

# CLSA INVESTORS' FORUM



**September 2019**

OIL SEARCH LIMITED | ARBN 055 079 868 | ASX: OSH | PNGX: OSH | US ADR: OISHY

[www.oilsearch.com](http://www.oilsearch.com)



**Oil Search**

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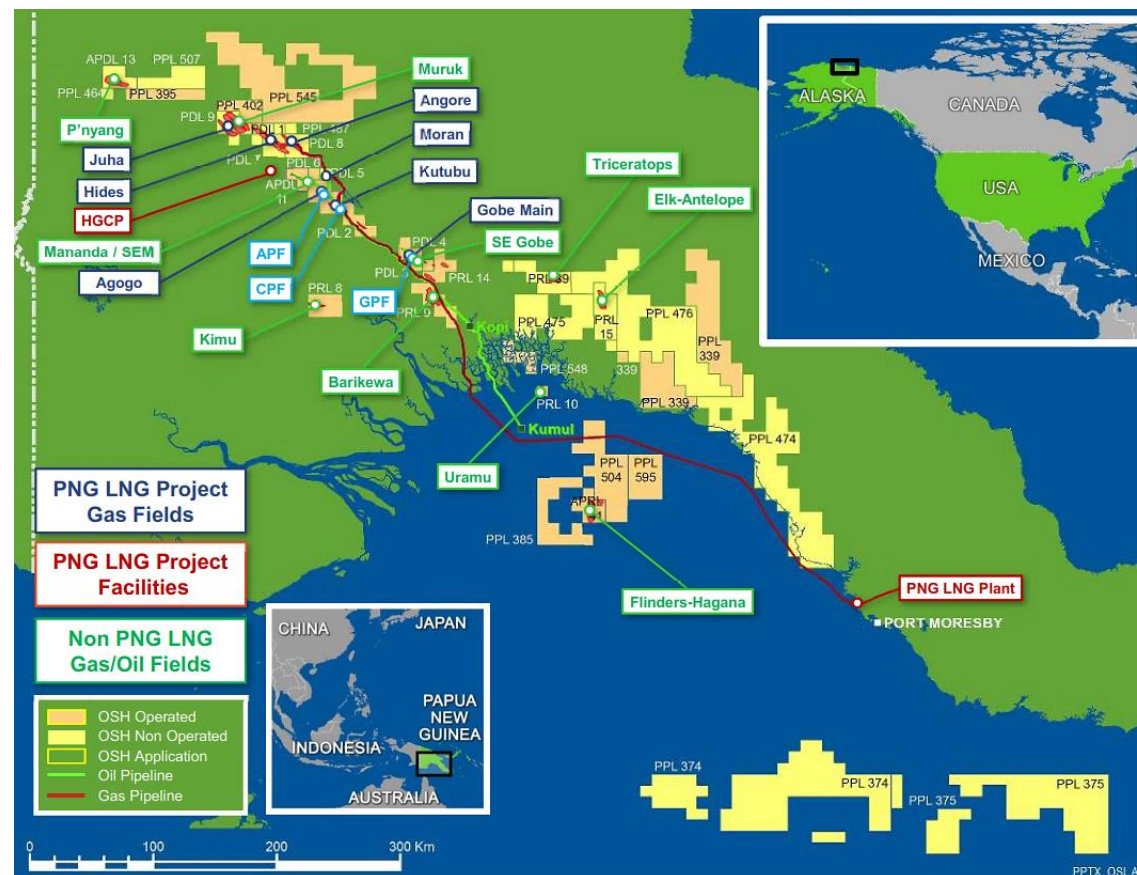




Oil Search

## OIL SEARCH OVERVIEW

- ◆ Established in PNG in 1929
- ◆ 29% interest in PNG LNG Project (operated by ExxonMobil)
- ◆ ~ 60% interest in, and operator of, all PNG's producing oil fields
- ◆ Major LNG growth project in PNG:
  - ◇ Proposed development of three new trains, ~8 MTPA of LNG capacity, in partnership with ExxonMobil and Total
- ◆ Material additional gas exploration upside
- ◆ 51% interest in major oil resource in Alaska North Slope, USA, with significant appraisal and exploration upside
- ◆ Market capitalisation ~A\$10bn (~US\$7bn)
- ◆ Listed on ASX (Share Code: OSH) and PNGX, plus US ADR programme (Share Code: OISHY)



## 2019 FIRST HALF HIGHLIGHTS



- ◆ Total production of 14.1 mmboe, 38% higher than 1H18, with PNG LNG producing at annualised rate of 8.6 MTPA for 1H19 (25% above nameplate)
- ◆ Net profit after tax of US\$162 million, DPS of five US cents
- ◆ Final PNG LNG mid-term contract signed, taking total contracts volumes to 7.9 MTPA, limiting exposure to spot market
- ◆ Papua LNG Gas Agreement signed in April. Other key commercial agreements ready to be executed following finalisation of P'nyang Gas Agreement
- ◆ Gas encountered at Muruk 2, testing indicates reservoir continuity from Muruk 1 ST3
- ◆ Strong results from inaugural Pikka Unit drilling programme in Alaska, with Record of Decision received, Option exercised. Preparing to enter FEED before year end
- ◆ Organisation redesign lays foundation for next phase of growth
- ◆ Liquidity position sufficient to support growth opportunities in PNG and Alaska

## 2019 FIRST HALF FINANCIAL OVERVIEW

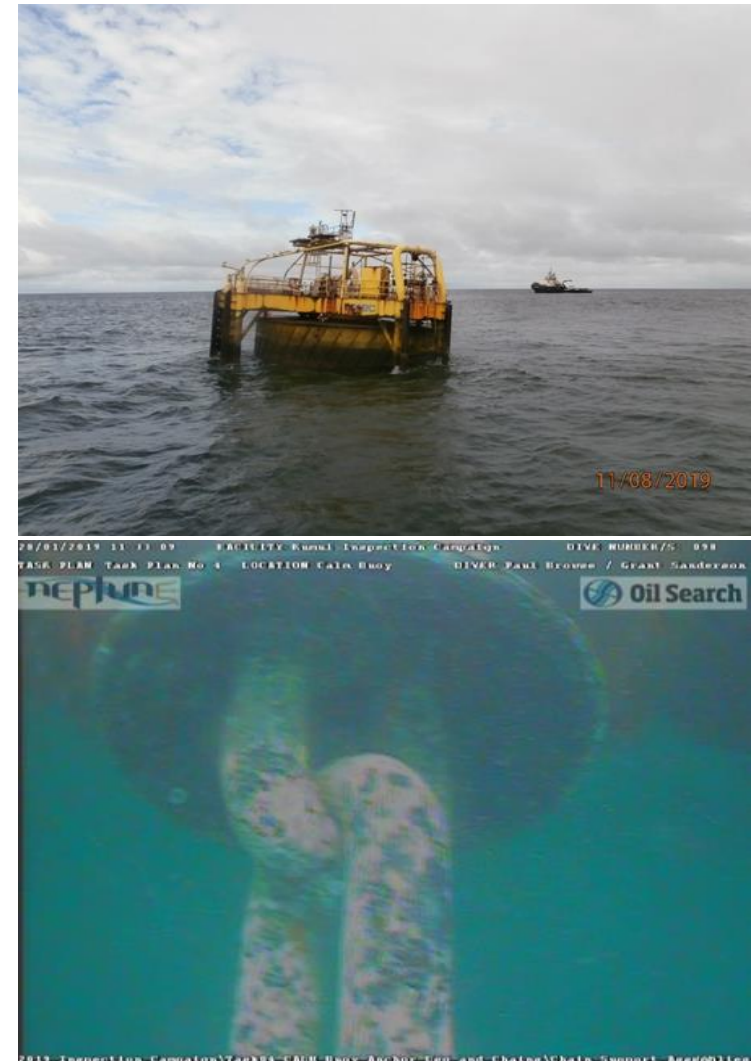
	1H19	1H18	% CHANGE
Sales volume (mmbœ)	<b>13.4</b>	9.8	+37%
Net profit after tax (US\$m)	<b>161.9</b>	79.2	+105%
Operating cash flow (US\$m)	<b>418.5</b>	243.5	+72%
Interim dividend (US cents)	<b>5.0</b>	2.0	+150%
Net debt (US\$m)	<b>2,581</b>	3,048	-15%
Liquidity (US\$m)	<b>1,434</b>	1,262	+14%
Average realised oil and condensate price (US\$/bbl)	<b>65.26</b>	71.45	-9%
Average realised LNG and gas price (US\$/mmBtu)	<b>9.71</b>	9.02	+8%

- ◆ Sales volumes up 37%, with 1H18 impacted by PNG earthquake
- ◆ Net profit after tax of US\$161.9 million, 105% higher than 1H18
- ◆ Operating cash flows up 72%, reflecting higher sales and average realised LNG and gas prices in 1H19, partially offset by higher production costs
- ◆ 2019 interim dividend of five US cents (47% pay-out ratio)
- ◆ Net debt (drawn debt less cash) of US\$2,581 million, 15% lower than 1H18 of US\$3,048 million due to ongoing repayment of PNG LNG project debt
- ◆ Strong liquidity position at 30 June 2019, with cash of US\$538 million and US\$896 million of undrawn corporate credit facilities

