



# Shell Lubricants

## MINING & QUARRYING

Eliminating the cause of early bearing failure by ensuring reliable, regular lubrication

Potential annual customer saving

**US\$167,000**



*The Lagunas Norte mine is an open-pit, crush, valley-fill heap leach operation run by Barrick in Peru. It is now one of the few gold mines in the world with the capability to produce over one million ounces per year.*



**Lagunas Norte wanted to reduce operational costs and plant stoppages by increasing the life of bearings.**

**Country:** Peru

**Application:** Open Cast Mining – Bearings

**Saving:** US\$167,000 Potential annual customer saving

**Key edge:** Shell Stamina Grease, Shell Tactic EMV, Shell LubeAdvisor and Shell LubeCoach

Premature wear caused by irregular re-greasing was causing the critical application to become unreliable. After assessing bearing size and speed, Shell recommended the automated re-greasing system Shell Tactic EMV, pre-filled with Shell Stamina EP 2 grease, to achieve the best results.

SHI0006

DESIGNED TO MEET CHALLENGES



# 1 The Challenge:

Prior to consultation, the customer was using Shell Alvania Grease EP 2 through a process of manual lubrication. The manual re-greasing schedule was not always completed and this, along with contamination of dirt, dust and water, was causing the production belt bearings to wear. Potential unscheduled stoppages (lasting at least three hours) due to belt bearing failures were threatening the flow of production with a value subsequent loss in gold production.

# 3 The Outcome:

After implementing the recommended solution, the customer experienced:

- A decrease in manual lubrication time allowing for technical staff to attend previously neglected areas
- The elimination of premature bearing failures due to reliable and regular lubrication
- Peace of mind knowing the process was automated and set specifically for the machine's requirements

# 2 The Solution:

After thoroughly assessing the situation using the Shell Lube **Advisor** service, the recommended solution was the installation of Shell Tactic EMV – an automated grease dispensing unit – pre-filled with Shell Stamina EP 2, and staff training using the Shell Lube **Coach** service. Shell Tactic EMV lubricating units were installed at two critical production points to supply precise, reliable and regular grease to the machine. Temperature and vibration levels were monitored to assess the performance of the new grease and dispensing system.

# 4 The Value:

By identifying the customer's need for re-greasing support and a premium grease to perform well in a high contamination environment, Shell was able to recommend an ideal solution that catered for both these predicaments.

An outstanding potential production annual saving of US\$167,417 was recognised by the customer as a result of this solution.

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

## Shell Tactic EMV filled with Shell Stamina EP 2

### Shell Stamina Grease EP – Ultimate performance extreme pressure diurea grease

Shell Stamina Grease EP incorporates Shell diurea thickener technology, which expands the life of the oil under extreme pressure resisting melting and subsequent leaking.

### Reduced maintenance costs with anti-wear properties

Lower bearing replacement rates can be achieved through Shell Stamina's excellent anti-wear properties coming from the latest technology diurea thickened greases.

### Health & safety considerations

Shell always formulates with current and future HSE legislation in mind. Shell Stamina EP is free from lead, nitrite and does not require labelling.

### Shell Tactic EMV

#### For peace of mind through precise and reliable lubrication

Shell Tactic EMV automatic lubricators are designed to significantly reduce the most common causes of bearing failure delivering precise and reliable lubrication. Shell Tactic EMV reliably delivers the exact amount of grease required at precise regular intervals.

#### How does it work?

Shell Tactic EMV comprises two primary components: a small Electro-Mechanical drive unit operated by batteries and a replaceable Grease Canister. The drive unit pumps precise small quantities of grease from the canister at timed regular intervals with simple-to-adjust settings.



### Benefits

- Reliable design and operating principle
- Improved reliability and reduced maintenance costs
- Reduced manual lubrication labor costs
- Improved safety
- Adaptable
- Easy to inspect

### Complementary products

Equipment	Products
Draglines	Shell Malleus, Shell Omala, Shell Albida
Shovels and Extractors	Shell Malleus, Shell Omala, Shell Albida, Shell Tellus
Mills	Shell Malleus, Shell Omala
Crushers and Conveyors	Shell Albida, Shell Alvania, Shell Tactic, Shell Tivela, Shell Omala
Ore Processing	Shell Albida, Shell Alvania, Shell Tactic, Shell Omala, Shell Tivela, Shell Tellus, Shell Corena
Haul Trucks	Shell Rimula, Shell Hyperia, Shell Spirax, Shell Retinax, Shell Albida, Shell Donax
Power Plant	Shell Argina, Shell Gardina, Shell Turbo



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