

# PETSEC ENERGY LTD

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17<sup>th</sup> May 2018

#### Petsec Energy Ltd 2018 AGM Presentation

Petsec Energy Ltd (ASX: PSA / OTC ADR: PSJEY)

Attached is a copy of the presentation to be delivered today by Petsec Energy Ltd.'s Chairman and Managing Director, Terry Fern, at the 2018 Annual General Meeting ("AGM") of members of Petsec Energy Ltd, held at the Museum of Sydney, corner Bridge and Phillip Streets, Sydney.

A copy of the presentation will also be made available on the Company's website, www.petsec.com.au.

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# Forward Looking Statement Disclaimer

This presentation contains predictions, estimates and other forward looking statements that are subject to risk factors associated with the oil and gas industry. Although the company believes that the expectations reflected in these statements are reasonable, it can give no assurance that its expectations and goals will be achieved. Important factors that could cause actual results to differ materially from those included in the forward looking statements include, but are not limited to, commodity prices for oil and gas, currency fluctuations, the need to develop and replace reserves, environmental risks, drilling and operating risks, risks related to exploration and development, uncertainties about reserve estimates, competition, loss of market, government regulation, economic and financial conditions in various countries, political risks, project delay or advancement, and approvals and cost estimates.

All references to dollars in this presentation are to US currency, unless otherwise stated.

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The reserves assessment follows guidelines set forth by the Society of Petroleum Engineers – Petroleum Resource Management System (SPE-PRMS). The USA and Yemen reserve estimates provided within this presentation are based on information contained within the announcements to the ASX on 22 February 2018 and the 2017 Annual Report.

The Company confirms that it is not aware of any new information or data that materially affects the information included within the above releases, and that all the material assumptions and technical parameters underpinning the estimates therein continue to apply and have not materially changed.

# **Corporate Objective and Strategy**

Petsec Energy is an independent oil and gas exploration and production company listed on the Australian Stock Exchange with operations in the shallow waters of the Gulf of Mexico and onshore Louisiana, USA (offices Houston & Lafayette), and onshore in Yemen (offices Sanaa & Dubai-UAE).

#### **Corporate Objective**

To increase shareholder value through successful oil and gas exploration, development and production, and by oil and gas reserve acquisitions, thereby building Petsec Energy into a significant mid-tier oil and gas exploration and production company.

#### **Corporate Strategy**

To drill high impact exploration prospects, predominately for oil and develop those discoveries, and to acquire oil and gas reserves, developed/producing or undeveloped, in onshore leases which hold significant development, low risk exploitation and high exploration potential, that make a major positive impact on the value of Petsec Energy.

The geographical focus is onshore and offshore Louisiana and Texas, USA, the Republic of Yemen, and the MENA region generally.



# **USA Operations**

#### **USA Net 2P Oil and Gas reserves<sup>1</sup> (1 January 2018)**

15.9 Bcf of gas and 1.137 MMbbl of oil (3.8 MMboe) NPV<sub>10</sub> value of US\$34.8MM (A\$0.14 share)

- Operated in USA Gulf of Mexico and Louisiana since 1991.
- Drilling success: 109 wells / 81 successful / 74% success net production > 216 Bcfe, US\$548MM EBITDAX.
- Active Projects: Jeanerette, Mystic Bayou & Hummer (Main Pass 270/273/274).
- Jeanerette: Discovery well (July 2014); producing intermittently; requires workover.
- Mystic Bayou: Discovery well (August 2015); Production: 2.1 MMcfgpd and 42 bcpd.
  - Field Development: Additional 3 development well locations to be drilled.
- \* Hummer: Discovery well (November 2015); Commenced production in November 2017.
  - Current production: 18.1 MMcfpd and 370 bopd on a restricted choke (20/64<sup>th</sup> inch).
  - Field development: Additional 3 to 8 Appraisal/Development well locations to be drilled.
  - B-2 Appraisal/Development well: Spud date July/August 2018 to test six oil and gas reservoirs.

<sup>1.</sup> Cawley, Gillespie & Associates.



# Yemen Operations: Block S-1 and Block 7

Damis (Block S-1) Oilfields: Developed: 12.8 MMbbls oil.

Undeveloped: 34 MMbbl oil + 550 Bcf gas

Al Barga Block 7 Oilfield & Exploration Prospects: Undeveloped: 11 MMbbls oil to > 50 MMbbls oil

**Exploration:** > 1 billion bbls oil

Yemen Operations: Commenced 2014

Acquired 100% W.I. - Block S-1 (2016) and Block 7 (2014 – 2016)

- Damis (Block S-1) Production Licence: (100% working interest / 82.5% participating interest):
  - ♦ Five Oil & Gas Fields:
    - Developed/Productive: An Nagyah Oilfield Net 2P reserves 5.6 MMbbl oil (12.8 MMbbl gross)
    - 5.6 MMbbl net of all costs/taxes NPV<sub>10</sub> US\$155.4MM. 1 January 2016 (AUD: 63 cents/share)
    - Undeveloped: Osaylan, Harmel, An Naeem, Wadi Bayhan > 34 MMbbl oil & 550 Bcf gas gross <sup>2</sup>
- ❖ Block 7 (Al Barga): 100% working interest (85% participating interest) <sup>3</sup>
  - → Al Meashar: Undeveloped oil field 2 wells tested at 200- 1,000 bopd
    - 11 MMbbl to > 50 MMbbl gross (9.3 MMbbl 42.5MMbbl net) Upside potential: 110 MMbbl 4
  - ★ Eight prospects / leads: target sizes range from 2 to 900 MMbbl oil gross. Four largest > 1 billion bbls

Source: DeGolyer and McNaughton Canada Limited

Source: Wood Mackenzie Asia Pacific Pty Ltd

The Company has an agreement with KUFPEC (25% W.I.) to acquire its interest in Block 7. The agreement is pending completion and is subject to customary approvals from the Government of Yemen and the Ministry of Oil and Minerals.



