

Sector: ENERGY

9<sup>th</sup> January 2023

**GEORGINA ENERGY PLC**



**\*In-situ Valuation (US\$ Billion)**

Helium & Hydrogen	94.13
Natural Gas	7.96
<b>Total</b>	<b>102.09</b>

\*Source: Georgina Energy Plc

**\*Resource**

Helium (BCFG unrisked 2U, P50)	303
Hydrogen (BCFG unrisked 2U, P50)	308
Natural Gas (TCFG unrisked 2U, P50)	2.95

\*Source: Georgina Energy Plc

**HELIUM & HYDROGEN: FIRST CLASS OPPORTUNITY**

Georgina Energy Plc plans to confirm and exploit significant Prospective Resources of Helium, Hydrogen, and Natural Gas in two projects; Mt Winter and Hussar, both operated by the company.

As strategic commodities to Western economies, given the current geopolitical environment, Helium, Hydrogen, and Natural Gas are high value, critically important gases to today’s global economy.

The Prospective Resources quoted by the company are significantly larger than their nearest, listed, peer (Page 3). An “in-situ” valuation provided by Georgina Energy based on independent assessment of Prospective Resources at net attributable 2U or “best” level is around US\$102 billion.

The Mount Winter (Mt Winter) and Hussar Projects both host drilled and recorded contain hydrocarbon shows at their respective locations within the geological sedimentary section offering investors exposure to these commodities beyond a pure exploration play.

**Australian World Class Projects**

Georgina Energy Plc is a UK domiciled company seeking to list on AIM in support of its activities in the Amadeus and Officer Basins within Central Australia, both extremely large underexplored sedimentary basins. The Company is targeting two very large prospects; Mt Winter and Hussar, respectively, within ancient Neoproterozoic clastic reservoirs beneath regional thick evaporitic (salt) seals deposited in these basins.

Resource estimates were made by independent consultants for each of the projects following a detailed review of available datasets, studies conducted by the company, the forward work programme proposed for each project, and known analogues in the Amadeus Basin.

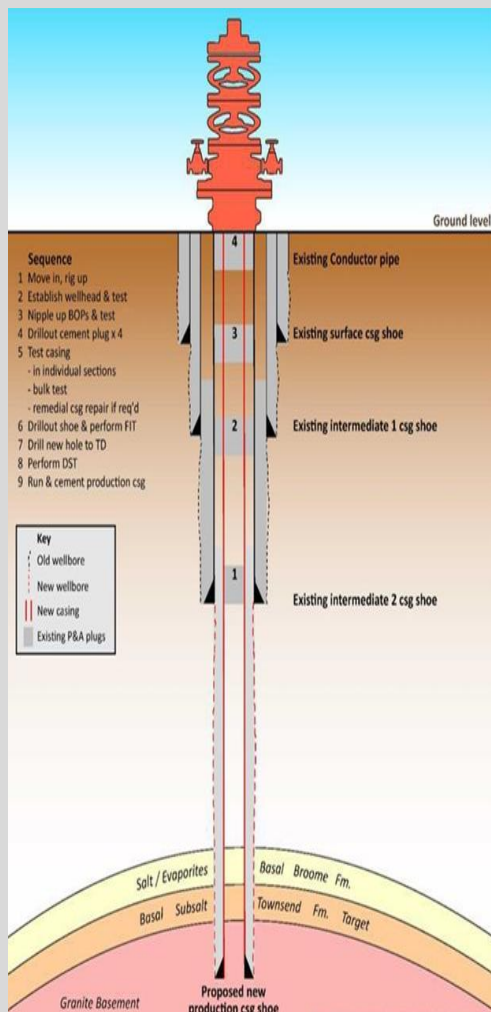
Each prospect has an existing exploration well that has intersected hydrocarbons above the regional salt seal. The potential for a re-entry and deepening of these wells is being investigated by Georgina Energy in the interests of minimising drilling costs.

