VBOX TEST SUITE

TKPH Software (RLSWMINE01)

A key concern for mine operators is tyre life, with tyre selection being essential in preventing premature tyre wear, or TKPH being exceeded, which can result in heat separations occurring.

The **VBOX TEST SUITE** TKPH plugin has been developed to simplify data analysis, helping users to examine cycles and select the most appropriate tyres for site operations.

VBOX MINING
TKPH software

The software can be used to:

- Measure site TKPH against rated tyre TKPH
- Compare performance between circuits
- Conduct TMPH calculations

The TKPH plugin can determine vehicle load status, enabling users to compare between loaded and unloaded operations.

Features:

<u>Tyre Library</u>

Users are able to enter tyre specification data or select from the preloaded library of specifications sourced from tyre OEM data books.

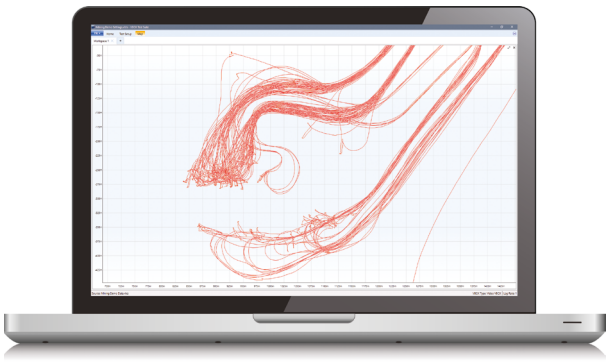
VBOX has been used on mine sites for more than a decade to enable earthmover tyre specialists to analyse and report on vehicle operations.

With the development of our dedicated TKPH software, **VBOX** users can now benefit from the ability to quickly generate TKPH results and compare tyre performance between circuits.

VBOX TEST SUITE

Load & Dump Map Regions

GPS geo-fencing set by the user establishes load/dump points, which enables the software to determine vehicle load status and haul cycles.



Vehicle Specification Library

Vehicle weight information can be saved for specific vehicles on-site, with general OEM specifications available via the Vehicle Specification Library at www.vboxmining.com.

Reporting

Reports can be generated for each dataset, providing:

- Graph comparisons of site TKPH with rated tyre TKPH, including tyre OEM corrections.
- Accurate data to compare vehicle performance between different circuits on-site.
- A summary of user inputs and test configuration settings.

Case Study - Liebherr T282C

This document refers to data acquired from a Liebherr T282C haul truck operating at an Australian mine site. The customer was keen to extend tyre life by fitting a more wear-resistant compound. This involved comparing site TKPH with the rated TKPH of the Michelin B compound, which has a lower TKPH than the C4 compound that was fitted to the fleet.

The B compound was expected to be more wear-resistant than the C4 compound, but a **VBOX** TKPH study was required to ensure that site operations did not exceed the rated tyre TKPH of the B compound.

By analysing the TKPH data collected by the **VBOX** it allowed the mine owner to conclude that the wear-resistant B compound was acceptable for site operations. This resulted in the mine site switching to the B compound which proved to have a wear rate of approximately 30% less than the C4, increasing worn out tyre life by 45%.

Each Liebherr T282C tyre can cost up to $50,000, and so by prolonging the worn out tyre life the mine site was able to reduce its long-term tyre forecast by millions of dollars.

Note: A TKPH study cannot prevent instantaneous damage caused by poor road conditions or driver performance – but **VBOX** can be used to improve condition monitoring of the equipment and environment.