# **Market Capitalisation vs Reserves Valuation**

Market Listing	ASX: PSA / OTC ADR: PSJEY
Shares on issue	323.6 MM
Market capitalisation at 16/5/18 @ 9.3 c/s	~ A\$30 MM
Cash at 31/03/18	US\$3.9 MM
US\$15 million convertible note facility – 31/3/18 (available)	US\$10.0 MM
Net oil & gas reserves (2P) as of 1/1/18	9.4 MMboe
NPV <sub>10</sub> reserves (2P) as of 1/1/18	US\$189.8 MM A\$0.77/share



#### Significant Discount to NPV<sub>10</sub> of Oil & Gas Reserves

Market Capitalisation: A\$30MM A\$0.093 / share

❖ Audited Net 2P Reserves: 9.4 MMboe (6.9 MMboe developed + 2.5 MMboe undeveloped)

Petsec Energy NPV<sub>10</sub> value: **US\$189.8MM** (A\$250MM) **A\$0.77 / share** 

❖ Yemen undeveloped fields: 45 MMbbl + 550 Bcf gross

Estimated NPV<sub>10</sub> Oil > US\$500MM A\$2.00 / share

#### **Key Drivers to Unlock Latent Value:**

#### YEMEN

An Nagyah Oilfield:

Production Restart: Trucking oil to Blocks 14 or 4, OR Marib Pipeline, when Ras Isa Terminal becomes operational Trucking: Approvals to access Yemen Government truck offloading facilities 5,000 bopd at Brent Oil US\$70/bbl can generate revenues of US\$130MM p.a. and net cash flow to Petsec of US\$45MM p.a.

#### USA

- Hummer Gas/Oil Field: Additional 3 to 8 well locations to develop the field B-2 Appraisal/Development Well spuds July/August 2018 to test 6 oil/gas reservoirs
- Mystic Bayou Gas/Oil: Additional 3 well locations to develop the field. Field Development drilling mid-2019



# Peer Comparison: Enterprise Value / 2P Reserves

- **❖** Enterprise Value per BOE: A\$3.49 lowest of Peer companies
- Highly leveraged to development of Hummer Gas/Oil Field USA and the restart of An Nagyah Oilfield, Yemen

Company	Ticker	Share Price	Issued Shares	Capitalisation	EV	Reserves*	MCap/2P	EV/2P	EV/2P	EV/2P
			mn	A\$mn	A\$mn	2P Mboe	A\$/boe	A\$/boe	A\$/mcfe	US\$/boe
Oil Search	OSH	8.48	1523.6	12,920	16,798	454	28.45	36.99	6.16	27.93
Woodside	WPL	33.97	900.4	30,586	36,872	1312	23.32	28.11	4.68	21.23
Horizon Oil	HZN	0.15	1302.0	189	302	11	16.71	26.74	4.46	20.19
Beach Energy	BPT (Adj)	1.77	2276.2	4,017	4,770	225	17.82	21.16	3.53	15.98
Santos	STO	6.25	2082.9	13,018	16,329	834	15.61	19.57	3.26	14.78
Comet Ridge	COI	0.37	673.5	249	236	28	8.84	8.36	1.39	6.31
Cooper Energy	COE (Adj)	0.36	1601.1	576	444	54	10.65	8.21	1.37	6.20
AWE Ltd	AWE	0.94	625.3	588	620	81	7.22	7.62	1.27	5.75
Senex Energy	SXY	0.47	1447.3	673	590	84	8.06	7.06	1.18	5.33
Tap Oil	TAP	0.07	426.0	31	18	3	10.99	6.36	1.06	4.80
Elk Petroleum	ELK	0.07	1343.8	99	305	85	1.17	3.61	0.60	2.72
Petsec Energy	PSA (Adj)	0.09	322.3	30	33	9	3.19	3.49	0.58	2.63

Reserves\* adjusted against last production data where applicable

Source; Company data, IRESS



# 2017 Year in Review: Key Achievements

Audited Net 2P Reserves: 9.4 MMboe USA: 3.8 MMboe YEMEN: 5.6 MMbo

NPV<sub>10</sub>: US\$189.8MM (A\$250MM) A\$0.77 / Petsec Energy share

#### Corporate

Rights Issue Completed: A\$11MM (initiated in Dec 2016)

Convertible Note Facility: Extension to July 2019

Tranche 2 (US\$5MM): An Nagyah Restart (2018?)

Tranche 3 (US\$5MM): Hummer B-2 appraisal/development well (spud July/August 2018)

#### **USA**

- Hummer Development: Main Pass 270 "B" Production Platform constructed deck facilities, oil & gas sales pipelines
- Hummer Development: Main Pass 270 B-1 well brought into production on 21 November 2017 18 MMcfgpd + 370 bopd

#### Yemen

- Damis (Block S-1) An Nagyah Oilfield Restart:
  - Completed oil truck loading facility for installation at An Nagyah Central Processing Facility
  - Progressed approvals to access Yemen Government truck unloading facilities at Block 14 (Petro Masila), Block 4 (YICOM)
- Al Barqa (Block 7) Acquisition:

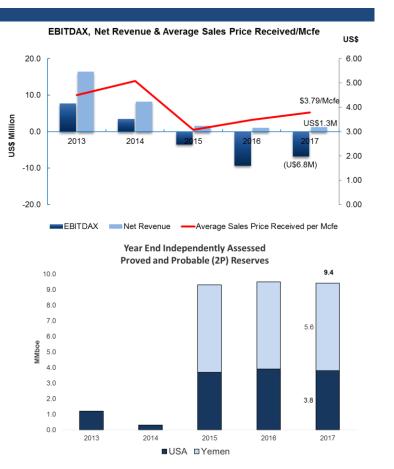
Oil Search (ROY) Ltd – acquired Oil Search subsidiary (40% working interest and operatorship)



## 2017 Year in Review: Financial & Operating Results

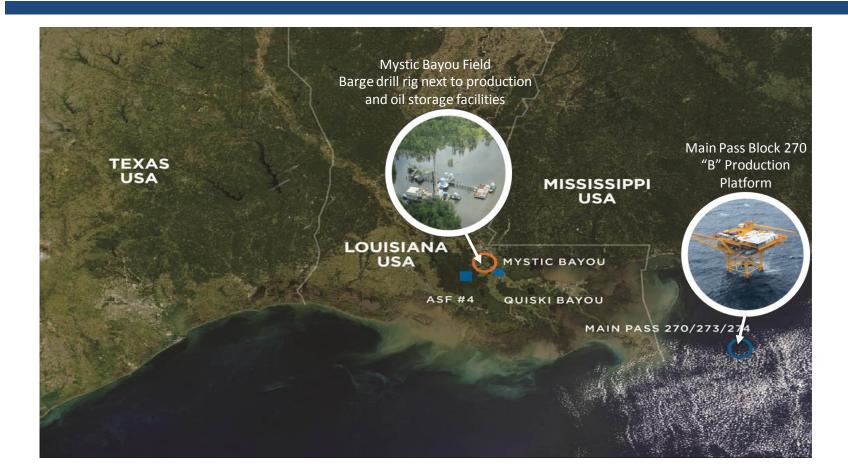
- Production: 347 MMcfe, up 11% on 2016 Hummer discovery well production start-up 21 November 2017.
- ❖ EBITDAX : US\$6.8MM negative reflects current low revenue base versus GG&A costs to maintain Yemen assets.
- Net loss after tax: US\$12MM includes US\$4MM impairment provision of Yemen assets due to ongoing political instability, and USA depreciation, depletion & amortisation ("DD&A") of US\$1.4MM.
- ❖ Net 2P oil & gas reserves at 1 January 2018: 9.4 MMboe.