The planned work programme for each project aims to de-risk any potential re-entry and deepening of these wells and includes, amongst other studies, the acquisition of new modern seismic data and closely spaced airborne gravity surveys over each prospect. Following the acquisition, processing, and interpretation of these datasets, in conjunction with existing datasets, the company will review drilling options.

Georgina Energy has investigated commercialisation options for any potentially proven reserves of Helium, Hydrogen, and Natural Gas concluding that the most effective strategy for the Company is to sell any produced gases at the wellhead. Current discussions with both domestic and international suppliers of these commodities are encouraging, with strong interest from these suppliers to potentially provide surface facilities and transportation infrastructure for the various gases.

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**Helium & Hydrogen - World Class Prospective Resources**



**Generalised re-entry & deepening well schematic.** Source: Georgina Energy Plc

**EP155: Mt Winter Project**

Georgina Energy Plc holds the right to earn up to a 90% interest in EP155 containing the Mt Winter Prospect, located within the Amadeus Basin in the Northern Territory, central Australia. The prospect is an aerially extensive structural closure formed over a large tilted basement fault block.

The Mount Winter-1 well (1982) located on the structure encountered significant Hydrocarbon shows within sandstones and siltstones directly above the regional salt seal but did not penetrate the deeper sub-salt reservoir target.

The Amadeus Basin contains 5 proven petroleum systems and hosts Hydrocarbon production from the Mereenie, Palm Valley, Dingo, and Surprise oil and gas fields. In addition to gas and oil, very high concentrations of Helium have been encountered in **Mt Kitty-1 (9% He)**, possibly the highest known concentration of Helium in any exploration well to date, and **Magee-1 (6.2% He)**, which are the only two wells to have penetrated the sub-salt reservoir targeted by Georgina Energy. Very high concentrations of naturally occurring Hydrogen were also encountered in **Mt Kitty-1 (11% H)** from the same reservoir Georgina Energy is targeting.

Independent consultants have estimated unrisks 2U Prospective (Recoverable) Resources of **148 BCFG (148 million MCF) of Helium** and **135 BCFG (135 million MCF) of Hydrogen**, and **1.22 TCFGE (Trillion Cubic Feet Equivalent) of gaseous Hydrocarbons** in the Mt Winter Prospect within the sub-salt reservoir targeted.

Following the successful acquisition and interpretation of seismic and gravity surveys Georgina Energy plans to consider all drilling options, including the re-entry or sidetrack, and deepening, of the existing Mt Winter-1 well.

**EPA-0186: Hussar Project**

Georgina Energy Plc holds 100% of EPA-0186 containing the Hussar Prospect, located within the Officer Basin in Western Australia. Hussar is a very large, estimated 200km<sup>2</sup>, sub-salt closure with the target reservoir overlaying a large Neoproterozoic basement high that is sealed by thick evaporite (salt) units.

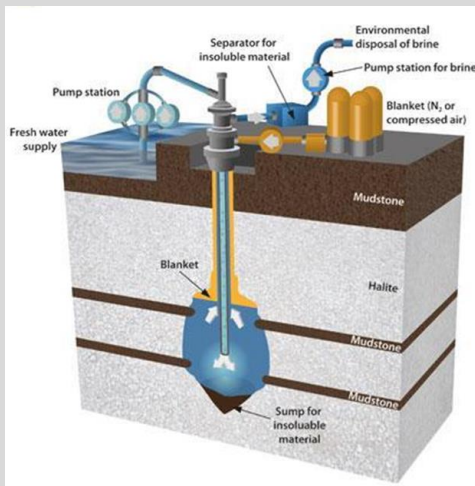
The Hussar-1 well (1982) drilled into the thick salt seal above the reservoir targeted by Georgina Energy. High gas readings and some oil shows were encountered across multiple zones wherever porosity was present within the geologic section drilled by the well. Results from the well confirm the presence of a working petroleum system at the Hussar location.

