BRIDGING THE CONVENTIONAL / UNCONVENTIONAL DIVIDE, AN INDONESIAN PERSPECTIVE

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Good Oil Conference
2 September 2015

A New Approach to Asian Energy

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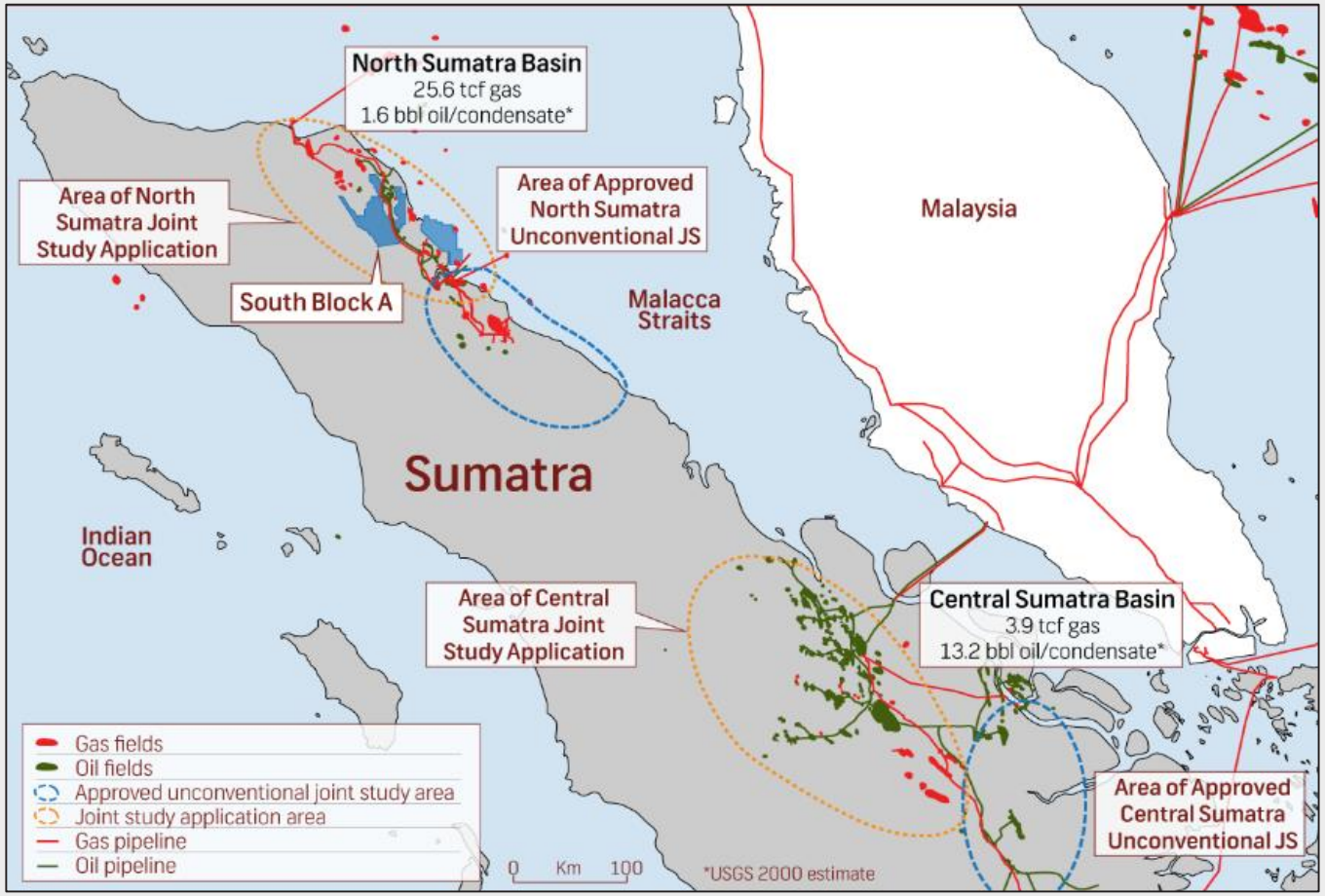
Competent Persons Statement: Qualified Petroleum Reserves and Resources Evaluator

Pursuant to the requirements of the ASX Listing Rules Chapter 5, the technical information, reserve and resource reporting provided in this document are based on and fairly represent information and supporting documentation that has been prepared and/or compiled by Mr Kim Morrison, Chief Executive Officer of Lion Energy Limited. Mr Morrison holds a B.Sc. (Hons) in Geology and Geophysics from the University of Sydney and has over 28 years’ experience in exploration, appraisal and development of oil and gas resources - including evaluating petroleum reserves and resources. Mr Morrison has reviewed the results, procedures and data contained in this website. Mr Morrison consents to the release of this report and to the inclusion of the matters based on the information in the form and context in which it appears. Mr Morrison is a member of AAPG.

Lion's Indonesian Focus

Lion early mover in unconventionals with joint study applications made back in 2012

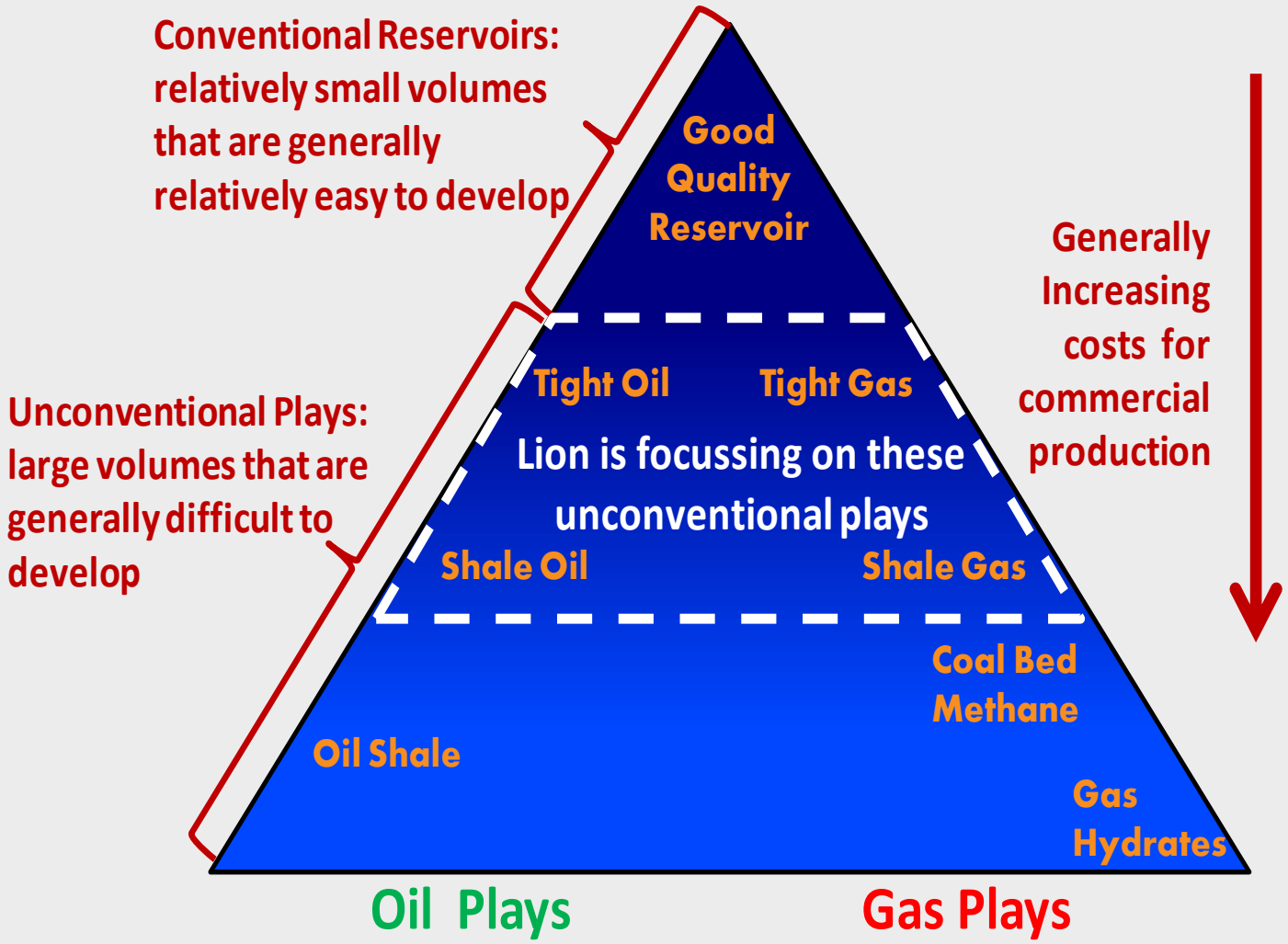
- Targeting basinal areas with mature good quality source rocks in North & Central Sumatra Basins
- Two joint studies awarded (~7200 km^2) and over 50% complete
- Two further JS applications being progressed
- Strategy to be in both conventional & un-conventional exploration due to synergies
- Advisory panel with North America unconventional expertise



