

# ADVANCED PRIMARY HELIUM OPPORTUNITY

- Strategic early-mover in the world's largest helium market
- Successful low cost, high impact exploration results
- Developing discoveries at Voyager, Galactica & Pegasus
- Voyager development, first helium from Q4 2023
- High grade helium exploration portfolio large resource upside

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ASX: BNL | OTCQB: BSNLF

Corporate Presentation: July 2023

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The Board has authorised this announcement to be given to ASX. Security holders and other interested parties can contact Trent Spry, Managing Director and CEO at [info@bluestarhelium.com.au](mailto:info@bluestarhelium.com.au)

## Prospective Resources

Net Recoverable Helium (MMcf)	1U (P90)	2U (P50)	3U (P10)
Galactica Prospect	2,131	4,395	6,849
Pegasus Prospect	1,970	3,423	5,092
Argo Prospect	276	2,108	3,065
Enterprise Prospect	372	2,204	5,494
Galileo Prospect	495	1,292	2,329
<b>Total BNL Net Recoverable Helium</b>	<b>5,244</b>	<b>13,422</b>	<b>22,829</b>

## Contingent Resources

Net Recoverable Helium (MMcf)	1C (P90)	2C (P50)	3C (P10)
Voyager Prospect	299	643	1,228

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 recoverable helium.

Note 2: The resource estimates have been prepared using the probabilistic method and are presented on an unrisks 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. Prospective resource totals have been arithmetically added. The aggregate low estimate may be a very conservative estimate and the aggregate high estimate may be a very optimistic estimate due to the portfolio effects of arithmetic summation.

Note 3: The prospective and contingent resource estimates are presented on a net entitlements basis and represent the Blue Star group's net economic interest in the prospective and contingent recoverable helium volumes after deductions for the volume weighted royalty burden.

### Notes specifically in relation to Galactica, Pegasus and Argo

Note 4: The estimates of prospective resources in respect of Galactica, Pegasus and Argo prospects are reported as at an evaluation date of 4 June 2021 and are more fully described in the Company's announcement of 10 June 2021. Aside from the information contained in the Company's ASX releases dated 17 May, 7 June, 29 September and 5 October 2022 and the installation of a helium processing facility at the third party owned Red Rocks project adjoining the Company's Galactica Prospect, the Company is not aware of any new information or data that materially affects the information included in that announcement and all the material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

### Notes specifically in relation to Enterprise and Galileo

Note 5: The estimates of prospective resources in respect of Enterprise and Galileo prospects are reported as at an evaluation date of 1 November 2020 and are more fully described in the Company's announcement of 16 November 2020. The Company is not aware of any new information or data that materially affects the information included in that announcement and all the material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

### Notes specifically in relation to Voyager

Note 6: The estimates of contingent resources in respect of the Voyager prospect are reported as at an evaluation date of 1 August 2022 and are more fully described in the Company's announcement of 27 September 2022. Aside from the information contained in the Company's ASX release dated 11 April 2023 regarding the acquisition of additional mineral leases, the Company is not aware of any new information or data that materially affects the information included in that announcement and all the material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

# CORPORATE SNAPSHOT

## CLEAN CAPITAL STRUCTURE

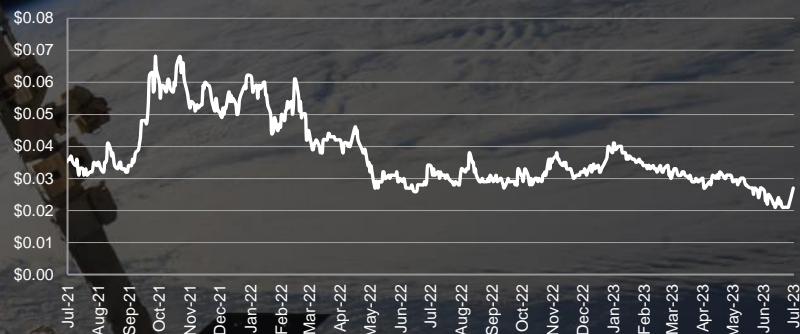
ASX Ticker	BNL
OTCQB ticker	BSNLF
Share price (ASX close, 03 July 23)	2.7 c
Issued share capital	1,586 MM
Options	34 MM
Performance Rights	91 MM
Basic market capitalisation	A\$42.8 MM
Cash (31 March 23)	A\$5.40 MM

## SUPPORTIVE SHAREHOLDER BASE

Board	4.0 %
Hugh Warner	3.0 %
Nikola Krkovski	2.9 %
Cecil Dowson	2.9 %
Top 20	35.6 %

As at 28 April 2023

## SHARE PRICE PERFORMANCE



## EXPERIENCED BOARD AND MANAGEMENT

### Ross Warner – Executive Chairman

Lawyer and corporate executive with 15+ years in oil and gas, more particularly in the United States, UK and Indonesia

### Trent Spry – Managing Director & CEO

Experienced geoscientist with 20+ years in oil, gas and helium, exploration, development and new ventures

### Neil Rinaldi – Non-Executive Director

Executive leader and finance professional with 20+ years in asset acquisitions and disposals, company structuring and growth strategy

### Peter Kondrat – Chief Operating Officer

Extensive helium operating and development experience, including most recently as President/COO of US helium E&P business, Tacitus LLC

### Scott Fenoglio – Chief Financial Officer

Seasoned executive and industry professional with 20+ years in the oil & gas and financial services industries. Previously the CFO of Ossidiana Energy.

# BLUE STAR: ADVANCED PRIMARY HELIUM OPPORTUNITY



**DEFINED PATHWAY TO PRODUCTION:** High-grade Voyager discovery (643 MMcf contingent helium resource) targeting first helium output in Q4 2023 via initial midstream pathway; Galactica/Pegasus targeted for first production in 2024



**LOW CAPITAL AND HIGH RETURNS:** Voyager midstream development pathway is capex-lite, expertise-rich, and projected to deliver high returns and maximum product market pricing and flexibility



**HIGH-VALUE PRODUCT IN SHORT SUPPLY:** Helium is a high-value, finite resource in structural undersupply in the US; prices have responded by increasing substantially over the past two years



**SUSTAINABLE HELIUM RESOURCE:** Primary helium production possesses effectively zero hydrocarbon (methane) content compared to majority of global He supply produced as a by-product of natural gas production



**EXTENSIVE EXPLORATION UPSIDE:** 13.4 Bcf prospective helium resources from five prospects; further prospects being advanced, ongoing development of contingent helium resource via multiple commercialisations



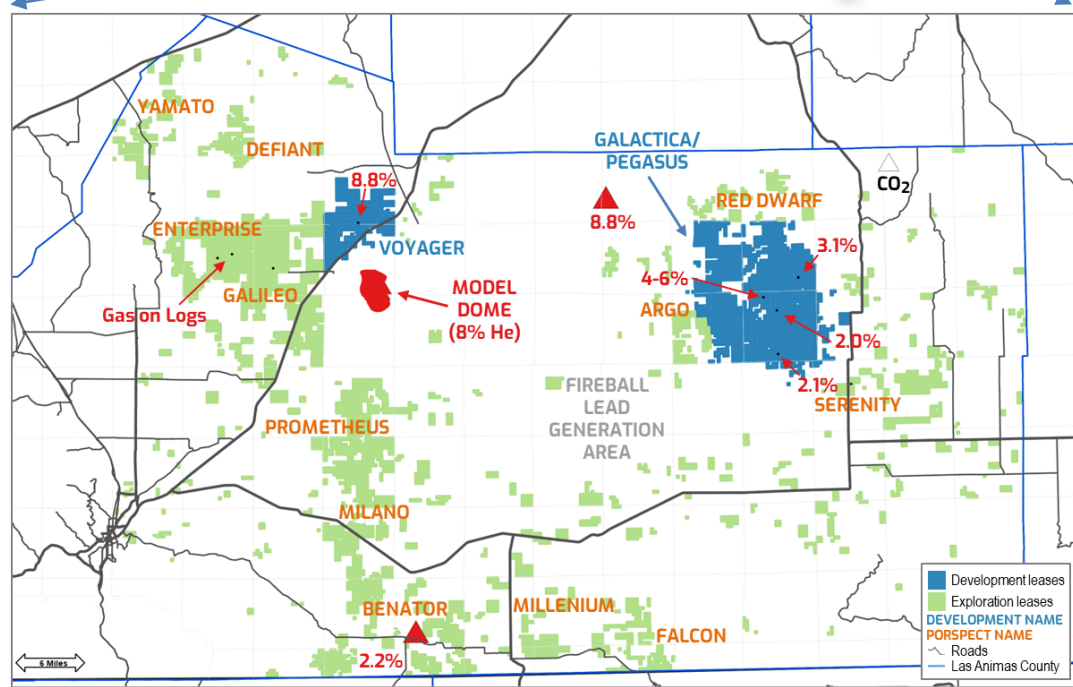
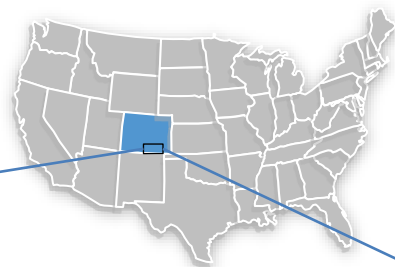
# LAS ANIMAS: PREMIER US HELIUM ASSETS...

