# ASX ANNOUNCEMENT

#### 2 April 2024



This announcement contains inside information

## 88 Energy Limited

## **HICKORY-1 UPPER SFS ZONE FLOWS LIGHT OIL**

#### **Highlights**

- Flow testing of the Upper SFS (USFS) reservoir confirms light oil discovery at Hickory-1.
- USFS flow rates achieved from low volume frac over small 20ft vertical interval are in line with expectations and results observed from other reservoirs on adjacent acreage.
- USFS test produced at a peak gauge flow rate of over 70 barrels of oil per day (**bopd**) of light oil. Multiple oil samples recovered, measuring ~40-degree API oil gravity.
- Quality and deliverability of the USFS reservoir now confirmed via oil production to surface under natural flow, with flow back fluids including unquantified volume of marketable natural gas liquids (NGLs) and associated gas, consistent with tests on adjacent acreage.
- 88 Energy will now seek an Independent Contingent Resource declaration for both the Upper SFS and Lower SFS reservoirs based on the flow of hydrocarbons to surface.
- Flow testing operations will transition to testing the shallower SMD-B reservoir over the next few days, in-line with the multi-reservoir, staged flow test approach adopted for Hickory-1.

88 Energy Limited (ASX:88E, AIM:88E, OTC:EEENF) (**88 Energy** or the **Company**) is pleased to announce successful flow testing of the Upper SFS reservoir in the Company's Hickory-1 discovery well, located in Project Phoenix on the North Slope of Alaska (88 Energy ~75% WI owner).

#### Managing Director, Ashley Gilbert, commented:

"Outcomes from this test represent a significant milestone for 88 Energy and its shareholders, with the first successful flow of oil to surface achieved at the Company's Alaska projects.

The completion of flow testing in this zone and recovery to surface of light oil, in addition to NGLs and associated gas, confirms our understanding of the substantial potential of these reservoirs. Significantly, these flow rates were achieved from only a 20ft perforated section in a vertical well with a low volume stimulation over a short period. As previously highlighted, production rates in long horizontal production wells are typically multiples of 6 to 12 times higher than tested in vertical wells, as evidenced in many Lower 48 analogues.

Importantly, the Upper SFS zone had not previously been intersected or tested at either Project Phoenix or on adjacent acreage. It is particularly exciting for us to produce oil to surface and demonstrate the producibility of this additionally discovered reservoir. Future plans for the assessment of the commerciality of Project Phoenix will be communicated post analysis of the Hickory-1 program.

We will now proceed to undertake flow testing of the shallower SMD-B reservoir over the coming weeks. This is a zone which has previously been successfully tested on adjacent acreage to the north.

We look forward to continuing to update shareholders on the progress of our Hickory-1 flow testing operations."

#### www.88energy.com

ABN 80 072 964 179



#### **Upper SFS flow test results**

A 20ft perforated interval in the Upper SFS reservoir was stimulated via a single fracture stage of 241,611 lbs proppant volume. The well was cleaned-up and flowed for 111 hours in total, of which 88 hours was under natural flow back and 23.5 hours utilising nitrogen lift.

The USFS test produced at a peak flow rate of over ~70 bopd. Oil cuts increased throughout the flow back period as the well cleaned up, reaching a maximum of 15% oil cut at the end of the flow test program. Oil rates and cut would have likely increased further should the test period have continued. The well produced at an average oil flow rate of approximately 42 bopd during the natural flow back period, with instantaneous rates ranging from approximately 10 – 77 bopd with average rates increasing through the test period. Importantly, the USFS zone flowed oil to surface under natural flow, with flow back from other reservoirs in adjacent offset wells only producing under nitrogen lift. A total of 3,960bbls of fluid was injected into the reservoir and 2,882bbls of water was recovered during the flow back period, most of which being injection fluid. Total flow rates (inclusive of recovery of frac fluid) averaged ~600 bbl/d over the duration of the flow back.

Multiple oil samples were recovered with measured oil gravities of between 39.9 to 41.4 API (representing a light crude oil).

Additionally, some NGLs were produced but not measured, as was anticipated in the planning phase. The presence of NGLs was demonstrated by samples from the flare line and by visible black smoke in the flare. Historically, NGL prices on the North Slope of Alaska have been similar or slightly below light oil prices and are therefore considered highly valuable. Further work is required to quantify the exact volume of NGLs, which 88 Energy intends to include as part of a maiden certified Contingent Resource assessment at Project Phoenix for the SFS reservoirs.



Figure 1: (left) Two sample bottles of 41.4-degree API oil sampled from the oil leg in the separator. (middle)104-degree Fahrenheit fluid sample from Hickory-1 USFS flow test, which is temperature corrected to 41.4-degree API at 60F (right) Sample of NGLs taken from the gas flare line.



Figure 2 Successful flow test undertaken on the Upper SFS reservoir in Project Phoenix.

#### **SMD-B** flow testing operations

Preparation for the next state of the Hickory-1 flow testing schedule in underway and will focus on the proven SMD-B reservoir. As with the USFS test, this zone will be independently isolated, stimulated and flowed to surface.

