

Recommendation: **Buy (S)**
 Target Price: **\$4.50**

INDUSTRIALS

Avanti Energy Inc.

(AVN - TSXV)

Don't Get Caught Knappen; Initiating Coverage Ahead of Exploration Catalysts

Unless otherwise denoted, all figures shown in C\$

Current Price	\$1.62	Shares Outstanding (MM)	
52 Wk High	\$3.00	Basic	48.7
52 Wk Low	\$1.09	Diluted	57.2
NAV	\$4.48	Mgmt and Dir	7.2
P/NAV	0.36x	Mkt Cap. (MM)	\$79.0
Dividend	\$0.00	EV (MM)	\$77.5
Dividend Yield	0.0%		
Total Return	178%		

Investment Thesis:

Avanti is an early-stage helium exploration company currently focused on acquiring land and delineating prospects in Southern Alberta and Northern Montana. The company's strong in-house technical team brings decades of experience working on both conventional and unconventional oil and gas plays in Western Canada to bear on the helium opportunity.

Highlights:

- **The Need For New Domestic Helium Supply:** While we could see significant new helium production capacity (0.7-1.4 Bcf/year) coming from the Russian Amur project this year, we believe that helium buyers will continue to look for sources of supply within North America, particularly with the series of new world-scale semiconductor fab plants coming to the US. Given the number of start-up issues plaguing Amur and general security of supply considerations, we believe that domestic helium price contracts are likely to remain very buoyant amidst the introduction of new volumes from Amur.
- **Avanti Team Brings Extensive O&G Experience To Bear on The Helium Opportunity:** Avanti's executive team has decades of experience working in the oil and gas industry, bringing a full suite of geology, geophysics, reservoir characterization and commercialization expertise to the table. The company's VP Subsurface, Genga Nadaraju, comes to Avanti from Encana (Ovintiv) where she was the lead technical advisor for the Montney gas field. The Avanti team is led by Chris Bakker, CEO, also from Encana and includes technical team members with extensive backgrounds in oil and gas.
- **Initial Exploration Program Gas Shown Encouraging Results:** During 2021, Avanti assembled a sizable land position in Southern Alberta / Northern Montana and has so far worked up 10 prospects, a subset of which are internally estimated to have unrisksed helium resource potential of 4.4 Bcf (P50). The company has drilled two exploration wells to-date, with its latest, WNG 11-22, being the more prospective and will see a completion commence in early March and a production test result approximately 30 days later.
- **Initiating Coverage:** We are initiating coverage on Avanti with a Speculative Buy rating and a \$4.50 target price. Given the proximity to meaningful results that could unlock a commercial development and transition the company to generating cash flow within a year, we believe that the stock makes an attractive investment for investors with a higher risk tolerance. Generally, we would continue to advise that investors take a "basket approach" to investing in the helium space and see Avanti as a solid addition to a basket for exposure to the compelling opportunity associated with North American helium development.

Company Description:

Avanti is an early-stage helium exploration company currently focused on acquiring land and delineating prospects in Southern Alberta and Northern Montana.

Investment Highlights / Catalysts

Helium ExploreCo. Advancing Rapidly Toward Commerciality

Avanti was formed in early 2021 and has quickly assembled a ~69,000 acre land position in southern Alberta and Northern Montana in regions where there are known helium accumulations and offsetting commercial production (in Alberta). The company’s technical team has gathered seismic and technical data and developed 17 potential drilling locations and 10 discrete prospects, of which seven have been fully processed and evaluated. These seven prospects collectively are internally estimated to have P50 (“best estimate”) unrisks, recoverable helium resources of 4.4 Bcf, which represents a massive potential commercial opportunity relative to a company with a market capitalization of less than \$80 MM currently.

Based on our conservative well modelling assumptions and a helium price estimate (\$350/Mcf) which is about 45% below current spot market prices (~US\$500/Mcf or \$634/Mcf), we see 4.4 Bcf of recoverable resources as having a NPV10 of \$275 MM and at current spot helium prices an NPV10 of over \$830 MM.