Extensive landholding and prospect portfolio in highly prospective location  
Developing discoveries at Voyager, Galactica & Pegasus

**643 MMCF Contingent helium resources (Voyager)**

**13.4 BCF Prospective helium resources**

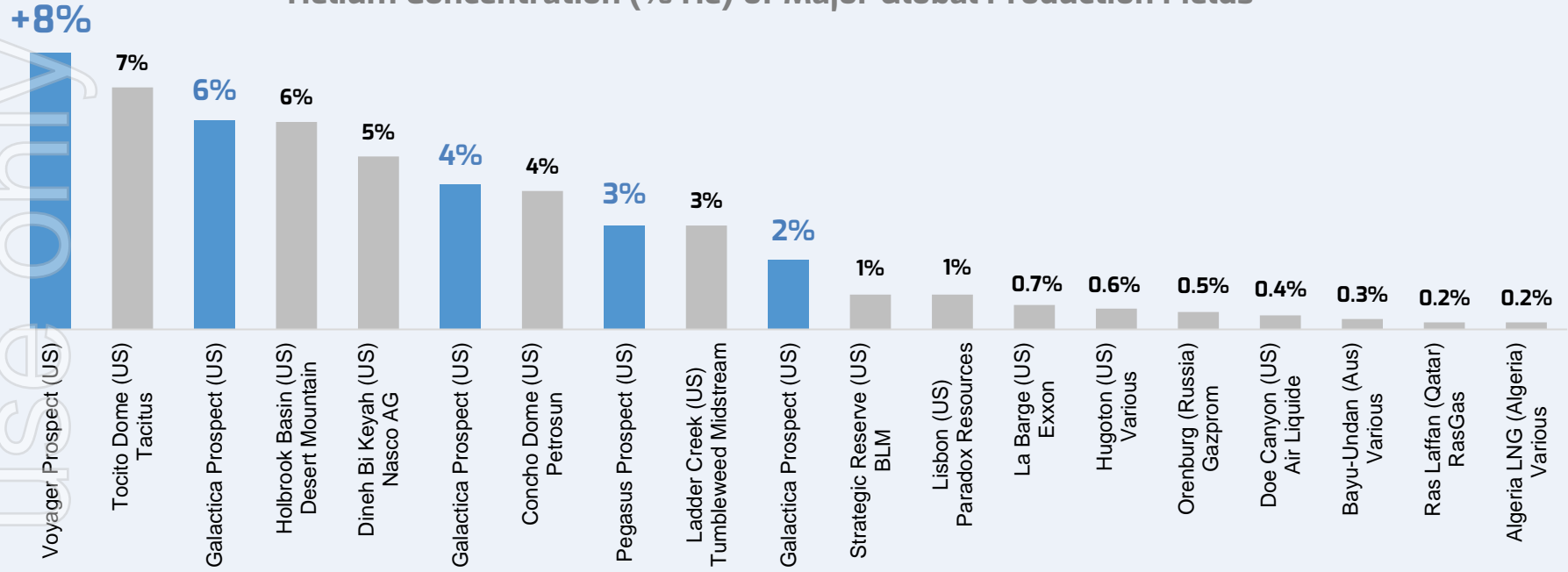
- Strategic, large-scale land position secured
- 311,250 gross acres leased (225,920 net acres)
- Outstanding drilling success – proven helium resources
- Highly attractive helium concentrations
  - Historic Model Dome analogue – helium: 8%
  - Historic Cynthia True discovery – helium: 8.8%
- Blue Star discoveries
  - Voyager discovery – helium: 8.8%
  - Galactica/Pegasus discoveries – helium: 2-6%
- Voyager development first helium from Q4 CY2023
- Excellent geology, ready local infrastructure and proximity to key downstream customers
- Exploration upside; 2023/24 plan - advance exploration portfolio, including additional independent prospective resource evaluations; drilling of high ranked prospects



# ... AT STAND-OUT HELIUM GRADES

Globally high helium concentration levels

## Helium Concentration (% He) of Major Global Production Fields



Final use only

# HELIUM USES, DEMAND, SUPPLY & MARKET

Medicine, consumer electronics, high-tech industrial uses

Strong demand growth diversified deep market

Market is structurally under supplied with ongoing challenges

Helium price is surging and transitioning to market pricing



2

He

4.002602  
Helium

# CURRENT HELIUM USES

Helium is a modern technology enabler

## Aerospace/aircraft

### Space flight

NASA (and private space organisations) uses helium as an inert purge gas for hydrogen systems and a pressurizing agent for ground and flight fluid systems. Helium is also used throughout the agency as a cryogenic agent for cooling various materials and in precision welding applications.

### Controlled atmosphere

Helium's use as an inert, non-toxic gas makes it ideal in controlled atmosphere environments.

## Advanced science

### Quantum computing

Helium exists in liquid form at temperatures below -269C (4K); this enables its use as the ideal coolant for quantum computing research.

### Research / Large Hadron Collider

Helium has been essential to numerous Nobel Laureates and their advanced research; more than 5,200 patents relying on liquid helium have been awarded since 1975 in the U.S. alone.

## Healthcare

### Heliox breathing mixtures

Helium in breathing mixtures assists with breathing and improves oxygenation in medicine and diving. Potentially reducing inflammation for COVID-19 patients with acute respiratory distress syndrome.

### Magnetic Resonance Imaging (6% annual growth)

MRI technology is essential in modern medicine. The superconductive magnets inside MRI machines reach extreme temperatures and rely on helium for cooling. A single MRI machine uses 700 litres of helium per year.

## Defence

### High-end thermographic cameras

Used as a coolant in thermographic quantum detectors.

### Missile propulsion systems

A purge gas and fuel pressurising agent.

### Submarine detection

Liquid helium is used to clean noisy sound signals.

## Electronics/semiconductors

### Fibre optics

Used in the manufacturing process and for cooling systems during use. High speed networks such as the internet rely on helium.

### LCD panels

Helium is essential in the manufacture of LCD panels to cool the glass and to etch internal components.

### Hard disk technology

The use of helium in hard disk drives reduces friction between disk platters, increasing speed, longevity and storage potential.

### Lithium batteries

Helium is used in the quality assurance process of lithium battery manufacturing, to test every battery for leakage.

## Renewables/low carbon tech

### Energy/Transport

Essential in nuclear fusion and ideal for nuclear fission cooling

Small modular nuclear reactors (SMRs)

High speed Mag-Lev transport

Lithium-ion battery testing and quality assurance



# HELIUM DEMAND

An enabler of innovation, helium is essential for key existing and future technology development

**US\$6-8 billion**

**Forecast 2021-25 CAGR:**

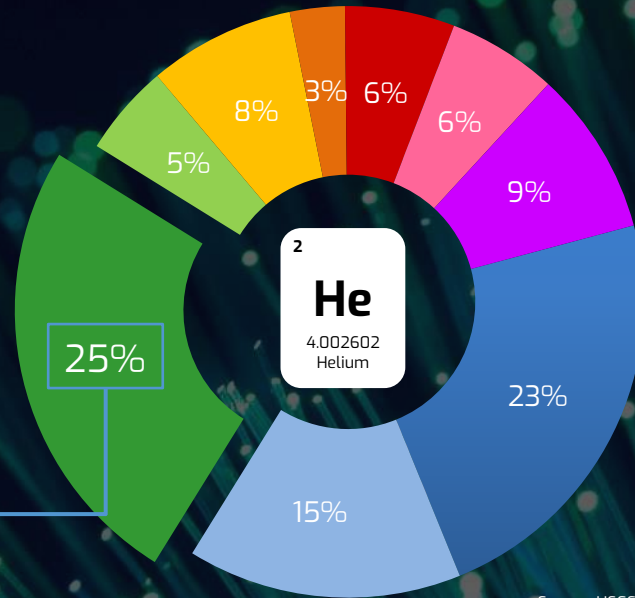
**2-6% p.a.**

**Supercharged by strong, persistent semiconductor demand growth**

Source: Hannam Partners Research

## Global share of helium applications (2021)

- Cryogenics / MRI
- Electronics, Fiber Optics & Semiconductors
- Other
- Analytics
- Welding
- Lifting
- Pressurisation & Purging
- Breathing
- Leak detection



