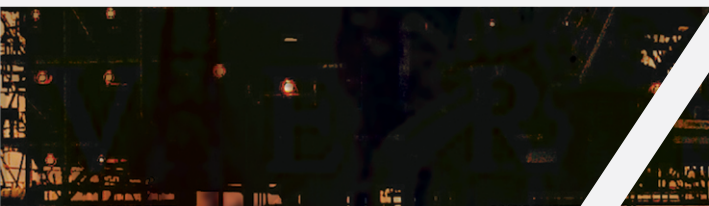




www.migas.esdm.go.id

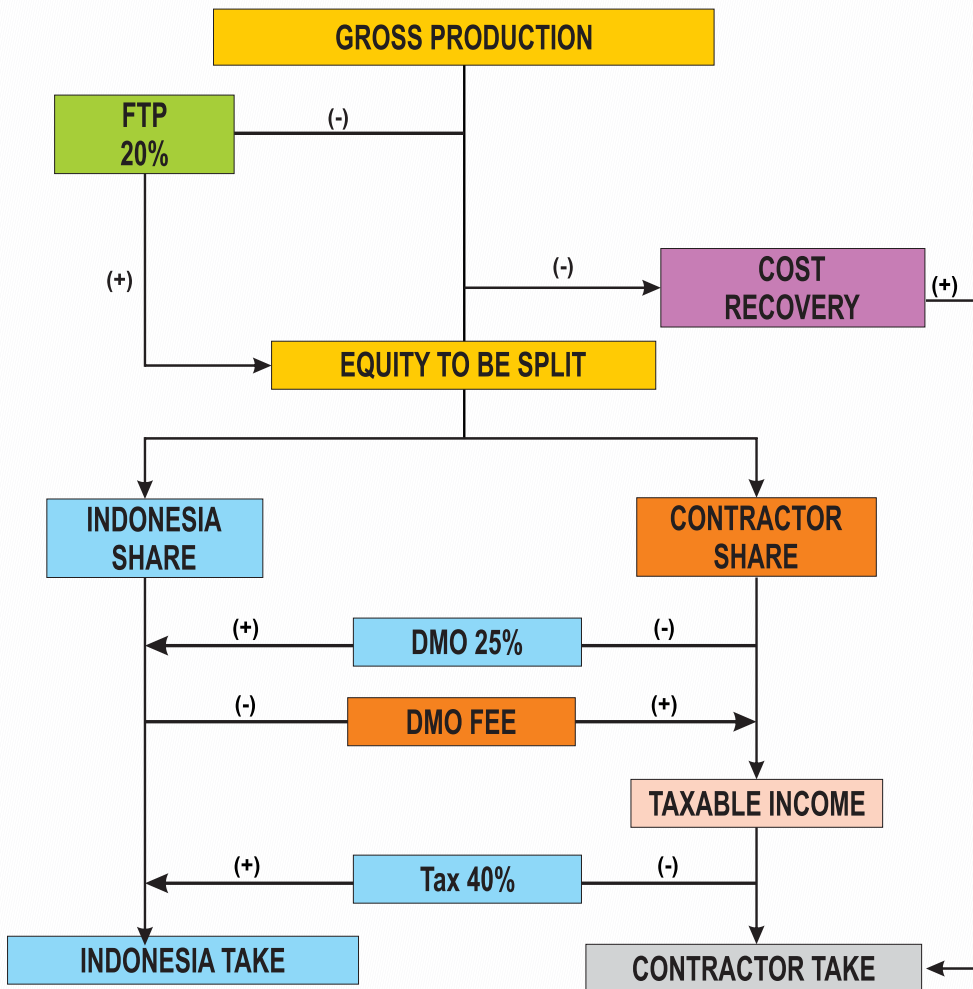


INDONESIA Conventional Oil And Gas Bidding First Round **2016**



**MINISTRY OF ENERGY AND MINERAL RESOURCES
DIRECTORATE GENERAL OF OIL AND GAS**

INDONESIA PSC



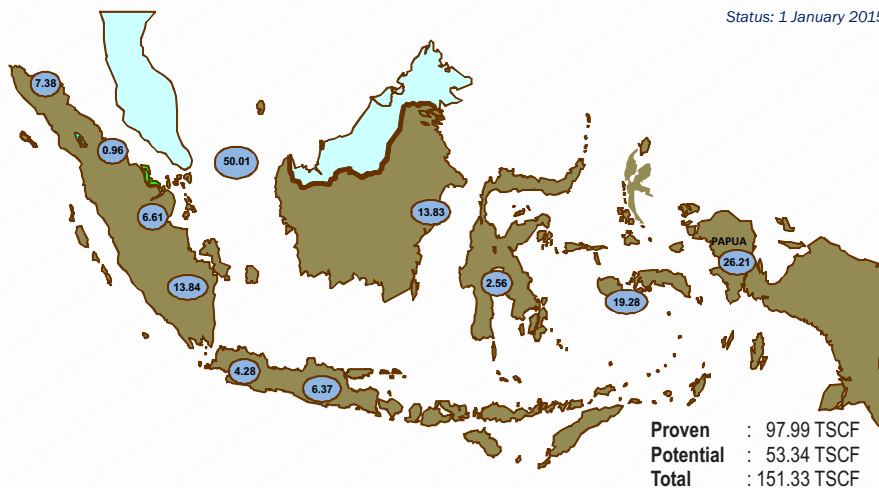
INDONESIA CRUDE OIL RESERVE

Status: 1 January 2015

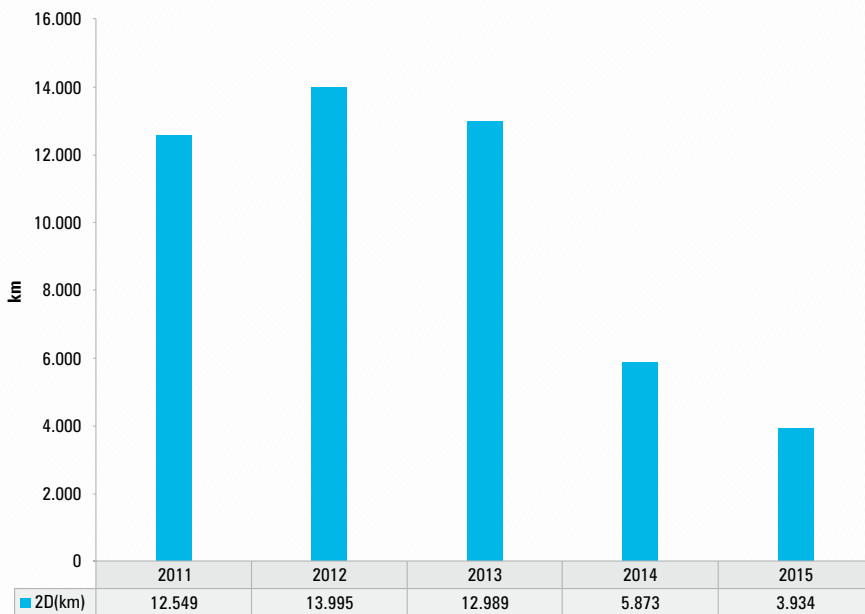


INDONESIA GAS RESERVE

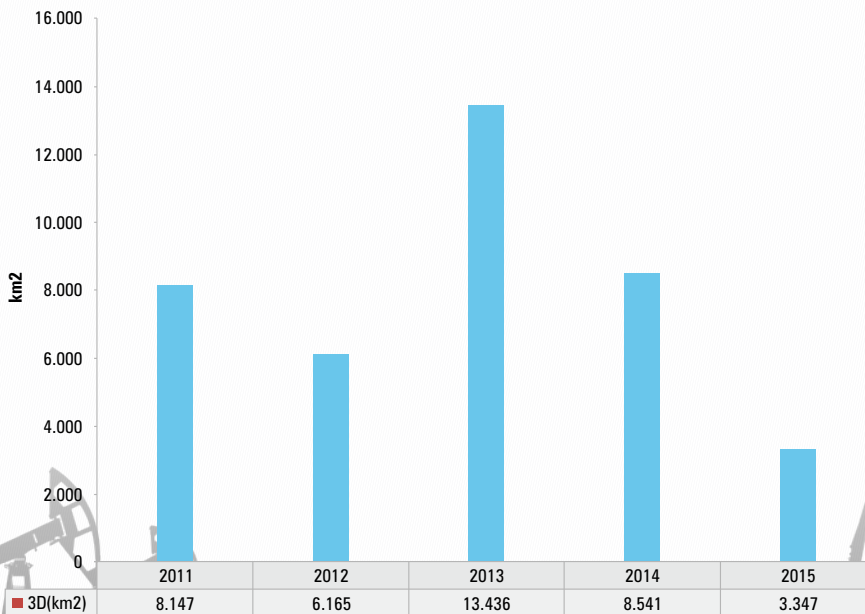
Status: 1 January 2015



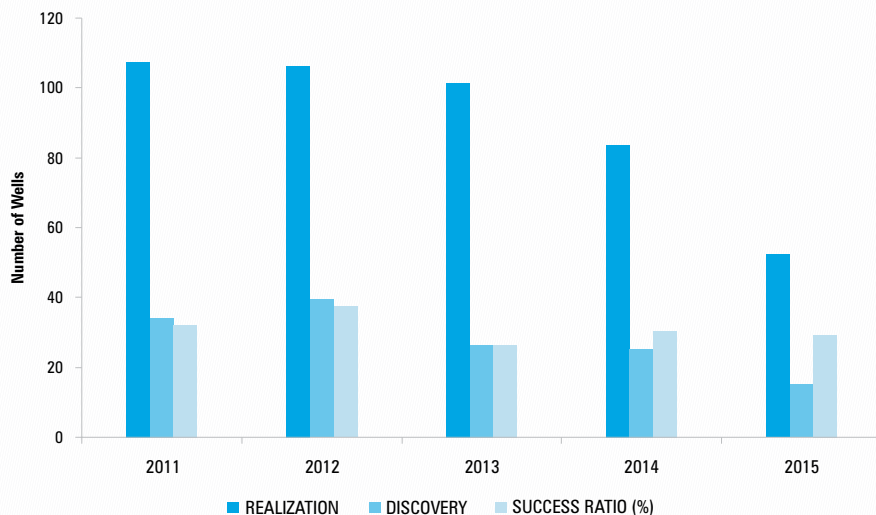
2D (km) SEISMIC SURVEY 2011 - 2015



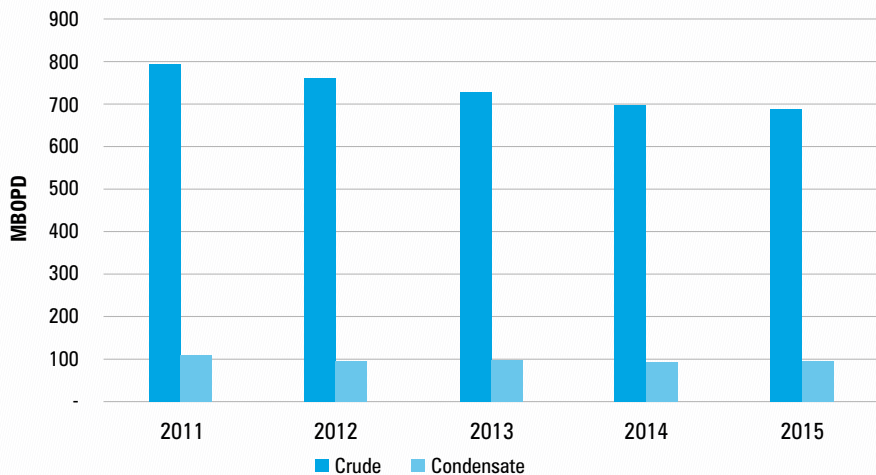
3D (km²) SEISMIC SURVEY 2011 - 2015



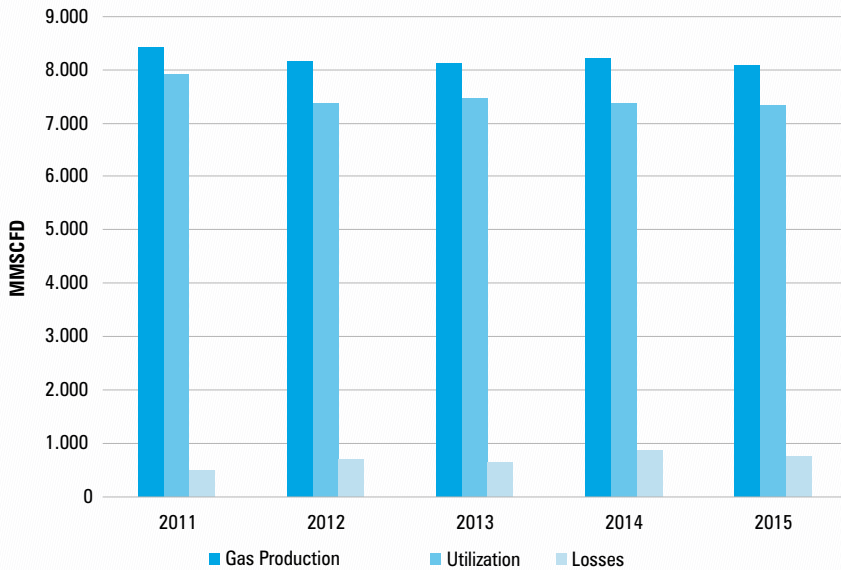
DRILLING OF EXPLORATORY WELLS 2011-2015



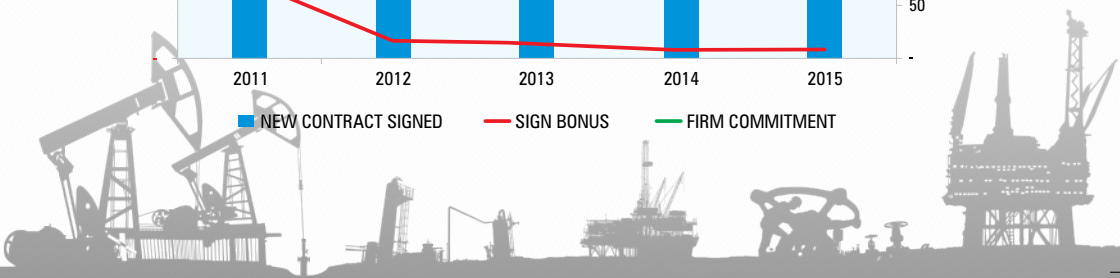
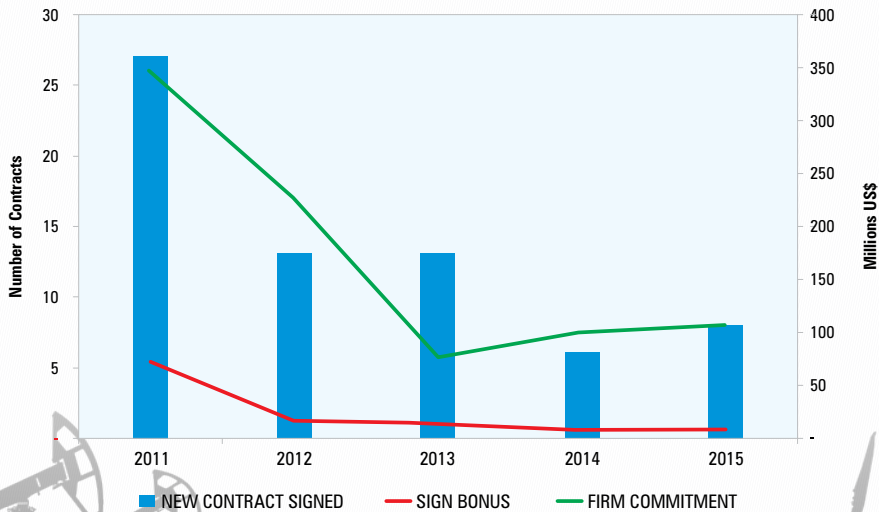
PRODUCTION OF CRUDE OIL AND CONDENSATE 2011-2015



PRODUCTION AND UTILIZATION OF NATURAL GAS 2011 - 2015



SIGNING OF CONVENTIONAL OIL AND GAS WORKING AREAS 2011-2015



DIRECT PROPOSAL TENDER

- Direct Proposal shall be carried out in the joint study framework either by enhancing data quality and or conducting survey for additional data.
- All risk and cost shall be borne to business entity / permanent establishment requirement to submit.
- Performance Bond in the amount of US\$ 1.000.000 for joint study.

Investor's Proposal

Investor's proposal for open acreage or available block shall describing area boundaries with geographical coordinates, short geology report, data completeness, profiles and capability of the company If within not later than 14 calendar days after the receipt of submitted proposal from Business Entity (BE) or Permanent Establishment (PE), there are any other BE or PE submitting proposal for direct proposal of an area in which:

- Cover more than 25% from previously proposed, the whole areas will accordingly be reserved for the tender (Regular)
- Cover less than or equal to 25% from the previously proposed, the sub-sequent BE or PE shall adjust the proposal with the proposal of previous BE or PE

Determined by Minister of Energy and Mineral Resources (MEMR)

Minister (MEMR) determine the acreage for tender including boundary of acreage, term and condition of cooperation contract and issues Direct Proposal Document.

Direct Proposal Document

It contains information of tender procedures, schedules, data access procedures, technical information of working acreage, PSC draft and other requirements. The intended participant must purchase the Direct Proposal Document at MIGAS.

Clarification Forum

Participants who have obtained the Direct Proposal Document may submit questions regarding tender process.

Evaluation of Participating Documents

Participating Document will be assessed based on the technical criteria of 3 years exploration commitment, financial capabilities and company performance, as proposed by bidder.

Contract Signing

SKK MIGAS and contractor sign the cooperation contract.



Evaluation of Proposal

The committee evaluates the proposal submitted by company for open acreage and available blocks. The Director General of Oil and Gas may approve proposal of joint study based on the evaluation of the committee.

Joint Study

Joint Study will be conducted between MIGAS and BE/PE

Result of Joint Study

The committee evaluates the result of joint study in the technical and economical aspect.

Announcement

The new acreage will be announced through electronic and other media (our Website: <http://www.migas.esdm.go.id>)

Data & Information

It is mandatory that any participant will have to purchase an official government data package through and set by MDM prior to submitting the participating document.

Participating Documents

The Tender Participant should submit the entire Participating Document on the closing date of the tender.

Determination of The Winning Bidder

The Minister (MEMR) will appoint the winning bidder, based on the committee recommendation.

REGULAR TENDER

- Blocks from open acreage prepared and designated by MIGAS
- Available Blocks

Determined by Minister of Energy and Mineral Resources
Minister MEMR determine the new acreage for tender including boundary of acreage, term and condition of cooperation contract and bid documents.

Bid Documents
It contains information of Tender procedures, schedules, data access procedures, technical information of working acreage, PSC draft and other requirements. The Intended participant must purchase the Bid Document at MIGAS.

Clarification Forum
