8 December 2021

Maiden Prospective Helium Resource

- P50 unrisked **Prospective Resource at the Red Helium Project of 10.9 BCF helium gross** to incorporated JV company Valence Resources LLC (**net 7.4 BCF to Valence**) – See Table 1
- **Prospective Resource expected to grow** as leasing continues. The total (most likely – P50) helium Prospective Resource in the Red Project is **20.8 BCF**, with a maximum (P10) of **57.6 BCF** (Sproule calculations)
- Located within a 25-mile radius of two significant helium processing plants – Lisbon and Doe Canyon
- Connected by existing pipeline to the Lisbon Helium Plant
- **Drill permitting advanced - spudding late 1st quarter 2022**

Grand Gulf Energy Ltd (**ASX: GGE**) ("Grand Gulf" or "the Company") is pleased to advise that Sproule Energy Consulting Ltd. ("Sproule") has completed the maiden Prospective Resource Report for the Red Helium Project located in the Paradox Basin, Utah USA. Sproule is an independent resources and reserves certification specialist with extensive experience in helium and the Paradox Basin.

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. The Sproule Prospective Resource calculation is based on the current acres held by incorporated joint venture company Valence Resources LLC (Valence).

Craig Burton, Grand Gulf's chairman, commented "In a very short period the Red Helium Project, located in the heart of the most prolific helium-producing region in the world, has produced an outstanding maiden Prospective Resource in excess of 10 BCF helium. With ongoing leasing in full swing, the Company now turns its attention to possible offtake arrangements ahead of first drilling in the 1st quarter of 2022."

Table 1 - Valence Prospective Resources

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 75% of net Valence)	3.9	**5.6**	6.4
Red Project Total	7.9	**20.8**	**57.6**

Grand Gulf Energy Ltd ACN 073 653 175
Suite 4, 246-250 Railway Parade, West Leederville WA 6007
Tel: +61 8 6500 3270 Web : www.grandgulfenergy.com

Note 1: 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 and evaluation is required to determine the existence of a significant quantity of potentially moveable helium.

Note 2: The resource estimates have been prepared using the probabilistic method and are presented on an unrisked basis. In a probabilistic resource distribution, 1U (P90), 2U (P50), 3U (P10) estimates represent the 90% probability, 50% probability and 10% probability respectively that the quantity recovered will equal or exceed the estimate assuming a success case in the prospect. Resource totals have been arithmetically added.

Note 3: The resource estimates provided have an effective date of 1 December 2021.

Note 4: GGE has the right to earn 75% of the incorporated joint venture company Valence Resources LLC (Valence) by drilling a total of three wells at the Red Helium Project

Note 5: The Red Project comprises private and Utah State leases as described in Schedule A.

Note 6: Resources have been calculated as those helium volumes that the entity is allowed to lift and sell on behalf of the royalty owner

Note 7: The totals shown are the arithmetic addition of 4 individual closures within the broader Red Prospect structure, details of which are provided in the Methodology section.

Note 8: Red Project Total incorporates the entire prospective Red Project structure