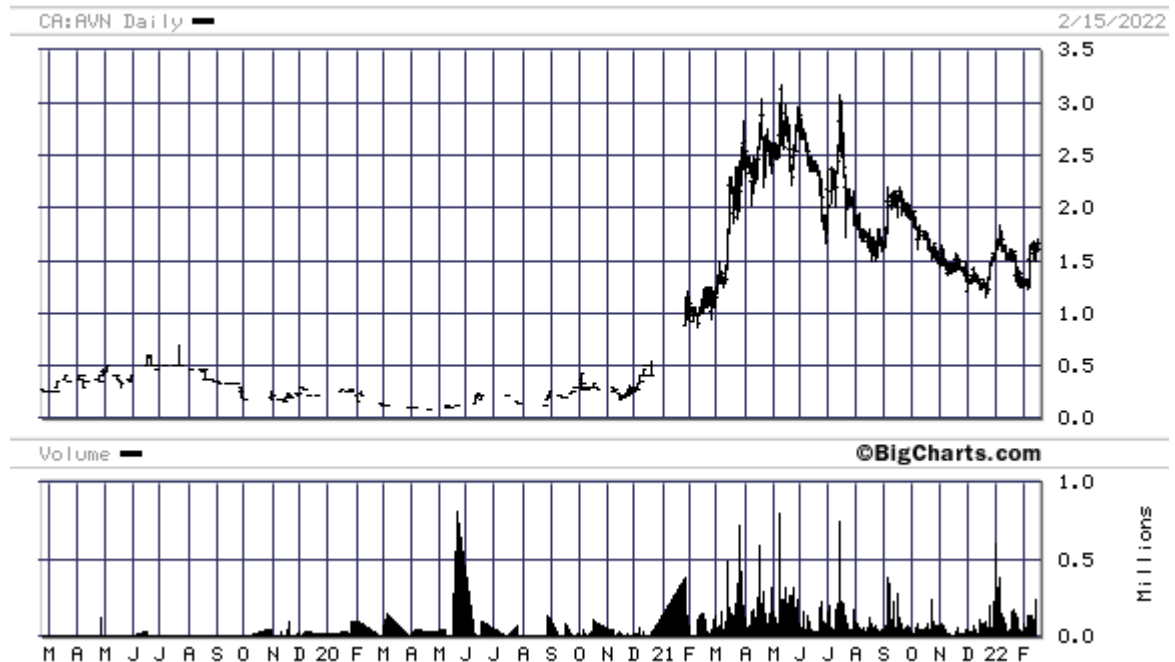
At the end of 2021, Avanti embarked on its initial exploration drilling program and has so far successfully drilled and reached total depth on two wells. As the results from the second well look very promising, the company will likely prioritize completion operations prior to drilling its third prospect. We expect the following upcoming catalysts for the stock:

- (1) **Next 2-3 weeks:** Lab results from well #2 showing gas composition, including helium yield.
- (2) **Early March 2022:** Commencement of completion operations.
- (3) **Early April:** Results from the completion and flow test.

Pending the outcome of the completion operations, we would expect that Avanti would prioritize the appraisal of the structure (including development drilling) in an effort to advance towards commercialization by the end of 2022. We would also expect exploration drilling that could result in additional resource capture.

Figure 1

Price Chart



Source: BigCharts.com (February 15, 2022)

Helium Macro Environment

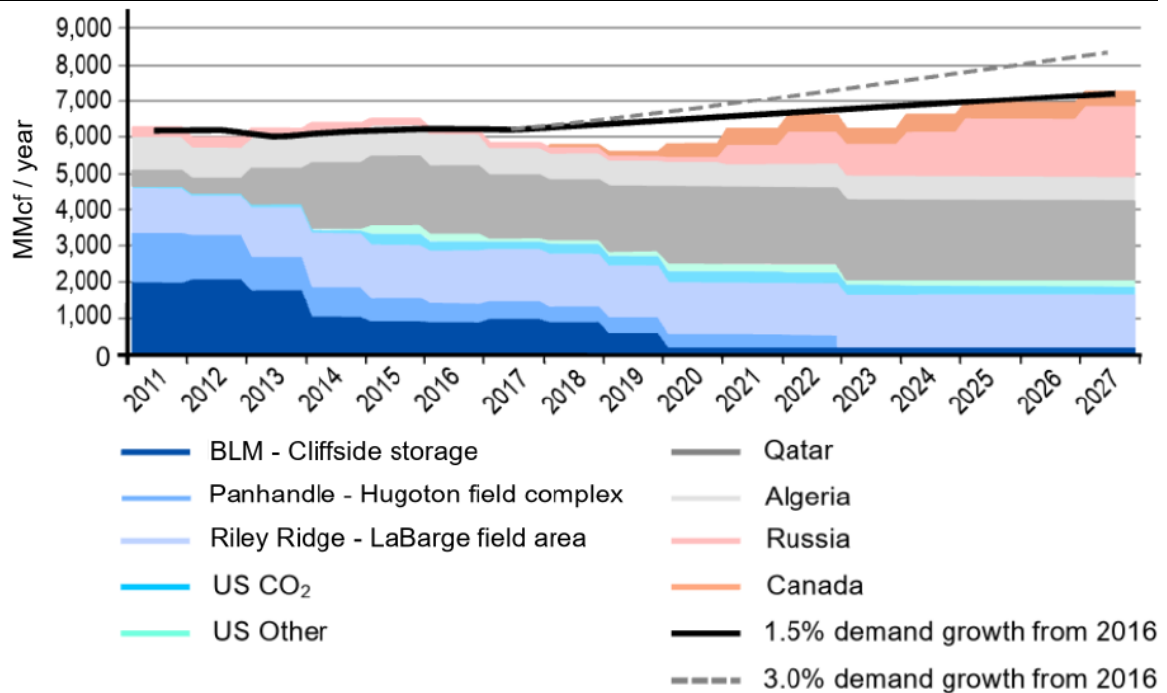
A Fragile Market in Need of Domestic Supply