Source: USGS, ResearchAndMarkets

A diversified, deep market with increasing demand driven by medicine, consumer electronics and technological advancement

# STRUCTURAL UNDERSUPPLY IN THE U.S...

## Growing helium shortage

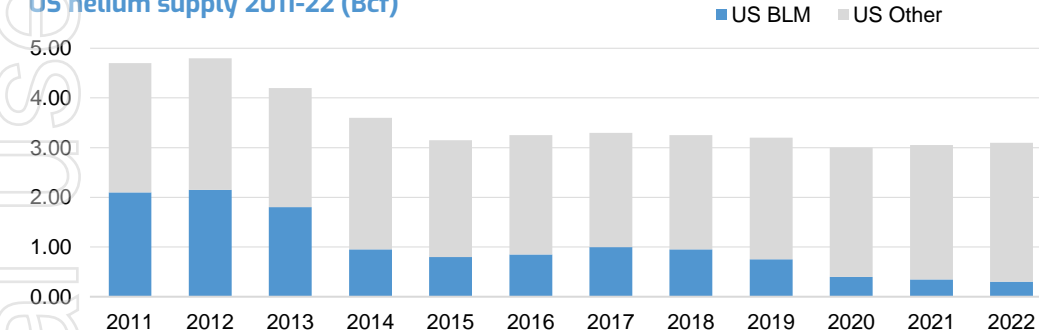
### DOMESTIC SUPPLY CHALLENGES

- U.S. supply structurally weakened by elimination U.S. strategic reserve (BLM)
- Supply now critically strained from recent further interruptions globally
- Most worldwide He supply is a by-product of hydrocarbon extraction; price inelastic plus climate targets expected to significantly impact new supply

### SURGING DEMAND FROM SEMICONDUCTOR INDUSTRY – DOMESTIC AND OFFSHORE

- Push from U.S. Govt. to dramatically increase domestic semiconductor manufacturing with +US\$50bn investment (security of supply dynamic)
- Semiconductor manufacturers committing to investing +US\$50bn in new fabs in U.S.
- Additional capacity flagged globally from major semi-conductor players

US helium supply 2011-22 (Bcf)



Source: AAAS; US Department of Interior's BLM and Office of Minerals Evaluation, Edison Research, Hannam Partners Research

## Current Status: Supply challenged



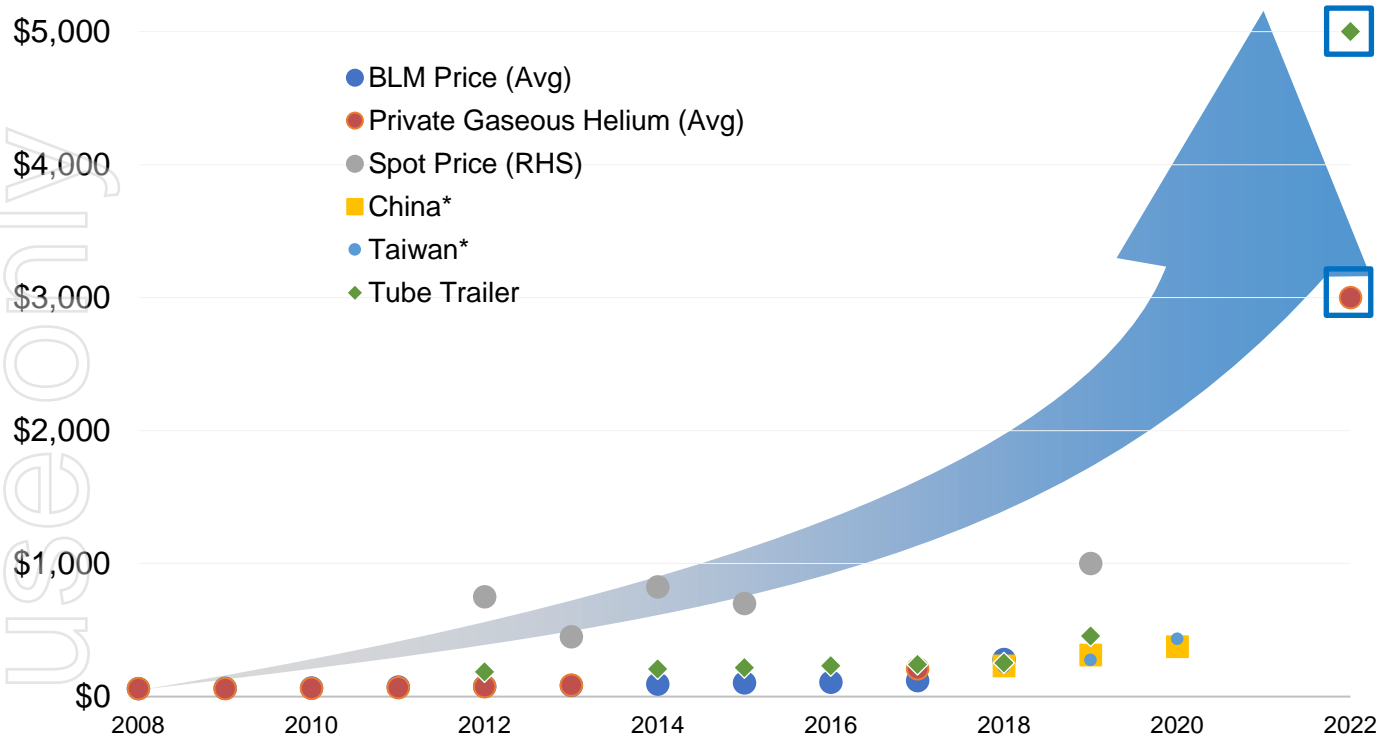
Uncertain global supply outlook following:

- explosion & fires at Gazprom's Amur gas processing plant plus Russian sanctions
- BLM storage facility shut down
- Exxon plant 25% supply scheduled summer maintenance
- Kenawa Haven Plant, Kansas, shut down
- Algeria stopped processing helium and re-routed gas feedstock to Europe
- reduced production from Qatar due maintenance shutdown

Several helium majors reportedly declared force majeure and rationing supply to their customers

# ...HAS SEEN STRONG PRICE MOMENTUM

Ongoing supply challenges, increasing demand, transition to market pricing



- Scarcity of supply, strong demand and transition to market pricing resulting in strong price momentum
- Current short term contract and spot prices ranging between US\$450 – US\$3,000/Mcf for 98+% He
- Price (in)elasticity effecting end user ability to buy, with helium being un-substitutable in many applications

Source: BLM, Asian Customs Data, Bancroft Capital Research; private parties

mal use only

A space shuttle is shown launching from Earth, ascending through a thick layer of white and grey clouds. The shuttle is white with a red nose cone and two white boosters. A bright orange and yellow flame is visible at the base of the shuttle. The background is a dark blue space filled with stars and a bright blue horizon line representing the Earth's surface.

# VOYAGER MAIDEN DEVELOPMENT

**LOW-COST, WELL-DEFINED  
COMMERCIALISATION PATHWAY**

# VOYAGER: A PREMIUM INITIAL HELIUM DEVELOPMENT

First helium production Q4 2023



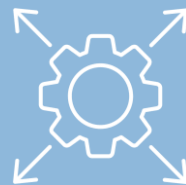
Midstream solution for initial development facility at high-grade Voyager discovery



Gas processing services delivery by experienced US helium mid-stream service provider



Low upfront project development capex



Processing capacity readily scalable by addition of membranes / further PSA units



