



INVICTUS  
ENERGY LIMITED

# Mukuyu Gas Discovery

7 December 2023

## HIGHLIGHTS

- Gas discovery in Mukuyu-2
- Four hydrocarbon samples recovered to surface from two zones in Upper Angwa
- First Triassic aged hydrocarbon discovery in Sub Saharan Africa, with significant additional appraisal and exploration upside from Invictus' acreage position
- Mukuyu-2 sidetrack drilling to continue through Lower Angwa hydrocarbon bearing zones to planned TD ~3,400m and complete further evaluation and sampling
- Investor briefing being held today to discuss preliminary results

Invictus Energy Limited ("Invictus" or "the Company") is pleased to announce a gas discovery in the Mukuyu-2 well at its 80% owned and operated Cabora Bassa Project in Zimbabwe.

### Comments from Managing Director Scott Macmillan:

*"We are delighted to declare a gas discovery from the Mukuyu-2 sidetrack well in the Upper Angwa formation.*

*"The discovery represents one of the most significant developments in the onshore Southern Africa oil and gas industry for decades.*

*"I'm extremely proud to be involved with the Invictus team and our partners in opening up one of the last untested rift basins. The perseverance and hard work by of our dedicated team has paid off.*

*"The Company has delivered an exceptional result from the first two wells drilled in Mukuyu, which provides us with significant running room in our large portfolio of prospects and leads for further discoveries in our acreage in the Cabora Bassa basin.*

*"The Mukuyu-2 discovery, 7km away and 450 meters updip of the Mukuyu-1 well, which can subsequently be classified as a discovery, provides confirmation of the large potential of the Mukuyu field which has a structural closure of over 200km<sup>2</sup>.*

*"With additional hydrocarbon bearing reservoirs ahead, the focus now is to complete the drilling and evaluation program and obtain further wireline data including fluid samples to declare an additional discovery from the Lower Angwa formation."*

#### ABOUT INVICTUS ENERGY

Invictus Energy Ltd is an independent oil and gas exploration company focused on high impact energy resources in sub-Saharan Africa. Our asset portfolio consists of a highly prospective 360,000 hectares within the Cabora Bassa Basin in Zimbabwe. SG 4571 and EPOs 1848/49 contain the Mukuyu and multiple Basin Margin prospects

#### BOARD & MANAGEMENT

<b>John Bentley</b> Non-Executive Chairman	<b>Joe Mutizwa</b> Non-Executive & Deputy Chairman	<b>Scott Macmillan</b> Managing Director	<b>Robin Sutherland</b> Non-Executive Director
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**Gabriel Chiappini**  
Non-Executive Director  
& Company Secretary

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

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## Progress and current operations

Whilst drilling towards the base of the Upper Angwa formation and following indications from real-time logging while drilling and mudgas data, intermediate Total Depth ("TD") was called at 2,987m Measured Depth ("mMD") and the Company elected to undertake an intermediate wireline logging run with the primary objective of obtaining hydrocarbon samples from Upper Angwa reservoirs.

A limited suite of wireline logging data was acquired over the interval from 1,969mMD to 2,975mMD in the Basal Pebbly Arkose and Upper Angwa formations which identified multiple hydrocarbon bearing reservoirs in the Upper Angwa.

A total of four hydrocarbon samples were recovered to surface from two separate zones in the Upper Angwa using the wireline formation testing tool. A further two formation water samples were recovered from the Basal Pebbly Arkose formation.

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Figure 1 - Pressurised sample chambers containing gas recovered to surface from Mukuyu-2 sidetrack in preparation for shipping for laboratory analysis

Gas and fluid properties from the recovered samples will be confirmed following laboratory testing once the sample bottles are dispatched from the rig for analysis.

No additional fluid samples were captured in order to preserve the wireline formation sampling tool and remaining sample chambers for use in the interpreted Lower Angwa hydrocarbon-bearing zones where thicker sandstone units were penetrated in Mukuyu-2.



