



Voyageur Pharmaceuticals, Upgrades Frances Creek Barite to 98% BaSO₄ with First Stage Gravity Separation

CALGARY, Alberta, December 18th, 2019, Voyageur Pharmaceuticals Ltd. (TSX.V:VM) (the “Company” or “Voyageur”) has been working with SGS Canada to advance the Frances Creek high purity barium sulfate project. SGS Canada is currently working with the Frances Creek barite mineralized breccia and has successfully gravity separated a concentrated grade of 98.6% barium sulfate (4.4sg). The samples have been sent to the pharmacy group at SGS for further testing and the results will be available in January. The next stage of the project will begin in January 2020 and will include the engineering and planning of the barite quarry and the proprietary barium API process.

A two tonne sample of Frances Creek breccia was taken from the vein along the lower A Zone. This sample is representative of run of mine quarry material and it was sent to Europe for testing of a new dry gravity processing technology process. The testing was successful in creating a 4.2 sg density pre-API plant concentrated barite. The new technology will allow for dry gravity separation of breccia material feed from the crusher.

This technology is significant in the fact that tailings ponds will NOT be required on the quarry site. This will reduce not only our operating costs but it will also enable Voyageur to work with a very small environmental footprint, while using the quarry’s waste material as gravel and aggregate material. The crusher, screen and gravity system will be set up on a previously developed area from a previous logging project. Our environmental footprint will be very limited. This barite concentrate from this process will be trucked to the barium API plant, for final GMP processing.

First Phase of Quarry Development

The next phase for Frances Creek is to complete the 10,000-tonne bulk sample from the quarry location at the B-zone. The last component of the notice of work application requires a haul road design and slope stability report. Voyageur completed the field work in December 2019, with the engineering company Vast Resource Solutions.

Brent Willis, CEO of Voyageur states that, “we are very excited by the preliminary results of gravity concentrate of 98% barium sulfate. This grade is of exceptional purity and its quite note worthy, because it is the first time in my long history of barite exploration and mining that I have witnessed grades this high with such purity, created from a simple 1st stage gravity separation. The purity level is above the required grade of 97.5% BaSO₄ for USP pharmaceutical grade barium sulfate. We will be performing multiple tests to further upgrade our barite and we will determine the various grades and industries that our barite will be suitable for. Further testing is required to confirm that Frances Creek is pharmaceutical grade.

We may initiate cash flow in 2020 with imported barite for our contrast business. Once our API barium processing plant is in production, we will be able to streamline our production by initiating our Earth to the Bottle business strategy. This strategy will diversify our sales model to allow for long term growth.



From the Earth to the Bottle

We will not be disclosing our API processing procedure publicly currently. We feel that it is vital to keep our downstream production technologies and processing techniques confidential. We have advanced our Frances Creek project with a new haul road design and the crew from Vast Resource Solutions just recently finalized the layout on the site. They will be creating the final engineered design and report for the permit in the new year”.

About Voyageur Pharmaceuticals Ltd. (previously Voyageur Minerals 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 Active Pharmaceutical Ingredients (API) minerals. The nearterm focus is developing barium and iodine radiocontrast products and bromine based pharmaceutical products.

Voyageur's goal is to generate positive cash flow from operations through its joint venture with Chief Medical Supply Ltd. - Alberta's only GMP pharmaceutical manufacturer. The joint venture contemplates turnkey manufacturing, bottling and distribution of barium radiopharmaceuticals for MRI, X-ray and CT scan applications. The Company also contemplates extending the joint venture to encompass planned Health Canada registration applications for iodine and bromine products also for medical applications. Voyageur owns 100% interest in three barium sulfate ("Barite") deposits including two properties suitable in grade for the industrial barite marketplace, and interests in a highgrade iodine, lithium & bromine brine project in Utah, USA.

About ImagingX Pharmaceuticals

Voyageur formed ImagingX, a gross revenue sharing joint venture company with Chief Medical Supply Ltd (CMS). CMS provides high quality, competitively priced pharmaceuticals and hemodialysis products to pharmacies, hospitals and clinics across Canada. Operating from both its 81,000 square-foot plant in Calgary, Alberta and its 163,000 square-foot facility in Mississauga, Ontario, CMS can supply products coast-to-coast. Regulated by Health Canada and complying with the Canadian Food and Drug Act, CMS has both drug and medical device establishment licenses issued by Health Canada. CMS currently has the combined bottling capacity of 760,000 bottles per day and has a turnkey sterile bottle line ready for ImagingX iodine contrast production.

ImagingX plans to employ a strategy of selling competitively priced radiopharmaceuticals for MRI, X-ray and CT scan applications. The main focus is on barium and iodine based products. The joint venture obligates Voyageur to provide the Active Pharmaceutical Ingredient minerals for the products and CMS to manufacture the products. The partners split gross revenue 50/50. This joint venture relationship is designed for ImagingX to be highly competitive by controlling all input costs.

From the Earth to the Bottle

Qualified Person Statement The Company's qualified person as defined by NI 43-101, Mr. Bradley Willis, P.Eng, has reviewed this news release and approved it.

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From the Earth to the Bottle

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