

Voyageur Pharmaceutical's Brent Willis on Revolutionizing the Medical Imaging Industry, plus SmoothX

written by InvestorNews | February 5, 2024

In a revealing interview on Investor.Coffee, host Tracy Weslosky engages in an enlightening conversation with Brent Willis, President, CEO, and Director of [Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM). This discussion sheds light on the company's innovative strategies for 2024, marking its emergence as a leader in the pharmaceutical and medical imaging sectors. Willis offers a deep dive into how Voyageur Pharmaceuticals is preparing to redefine these industries with its trailblazing developments.

As a pioneering entity in the pharmaceutical and medical imaging industry, Voyageur Pharmaceuticals Ltd. is renowned for its specialization in the development of Active Pharmaceutical Ingredients (API) for barium, iodine, and carbon, complemented by its advancement in high-performance, cost-effective imaging contrast agents. The Canadian firm is spearheading a strategic effort to vertically integrate the contrast imaging market. This ambitious endeavor involves producing its own minerals and establishing partnerships with reputable third-party GMP pharmaceutical manufacturers in Canada. With a clear aim to dominate the market, Voyageur is committed to ensuring its products meet stringent global regulatory standards. The company's strategic roadmap includes aggressive expansion plans to break into international markets by late 2024 and to achieve FDA approvals for entry into the US and European markets by the

end of 2025. These initiatives are reinforced by recent distribution agreements, underscoring Voyageur's dedication to distributing its groundbreaking products on a global scale.

Adding to its commitment to innovation and market dominance, Voyageur's portfolio boasts five licensed variant contrast products, directly addressing the acute global shortage of such agents, particularly focusing on barium contrast agents for radiology. The company stands on the brink of manufacturing these products, anticipating a substantial increase in revenue potential and aiming to secure a significant market share. This goal is facilitated by Voyageur's strategic resource sourcing and manufacturing approach, especially its initiative to mine its own barium sulfate, promising to significantly reduce costs and boost its competitive advantage. The partnership with Rain Cage Carbon Inc. represents a major leap forward in imaging technology through the development of metallofullerene for MRI contrast agents. This collaboration not only sets the stage for introducing safer and more effective diagnostic tools but also reflects Voyageur's commitment to environmental sustainability. Aiming to be the first carbon-neutral pharmaceutical company via carbon capture technology, Voyageur aligns its practices with its environmental, social, and governance (ESG) goals, poised to make a significant impact on the imaging contrast agent market with its carbon-neutral agents and innovative manufacturing techniques. To access the complete interview, [click here](#)

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About Voyageur Pharmaceuticals Ltd.

Voyageur, a Canadian public company trading under the symbol VM on the TSX Venture Exchange, is in development of barium, iodine and carbon Active Pharmaceutical Ingredients (API) and high-

performance, cost-effective imaging contrast agents. With a strategic focus on vertically integrating the barium, iodine and carbon contrast imaging market, Voyageur aims to become a key player by producing its own barium, iodine, and fullerene minerals.

Voyageur's business plan is set to generate cash flow by partnering with established third-party GMP pharmaceutical manufacturers in Canada, ensuring the validation of its products by regulatory agencies worldwide. As the Company solidifies its presence in the market, it will transition into a high-margin domestic manufacturer of radiology drugs, further expanding its revenue streams.

Voyageur is committed to sustainability and environmental stewardship. The Company envisions a future where carbon neutrality is the norm, and to achieve this, it plans to build state-of-the-art carbon-neutral infrastructure. By investing in carbon neutral energy sources and sustainable manufacturing practices, it aims to become 100% self-sufficient across all its manufacturing activities. Voyageur's commitment to the environment sets it apart as a pioneer in the industry.

At the core of the Company's operations, Voyageur owns a 100% interest in two barium sulphate (barite) projects, including the Frances Creek and Pedley Mountain properties. Additionally, Voyageur holds interests in a high-grade iodine, lithium, and bromine brine project situated in Utah, USA, further bolstering its position in the industry. Voyageur also owns a 100% interest in two battery mineral projects which focus on copper/zinc development.

