



ENERGY

# PROJECT PHOENIX

## HICKORY-1

### INITIAL SUMMARY OF RESULTS AND FORWARD PLAN

APRIL 2023



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Pursuant to the requirements of the ASX Listing Rules Chapter 5 and the AIM Rules for Companies, the technical information and resource reporting contained in this Presentation was prepared by, or under the supervision of, Dr Stephen Staley, who is a Non Executive Director of the Company. Dr Staley has more than 35 years' experience in the petroleum industry, is a Fellow of the Geological Society of London, and a qualified Geologist Geophysicist who has sufficient experience that is relevant to the style and nature of the oil prospects under consideration and to the activities discussed in this document. Dr Staley has reviewed the information and supporting documentation referred to in this Presentation and considers the prospective resource estimates to be fairly represented and consents to its release in the form and context in which it appears. His academic qualifications and industry memberships appear on the Company's website and both comply with the criteria for "under clause 3.1 of the Valmin Code 2015 Terminology and standards adopted by the Society of Petroleum Engineers "Petroleum Resources Management System" have been applied in producing this document.

88E confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcement and, in the case of estimates of prospective resources or reserves, that all material assumptions and technical parameters underpinning the estimates in the previous market announcement continue to apply and have not materially changed.

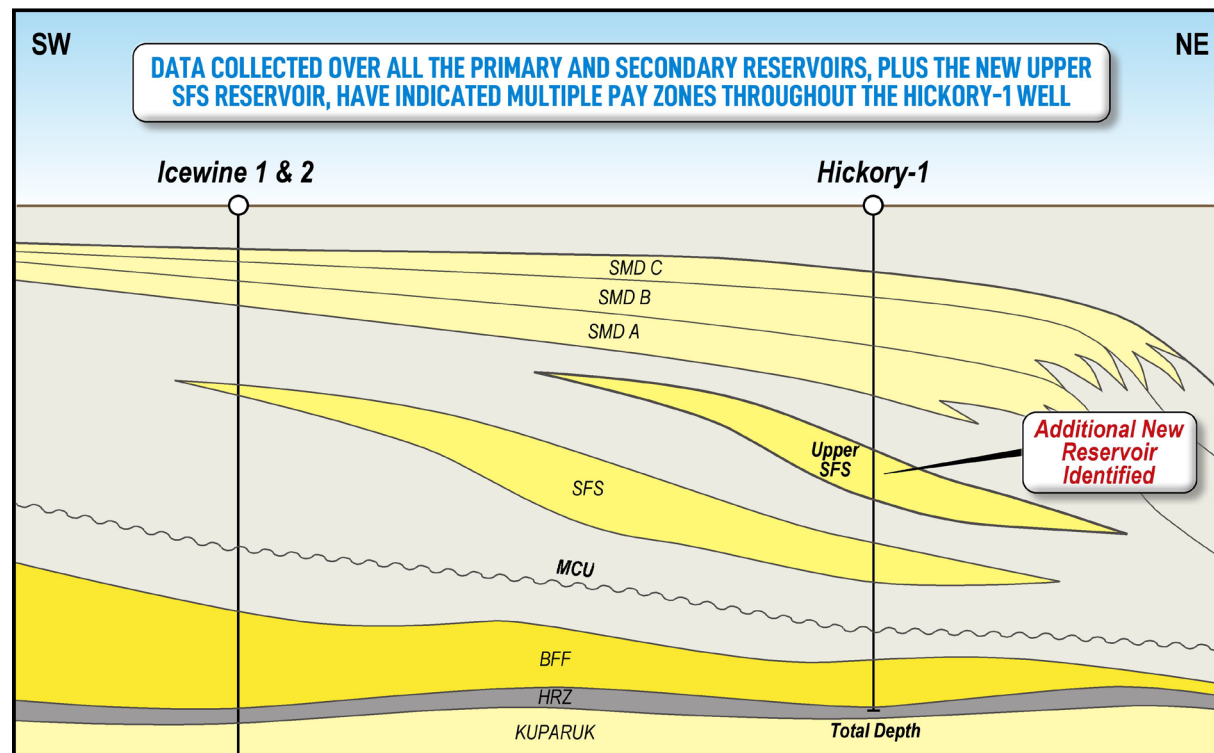
# PROJECT PHOENIX PRE-DRILL RESOURCE ESTIMATES

