PETRONAS

reimagining energy™

EXPLORATION PROSPECTIVITY & INVESTMENT OPPORTUNITIES IN MALAYSIA

DEVELOPING IDEAS, TECHNOLOGY AND INNOVATION TO EXPLORE FRONTIER POTENTIAL

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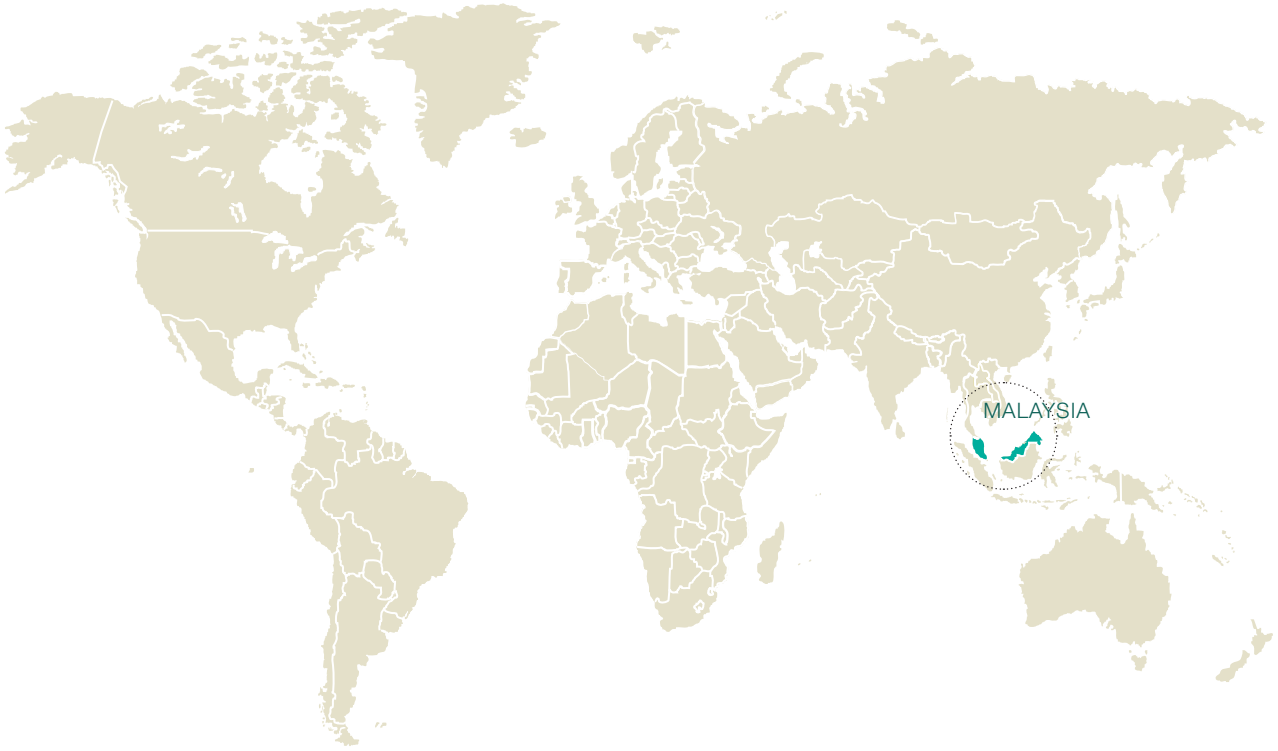
Malaysia as an Investment Destination

Asia's burgeoning economic potential makes it a popular investment destination for global multinationals. According to the annual Asia Business Outlook Survey by the Economist Corporate Network, Malaysia ranks fourth in Asia as the preferred location for investment in 2013, among international businesses.

Malaysia presents a host of opportunities and possibilities for business development; backed by an array of competitive and attractive propositions such as strategic location, high technology, modern infrastructure, reliable transport network and political stability.

Furthermore, Malaysia has embarked on an Economic Transformation Programme to develop the country into a high-income nation by the year 2020. This effort marks a critical commitment to sustainable economic growth, offering incentives such as enhanced financial and business policies to potential investors.



PETRONAS: Partner with Us

Over the years, we have gained unique experience and expertise in nation building. Coupled with our technical and operational competencies in our core business activities, PETRONAS is increasingly accepted as the preferred strategic partner by international companies and host countries where we operate. This augurs well for the realisation of our vision of becoming a “Leading Oil and Gas Multinational of Choice”.

Much of PETRONAS’ success can be attributed to our ability to strike a balance between being a state-owned entity and a full-fledged commercial organisation. As a state-owned entity, PETRONAS is responsible for the effective management of Malaysia’s oil and gas resources, to add value to this national asset as well as to ensure the orderly and sustainable development of the nation’s petroleum industry. As a business entity, we conduct our operations in a prudent and commercially savvy manner to compete effectively in an increasingly challenging global business environment, while maximising returns to our shareholders.

We have a proven track record in integrated petroleum operations in Malaysia.

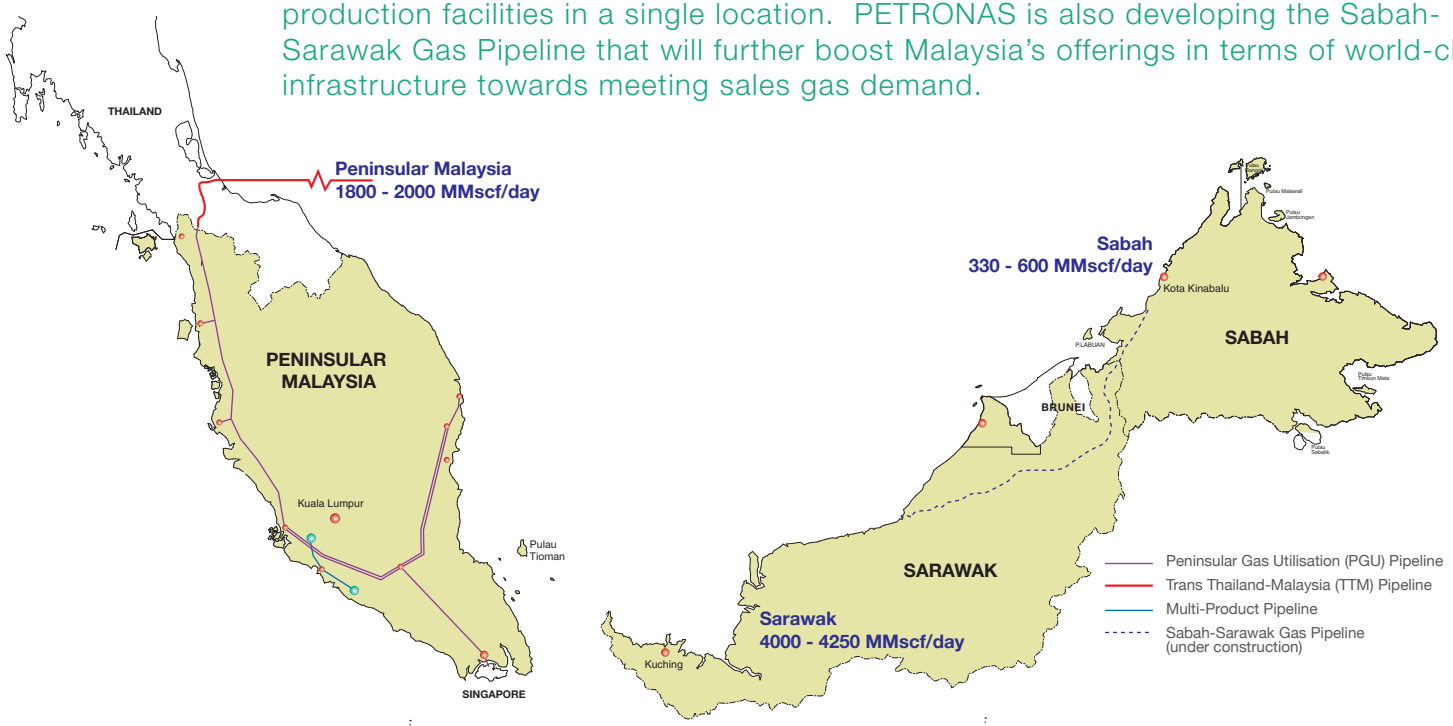
Driven by our commitment to long term business sustainability, we are mindful of being a responsible corporate citizen. PETRONAS continues to uphold its duties as custodian of the nation’s hydrocarbon resources and to honour the trust of our stakeholders amidst today’s volatile and fundamentally changing industry environment.

Today, Malaysia’s integrated petroleum industry infrastructure includes extensive sub-sea oil and gas pipeline, refineries, gas transmission pipeline network known as the Peninsular Gas Utilisation (PGU) system, world-class Liquefied Natural Gas (LNG) facilities in Sarawak and integrated petrochemical complexes. These infrastructures are supported by the country’s extensive and reliable port facilities as well as supply bases which provide integrated logistical accessibility to users, both domestic and international.

From a humble beginning of only 83 barrels per day (bpd) of crude oil production in the early 1910s, Malaysia’s petroleum industry has grown into multi-billion dollar business with hydrocarbon reserves at 20.56 billion barrels of oil equivalent (boe), with an average production of 1.63 million boe per day.

Malaysia's Daily Gas Demand

In Malaysia, PETRONAS supplies natural gas largely through the PGU system, which was developed to spearhead the use of natural gas in Malaysia. Presently, PETRONAS is among the largest LNG exporters in the world, owning sizeable market share in the Far East. This is made possible by owning and operating one of the world's largest LNG production facilities in a single location. PETRONAS is also developing the Sabah-Sarawak Gas Pipeline that will further boost Malaysia's offerings in terms of world-class infrastructure towards meeting sales gas demand.



Peninsular Gas Utilisation (PGU) System

- Six gas processing plants producing 2,000 MMscf/day
- 2,500 km of main and lateral pipelines to transmit gas
- Linked to the Trans Thailand Malaysia (TTM) Gas Pipeline system

PETRONAS LNG Complex (PLC) Bintulu, Sarawak

- Three integrated plants with total capacity of 25.7 MTPA

Sabah-Sarawak Gas Pipeline (SSGP)

- New Sabah Oil & Gas Terminal
- Two demand centers (Labuan Island and Kota Kinabalu)

Exploration & Production in Malaysia

As custodian of Malaysia's oil and gas resources, PETRONAS constantly strives to advance exploration and production (E&P) activities in the country. We promote exploration investments as well as facilitate oil and gas development and production activities through a Production Sharing Contract (PSC) mechanism. We also strive to optimise Malaysia's upstream assets and manage all E&P activities in the country, ensuring a conducive and progressive business environment.

The Petroleum Management Unit (PMU) of PETRONAS acts as resource owner and manager of Malaysia's domestic oil and gas assets. It manages the optimal exploitation of hydrocarbon resources and enhances the prospectivity of domestic acreages to attract investment and protect national interest. One of the key drivers of our business growth is deepwater E&P, with many positive prospects emerging in Malaysian acreages.

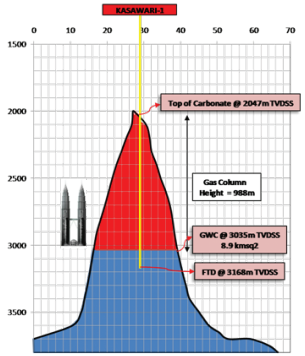
We continue to harness and deploy new technologies to maximise opportunities that further strengthen our capabilities in becoming a leading global E&P player.