Targeting premium spot / short term market prices



First helium output and sales targeted for Q4 CY2023



# THE VOYAGER HELIUM DEVELOPMENT

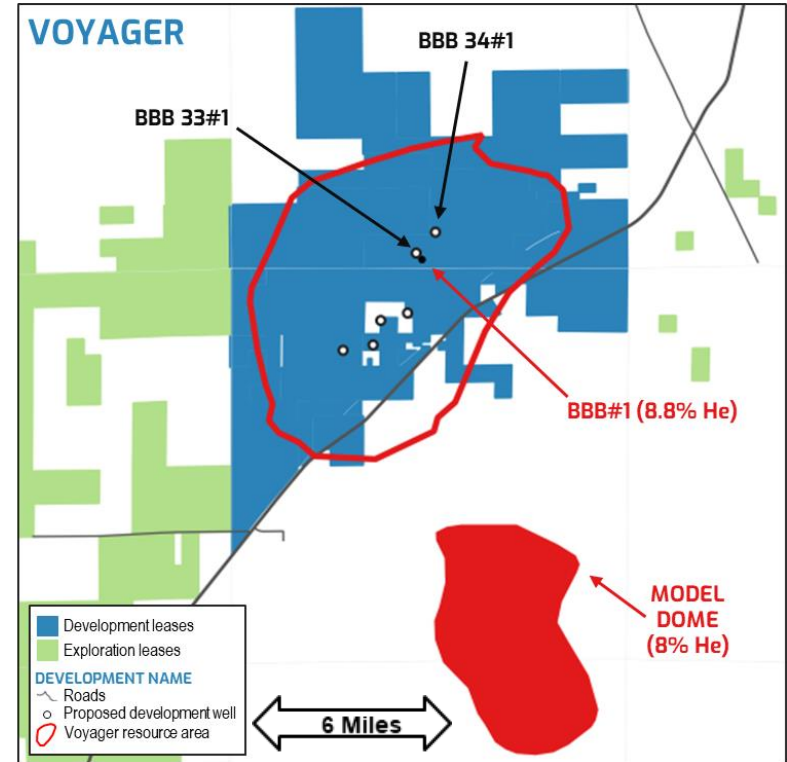
## High-grade helium discovery appraisal and development

- **BBB#1 well discovery at Voyager prospect in Nov 2021;** calculated air-free gas concentration of 8.8% helium in a 134ft gas column discovered in the Lyons formation
  - Globally high in-situ helium concentration; similar gas composition to historic Model Dome analogue production
- **Significant contingent resource declared (27 Sep 2022)**

	Voyager Field		
	1C	2C	3C
<b>Net Recoverable Helium (MMcf)</b>	299	643	1,228

Note: -25% increase in net mineral leases added since contingent resource booked

- **Permits to drill approved** for first two development wells (off-setting BBB#1 discovery well)
- Further 4 development wells locations submitted for approval
- Drilling to commence August 2023
- Targeting first helium production and sales from Voyager during Q4 CY2023



# VOYAGER DEVELOPMENT METRICS

## Midstream development pathway adopted

- **First development well** to commence drilling Q3 CY2023; pressure/flow testing to follow
- **Processing facility:**
  - IACX to provide gas processing services via IACX owned and operated facility
  - Facility on site Q4 CY2023
- **First production Q4 CY2023**
- Targeted helium production of 38 MMcf in first full year
- Facility capacity readily scalable via addition of membranes and/or further PSA units



Plant metrics	Unit	Value
Nameplate raw gas input	MMcf/d	2.0
Helium recovery	%	90
Helium product purity	% He	98
Plant run time	%	95
Input gas assumptions		
Raw gas He concentration	% He	8.0
Output at full capacity		
Tailgate helium product gas output	MMcf pa	44.4
Net helium product gas output	MMcf pa	37.7

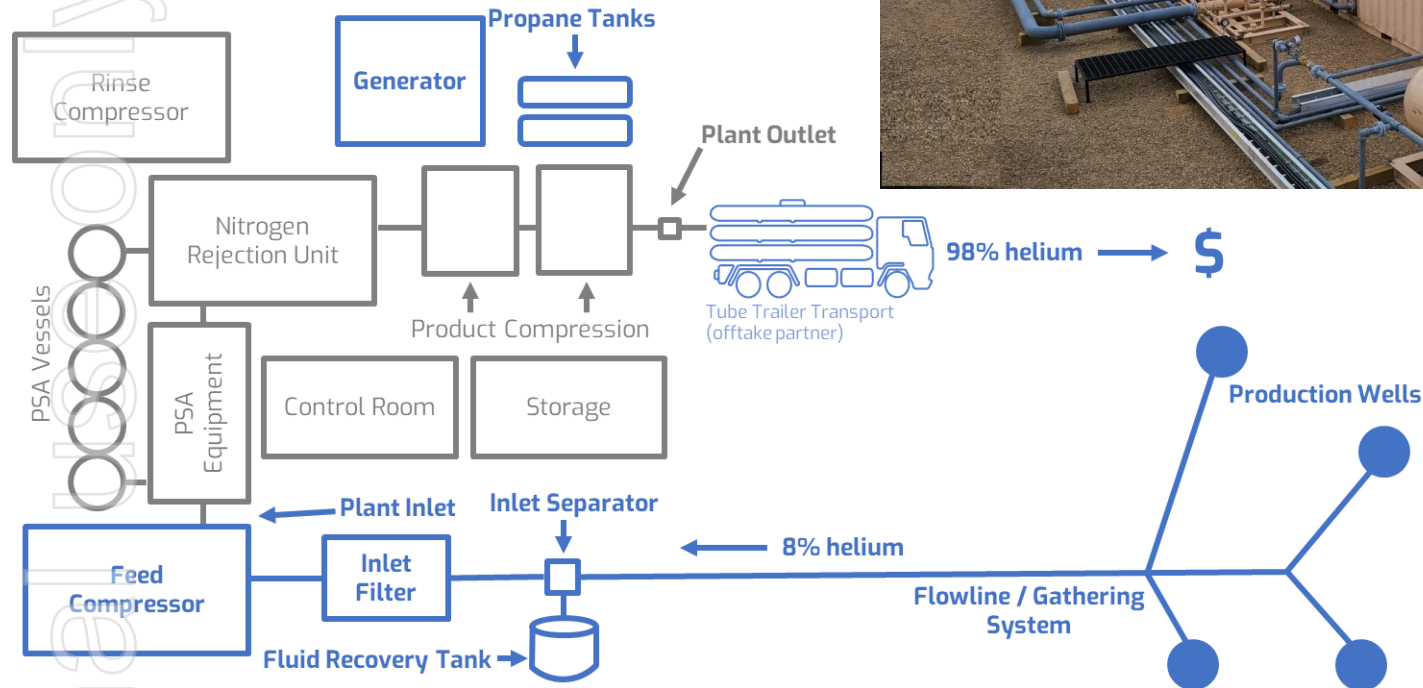
Notes to table above:

1. The tailgate helium product gas output is the helium volume at the facility tailgate after applying the recovery, product purity and plant run time factors and assumes a raw gas input of 2 MMcf/d with an 8% helium concentration. It is calculated in respect of the first 12 months of operation at full capacity after a period of ramp-up to full production.
2. The net helium product gas output is the tailgate helium product gas output net to Blue Star after deduction of royalties.
3. There will be a period of ramp-up to full production. The length of this period is a function of a number of factors including well performance and well count.