# DAMAGE TO MOORING SYSTEM IMPACTING LIQUIDS LOADING



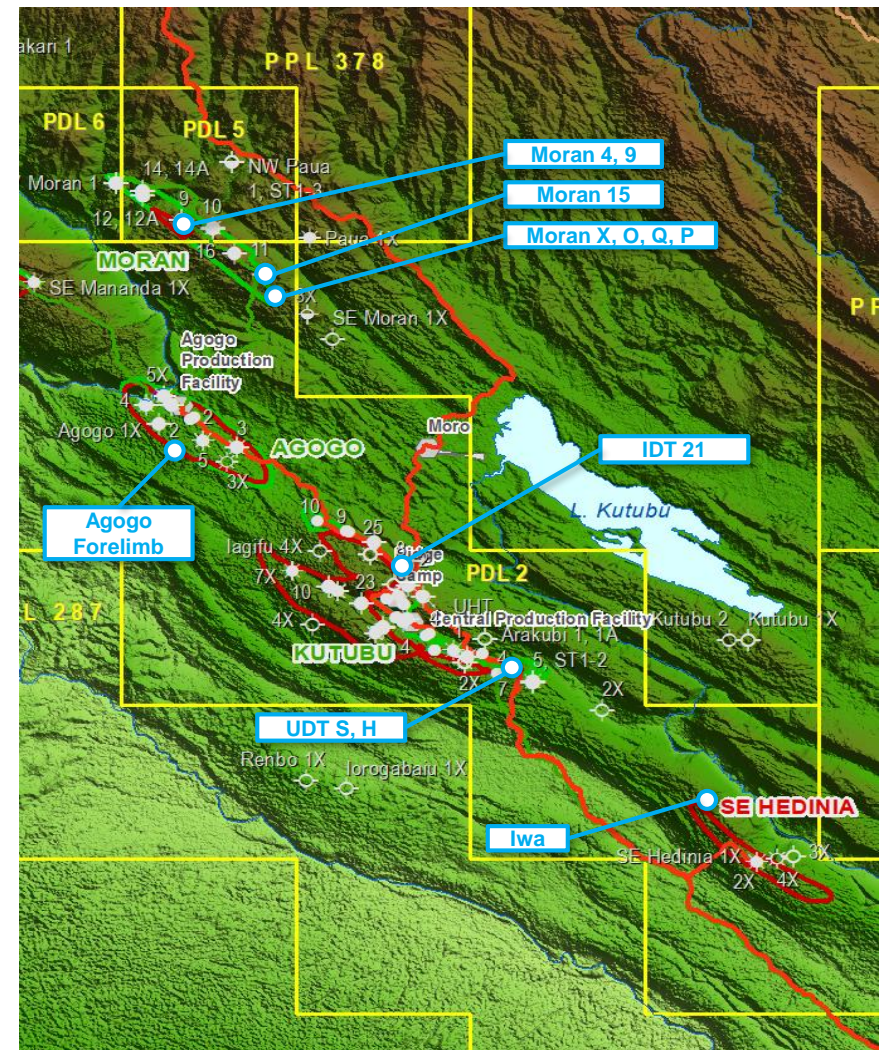
- ◆ In August, liquids mooring system in Gulf of Papua appeared to be listing
- ◆ Engineering analysis and review of mooring system dynamics identified most likely scenario was damage to a mooring chain:
  - ◆ Supported by sonar survey
- ◆ Dedicated repair team in place to manage repair and installation of replacement section of chain
- ◆ Revised mooring procedure implemented to enable continued offtake, with some operational restrictions to mitigate risk
- ◆ Working closely with regulator, classification society and industry mooring experts to determine mode of damage and enable return to full mooring arrangement with unrestricted offtake





## 2019 FY PRODUCTION OUTLOOK

- ◆ PNG LNG produced at annualised rate of 8.6 MTPA YTD. Record production day achieved in August of >9 MTPA
- ◆ 1H19 oil production reflected delays in return to service and other unplanned outages, primarily due to earthquake, and NW Moran offline due to access issues (since resolved)
- ◆ Rate reduction implemented mid August due to loading issue (limited storage available in liquids export system)
- ◆ Production being progressively restored (priority being given to PNG LNG liquids) as ullage becomes available
- ◆ Oil field optimisation in 1H19 included positive workovers at M4 and M9 (Moran) and successful drilling of Moran 15ST2. UDT 15 well in Usano now drilling. Expected to positively impact production, subject to ullage availability





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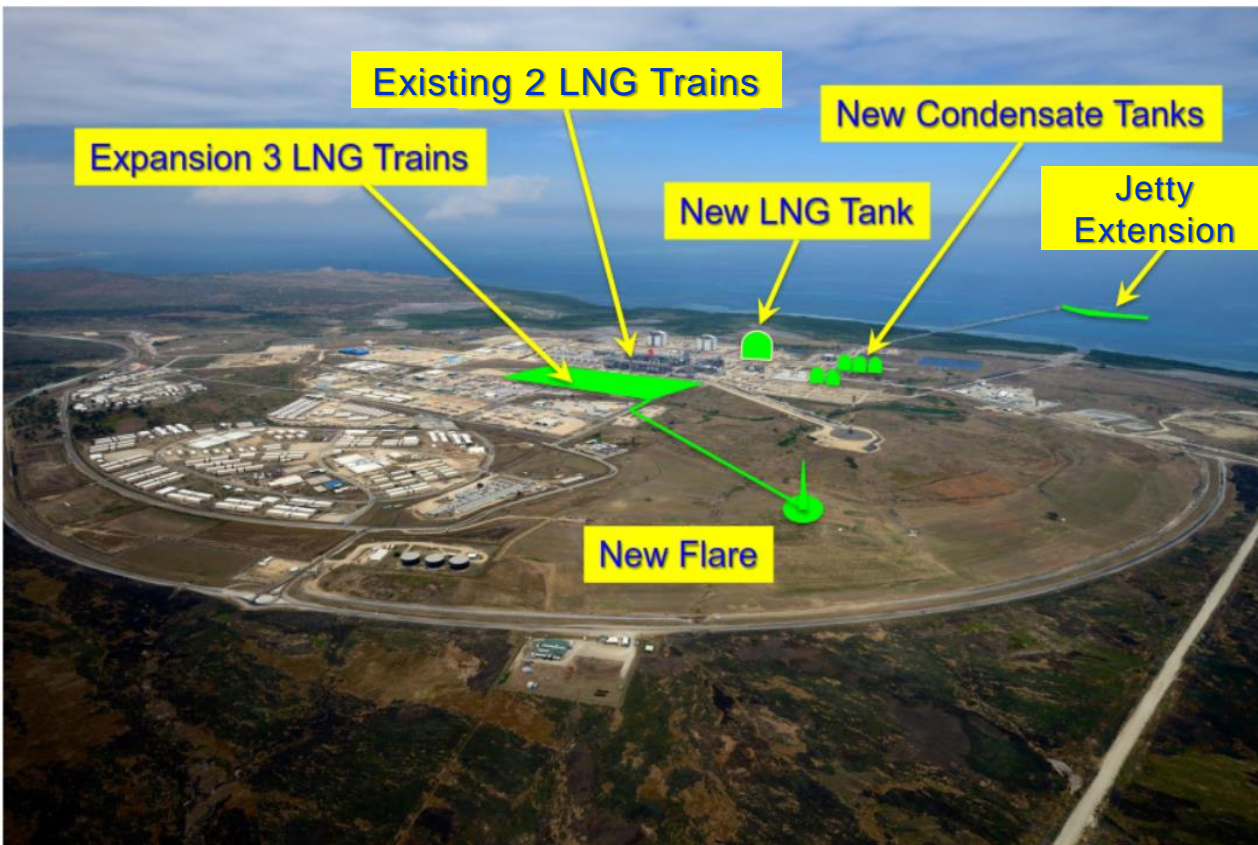
## **SUBSTANTIAL PROGRESS MADE ON LNG EXPANSION IN 2019**

- ◆ After ~12 months negotiation, Papua LNG Gas Agreement signed in April 2019
- ◆ Papua LNG Gas Agreement delivers range of new benefits to Government and landowners, increasing value to the State, including:
  - ◇ Up to 5% Domestic Market Obligation
  - ◇ New 2% production levy
  - ◇ Deferred mechanism for State's payment of past costs
  - ◇ Comprehensive National Content plan to support local workforce development/business development, to be finalised prior to FID
- ◆ Downstream and Papua upstream pre-FEED effectively complete, FEED contracting well advanced, ready to award FEED contracts:
  - ◇ Strong contractor market interest and quality bids received
  - ◇ Onsite survey work well progressed
- ◆ Commercial agreements on integration of Papua LNG and PNG LNG essentially finalised, ready for execution, and P'nyang LOI signed with Santos
- ◆ Negotiations commenced on P'nyang Gas Agreement





# READY TO ENTER FEED PHASE ONCE P'NYANG GAS AGREEMENT FINALISED

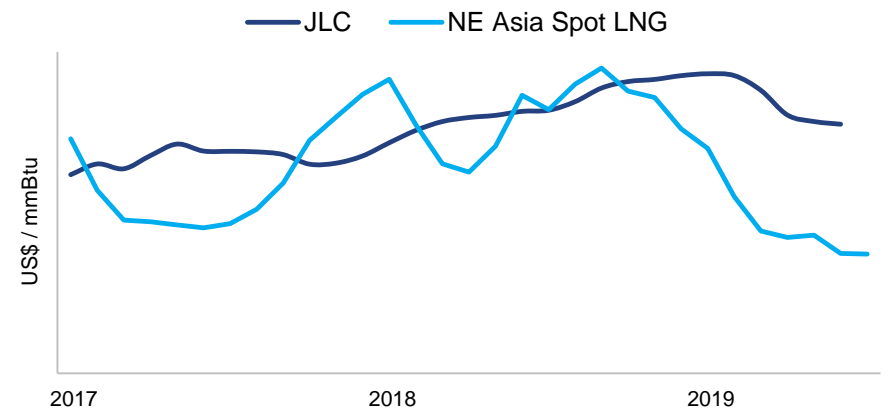
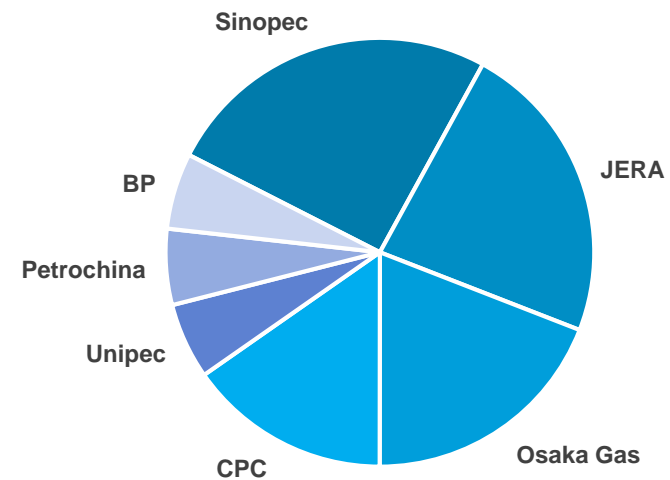


- ◆ In June, new PNG Government leadership team highlighted desire to review Papua LNG Gas Agreement
- ◆ In September, Government completed review, endorsing Agreement
- ◆ Discussions between State and ExxonMobil, operator of P'nyang, to recommence shortly regarding P'nyang Gas Agreement
- ◆ Papua LNG and P'nyang Gas Agreements are key prerequisites for launching FEED phase of proposed three-train LNG development

