



## Cambodia's maiden Apsara oil field comes onstream

***1<sup>st</sup> Apsara oil flows on 28 December 2020 from the A-01D well, one of five development wells in the Mini Phase 1A project. Production is expected to reach a peak rate of approximately 7,500 bopd once the drilling program is completed in mid-February 2021.***

**Phnom Penh**, 29 December 2020 – KrisEnergy Ltd. (“KrisEnergy” or the “Company”) is pleased to announce that Cambodia’s first oil field in the offshore Cambodia Block A concession, commenced production on 28 December 2020. The Apsara field began flowing from a single development well and the flow rate will take at least 24 hours to stabilise. Production will increase to plateau as four additional wells are progressively completed and commissioned.

The Apsara field lies over the Khmer Basin, an unproduced geological basin in Cambodian maritime waters in the Gulf of Thailand. Due to the unproven production performance of the basin, development of the Apsara area will be in several phases to mitigate risks and provide time for the collection and analysis of critical data to be applied in future phases.

The components of Mini Phase 1A are:

- A minimum facilities wellhead support structure capable of housing up to six development wells, (the “Mini-Platform”);
- Five initial development wells drilled by the *PV Drilling III* jack-up rig;
- The *Ingenium II* production barge for oil, gas and water processing;
- A storage vessel moored in field for storage of processed crude oil prior to offloading; and
- Support from an onshore shore base at Sihanoukville, 160 km from the field location.

KrisEnergy is the operator of Block A and holds a 95.0% working interest. The remaining 5.0% interest is held by Royal Government of Cambodia through the General Department of State Property and Non Tax Revenue (“GDSPNTR”) of the Ministry of Economy and Finance.

***Kelvin Tang, Chief Executive Officer and President of KrisEnergy’s Cambodian operations, said:***

“Apsara first oil marks a 10-year journey from when KrisEnergy initially became a partner in Block A. It has been three years since we signed with the Government the petroleum agreement to launch this project and there has been a steep learning curve for all involved in what is a momentous event for the Cambodian people and an important strategic and operational milestone for KrisEnergy.

In the context of the COVID-19 pandemic in 2020, progressing Apsara to first oil has been a tremendous achievement and a testament to the determination of the KrisEnergy team and the strong cooperation of our contractors and suppliers. The cross-border logistics of mobilising personnel and equipment to execute this development safely during this time of COVID-19 would not have been possible without the expeditious and engaged support of the Royal Government of Cambodia.



I convey my heartfelt appreciation to all relevant ministries and authorities for their assistance, cooperation and their dedication to get the Apsara oil development over the line. KrisEnergy is honoured to be a part of this historic occasion.

I also wish to express gratitude to Keppel for their belief and support through their investment in the Apsara development, the refurbishment of the production barge and providing logistical support. I also thank everyone who has worked directly on Apsara Mini Phase 1A for all your efforts in very trying circumstances.

Our task now is to complete drilling of the four remaining wells, stabilise production and monitor performance so that we may assess the best path forward to optimise Cambodia's oil production and the value of the asset in the years ahead."

More than 1.3 million man-hours have been recorded on the Apsara Mini Phase 1A development project to date with zero lost time injuries.

The Technical Sheet for the Mini Phase 1A Apsara oil development is appended to this press release.

*The Company highlights that the matters in this announcement could be relevant to the Scheme Creditors' (as defined in the Scheme of Arrangement dated 20 November 2020 ("Scheme")) when they consider the Scheme. In this regard, all Scheme Creditors should read this announcement carefully and together with the documents released on 20 and 27 November 2020 relating to the Scheme.*

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**About KrisEnergy:**

KrisEnergy Ltd. is an independent upstream company focused on the production and development of oil and gas resources in Southeast Asia. The Company holds working interests in two producing oil and/or gas licences, one in the Gulf of Thailand and one onshore Bangladesh. It also participates in nine concessions in various stages of the E&P lifecycle in Bangladesh, Cambodia, Indonesia, Thailand and Vietnam. KrisEnergy operates eight of the contract areas.

For further information, visit [www.krisenergy.com](http://www.krisenergy.com).