# THE VOYAGER HELIUM DEVELOPMENT

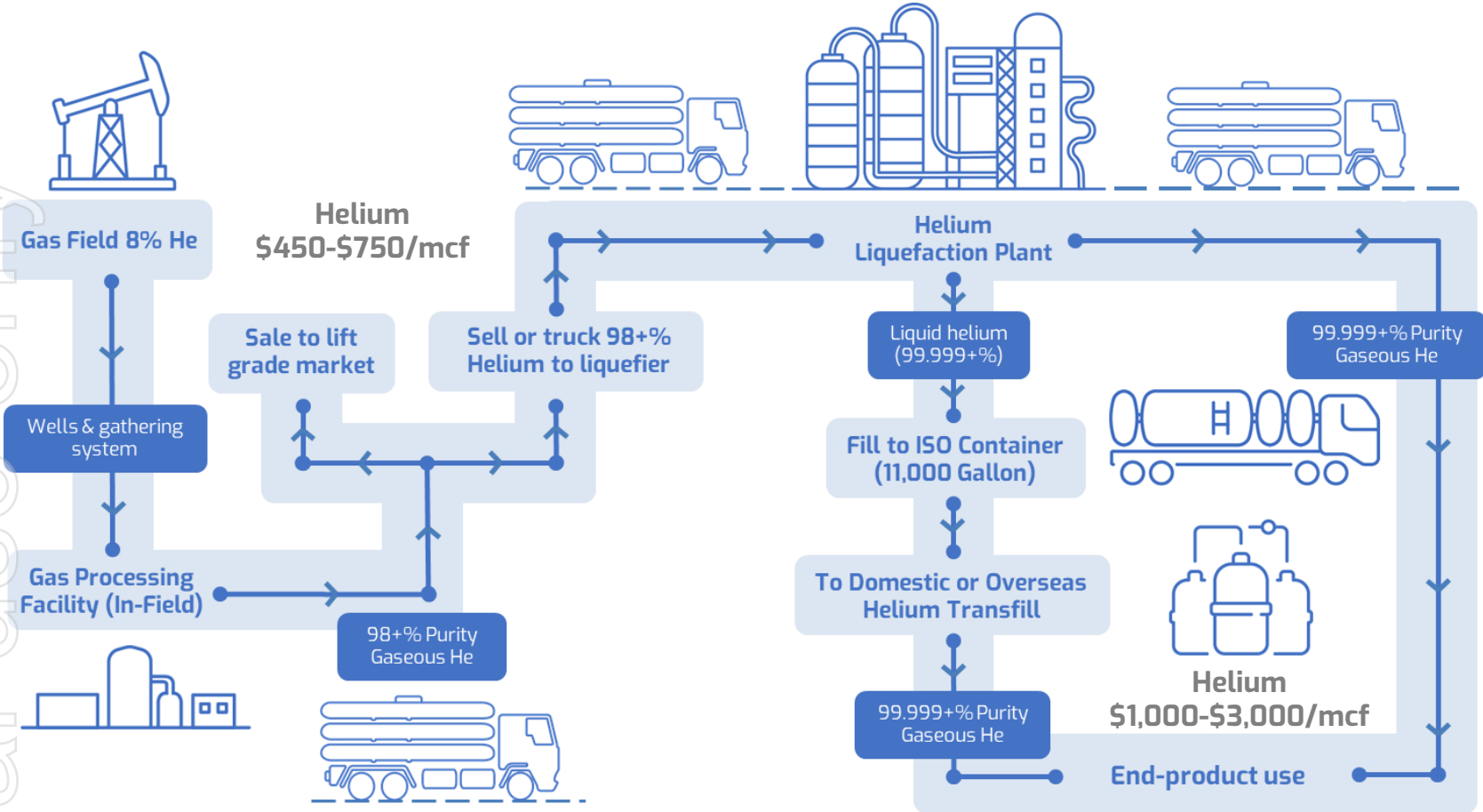
## Plan of development schematic

-  Blue Star owned / leased / operated
-  IACX owned / operated



# REFINED PRODUCTION PROCESS

World-class extraction methodology and Helium value chain



# MARKETING STRATEGY

Premium spot and short term market target to deliver optimal, price-of-the-day buyers



Leasing option avoids substantial debt funding and undesirable execution of long-term price-concession offtake contracts



Current spot and tube trailer pricing quotes substantially higher than typical long-term contract pricing



Strategy delivers flexible access to premium helium price markets and enables leverage to tight ongoing supply dynamics

Helium price is surging and transitioning to market pricing



# VOYAGER: MOVING RAPIDLY TO FIRST HELIUM

## Evaluation and commercialisation timeline

### Q2 2023

2 development well approved

Submission of additional 4 development well locations

In-fill leasing

Voyager helium processing agreement signed

### Q3 2023

Drilling of first development wells, plus southern exploratory well

Flow and pressure testing

### Q4 2023

Drilling of 1-2 further development wells

Gathering system deployment

Installation and commissioning of process facility



First helium output and sales Q4 2023

### H1 2024

Optimise production

Infill & step out drilling



# GALACTICA / PEGASUS PROJECT: THE NEXT STAGE

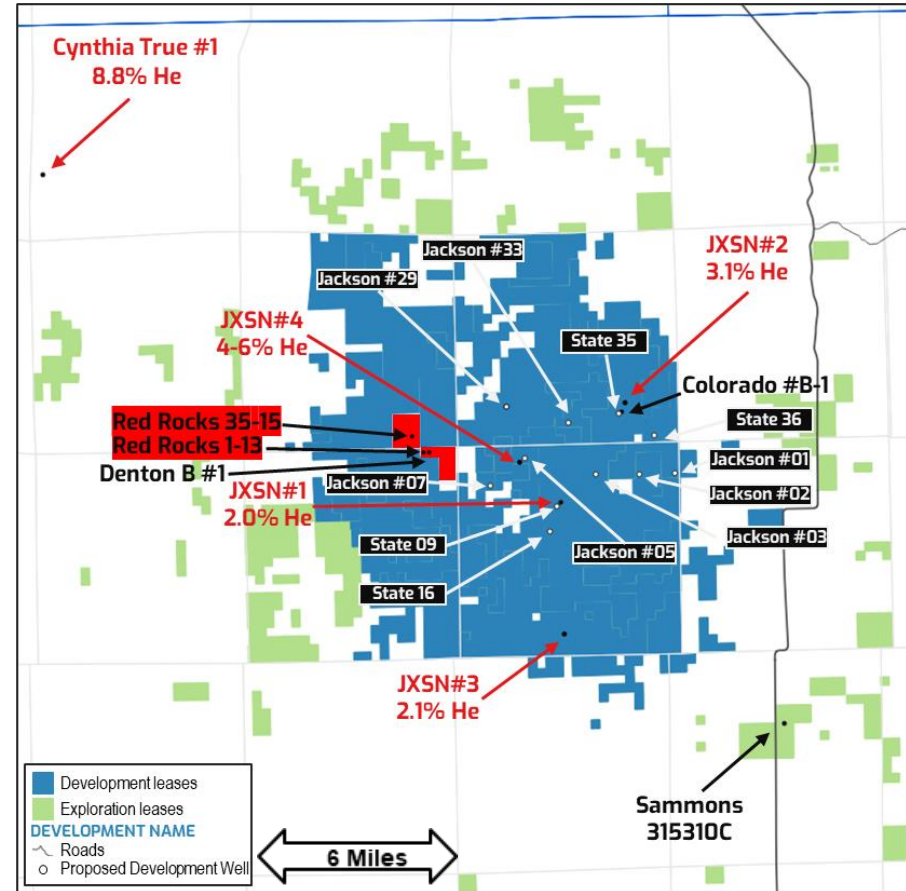
LARGE-SCALE, MULTI- PRODUCT  
DEVELOPMENT



# THE GALACTICA/PEGASUS DEVELOPMENT AREA

Large scale, multi-product development

- **Helium discoveries in JXSN#1 – JXSN#4;** gas bearing columns of up to 230 feet and up to 6% He
- Confirmed previous interpretations of historical well logs at Denton B#1 and Colorado #B-1 wells
- JXSN well flow rates as high as 412 Mcfd
- **Adjoining Red Rocks project is proof of BNL concept**
  - Third party producing two wells into IACX plant from c880 acres only and selling helium gas
  - Red Rocks situated within Galactica prospect
- **Galactica / Pegasus Development;** Extensive well permitting pipeline underway
- Resource update integrating Red Rocks discovery wells and production
- Plan of development in progress



# THE NEXT DEVELOPMENT

## Commercialising Galactica/Pegasus

### Larger-scale project with multiple potential product streams

Initial facilities planned to be permitted in parallel with the Voyager development

### Initial Galactica/Pegasus plant configuration and commercialization strategy underway

Targeting 2024 production

### Current Evaluation Workstreams

- Further engineering and market work underway to refine planned development configuration and forecast helium and CO<sub>2</sub> production and cost estimates
- Range of development pathways under consideration, including a leased and third party operated plant option.
- Expansion expected to include a CO<sub>2</sub> by-product stream.

### Permitting Progressing In Parallel

- Final drilling permits received for 4 wells and 3 additional locations approved, to be drilled as offset development wells to the JXSN#1 and 2 discoveries
- An additional 4 well OGDG submitted awaiting COGCC approval.
- Further 20 drilling locations identified for permitting.