Areas of focus has accessible terrain, good infrastructure and communities used to oil and gas activities

Unconventional targets

Continuum between conventional and unconventional. Indonesia defines unconventional as hydrocarbons from rocks requiring fracture stimulation



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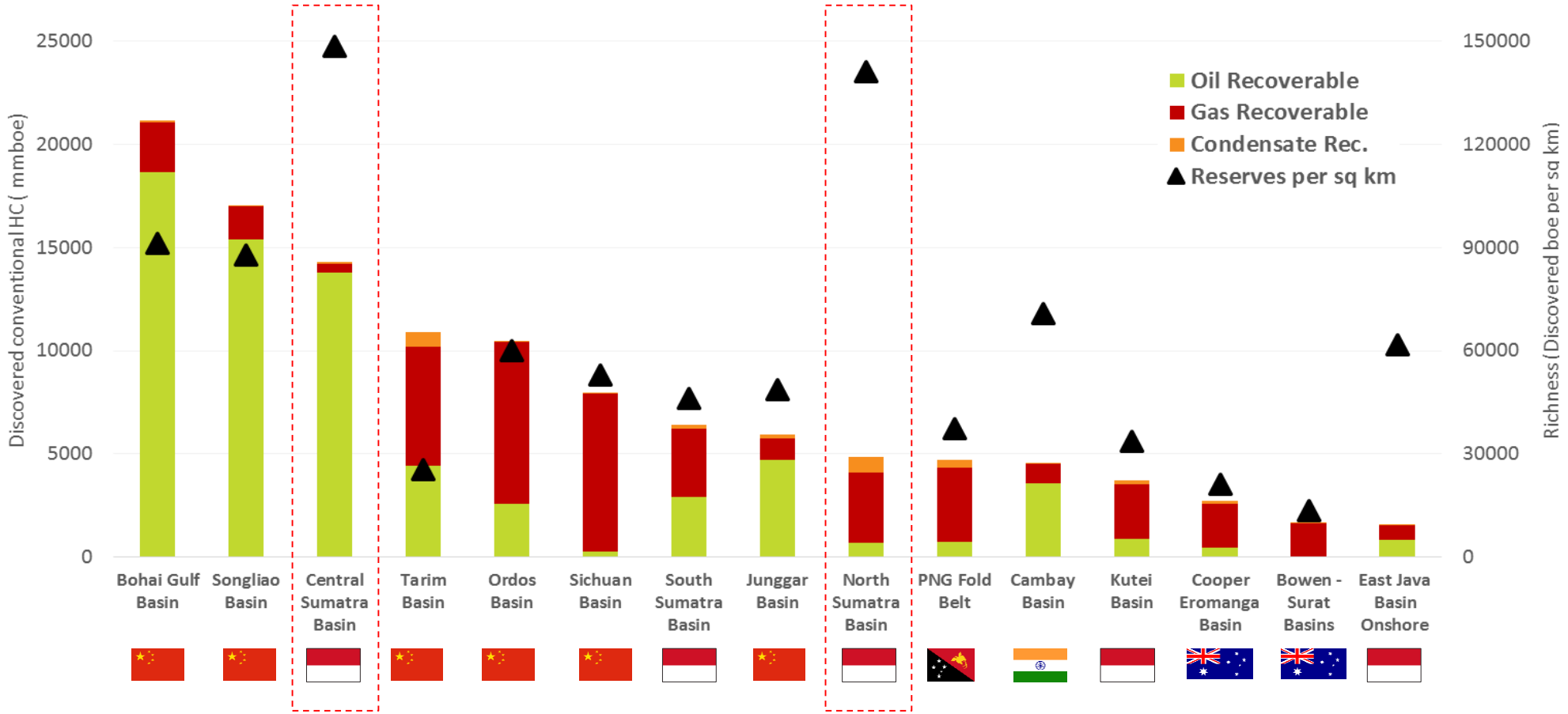
Indonesia's Prolific Onshore Basin

5 basins in top 15 in region by discovered onshore conventional HC's North & Central Sumatra highest hydrocarbon density (discovered HC's per km^2)

Asia-Pacific top 15 onshore basins, ranked by discovered hydrocarbons

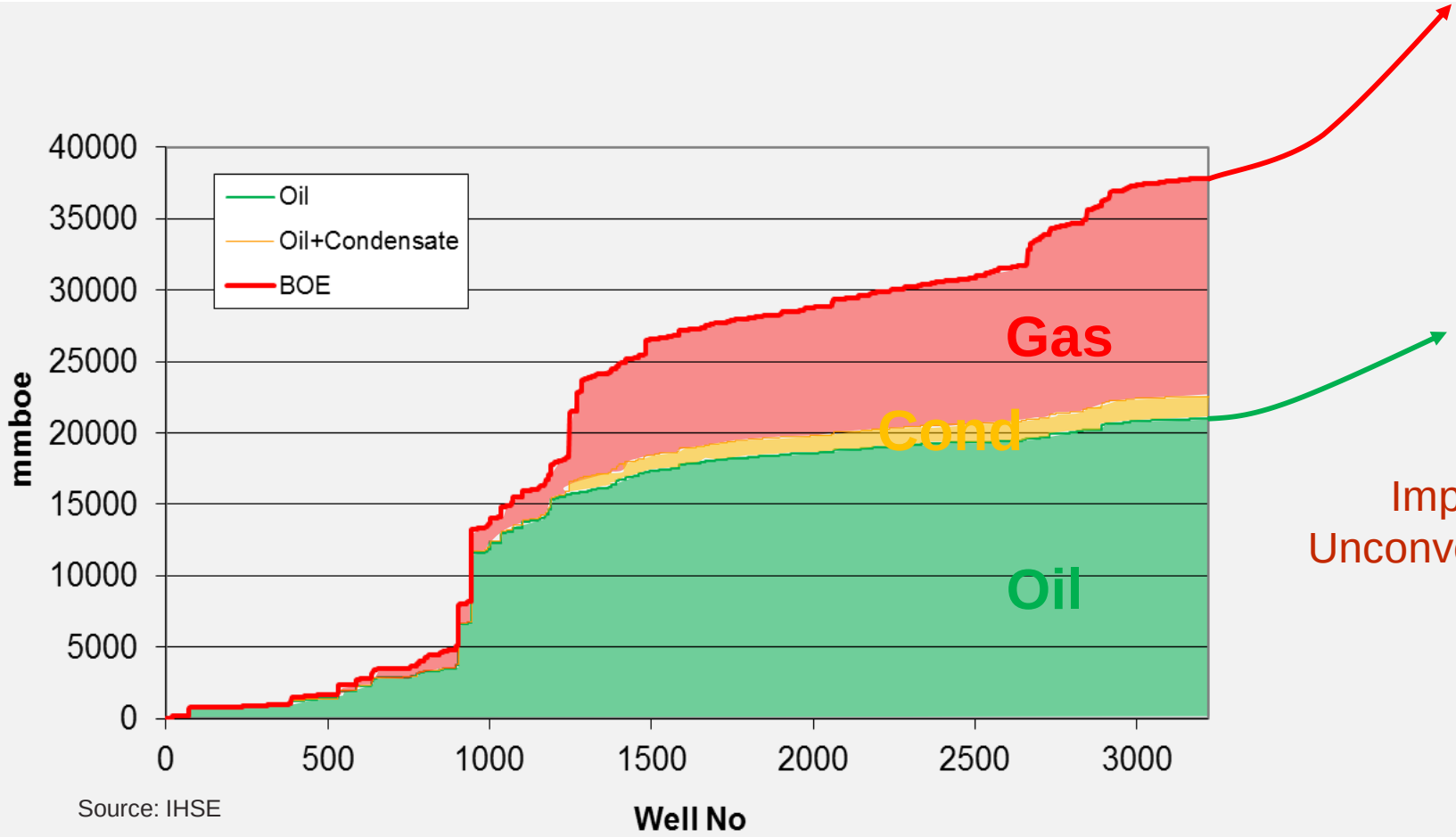


Source: IHSE, various

Indonesia Onshore Hydrocarbons

~37 bboe discovered, gas dominates recent success

Unconventionals (shale/tight gas and oil) expected to give next step change to resource additions however many challenges to overcome



