

22 February 2021



# HELIOS ENERGY LIMITED

PRESIDIO OIL PROJECT  
Presidio County, Texas, USA



ASX Code: HE8

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# CAPITAL STRUCTURE



Shares	1,547,968,919
Listed Options <sup>A</sup>	927,340,332
Performance Rights <sup>B</sup>	240,000,000
Cash <small>(at 31 December 2020)</small>	\$1,611,000
Market Cap at 17 cents	\$263,154,716
Gross Acres of Leases <sup>C</sup>	85,685 acres

*Note A: Each listed option has an exercise price of 2 cents and expires on 31 December 2021.*

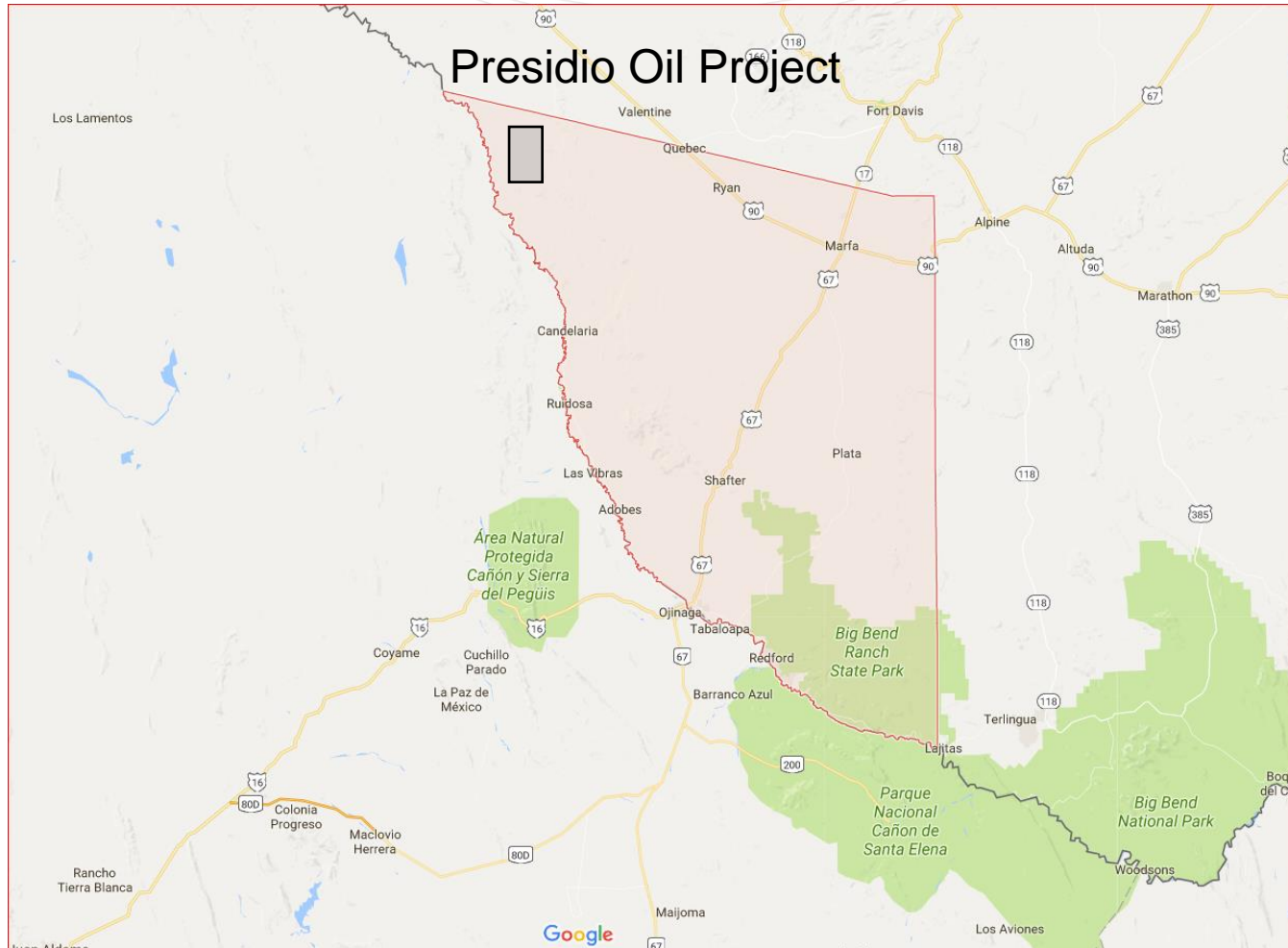
*Note B: Each performance right has an exercise price of only \$0.0001 but cannot be exercised unless the performance milestone is successfully reached on or before 31 December 2021. The performance milestone is average daily production (net to Helios) (pre-royalty) of 1,200 barrels of oil equivalent (boe) per day (as determined by an independent petroleum reservoir engineer) from the Presidio Oil Project.*