## PROJECT PHOENIX NORTH SLOPE ALASKA

### Unrisked Net Entitlement to 88E<sup>1,6</sup> Prospective Oil Resources (MMstb)<sup>4,5</sup>

Prospects (Probabilistic Method)	Low (1U)	Best (2U)	High (3U)	Mean	COS <sup>3</sup>
Shelf Margin Delta (SMD A, B & C)	44	140	326	145	81%
Slope Fan System (SFS)	24	84	217	89	50%
Basin Floor Fan (BFF)	75	341	930	358	50%
Kuparuk (KUP)	24	56	98	56	72%
<b>Prospects Total</b>	<b>167</b>	<b>621</b>	<b>1,570</b>	<b>647<sup>2</sup></b>	

1. These pre-drilling resources estimates are net to 88 Energy and have been calculated using a 75.227% working interest and a 16.5% royalty.
2. The unrisked means, which have been arithmetically summed, are not representative of expected total from the prospects and implies a success case in all reservoir intervals. 88 Energy cautions that the arithmetically summed 1U estimate may be a conservative estimate and the arithmetically summed 3U estimate may be optimistic when compared to a statistical aggregation of probability distributions.
3. COS represents the geological chance of success as assessed by 88 Energy and reviewed and endorsed by LKA.
4. Prospects are subject to a phase risk (oil vs gas). The pre-drilling chance of oil has been assessed as 100% for all targets except for the Kuparuk Formation which has been assessed as 70%. Phase risk has not been applied to the unrisked numbers.
5. The Prospective Resources have not been adjusted for the chance of development. Quantifying the chance of development (COD) requires consideration of both economic and other contingencies, such as legal, regulatory, market access, political, social license, internal and external approvals and commitment to project finance and development timing. As many of these factors are outside the knowledge of LKA they must be used with caution.
6. Please refer to ASX announcement dated 23 August 2022 for further details in relation to the prospective resources estimate and associated risking with Phoenix.
7. It should be noted that the prospective resources were calculated prior to the drilling of Hickory-1.



- Hickory-1 successfully intersected all primary and secondary targets, and the newly identified Upper SFS reservoir, prior to TD within the HRZ (to preserve hole conditions)
- Newly identified Upper SFS reservoir not previously intersected in Project Phoenix. Work commenced to define the lateral extents of this exciting prospect and its resource potential
- Project Phoenix prospective resource estimates to be updated post the drilling of Hickory-1, which is expected to be completed in the second half of 2023.