Testing operations are scheduled to complete in April 2024, with the on ground Alaskan team working hard to progress to this next stage as quickly as possible. Weather condition have been particularly challenging with low temperatures and high winds experienced during operations to date.

Further updates on the Hickory-1 flow test operations will be provided in due course.





#### Additional information related to Hickory-1:

Hickory-1 is located in State lands on the North Slope of Alaska, adjacent to the Dalton Highway and Trans Alaska Pipeline, within Alaskan Oil and Gas lease ADL 392314. 88 Energy holds a ~75% working interest in the well and is Operator. The well spudded on 9 March 2023 and was drilled to a Total Depth of 10,650 feet. Multiple prospective zones pay in sandstone reservoir between depths 7.700 and 10.500 were identified.

88 Energy reported a maiden, independently certified Contingent Resource estimate of 136 MMbbl of hydrocarbon liquids (gross best estimate (2C)) and 628 BCF of gas, for the Basin Floor Fan (BFF) reservoir in Project Phoenix on 6 November 2023.







Figure 3: Flaring of gas and NGLs.

#### This announcement has been authorised by the Board.

Media and Investor Relations:

**88 Energy Ltd** Ashley Gilbert, Managing Director Tel: +61 8 9485 0990 Email: <u>investor-relations@88energy.com</u>

**Fivemark Partners**, Investor and Media Relations Michael Vaughan

**Euroz Hartleys Limited** Dale Bryan Tel: +61 422 602 720 Tel: + 61 8 9268 2829

Tel: + 44 131 220 6939

### Cavendish Capital Markets Limited

Neil McDonald / Derrick Lee

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 announcement 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 40 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 announcement and considers the resource and reserve 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 "Competence" 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.



# Appendix A

# Reporting of Material Exploration and Drilling Results Pursuant to ASX Listing Rules, Chapter 5

ASX Listing Rule		Requirement	Hickory-1 Well Test Reporting
5.30	(a)	The name and type of well	Hickory-1, vertical exploration well
	(b)	The location of the well and the details of the permit or lease in which the well is located	Hickory-1 is located in State lands on the North Slope of Alaska, adjacent to the Dalton Highway and Trans Alaska Pipeline, within Alaskan Oil and Gas lease ADL 392314
	(c)	The Company's working interest in the well	~75%
	(d)	Gross pay thickness and net pay thickness	N/A
	(e)	Geological rock type of the formation drilled	Sandstone
	(f)	Depth of the zones tested	Upper SFS perforation interval: 9,005' – 9,025 MDRT
	(g)	Types of tests undertaken and the duration of the tests	Fracture stimulate and flow test the USFS formation, utilising a combination of natural and nitrogen lift. The well flowed naturally for a period of approximately 88 hours and flowed unde nitrogen lift for an approximately 23 hours period.
	(h)	The hydrocarbon phases recovered in the tests	Oil and gas were recovered and measured. A proportion of NGLs were possibly captured in the oil stream, however, not separately measured Gas samples taken will be analysed post the flow test operations to determine proportion of NGLs.
	(i)	Any other recovery, such as formation water and water, associated with the tests and their respective proportions	2,882 bbls of water was recovered during flow back, consisting of frac fluids injected into the reservoir (approximately 3,960 bbls of fluid was injected during frack operations). Further analysis of fluids will be conducted post the flow test to determine extent of reservoir fluids.
	(j)	The choke size and flow rates and, if measured, the volumes of the hydrocarbon phases measured	Various choke sizes used during flow back operations from 8/64ths to 42/64ths of an inch Total flow rates (inclusive of recovery of frac fluid averaged ~600bbl/d over the duration of the flow back. Oil cut following establishment of production ranged from 3% to 15% at the end of the tes period. A total volume during the flow back period following establishment of oil cut of 24.8 stk bbls of oil recovered following establishment of o rates. A total of 1.45mmscf of gas and NGL's were recovered from the Upper SFS test, though proportions of marketable NGLs will be determined during post well analysis.
	(k)	If flow rates were tested, information about the pressures associated with the flow and the duration of the test	Well head pressures over the duration of the natural flow back period ranged from 2,000 to 420psig. Whilst nitrogen lift occurred pressures ranged from 250 to 1,000psig.



(1)	The number of fracture stimulation stages and the size and nature of fracture stimulation applied	The Upper SFS zone was stimulated in a single stage and utilised a cross-linked polymer gel. The volume of sand proppant pumped was 241,660 lbs for the Upper SFS.
(m)	Any material volumes of non-hydrocarbon gases, such as carbon dioxide, nitrogen, hydrogen sulphide and sulphur	The Upper SFS test showed no measurable CO2 or H2S. No other impurities were detected on site.
(n)	Any other information that is material to understanding the reported results	The Company will conduct post flow test analysis to determine the quantity of marketable NGLs that were produced. Pressurised gas and oil samples have been taken. The company anticipates NGLs produced to be at a similar rate to those observed during flow tests on adjacent acreage given the consistency of results observed between the USFS test and tests conducted on adjacent wells.