## LNG MARKET UPDATE

- ◆ 15% increase in LNG demand in 1H19 vs 1H18. LNG demand expected to grow at ~4.5% pa to 2030
- ◆ Spot price has softened due to unseasonably mild North Asian weather and new supply entering market:
  - ◇ Validates PNG LNG strategy to execute mid-term contracts: long-term 6.6 MTPA, mid-term 1.3 MTPA, spot <1 MTPA
- ◆ Engagement ongoing with Buyers on equity share (~1.8 MTPA) of LNG from expansion:
  - ◇ Strong interest for rich HHV gas from brownfield PNG expansion
  - ◇ Buyers seeking seller and geographical diversification
  - ◇ PNG shipping advantage due to proximity to key Asian markets
  - ◇ Point-to-point sellers limited in today's market
  - ◇ Buyers focused on LNG expansion FEED entry

PNG LNG Contractual Commitments (MTPA)



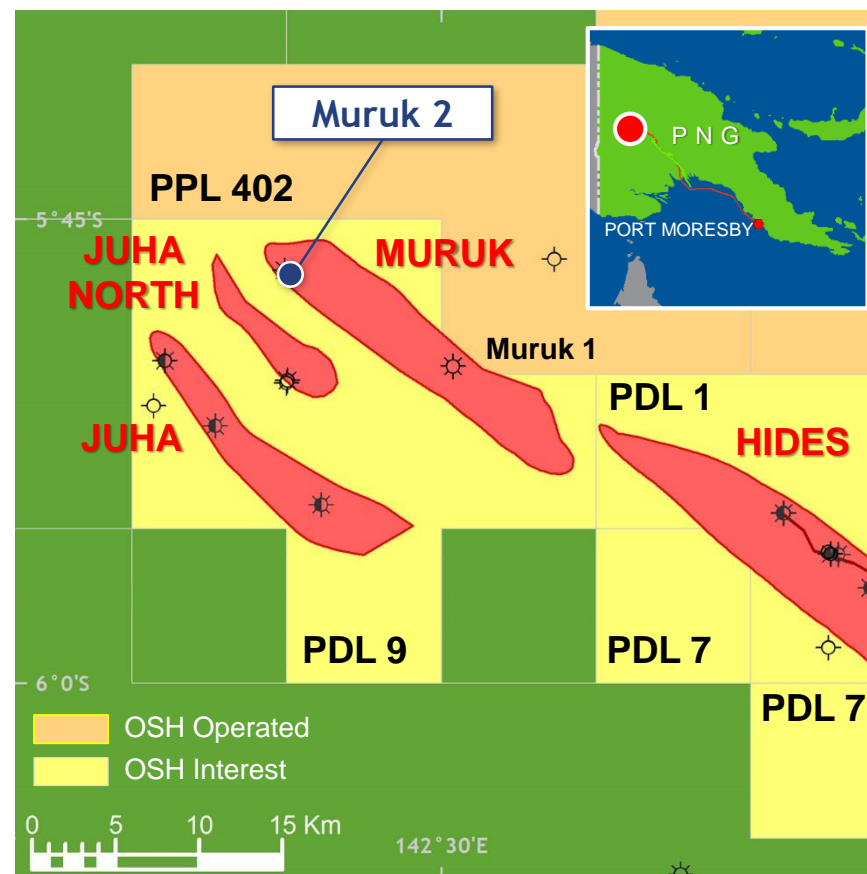
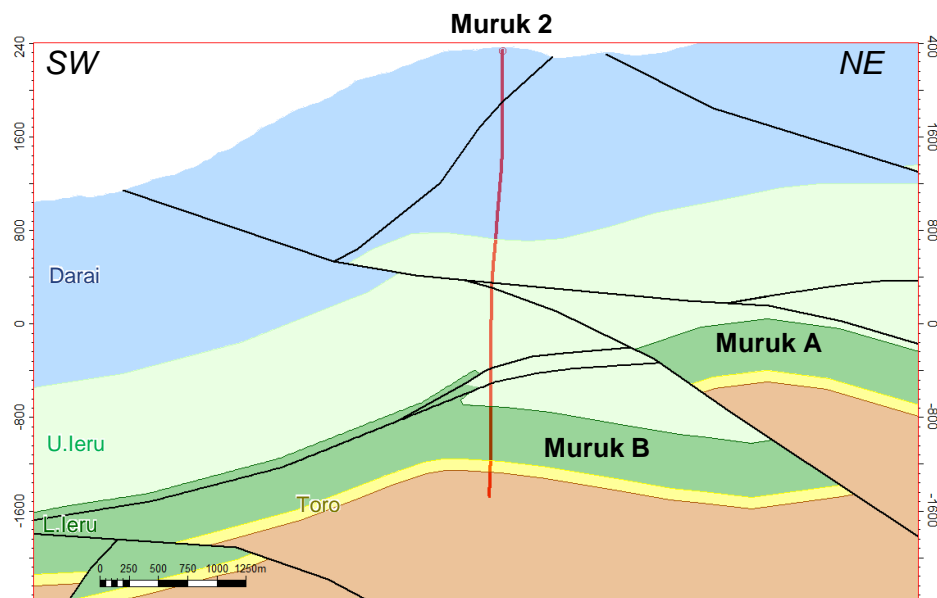
Source: FGE LNG ODS



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## SIGNIFICANT GAS DISCOVERY AT MURUK 2, NW OF HIDES

- ◆ Testing has confirmed gas with pressure data indicating reservoir continuity to Muruk 1 ST3
- ◆ Extended well shut-in and pressure build-up phase underway, to help constrain potential resource volumes
- ◆ Updated resource estimates expected in coming months







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# PNG EXPLORATION PORTFOLIO OFFERS LONG-TERM GROWTH POTENTIAL

- ◆ ① Provisional interpretation of seismic over prospects in acreage around Papua LNG infrastructure has highlighted features potentially with similar characteristics to Elk-Antelope:
  - ◇ Next phase of seismic planned for 2H20 and 2021 to further mature
  - ◇ Potential for oil and gas
- ◆ ② Leveraging Muruk technical learnings to de-risk multiple prospects adjacent to operated oil fields:
  - ◇ High value, low cost, tie-ins to existing infrastructure
- ◆ ③ Exploration well to be drilled by Total in PPL 576\* in 2020 has the potential to de-risk prospects in adjacent OSH deepwater blocks



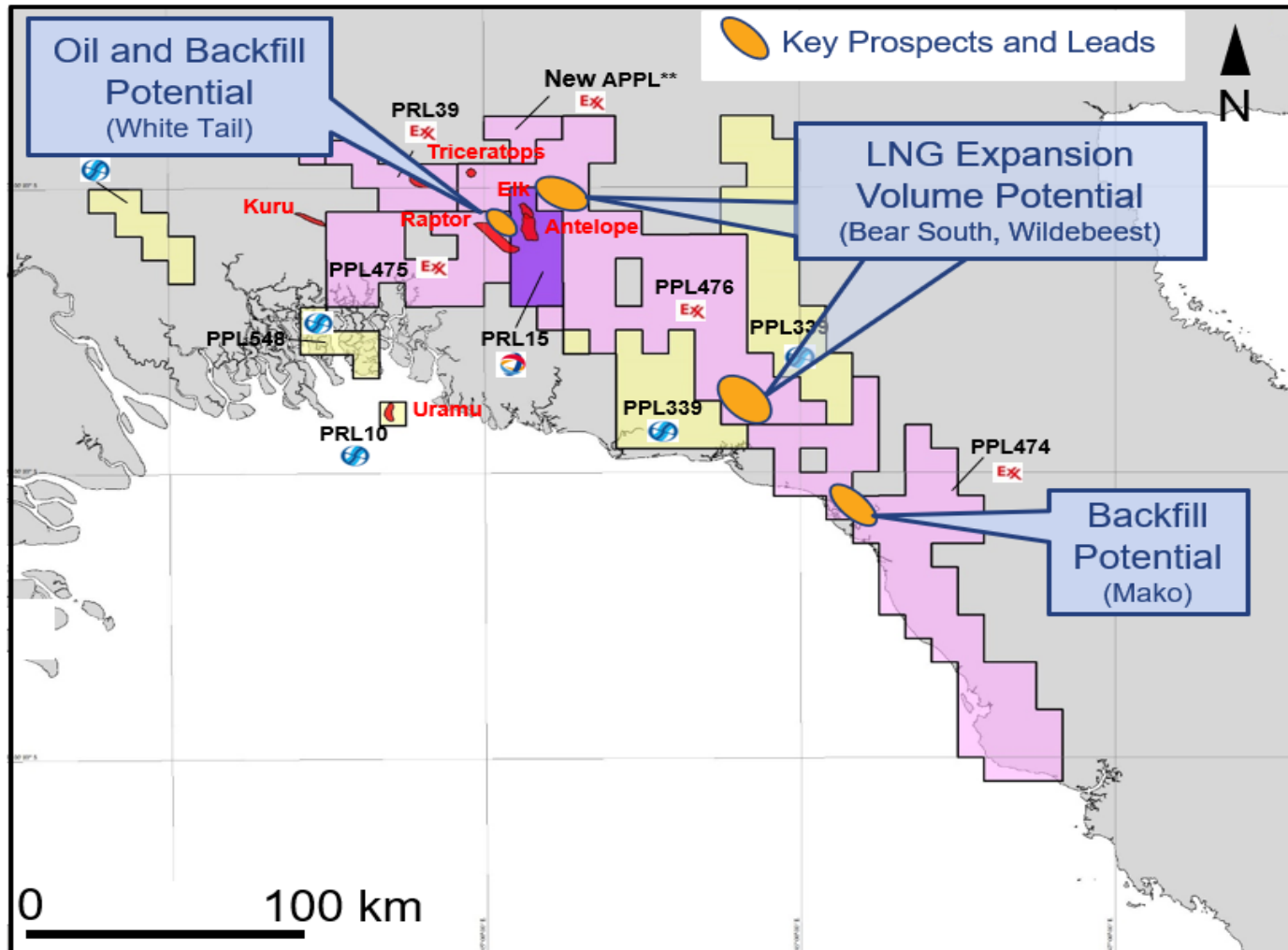
- ◆ Strong focus on capital allocation and evaluation of appropriate timing for exploration activities
- ◆ Evaluation of exploration commitments and requirements for acreage retention