## Technical Sheet: Mini Phase 1A Apsara Oil Development

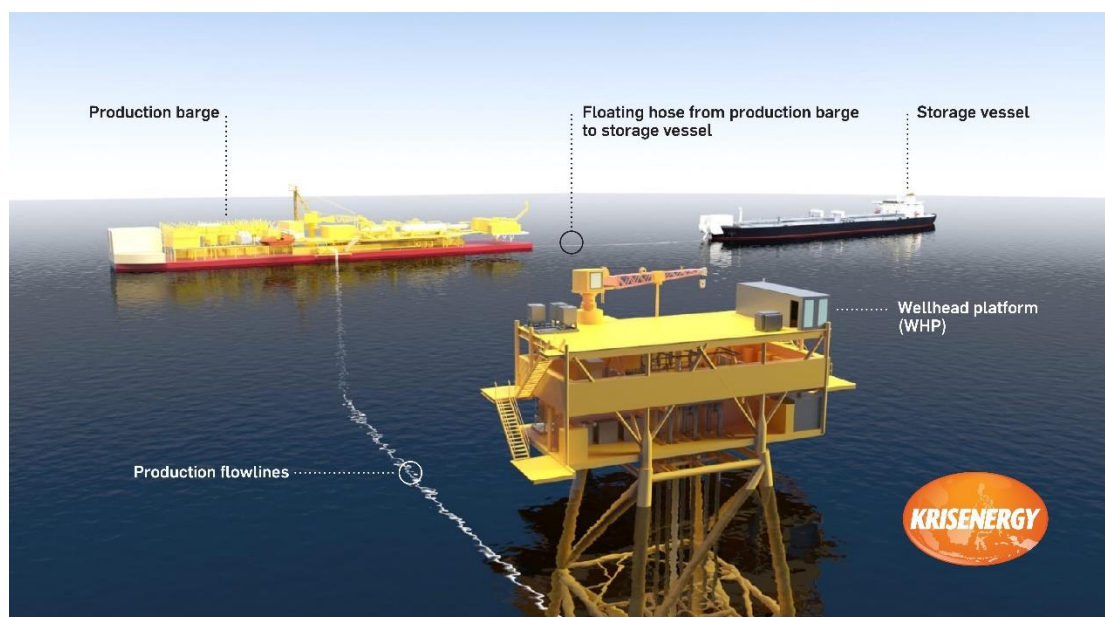
[Note to Editors: All photographs and graphics contained herein are available upon request. Technical details may be found in Appendix A]

Mini Phase 1A is an additional five-well mini platform to supplement Phase 1A<sup>1</sup> of the Production Permit dated 23 August 2017. The approved supplement to the Production Permit on 10 May 2019 incorporates the Mini Phase 1A development.

Mini Phase 1A simplifies the original Phase 1A development with a smaller platform and fewer initial development wells. Mini Phase 1A is an integral stage to Phase 1A. The initial five wells will provide critical, long-term well performance data to understand the reservoir drive mechanism, especially the strength of water drive. The well performance data will be used to modify and optimise additional development phases.

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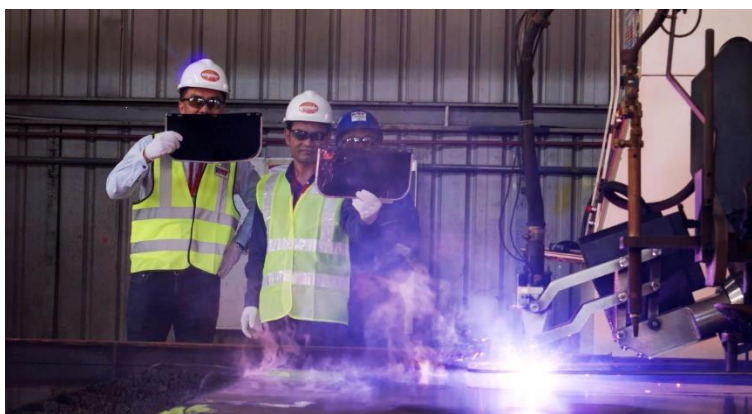


<sup>1</sup> Phase 1A as described in the Production Permit dated 23 August 2017 comprises a single unmanned minimum facility 24-slot wellhead platform, Platform A, producing to a moored production barge with produced oil sent for storage to a FSO vessel from which sales and lifting take place. Phase 1A envisaged the drilling of 20 development wells

Mini Phase 1A commenced oil production on 28 December 2020 from a single development well and is expected to reach a peak flow rate of 7,500 barrels of oil per day once all five wells have been drilled and commissioned.