Independent consultants have estimated unrisks 2U Prospective (Recoverable) Resources of **155 BCFG (155 million MCF) of Helium** and **173 BCFG (173 million MCF) of Hydrogen**, and **1.75 TCFGE (Trillion Cubic Feet Equivalent) of gaseous Hydrocarbons** in the Hussar Prospect within the sub-salt reservoir target.

Georgina Energy plans to consider all drilling options, including the re-entry or sidetrack, and deepening, of the existing Hussa-1 well.

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**Helium & Hydrogen - World Class Prospective Resources**



**Salt mining schematic.** Source: <https://edu.rsc.org/feature/salting-away-our-spare-gas/2020226.article>

**Blue Energy: ‘Greener’ Hydrogen & Helium**

Georgina Energy is assessing the potential to extract “Gold” hydrogen and to apply blue energy principals to power a gas separation plant using the Natural Gas resources identified within their project areas, once confirmed, for the production of Helium and Hydrogen. Plant energy might alternatively be provided by green wind and/or solar sources.

The targeted resources are hosted by sandstones underlying significant thicknesses of salt which provides the opportunity for the company to develop solution mined salt caverns. Salt caverns can be created rather easily by solution mining, a technology that is relatively straightforward; the process of drilling into salt units above the reservoir and injecting water and extracting saline water with dissolved salts. This process has been utilised in the US for decades to create storage for strategic oil, gas and Helium reserves.

The Company is working with industry players to assess the feasibility of proximal storage capacity through solution mined salt cavern storage for Helium, Hydrogen and Hydrocarbon gases. This would allow optimal production volumes to continue unabated if transport infrastructure became temporarily unavailable or inhibited.

**Company Comparative**

Position at Admission	Georgina Energy Plc	Helium One Global Ltd
<b>Location / Jurisdictional Risk</b>	<b>Australia / Low Risk</b>	<b>Tanzania / High Risk</b>
Source of Helium, Hydrogen, Natural Gas	Defined	Not Defined
<b>Helium (BCFG unrisked 2U, P50)</b>	<b>303</b>	<b>138</b>
Hydrogen (BCFG unrisked 2U, P50)	308	0
Natural Gas (TCFG unrisked 2U, P50)	2.95	0
Seismically Defined Targets & Wells Drilled	2	0
Company Project Status	Well Development	Explorer
Country / National Infrastructure	Road, Rail, Pipeline, Processing Plant, and Ports	None
Production Status	Near Term	Not Defined
Salt Cavern storage capability similar to USA	Yes	No
Government Infrastructure Investment	\$110 billion	0
<b>Market Capitalisation</b>	<b>At IPO: £8.5million</b>	<b>At 3 Jan 2023: £58 million</b>

**Valuation**

The closest, appropriate, corporate comparative to Georgina Energy Plc is Helium One Global Ltd, a pure Helium play that is currently trading on AIM. <https://www.helium-one.com/>

On a like-for-like basis the proposed IPO pricing (valuation) is low relative to the trading valuation of Helium One Global. Resource metrics confirm that Georgina Energy’s IPO valuation is significantly undervalued based on Helium One Global’s recent (3<sup>rd</sup> January 2023) share price.

