VOYAGEUR

FROM THE EARTH TO THE BOTTLE®

Vertically-Integrated, Pharma-Grade Radiology Drug Manufacturer

Brent Willis, President, CEO, Director

TSXV:VM; OTC PINK:VYYRF

November 2024

Disclaimer

VOYAGEUR PHARMACEUTICALS LTD. 2024 CORPORATE PRESENTATION

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All dollar amounts stated in this Presentation are expressed in Canadian currency, except where otherwise indicated.

Overview

Voyageur is the only vertically integrated radiology drug manufacturer that owns and controls its own critical mineral resources, which include Barium and Iodine

This vertical integration, from mining to manufacturing, enables Voyageur to:

Address the **global shortage** of contrast agents and ensure continuous, affordable access for healthcare systems globally

Achieve **cost efficiency** by eliminating the need for external mineral suppliers, allowing the Company to generate **60%+ margins** once fully operational

Secure the **supply chain** for North America and beyond, reducing reliance on unstable foreign suppliers

What is a Contrast Agent, and why is Barium Important?

- Contrast agent: used to increase the contrast of structures or fluids within the body for medical imaging purposes[1]
- Barium sulfate is an oral contrast agent used in CT and X-ray scans of the gastral intestinal tract
- 65% of the market today uses Iodine formulations for CT scans and is in extreme short supply[3]
- Naturally occurring pharmaceutical barium sulfate is extremely rare, industry uses expensive synthetic barium sulfate
- Low-quality Barium sulfate is primarily used for drilling muds in oil production, but is also used in painting and glassmaking[1]

International Capabilities

5 Barium products approved by Health Canada and in production through 3rd party

Seeking USA FDA approval in 2025, followed by EMA in Europe

$1.9M USD distribution agreement in place for Latin America

Voyageur's Barium is naturally found as pharma-grade quality (98%+), making it one of the most unique deposits of its type in the world

Management Team

Brent Willis, BSC. Eng.
President, CEO, Director

CEO of Voyageur Pharmaceuticals Ltd, Brent Willis has over 30 years of experience successfully leading, managing and advancing Canadian and international projects in the mining, energy and in R&D industries. Brent led two mining projects from discovery/exploration through to production/cash flow. A track record of successfully implementing strategies to move companies from start up to cash flow in challenging economic, geographic and politically sensitive environments. Strong people leadership skills involving direct cumulative oversight of over 150 employees. Experienced public speaker for promotion and marketing of corporate projects.

Brad Willis, P. Eng.
COO, Director

Mr. Willis is a mining engineer and has over 30 years' experience in the exploration and mining industry. Mr. Willis has created three Canadian exploration companies focusing on barium sulfate exploration and mining. He has managed the exploration and discovery of multiple exploration projects. He has coordinated projects from grassroots exploration to underground and surface mine production. Mr. Willis is credited with being the team leader that discovered the barite deposits that are currently owned by Voyageur. He supervised all the prospecting, exploration, drilling and underground mining on these barite properties. Brad has extensive experience managing hundreds of employees and multiple teams, advancing complex operations forward.

Albert Deslauriers
CFO

Al has a financial and general management background with major public corporations including international experience working in Paris, France. Al was the Vice President of Finance for Lafarge. He has proven leadership skills involving managing, developing, and motivating teams to achieve their objectives. With his first-class analytical, design and problem-solving skills, Al has extensive experience in strategic planning and identifying and negotiating vertical integration opportunities.

Ethan Mohan
Chief Sales & Marketing Officer

Ethan brings a dynamic blend of scientific expertise and entrepreneurial acumen to our team. With a background in medical device innovation and small business startups, Ethan has been at the forefront of navigating the complexities of the healthcare industry. Leveraging his knowledge in Chemical Biology, Ethan offers invaluable insights into go-to-market strategies and expanding distribution channels on a global scale.

Known for his proactive problem-solving approach, Ethan is instrumental in driving the company's advancement and shaping its vision for the future. His leadership shines through in successful project management and his ability to inspire and motivate others. With exceptional negotiation skills, Ethan consistently delivers results, making him an indispensable asset to our organization's growth and success.

