



BIG STAR ENERGY

ASX ANNOUNCEMENT

19 September 2019

ENTERPRISE HELIUM PROSPECT UPDATE

- Big Star has leased additional acreage covering 5 detected helium anomalies at Enterprise
- Total area under lease at Enterprise is now 5,120 gross acres
- Near-term activity continues to focus on adding to Enterprise acreage and securing vacant acreage at additional prospects as prioritised by recent work

Big Star Energy Ltd (“Big Star” or the “Company”) (ASX:BNL) is pleased to announce that it has entered into additional leases at its Enterprise helium prospect in the USA.

Big Star Managing Director, Joanne Kendrick, commented “In accordance with our helium strategy, we have expanded our leasing at Enterprise to cover 5 helium anomalies detected in our recent soil gas survey. These leases represent the first acquired with the benefit of the soil gas survey results.

“We are pleased to have achieved our near-term strategic objective of 5,000 gross acres under lease as set out in our announcement of 22 August 2019. The statutory pooling rules mean Big Star has the ability to undertake a drilling programme in its gross leased acreage. As announced on 22 August 2019, Big Star is targeting having several prospects ready for drilling permitting in 1Q2020.

“Our on-going leasing programme is gathering momentum and we will now focus on building our leasehold position at Enterprise by in-fill leasing and step-out leasing.”

Big Star previously collected 5 soil gas samples from the areas most recently leased. All 5 samples returned positive helium anomalies (ranging from 10% to 21% above normal atmospheric levels) indicating an active helium system. The results are consistent with soil gas results over third-party helium projects producing in the USA. Appendix 1 contains further information on the soil gas sampling methodology that was used in the survey.

The two new leases are for an initial term of 5 years with an option to renew for a further 5 years and a 12.5% royalty. They do not include any minimum work commitments. The acquisition cost of the leases is not material to the Company. The Company is the only working interest owner in each of the leases (see appendix 3 for a description of the term working interest).

The Company currently has 5,120 gross and 1,010 net acres leased at Enterprise (previously 1800 gross and 700 net acres).

For further information, please contact:

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About Big Star:

Big Star Energy Ltd (ASX:BNL) is an independent oil and gas exploration and production company, headquartered in Australia, with operations and exploration in North America. Big Star's strategy is to provide its shareholders with exposure to multiple high-value helium projects and conventional oil assets in North America. For further information please visit the Company's website at www.bigstarenergy.com.au

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.

Appendix 1

Soil gas sampling methodology

The Company selected sample locations based on its proprietary geological model.

Field testing process

Soil gas samples were collected from a depth of one metre using a specialised hand-held steel probe (Figure 1). The gas was drawn from the probe with a syringe and forced into 20 ml glass vials with air-tight crimped lids. Two vials were collected at each sample site. The first 20 ml vial at each location was collected for mass spectrometer analysis in the laboratory and the second 20 ml draw was injected into a portable PHD-4 detector for testing in the field. The PHD-4 detector was also used to record “ambient hits” during the survey. Ambient hits are anomalous concentrations in air (as opposed to any specific sample) detected by the PHD-4 instrument.

PHD-4

The portable PHD-4 instrument (Figures 2) uses ion pump technology and can detect as little as 2 parts per million (ppm) helium above ambient or normal atmospheric levels (5.24 ppm). The detector was checked every morning and afternoon during the survey using a helium spike to ensure that it was operating properly.

Mass Spectrometry in the laboratory

The helium analysis in the laboratory was conducted on a DuPont/Wilson model 120SSA Mass Spectrometer with a sensitivity of 0.06 ppm helium and an analytical precision of +/- 2% at the 95% confidence level. Each of the field soil gas samples were bracketed by analyses of a standard with 5.55 ppm helium to correct for analytical drift throughout the day. The accuracy shown by repeat analysis of the standard was +/-1% at the 95% confidence level. Based on this highly accurate and precise helium analysis on the mass spectrometer, Big Star has a very high confidence in the data received from the laboratory testing.



Figure 1, Specialised hand-held steel probe for sampling soil gas



Figure 2, Portable PHD-4 instrument

Appendix 2

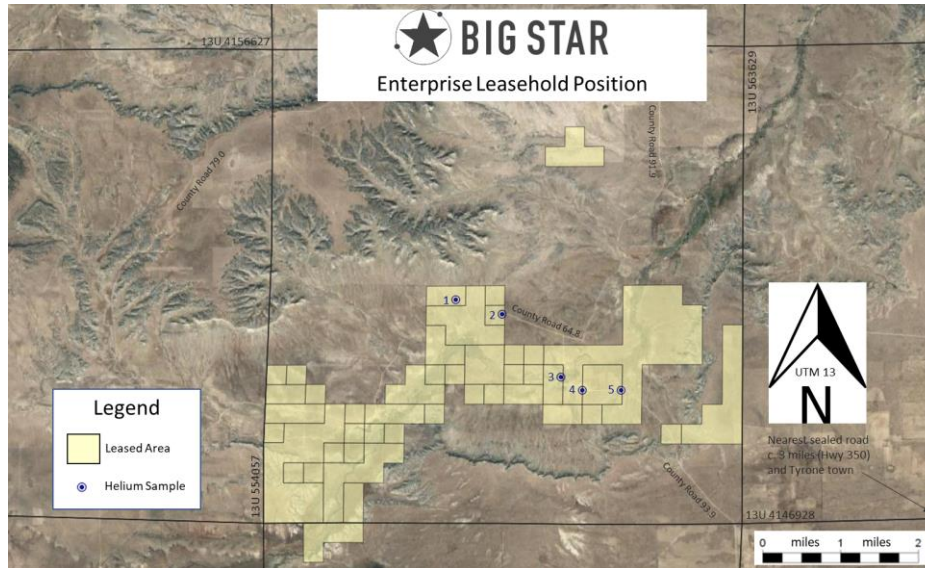


Figure 3, Enterprise Gross Leasehold Position (Note 1)

Note 1: The leases create rights in relation to the mineral estate only and do not grant surface rights. Surface access rights will be negotiated separately with the surface right owners prior to drilling or other surface activity in accordance with customary permitting procedures.

Sample	UTM13 eastings (X) and northings (Y)		Helium Concentration (ppmv)	Helium Concentration (% above atmospheric levels)
	X	Y		
1	557747	4151660	6.36	21%
2	558696	4151376	5.78	10%
3	559886	4150090	5.82	11%
4	560325	4149824	5.89	12%
5	561119	4149827	5.87	12%

Table 1, Enterprise Leases Soil Gas Samples (Note 2)

Note 2: Each of the 5 samples was collected from ground where the Company now has 4,961 gross and 310 net leased mineral acres.

Appendix 3

Mineral Rights and Oil and Gas Leasing in the USA

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.
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.