*Note C: Gross Acres for the Presidio Oil Project.*

# LOCATION – TEXAS, USA

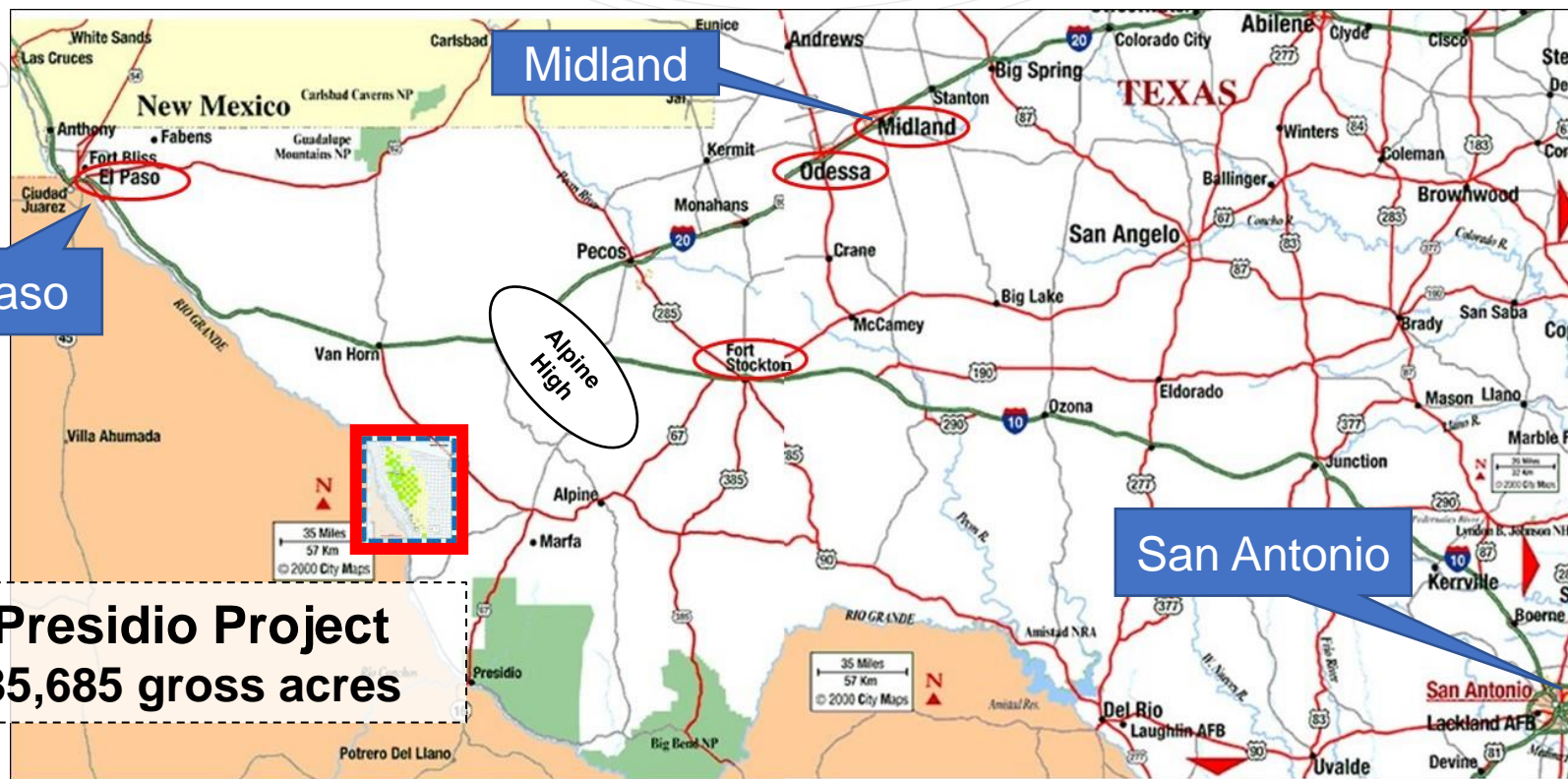


# PRESIDIO COUNTY, TEXAS, USA





# PERMIAN BASIN – SUPPLY SOURCE



El Paso	3 hrs
Fort Stockton	2 hrs
Midland/Odessa	4 hrs

Houston	9 hrs
San Antonio	6 hrs
Abilene	5 hrs

# STRATIGRAPHY



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

- Primary Objective Sandstone Reservoir
- Primary Objective Oil Shale Play
- Primary Objective Oil Shale Play
- Primary Objective Oil Shale Play
- Primary Objective Carbonate Reservoir
- Primary Objective Carbonate Reservoir
- Primary Objective Carbonate Reservoir

# OIL DISCOVERY - OJINAGA



## Oil Discovery - Presidio Oil Project (onshore Texas, USA)

- Helios is an oil and gas company solely focussed on onshore Texas, USA
- Drilled 3 wells: Quinn Creek 141#1, Presidio 141#2 and Quinn Mesa 113
- New Oil Discovery in the Ojinaga Shale Formation
- In June 2018, Helios successfully completed a one stage frack in the Quinn Creek 141#1 well to test the lower Ojinaga Formation (at 4,744 feet depth). Well flowed 260 barrels of oil and 1,345 barrels of completion fluid in 168 hours. Gas was also produced at 456 mcf per day on a 34/64ths of one inch choke. Very encouraging oil and gas production from a single stage vertical frack
- The oil produced is high quality, mature, 39 degrees API gravity light oil similar in composition to Eagle Ford Shale oils