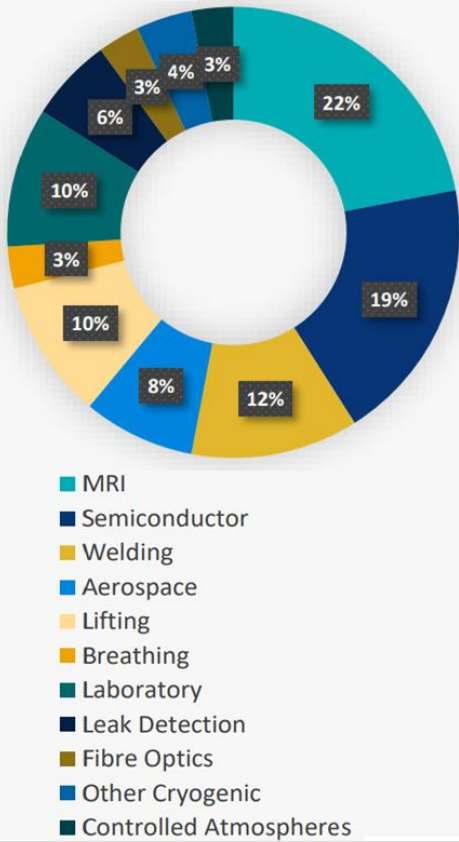
Using a peer ‘group’ comparative methodology (current market valuation of Helium One Global Ltd) we assign a **base case valuation of £127 million** to Georgina Energy Plc on the basis of unrisked 2U Prospective (Recoverable) Resources of Helium alone and suggest an upside valuation could be significantly higher given the potential for Hydrogen and Natural Gas exploitation within Georgina Energy’s two projects.

Sovereign risk, access to state of the art drilling and oilfield hardware is also advantages for Georgina Energy’s assets while significant national infrastructure is in place in support of any possible development of proven reserves, should they be encountered.

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**Helium & Hydrogen - World Class Prospective Resources**

**Helium Demand**

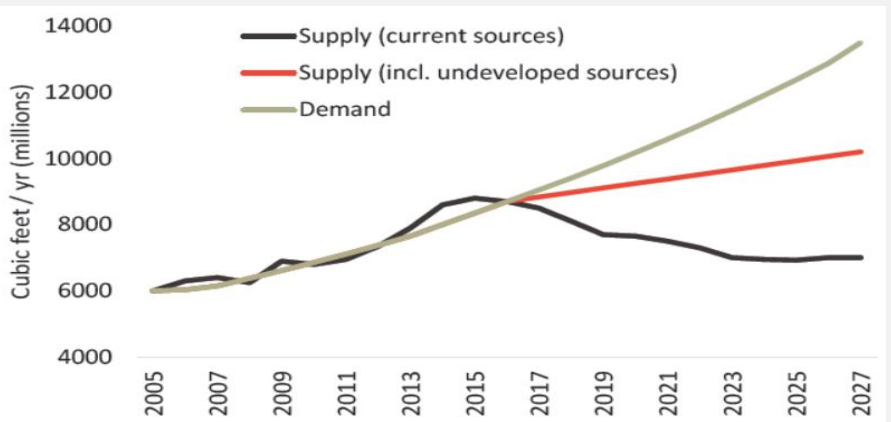


Source: Noble Helium 2022 AGM Presentation

**Helium**

There is a global shortage of Helium, a naturally occurring inert gas that is non-renewable and is rare on Earth. It is vital in our global economy and critical to many 'high-tech' industries. Consequently, demand for Helium continues to grow irrespective of the commodities' pricing due to a global Helium shortage.

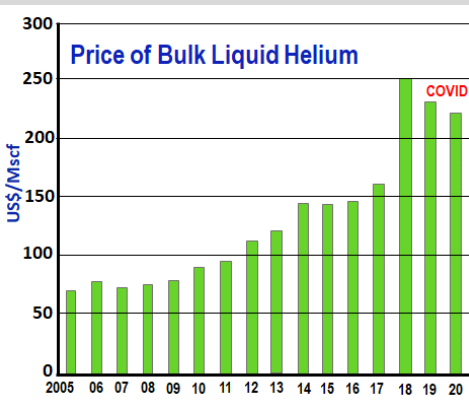
The sale of Helium from the US governments National Helium Reserve cannot underwrite supply ensuring a prolonged tight Helium market for the foreseeable future. The global helium shortage is further exaggerated by the polarisation of the world into competing economic, technological, and military blocs between Western economies and that of China, Russia, and their allies.