Voyageur's ambitious vision is to become the first vertically integrated, carbon-neutral company in the imaging contrast media drug market. By controlling all primary input costs, from the

sourcing of raw materials to final production, it plans to ensure unmatched quality and cost efficiency. Voyageur embodies the motto of " **From the Earth to the Bottle** ," highlighting its commitment to responsible sourcing and manufacturing practices.

To learn more about Voyageur Pharmaceuticals Ltd., [click here](#)

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Voyageur Prepares to Launch SmoothX™ Barium Sulfate CT Contrast Media

written by InvestorNews | February 5, 2024

The contrast media market is a large global market valued at [\\$4.7 billion](#) and is forecasted to grow at a CAGR of 7.7% through

2028. Contrast media are used in [189 million](#) procedures annually.

[Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM) is working to become the [only fully integrated company](#) in the radiographic contrast media business by developing barium and iodine contrast media. Voyageur owns a 100% interest in the Frances Creek Barium Project, suitable in grade for the pharmaceutical marketplace, with additional interests in a high-grade iodine, lithium & bromine brine project located in Utah, USA.

Voyageur will use barium from the Frances Creek Project and refine it to a barium product (SmoothX™) at their [planned carbon-neutral pharmaceutical plant](#). Until the plan is completed they will rely on a third party. Voyageur has received Health Canada licenses for barium contrast media and has [begun to produce](#) and market products for Canada as they prepare to launch Canadian sales.

Voyageur's Frances Creek is a Source of Barium and ULI is a Source of Iodine

Frances Creek

- ◆ High purity natural barium source
- ◆ Decades of supply
- ◆ Developed as first producing quarry

ULI

- ◆ Iodine mineral brine project in Utah
- ◆ Additional USA resources being evaluated
- ◆ Iodine injectables to be produced from mineral brine water

Source: [Voyageur company presentation](#)

As [announced](#) early this month, Voyageur is preparing to launch its first product, SmoothX™ barium sulfate CT contrast media oral suspension for the CT imaging market in Canada. To advance sales in Canada, Voyageur has appointed a new Canadian Sales

Manager, Ethan Mohan. Voyageur [stated](#): “*Ethan will be responsible for executing the Company’s sales program and has already begun meeting with Government Health Service agencies and private clinics across Canada.*”

Health Canada licenses have already been approved for barium contrast media use in Canada. The next steps are the USA and [international markets](#).

Voyageur continues to advance its applications with the U.S. Federal Drug Agency (“FDA”) for approvals to market barium contrast products in the USA. Voyageur [states](#) that they are “*also advancing the development and testing of four additional imaging products and is moving forward positively as it relates to its first product application for approval from the FDA.*”

Voyageur has [a pipeline](#) of 7 barium products and 3 iodine products all at various stages of approval, all of which aim to serve the West’s unmet need for contrast media products.

Voyageur Plans to Meet the West’s Demand for Non-Chinese Barium and Iodine Contrast Media

THE UNMET NEED

Barium Sulfate & Iodine – Limited Resources



- ◊ Barium sulfate contrast producers rely on a single Chinese supplier of natural barium (finite resource)
- ◊ Increased concern over stable long-term supply
- ◊ Most producers forced to use higher cost synthetic barium
- ◊ Worldwide supply concern for iodine flake - the precursor to iodine contrast
- ◊ Price volatility due to supply chain risk
- ◊ Voyageur will remove multiple layers in the current supply chain

Source: [Voyageur company presentation](#)