# OJINAGA FORMATION



## Oil Discovery - Ojinaga Formation - Quinn Creek 141#1

- Logs indicate that the lower bench of the Ojinaga Formation in the Quinn Creek 141#1 well is highly naturally fractured
- The lower bench of the Ojinaga Formation in the Quinn Creek 141#1 well is approximately 330 feet thick with uniform rock characteristics. It is predominantly black shale with micro laminations of siltstone and fine carbonates
- The lower bench of the Ojinaga Formation shows well on both 2D & 3D seismic and is easily mapped
- 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
- A fracked horizontal well of 7,000 feet in length (35 stages) would cost US\$7m
- Helios has no debt

# THIRD WELL – PRESIDIO 141#2



## Third Well – Presidio 141#2 – 1,400 Feet Horizontal Frack

- Presidio 141#2 is the third well in the Presidio Oil Project. The 1,400 feet horizontal portion of the Presidio 141#2 well was drilled to the west towards the Quinn Creek 141#1 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#1 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#1 discovery well.

# PRESIDIO 141#2 WELL - FRACK JOB





# PRESIDIO 141#2 WELL – TESTING



## Presidio141#2 – Testing

- Pressure build up testing of the Presidio 141#2 well continued during the past 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.



# POROSITY AND PERMEABILITY



## Porosity and Permeability

- Based on early 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 Eagle Ford Shale play.

