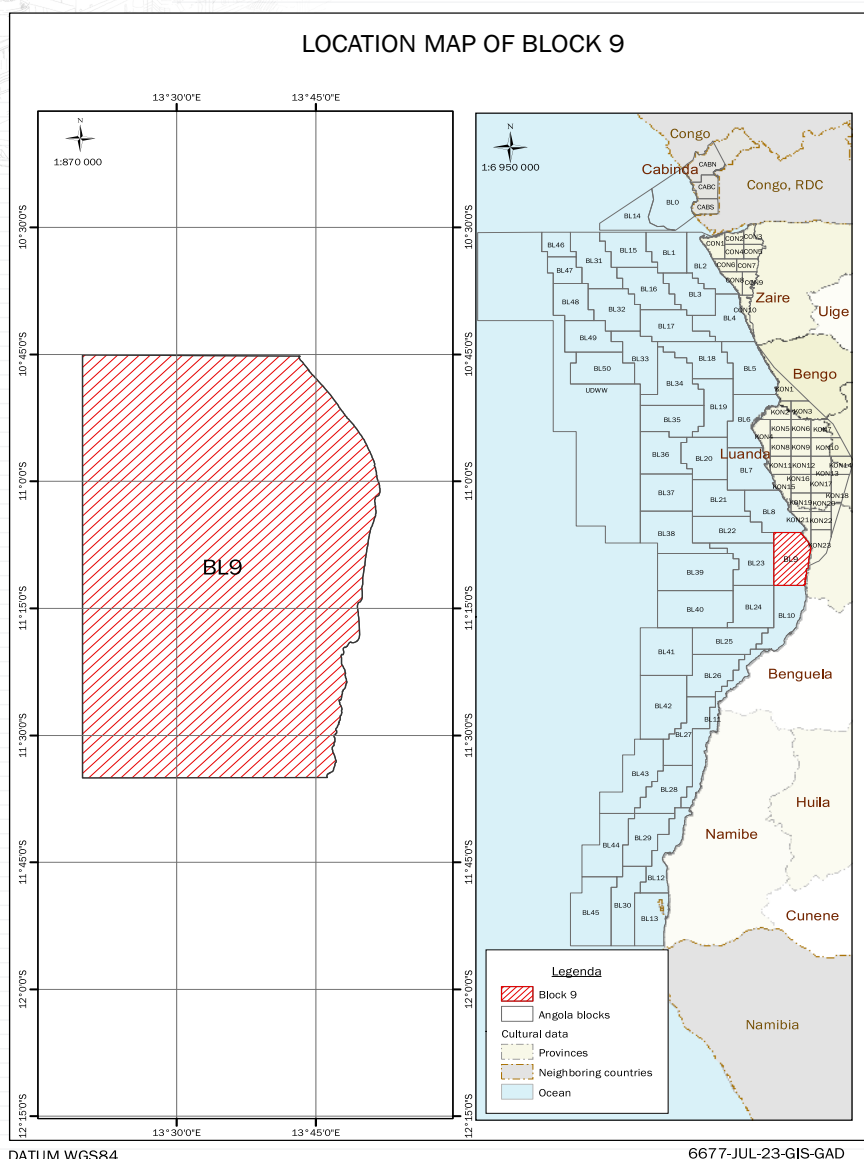
Block 9/21 is flanked by:

- North by block 8;
- South by block 10;
- East by blocks KON 21 and KON 23;
- West by blocks 22 and 23.

Acquired 5 571 Km of 2D Seismic and 2 650 Km² of 3D Seismic data.

8 wells drilled (Múcua-1, Maboque-1, Abacaxi-1, Dendén-1, Pitanga-1, Goiaba-1, Jambo-1 and Loengo-1, in Tertiary, Albian and Pre-salt). Three discoveries (Maboque-1, 26.7 °API; Abacaxi-1, 20-25 °API and Denden-1, 25 °API).

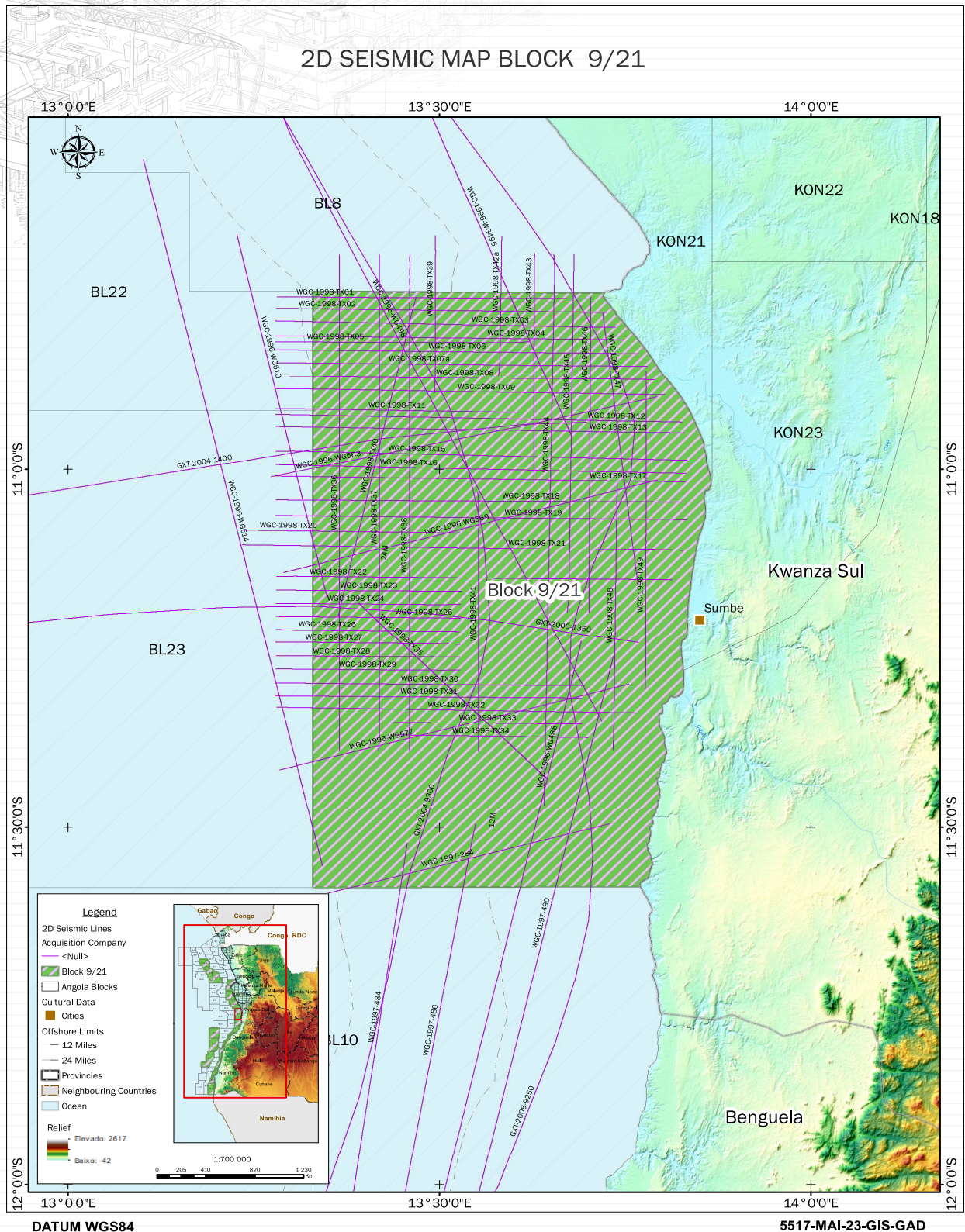
The geological model is characterized by a normal fault system on the basement forming horsts and grabens structures. In the grabens, sapropelic sediments rich in organic matter from the Red Cuvo Formation were deposited forming the main pre-salt source rock.



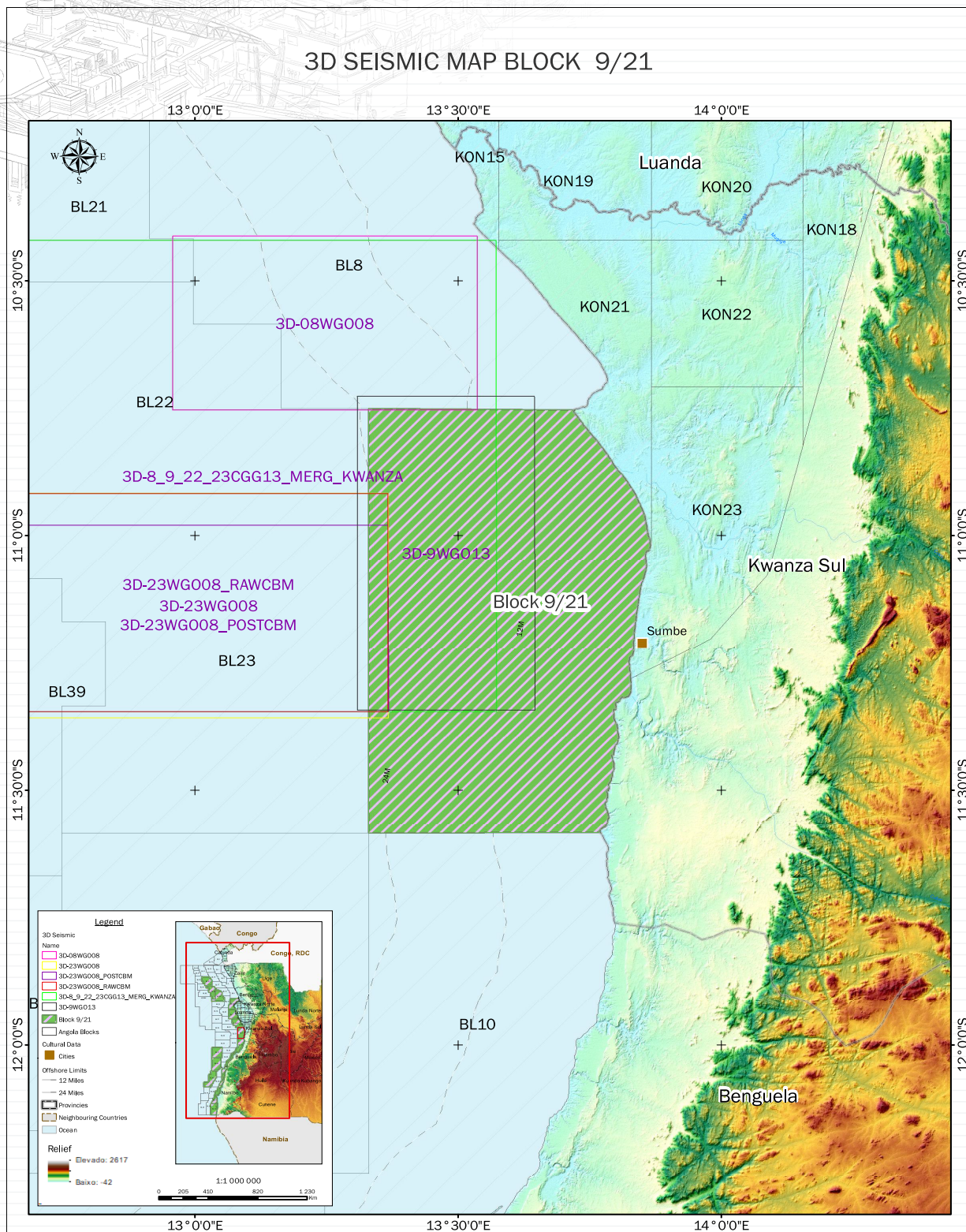
On the top of horsts, lacustrine carbonates equivalent to the Lower Congo Basin Toca Formation were deposited while on its flanks were deposited sandstone sediments in pinch out against fault planes, the probable reservoirs of the Erva Formation Equivalent.