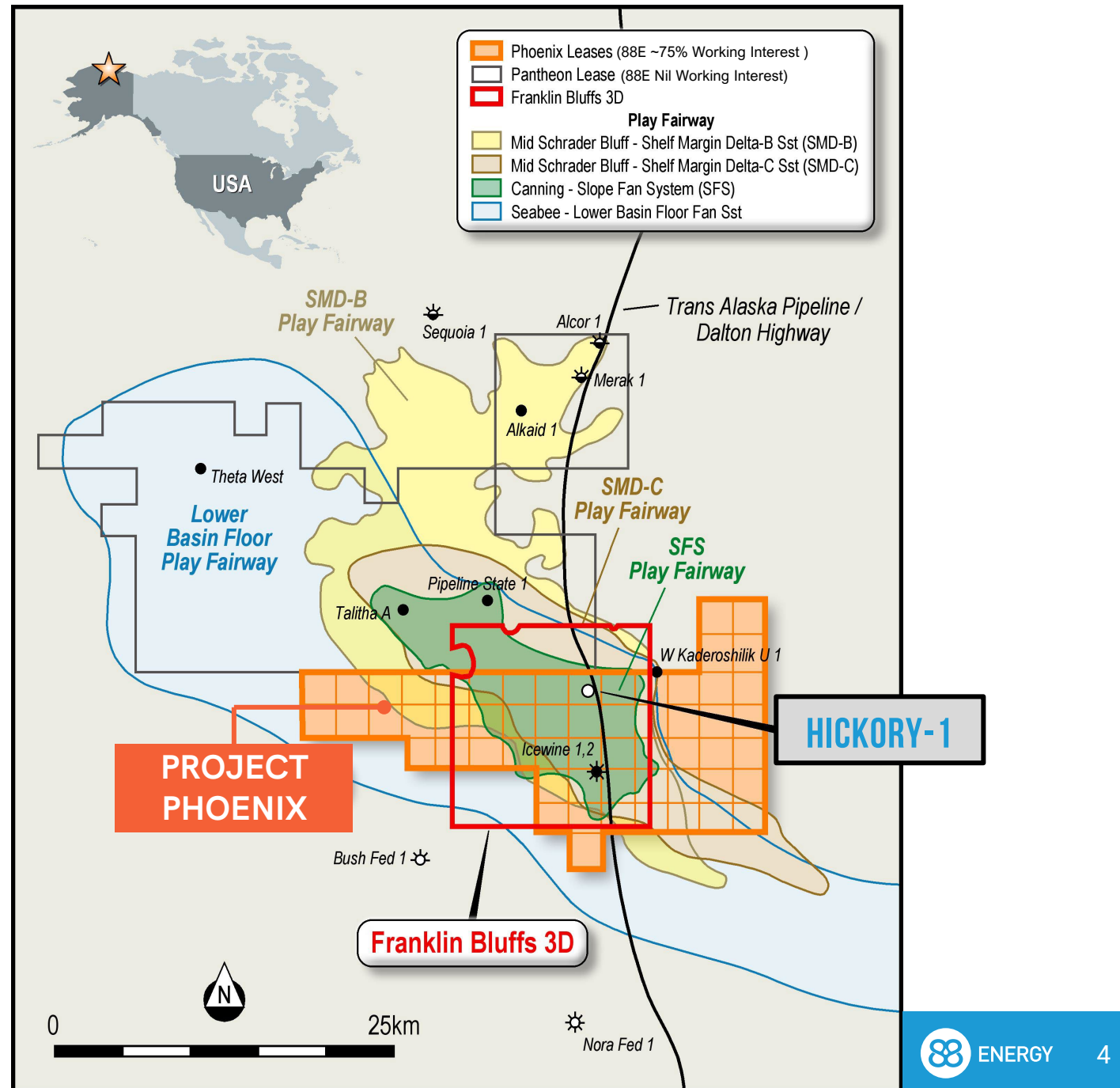
**Cautionary Statement:** The estimated quantities of petroleum that may be potentially recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation are required to determine the existence of a significant quantity of potentially movable hydrocarbons.

# PROJECT PHOENIX




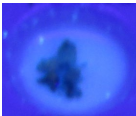

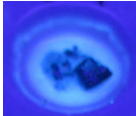



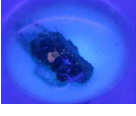
## HICKORY-1 SUMMARY

- I. PETROPHYSICAL INTERPRETATION CONFIRMED PRESENCE OF MULTIPLE HYDROCARBON BEARING PAY ZONES ACROSS ALL PRE-DRILL TARGETS, IN ADDITION TO IDENTIFICATION OF THE NEW UPPER SFS RESERVOIR.
- II. ESTIMATED NET PAY CALCULATED FROM WIRELINE DATA OF APPROXIMATELY 450 FEET OVER ALL PAY ZONES (GROSS PAY ESTIMATED TO BE OVER 2,000 FEET).
- III. AVERAGE TOTAL POROSITY ACROSS ALL PAY ZONES OF 9-12%, INCLUDING KEY ZONES IDENTIFIED FOR POTENTIAL TESTING IN THE UPPER AND LOWER SFS WITH BETWEEN 11-16% TOTAL POROSITY.
- IV. PRE-DRILL EXPECTATIONS MET OR EXCEEDED ON RESERVOIR QUALITY (HIGHER THAN EXPECTED POROSITY IN SFS AND BFF) AND THICKNESS (HIGHER TOTAL GROSS RESERVOIR, TOTAL NET RESERVOIR AND TOTAL NET PAY).



# HICKORY-1 DATA INDICATES MULTIPLE ZONES OF INTEREST TO BE TESTED

Multiple hydrocarbon bearing pay zones identified across all pre-drill targets and the new Upper SFS