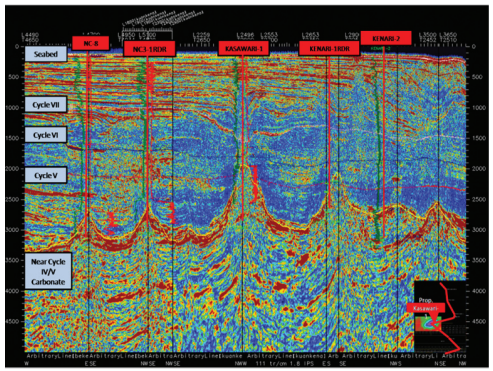
With attractive PSC terms, Malaysia has seen the entry of a number of new players and a steady increase in investments in the upstream sector.

Indicative of abundant upstream opportunities, the number of oil and gas fields under exploration, development and production in the country has also risen over the years. Malaysia currently has 124 producing fields.

PETRONAS - Recent Discoveries

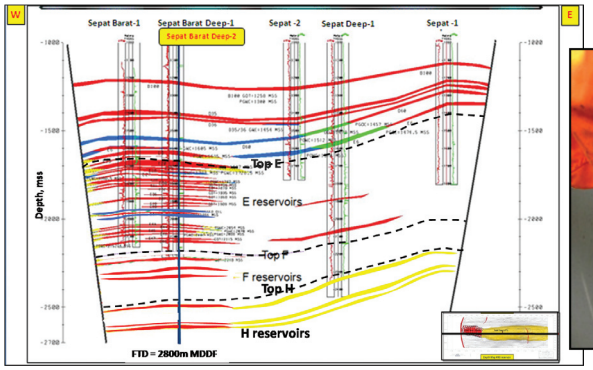
Sarawak: Carbonate Play and Intra Cycle V Channelized Sand Play



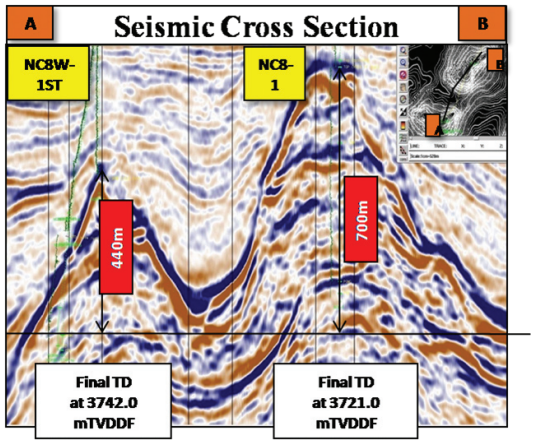


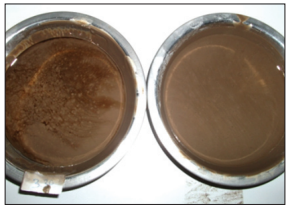
Kasawari -1 was drilled with the objective to test hydrocarbon potential of Cycle IV/V Carbonate resulted in 988 meters of gas column discovery.

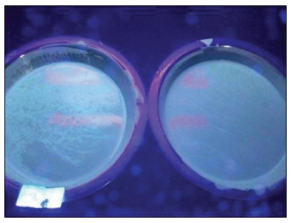
Malay Basin: Testing HPHT Low Relief Reservoir of Group F and Group H



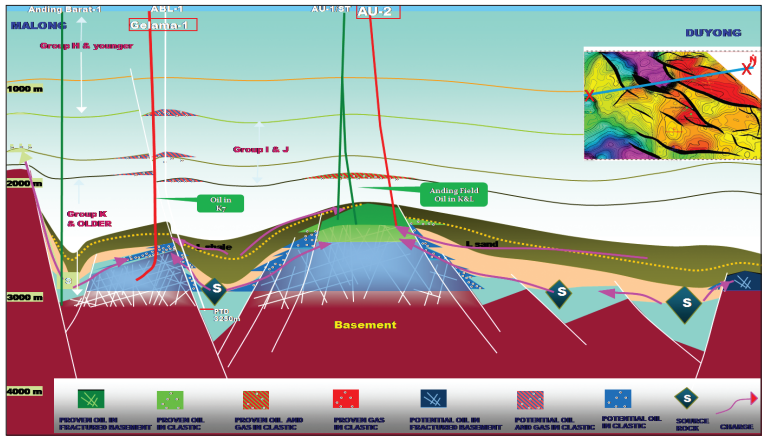
Sepat Barat Deep well successfully evaluated the deeper reservoir of Group F and H in the North Malay Basin. A total of eight new hydrocarbon bearing sands were discovered with gross thickness of 69 meters. Discovery of a the Sepat Barat Deep well opens up the deeper reservoir potential of Sepat Complex and similar plays (Middle Miocene to Lower Miocene HPHT play of Groups F, H and I) within surrounding areas i.e Bujang, Inas, Noring and Guling.





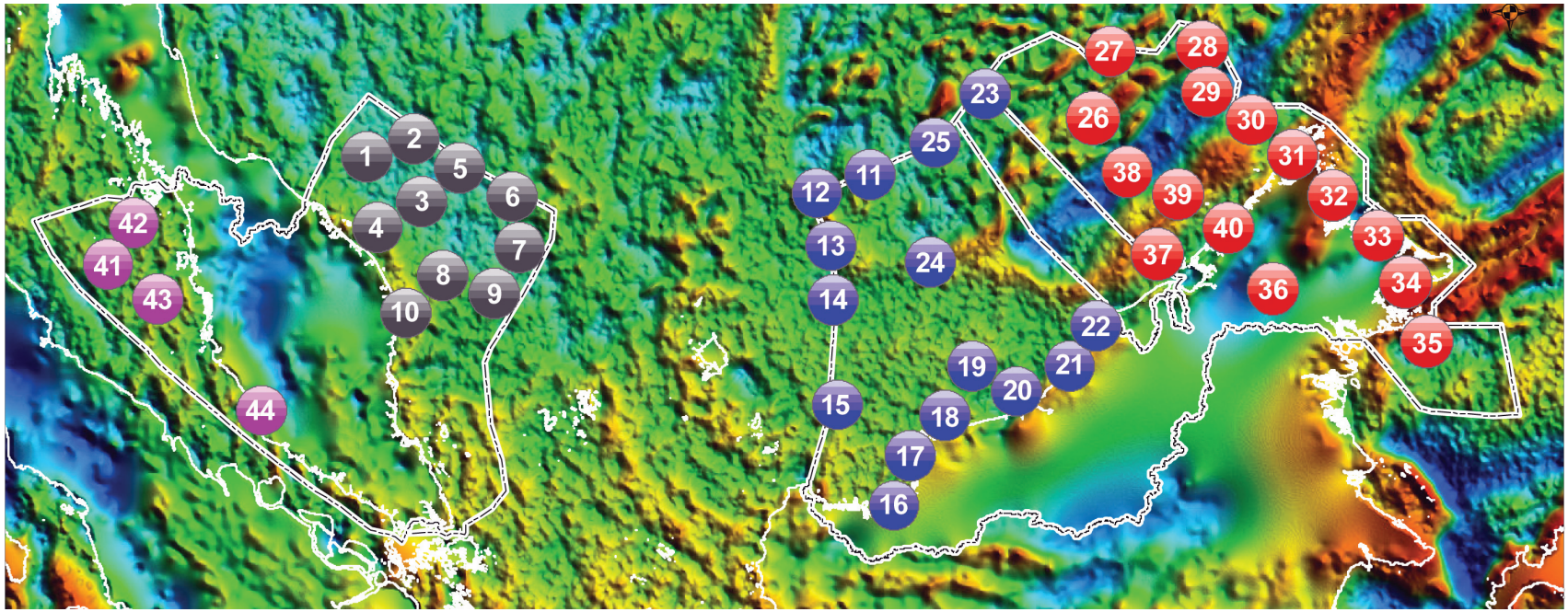


NC8SW -1 found gas column, testing the Cycle IV carbonate play. The discovery of a potential HC-bearing Intra Cycle V sand opens up a new play type in SK316 and the Central Luconia Province.



The success of Anding Complex basement exploration has opened up the fractured basement play prospectivity in the Malay Basin.

New Exploration Play Types



PENINSULAR MALAYSIA

1. **NW Malay Basin**
   Oligo-Miocene
   D/E/F/H faulted structures
2. **North Malay Basin**
   Upper Miocene D/E faulted anticlines
3. **Central Malay Basin**
   Mid & Upper Miocene D/E/H compressional anticlines
4. **Tok Bidan-Dungun**
   Oligocene synrift structural plays
5. **East-NE Malay Basin**
   Miocene H/I/J/K channel/faulted combination traps
6. **Eastern Malay Basin**
   Oligo-Miocene J/K/L sands onlap basement
7. **SE Malay Basin**
   Oligo-Miocene compressional anticlines involving basement
8. **Tenggol Arch**
   Oligo-Miocene J/K/L sands Basement drape
9. **Western Flank Hinge Zone**
   Oligo-Miocene H/I/J/K/L channel sands trapped by basement-involved transtentional faults
10. **Penyu Basin**
    Oligocene Synrift Structures

STRAITS OF MELAKA

41. **North Sumatra Basin**
    Miocene stratigraphic onlap & four-way dip closures
42. **North Sumatra Basin**
    Miocene Carbonate buildup
43. **North Sumatra Basin**
    Pre-tertiary basement high
44. **Central Sumatra Basin**
    Upper Oligocene – Lower Miocene Synrift structures

SARAWAK

11. Rajang Slope
Pliocene-Quaternary
Cycles V/VI/VIII deepwater
Depositional systems

12. Rajang Delta (West Luconia)
Pliocene Cycle V/VI/VII reservoirs
trapped in toe-thrust structures

13. Rajang Delta (West Luconia)
Pliocene cycles V/VI/VII
LCP/COF Fault-Rollovers

14. Rajang Delta (West Luconia)
Borders Upper Miocene-Pliocene
Cycles IV/V/VI LCP/COF
Erosional remnants & faulted-
anticlines

15. SW Sarawak Province
Oligocene Cycle 1 & Pre-Cycle
Basement Ramp

16. Kuching Zone
Plaeocene Pre-Tertiary)
Pre-Cycle I) Fluviatile-Marine
Clastics to Basement Ophiolites
& Melanges

17. Sibu Zone
Plaeocene-Eocene Pre-Cycle I
Clastics & Melange

18. Tatau Province
Oligo-Miocene cycles I/II/III
Extensional fault anticlines
Cycle IV/V Reefs/Synrift play

19. Tatau Province
Oligo-Miocene Cycles I/II/III
Extensional fault anticlines
Cycle IV/V Reffs/Synrift play

20. Rajang Group
Pre-Tertiary Pre-Cycle I
Accretionary Complex

21. Baram Champion Delta
Upper Miocene-Pliocene
Growth Related Counter
Regional Fault-Rollovers

22. West Baram Delta
Upper Miocene-Pliocene
Cycles V/VI/VII Fault-Rollover
Fault-Intersections & HPHT Play

23. Sabah Trough
Oligo-Miocene
Cycle I/II/III/Stage II/III
Wrench Induced
Erosional Remnants

24. Central Luconia Platform
Middle-Upper Miocene
Oligo-Miocene Cycle IV/V/VI
Carbonate Platform
Reef complexes/Strat Play