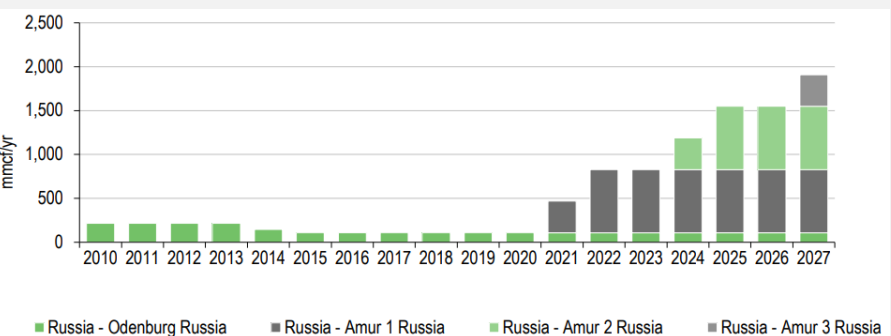
**Global Helium Demand/Supply projections.**

Source: <https://www.geologyforinvestors.com/helium-mining-now-is-the-time/>

We note that current economic sanctions on Russia, if expanded to the export of Helium, have the potential to further restrict supply as some of the largest upcoming 'new supply' projects globally are located in Russia. Such restrictions will add to current supply side upward pressures on Helium pricing.



Source: USGS & Others



**Russian Helium supply projections.** Source: USGS, Edison Investment Research. Note: 2017 onwards are Edison estimates.

These supply and demand factors both continue to maintain upward pressure on Helium pricing and suggest that in the foreseeable future the price of bulk Helium will continue to rise, notwithstanding a global shock such as the recent Covid epidemic.

Georgina Energy's projects with a combined **2U Prospective Resource estimate of 303 BCFG** Helium expose investors to a globally significant Helium play.

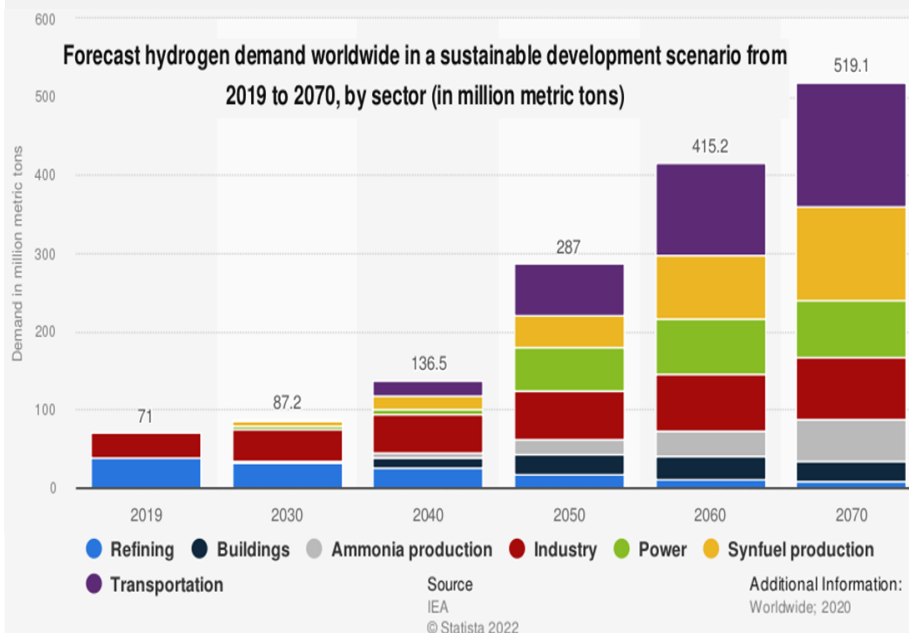
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**Helium & Hydrogen - World Class Prospective Resources**

***‘Exponential’ demand growth on the back of zero emission economy targets***

**Hydrogen**

Hydrogen is increasingly becoming a key energy source for a world seeking to dramatically reduce the amount of carbon dioxide emitted each year. The developed world and China have committed to nett zero CO<sup>2</sup> emissions by the middle of the century. Thus, Hydrogen demand is forecast to increase more than 700% by 2070.