\*Not held by Oil Search

# EASTERN FOLD BELT LICENCE EXTENSION



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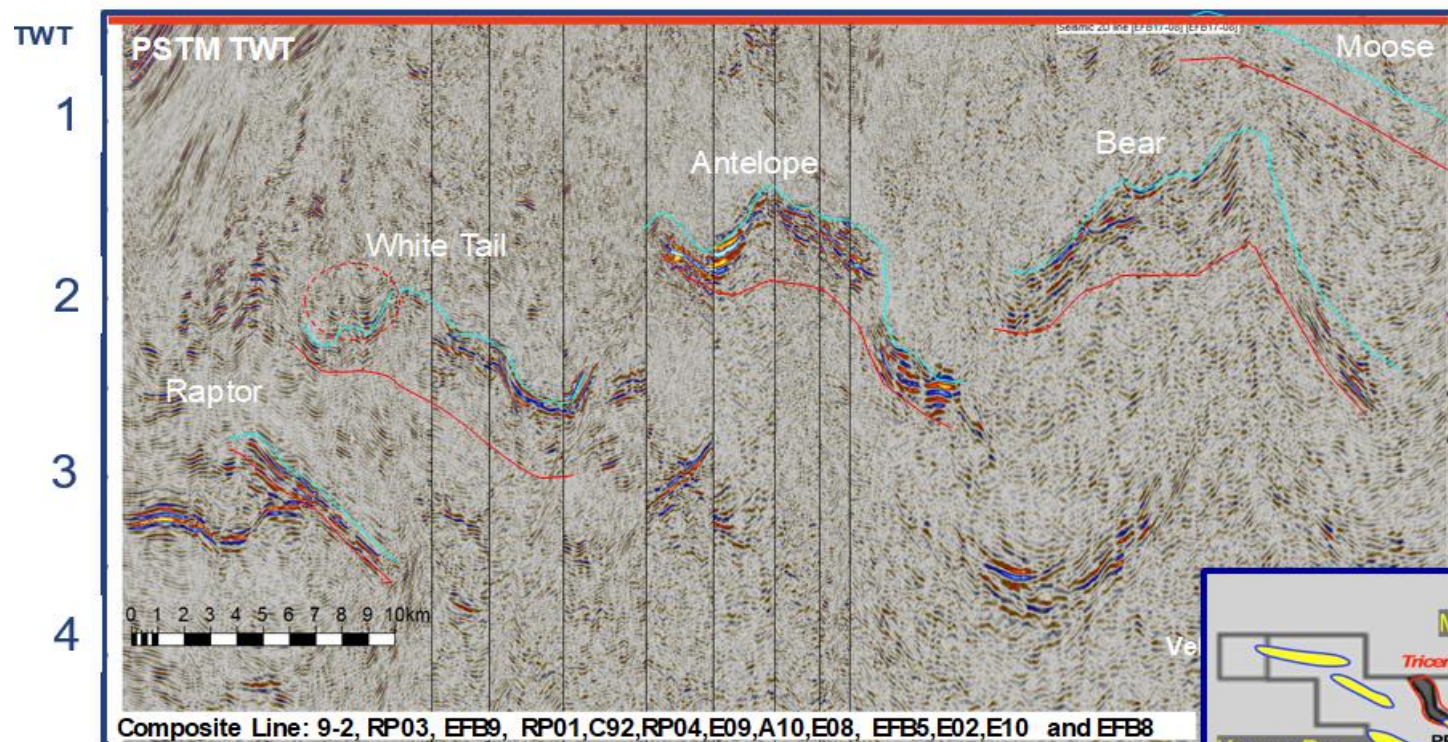


- ◆ Exploration upside defined by new seismic acquisition – potentially similar features to Elk-Antelope fields



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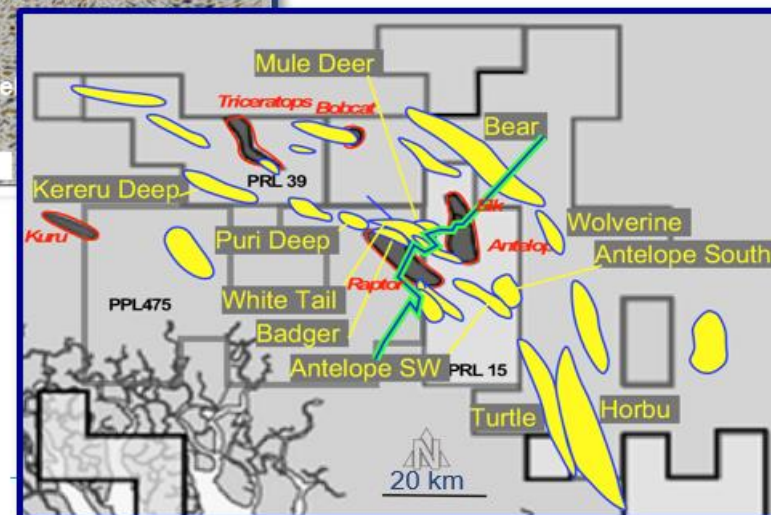
## BEAR AND WHITE TAIL



### Antelope style

- ◆ Shallow marine platform and reef facies
  - ◆ Thicker package (350-600 ms)
  - ◆ More discontinuous, mounded reflector package
  - ◆ Divergent reflector on margin
  - ◆ Onlapping reflectors

Top Carbonate  
Base Carbonate



### Raptor

- ◆ “Puri” deep marine facies. Distinct and recognisable on better quality seismic imaging as:
  - ◆ Thin high amplitude reflector package
  - ◆ Laminar internal character



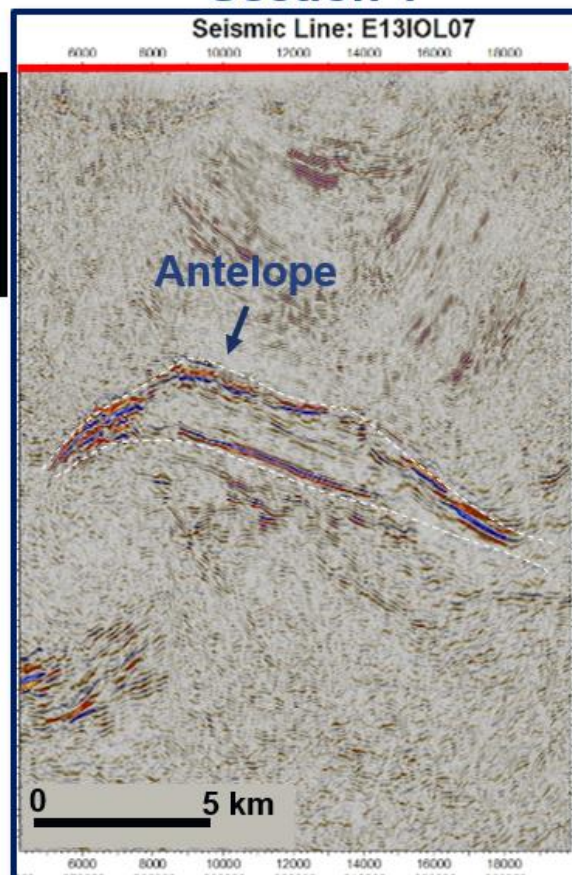


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# ANTELOPE AND WILDEBEEST COMPARISON

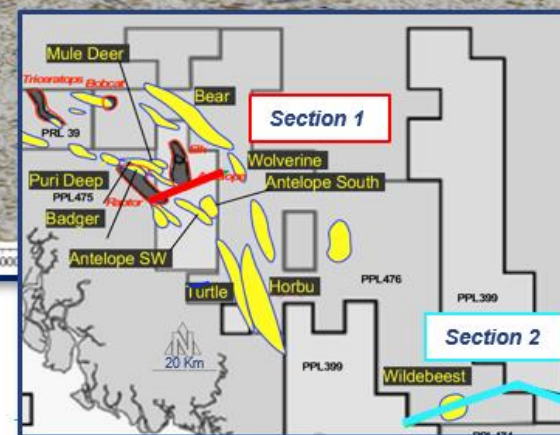
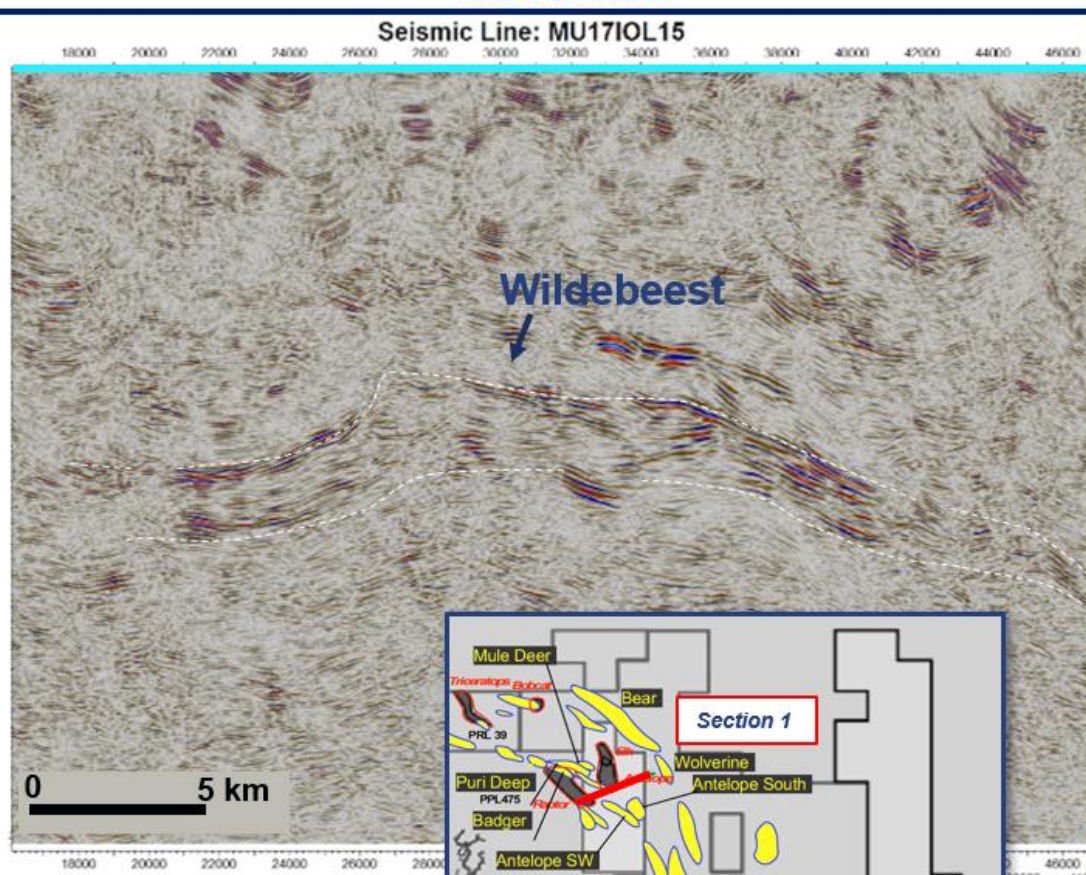
Section 1

