



OTCQB

GRANDGULF  
ENERGY LIMITED

21 September 2022

## Jesse#1A Flow Test Result

- Independent Auditor confirms Jesse helium discovery and maturation from Prospective to Contingent Resource category
- Helium grade of 0.8% - (40% higher than forecast)
- Jesse#1A flow test confirms productive and strongly pressured reservoir at 2,465 psi, on trend with the adjacent Doe Canyon analogue helium field
- Both reservoir-gas and water were produced throughout the flow tests, with inability to isolate water ingress from the lower zone of the wellbore leading to suspension of operations
- Well engineering for future Red Helium project wells incorporates learnings from Jesse#1A to optimise gas production and minimise risk of water ingress
- Second helium well planned for Q4 2022 with permits for three Jesse development wells now in progress

Grand Gulf Energy Ltd (ASX:GGE, OTCQB:GRGUF) (“Grand Gulf” or the “Company”) is pleased to provide an update on the Red Helium project.

### Sproule Contingent Resource Evaluation

Sproule Energy Consulting (“Sproule”) is an independent resources and reserves certification specialist and is considered the world’s leading helium evaluator. Valence Resources LLC (“Valence”) is operator of the Red Helium Project and Grand Gulf has a 70% working interest in Valence, with a right to earn 85%.

With the positive results at Jesse#1A, Sproule opines that Valence has established “discovered” status of the reservoir which will allow the Prospective Resources to be classified as Contingent Resources at the Jesse-1A location. A Contingent Resource booking will require a future evaluation by Sproule and will incorporate the results of Jesse#1A and potentially future wells:

The highlighted Jesse#1A results, generally exceeding pre-drill expectations:

- Over 200 feet of gross gas column (from 8,070’)
- 101 feet of net pay
- Helium gas flow to surface with laboratory tested concentrations of 0.8%
- Gas Sales and Processing Agreement with Paradox Resources LLC



For personal use only



Under the Society of Petroleum Engineers Petroleum Resource Management System (SPE PRMS) Contingent Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, by the application of development project(s) not currently considered to be commercial owing to one or more contingencies.

Helium Grade

The last three gas samples analysed at the Jesse#1A well ranged from 0.77% to 0.86% helium; an increase of over 40% from the previously announced range of 0.44% to 0.65% helium.

Isotopic analysis supports these samples as the most representative of reservoir gas, with variability due to flowing conditions, and Sproule calculating an average grade of 0.8%, exceeding pre-drill expectation.

	He	CO <sub>2</sub>	N <sub>2</sub>	CH <sub>4</sub>	He (raw)
108_J1A_SSCyl	0.89	73.80	19.55	5.62	0.86
109_J1A_CuTube	0.83	73.75	19.49	5.70	0.80
110_J1A_CuTube	0.78	73.32	20.18	5.48	0.77

Helium Laboratory Concentrations from Jesse#1A (by volume, air corrected)

Jesse#1A Wellbore

The Jesse#1A is vertical wildcat well with an open-hole completion in the Leadville Dolomite formation. The well was designed as an aggressive data gathering well over the full productive zone of the Leadville Dolomite formation (primary target) to accelerate full field development. The well identified a gas water contact in the lowest section of the wellbore based on the petrophysical logs. The gas water contact is critical information which allows the delineation of gas leg for development planning for future Jesse wells and for resource definition and leasing prioritisation.

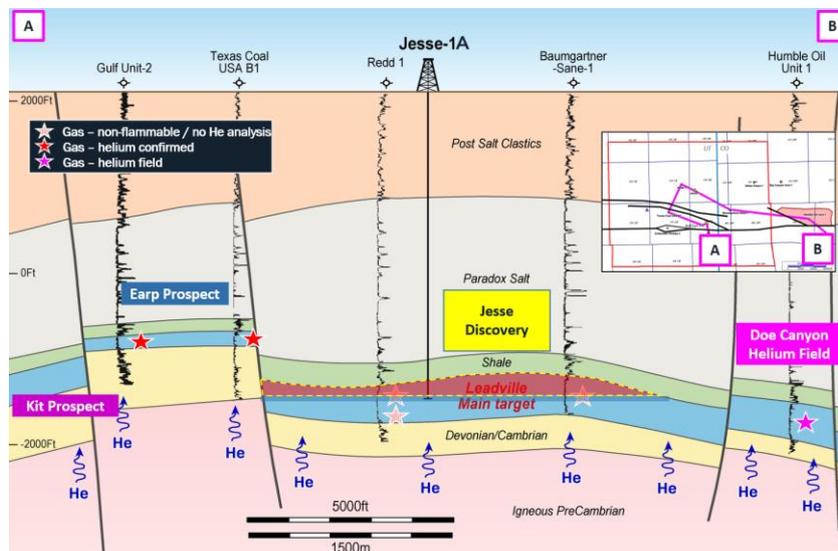


Figure 1: Stylised cross section with Jesse#1A, Doe Canyon helium field and historic gas samples



