ASX ANNOUNCEMENT
10 June 2021

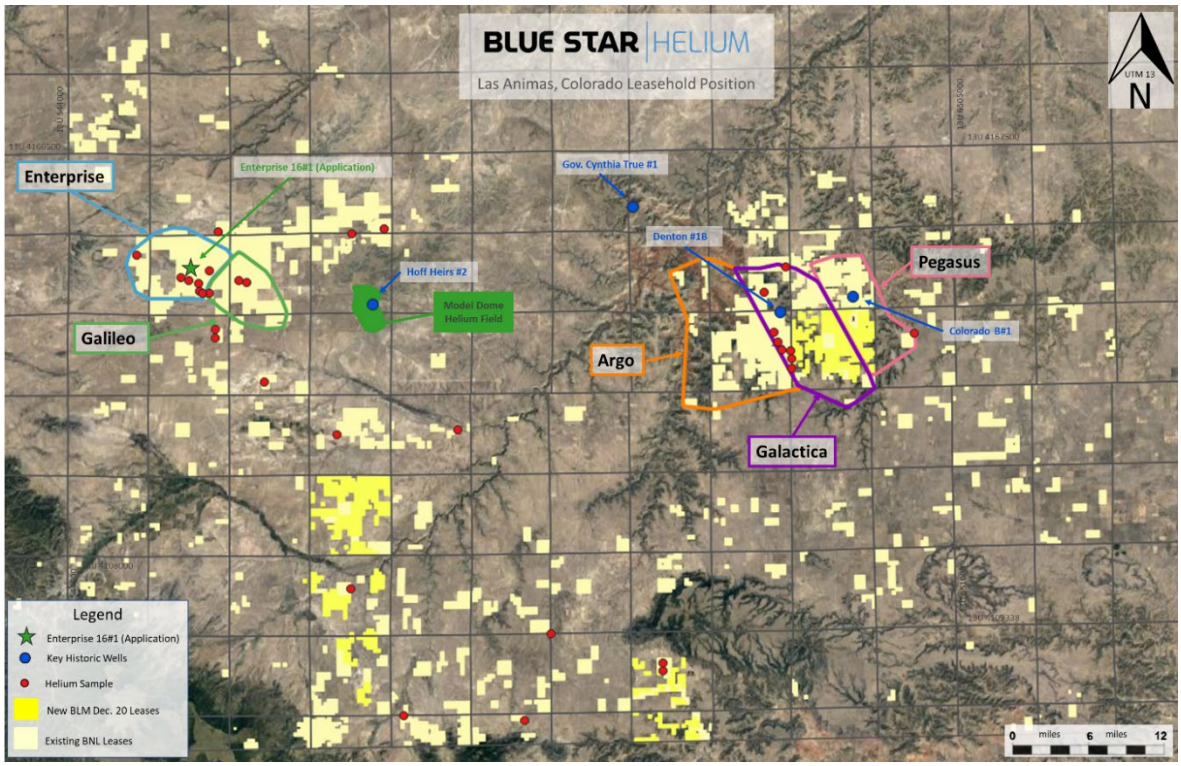
SUBSTANTIAL INCREASE IN PREMIER LANDHOLDING AND PROSPECTIVE HELIUM RESOURCES

Highlights

- Las Animas leasehold of 32,858 net acres confirmed via recent Federal lease completion.
- Blue Star P50 net unrisked prospective helium resource increased 39% to 13.4 Bcf.
- Prospective resource based on globally attractive 7-9% helium concentration.
- Highly encouraging petrophysical analysis of historical wells within Galactica and Pegasus.
- On track to receive final permit to drill Enterprise 16#1 well during Q3 2021.
- Initial applications for two new wells expected shortly per rolling permitting strategy.
- Total Blue Star Las Animas landholding stands at 173,000 net and 237,000 gross acres within the Lyons Formation Helium Play Fairway proven by the Model Dome field.
- Highly strategic location proximate to key infrastructure and major downstream consumers.

