

# Fluid Power: Fuel Efficient Hydraulic Oils

By Indian Oil Corporation Limited | Category: Most Innovative Supplier

Servohyvis EE 46 is a high-performance hydraulic oil, which is designed to offer better fuel efficiency and higher productivity in the hydraulic shovel. In order to confirm the fuel savings potential and improvement in productivity, it was jointly decided, by M/s Tata Steel RMD and M/s IOCL, to carry out a trial of ServoHyvis EE 46 in the excavator EX1200-2K08 at their West Bokaro coal mines. ServoHydrex TH 46 (conventional hydraulic oil) was used as the reference product.

Can a  
mining  
excavator  
save fuel?  
Just by changing  
the hydraulic  
fluid

Impact of the  
Innovation  
savings

₹16.14 mn



## The Innovation

The principle behind ServoHyvis EE 46 was to formulate a Hydraulic Oil with Dynavis Technology that helped increase the excavator's overall pump efficiency. This highly shear stable fluid was found retaining its viscosity throughout the drain interval period and beyond, as compared to the standard high VI fluid.



## Overcoming Challenges

The first challenge was to convince the user that hydraulic oil could improve productivity and fuel efficiency in an excavator. In a long duration trial, the variables would be too many such as, ambient conditions (rainy/dry) and ambient temperature. The excavator operating in different seam having different gradient and softness/hardness many operators etc. Therefore, need for a limited period trial was felt, so as to minimize the variability and increase the accuracy of data recording on a real-time basis. A combination of data recordings had to be used to derive the final results: data recorded manually, TPMS data, ECM data and data recorded by mounted on-board devices.