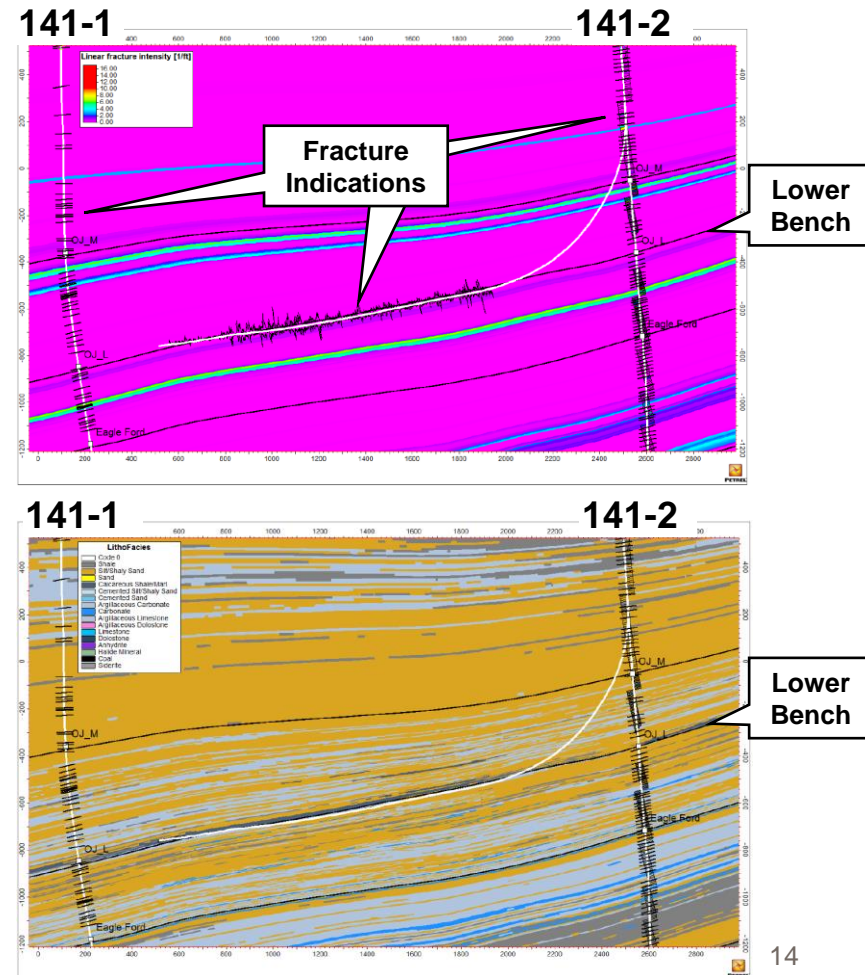


# NEW OIL DISCOVERY



## Ojinaga Formation - Quinn Creek 141#1 and Presidio 141#2 Wells

- The lower bench of the Ojinaga Formation is predominantly black shale with micro laminations of siltstone and fine carbonates. It is more than 300 feet thick in both wells
- Excellent and continuous oil shows were shown throughout the entire drilling of the lower bench of the Ojinaga Formation in both wells
- High density of natural fractures and lithofacies are shown consistently from the FMI and Sonic logs taken from both wells

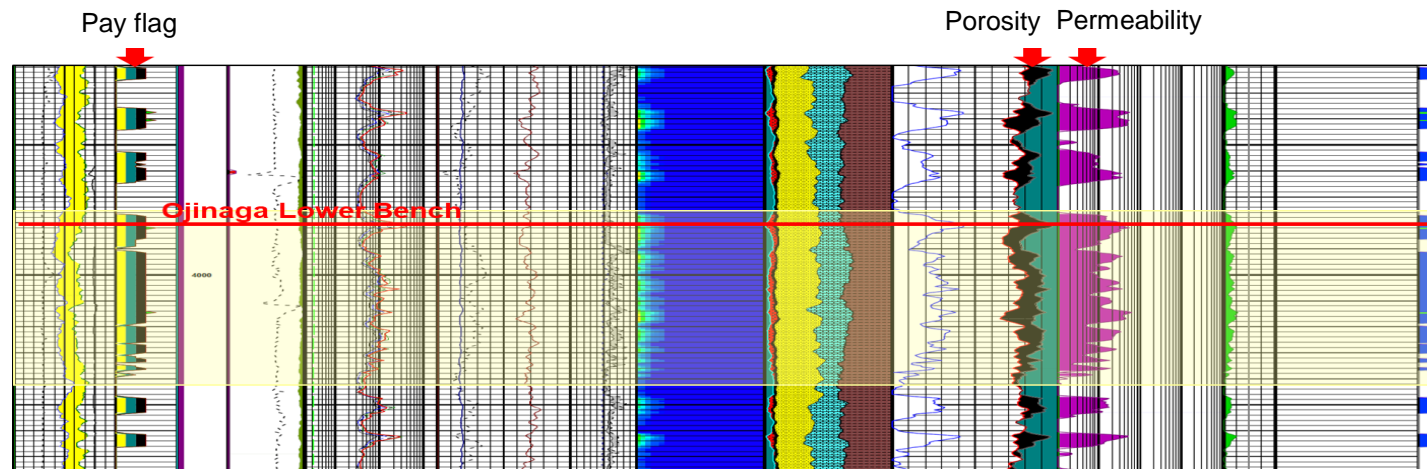


# NEW OIL DISCOVERY



## Ojinaga Formation - Quinn Creek 141#1 and Presidio 141#2 Wells

- Petrophysical analysis indicates a continuous pay zone in the lower bench of the Ojinaga Formation with 4% to 12.5% porosity and up to 0.06 md (millidarcies) or 60  $\mu$ d (microdarcies) of permeability, which greatly exceeds the pre-frack permeability of wells producing from the Eagle Ford Shale in the Karnes Trough in Texas which is the premier sweet spot of the Eagle Ford Shale play in Texas, USA
- XRD results of the sidewall cores taken from the Presidio 141#2 well shows that the lower bench of the Ojinaga Formation has a high percentage of non-clay content. This increases the rock brittleness and makes the rock easily frackable





