

Fleet Management System in PT Indo Muro Kencana

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ABSTRACT

PT Indo Muro Kencana (PT IMK) is a surface gold and silver mine located in Mount Muro, Central Kalimantan, Indonesia. The mining operations of multiple open pits using combination of excavator and haul truck is operated. The articulated dump truck (ADT) with capacity of 40t and 60t deliver ore to the mineral processing plant and discard waste material to the waste dump area. Firstly, the objective of this paper is to explain PT IMK's conditions before implementation of fleet management system (FMS) and also to describe the selection process of FMS. Secondly, the purpose of this paper is to elucidate the daily practice of FMS in PT IMK and to explore opportunity for continuous improvement program. Next, it is noted that ore hauling distance from active pit to ore processing plant is approximately 8.0km. In general, PT IMK's operation is located in remote area where consist of hills topography with limited wi-fi availability and insufficient signal of telecommunication network (GSM). At this point, it seems that FMS is required due to ore hauling distance, security issues, remote areas, and to track location and activities of mining units. Certainly, FMS can be used to monitor truck locations and also operator's activity. So, some factors were assessed in order to select an appropriate FMS method in PT IMK, such as operational environment of remote area, limited communication access, opportunity for integration of FMS with existing radio communication system, and also operating in multiple open pits mining with long distance ore hauling. Currently, in PT IMK, FMS is operated by using existing mining radio frequency and facility. Existing mining radio towers without internet wi-fi of satellite and GSM communication were used to track location and activities of mining units. Ultimately, this system is low cost, applicable to operate in remote area and affordable for medium scale mining operation. In conclusion, based on PT IMK's experience it is noted that implementation of FMS by using radio frequency is a low cost of FMS's OPEX and investment, and suitable for medium scale mining operations where located in remote area, consist of hills topography, operating with multiple open pits mining and long distance ore hauling.