The domes and diapirs of the salt layer, responsible for the post-salt structuring can act as a seal at this level. The Albian is characterized by syndepositional normal growth faults, anticlinals, rafts and salt walls structures.

The Upper Cretaceous is characterized by faults resulting from the salt movement. The Tertiary is less faulted with a clastic sedimentation where possible reservoirs constituted by the Oligo-Miocene turbidite channels can be find.



2D Seismic Coverage Map



3D Seismic Coverage Map

BLOCK 10

Block 10 is located to the west of Angola in the Maritime Basin of Benguela, south of the Kwanza onshore basin, in shallow waters with a water depth ranging from 0 to 475 m and a total coverage of approximately 4,780.00 km².

Block 10 is flanked by:

- North by Block 9;
- South through Block 11;
- East by the Province of Benguela;
- West through Blocks 24 and 25;

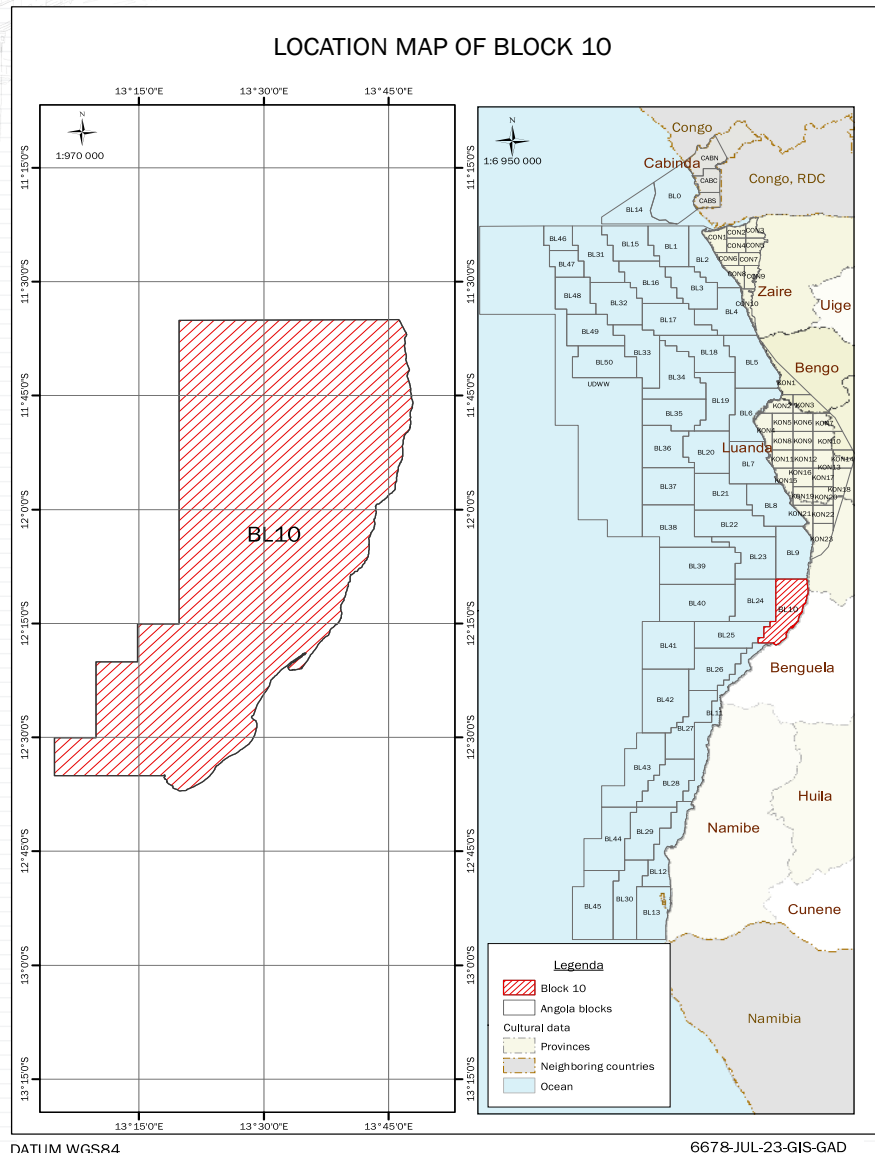
Block 10 has a 2D seismic coverage of approximately 1492 Km and 1180,99 Km² of 3D.

The Pre-Salt is characterized by geological structures resulting from a rift phase large-scale faulting that created structural highs (Horst) in the eastern part of the Block in which carbonates were deposited and by Grabens in the western part where organic rich clays were deposited.

The Post-Salt section in the Albian level is characterized by growth faults, rafts, semi rafts and rollovers to the west and anti-form structures to the East.

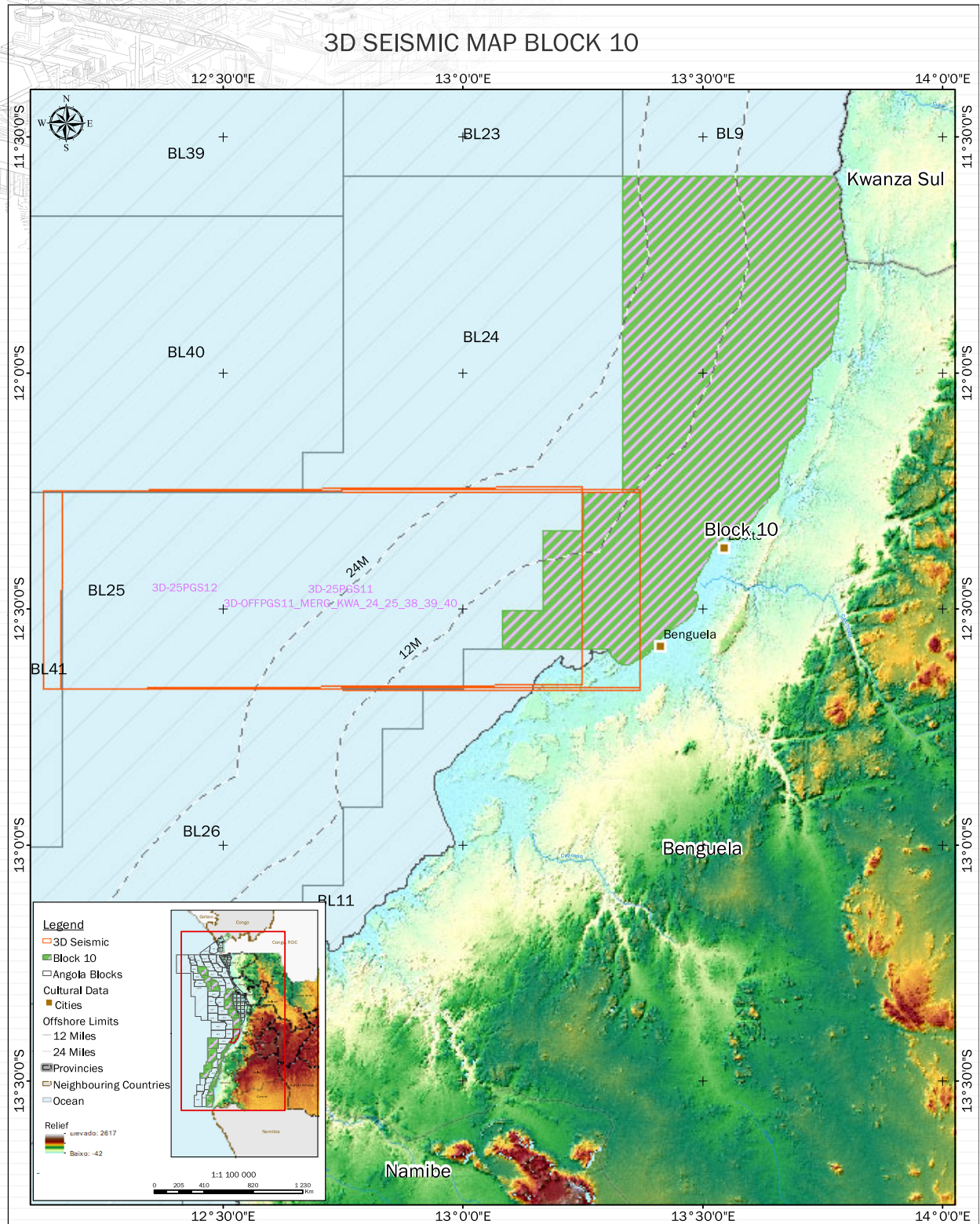
In the Tertiary we can observe extensional faults and arenitic channel complexes of Oligo-Miocene age, resulting from the turbidity current.

The re-evaluation of the block was conducted in order to identify new structures, confirm untested structures, as well as understand the failure of the two drilled wells.





2D SEISMIC MAP BLOCK 10



2D Seismic Coverage Map

BLOCK 11

Block 11 is located offshore Namibe Basin occupying an area of approximately 5.074Km², in a water depth ranging from 0 to 200 meters. The Block is adjacent to the Coast line.

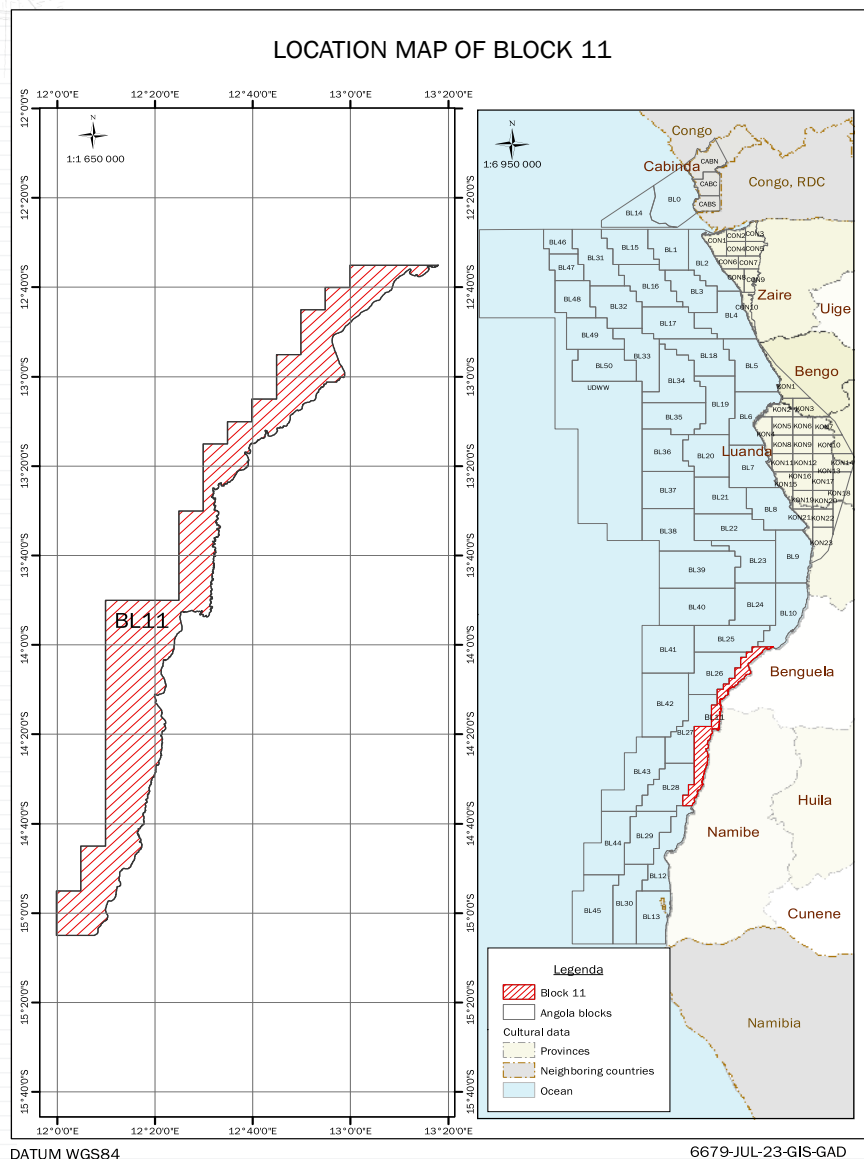
Block 11 It is flanked by:

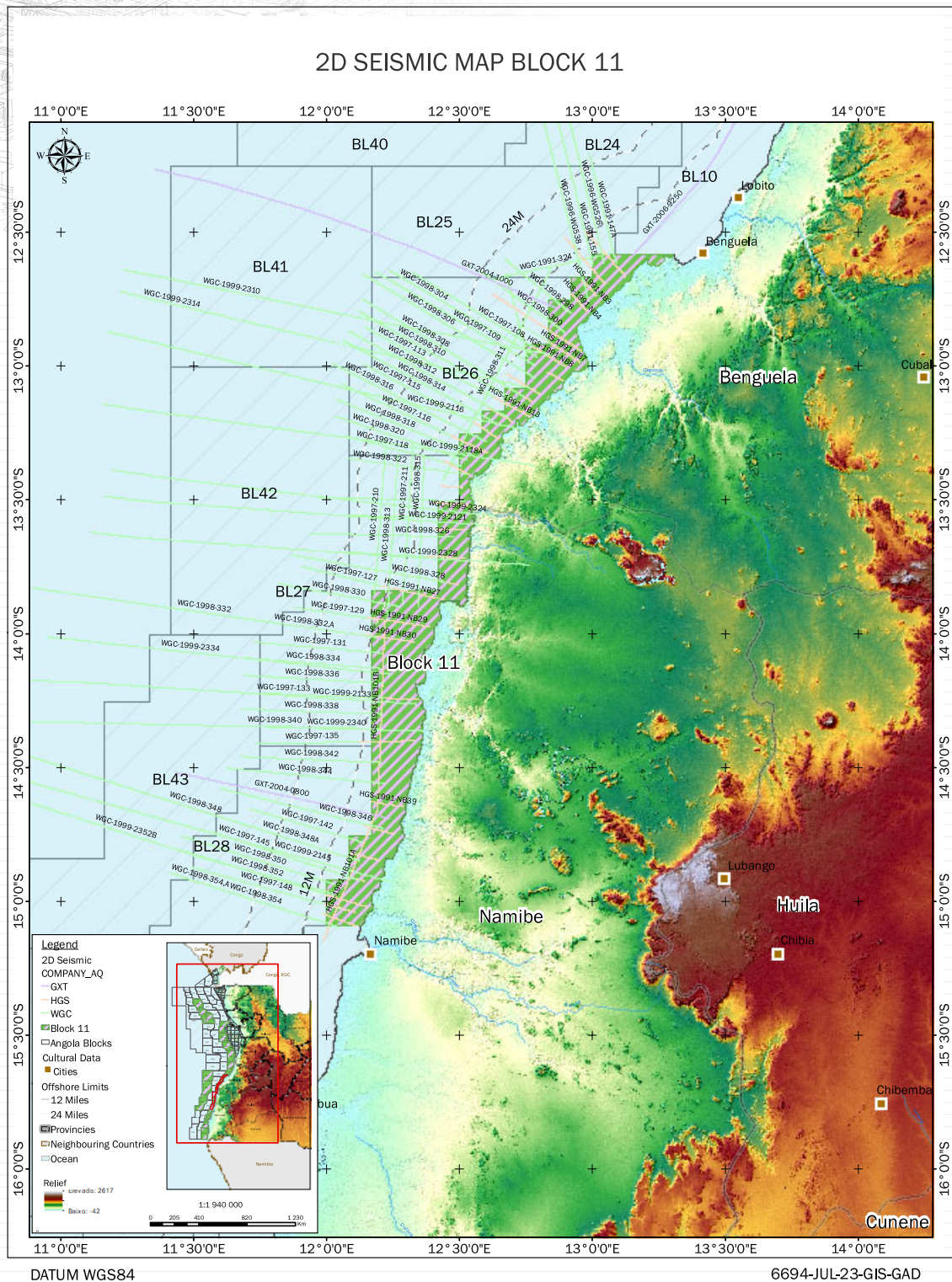
- North by Block 10
- South by Block 12
- East by Blocks 26, 27 and 28
- West by coast line.

Block 11 has a 2D seismic coverage of approximately 1492 Km.

The main tectonic events known in Block 11 observed from magnetometric (RTP) and gravimetric data (Bouguer anomaly of the public domain) as well as seismic are the Syn-rift and Post-rift phases of the Cretaceous to Recent age.

Pre-Salt geological structures are characterized by plate tectonics in the Rift phase, while in the Post-Salt period they are characterized by the salt tectonics of the post-rift phase, which created mound formations at the top of Cretaceous Horst and sandstone channels in the Oligo-Miocene interval.





2D Seismic Coverage Map

BLOCK 12

Block 12 is in the southern part offshore Namibe Basin, in central Angola. It has an area of approximately 4219.19 km² and water depth ranging from 0 to 400 meters.

Block 12 is flanked by:

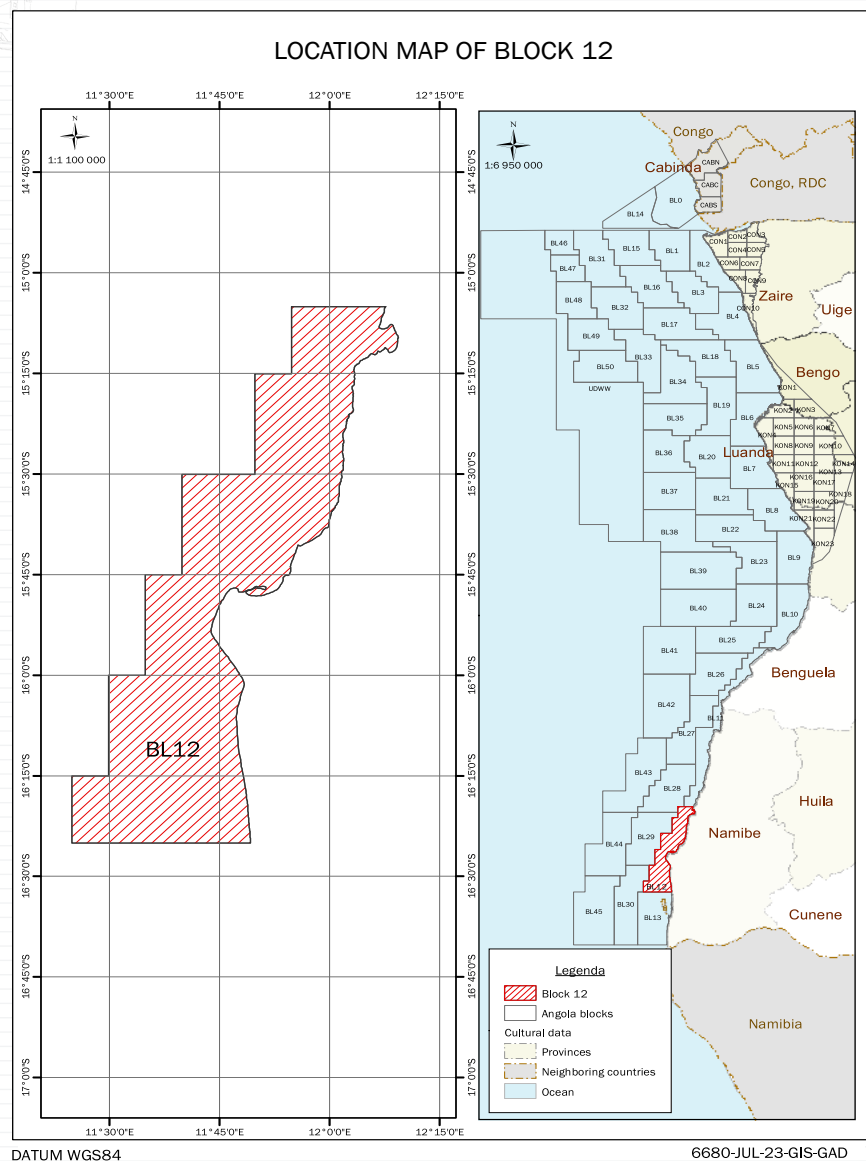
- North by Block 11;
- South by Block 13;
- East by the Coastline;
- West by Block 29.

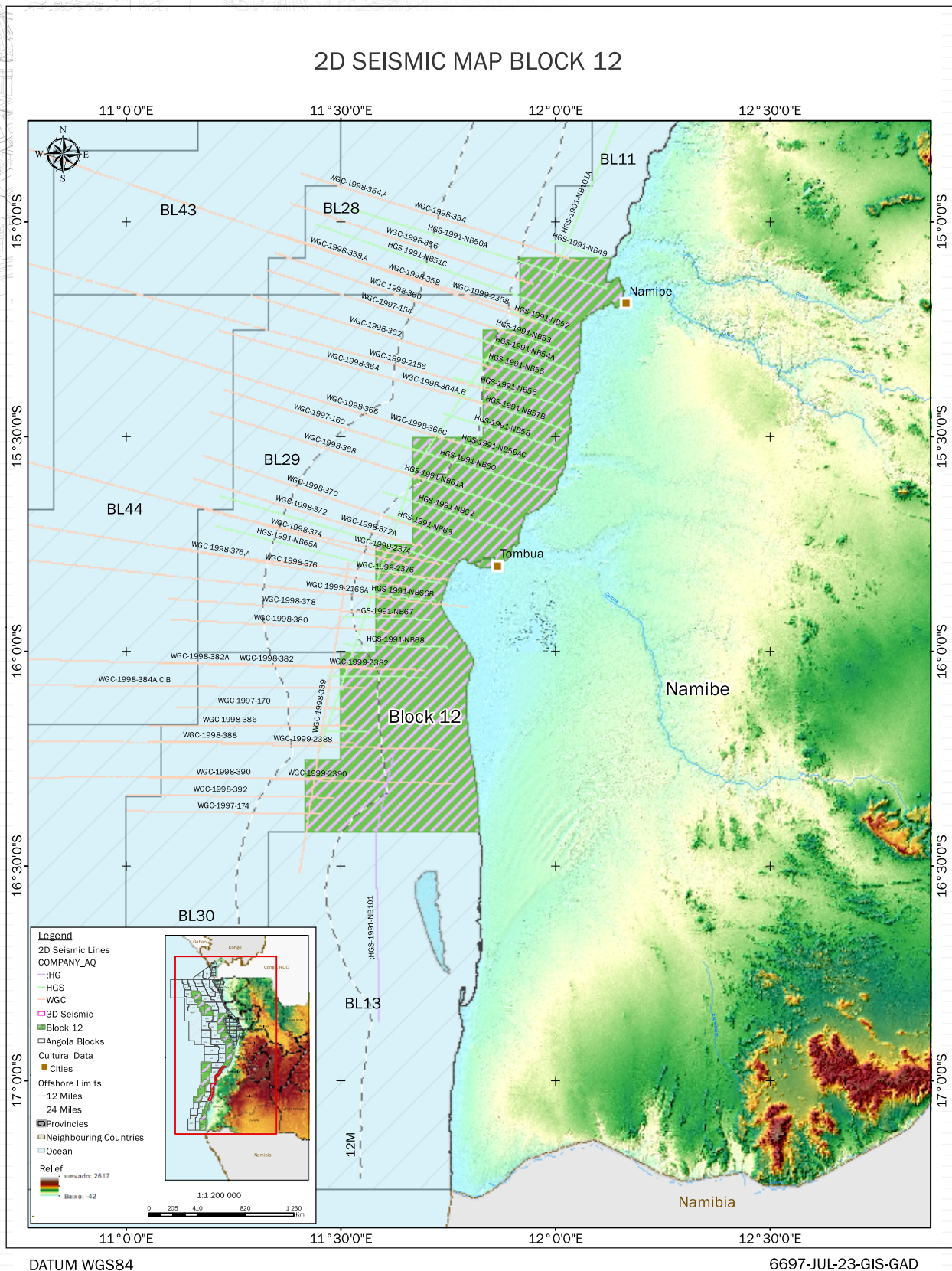
Block 12 has a 2D seismic coverage of approximately 1824 Km.