25. North Luconia Province
Oligo-Miocene Cycle I/II/III/MMU
Closure Wrench Induced
Erosional Remnants fault block

SABAH

26. Sabah Trough
Oligo-Miocene
Stage II/III
Wrench Induced
Erosional Remnants

27. North Sabah
Oligo-Miocene
Stage III/IV Main
Thrust Sheet

28. Northern Outboard (Thrust-Sheet)
Upper Miocene-Pliocene
Stage IV E-F Deepwater
Deposits Drapes

29. Kudat Platform
Mid-Upper Miocene
Stage IV A-D Wrench-Faulted
Clastics (Calcareous & Siliceous)
& Upper Miocene-Pliocene
Limestones

30. Malawali-Siagut Sub_Basin
Upper Miocene Bongaya Faulted
Fluvial Sands

31. Jambongan Ramp
Upper Miocene Pliocene
Bongaya Fluvial Sandstone &
Lower Miocene
Gomantong Limestone

32. Sandakan Basin
Mid-Upper Miocene
Ganduman-Sebahat
Faulted Deltaics

33. Sandakan Basin
Central Trough
Mid-Upper Miocene
Sebahat-Ganduman
Deepwater Deposits

34. South Dent Trough
Mid-Miocene Sebahat Reefs

35. Semporna High
Pliocene Togopi Limestone Reef

36. Northern Tarakan Basin
Miocene Tanjong Wrench Faulted
Fluvio-Deltaics

37. Southern Sabah Inboard
Oligo-Miocene Stage II/III
(Crocker-Temburong)
Wrench Foldbelt & Mid-Upper
Miocene Stage IV A-C
Erosional Remnants

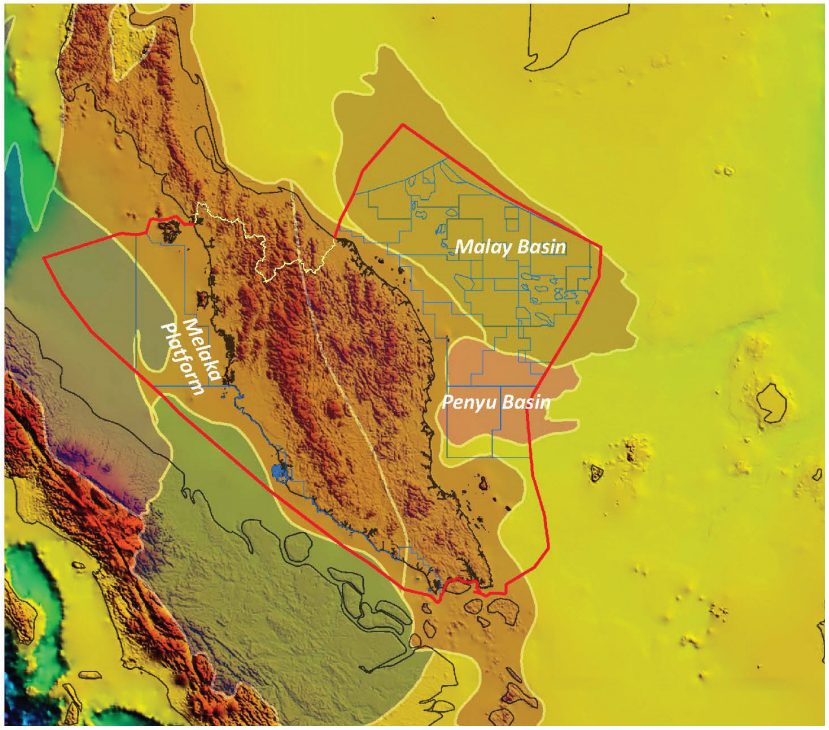
38. Outboard Belt
Stage IVD Upper Miocene
Deepwater Deposits

39. Northern Inboard Belt
Mid-Miocene
Stage IVA-C
Wrench Tectonics

40. Stage II
Oligocene-Crocker
Basement

Stratigraphy of Malaysian Basins

Malaysia's continental shelf is divided into seven major tertiary sedimentary basins, namely the Malay Basin, Penyu Basin, Sarawak Basin, Sabah Basin, N.E. Sabah Basin, S.E. Sabah Basin and Tarakan Basin. Hydrocarbons are currently being produced from the majority of these basins including the Malay, Sarawak and Sabah Basins. Sedimentary deposition and subsequent structural events resulted in the establishment of key petroleum systems and associated elements as well as the formation of a variety of structural and stratigraphic traps. These factors provided conducive conditions for hydrocarbons generation, migration and entrapment.



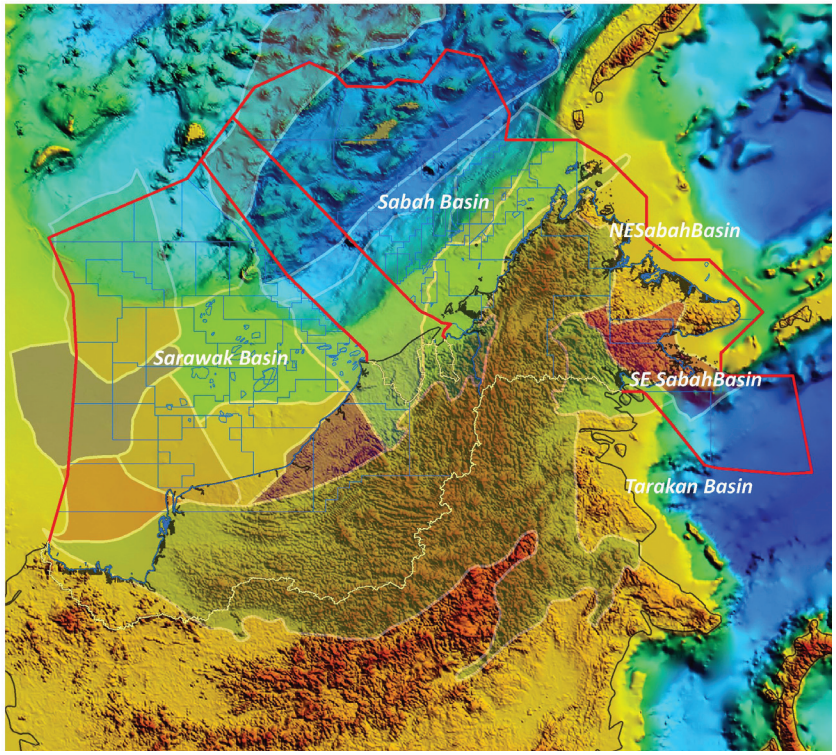
The tectono-stratigraphic evolution of Malaysia's tertiary sedimentary basins occurred in response to a combination of tectonic and basin-forming processes. This evolution resulted in deposition of both siliciclastics and carbonates stratigraphic successions in different paleogeographic settings ranging from continental to marginal marine and deepwater.

Malay Basin:

The Malay Basin is a northwest-trending elongated basin. It is about 500 km long and 200 km wide. The sediment thickness of Oligocene Miocene sequences exceeds 12 km and mainly consists siliciclastics. The Oligocene Miocene sediments were deposited in terrestrial settings with minor marine influence, whereas the Miocene-Recent sediments were deposited in coastal planes to shallow marine settings. The entire stratigraphic succession is subdivided into seismic stratigraphy units, referred to as "groups". A total of 15 groups have been indentified and mapped. These are labelled alphabetically from Group P, the oldest Eocene to Group A, the youngest Pleistocene.

Sarawak Basin:

The tertiary sedimentary basins of Sabah and Sarawak are located on the northern and eastern continental margins of Borneo. The Sarawak Basin is of Late Eocene to Recent age and occupies the broad continental shelf and slope of northern Sarawak and parts of onshore Sarawak. The basin unconformably overlies the Rajang Group (U Cretaceous to U Eocene) which consist highly deformed, low grade metamorphosed deep marine shales, chert, spilite, and dolerite. The Sarawak Basin is further subdivided into seven geological provinces namely SW Sarawak Province, Tatau Province, Balingian Province, Tinjar Province, Central Luconia Province, West Luconia Province and North Luconia Province. Each province has been defined and demarked on the basis of different geological characteristics. The stratigraphic succession is subdivided into eight cycles, Eocene Cycle I the oldest and Pleistocene Cycle VIII the youngest. The cycles are dominated by both clastics and carbonate reservoirs deposited in continental and lacustrine to marginal marine and deepwater settings to shelf-platform carbonate and reefal builds up on the rims of shelf-edge.