КРІ	FY2017 Result	Change on previous year
Net production	347 MMcfe	Up 11%
Average sales price	US\$3.79/Mcfe	Up 9%
Net Revenue	US\$1.3MM	Up 18%
EBITDAX	(US\$6.8MM)	n/a
Net loss after tax	US\$12.0MM	n/a
Cash position at 31 December 2017	US\$3.5MM	Down 73%
Debt at 31 December 2017	US\$5.6MM	Up 70%
Net 2P oil & gas reserves 1 January 2018	9.4 MMboe	Down 1%





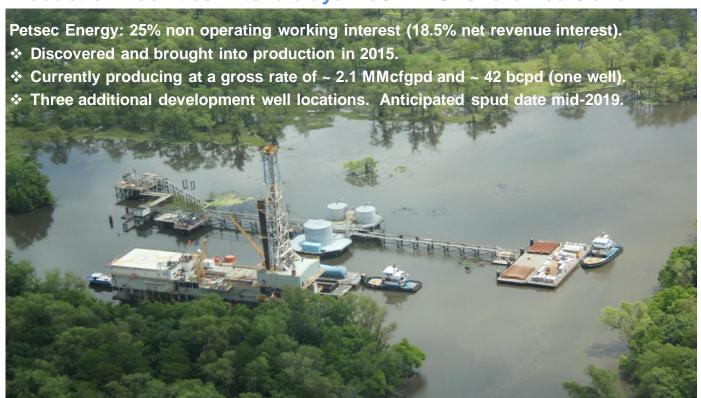
# **USA Production / Development**





# Mystic Bayou Gas/Oil Field USA

#### **Production Facilities: Atchafalaya Basin – Onshore Louisiana**





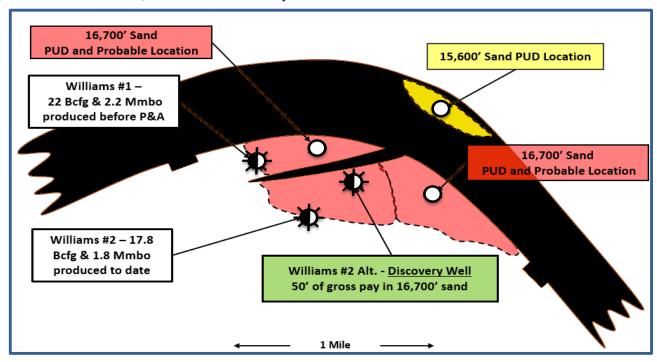
# Mystic Bayou Gas/Oil Field USA

## Structure Map: Production and Development Well Locations

- The Mystic Bayou Field has produced in excess of 3.4 MMbbl and 39 Bcf of gas in the target horizons.
- The Williams #2 Alt well was drilled to a total measured depth of 5,263 metres (17,266'), equivalent to 5,143 metres (16,873') true vertical depth.
- Future development drilling:

Three well PUD locations of proved undeveloped reserves – white circles shown on the plan.

#### 16,700' Sand Map with reservoir outlines





# **Hummer Field: USA Production/Development**

#### Hummer Gas/Oil Field: Main Pass Blocks 270, 273, 274

#### Discovery November 2015. Platform set 2016/2017. Production began November 2017

- Petsec holds a 12.5% W.I. in the Hummer Gas/Oil Field.
- The Main Pass Block 270 B-1 discovery well was drilled in June-December 2015 to a total depth of 4,800 metres (15,748') TVD to test a single reservoir with a pre-drill mapped target potential of 183 Bcf gas + 3.7 MMbbl oil.
- ❖ The well penetrated five oil & gas pay zones, one of which (the initial objective reservoir) was completed for production. Production in this reservoir commenced 21 November 2017, and is currently producing 18 MMcfgpd and 370 bopd.
- ❖ The Hummer Field structure extends over a strike of five miles within the Main Pass Block 270, 273, 274 leases which cover 15,000 acres, in some 200 feet of water.
- ❖ Additional 3 to 8 wells required to develop the field.
- Appraisal/development drilling to commence in mid-2018.
- Main Pass Block 270 B-2 appraisal/development well spud date July/August 2018.





## **Hummer Field: B-2 Appraisal/Development Well**

#### Hummer Gas/Oil Field: Main Pass Blocks 270/273/274

#### B-2 Appraisal/Development Well - Spud Date July/August 2018

- ❖ The B-2 appraisal/development well will be drilled from the Main Pass Block 270 "B" Production Platform, with a planned bottom hole location some 6,000 feet to the East of the B-1 discovery well. This is the first of potentially 3 to 8 appraisal/development wells required to develop the field.
- The well is designed to test, at an optimum structural position, **six potential oil and gas reservoirs**, these being the five oil and gas reservoirs intersected in the B-1 well and a deeper horizon not tested by the B-1 well, but productive in the area.
- The primary objectives of the B-2 well are two sand reservoirs with proven oil and gas reserves determined from the B-1 well (Cawley, Gillespie & Associates, independent reserve engineers), one of which is categorised as Proved Developed Producing (PDP) the other Proved Undeveloped (PUD). These reservoirs are productive in similar nearby fields (Main Pass 280/283 Field Complex),14 miles to the East of Main Pass 274,having produced greater than 27 MMbbl oil and 60 Bcf gas.
- The B-2 well is planned to drill to a measured depth (MD) of 18,559 feet with a true vertical depth (TVD) of 16,624 feet. The well is anticipated to take approximately 80 days to drill and reach total depth, with an expected spud date in July/August 2018. Completion of the well for production is estimated at two weeks and production is anticipated within 4 to 6 weeks of well completion. Production is estimated to begin in mid-December 2018. Individual wells from analogue fields have had peak production rates which exceed 25 MMcfgpd and 1,000 bopd.
- The estimated net cost to the Company to drill the well is approximately US\$2.6 million, and US\$1 million for well completion and production facilities.
- The Company has US\$5 million in Tranche 3 of its Convertible Note Facility with which to fund the well.