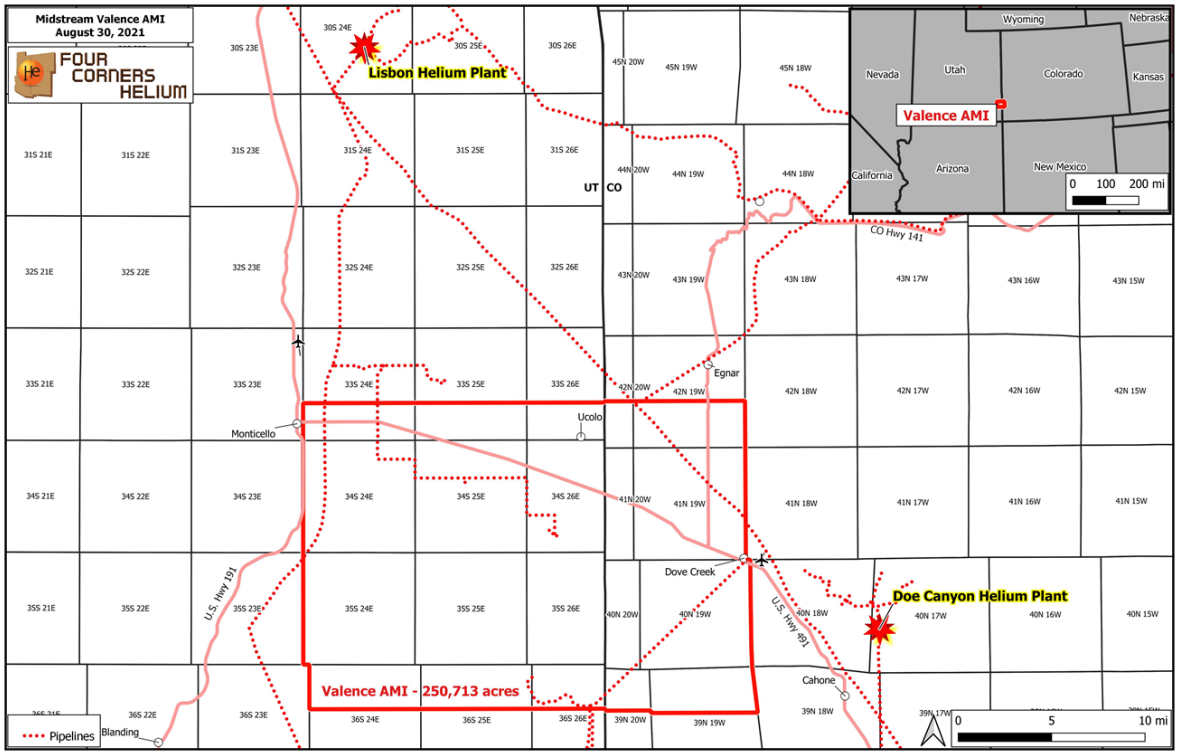

Figure 1 Valence AMI containing the Red Helium Project with local pipelines (dotted red) and the two nearby helium fields/processing plants

About the Red Helium Project

Grand Gulf has a 25% interest (with a right to secure a further 50% interest (total of 75%) through the drilling of three wells) via an incorporated JV company, Valence which owns the Red Helium Project.

The Red Helium Project provides exposure to the burgeoning helium industry in a known helium-producing area that comprises:

- 250,713 acre area of mutual interest (AMI) with 28,056 acres (private leases/Utah state leases) leased in drill-friendly Utah in the heart of the most prolific helium-producing region in the world
- Structurally high to, and 15 miles west of, the 3 – 5 BCF Doe Canyon Helium Field and Plant (Air Products Inc – market cap: US$65B[1]) – regarded as an analogue field
- 315 kms of 2D seismic across the AMI and geologic analogs has been acquired and reprocessed – drill targets established – trap identified is considerably larger than Doe Canyon Field
- 20 miles south of and connected by pipeline to the operational Lisbon Helium Plant
- Current helium pricing is approximately $280/mcf[2]