The main tectonic events observed in block from magnetometry (RTP), gravimetric and 2D seismic data indicate that geological structures in the pre-salt are characterized by a strong tectonism, resulting in the creation of Horsts and Grabens.

The structural highs (horsts) are associated with the formation of mound shaped carbonate reservoirs and sandstone channels in the fault planes. The organic-rich source rock from Cuvo Formation are found in the Grabens.

The post-salt section in the Albian and Upper Cretaceous is characterized by anti-forms, rafts, semi-rafts and growth faults, however, in the Oligo-Miocene interval, it is characterized by turbidites channels.





2D Seismic Coverage Map

BLOCK 13

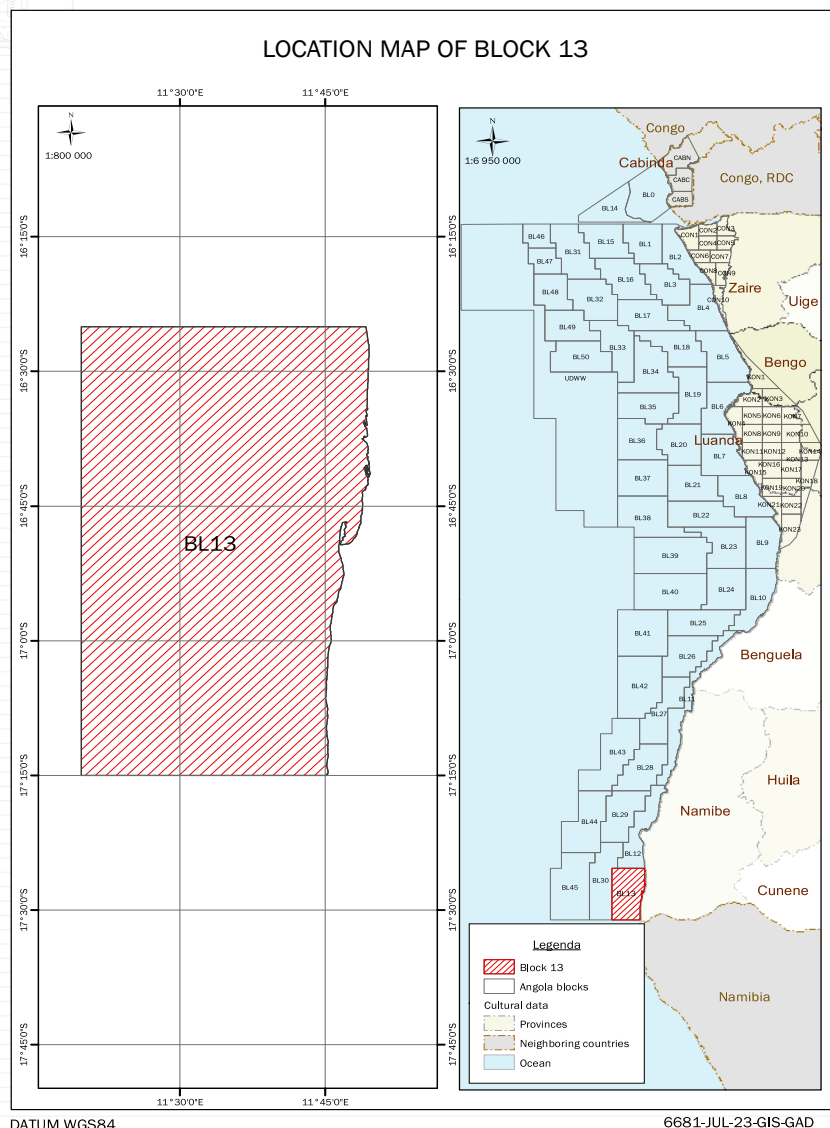
Block 13 is in the southern shallow waters offshore Namibe Basin, in a water depth ranging from 50 to 1 000 m. covering an area of approximately 4 513.30 km².

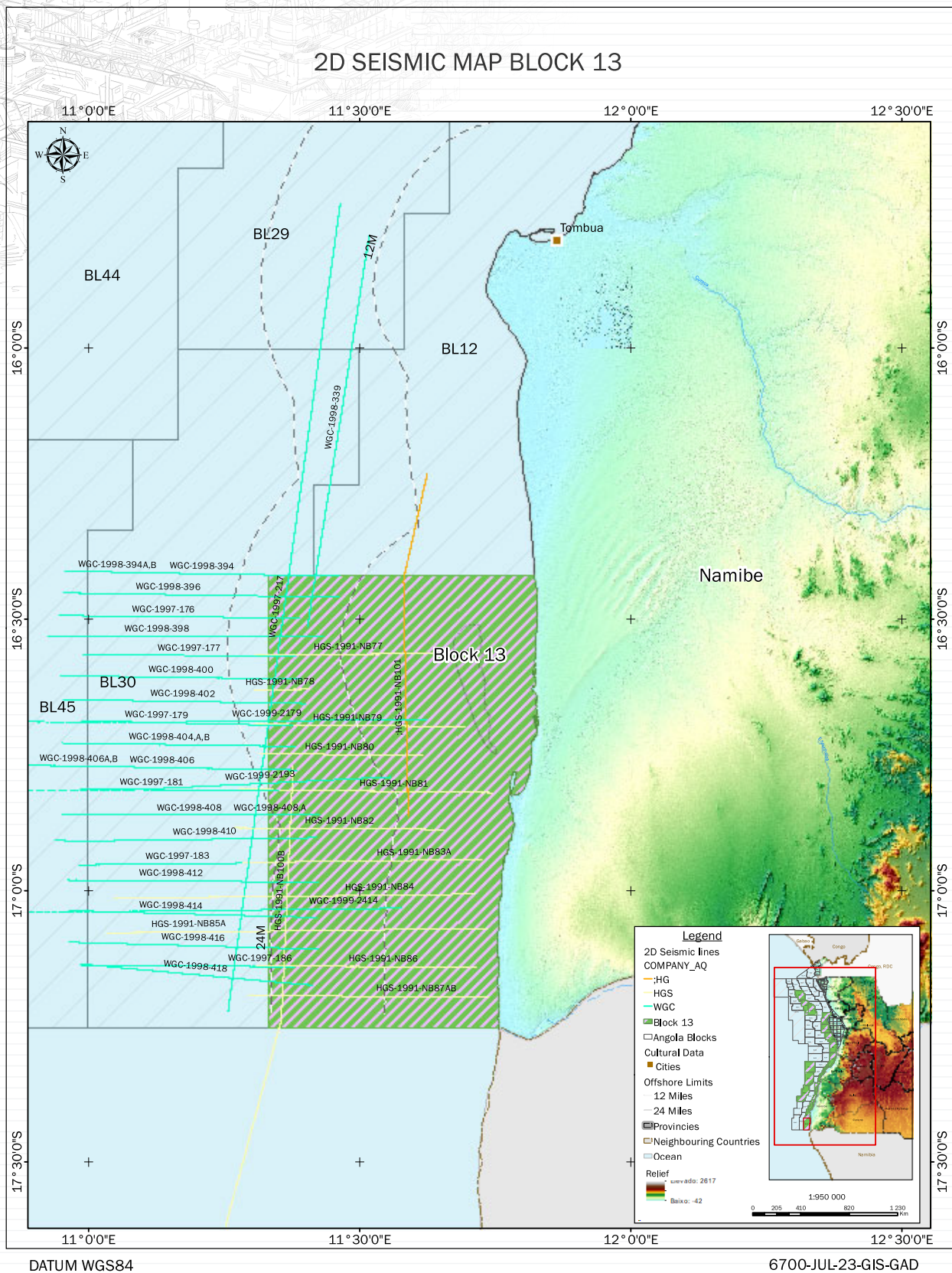
Block 13 is flanked by:

- North by Block 12;
- South by Namibian Offshore Basin;
- East by Namibe Onshore Basin
- West by Block 30.

Block 13 has a 2D seismic coverage of approximately 1742 Km.

The pre-salt play is characterized by a strongly faulted basement due to the very accentuated tectonism that originated the horsts and grabens as can be observed from the integration of magnetometry (RTP), gravimetry (Bouguer anomaly of the public domain) and seismic data. The Pre-salt section is identified in seismic by possible mounds at the top of the horsts and pinch-out structures. The Post-salt is characterized by rafts and anticlines in the Albian and sandstone channels in the Oligo-Miocene interval.





2D Seismic Coverage Map

BLOCK 32/21

Block 32 is in the ultra-deep waters offshore Congo Basin, in central Angola. It has an area of approximately 5 089 km² and water depth ranging from 1500 to 2500 meters.

Block 32 is flanked by:

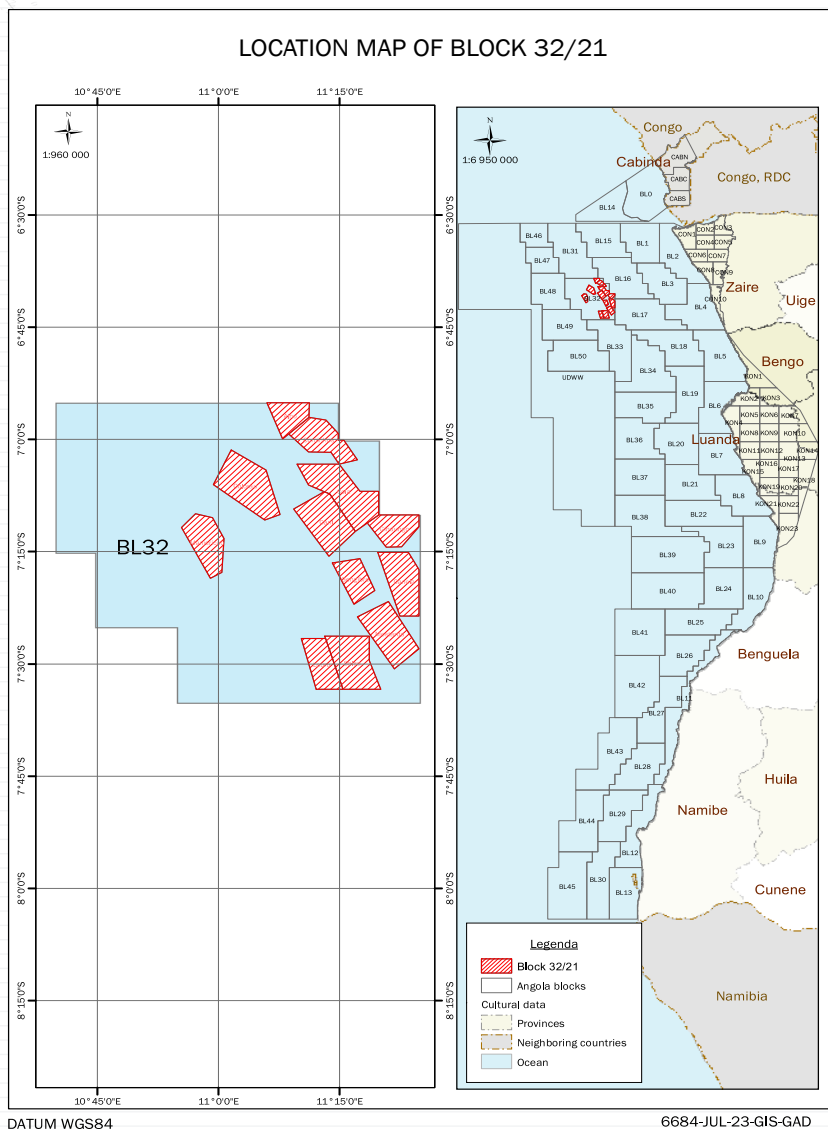
- North by Block 31;
- South by Block 33;
- East by Block 16 and 17;
- West by Blocks 48.

