

## ASX ANNOUNCEMENT

20 October 2021

### WATER WELL PROGRAM UPDATE

#### Highlights

- Drilling of second water well (Hill#2) completed.
- Hill #2 located approximately 1.5 miles north-east and down-dip of Blue Star's planned Enterprise 16#1 helium exploration well.
- Neutron and density wireline logs show at least 26 feet of gas effect at the top of the Lyons formation, with a free water level interpreted in the well at the base of the gas effect.
- While the composition of the gas is unable to be tested in the water well configuration, Blue Star is highly encouraged by this indicative outcome.
- Drilling of third water well (BBB#1) expected to commence during November.
- Clear potential to expand water well drilling program given strong initial outcomes and additional data benefits.

Blue Star Helium Limited (ASX:BNL) (**Blue Star** or the **Company**) is pleased to provide an update on its water well drilling program in Las Animas Country, Colorado.

As previously advised, Blue Star agreed to fund the drilling of three water wells for local ranch holders (see BNL ASX releases dated 29 July 2021, 10 September 2021 and 30 September 2021). In the process of drilling these wells, Blue Star would seek to gather data from the wells that might aid in the further definition of its helium prospects. The wells are drilled and owned by the ranchers and Blue Star does not have any interest in them. However, the Company does own a mineral lease interest at each of the well locations.

Water wells are drilled differently to the method the Company expects to use to drill dedicated helium gas wells (particularly given the low-pressure nature of the Lyons formation). The water wells are air drilled with increasing pressure and if significant water is encountered assisted, if required, by foam to lift the cuttings. The result is that any formation gas in the return gas is highly diluted by air. Additionally, water wells cannot be conventionally tested.

The drilling of the first of these water wells (Hill#1) commenced during the June 2021 quarter, however it remains incomplete. Significant shallow water was encountered, which required the delivery of additional equipment to complete drilling to target depth (see BNL ASX release dated 29 July 2021). There have been ongoing delays in the delivery of this equipment, which remains pending. However, and as also previously reported, the initial data obtained to current depth from this well supports the Company's stratigraphic interpretation of the area around its Galileo prospect.

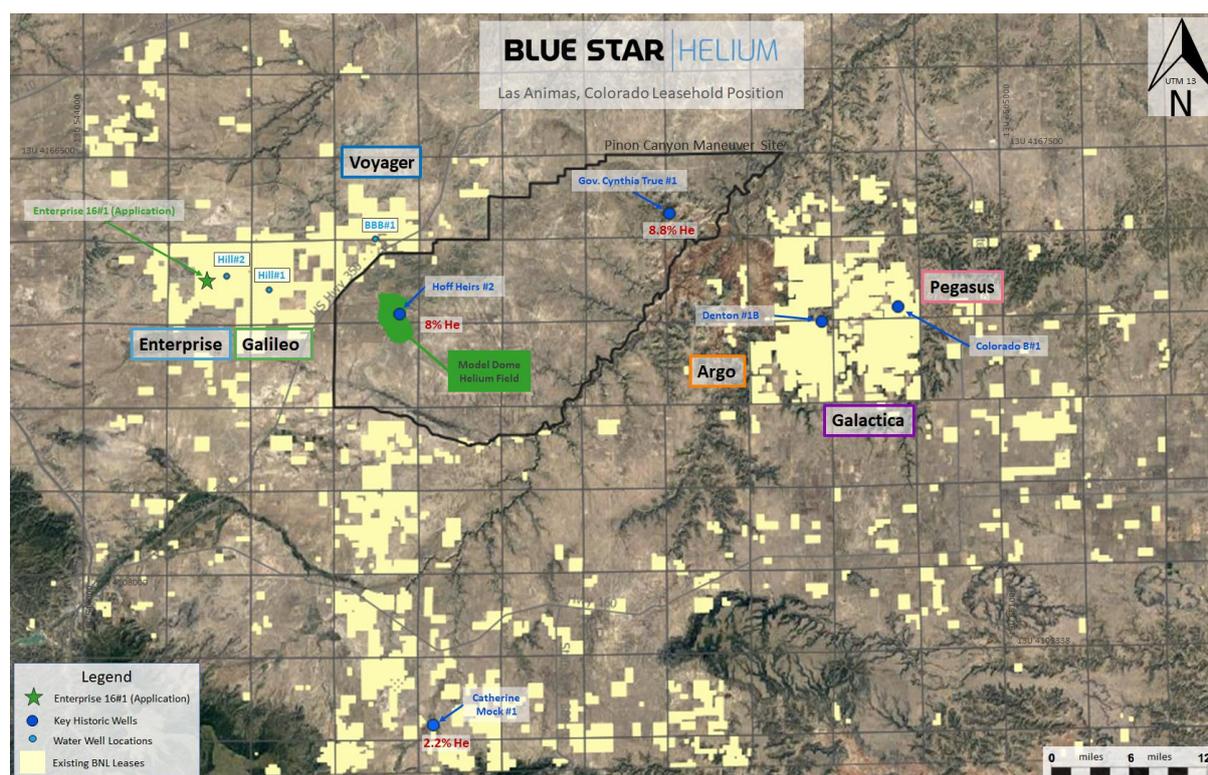
The drilling of the second water well (Hill#2), interpreted to be located downdip from Blue Star's Enterprise 16#1 application has now been completed. Neutron and density wireline logs run in the well show approximately 26 feet of gas effect at the top of the high-quality Lyons formation, with a free water level interpreted in the well at the base of the gas effect. The resistivity logs across the gas effected part of the Lyons formation suggest a transition zone above the free water level. As noted earlier, the composition of the free gas in the Lyons formation could not be determined because of the nature of the water well configuration.

