



OTCQB

GRANDGULF  
ENERGY LIMITED

2 June 2023

## Independent Review Confirms Significant Helium Flow Potential

- Blade Energy Partners (Blade), an independent international engineering contractor with extensive petroleum engineering, carbonate completion and stimulation experience performed an engineering review of Grand Gulf's Jesse-1A and Jesse-2 information.
- Blade's evaluation of provided drill stem test results and modelling of the upper Leadville reservoir in Jesse-1A calculated potential flow rates of 5 million standard cubic feet per day (MMscfd) of raw gas or greater subject to successful isolation and stimulation.
- Blade's assessment of build-up data provides exciting upside for the Company's Jesse-1A well where an inexpensive workover focused on zonal isolation and stimulation could potentially yield significant value.
- Preparations well advanced for the forthcoming Jesse-3 helium well with reservoir deliverability de-risked by the Blade Jesse-1A evaluation.

Grand Gulf Energy Ltd (ASX: GGE) ("Grand Gulf" or the "Company") is pleased to advise of the results of a technical review by Blade Energy Partners (Blade), an independent international engineering contractor with extensive petroleum engineering, carbonate completion and stimulation experience. Blade provides leading-edge expertise relating to the subsurface, drilling, completion, production, and materials.

Blade reviewed Grand Gulf's provided Jesse-1A and Jesse-2 drilling data and petrophysical logs, with a focus on interpreting the Jesse-2 underbalanced drilling data and Jesse-1A drill stem test results for future recompletion opportunities.

Based on interpretation of the Jesse-1A drill stem tests and modelling completed by Blade, the upper reservoir in the Jesse-1A wellbore has the potential to flow at an initial production rate of 5 million standard cubic feet per day (MMscfd) of raw gas or greater after successful isolation and



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

stimulation. Jesse-1A returned up to a 1% helium concentration from a downhole sample significantly exceeding pre-drill expectation<sup>1</sup>, with a 200 foot gross column and 101 feet of net pay (independently audited).

Blade's analysis and assessment provides exciting upside potential for the Company's Jesse-1A well as an inexpensive workover focused on zonal isolation and stimulation that potentially may yield significant value for Grand Gulf.

### Jesse-3

The information gained from the Blade engineering review has been incorporated into a Grand Gulf subsurface, drilling and completion field review of the third Jesse well location and to optimise future drilling and completion design.

The calculated potential productivity of the Leadville reservoir in the Jesse-1A well indicates a potential zone of reservoir fairway between the Jesse-1A and Redd-1 wells. Both wells have evidence of vugular secondary porosity on petrophysical logs reducing reservoir deliverability risk by targeting this area for the third Jesse well. The new wellbore at Jesse-3 will target permeable reservoir with reduced operational completion risk.

### Jesse-1A Recompletion

As a result of Blade's review, the upper Leadville in the Jesse-1A wellbore has been identified and prioritised for recompletion following the forthcoming Jesse-3 well.

The currently proposed recompletion of the Jesse-1A wellbore would be to case and perforate the upper and middle Leadville with focussed zonal isolation and stimulation through matrix acidization before flow-testing and preparations to tie-in for production. The well also has the potential to be deepened to include testing underlying units, such as the Devonian McCracken Formation, which is a proven helium producer regionally. It is estimated the above work could be undertaken for less than US\$1m.

---

<sup>1</sup> ASX Announcement 19 October 2022 – Jesse-1A Downhole Sample Increases Helium Grade



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

The Company is also currently evaluating potential remediation/stimulation options for the Jesse-2 well based on feedback from Blade. These include a combination of matrix acidization and the potential to drill a short radius horizontal well for less than US\$1m.

**Managing Director Dane Lance Commented:**

*“Blade Energy Partners are a high calibre independent international upstream engineering contractor with significant carbonate modelling, completion and stimulation experience. The Company is highly encouraged by the modelling results indicating reservoir with the potential for significant helium flow in the Jesse-1A well and surrounding area.*

*The results de-risk reservoir deliverability for the Jesse-3 well and provide a potential re-completion of the Jesse-1A wellbore that could generate significant value for a modest cost.*

*The Company now has a range of opportunities across the Red Helium project, and we look forward to being back in the field to confirm the modelling results with a successful flow test.*

*The compelling fundamental commercial and midstream pillars of the Red Helium Project remain unchanged and are in fact enhanced by the 1% helium sample at Jesse-1A which greatly exceeded pre-drill expectation. The Company has the ability to quickly monetise a commercial well to generate near term free cash flow with minimal time and cost in an extremely buoyant helium market”*

*This ASX announcement has been authorised for release by the Board of Grand Gulf Energy Ltd.*

**For more information about Grand Gulf Energy and its projects, contact:**

Dane Lance

Managing Director

E: [info@grandgulfenergy.com](mailto:info@grandgulfenergy.com)



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

### About the Red Helium Project:

The Red Helium Project provides exposure to the burgeoning helium industry in a prolific proven helium-producing region, the Four Corners Area, that comprises:

- 250,713 acre area of mutual interest (AMI) with over 29,000 acres (private leases/Utah state leases) leased in drill-friendly Utah in the heart of the most prolific helium-producing region in the world;
- Geologically analogous to Doe Canyon Field. Doe Canyon is situated 15 miles due east of the Red Helium project, and is currently producing approximately 10,700,000 cubic feet of helium per month, the bulk of which comes from only 7 wells. Air Products (market cap US\$68b) is processing the helium, and it is anticipated that Doe Canyon will ultimately produce 3-5 billion cubic feet of helium. With additional drilling, this resource figure could increase;
- 315 kms of well-placed 2D seismic has been acquired and reprocessed identifying multiple drill targets – and confirming a structural trap 4-5 times larger than the Doe Canyon Field;
- Six historic wells exclusively targeting hydrocarbons were drilled within the project AMI, proving trap, seal, reservoir presence and gas charge and a working helium system, to differing degrees within each prospect. Several wells tested non-flammable gas, the only two analysed for helium confirmed helium presence; and
- 20 miles south of and connected by pipeline to the operational Lisbon Helium Plant (99.9995% purity).

Key milestones in the Red Helium Project:

- Maiden prospective gross project unrisked P50 helium resource of 10.9 billion cubic feet of helium;
- Jesse discovery (Jesse-1A), generally exceeding pre-drill expectation and highlights including:
  - over 200 feet of gross gas column, and 101 feet of net pay (Independently Audited);
  - Helium grade of up to 1%. An analogous Doe Canyon well at 1% helium and a raw gas rate of 20 million cubic feet per day would produce 200 thousand cubic feet of helium per day; and
  - Productive, well pressured reservoir at 2465 psi on trend with neighbouring Doe Canyon virgin pressure.
- Helium Offtake Agreement with Paradox Resources LLC, a helium refiner and seller owner with extensive helium market experience and connections, and operator of the advanced Lisbon Valley helium plant;
- Strategic Alliance to expand on the Offtake terms and exploit the corporate synergies with Paradox;
- Increased Working Interest in the Red Helium Project to 77.5% with a right to earn 85%.



For personal use only



### Helium Offtake Agreement (“Offtake”):

Offtake executed with helium refiner and seller Paradox Resources LLC (“Paradox”) with industry standard 80/20 revenue sharing / allowing near immediate monetisation of a success case well to monetized with minimal time and Capex<sup>2</sup>. The Red Helium project is 20 miles south of and connected by pipeline to the operational Lisbon Helium Plant.

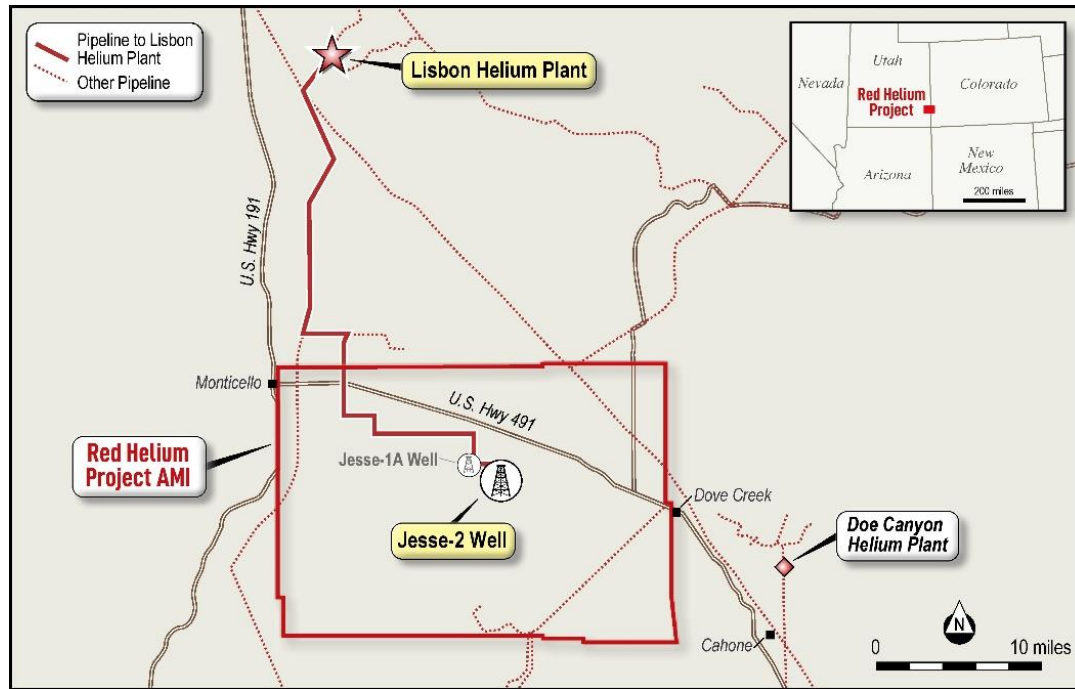


Figure 2: Jesse-1A and Jesse-2 locations in the Red Helium project AMI with local pipelines / gas transport route to the Lisbon Helium Plant.