As we've highlighted in prior helium exploration coverage pieces and macro updates (the most recent being "Gasworld Helium Super Summit Highlights", dated December 13, 2021), we see a very compelling fundamental setup for North American helium producers given relatively few sources of domestic production and the significantly diminished role of the BLM storage site. While the Amur megaproject in Russia was expected to add approximately 1.4 Bcf/year of new helium production to a ~6.0 Bcf/year global market in 2021/22, serious start-up issues with the first Train has thrown serious doubt into the timeline around volume ramp-up from the project. Given the uncertainty surrounding Amur, we have seen indications that spot helium prices are currently running around US\$500/Mcf, up from ~US\$300/Mcf earlier this year.

As junior helium exploration companies are likely to sign up long-term offtake agreements with industrial gas companies, and we believe that contract pricing is likely to be sensitive to a number of variables including reserve/resource size (which has yet to be determined for most of our junior exploration companies, we are using what we believe to be a reasonable baseline pricing assumption of C\$350/Mcf in our economic modelling assumptions. Given the growth in semiconductor manufacturing in North America and the multitude of other high-tech applications for helium, we see excellent demand tailwinds on the continent and believe that this price assumption could ultimately prove conservative.

Figure 2

Global Helium Supply / Demand Balance



Source: Utah Geological Society (Modified from Bahl – 2019)

History and Management Team

Corporate History

Prior to its reorganization and recapitalization in late 2020, Avanti had ~\$380k of cash (with no debt) and no business operations after disposing of legacy international oil and gas assets in the spring of 2019. In a reorganization event, the company completed a \$1.5 MM non-brokered private placement, a 2-1 share split and, in December 2020, announced that it would acquire a 90% interest in a Montana helium lease operated by privately held Terrelium Resources Inc. for 4.9 MM shares of the company. Terrelium was co-founded by the current CEO of Avanti, Chris Baker, and Avanti's VP Corporate Development, Carter Chalmers. In March 2021, Avanti closed a \$5.0 MM non-brokered private placement at \$1.00 per share and announced that it had acquired its first property in Alberta prospective for helium at a government land sale. In April 2021, Avanti made a number of additions to its technical team (detailed below) and announced that it had entered into a Letter of Intent to acquire additional helium rights in Montana. A second land package in Alberta was acquired at a land sale in May and a second non-brokered private placement (\$4.1 MM at \$1.70 per share) was completed in July last year. A small strategic private placement financing (\$1.5 MM at \$1.70 per share) quickly followed, and Avanti continued to add land in H2/21. The company's initial exploration drilling program commenced at the end of 2021.

As a result of the Terrelium transaction, and management's participation in financings, the management and Board of Avanti currently hold ~15% of the common shares outstanding.

Chris Bakker CEO

Chris has 20 years of experience in oil and gas, most recently working as a commercial negotiator with Encana/Ovintiv for major facilities and pipelines in the Montney gas play. Extensive experience in all facets of Natural Gas Exploration, including land acquisition, exploration, drilling, well production and facility integration and construction.

Rob Gamley President

Rob's career spans over 10 years in corporate finance and consulting, providing corporate strategy and communications services to public companies across a broad range of industries including biotech, oil and gas and natural resource exploration and development. He has been a board member of several TSXV-listed companies and brings extensive capital markets experience.

Genga Nadaraju VP

Subsurface Geology: Genga has 25 years of diverse professional experience in the oil and gas industry that includes asset exploitation, strategic planning, investor relations, and technical innovation. Most recently Genga was the lead technical advisor for the Montney gas field and has extensive experience in natural gas Geology, Geophysics & Reservoir Characterization.

