

Avanti Rising: Company To Start Developing Its Helium Assets With 2021 Drilling Program

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Southern Alberta

- ~7,000 + acres of land under license from the Government of Alberta, resides in an area with confirmed reservoir rock and multiple DSTs with analysed gas
- A previously drilled well on the property tested gas with high helium content (2.18%) and high nitrogen content (96%). The high grade of helium gas showings of greater than 2% compare favourably to commercially viable discoveries ranging from 0.3% to 1%.
- Offsetting wells have multiple tests in Cambrian and Devonian intervals with up to 1.79% helium and 83-93% nitrogen content.
- Drill stem tests (DSTs) in wells in and around the newly acquired land package indicate reservoir quality rock in the Cambrian and Ordovician zones.



Avanti Energy Inc. is on track to be an industry-leading helium producer, as the company boasts an experienced oil and gas workforce (<https://www.dailyoilbulletin.com/article/2021/5/19/a-brief-history-of-avanti-company-formed-by-a-grou/>), pivoting to this new resource, as well as a developing portfolio of high-quality assets.

“We’re on track at the moment to start our drilling program in late Q3 or early Q4 of 2021,” **Chris Bakker**, chief executive officer, told the *Bulletin*.

“With success there, we’d be looking for production in about Q3 of 2022.”

As the company builds out, he said, it will “staff up” accordingly and engage the necessary oilfield services firms, as well as follow up with financing requirements. Still, noted Bakker, Avanti is on track to put at least three wells in the ground this year, with new facilities and production contracts soon to come, based on the success. “This is a very exciting time. We’re loving every day of what we do, but it does make for some long days.”

He added: “Our approach from day one has been to build a portfolio of properties. We want to have diversification of geologic risk, of regulatory issues, of markets, and having multiple properties is key to that.”

This month, Avanti [acquired a strategic land package](https://www.dailyoilbulletin.com/article/2021/5/10/avanti-energy-acquires-additional-leases-with-heli/) (<https://www.dailyoilbulletin.com/article/2021/5/10/avanti-energy-acquires-additional-leases-with-heli/>) under lease from the Alberta government.

According to the company, the property is highly prospective for potential helium extraction, and Avanti is moving forward with a more detailed analysis to identify optimal well locations.

Management says this newly-acquired project resides over an area with a closed structural high that is ideal for trapping helium, with multiple helium shows of up to two per cent identified in and around the property. Previously drilled oil and gas wells on the property show high nitrogen content of 95 per cent in multiple zones.

Nitrogen at this concentration is key as it is often associated with producible quantities of helium and the production of helium is a relatively simple process. The technical team is already moving into a more detailed evaluation phase with the goal of drilling exploration wells later this year.

Last month, the company entered into a letter of intent (<https://www.dailyoilbulletin.com/article/2021/4/16/helium-developer-avanti-energy-acquiring-12000-acr/>), with a group of private land holders to acquire the helium rights on roughly 12,000 acres of prospective land in north-central Montana. The newly-acquired land fits within the company's strategy of building a portfolio of land holdings with high potential for helium development.

This land position is in close proximity to, and on trend with, an active drilling area in southwestern Saskatchewan, which has nitrogen-rich helium tests in Cambrian to Devonian zones.

“Ultimately, we'd like to have five to seven good properties in hand,” Bakker told the *DOB*. “We have four today, and we have a number in the pipeline. What we're really doing is focusing in on the core of every opportunity. We're tightly focused on the very best of the rocks and very best of the reservoirs.

“And so, we're not in the habit of buying a bunch of extra land to make it look like we have a bigger picture than we do, or a bigger set of opportunities than we do. We're focusing on the stuff that's actually going to produce.”

Currently, Avanti is chasing helium with associated nitrogen. According to the CEO, the economics are better when helium comes with nitrogen, as natural gas requires processing and marketing or utilization, and the natural gas market has been “a bit challenged” in recent years. “Your helium will end up subsidizing the natural gas.”

