

2<sup>nd</sup> July 2018

## **88 Energy Limited Operations Update**

88 Energy Limited (ASX: 88E) (“88 Energy” or the “Company”) provides the following update related to the testing of its Icewine#2 well, located on the North Slope of Alaska.

### **Highlights**

- **Icewine#2 Well Suspended**
- **HRZ Farm-out Process Commenced**

### **Project Icewine – Icewine#2 Production Testing**

After careful consideration, the Icewine Joint Venture made a decision to suspend the Icewine#2 well. The Joint Venture believes that results from the well to date support the potential economic viability of the HRZ shale play and are within the range of outcomes achieved at other early stage unconventional plays, despite not achieving a flow rate that is representative of the capability of the reservoir. Demobilisation of equipment was completed over the weekend in Alaska. The suspension operation has been designed to maximise flexibility for the future use of the wellbore, including the drilling of a horizontal side-track with a multi-stage stimulation.

The Joint Venture believes that the flowback data, combined with results to date from core and logs, demonstrates that the HRZ is comparable to other early-stage commercial unconventional plays and that, as per those plays, progressing to horizontal appraisal wells is now the best use of time and money.

The decision to discontinue flow testing at this point in time was undertaken for many reasons, including:

- An internal belief that a more significant work program is now required to meaningfully de-risk the HRZ play further and that the data obtained to date is sufficient to attract a farm-in partner to undertake this program. This is consistent with the natural progression of development in all other unconventional resource plays.
- The Icewine#2 well has already achieved most of the objectives it was designed for: namely acquisition of a more sophisticated logging suite to complement the core from Icewine#1 and to determine whether a large slickwater stimulation could be executed successfully in the HRZ. Additionally, the overpressure of the HRZ was quantitatively proven and the frac was able to traverse into both the upper and lower HRZ with no frac barriers. These results provide the requisite data to confidently design a horizontal well with a multi-stage stimulation that can access the entire height of the formation.
- Evidence during the fracture stimulation operation indicates that an effective frac has been achieved; however, without micro-seismic monitoring, it is not possible to definitively confirm whether an optimal fracture system has been created utilising a vertical well bore. It is considered likely that the fractures created have not maximised contact with the reservoir and that a multi-stage stimulation in a horizontal well is required to achieve the reservoir connectivity necessary to deliver higher flow rates.

The Joint Venture is in the process of engaging with an experienced service provider to provide state of the art analysis and quality control of the existing dataset, undertake additional work and put together an appropriate forward work program to present to potential farminees.

88E Managing Director, Dave Wall, commented: *“Ideally the Icewine#2 well would have delivered a stronger hydrocarbon flow rate and it is disappointing that this was not achieved; however, the Joint Venture has many positive takeaways from the well and remains confident about the potential of the HRZ play. Future evaluation of the large potential already identified is planned to be accomplished via farm-out and this process has already commenced.*

*The 88E team is also extremely busy maturing our conventional projects at Icewine, Yukon Gold and the Western Blocks and will provide an update on these projects in the near future.”*

### **Icewine#2 Production Testing - Timeline**

The Icewine#2 well is located on the North Slope of Alaska (ADL 392301). 88 Energy Ltd (via its wholly owned subsidiary, Accumulate Energy Alaska, Inc) has a 77.55% working interest in the well. The well was stimulated in two stages over a gross 128-foot vertical interval in the HRZ shale formation, from 10,957-11,085ft TVD, using a slickwater treatment comprising 27,837 barrels of fluid and 1,034,838 pounds of proppant.

Prior to Winter shut-in (2017) 20% of the stimulation fluids had been flowed back versus a projected minimum target of 30% to gain connectivity to the source rock reservoir.

Flowback re-commenced, on schedule, at 22:30 11<sup>th</sup> June 2018 (AK time) to clean-up stimulation fluids from the Icewine#2 borehole with a well head pressure of 3,000 psi and flowback rate of 253 barrels of water per day on an 8/64” choke.

A production log was run on 12<sup>th</sup> June and confirmed that all perforations were contributing to flow. As per the flowback design, nitrogen was then introduced gradually to the wellbore from 0845 13<sup>th</sup> June (AK time), prior to installation of the coiled tube velocity string, to artificially lift stimulation fluids in order to gain connectivity to the reservoir. The flowback rate stabilised at 200 barrels of water per day through an 8/64” choke and then steadily declined to circa 100 barrels of water per day, as per expectation.