# EXPLORATION UPSIDE

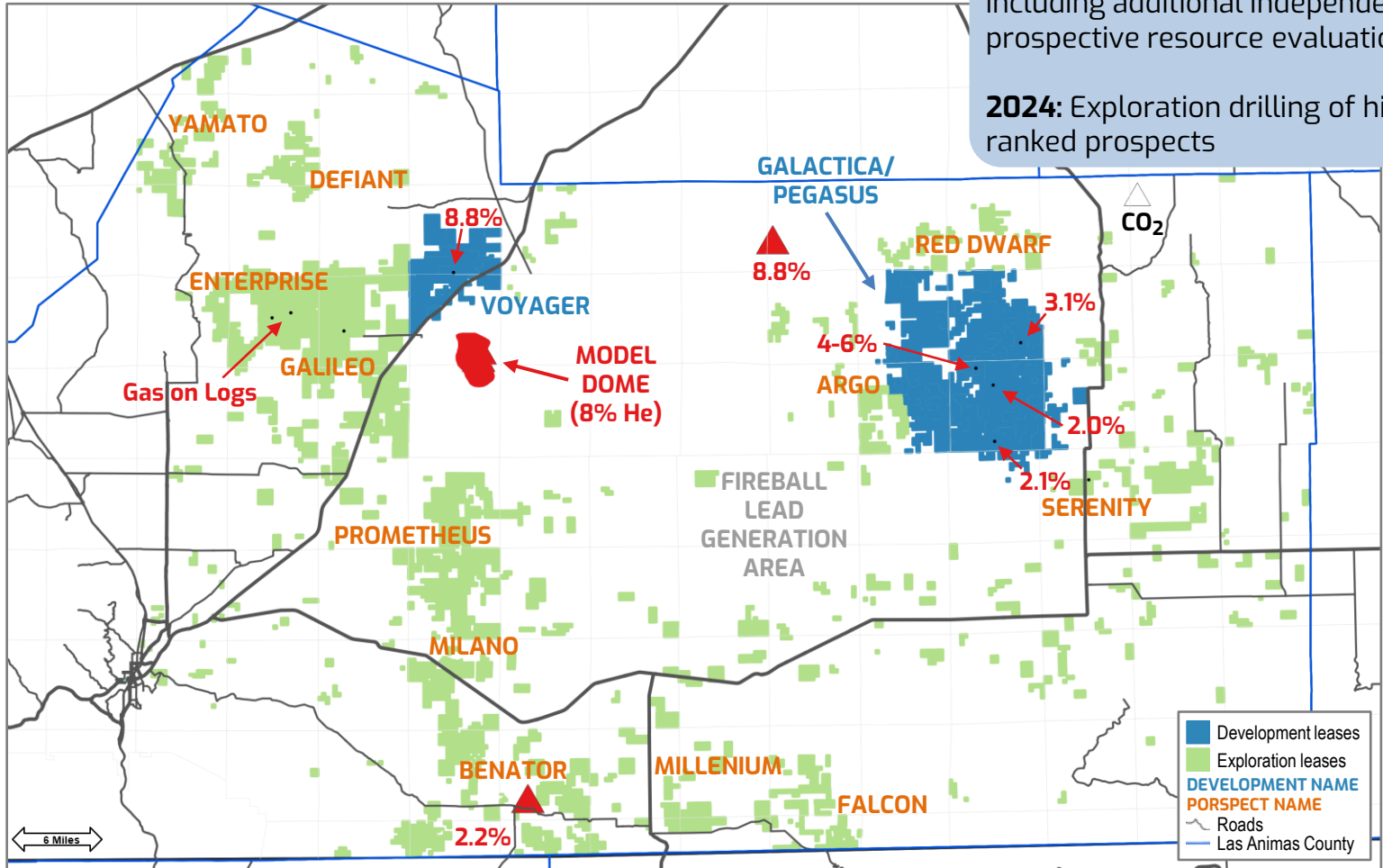
LARGE-SCALE, MULTIPLE  
PRODUCT DEVELOPMENT



# BLUE STAR's LAS ANIMAS LEASEHOLD

**2023:** advance exploration portfolio, including additional independent prospective resource evaluations

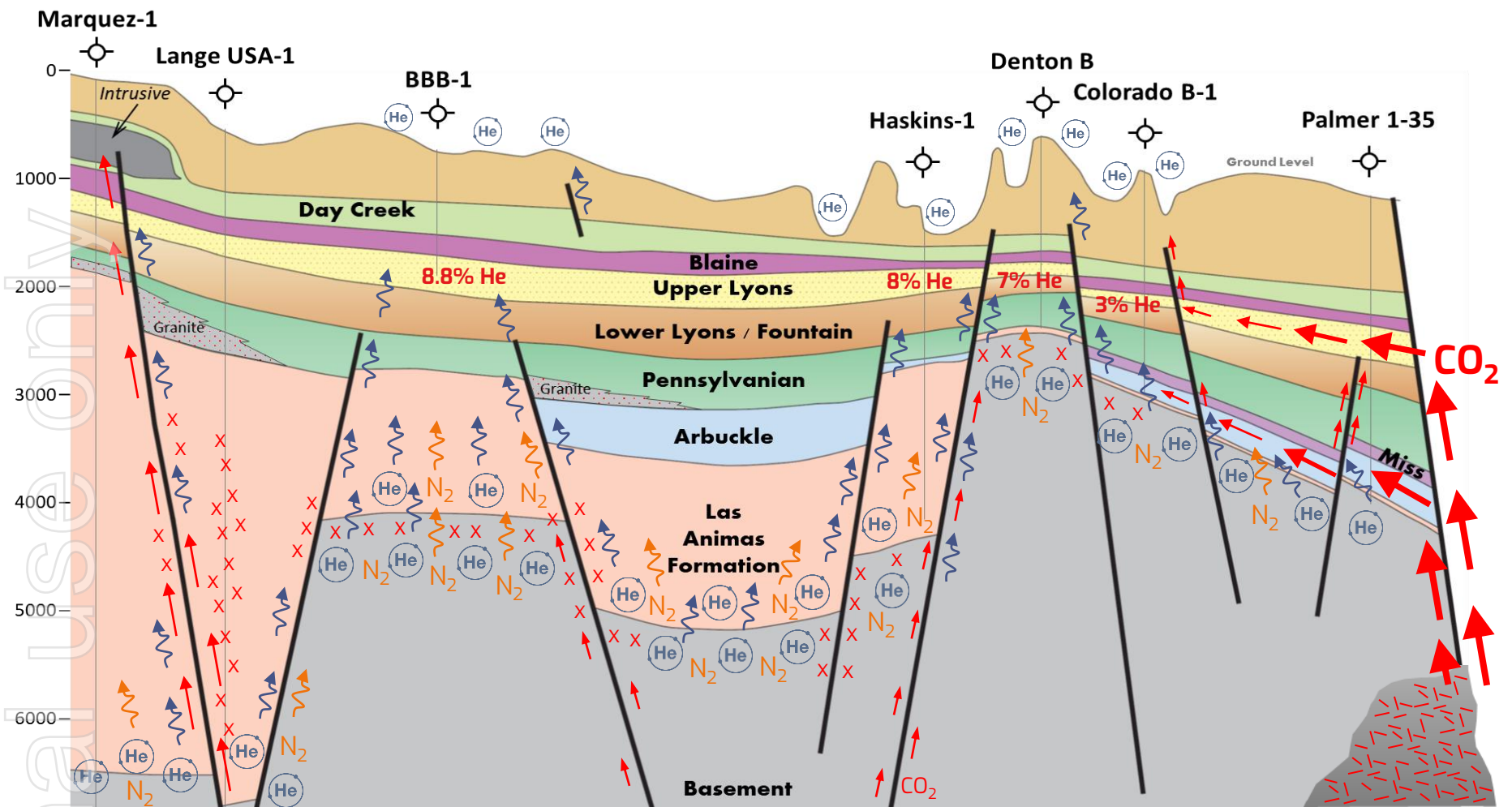
**2024:** Exploration drilling of high ranked prospects