It is worth noting that historical offset wells, including a well interpreted to be within the Model Dome field boundary that was reported to be blowing low pressure gas after abandonment, have shown similar low resistivity responses on logs.

The Lyons formation play in this area is proven by the historic helium production from Model Dome, which had an average helium content from the Lyons formation of 8%, and at the historic Gov. Cynthia True well, which tested 8.8% helium.

The Hill#2 water well is located approximately 1.5 miles to the north-east, and interpreted to be down dip from, Blue Star's planned Enterprise 16#1 helium exploration well (see Figure 1). Blue Star expects to receive the final permit to drill the Enterprise 16#1 well during Q4 2021.

**Figure 1: Location of Hill#1, Hill#2 and BBB#1 water wells, the planned Enterprise 16#1 helium exploration well and the historic Model Dome field**



Drilling of the third water well (BBB#1) is expected to commence in November. This well is located close to Blue Star's Voyager Prospect, which is positioned approximately six miles north from the Model Dome field (see Figure 1).

It is anticipated that drilling of the Hill#1 well will be completed after drilling of BBB#1.

## Hill#2 Water Well Details

The Hill#2 water well is located in Township 29 Range 62 Section 1 (see Figure 1). The minerals are the subject of a Federal lease acquired by Contex Energy Company LLC on behalf of the Company's wholly owned subsidiary, Las Animas Leasing Inc (**LAL**), from the United States of America with an effective date of 1 May 2020. The total area of the lease is 1920 acres, the term is 10 years from the effective date, the rental is US\$1.50 per acre per annum for the first five years and US\$2.00 per acre per annum for the second five years of the lease and the royalty is 12.5%. LAL's working interest in the lease is 100%.

The Hill#2 water well was not tested. The Company ran a suite of logs including gamma ray, resistivity (induction), micro log, density and neutron logs. The well was drilled to a total depth of 1017 feet. The top of the Lyons formation was encountered at 812 feet.

The Company ran continuous gas monitoring using mass spectrometry. As mentioned above, as a result of the drilling methodology any formation gas in the return gas was highly diluted by air and could not be used to establish the composition of the free gas seen on the logs.

This ASX Announcement has been authorised for release by the Board of Blue Star Helium Limited.

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### About Blue Star Helium:

Blue Star Helium Ltd (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 find and develop new supplies of low cost, high grade helium in North America. For further information please visit the Company's website at [www.bluestarhelium.com](http://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.