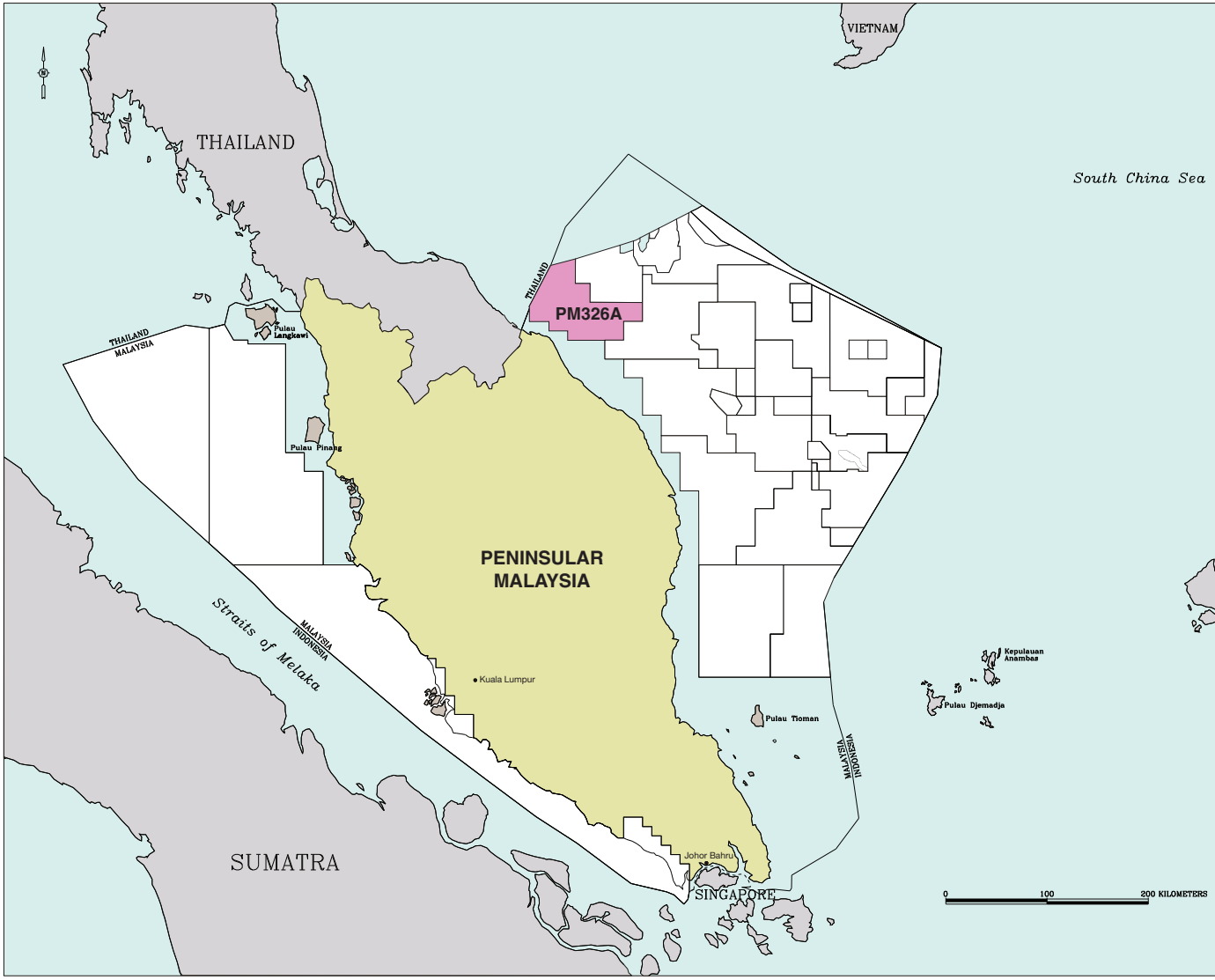


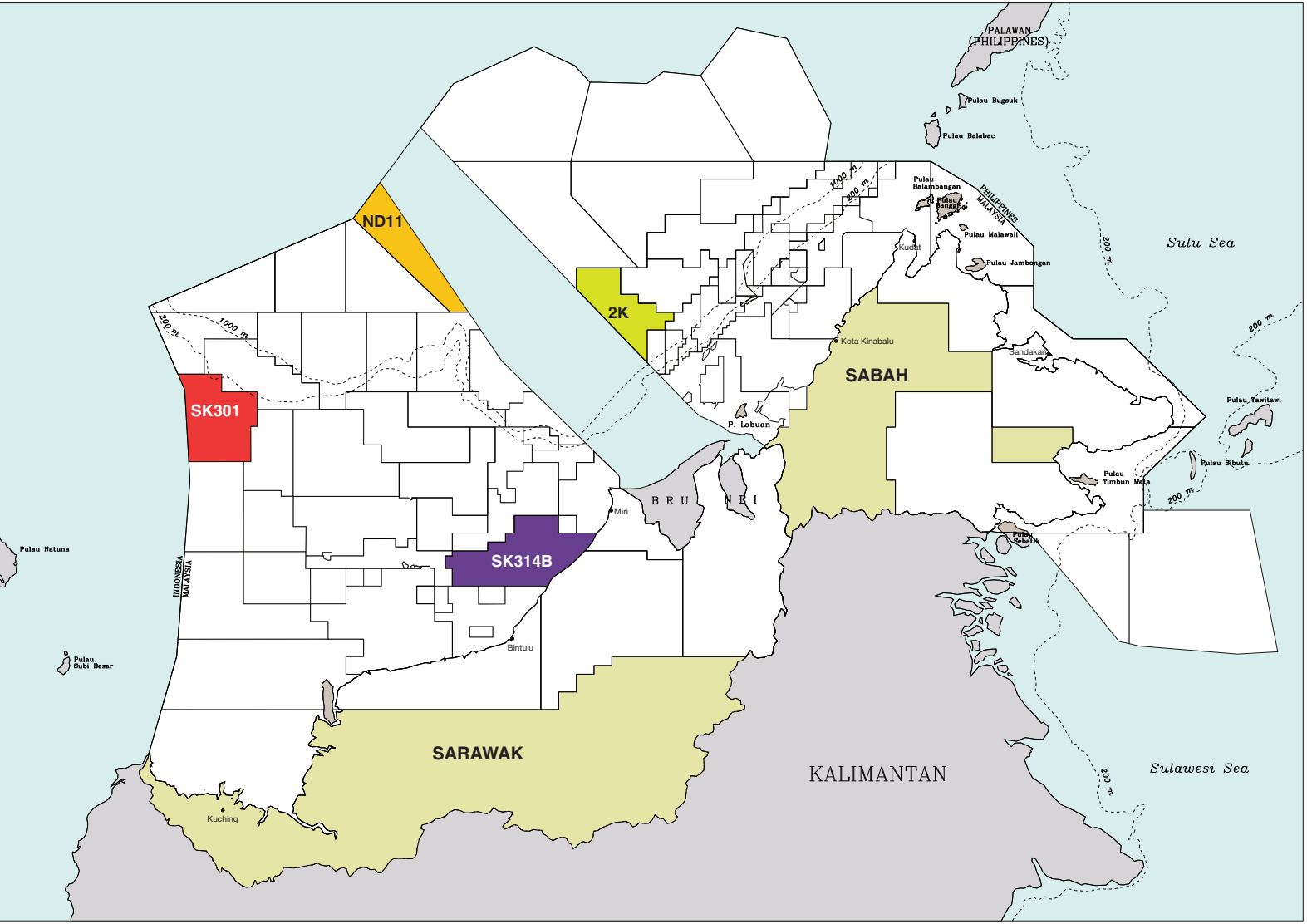
Sabah Basin:

The Sabah Basin (Middle Miocene to Recent) is located on the northwestern continental margin of Sabah. The tectono-stratigraphic evolution of Sabah Basin is similar to Sarawak Basin.The Sabah Basin also unconformably overlies deformed deepwater sediments of Crocker Formation and Rajang Group. Two major sedimentary basins have been defined in eastern Sabah namely NE Sabah Basin and SE Sabah Basin. Sabah Basin is subdivided into provinces that are characterised by distinct structural styles and sedimentation histories. These are Baram Delta, Inboard Belt, Outboard belt, Sabah trough, and the NW Sabah Platform. The stratigraphic succession is subdivided into four stages, Eocene Stage I the oldest and Pleistocene Stage IVG the youngest. These Stages mainly consists siliciclastics sediments with platform and reefal carbonates deposited during stages IVA and IVB.

In addition, two major sedimentary basins have been recognised in the eastern Sabah namely N.E. Sabah Basin and S.E. Sabah Basin.

Exploration Opportunities in Malaysia for 2013




PALAWAN (PHILIPPINES)
Pulau Bugsuk
Pulau Balabac
Pulau Balambangan
Pulau Banggi
PHILIPPINES MALAYSIA
Pulau Malawali
Pulau Jambongan
Kudat
Sulu Sea
ND11
2K
SK301
SK314B
Kota Kinabalu
Sandakan
SABAH
P. Labuan
Pulau Tawitawi
Pulau Sibutu
Pulau Timbun Mata
Pulau Sebatik
BRUNEI
Miri
Pulau Natuna
INDONESIA MALAYSIA
Pulau Subi Besar
Bintulu
SARAWAK
KALIMANTAN
Sulawesi Sea
Kuching
200 m.
1000 m.

Shallow Water Block PM326A

Malay Basin

Regional Framework

PM326A lies on the western flank of the Malay Basin known as the Terengganu Platform. The Malay Basin has undergone three distinct phases of tectonism. The Pre-Miocene extensional syn-rift phase which saw the initiation of sedimentation in isolated half-graben depocentres with deposits of thick syn-rift successions of alternating sand-dominated and shale-dominated, fluvial-lacustrine sequences. A cyclical succession of marine, tidal estuarine, coastal plain and fluvial sediments were deposited during the Early to Middle Miocene thermal/tectonic subsidence phase which also culminated in basin inversion. This was followed by a third tectonic phase that began in the Middle to Late Middle Miocene and continued till Late Quaternary. During this phase fully open marine conditions prevailed and deposition of predominantly marine clays and silts occurred.

Petroleum System

Source Rock

The source rocks are lacustrine shales interbedded with lacustrine delta-channel facies, and minor coaly shales interbedded with fluvial channel facies that belong to Syn-rift formation. Based on the well drilled, the organic matter is predominantly Type-I and Type-III, with Total Organic Carbon ranging from 1%-5%.

Reservoir

Middle Miocene Groups H, I and J reservoirs have been tested by few wells that showed very encouraging results. These reservoirs were developed in the fluvial channel environments. Additionally, the Upper Oligocene syn-rift units comprising of fluvio-lacustrine clastics deposited in fresh lacustrine setting could be other potential reservoirs in this area. Several wells have penetrated these syn-rift units in the Malay Basin and resulted in hydrocarbon discoveries.

Trap

Fault bounded structural trap and stratigraphic trap.

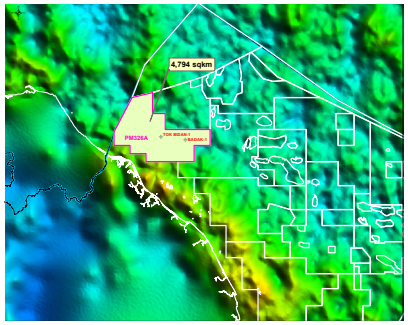
Seal

The intraformational lacustrine shales provide good top seals. The existence of extensive lake-fill shales at topmost sequence will provide top seal for these reservoirs. The seals are present at all stratigraphic levels. The intra-formational shales within the reservoir zones form multiple, stacked reservoir-seal pairs. For the shallow reservoirs, relatively thick shales of Group F provide a good top regional seal.

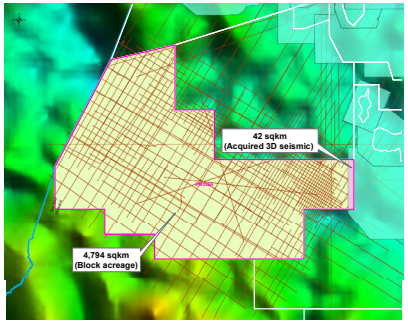
Prospectivity

Two exploration wells were drilled in this block to test the Syn-rift half-graben play. Both proved to be HC-bearing and confirmed the presence of petroleum system. Apart from that, there are leads on basement play at the basin margins.