Regarding existing seismic, the Block has coverage of 2 502,37 km² 2D seismic, 13,832 km² of 3D seismic and approximately 1,435 km² of 4D seismic.

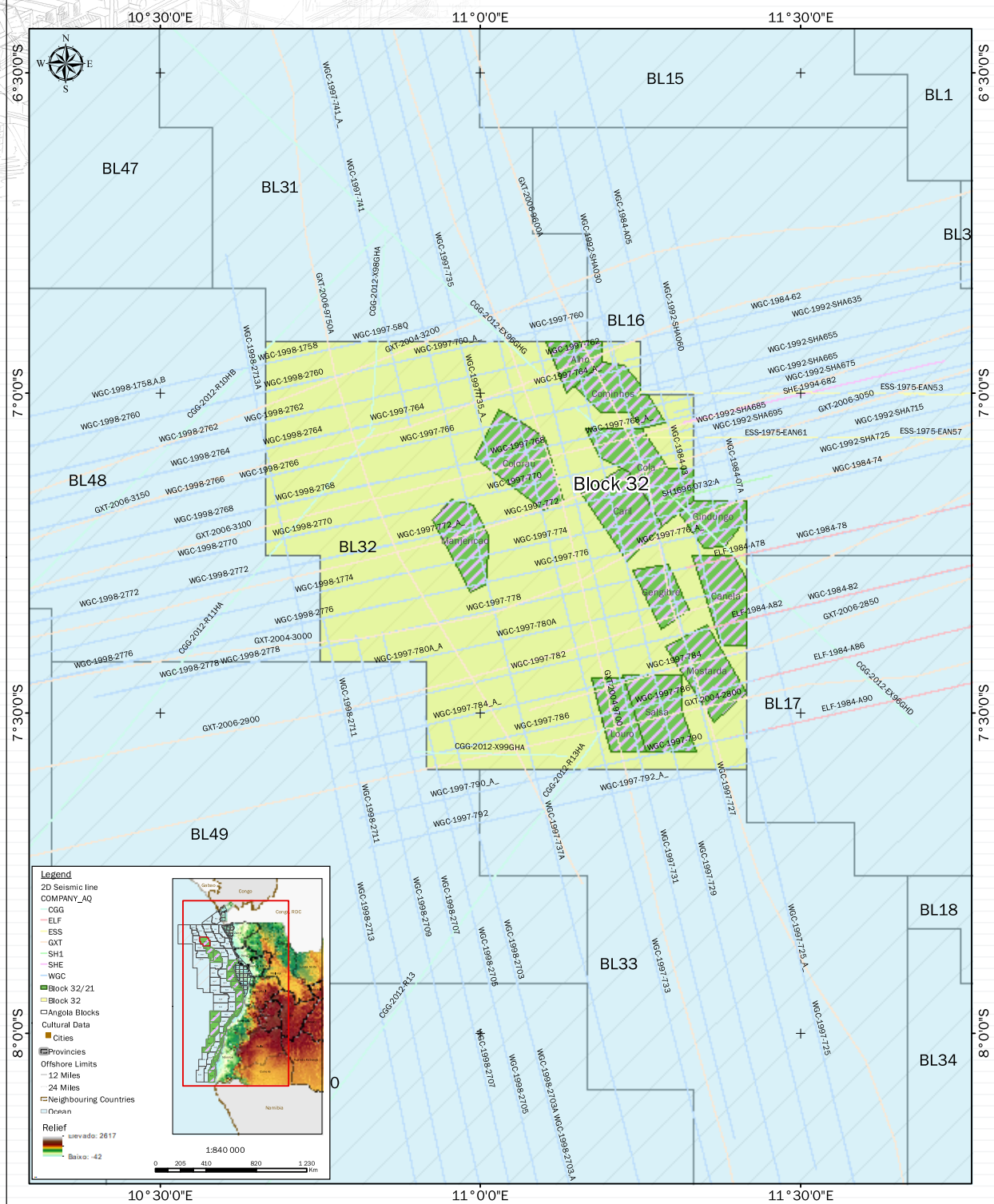
The main tectonic events observed in block from magnetometry (RTP), gravimetric and 2D seismic data indicate that geological structures in the pre-salt are characterized by a strong tectonism, resulting in the creation of Horsts and Grabens.

The block is characterized by a normal fault system on the basement forming horsts and grabens structures at the pre-salt level. On the grabens, sediments rich in organic matter from the Bucomazi Formation were deposited, on the top of horsts were deposited lacustrine carbonates from the Toca Formation while at its flanks were deposited sandstone sediments in pinch out, the Lucula formation.

The Loeme Formation is responsible on the strong post-Salt structuring and acts as a seal. The Albian is characterized by normal listric growth faults generating antiform structures. Tertiary is marked by post-depositional extensional faults and by turbidite channels as reservoirs.



2D SEISMIC MAP BLOCK 32



2D Seismic Coverage Map



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Blocks in Permanent Offer Regime | 27

BLOCK 33/21

Os located in ultra-deep waters on the North Lower Congo Basin, with a depth of 2 000 – 2 500 m. It has an area of approximately 4 925 km².

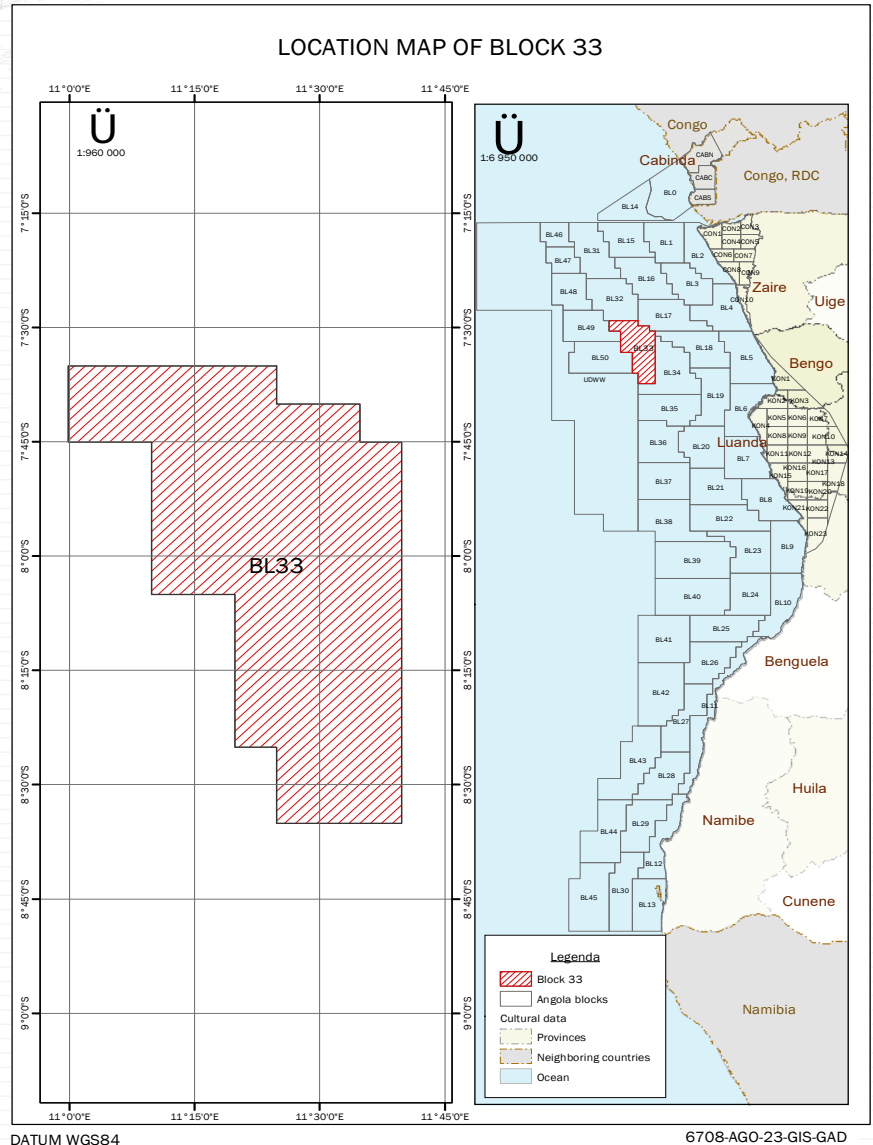
Block 33/21 is flanked by:

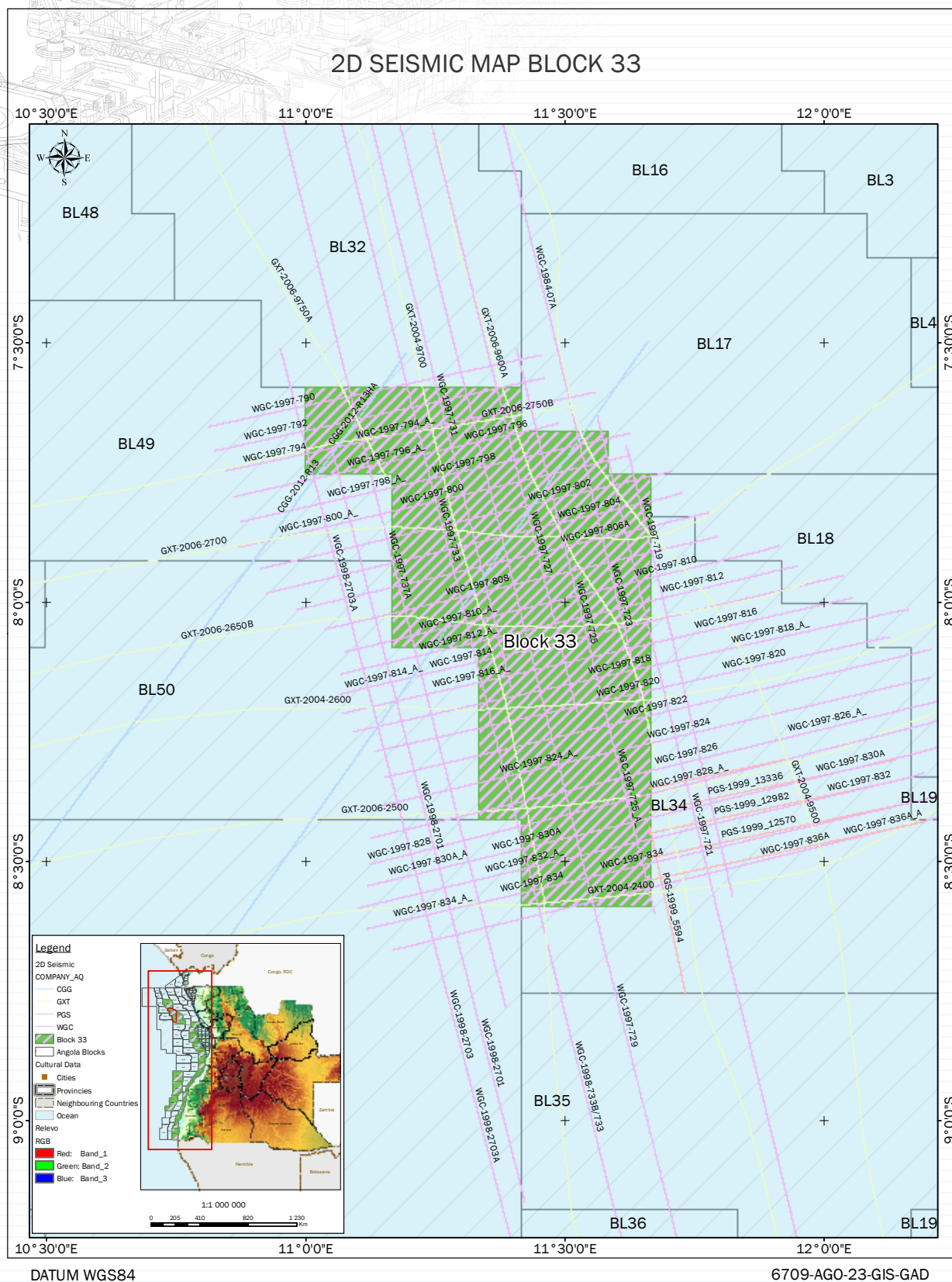
- North by Blocks 17 and 32;
- South and East by Block 34;
- West by Blocks 49 and 50.