For personal use only

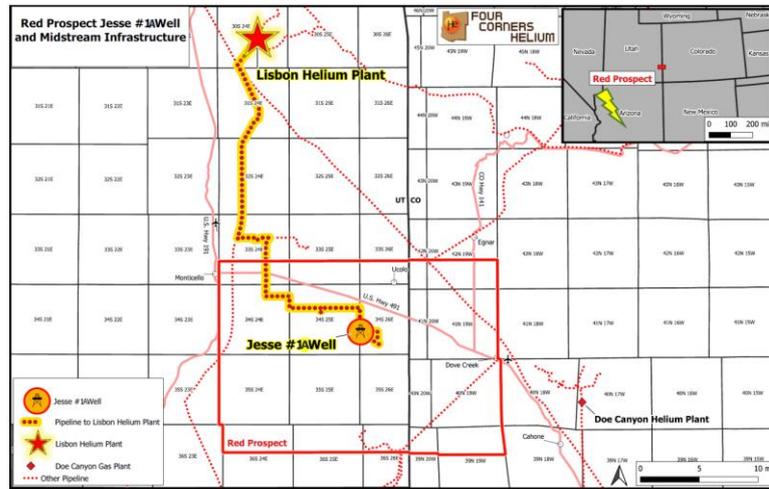


Figure 2: Jesse#1A location (Lat 37.799, Long -109.117) in the Valence AMI containing the Red Helium project with local pipelines showing the gas transport route to the Lisbon Helium Plant.

### Newly Acquired Electrical Image Logs

State-of-the-art electrical formation image logs exhibit robust vugular porosity indicative of a highly productive reservoir and consistent with a high degree of hydrothermal dolomitization. The image logs also identified the existence of drilling induced fractures.

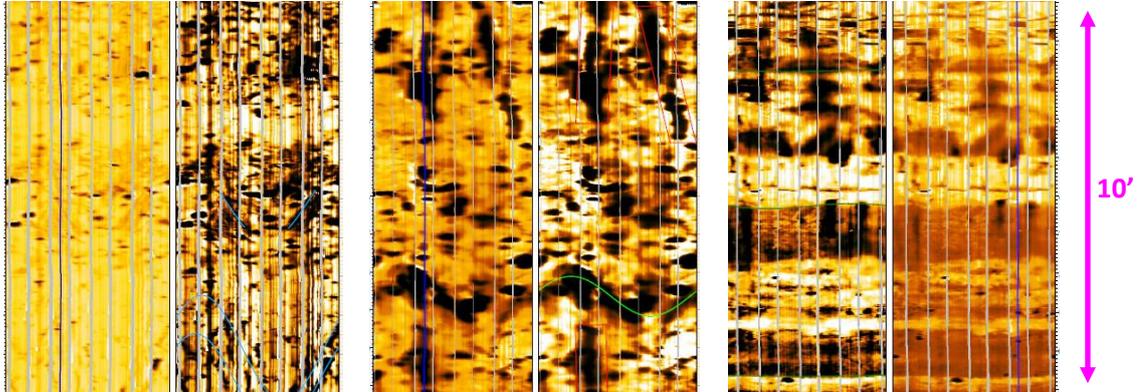


Figure 3: Electrical formation image logs of the Leadville Formation in the A) Upper, B) Middle, C) Lower wellbore, demonstrating vugular porosity (ellipsoids), drilling fractures (vertical features) and laminar porosity in the identified water zone

### Jesse#1A Flow Test

Bottomhole pressure measurements recorded an initial pressure of 2,465 psia indicating an exceptionally well-pressured reservoir consistent with virgin pressures in the Doe Canyon analogue.

Flow tests were performed over two separate zones in the Jesse#1A wellbore, both interpreted as gas bearing on the petrophysical logs. In both cases excessive water influx and a sub-hydrostatic reservoir prevented stable gas flowrates leading to indeterminate results and an inability to quantitatively measure gas flow rates, with both water and reservoir gases produced to surface.



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

The results are potentially consistent with a highly water-invaded gas zone with suspected water ingress and poor isolation facilitated by vertical fracture systems connecting the water-saturated lowest Leadville member with the overlying gas zone.

#### Flow Test (DST) #1 (8107 foot to 8142 foot)

In the upper zone, the well showed signs of significant damage due to invasion, but after recovering 45bbls of formation water, minor reservoir gases flowed naturally for a short period of time and began unloading on a 1/4" then 3/8" choke. Due to intermittent slugging flow, the rate was not quantitatively measured and commercially significant gas rates were not observed within the test timeframe. Although mechanically constrained the natural influx established a proven gas system and has demonstrated proof of a helium system at Jesse.

#### Flow Test (DST) #2 (8146 foot to 8181 foot)

A swabbing operation returned 255bbl of formation water with trace reservoir gases but was unable to establish natural flow, potentially with insufficient water to allow gas breakthrough for natural flow or poor isolation due to vertical communication. Internal reservoir engineering calculations indicate excellent deliverability supportive of rates in excess of 5 mmcf/d in a virgin gas filled reservoir.