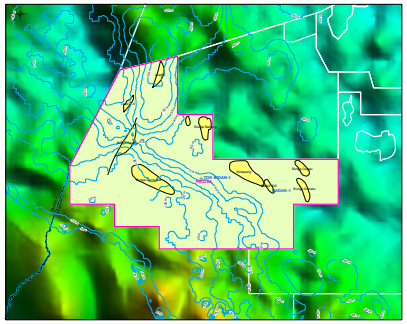
Type	Shallow Water Block
Size	4,794 sq km
Location	Offshore Peninsular Malaysia
Water Depth	10 - 60 m
Data	Two (2) wells drilled; 11,321 line km of 2D seismic
Nearby Facilities	Lawit, Bintang (~65km)

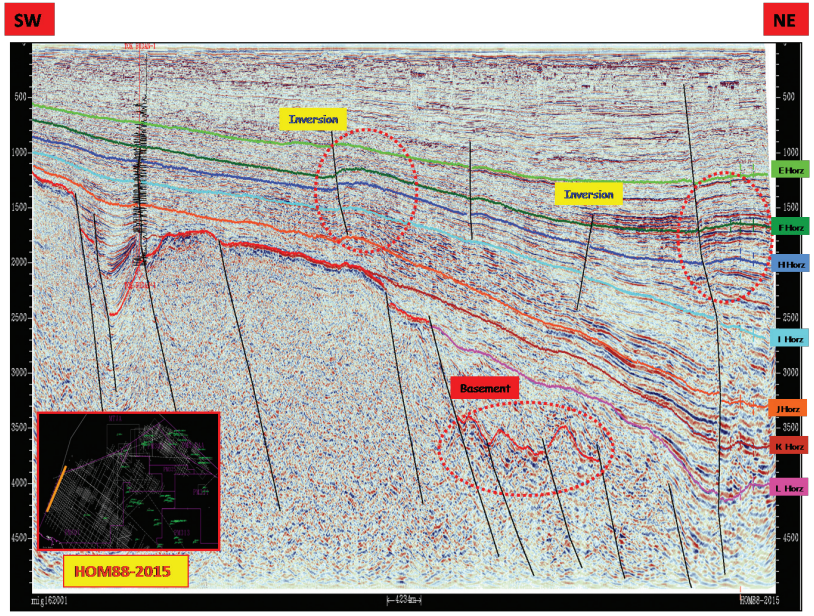


Location Map

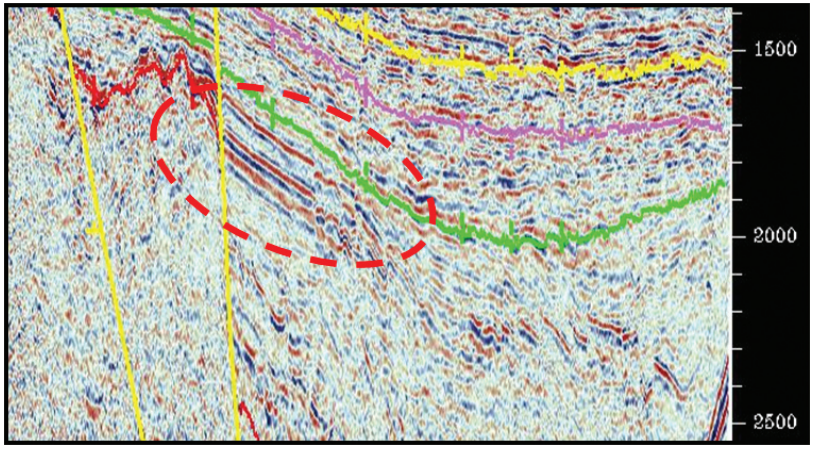


Seismic Coverage Map

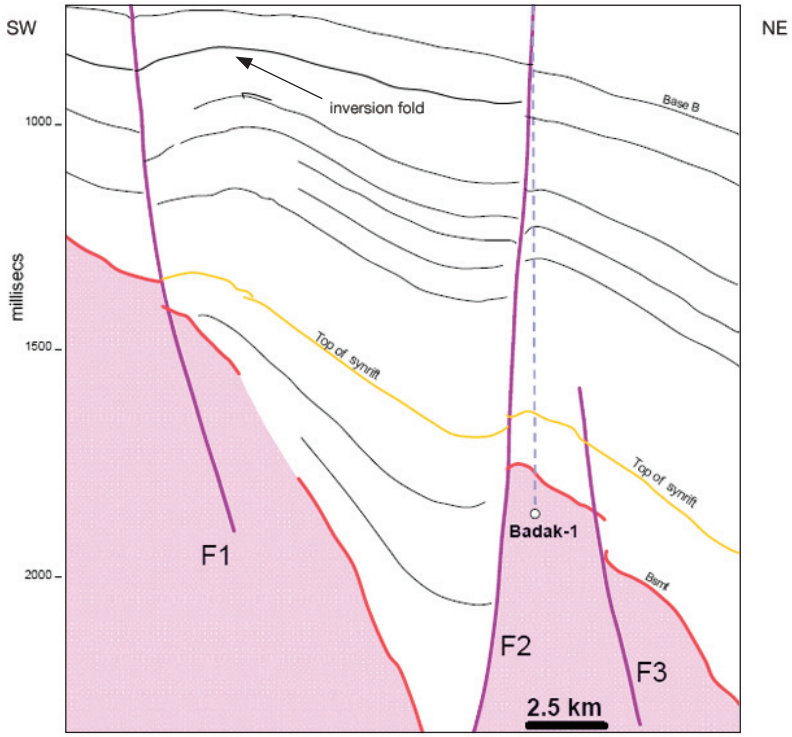

Play Map



Seismic cross section in PM326A



Potential stratigraphic play



Schematic cross section for basement play

M prograding sand truncated by fault.
Area of interest ±35km^2.

Shallow Water Block SK301A

Sarawak Basin

Regional Framework

SK301A block is located within the West Luconia province in the deltaic structural domain. The block is situated in a major depocenter which contains more than 5 km of Miocene, Pliocene & Pleistocene sediments. The Sarawak Basin is a tertiary rift basin which was formed as a result of a the extension of the South China Sea during mid-Oligocene. The subduction complex along the northern and western margins of Borneo contributed to the slab-pull forces that set off the extension in order to accommodate the counter clockwise rotation of this micro continent. The northern part of this block is dominated by structures related to growth and thrust faults. The southeast is bound by the Central Luconia carbonate build-ups which bear Malaysia's largest gas accumulations.

Petroleum System

Source Rock

Cycles I - III Lower coastal plain to coastal organic-rich shales, Cycle V marine shales.

Reservoir

Early Pliocene sandstones deposited in the intertidal shelf to slope environments to Late Pleistocene sandstones deposited in marginal marine environments with canyon-fill sandstones.

Potential still lies in the Upper Miocene sandstone but no well has penetrated to this formation to date in this block, to date.

Trap

Anticlinal structures, growth fault rollover structures on the hanging wall side (Cycle V - VIII), growth fault (cycle VI - V), stratigraphic traps.

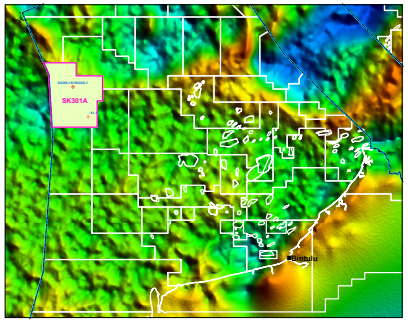
Seal

Widespread Cycle VI and Cycle V marine shale

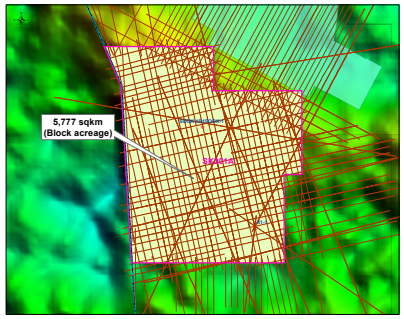
Prospectivity

13 prospects were identified in the block during the Sook-1/ST drlling

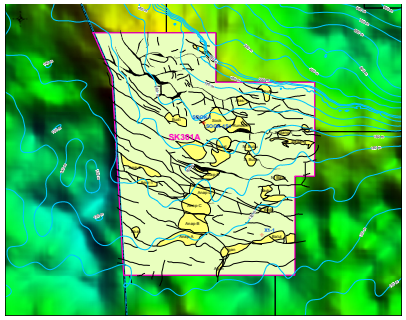
Type	Shallow Water Block
Size	5,777 sq km
Location	Offshore Sarawak
Water Depth	80 - 200 m
Data	Two (2) wells drilled in the blocks (Sook-1/ST, X1-1X) 14,385 line km of 2D seismic
Nearby Facilities	Mawar, Hibiscus (~70km)

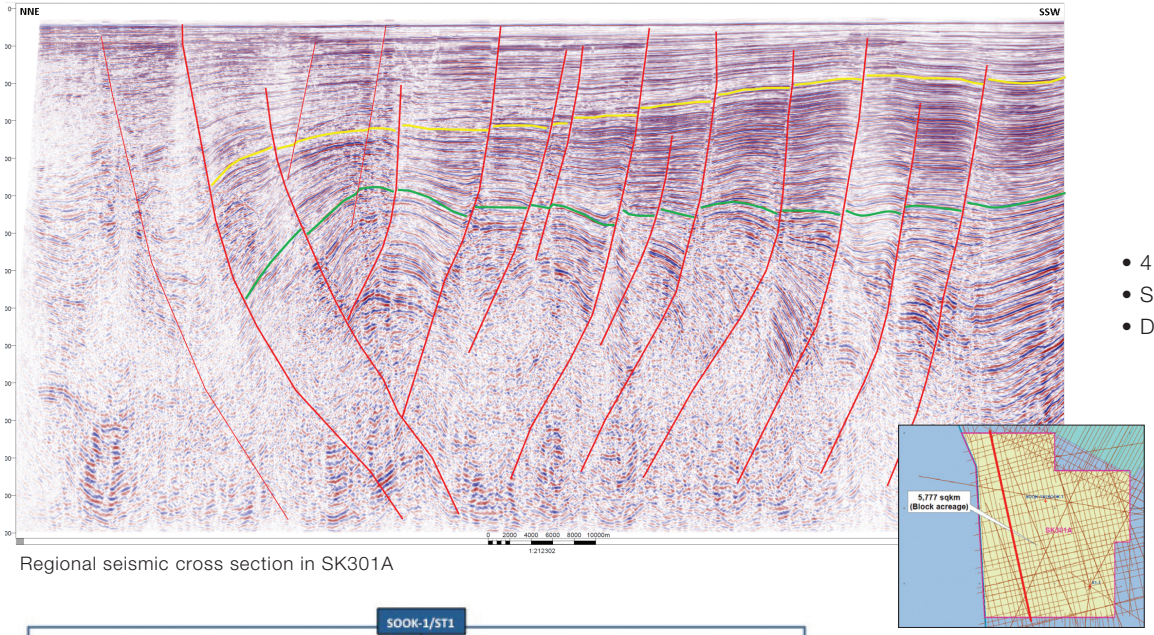


Location Map



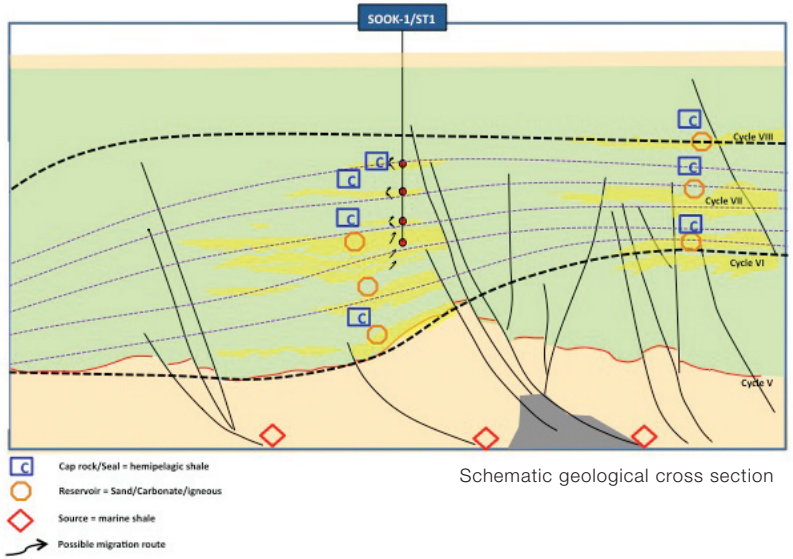
Seismic Coverage Map


Play Map

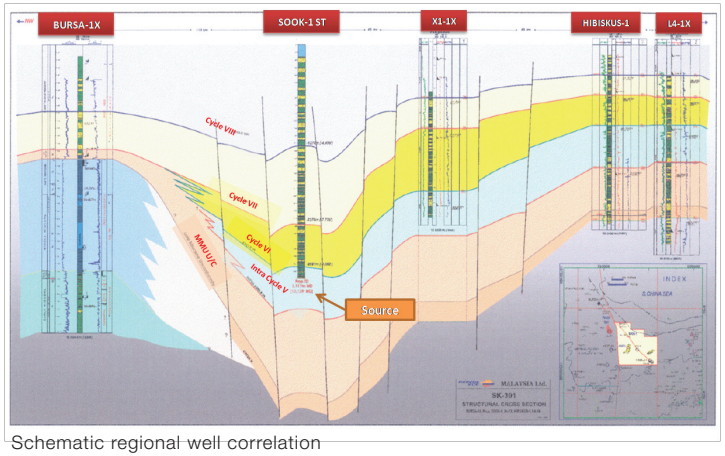


Regional seismic cross section in SK301A

- 4-way dip/3-way dip fault bounded play
- Shallow gas anomaly
- Deeper potential



Schematic geological cross section



Schematic regional well correlation

Shallow Water Block SK314B

Regional Framework

Sarawak Basin lies South West of the Baram Delta, East of Natuna Island. Shallow water block SK314B lies in the Miri zone. The block is partly located in the Balingian Province and partly in the Central Luconia Province. Located along the collisional/ wrench zone of Central Luconia Province to the North, Balingian Province has a complex tertiary structural history. Hydrocarbons have been found in both provinces. Main drilling objectives in Sarawak Basin range from the Oligocene-Miocene coastal to near-shore siliciclastics in anticlinal traps in the Balingian Province to Miocene reefal carbonates in the Central Luconia Province.