PRE-DRILL ASSESSMENT					POST-DRILL INITIAL OBSERVATIONS			
UNRISKED NET ENTITLEMENT TO 88E <sup>2</sup> PROSPECTIVE OIL RESOURCES (MMSTB) <sup>3,4</sup>					HICKORY-1			
Prospects (Probabilistic)	Best (2U) <sup>5</sup>	COS <sup>1</sup>	AVO anomaly	Oil recovery from offset wells	Shows <sup>6</sup>	Estimated Gross / Net Pay	Porosity Range (Average / High)	Sample image of fluorescence in cuttings
Shelf Margin Delta (SMD A, B & C)	140	81%	Strong	Talitha A		~540ft / ~95ft	~10.5% / ~12%	
<b>Upper Slope Fan System (Upper SFS)</b>	<b>New reservoir - to be assessed</b>	-	<b>Moderate</b>	<b>Not previously intersected</b>		~360ft / ~80ft	~10.5% / ~16%	
Lower Slope Fan System (SFS)	84	50%	Subtle	Alkaid-1 and Talitha A		~380ft / ~120ft	~10.5% / ~14%	
Basin Floor Fan (BFF)	341	50%	Not detected	Theta West		~325ft / ~160ft	~9.5% / ~12%	
Kuparuk (KUP)	56	72%	Subtle	Talitha A	To be drilled and tested at a future date <sup>7</sup>			

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2. 88 Energy net resources have been calculated using a 75.227% working interest and a 16.5% royalty.

3. Prospects are subject to a phase risk (oil vs gas). Chance of oil has been assessed as 100% for all targets except for the Kuparuk Formation which has been assessed as 70%. Phase risk not applied to the unrisked numbers.

4. The Prospective Resources have not been adjusted for the chance of development. Quantifying the chance of development (COD) requires consideration of both economic and other contingencies, such as legal, regulatory, market access, political, social license, internal and external approvals and commitment to project finance and development timing. As many of these factors are outside the knowledge of LKA they must be used with caution.

5. Refer to slide 3 and the ASX release dated 23 August 2022 for full details with respect to the pre-drill Prospective Resource estimate, associated risking and the Cautionary Statement on page 3

6. Shows constituted by elevated mud gas readings and/or fluorescence / cut.

7. Due to the encouraging results to date in the primary and secondary targets, the Company made the technical decision to TD prior to intersecting the tertiary Kuparuk. The Hickory-1 well will be suspended such that the KUP target can still be drilled and flow tested from the well bore following the flow testing of the upper zones.

# SUMMARY OF INITIAL RESULTS AND OBSERVATIONS

## Hickory-1 well cased and suspended in preparation for flow test in 2023/2024

### 1 Shelf Margin Delta (SMD)

- Presence of hydrocarbons evidenced by fluorescence under ultraviolet light in cuttings; noted by both RPS wellsite geologists and Schlumberger mudloggers
- “immediate and streaming” blue-white “cuts” observed when solvent was applied to cuttings and core chips, suggesting there is good sample/reservoir permeability for future hydrocarbon extraction
- Elevated C3-C5 mud gas readings, high resistivity signatures and crossover of neutron density curves