Dr. Jim Wood, PhD Director, Geoscience

Mr. Wood has over 30 years of experience as a geologist specializing in reservoir characterization. His Geoscience and Petroleum Engineering research focus is on developing practical applications for enhanced evaluation and economic development of gas and liquid hydrocarbons in conventional and unconventional resource plays. Jim does applied research in Geosciences and Petroleum engineering, his research has received over 100 publications and has been cited over 1,300 times.

Ali Esmail, P. Eng VP Engineering

Reservoir Engineering: Ali has spent the past 13 years specializing in reservoir engineering including reserves evaluation, oil and gas development economics, production analysis and petroleum data analytics. Most recently, he was Ovintiv's (Encana) chief reservoir engineering advisor for Canadian operations.

Richard Balon, B.Sc. Geoph. Senior Geophysicist	A technically focused geophysicist with over 30 years of experience in the Western Canadian Sedimentary Basin. Richard has worked extensive analysis of 2D and 3D seismic data across some of the largest oil and gas fields in in Canada.
Chad Lerner Senior Landman	Chad began his career at Fletcher Challenge Oil and Gas Inc. and has over 23 years of experience in many aspects of energy exploration, including commercial agreements, joint ventures, business development and land acquisition strategy.
Tom Kerestes Drilling & Completions Advisor	Tom has extensive drilling experience in the WCSB, having last worked at Husky Energy as a Drilling Team Lead Superintendent.
Board Of Directors	Chris Bakker – CEO of the company Rob Gamley – President of the company Greg Bronson – Independent geology consultant Mike Leo – Independent businessman