## **Hummer Field: B-2 Well Drilling, Development, Production**

#### Hummer Gas/Oil Field: B-2 Well - Timeline

- The B-2 Well is anticipated to spud in July/August 2018.
- ❖ Drilling is expected to take approximately 80 days to reach total depth of 18,559' MD/16,624' TVD.
- Completion of the well is expected to take approximately 2 weeks.
- Some facility upgrades will be required when the results of the well are known.
- ❖ First production is anticipated in Late 2018.

	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Beyond
Drilling										
Completion										
Facility Upgrade										
Production										

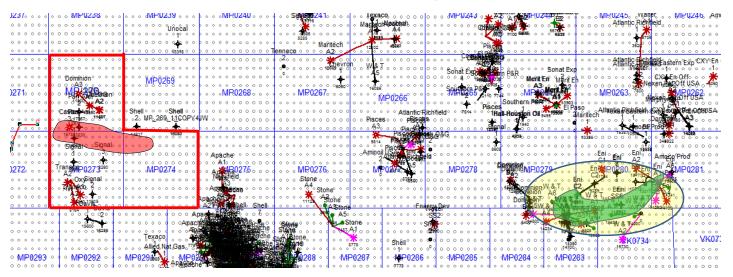


## **Hummer Field: Nearby Analogous Production**

# **Hummer Gas/Oil Field: Production Analogue**

Main Pass 280/283 Field Complex, 14 miles East of Main Pass 274

Cumulative Production: > 27 MMbbl oil + 60 Bcf gas



Hummer Field MP 270/273/274 MP 280/283 Field Complex MP 279/280/281/283, VK 734

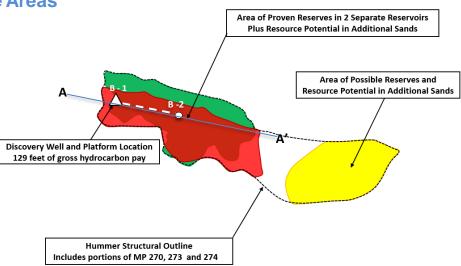


# **Hummer Field: Structure Map**

#### Hummer Gas/Oil Field: Main Pass Blocks 270, 273, 274

#### **Structure Map – Proven and Prospective Areas**

- Hummer Gas/Oil Field Structure extends over a strike of five miles within the Main Pass Block 270,273,274 leases which cover 15,000 acres, in some 200 feet of water.
- ❖ The B-1 exploration well was a straight hole drilled to a true vertical depth (TVD) of 15,748' in the North West corner of the Hummer Field geologic structure, in Main Pass Block 270 to test a single reservoir with a pre-drill mapped target potential of 183 Bcf gas + 3.7 MMbbl oil.
- The well penetrated five oil & gas reservoirs, including the primary objective reservoir which was completed for production (red area), and is currently producing 18 MMcfgpd and 370 bopd.
- ❖ The B-2 appraisal/development well will be drilled from the Main Pass Block 270 "B" Production Platform, with a planned bottom hole location some 6,000' to the East of the B-1 discovery well (identified with a dashed white line). This is the first of potentially 3 to 8 appraisal/development wells required to develop the field.





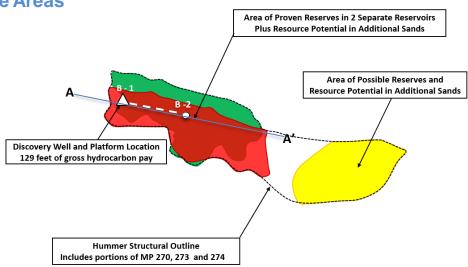


# **Hummer Field: Structure Map**

#### Hummer Gas/Oil Field: Main Pass Blocks 270, 273, 274

#### **Structure Map – Proven and Prospective Areas**

- The B-2 well is designed to test, at an optimum structural position, six potential oil and gas reservoirs, these being the five oil and gas reservoirs intersected in the B-1 well and a deeper horizon not tested by the B-1 well, but productive in the area.
- ❖ The primary objectives of the B-2 well are two sand reservoirs shown in the red (currently producing) and green areas, with proven oil and gas reserves determined from the B-1 well (Cawley, Gillespie & Associates, independent reserve engineers). The red area is categorised as Proved Developed Producing (PDP), and the green area, Proved Undeveloped (PUD). These reservoirs are also productive in similar nearby fields (Main Pass 280/283 Field Complex), having produced in excess of 27 MMbbl oil and 60 Bcf gas.
- The Hummer Field structure continues to the East beyond the red and green area into Main Pass Block 274 where identified Possible reserves in equivalent reservoirs require appraisal.
- ❖ The A A' line follows the B-2 well path and identifies the cross section shown in the next slides.