Blue Star Helium Limited ("Blue Star" or the "Company") (ASX:BNL) advises that its total P50 net unrisked prospective helium resource now stands at 13.4 Bcf (an increase of 3.8 Bcf). This substantial increase results from the formal issuance of Federal leases acquired by Blue Star in the Bureau of Land Management (**BLM**) December 2020 auction (see BNL ASX releases of 22 December 2020 and 29 January 2021 for further detail).

Figure 1: Blue Star Las Animas County leasehold position (new leases in brighter yellow shading)



The issue of these leases confirms Blue Star's strategic leasehold position in Las Animas County, Colorado, at 173,000 net acres (237,000 gross acres), across a proven helium play fairway.

The Company's current prospective helium resources, independently assessed by Sproule Incorporated, are summarised in Table 1 below.

Table 1: Blue Star total prospective helium resources, Las Animas County, Colorado

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
Total BNL Net Recoverable Helium	5,244	13,422	22,829

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.

Notes specifically in relation to Galactica, Pegasus and Argo

Note 3: The resource estimates are reported as at an evaluation date of 4 June 2021.

Note 4: The resource estimates are presented on a net entitlements basis and represent Blue Star group's net economic interest in the prospective recoverable helium volumes after deductions for the volume weighted royalty burden in accordance with the methodology described in Schedule B.

Note 5: The leases the subject of this resource report are described in Schedule A.

Notes specifically in relation to Enterprise and Galileo

Note 6: 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.

The net helium resource additions stemming from the acquisition of the Federal leases in December 2020, and incorporated in Table 1 above, are outlined in Table 2 below.

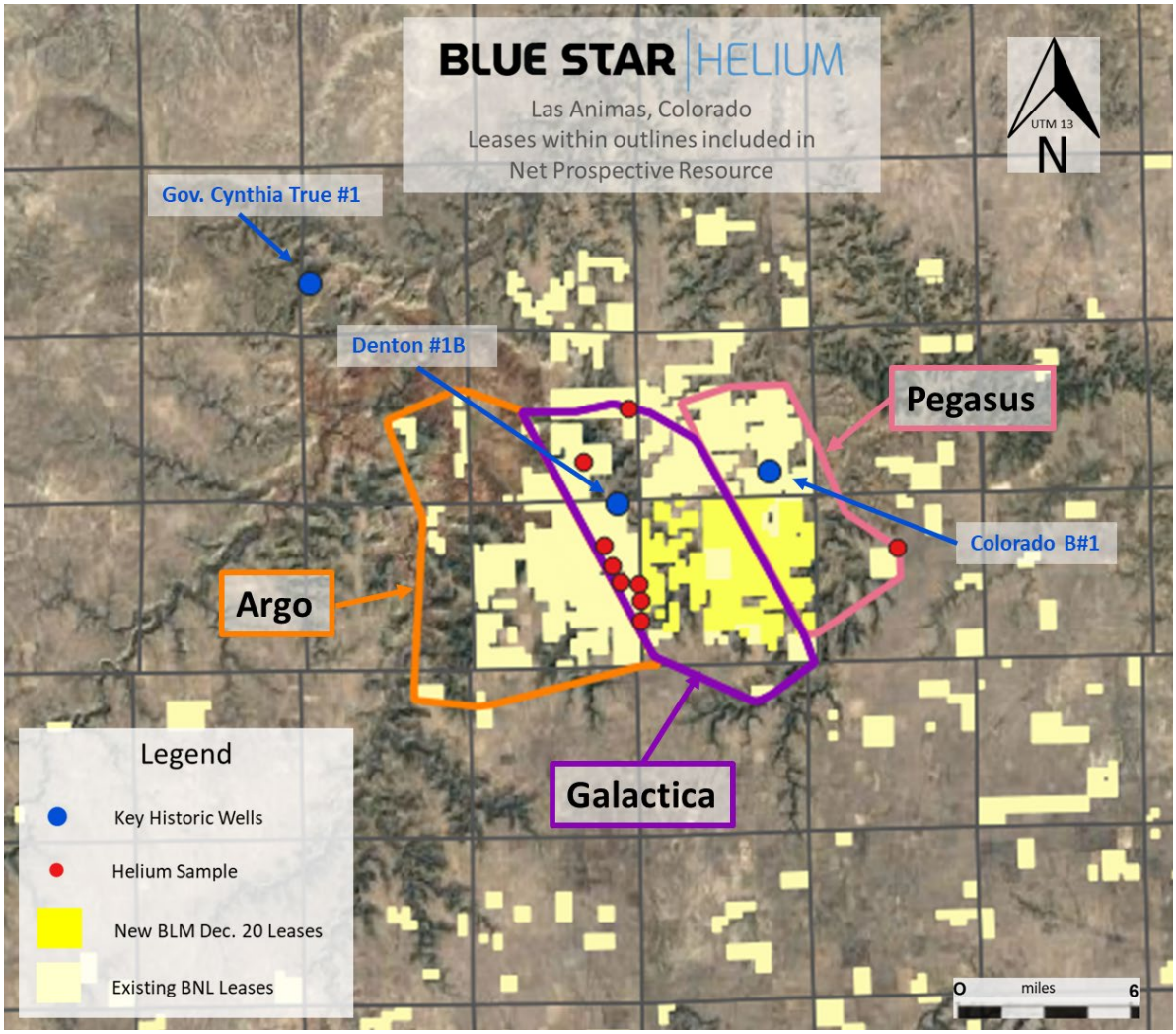
Table 2: Net increase in total prospective helium resources from new lease acquisitions