Seismic Line: E13IOL07



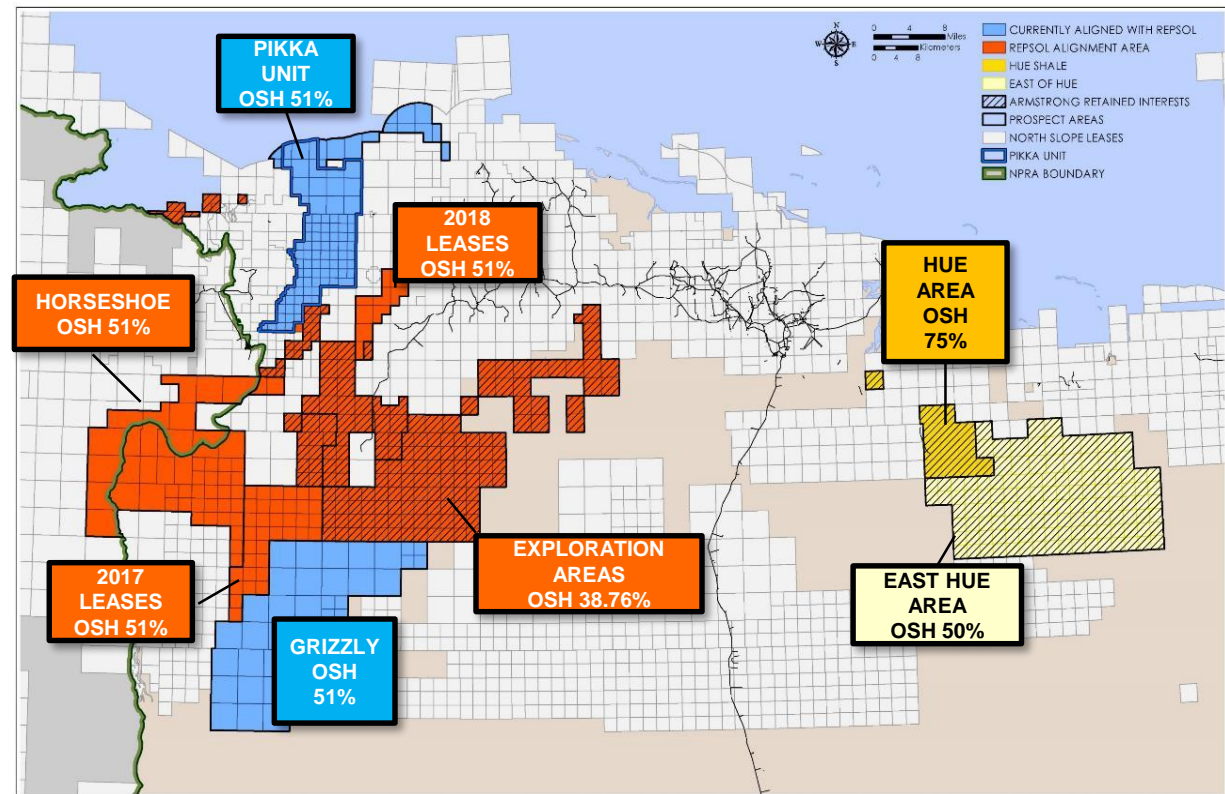
Section 2

Seismic Line: MU17IOL15



# ALASKA: PROGRESS ON SECURING LEASES AND STRATEGIC ALIGNMENT

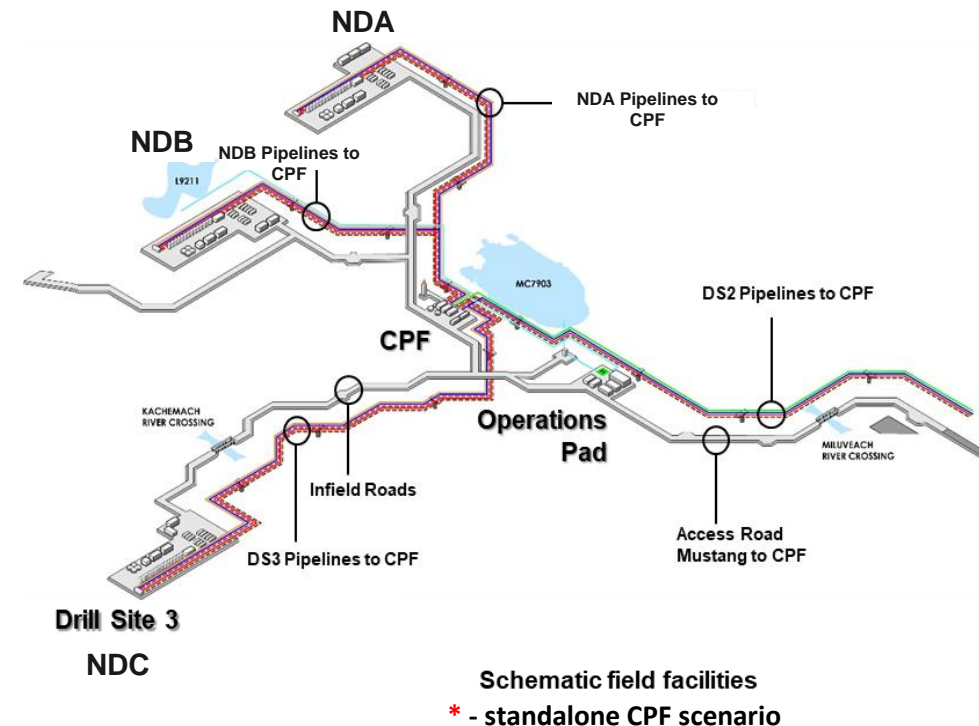
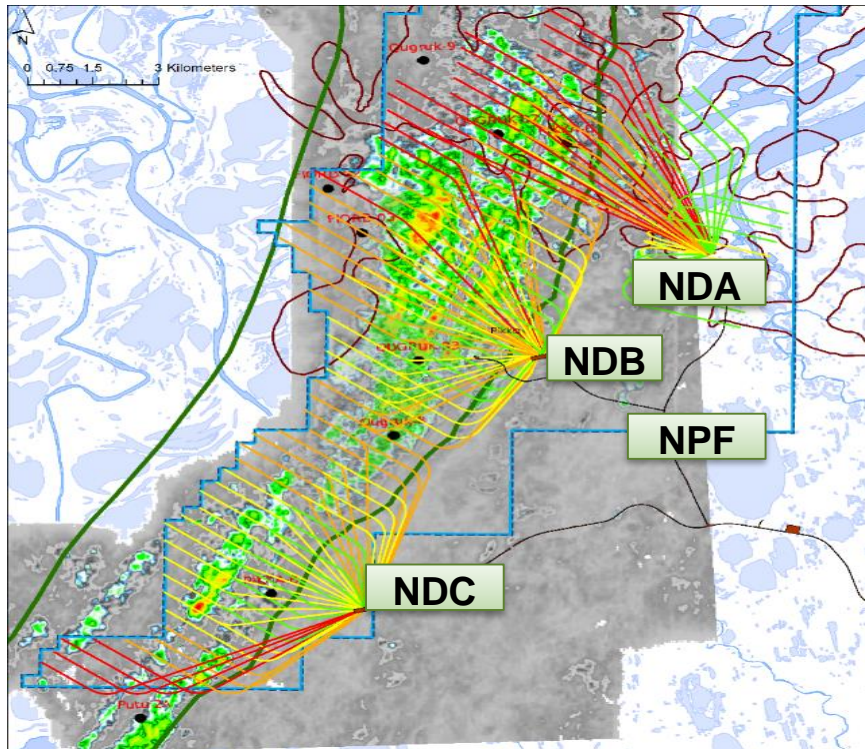
- ◆ Substantial progress made on securing alignment to support Pikka development plan and longer term commercialisation strategy
- ◆ Exercised US\$450 million Armstrong/GMT Option in June after 2018/19 drilling plus optimisation work demonstrated material value lift
- ◆ Oil Search and Repsol alignment:
  - ◇ OSH 51% and operator in shared areas
  - ◇ Net payment of US\$64.4 million to OSH
  - ◇ New JOA focused on development, with secondees and strong support from Repsol
- ◇ Working together with ConocoPhillips to develop Nanushuk (Narwhal) reservoir



- ◆ Pursuing partial portfolio divestment prior to FID:
  - ◇ Advisor selected
  - ◇ Sale process to commence 4Q19, targeted to close in mid-2020



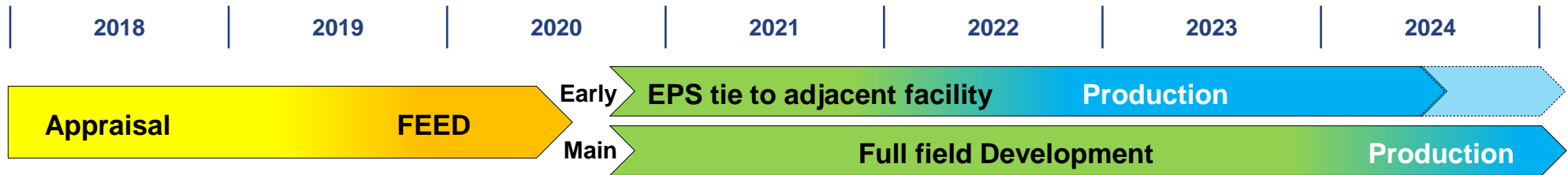
# PIKKA UNIT DEVELOPMENT TECHNICAL WORK WELL ADVANCED



- ◆ Record of Decision for Pikka development received from US Corps of Engineers in May
- ◆ Revised development plan, targeting early production in 2022 through infrastructure owned by nearby operator and full field production commencing 2024
- ◆ Three drill sites tied to Central Processing Facility (120,000 bopd nominal capacity)
- ◆ Negotiations advanced to secure two rigs capable of drilling 70% of >120 wells