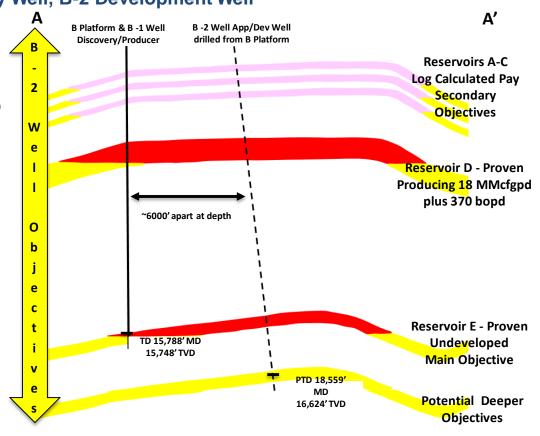




#### Hummer Gas/Oil Field: B-1 Discovery Well, B-2 Development Well

#### Cross-Section: A –A' along B-2 Well path

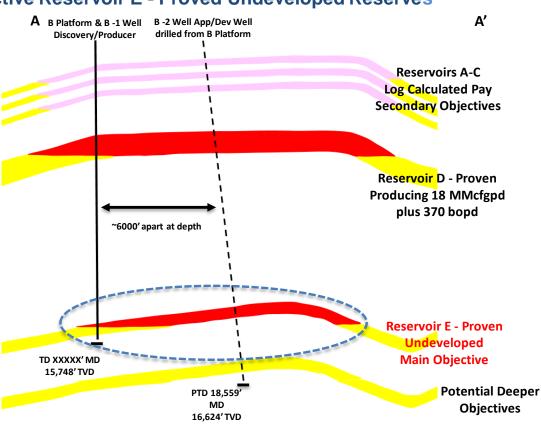
- The initial exploratory well (B-1) was a straight hole and penetrated 5 oil and gas reservoirs.
- The main objective of the B-1 well (Reservoir D) was tested at high rates and is currently producing.
- A second, deeper sand (Reservoir E) was also proven in the B-1 well and is the main objective of the B-2 development well.
- Cawley, Gillespie & Associates has classified Reservoir E as Proved Undeveloped (PUD) reserves.
- Significant upside potential exists in additional reservoirs that have hydrocarbon shows and log calculated pay (Reservoirs A-C) but were not production tested in the initial well.
- The B-2 well is also planned to test potential deeper objectives not seen in the B-1 discovery.





#### Hummer Gas/Oil Field: Primary Objective Reservoir E - Proved Undeveloped Reserves

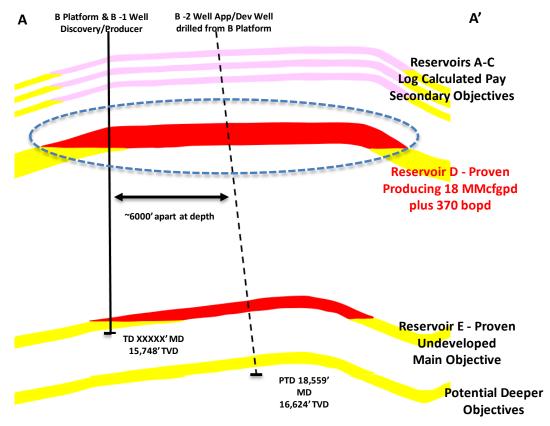
- Reservoir E is the main objective of the B-2 well.
- Near total depth of the initial B-1 well, a hydrocarbon pay zone was encountered in Reservoir E.
- Reservoir E was encountered on the edge of the structural closure at that level in a position that was not favorable for long term production.
- It was decided <u>not</u> to produce the reservoir from that well but instead to drill a new well to produce the reserves.
- A hydrocarbon sample was not taken in the B -1 well, however the nearest field that produces from this interval is predominantly an oil producer (Main Pass 280/283) produced in excess of 27 MMbbl oil and 60 Bcf gas.
- Cawley, Gillespie & Associates has classified the reservoir as containing Proved Undeveloped (PUD) reserves.





#### Hummer Gas/Oil Field: Future Take Point - Reservoir D - Proven Reserves

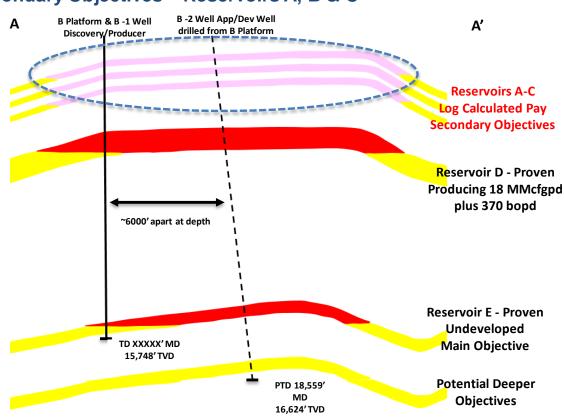
- ❖ Reservoir D is currently producing 18 MMcfgpd + 370 bopd in the B-1 well.
- The B-2 well is planned to encounter the reservoir approximately 6,000' East of the B-1 well.
- The well's penetration point at reservoir level fits within the area of Proven reserves as defined by Cawley, Gillespie & Associates.
- The B-2 wellbore can be used as an additional take point in the reservoir at a later date, after deeper zones in the well are depleted.





#### Hummer Gas/Oil Field: B-2 well: Secondary Objectives – Reservoirs A, B & C

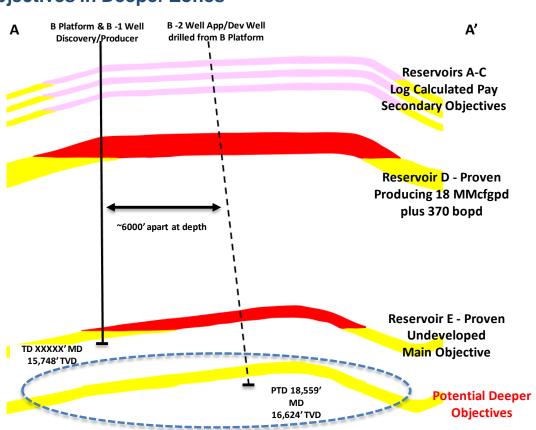
- Reservoirs A, B & C represent several sand intervals encountered in the B-1 well that had strong oil and gas shows in the mud logs and calculated as pay on logging while drilling (LWD) tools.
- The zones were not tested in the B-1 well but similar sands are productive in nearby wells.
- The B-2 well is planned to encounter these reservoirs in a structurally advantageous position for potential future production.
- Cawley, Gillespie & Associates has <u>not</u> been requested to estimate reserves or classify these reservoirs.





#### **Hummer Gas/Oil Field: Exploration Objectives in Deeper Zones**

- The initial well (B-1) was drilled through Reservoir E and reached total depth.
- Some offset wells in the greater Hummer area have indicated the potential for additional deeper sands to be present.
- ❖ The B-2 well is planned to drill ~1,000' deeper in order to explore for untested sands on the large Hummer structure.
- The deeper horizon was not tested by the B-1 well, but is productive in the area.
- If successful, the deeper reservoirs could be produced from the B-2 well.
- Cawley, Gillespie & Associates has <u>not</u> been requested to estimate reserves for these potential reservoirs.