Scientific Advisors and Key Industry Personnel

Dr. Iryna Saranchova
Chief Scientific Officer

Dr. Iryna Saranchova, Chief Scientific Officer (CSO), is a physician scientist with extensive international experience in clinical, research, and industry settings. Dr. Saranchova has fostered partnerships and collaborated with various academic institutions, research organizations, and healthcare providers across multiple therapeutic areas.

Dr. Ibrahimi Hashmi
VP Business Development

Dr. Ibrahim Hashmi Dr. Hashmi is a medical doctor having 25+ years of commercial management experience with proven track record as a leader with the ability to build, motivate, influence, mentor and inspire trust in multi-functional teams.

Kyle Peterson
Regulatory Consulting

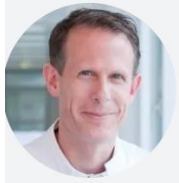
Kyle Peterson has been advising Voyageur on regulatory strategy since 2021. Kyle is a Regulatory Affairs professional with recognized expertise in medical devices, natural health products, generic pharmaceuticals, Health IT software and mobile medical apps including certifications and audits for Quality Management Systems.

Deborah A Baumgarten
M.D. Advisor

Deborah A. Baumgarten is currently Senior Associate Consultant Radiologist at the Mayo Clinic, Florida, and Professor of Radiology, Mayo Clinic College of Medicine and Science. Dr Baumgarten received her MD from Emory Medical School in 1989, where she also completed her radiology training and Abdominal Imaging Fellowship.

C Dan Johnson
M.D. Advisor

Dr C. Dan Johnson is currently Professor of Radiology, Mayo Clinic Alyx College of Medicine and Consultant at the Mayo Clinic Arizona. Dr Johnson studied medicine at Mayo Medical School in Rochester, completed two years of residency training in internal medicine and three years in diagnostic radiology.

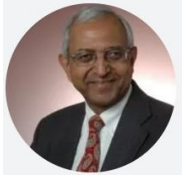


Thomas Lauenstein
M.D. Advisor

Dr Thomas Lauenstein is currently the Medical Director at Evangelisches Krankenhaus in Düsseldorf, Germany, where he has been the chief physician of the radiological clinic since 2015. Dr Lauenstein studied medicine at the universities of Bonn and Valencia, receiving his license in 1999.

Alec J Megibow
M.D. Advisor

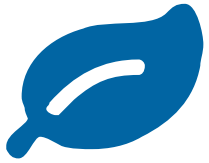
Dr Alec Megibow is currently the Director of Faculty Practice Radiology, in New York University Department of Radiology. He also holds the academic positions of Professor of Surgery and Professor of Radiology at NYU Medical School. Dr Megibow received his MD from SUNY Syracuse.



Sat Somers
M.D. Advisor

Dr Sat Somers is currently Professor of Radiology, McMaster University, and Chairman Emeritus, Department of Radiology, McMaster University, Hamilton, Ontario. Dr Somers graduated from the University of Sheffield Medical School, Sheffield, England in 1968.

Investment Highlights



Cleaner, Safer Product Offering

Voyageur can "own" the Barium market with minimal capital; world moving towards substituting Barium with iodine contrast for oral use due to global shortage of Barium. Iodine has adverse effects when administered orally.

World-Class Supply

Voyageur's Frances Creek project in BC has enough in-situ pharma-grade Barium to supply entire target market for 100+ years at 10 times lower cost.

Global Distribution Capabilities

Signed $1.9M USD distribution deal for Guatemala and Honduras in 2024, pending local approvals.

Proven Supply Chain

Supply chain up and running through 3rd party manufacturing partner in Calgary, AB, approved by Health Canada, FDA and EMA coming in 2025.

High ROI

Voyageur can generate 60%+ gross margins on product sales within 18 months of project financing; own manufacturing facility in Calgary, AB.

Compelling Valuation

Supply chain materially de-risked for a C$10M market cap company, re-rating potential as company enters revenue generation mode in 2H 2025.