Block 33/21 has a 2D and 3D seismic coverage of approximately 2570 km and 74450,78 km² respectively and 6 exploration wells.

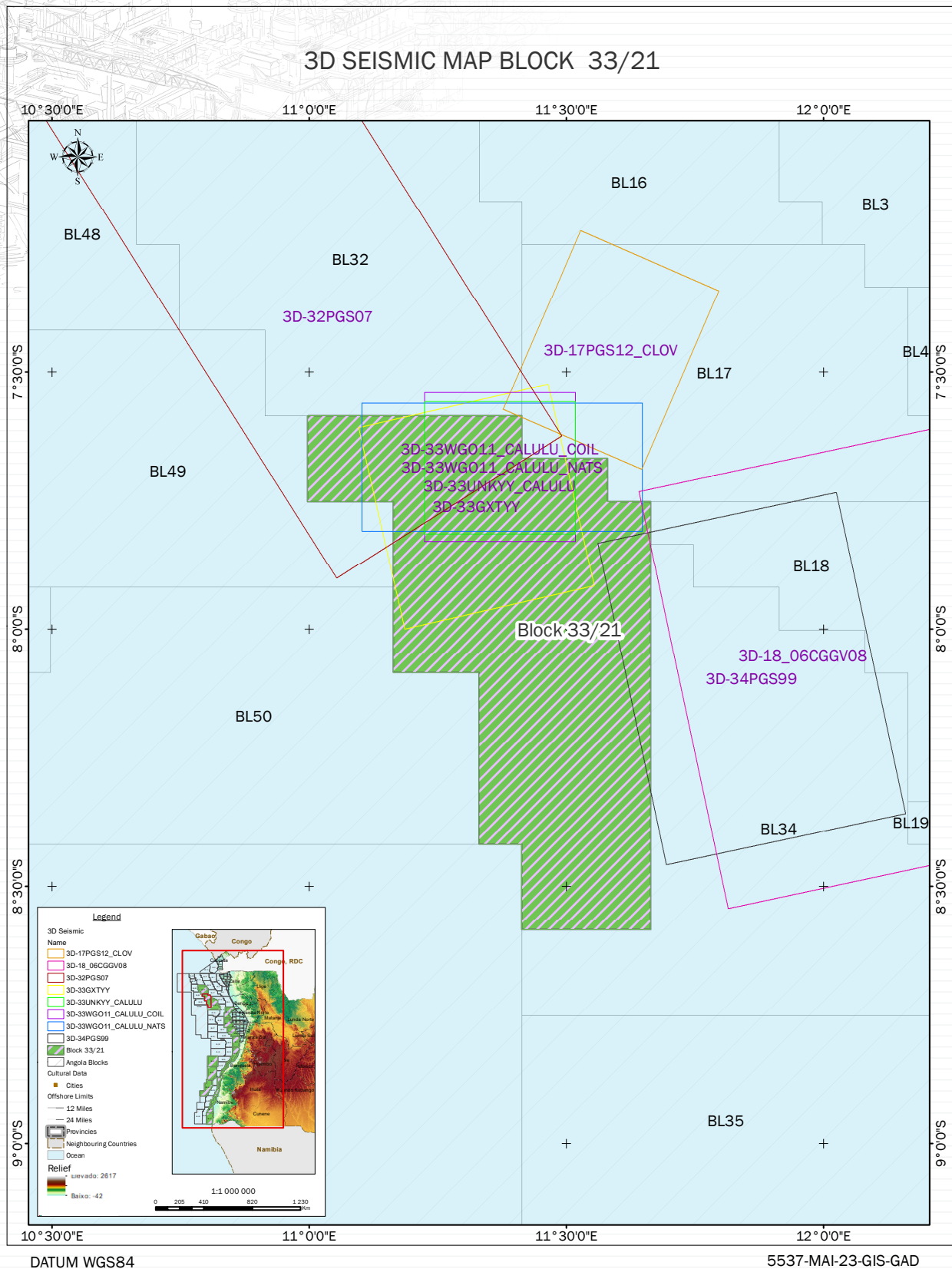
Is characterized by normal fault system on the basement forming horsts and grabens structures at the pre-Salt level. At the bottom of the grabens, sediments rich in organic matter from the Bucomazi Formation were deposited, at the top of horsts were deposited lacustrine carbonates from the Toca Formation while at its flanks were deposited sandstone sediments in pinch out, the Lucula Formation.

The Loeme Formation (salt), with strong tectonic influence generated salt walls that contributed to the post-Salt structuring. The Albian is characterized by normal listric growth faults generating antiform structures. Tertiary is marked by post-depositional extensional faults and by turbidite channels as reservoirs.





2D Seismic Coverage Map



3D Seismic Coverage Map

BLOCK 34/21

Block 34 is located in the west of Angolan Offshore, in the Lower Congo Basin within an approximate area of 5 934 km² and a water depth ranging from 1 500 to 2 800 m.

Block 34/21 is flanked by:

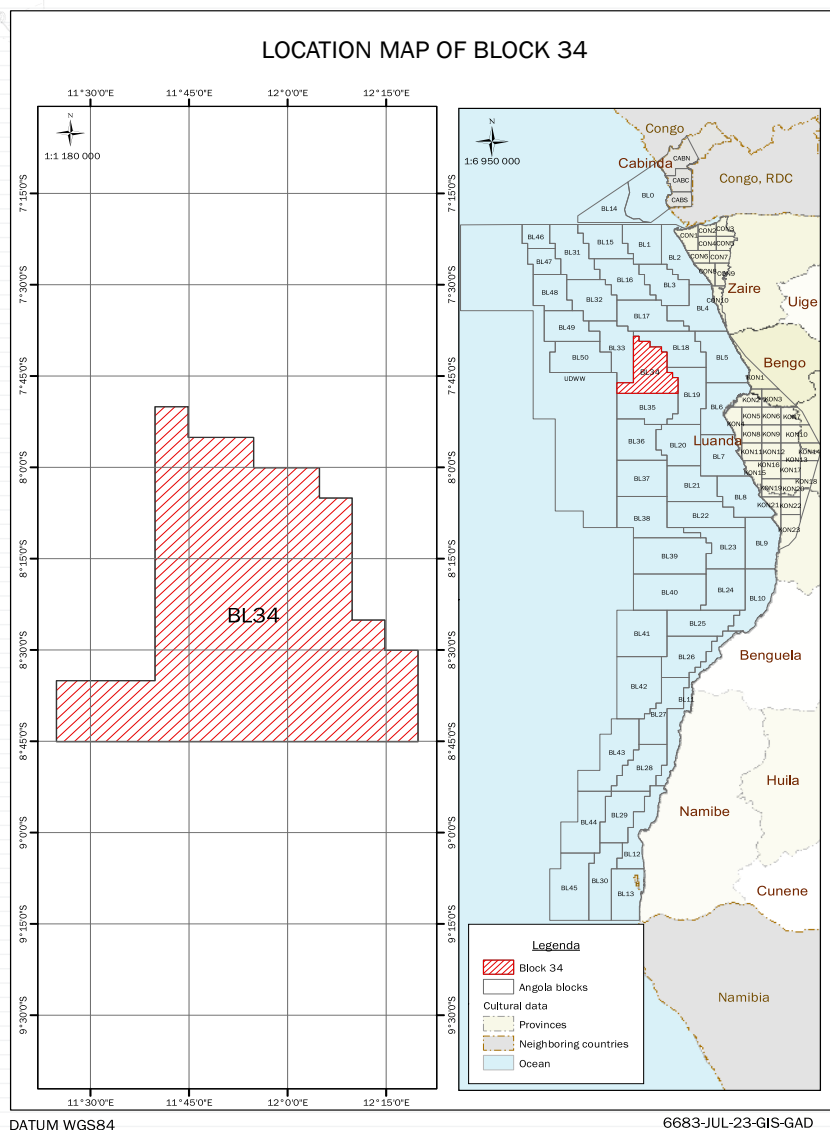
- North by Block 18;
- South by Block 35;
- East by Blocks 18 and 19;
- West by Block 33.