### 2 Upper Slope Fan System (Upper SFS)

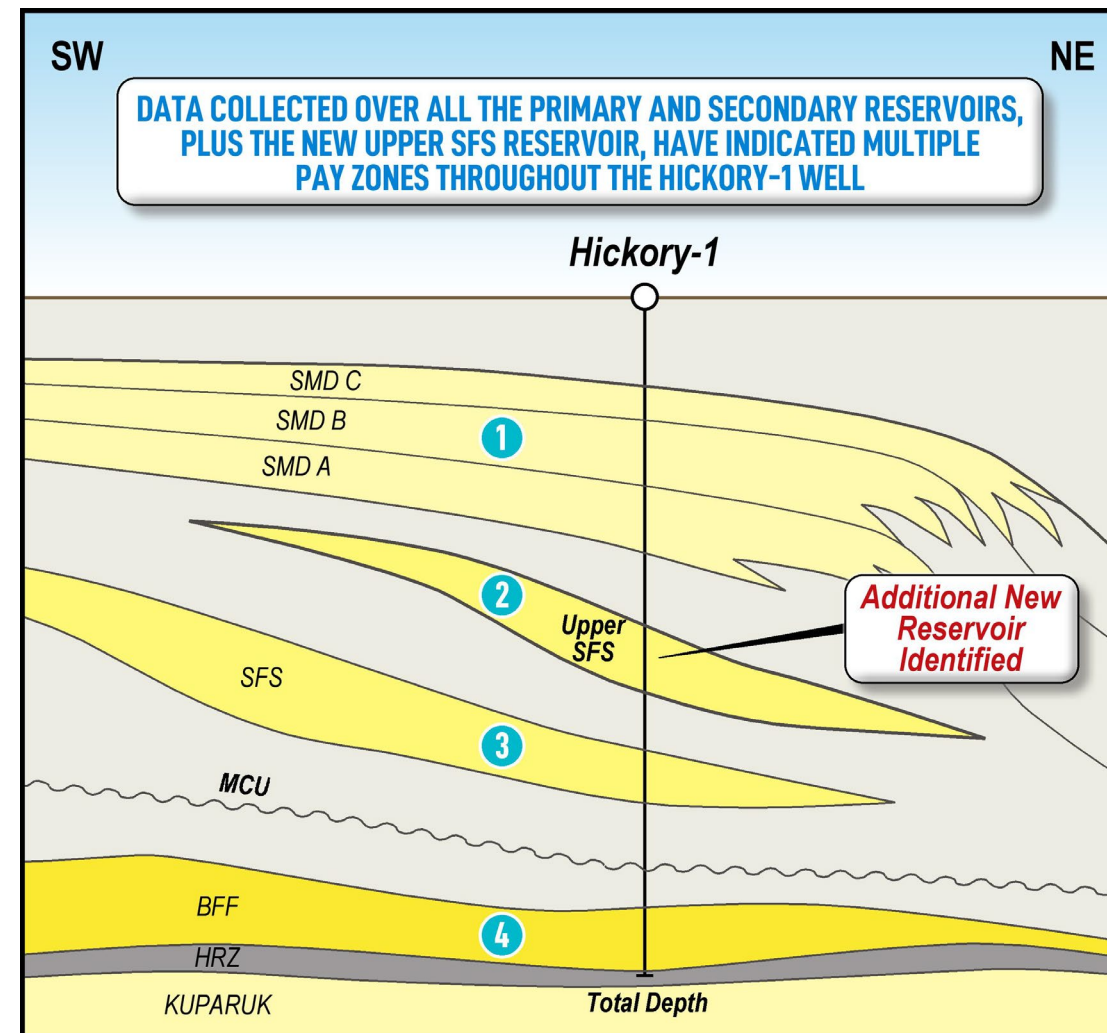
- Newly identified Upper SFS reservoir not previously intersected
- “Immediate very pale yellow greenish and streaming” diffuse “cuts” observed when solvent applied to cuttings and core chips, indicating good permeability
- Significant elevated C3-C5 mud gas reading observed (>15x background gas)
- Visual porosity observed in cuttings with crossover of neutron density curves throughout the interval indicates porous sands with hydrocarbon (oil) response
- When drilling through the Upper SFS, gas “pops” or bubbles were noted in rig tanks, indicative of hydrocarbons evolving from the drilling fluid at surface

### 3 Lower Slope Fan System (SFS)

- SFS interval 99 gross feet thicker and higher reservoir quality than anticipated pre-drill
- Presence of hydrocarbons evidenced by fluorescence under UV light in cuttings and core chips
- “Cut” observed when solvent was applied to the sample (cuttings and core)
- Elevated C3-C5 mud gas readings, high resistivity signatures and crossover of neutron density curves

### 4 Basin Floor Fan (BFF)

- Elevated C3-C5 mud gas readings were observed as well as high resistivity signatures across all sands within BFF zone and crossover of neutron density curves
- Presence of hydrocarbons was evidenced by fluorescence in cuttings
- Consistent resistivity readings of >10 ohms and regular peaks above 14 ohms
- Cleaner interval (lower gamma profile) than recorded in Icewine-1
- Higher average porosity recorded across the BFF interval than anticipated in pre-drill estimates which utilised nearby offset well data



# FLOW TESTING OF THE HICKORY-1 WELL SCHEDULED FOR 2023/2024 ALASKAN WINTER SEASON



## WORK PROGRAM

Hickory-1 program	Q1 23	Q2 23	Q3 23	Q4 23	Q1 24
Drilling and logging <b>complete</b>	✓				
Analysis of well results <b>commenced</b>	■	■	■		
Flow test designs <b>underway</b>		■	■		
Permitting and mobilisation			■	■	
Flow testing				■	■

## Planned post well analysis of results and pre-planning for flow testing

### Geological Analysis

- Including refining the depositional model and thin sections analysis

### Geophysical Analysis

- Redefining current interpretations, update AVO analysis +/- seismic inversion to integrate Hickory-1 shear data

### Routine and Special Core Analysis

- Including porosity and permeability testing

### Geochemical Analysis

- Including High Resolution Gas Chromatography and mud gas carbon isotope analysis

### Geomechanical Analysis

- Azimuthal rock property analysis including strength testing for stimulation modelling