## 90 Miles of Seismic

- Prior to December 2018, Helios 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 3D seismic was acquired over 2 square miles which covers all 3 well locations.
- Commencing in December 2018, a further 14 miles of new 2D seismic was acquired in locations to the south of the 3 wells. In addition, Helios licensed 74 miles of 2D seismic acquired by a major oil company in the 1980s which covers acreage within the Ojinaga Shale Formation play area (now an area of approximately 300,000 acres).
- This 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. 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 to approximately 300,000 acres in size.

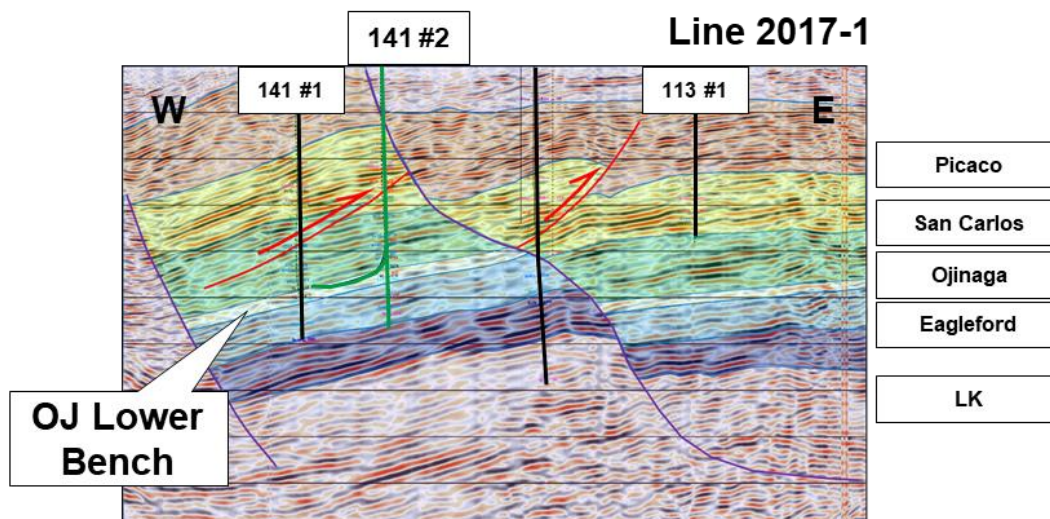
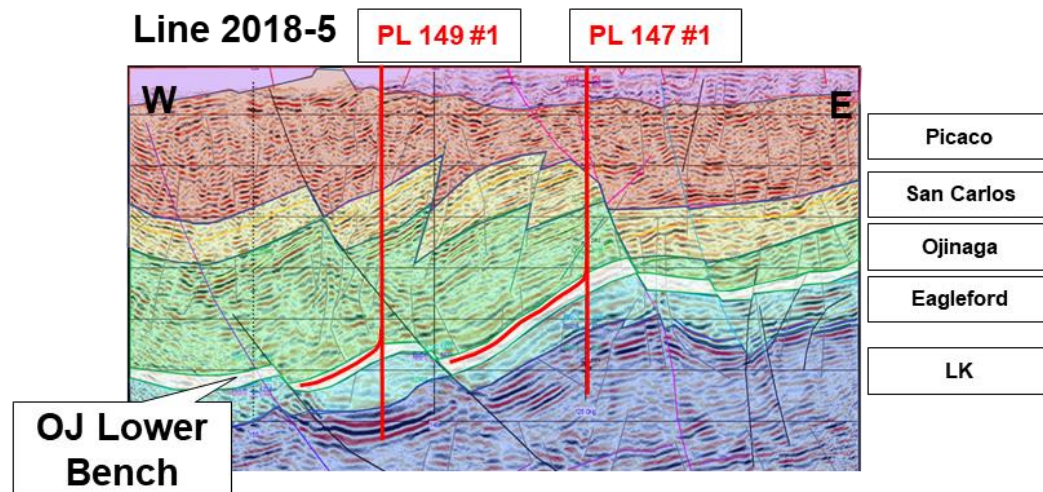