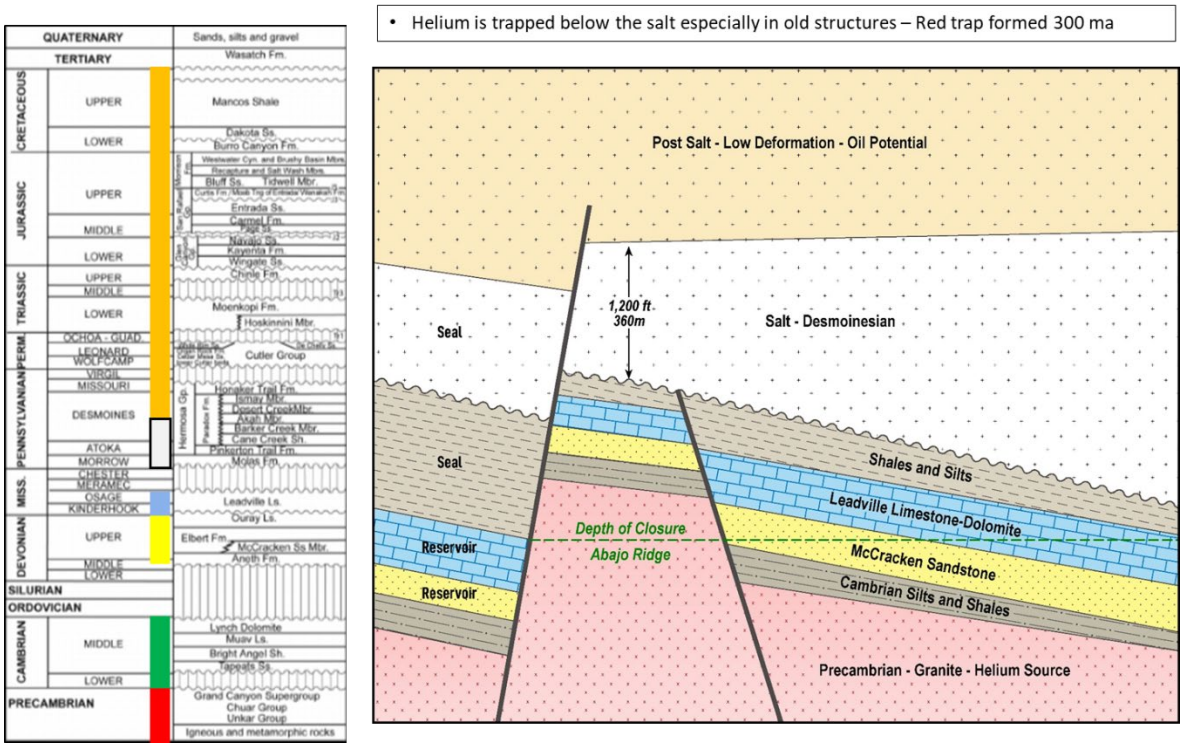

Figure 2 – SE Utah Stratigraphic Chart colour coded to a stylized representation of the Red structure

Proven Play Elements – Red Helium Prospect

Analysis of the Red Prospect is based on: i) five wells drilled within mapped closures that penetrate the thick salt top seal into the prospective Leadville carbonates and McCracken sandstone, ii) extensive reprocessed 2D seismic and iii) the analogous prolific Doe Canyon helium field located 15 miles east.

Helium Charge - All five local wells tested non-flammable gas and two gas samples were analysed with proven helium concentrations similar to Doe Canyon.

[1] https://www.bloomberg.com/quote/APD:US, 7 Dec 2021
[2] Edison Research Global Helium Market Update, May 2021

Reservoir Presence – The historic Red Helium Project wells were drilled in the 1940's to 1970's targeting the Leadville Formation (the productive reservoir at Doe Canyon) and are similar to the older wells in Doe Canyon where current wells produce helium at significant flow rates of up to 60 million cubic feet of total gas per day (mmcfpd).

Top Seal – A thick salt seal is present over the prospect and is the proven seal at the Doe Canyon helium field. This factor is critical in trapping the very small helium molecules that can escape other structures.

Trap – The Red Prospect is an significant closed anticline with a similar structural history and form to Doe Canyon, but has been interpreted to be much larger than the estimated 3-5 BCF helium estimated ultimate recovery (EUR) for Doe Canyon. Refer figure 3.

This release has been approved by the Board.

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

Keith Martens
CEO
E: info@grandgulfenergy.com

Mark Freeman
Director
E: markf@grandgulfenergy.com

Competent Person's Statement

The information in this report is based on information compiled or reviewed by Mr Keith Martens, CEO 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.

LISTING RULE 5 DISCLOSURES

In accordance with ASX Listing Rules 5.25, 5.26, 5.28 and 5.31, the Company confirms the following in respect of its Prospective Resources:

Method of Preparation

The resource estimates have been prepared by Sproule in accordance with the definitions and guidelines set forth in the Petroleum Resources Management System, 2018, approved by the Society of Petroleum Engineers (SPE-PRMS) and reported in the most specific resource class in which the prospective resource can be classified under 2018 SPE-PRMS. The estimates of Prospect Resources are reported as at 1 December 2021.

Resource Classification

The Prospective Resources have been sub-classified as a "Prospect" as the accumulation is well defined and represents a viable drilling target. This project maturity status sub-classification is further confirmed by the commercial Doe Canyon Helium Field immediately to the east.

