



Mining DVR summary booklet



HOW CUSTOMERS HAVE MADE MILLIONS OF DOLLARS OF SAVINGS ACROSS THE MINING SECTOR

SHELL
LUBRICANT
SOLUTIONS







**Shell Lubricant Solutions is the
number 1 lubricants supplier globally¹**

Shell Lubricant Solutions has long-standing relationships
with leading mining equipment manufacturers.

Shell's portfolio has delivered
**NZD\$267 million in benefits to industrial
customers.²**

Our technical experts work closely with you to make your
excavating equipment, miners, drills and crushers work efficiently.

The products and services that we are offering are designed to help you
complete your projects on time and within budget.

Equipment breakdowns can severely compromise your project schedules and
prevent your company from earning revenue.

Although expenditure on lubricants may be small compared with other costs,
its impact can be significantly large.

Immediate savings through improved equipment reliability
Lower maintenance and fuel costs
Increased equipment life
Greater revenues

¹Kline & Co. Global Lubricants: Market Analysis and Assessment (2019)

²Based on reported customer savings from 2009 to 2018

Effective lubrication can help mining companies to lower their total cost of ownership (TCO).³

COMPANIES RECOGNISE, BUT UNDERESTIMATE, THE COST-SAVING POTENTIAL OF EFFECTIVE EQUIPMENT LUBRICATION.

60%

of mining companies believe they can **reduce costs by >5%** through lubricant selection and/or management



But only

1 in 4

think savings could **exceed 10%**



In reality, lubricants can affect up to

30%

of the total maintenance budget⁴



OPPORTUNITIES FOR LUBRICATION TO INCREASE PRODUCTIVITY AND LOWER COSTS ARE BEING MISSED IN THE INDUSTRY TODAY.

Only

53%

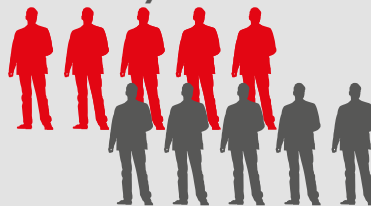
believe that choosing higher quality lubricants will **reduce maintenance costs**



Only

half

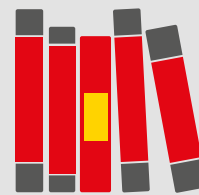
are clear about how lubrication can influence **unplanned downtime or equipment availability**



Only

4 in 10

businesses think they conduct **staff training** on lubricants as regularly as they should



Only

4 in 10

have all the **correct procedures** in place to manage lubricants effectively⁵



EFFECTIVE LUBRICANT SELECTION AND MANAGEMENT CAN HELP ENABLE COMPANIES TO ACHIEVE **TCO SAVINGS** THROUGH **LOWER MAINTENANCE COSTS, REDUCED EQUIPMENT DOWNTIME AND PRODUCTIVITY IMPROVEMENTS.**



How Shell is delivering value to mining customers globally

THE IMPACT OF LUBRICATION IS UNDERRATED.

60% of companies believe they can reduce costs by >5% through lubricant selection and/or management. Only one in four think savings could exceed 10%.

MISCONCEPTIONS ABOUT LUBRICANTS ARE COMMON.

47% of mining companies do not believe that a higher quality lubricant or grease can help to reduce maintenance costs.

56% of mining companies acknowledge that unplanned equipment shutdowns in the last three years have been due to their incorrect selection or management of lubricants.

SHELL LUBEANALYST DATA SHOW THAT

27% of engines,

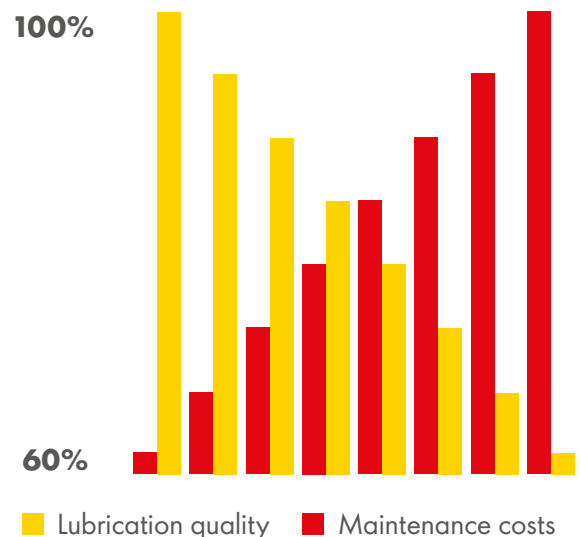
36% of gearboxes and

30% of hydraulic systems harbour imminent or incipient failures.

