



Helios Energy Ltd

31 January 2019



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## Quarterly Activities Report

Quarter Ending 31 December 2018

Helios Energy Ltd (ASX Code: HE8) (**Helios** or **Company**) is pleased to report its activities for the quarter ended 31 December 2018.

### Oil Discovery in the Ojinaga Shale Formation

#### New Oil Discovery

Helios has successfully completed a one stage frack in the vertical Quinn Creek 141 well to test oil shows and log indications between 4,744 and 4,880 feet in the lower Ojinaga Formation.

The Company has previously reported to ASX that the Quinn Creek 141 well flowed 260 barrels of oil and 1,345 barrels of completion fluid in 168 hours (7 days). The oil produced is good quality, mature, 39 degrees API gravity light oil similar in composition to Eagle Ford oils. Gas was also produced at 456 mcf per day on a 34/64ths of one-inch choke. As the well cleaned up and the percentage of completion fluid recovery rose, a steadily increasing oil cut was observed. Total load recovery (until the lower interval was shut in) was approximately 35% (3,509 barrels of completion fluid out of 10,187 barrels of completion fluid injected).

The observations to date evidence a new oil discovery. The results from this one stage frack of the Ojinaga Formation between 4,744 and 4,880 feet are very encouraging. The following observations of the Ojinaga Formation in the Quinn Creek 141 have now been made by Helios:

- **Very Encouraging Oil and Gas Production from a Single Stage Frack**

The Quinn Creek 141 well flowed 260 barrels of oil and 1,345 barrels of fluid during the first 168 hours (7 days) of oil production. The Quinn Creek 141 well also produced gas at the rate of 456 mcf per day on a 34/64ths of one-inch choke from a single stage frack. As the well cleaned up and the percentage of completion fluid recovery rose, a steadily increasing oil cut was observed. Typical fracked horizontal wells in west Texas have lateral lengths of between 5,000 feet (25 fracked stages) and 10,000 feet (50 fracked stages) and with each stage having a typical horizontal length of 200 feet. The rate of oil and gas production from this single stage frack is very encouraging.

ASX Code: HE8

#### Directors

Hui Ye  
Non-Executive Chairman  
  
Richard He  
Managing Director  
  
Robert Bearden  
Non-Executive Director  
  
Nicholas Ong  
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- **High Quality Oil**

The oil produced is good quality, mature, Eagle Ford type, 39 degrees API gravity light oil.

- **Highly Naturally Fractured Lower Interval**

Formation micro-imaging (**FMI**) logs indicate that the lower interval of the Ojinaga Formation in the Quinn Creek 141 well is highly naturally fractured. Generally, high levels of natural fracturing are a positive for 30 day initial oil production (**30 Day IP**) and estimated ultimate recovery (**EUR**) and enable easier frack execution.

- **Thick Lower Bench**

The lower bench of the Ojinaga Formation is approximately 330 feet thick with uniform rock characteristics. It is predominantly black shale with micro laminations of siltstone and fine carbonates.

- **Easily Fracked Lower Bench**

This frack of the lower bench of the Ojinaga Formation in the Quinn Creek 141 well resulted in the successful injection of approximately 200,000 pounds of proppant (approximately 1,500 pounds of proppant per foot) and approximately 10,000 barrels of completion fluid (approximately 75 barrels of completion fluid per foot) and was deployed easily and without complications. At 1,500 pounds of proppant per foot this frack can be considered a “light frack”. Leading oil players in the Permian Basin in west Texas are commonly injecting 3,000 pounds of proppant per foot. Generally speaking, the greater the amount of proppant injected per foot (all other factors remaining equal) the higher the levels of 30 day initial oil production (**30 Day IP**) and estimated ultimate recovery (**EUR**) of oil.

- **Easily Mapped with 2D & 3D Seismic**

The lower bench of the Ojinaga Formation shows well on both 2D & 3D seismic and is easily mapped.

- **Porosity and Permeability in Lower Bench of the Ojinaga Shale Formation**

The lower bench of the Ojinaga Shale Formation has porosity predominately ranging between 4% to 12.5% and permeability up to 0.75  $\mu$ d (micro darcys). Analysis of the Quinn Creek 141 well and surrounding historical wells clearly shows that these porosity and permeability characteristics in Presidio County in the Ojinaga Shale Formation exceed the characteristics present in the Eagle Ford Shale in the Karnes Trough which is the premier sweet spot of the

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## Eagle Ford Shale play.

Underneath is a photo of the frack team and its equipment prior to the commencement of the frack in the Quinn Creek 141 well. The Quinn Mesa 113 well can be seen in the background.



Photo: Quinn Creek 141 Well Location in Presidio County, Texas, USA (Looking due east).

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### Stratigraphy of the Presidio Oil Project located in Presidio County, Texas, USA

Gulf Coast		Presidio Oil Project Subsurface
Series	Division or Group	
Gulf Cretaceous	Austin	San Carlos (Olmos) Austin Chalk age equivalent formation (called the Ojinaga)
	Eagle Ford	Upper Eagle Ford Shale
	Washita	Boquillas Buda Eagle Mt SS
Comanche Cretaceous	Fredericksburg	George Town Kiamichi Edwards
	Trinity	Glen Rose Hosston/Travis Peak

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## Middle and Upper Intervals in the Ojinaga Shale Formation

The middle bench of the Ojinaga Formation is located between 4,235 and 4,729 feet (approximately 494 feet) and the upper interval of the Ojinaga Formation is located between 3,400 and 4,235 feet (approximately 835 feet). However, the primary zone of interest in the upper interval lies between 3,400 and 3,605 feet (205 feet). Both intervals are characterized by oil and gas shows and natural fracturing and both are similar in geological characteristics to the interval which was the subject of the one stage frac between 4,744 and 4,880 feet.