Vertical integration strategy

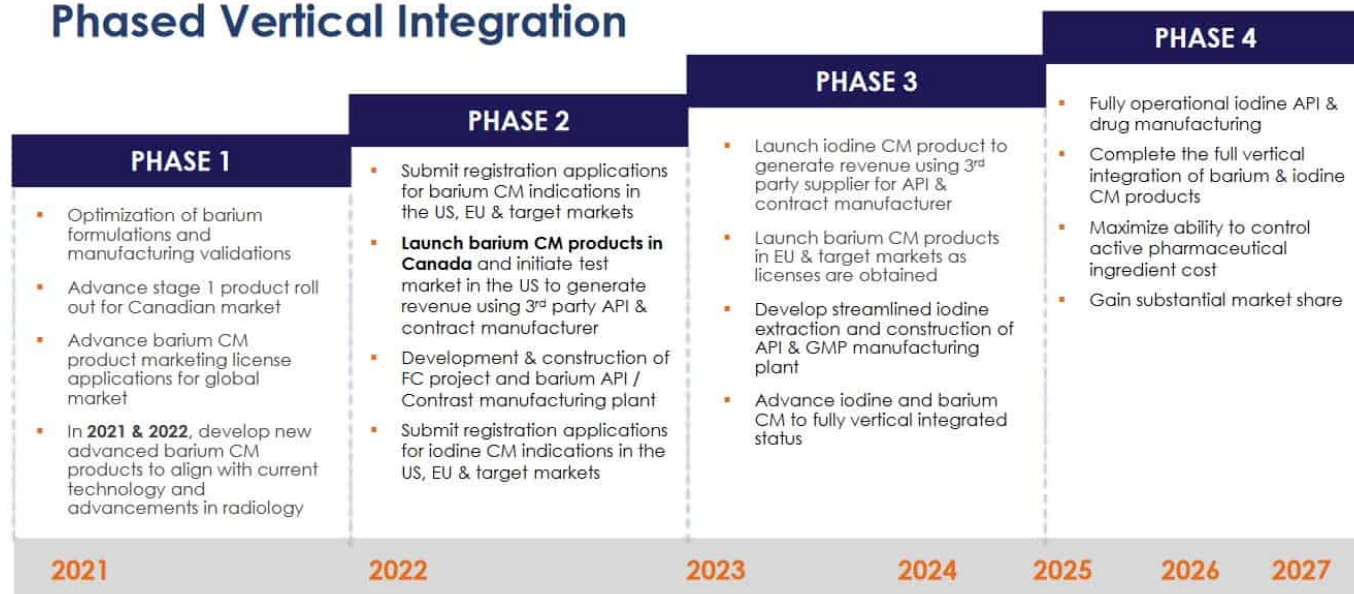
Voyageur owns its own barium and iodine resource which means it can eliminate all middlemen in the supply chain to reduce overall costs. Once this strategy is accomplished, Voyageur aims to achieve the highest profit margin possible.

This is a prudent strategy but it just takes some time to fully develop it. In the meantime, Voyageur will use third parties where needed.

Voyageur Proposed Timeline: Barium and Iodine contrast media sales to expand globally using Voyageur's integrated model by 2025-27

REVENUE GENERATION TO SUPPORT DEVELOPMENT

Phased Vertical Integration



Source: [Voyageur company presentation](#)

Closing remarks

Voyageur recently raised approximately [C\\$1.2 million](#) in funds to be allocated toward the Company's near-term goals. With Canadian sales just around the corner and potentially soon USA FDA approval, Voyageur looks set to sail in 2023.

Voyageur Pharmaceuticals trades with a market cap of [C\\$13 million](#).

Offering freedom from China on Foreign Medical Imaging

Supplies, Voyageur Pharmaceuticals announces another key milestone

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Barium and iodine-based radiographic contrast media (RCM) are types of RCM used in diagnostic imaging. Both work by attenuating X-rays to create clearer images of the body's internal structures. Barium-based RCM is injected orally and used most often for gastrointestinal (GI) radiography and CT , while iodine-based RCM is injected and used primarily for gastrointestinal (GI) radiography and computed tomography (CT) and vascular radiography. These materials are critical for diagnostics and testing in the medical industry.

The Canadian radiology pharmaceutical industry is highly reliant on foreign suppliers, particularly in China. Geopolitical and supply chain issues can drive prices up significantly. Canada is vulnerable to disruptions in the Chinese supply chain. Moreover, quality control issues and intellectual property concerns have also been raised with respect to Chinese-made products.

As a result, the Canadian government has been working on a national strategy to de-couple from China for critical minerals and pharmaceuticals. In order to reduce reliance on foreign suppliers, the industry needs more low-cost producers. One of the companies that is working to reduce this reliance is Voyageur Pharmaceuticals Ltd. (TSXV: VM).

This company has recently hit a large milestone that will help the company achieve its long-term goals. They recently finished a production test batch of their barium contrast suspension for computed tomography imaging, known as SmoothX. This testing

batch was completed with their contract manufacturer, who recently received their FDA site registration.

The production test batch is an essential milestone in the development of Voyageur's barium contrast agent, which is being developed as a potential alternative to current products on the market. Barium contrast agents are used in CT scanning to improve the visibility of certain structures and tissues. The successful production of SmoothX opens up the possibility of commercialization in Canada.

