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07 3186 0203
sales@greaseboss.io
www.greaseboss.io

6/1 metier linkway
birtinya, qld
australia 4575

# HAUL TRUCK – CAT 796AC KINGPINS

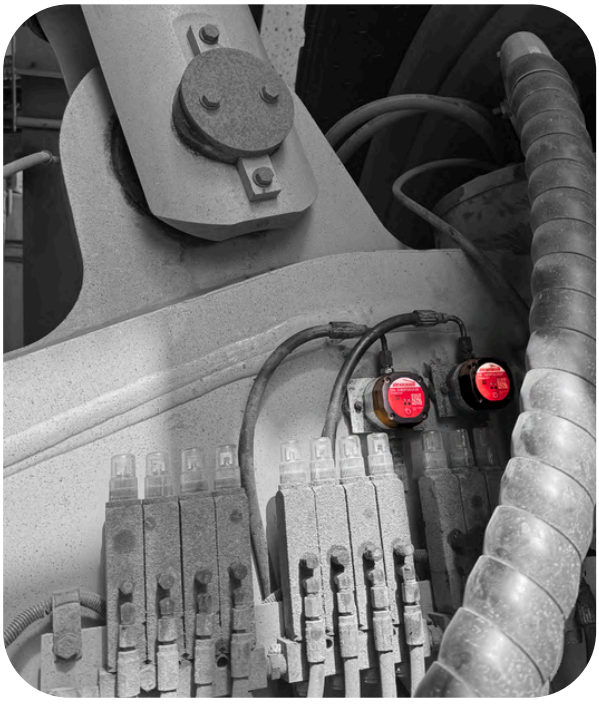
The mine had experienced **repeated kingpin failures on their CAT 796AC fleet**, with suspected lubrication issues but **no clear root cause.**

GreaseBoss implemented the Critical Point Monitoring solution with Endpoint Low Flow units to enable precise grease flow tracking. During the pilot, **the system immediately identified severe under-greasing across all monitored injectors**, allowing targeted maintenance that restored proper lubrication and significantly improved truck performance.

## CONTEXT

A large Australian coal mine had experienced **repeated kingpin failures on their fleet of CAT 796AC trucks**, with no clear understanding of the root cause. The **failure frequency across the fleet was approximately one a fortnight with each failure incurring costs of approximately $250,000.**

The maintenance team suspected it was related to grease, but couldn't pinpoint the exact issue. This uncertainty **led to significant operational challenges and continued asset downtime**, highlighting the need for precise monitoring and diagnostics to identify the root cause, prevent further failures and ensure optimal performance.



*Endpoint LF monitoring kingpins – mounted on magnetic brackets*

## SOLUTIONS PROVIDED

To address this, our client implemented GreaseBoss' Critical Point Monitoring solution by installing **two Endpoint Low Flow units on each kingpin.** The Endpoints were installed in minutes, mounted on brackets using high-strength magnets.

A gateway was installed in the electrical cabinet of the truck, using SIM card data connectivity. This setup has been very successful in providing accurate monitoring and ensuring proper lubrication.