Wireline log interpretation calculates a preliminary net pay estimate of 13.9m for the Upper Angwa, however, this estimate is still subject to further calibration of the logs with core and fluid data to determine appropriate net cutoffs and subsequent pay estimates.

Significant additional gross sands were intersected within the Upper Angwa gas leg but are below the current net reservoir cutoff. These intervals may have better reservoir development elsewhere in the Mukuyu field and along with the refinement to the net pay criteria represents additional upside. Further appraisal and technical evaluation of log, core, seismic and well test data is required to determine the full extent of the resource size.

The discovery also bodes well for other prospects and leads in the remainder of our large acreage position in the Cabora Bassa Basin.

Following the fluid sampling, thirteen large volume sidewall core samples were recovered from priority points in the Pebbly Arkose and Upper Angwa which will be used to calibrate the wireline log data in post-well analysis.

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Figure 2 - Retrieval of pressurised sample chambers from the wireline formation testing tool at surface



The sidetrack well will now be deepened towards the planned TD, in the Lower Angwa, at around 3,400mMD. The ultimate TD will depend on the intersection of sands anticipated based on the Mukuyu-2 logs and observations around the prevailing formation pore pressures.

A technical summary and disclosure requirements are provided at the end of this report.

## Forward plan

The Exalo Rig 202 will drill ahead towards the sidetrack section Total Depth at approximately 3,400mMD through Lower Angwa reservoirs where multiple zones interpreted from logs to be hydrocarbon-bearing were intersected in Mukuyu-2.

Following the conclusion of the drilling of the 8 ½ inch hole section, the sidetrack well will be logged including wireline formation testing and fluid sampling and final results provided.

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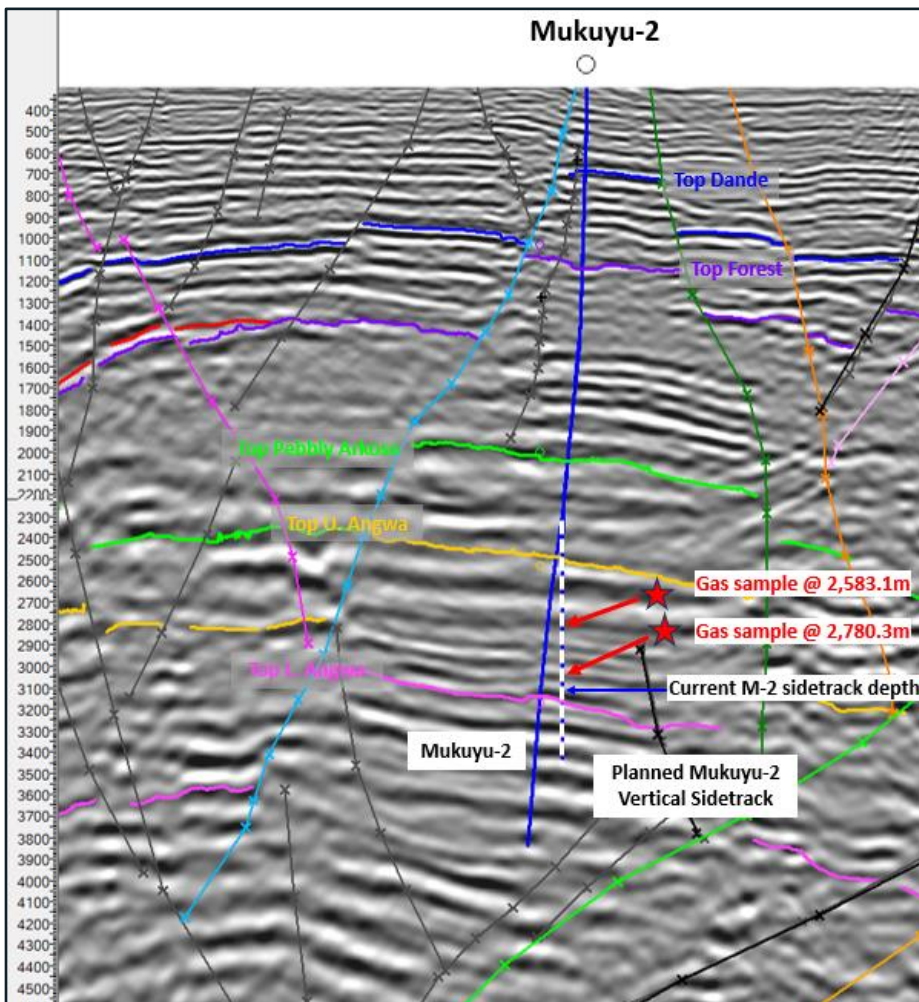