Net Recoverable Helium (mmcf)	1U (P90)	2U (P50)	3U (P10)
Galactica Prospect	836	2,074	2,909
Pegasus Prospect	1,430	1,696	1,772
Argo Prospect	0	0	8
Total BNL Net Recoverable Helium	**2,266**	**3,770**	**4,689**

Galactica, Pegasus and Argo Prospects

Blue Star's leasehold interests that are the subject of the Prospective Resource Evaluation in the Argo, Pegasus and Galactica prospects in Las Animas County, Colorado, are shown in Figure 2. These prospects are situated wholly within the Lyons Formation Helium Play Fairway, which is proven in the area by the historical Model Dome field and the Govt Cynthia True #1 well.

Figure 2: Galactica, Pegasus and Argo leasehold position (new leases in brighter yellow shading)



Historic Well Interpretation

Petrophysical analysis has been undertaken on two historic wells within the Galactica and Pegasus prospects (Denton B#1 and Colorado #1B, as shown in Figure 2). The petrophysical interpretation is subject to significant uncertainty as it relies on old, digitized data from these historic wells. Nevertheless, the Company's analysis of Denton B#1 and Colorado #1B (at the Galactica and Pegasus prospects, respectively) interprets a significant gas column has been trapped at both locations with sufficient porosity and gas saturations to flow gas.

Neither well was tested for gas or helium and there is no available data either supporting or disproving the presence of helium. Although there is no analysis as to the composition of the gas, these prospects are within the Lyons Helium Play Fairway proven by the Model Dome helium field, and on trend with the Govt Cynthia True #1 well which also tested helium.

Both the Colorado #1B and the Denton B#1 wells have been plugged and abandoned. Blue Star does not have an economic interest in either of the wells. However, the Colorado #1B well is located within one of the Company's mineral leases.

Proven Play Elements

The play elements of helium charge, high quality reservoir and the presence of a good top seal have been proven to extend across the Argo, Pegasus and Galactica prospects as outlined below.

1. ***Helium Charge***

   Helium charge is regionally proven as demonstrated by the Model Dome field analogue. Gas analysis for eight wells in the Model Dome area showed an average of 8% helium content.