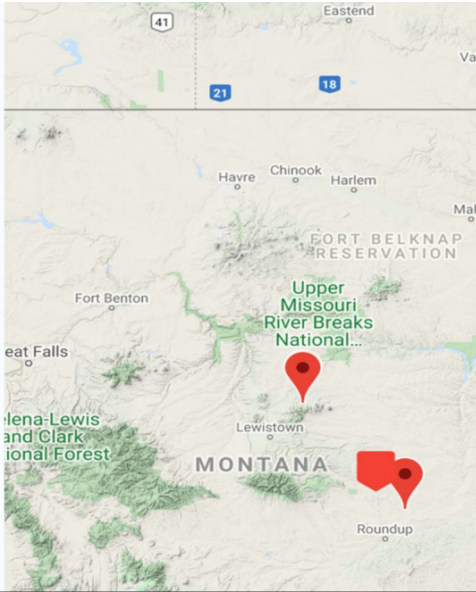
Helium concentrations are also important when selecting potential assets, said Bakker, but there are other factors such as the porosity of the rock and permeability, flow rates and pressures that the wells could achieve, as well as an asset's ultimate recoverable resource.

“There are opportunities to pursue higher concentrations of helium. We’ve seen headlines that certain wells have very high concentrations, but if you dig down into the rest of it, then the producibility won’t be there. We’re trying to go for fairly long-lived, productive reservoirs.”

Avanti plans to drill its wells from scratch rather than re-enter old wells, he added. The company will use existing wells on its properties for data purposes.

Musselshell County Montana

- 2,749 Acres of continuous land located in petroleum county Montana. Terrelium holds the mineral and surface rights to the property. Pursuing additional properties nearby.
- High grade helium wells drilled near by in the 1970's by USGS in the Maison formation yielding commercially viable helium at today's prices.
- Avanti plans to complete detailed geological report and identify basement structures with helium producing potentials Deadwood and Madison formation.
- Commence a systematic drilling program on multiple locations to prove reserves based on drilling targets identified.



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Why helium matters

Helium represents an “amazing pivot” for those in the oil and gas industry, according to Bakker. For example, he said, the skill sets for oil-and-gas professionals is directly applicable. Therefore, while helium is an energizing, new resource for them, it requires the same skill sets that those workers already possess.

As for OFS, completions are perhaps smaller with helium than with oil and gas, but facilities work is similar, as is truck work, and drilling operations are basically the same. The CEO said: “The drilling operations are typically

vertical wells. The reservoirs at this point look to be much like conventional natural gas reservoirs that we would have seen in production 20 years ago before the shale revolution. That part of things is fairly straightforward.”

He added: “What’s really different is that the level of industry activity will be completely disconnected from the price of oil and gas. And so, it’s a diversification opportunity for oilfield services.”

Demand for helium is growing exponentially, says the company, as it is a vital component in medical equipment such as magnetic resonance imaging machines, and helium is an inert, clean element that is required for cooling large storage batteries, supercomputers and cleaning rocketry components.

A bit of a different industry

Helium is different than oil and gas in that, unlike the latter, it has not accumulated a lot of data in terms of analog wells from which to pull information and build models, Bakker told the *DOB*. Therefore, while the skill sets required when developing this resource are similar to with oil and gas, helium is perhaps a more “frontier” industry.

“If you were to look at oil and gas, then there are literally tens of thousands of wells in a public data base in Alberta, B.C. and Saskatchewan,” he said, adding that geologists do not have access to the same sorts of public data sets for helium, which makes this resource in Western Canada similar to exploring a South American or African basin in terms of data available.

“But the skill sets are all here, the services are all here, and we’re pretty excited by the opportunity. We’ve shown a lot of success in the short time we’ve been around.”

What’s needed now

Whether helium producers join an existing energy association or form their own, Bakker told the *DOB*, they will require at some point an industry voice that can speak to their particular needs in developing this resource.

“There will be some things that are a bit different than from oil and gas or from mining, and to bring our unique perspectives to government in an organized way, there should be an organized voice,” he said, adding, for example, that clarity on land filing assessments would be helpful. “We’re not sure with the regulators whether we’re a mining company or an oil and gas company.”

Bakker wishes good luck to all newcomers in the helium space, as the more successful players there are, the better it is for this industry. However, he also believes that Avanti has assembled the best team and development plan, and he is really excited to see what his company can pull together in the helium space in the upcoming 1.5 years or so. “I think we’re going to make a real mark on the industry.”

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