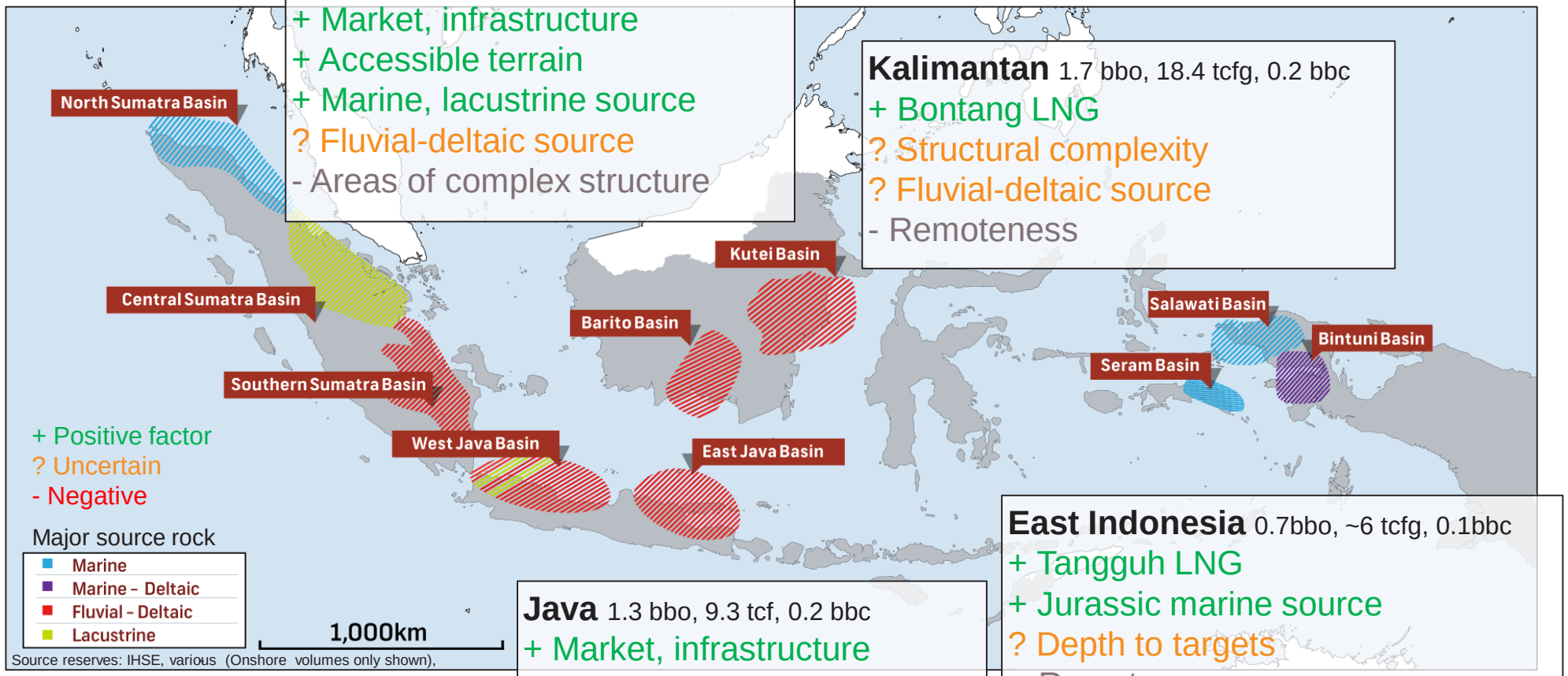
Source: IHSE

Key Indonesian Onshore Basins

Sumatra basins standout for unconventional focus in terms of discovered HC's, multiple plays, market access & infrastructure

Sumatra 18.8 bbo, 41 tcfg, 1.2 bbc
+ Market, infrastructure
+ Accessible terrain
+ Marine, lacustrine source
? Fluvial-deltaic source
- Areas of complex structure

Kalimantan 1.7 bbo, 18.4 tcfg, 0.2 bbc
+ Bontang LNG
? Structural complexity
? Fluvial-deltaic source
- Remoteness



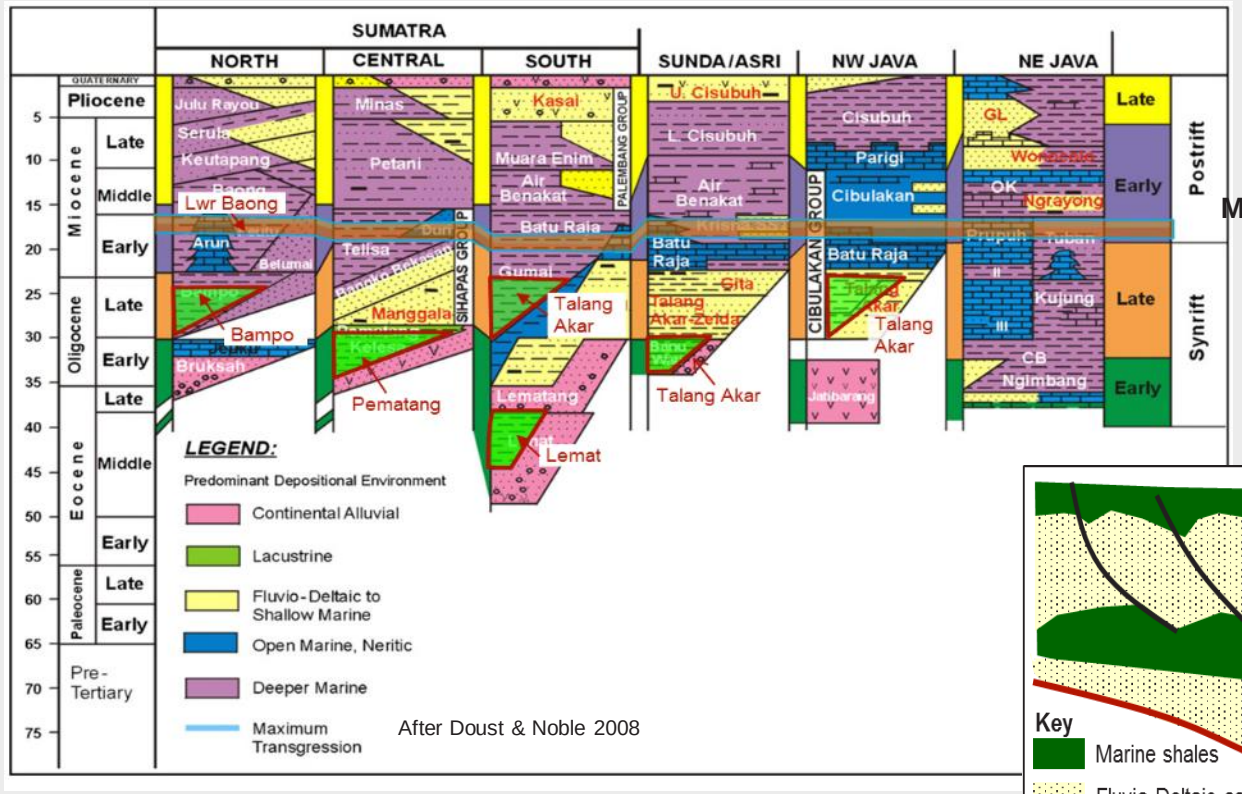
Java 1.3 bbo, 9.3 tcf, 0.2 bbc
+ Market, infrastructure
+ Tight carbonate play
? Fluvial-deltaic source
- Population density

East Indonesia 0.7bbo, ~6 tcfg, 0.1bbc
+ Tangguh LNG
+ Jurassic marine source
? Depth to targets
- Remoteness
- Lack of infrastructure
- Terrain issues

Note marine source rocks in North Sumatra and Eastern Indonesia (most successful shale plays in US involve marine source rocks)

