



15<sup>th</sup> October 2021

ASX RELEASE

## **EP127 Helium & Hydrogen Operations Commence**

Global Oil & Gas Limited ("Global" or "the Company") is pleased to advise shareholders that the planned exploration program over its 100% owned Exploration Permit 127 in the Northern Territory has commenced with mobilisation to site currently underway.

All field equipment was received and tested last week and is now been deployed along with the exploration team.

The on-site field camp will be established and the geo-chemical survey set to commence on Tuesday 19<sup>th</sup> of October.

The geo-chemical survey is expected to take 1.5-2 weeks with analysis data expected to be collaborated and verified shortly afterwards, subject to any unexpected COVID travel restrictions.

Helium testing will be carried out with a Portable Selective Ion Pump Detection Unit to detect concentrations of naturally occurring He (Helium). Hydrogen testing will be carried out using a portable gas monitor fitted with a Hydrogen detection cell. The field samples will focus on a number of target locations from the recently completed multispectral remote spectroscopy study.

The Company has also recently dispatched the Notice of Meeting to approve the proposed Sasanof transaction with the meeting scheduled for Friday 5 November 2021. The Company is also finalising the various other formal documentation with Western Gas (519 P) Pty Ltd, however is highly encouraged by progress to date as it prepares to drill the multi Tcf Sasanof-1 well early 2022. The Company will provide a more detailed update on well and drill planning in the coming weeks.

To strengthen its management team, the Company has engaged Mr Kris Martinick in the role of Operations Manager. Mr Martinick is a well experienced Oil & Gas executive, previously working in a senior project management roles for Oilsearch Limited (ASX: OSH).

As part of his engagement Mr Martinick will be issued 1,000,000 performance rights vesting (into ordinary shares on a 1:1 basis) on the GLV share price trading at a VWAP of \$0.048 over 20 trading days. The performance rights will be issued under the Company's existing Listing Rule 7.1 capacity.

Global Oil & Gas Director, Mr Patric Glovac, commented "I'm really pleased and excited that our exploration plans for EP127 are now underway, with the geo-chemical survey targeting elevated helium and hydrogen concentrations, this program really has the potential to unlock further value for shareholders. This is a very exciting time for GLV



especially with the recently announced multi Tcf Sasanof transaction, which the Company is earning a 25% interest. Attracting someone like Mr Kris Martinick to join as Operations Manager to oversee EP127, Sasanof and also our interest in Goshawk Energy will be a great advantage to the Company, being able draw on his knowledge and expertise, especially given his strong experience in and around the Canning Basin WA.”

Authorised by the Board of Global Oil & Gas Limited

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## Helium & Hydrogen Remote Spectroscopy Study

The multispectral remote spectroscopy study was undertaken by remote sensing specialists Dirt Exploration. The study provides heat map data for Helium, Hydrogen, and Methane indicators across the licence area. Mt Kitty, a proximate known Helium source, was used to reference the spectroscopy data. The survey also displays a correlation between the indicators and known subsurface faults and their orientations. As faults are known migration pathways for the target gasses from underlying traps to the surface.

Figure 1 below shows the helium and hydrogen reflectance data with distinct areas of high reflectance (identified in blue). A number of target locations have been identified and will be tested in the field using portable helium gas detection on both soil gas samples, and gas present above faults.