The Prospect Resources are reported on the basis that helium would be produced from vertical wells with the opportunity for offtake with two helium plants in the immediate vicinity. The Lisbon Helium Processing Plant is ~20 miles to the northeast with an available access pipeline on the AMI. The Doe Canyon Helium Plant is ~15 miles to the east in Colorado. Both offtake opportunities are being explored.

The estimated quantities of petroleum (or commercial gases) that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons, and or commercial gases.

Methodology

With data provided by Valence's US based shareholder, Four Corners Helium ("FCH"), Sproule constructed a PETRA database of well logs, well information, grids, land information and production data to evaluate the Red Helium Project. Sproule evaluators reviewed the FCH interpretations with the FCH geoscientists and contractors and independently either verified the interpretations or made their own interpretations. Sproule reviewed the geologic, geophysical, petrophysical, and reservoir engineering analysis of FCH and created an independent range of reservoir parameters required for a stochastic analysis of the helium resources.

Only the Mississippian Leadville formation was considered in the report however deeper sandstones (ie McCracken Sandstone) also have potential and will be evaluated by future drilling.

Sproule relied on the Doe Canyon Helium Field as an analogue field as it lies just 15 miles to the east of the Red Helium Project. The McElmo Dome Field lies 33 miles to the southeast and Aneth lies 21 miles to the north and were also utilized by Sproule.

Prospective Resources were considered in four individual closures that are subsets of the broader Red Helium Project. The prospects were named Jesse, Oakley, Earp, and Kit.