# INDICATIVE DEVELOPMENT TIMELINE FOR EARLY PRODUCTION IN 2022, FULL FIELD DEVELOPMENT IN 2024

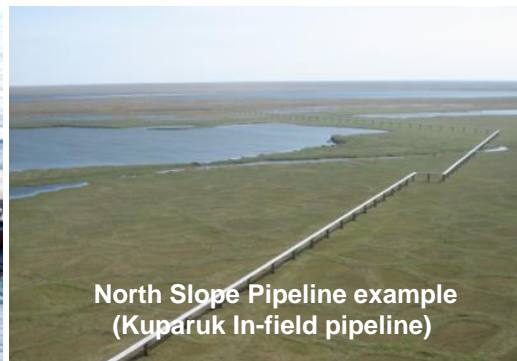


- ♦ Putu drilled (COP)
- ♦ 3D seismic reprocessing
- ♦ Reservoir modelling
- ♦ Build data base
- ♦ Pikka B & C wells drilled
- ♦ Value engineering (wells and facilities)

- ♦ Key permits
- ♦ Integrated dynamic reservoir modelling
- ♦ Early works programme
- ♦ Contracting strategy
- ♦ Land access
- ♦ FEED commitment by end-2019 with FID in 2020

- ♦ Construction and production from Early Production System (EPS) facilities:
  - ♦ Initial EPS rate of ~30,000 bopd
- ♦ Build ~60 km pipelines and ~42 km roads
- ♦ Construct new CPF or cooperative development with adjacent operators
- ♦ EPS drilling lessons will optimise development drilling

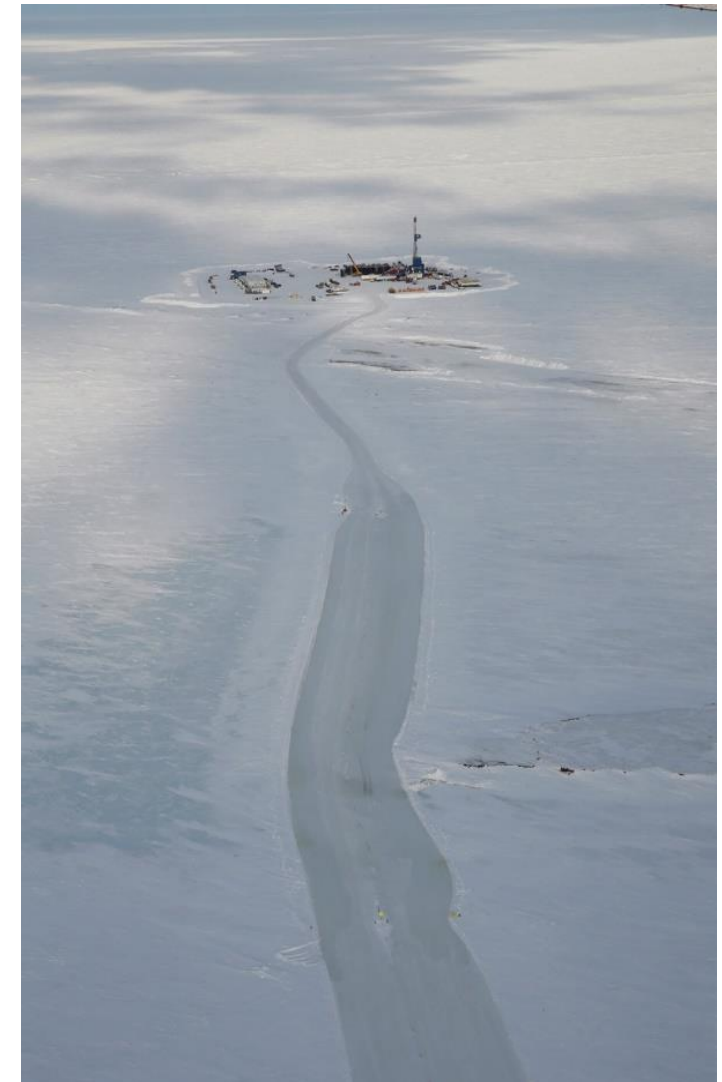
- ♦ Production from main facility (full-field development) targeting 2024:
  - ♦ Full field plateau rate nameplate 120,000 bopd
  - ♦ Debottlenecking opportunities
- ♦ Appraisal drilling, near field exploration



# 2019/20 PROGRAMME FOCUSED ON MID-2020 FID AND DEFINING RESOURCE BASE



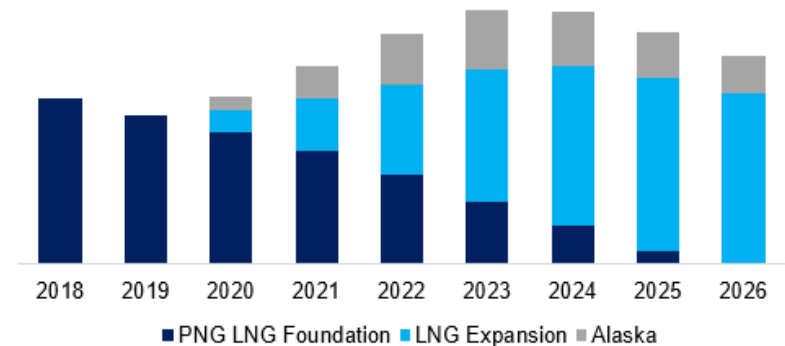
- ◆ Expect to complete all activity for EPS FEED by year end:
  - ◇ Cooperation negotiations
  - ◇ Permitting
  - ◇ Value engineering & cost
  - ◇ Drilling completions
  - ◇ Resource confirmation
  - ◇ Land access
  - ◇ Value assurance & detailed risk reviews
- ◆ Planning underway for 2019/20 winter drilling season:
  - ◇ Two rig programme
  - ◇ Two high quality exploration prospects
  - ◇ If successful, can be easily tied in to full field development
  - ◇ Early road gravel lay to NDB to support 2021 development drilling



## CAPITAL MANAGEMENT

- ◆ OSH share of LNG expansion and Alaskan oil development costs being matured, subject to timing of FEED entry, EPC contract awards and change in Alaskan development plan
- ◆ LNG expansion and Alaska to be funded 60-70% with project finance debt, strong interest from prospective lenders
- ◆ Operating cash flows from existing assets will underpin OSH share of development costs
- ◆ US\$300 million of short-term facilities and US\$900 million of medium term facilities provide liquidity buffer
- ◆ Discretionary capex, particularly on exploration and appraisal, can be curtailed if needed
- ◆ When onstream, PNG LNG, LNG expansion and Alaska will generate free cash flow of US\$2–3bn pa, with large lift from 2026 when PNG LNG project finance debt is fully repaid
- ◆ Cash flow priorities remain as previously outlined

OSH - Consolidated PF Debt



*Excludes corporate debt*

### Free cash flows

After scheduled debt servicing, sustaining capital expenditure and commitments

### Dividends

In accordance with dividend policy to distribute 35-50% of core NPAT

### Growth Capital Investments

LNG expansion in PNG & Alaska North Slope

### Other Growth Initiatives

Exploration, New Ventures

### Surplus Capital

Return to shareholders:  
- Share buy-backs, special dividends



# ORGANISATION REDESIGN – BUILDING FOR THE FUTURE



- ◆ Organisation redesign initiated in 2H18, completed in June 2019
- ◆ Lays foundation to drive production growth and deliver on major developments in PNG and Alaska, capable of more than doubling production by mid-2020s
- ◆ Comprises:
  - ◇ Establishing streamlined Executive Leadership Team with clearer accountabilities
  - ◇ Establishing a Business Unit (BU) centric model (PNG and Alaska), with new Chief Operating Officer in each BU to increase focus on safe and reliable operations
  - ◇ Creating new Technology and Value Assurance Group, to strengthen opportunity maturation and project execution capabilities and enable further value creation through adoption of new technology
- ◆ Two new Executive Vice Presidents recruited, to lead PNG BU and Technology and Value Assurance Group, both with extensive global oil and gas experience

# FACILITATING SOCIO-ECONOMIC DEVELOPMENT – KEY TO SUSTAINABLE OPERATIONS

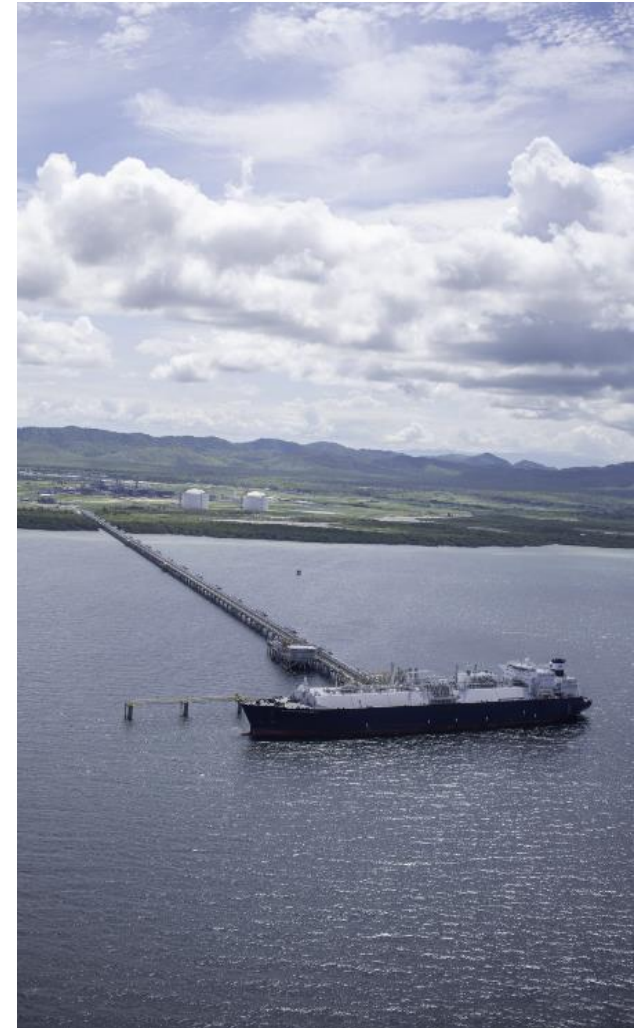


- ◆ Continued social programmes directly and through Oil Search Foundation in 1H19, including earthquake-related public health, infrastructure programmes, women's empowerment and gender based violence, youth engagement, education and training
- ◆ Support for Government on PNG LNG benefits distribution:
  - ◇ Payments to majority of areas ready to be made, subject to resolution of remaining landowner injunctions
  - ◇ Money continues to flow to plant site area
- ◆ Delivered two bridges, two culvert crossings and causeway under Government's Infrastructure Tax Credit Scheme
- ◆ 58 MW power station in Port Moresby fully commissioned and ready to commence operations
- ◆ 42 MW Biomass/Solar Project FEED progressing well, with FID targeted for October 2019
- ◆ Engagement with indigenous communities in Alaska
- ◆ Planning to release addendum to Climate Change Resilience Report (prepared under TCFD guidelines) in early 2020