Key Source Rock Intervals/Plays

Similarity in stratigraphy across Sumatra and Java

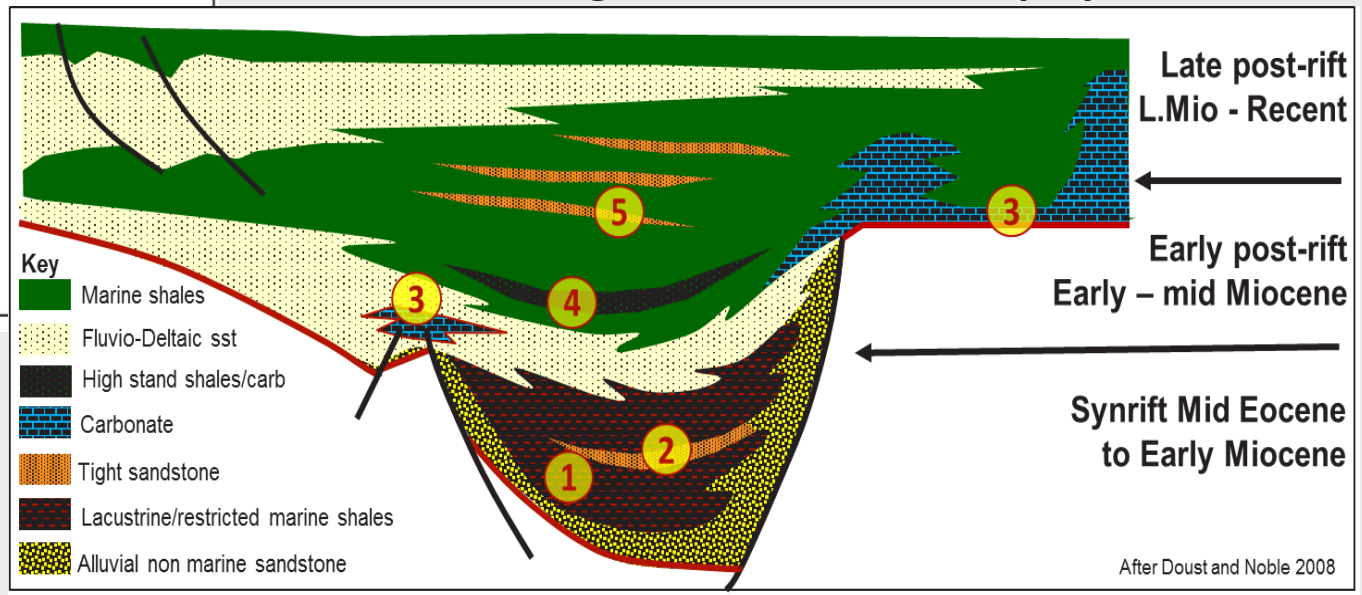


After Doust & Noble 2008

Max. Flooding Surface

1. Lacustrine/ restricted marine shales
2. Tight graben fill sandstone
3. Tight, platform carbonates
4. Condensed marine shales/carbonates
5. Tight outer shelf to turbidite sands

Basins have a range of unconventional plays



After Doust and Noble 2008

Sumatran Unconventional Targets

Building core data and analysis will be critical to high-grade plays

Properties	North Sumatra			Central Sumatra		South Sumatra	
	Lower Baong	Belumai Formation	Bampo Shale	Telisa Formation	Brown Shale/Kelesa	Talang Akar Fm	Lehat/Lemat/ Benakat Shale
Rock Description	Marine shale with carbonate lenses	Marine calcareous shale, carbonate and sandstone	Restricted marine black claystone, siltstone and thinly bedded sandstone	Marine shale with sandstone and siltstone	Lacustrine black organic rich algal mudstone with carbonate rich lenses	Lacustrine to marine delta plain shale, quartzose sandstone and siltstone	Lacustrine shales, tuffaceous shale, siltstone, sandstone and coals
Age	Middle Miocene	Early Miocene	Late Oligocene	Middle Miocene	Oligocene	Late Oligocene to middle Miocene	Mid-late Eocene to early Oligocene
Organic Content/TOC							
Recorded TOC	0.5-2.9%	0.5-3.4	0.5-1.0% (limited data)	0.5-3%	2-23% mean of 3.7%	1.5-8 %	1.7-8.5%
Maturity							
Maturity window	Mid Oil to Gas window	Late Oil to Gas window	Gas window	Early Oil	Peak Oil to Gas window	Peak Oil to Gas window	Peak Oil to Gas window
Mineralogy/ brittleness							
Pressure	Generally moderately to occasional high overpressure	Normal to moderately overpressured	Normal to moderately overpressured	Normal to moderately overpressured	Normal to moderately overpressured	Normal to minor overpressure	Normal to moderately overpressured

Source: Lion in-house, various

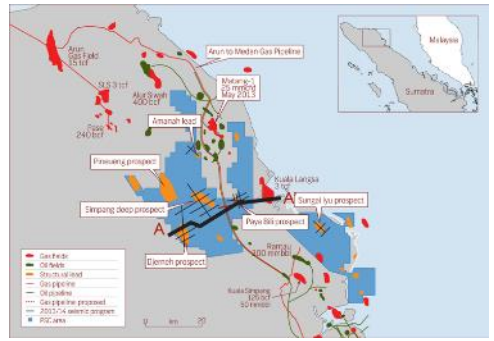
Unconventional Potential Assessment for Key Parameters

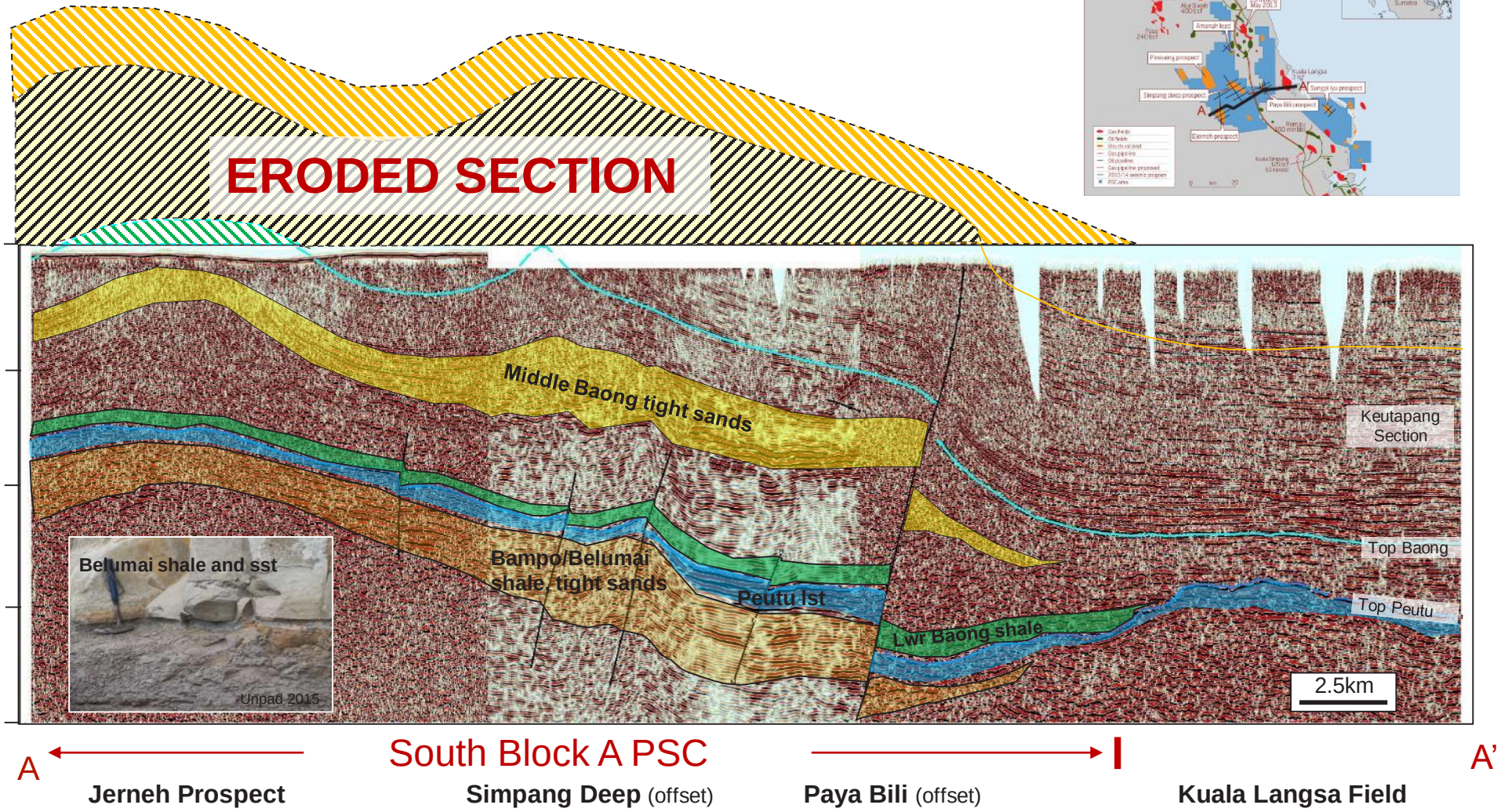
Positive | Reasonably Positive | Uncertain | Negative Factors | Negative