Flowback was interrupted, as per the program, on the 15<sup>th</sup> June 08:00 (AK time) to allow installation of the velocity string. Flow was re-established on 15<sup>th</sup> June at 20:00 (AK time) with nitrogen introduced into the annulus between the 4.5” casing and the 1.75” velocity string. After displacement of fluid in the annulus, the flowback rate stabilised at 350bpwd through a variable choke to maintain a target wellhead pressure of 200-400psi. This technique decreases the backside pressure in the system and optimises lifting of fluid from the wellbore.

From the 18<sup>th</sup> June to the 22<sup>nd</sup> June, adjustments were made to the flowback system to determine the optimal settings for the nitrogen lift operation. Consequently, flowback rates fluctuated between an average rate of 50 barrels of water per day to 120 barrels of water per day. The percentage of hydrocarbon gas in the flowback dropped to 5% at one stage due to an increased nitrogen injection rate, 300 scf/m, which is deemed to have limited the flowback of both water and gas from the borehole. The reduction in productivity is attributed to an effective downhole choke created between the 4.5”



annulus and the 1.75" velocity string, limiting the flowback when the nitrogen rate is too high. The nitrogen injection rate was reduced back to 150 scf/m in an attempt to increase flowback of water and gas from the borehole.

The early results from the flowback were within the range of expectations; however, the rate of returned fluid decreased, despite optimised lift settings, and the timeline to achieve the targeted percentage of returned fluid increased significantly. Consequently, and in consideration with the encouragement achieved to date over the entire appraisal program, a decision was made to discontinue testing and the well was suspended on the 30<sup>th</sup> June 2018.

Hydrocarbon gas content during the flowback period was predominantly methane (90%) with some heavier elements up to trace C6+. Hydrocarbon rate achieved, with velocity string installed, ranged from 5 – 113mcf/d of gas with an average of 26mcf/d.

Total clean up fluid returned, (net of diesel for freeze protection and any other fluids introduced as part of the current operation), since commencement of flowback on 12<sup>th</sup> June 2018 is 1,372 barrels interpreted as 100% stimulation fluid. Total fluid returned for the entire Icewine#2 flowback operation, including last year, is 6,905 barrels or 24.8% of the frac fluid injected vs a target percentage return of at least 30%.

Yours faithfully

A blue ink handwritten signature, appearing to read 'Dave Wall', with a long horizontal line extending to the right.

Dave Wall  
Managing Director  
88 Energy Ltd

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, Mr Brent Villemarette, who is a Non-Executive Director of the Company. Mr Villemarette has more than 30 years' experience in the petroleum industry, is a member of the Society of Petroleum Engineers, and a qualified Reservoir Engineer 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. Mr Villemarette has reviewed the information and supporting documentation referred to in this announcement 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 "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.

Media and Investor Relations:

**88 Energy Ltd**  
Dave Wall, Managing Director

Tel: +61 8 9485 0990  
Email: [admin@88energy.com](mailto:admin@88energy.com)

**Finlay Thomson**, Investor Relations

Tel: +44 7976 248471

**[www.88energy.com](http://www.88energy.com)**

ABN 80 072 964 179



**Hartleys Ltd**

Dale Bryan

Tel: + 61 8 9268 2829

**Cenkos Securities**

Neil McDonald/Derrick Lee

Tel: + 44 131 220 6939

## 88 Energy Alaska North Slope Assets Overview

### Project Icewine

In November 2014, the Company entered into a binding agreement with Burgundy Xploration (**BEX**) to acquire a significant working interest (87.5%, reducing to 77.5% on spud of the first well on the project) in a large acreage position on a multiple objective, liquids rich exploration opportunity onshore Alaska, North America, referred to as Project Icewine. The current gross acreage position is ~475,000 contiguous acres (301,000 acres net to the Company). These are marked in blue and red on the below map.