# OFFSET DRILLING RESULTS PROVIDE CONFIDENCE IN FLOW TESTING

Hickory-1 scheduled for flow testing as early as possible in 2023/2024 Alaskan winter season

## Alkaid 1 (2015 - vertical well) ●

- Alkaid Sand primary zone of interest - flow tested at 100 BOPD (35 °API oil)<sup>1</sup>

## Alkaid 2 (2022 - horizontal well) ●

- The IP30 production rate is calculated at c.505 barrels per day ("BPD") of liquid hydrocarbons<sup>2</sup>

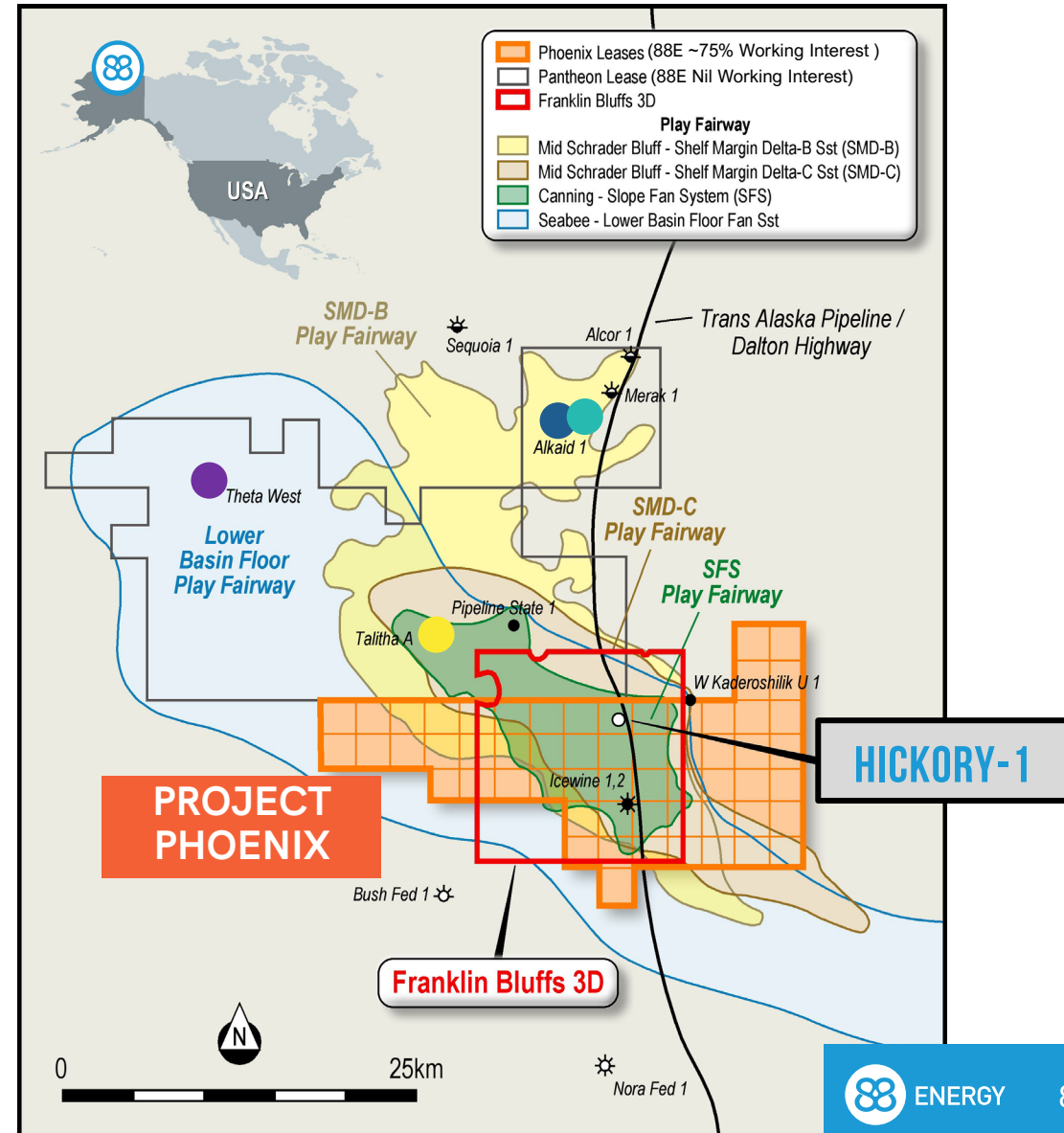
## Talitha A (2021 - vertical well) ●

- Productive zones encountered within SMD, SFS, BFF and KUP<sup>3</sup>  
- Light oil flowed from tests of SFS, BFF & KUP at 45, 73 and "up to 100" BOPD<sup>3</sup>  
- SMD flow test disrupted by blockage in wellbore, though oil was reported<sup>3</sup>

