## عنوان مقاله:

(Reliability analysis of a fleet of mining trucks (A case study in Iran

## محل انتشار:

مجله زمین-معدن, دوره 1, شماره 2 (سال: 1402)

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## خلاصه مقاله:

Loading equipment is one of the most essential equipment in open-pit mining operations. Any failure of all or some of these equipment leads to a decrease in the production and profitability of the mine. Trucks are one of the well-known machines applied for mineral transportation. The occurrence of any kind of failure in trucks leads to the stop of the loading operation and, finally the complete stop of the mining operation. Knowing the operating conditions of the mineral transport unit is one of the critical parameters to prevent unwanted stops and accordingly improve the operational performance of the equipment. Therefore, it is necessary to check the reliability and maintainability of loading machines to provide a maintenance and repair program and control the productivity of mineral transportation operations. In this paper, the reliability of seven trucks in Sungun Copper Mine, Iran, was evaluated and discussed. To achieve this, the statistical approach was used to obtain the best reliability function, and then the reliability-based preventive maintenance scheduling was proposed. The results of this paper showed that the reliability of the fleet of mining trucks decreased to ۸۰% in ۴۷ hours and reached zero after about ۳۰۰ hours. The results of this study are helpful for mine managers and contractors to have a safe and reliable mineral transportation system.

## کلمات کلیدی:

Mining truck, Reliability, statistical analysis, Songun Copper Mine