### Strategic Alliance

Grand Gulf entered into a Strategic Alliance (“Alliance”) with helium refiner and seller Paradox designed to fast-track and optimise the significant commercial opportunities that exist in the current buoyant helium market<sup>3</sup>. The Alliance is structured to explore mutually commercially advantageous revenue sharing arrangements on such key items as:

- Optimize and prioritize near-term exposure to the burgeoning helium market
- Red Helium Project to be a potential priority supplier to re-start the Paradox liquefier capable of producing high purity 99.9995% helium (“5 ½ Nines”) - which attracts premium pricing, currently over US\$2,000/mcf
- Collaborative downstream marketing targeting end users of high-purity helium such as semi-conductor manufacturers and the space industry
- Expansion of the terms of the recently executed Offtake agreement to include future wells
- Progress identified CO<sub>2</sub> disposal options with revenue generating potential:
  - Expansion of existing carbon sequestration activities at Paradox’s Lisbon Plant to include CO<sub>2</sub> from the Red Helium Project - potentially revenue-generating under Section 45Q of the US Tax Code; and
  - Joint investigation into utilization of Red Helium Project CO<sub>2</sub> for enhanced oil recovery (flooding) from Paradox’s Lisbon Oil Field
- Potential synergistic commercial benefits in assessing corporate opportunities that involve both Paradox assets and the Red Helium Project

<sup>2</sup> ASX Announcement 9 January 2023 - Helium Offtake Agreement Secured for Jesse-2

<sup>3</sup> ASX Announcement 11 April 2022 - Strategic Alliance with Helium Offtake Partner

For personal use only



Figure 3: Paradox “5.5 Nines” Resources Lisbon Valley Gas Processing Plant.

**Maiden Prospective Helium Resource**

On 8 December 2021 the Company announced that Sproule had completed the maiden Prospective Resource Report for the Red Helium Project located in the Paradox Basin, Utah USA.

Sproule has confirmed a P50 10.9 billion cubic feet (BCF) Prospective Resource over gross leased acreage and P50 of 7.4 BCF on a net acre basis to Valence. The Sproule Prospective Resource calculation is based on the current acres held by incorporated joint venture company at 8 December 2021.

The Company plans a resource update based on the data gained from Jesse-1A and future wells.

**Valence Prospective Resources<sup>4</sup>**

Recoverable Helium	1U (P90) (BCF)	2U (P50) (BCF)	3U (P10) (BCF)
Gross to Valence - (28,046 gross acres)	7.6	10.9	12.9
Net to Valence - (18,959 net acres)	5.2	7.4	8.5
Net to GGE - (earning 85% of net Valence)	4.4	6.3	7.2
Red Project Total	7.9	20.8	57.6

The estimated quantities of helium that may potentially be recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal is required to determine the existence of a significant quantity of potentially moveable helium.

GGE now has a 77.5% interest in Valence with a right to secure a further 7.5% interest (total of 85%) on the following terms:

Earning 85% of Valence Resources	Max Commitment Spend	Cumulative Interest
Current Working Interest		77.5%
Drilling third well	US\$1.5M	85%

<sup>4</sup> Sproule as announced on ASX on 8 December 2021. The Company is not aware of any new information or data that materially affects the information included in the referenced ASX announcement and confirms that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

**About Grand Gulf Energy:**

Grand Gulf Energy Ltd (ASX:GGE) is an independent exploration and production company, headquartered in Australia, with operations and exploration in North America. The Red Helium project is a pure-play helium exploration project, located in the Paradox Basin, Utah, in the prolific Four Corners region. For further information please visit the Company's website at [www.grandgulfeenergy.com](http://www.grandgulfeenergy.com)

**Competent Person's Statement:**

The information in this report is based on information compiled or reviewed by Mr Keith Martens, Technical Director of Grand Gulf. Mr Martens is a qualified oil and gas geologist/geophysicist with over 45 years of Australian, North American, and other international executive oil and gas experience in both onshore and offshore environments. He has extensive experience of oil and gas exploration, appraisal, strategy development and reserve/resource estimation. Mr Martens has a BSc. (Dual Major) in geology and geophysics from The University of British Columbia, Vancouver, Canada.

**Forward Looking Statements:**

This release may contain forward-looking statements. These statements relate to the Company's expectations, beliefs, intentions or strategies regarding the future. These statements can be identified by the use of words like "anticipate", "believe", "intend", "estimate", "expect", "may", "plan", "project", "will", "should", "seek" and similar words or expressions containing same. These forward-looking statements reflect the Company's views and assumptions with respect to future events as of the date of this release and are subject to a variety of unpredictable risks, uncertainties, and other unknowns. Actual and future results and trends could differ materially from those set forth in such statements due to various factors, many of which are beyond our ability to control or predict. These include, but are not limited to, risks or uncertainties associated with the discovery and development of oil, natural gas and helium reserves, cash flows and liquidity, business and financial strategy, budget, projections and operating results, oil and natural gas prices, amount, nature and timing of capital expenditures, including future development costs, availability and terms of capital and general economic and business conditions. Given these uncertainties, no one should place undue reliance on any forward-looking statements attributable to GGE, or any of its affiliates or persons acting on its behalf. Although every effort has been made to ensure this release sets forth a fair and accurate view, we do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.



For personal use only