Participants who have obtained the Bid Document may submit questions regarding Tender Process.

Evaluation of Participating Documents
Participating Document will be assessed based on the technical criteria of 3 years exploration commitment), financial capabilities, and company performance, as proposed by bidder.

Contract Signing
SKK MIGAS and contractor sign the cooperation contract.

1

2

3

4

5

6

7

8

9

Announcement

The new acreage will be announced through electronic and other media (our Website: <http://www.migas.esdm.go.id>)

Data & Information

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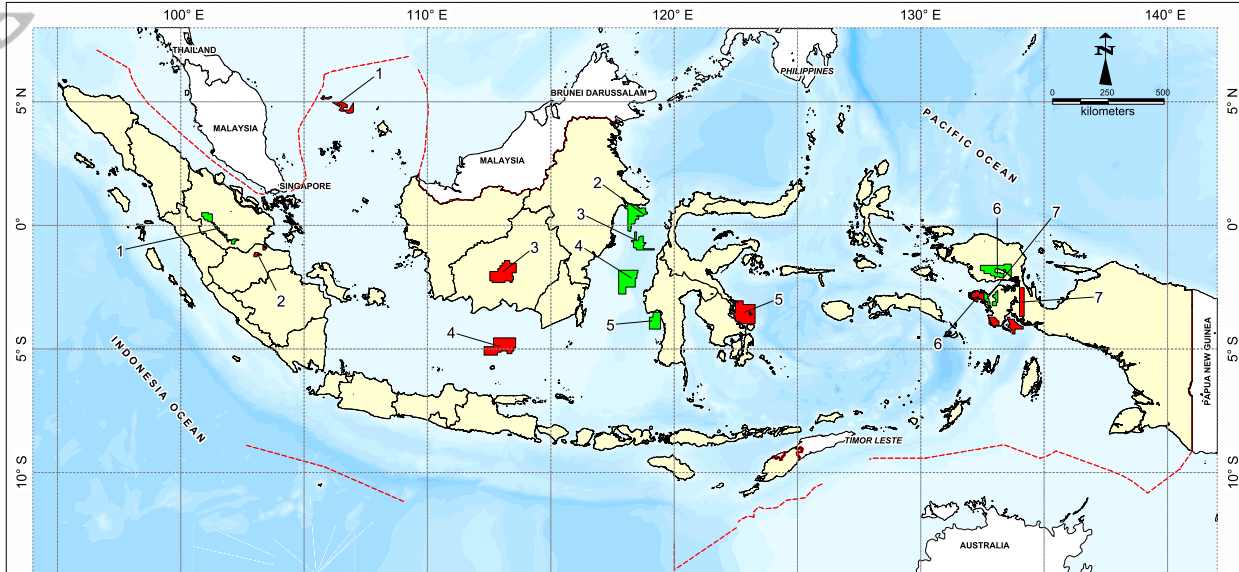
Participating Documents

The Tender Participant should submit the entire Participating Document on the closing date of the tender.

Determination of The Winning Bidder

The Minister (MEMR) will appoint the winning bidder, based on the committee recommendation.

CONVENTIONAL OIL AND GAS BIDDING FIRST ROUND 2016



LEGEND :

■ REGULAR TENDER

■ DIRECT PROPOSAL

1. South CPP
2. Oti
3. Suremana I
4. Manakarra Mamuju
5. South East Mandar
6. North Arguni
7. Kasuri II

1. Bukit Barat
2. Batu Gajah Dua
3. Kasongan Sampit
4. Ampuh
5. Ebuny
6. Onin
7. West Kaimana



DIRECTORATE GENERAL OF OIL AND GAS
Directorate Of Upstream Business Development

NEW CONCEPT IN THE PETROLEUM BIDDING ROUND 2016

- The *Term & Condition* is owner estimate for government
- Tender participants are free to bid the “sharing split and signature bonus”
- The Government chose the winner of tender from the best offering based on the owner estimate.

Bid Round (Year)	Sharing Split (% Govt:%Contr.)	Signature Bonus US\$ MM	Firm Commitment (well (s), 3D/ 2D seismic)	Other terms (DMO Fee FTP, etc)
2015	- Take it or leave it - Fixed split – non negotiable	As a minimum requirement	As a minimum requirement	Non negotiable
2016 (concept)	- Owner estimate for government - Open for bid - Govt. share after tax > Contr. Share	- Owner estimate for government - Open for bid - Non zero bonus	As a minimum requirement	Non negotiable

CONCEPT OF ASSESSMENT IN THE PETROLEUM BIDDING ROUND 2016

- Basic assessment consist of financial ability and technical commitment which offered by tender participants. The participant which passed the basic assessment is that: fulfill of administrative requirement; fulfill of technical aspect; and financial ability for support to *firm commitment*.
- The Final Assessment is combination of participant's proposal of work program & commitment, signature bonus and sharing split.



TERMS AND CONDITIONS

No.	BLOCK		Agreement	Term and Condition						Bidding Mechanism	
	NAME	SIZE (Km2)		1st Relinquishment	FTP ¹⁾	DMO		PSC Split	Signature Bonus		Minimum-Firm Commitment
						Volume	Fee ²⁾				
1	BUKIT BARAT	2.446,84	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • 1 exploratory well,	Direct Proposal	
2	BATU GAJAH DUA	658,81	PSC	10%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • 1 exploratory well,	Direct Proposal	
3	KASONGAN SAMPIT	8.124,56	PSC	30%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 200 Km.	Direct Proposal	
4	AMPUH	7.896,25	PSC	30%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 1.500 Km	Direct Proposal	
5	EBUNY	8.208,32	PSC	30%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 3D seismic 500 Km²	Direct Proposal	
6	ONIN	5.094,41	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 200 Km	Direct Proposal	
7	WEST KAIMANA	4.116,27	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 200 Km	Direct Proposal	
8	SOUTH CPP	2.672,47	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • 1 exploratory well,	Regular Tender	
9	SUREMANA I	2.885,51	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 3D seismic 500 Km²	Regular Tender	
10	SE MANDAR	3.416,00	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 3D seismic 500 Km²	Regular Tender	
11	NORTH ARGUNI	5.397,96	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • 1 exploratory well,	Regular Tender	
12	KASURI II	1.821,29	PSC	10%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 200 Km	Regular Tender	
13	MANAKARRA MAMUJU	7.033,19	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 1.000 Km	Regular Tender	
14	OTI	5.480,80	PSC	25%	20	25	25	Open for bid	• G&G (total amount for the first 3 contract years); • Acquisition & processing 2D seismic 1.000 Km	Regular Tender	

Remarks:

FTP 20 % is shared

DMO Fee after five (5) years of commercial

TENDER SCHEDULE

A. DIRECT PROPOSAL TENDER

Access Bid Document	:	July 18 – August 22, 2016
Clarification Forum	:	July 21 – August 24, 2016
Bid Submission	:	August 31, 2016

