

## ioneer and Caterpillar complete autonomous haul truck feasibility study and sign memorandum of understanding

### Highlights:

- ioneer and Caterpillar complete joint automation study detailing the apparent benefits for early adoption of a Cat® Command for hauling, Autonomous Haulage System (AHS) at Rhyolite Ridge for improved operator safety, equipment utilization and site productivity.
- With the study complete and Rhyolite Ridge appears to be a very favourable candidate for AHS, ioneer and Caterpillar have signed a memorandum of understanding (MOU) to move the initiative forward.
- Fully integrated mining automation systems offer unprecedented improvements in operator safety, equipment utilization, and site productivity.
- The Rhyolite Ridge Lithium-Boron Project will be the first greenfield operation in North America to utilize AHS.
- In October 2020, ioneer announced that it had selected Caterpillar as the exclusive heavy equipment partner for its Rhyolite Ridge Lithium-Boron Project in Nevada.

**Tuesday 16 February 2021** – ioneer Ltd (ioneer or the Company) (ASX: INR), an emerging lithium- boron supplier, announces the completion of a joint automation study conducted with Caterpillar, the world’s largest manufacturer of construction and mining equipment, and the Cat dealer for Nevada, Cashman Equipment Company. The study targets the early introduction of Cat® Command for hauling, Autonomous Haul System (AHS) at ioneer’s Rhyolite Ridge Lithium-Boron Project in Esmerelda County, Nevada

Caterpillar has been a leader on the journey toward automation for many years. Fully integrated mining automation systems offer unprecedented improvements in operator safety, equipment utilization, and site productivity.

The results of the Rhyolite Ridge feasibility study show the viability of AHS at the mine and the proposed application of AHS could positively impact the overall cost structure of the operations. Key anticipated drivers include increased operating hours, reduced cycle times and improved cycle efficiency, and decreased operating costs in terms of maintenance, fuel, labour, and tires. AHS should also lead to improve in-cycle productivity and overall utilization, reducing the number of trucks required. Cat autonomous mining trucks have safely hauled more than 2 billion tonnes of material worldwide, driving over 67.6 million kilometres without a lost-time injury.

The operations are scheduled to start in 2023 with a fleet of Cat® 785 Next Generation mining trucks equipped with Cat® Command for hauling, and the fleet is scheduled to expand significantly in year four. All support equipment will feature the latest MineStar technology utilizing high-precision GPS and real-time analytics to maximise efficiency and accuracy in material loading.

This will be the first greenfield operation in North America to utilize AHS and will mark the expansion of Command for hauling automation technology to the 140-tonne class Cat 785 Next Generation mining truck.

ioneer and Caterpillar have entered into a Memorandum of Understanding for the use of Cat® Command for hauling at the Rhyolite Ridge mine. The companies have engaged in preliminary, non-binding negotiations regarding the terms of the proposed transaction and intend to negotiate formal agreements in the coming months.

The partnership will operate through Cashman Equipment, Nevada's Caterpillar dealership since 1931. The fleet and initial auxiliary equipment will all be equipped with Cat® MineStar™ Terrain, sold and supported by Intermountain Mining Technologies. This GPS system provides improved data for drilling, excavation, grading and dozing and should allow for better delineation of the overburden and ore for Rhyolite Ridge.

As stated in the October 2020 release, the equipment and services supplied by Caterpillar during the first five years of operation is valued at approximately U.S. \$100 million and may be financed through Caterpillar Financial Services (subject to definitive legal documentation).

ioneer's managing director, Bernard Rowe, said:

*"Our agreement with Caterpillar represents much more than just the purchase of equipment; it is a true ongoing partnership as we commence production at Rhyolite Ridge. We are very pleased with the results of the automation study and look forward to working with Caterpillar, Cashman, and Intermountain Mining Technology in our effort to produce materials that are vital to a sustainable future. The incorporation of an autonomous haulage system and other Caterpillar technologies at Rhyolite Ridge will only further our goal to improve project safety and operational efficiency."*

Jim Hawkins, General Manager of MineStar Solutions of Caterpillar Inc., said:

*"Caterpillar mining technologies including Command for hauling deliver mining companies throughout the world benefit from greater productivity, increased truck utilization, consistent truck operation and reduced costs. We are excited to support iioneer to deliver these same advantages to the Rhyolite Ridge greenfield mining opportunity."*

Joe Lewis at Intermountain Mining Technology, said:

*"We are extremely proud to partner with iioneer, Cashman Equipment and Caterpillar to provide technology solutions that help drive iioneer's goals of project safety and operational efficiency."*

Todd Gilligan, vice president of sales, marketing, and rental at Cashman Equipment, said:

*"Cashman is deeply committed to supporting ioneer and promoting their successful operations. We are looking forward to the site using first-class Cat equipment and technology to maximize their productivity. Rhyolite Ridge will be one of the first mine sites in the U.S. to deploy a fully autonomous fleet of Cat trucks. We're fully invested in ensuring that ioneer receives the full expertise, reliability, and dedication of all of Cashman's 900 employees."*

This ASX release has been authorised by ioneer Managing Director Bernard Rowe.

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## ABOUT IONEER

ioneer Ltd is the 100% owner of the Rhyolite Ridge Lithium-Boron Project located in Nevada, USA, the only known lithium-boron deposit in North America and one of only two known such deposits in the world. The Definitive Feasibility Study (DFS)<sup>1</sup> completed in April 2020 confirmed Rhyolite Ridge as a world-class Lithium and Boron Project that is expected to become a globally significant, long-life, low-cost source of lithium and boron vital to a sustainable future.

## ABOUT CASHMAN EQUIPMENT COMPANY

Founded in 1931 Cashman Equipment is one of the highest-rated Caterpillar equipment dealers in North America. A full-service dealership, Cashman provides new and used equipment for sale and rental, as well as high-quality parts and service to construction, paving, mining, truck engine, technology, and power system industries throughout Nevada and the Eastern Sierra. [www.cashmanequipment.com](http://www.cashmanequipment.com)

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<sup>1</sup> Refer ASX release titled 'ioneer Delivers Definitive Feasibility Study that Confirms Rhyolite Ridge as a World-Class Lithium and Boron Project' announced 30 April 2020.

## ABOUT INTERMOUNTAIN MINING TECHNOLOGY

Intermountain Mining Technology has an expanded portfolio of mining technology solutions, advising the mining customer regarding the correct technology for the job along with providing high-quality local customer service, personalized training, and technical support. As authorized representatives for Cat® MineStar™, the Intermountain Mining Technology team understands how to apply innovative technology to effectively solve the biggest challenges and guide customers in leveraging the most complete portfolio of technology solutions available today.

The team at Intermountain Mining Technology understands how to apply our systems and services to solve some of the biggest challenges you face on the mine site.

## ABOUT CATERPILLAR

With 2020 sales and revenues of \$41.7 billion, Caterpillar Inc. is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines, and diesel-electric locomotives. Since 1925, we've been driving sustainable progress and helping customers build a better world through innovative products and services. Throughout the product life cycle, we offer services built on cutting-edge technology and decades of product expertise. These products and services, backed by our global dealer network, provide exceptional value to help our customers succeed. We do business on every continent, principally operating through three primary segments – Construction Industries, Resource Industries, and Energy & Transportation – and providing financing and related services through our Financial Products segment. Visit us at [caterpillar.com](https://www.caterpillar.com) or join the conversation on our social media channels at [caterpillar.com/social-media](https://www.caterpillar.com/social-media).