Petroleum System

Source Rock

Coal and coaly shales in the Oligocene-Lower Miocene coastal plain sequences. These coals and carbonaceous shales found mainly in Cycles I and II deposited in coastal and inland peat swamps.

Reservoir

Late Eocene-Early Oligocene prograding deltaic sandstones or Late Eocene-Early Oligocene prograding carbonate platform. Thickness of individual prograding lobes can vary between 400-600 m.

Trap

Combination of inversion anticlines and stratigraphic traps, pinnacle-type and platform-type buildups.

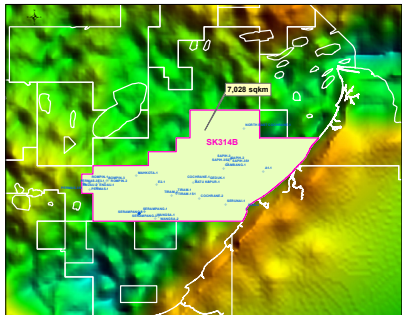
Seal

Thick regional basal Cycle III transgressive shale sequence provides excellent top seal for underlying reservoirs.

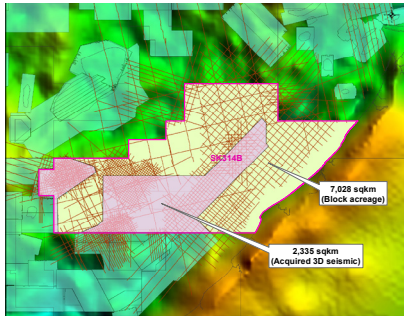
Prospectivity

The block is located in the rich hydrocarbon system, proven by a large numbers of discoveries. The remaining prospectivity lies in delineating alternative play types and existing undrilled lead and prospects consisting of stacking reservoir compartments.

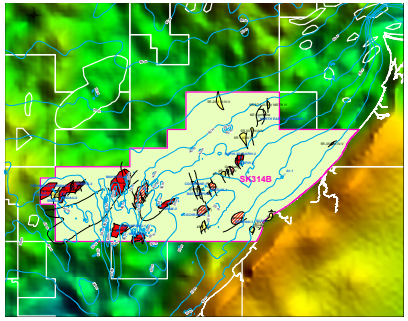
Type	Shallow Water Block
Size	7,028 sq km
Location	Offshore Sarawak
Water Depth	10 - 60 m
Data	Thirty-four (34) wells drilled (1962-2009); 19,553 line km of 2D seismic 2,335 sq km of 3D Seismic
Nearby Facilities	West Patricia (~25km)



Location Map

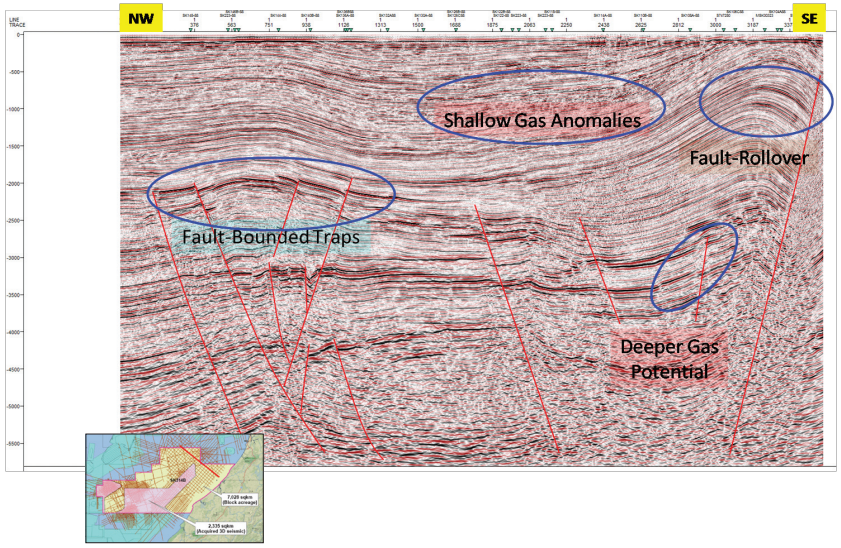


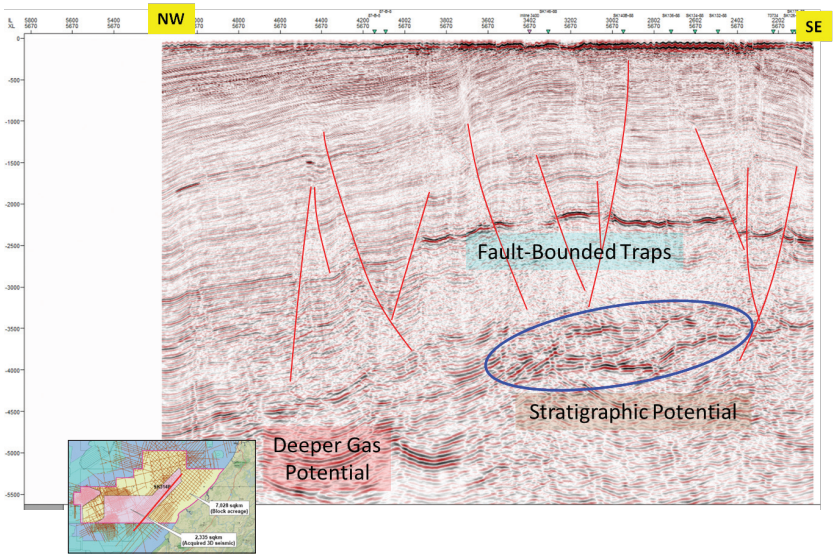
Seismic Coverage Map

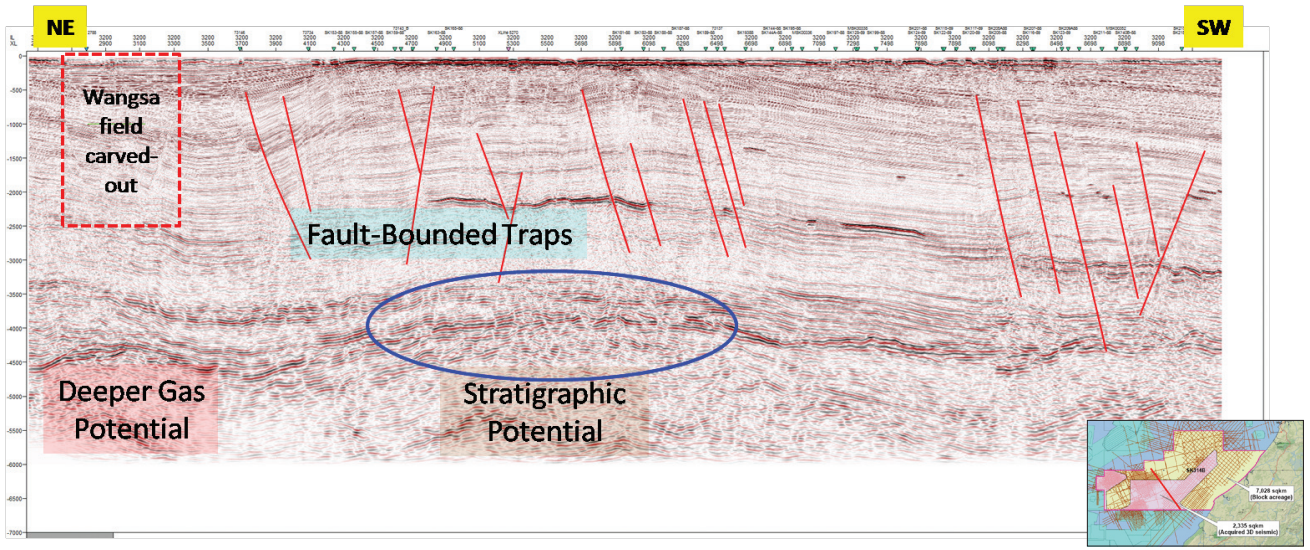


Play Map

Potential plays in SK314B







Deepwater Block ND11

Sarawak Basin

Regional Framework

Block ND11 is located in the northeastern part of North Luconia Basin in deepwater offshore Sarawak. Block ND11 is bound by East Natuna Basin to the west, Vung May and Nam Con Son Basins to the North, Sabah platform to the East, Central Luconia and West Luconia Delta to the South.

Petroleum System

Source Rock

Good source rock units (shale & coal) have been drilled in the nearby well within Cycle I and II. The possibility of lacustrine source rock in the older grabens is also likely.

Reservoir

Good quality reservoir sands was encountered in nearby wells. Porosity ranges from 13% at deeper sands to around 27% at shallower levels close to Middle Miocene Unconformity.

Trap

Structural (listric/normal faults, tilted fault blocks, subunconformity truncations, four way closures and basement horst blocks), stratigraphic (ponded turbidites) and combination (truncations against basement highs).

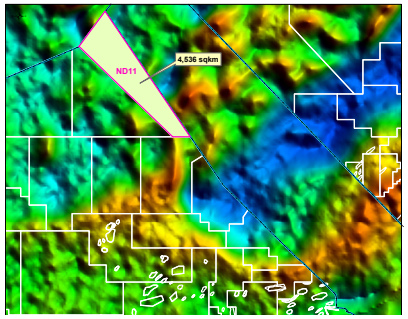
Seal

Post MMU shales over the area constitute good top seal.

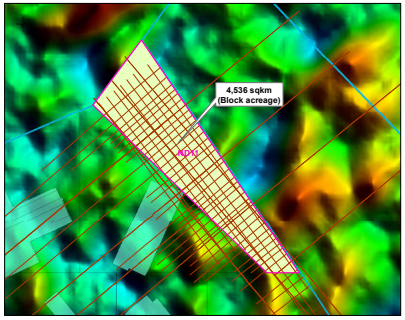
Prospectivity

Frontier area with a number of leads and evidence of active petroleum system in the area.