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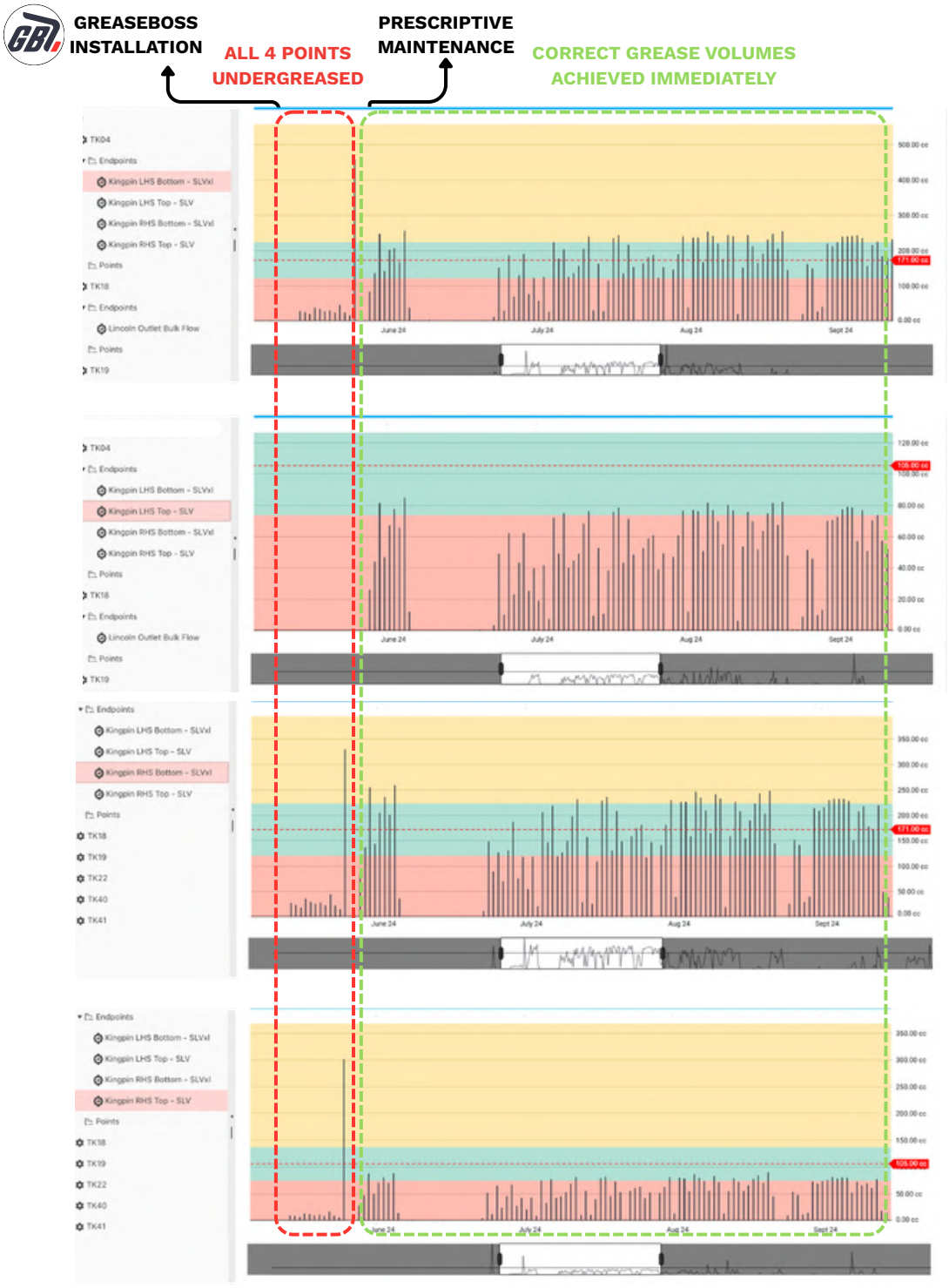
# FINDINGS

## IMMEDIATE IDENTIFICATION OF INJECTOR ISSUES

The data from the **Endpoints immediately revealed that all four injectors were severely under-greasing these critical components.** The graphs below clearly show severe under-greasing at all monitored points, with the red dashed line indicating the target daily volume. The system immediately alerted that the truck was not receiving the proper amount of grease, which prompted targeted, prescriptive maintenance. **The finding was that the all four injectors were incorrectly tuned.**



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# MEASURABLE OUTCOMES

## REVEAL ROOT CAUSE OF GREASING ISSUE

The data from GreaseBoss highlighted that the **kingpins were not receiving sufficient grease**, and there were several inconsistencies in injector performance. A following injector audit **revealed that many injectors were mistuned.**

The data from GreaseBoss enabled the mine to understand the root cause of greasing issues and **prevent fortnightly kingpin failures**.

## DETECTED AUTOLUBRICATOR SYSTEM FAILURE

The system also alerted on two trucks that experienced a **sudden and complete loss of lubrication across the entire lubrication system.**

This investigation revealed a fleet wide automatic lubricator configuration issue. This finding **triggered a full fleet refit** to eliminate this issue.

## ESTIMATED COST SAVING OF $6,000,000 A YEAR