North Sumatra Unconventional Plays

Uplifted section: mature source rocks at reasonable drill depths

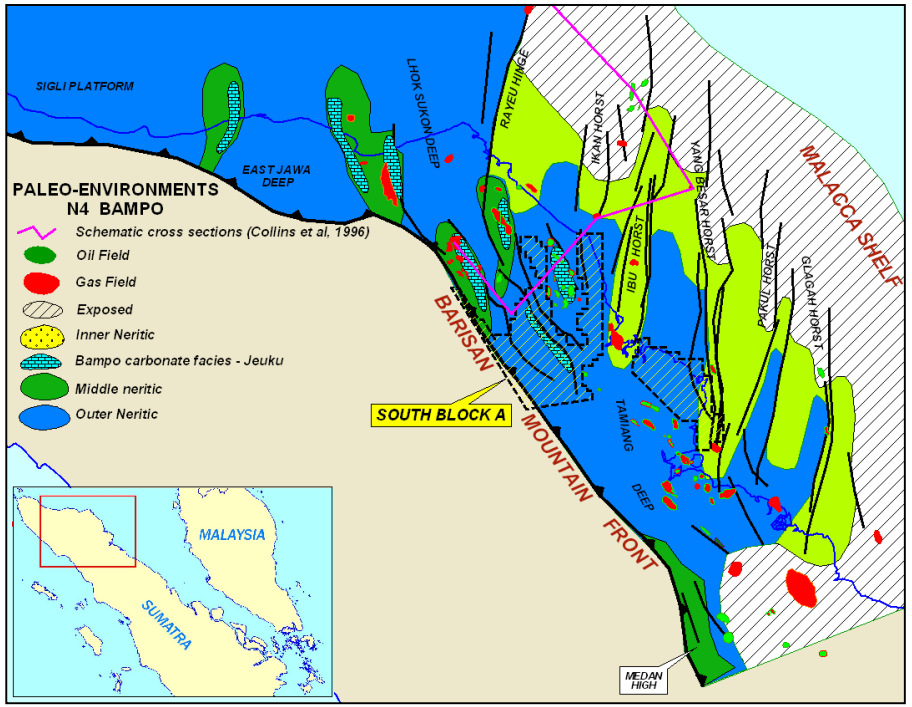
Challenges: Source quality, distribution



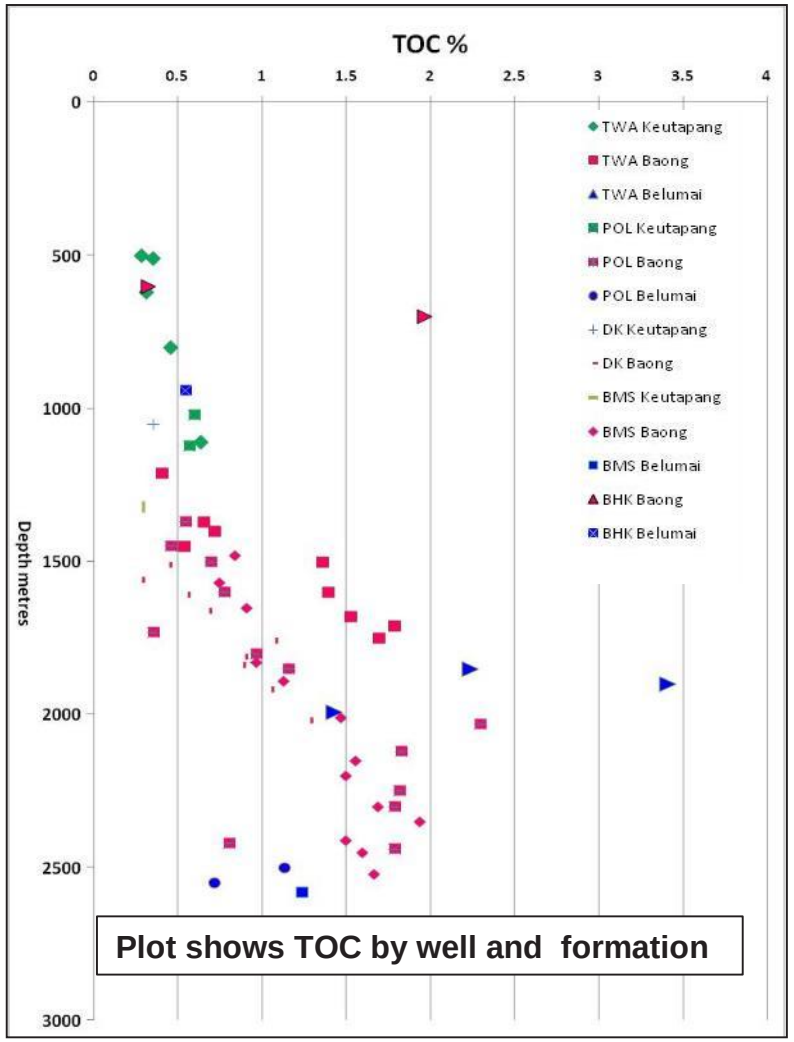


North Sumatra Source Rocks

Potential in mid Miocene Lwr Baong, early Miocene Belumai and late Oligocene Bampo

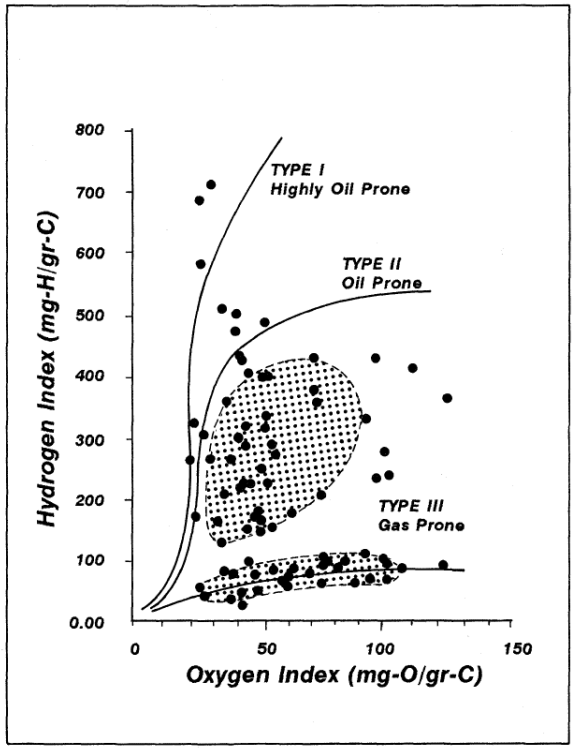


Paleogeography for Late Oligocene Bampo Fm section



After Mulhadiono and Sutono, 1984

Marine Middle Miocene Baong Formation includes oil-prone kerogen, mixed oil- and gas-prone kerogen, and gas-prone kerogen (Sjahbuddin and Djaafar, 1993).