Internal use only



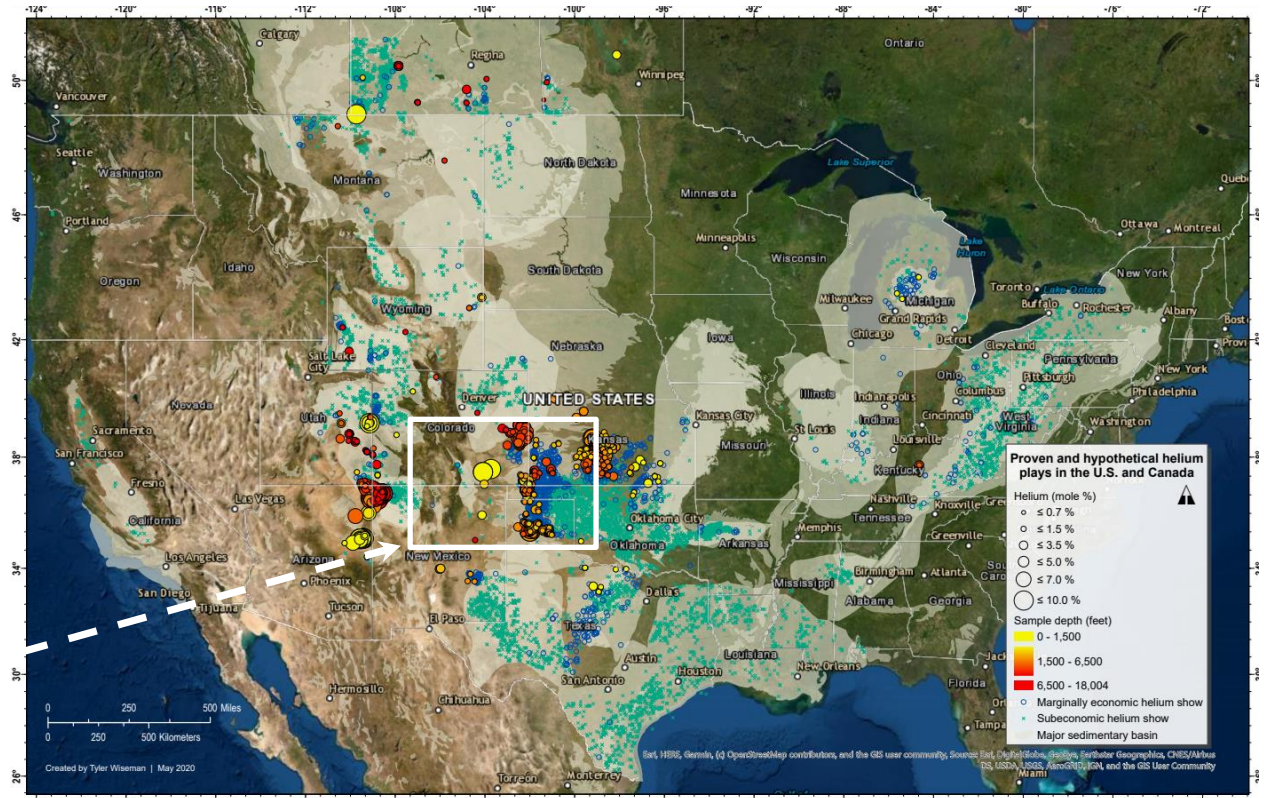
# SUBSTANTIAL SHALLOW RESOURCES & DEEPER PLAYS



# STRATEGICALLY LOCATED ASSETS

- Strategically targeted geology with high concentration helium and no (trace) hydrocarbons
- Proximate key infrastructure and downstream helium consumers

Map on Next Slide



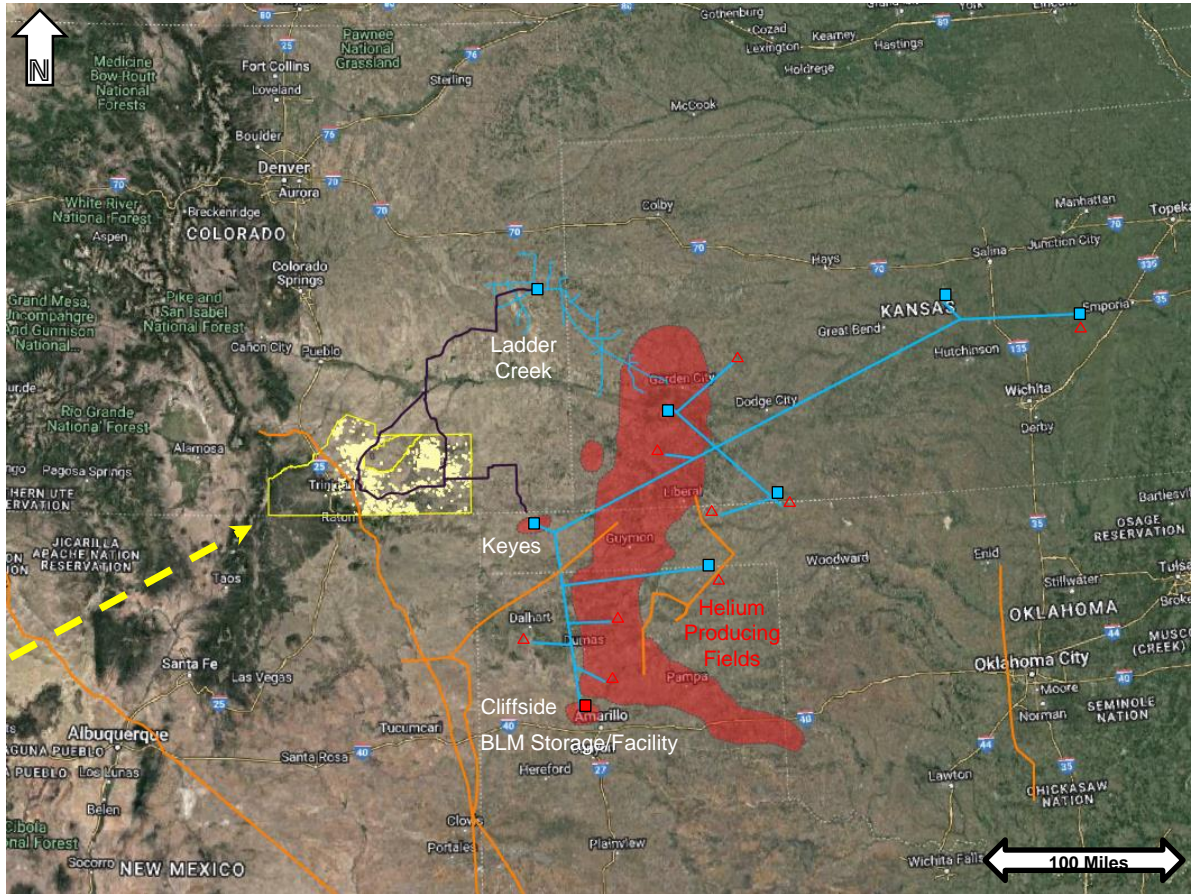


# STRATEGICALLY LOCATED ASSETS

- High helium grade, proximate key infrastructure and downstream helium purification and consumers
- Local infrastructure currently under utilised
- Within 100-150 miles trucking to purification facilities
- Conveniently located for customers and development scenarios

- Private purification plant
- BLM helium pipeline & storage system
- Ladder Creek helium gathering system
- ▲ Private crude plant
- Existing road access
- Existing CO2 pipelines

**Las Animas County  
Project Area  
(leases shown in yellow)**



# APPENDICES

# THE LEADING HELIUM PURE PLAY

Premier quality development asset opportunity

										
Company	Blue Star Helium	Desert Mountain Energy	Renergen	Helium One Global	Avanti Helium	Royal Helium	Grand Gulf Energy	Noble Helium	Total Helium	First Helium
Listing	<b>ASX: BNL OTCQB: BSNLF</b>	TSXV: DME; OTCQX: DMEHF; XFRA: QM01	JSE: REN; ASX: RLT	LON: HE1 OTCQB: HLOGF	TSXV: AVN OTC: ARGYF	TSXV: RHC	ASX: GGE OTCQB: GRGUF	ASX: NHE	TSXV: TOH; USOTC: TTLHF	TSXV: HELI; OTCQX: FHETF; FRA 2MC
Asset domicile	<b>U.S.</b>	U.S.	South Africa	Tanzania	U.S. & Canada	Canada	U.S.	Tanzania	U.S.	Canada
Provincial location	<b>Colorado</b>	Arizona	Free State	Songwe Region	Montana; Alberta & Saskatchewan	Alberta & Saskatchewan	Utah	Manyara, Eyasi & Rukwa Regions	Arizona, Kansas	Alberta
Market capitalisation (US\$M)	<b>\$28.7M</b>	\$90.9M	\$169.7M	\$60.0M	\$27.8M	\$62.1M	\$11.2M	\$38.5M	\$50.0M	\$16.5M
Net acreage held	<b>222,693</b>	+100,000	+460,000	+730,000	82,000	+1,000,000	28,100	1,350,000	+27,000	336,000
Net prospective He resource (Bcf, 2U)	<b>13.4</b>	-	32.3	-	108Bcf Prospective, 21Bcf Contingent	-	25.7	39Bcf, estimated ultimate recovery 12Bcf	-	0.323
Helium concentration (% He)	<b>2 - 8%</b>	4 - 7%	3.4%	<10.6%	1.4 - 2.2%	0.4 - 0.64%	1 - 2%	4 - 10%	5 - 8%	1.7 - 5.7%
Evaluation stage	<b>E&amp;D</b>	E&D	E&D	Exploration	Exploration	E&D	E&D	Exploration	Production, E&D	E&D

Source: Publicly available sources; see Appendix for full details



# HELIUM: UNIQUE, RARE AND HIGHLY VALUED

## **A unique set of physical and chemical properties**

- Non-toxic, non-flammable, low-density gas
- Chemically and radiologically inert
- Ultra-cold boiling point ( $-269^{\circ}\text{C}$ ), stays liquid at absolute zero
- High thermal conductivity
- Lighter than air
- Small (leak detection)