Achieving commercial volumes is a key milestone for the company as it looks to establish itself as a major player in the radiology pharmaceutical industry. The company is excited about the potential of SmoothX and believes that it has the potential to be a best-in-class contrast agent. Voyageur is committed to bringing this important new product to market and will continue to invest in its development and commercialization.

The company also holds Health Canada-approved licenses for a total of five barium contrast media products. These licenses give it a great opportunity to expand in the Canadian market. The long-term goal is to develop a fully integrated supply chain for barium and iodine contrast media in Canada. The company has the scale and scope to achieve this. It has a strong product portfolio and a robust research and development pipeline. These capabilities will enable the company to meet the needs of the Canadian market and potentially create shareholder value.

FDA approval is one of the next steps for Voyageur to begin sales in the US. They are also working on building a GMP barium contrast plant to process barium sulfate that would be supplied from their own Frances Creek barium project. This capability would allow them to produce their own product instead of relying on a third party. By controlling all aspects of its carbon

footprint, Voyageur will be able to offer a completely carbon-neutral product to its customers.

The company has a 100% controlling interest in three barium sulfate projects, including the Frances Creek property. The Frances Creek property is suitable in grade for the pharmaceutical barite marketplace. In addition, Voyageur has an interest in a high-grade iodine, lithium, and bromine brine project located in Utah. This capability enhances the company's unique sourcing capability to create its products from its own mineral deposits.

Voyageur's objective is to become a leading global provider of pharmaceutical barite and high-grade iodine products by leveraging its extensive knowledge of geology, mineral processing, and product formulation. The company plans to achieve this by expanding its production capacity to meet growing demand from the medical imaging industry and continue to explore and develop its portfolio of mineral projects.

Voyageur Pharmaceuticals' X-Ray Contrast Media Provides a Dramatic Increase in Valuation

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Assuming you aren't a meme stock or an equity driven by the Reddit army, then you know you've told the market something it really wanted to hear when your stock is up 80% in one day. Even great news might get you a 5-10% bump so it has to be pretty

exceptional to attract this kind of attention. Another indication of excitement is when this move occurs on volume that is 32x your average daily trading activity. If you didn't have [Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM) on your watchlist (or in your portfolio) prior to today, you might want to put it on your radar now.

So, what was the news that drove this bullish rally? We'll get to that in a moment as a little background may be required unless you are up to speed on the uses and importance of barium sulfate. Barium sulfate (BaSO_4) is a naturally occurring environmentally friendly mineral with a high specific gravity (4.5) and very low solubility. Barium sulfate is used in many industrial applications and is in high demand. Voyageur is pursuing production into the highest margin market worldwide, having developed nine barium products for sale into the radiology pharmaceutical market for MRI, X-ray and CT scan applications.

Now that we've established that Voyageur is a drug manufacturing company focused on radiographic contrast media products for the healthcare market, we need to understand what separates it from most other companies. Voyageur is sourcing its own main ingredients from its own mineral deposits, building a business model that will allow it to be a fully integrated company in the radiographic marketplace. Voyageur is implementing a strategy to control its own supply chain and all input costs, leading to the Company motto "From the Earth to the Bottle". Which is where yesterday's news becomes important. The Company announced the results of its [Preliminary Economic Assessment](#) (PEA) for the development of its Frances Creek pharmaceutical barium sulfate project, located 40km from Radium Hot Springs in British Columbia. The base case economics for the project indicate a pre-tax net present value (NPV) of C\$464 million and internal rate of return (IRR) of 168%, while the post tax NPV is C\$344

million with an IRR of 137% at a discount rate of 8%. The project assumes a pre-production period of 2 years for equipment delivery and installation, and mine permitting with a payback period of 11 months.

At present, Voyageur's Frances Creek project is the only natural pharmaceutical grade barium sulfate project outside of China. Most companies use high-cost synthetically made barium due to supply and quality constraints. Which is why current pricing of 97.5% BaSO₄ available from China has a delivered price (to Calgary) of US\$4,760 per tonne, or C\$5,960 per tonne. This project is very convenient for Voyageur given its proximity to Calgary where the corporate head office and manufacturing facilities are located. It's less than a 2 hour drive and although I don't know exactly where their asset is situated I'm pretty sure I've either fished or hiked within 5 kms of the project.