## SUMMARY

- ◆ 2019 production will be impacted by residual impacts of 2018 earthquake and mooring system damage, offset by strong PNG LNG performance and recovery in operated production
- ◆ Approximately 90% of PNG LNG production volumes contracted, limiting exposure to spot LNG market
- ◆ Ready to enter FEED phase on LNG expansion once Gas Agreement for P'nyang is finalised
- ◆ Positive results from Muruk 2
- ◆ Targeting FEED entry for Pikka Unit development by end 2019, with material resource additions expected
- ◆ Partial Alaskan sell-down planned for 1H20 ahead of FID
- ◆ Organisation redesign prepares OSH for growth, bolsters project execution capabilities
- ◆ Sound liquidity underpinned by cash generation from operations to support growth projects





# APPENDICES



**September 2019**

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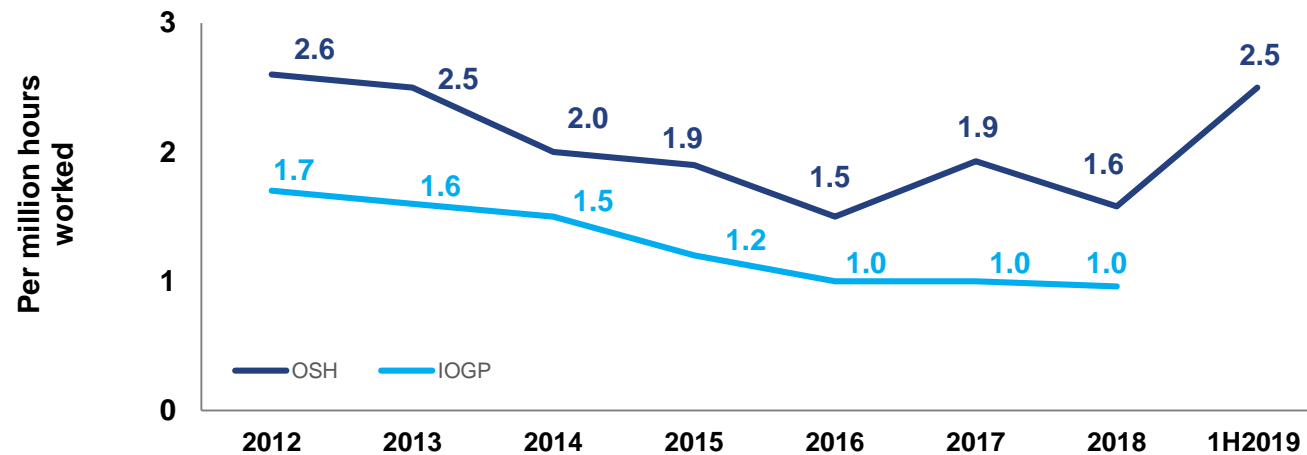


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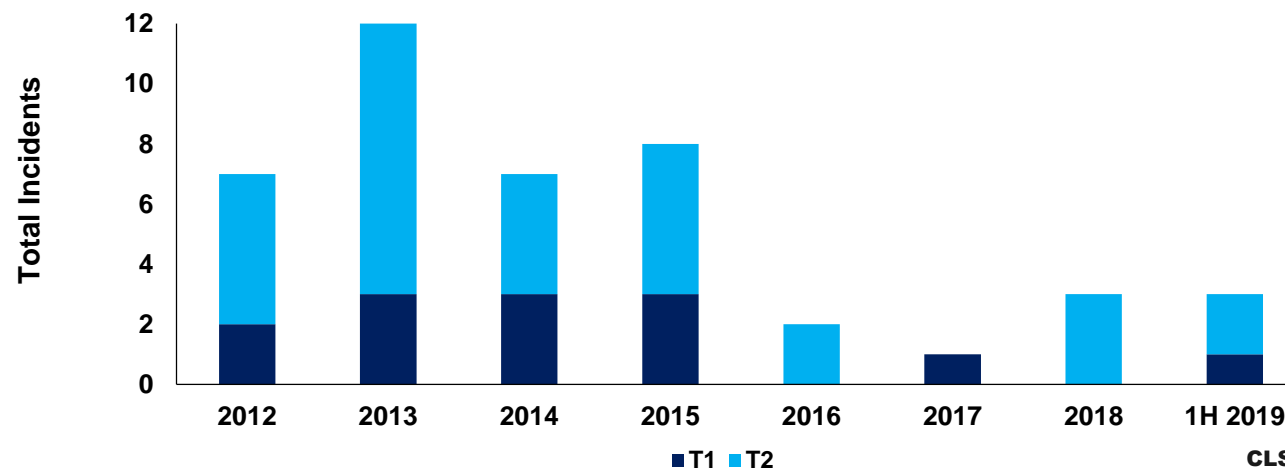
# 1H19 SAFETY PERFORMANCE BELOW TARGET, REMEDIATION PROGRAMME UNDERWAY



## TOTAL RECORDABLE INCIDENT RATE (TRIR)



## TIER 1 AND 2 PROCESS SAFETY EVENTS



- ◆ Increase in TRIR due to incidents associated with remote seismic and marine operations in PNG
- ◆ PNG Safety Summit held in July to reflect, reset and refocus
- ◆ One Tier 1 and two Tier 2 Process Safety events in PNG
- ◆ Inaugural drilling programme in Alaska completed with no TRIRs or Process Safety incidents

# 2019 FIRST HALF FINANCIAL PERFORMANCE

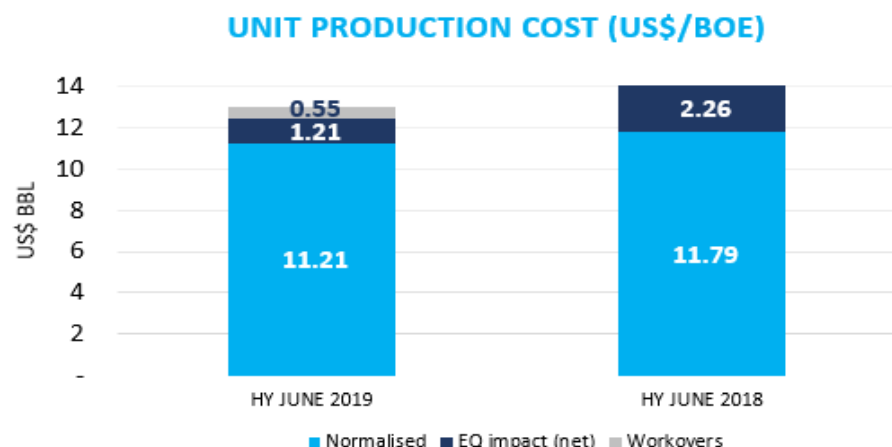


US\$m	1H 2019	1H 2018	% Change
Sales volume (mmboe)	13.4	9.8	+37%
Revenue	776.9	557.8	+39%
Production costs	(183.2)	(143.8)	+28%
Other operating costs	(51.2)	(55.0)	-7%
Other income	39.8	4.7	+747%
EBITDAX <sup>1</sup>	582.3	363.7	+60%
Depreciation and amortisation	(205.9)	(131.4)	+57%
Exploration costs expensed	(24.6)	(12.3)	+100%
Impairment	(4.7)	-	-
Net finance costs	(119.3)	(99.6)	+20%
Profit before tax	227.9	120.3	+89%
Tax	(65.9)	(41.1)	+60%
Net profit after tax	161.9	79.2	+105%

<sup>1</sup> EBITDAX (earnings before interest, tax, depreciation/amortisation, non-core activities, impairment and exploration) is a non-IFRS measure presented to provide a more meaningful understanding of the performance of Oil Search's operations. The non-IFRS financial information is derived from the financial statements which have been subject to review by the Group's auditor.



# UNIT PRODUCTION COST OF US\$12.97/BOE



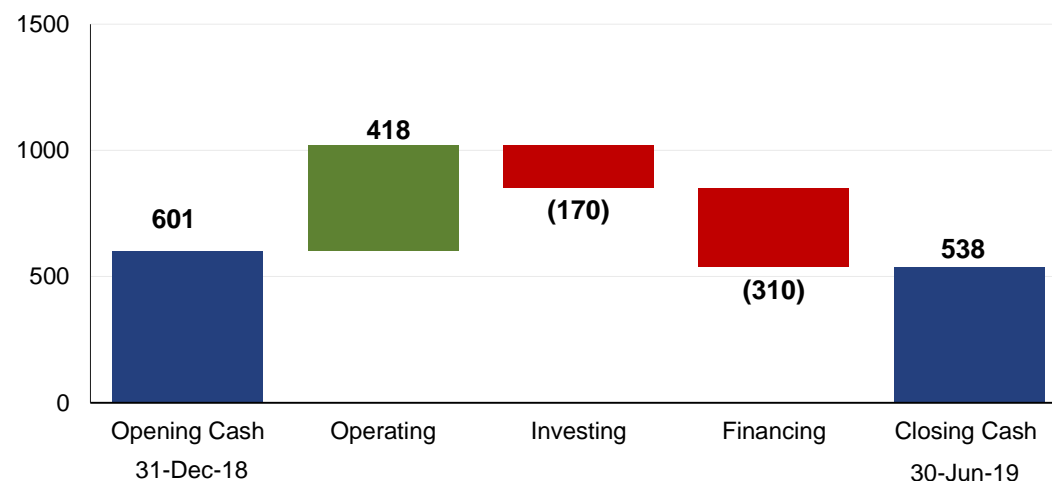
US\$M	1H 2019	1H 2018
Production costs:		
PNG LNG	93.6	85.5
PNG Oil and Gas	89.6	58.3
	<b>183.2</b>	143.8
Royalties and levies	8.0	1.7
Gas purchases	11.6	3.3
Inventory movements	(17.0)	(10.6)
Other costs of production	3.6	3.2
<b>Total cost of production</b>	<b>189.3</b>	141.3

- ◆ Lower unit production costs in 1H19 compared to 1H18
- ◆ Higher production costs for 1H19:
  - ◇ PNG LNG: higher maintenance activities and shared costs
  - ◇ PNG Oil and Gas: ongoing earthquake remediation work, value accretive well workovers and scheduled maintenance activities
  - ◇ No insurance receipt offsets for PNG Oil and Gas related spend in 1H19
  - ◇ PNG LNG earthquake remediation work fully offset by insurance proceeds, with excess proceeds related to prior year work taken to Other Income
- ◆ Higher royalties, levies and gas purchases mainly due to higher production and sales volumes
- ◆ Inventory movements at 30 June 2019 reflected timing of cargoes.