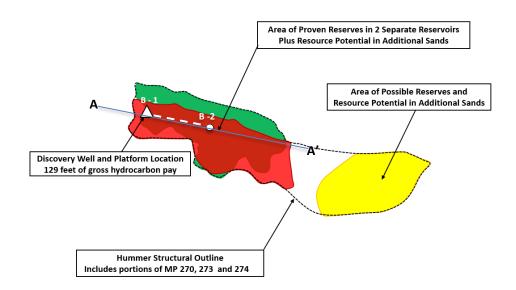




# **Hummer Field: B-1/B-2 Wells – Structure Map**

#### **Hummer Gas/Oil Field: Main Pass Block 274 – Possible & Prospective Reserves**

- The prospective area highlighted in yellow is situated on the large structural feature that holds the Hummer Field. The area is separated from the Proven reserves in the main Hummer Field by a shallow syncline and minor faulting.
- Within the area, Possible reserves and resource potential will be targeted.
- Cawley, Gillespie & Associates allocated Possible reserves in Reservoirs D & E, which had been identified as Proven in the B-1 well on the main Hummer structure.
- Potential reserves will be tested in other Middle Miocene sands identified in the B-1 and B-2 wells.
- The area is estimated to contain Possible reserves plus an unquantified volume of resource potential in other sands.
- The area will require testing with a future well.







## **Hummer Field: Conclusion**

#### Hummer Gas/Oil Field: Main Pass 270/273/274

- The B-2 well is designed to test, at an **optimum structural position**, **six potential oil and gas reservoirs**, these being the five oil and gas reservoirs intersected in the B-1 well and a deeper horizon not tested by the B-1 well, but productive in the area.
- The primary objective of the B-2 well are two sand reservoirs with proven oil and gas reserves determined from the B-1 well (Cawley, Gillespie & Associates, independent reserve engineers). The upper reservoir (Reservoir D red area in Structure Map) is categorised as Proved Developed Producing (PDP), and the lower reservoir (Reservoir E green area of the Structure Map) Proved Undeveloped (PUD). These reservoirs are productive in similar nearby fields (Main Pass 280/283 Field Complex), 14 miles to the East of Main Pass Block 274, having produced greater than 27 MMbo and 60 Bcf of gas.
- ❖ The primary objective Reservoir E, (green area in the Structure Map) is predominantly an oil producer in the analogue field.
- Facilities are in place on the Main Pass Block 270 "B" Production Platform to quickly hook-up the B-2 well and flow oil and gas to nearby pipelines. First production from the B-2 well is anticipated by year-end 2018.



# **Yemen Operations**





## Yemen Operations: Block S-1 and Block 7

Damis (Block S-1) Oilfields: Developed: 12.8 MMbbls oil.

Undeveloped: 34 MMbbl oil + 550 Bcf gas

Al Barga Block 7 Oilfield & Exploration Prospects: Undeveloped: 11 MMbbls oil to > 50 MMbbls oil

**Exploration:** > 1 billion bbls oil

Yemen Operations: Commenced 2014

Acquired 100% W.I. - Block S-1 (2016) and Block 7 (2014 - 2016)

- Damis (Block S-1) Production Licence: (100% working interest / 82.5% participating interest):
  - ♦ Five Oil & Gas Fields:
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    - Undeveloped: Osaylan, Harmel, An Naeem, Wadi Bayhan > 34 MMbbl oil & 550 Bcf gas gross <sup>2</sup>
- Block 7 (Al Barga): 100% working interest (85% participating interest) 3
  - ♦ Al Meashar: Undeveloped oil field 2 wells tested at 200- 1,000 bopd
    - 11 MMbbl to > 50 MMbbl gross (9.3 MMbbl 42.5MMbbl net) Upside potential: 110 MMbbl 4
  - ★ Eight prospects / leads: target sizes range from 2 to 900 MMbbl oil gross. Four largest > 1 billion bbls

Source: DeGolyer and McNaughton Canada Limited

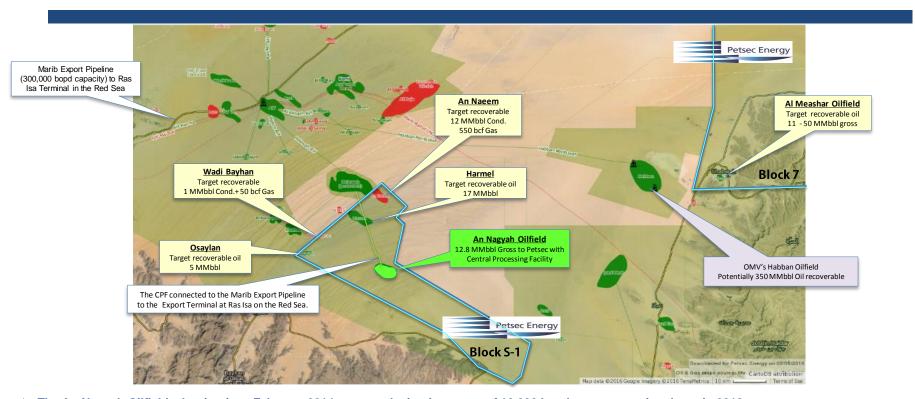
Source: Wood Mackenzie Asia Pacific Pty Ltd

<sup>3</sup> The Company has an agreement with KUFPEC (25% W.I.) to acquire its interest in Block 7. The agreement is pending completion and is subject to customary approvals from the Government of Yemen and the Ministry of Oil and Minerals.



# An Nagyah Oilfield:

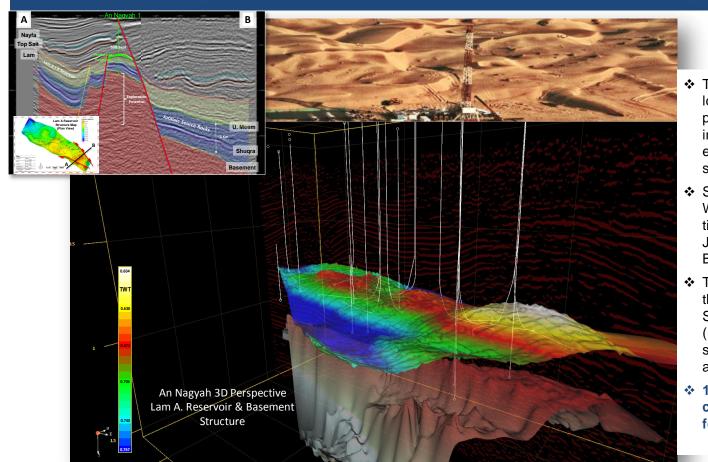
#### Marib-Shabwah Basin Production Hub



- The An Nagyah Oilfield, shut-in since February 2014, was producing in excess of 10,000 bopd at an unrestricted rate in 2012.
- An Nagyah Central Processing Facilities capacity of 20,000 bopd can be readily increased to accommodate development of the four undeveloped fields within the block.
- An Nagyah is connected by 80,000 bopd pipeline to the Marib-Shabwah Production Hub which delivers crude for export directly to the Ras Isa Terminal on the Red Sea, near the port of Hodeidah, via a 610-910mm diameter 438 km export pipeline, capacity 300,000 bopd.