# SEISMIC – MAPPING



## Ojinaga Formation – Geophysics

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



# LARGE LEASE HOLDING



## 85,685 Gross Acres

- Ojinaga Formation play area is now very large: 300,000 acres in size
- 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
- The lower bench of the Ojinaga Formation shows well on both 2D & 3D seismic and is easily mapped and is between 1,000 feet in the eastern section of Helios' acreage to 2,000 feet in the western section. It is present therefore across all 85,685 gross acres in which Helios has an interest
- Helios will acquire more leases in the Presidio Oil Project area in the near future



# GRAVITY AND MAGNETIC DATA



## 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 of 300,000 acres 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.



# QUINN CREEK 141#1 WELL – FRACK JOB





# QUINN CREEK 141#1 WELL



Valley floor runs north-south  
Picture taken looking north-east

# INFRASTRUCTURE



## Excellent Infrastructure - West Texas, USA

- Access to the 3 wells 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 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 4,300,000 bopd

# EXPERIENCED OIL PEOPLE



Helios has an office in Houston, Texas and a strong and experienced team of oil people with extensive and successful experience in the oil business in Texas, USA.

## Richard He

- Richard He is the Managing Director of Helios. He is based at the Company's Houston office.
- Richard He is an entrepreneur and venture capitalist in natural resources with a particular focus on oil and gas.
- Mr He was an investment banker and venture capitalist based in Shanghai and Beijing for more than 12 years with a capital markets practice and investment focus on Chinese equities listed on the major Chinese stock exchanges.
- Over the past 14 years, he has been based in Houston, Texas and has invested in and managed exploration and production shale plays in Texas, USA.
- Mr He is noted for his successful development of the Halliday Oil Field in the Woodbine tight sands play located in East Texas in which he was a joint venture participant. After drilling 14 successful fracked horizontal wells, the joint venture participants sold the Halliday Oil Field to Halcon Resources for US\$520m



# EXPERIENCED OIL PEOPLE



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## Neville Henry

- Born in Sydney.
- Geologist based in Houston, Texas for 31 years
- 48 years in the worldwide oil and gas industry
- He has directly led oil exploration teams responsible for oil and gas discoveries across 6 basins and over 4 countries for total discovered reserves of more than 4 billion barrels of oil
- Worked for Anadarko for 12 years most notably as International Exploration Manager and Worldwide Business Development Manager. During this 12 year period was part of the core team that built this non-US oil production business from 25,000 bopd to 400,000 bopd
- Neville has extensive operational experience in Texas and the USA in general
- Proven oil finder
- Along with Peter Allchurch introduced the Presidio Oil Project to Helios

# EXPERIENCED OIL PEOPLE



Helios has a strong and experienced team of oil people with extensive and successful experience in the oil business in Texas, USA.

## Robert Bearden

- Non-executive director of Helios
- 25 years of senior management experience in oil and gas exploration, development and production throughout the Gulf of Mexico, Kazakhstan, Indonesia, China, Iraq and West Africa. Previously the President and CEO of the ASX listed public company Sino Gas & Energy Holdings (ASX Code: SEH) which under his leadership reached a market capitalization of \$375m.
- Prior to that role, he was the Operations Director for Addax (a Sinopec subsidiary) and the Production Excellence Manager for the Americas for Hess Corporation.
- Robert Bearden began his oil and gas career with Chevron where he worked for 27 years, and held positions including Managing Director Mid-Africa, Sr. Vice President EuroAsia, General Manager Tengizchevroil, and Operations Manager for the Gulf of Mexico.
- Robert Bearden has a Bachelor of Engineering degree from Texas A&M and a Master of Petroleum Engineering degree from Tulane University. He also holds a MBA from Purdue University and an International Masters in Management from ESCAP-EAP, Paris. Robert Bearden lives in Texas, USA and he is a petroleum engineer by profession.

# EXPERIENCED OIL PEOPLE



Helios has a strong and experienced team of oil people with extensive and successful experience in the oil business in Texas, USA.

## Hui Ye

- Chairman of Helios
- Largest shareholder of Helios (473,998,197 shares)(30.6% shareholding)
- Chairman and President of Beijing Chunhui Yuan Group which is a large private company with extensive interests in real estate, hotels, natural resources, education and entertainment.
- Hui Ye is a graduate of Shenzhen University in 1988.



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