Helios has tested the middle and upper benches of the Ojinaga Formation in the Quinn Creek 141 well. The middle bench was firstly perforated and then treated with acid. Oil was recovered to surface during the subsequent swabbing. The results of the testing of the middle bench of the Ojinaga Formation merit the conducting of a frac similar to that undertaken in the lower bench of the Ojinaga Formation. Helios has decided not to proceed with a frac at this time. Instead it has decided to focus its resources on its oil discovery in the lower bench of the Ojinaga Formation.

Following the testing of the middle bench of the Ojinaga Formation, Helios came up hole to the upper bench of the Ojinaga Formation. The upper bench was firstly perforated and then treated with acid. Oil and gas were recovered to surface during the subsequent swabbing. The results of the testing of the upper bench of the Ojinaga Formation also merit the conducting of a frac. Helios has decided not to proceed with a frac at this time. Instead it has decided instead to focus its resources on its oil discovery in the lower bench of the Ojinaga Formation.

## Seismic Program

Helios has to date shot, processed and interpreted a total of 17 miles of 2D seismic and 2 square miles of 3D seismic across the Presidio Oil Project. The Company's 3D seismic programme was acquired over 2 square miles covering the Quinn Creek 141 well and the Quinn Mesa 113 well and the area in between the 2 wells.

Recent geological surface fieldwork has supported the current seismic interpretation and confirmed that an extensive area of Ojinaga Shale Formation and Eagle Ford Shale Formation are present throughout Helios' leases.

The decision by Helios to focus its resources on its new oil discovery in the lower interval of the Ojinaga Formation has resulted in the decision to acquire additional 2D seismic. During the quarter, a further 15 miles of new 2D seismic was acquired. This new 2D seismic is now being processed and interpreted. During the quarter Helios also licensed 74 miles of 2D seismic acquired by a major oil company which covers acreage within the Ojinaga Shale Formation play area (200,000 acre play area) but which is currently unleased by Helios. Re-processing and interpretation of these 74 miles of licensed 2D seismic is nearing completion.

This 2D seismic program will be shot, processed and interpreted prior to the commencement of the drilling of the third well in the Presidio Oil Project. Helios expects the third well to spud in April 2019.



## Presidio Oil Project – Infrastructure

Access to the Quinn Mesa 113 and the Quinn Creek 141 well locations is provided by a 25 mile unsealed, formed road constructed by Helios that branches off the sealed US-90 highway which carries heavy truck and passenger vehicle traffic.

The Quinn Mesa 113 and the Quinn Creek 141 well locations have access to ample supplies of fresh water provided by local water wells drilled into shallow water aquifers.

The El Paso Oil Refinery located in El Paso, Texas has a processing capacity of 135,000 barrels of oil per day and is located 170 miles from the Presidio Oil Project. Crude oil is sold there by truck delivery.

The Presidio Oil Project is located 250 miles (or 5 hours by truck) from Midland, Texas which is the epicenter of the Permian Basin oil industry. All rigs, supplies and services required for the Presidio Oil Project are sourced from Midland, Texas. Oil production in the Permian Basin is approximately 3,800,000 bopd.

## Presidio Oil Project – 70%WI

Helios must drill 3 wells to earn a 70% WI in the initial 6,400 acres (4,480 net acres) which comprise the Presidio Oil Project and a 70% WI in each of these 3 wells. Helios to date has drilled 2 of those 3 wells, being the Quinn Creek 141 vertical well and the Quinn Mesa 113 vertical well. During the quarter, Helios was granted an extension until 30 June 2019 to drill the third well. Helios expects the third well to spud in April 2019.

## Leasing Program

The Company has been actively leasing in the Presidio Oil Project area. Excluding the initial 6,400 acres (4,480 net acres) of the Presidio Oil Project in which Helios will earn a 70% WI upon completing the drilling of 3 wells, the Company has been actively leasing additional acres in close proximity to these initial 6,400 acres and now has a 70% WI in a further 26,096 acres. In addition, Helios has a 70% WI in a further 34,280 acres which have been placed under call option to lease. In total therefore, Helios has under contract a 70% WI in a total of 66,776 acres (46,743 net acres).

## Corporate

During the quarter, Helios completed a capital raising of \$10,100,000 by way of the issue of 77,099,237 shares at a price of 13.1 cents per share (**Placement**). The Placement was made to sophisticated and professional investors under the provisions of section 708 of the Corporations Act 2001 (Cth). The Placement was conducted within the 15% placement capacity available to the Company in accordance with ASX Listing Rule 7.1.



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### Use of Placement Proceeds

The funds raised from the Placement will be used to continue the Company's leasing of additional acres of oil and gas mineral rights in Presidio County in close proximity to the Company's Presidio Oil Project; to complete its current 2D seismic program; to pay for the costs of drilling the third well into the Presidio Oil Project and for working capital.

For further information, please contact:

**Richard He**  
Managing Director

### Competent Person's Statement

*The information in this ASX announcement is based on information compiled or reviewed by Eldar Hasanov. Mr Hasanov is a qualified petroleum geologist with over 21 years of experience in the USA, Russia, Azerbaijan, Kazakhstan, the Middle East, Turkey, Indonesia and other international areas involving technical, operational and executive aspects of petroleum exploration and production, in both onshore and offshore environments. He has extensive experience in petroleum exploration, appraisal and reserve and resource estimation, as well as in identifying and evaluating new oil and gas ventures. Mr Hasanov has a Masters degree in Petroleum Geology. He is a member of the American Association of Petroleum Geologists.*