

**DESIGNED TO UNEARTH  
GREATER PROFITABILITY.**

**JUST LIKE OUR LUBRICANT  
SOLUTIONS FOR MINING.**

**DESIGNED TO MEET CHALLENGES**



# DESIGNED TO INCREASE PRODUCTIVITY THROUGH ENHANCED EFFICIENCY, PROTECTION AND OIL AND EQUIPMENT LIFE

## DESIGNED TO RAISE PROFITS

Are your lubricants fit for severe operating conditions? At Shell Lubricants, we appreciate that you are constantly striving to maximise machine availability and drive down your production and maintenance costs in tough conditions and in remote areas. Choosing the right lubricants and services for your needs can help to make a real difference to your bottom line.

Our technology-leading lubricants, which are developed, researched and supported by an international team, can help you to reduce your process and equipment-ownership costs by providing

- enhanced protection
- extended oil and equipment life
- improved efficiency.

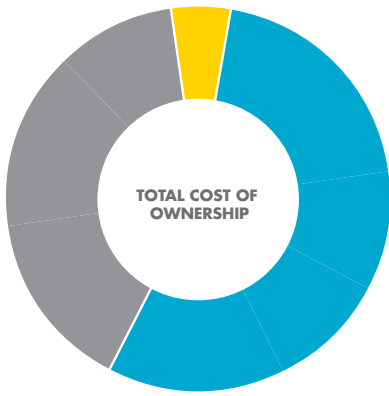
## UNDERSTANDING YOUR NEEDS

Because we work with many of the leading mining companies, including Rio Tinto and BHP Billiton, we understand the crucial role that lubricants play in your mining operations. Whether you want to reduce maintenance costs and increase machine life through greater protection and cleanliness for internal components or to improve energy efficiency for reduced fuel costs, we have a wide range of lubricants designed to meet your needs. Our portfolio includes lubricants such as long-life, heavy-duty engine oils, specialty greases for heavy mining equipment and high-performance, energy-efficient synthetic products.

Our international network of experts can work with you to design a package of products and services that will meet your specific needs and help to increase your profitability. Not only do we supply an extensive range of lubricants, we also aim to help you to

- choose the right products
- store and apply your lubricants correctly
- achieve continuous improvement through equipment and process performance monitoring.





**PRODUCT COSTS**  
Lubricants



**MAINTENANCE COSTS**  
Leaks  
Handling and dispensing  
Oil analysis  
Disposal



**BUSINESS COSTS**  
Inventory  
Administration and management  
Training

### LUBRICANTS – SMALL COST, BIG IMPACT

Buying low-quality lubricants can be a false economy. Lubricant costs can be as little as 1–2% of the total maintenance costs. We focus on providing performance products that can help to reduce maintenance requirements and energy use, and services that are designed to improve maintenance and business practices, and thus lower your overall costs.



### DELIVERING VALUE

By designing the right lubricants and services for your requirements, we can help you to significantly reduce your total operating and equipment-ownership costs. For example, using high-quality, appropriate lubricants and services correctly can help lower your operational and maintenance costs, extend your mobile- and static-machinery life, and in some cases, reduce energy and fuel use.

### LOCALLY SUPPORTED INTERNATIONAL PRODUCTS AND SERVICES

We have an international organisation with experts in the lubrication of critical equipment based in over 90 countries and that is one of the leading suppliers of hydrocarbon products and services to the mining industry. This means that we can deliver consistently high-quality products wherever you operate, for example:

- heavy-duty engine, hydraulic, transmission, differential/final-drive and wheel motor oils
- oils and greases for mobile and static machinery operating under severe-load, temperature and contamination conditions
- specialist oils and greases for open gears and pneumatic rock drills.

Our experts can work with you to analyse your needs and solve your problems. They can provide and help to implement a lubrication plan designed to help unlock your mining potential.

We have a large team of mining-sector specialists who understand your industry and can demonstrate how we can deliver clear cost benefits and added value. Through these people, we offer a wide range of lubricant-related services to help you maximise the positive impact of lubricants on your operation. These services include lubricant surveys and recommendations; inventory management including product rationalisation; critical equipment inspections; and staff training.

For example, reliability can be improved by using top-tier oils that offer enhanced protection for longer along with services such as the Shell LubeAnalyst used lubricant analysis service, which is designed to reduce costs and add value by

- identifying potential oil or equipment failures before they become critical
- extending lubricant life, thus reducing change-out frequency, maintenance downtime and procurement costs
- reducing risks and contributing to safe and reliable operations.



## HARNESSING TECHNOLOGY TO DELIVER VALUE THROUGH THE CREATION OF SOLUTIONS, SUCH AS ENERGY-EFFICIENT AND LONG-LIFE LUBRICANTS, IN RESPONSE TO CUSTOMERS' NEEDS

### TECHNOLOGY WORKING FOR YOU

The development and application of innovative technology sit at the heart of everything we do at Shell. We invest in cutting-edge laboratories in Asia, Europe and the USA and recruit top-class scientists.