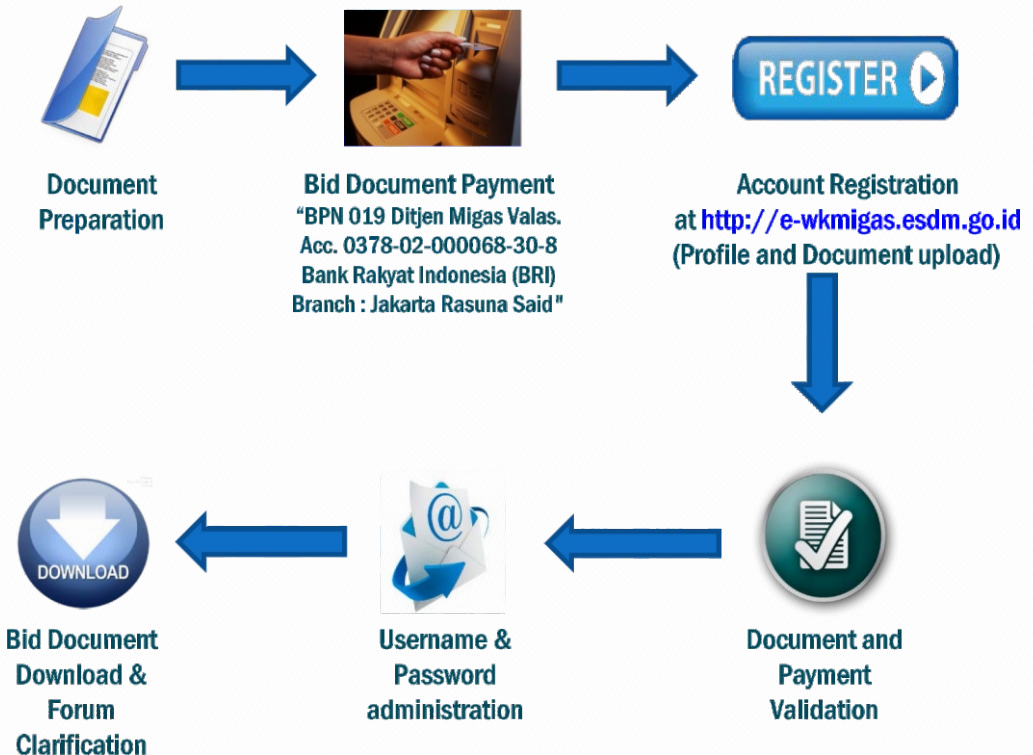
B. REGULAR TENDER

Access Bid Document	:	July 18 – October 28, 2016
Clarification Forum	:	July 21 – October 31, 2016
Bid Submission	:	November 14, 2016



BID DOCUMENT ACCESS

- Bidding process is using "e-lelang Wilayah Kerja" application at <http://e-wkmigas.esdm.go.id>.
- Guidance booklet should be read first before make any payment for Bid Document. You may download the guidance from the website.
- Steps for accesing Bid Document



DATA ACCESS

Bid Participants shall access geological & geophysical data, which will be used for technical evaluation of the exploration work program.

- a) Data Package consists of geological & geophysical data and outside which are directly related to the Block. The Data Package is mandatory, it shall be access at:

Pusat Data dan Informasi (PUSDATIN) KESDM
 Executing Agency MIGAS Data Management (MDM)
 PT. Patra Nusa Data
 Graha Elnusa 5th Floor
 Jl. TB Simatupang Kav.1B
 Jakarta 12560 (Ph.62-21-7816770-74 Ext.15, Fax.62-21-7816775)

- b) Auxiliary Data: consists of geological & geophysical data related to areas but not covered on the Data Package. The auxiliary data is optional (not mandatory) it can be accessed from legal sources:

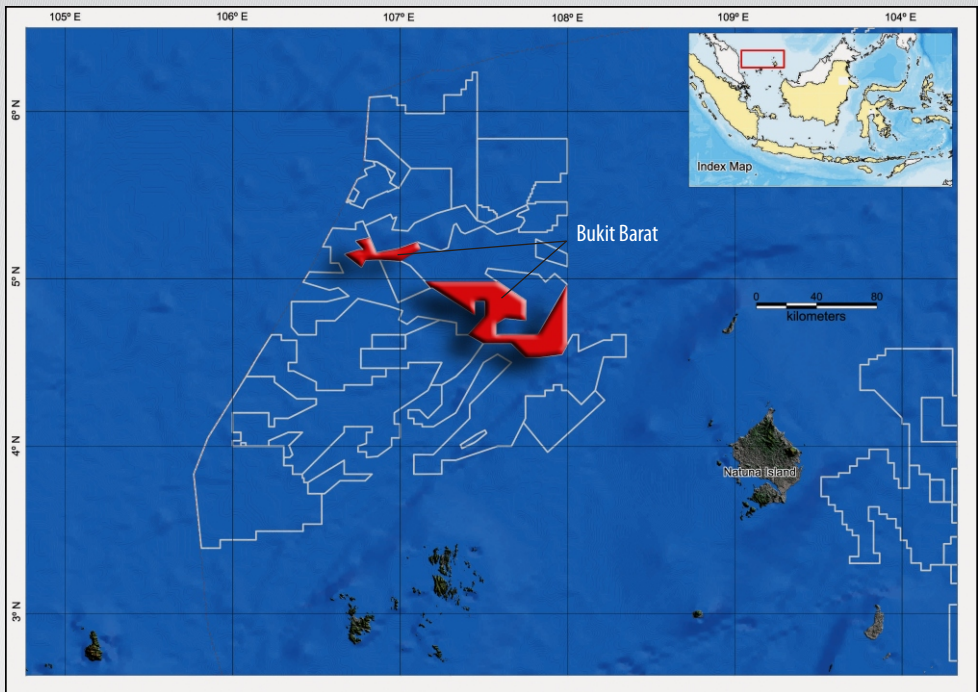
1. PT Patra Nusa Data
2. Speculative Survey Companies
3. PPPTMGB "LEMIGAS"
 Jl. Ciledug Raya Kav.109, Cipulir Kebayoran Lama
 Jakarta Selatan 12230
 contact : Koordinator Kelompok Riset Teknologi Eksplorasi
4. Badan Geologi
 Jl. Diponegoro 57, Bandung 40122
 contact : Sekretaris Badan Geologi
5. Puslitbang Geologi Kelautan
 Jl.DR. Djunjunan No.236 Pasteur –Bandung



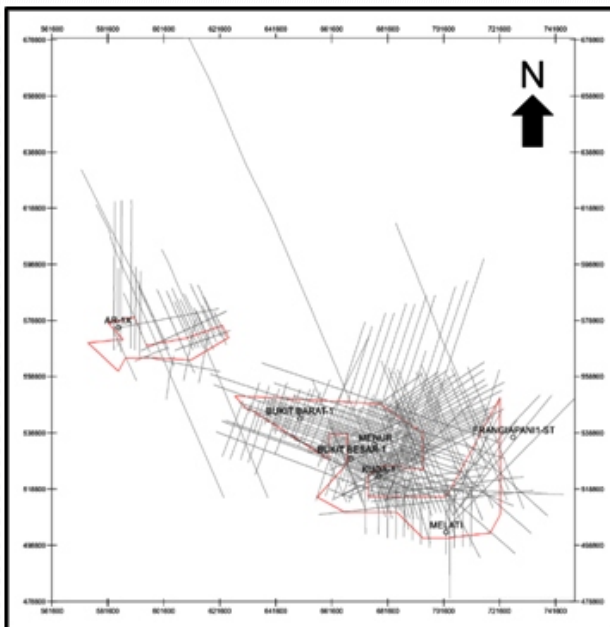
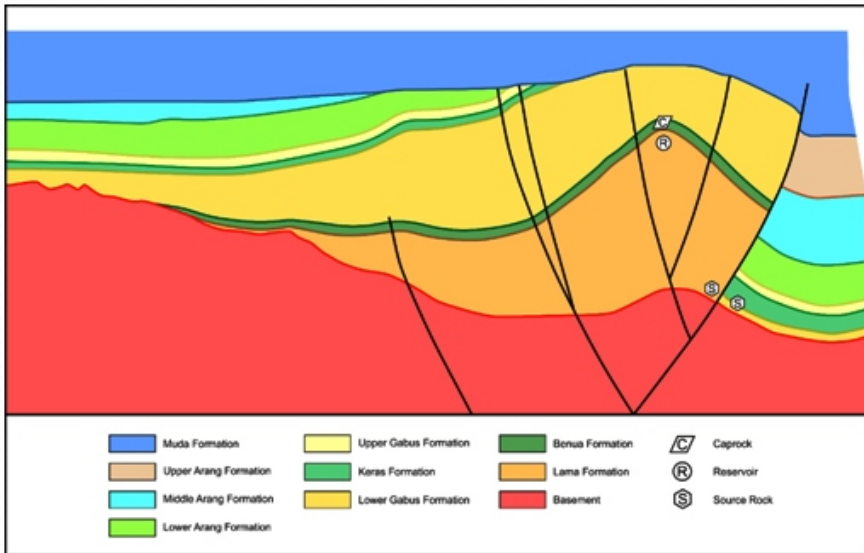
GEOLOGICAL SYNOPSIS



BUKIT BARAT BLOCK

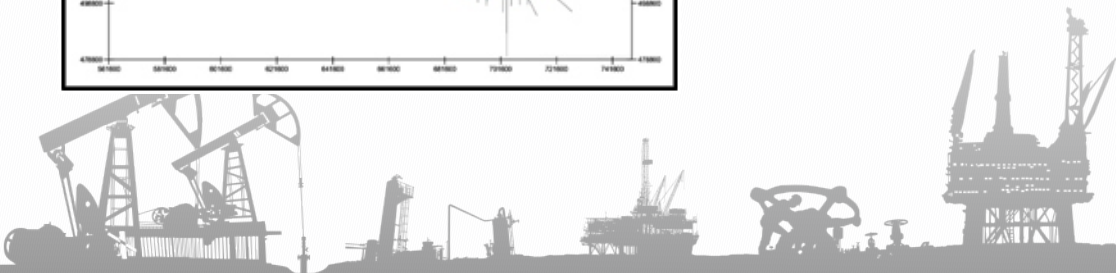


PLAY CONCEPT

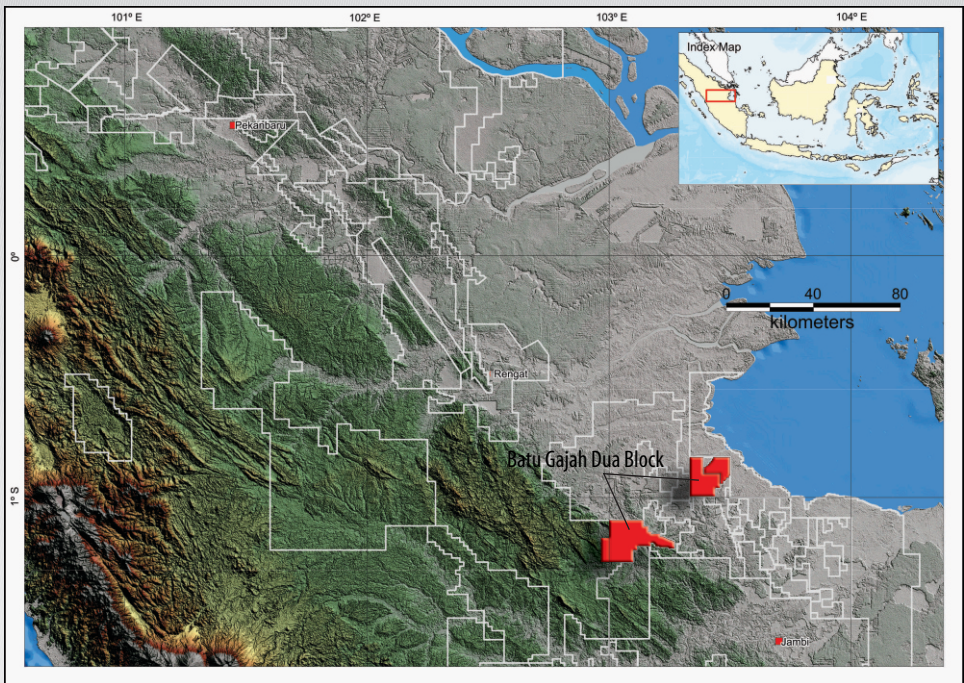


DATA AVAILABILITY

Bukit Barat Block has 276 lines of 2D Seismic and 7 Wells inside and around the Block.



BATU GAJAH DUA BLOCK

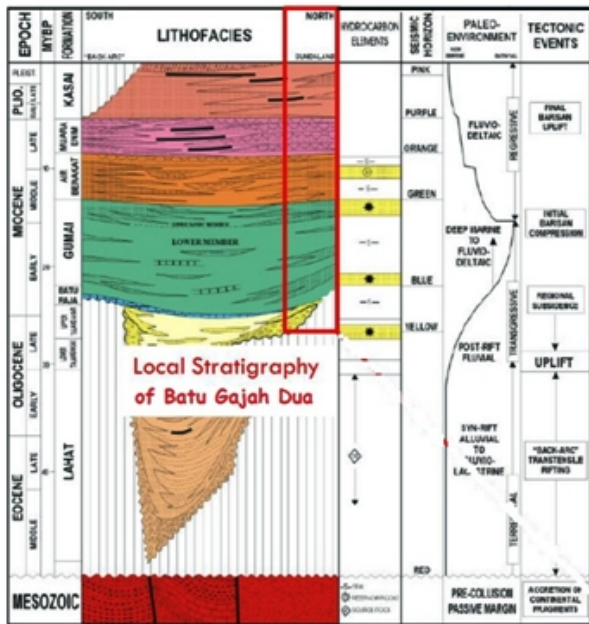


BATU GAJAH DUA

Batu Gajah Dua Block is located in Jambi Sub-basin, northernmost of South Sumatra Basin, nearby some proven hydrocarbon fields. This Block covers an area of 646 Km².

GEOLOGICAL SETTING

Jambi sub-basin is located in northwestern of Greater South Sumatra Basin, bounded by Tiga Puluh Mountain to the northwest, Sempilah High to the southeast, Central Palembang sub-basin to the southeast, and Lupah High to the northeast. Several depression are identified in surrounding study area, which are occurred in range of Eocene to Oligocene and controlled by NE-trending fault in combination with older NS-trending faults, creating those localized "boomerang-like" half grabbens.