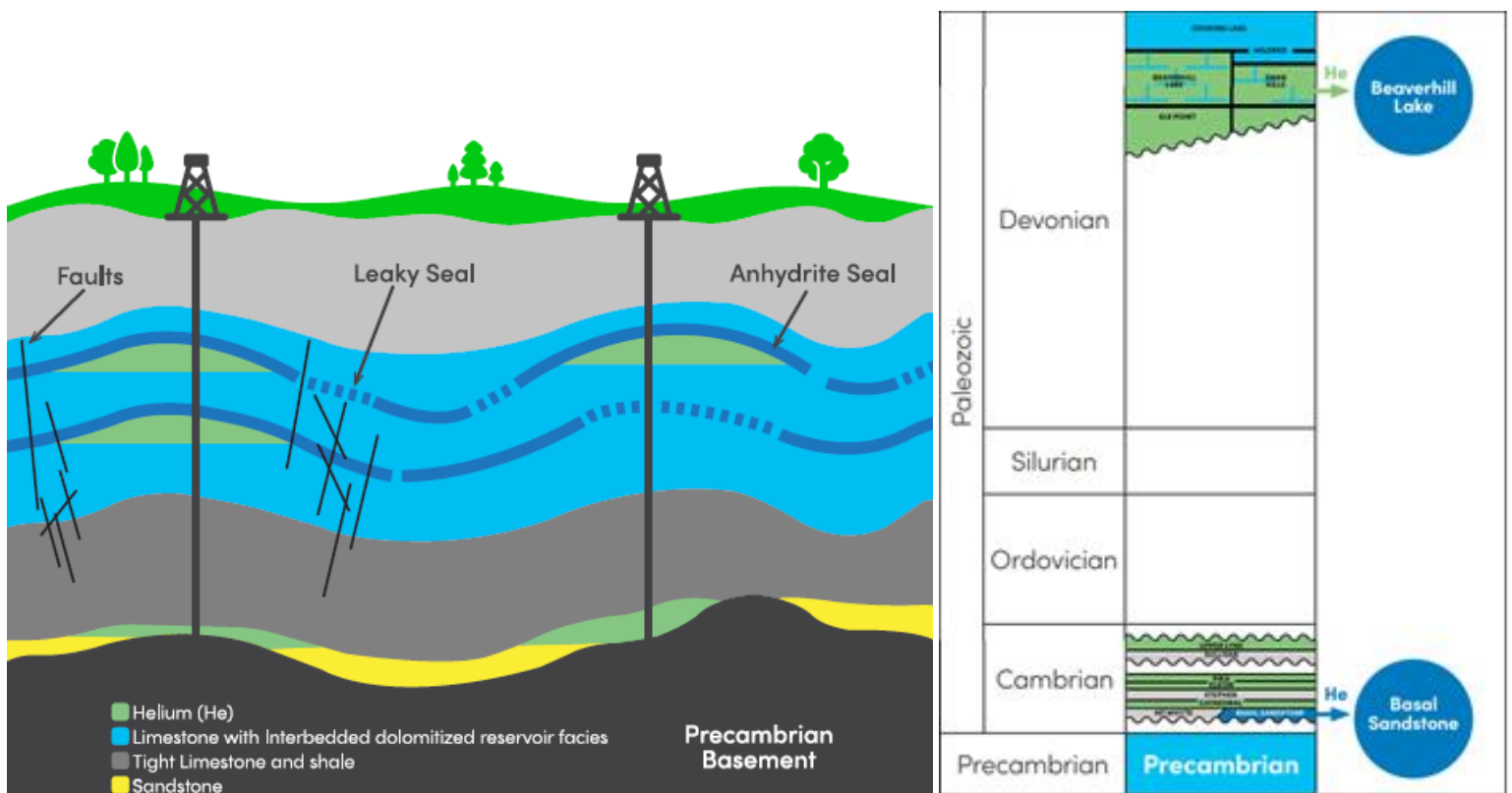
Avanti Exploration Strategy

Focused On Nitrogen-Charged Reservoirs With Helium

Avanti's technical team has built a geological model to understand helium migration and accumulation at a fundamental level, using a similar methodology that was used to identify the Montney play in Western Canada. While Avanti intends to direct a portion of its exploration focus on conventional helium traps similar to those being pursued by others in the industry, management also sees an opportunity to unlock larger "unconventional" style helium resources longer term. The mix of conventional and unconventional exploration will provide a combination of near-term visibility towards commercial production and cash flow, while an unconventional resource could offer years of exploitation potential potentially unlocked using modern completion techniques adopted from the oil and gas industry. We would expect the company to first build out five to seven conventional assets prior to exploring the potential of unconventional plays.

Avanti's conventional exploration program is focused on identifying structures that have trapped helium as it has migrated from its source in the Precambrian basement. Key zones of interest exist in the Cambrian-aged sandstones just above basement and in Devonian-aged formations. In the Cambrian sandstones, **historical well data has shown helium concentrations ranging from 0.5% to 2.25% while the Devonian has typically shown helium concentrations below 0.5%**. This general play type is being evaluated and / or actively developed by a number of helium peers including privately held THOR Resources in Southern Alberta and Montana, Royal Helium (RHC-V, Buy, \$1.70 Target, Brent Watson) in Saskatchewan, and First Helium (HELI-V, Buy, \$0.65 Target, Brent Watson) in Southern Alberta.