# An Nagyah Oilfield: Subsurface 3D TWT Cube & Seismic Cross Section

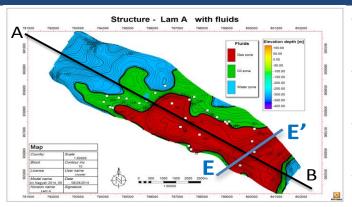


- The An Nagyah Oilfield is located within a world class petroleum system containing in excess of 2,000m of exceptional quality Jurassic source rocks.
- Structurally the field is a North-West to South-East trending tilted horst block within the Jurassic aged Sab'atayn Rift Basin.
- The most prolific reservoir is the uppermost Lam Sandstone, a thick sequence (100-125m) of delta front sandstones of Late Jurassic age.
- 15 production wells currently shut-in available for restart of production.

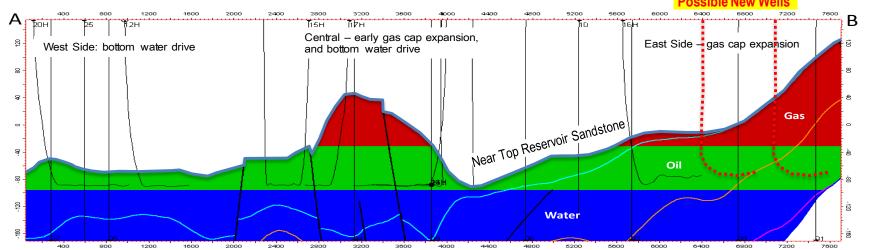


# An Nagyah Oilfield: Geological Cross Section

## **Production: Possible In-fill Development Wells**



- The An Nagyah Oilfield contains a 50 metre oil column and up to a 135 metre gas cap at its structural crest with oil produced through vertical and horizontal wells drilled across the sandstone reservoir.
- Production in the field is maintained through an active aquifer in the north-west flank of the field and via gas expansion in the up dip South-Eastern crest where there is a significant gas cap.
- Peak production has exceeded 12,000 bopd but has been limited by gas compression capacity for the re-injection of produced gas back into the reservoir.
- Reservoir Simulation work suggests additional infill wells have the capacity to increase production rates and ultimate recoverable oil.

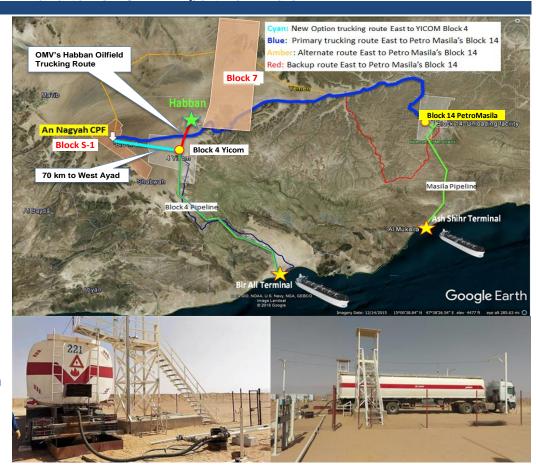




#### An Nagyah Oilfield: Truck Transportation of Crude Oil

OMV Habban Oilfield: Production Restart April 2018 Trucking to Bir Ali and to Ash Shihr Export Terminals

- OMV restarts production from Habban Oilfield in April 2018. The field was suspended since March 2015 due to Marib/Ras Isa Oil Terminal embargo by the Saudi Coalition
- Habban oil initially trucked 40km to the West Ayad Field CPF in Block-4 at the head of the Bir Ali Pipeline which has a capacity of 135,000 bopd and is operated by YICOM, a Yemen Government company - The pipeline requires maintenance, repairs in progress
- Petsec Energy's An Nagyah Oilfield is located 70km by road West of the West Ayad Field CPF
- OMV is reported to be currently trucking 4,000 BOPD 500km East to PetroMasila's Block-14 truck unloading facilities, from there via the Masila Pipeline, with a capacity of 300,000 BOPD to the Ash Shihir Export Terminal near the port city of Mukalla for Export
- Petsec Energy's An Nagyah Oilfield is 580km by road West of PetroMasila's Block-14
- OMV's Habban Oilfield: Truck Loading Facility April 2018, trucking by Al Hutheily Corporation





# Damis (Block S-1)

# An Nagyah Oilfield: Central Processing Facility (CPF)





# An Nagyah Oilfield: Re-start Status

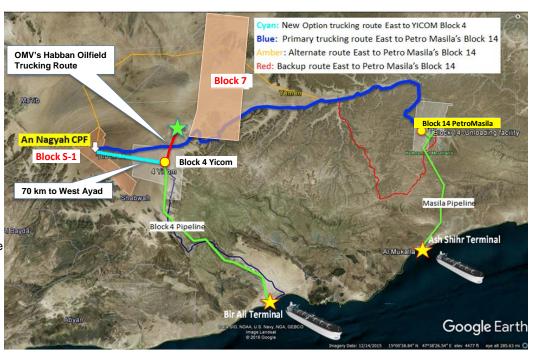
- Marib and Shabwah oil producers have been shut-in since the shipping embargo was instituted by the Saudi Coalition in early 2015 at the terminus of the Marib Pipeline, the Ras Isa Oil Terminal on the Red Sea near the port of Hodeidah.
- ❖ When the Masila Basin to the East of the Marib was re-opened in August 2016 following the re-opening of the Ash Shihr Oil Terminal near Mukalla on the South Coast, the Hadi Government had urged all Marib oil producers to produce and truck oil East to Block 14 PetroMasila.
- It was Petsec Energy's intention to restart production by mid-2017 at a restricted rate of 5,000 bopd and truck oil 580 km to Block 14. This required Yemen Government consent of a development plan to truck oil and to access Yemen Government owned truck unloading facilities, transport pipelines, crude storage and shipping facilities.
- The Minister for Oil and Minerals at the time was unable or unwilling to provide those approvals and no oil was trucked by Marib producers in 2017.
- The Saudi Coalition have since the beginning of 2018 stated the intention to support the Yemen oil industry by providing increased security in Marib and Shabwah, and the Yemen Government declared in late December 2017 a new Minister of Oil and Minerals, Mr. Aws Al-oud. The new Minister has engaged with the oil industry and has encouraged restart of production in the Marib and Shabwah Basins.
- OMV as operator of the Habban Oilfield, located 70km to the NE of Petsec Energy's An Nagyah Oilfield in Block S-1 and 14 km West of our Al Meashar Oilfield in Block 7, has begun restricted production in April 2018 (~4,000 bopd) and trucking of oil to Bir Ali in Block 4 to the South and to Block 14 to the East. OMV is the first foreign oil producer in Yemen to restart oil production since the shut-in of March 2015.
- ❖ Petsec remains engaged with the Yemen Hadi administration and is seeking support from the Ministry of Oil and Minerals (MOM) for a variation of the current development plan which will enable trucking of An Nagyah oil to the nearest operational point of oil storage with export facilities, and access to those Yemen Government facilities Block 4 (YICOM operated), Block 10 (PetroMasila operated).