Radiology Drug Industry Overview

Voyageur has access to a premium, clean product, located in a world-class jurisdiction

Demand Drivers

- Increase in chronic disorders globally driving demand for increase in CT scan procedures
- 80 million CT scans performed annually in the US alone, with demand expected to continue with aging population[4]
- Markets that the conglomerates believe are too small (such as Australia), are not able to get their hands on product, hence an opportunity for Voyageur[6]

Supply Drivers

- Resources typically coming from challenging parts of the world, North America needs more reliable domestic supply
- Low-quality Barium too expensive to refine to pharma-grade, leaving high purity sources to be in high-demand
- Only one competitor, Bracco, are reserving their limited supply for US market, leaving all other markets extremely underserved[5]

Comparing Oral Administration, CT Scanning Techniques

Types of Contrast Media	Voyageur Pharma-Grade Barium (API)	Other Types of Barium (API)	Iodine (API)
Global Abundance	N/A	Synthetic precipitated Barium sulfate - Limited supply and expensive to manufacture	Extremely short supply
Shelf Life	Long	Long	Extremely short (hours)
Cost/Tonne	$600/T	$7,300/T	$140,000/T
Side Effects	None/minimal, inert	None/minimal, inert	Potentially severe, especially in liver when taken orally
Imaging Quality	Extremely high	Extremely high	Moderate
Found	Natural, with dolomite (high-purity)	Lab-created, synthetic	Natural or synthetic, in very short supply

Voyageur is taking advantage of major demand tailwinds and supply constraints

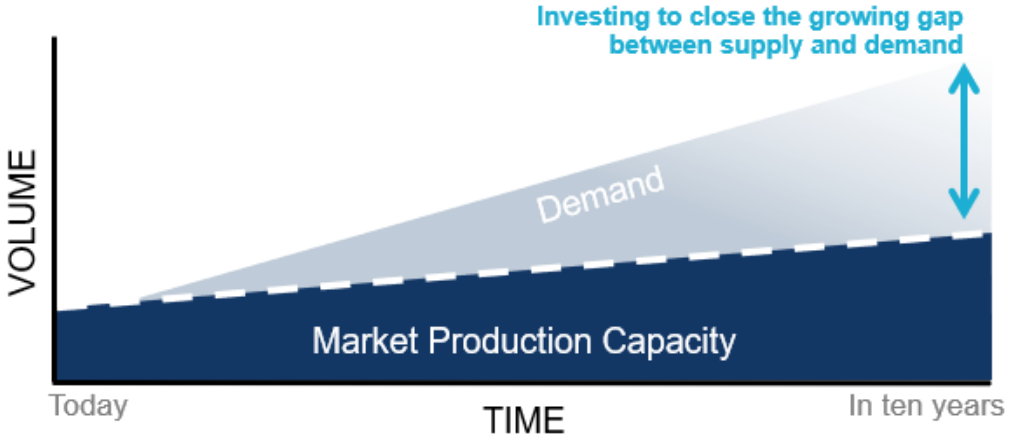
Blue Sky Opportunity – Addressing the Iodine Market

Iodine Market

- ~$4.2B industry, growing at a ~4.4% CAGR
- GE Healthcare has invested $400M in the past 10 years into producing Iodine products, including purchasing a $30M Iodine facility in Ireland[4] and cannot keep up with demand
- Prices of Iodine have increased by 40% in 2022 and 33% in 2023, due to significant shortage of Iodine supply[3]
- Future demand for Iodine: **CLICK HERE**

Supply Shortages

In the US, there are over 80M CT scans performed each year, compared to 3M CT scans in 1980[4]

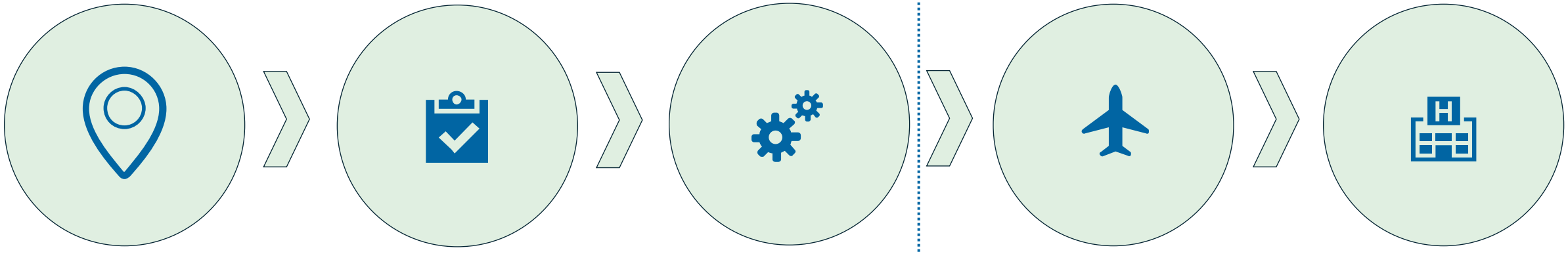


Source: GE Healthcare estimates
Graph for illustrative purposes

Voyageur is the only public company that is addressing both Barium, Iodine & Gadolinium markets, with a total market size of $6.3B[3]