## Theta West 1 (2022 - vertical well) ●

- Flow tested at 57 BOPD from the Lower BFF unit<sup>4</sup>

**HICKORY-1 TARGETING SIMILAR OR HIGHER RATES FROM MULTIPLE ZONES COMPARED TO OFFSET WELLS**



1. <https://www.pantheonresources.com/about-pantheon/projects/greater-alkaid>

2. Pantheon Resources public announcement, 6 March 2023.

3. <https://www.pantheonresources.com/about-pantheon/projects/talitha>

4. Pantheon Resources public announcement, 24 March 2022



# HICKORY-1 RESULTS COMPARE FAVOURABLY WITH ANALOGUE FIELD

Initial pre-drill expectations met or exceeded with further post well analysis to confirm

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- The producing Codell<sup>1</sup> field is a strong developed analogue delivering robust economics with lower permeability and reservoir thickness
- With thicker reservoir sections and potentially higher permeability, Phoenix has strong potential to deliver higher IP30's, lower decline rates and significantly higher ultimate recoveries
- IP30 >1,000 BOPD and EUR >0.5 MMBO often being achieved at Codell when modern completion and optimal well orientations are utilized

	Unit	CODELL SANDSTONE DJ BASIN	PROJECT PHOENIX NORTH SLOPE
<b>Reservoir Properties</b>			
Self-Sourced		No	No
Permeability	mD	0.004 - 0.1	<b>0.02 - 0.5</b>
Reservoir		Sandstone	<b>Sandstone</b>
Naturally Fractured		No	No
Gross Thickness	ft	30 - 100	<b>1,000-2,000</b>
Net Thickness	ft	20 - 45	<b>&gt; 500</b>
Porosity	%	8 - 16	<b>7 - 14</b>
Water Saturation	%	30 - 50	<b>25 - 50</b>
<b>Average Well Performance</b>			
Initial Production Rate (Horizontal well IP30)	BOPD	500 - 1000	<b>Target 750- 1,500</b>
Expected Ultimate Recovery	MMBO	0.3 - 0.6	<b>Target 1 - 2</b>
Initial Decline Rate	%/year	60 - 75%	<b>Target 40 - 60%</b>
Horizontal to Vertical Well IP30 ratio		7 - 14	<b>Target 6 - 12</b>

**POST WELL TESTING, INCLUDING FLOW TESTING,  
TO CONFIRM RESERVOIR PROPERTIES**

1. Information compiled by 88E's Chief Operating Officer, Robert Benkovic, from data obtained through 88E's subscription to <https://welldatabase.com/>

