



## Quarterly Activities Report

### Quarter Ending 31 December 2019

Helios Energy Ltd (ASX Codes: HE8, HE8OA) (**Helios** or **Company**) is pleased to report its activities for the quarter ended 31 December 2019.

### Presidio 141#2 Well

#### 1,400 feet horizontal - Presidio 141#2 Well

During 2019, the 1,400 feet horizontal portion of the Presidio 141#2 well was drilled to the west towards the Quinn Creek 141 discovery well entirely within the zone of the best oil shows and highest natural fracturing that occurs within the 359 feet lower bench of the Ojinaga Formation present in the Presidio 141#2 well.

The 1,400 feet horizontal was drilled into rock which has uniform geological characteristics. The entire 1,400 feet is predominantly black shale with micro laminations of siltstone and fine carbonates and is highly naturally fractured. Continuous, good to excellent oil shows were observed throughout the entire 1,400 feet of horizontal drilling. Oil was present in fractures and micro-fractures and oil shows with fast fluorescence cut and bright bluish white residual ring were recorded throughout the entire 1,400 feet of horizontal drilling.

#### 7 Stages Perf and Plug Hydraulic Frack

The 1,400 feet horizontal portion of the Presidio 141#2 well was fracked across 7 stages. Each stage is approximately 200 feet in length. The frack successfully injected approximately 3,313,000 pounds of proppant and approximately 64,000 barrels of completion fluid. The frack successfully injected approximately 2,366 pounds of proppant per lateral foot.

#### Vertical Portion of the Presidio 141#2 Well

The Presidio 141#2 well is located 2,300 feet to the east of the existing Quinn Creek 141 discovery well. The total measured depth of the Presidio 141#2 well is 5,846 feet and this includes the 1,400 feet horizontal portion drilled into the primary target zone within the lower bench of the Ojinaga Formation. The well is located structurally updip of the existing Quinn Creek 141 discovery well.

ASX Code: HE8

#### Directors

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## Ojinaga Formation

Wireline logs and drilling cuttings indicate that the Ojinaga Formation is approximately 1,941 feet thick in the Presidio 141#2 well. Wireline logs and drilling cuttings indicate that the lower bench of the Ojinaga Formation is 359 feet thick and is highly naturally fractured. Good to excellent, continuous oil shows were observed throughout the entire drilling of this 359 feet thick vertical interval. Excellent and continuous oil shows along with a high density of natural fractures were observed whilst drilling throughout a 220 feet subset of this 359 feet thick lower bench of the Ojinaga Formation. It is within this 220 feet subset that the 1,400 feet horizontal portion of the well was drilled.

## Testing and Flowback of Presidio 141#2 Well

The frack of the Presidio 141#2 well injected approximately 3,313,000 pounds of proppant and approximately 64,000 barrels of completion fluid. The Presidio 141#2 well began naturally flowing back on 11 August 2019 post a 7 stage frack and continuously flowed back oil and gas until, as part of the testing program, Helios initiated a pressure build up test. Up until the commencement of the pressure test during the quarter, 36,305 barrels of completion fluid (57%) of the 64,000 barrels of completion fluid used in the frack had been recovered from the well. There is a further 27,695 barrels of completion fluid (43%) to be recovered.

Helios initiated a pressure build up test on the Presidio 141#2 well to gather data on wellbore conditions and reservoir properties such as formation permeability, pressure in the drainage area, reservoir boundaries and reservoir heterogeneities. The Presidio 141#2 well was shut-in for the pressure build up test with a pressure gauge inserted into the well.

The pressure test has recently ended and the pressure gauge has now been removed. As expected the Presidio 141#2 well then re-commenced naturally flowing oil and gas.

Once the well has ceased to flow naturally production tubing will be run to the toe of the lateral portion of the well and the well will then be placed on artificial lift. As the well is shallow, with normal formation pressure, the well will require artificial lift for commercial oil production. The Presidio 141#2 well is a shallow well as it has a total measured depth of only 5,846 feet and this includes the fracked 1,400 feet horizontal portion which was drilled into the primary target zone within the lower bench of the Ojinaga Formation.