Commercially, Hydrogen is currently classified as ‘Grey’, ‘Blue’, ‘Green’ or Gold Hydrogen depending on the process by which the Hydrogen is produced or sourced.

Georgina Energy will be producing Hydrogen with its high value Helium mixed in with other Hydrocarbon gases within the production stream. The Company plans to potentially use some of this natural gas as an energy source to power separation and production facilities.

As production increases the company plans to move towards a ‘Blue Energy’ production model and produce Blue Hydrogen by sequestering CO<sup>2</sup> generated by the separation of the various gaseous components of the Hydrogen into proximal salt caverns created within the thick salt units present above the sandstone reservoir. Green energy from wind and/or solar sources is also a possible avenue.

Both Hydrogen and Helium are known to be notoriously difficult to store. The potential for salt caverns created close to the production facility to store produced Hydrogen and Helium provides an economic advantage to any development.

Green Hydrogen is generated through the electrolysis of water using a renewable energy source such as solar, wind, or wave power. Currently an expensive process and as such only contributes a small percentage of overall Hydrogen production.

Georgina Energy’s projects with a combined Hydrogen **2U Prospective Resources of 308 BCFG** expose investors to a material Hydrogen play.

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**Helium & Hydrogen - World Class Prospective Resources**

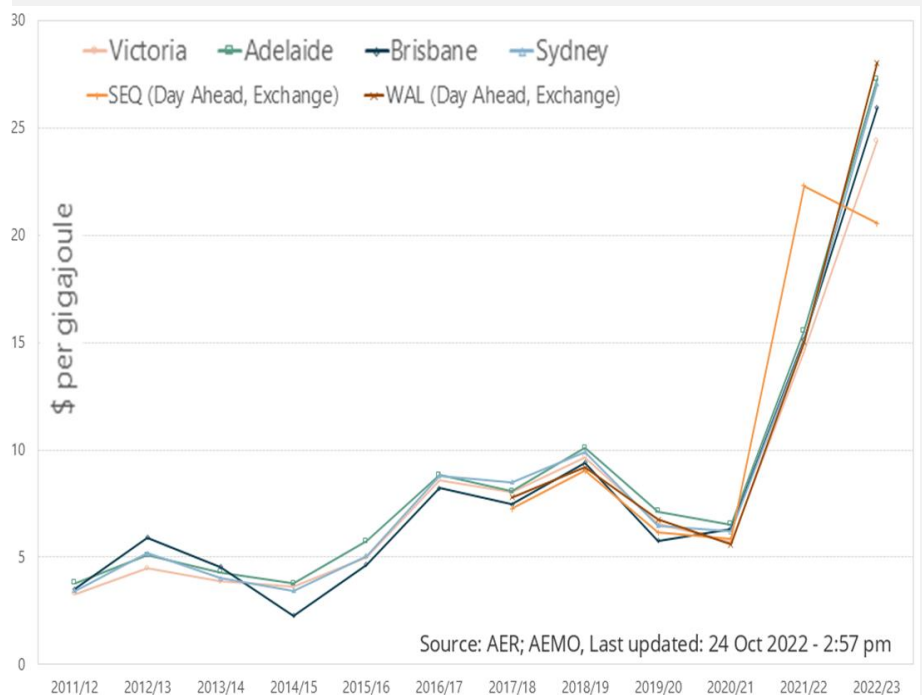
**Natural Gas Market Dynamics**

**Natural Gas**

Blue Energy is generated through sequestering CO<sup>2</sup> generated from production facilities into salt caverns within the thick salt units present above the sandstone reservoir.

Georgina Energy's projects with combined **2U Prospective Resources of 2.95 TCF** of Natural Gas provides all the necessary fuel to run all production facilities on-site and excess gas could be sold into the national pipeline grid.