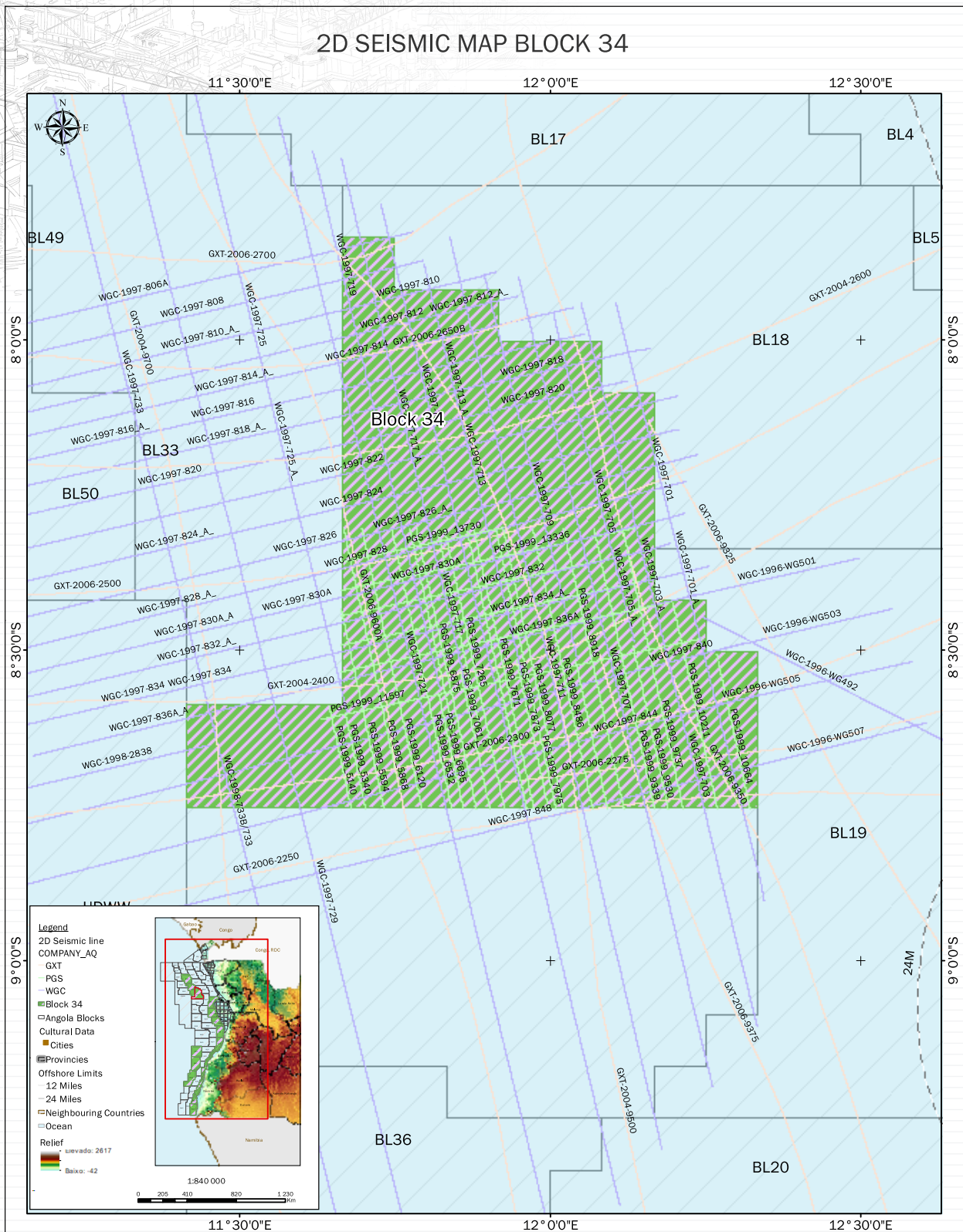
Block 34/21 has a 2D and 3D seismic coverage of approximately 2500km and 5662 km² respectively. Pre-Salt Unit is characterized by a faults eradicated in the basement system, that originated structures such as horsts and grabens.

In early Aptian occurs a salt layer deposition, the Loeme Formation, that provides a seal for the Pre-salt reservoirs meanwhile contributes to the Post-salt structuring.

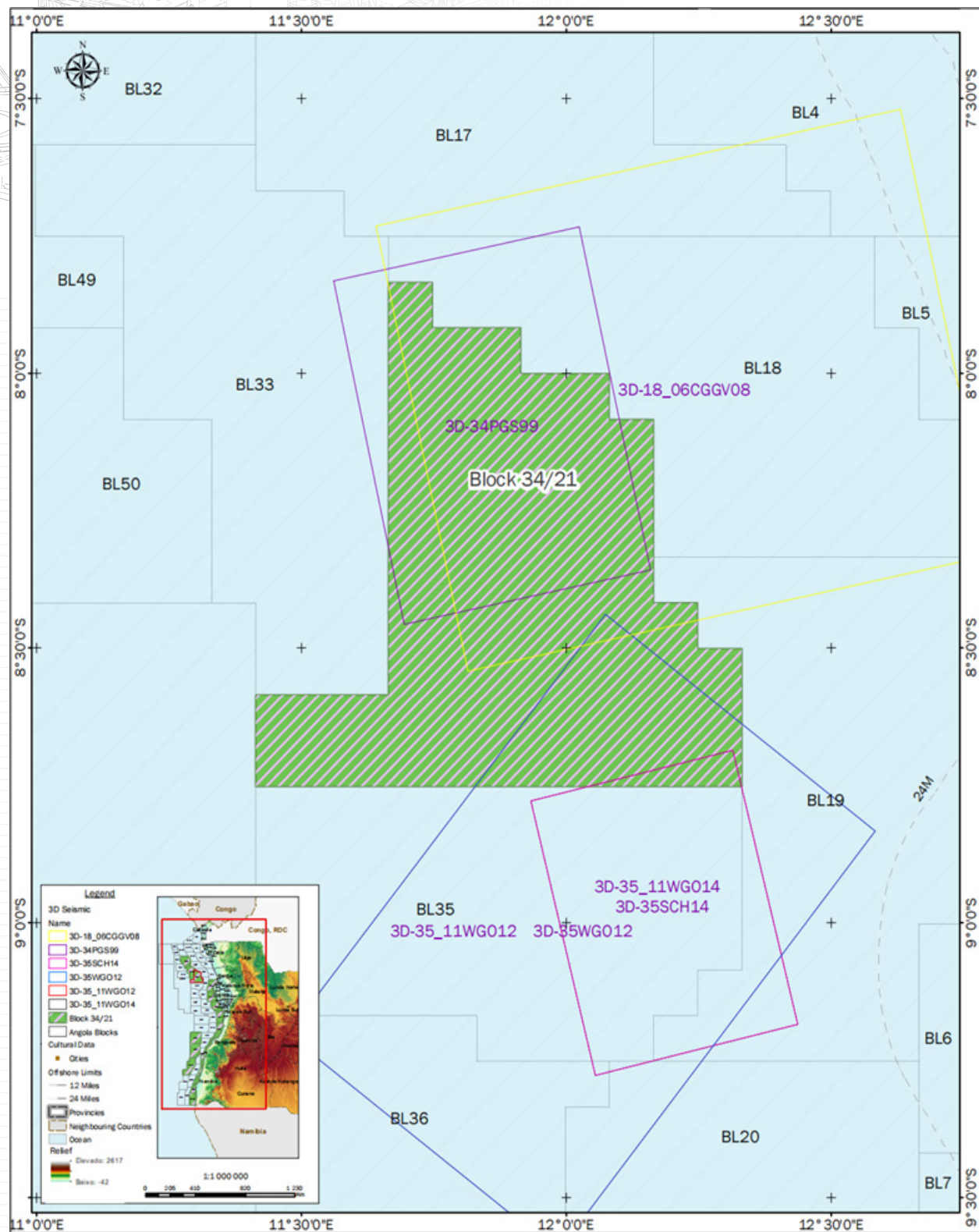
Post-Salt Unit is characterized by salt tectonics influenced sedimentation forming listric faults.

The post-Salt Albian play is characterized by carbonates, turtle-shell and raft structures and Oligo-Miocene play by turbiditic channels complexes and troughs.





2D Seismic Coverage Map



3D Seismic Coverage Map

BLOCK 43

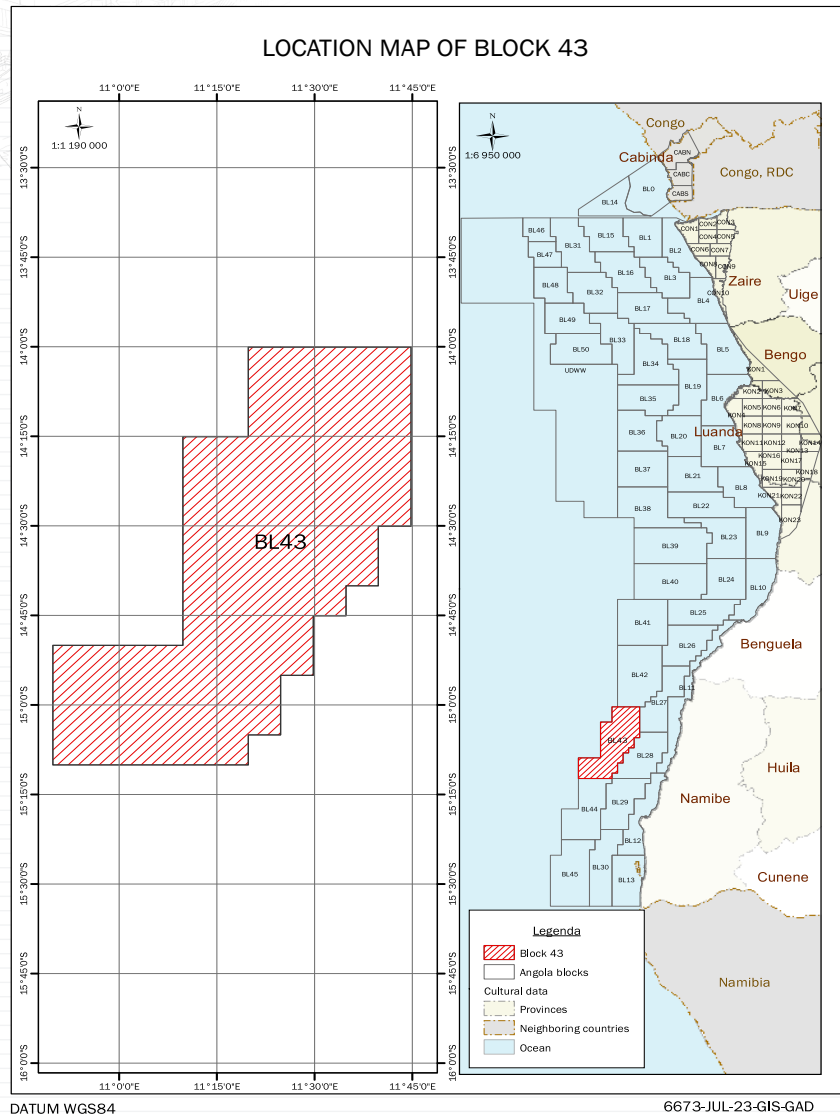
Block 43 is located in the northwestern part offshore Namibe Basin. It covers an area of approximately 7067,12 km² in a water depth that ranges from 2500 to 3000 meters