Another reason for the robust PEA economics is a function of the resource being a mere 2 meters below surface. I've said it before, and I'll say it again, any resource that can be accessed by someone with a good shovel has to have advantageous economics. The total capital cost estimate for the project is a miserly C\$36.4 million including a 15% contingency on process capital costs, which also contributes to the outstanding PEA economics.

And the best part is, Voyageur expects to be generating its own cash flow using third party barium active pharmaceutical ingredients and manufacturing in 2022. With its manufacturing partner Alberta Veterinarian Laboratories/Solvat it has [completed its first test batch of barium contrast media](#) and is working on clinical testing of this first batch to ensure quality and performance. Voyageur's goal is to complete testing for the Canadian product launch by February followed by a

marketing campaign for sales into the Canadian radiology market. Ultimately, Voyageur has plans to build all the required infrastructure to become 100% self-sufficient with all manufacturing but for now, one step at a time.

This isn't the first time Voyageur has seen a massive one day move on enormous trading volume. On February 12, 2021, following news of [Health Canada approval for SmoothX](#), a barium radiographic contrast suspension that is specifically formulated for computer tomography procedures (CT Scans), the stock was up 228% on 7 million shares. You could say Voyageur has a flare for the dramatic and perhaps there is still opportunity for lightning to strike a third time. With roughly 101 million shares outstanding, the market cap was roughly C\$18.2 million based on yesterday's close of \$0.18 versus the PEA NPV after tax of \$3.38 per share. Obviously, there is some work to be done before the Frances Creek project becomes a reality, but there's also a pretty big gap between yesterday's price and what could be.

**Voyageur Pharmaceuticals
strategy is to remove the
middleman and supply
radiographic contrast media**

direct from mine to the X-ray center

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Sourcing raw materials is one of today's biggest problems, as a result companies are looking to have more localized supply chains. Some companies are going one step further and securing their own raw materials to become 100% vertically integrated. This typically removes most of the supply chain risk and lowers the products cost, making the company more resilient to supply chain disruptions and more competitive. In the case of pharmaceutical products it can also potentially remove any risks of contaminated or poor quality supply, a key factor for products going inside the human body.

Today's company, [Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM) ("Voyageur") is doing this in the radiographic contrast medium business by developing barium sulphate and iodine generic radiographic products for the healthcare market (contrast medium in X-rays, MRI & CT Scans).

Voyager is building a vertically integrated contrast medium supply business

Voyageur is unique, as it plans to source its own main ingredients from its own mineral deposits. Voyageur is building a business model that will allow it to be a fully integrated company in the radiographic market place.

Voyageur plans to build all the required infrastructure to become 100% self-sufficient with all manufacturing. Voyageur owns a 100% interest in three barium sulfate projects and has interests in a potentially high-grade iodine, lithium & bromine brine project located in Utah, USA.

The Frances Creek Barium Sulfate Project

The Frances Creek Barium Sulfate Project is the most advanced of the barium sulphate projects and Voyageur has recently [raised funds](#) to progress the project including preliminary economic assessment, pre-feasibility and a Frances Creek development study. The Project has 700 m of strike and is open in all directions. It has been drilled along a total of 220 m of strike, 90 m of true vertical depth, resulting in 166,210 tonnes of Indicated Resource grading 37.75% barium sulfate and 195,578 tonnes of Inferred Resource grading 35.4% barium sulfate.

The Frances Creek Barium Sulfate Project is located near the town of Radium Hot Springs, British Columbia, Canada



Source: [Company presentation](#)

Health Canada approvals and USA FDA device registrations in the pipeline

Voyageur has already recently [announced two Health Canada approvals](#) and issuance of product licenses for MultiX Ba and Radiographic Barium Contrast and has received approval from Health Canada for MultiX thick barium sulfate suspension as well as plans to move forward with FDA device registrations for the U.S. market. The FDA has only recently changed barium sulphate from a drug to a device, thereby making it easier to get approval for its uses in humans for contrast material used in X-rays.

Voyageur's business strategy

Voyageur's strategy is to generate near-term cash flow while building out quarry operations.