STRATIGRAPHY

Stratigraphy of Batu Gajah Dua is unique prior to its basin margin position towards Sunda Landmass. In consequences, the regional stratigraphy column will be slightly different from ordinary South Sumatra Basin.

PETROLEUM SYSTEM

Source Rock : The most significant source rock accumulation is primarily restricted to the shale of Talang Akar Formation and Lahat, Gumai, and Air Benakat Formation could also be considered as source rocks since they have high TOC content in some part.

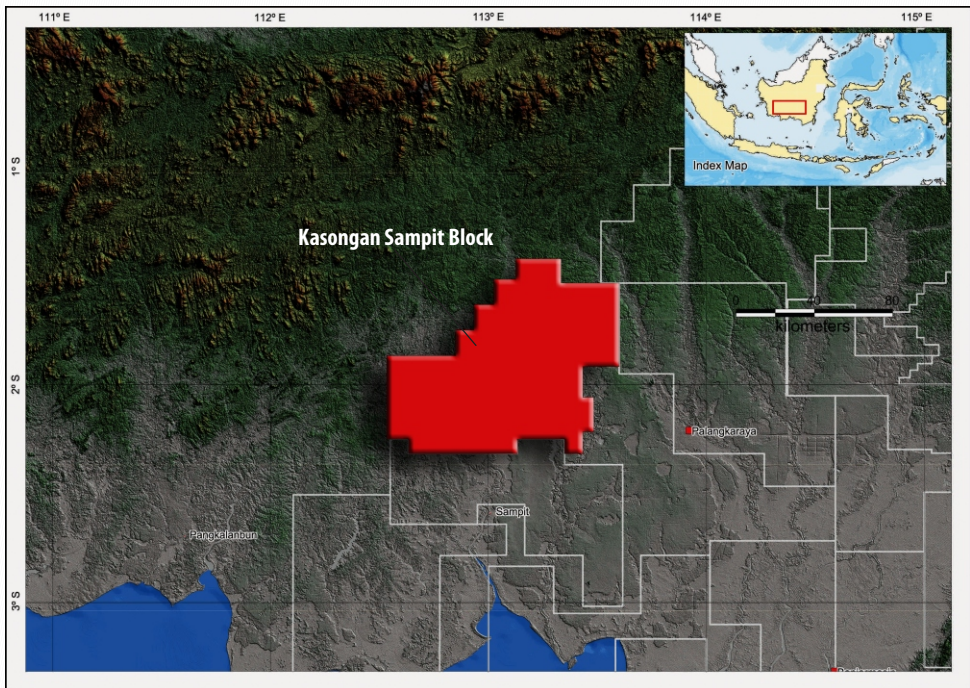
Reservoir : There are some reservoir candidates in this area. They are Lower TalangAkar, Upper TalangAkar, Gumai, and Air Benakat.

Seal : Claystone and Siltstone of Late Oligocene Lower-Upper Talang Akar, and interbedded shale-siltstone and claystone of Miocene Gumai Formation.

Trap : Structural and Stratigraphic Traps



KASONGAN SAMPIT BLOCK



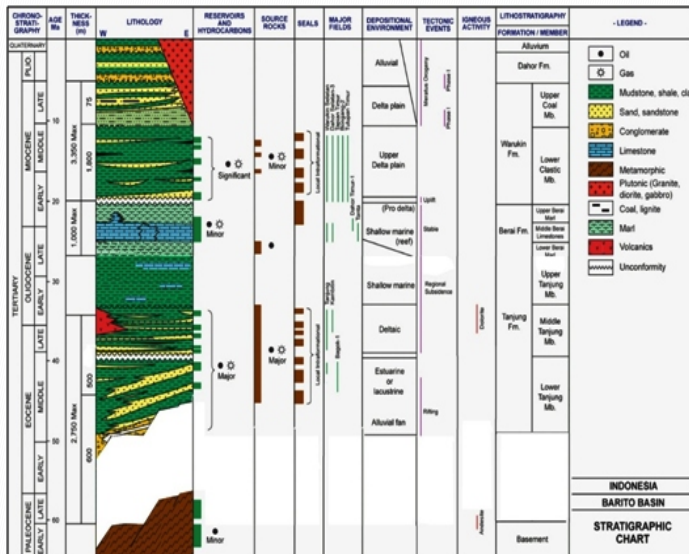
KASONGAN SAMPIT BLOCK

The Kasongan Sampit Block is located in the Western Edge of the Barito Basin, South Kalimantan and this area has approximately 5.476 km².

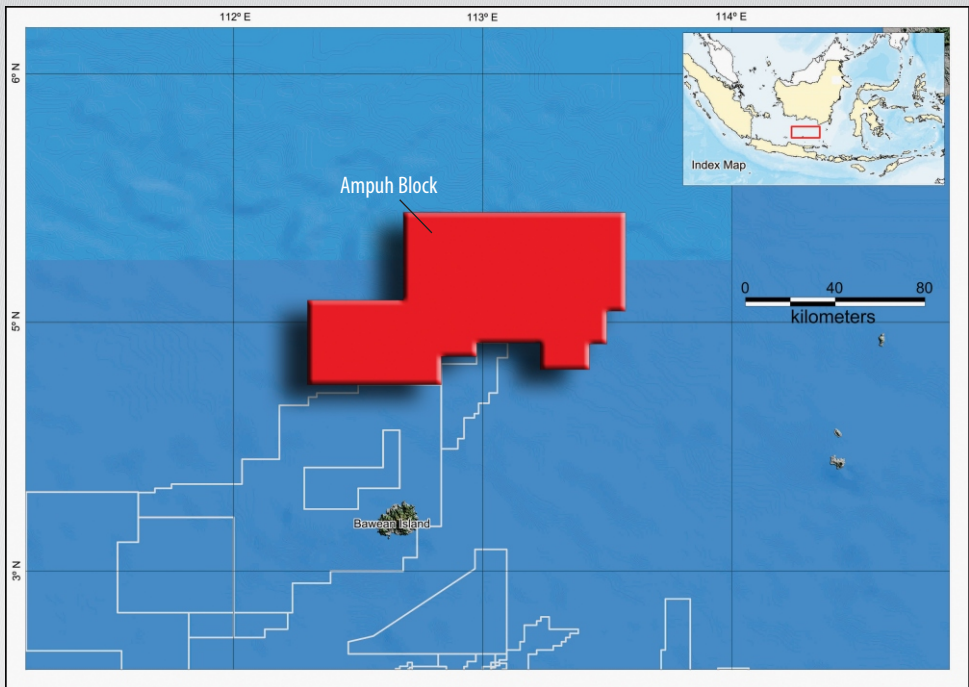
GEOLOGICAL SETTING

The Barito Basin is located along the south-eastern edge of the continental Sunda Shield. It is separated from the Asem-Asem and Pasir Basins to the east by the recently uplifted Meratus Mountains. To the north it is separated from the Kutei Basin by the Adang Fault/Flexure system, also known as the Barito-Kutei Cross High.

STRATIGRAPHY



AMPUH BLOCK



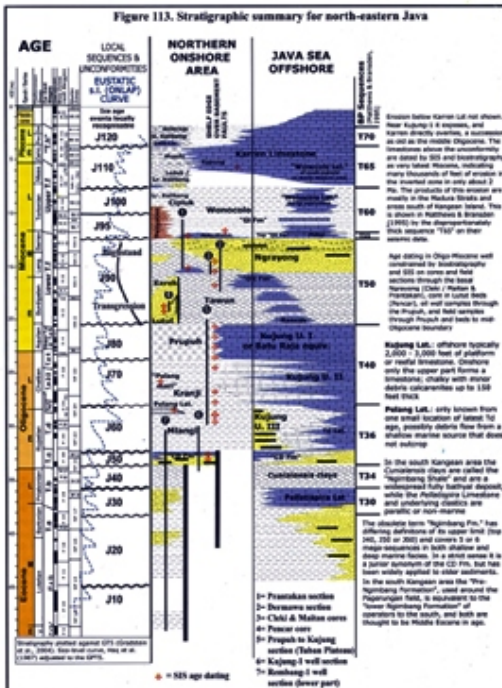
AMPUH BLOCK

Ampuh Area covered an area of 7.896,25 km² and situated in north of offshore East Java, $\pm$ 100 Km northeast of Kepodang Gas Field and $\pm$ 220 Km north of Surabaya, East Java Province.

GEOLOGICAL SETTING

Geologically, the Ampuh Areas located in the northern part of East Java Basin at Bawean Arch and Muriah Trough have had an active geodynamic history extends from Oligocene to recent times. Pre-Tertiary rocks include igneous intrusive, Cretaceous meta-sedimentary and volcanic rocks. Paleogene tensional tectonic led to the development of northeast-southwest trending tilted horst blocks and graben are considered to be the major structural control in the Bawean Area. Neogene tectonism related to strike-slip movement led to development of inversion structures and is the major structural control in the region south of the ridge.

STRATIGRAPHY



PETROLEUM SYSTEM

Source Rock : Primary source rock in Ampuh area are coals of the Kujung III Formation that have kerogen type III.

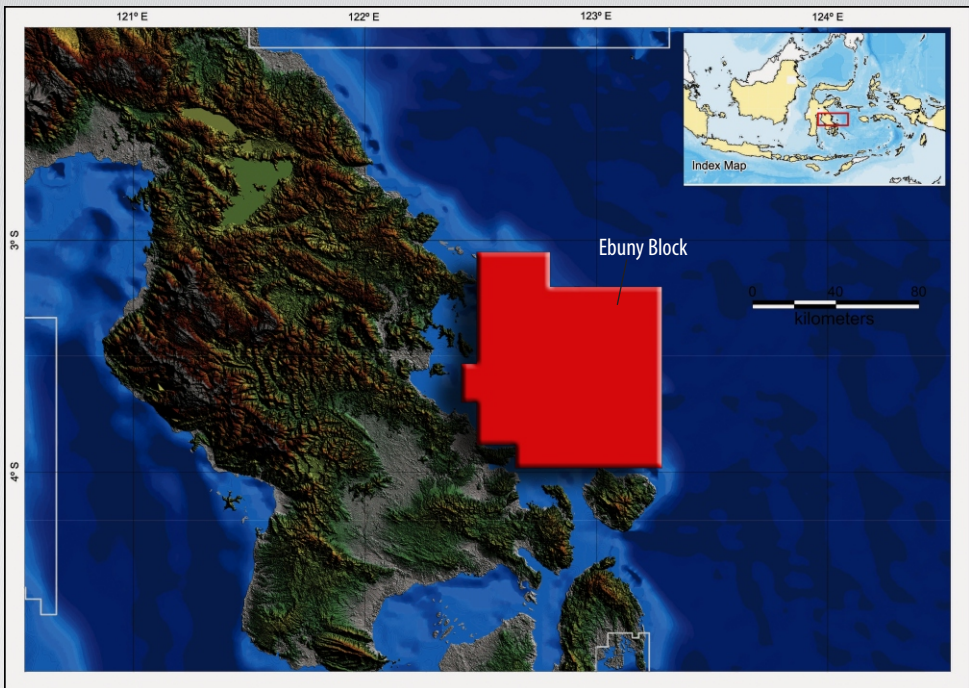
Reservoir : The main reservoir targets are the Early Miocene Limestone of the Kujung-I, and Oligocene sandstone of the Kujung-III, while the secondary target is Late Oligocene Limestone of the Kujung-II

Seal : Seal for Kujung I is regional seal which was provided by Middle – Upper Miocene Tuban shales. Seal for Kujung III are formed by intraformational seal of Kujung-II shales.

Trap : structural trap (anticline, faulted anticline) and Stratigraphic trap (reefal build up)



EBUNY BLOCK



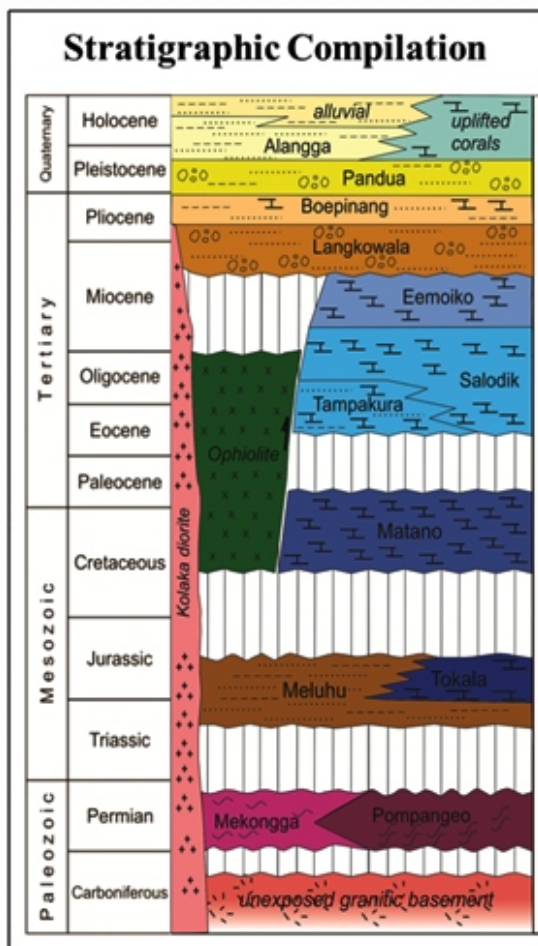
EBUNY BLOCK

Ebuny Block is administratively situated in Southeast Sulawesi and covers 7.460 km² wide. Geologically, this Block is located in the Manui Basin, which is located among the Buton and Banggai Basin, both have proven hydrocarbon play system.

