

Royal Helium Receives Results of Nazare Production Modelling Simulation

Saskatoon, Saskatchewan, July 5, 2022 – Royal Helium Ltd. (TSXV: RHC) (TSXV: RHC.WT) (OTCQB: RHCCF) ("**Royal**") is pleased to announce that the Company has received the comprehensive simulation study for multistage hydraulically fractured horizontal wells completed by Dr. Gary Zhao, P.Eng., Petroleum Systems Engineering, University of Regina. Over 600 simulations were run with multiple variables, using the data from Royal's DST and DFIT operations in the Climax-4 well. Royal is currently evaluating several of the viable production well models presented and will select the ultimate design(s) that will have the largest deliverability with the quickest payback period. Given the large areal extent of 30+ sections (30+ square miles) of Nazare, multiple wells will be considered. Royal anticipates well design finalization and drilling of the first Nazare well in late 2022.

Study highlights include, on a per well basis:

	Single-leg HZ Well	Dual-leg HZ Well
Low case		
Initial 6-month average flow rate	3,078 MCF/day	6,155 MCF/day
Helium production rate	20 MCF/day	40 MCF/day
EUR Raw gas	4.63 BCF	9.27 BCF
EUR Helium	30,095 MCF	60,255 MCF
High case		
6-month average flow rate	8,623 MCF/day	17,245 MCF/day
Helium production rate	56 MCF/day	112 MCF/day
EUR Raw gas	11.31 BCF	22.61 BCF
EUR Helium	73,515 MCF	146,965 MCF

*Notes to table:

- 1/ All 4 scenarios forecast time to abandonment > 30 years (where recovery > 10 MCF/day)
- 2/ "EUR" = Forecast Expected Ultimate Recovery
- 3/ Helium production rate calculated as .65% of 6-month average raw gas production
- 4/ Helium EUR calculated as .65% of raw gas EUR

John Styles, Lead Engineer for Royal comments, "The development of a large scale unconventional primary helium reservoir is a first for Saskatchewan, and perhaps the world. Although the simulation study evaluated well configurations with as many as 12 lateral legs, we



will likely focus on the 1 - 3 leg scenarios with 1-mile-long laterals. These scenarios are single section (1 square mile) development plans whereas the areal extent so far identified by seismic exceeds 30 sections. With these results and after the first horizontal into Nazare, we will plan to strategically exploit Nazare to its fullest extent”.

Andrew Davidson, President and CEO, Royal Helium comments, “We are extremely pleased with the outcome of Dr. Zhao’s study, the validation that our Nazare discovery is capable of large-scale deliverability is a huge addition to our “conventional” production profile beginning with our first 2 processing plants at Climax and Steeveville. We now look forward to planning the first Nazare well for later this year and, predicated on its outcome, the design work for an additional, larger permanent facility for the Climax Nazare reservoir. The question of whether the Nazare will be a producible reservoir has now been answered and we will move aggressively towards the first production well and further, will make plans toward exploiting the whole reservoir”.

Study Notes

The entire simulation study encompassed 612 simulations designed to evaluate the combination of factors that could yield a simulation result with a forecast initial production rate above 1 mmscf/d for as long a period as possible. The factors evaluated included: 1 through 12 legs, each with 700m or 1400m leg lengths (1/2 mile and 1 mile with customary 100m buffer); permeabilities ranging from 5 through 40 nD; multi-stage frac completions ranging from 10 through 32 stages, each with fracture half lengths ranging from 15 through 350 meters; an assumed evaluation term of 30 years to reach an economic limit.

Dr. Zhao’s full report will be published under the title” Drill Stem Test Data Interpretation and Long Term Productivity Study for Royal Helium Reservoirs of Climax/Deep Nazare Zones” Dr. G. Zhao, Petroleum Systems Engineering, Faculty of Engineering and Applied Science University of Regina, June 30th 2022.

There are no current National Instruments such as NI 51-101 or NI 43-101 that cover helium deposits or production.

About Royal Helium Ltd.

Royal controls over 1,000,000 acres of prospective helium land in southwestern and south-east Saskatchewan. All of Royals' lands are in close vicinity to highways, roads, cities and importantly, close to existing oil and gas infrastructure, with a significant portion of its land in close proximity to existing helium producing locations. With stable, rising prices and limited, non-renewable sources for helium worldwide, Royal intends to become a leading North American producer of this high value commodity.

For more information, please contact the Company.

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