



SHELL TELLUS S4 ME DELIVERS 5.27% REDUCTION IN ENERGY CONSUMPTION IN HYDRAULIC MOTOR TRIAL

TOTAL REPORTED ANNUAL CUSTOMER SAVING

US\$10,520



COMPANY: Barrick Gold Corporation

COUNTRY: Australia

APPLICATION: Hydraulic motors

SAVING: US\$10,520 total reported
annual customer saving

KEY EDGE: Shell Tellus S4 ME

Barrick Gold Corporation is a leading international gold producer. It operates 25 gold mines around the world, including seven in the Australia-Pacific region. Barrick sought to improve performance and reduce energy consumption at its Plutonic gold mine in Western Australia.

Shell Lubricants worked with Barrick engineering staff to identify energy-efficiency opportunities and suggested that the company would benefit by changing its hydraulic motor lubricant from Shell Tellus S2 M to Shell Tellus S4 ME. Barrick agreed to implement a six-month trial of the new lubricant in two Hägglunds MA 200 hydraulic motors installed on conveyors at the mine. During the trial, Barrick measured several factors including load, temperature, filters, filter ratings, lubricant viscosity and viscosity index. The results were recorded by a highly accurate power monitor provided by Shell.

The results of the trial showed that using Shell Tellus S4 ME in the two hydraulic motors reduced their energy consumption by the equivalent of 5.27% per annum, which equates to US\$10,520 a year. Barrick also benefited from extended oil-drain intervals and reduced labour costs and downtime, and expects to extend equipment life. The company is planning to use Shell Tellus S4 ME across its operations.



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CHALLENGE

Barrick Gold Corporation sought to improve performance and reduce energy consumption in two Hågglunds MA 200 hydraulic motors installed on conveyors at its Plutonic gold mine.

2

SOLUTION

Barrick conducted a six-month trial using Shell Tellus S4 ME in the two hydraulic motors during which it measured load, temperature, filters, filter ratings, lubricant viscosity and viscosity index.

3

OUTCOME

By using Shell Tellus S4 ME in the hydraulic motors, Barrick reduced their energy consumption by the equivalent of 5.27% per annum. The company also benefited from extended oil-drain intervals and reduced labour costs and downtime.

4

VALUE

The savings in energy consumption equates to the equivalent of US\$10,520¹ per annum. Barrick also expects to extend equipment life.

¹The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from site to site and from time to time, depending on, for example, the application, the operating conditions, the current products being used, the condition of the equipment and the maintenance practices.



SHELL TELLUS S4 ME

HYDRAULIC FLUID TO HELP ENERGY EFFICIENCY

Shell Tellus S4 ME hydraulic fluids are designed to help users to improve the energy efficiency of their hydraulic systems without compromising the system protection or maintenance procedures of their equipment and operations. Shell Tellus S4 ME has been demonstrated statistically to produce energy savings in applications such as plastic injection moulding and metal pressing, with typical results in the range of 1–4%. In addition, Shell Tellus S4 ME is also designed to help prolong equipment service life and lower maintenance costs by providing outstanding wear protection and long oil-life capability.

Applications

- Industrial hydraulic systems. Shell Tellus S4 ME is particularly suitable for those systems with high-intensity hydraulic power use, such as injection moulding and high-pressure metal-pressing operations, and where resistance to high temperatures or long oil life is required.
- Mobile hydraulic systems. The product is also suitable for use in certain mobile hydraulic-fluid power-transmission systems and in marine applications. It provides superior low-temperature fluidity compared with most conventional ISO HM type fluids.
- Environmental impact. Because they use ashless, anti-wear technology and low-sulphur base oils, Shell Tellus S4 ME oils have reduced environmental impact from leaks or accidental spills compared with conventional zinc-based hydraulic fluids. For even less environmental impact, we offer the Shell Naturelle range of reduced environmental impact lubricants.

Performance features and benefits

- Energy efficiency. With the help of sophisticated system modelling, Shell Tellus S4 ME has been designed to improve the energy efficiency of hydraulic systems through a specially developed formulation that balances the flow, frictional and power-transmission characteristics of the fluid.



- Reduces maintenance costs. Shell Tellus S4 ME offers outstanding performance in all the properties relevant to a hydraulic fluid, such as hydraulic pump wear and resistance to breakdown in contact with water or other contaminants.
- With an oil life that exceeds the 10,000 hours maximum duration that can be measured under the industry-standard ASTM Turbine Oil Stability Test, Shell Tellus S4 ME offers significantly extended fluid-drain intervals, which can help to reduce overall maintenance costs.
- Greater equipment protection. In addition to meeting standard-industry and equipment manufacturer specification requirements, Shell Tellus S4 ME provides exceptional additional protection. For example, using Shell Tellus S4 ME results in up to 68% less wear in the Vickers V104C pump wear test than the 50-mg pass/fail limits for many equipment manufacturers, such as Cincinnati Machine (P-specification), Bosch-Rexroth (RD 90220-1) and Eaton (Vickers). Through its outstanding protection against sludge build-up, valve sticking and corrosion, Shell Tellus S4 ME can help to prolong the life of your hydraulic equipment.

Specification and approvals

Shell Tellus S4 ME fluids are approved by Denison Hydraulics HF-0, HF-1 and HF-2; Cincinnati Machine P-68 (ISO 32), P-70 (ISO 46) and P-69 (ISO 68); Eaton Vickers M-2950 S and I-286 S; Bosch-Rexroth; and ARBURG (injection-moulding applications). It meets or exceeds the requirements of ASTM D6158 (HM fluids); ISO 11158 (HM fluids); DIN 51524 Part 2 HLP type; Swedish Standard SS 15 54 34 AM; AFNOR NF-E 48-60; and KraussMaffei. Shell Tellus S4 ME also meets the Engel specification for injection-moulding machines.

Complementary products

Application	Lubricants
Gearboxes	Shell Omala gear oils
Compressors	Shell Corena compressor oils
Bearings	Shell Gadus greases