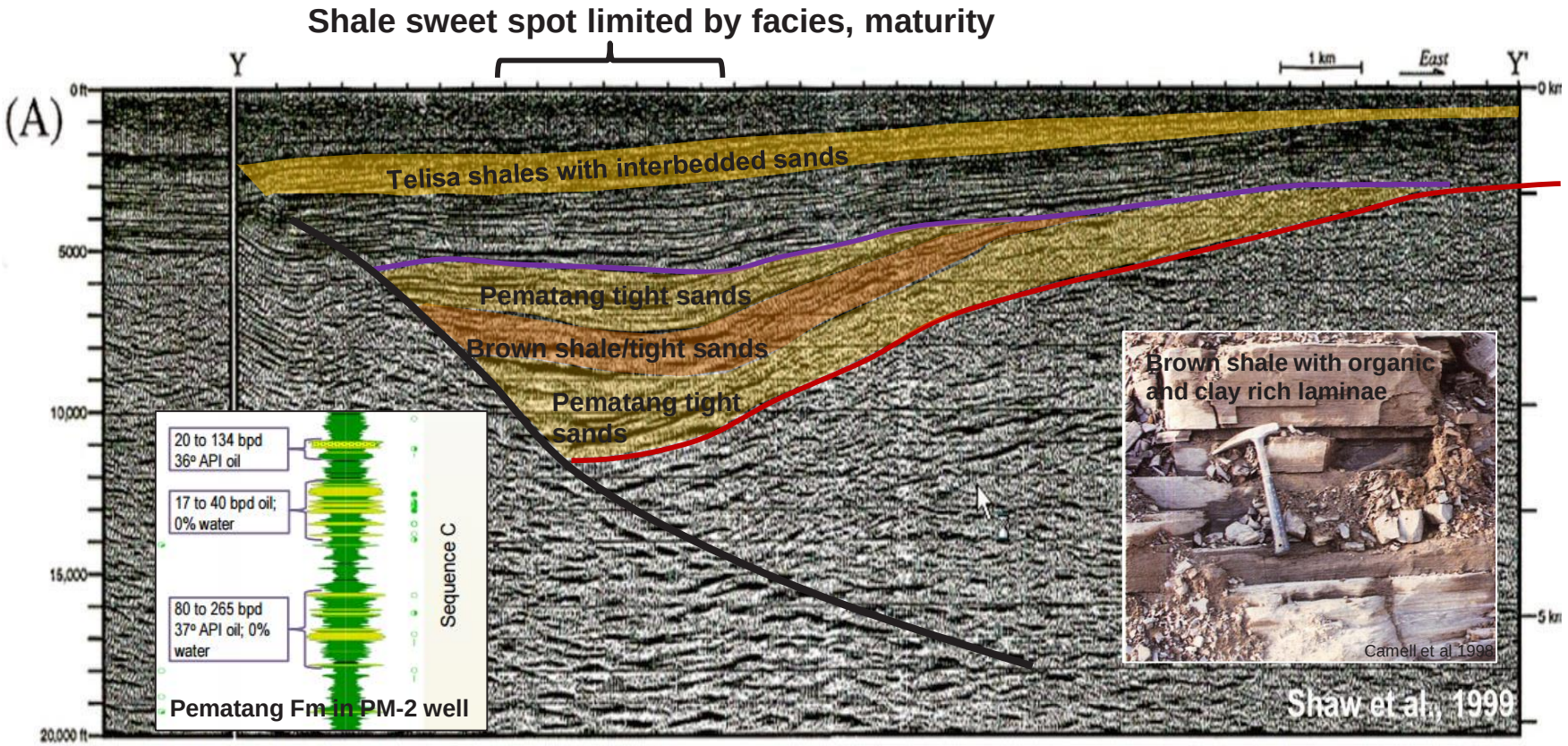


Sjahbuddin and Djaafar, 1993

Central Sumatra Unconventional Plays

Brown Shale source has high amplitude seismic signature within Pematang Fm, basinal intercepts limited. Contribution from interbedded sands likely.. Challenges: Fraccability of shales, waxy oil

Additional proven play with oil in low permeability sands within Miocene Telisa Fm shales



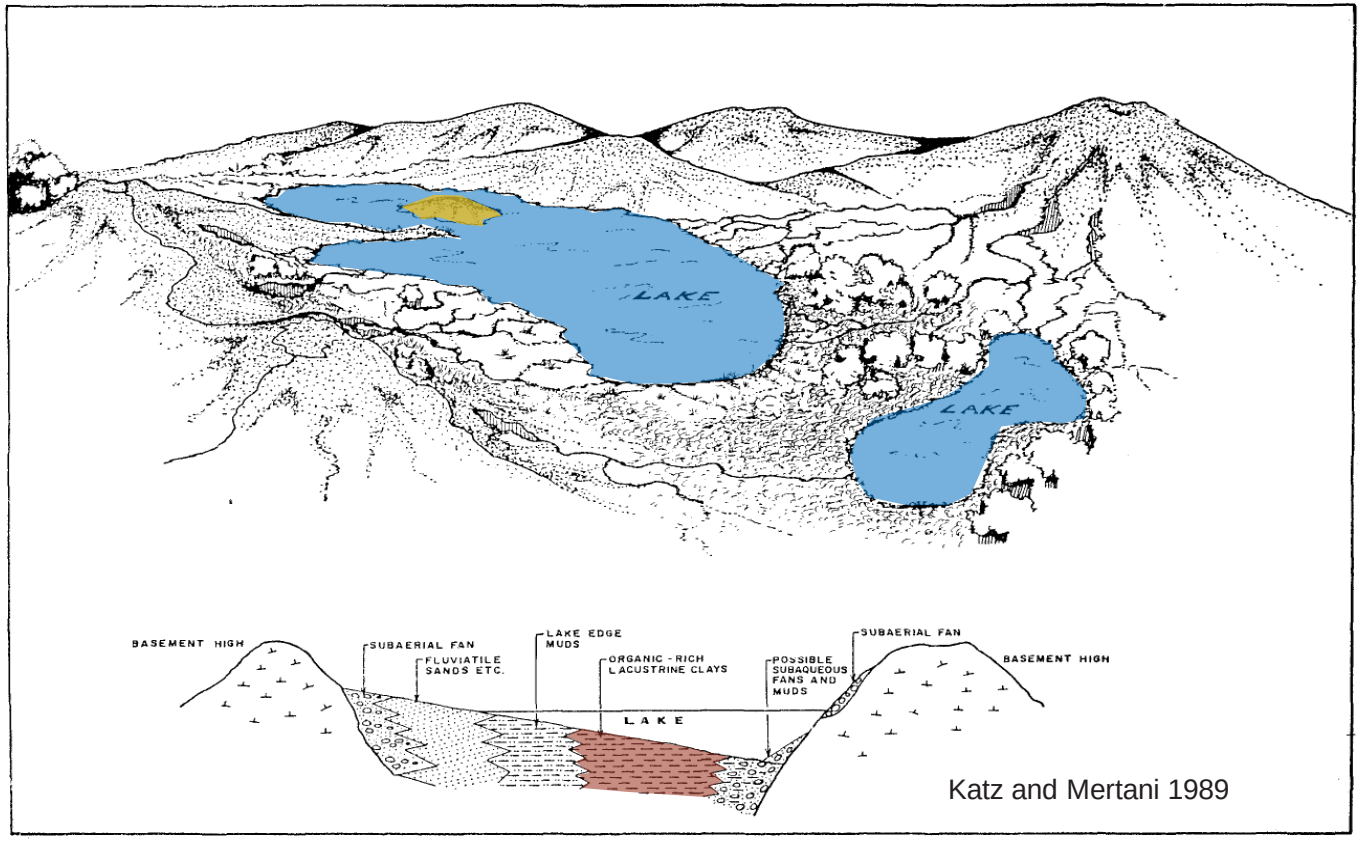
Kisaran PSC results (Parit Minyak-2) have proved concept of tight Pematang play with ~600ft of overpressures sandstone in ~3000ft interval with oil and gas shows and flows of 17 to 265 bopd

(Source Bukit Energy presentation June 2014)

SOURCE IN THE CENTRAL SUMATRAN BASIN

Lacustrine Brown Shale is a world class, oil prone source rock

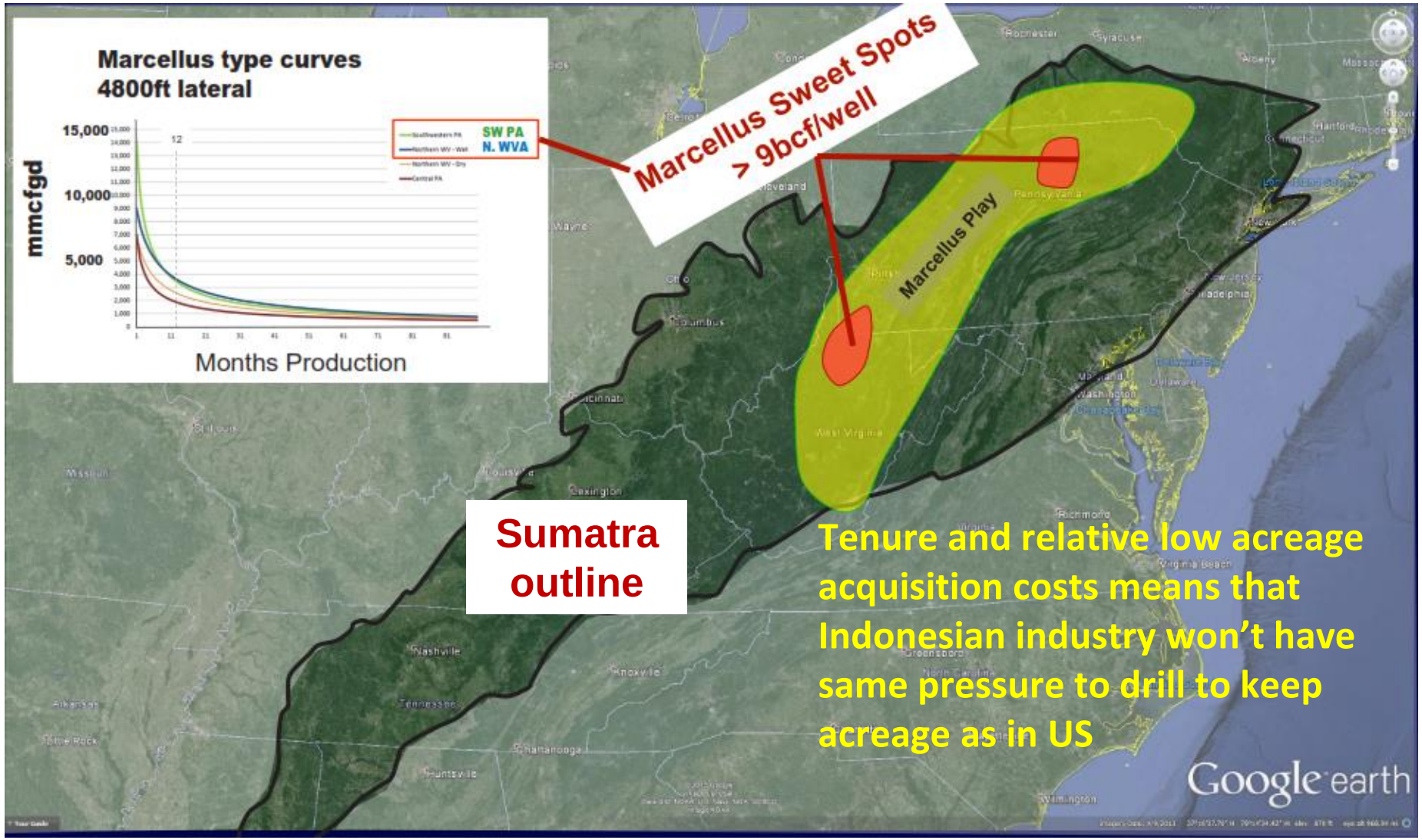
- Deposited in localized N-S trending grabens.
- Type I source rock:
  - Williams et al 1985 cite average TOC values of 2-4% and locally up to 12%. Yarmanto et al 1995 cite average TOCs of 5%
  - Katz and Dawson 1997 indicate TOC in non-coally facies 2-23% mean of 3.7%. HI 200-950
- Derived oils:
  - API gravities range from 20 to 47 deg,
  - <0.2 wt.% sulfur
  - Pour points 4 to 46° C.
  - Paraffinic (Katz and Dawson, 1997)
- Producing un-expelled oil and gas represents highly attractive target