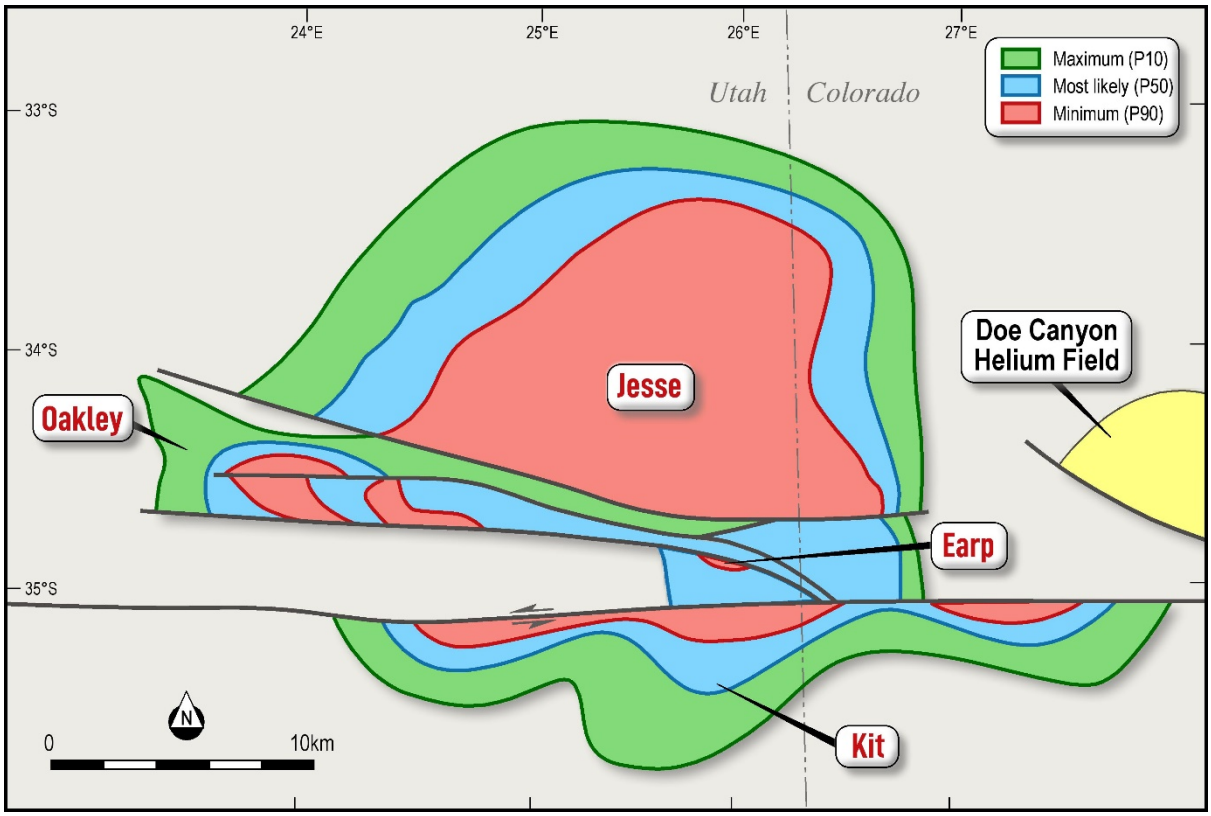

Figure 3 Red Structure with 4 local closures used in Sproule volumetrics

The structural closing contour was taken as the maximum area and the closing height (180 feet) was divided into thirds to define the Most Likely and Minimum closing contours. The area of each closing contour was used to define a logarithmic distribution of area.

Sproule evaluated both the Gross Thickness x Net-to-Gross (NTG) and a simple Net Porosity Thickness (NPT) as defined by petrophysical analysis. The NTG method advantage is that there are often more datapoints spread across a much greater area. The NPT method advantage is that, if the data allows, it is a direct measure of porosity adjacent to or at the prospect. In the Red Helium Project there were three wells with sufficient log data for reasonable porosity evaluation and in the adjacent Doe Canyon Field there is ample data on the porosity, thus the use of the NPT method was preferred. There is up to 200 feet of porous reservoir interval of vuggy dolomite in the Leadville Limestone in wells at the Red Helium Project and Doe Canyon Field. However, the zones of high porosity do not appear to be uniformly continuous and there are

also wells with limited, as little as 40 feet, porous reservoir. A range from 40 to 200 feet with a mean value of 100 feet was thus taken as the distribution.

Porosity and gas saturation ranges were taken from petrophysical analysis and checked against publications of existing analogue fields. The porosity range is from 4% to 14% with a most likely 10% porosity. Gas saturations can be as high as 90% (with some log calculated values as high as 95%) however, as with the porosity, there are zones of higher water saturation thus a low case of 50% was used. A mean value of 70% gas saturation was used in the realization.

The gas formation volume factor (Bg) was calculated from industry standard correlations and reported gas compositions.

The recovery factor (RF) was assumed to range from a maximum of 80% to a minimum of 30% with a most likely value of 60%. The maximum recovery factor represents a permeable reservoir with minimal faults, joints, and permeability barriers. The most likely recovery factor of 60% is typical of a volumetric dry gas reservoir with some flow restrictions. Assuming a reservoir depth of 7,500 feet, initial reservoir pressure is 1,890 psia and abandonment pressures associated with the maximum, most likely, and minimum recovery factors are approximately 700, 925, and 1,450 psia, respectively.

Sproule used a range of expected helium concentrations based on recoveries from wells in the Red Prospect and the three nearby fields, Doe Canyon, Lisbon, and McElmo Dome.

Calculation of Gross and Net Prospective Helium Resources

Sproule provided Valence with the shapefiles of the Maximum, Most Likely and Minimum areas for each of the four prospects. Valence then used those shapefiles to determine the gross and net acreage that Valence currently has leased within each of those shapefiles and returned to Sproule Xcel spreadsheets that documented, by lease, the gross and net acreage that Valence currently holds within each of the prospect areas.

Sproule used the Xcel tables to calculate the net acreage that Valence has for each prospect and using the mean BCF/acre (resource density) that multiplied the resource density times the acreage number, either gross or net acreage.

Table 3 - Valence Prospective Resources – GGE Interest

Net Recoverable Helium (mmcf)	Gross Helium Resources BCF (28,047 gross acres)	Net Helium Resources BCF (18,959 net acres)
P50 (Most Likely) Valence	10.9	7.4
P10 Valence	12.9	8.5
P90 Valence	7.6	5.2

P50 (Most Likely) GGE 25%	2.7	1.9
P50 (Most Likely) GGE 75% earn	8.2	5.6
P50 (Most Likely) GGE 75% earn After average 20%* total royalty	6.6	4.5

* A 20% royalty on all commercial production from the AMI is payable to the landowners (State and private as per below) and is inclusive of an overriding royalty interest payable to the Valence partners and project vendors.