- Phase 1: Source third party raw materials and use contract manufacturers to launch Voyageur's brand. AVL Calgary facility to produce barium contrast, marketing and sales. Voyageur has begun to work on expansion of registrations in other jurisdictions outside of Canada. (USA, UK, Europe, Asia Pacific, Africa, Latin America, Australia).
- Phase 2: Prepare Frances Creek deposit for bulk sample and API/barium contrast manufacturing plant. Once achieved, bulk sample expected to replace all third-party barium and allow for 100% production of contrast media material to be controlled by Voyageur, resulting in potentially highly competitive pricing.

Current status of Voyageur's projects



Next steps



Source: [Company presentation](#)

Closing remarks

As the global population ages demand for X-rays, CT-scans and MRI's is only increasing and that also means demand for contrast media.

Voyageur is different from other contrast media suppliers in that they are building a vertically integrated business to source materials from the mine all the way to the X-ray center. Their strategy aims to control supply and reduce costs by removing all the middlemen; thereby reducing price, delivery risk and increasing profitability. Voyageur [state](#) once achieved that they will be "the only pharmaceutical radiographic contrast company to utilize its own mineral resource".

It's not every day you get to buy into a development stage mining and pharmaceuticals company with a low market cap. Investors get the opportunity to benefit from two developing businesses in one – the mines and the pharmaceuticals business. Most interesting, especially considering that Voyageur Pharmaceuticals Ltd. trades on a market cap of just C\$13 million. One to watch.

Brent Willis on Voyageur Pharmaceuticals' competitive suite of barium radiographic contrast media products

written by InvestorNews | February 5, 2024

In a recent InvestorIntel interview, Chris Thompson speaks with Brent Willis, President and CEO of [Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM) about Health Canada's approval for their 5th licensed product in their full suite of barium radiographic contrast media products for global sales and distribution.

In this InvestorIntel interview, which may also be viewed on YouTube ([click here to subscribe to the InvestorIntel Channel](#)), Brent touches on their recent successful financing and an update on Voyageur moving forward with its business plan of becoming the only fully-integrated company in the radiographic contrast medical field. Furthermore, Brent explains how with their own source of feedstock for its products provides Voyageur with a competitive cost advantage, makes Voyageur the only

pharmaceutical radiographic contrast company to utilize its own mineral resource. Brent sums it up when he states: "We are coming to market with the lowest ingredient cost."

To watch the full interview, [click here](#)

About Voyageur Pharmaceuticals Ltd.

Voyageur Pharmaceuticals Ltd. is a Canadian public company listed on the TSX Venture Exchange under the trading symbol VM. Voyageur is focused on the development of barite and iodine, Active Pharmaceutical Ingredient (API) minerals. The near-term focus is developing barium and iodine radio-contrast pharmaceutical products. Voyageur's goal is to initially generate near term positive cash flow from operations using third party GMP pharmaceutical manufacturers in Canada and internationally. Ultimately, Voyageur has plans to build all the required infrastructure to become 100% self-sufficient with all manufacturing. Voyageur owns a 100% interest in three barium sulfate (barite) projects including two properties suitable in grade for the industrial barite marketplace, with interests in a potentially high-grade iodine, lithium & bromine brine project located in Utah, USA.

Voyageur is moving forward with its business plan of becoming the only fully-integrated company in the radiographic contrast medical field, by controlling all primary input costs under the motto of: "From the Earth to the Bottle"

To learn more about Voyageur Pharmaceuticals Ltd., [click here](#)

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If you have any questions surrounding the content of this interview, please email info@investorintel.com.

Voyageur Pharmaceuticals' Supply Chain Security Advantage – From the Earth to the Bottle

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With all the warnings issued in articles posted on InvestorIntel about rare earth supply security, the whole Suez Canal mess in March and vaccine supply issues surrounding the pandemic, supply chains have become a very real topic and very much in focus. Just in time management is being replaced by just in case management. As a Canadian with one AstraZeneca vaccine in me, I'm wondering if/when I'll even get a second one given no vaccines are currently manufactured in Canada and many countries are becoming pretty possessive of this commodity at present. Whatever the science is around waiting too long or having your second vaccine be a different manufacturer, I'm at the mercy of "the system" as to what and when (or if) I get fully vaccinated for this incredibly annoying and very real virus.

