

5 June 2020 ASX RELEASE

## **EP127 Helium Exploration Gaining Momentum**

Global Oil & Gas Limited ("Global" or "the Company") provides shareholders the following update regarding its planned 2020 helium exploration program.

The Company's exploration work program is progressing well with the geochemical survey design completed. The survey is designed to identify the presence of an active helium system across the permit as well as over already identified Prospects and Leads. The survey can achieve the above objectives with good coverage solely through existing roads, tracks, old well pads, bore locations and seismic lines.

Permitting is now underway in consultation with the Northern Territory Central Land Council (CLC) and Northern Territory Government ensuring COVID-19 guidelines are followed.

Given the recent restrictions, the field work and Ambient testing for helium previously mentioned will now be included in the field activity associated with the geochemical survey currently being permitted.

The Company is encouraged that it will be able to conduct the geochemical survey in 2020 as part of its transformative exploration program.

The Company has recently received an update from the CLC, in response to the control of COVID-19 in Central Australian communities, that permits for exploration on Aboriginal land in the CLC region will now be able to be issued with effect from 5 June subject to suitable risk management plans being provided. Noting the Northern Territory Government border restrictions currently in place, it will be a condition of the permit (whilst border restrictions apply) that any permittee must either have been situated continually within the NT for at least 14 days prior to entry on Aboriginal land or, for any permittee entering from interstate, that they have undertaken monitored quarantine for 14 days prior to entering aboriginal land, and display no symptoms of the COVID-19 virus. It was also noted that on 28 May 2020, the Chief Minister announced that NT border restrictions are being amended from 15 June and are to be reviewed weekly and confirm that permit requirements will be monitored on this basis.

In field exploration and interstate travel restrictions are being monitored while desktop exploration studies and planning for field work and geochemical survey continue.



## EP127 Exploration Program 2020 (permit Year 2)

The exploration program is designed to prove the charge of helium and better define basement structuring and potential drape over basement related targets in addition to further delineating those prospects and leads shown in the figure below.

By analysing existing data sets, integrating existing interpretations and applying new thinking in the exploration for high value helium, Global can explore EP127 in a cost-effective manner for transformative results whilst still holding 100% working interest in the permit.

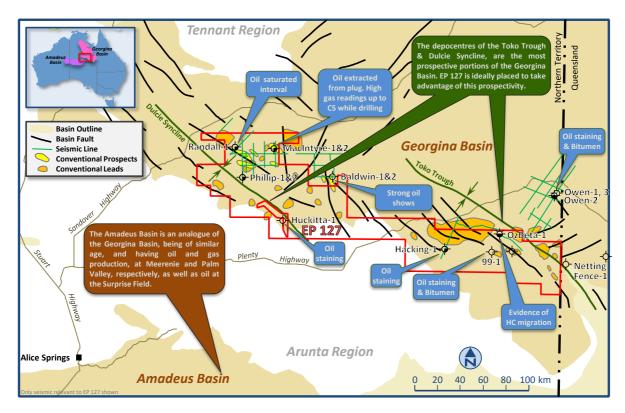
The planned Exploration Programme encompasses the following principal activities:

- Regional surface and remote sensing mapping validated by field work
- Interpretation and integration of the latest gravity and magnetics data
- Update and integration of seismic data and interpretation
- Geochemical survey to establish hydrocarbon and helium charge across the permit
- Integration of results into the understanding of prospectivity and planning for Year 3 (2021) work program

## **Geological Setting and Helium Potential**

As described previously (27/02/2020) the Company has 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.





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 $\sim$ 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 worlds 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.

Authorised by the Board of Global Oil & Gas Limited

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