Voyageur's Supply Chain

Voyageur's Vertical Integration Focus



Deposit

- Frances Creek, 100% Owned
- Ability to bulk-mine product on an as-needed basis, ensuring capital efficiency

Processing

- Can be done in-house, with capabilities available on-site
- Relatively simple process to separate Dolomite and Barium given quality of in-situ product

Manufacturing

- **Current Capability**: Contract Manufacturing via AVL
- **Future Capability:** JV with Access Properties for owned Facility, located in Calgary, AB, state of the art, GMP facility

Distributing

- Currently negotiating regional and global distribution arrangements
- $1.9M USD deal signed in Latin America in May 2024
- Expect other opportunities with FDA and EMA approval in 2025

End Customer

- Hospitals
- Clinics
- Ambulatory surgery centers
- Diagnostic imaging centers (CDC Canada)
- Other providers based on geographic differences in treatment centers

By owning the first three stages of the process, Voyageur can increase margins 3x, from ~20% to over 60%+

Drug Pipeline

Near-Term Commercialization

Candidates	Image Modality	Anatomy	Proof of Concept	Formula Development	Test Market	Commercial Launch	Health Canada Approved	FDA Approved
SmoothX	CT	A, B, C, R, S	→	→	→	→	✓	*2025 expected*
SmoothHD	Fluoroscopy	C, E	→	→	→	→	✓	*2025 expected*
SmoothLD	Fluoroscopy	E, SB, S	→	→	→	→	✓	*2025 expected*
VIsionHD	Fluoroscopy	D, E, S	→	→	→	→	✓	*2025 expected*
VisionLD	Fluoroscopy	D, E, SB, S	→	→	→	→	✓	*2025 expected*
IoXh (Iohexol)	CT	BV, O, T	→	→			*2026 expected*	*2026 expected*

Long-Term Commercialization - Endohedral Fullerene Drugs

Candidates	Image Modality	Anatomy	Proof of Concept	Formula Development	Test Market	Commercial Launch	Health Canada Approved	FDA Approved
VYG-EFV-100	MRI	BV, O, T	→				*8-10 years*	*8-10 years*
VYG-EFI-200	CT	BV, O, T	→				*8-10 years*	*8-10 years*
VYG-EFB-300	CT, Fluoroscopy	A, B, C, R, S	→				*8-10 years*	*8-10 years*
VYG-R-500	Radiopharma	Bo, Br, Car, O	→				*8-10 years*	*8-10 years*

Note: see Sources for Anatomy legend

Frances Creek Quarry

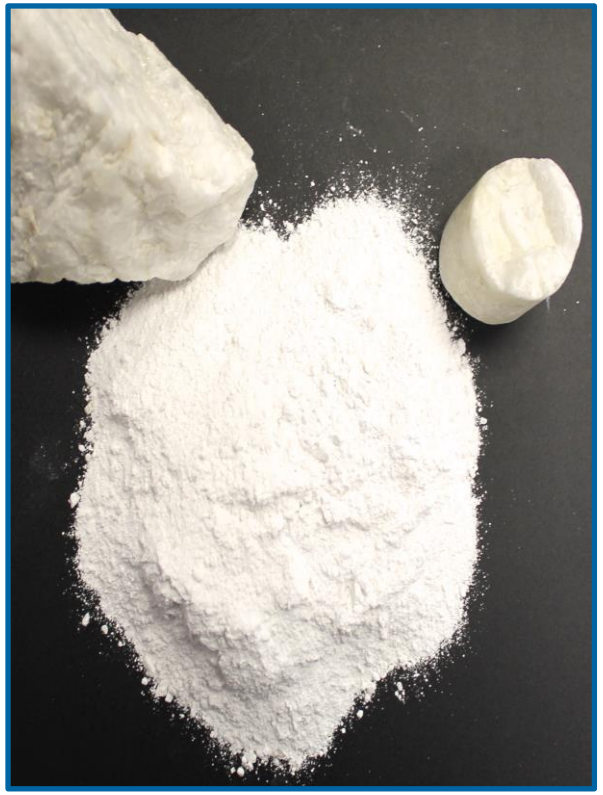
The Frances Creek Asset in BC, is a unique geological anomaly, and it is extremely high grade makes it suitable for pharma applications