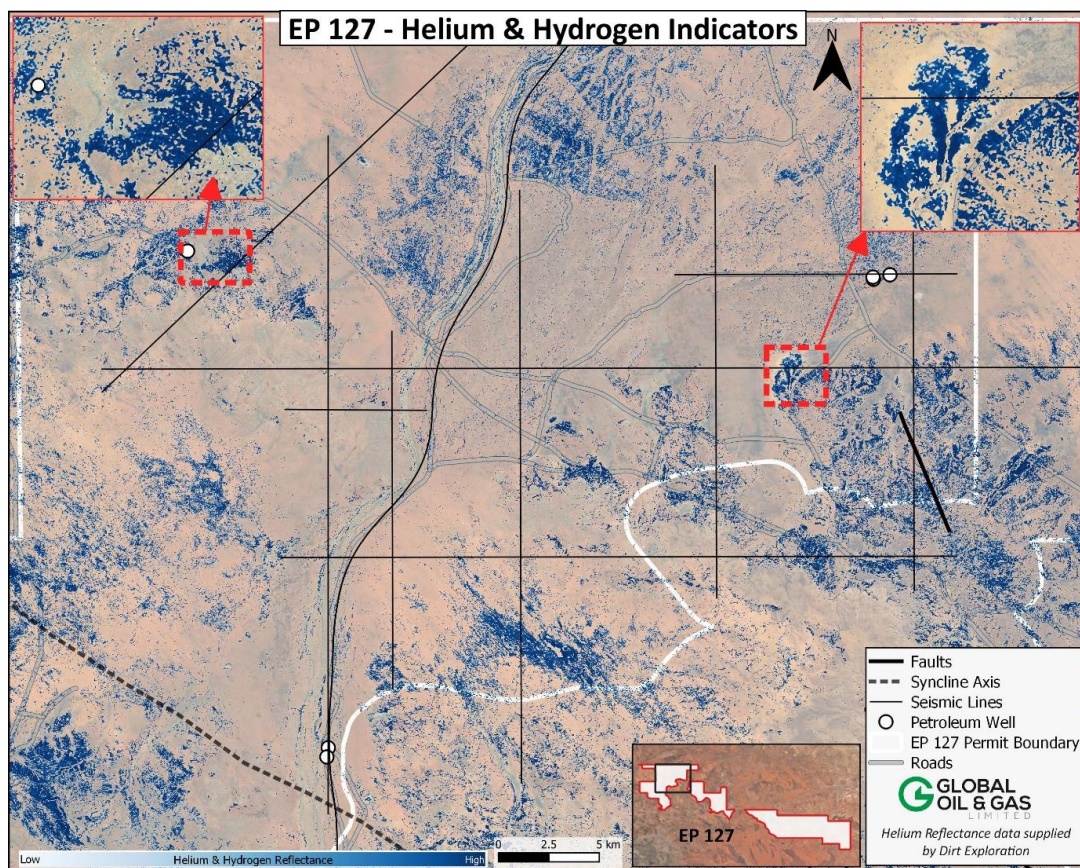


Figure 1 – Helium & Hydrogen Relectance Data

## EP127 Helium Potential

The Company has previously reviewed the potential for the permit to contain the required elements to yield significant helium accumulations and is encouraged that the permit contains the key elements for the accumulation of helium.

Most significantly the area covered by EP127 shares these elements with the Amadeus Basin immediately south where high levels of helium have been tested. The geologic elements map below shows the southern Georgina Basin and the adjacent Amadeus Basin separated by the Arunta Region.