   There are additional wells in the area that have helium tests which show that the helium source and migration routes are widespread. For example, the Govt Cynthia True #1 well flow tested 8.8% helium. This well is situated on an interpreted independent fault bounded structure on the northern nose of the greater structure on which the Galactica and Pegasus prospects are also located, approximately 12 miles away. (Note: Blue Star does not have an economic interest in the Govt Cynthia True #1 well or leases associated with the well. Like the historic Model Dome field this well currently lies under Federal protected lands (Pinon Canyon Maneuver site) and is not available for leasing.)

   Helium soil gas survey analyses across the region performed by Blue Star also support the presence of widespread helium source and migration (charge) (see Schedule C).

2. ***Reservoir Presence***

   Petrophysical analysis commissioned by Blue Star on wells associated with and surrounding the Argo, Pegasus and Galactica prospects has confirmed the presence and reservoir quality of the Lyons Formation sandstone to be consistent and as good as seen at the Model Dome analogue. The analogue Model Dome Field contained the Hoff Heirs #2 well which had a tested production rate from the Lyons Formation of 500 mcf raw gas per day and the Govt Cynthia True #1 well also flowed gas from the Lyons Formation.

3. ***Top Seal Presence***

   The top seal is confirmed at the Model Dome analogue and by the gas accumulation at the Govt Cynthia True #1 well. Petrophysical analysis suggests that the top seal across the Argo, Pegasus and Galactica prospects is of good quality and generally improves regionally to the east of Model Dome across the prospects.

Prospect Specific Assessment

Within this proven play fairway, each of the Argo, Pegasus and Galactica prospects are subject to independent prospect risk. Internal geologic modelling is based on reprocessed gravity and magnetic data, incorporated offset well data and surface and subsurface horizon and fault mapping. Trap definition and risk is highly interpretive, there is generally sparse well control and no seismic data across the prospects. The uncertainty in potential closure area for each prospect has been captured in the range of prospective resource.

The interpreted gas column in Denton B#1 and Colorado #1B demonstrate that both the top seal and trapping mechanism are working for the Galactica and Pegasus prospects (respectively).

Given the proven play elements and gas interpretation in key wells the geological chance of success is assessed by the Company to be moderate to high for an exploration target with Galactica and Pegasus having lower risk by way of having good well control with petrophysical analysis and interpreted gas columns.

The Company believes that, based on the work it has done to date, the chance of development, upon a discovery, is strong. Modular, skid mounted processing units located proximal to any discovery would concentrate the raw gas stream to around 98%+ gaseous helium. The concentrated helium may then be loaded at site onto an offtaker's tube trailer for transport to a liquefaction plant or end-user. Las Animas County is well located within trucking distance to established liquefaction plants with significant available capacity.

Forward Work Program

Blue Star is set to undertake an initial three to five well drilling campaign in order to maximise the prospective resources being tested.

Engineering estimates have confirmed the expected dry hole cost at circa US$300,000. Should the first well on any prospect discover helium, Blue Star intends to conduct a log evaluation and well testing program.

If commercial production rates of helium are indicated during the well testing, that well may be completed as a producer. In this event, completion costs have been estimated at US$100,000, which is additional to the dry hole cost.

Blue Star remains on track to receive the final permit to drill its Enterprise 16#1 well during Q3 2021.

The Company also expects to submit initial applications for a further two wells shortly.

The adoption of a rolling permitting strategy is designed to provide Blue Star with significant flexibility around well selection and allow a continual drilling program with a substantial degree of embedded responsiveness to respective drilling outcomes.

The Board has authorised this announcement for release to ASX.