### The Mini-Platform

The Mini-Platform houses minimal facilities, such as the local equipment room, pedestal crane, wellheads for each production well, production pipework and manifolds, from which produced fluids are transferred to the *Ingenium II* production barge. The Mini-Platform receives electrical power generated on the production barge.



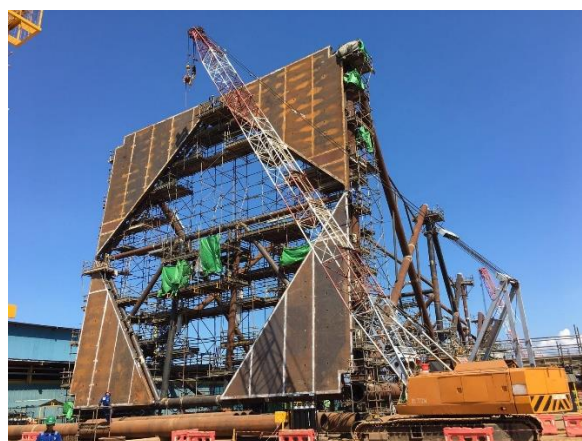
1<sup>st</sup> steel cutting on 6 December 2019 witnessed by His Excellency Meng Saktheara (right), Secretary of State, Ministry Mines and Energy, and Kelvin Tang (left), Chief Executive Officer and President of KrisEnergy's Cambodian operations.

First steel for the Mini-Platform was cut in December 2019 at the PT Profab<sup>2</sup> facility on Batam Island, Indonesia. Full construction of the topsides and jacket took nine months and in August 2020, the structures were completed and loaded onto a transport barge for towing to the Apsara oil field offshore Cambodia.

The Mini-Platform topsides consist of three decks with minimal facilities and dual export lines for produced well fluids.



Three decks stacked in the topsides structure of the Mini-Platform



Mud mats installed at the base of the jacket of the Mini-Platform

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<sup>2</sup> PT Profab is a subsidiary of National Oilwell Varco, Inc. ("NOV"), an American multinational corporation based in Houston, Texas that is a worldwide provider of facilities, equipment and components used in the upstream oil and gas industry



Load out of the topsides of the Apsara Mini-Platform



Load out of the jacket structure of the Apsara Mini-Platform



Towing of the topsides and jacket from Batam Island, Indonesia, to the Apsara oil field development offshore Cambodia.

The topsides and jacket reached the Apsara field location in Cambodia Block A on 31 August 2020.



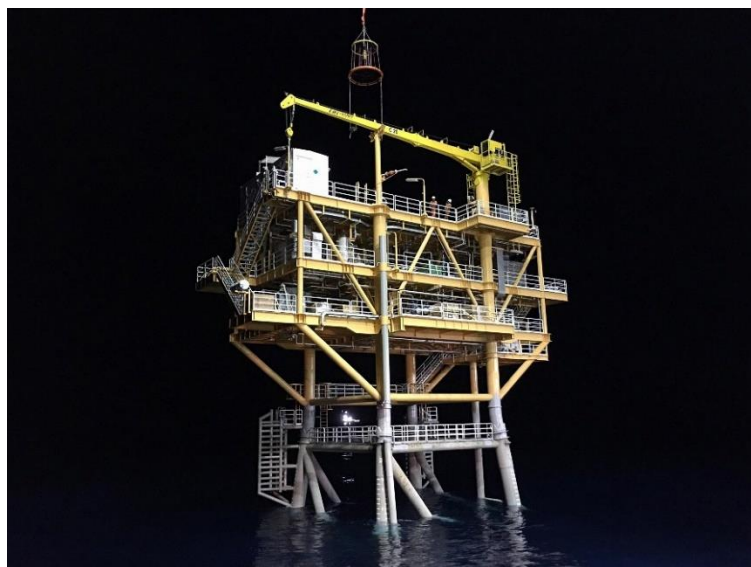
The jacket was lifted into vertical position before final positioning and a controlled descent to the seabed.



Steel piles were driven through the jacket legs for the foundation of the jacket structure. Each pile section is approximately 50 metres in length and three sections were welded together for a total pile length of 150 metres for each of the jacket's four legs.