Figure 3 **Depositional Model and Stratigraphy**



Source: Company Reports

Current Asset Base

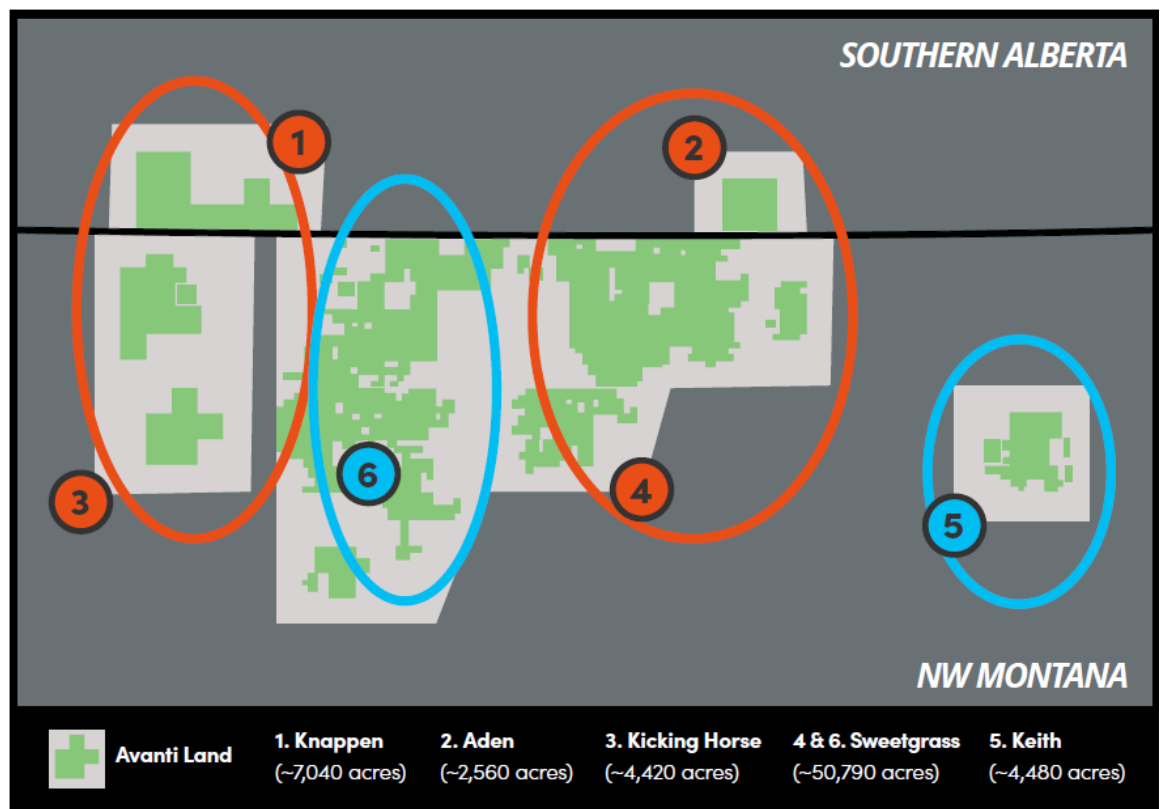
Greater Knappen

Avanti's initial property, acquired from Terrelium, was 2,749 continuous acres located in Musselshell county, Montana, near 1970s vintage wells drilled into the Madison formation yielded commercially viable helium at today's prices. In March 2021, Avanti announced that it had acquired over 6,000 acres of land from the Alberta government. The land package, located in the Knappen area near the Montana border, has a previously abandoned natural gas well on the property which was drilled by a Canadian major oil and gas company, that showed 2.18% helium and 96% nitrogen in the Cambrian, and 0.3% helium and up to 98% nitrogen in the Devonian. 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 land package indicate reservoir quality rock in the Cambrian and Ordovician zones.

In the summer of 2021, the company added 50,000 acres in Montana and started to refer to the collective ~69,000 acre position in both Alberta and Montana as "Greater Knappen". In the fall of 2021, Avanti acquired 3D seismic data covering a significant portion of its Montana land holdings and firmed up 17 potential drilling targets on closed structural highs that exhibit ~80m to >200m of relief. Core and log analysis indicate excellent reservoir quality rock over multiple horizons in the Upper Beaverhill Lake, Lower Beaverhill lake and Cambrian formations. We would note that the naming conventions for the zones differ in Montana with the Flathead Sandstone being the Montana version of Basal Cambrian while the Middle Souris River and Lower Souris River are the Montana equivalents to the Upper and Lower Beaverhill Lake.