Schematic Paleogeography of Late Eocene - Oligocene rift basins.
The best source rock developed in deep anoxic lakes.

Defining Sweet Spots Key

Important to delineate most productive part of unconventional plays

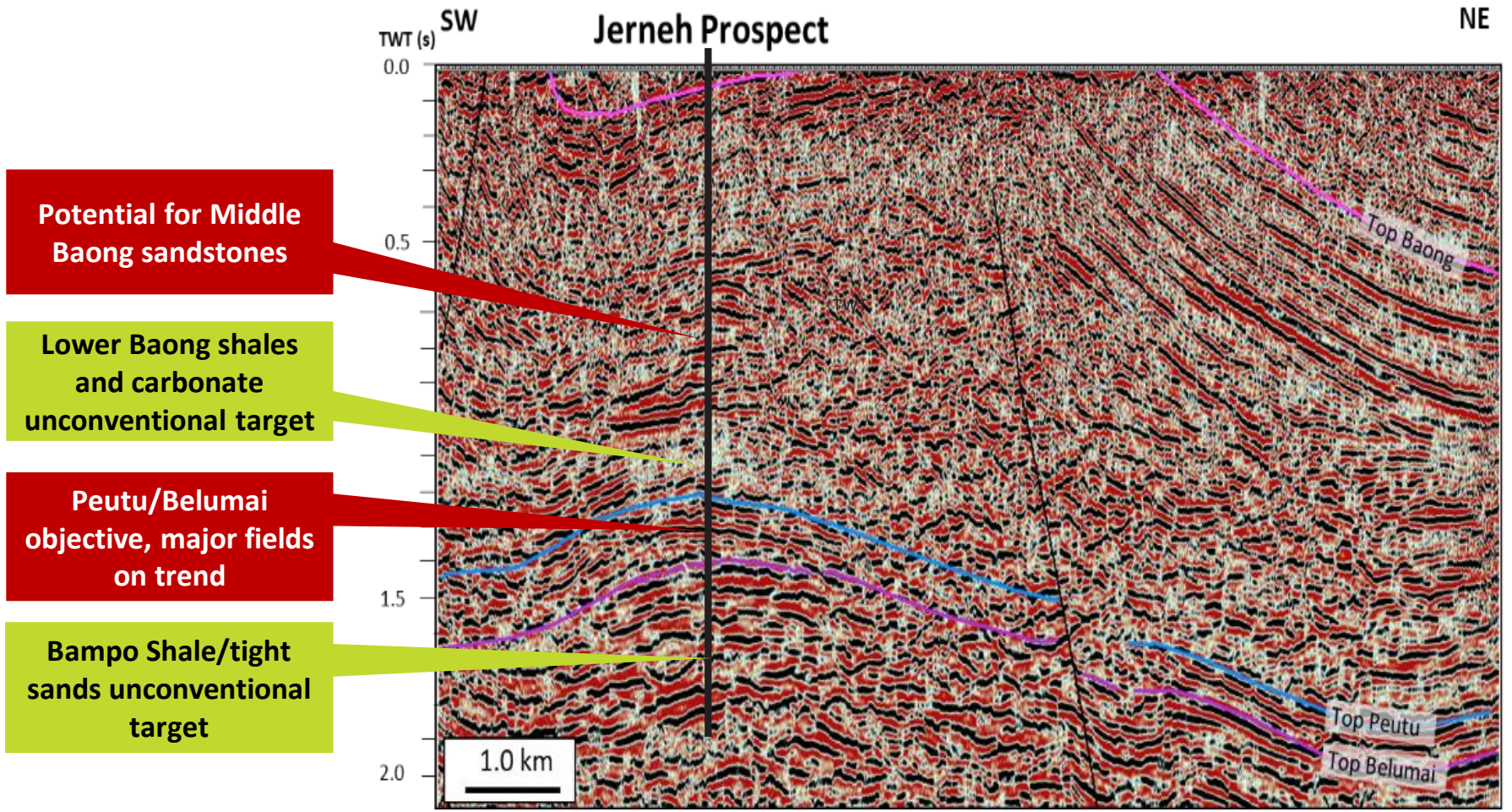


Source: A Cullen, Lion presentation July 2015

Conventional/Unconventional Strategy

Synergies: data, operations, potential early cash flow

Use conventional exploration to de-risk unconventional potential

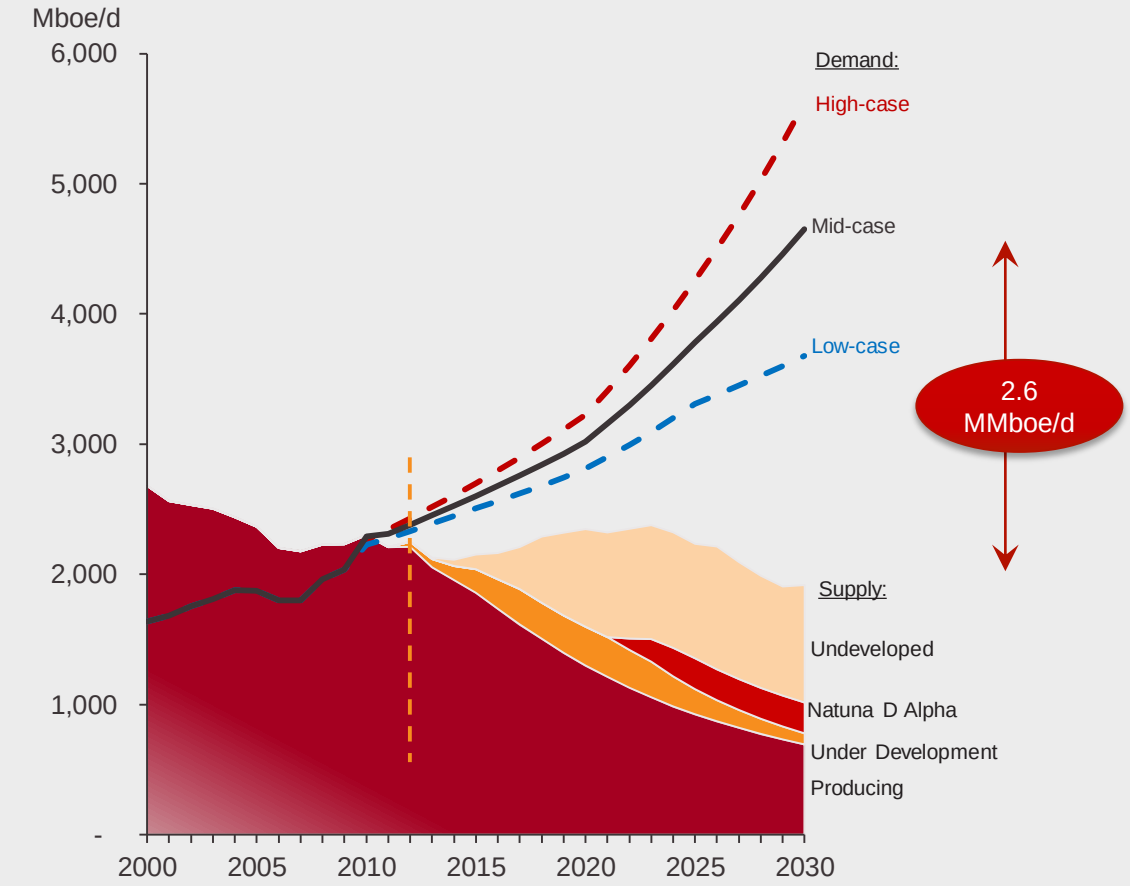


Indonesia's unconventional rationale

A unique opportunity in SE Asia

- Worlds fourth-largest population (~250mm)
- Fast-growing economy (GDP ~ 6%pa)
- Declining conventional oil/gas supply, Indonesia approaching net BOE imports
- Strong domestic gas prices (LNG pricing link), US$7+/mmBtu
- Regulatory changes promoting unconventional oil/ gas investment with competitive fiscal terms
- Prolific onshore basins (still underexplored by world standards)

