

**FORM 51-102F3  
Material Change Report**

**1. Name and Address of Corporation:**

Voyageur Pharmaceuticals Ltd. ("Voyageur" or the "Company")  
Suite 1600, 333 7<sup>th</sup> Avenue SW  
Calgary, Alberta T2P 2Z1

**2. Date of Material Change(s):**

August 19, 2021

**3. News Release:**

A news release relating to the material changes described herein was released on August 19, 2021 through the facilities of GlobeNewswire.

**4. Summary of Material Change(s):**

Voyageur announced that it has been working with SGS Canada Inc. on the Preliminary Economic Assessment (PEA) for its Frances Creek barium Quarry operation.

**5. Full Description of Material Change:**

**5.1 Full Description of Material Change**

Please see attached Schedule "A" for further details regarding the news release disseminated.

**5.2 Disclosure for Restructuring Transactions**

Not applicable.

**6. Reliance on Subsection 7.1(2) of National Instrument 51-102 *Continuous Disclosure Obligations*:**

Not applicable.

**7. Omitted Information:**

Not applicable.

**8. Executive Officer Knowledgeable of Material Change:**

For further information, please contact Ron Love, Chief Financial Officer at [RonL@vpharma.ca](mailto:RonL@vpharma.ca) or 403-818-6086.

**9. Date of Report:**

August 25, 2021



FOR IMMEDIATE RELEASE:  
August 19, 2021

## Voyageur Pharmaceuticals Ltd. Announces Update To PEA and a Related New Opportunity To Market High Purity USP Barium Sulfate

Calgary, Alberta: August 19, 2021 – **Voyageur Pharmaceuticals Ltd. (TSX.V: VM)** (USA: VYYRF) (the "Company" or "Voyageur") has been working with SGS Canada Inc. on the Preliminary Economic Assessment (PEA) for its Frances Creek barium Quarry operation. A critical part of the PEA is the design of an upgrading system to process the Frances Creek barium concentrate to meet the requirements of the United States Pharmacopeia (USP). The upgrading process has been the primary focus, such that the PEA could not proceed until the upgrading process is developed and verified. The final design and testing have now been completed.

This process should enable the Company to produce and sell a premium natural  $\text{BaSO}_4$  product to both the pharmaceutical market and the industrial market for high purity barium. Based on the results of product testing, the Company was able to increase product purity from ranges of 86.9% to 90.7% to ranges of 97.8% to 99.8%, a significant improvement that meets and exceeds USP requirements. Specifically, the average USP grade for the Company's 10 micron product is **98.8%  $\text{BaSO}_4$**  and for the Company's 1 micron product the average is **99.5%  $\text{BaSO}_4$** .

Voyageur is pleased with these results and now has a path forward to design the Company's USP barium Good Manufacturing Practice (GMP) processing plant. SGS Canada's Inc. engineering team is working on plant design and costs will be presented in the PEA. In anticipation of production from the Frances Creek project, Voyageur may be able to generate additional revenue by selling a portion of production to high end industrial  $\text{BaSO}_4$  consumers.

"We believe these results are equivalent to man-made synthetic barium sulfate. This is significant as our products are created from Natural barite at significantly less cost compared to traditional synthetic processes. Creating a process to manufacture the highest quality product possible, has been the primary goal for Voyageur over the past few months, we are very pleased with the work completed by SGS" said Brent Willis, Voyageur's CEO.

The PEA is expected to be completed sometime in September to October 2021.

Voyageur is a Canadian public company listed on the TSXV 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 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 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 radiology medical field, by controlling all primary input costs under the motto of: "From the Earth to the Bottle".

For Further Media Information or to set up an interview, please contact:

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#### Forward Looking Information

This news release may contain certain forward-looking information and statements, including without limitation, statements pertaining to the preparation and timing of the PEA for Francis Creek, the ability of the upgrading system to process large volumes of barium, the market for the Company's products, the plant design and costs and the costs for Voyageur to produce natural barium sulfate, the costs to produce manmade barium sulfate, , and statements relating to the Company's long term plans, including with respect to becoming 100% self-sufficient with all manufacturing. All statements included herein, other than statements of historical fact, are forward-looking information and such information involves various risks and uncertainties. There can be no assurance that such information will prove to be accurate, and actual results and future events could differ materially from those anticipated in such information. A description of assumptions used to develop such forward-looking information and a description of risk factors that may cause actual results to differ materially from forward-looking information can be found in the Company's disclosure documents on the SEDAR website at [www.sedar.com](http://www.sedar.com). Voyageur does not undertake to update any forward-looking information except in accordance with applicable securities laws.

#### Reader Advisory

Neither the TSXV nor its Regulation Services Provider (as that term is defined in the policies of the TSXV) accepts responsibility for the adequacy or accuracy of this news release.