Figure 4

Greater Knappen Land Position



Source: Company reports

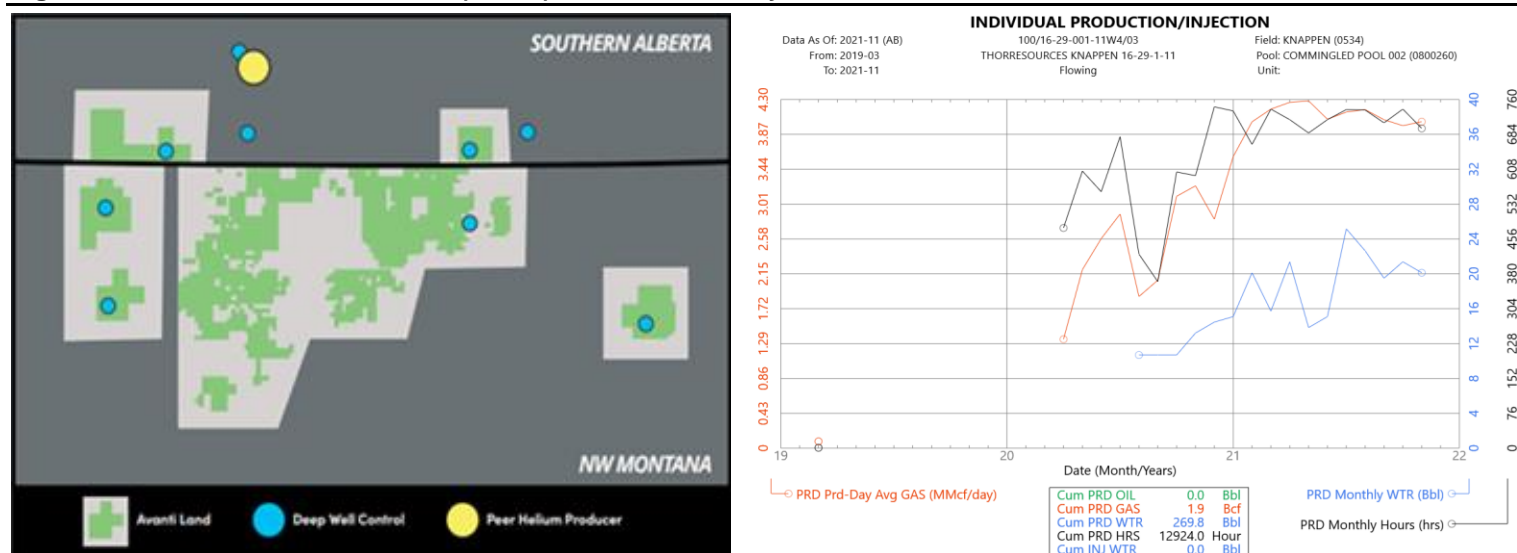
Internal Resource Estimate

Using seismic and existing well data, Avanti’s technical team has prepared an unrisks resource evaluation encompassing seven structures that have been fully appraised to-date. All seven of these structures are located in areas 1 through 4, highlighted in the red circled regions shown in the Figure above. Collectively, the structures are seen to have undiscovered best estimate resource potential of 4.4 Bcf of helium, with a P90 (low case) of 1.4 Bcf and a P10 (high case) of 8.9 Bcf. **We note that the areas circled in blue have not received an internal resource assessment and represent potentially significant upside to the 4.4 Bcf estimate.**

Analogue Discovery & Type Well Modelling

In 2019, privately held THOR Resources recompleted a 1960s vintage well at Knappen, Alberta (16-29-1-11W4) in the Beaverhill Lake and Basal Sandstone formations. The well (location highlighted in yellow in the Figure below), has demonstrated an exceptionally flat production profile, making between 3.6 and 4.2 MMcf/d of raw gas during its first full year on stream. The reservoirs are dominantly nitrogen charged (~93%) with an average helium yield of 1.4%, resulting in a helium production rate of 50 – 59 Mcf/d.

Figure 5 Peer (THOR) Helium Discovery 16-29-1-11W4



Source: Company reports, Geoscout

Type Well

Using the THOR 16-29 location as a template for a potential successful helium well (initial gross production of 3.5 MMcf/d and a 1.4% helium yield), we estimate that a single “type” well would recover approximately 80 MMcf of helium and generate a NPV10 (B-Tax) of ~\$10.6 MM if located in Alberta (based on a helium price of C\$350/Mcf, operating/processing expenses of \$128/Mcf and a 4.25% provincial royalty rate). In Montana, we would expect Avanti to pay a higher royalty rate to mineral rights owners of ~20% on average, resulting in a NPV10 of ~\$7.2 MM (keeping all other variables unchanged).

Based on the Company’s P50 resource estimate and our well type assumption, we estimate that 55 wells would be required over the next five years to recover 4.4 Bcf of helium, generating a NPV10 of \$275 MM on a C\$350/Mcf helium price deck. Sensitivities at higher helium pricing and on the P10/P90 scenarios are summarized in the Figure below. We would note that our discounted cash flow estimate incorporates an 80% risking for well success (i.e. approximately 70 wells drilled for 55 wells placed on stream).

Figure 6

Single Well Economic Model and Resource Valuation (Montana Royalties)

Well Economics		NPV10 (\$MM)	Helium Resource (Bcf)			
			1.4	4.4	8.9	
Discount Rate	10%					
Helium Price (\$/Mcf)	350	Helium Price (\$/Mcf)	\$350	92	275	524
Well Capex (\$MM)	2.0		\$450	162	474	901
IP30 Gross Production (MMcf/d)	3.5		\$550	222	674	1,277
Helium Yield	1.4%					
Opex + Lease (\$/Mcf)	\$128					
NPV Per Well (\$MM)	\$7.2					
Recovery (MMcf)	81					

Source: Cormark Securities Inc.

Current Activity and Forward Plan

Initial Exploration Program Under Way

Avanti is currently progressing a three-well exploration program, targeting three discrete, seismically defined structures in Montana. The first well in the program, Rankin 01-17, was successfully drilled to a depth of 5,860 feet and encountered all the targeted zones for helium potential. Open hole logging indicated five zones with reservoir characteristics (good porosity and low water saturation). Drill stem tests were performed on high-grade zones and two of the targeted zones showed economic helium potential. The second well in the program, WNG 11-22, was successfully drilled to a total depth of 5,390 feet and encountered reservoir quality rock in all three target zones. The Basal Cambrian sand exhibits 35 feet of net pay with porosity up to 16% while the Souris River has two intervals totalling 42 feet of net pay with porosity up to 18%. DST (Drill Stem Test) results indicated all three zones showed potentially economic helium concentrations. The Company expects that an analysis of gas composition (nitrogen and helium yields from WNG 11-22) will be available shortly.