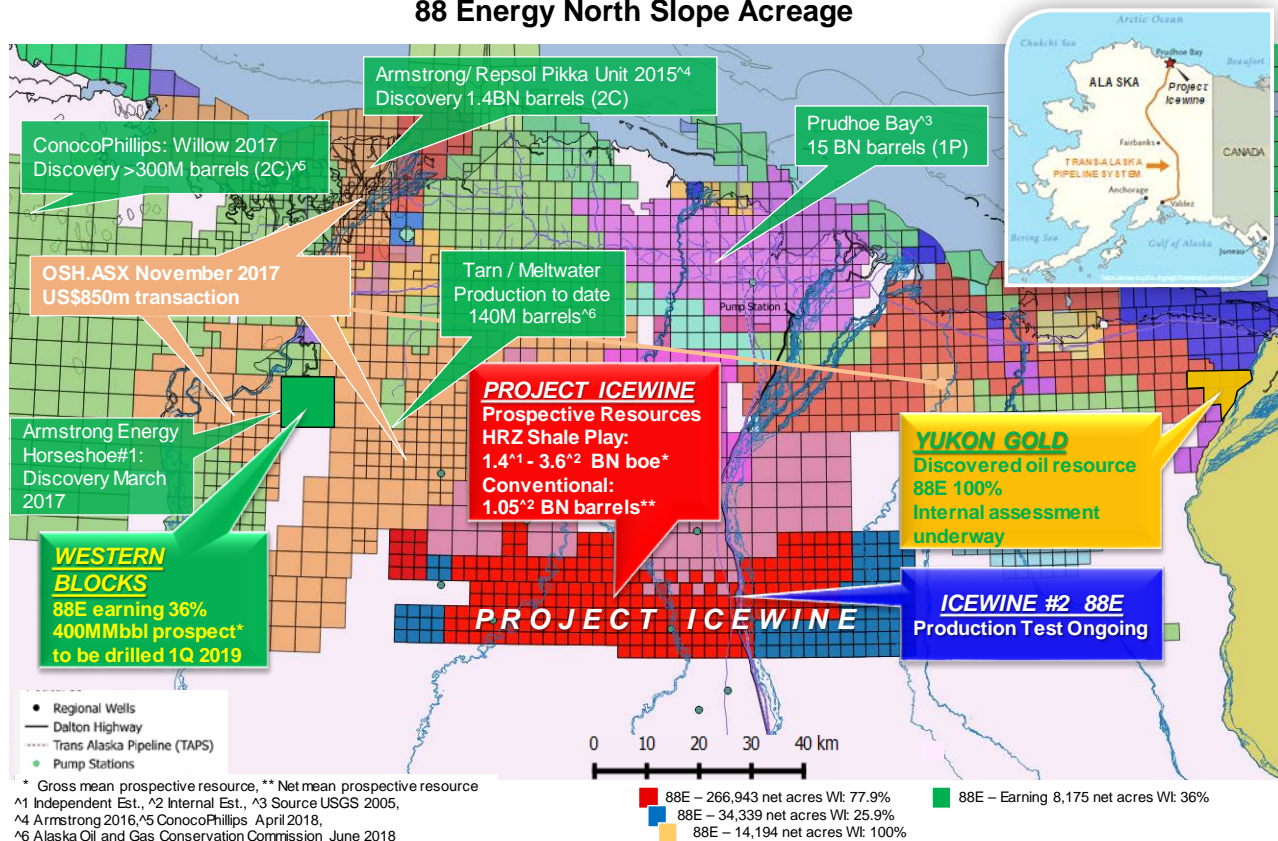
The Project is located on an all year operational access road with both conventional and unconventional oil potential. The primary term for the State leases is 10 years with no mandatory relinquishment and a low 16.5% royalty.

The HRZ liquids-rich resource play has been successfully evaluated based on core obtained in the Icewine#1 exploration well (December 2015), marking the completion of Phase I of Project Icewine. Phase II has now commenced, with drilling at the follow-up appraisal well, Icewine#2, concluding mid 2017.

Production testing at Icewine#2 concluded on 30 June 2018 after retrieving 24.8% of the injected stimulation fluid vs a targeted return of at least 30%. Gas rates of up to 100mcf/d were achieved during flowback; however, these are not considered representative due to limited reservoir connectivity. A farm-out process is underway to fund the future work program.

Significant conventional prospectivity has also been identified on recently acquired 2D and 3D seismic across the project acreage.

### 88 Energy North Slope Acreage



**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.*

A Prospective Resources Report by DeGolyer and MacNaughton, was commissioned by 88 Energy to evaluate the unconventional resource potential of Project Icewine in February 2016 and was released to the market on 6<sup>th</sup> April 2016.

### **Yukon Gold**

The Yukon Gold leases are located on the eastern border of the Central North Slope of Alaska and were acquired in 2018. 88 Energy via its subsidiary has a 100% working interest in these leases, totalling 14,190 acres. The leases contain an historic discovery well, Yukon Gold #1, which is currently being evaluated internally. 3D seismic was acquired in early 2018 to assist with this process and results are expected in 4Q2018. The leases are marked in yellow on the above map.

### **Western Blocks**

88 Energy is earning a 36% working interest in four leases (totalling 22,711 acres) immediately adjacent to the Horseshoe#1/1A oil discovery well. 88 Energy, with its consortium partners Otto Energy Ltd and Red Emperor Resources NL, will pay a US\$3m performance bond to the State of Alaska and 100% of the costs of well, targeting a prospect with a gross mean unrisked prospective resource volume of 400MMbbls (144MMbbls net to 88E), to be drilled in 1Q 2019. The leases are marked in green on the above map.