



Upgrading engine oil and tracking its condition extends operating hours and cuts maintenance costs



Company: Samaras Mining Group

Location: Greece

Application: Dump truck fleet

Key edge: Extended engine lifetime and reduced maintenance costs

€765,706

(or €1,584,000 over the operating lifetime of the trucks) savings from extended engine lifetime and reduced maintenance costs

Shell
RIMULA



Challenge

Mining transportation is a demanding area of operation. Moving heavy loads across uneven, muddy or dusty ground in mines and quarries presents major challenges for equipment. Operators need their vehicles to be robust, reliable and capable of standing up to the rigours of a mine environment. Choosing an engine oil with the necessary level of performance and monitoring the condition of lubricants during operations are vital for engine performance, long-term reliability and reduced total cost of ownership.

Samaras Mining Group is Greece's leading contractor for the surface mining of limestone, aggregates and nickel. The company operates a fleet of 150 heavy-duty earth-moving machines including 11 Caterpillar 777F dump trucks at various mining sites across Greece. These trucks are subjected to severe operating conditions, and high availability is crucial to meeting the demands of daily operations. These machines require an effective, heavy-duty engine oil that offers excellent wear protection and helps maximise engine operating hours/lifetime.



Solution

Petros Petropoulos AEBE, macro distributor of Shell lubricants in Greece and Cyprus, proposed that the customer change the engine oil for its Caterpillar 777F dump truck fleet to **Shell Rimula R4 L 15W-40**. This product offered a higher engine performance and protection level than the oil that Samaras Mining Group had been using across the fleet. The customer also introduced the Shell LubeAnalyst oil condition monitoring (OCM) service. The OCM service helps to ensure that equipment and lubricants are in optimum working condition by identifying potential oil degradation or contamination, and by pointing out possible equipment failures before they become critical and costly, and thereby cause unplanned equipment and production downtime.



Outcome

Switching to Shell Rimula R4 L 15W-40 and introducing the LubeAnalyst service has helped deliver enhanced equipment performance over a sustained period. The standard overhaul maintenance schedule recommended by the manufacturer for Caterpillar 777F trucks is 15,000 hours. Three of the trucks in the Samaras Mining Group fleet have reached 30,000 operating hours without the need for a general overhaul.

In addition, the early detection capabilities of the Shell LubeAnalyst service have made significant contributions to improved performance by preventing potentially catastrophic engine damage as a result of fuel or coolant leakage into the engine oil or dust contamination.



Value

Across the mining industry, machines are routinely exposed to extreme temperatures and harsh operating conditions. One of the key challenges for operators is finding ways to work smarter and more sustainably while still increasing output. By choosing a quality product and adopting best operational and maintenance practices, Samaras Mining Group has been able to achieve the highest standards of equipment reliability and availability.

Estimated savings for the customer, based on extended engine lifetime without a need for a general overhaul, reduced maintenance requirements, the need for fewer spare parts and lower labour costs, amount to approximately €765,706. This figure is expected to rise to €1,584,000 over the operating lifetime of the trucks in the fleet. The customer is applying the same maintenance practice to the rest of the Samaras Mining Group fleet. Similar results are expected in equipment based on the C32 engine type of CAT 777 dump trucks.

“We would like to acknowledge the superior performance of **Shell Rimula R4 L 15W-40** in our fleet of Cat 777F dump trucks at mining sites across Greece. The product’s excellent wear protection in combination with the timely oil analysis data of the Shell LubeAnalyst service has substantially extended engine operating hours.”

Hercules Styliaras, Executive Director, Samaras Mining Group