Based on the preliminary results provided by Avanti for the WNG 11-22 well and using generic volumetric inputs on a four-section structure, we estimate that the company may have captured unrisks, recoverable helium resources of approximately 1.0 Bcf (assuming an average helium yield of 1.0%) or over 1.4 Bcf at a 1.5% average helium yield. As such, we believe that the company is well on its way to capturing the 4.4 Bcf (P50) resource estimate

Given the very encouraging initial results from WNG 11-22, we expect that Avanti will initially focus on this prospect and will mobilize completion equipment to the wellsite in early March. Completion operations are likely to take approximately 30 days, following which Avanti will be able to provide stabilized flow rates from the well. On success, Avanti will evaluate follow-up drilling locations on the WNG structure to advance towards commercialization by the end of 2022.

Valuation and Recommendation

Valuation

We are basing our target valuation for Avanti based on our risked NPV10 estimate of the company's P50 resource scenario (4.4 Bcf helium) and our C\$350/Mcf helium price assumption. Given that Avanti will need to raise additional equity to continue drilling operations on its path towards commerciality, we have incorporated a \$10 MM raise into our NAV calculations shown in the figure below. Pending a successful completion operation on the second exploration well, and based on our volumetric assessment of resource potential, the company could have meaningfully de-risked a NPV that would largely support the current stock price (leaving additional prospects / land optionality) as free upside for investors.

Figure 7

Avanti Resource Valuation Scenarios

NAV/Share		Helium Resource (Bcf)		
		1.4	4.4	8.9
Helium Price (\$/Mcf)	\$350	1.57	4.48	8.37
	\$450	2.62	7.60	14.24
	\$550	5.50	10.71	20.11

Source: Cormark Securities Inc.

Apart from our helium price assumption, the NPV model is very sensitive to helium yield (again, our model is based on 1.4% helium), well initial production rate and decline, operating costs and number of wells drilled / success rate.

Recommendation

We are initiating coverage on Avanti with a Buy (S) rating and a \$4.50 target price. Given the proximity to meaningful results that could unlock a commercial development and transition the company to generating cash flow within a year, we believe that the stock makes an attractive investment for investors with a higher risk tolerance. Generally, we would continue to advise that investors take a "basket approach" to investing in the helium space and see Avanti as a solid addition to the basket to gain exposure to North American helium development.

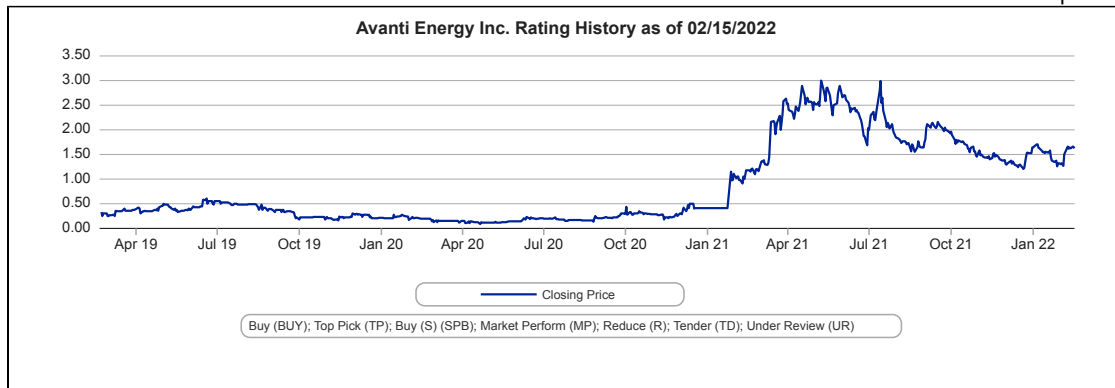
Risk Factors

- Economic risk from changes in the fiscal regimes in which the company operates in, whether on a provincial/state or federal level;
- The ability to raise debt or equity capital to carry out the intended spending programs;
- Geologic and engineering risks associated with the finding and ultimate recovery of commercial reserves in the quantities estimated in determining the company's value;
- Volatility in helium prices, which may materially affect the accuracy of the forecasts; and,
- Sector rotation risk.

Price Chart and Disclosure Statement

Updated February 16, 2022

*Information updated monthly on or about the 5th of each month



* Cormark has this percentage of its universe assigned as the following:

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Reduce expected to underperform its peer group

Tender clients are advised to tender their shares to a takeover bid

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