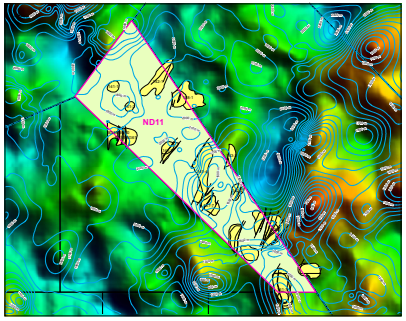
Type	Deepwater Block
Size	4,536 sq km
Location	Offshore Sarawak
Water Depth	> 2000 m
Data	5,415 line km of 2D seismic
Nearby Facilities	Paus (~80km)



Location Map

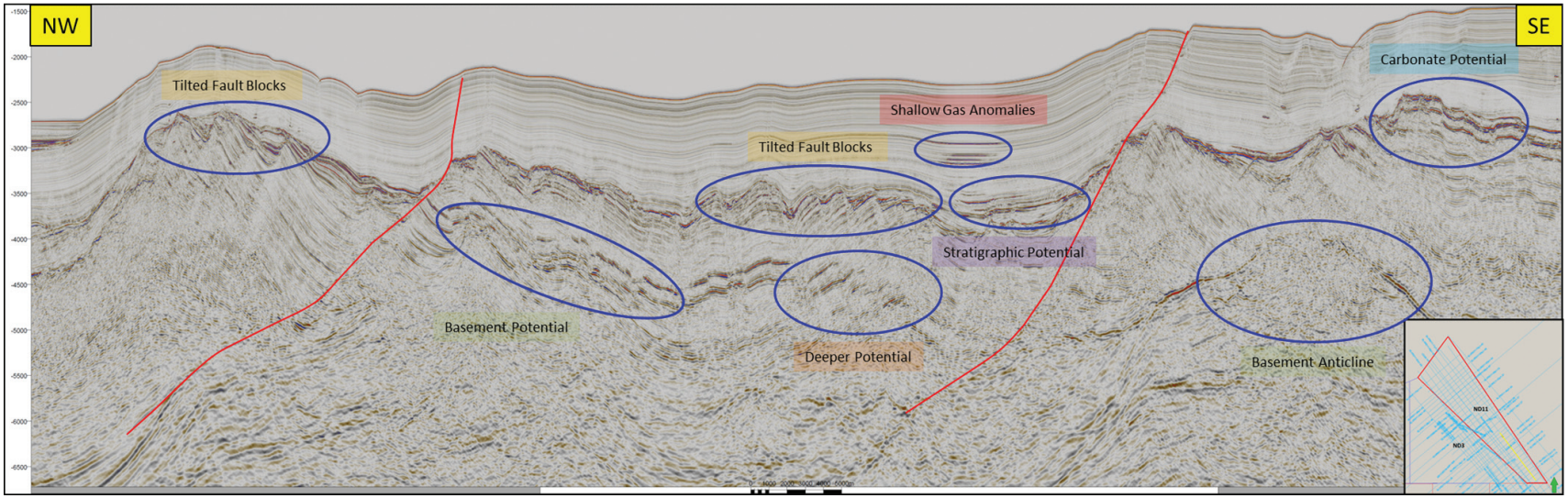


Seismic Coverage Map

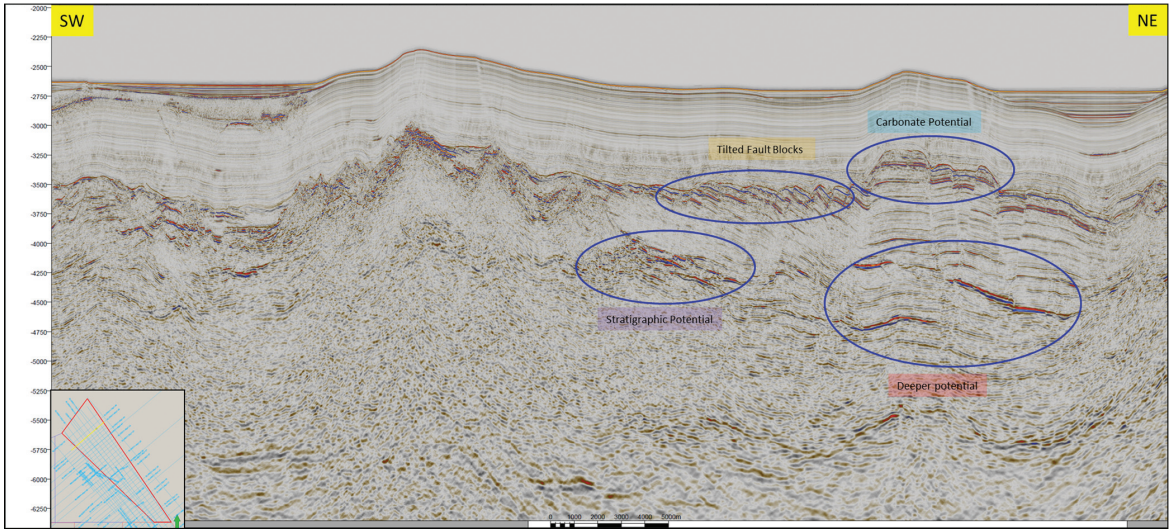


Play Map

Regional seismic cross sections in ND11



- Carbonate build-ups on structural high
- Wrench-included anticlinal features
- Shallow gas anomalies
- Deepwater fan lobe stratigraphic potential
- No evidence of gas chimney effect in shallow section suggesting no trap breaching
- Titled fault blocks are present with amplitude anomalies indicating HC's effect
- Deeper gas potential indicated by high amplitude



Deepwater Block DW2K

Regional Framework

The Sabah Basin started to develop during the Oligocene and is associated with the closing of proto-Rajang-Crocker Sea and the opening of the South China Basin. During this time, part of the West Crocker Formation was exposed onshore and the other remaining part was submerged in shallow sea in the south to deep sea in the north and northwest resulting in the deposition of marginal marine to deepwater reservoirs respectively. Block K consists of outboard tract of a major NE-SW trending toe-thrust system in the north to fold-and-thrust-belt system in the south. Since the Middle Miocene, numerous turbidite deepwater fans have developed in this area, including in Kebabangan, Kamunsu and Kinarut. These fans are the potential reservoir rocks for this block. The sands from these turbidite systems were deposited in amalgamated channels, levees as well as basin floor fans and have excellent reservoir quality.

Petroleum System

Source Rock

The source rocks analogs are the shales of Block 2K where active petroleum systems are prevailing and good discoveries have been made in the southern part. These source rocks comprise of terrigenous organic matter encountered in the Upper Miocene and have similar characteristics to the oils reservoired in the neighboring fields. The migration of the hydrocarbon is expected to be post-structuration, as proven by the discoveries made in the fields.

Reservoir

Base on the wells drilled in this area, major reservoirs are the H110-H160 sand that belong to Kamunsu and Kinarut Formations. These sand were deposited in distributary channels and adjacent levees as well as basin floor sheet sands during the Late Miocene. Late Oligocene to Early Miocene carbonates are the other unexplored potential reservoirs for this block.

Trap

Toe-thrust anticline, clastic rift play and carbonate play.

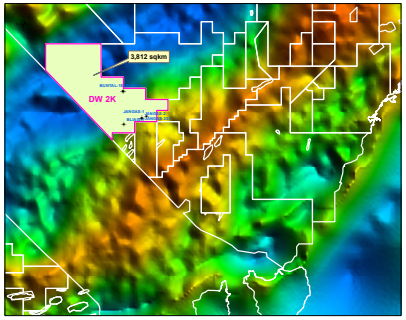
Seal

Late Miocene deepwater silt and shale.

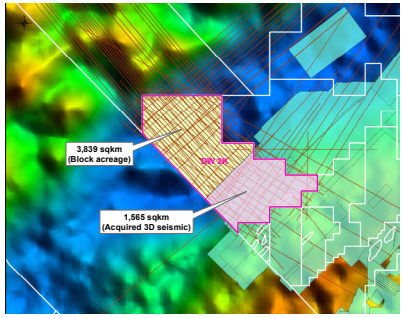
Prospectivity

Four prospects and leads have been identified in this block. Several exploration wells have been drilled in the area to prove presence of hydrocarbons. The Jangas field was discovered in the southern part of this block.

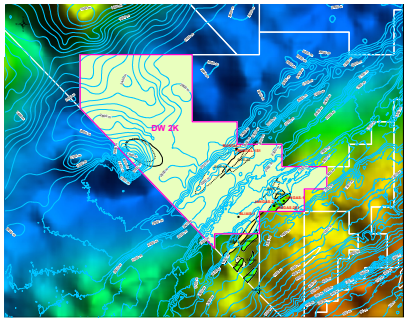
Type	Deepwater Block
Size	3,839 sq km
Location	Offshore Sabah
Water Depth	1000 - 2,800 m
Data	Two (2) wells drilled; 62,437 line km of 2D seismic 1,565 sq km of 3D Seismic
Nearby Facilities	Kikeh (~30km)



