



## Quarterly Activities Report

### Quarter Ending 31 December 2020

Helios Energy Ltd (ASX Codes: HE8, HE8OA) (**Helios** or **Company**) is pleased to report its activities for the quarter ended 31 December 2020.

### 50% Increase in Play Area – Now 300,000 Acres in Total

Helios has completed 88 miles of 2D seismic 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, these 88 miles of 2D seismic has established a thick presence of Ojinaga Formation across the entire Ojinaga Shale Formation play area which has now increased by 50% from approximately 200,000 acres to approximately 300,000 acres in size.

### Testing of Presidio 141#2 Well

Pressure build up testing of the Presidio 141#2 well continued during the quarter. After the pressure build up testing is fully completed, the Presidio 141#2 well will be returned to oil and gas production by natural unassisted flow. 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 but only after the well has ceased to flow naturally. 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 with a total measured depth of 5,846 feet including the fracked 1,400 feet horizontal portion which was drilled into the primary target zone within the lower bench of the Ojinaga Formation.

### Reduction in Leasing Activities Due to Continuing Low Oil Price

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.

ASX Code: HE8

#### Directors

Hui Ye  
Non-Executive Chairman

Richard He  
Managing Director

Robert Bearden  
Non-Executive Director

Nicholas Ong  
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Even though the play area has increased to 300,000 gross acres as a result of the Company's recent activities, due to the continuing low WTI oil price, prudence continues to dictate a material reduction in cash expenditure being deployed upon the purchase of additional oil and gas leases for the Presidio Oil Project until the WTI oil price improves.

### **Gravity and Magnetic Data**

Helios has 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 can be easily mapped. This gravity and magnetic data analysis have played an important part in increasing the Presidio Oil Project play area to 300,000 acres.

### **First Quarter 2021 Oil Well Deferred Due to Continuing Low Oil Price**

The continuing low WTI oil price during the quarter also means that plans for an additional oil well in the Presidio Oil Project in the first quarter of the 2021 calendar year have been postponed. Prudence dictates a material reduction in cash expenditure budgeted for any additional oil wells whilst this low WTI oil price persists, even though the play area has increased to 300,000 gross acres as a result of the Company's recent work.

### **Effect of Covid-19 Upon Operations**

Like all other oil and gas companies operating in Texas, Helios has complied with all the local ordinances which have been declared in Texas to minimize the negatives health effects and outcomes of the Covid-19 pandemic.

### **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.

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.

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.

**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

**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.

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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 4,300,000 bopd.

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

#### **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.

#### **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.

#### **Leases Acquired or Disposed of During the Quarter**

No additional oil and gas leases were acquired or disposed of during the quarter. All 85,685 gross acres the subject of the Presidio Oil Project are located in the south-west portion of Presidio County, Texas and are the subject of oil and gas lease agreements entered into with private oil and gas mineral rights owners.

#### **Related Party Payments – Item 6 of Appendix 5B**

Payments to related parties listed in Item 6 of the Appendix 5B are to Executive and Non-Executive Directors for personal exertion salary and directors fees.

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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.*

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