



## Quarterly Activities Report

### Quarter Ending 30 September 2021

Helios Energy Ltd (ASX Codes: HE8, HE8OA) (**Helios** or **Company**) is pleased to report its activities for the quarter ended 30 September 2021.

### New Drilling – 4th Well Location – Presidio Oil Project

During 2021, Helios integrated all its geological and geophysical data with the aim of high grading multiple well locations that target the Ojinaga Formation (primary target) but which also include the Eagle Ford Formation (secondary target) as well as the older Cretaceous units being the Buda, Georgetown and Edwards limestone formations.

During the quarter, Helios determined the exact location of its 4<sup>th</sup> well in the Presidio Oil Project and advised the market of its plan to spud and complete a 4<sup>th</sup> well in its Presidio Oil Project located in Presidio County, Texas, USA by 31 December 2021. It is now planned that completion of this 4<sup>th</sup> well will occur in the first quarter of 2022.

### 4<sup>th</sup> Well – 1,200 Acres – Interpreted Buda Trap – Interpretation from 2D Seismic

As detailed, the previously completed 88 miles of 2D seismic has established a thick presence of Austin Chalk age equivalent Ojinaga Formation across Helios' entire acreage position of 85,685 gross acres. Interpretation of a subset of that 2D seismic has resulted in Helios forming the view that a 1,200 acre enclosure or trap at the Buda Formation level may be present at a location south-west of Helios' third well, Presidio 141#2. The interpreted trap is a 4-way closure at the Buda interval over 1,200 acres. This is the chosen location of Helios' 4<sup>th</sup> well in the Presidio Oil Project. The opportunity to drill into the Ojinaga Shale Formation was present in all the proposed drilling location choices.

At this location, the Ojinaga Shale Formation is at a depth of 7,000 feet. The 4<sup>th</sup> well will be drilled to a total depth (**TD**) of 9,000 feet. The location chosen for the 4<sup>th</sup> well permits a very cost-effective penetration into an interpreted Buda trap as well as representing a prime location and depth for the Ojinaga Shale Formation. The Buda is a conventional oil play where the Eagle Ford Shale sources the porous and naturally fractured limestone reservoir. The older Cretaceous units being the Buda, Georgetown and Edwards limestone formations will be found between 8,200 feet to 9,000

ASX Code: HE8

#### Directors

Hui Ye  
Non-Executive Chairman

Richard He  
Managing Director

Robert Bearden  
Non-Executive Director

Nicholas Ong  
Non-Executive Director

John Palermo  
Company Secretary

#### Contact Details

##### Australian Office

Level 3, 18 Richardson Street  
West Perth WA 6005 Australia  
PO Box 1485 West Perth  
WA Australia 6872  
Tel +61 1300 291 195  
Fax +61 8 6298 6191

##### USA Office

3 Riverway, 17<sup>th</sup> Floor  
Suite 1750, Houston  
Texas USA 77056  
Tel +1 713 333 3613  
Fax +1 713 583 0965

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

For personal use only



feet (TD) in this 4<sup>th</sup> well.

### **New 2D Seismic – 11 miles**

Helios has commenced a seismic work program which involves shooting an additional 11 miles of 2D seismic over the chosen location for the 4<sup>th</sup> well into the Presidio Oil Project. This new 2D seismic (2 lines of approximately 5.5 miles each) will augment the existing old 2D seismic which covers the well location.

### **Eagle Ford Shale Formation**

The tested oil analysis shows that the oil in the Ojinaga Shale Formation is sourced from the Eagle Ford shale. The Eagle Ford shale has an average thickness across the Presidio Oil Project of 460 feet. When the 4<sup>th</sup> well is drilled, the well will pass through the Eagle Ford Shale on the way to the Buda Formation.

### **Ojinaga Formation Play Area – 300,000 Acres**

Helios has previously completed an analysis of 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 Formation play area which is approximately 300,000 acres in size.

### **Gravity and Magnetic Data**

Helios has acquired gravity and magnetic data over the entire Presidio Oil Project. Interpretation of that data has been 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 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.

### **Ojinaga Formation - 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#1 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

For personal use only



Eagle Ford Shale play.

**Presidio 141#2 Well**

Pressure build up testing of the Presidio 141#2 well will cease very shortly. 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.

**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#1 and Quinn

For personal use only



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 4,800,000 bopd.

#### **70% in 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#1 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.

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 Mr Neville Henry. Mr Henry is a qualified petroleum geologist with over 47 years of Australian, USA and other international technical, operational and executive petroleum experience in both onshore and offshore environments. He has extensive experience of petroleum exploration, appraisal, strategy development and reserve/resource estimation, as well as new oil and gas ventures identification and evaluation. Mr Henry has a BA (Honours) in geology from Macquarie University.*

For personal use only