For further information, please contact:
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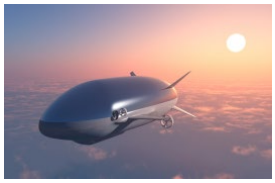
About Blue Star Helium

Blue Star Helium Limited (ASX:BNL) is an independent helium exploration and production company, headquartered in Australia, with operations and exploration in North America. Blue Star's strategy is to provide its shareholders with exposure to multiple high-value helium projects in North America. For further information please visit the Company's website at www.bluestarhelium.com

About Helium

Helium is a unique industrial gas that exhibits characteristics both of a bulk, commodity gas and of a high value specialty gas and is considered a "high tech" strategic element. Due to its unique chemical and physical qualities, helium is a vital element in the manufacture of MRIs and semiconductors and is critical for fibre optic cable manufacturing, hard disc manufacture and cooling, space exploration, rocketry, lifting and high-level science. There is no way of manufacturing helium artificially and most of the world's reserves have been derived as a by-product of the extraction of natural hydrocarbon gas.



SCHEDULE A

Mineral Leases the subject of the Prospective Resource Evaluation at Argo, Galactica and Pegasus

In Las Animas County, Colorado, the mineral estate (including helium) may be owned by private citizens or corporations, the State of Colorado or the United States of America. 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. (For a detailed description of the system of mineral ownership, development and production in the United States see appendix 3 of the Company's announcement of 19 September 2019.)

The Company's rights to develop, produce and sell any helium that may be derived from the Galactica, Pegasus and Argo Prospects has been granted by private mineral owners, the State of Colorado and the United States of America pursuant to mineral leases issued by each of those mineral owners.

The leases issued by the United States of America via the Bureau of Land Management (**BLM Leases**) are in their standard form (Form 3100-11, October 2008) and provide for an initial term of 10 years and an annual rental payment of US$1.50/acre payable annually in advance for the first five years and then US$2/acre. If the Company successfully produces helium or other products from the lease area, a 12.5% royalty will be payable to the US Federal Government and the lease term will be extended indefinitely until production ceases. The leases do not include any minimum work commitments. The Company is the only working interest owner in each of these leases.

The leases issued by the State of Colorado (**State Leases**) are in their standard form (revised DOL 20190301) for an initial term of five years, with the right to request an extension of one year and an annual rental payment of US$2.50/acre payable in advance. If the Company successfully produces helium or other products from the lease area, a 20% royalty will be payable to the State of Colorado and the lease term will be extended indefinitely until production ceases. The leases do not include any minimum work commitments. The Company is the only working interest owner in each of these leases.

The leases issued by the private mineral owners (**Private Leases**) are in the form of Producers 88, Rocky Mountain 1989 (Paid-Up Rev. 1996 w ext.) for an initial term of five years with, in most cases, an option to renew for a further five years. If the Company successfully produces helium or other products from the lease area, a 12.5% 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. The Company is the only working interest owner in each of these leases. A lessor may not own the entire and undivided fee simple estate in the tracts the subject of its lease. Therefore, the Company's net interest in a tract may be less than its gross interest in that tract.

The net mineral acres associated with the prospective resources at the Galactica prospect comprise 16,872 net acres under BLM Leases, 1,258 net acres under State Leases and 1,145 net acres under Private Leases.

The net mineral acres associated with the prospective resources at the Pegasus prospect comprise 8,055 net acres under BLM Leases, 3,715 net acres under State Leases and 353 net acres under Private Leases.

The net mineral acres associated with the prospective resources at the Argo prospect comprise 8,778 net acres under BLM Leases, 1,992 net acres under State Leases and 1,951 net acres under Private Leases.

SCHEDULE B

Cautionary Statement for Prospective Resource Estimates

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

Helium Resource Estimates

The Prospective Resource estimates presented in this report are prepared at an effective date of 4 June 2021. The Prospective Resource estimates are quoted on an unrisked basis. The unrisked total presented in the table has been arithmetically added and assumes a success case in both prospects.

Mineral Owner Royalty

The Galactica, Pegasus and Argo prospect leases (**Leases**) are situated in Las Animas County, Colorado, USA. The mineral lessors comprise the US Department of the Interior, Bureau of Land Management (**BLM**), the State of Colorado and various private mineral owners. The Leases issued by the BLM are subject to a 12.5% government royalty. The Leases issued by the State of Colorado are subject to a 20% royalty. The Leases issued by private mineral owners are subject to 12.5% royalty.