# An Nagyah Oilfield:

#### Truck Transportation to Oil Export Terminals - Bir Ali & Ash Shihr

- Given recent encouraging progress, the company has undertaken the following activities in preparation for the re-start of operations;
- ✓ The twin arm truck loading unit with a 5,000 bopd capacity has been readied for shipping to Yemen
- Employed Mr. Riad Fadle, as General Manager, Yemen. Mr Fadle was a senior employee of both Vintage Petroleum and Occidental Petroleum through the development of the An Nagyah Oilfield between 2004 and 2012.
- Conducted meetings with the field operations workforce and have in-principal arrangements for the re-manning of the Central Processing Facility.
- ✓ Engaged with subcontractors providing support services to the operations, securing their support for restart of production.
- Held meetings with the local tribal and governorate leadership, securing support for the restart of production at An Nagyah.
- Have agreement with Jannah Corporation on terms for the trucking of up to 5,000 bopd to unloading destinations.
- Two trucking routes to export oil terminals are currently available - Bir Ali and Ash Shihr. OMV has been successfully using both since April 2018.
- Route A to Block 4, 70 km by road to the head of the Block 4 pipeline at West Ayad Field, is the shortest and least costly route, but the pipeline is limited to small volumes currently until the Block 4 Pipeline maintenance is completed.
- Route B to PetroMasila's Block 14 is 580 km East by road. then by pipeline to the Ash Shihr Terminal for export.
- Petsec field staff have test driven both routes with no issues.





# **An Nagyah Oilfield – Truck Loading Facility.**







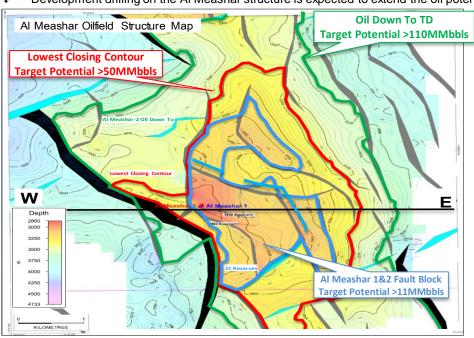


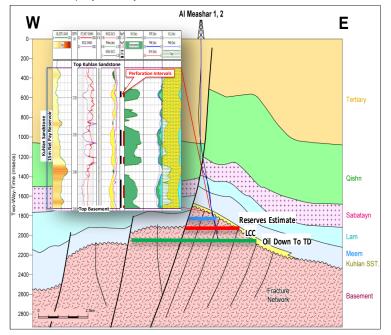


# Al Barqa (Block 7)

#### Al Meashar Oilfield: Development Potential

- The Al Meashar 1 & 2 discovery wells intersected an oil column in excess of 800m in the Kuhlan Sandstone and Basement formations, the same formations as in OMV's Habban Oilfield (350 MMbbl) which has an oil column of 945m and has in the past produced ~20,000 bopd up until production was suspended in March of 2015. In April 2018 OMV restarted production and currently trucking 4,000 bopd to Block 14 PetroMasila.
- The AI Meashar undeveloped oilfield is estimated at 11 MMbbl oil gross (9.3 MMbbl net) within the drilled single fault block outlined in blue with potential to increase to > 50 MMbbl within the currently mapped structural closure –red line, Lowest Closing Contour
- The oil column identified in the Al Meashar wells exceeds the mapped structural closure by more than 200m shown by the green line. Current estimates of oil within the green (oil-down-to) contour exceeds 110 MMbbls
- Development drilling on the AI Meashar structure is expected to extend the oil potential of the entire play fairway within the Block 7 licence area







# **Yemen Potential Value to Petsec Energy**

#### Reserves: Developed, Undeveloped, Exploration

#### **DEVELOPED RESERVES:**

An Nagyah = 12.8 MMbbl Oil Gross (5.6 MMbbl Oil net) 1

Capped 5,000 bopd, 10 year trucking model, (1/1/2016, US\$30/bbl forward prices)

Estimated NPV<sub>10</sub> Oil ~ US\$155MM <sup>1</sup>

(A\$0.63/share)

UNDEVELOPED OILFIELDS: 46 MMbbl Oil + 550 Bcf Gas 2

NPV<sub>10</sub> Valuation <sup>1 & 2</sup> (US\$45/bbl +2%pa escalation)

Damis (Block S-1)

Wadi Bayhan US\$11MM
Osaylan US\$60MM
Harmel US\$206MM
An Naeem US\$145MM

Al Barga (Block 7)

Al Meashar US\$90MM

Estimated NPV<sub>10</sub> Oil > US\$500MM (A\$2.00/share)

Developed + Undeveloped Oil = US\$655MM (A\$2.63/share)

**EXPLORATION:** 4 largest prospects targeting > 1 billion bbls recoverable<sup>3</sup>

Omega 439 MMbbl
West Irema 241 MMbbl
East Irema 164 MMbbl
Lead F 174 MMbbl

Estimated NPV<sub>10</sub> > US\$10 billion (US\$45/bbl +2%pa escalation)



2 Source: Wood Mackenzie Asia Pacific Pty Ltd 3 Source: Petsec Energy Ltd

