

Application Bulletin

Market: Mining



Application

Open pit mines operate a fleet of haul trucks to carry the ore from the open pit to processing operations. Effective filtration of the bulk and point of fill diesel fuel is a critical component of vehicle reliability.

Problem

A large Latin American gold mine was measuring their fuel cleanliness levels at an average of 22/21/18 per ISO4406. They experienced 70 injector failures over a fiscal quarter, as well as on board fuel filter change outs ahead of regular scheduled maintenance intervals. The impact was increased parts and labour costs to replace the injectors and on board filters, as well as lost production due to unscheduled downtime.

Solution

The mine site installed staged filtration to cost effectively remove the particulate and water contaminants. Ultipleat® Diesel grade JS ($\beta_{12} \geq 1000^*$) particulate filters and AquaSep® liquid/liquid coalescers on the main tank were followed by Ultipleat Diesel grade JN ($\beta_6 \geq 1000^*$) filters on local/day tanks, and Ultipleat SRT UR699 housings with grade AP ($\beta_{5(c)} \geq 1000$ per ISO 16889) filtration at point of fill.

Results

The fuel quality at point of fill is now cleanliness level 14/13/11 per ISO4406. In the first three months of operation:

- ZERO injector failures were experienced
- Life of the on board fuel filters has improved, allowing the trucks to meet their scheduled service intervals for filter element replacement
- Truck availability has improved due to the elimination of other fuel-related downtime issues

The end result is significantly reduced operating costs, improved vehicle reliability and increased production potential from the existing fleet


70 Injector Failures Reduced to Zero



* Filtration efficiency is qualified using a modified multi-pass filter performance test procedure based on ISO 16889 - Reference Pall document IMUDFFEN for further details. The filtration ratios obtained by the above test method should not be directly compared with filtration ratios obtained per ISO 16889.

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