Weighted Average Royalty Burden (%)	1U (P90)	2U (P50)	3U (P10)
Galactica Prospect	12.6%	12.9%	13.0%
Pegasus Prospect	13.1%	14.0%	14.8%
Argo Prospect	12.5%	13.4%	13.7%

In this report, the prospective resource entitlement is presented after deduction of the weighted royalty burden.

Resource Estimation Methodology

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.

The primary target is the Lyons Formation, a Permian age siliclastic reservoir that is known to be a productive helium producer in the Model Dome Field within the project area. The primary analogue field is the Model Dome Field discovered in 1927 with the No 1 Government Well in NE-NW Sec 11 T30S R60W of Las Animas County, Colorado.

The data used by Sproule as input to the independent prospective resource assessment included:

Data	Data obtained from within leased area	Data obtained from outside leased area
Well files including logs, core and DST results	Yes	Yes
Petrophysical interpretations of well data	Yes	Yes

Reprocessed and interpreted gravity and aero-magnetic data	Yes	Yes
Regional geological data, maps and reports	Yes	Yes
Various geological reports on helium field, Model Dome[1]		Yes
Compositional data from 8 wells in Model Dome and Cynthia True[1]		Yes
Soil gas helium survey results	Yes	Yes
Note 1: Model Dome is a historical helium field which produced pre-WWII. Blue Star does not own any economic interest in Model Dome or Cynthia True.		

This data was used by Sproule to independently map various geological horizons across the area of interest including the Lyons Formation. Three independent fault bounded structures were mapped with up to 100 feet of structural closure at the top of the Lyons Formation.

Sproule assumed a mean porosity of 20% based on the petrophysics, log and core data from surrounding wells including at Model Dome. Sproule concluded that available log data was inconclusive as to the connate water saturation and elected to use a bulk volume water method using data from two analogue fields with comparable rock quality. A P50 of 0.045 was used.

There was no pressure data from the Lyons Formation available from within the Galactica area. An average of pressure gradients determined from DSTs to the east and the west of the area was used to estimate initial reservoir pressure at each prospect.

Gas analysis for eight wells in the Model Dome area showed an average of 8% helium content. Sproule reviewed the compositional data and the supplied correlation for estimating the gas deviation factor and gas formation volume factor for the estimated reservoir conditions and found it to be acceptable. For helium content, the Monte Carlo calculations used a most likely value of 8% helium with a minimum of 7% and a maximum of 9%.

No reliable long-term production data was available for the Model Dome field to use in estimating the recovery factor, however, permeability data was available from Lyons Formation core data with calculated means between 43 and 160mD. A forecasting tool was constructed assuming a single well producing from a 640-acre area under volumetric depletion and matched to the initial production rates reported from individual Model Dome wells (500-1,000 mcf/day). Recovery factors determined ranged from 50% to 75%. The upper recovery factors for each prospect were found to be consistent with reported recoveries from the Pinta Dome field in Arizona which produced low-pressure helium-rich gas from a sandstone reservoir of comparable quality to the Lyons Formation in the prospect area.

The estimates were generated on an unrisked basis by probabilistic calculations using Monte Carlo software. For each Monte Carlo iteration, the gross gas in place was calculated by the standard volumetric formula. The gross helium in place was determined by multiplying the gas in place by the assumed helium content. The recoverable helium was then calculated by multiplying the gross helium in place by the gas recovery factor. The areas of each of Blue Star's leases that fell within the independent structural closures of the Galactica, Pegasus and Argo prospects were calculated and a weighted Blue Star working interest and royalty burden was determined for each prospect in each of the P90, P50 and P10 outcomes.

Competent Person Statement Information

The information in this report relating to prospective resources is based on, and fairly represents, information and supporting documentation prepared by or under the supervision of Jeffrey B Aldrich and Stanley Kleinsteiber. This estimate of prospective resources has been classified in accordance with the SPE-PRMS (Society of Petroleum Engineers - Petroleum Resource Management System).