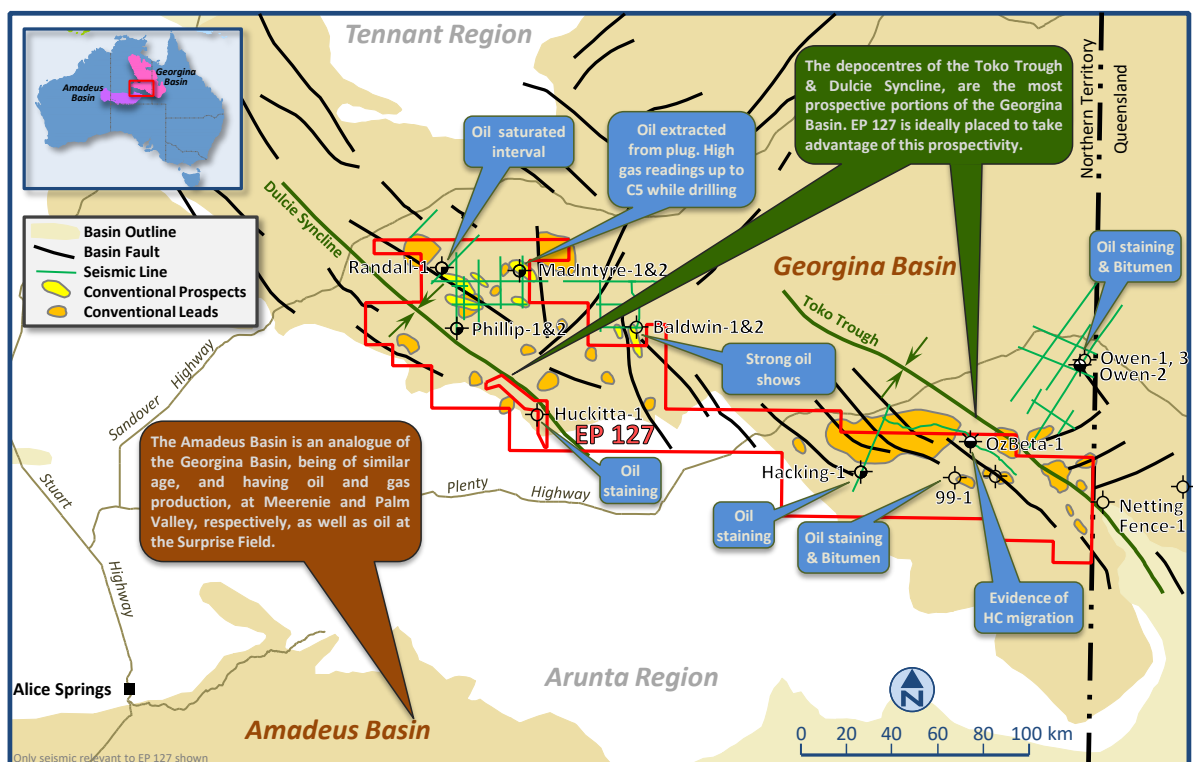


Figure 2: EP127 in relation to the Amadeus Basin

To date well penetrations and oil and gas shows in the southern Georgina Basin (EP127) have mostly been confined to the Cambrian Petroleum System. No analysis of natural gas for helium has been undertaken to determine if a Cambrian Helium System exists. Like the petroleum and helium system in the Amadeus basin, the Cambrian in the southern Georgina Basin contains evaporite and shale members with the capacity to seal helium accumulations.

The southern Georgina Basin (EP127) has a mostly untested Neoproterozoic section, equivalent to the Neoproterozoic petroleum and helium systems seen in the Amadeus Basin.





In the Amadeus basin helium rich gas (He~6%) was discovered in the Heavitree quartzite which overlies fractured Proterozoic basement. The Gillen evaporites and shales that overly the Heavitree quartzite provide the top-seal. The concentrations seen in the Amadeus Basin are some of the highest concentrations of naturally occurring helium identified in the world to date. The uniquely high concentration of helium in some wells in the Amadeus Basin suggests that helium extraction independent of natural gas extraction may be feasible (Waltenberg, 2015). Similar units are proposed in the southern Georgina basin since the Georgina and Amadeus basins were part of the same Centralian Superbasin from Neoproterozoic to Early Cambrian.

In addition to the presumed basement helium source in the Amadeus basin, the southern Georgina basin contains a number of 'hot shales' in the Cambrian, where the radioactive decay of uranium and thorium in the sedimentary sequences could have generated the helium.

### **About Helium**

Helium is a high value specialty gas with unique chemical and physical qualities and is considered a strategic element. The helium market is currently undersupplied, and prices are on average in the US (which serves as a "defacto" for crude helium pricing) is 100 times that of natural gas. Helium is a vital element in the manufacture of MRIs and semiconductors and is critical for fibre optic cable manufacturing, hard disc manufacture and cooling, space exploration, rocketry, lifting and high-level science. Most of the world's reserves have been derived as a by-product of the extraction of natural hydrocarbon gas.

Australia produces around 3% of the world's supply of helium and uses approximately the same amount. Australia's helium is processed in Darwin at the BOC helium plant to A Grade liquid helium (LHe) at >99.995% He. The helium is sourced from the Undan-Bayu gasfield offshore where helium is 0.1-0.3% of the raw feed gas to the LNG plant. The field is in decline and the opportunity is to replace the helium supply. Any helium gas produced from EP127 could be transported by road and/or rail to the Darwin BOC helium plant for further purification onward distribution overseas.