GEOLOGICAL SETTING

The Manui Basin is part of the Australia-New Guinea continental crust, where the Northwestern boundary of Ebuny Area flanked by Sulawesi Ophiolite Line, bordered by Buton crust in southeast and Tolo Trench at the eastern part. The continental crust is belived to be part of Australia-New Guinea crust because it has similar stratigraphy.

STRATIGRAPHY



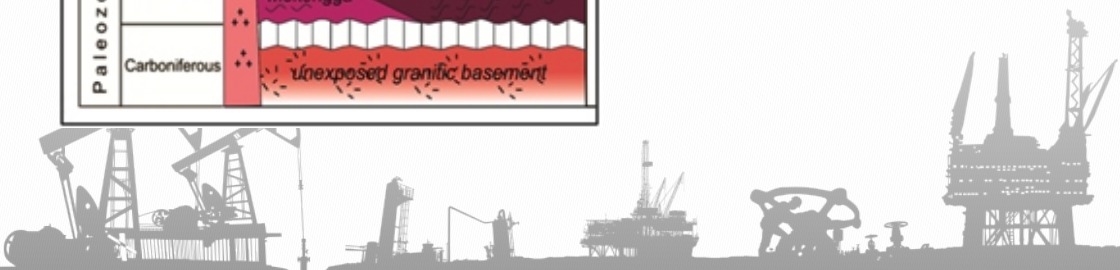
PETROLEUM SYSTEM

Source Rock : Main source rocks in this area are from Meluhu and Tokala Formation shales. Both source rock spread on local graben, at northern and middle part of the Area.

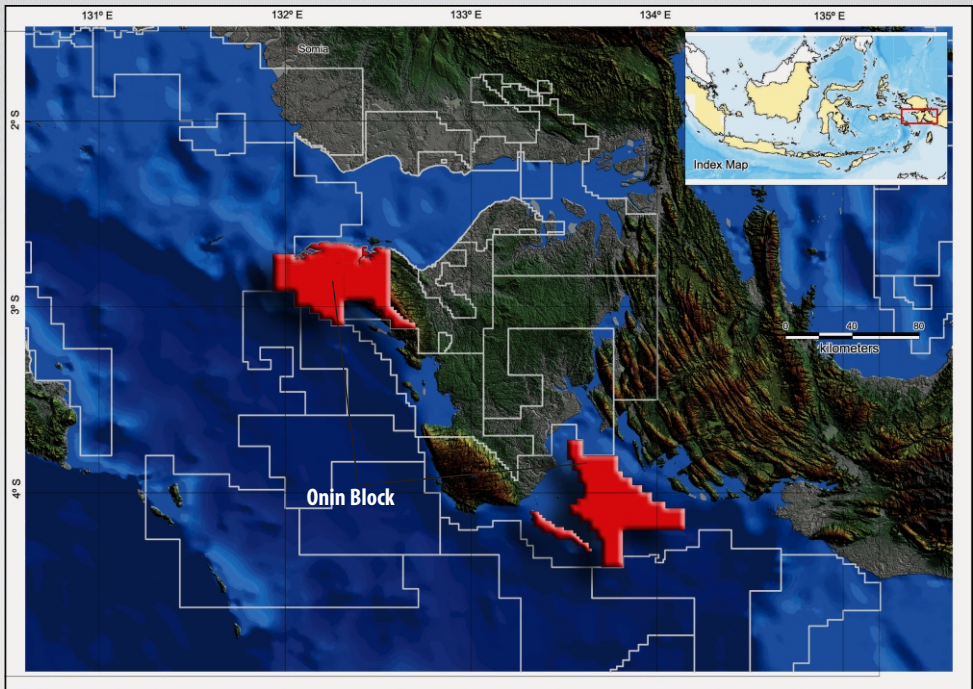
Reservoir : Main reservoir targets are Tampakura and Eemoiko Formation. Potential reservoir is also found in othe intervals, such as limestone of Tokal and Matano Formation.

Seal : shale from molasse sequence.

Trap : Stratigraphic traps (carbonate build up)



ONIN BLOCK



ONIN BLOCK

The Onin Block is lies within the Late Cenozoic Bintuni Basin, covers of approximately 5134 sq km. This asymmetric basin is largely filled with Pliocene and Pleistocene sediments which underlying Miocene and older sediments dip from West to East. Beneath the Pliocene there are 1000m of limestone and dolomites collectively termed the New Guinea Limestone (NGLG).

GEOLOGICAL SETTING

The Bintuni basin is the Late Tertiary basin located in Papua. It encompasses the southeastern part of the Bird's Head, most of the Bintuni Bay and the eastern part of Bomberai Peninsula. The basin is limited to the east by the Arguni thrust, located at the front of Lengguru Foldbelt which is consists of Mesozoic clastics and Tertiary limestones severally folded and thrust. The western part is marked by structural high, the Skak Ridge and its northern extension the Ayamuru Plateau, which is separates it from the Salawati Basin. To the south, the Bintuni basin extends up to the Tarera – Aiduna fault which is parallel to the Sorong Fault zone.

STRATIGRAPHY

Regional Stratigraphy of the Bintuni Basin

AGE			BINTUNI	
UNITS		STRATIGRAPHIC	FORMATION	LITHOLOGY
PLEISTOCENE			SELE	Conglomeratic sandstone and clays
PLIOCENE			STEENKOL	Shale and sandstone alternation
UPPER	MIOCENE	NEW GUINEA LIST GROUP	KLASAFET	Fossiliferous chalky limestone rich in coral debris. Changing eastwards to gray shale
MIDDLE			KAIS	SAGO
LOWER			SIRGA	
OLIGOCENE			FAUMAI	Light brown, often dolomitic, limestones and crystalline dolomite
EOCENE			WARUPI	Sand and shale alternations overlain by evaporite facies changing laterally shaly carbonates
PALEOCENE			JASS	Claystone and silty shale
UPPER	CRETACEOUS	BINTUNI GROUP	LOWER KEMBELANGAN	Shallow water sandstone interbedded with gray shale
LOWER			TIPUMA	Red bed facies
TRIASSIC				
UPPER	PERMIAN		ANIM	Black shale and sandstone alternations, coal seams
MIDDLE			AFAT	Shales and marl with carbonate
UPPER			AIMAU	Sandstone intercalated with fossiliferous shales
MIDDLE	CARBONIFEROUS			
LOWER				
DEVONIAN				
SILURAN			KEMUM	Strongly folded and aprometamorphosed shale, greywackes and coarse clastics
ORDOVICIAN				

LEMIGAS, 2005

LEMIGAS, 2005

PETROLEUM SYSTEM

Source Rock : Two main source rocks in the Bintuni Basin are the gas and condensate-prone Permian Anim coals and shales, and the oil-prone Upper and Middle Jurassic shales

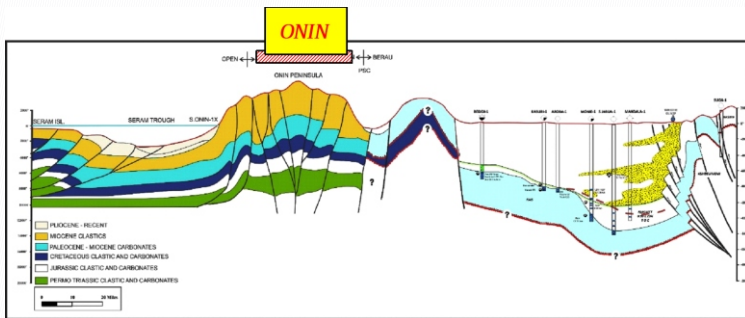
Reservoir : Middle Jurassic Roabiba sandstone is the major hydrocarbon reservoir. Very good sandstone has been found in Jurassic rock stratum which is underlying formation of Late Cenozoic Bintuni Basin.

Seal : Jass Formation shales

Trap : Faulted Anticline (Three-ways and Four-ways closure)



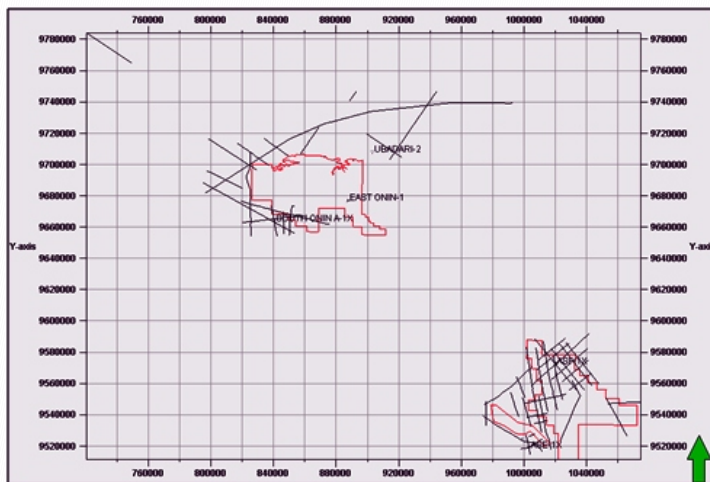
PLAY CONCEPT



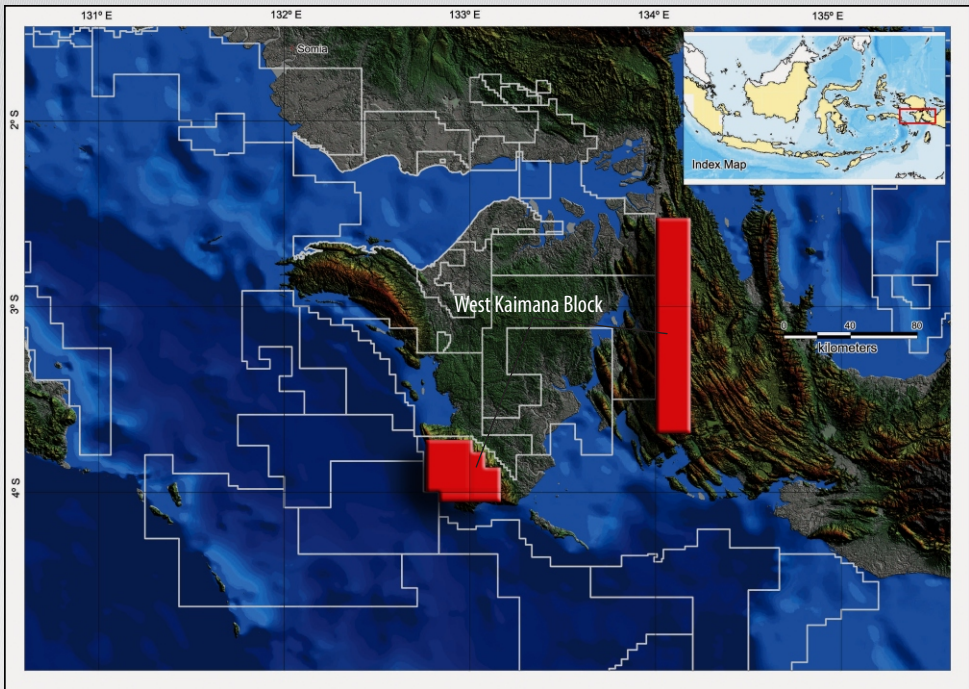
Misool-Onin ridge as the inversion basins suggest the present of hydrocarbon in East Onin well and the hydrocarbon present in Kasuri Area as well as Tangguh Area give the opportunity to develop more play concept of the Onin

DATA AVAILABILITY

60 2D Seismic Lines and 5 wells data inside and around the Block.



WEST KAIMANA BLOCK



WEST KAIMANA BLOCK

West Kaimana Block consists of Areal covers of 1.395,3km² in the West and Are all covers an area of 2.702km² in the East, both located in the West Papua province.

GEOLOGICAL SETTING

Geologically, this Block is located in Lengguru Thrust Fold Belt in the southern part of Papua include in The West Irian Micro Continent (WIMC), bounded on the east by a series of Lengguru folds Line, northern bounded by outcrops of Kemum Block basement, western bounded by Onin-Kumawa antiklinorium, and on the southern by Tarera- Aiduna Fault Zone.