Perhaps that was a little melodramatic but my point is, supply chain security is important and becoming a higher profile issue in the world today. So wouldn't it be nice if a company had complete control of its destiny from the mine to the shelf, or in the case of [Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM) – From the Earth to the Bottle. Voyageur has a somewhat unique business model in today's world of niche focused companies but maybe setting a trend for the future as society realizes Amazon can't overnight deliver everything you may need.

Voyageur is a drug manufacturing company focused on radiographic contrast media products, developing barium and iodine generic

radiographic drugs, for the healthcare market. However, what separates Voyageur from most other companies is that it is sourcing its own main ingredients from its own mineral deposits. Voyageur is building a business model that will allow it to be a fully integrated company in the radiographic market place.

So let's look a little closer at the different aspects of Voyageur. The Corporation manufactures radio-graphic contrast agents, which are substances used to enhance the visibility of internal structures in X-ray-based imaging techniques such as computed tomography, magnetic resonance imaging and fluoroscopy. Without getting into the weeds of the science here, suffice it to say these are products vital to specific medical procedures performed globally, every day. The Corporation recently [announced two Health Canada approvals](#) and issuance of product licenses for MultiX Ba; Radiographic Barium Contrast. Then on Monday [Voyageur announced](#) it has received approval from Health Canada for its fifth product, MultiXthick barium sulfate suspension as well as plans to move forward with FDA device registrations for the US market.

On the mining side, Voyageur owns a 100% interest in three barium sulfate (barite) projects including two properties suitable in grade for the industrial barite marketplace, with interests in a potentially high-grade iodine, lithium & bromine brine project located in Utah, USA. The most advanced of these projects is the Frances Creek project located 40km from Radium Hot Springs, BC and easily accessible. The Corporation has launched the Preliminary Economic Assessment (PEA) of its Frances Creek project with the goal of completion within the next three months. Subsequent to the completion of the PEA, the Corporation is planning on proceeding with a Prefeasibility Study that will be expected in the third quarter of the 2021 fiscal year.

So how does one go about evaluating a fully integrated entity like Voyageur? I don't think there's a PEA to Earnings metric and even if there was, would it be useful? Great drill results aren't going to impact the demand for Barium radiographic contrast media products. So this is where you have to dig a little deeper and understand the full scope of what a company like this brings to the table. And there's a lot to digest so I encourage you to go to their [website](#) and snoop around a little.

Nevertheless, key to investors is that there currently is no revenue and it's going to cost money to get Voyageur to the next level. To that end, [the Corporation recently announced](#) it has closed the first tranche of a non-brokered private placement for gross proceeds of \$1.4 million, which will go a long way to advancing Voyageur forward. The exciting aspect is that this only takes the shares outstanding to approximately 99 million making the market cap roughly \$14.4 million based on yesterday's closing price of \$0.145/share.

With geopolitical risks rising all around the globe, Voyageur is diversifying itself to fill a void if supply chains become broken. It's hard to assess what that will be worth in the future.

High-Grade Barium Project Creates High-Value Opportunity

for Voyageur Pharmaceuticals

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[Voyageur Pharmaceuticals Ltd.](#) (TSXV: VM) (Voyageur) is a Canadian-based company that is focused on developing barium and iodine radio-contrast pharmaceutical suspension products for the X-ray/medical scan industry.

Currently, China has the only natural, pharmaceutical-grade barite project and only exports a fraction of the current world demand. The rest of the supply is made up of higher-cost chemically-manufactured, synthetic barium precipitate.

Voyageur is unique in that it plans to capture value from a source-to-finished product. The Company owns a 100% interest in three barium sulfate (barite) projects in British Columbia, Canada, including two properties suitable in grade and purity for the pharmaceutical barite market.

Currently, the Company is focusing on the high-grade Frances Creek project as preliminary work with SGS Canada (SGS) resulted in a gravity-separated, high-grade concentrate of 98.6% barium sulfate.

In a barium contrast suspension product, barium sulfate comprises almost 98% of the cost of the ingredients. With the Frances Creek deposit, Voyageur believes that it will have the lowest ingredient costs for barium contrast in North America and can sell any excess production into the barite market for additional cash flow.

Starting with Health Canada then Shifting to the U.S.