They are the people who develop products that make a difference to your business, even under the most challenging conditions. From the Panama Canal and the Airbus A380 to Ferrari, what we learn in our collaborations, we use to create lubricant solutions to fulfil your business needs.

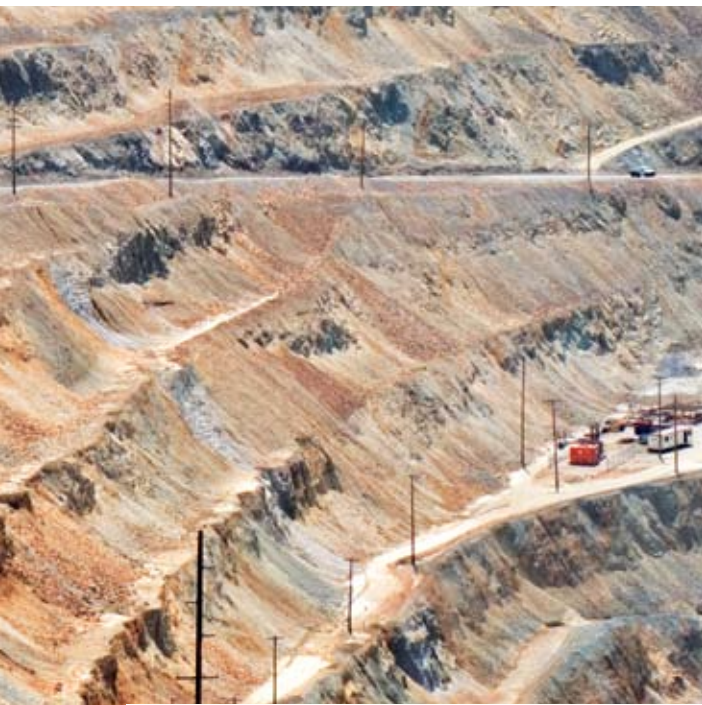
And we do not just have some of the best lubricants, we also have some of the world's leading field experts working with customers every day to apply these solutions. The result? Technology that delivers value to your operation.

**REDUCED OPERATING COSTS:** Many mining operations have the potential to cut costs by improving maintenance practices. At a platinum mine, one company reports saving \$1.4 million<sup>1</sup> a year by using the Shell LubeAnalyst oil and equipment condition monitoring service. The service is helping the company to focus on continual improvement of its maintenance practices. The mine's engineering manager puts the Shell LubeAnalyst service at the root of the savings.



**ENERGY EFFICIENCY:** Mining companies are increasing productivity by working more efficiently. With support from our experts, one company rationalised the number of products it uses, including upgrading to Shell Omala S4 GX oil for all gearboxes. In the mine's two grinding mills, the company reports that Shell Omala S4 GX is

- reducing the electricity consumption of the machinery in which it is used by 2.1%<sup>2</sup>
- doubling the oil-drain interval
- reportedly saving over \$74,000<sup>1</sup> a year in energy and waste-oil disposal costs.



## WORKING WITH INDUSTRY

Because lubricants are critical machine components, we work with equipment manufacturers to make sure that our products help to lower your operating costs and increase machine availability.

We have longstanding relationships with many of the leading equipment manufacturers, and work with them to design lubricants that meet the requirements of their equipment and the tough mining environments.

We have over 3,000 equipment manufacturer approvals across our product range, and are either approved by or meet the specifications of many equipment manufacturers, including

- Bucyrus International
- Caterpillar
- Cummins
- Falk
- GE
- Hägglunds
- Hitachi Construction Machinery
- Joy Mining Machinery
- Komatsu
- Liebherr
- Metso Minerals
- MTU
- P&H Mining Equipment
- Sandvik Mining and Construction
- Terex.

[shell.com/mining](https://www.shell.com/mining)

"Shell Lubricants" refers to the various Shell companies engaged in the lubricants business.

<sup>1</sup>Savings reported by individual customers. Actual savings may vary, depending on the application, the current oil used, the maintenance procedures and the condition of the equipment.

<sup>2</sup>Actual energy savings may vary, depending on the application, the current oil used, the maintenance procedures, the condition of the equipment, the operating conditions and the intensity of hydraulic power usage.

## EFFICIENCY FOR YOUR OPERATIONS

Over many years of working with the world's leading mining houses, our lubricants experts have developed a deep understanding of your industry challenges. We can use our knowledge and experience to create a lubricants plan for your needs and tailor our technology-leading products and services to provide value that can improve your bottom line.

Challenge us to demonstrate how we can add value to your mining operations by **contacting your local Shell Lubricants customer service centre.**