Mr Aldrich is employed by Sproule as a Senior Geoscientist. Mr Aldrich is a qualified geoscientist with over 40 years of oil and gas industry experience and is a member of the American Association of Petroleum Geologists and the Society of Petroleum Engineers. Mr Aldrich consents to the inclusion of the information in this report relating to helium Prospective Resources in the form and context in which it appears.

Mr Kleinsteiber is employed by Sproule as a Senior Petroleum Engineer. Mr Kleinsteiber is a qualified petroleum engineer with over 40 years of oil and gas industry experience and is a member of the Society of Petroleum Engineers. Mr Kleinsteiber consents to the inclusion of the information in this report relating to helium prospective resources in the form and context in which it appears.

The information in this report has been prepared under the supervision of Trent Spry who is executive director of Blue Star. Mr Spry is a qualified geoscientist with over 20 years of oil and gas industry experience and a member of the American Association of Petroleum Geologists and the Petroleum Exploration Society of Australia. Mr Spry consents to the inclusion of the information in this report relating to helium prospective resources in the form and context in which it appears.

About Sproule

Sproule is a global energy consulting firm with a 65-year legacy of driving value for clients by helping professionals in the oil and gas sector make better business decisions. Sproule is anchored by deep geoscience and engineering expertise combined with a strong commercial understanding of energy markets and policy requirements. Sproule's integrated consulting solutions support critical oil and gas workflows that are underpinned by the following cross-functional disciplines; geology, geophysics, petrophysics, engineering, land, petroleum accounting and economics. Its teams accurately characterize subsurface opportunities and increase shareholder confidence through independent economic evaluations of resources. Advisory services include development planning, investment analysis and asset management services. In addition, Sproule offers relevant courses designed for energy professionals, enabling organizations to build scale and capacity.