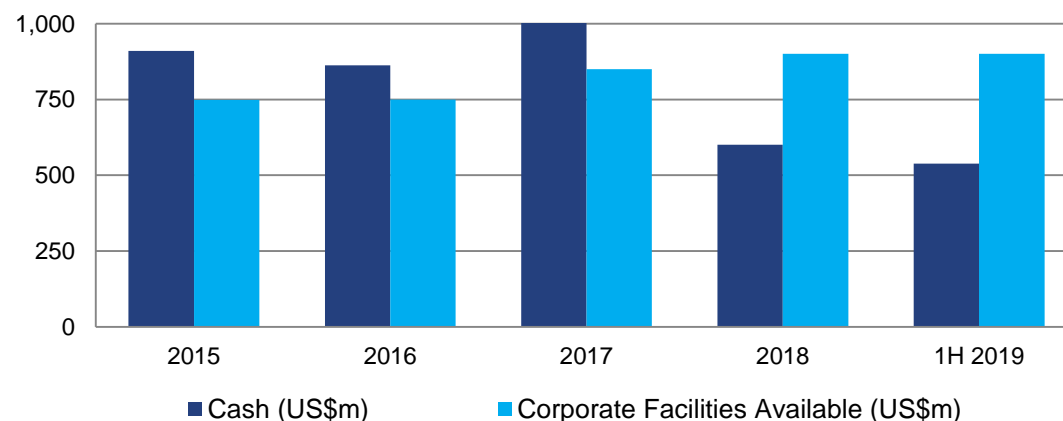
# ROBUST LIQUIDITY POSITION SUPPORTED BY STRONG CASH FLOW GENERATION



## CASH FLOW WATERFALL (US\$M)



## LIQUIDITY (US\$M)



- ◆ Healthy operating cash flow underscored by strong PNG LNG production and LNG realised prices
- ◆ Investing cash outflows of US\$170 million, spent mainly on PNG gas expansion and Alaska appraisal activities. Excludes Alaska Option exercise and equity realignment net outflow of US\$385.7 million in 3Q19
- ◆ US\$174.3 million of PNG LNG Project finance debt repaid
- ◆ Liquidity position will be bolstered by additional US\$300 million of one-year corporate credit facilities to support Alaska Option exercise prior to planned equity sell-down

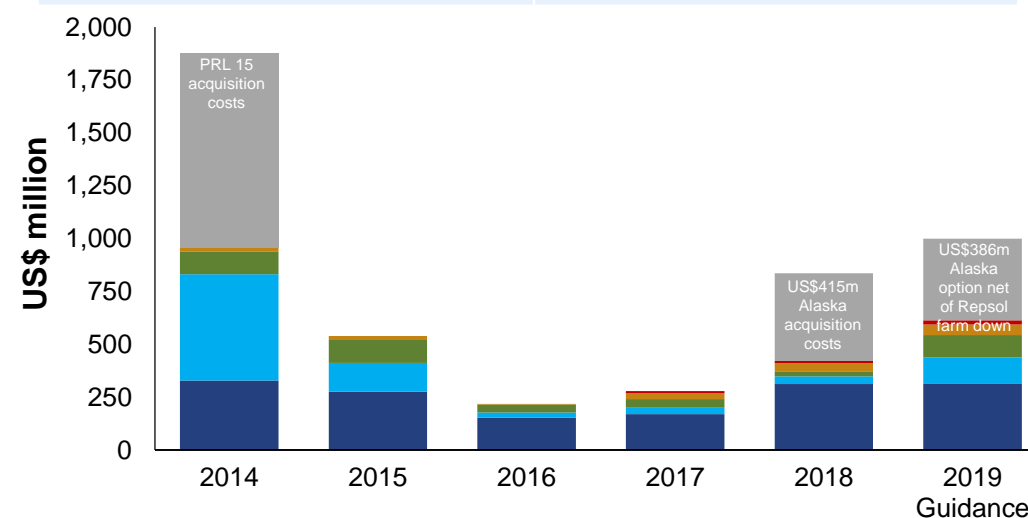
## 2019 FULL YEAR GUIDANCE<sup>1</sup>

Production	2019 Guidance
Oil Search-operated <sup>2,3</sup>	3.2 – 4.4 mmboe
PNG LNG Project <sup>2</sup>	25 – 26 mmboe
Total Production <sup>2</sup>	28 – 31 mmboe

Operating Costs	
Production costs <sup>4</sup>	US\$11.00 – 12.00 / boe
Other operating costs <sup>5</sup>	US\$135 – 145 million
Amortisation – oil and gas assets	US\$12.00 – 13.00 / boe

Capital costs	2019 Guidance
Exploration & Evaluation Alaska Option Exercise Repsol sell down	US\$290 – 340m US\$450m (US\$64m)
Total Exploration & Evaluation <sup>6</sup>	US\$676 – 726m
Development	US\$110 – 135m
Production	US\$95 – 115m
Other PP&E	US\$50 – 60m
Power <sup>7</sup>	US\$20 – 25m
<b>Total</b>	<b>US\$951 – 1,061m</b>

- Numbers may not add due to rounding.
- Gas volumes have been converted to barrels of oil equivalent using an Oil Search specific conversion factor of 5,100 scf = 1 boe, which represents a weighted average, based on Oil Search's reserves portfolio, using the actual calorific value of each gas volume at its point of sale.
- Includes SE Gobe gas sales exported to the PNG LNG Project (OSH – 22.34%)
- Guidance includes the total financial impact of earthquake remediation.
- Includes gas purchase costs, royalties and levies, selling and distribution costs, rig operating costs, power expense and corporate administration costs (including business development), expenditure related to inventory movements and other expenses.
- Exploration and Evaluation guidance, excluding Alaska Option Exercise and Repsol farm down transactions, unchanged.
- Excludes prior year POM Power station costs, which will be recognised as an Investment in Joint Ventures in 2019 upon finalisation of ownership agreement.







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## PNG OPERATIONS – KEY FIELDS

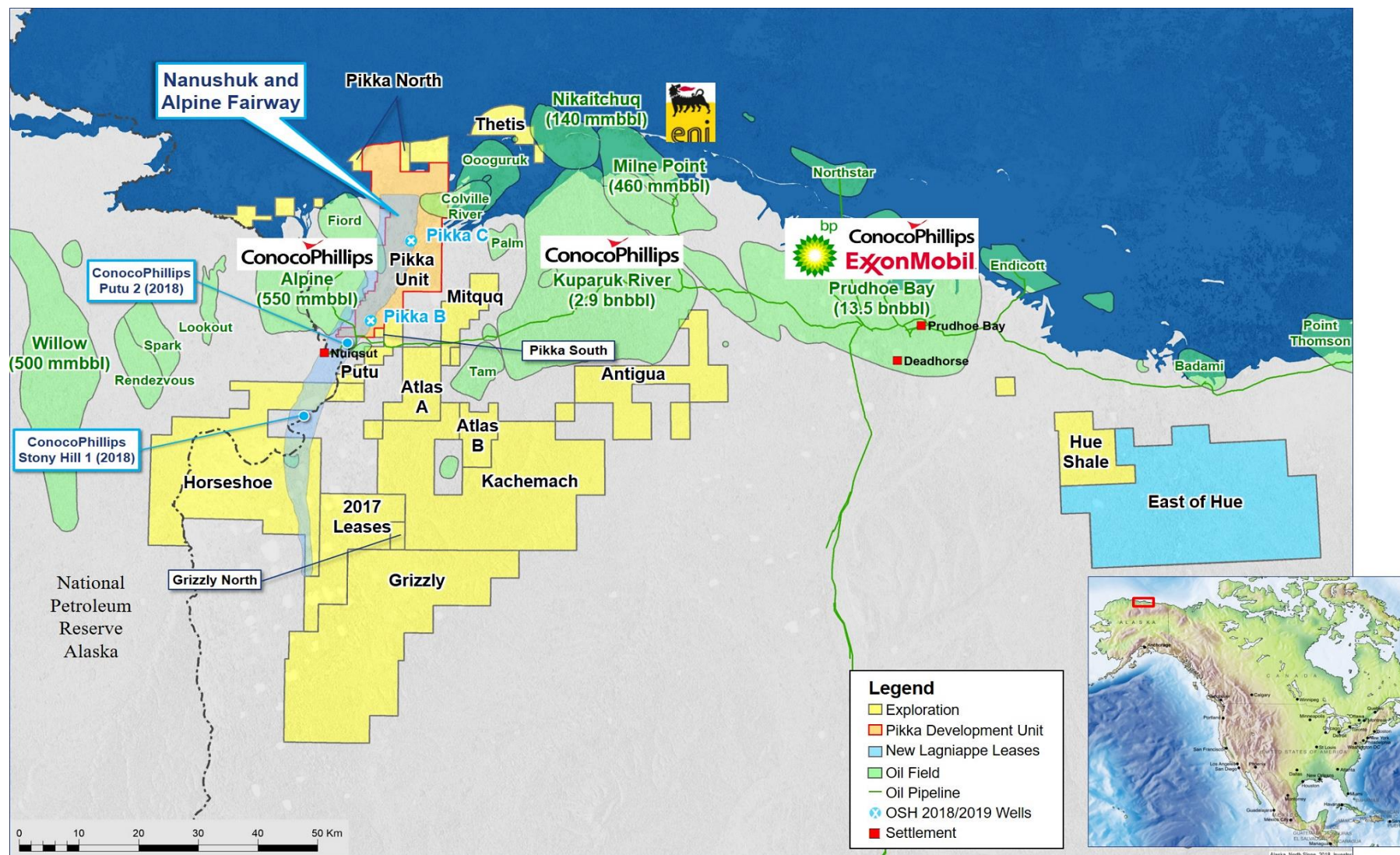






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# ALASKA OPERATIONS – KEY FIELDS



**September 2019**

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