STRATIGRAPHY

Chronostratigraphy	Litho-Stratigraphy	LITHOLOGY	Hydro-carbons	Source Potential	Reservoir and Seal Potential	Tectonics
QUATERNARY	SELE FM					
TERTIARY	NEOGENE	STEENKOOI FM	Jago-4 Wrigar Wrigar Mogel Oleasi-1			COLLISION FORELAND BASINS
	PLIOCENE	KAIS FM				
	MIOCENE	SIRGA FM				
	OLIGOCENE	NEW GAMA LUMESTONE				AUSTRALIA DRIFTS NORTHWARD
	EOCENE	FAUMA FM				
	PALAEOCENE	WURUP FM			WURUP FM Top seal	WIDENING OF INDIAN OCEAN
	DARUM FM		Wrigar Deep Venezi-1		DARUM FM Turnstone sandstone JASS FM Top seal	MINOR RIFTING
	LATE	JASS FM				MINOR UPLIFT & EROSION
	EARLY					
	JURASSIC	ROBARSA SST ALEXIAN SST	Wrigar Deep Doblo-1 Venezi-1 Oleasi-1 Wrigar Deep Ukasi-1		Top seal MIDDLE JURASSIC Shale Seal	THERMAL SUBSIDENCE GOVERNOR POST RIFT
TRIAS	LATE					UPLIFT & EROSION
	MIDDLE	TIPUAM FM			Tipuam FM Top seal	THERMAL SUBSIDENCE
	EARLY	ANIM FM			ANIM FM Mogel Deep-1 Top seal	UPLIFT & EROSION
	LATE	AFAT FM				MAIN RIFT
PERMAN	EARLY	ASMAU FM				EARLY RIFT
PRE PERMAN PALAEOZOIC AND CAMBRIAN		KEMUM FM				PRE- RIFT GOVERNOR

PETROLEUM SYSTEM

Source Rock : Primary source rock in this area is Jurassic shale of Kembe-langan and Permshale of Anim Formations, and another source rock are coming from the younger sections of the Steenkool and Klassafet shale Formations.

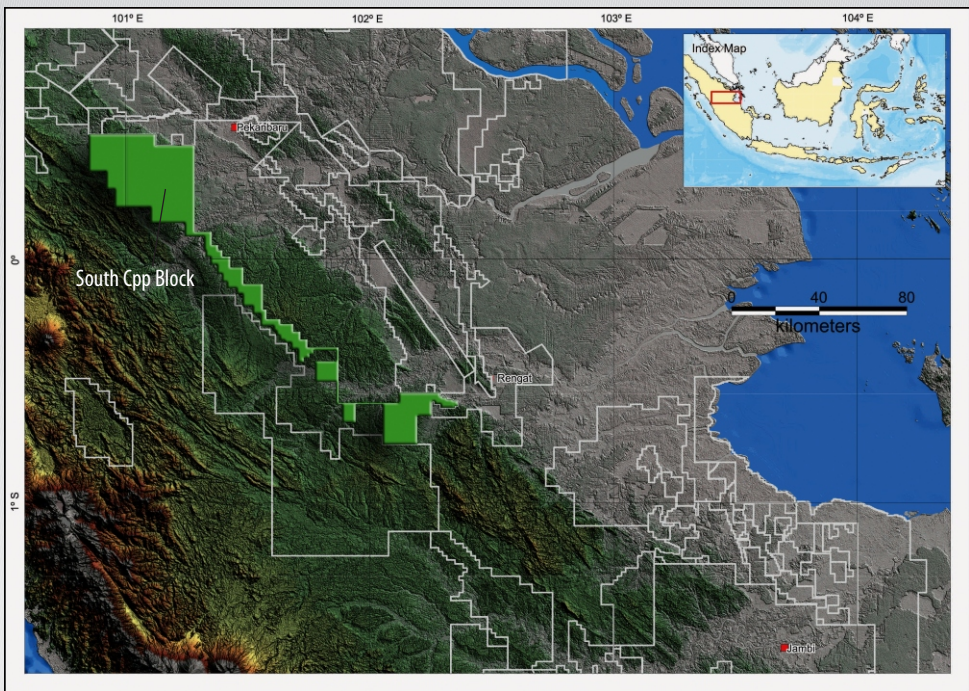
Reservoir : The main reservoir targets are sandstones of Middle Jurassic-Late Jurassic Lower Kem-belangan, Jass Member, and Paleocene Darum Formations.

Seal : The regional seal provided by Cretaceous shale and intra-formational seal was identified from Jurassic Shale Lower Kem-belangan Formation and Paleocene shale Darum Formation.

Trap : structural traps (faulted anticline and anticline).



SOUTH CPP BLOCK



SOUTH CPP BLOCK

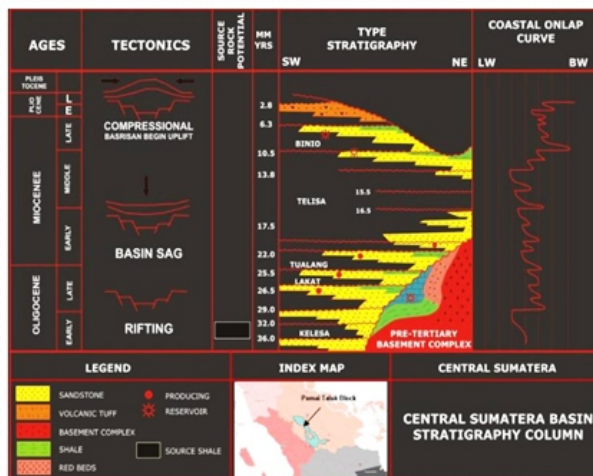
South CPP block is located at Riau Province within the Central Sumatra Basin, which has already known as one of the prolific hydrocarbon-bearing zone in Indonesia. This Block covers 2682 Km² area.

REGIONAL GEOLOGY

The Central Sumatra basin is bound to the southwest by Barisan Mountain's geanticlinal uplift and volcanic arc, to the north by the Asahan high, to the east by the Tigapuluh high and to the north-northeast by the Sunda Craton.

STRATIGRAPHY

Stratigraphic column of South CPP Block



PETROLEUM SYSTEM

Source Rock : The most possible source rocks basin are approximately the Late Eocene to Early Miocene fluvio-deltaic, marginal marine, or locally shallow lacustrine or coaly facies of the Kelesa and Lakat Formations. From the outcrop analysis, Kelesa Formation source rock has a TOC value between 2.31–9.63%, with hydrocarbon content approximately is good to excellent categories (6.23–70.72 kg/ton rock), while the Lakat Formation has a TOC value between 0.67–3.46%, with hydrocarbon content approximately is poor to excellent categories (1.21–37.38 kg/ton rock).

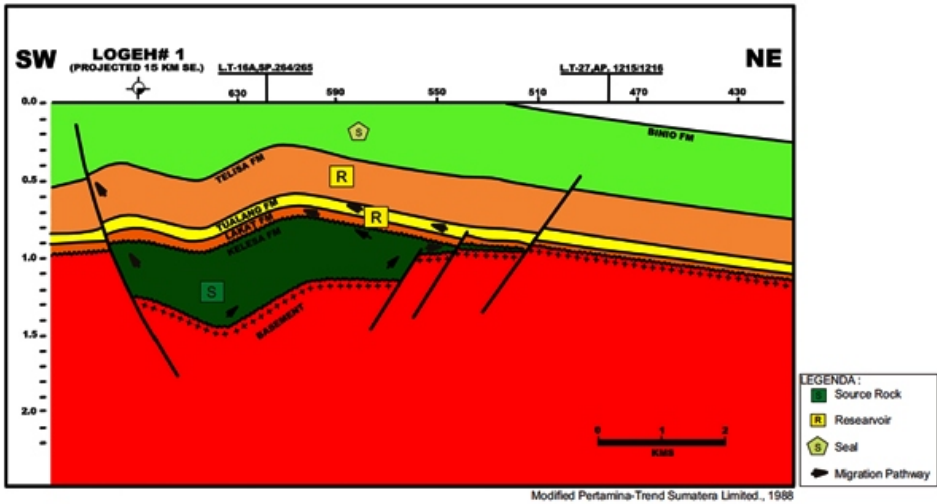
Reservoir : The primary reservoir horizons are The Lakat quartz regressive shoreface sandstone and Tualang Glauconitic sandstone. Excellent quality reservoir sands exist within the Sihapas and Petani Group within the Lakat, Tualang, Telisa, and Binio Formations, and are an established productive target basinwide.

Seal : The seals for the identified reservoir sequences are the interbedded siltstones and claystones seen within each of the formations. The seal in all hydrocarbon accumulation in the South CPP Block are provided by shales of the Telisa Formation and intraformational seal of the Lakat and Tualang Formations. The Telisa Formation will serve as both an effective hydrocarbon seal and as a seal against reservoir flushing by surface meteoric waters.

Trap : These are structural, stratigraphic, and combination both structural and stratigraphic traps. For deep plays, the structural traps are the most typical trap, which are close to the graben system, while the stratigraphic traps are mostly observed in several section as lenses, pinch-out and on-lapping sequence that are related to the sequence boundary, particularly in syn-rift sequence of Paleogene sediment.



PLAY CONCEPT

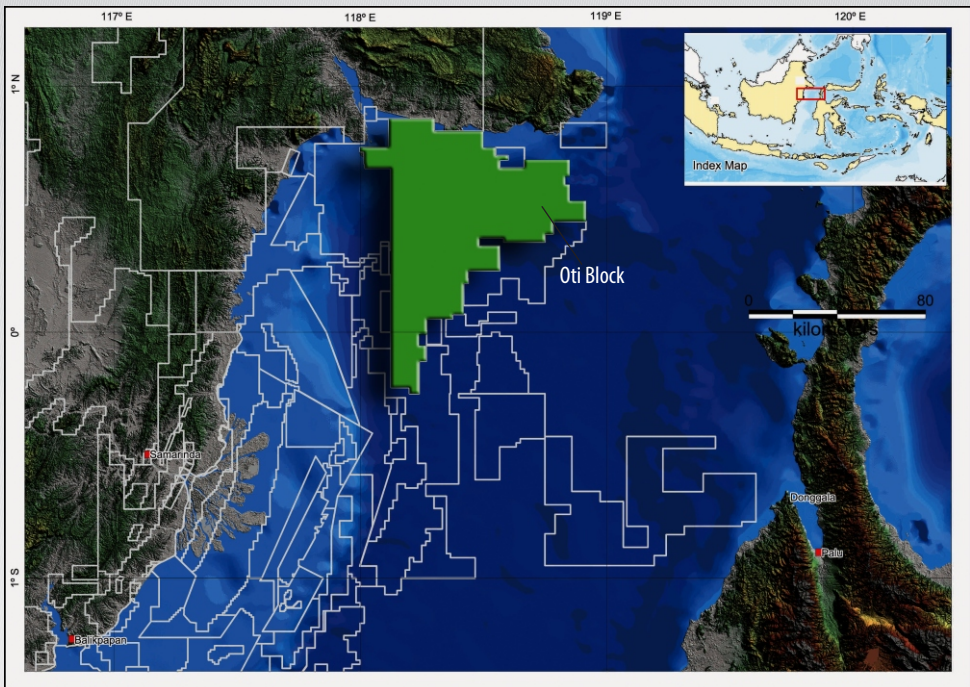


DATA AVAILABILITY

There are 6 wells data and seismic data with vintage of T 1973, 1980, 1981, 1982, 1983, JS 1983, 1984, BT 1992 and POESC 12. The previous operator in this block was acquired 226 km 2D seismic.

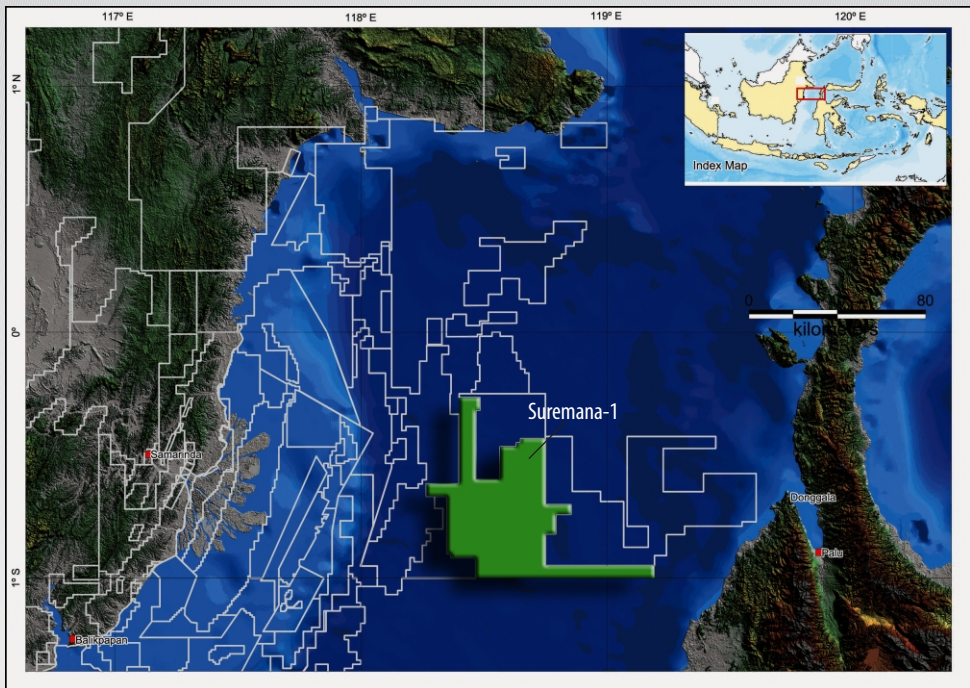


OTI BLOCK



Regional Miocene and Pliocene depositional setting in deep water area beyond shelf-break (Baillie P et al., 1999)

SUREMANA-1



SUREMANA-1 BLOCK

Suremana-1 Block is located in the Makassar Strait within the highly prospective deepwater Kutai Basin. This Block covers an area of 2.899 Km² wide adjacent to proven fields and basin-ward of the prolific Mahakam Delta province which hosts in excess of 50 Tcf and 5 billion barrels of oil and gas reserves.