Forward Looking Statements

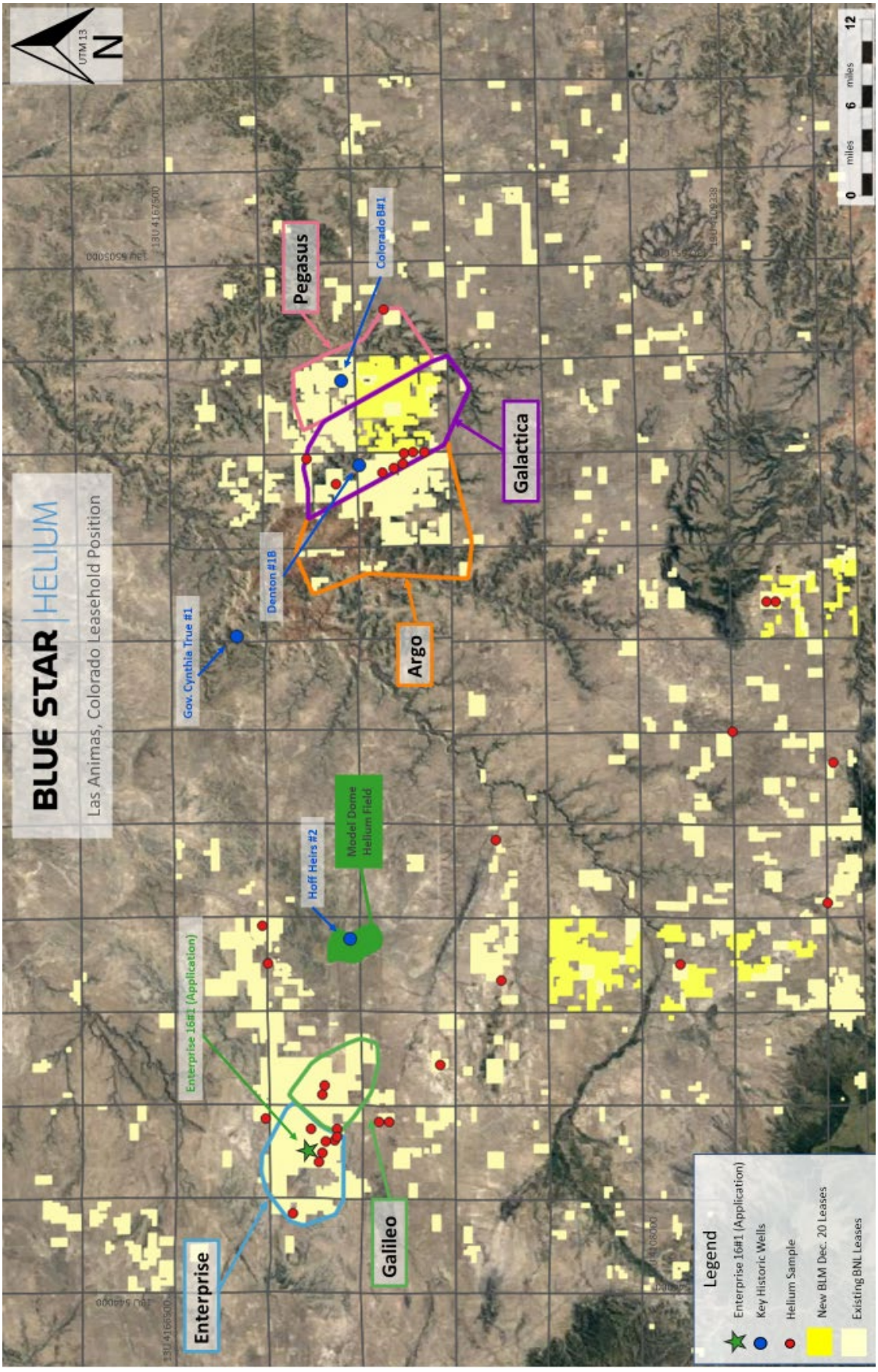
This document may include forward looking statements. Forward looking statements include, are not necessarily limited to, statements concerning Blue Star's planned operation program and other statements that are not historic facts. When used in this document, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward looking statements. Although Blue Star believes the expectations reflected in these are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward- looking statements. The entity confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning this announcement continue to apply and have not materially changed.

Units of Measure

Unit	Measure
BCF	billion cubic feet
mmcf	million cubic feet
mcf	thousand cubic feet

SCHEDULE C

Summary of Soil Gas Survey Results on Leases



Soil Gas Survey Locations Captured by Current Leasing			
UTM13 eastings (X) and northings (Y)		Helium Concentration (ppmv)	Helium Concentration (>10% above atmospheric levels)
X	Y		
591050	4133234	5.88	12%
562130	4157221	10.77	106%
564706	4151311	6.48	24%
629593	4143947	6.14	17%
631201	4141865	6.28	20%
629997	4142902	5.91	13%
631198	4140744	7.86	50%
630485	4152976	6.15	17%
629054	4145114	6.07	16%
627918	4149895	5.95	14%
552384	4154452	6.02	15%
561865	4145412	6.05	16%
559790	4150981	6.01	15%
582119	4157576	5.81	11%
567792	4139074	5.83	11%
565671	4151048	5.84	11%
578222	4157069	5.92	13%
584558	4098673	6.82	30%
599095	4098024	5.86	12%
602207	4108602	5.84	12%
631129	4142828	5.88	12%
615689	4103996	6.01	15%
615782	4104980	5.82	11%
561872	4144415	5.96	14%
561119	4149827	5.87	12%
559886	4150090	5.82	11%
558696	4151376	5.78	10%
560325	4149824	5.89	12%
561141	4152484	5.89	12%
557747	4151660	6.36	21%
578092	4114041	5.85	12%
646039	4144896	7.72	47%
576510	4132606	5.91	13%

For further information on the regional gas survey see BNL ASX release dated 19 September 2019.