#### Well Engineering

The engineering for future Red Helium locations will incorporate the vast learnings on the heterogeneous Paradox Basin carbonate rocks from the drilling of the Jesse 1A wildcat to optimise gas production by:

- Using gas/water contact to prevent drilling into the water leg in future Jesse wells and reducing the risk of water production.
- Optimising drilling parameters to prevent excessive overbalance, damage from formation invasion, and exceeding the regional fracture gradient causing vertical connection.
- Calibration of seismic data with well results which will enable targeting of structural high locations in Jesse and nearby prospects to maximise gas pay zones.

#### Second Helium Well Q4 2022

Planning is on schedule for two future Red Helium project wells.

Permits for two Jesse appraisal and development wells were submitted to the regulator in August, with a third nearing submission. The Utah Division of Oil Gas and Mining has indicated permits are generally approved within a 60 to 90 day timeframe.

The drill-ready Earp prospect, one of three prospects independent of Jesse, will test a structurally high horst block 6 miles southeast of Jesse 1A.



For personal use only



**Managing Director Dane Lance Commented:** “To have an exploration success with the maiden helium exploration well in the Red Helium project is highly encouraging, especially given the significance of the Jesse discovery. The project endorsement by Sproule, the world’s leading helium evaluator, is a huge validation of the technical merits of the project.

The material increase to a helium grade of 0.8% and demonstration of productive reservoir address two of the key geologic risks identified in the Red Helium project. With the ability to quickly monetise a commercial well with minimal time and cost, we look forward to incorporating the vast learnings gained on the Jesse#1A well into the well engineering on future wells to unlock the value of the Red Helium project.



Figure 4: Work-over Rig on Jesse#1A with the Abajo mountains in the background

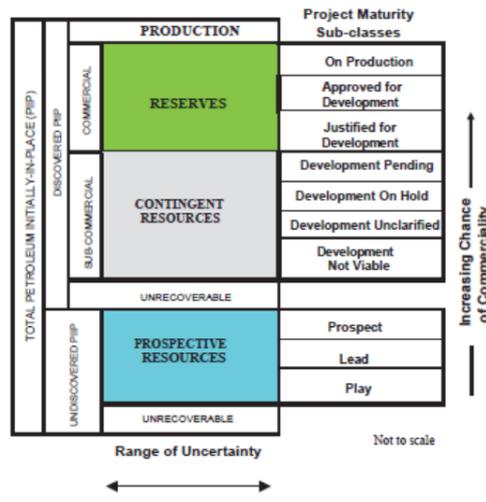


Figure 2.1—Sub-classes based on project maturity

Figure 5 – SPE PRMS Project maturity Classification



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

# Sproule

Ref.: 25798.115031

September 19, 2022

Valence Resources LLC  
Suite 2020, 835 East 2<sup>nd</sup> Ave,  
Durango, Colorado 81301

Dear Mr. Tim Rynott, C.E.O.,

Valence Resources LLC (“Valence”) has notified Sproule Incorporated (“Sproule”) of the suspension of operations at the Jesse-1A well and has transferred to Sproule all data obtained from the wireline logging and well testing operations of the subject well. Sproule has previously, in its December 8, 2021 report entitled “Prospective Resource Report of the Red Helium Project” estimated a range of prospective helium resources attributed to what is now called the Jesse prospect. With the positive results from the Jesse-1A well, including petrophysical logging of over 200 feet of a gas column and 101 feet of net pay, laboratory testing of helium concentrations of 0.8% by volume, tested the well with flowing gas rates and the execution of a Gas Sales and Processing Agreement with Paradox Resources for the helium gas, Sproule opines that Valence has established “discovered” status of the reservoir which will allow the Prospective Resources to be evaluated as Contingent Resources at the Jesse-1A location.

Contingent Resources, by the PRMS standard, are those quantities of “gases” estimated, as of a given date, to be potentially recoverable from known accumulation by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies. The SPE has recently acknowledged the application of the PRMS standard for the assessment of helium resources (<https://www.spe.org/en/industry/reserves/non-hydrocarbons/>).

Contingent Resources of the Jesse-1A location have not yet been evaluated, however the contingencies will be addressed in a forthcoming report. The contingencies being addressed will include estimation of recoverable helium volumes, a field development plan and well completion details, in order to assess the optimal development of the field, recoverable resources, and updated economics.

Suite 1000, 1700 Broadway  
Denver, CO  
USA, 80290  
Sproule.com  
T +1 303 277 0270



For personal use only



OTCQB

GRANDGULF  
ENERGY LIMITED

Valence Resources LLC  
Sproule Incorporated

- 2 -

September 19, 2022

Sincerely,

**SPROULE INCORPORATED**



Sep. 19 2022  
Jeffery B. Aldrich, L.P.G.  
Senior Geoscientist



Sep. 19, 2022  
John Seidle, P.E.  
Senior Engineer

Sep. 19, 2022

Steven J. Golko  
Senior VP, Reservoir Services

25798.115031.JBA.kmm

P:\Valence 115031 Jesse 1 Report\_Project Management\115031.Valence.ReleaseLetter.docx

For personal use only





OTCQB

GRANDGULF  
ENERGY LIMITED

*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)

**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 Paradox Basin, Utah, in the prolific Four Corners region. For further information please visit the Company's website at [www.grandgulfenergy.com](http://www.grandgulfenergy.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