## **Finite, irreplaceable and rare on Earth**

- Makes up only 0.0005% of Earth's atmosphere
- Light enough to escape Earth's gravitational pull into space
- Accumulates in commercial quantities in sealed subsurface reservoirs
- Unable to be manufactured artificially
- No substitute in key applications

# MINERAL RIGHTS IN THE UNITED STATES

1. The system of mineral ownership and development in the USA is substantially different to the system in Australia. The following is a general description of the system that commonly applies in the oil and gas producing states. It is important to note that local variations may apply.
2. The owner of land owns the surface and all oil, gas and other minerals beneath his/her tract, unless a severance has occurred that creates two distinct estates: the surface estate and the mineral estate. A severance of the mineral estate results from a conveyance or reservation of all, or a portion, of the oil, gas and other minerals in and to a specific tract.
3. The oil, gas and other minerals beneath a tract of land are a part of the realty until produced and become personal property when brought to the surface. Because the mineral estate is considered real property, it may be acquired, divested, encumbered, devised and inherited, thereby resulting in the possibility that an unlimited number of persons ("mineral owners") may own undivided interests in a tract's minerals.
4. Accordingly, the mineral estate in a tract may be owned by one or more distinct owners and each distinct owner may comprise one or more persons. The mineral estate may be divided amongst distinct owners by depth or geological formation. Where there is more than one distinct owner of a mineral estate, each such owner will own a percentage share of that mineral estate. The percentage shares of that mineral estate need not be equal. Therefore, each such distinct owner owns its percentage share of an undivided share in the mineral estate in that tract. In addition, private individuals may own the mineral rights directly beneath public surface owners or users, eg the mineral rights beneath a public road. This is commonly summarised by referring to the lessor's "net acreage" in a tract. This means the lessor's percentage share of the undivided total area of the tract's minerals ("gross acres") net of the percentage share of other mineral owners in the same tract. For example, assume the mineral rights in a tract of 100 acres are owned by 4 mineral owners in equal shares. If one of those mineral owners leases its mineral interests to a lessee, the lessee will have an interest in 100 gross acres and 25 net acres. If a second mineral owner leases its mineral interests to the same lessee, the lessee will then have an interest in 100 gross acres and 50 net acres.
5. If an owner of a mineral estate, whether severed or intact with the surface, chooses to pursue development of and production from the minerals beneath the ground, such owner may exercise its rights and may generate revenue through one or more of these methods: (1) the "right to develop" the mineral estate by contracting directly with a drilling and operating company and directly selling the minerals; (2) the "right to lease" the mineral estate to a third party, specifying the terms of the lease and defining the minerals that may be produced; (3) the "right to receive a bonus payment" for leasing the mineral estate, usually calculated per acre, from the lessee for leasing the mineral estate; (4) the "right to receive delay rentals" when the mineral estate is leased but not being produced; and (5) the "right to receive royalty payments" based on a percentage of minerals produced by the lessee. Given the inherent risk, cost of development and required technology to produce oil and gas, most mineral owners do not independently develop their minerals, and as a result, rely on their ability to lease to a third party.
6. The oil and gas lease serves as both a conveyance and a contract which establishes the parties' rights and obligations. There is no "standard form" of lease. The details within the lease are the contract which defines the rights and obligations of the parties.
7. An oil and gas lease creates rights in relation to the mineral estate only and does not grant surface rights to the lessee. Surface rights must be negotiated separately with the surface right owners. This process is facilitated by legislation.
8. The execution of an oil and gas lease that reserves a royalty to the lessor creates the leasehold estate and a royalty interest. The lessee acquires the working interest, or the cost bearing interest, which provides the lessee the right to develop the oil and gas the subject of the lease at its sole risk and expense ("working interest" or "WI"). The lessee may keep and sell its proportionate share of the oil and gas produced from the lease until the lease expires ("net revenue interest" or "NRI"). The NRI is the lessee's share of production derived from the lease after royalties and other burdens. The leasehold estate created by the oil and gas lease may be conveyed, assigned and encumbered similar to any other real estate, and it is common for the original lessee to assign undivided working interests to numerous parties, who share the burden of costs in developing the mineral estate. Generally, a lease will include a provision that allows the lessee to continue to produce the lease as long as it is economically producing a minimum amount of oil and gas. Such a lease is said to be "held by production" or "HBP".
9. The identity of the mineral ownership in respect of any tract may not be maintained in any single definitive register. The landman establishes the title of the mineral owner by ascertaining the chain of transfers from the original date of grant to the present day. It is customary before drilling a well on a leased property to obtain a drilling title opinion, by which the lessor(s) in question are determined to have the required authority to grant the right to explore, exploit and to assign the minerals in a specific tract of land based on a thorough examination of the chain of title. If errors are found in the course of that examination, it is customary for the lessor and lessee to conduct "Title Curative," which involves, but is not limited to, executing instruments, affidavits, conveyances and filing previously unrecorded documents to resolve any disputes, ambiguities or errors so that the operator has substantial support for its claims prior to undertaking the expense of drilling.
10. All of the major US oil and gas producing states other than California and Kansas have adopted some kind of mandatory pooling scheme to facilitate the development of oil and gas resources owned by more than one stakeholder. These rules provide a process to compel all mineral estate owners in a drilling area to contribute or pool their mineral estate to the drilling of a well in relation to that mineral estate.

# GLOSSARY AND UNITS

Term	Description
1U (P90), 2U (P50) and 3U (P10)	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
gross acres and net acres	The minerals in a tract of land may be owned by one or more owners. Each owner may lease its respective percentage share of the minerals. The gross area of the tract of land is referred to as the "gross acres" of a lease. The "net acres" refers to the lessor's percentage share of the gross acres.
lead	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation to be classified as a Prospect. A project maturity sub-class of Prospective Resources.
net revenue interest or NRI	A share of production after all burdens, such as royalty and overriding royalty, have been deducted from the working interest. It is the percentage of production that each party actually receives.
oil and gas lease	An agreement between a mineral owner (lessor) and an oil and gas company (lessee) permitting the lessee to explore, drill and produce oil and gas from the tract of property. Typically, the lease provides that lessee will pay a Royalty to the lessor. Also referred to as a "mineral lease" or a "lease".
operator	The owner of the right to drill or produce a well, or the entity contractually charged with drilling of a test well and production of subsequent wells.
overriding royalty	A percentage share of production, or the value derived from production, which is free of all costs of drilling and producing, and is created by the lessee or working interest owner and paid by the lessee or working interest owner.
PRMS	The Petroleum Resources Management System of the Society of Petroleum Engineers, World Petroleum Council, American Association of Petroleum Geologists and Society of Petroleum Evaluation Engineers as revised in June 2018.
prospect	A project associated with an undrilled potential accumulation that is sufficiently well defined to represent a viable drilling target. A project maturity sub-class of Prospective Resources.
royalty	A percentage share of production, or the value derived from that production, paid from a producing well.
working interest or WI	A percentage of ownership in an Oil and Gas Lease. Working Interest owners are obliged to pay a corresponding percentage of the cost of leasing, drilling and producing and operating a well or unit. After payment of Royalties, the working interest also entitles its owner to a share in production revenues with other working interest owners, based on the percentage of working interest owned.

Unit	Measure
B	Prefix - billions
MM	Prefix - millions
M	Prefix - thousands
/d	Suffix - per day

Unit	Measure
Bcf	billion cubic feet
MMcf	million cubic feet
Mcf	thousand cubic feet
SMM	million dollars



# DATA SOURCES

Slide	Description	Source
		Currency conversion rates: CADUSD 0.75; AUDUSD 0.67; GBPUSD 1.27 (3 Jul 2023)
		<b>Blue Star Helium</b> – <i>Investor Presentation, May 2023</i>
		<b>Desert Mountain Energy</b> – <i>Investor Presentation, June 2023</i>
		<b>Reergen Ltd</b> - <i>Annual Report to Shareholders, June 2023</i>
		<b>Helium One Global</b> – <i>Investor Presentation, May 2023</i>
Slide (31)	Peer Comparative Table	<b>Avanti Helium</b> - <i>Investor Presentation, March 2023</i>
		<b>Royal Helium</b> – <i>Investor Presentation, June 2023</i>
		<b>Grand Gulf Energy</b> – <i>Announcement: Bonus McCracken Formation Adds 1.8BCF to Gross Prospective Helium Resource, 22 June 2023</i>
		<b>Noble Helium</b> – <i>Investor Presentation, June 2023</i>
		<b>Total Helium</b> – <i>Investor Presentation, May 2023</i>
		<b>First Helium</b> – <i>Investor Presentation, June 2023</i>