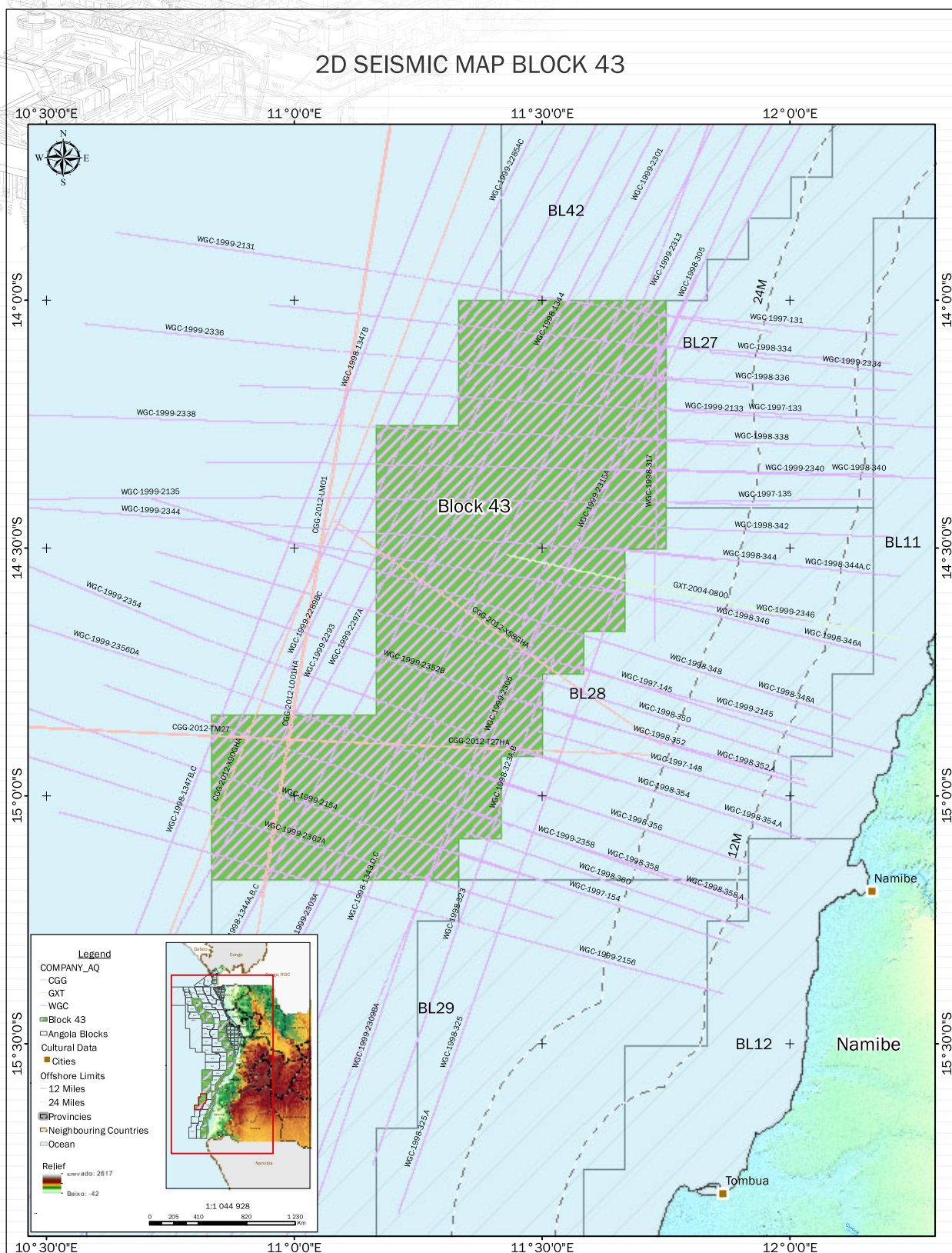
Block 43 is flanked by:

- North by Block 42;
- South by Block 44;
- West by the Atlantic Ocean;
- East by Blocks 27 and 28.

Block 43 has a 2D seismic coverage of approximately 1544 Km.

The main tectonics events identified and known in the block aided by the integration of seismic data, magnetometry (RTP) and gravimetry (Bouguer Anomaly), made it possible to show the structural lows and highs in the Pre-salt level, where carbonates were deposited at the top of horsts, and continuous parallel reflectors in the grabens, made evident the presence of a source rock and sands in pinch-out like in the fault planes of the horsts. At the Post-Salt level, was identified the occurrence of Albian sediments and sandstones channels of Oligo-Miocene age forming stratigraphic traps.





2D Seismic Coverage Map

BLOCK KON9

Block KON9 is located in the Center of the Kwanza Onshore Basin, limited to the North by Block KON 6, to the East by Block KON 10, to the South by Block KON 12 and to West through Block KON 8. Area: 1,024 km²

Historic:

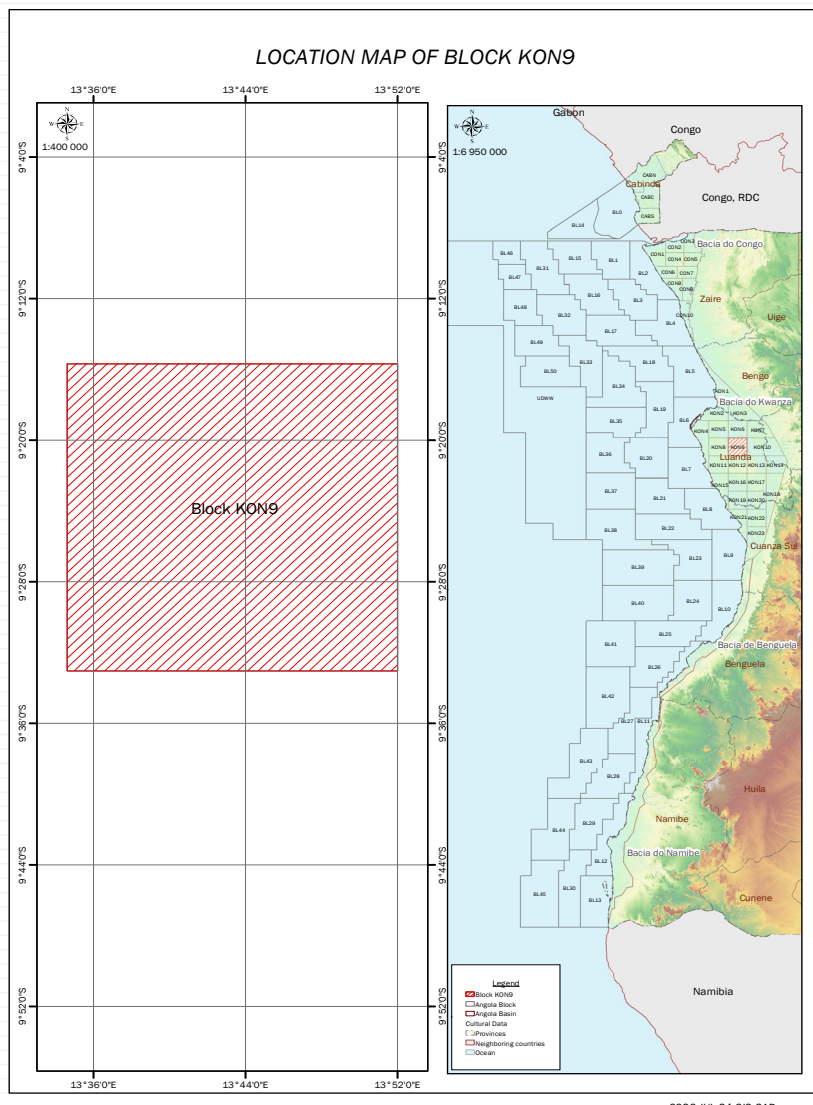
- 4 research wells were drilled
- 2D seismic: 227.70 km (PSTM), 70s and 106.05 km (PSTM/PSDM), 2010.

Comments:

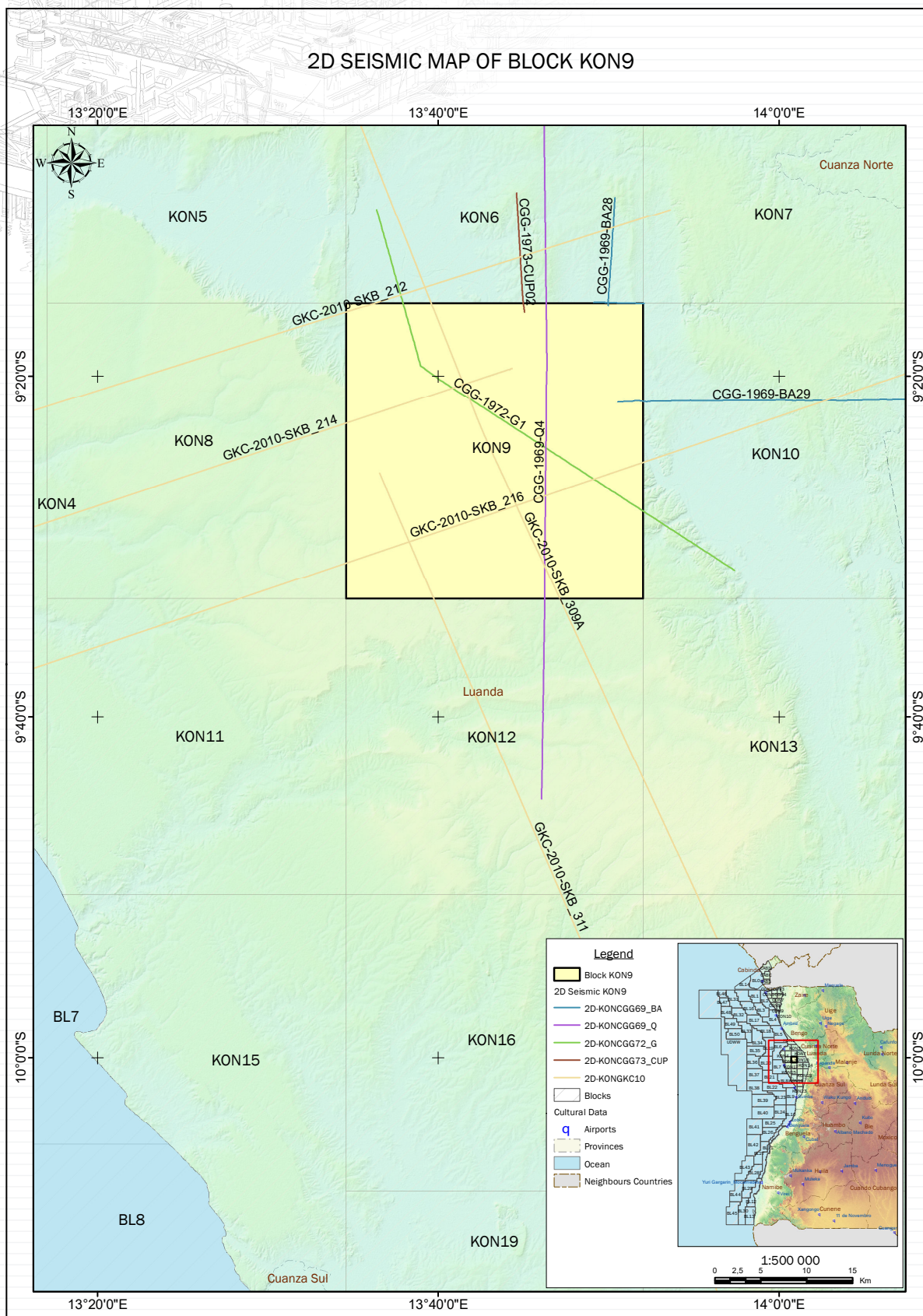
On the surface of Block KON 9, there are outcrops dating from the upper Cretaceous to recent ages. According to the geological model, the basement is characterized by normal faults that induced the formation of horsts and grabens.

The syn-rift sequence was deposited on these structures. The sag phase occurs locally as a result of the peneplanization of the Basin. The post-salt is thick and defined by anticlines.

The drilled wells reached final depths between 1,225 m and 2,434.60 m, two of which had signs of hydrocarbons at the Lower Cretaceous and upper levels.



2D SEISMIC MAP OF BLOCK KON9



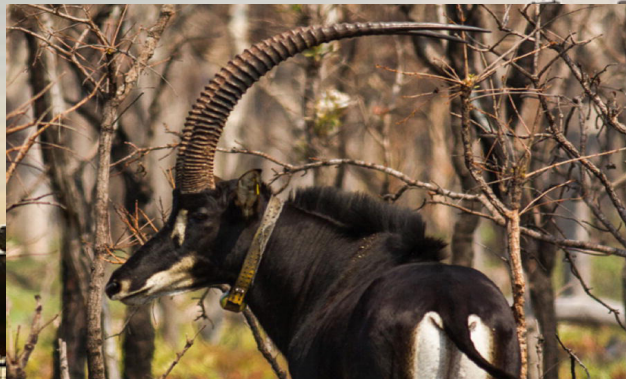


The documents concerning the expression of interest must be submitted to the following address:

ANPG – National Agency for Petroleum, Gas and Biofuels

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Ingombota Urban District, Luanda – Republic of Angola
Trading Department, 1st floor
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ANGOLA







ANPG

AGÊNCIA NACIONAL DE PETRÓLEO, GÁS
E BIOCOMBUSTÍVEIS





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