



21 December 2023

Jesse-1A Flows 1 Million Cubic Feet of Gas Per Day

- Significant Jesse-1A results demonstrate reservoir quality with measured helium concentrations trending up from 0.78%¹ - consistent with the previously measured 1% helium from a downhole sample.
- Jesse-1A to be sidetracked for casing, completion and focused stimulation ahead of production in early 2024.

Grand Gulf Energy Ltd (ASX:GGE) (“Grand Gulf” or the “Company”) is pleased to advise that during comprehensive flow-testing of the Jesse-1A well, the upper Leadville reservoir flowed helium gas to surface at a raw gas rate of 1 million cubic feet per day (mmcf/d).



Figure 1: Jesse-1A flare-stack venting reservoir gas and helium to surface during flow-testing

¹ ASX Announcement 11 December 2023 – Jesse-1A Flows Helium to Surface



Managing Director Dane Lance commented:

“The Company is thrilled to announce helium gas flowing to the surface with high helium concentrations from Jesse-1A. This is highly encouraging and a massive step forward in the development of the Red Helium Project.

With the information gained from the flow-test, the Company is confident that future well designs incorporating a case and perforation methodology will both increase gas production and minimise any water ingress. Focussed zonal stimulation, with ongoing acid solubility testing being performed by Halliburton, point to further upside to well deliverability and flow rates for the Jesse-1A and Jesse-3 production operations.

With Leadville flow rate upside and highly prospective regionally proven deeper helium targets, the Jesse-1A sidetrack operation in early 2024 is set to be a transformative period for the Company.”



Figure 2: Jesse-1A well-site with flare-stack venting reservoir gas and helium to surface during flow-testing

Jesse-1A forward plan

With the highly encouraging helium concentrations and reservoir deliverability results, Jesse-1A will be planned to be side-tracked for intended production in early 2024.

Based on the positive flow-test results, project manager Walsh Engineering and Production (Walsh), citing the current Jesse-1A wellbore configuration (well was suspended for approx. 20 months), recommended Jesse-1A be side-tracked to optimise production flow rates.

The side-track operation will consist of a case and perforation well design allowing selective zonal isolation, mitigating water influx, and optimising flow rates for a modest cost.



The case and perforate well design also allows testing multiple highly prospective secondary reservoir targets below the primary Leadville reservoir target, including the Devonian McCracken sandstone².

Halliburton are currently performing acid solubility testing of Jesse-1A rock cutting samples, with highly encouraging initial results pointing to flow-rate upside by a tailored and zonally focussed stimulation program.

Jesse-1A flow test results

Prior to flow-testing, after encountering a downhole obstruction, the operation successfully placed a cement plug above the lower, potentially water bearing, Leadville member from 8,197 feet to 8,181 feet measured depth (MD).

The Mississippian Leadville dolomite reservoir zone(s) from 8,181 feet to 8,067 feet MD were then swab-tested returning significant reservoir and helium gas flows (0.78% helium¹ trending up towards the previously measured downhole sample of 1% helium³) with 200 barrels (bbl) of water produced over an 18-hour period. Given the observed water influx, an electric submersible pump (ESP) was mobilised to assist in unloading fluids from the well.

The operation successfully demonstrated moveable reservoir gases and high reservoir deliverability with the well flowing at a peak rate of 0.95mmcf/d with a downhole pressure of 828psi. Gas rates were limited due to suspected water influx from partial isolation, with water rates declining from 2,000 barrels per day (bbl/d) to 1,200 bbl/d over the 60-hour duration of the test.

Multiple gas samples were obtained over the duration of the flow test and will be analysed for helium concentration.

Table 1 – Listing Rule 5.30 Information (Preliminary)

Name:	Jesse-1A
Location:	354 FNL, 307 FWL
Permit:	14153
Working Interest:	Grand Gulf 77.5%
Resources:	Helium (0.78% ¹ - 0.96% ³)
Formation:	Mississippian Leadville
Test Depth:	8067 – 8181 feet MD
Rock Type:	Dolomite and minor Limestone
Type of Test and Duration:	Initial swab test 18hrs, ESP test 60hrs
Phase recovered:	Gas and water
Flow Rate / Pressure:	1mmcf/d and 2000bbls/d @828psi BHP
Fracture stimulation:	N/A
Material non-hydrocarbons:	CO ₂ N ₂

² ASX announcement 22 June 2023 – Bonus McCracken Adds 1.8BCF to Prospective Helium Resource

³ ASX announcement 19 October 2022 – Jesse 1A Downhole Sample Increases Helium Grade





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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





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 represents a strategic pivot to a pure-play helium exploration project, located in Paradox Basin, Utah, in the prolific Four Corners region. For further information please visit the Company's website at www.grandgulfeenergy.com

Cautionary Statement for Prospective Resource Estimates

With respect to the Prospective Resource estimates contained within this report, it should be noted that the estimated quantities of gas that may potentially be recovered by the future application of a development project relate to undiscovered accumulations. These estimates have an associated risk of discovery and risk of development. Further exploration and appraisal are required to determine the existence of a significant quantity of potentially moveable helium.

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.