



Quarterly Activities Report

Quarter Ending 30 September 2019

Helios Energy Ltd (ASX Codes: HE8, HE8OA) (**Helios** or **Company**) is pleased to report its activities for the quarter ended 30 September 2019.

Presidio 141#2 Well

Frack and Flowback of Presidio 141#2 Well

During the quarter the 1,400 feet horizontal portion of the Presidio 141#2 well was fracked and flowback of the Presidio 141#2 well commenced.

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.

Presidio 141#2 Well

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.

ASX Code: HE8

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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.

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.

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 has now been continuously flowing back unassisted for 77 days and during that period the Presidio 141#2 well has produced 37,687 barrels of fluid which is comprised of 3,424 barrels of oil and 34,263 barrels of completion fluid. The well has a further 29,737 barrels of completion fluid to recover. The Presidio 141#2 well has also produced 32,204 MCF of gas. All the oil produced has been sold by via truck.

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. As the well is shallow, with normal formation pressure, the well will require a pump for commercial oil production. Flow rate tends to naturally slow as the supercharged pressure from fracking is bled off. After the completion fluid is recovered from the Presidio 141#2 well, primarily oil should be entering the well bore.

Helios is currently preparing to transit the well to production. Production tubing has been installed and the next step is for the well to be placed on pump. This will occur once the completion fluid has been recovered, the natural flow rate has sufficiently slowed and the casing pressure has sufficiently declined.

The placement of a variable rate pump on the well will provide the necessary artificial lift (due to the normal pressure environment) and enable Helios to determine the optimal flow rate from the lower Ojinaga Formation which is the connected to the well bore by the induced fractures.

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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
		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 μ 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 μ 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 4,000,000 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 84,952 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 84,952 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 84,952 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 84,952 gross acres (59,466 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.

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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