The Project

- 100% owned by the Company, located in British Columbia
- Pharmaceutical grade barite (Barium sulfate) resource was discovered, Preliminary Economic Assessment (PEA) was submitted in 2022
  - NPV: $344M with an IRR of 137%
  - Aerial view of Frances Creek Quarry (3D Visual of Ore Bodies): **Click HERE**
- Voyageur can supply entire global Barium contrast market for 100+ years

Economic Impact of Vertical Integration

- Owning the supply chain will result in significant reduction in manufacturing costs:
  - Foreign Imports of Barium sulphate: $7,230/tonne
  - Canadian Barium sulphate (disclosed in the PEA): $650/tonne
- **Increases margins to +60%**
- Expected CAPEX costs: $17M, as compared to total market size of $6.3B[3]



Competitive Landscape

International Conglomerates*

- Lack of focus, typically selling other products in addition to contrast media
- Lack of speciality, typically not focused on “best-in-class” product offering
- Typically acquire “innovation” and small competitors
- Supply chain taken for granted, typically pass along costs to end customer

Niche Players

- Focus on service and end-patient benefits
- Control own supply and destiny in the market
- Nimble and able to react to global market movements

Market Size, Supply And Demand Stats

$6.3B
Global contrast agent market, in 2023[3]

2x
GE Healthcare’s estimate for growth of market in next 10 years[4]

36.2%
North American market revenue share of contrast market in 2023[3]

$9.7B
Projected size of contrast agent market by 2029[3]

7.5%
Compounded annual growth rate of contrast media market[3]

**No other International Conglomerates own their own mineral supply chain*

Milestones to Date and Upcoming Catalysts

Voyageur has successfully designed the supply chain and is now focused on bringing product to market in 2025

2017-2024

- Deposit 100% secured
- Mining and processing flow well understood and simple
- Manufacturing avenues understood (ie. continue contract manufacturing or invest in owned facility)
- Health Canada Approval
- Expanded product offering

Q1/Q2 2025

- Product testing results
- CDC study results
- Secure funding to launch FDA approval process (expected to be approved by 2025)
- Secure additional funding for manufacturing facility

Q3/Q4 2025

- FDA, EMA Approval
- Broadened distribution relationships
- Breaking ground on JV
- Expected Revenues from Barium product sales in Canada

2026+

- Global expansion for SmoothX and various Barium focused products
- FDA approval process for Voyageur's Iodine drug candidate
- Commercial launch of the company's flagship Iodine drug