Figure 3 - Mukuyu-2 ST-1 planned trajectory and progress and approximate gas sample locations

Completion of the sidetrack will also allow for the well to be suspended for future flow testing by running the 7-inch liner over this interval. This will provide the opportunity to drill, evaluate and test the remaining portion of the Lower Angwa, below 3,400mMD, in 6-inch hole in future operations. Over-pressured gas bearing reservoirs were encountered in this interval in the original Mukuyu-2 wellbore.

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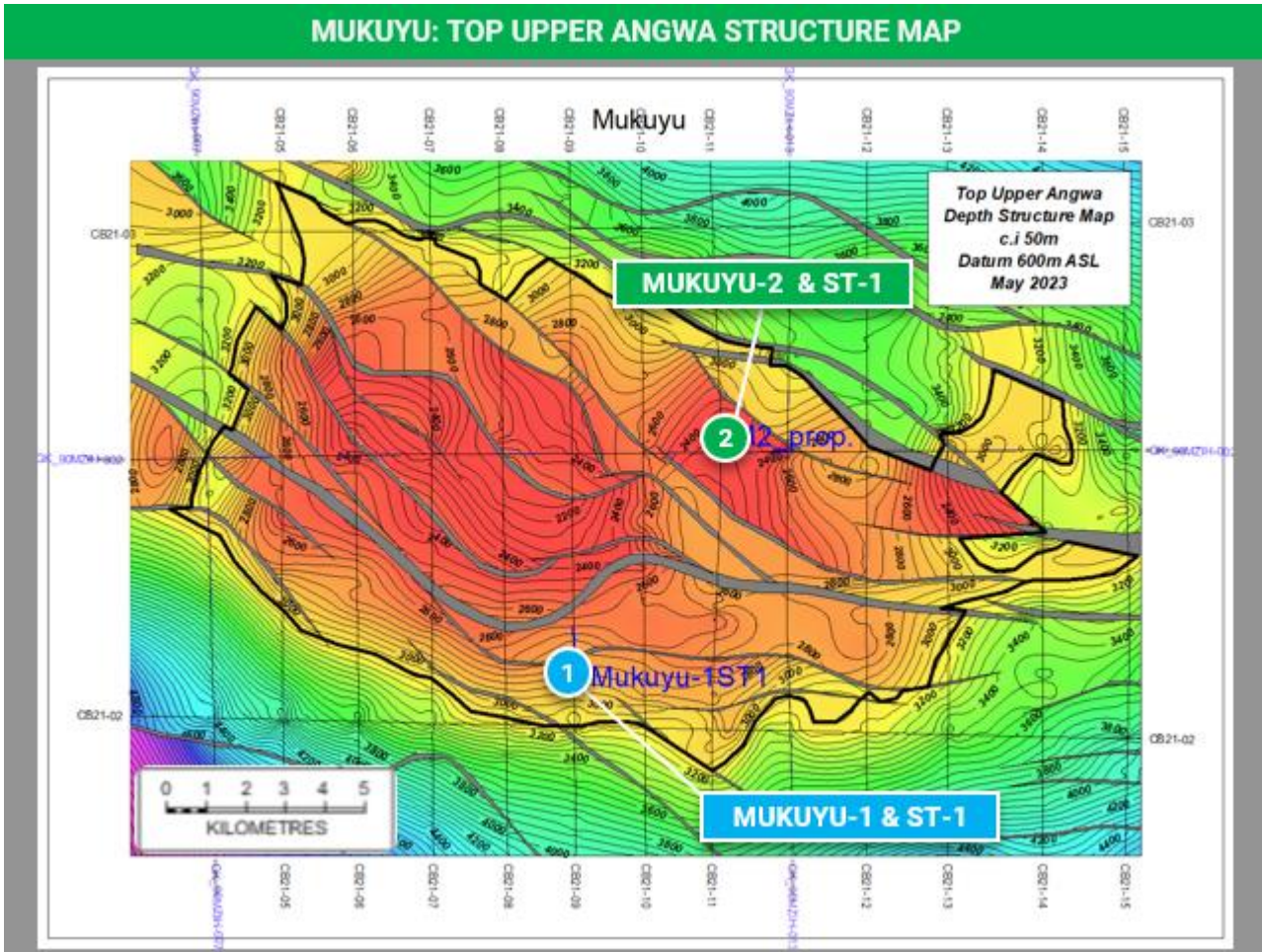