A SYSTEMATIC APPROACH TO DELIVERING VALUE

Working with customers, Shell Lubricant Solutions has developed and is now routinely using a mine lubrication opportunity survey to identify where value can be unlocked through lubrication. Shell Lubricant Solutions and the customer then collaborate to quantify, prioritise and gradually implement the identified improvement opportunities.

The graph on the right shows the savings made from implementing single lubrication projects. The total savings value can be significantly greater when a more systematic approach is taken to activate multiple improvements.



Overall, mining customers have made
NZD\$98.23 million in lubricant-related savings
across the world.

1 LOWER LUBRICANT COSTS



NZD\$11.6 million

in annual savings are related to longer lubricant life resulting in reduced consumption.

11.9%
OF SAVINGS

2 GREATER EQUIPMENT AVAILABILITY



NZD\$37.5 million

in annual savings are related to reducing equipment downtime.

38.2%
OF SAVINGS

3 LOWER MAINTENANCE COSTS



NZD\$49 million

in annual savings are related to longer lubricant life resulting in reduced consumption.

49.9%
OF SAVINGS



Why partner with TDX's in-house technical team?

- Unplanned breakdowns are expensive.
- Your business is unique.
- New problems are difficult to solve.
- Identifying issues before they affect operations requires expertise.
- Reducing the TCO can improve your bottom line.
- It will support your short- and long-term lubrication goals.



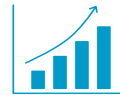


WHY PARTNER WITH SHELL LUBRICANTS?

UNRIVALED TECHNICAL EXPERTISE THAT



Knows **mining**



Helps boost profitability and **reduce total cost** of ownership¹

LUBRICANTS AND GREASES OPTIMISED FOR THE LATEST EQUIPMENT TECHNOLOGY



Number 1

Global Lubricants Supplier
16 Years in a row²

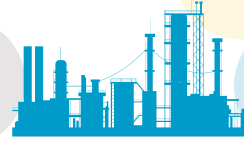


4,500+

OEM approvals from leading manufacturers

World class lubricant supply chain:

7 base oil plants



15 grease plants

44 blending plants

A GLOBAL NETWORK OF EXPERTS TO HELP KEEP CRITICAL MINING EQUIPMENT RUNNING



One of the world's largest teams of lubricant experts – more than **700** technical staff amongst Shell Lubricants and our distributors



Global technology centre network with **200+** R&D scientists



Shell Lubricants has helped mining companies **save over \$98 million**³

LUBRICANTS AND GREASES OPTIMISED FOR THE LATEST EQUIPMENT TECHNOLOGY

ADVANCED PRODUCTS TO HELP DELIVER LONGER EQUIPMENT LIFE



SHELL SPIRAX

Outstanding frictional performance for smooth and trouble free brake and transmission operation



SHELL GADUS

Excellent load carrying capacity and extreme high performance under severe conditions



SHELL RIMULA

Exceeds oxidation control requirements for longer oil life



SHELL NATURELLE

Made using renewable, sustainable, and ethically-sourced bio raw materials, without compromising performance

SHAPING THE ENERGY OF THE FUTURE



MAKE THE FUTURE CAMPAIGN

- Collaborating with inventors, communities, citizens, influencers and artists in the development of more and cleaner energy
- Real life projects in action

SHELL NEW ENERGIES

- Innovating to meet rising energy demand
- Investing in renewable and low-carbon power
- Advancing hydrogen, biofuels, and wind power

¹Total Cost of Ownership (TCO) is defined by Shell Lubricants as the total amount spent on industrial equipment, including cost of acquisition and operation over its entire working life, including costs of lost production during equipment downtime. ²Source: Kline & Company 2016 ³Documented customer savings from 2011 to October 2015. More information available upon request.

SHELL LUBRICANTS
TOGETHER ANYTHING IS POSSIBLE



TDX

World-class experience.
Local know-how.



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