Projected Indonesian oil and gas supply/demand balance

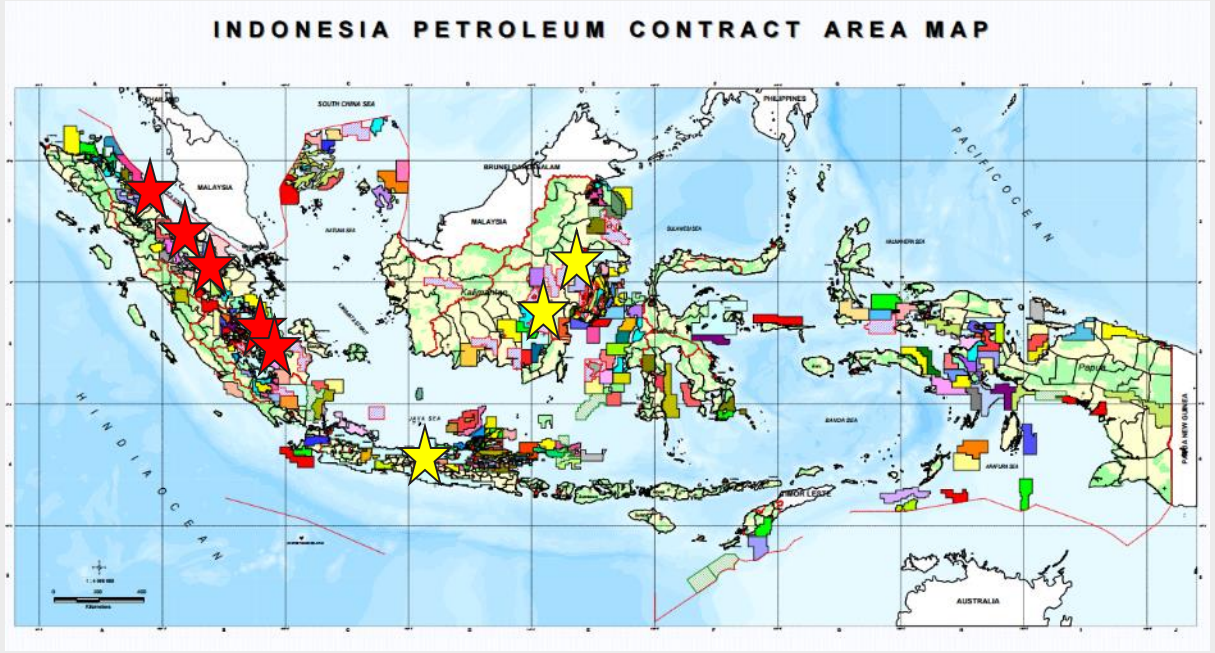


Source: Rystad U-Cube, MEMR (2011), ASEAN Energy Outlook (2011), DEN (2011), BCG analysis

Unconventional Update

Sumatra is most active area, new PSC's in Java and Kalimantan

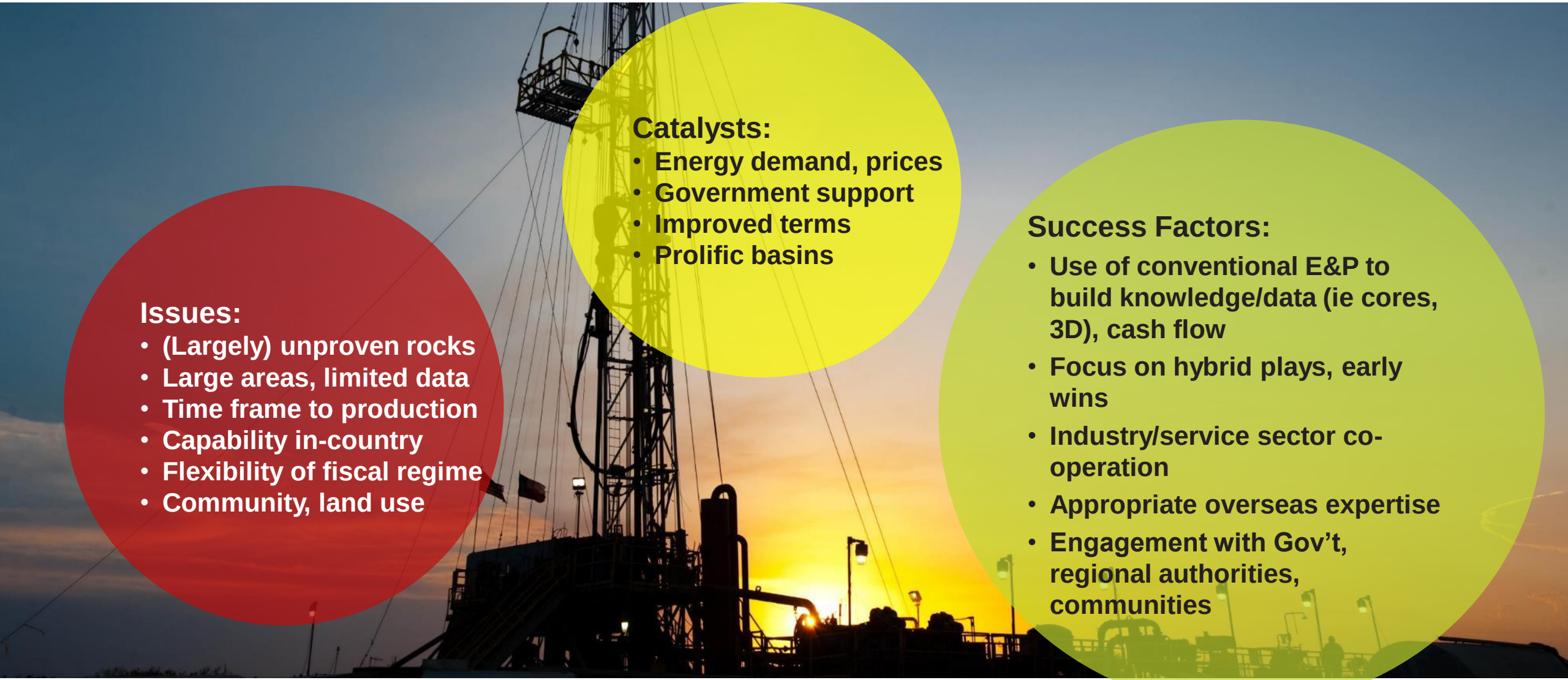
- Separate conventional and unconventional (Migas Non-Conventional) MNK PSC's
- 5 MNK licences granted to date:
  - MNK Sumbugat PSC - North Sumatra
  - MNK Kisaran - Central Sumatra
  - MNK Palmerah - South Sumatra
  - MNK Sakakemang - South Sumatra
  - MNK Selat Panjang - Central Sumatra
- 3 areas in current 2015 bid round including two in Kalimantan one in East Java
- ~70 JSA applications made to date
- Lion have 2 awarded Joint studies, 2 pending, 1 planned
- Government improving terms for CBM licence and this will flow into shale licences



Current Unconventional Terms:
Oil: 40-45% contractor profit share after all taxes
Gas: 45-50% contractor profit share after all taxes

Government anticipated to release new unconventional contracts with improve flexibility/better terms. Cooperation/alignment encouraged between conventional and unconventional licences.

THE CHALLENGE: DEVELOPING INDONESIA's UNCONVENTIONAL INDUSTRY



Issues:
- (Largely) unproven rocks
- Large areas, limited data
- Time frame to production
- Capability in-country
- Flexibility of fiscal regime
- Community, land use

Catalysts:
- Energy demand, prices
- Government support
- Improved terms
- Prolific basins

Success Factors:
- Use of conventional E&P to build knowledge/data (ie cores, 3D), cash flow
- Focus on hybrid plays, early wins
- Industry/service sector co-operation
- Appropriate overseas expertise
- Engagement with Gov't, regional authorities, communities

Thank you

For more information please contact:

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