GEOLOGICAL SETTING

The Kutai Basin is located on the eastern coast of Kalimantan, Indonesia, encompassing an area of approximately 204,722 sq. km. Divided into upper and lower basins which roughly define onshore and offshore areas and the North Makassar Sub-basin, it is the largest and deepest basin in Indonesia and is the second most prolific.

The northern extent of the Kutai basin is defined by the Mangkalihat (Suikerbrook) Ridge. To the south, the basin extends as Pasir Sub-basin and merges with the Paternoster Shelf and the basin limit is defined by the Adang Fault Zone.

PETROLEUM SYSTEM

Source Rock

The primary source rocks in the deepwater Kutai Basin are Eocene to Oligocene syn-rift coals, lacustrine shales and marine mudstones. Sandy turbidites carry bits of organic material from the river delta into the deepwater where it is converted into a hydrocarbon source.

Reservoir

The main reservoirs in the Kutai Basin are Middle Miocene to Pliocene clastics. Proven reservoirs are paralic-fluvial, deltaic and deep water slope (turbidite) fan sandstones, typically quartz-rich after several phases of recycling from eroded basement and Paleogene depocentres. In deep water the reservoirs are mainly Late Miocene or Pliocene turbidite or mass-transport deposits.

Seal

No regional seal is evident in the Kutai Basin, the seal is provided mainly by intraformational shales.

Trap

Structural or combination of structural and stratigraphic traps

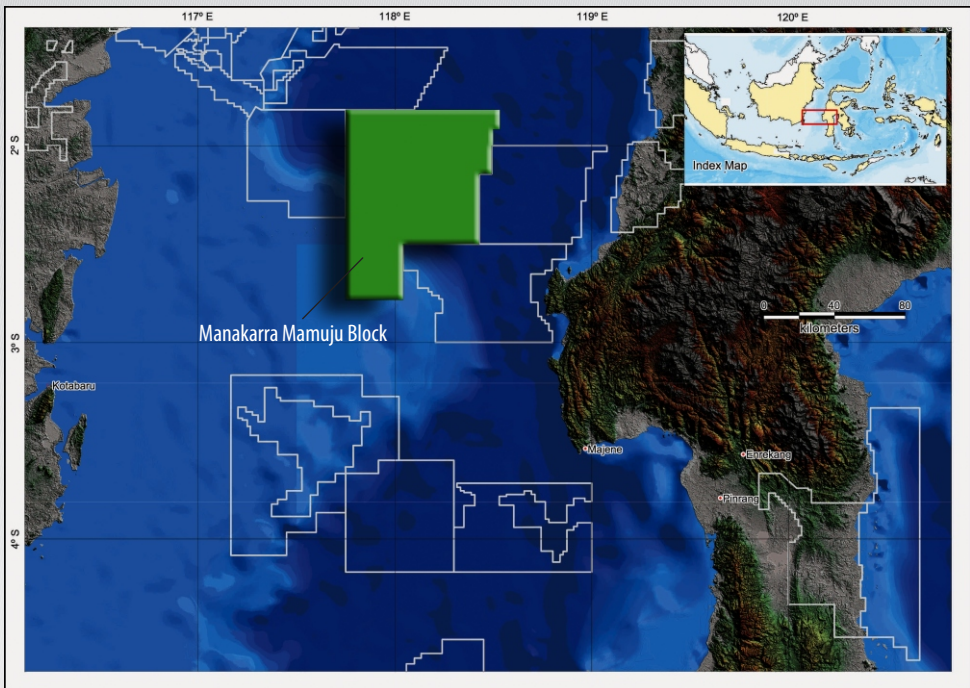
PLAY CONCEPT

The most mature plays in the Kutai Basin are the Middle Miocene-Late Miocene structural or combinations of structural and stratigraphic traps. These reservoirs are fluvial, deltaic and marginal marine sandstones. The trapping is formed by anticlinal rollovers associated with growth faults, thrusts and back-thrusting.

In the deepwater, pulses of Miocene and Pliocene turbidites are confined to channels or deposited in basin floor fans. Toe-thrust anticlines, initiated from shelf-edge collapse and gravity sliding during middle Miocene transgressions continued from the upper Miocene to the present creating structural traps in broad anticlines. The compressional regime was further enhanced by plate collision from the east.



MANAKARRA MAMUJU BLOCK

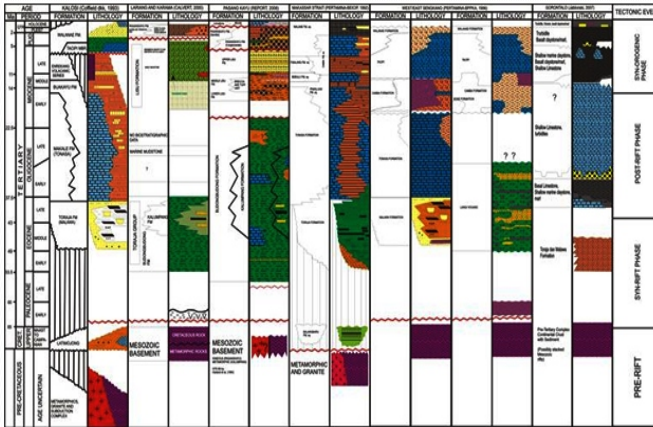


MANAKARRA MAMUJU BLOCK

This block is located in northern part of Makassar Strait, portion of the North Makassar Basin, covering an area of approximately 7.033,19 km² wide

STRATIGRAPHY

Regional tectonostratigraphic in study area (modified from variety sources)



PETROLEUM SYSTEM

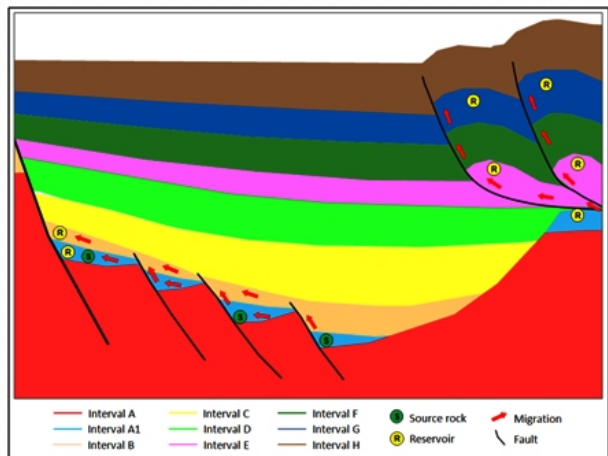
Source Rock

Geochemical analysis from Rinjani-1, Papandayan-1, and Halimun-1 showed the potential source rock of Miocene interval with kerogen Type III. However, from maturity level, Miocene interval is still immature condition, while at Papandayan-1 recorded a gas show. This indicated that the source rock interval in Papandayan-1 could be deeper or derived from sedimentary Eocene interval.

Reservoir Rock

Potential reservoir rocks in the Manakarra Mamuju Block are Eocene-Oligocene clastic and carbonate sediments. However based on seismic interpretation, Eocene-Oligocene reef carbonates were not found. Another expected potential reservoir is turbidite reservoir of Miocene-Pliocene intervals. System reservoir that may occur is carbonate talus in the western part of block, close to Paternoster platform margin. Seismic sections in that part showed a high intensity of gravity mass flow sediments, and are expected to contain carbonate material which can be a good reservoir as well as in the Ruby field.

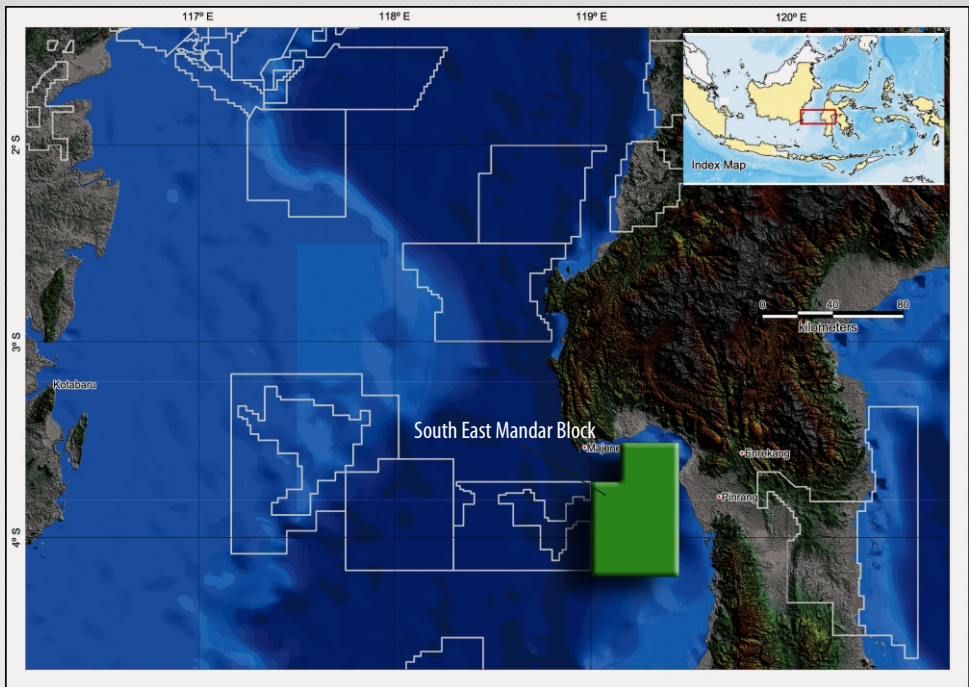
PLAY CONCEPT



Seal and Trap

The main hydrocarbon trap identified from interpretation seismic is structural trap, fault bounded anticline. Stratigraphic trap (carbonate build up) was not identified in subsurface mapping. Another stratigraphic trap is expected to precipitate carbonate talus which may be mapped with 3D seismic data. Deep-sea sediments of Miocene age are a potential regional sealing layer for reservoirs in Manakarra Mamuju Block.

SOUTH EAST MANDAR BLOCK



SOUTH EAST MANDAR BLOCK

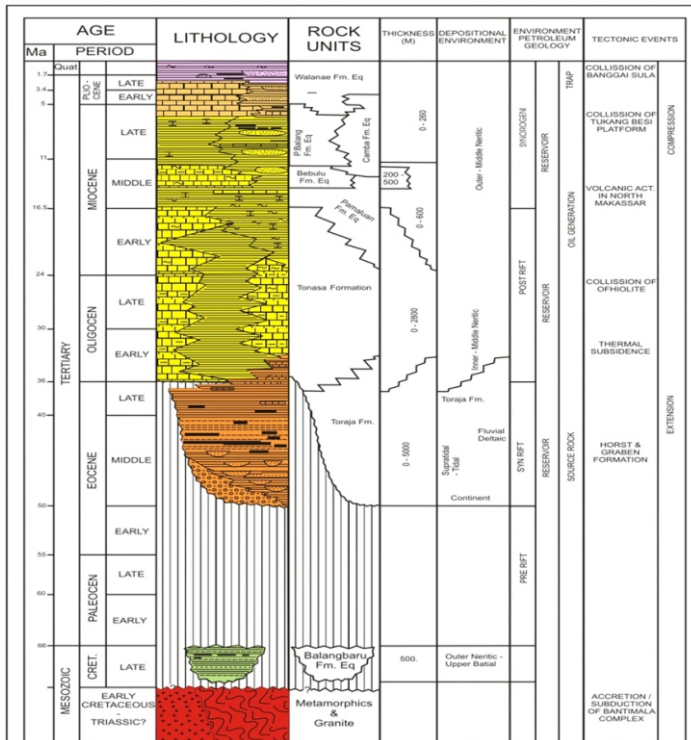
South Mandar Block in the Makassar Strait and covers an area of 3.416 Km² wide within the South Makassar Basin.

GEOLOGICAL SETTING

Makassar strait is located between East Kalimantan and West Sulawesi, and geologically separate stable part from West of Eurasia Plate core and the most active part which is the result of collision three Plate in Eastern.

South Sulawesi is dominated by subduction toward west from late Miocene-Pliocene collision orogenic in north and then (late Pliocene) major pattern of sinistral fault in NNW-SSE direction that forming the pull-apart (Walanae Depression) with high rift at the edge (western and Eastern divide ranges).

STRATIGRAPHY



PETROLEUM SYSTEM

Source Rock

Source rocks in the South Makassar Basin are estimated of shale Toraja Formation, which has age of Eocene.