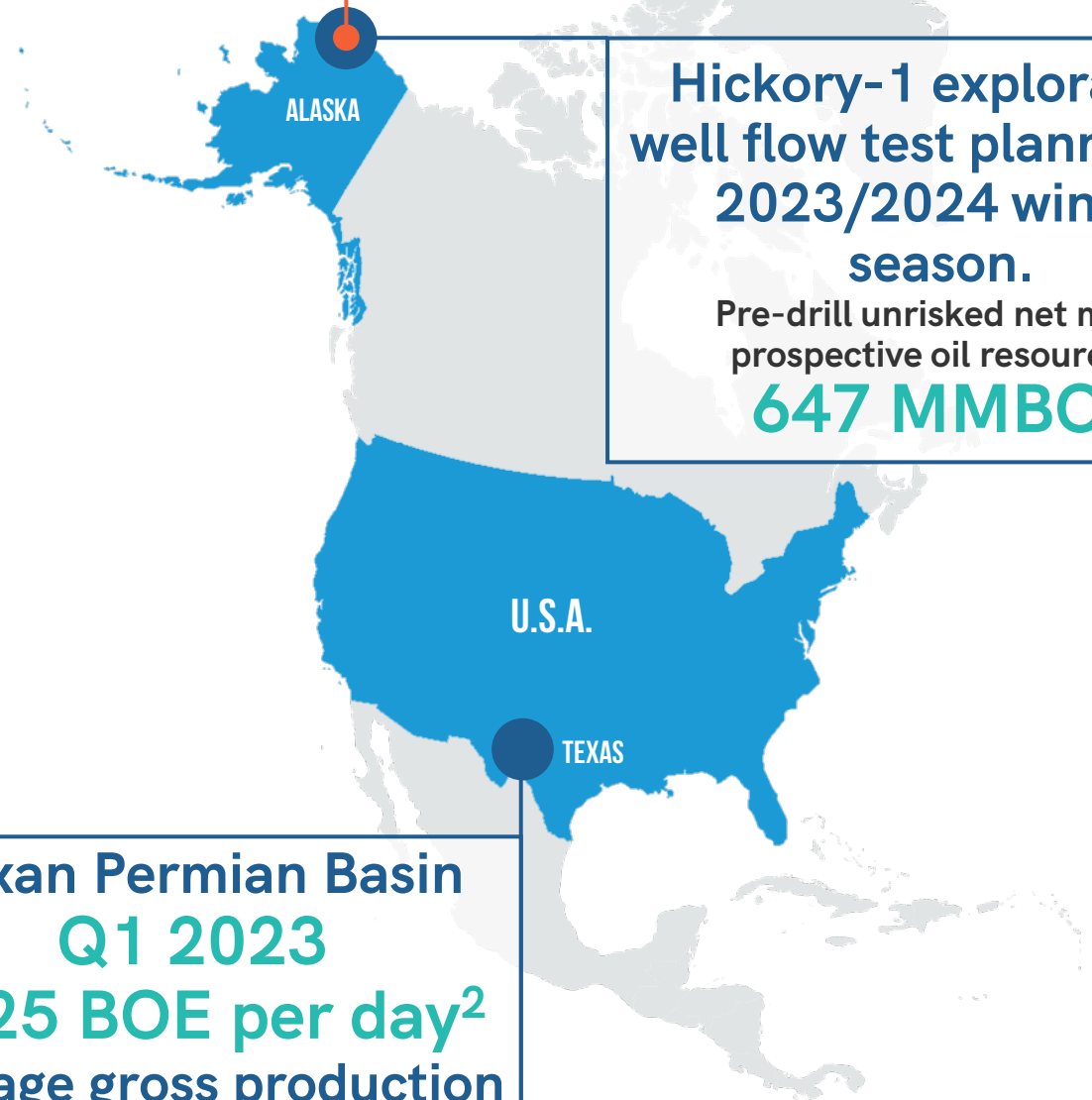
# HIGH IMPACT ALASKAN EXPLORATION SUPPORTED BY CONVENTIONAL TEXAN PRODUCTION ASSETS



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1. Please refer to the ASX release dated 23 August 2022 for full details with respect to the Prospective Resource estimate, associated risking and Cautionary Statement on page 3.  
2. Average gross BOE / day reported by Operator Lonestar I, LLC in Q1 2023 (~70% oil)  
3. Please refer to the ASX release dated 21 February 2022 for full details with respect to the initial reserves estimates and updated reserves estimates in the 31 December 2023 Annual Report. Refer also to Cautionary Statement on page 3.

## PROJECT PHOENIX



Hickory-1 exploration well flow test planned for 2023/2024 winter season.  
Pre-drill unrisked net mean prospective oil resources.  
**647 MMBO<sup>1</sup>**

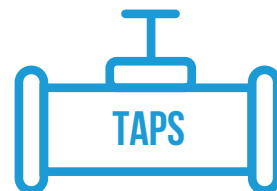
Texan Permian Basin  
Q1 2023  
**~425 BOE per day<sup>2</sup>**  
average gross production  
73% average net working interest, 1.84 MMBOE 2P net reserves<sup>3</sup>

# PREMIUM EXPLORATION AND DEVELOPMENT EXPOSURE

High impact Alaskan exploration supported by conventional Texan production assets



**HIGH IMPACT ALASKAN  
ACREAGE POSITION**



**INFRASTRUCTURE-LED  
EXPLORATION**



**MODERN HIGH QUALITY 2D  
AND 3D DATA ANALYSIS**



**CONTIGUOUS TO MULTI-BILLION  
BARREL OIL RESOURCE**



**PRODUCTION CASHFLOWS  
SUPPORT FUTURE ACTIVITIES**



**ACTIVE ASSESSMENT OF NEW  
VENTURE OPPORTUNITIES**

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