Health Canada

FOOD AND DRUG ADMINISTRATION FDA

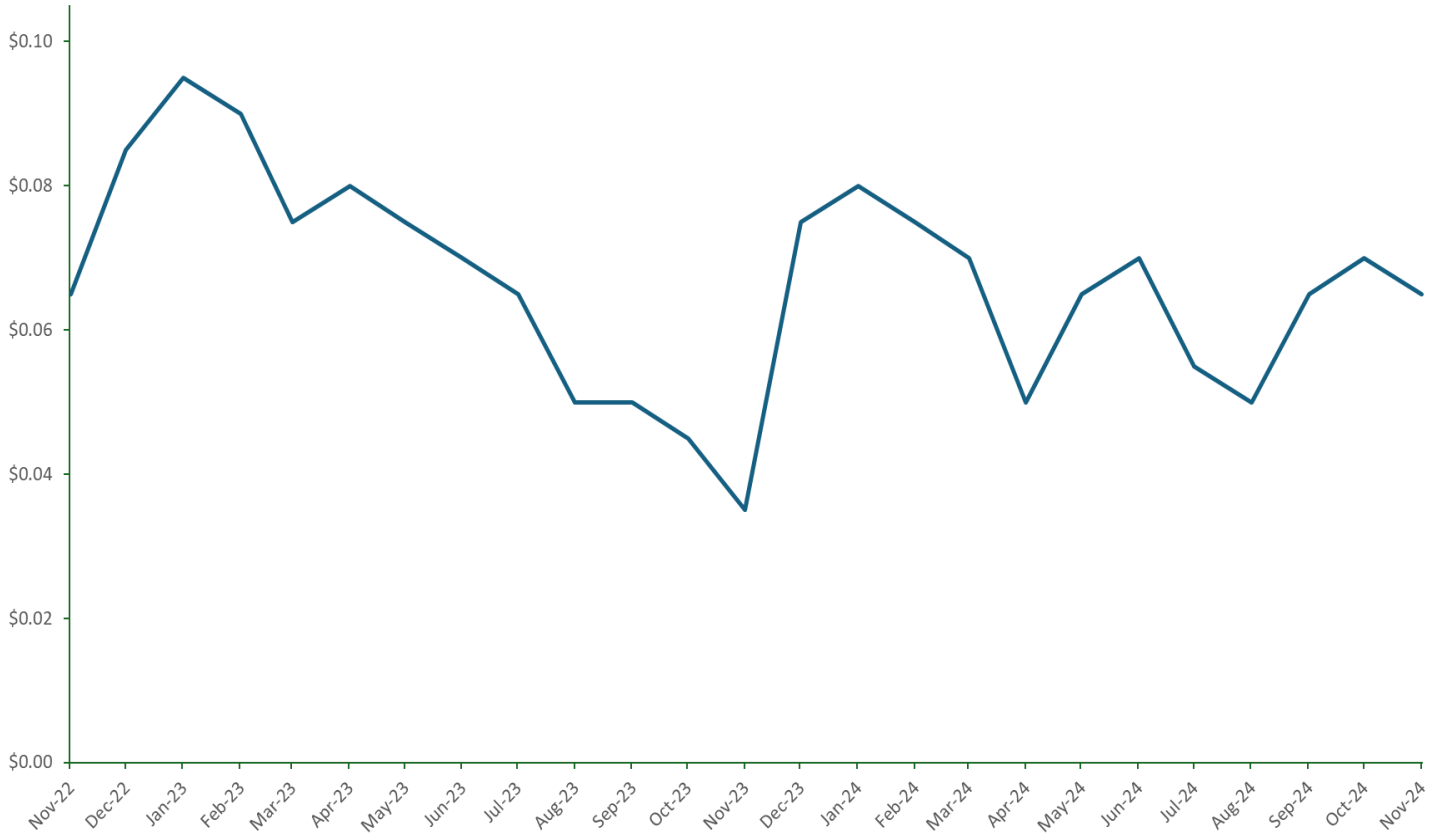
Financial Overview

Capital Structure

Current Stock Price	$0.065
Common Shares Outstanding	139.5M
Fully Diluted Common Shares Outstanding	173.0M
Basic Market Capitalization	**$9.1M**
Fully Diluted Board & Management Ownership	~20%
Cash on Hand (Pre-Financing)	~$50k

- ~2.6M, $0.12 warrants expiring December 23, 2024
- ~14.6M, $0.12 warrants expiring January 20, 2025

Stock Performance



Sources & Anatomy Legend

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3. https://www.grandviewresearch.com/industry-analysis/contrast-media-contrast-agents-market
4. Preventing Future Global Shortages of Iodinated Contrast Media | GE HealthCare (United States)
5. Bracco Diagnostics Inc. Announces Update on Product Portfolio
6. UPDATED Medication Safety Communication - Barium sulfate oral suspension (August 2023)
7. Barium Shortage Affecting Radiology Practices
8. https://www.health.harvard.edu/cancer/radiation-risk-from-medical-imaging#:~:text=Over%2080%20million%20CT%20scans,just%20three%20million%20in%201980

Anatomy Legend	
A: abdomen	E: esophagus
B: bowel	O: organs
BR: brain	R: rectum
BO: bone	S: stomach
BV: blood vessel	SB: small bowel
C: colon	T: tissues
D: duodenum	

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