Reservoir

the main reservoir rocks in the South Makassar Basin are Eocene Toraja formation fluvio deltaic deposit based on outcrop data, fine grain marginal marine sandstone and Plio-Pleistocene Tacipi limestone platform and reefal limestone

Seal

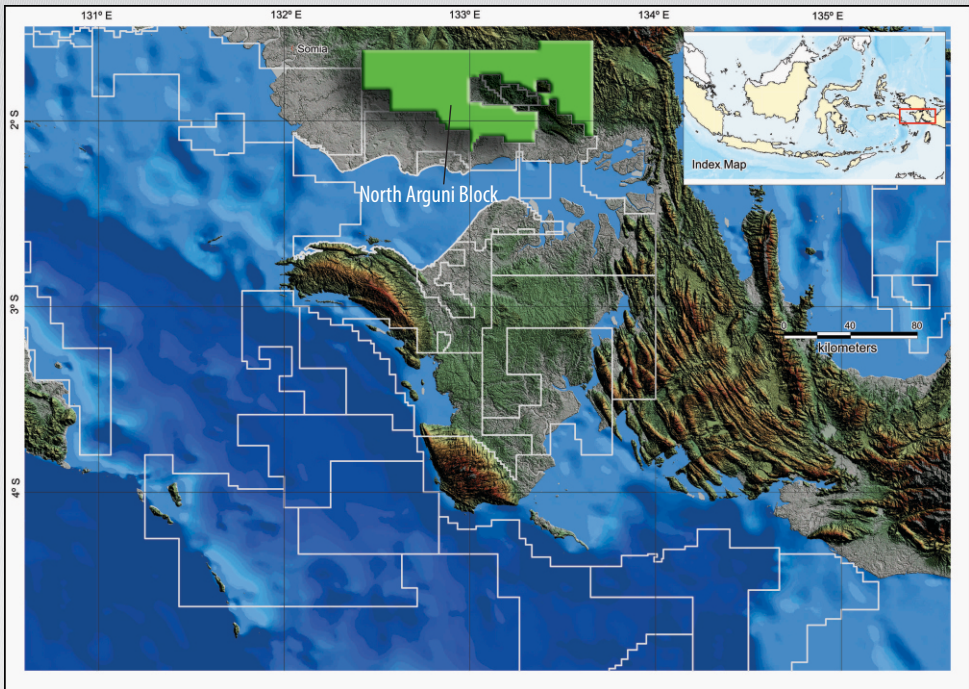
Intraformational red mudstone Toraja Formation, Intraformational Makale Formation, Tuff Enrekang Volcanic Series, and Pliocene calcareous mudstone Walanae Formation.

Trap

Compressional ramp anticline with four way dip closure



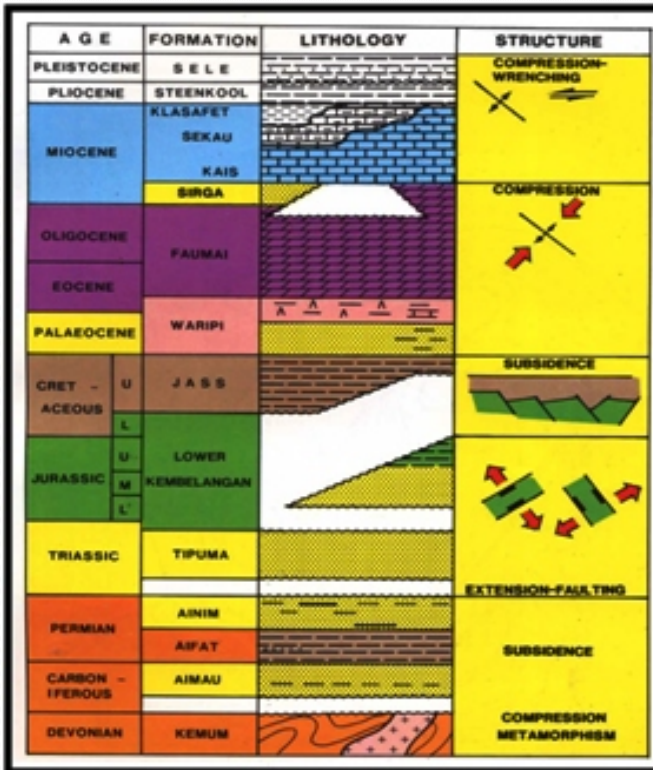
NORTH ARGUNI BLOCK



NORTH ARGUNI BLOCK

The North Arguni block is located northern part of Bintuni basin. Geographically, the block is located in Fak-Fak region, West Papua Province, covering an area of 5.476 km². The North Arguni block is located near from oil and gas fields such as Mogoi, Wiriagar and Kasuri fields.

STRATIGRAPHY



PETROLEUM SYSTEM

Source Rock

Potential source rocks occur mainly in three zones: Late Permian Ainim Formation continental shales and coals, early to middle Jurassic restricted marine to continental shales and coals (Inawatan or Yefbie Formations), and Tertiary marine calcareous claystones of the Klasafet Formation.

Reservoir Rock

The main reservoirs within the North Arguni are the Permian to Jurassic sandstones, the Warupi sandstones, the Faumai, Kais and Sekau limestones.

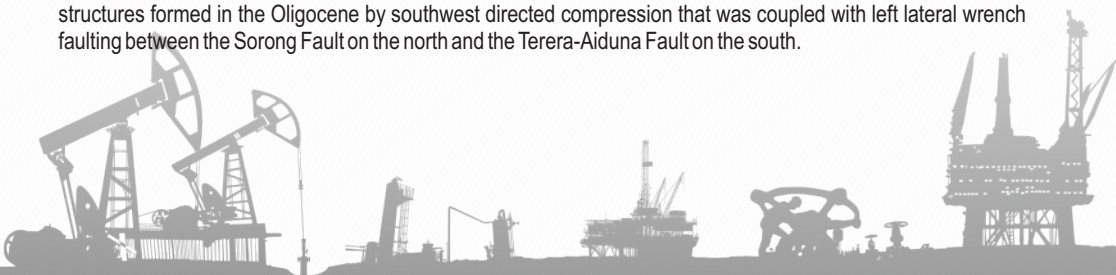
Seal

Competent seals are provided by the Jass shales, and the late Miocene marls of the Klasafet Formation, and by shales of the Steenkool Formation. The

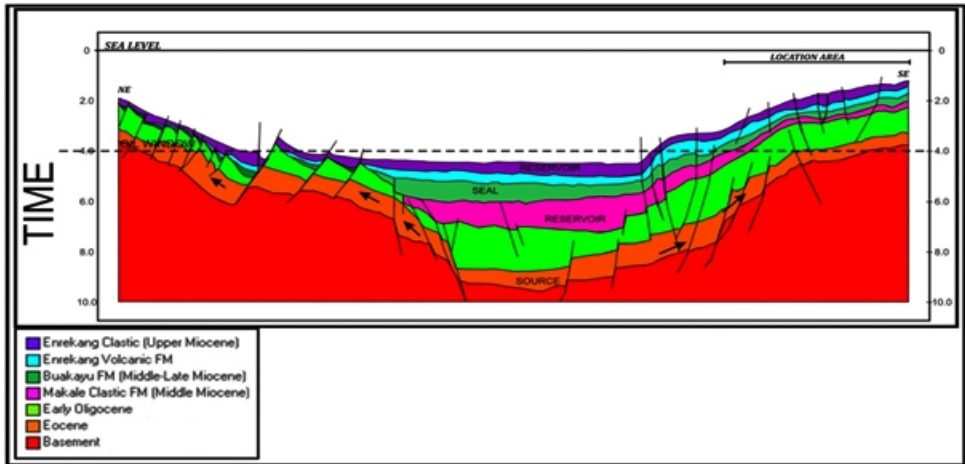
Jurassic sandstones of the Ubadari and Roabiba Formations are independently sealed from the Permian in Vorwata. Top seal for the Roabiba Sandstone at all of the Tangguh gas fields is provided by a combination of Upper Jurassic Vorwata, Ayot and Sebyar Formation shales and limestones. Top seal for the Ubadari Sandstones is provided by the Middle Jurassic Inawatan Shale Formation

Trap

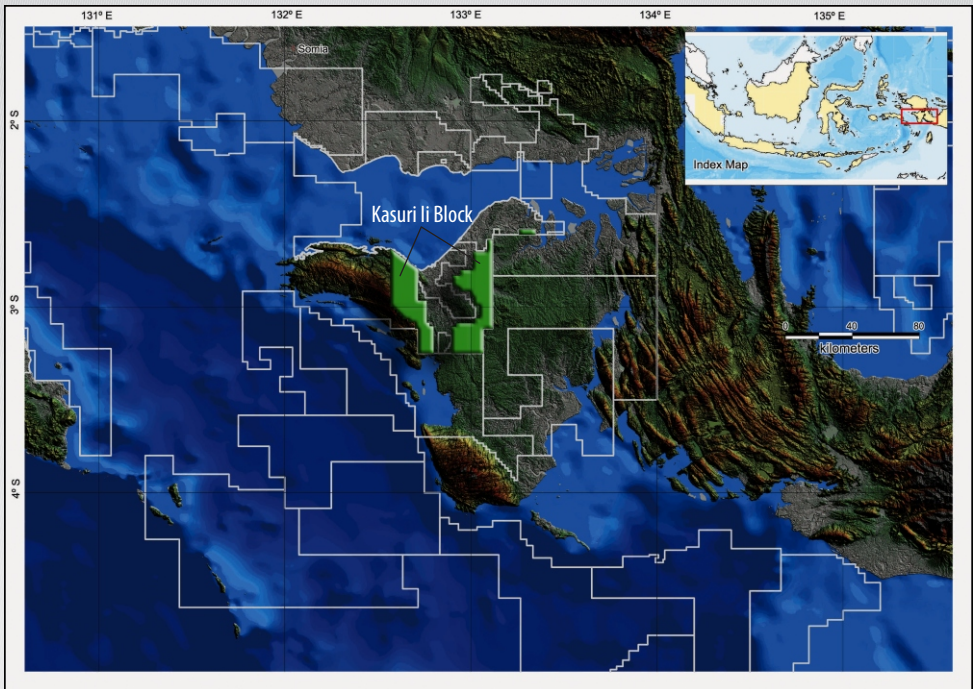
Structurally and stratigraphically trapped in northwest trending anticlines, plunging to the southeast. These structures formed in the Oligocene by southwest directed compression that was coupled with left lateral wrench faulting between the Sorong Fault on the north and the Terera-Aiduna Fault on the south.



PLAY CONCEPT



KASURI II BLOCK



KASURI II BLOCK

The Kasuri block is located in Fakfak District, onshore West Papua Province covers an area of 1.821,29 km². The block is bounded to the east by the Arguni land Udun Emas blocks, to the south is bounded by West Papua I block and to north is bounded by Kasuri block. This block is relinquished by Genting Kasuri.

PETROLEUM SYSTEM

Source Rock

The petroleum systems of the Bintuni Basin have been evaluated based on the presence of source rocks and their ability to generate and to expel hydrocarbons. Organic rich rocks cannot be source rocks unless they have the correct type of kerogens. In the Bintuni Basin, most wells have penetrated at least one zone of organic rich sediments, which range from Permian to Pliocene.

The potential source rocks occur mainly in three zones: Late Permian Ainim Formation continental shales and coals, early to middle Jurassic restricted marine to continental shales and coals (Inawatan or Yeffie Formations), and Tertiary marine calcareous claystones of the Klasafet Formation.

Reservoir Rock

The exploration in the Bintuni Basin has revealed significant hydrocarbon potential below the Kais Formation. The Jurassic massive fluvio-deltaic and shallow marine sandstones assigned to the Ubadari and Roabiba Sandstone Formations are considered the primary target in the study area, while the Permian and Paleocene sandstones are considered secondary.

Seal

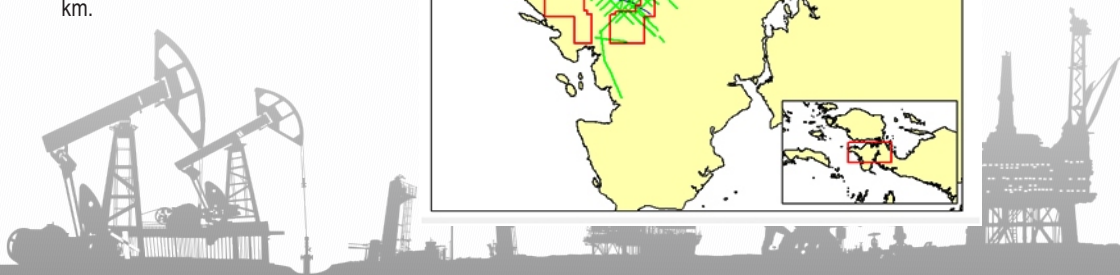
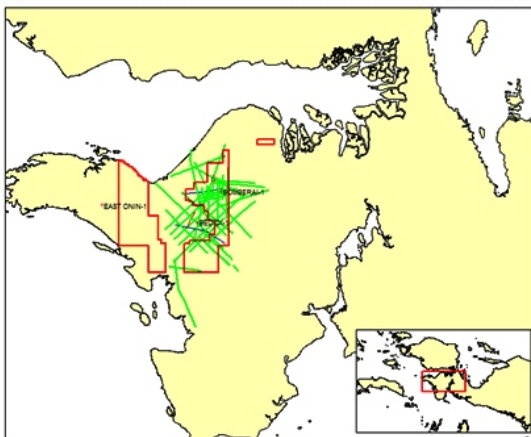
A variety of claystones and shales act as the sealing rocks for the Jurassic reservoirs that are gas-bearing in the Bintuni Basin. Top seal for the Roabiba Sandstone at all of the Tangguh gas fields is provided by a combination of Upper Jurassic Vorwata, Ayot and Sebyar Formation shales and limestones.

Trap

The gas discovered in the Bintuni Basin is structurally and stratigraphically trapped in northwest trending anticlines, plunging to the southeast. These structures formed in the Oligocene by southwest directed compression that was coupled with left lateral wrench faulting between the Sorong Fault on the north and the Terera-Aiduna Fault on the south.

DATA AVAILABILITY

The well available within Kasuri-2 block is Bomberai-1. Another wells such as Bedidi-1, East Onin-1 and Asap-1 wells are located in the surrounding area are used as regional interpretation of hydrocarbon play within this area. More than 44 seismic lines available in Kasuri-2 block with total length more than 1030 km.





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