MINERAL LEASE SUMMARY INFORMATION

In Utah, the mineral estate (including helium) may be owned by private citizens or corporations, the State of Colorado or the United States of America (federal). A mineral owner may permit a third party to develop and produce the mineral estate (including helium) by entering into a mineral lease between itself as lessor and the third party as lessee.

Valence's rights to develop, produce and sell any helium that may be derived from the Red Helium Project has been granted by private mineral owners and the State of Utah pursuant to mineral leases issued by each of those mineral owners. There are currently no federal leases held by Valence.

The net mineral acres associated with the prospective resources at the Red Helium Project comprise 28,046 gross acres with a net 18,959 acres.

State Leases

The State of Utah's School and Institutional Trust Lands Administration (SITLA) (State Leases) has, under an exclusive Other Business Arrangement (OBA), leased approximately 14,672 acres to Valence. The initial term of the leases is two years (commencing 1 July 2021) with an annual rental of US$2.00/acre. If a well is drilled on State land on or before July 1, 2023, Valence has a right to extend any or all of the State leases for a period of 3 years for $11/acre. If the Company successfully produces helium or other products from the lease area, a 15% royalty will be payable to the State of Utah and the lease term will be extended indefinitely until production ceases. The leases do not include any minimum work commitments. Valence is the only working interest owner in each of these leases.

Private Leases

The leases issued by the private mineral owners (Private Leases) have an initial term of two years with, in most cases, an option to renew for a further three years for a fee of $100/acre. If the Company successfully produces helium or other products from the lease area, a 15%-16.67% royalty will be payable to the lessor and the lease term will be extended indefinitely until production ceases. The leases do not include any minimum work commitments. Valence is the only working interest owner in each of these leases.

QUALIFIED PETROLEUM RESERVES AND RESOURCE EVALUATOR - DETAILS

The reserves and resources information in this document are based on and fairly represent information from a report compiled by Sproule Associates Limited ("Sproule") relating to oil and gas fields in the Asset Properties. The report was prepared effective 1 December 2021 under the supervision of Jeff Aldrich who is qualified in accordance with ASX listing rule 5.41.

Jeffrey B. Aldrich is a Senior Geoscientist in Sproule and is a Certified Petroleum Geologist, #6254, by the American Association of Petroleum Geologists (AAPG) and a Licensed Professional Geoscientist, #394; He is an active member of the AAPG and the Society of Petroleum Engineers (SPE). He has over thirty years as a practicing petroleum geologist/geophysicist and over twenty years of experience in oil and gas reserve evaluations. He holds a Bachelor of Science degree in Geology from Vanderbilt University and a Master's of Science degree in Geology from Texas A&M University. He is an instructor in the PetroSkills Alliance and is the Course Director for "Prospect and Play Analysis", "Evaluating and Developing Shale Reservoirs", "Unconventional Resource and Reserve Estimation", and "Coalbed Methane Reservoirs".
He is qualified in accordance with ASX listing rule 5.41.

John Seidle is a Senior Reservoir Engineer with Sproule in Denver, Colorado. He has more than thirty-five years of experience in unconventional gas and oil reservoir engineering in domestic and international plays. His current duties include unconventional reservoir engineering, reserve studies and economic evaluations, unconventional well performance analysis, and serving as an expert witness for litigation and regulatory hearings. Dr. Seidle is an instructor for industry classes, primarily unconventional reservoirs. Privileged to work with others on over 29 technical papers, he is the author of "Fundamentals of Coalbed Methane Reservoir Engineering". John is editor and chapter author of SPEE Monograph 4, "Estimating Ultimate Recovery of Developed Wells in Low-Permeability Reservoirs". He received a PhD in Mechanical Engineering from the University of Colorado, is a member of SPE, AAPG, and SPEE, and is a Registered Professional Engineer in Colorado, Oklahoma, and Wyoming. Unconventional reservoir experience includes USA, Canada, Australia, China, India, South Africa, New Zealand, Colombia, Mexico, France, UK, Turkey, Poland, Mongolia, Ukraine

He is qualified in accordance with ASX listing rule 5.41.

Sproule and its named employees and associates have consented to be named in this manner in this release.