

The importance of on-site support

case study

Project challenge

New Horus, a small contractor that works in Poderosa Mine in Peru, was moving away from conventional operation to a trackless loading and hauling system. They needed a total solution, including technicians and procedures, necessary to improve their efficiency and one that capitalized on the flexibility of the equipment, with a goal of increasing productivity by 25% while reducing costs 15%

Solution design

Poderosa Mine is a gold mine located 920 km (572 miles) northeast of Lima, Peru, in the Pataz Province, La Libertad Region, with an altitude between 1,250 and 3,000 m (.78 – 1.86 miles).

New Horus has been working on development and exploration since 2009 and they made the shift to a trackless loading and hauling system. They practiced conventional mining methods and were more focused on meeting monthly tonnage targets than on the total cost of the operation.

Their fleet was made up of older, second-hand equipment, which included a 3.5-tonnes loader and a 15-tonnes haul truck. They were looking to replace their fleet and requested a 4-tonnes loader. They were most concerned with improving mechanical availability and fuel consumption and we offered them a 4LD loader, whose efficiency would allow them to improve their current production. Along with the loader, we offered them a total solution package that would allow them to gain better control of their operations and optimize their efficiency, reliability and safety.

“The support that we received from Komatsu Mining Corp. has helped us to achieve a good standard in our operations. We definitely recommend their integrated service.”

Edgardo Huarcaya
General Manager New Horus

The solution

The 4LD was commissioned in May 2017. Our technicians began by conducting studies of current maintenance practices and worked to create a preventive and corrective maintenance plan to improve cost and mechanical availability. Soon after, the mine began to expand their operations and due to the 4LD's performance, New Horus decided to purchase a second 4LD, commissioned November 2017, and a third, commissioned May 2018. The three-stage plan:

1. Review and measure logistics, technical support needs, tools, infrastructure and safety standards. This review took place over three months and was conducted by a technician, a trainer, an account manager and a service engineer.
2. Implement solutions in safety, logistics, tools, technical support and infrastructure. Implementation of solutions were progressive over the course of six months. Continual improvement takes place to date. The customer has two service contracts with us, allowing for two technicians to be on site seven days a week. Logistics processes were improved with the control of the life of spare parts, and safety procedures are in constant evolution. Feedback from technicians helps achieve better safety standards.
3. Stage three was to commission equipment, operators' training, execution of a maintenance schedule, follow-up of safety conditions and targeted data collection, including hours, costs, operator schedule and productivity. Since June 2017, we have provided the customer with a monthly report that allows New Horus to better handle their productivity rate for the mine. The monthly report includes the following information for each unit: mechanical availability, fuel consumption, distribution of costs (preventive or corrective), total cost of spare parts for maintenance, record of life of spare parts, fulfillment of the program, and a preventive maintenance plan.

The results

At the end of the study, the 4LD loaders allowed New Horus to surpass its targets of increasing productivity by 25% and reducing maintenance costs by 15%. After the commissioning of the 4LD units, New Horus increased the tons produced per month by 35% from an average of 2,560 tons/month to an average of 3,456 tons/month. Additionally, they now have better control over their costs, and have reduced their maintenance costs by 25% from \$3.2/hr to \$2.4/hr.

Moreover, the average mechanical availability increased from 50% for competitor equipment onsite to more than 90% for the three 4LD units. Onsite support by Komatsu technicians was key to this mechanical availability increase.

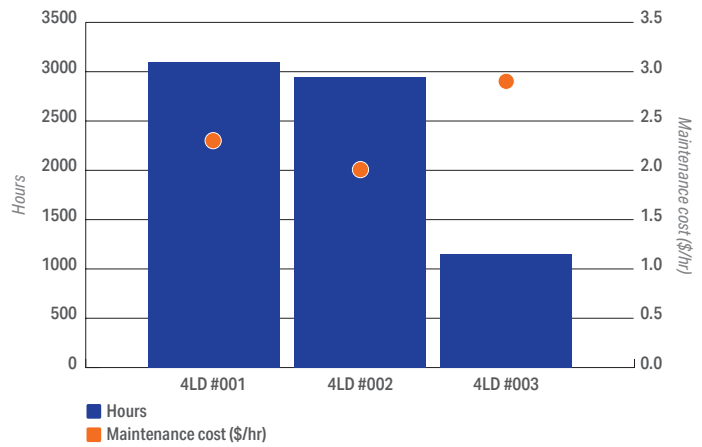
The increase in mechanical availability increased the monthly development meters and material moved by 40%, with an additional value of \$64,000.

The second and third chart to the right contain data gathered from June 2017 to August 2018 showing the total operating hours, average mechanical availability and fuel consumption. The units resulted in an average 2.41 gallons per hour and an average mechanical availability of 91.8%.

The excellent performance of the 4LDs and the high level of service and on-site support provided by our teams helped secure the sale of two 16TD trucks that were commissioned in September 2018, replacing their existing haul truck. New Horus referred us to two other contractors operating at Poderosa Mine, one of whom purchased two LT-270 hard rock loaders and another who purchased a 4LD loader. These contractors also have on-site Komatsu technicians to improve their operations.

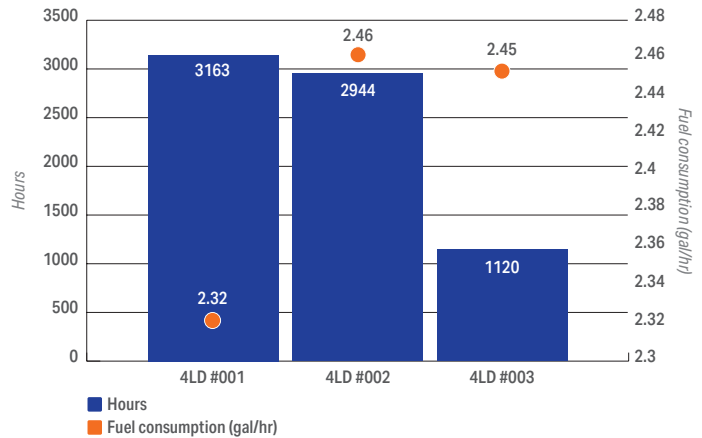
For more information, contact your Komatsu representative or visit komatsu.com/success-stories/

Operating hours vs. maintenance costs



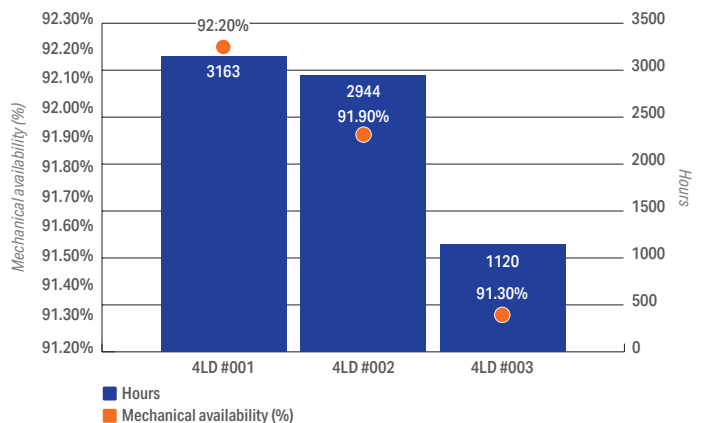
Operating hours vs maintenance costs for the three 4LD loaders.

Operating hours vs. fuel consumption



The 4LD loaders averaged 2.41 gallons per hour.

Operating hours vs. maintenance availability



Mechanical availability of the three 4LD loaders averaged 91.8%.

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