## Oil and Gas Production

Prior to shut-in for the pressure test, the Presidio 141#2 well had produced 39,879 barrels of fluid which was comprised of 3,574 barrels of oil and 36,305 barrels of completion fluid. Prior to shut-in the Presidio 141#2 well has also produced 36,172 MCF of gas. All the oil produced has been sold by via truck. All the necessary production facilities have now been constructed and are 100% functional.

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
		Boquillas
Comanche Cretaceous	Washita	Buda
		Eagle Mt SS
		George Town
	Fredericksburg	Kiamichi
		Edwards
Trinity	Glen Rose	
		Hosston/Travis Peak

**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**

Based on previous petrophysical analysis, 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). The porosity of sidewall cores taken from the Presidio 141#2 well is 4% to 10% therefore confirming the previous petrophysical analysis. The permeability of the sidewall cores taken from the Presidio 141#2 well is significantly higher than the previous petrophysical analysis, up to 0.06 md (60  $\mu$ d). Analysis of the Quinn Creek 141 well and the Presidio 141#2 well as well as surrounding historical wells clearly shows that these porosity and permeability characteristics in Presidio County in the Ojinaga Shale Formation exceed the

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characteristics present in the Eagle Ford Shale in the Karnes Trough which is the premier sweet spot of the Eagle Ford Shale play.

### **Presidio Oil Project – Infrastructure**

Access to the 3 wells that constitute the Presidio Oil Project (Presidio 141#2, Quinn Creek 141 and Quinn Mesa 113) 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 3 oil wells 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 4,600,000 bopd.

### **88 Mile 2D Seismic Programme**

Helios has completed an 88 mile 2D seismic programme which has established a thick presence of Austin Chalk age equivalent Ojinaga Formation across Helios' entire acreage position of 85,685 gross acres. The thickness of the Ojinaga Formation ranges from 1,000 feet in the eastern section of Helios' acreage to 2,000 feet in the western section. In addition, this 88 mile 2D seismic programme has established a thick presence of Ojinaga Formation across the entire Ojinaga Shale Formation play area (which is approximately 200,000 acres in size).

### **Geological Surface Fieldwork**

Geological surface fieldwork supports the current seismic interpretation and corroborates that a thick presence of Ojinaga Formation exists across Helios' entire acreage position of 85,685 gross acres.

### **Gravity and Magnetic Data**

During December 2018 and January 2019, Helios acquired gravity and magnetic data over the entire Presidio Oil Project. Interpretation of that data was then compared with the entire seismic programme, along with data from the 3 new wells and the existing old well data. The data sets, when compared, evidence a high degree of 'matching' or 'fit'. The presence therefore of the Ojinaga Formation across the entire Ojinaga Shale Formation play area (which is approximately 200,000 acres in size) can be easily mapped.

### **Well Location Identification**

Helios will continue to integrate the geological and geophysical data with the aim of high grading multiple well locations that target the Ojinaga Formation, the Eagle Ford Formation as well as the older Cretaceous units being the Buda, Georgetown and Edwards limestone formations.

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### Presidio Oil Project – 70%WI in 3 Wells and 85,685 Gross Acres

Upon the completion of the third well in the Presidio Oil Project, being the Presidio 141#2 well, Helios will have a 70%WI in a total of 85,685 gross acres (59,980 net acres) and a 70%WI in the 3 wells drilled by Helios in the Presidio Oil Project, namely, Presidio 141#2, Quinn Creek 141 and Quinn Mesa 113. During the quarter, Helios purchased a further 733 gross acres.

### Share Placement

During the quarter Helios conducted a capital raising of \$5,212,800 by way of the issue of 27,435,789 shares at a price of 19 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. The funds raised from the Placement are being used for working capital purposes.

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.*