Figure 4 - Upper Angwa Top Structure Map (pre-drill Mukuyu-2)

**Investor Briefing Details**

A shareholder briefing will be conducted at 11:00 AEDT / 08:00 WST to discuss the results of the Mukuyu-2 well to date and the forward operations. Details of the webinar are as follows:

**Time:** Thursday 7 December 2023 11:00 AEDT / 08:00 WST

**Topic:** Mukuyu-2 Gas Discovery Shareholder Briefing

**Registration:** [https://us02web.zoom.us/webinar/register/WN\\_EMUpYLvmRHa8MSTKaZ-Yjg](https://us02web.zoom.us/webinar/register/WN_EMUpYLvmRHa8MSTKaZ-Yjg)

**Technical Summary and Listing Rule 5.30 Material Drilling Results Disclosure**

a)	Name and type of well	Mukuyu-2, appraisal/exploration well
b)	Location and permit details	Cabora Bassa Basin Zimbabwe, Special Grant 4571
c)	Entities working interest	80%
d)	Net pay thickness	13.9m (see point m) below
e)	Geological rock type	Clastic
f)	Depth of zones tested / sampled	2,583.1mMD (2,568.9mTVD); wireline porosity 10.5% 2,780.3mMD (2,764.1mTVD); wireline porosity 8.4%
g)	Type of test	Downhole wireline formation sampling
h)	Hydrocarbon phase recovered	Gas
i)	Any other recovered phase and proportion	Water based mud filtrate – quantity to be confirmed from lab analysis
j)	Choke size, flow rates and volumes	450 cm <sup>3</sup> sample chambers
k)	Number of fracture stimulation stages and size of stimulation	N/A
l)	Any material non-hydrocarbon gases	No non-hydrocarbon gases observed from onboard wireline fluid analyser – to be confirmed from lab analysis of samples
m)	Any other information material to understanding the results	As the Cabora Bassa Basin is still at a very early stage of evaluation with only limited geological data available, the calculation of net pay and determination of suitable cutoffs will be improved with further calibration of log data to core and fluid data, additional appraisal wells and future well tests.

**-Ends-**

**Approved for release by the Board**

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## Questions and enquiries

### Investors

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### About Invictus Energy Ltd (ASX: IVZ)

*Invictus Energy Ltd is an independent upstream oil and gas company listed on the Australian Securities Exchange (ASX: IVZ). The Company is headquartered in Perth, Australia and has offices in Harare, Zimbabwe. Invictus is opening one of the last untested large frontier rift basins in onshore Africa – the Cabora Bassa Basin – in northern Zimbabwe through a high impact exploration programme.*

*Invictus Energy is committed to operating in a safe, ethical and responsible manner, respecting the environment, our staff, contractors and the communities in which we work.*

**\*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. Prospective Resource assessments in this release were estimated using probabilistic methods in accordance with SPE-PRMS standards.*

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