Australian wholesale gas prices continue to soar as a function of declining reserves in eastern Australian gas fields that are unable to meet current and forecast demand growth over the next 20 years.



The Australian government has commitment to a \$110 billion investment in infrastructure which aims to deliver gas from central Australia to fill this shortfall on the east coast. We see this as a potential mid to longer term opportunity for Georgina Energy to deliver any proven Natural Gas reserves to market.

Should any development be linked to the existing national gas infrastructure network it exposes investors to a third revenue stream in addition to the sale of Helium and Hydrogen.

**Conclusion**

Our valuation and assessment of the Helium and Hydrogen markets suggest that Georgina Energy Plc is well placed to be a leading player in this novel and potentially highly lucrative market Sector. The proposed IPO valuation appears to be significantly lower than the market is likely to apply to the company given the scale of resources.

The company potentially exposes investors to a world class Helium Project at a very modest entry price that has the potential to become a leading player in Helium market.

**GEORGINA ENERGY PLC****Experienced & Effective Team**

**Anthony Hamilton**  
MD & CEO

**Mark Wallace**  
Executive Finance Director

**John Heugh**  
Executive Technical Director

**Dean Golokin, BCom**  
CA, Finance Manager

**Sam Quinn**  
(Silvertree Partners) Company Sec.

**Helium & Hydrogen - World Class Prospective Resources****Directors & Management**

Mr Hamilton is a Managing Partner, Westmarket Capital Plc, is a Fellow of the Institute of Directors in London with over 35 years of extensive experience in international business, from investment advisory to Oil & Gas, exploration and production of gold, diamonds, base metals and property development.

Mr. Hamilton's experience has encompassed the role as CEO of an Oil & Gas company in South Texas, USA, raising US\$55 million for the refurbishment and re-establishment of operations producing 28 MMCFGD, managing both onshore and offshore operations. Mr. Hamilton is also accredited with developing Zimbabwe and North Americas first commercial diamond mines with hands on expertise to develop assets from discovery to production.

Mr Wallace is a Managing Partner, Westmarket Capital Plc, holds a Bachelor of Economics and Accounting, is a Chartered Accountant and has over 25 years expertise in the global financial markets having held positions with internationally renowned Investment Banks and advisory firms including Standard Chartered Capital Markets, Cantor Fitzgerald and Credit Lyonnais in London and Natwest Capital Markets in Sydney.

Mr Heugh holds a BSc (Hons) in geology and has completed 6 units of drilling engineering from the University of Texas, Austin. He has extensive experience in oil and gas exploration geology, including wellsite geology, project generation, operations geology and engineering support.

John was the founding Director and MD for 15 years of Central Petroleum Ltd., the biggest acreage holder in Australia of prime petroleum exploration and appraisal ground (70 million acres). Extensive helium exploration and target identification expertise.

Founding Director and Executive Vice-Chairman Petro Afrique Oil & Gas Ltd. Founding Director and Executive Chairman of Gryphon Mining & Energy Melanesia Pty Ltd. Raised over \$100 million for exploration, initial development & discovery.

Orchestrated over \$500 million of JV expenditure potential. Discovered over one trillion tons of coal, a 300 km<sup>2</sup> tight gas sand prospect, generated the first horizontal well onshore in Australia, and delivered first commercial oil to surface in the western Amadeus ever. Pioneered the promotion of unconventional (shale gas and oil) in Australia in 2007.

Mr Golokin is a Chartered Accountant and a finance professional with over 10 years' experience working both in practice and public listed companies. He has worked in various finance roles with Rio Tinto and BHP focusing on statutory compliance, financial management and planning. In addition, he has tax experience gained from his time with PWC and BDO.

Mr Quinn is a corporate lawyer with over 20 years' experience in the natural resources sector in both legal counsel and executive management positions. Mr Quinn is currently a partner of Silvertree Partners, a London-based corporate services company dedicated to the natural resources sector and holds various other positions in both listed and private natural resource companies.

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