In late 2019, Voyageur submitted applications for product registrations to Health Canada in order to begin sales in Canada. A total of five barium sulfate suspension products were

registered with Health Canada.

- SmoothX_{Ba}: A barium sulfate oral suspension used in computed tomography scans (CT) of the abdomen to view the gastrointestinal tract in adult and pediatric patients.
- HDX_{Ba}: A high-density dry barium powder that is engineered to be mixed with water to create a barium sulfate suspension for radiographic oral consumption. HDX is used during X-ray procedures to view the upper gastrointestinal tract.
- MultiXthin: A specially formulated, low density, pre-mixed barium suspension product that will be sold in a 2-liter container, similar in use and composition to the dry-powder MultiX
- MultiXthick: A specially formulated, high density, pre-mixed barium suspension product that will be sold in a 2-liter container, similar in use and composition to the dry-powder HDX.
- MultiX_{Ba}: MultiX is similar in use and composition to HDX but the barite has been ground to 1-micron size.

Unfortunately, events pertaining to COVID-19 impacted Voyageur's plans as Health Canada focused on approving products related to the pandemic. However, earlier this year, Health Canada approved and issued the product licenses for SmoothX, HDX, and MultiX. The Company is waiting for approvals for MultiXthin and MultiXthick but expects to receive them shortly.

Ramping Up Production and Marketing

In November 2020, Voyageur announced signing [an agreement](#) with Alberta Veterinarian Laboratories (AVL) for the manufacturing of barium radiographic contrast media.

AVL is a Calgary-based contract pharmaceutical manufacturing company and manufactures both human and veterinarian

pharmaceuticals products.

It operates a Health Canada-approved medical testing laboratory and a Good Manufacturing Practices (GMP) pharmaceutical manufacturing facility.

As Voyageur progresses through sourcing the barite from its Frances Creek project, it acquired USP (US Pharmacopeia) barium sulfate from third-party sources for the initial product formulation and near-term sales.

AVL and Voyageur are currently working on the formulation testing for the initial barium contrast product using the procured barite.

A [recent decision](#) in the U.S. that upheld a prior ruling concluding radiographic contrast agent barium sulfate qualifies as a device rather than a drug could result in reduced cost and faster approvals for Voyageur barium products with the U.S Food & Drug Administration (FDA).

Earlier this month, Voyageur signed a marketing and product development [agreement](#) with Dash Consulting since the products are nearing roll-out in Canada and the Company is seeking U.S. FDA approval.

Dash is a consulting firm focused on the barium and iodine radiographic contrast media market and it has already begun working on preparing for the product applications globally, including in the U.S., U.K., South America, and Southeast Asian markets.

From PEA/Pre-Feasibility and Bulk Sample this Year to Mining in 2022

Voyageur is working with SGS to complete a Preliminary Economic Assessment (PEA) and Pre-Feasibility (PF) study that it expects

to complete by mid-year. As part of this process, Voyageur filed an updated [NI 43-101 Technical Report](#) on the Frances Creek project in November 2020.

Previous results from the ore testing in December 2019 indicated that the barite could be separated from the ore using gravity, eliminating the need for the use of water and a tailings pond, and resulted in high-concentrate grades of 98.6% barium sulfate.

Voyageur plans to mine a 10,000-tonne bulk sample within the next 12-months and process it through a smaller, pilot plant. The barium sulfate produced from the bulk sample could generate cash flow from product sales into the pharmaceutical market.

If the project economics are robust and meet the economic threshold to move forward, the application for the quarry permit for full production would be submitted.

To further upgrade the barite concentrate and to add value, Voyageur plans to build a 25,000 tonne-per-year plant that could sustain pharmaceutical production requirements for the next 40 years, this plant is targeting 2022 for completion.

Final Thoughts

Currently, Voyager is raising \$1.73 million as it completes a PEA and Pre-feasibility, and ramps up sales and marketing, including product roll-out and testing, and U.S. FDA and International registrations.

Earlier this month, Voyager's stock increased sharply after it [received approval](#) from Health Canada for one of its products. With a series of milestones planned for this year, expect investors' optimism will continue to move the share price higher as the opportunity comes closer to production.

Voyageur closed yesterday at \$0.16 with a Market Cap of \$14.3

million.