The topsides were lifted onto the jacket on 6 September 2020 to complete the Apsara Mini-Platform.



## Ingenium II Production Barge

Keppel Shipyard Ltd commenced upgrade and refurbishment of the production barge, *Ingenium II*, in November 2018 in the Benoi yard in Singapore.

Following removal of existing facilities, the vessel was moved to the Gul drydock for steel works and coating and repainting of the hull.



The barge houses living quarters for up to 28 personnel, the central control room, three main power generation units and emergency diesel generation, electrical switch room and emergency switch room, separation and processing facilities, offloading system, flare system and stack, lifeboats and helideck.



Stern of the *Ingenium II* showing flare stack, crude offloading station and power gen sets

The oil, gas and water separation facilities are capable of processing up to 30,000 barrels of fluid per day.



Process pipework on deck of *Ingenium II* production barge



Gas flare scrubber



Mechanical completion and commissioning of the barge systems was completed in September 2020.



Observing health and safety restrictions due to the COVID-19 pandemic, a brief ribbon cutting ceremony was held onboard the vessel on 2 October 2020 in the presence of the His Excellency Mr. Sok Khoehn, Cambodia's Ambassador to Singapore.





On 6 October 2020, the completed and commissioned *Ingenium II* commenced tow from the Gul shipyard in Singapore to the Gulf of Thailand.

The vessel reached the Apsara field location in Cambodia Block A on 12 October 2020.



View from the flare stack of the deck of the *Ingenium II* production barge with the Mini-Platform 150 metres in the background.



Night view of the *Ingenium II* production barge on location at Cambodia's Apsara oil field development.

### ***PV Drilling III* jack-up rig**

KrisEnergy contracted the *PV Drilling III* jack-up rig for the drilling of five development wells for Mini Phase 1A.

The rig arrived at the Apsara field location on 21 October 2020. It has accommodation for up to 110 personnel and can operate in a maximum water depth of 400 feet (122 metres).



Drilling of the first Apsara development well commenced on 29 October 2020. Five development wells are planned to reach a total depth of between 8,100 feet true vertical depth subsea (“TVDSS”) and 9,100 feet TVDSS (10,500 feet to 13,500 feet measured depth) with a maximum well angle at 62 degrees. The five wells comprise more than 56,000 total footage drilling.

The drilling and completion program is expected to run until mid-February 2021.

### **Storage and offloading of Apsara crude oil**

The *MT Strovolos* arrived at the Apsara field location on 9 November 2020 following upgrading in Keppel Shipyard’s yard in Singapore. The vessel is an oil products tanker built in 1999 and sails under the flag of Bahamas. The vessel is under a four-month time charter with options to extend for up to two one-month periods.

## Appendix A

### *Ingenium II*

Refurbished and life class extension in 2020	
Class:	Bureau Veritas
Accommodation:	28
Length:	105 metres
Width:	21 metres
Weight:	4,000 dwt
Production capacity:	28,000 barrels of fluid per day
Maximum operating water depth:	Mooring designed of 72 metres water depth

### **Mini-Platform**

#### **Jacket**

Design:	Four pile jacket with battered face for jack-up drilling rig service
Year built:	2020
Height:	78 metres
Width:	21 metres
Weight:	625 tonnes
Maximum operating water depth:	72 metres

#### **Topsides**

Design:	Minimum facilities platform with three-level topside design for drilling deck, production deck and cellar deck
Year built:	2020
Height:	20 metres
Width & depth:	20 metres x 10 metres
Weight:	265 tonnes

### *PV Drilling II*

Design:	KEFLS MOD V B Class mobile drilling unit/Triangular
Year built:	2009
Accommodation:	110 personnel
Helideck:	Sikorsky S-61N, S92 and MI-17
Maximum drill depth:	30,000 feet
Maximum operating water depth:	400 feet

### *MT Strovolos*

Year built:	1999
Class:	Lloyds Register
Accommodation:	30 personnel
Length:	182 metres
Beam:	32 metres
Depth:	19 metres
Weight:	47,000 dwt
Storage capacity:	333,000 barrels of oil

**Flow lines**

Design:	Manuli 6-inch flow lines
Year fabricated:	2020
Length:	320 metres
Maximum capacity:	14,000 barrels of fluids per day