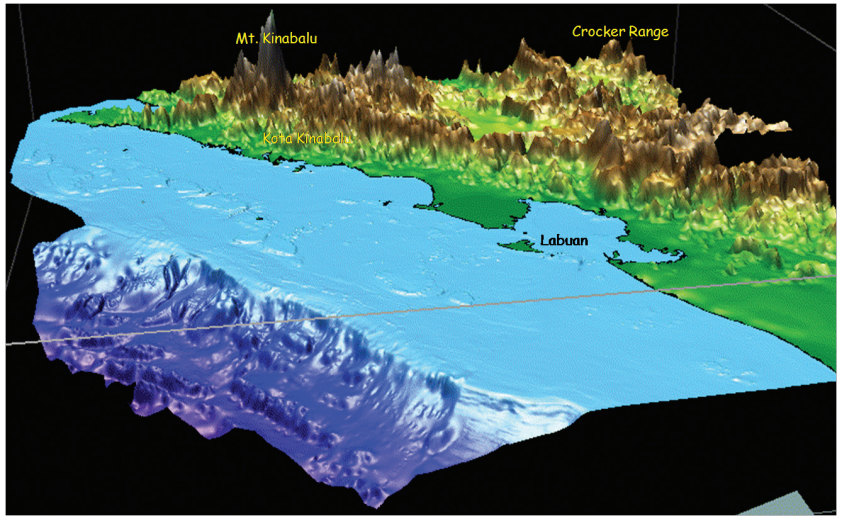
Location Map

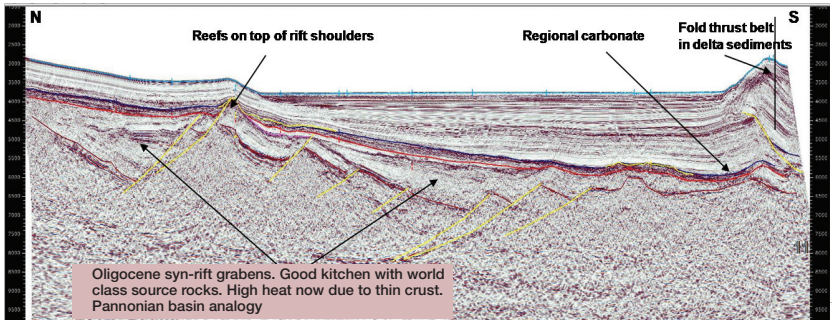


Seismic Coverage Map

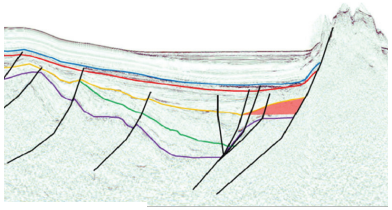


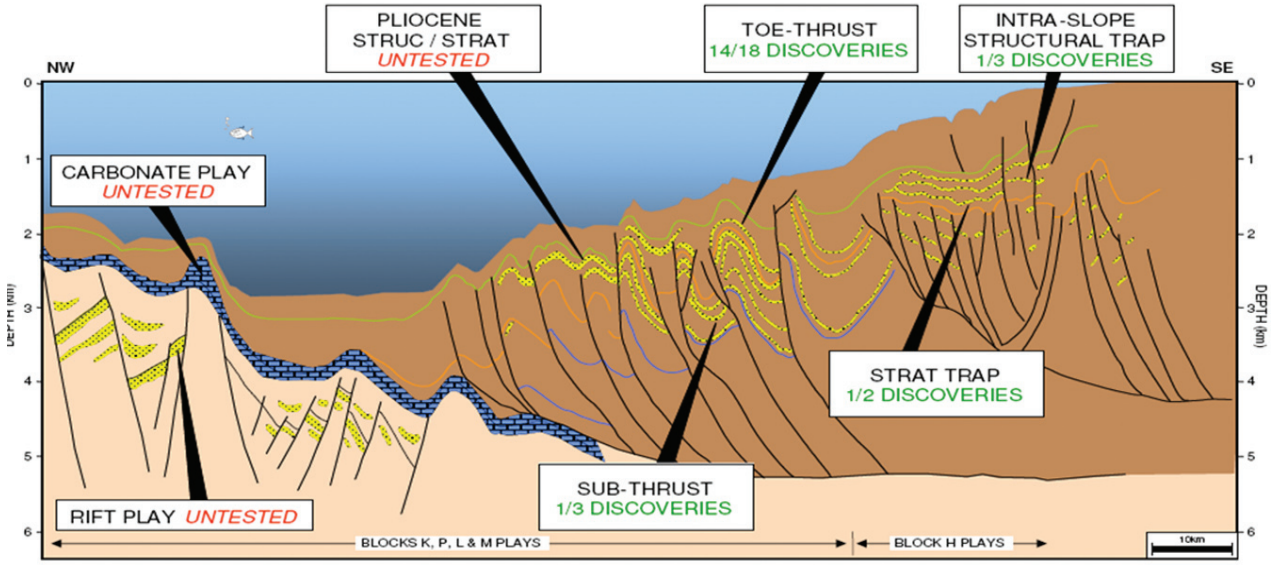
Play Map





Syn-rift tilted block play. Traps are provided by the uplifted parts of the tilted blocks, sealed on the emergent side by the normal fault. Oil-prone source rocks of Oligocene syn-rift sediments throughout SE Asia. Reservoir is Cycle I shallow marine to lacustrine coarse clastics. Cycle I interlayered shales and onlapping shales will act as seal.





Production Sharing Contracts

Main features	Deepwater	R/C	HP/HT
ROYALTY	10%	10%	10%
EXPORT DUTY -Only levied on export oil	10%	10%	10%
PETROLEUM INCOME TAX	38%	38%	38%
CONTRACT PERIOD (YEARS) Exploration Development Production	4 6 25	3 4 20	4 4 20
RESEARCH CESS	0.5%	0.5%	0.5%
COST CEILING	DW: Oil : 70% Gas: 80% UDW Oil: 75% Gas: 80%	Sliding scale	Sliding scale
PROFIT SHARING – Sliding scale based on:	Production	R factor (R/C)	R factor (R/C)
PCSB Participation	Min 15%	Min 15%	Min 15%
Supplementary Payment	**According to Oil & Gas Production Volume** **Oil:** Up to 100 mmbbl - 50% 100 - 200 mmbbl - 60% > 200 mmbbl - 70% **Gas :** Up to 2 tscf - 50% 2 - 4 tscf - 60% > 4 tscf - 70%	Oil : 70% Gas : 60%	Oil : 70% Gas : 60%

In 1997, PETRONAS introduced a new PSC based on the "revenue over cost" concept (the R/C PSC) to encourage additional investments in Malaysia's upstream sector. The R/C PSC allows PSC Contractors to accelerate their cost recovery if they perform within certain cost targets. The underlying principle is to allow the PSC Contractor a higher share of production when the Contractor's profitability is low and to increase PETRONAS' share of production when the Contractor's profitability improves. The contractor's profitability at any time is measured by the "R/C Index", which is the ratio of the contractor's cumulative revenue (calculated as the sum of the contractor's cost oil and profit oil or cost gas and profit gas, as the case may be) over Contractor's cumulative costs.

Calculating PSC Entitlement

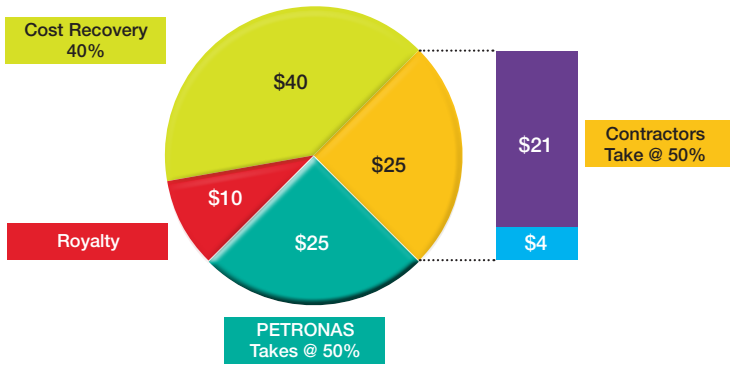


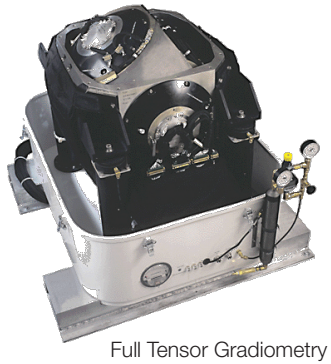
Diagram should be treated for illustration purposes only and no means reflected by the end of each component.

The diagram depicts the distribution of components within PETRONAS' revenue over cost PSC based on $100 total cash, which includes royalty, cost recovery*, and profit distribution ** between PETRONAS and operating company.

* cost recovery is assumed to be 40%, based on sliding scale of 30% - 80%.
** profit distribution is assumed to be 50 - 50 between PETRONAS and the other operators. Actual profit distribution would be based on R/C index. PETRONAS Carigali is assumed to have the minimum 15% interest in the focused block, as per contract requirement.

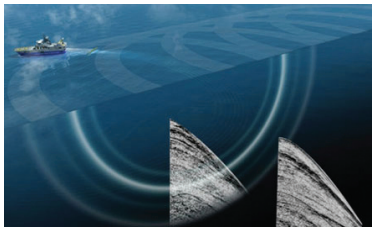
Petroleum Income Tax (PITA) Rate: 38%

New Technology Applications



Full Tensor Gradiometry

The recent exploration and development successes seen in Malaysia rely heavily on the application of new technologies and commitment by PS Contractors to introduce and test new ideas.

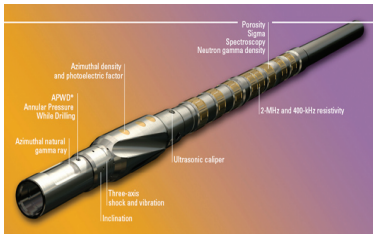


Coll Shooting

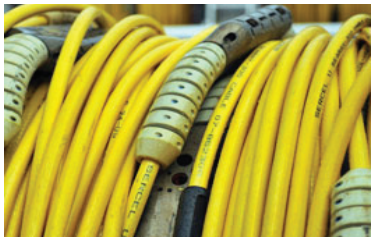
Broadsels

Casing Spear

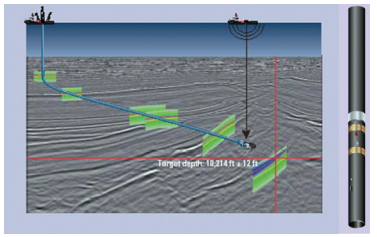
High Resolution Gravity & Magnetic



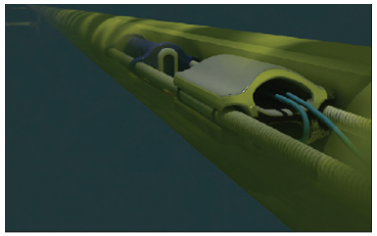
Ecoscope



Ocean Bottom Cable

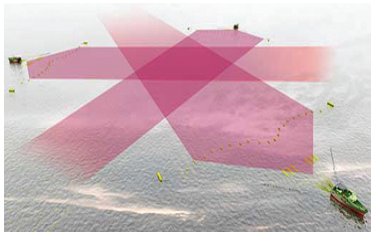


Borehole Seismic on LWD

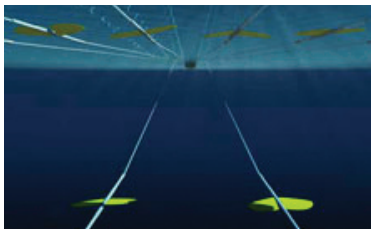


Geostreamer

Land EM

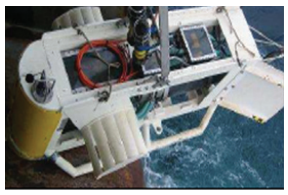


Multi Azimuths



Over and Under Acquisition

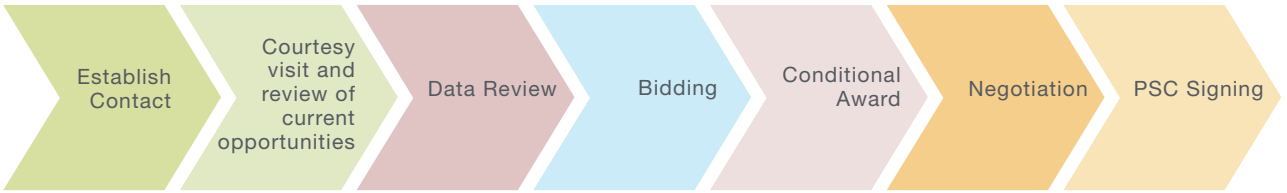
CSEM



Block Award Process

Block Promotion is a unit under Basin Assessment & Promotion (BAP) of Petroleum Resource Exploration (PREX) in PMU. Block promotion is mandated by PETRONAS to market and promote Malaysia's Exploration opportunities to sustain foreign investments in domestic E&P. Since its establishment in 2004, Block Promotion adopts various marketing channels and methods to attract potential investors to Malaysia. Potential Investors/PS Contractors shall communicate their interest to participate in Malaysia's domestic exploration opportunities to the Block Promotion team.

Block Award Process



1

- Companies establish contact with PMU and are assessed

2

- Data is available for review upon request and companies are requested to sign a confidentiality agreement
- Companies to submit their report on technical findings and interest to bid within two months

3

- Shortlisted companies are invited for a closed tender process for selected blocks

4

- PSC negotiation and award to successful companies

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