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Boosting Efficiency & Reliability in Freight Operations with Mobil DTE 10 Excel™ 46

Category/Industry: Transportation
Value delivered: $114,649 over 3 years

Situation

A leading freight and logistics company in Australia was experiencing inefficiencies due to the use of standard hydraulic oils in its operations.

In colder temperatures, the Isoloaders required extra time for the hydraulic systems to warm up, causing operational delays. Additionally, frequent hydraulic pump failures were impacting reliability and increasing the pump and transmission replacement maintenance costs.

Ampol's Technical Recommendation

Ampol's Technical and Product Solutions (TaPS) Manager recommended switching to Mobil DTE 10 Excel™ 46 at key operational sites, with a potential move to Mobil DTE 10 Excel series hydraulic oil at the remaining locations.

Key objectives included:

- Ensuring Isoloaders operated efficiently without hydraulic delays in cold temperatures.
- Using a single viscosity grade hydraulic oil across different climates to simplify operations.

To address the pump failures, Ampol's Technical and Solutions expert conducted membrane patch colorimetry (MPC) testing, revealing high varnish levels in the hydraulic system.

The recommendation was to introduce Fluitec's Decon Fluitec's Solvancer Technology, a solubility enhancer, to dissolve the bulk of the varnish to help prevent further pump failures before moving to Mobil DTE 10 Excel™ 46.

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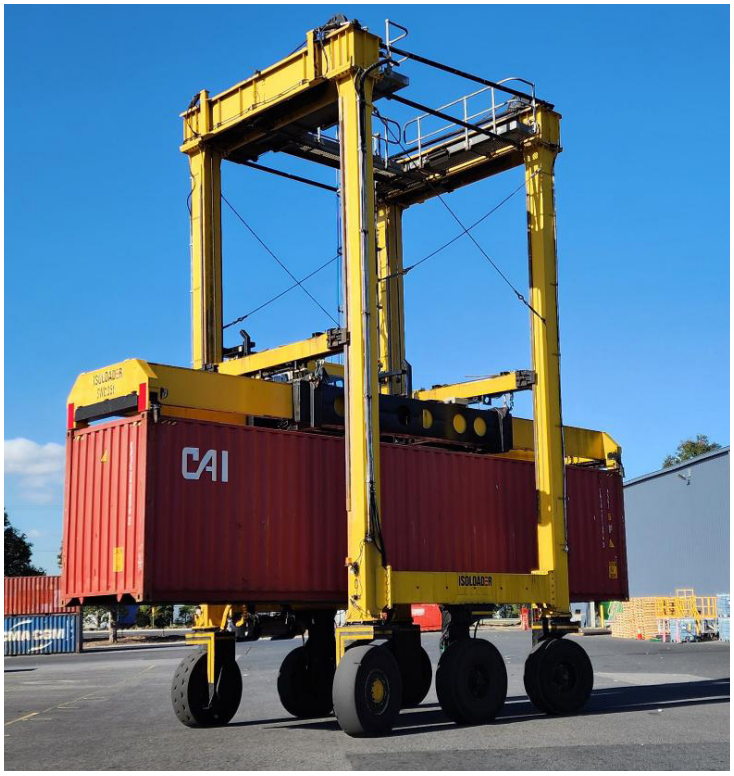
Actions

Oil Transition:
Mobil DTE 10 Excel™ 46, with its advanced formulation, was introduced to the Isoloaders, not only reducing the impact of cold starts and maintaining performance in hotter conditions but also helping to gradually dissolve and remove the remaining varnish build-up in the hydraulic system.

Varnish Removal:
Fluitec's Decon, Fluitec's Solvancer Technology was used to dissolve and remove varnish build-up in the hydraulic system.

Performance Monitoring:
Operators recorded start-up times in cold conditions, demonstrating improved efficiency compared to previous oils

Proactive Maintenance:
The new hydraulic oil was changed every six months or 4,000 hours to continue removing varnish from the system.



Conclusion

The switch to Mobil DTE 10 Excel™ 46 delivered significant operational and cost benefits as estimated below:

Improved Cold-Start Efficiency:
Reduced start-up delays by an average of 20 minutes per day in temperatures 5°C and below (based on customer data averages), leading to an estimated 2,580 minutes of improved efficiency per Isoloader over three years.

Increased Reliability:
The advanced formulation of Mobil DTE 10 Excel™ 46 led to a significant reduction in wear rates, resulting in the elimination of all Isoloader pump failures over three years, compared to the previously budgeted three failures per year.

Estimated Cost Savings Calculation:

- Avoided pump and transmission replacements plus labour costs: Estimated $117,000 in savings over 3 years. *(based on estimated replacement equipment and labour costs and 9 budgeted failures as provided by the customer)*
- Increased Hydraulic oil costs: $5,520 over three years.
- Cost of varnish removal (Fluitec Decon): $2,550.

Estimated total financial benefit (including discounted hydraulic oil costs) : $114,649 over three years.

Operator Satisfaction:
Eliminated hydraulic lag in the cold as well as hotter climates, improving productivity and reducing frustration.

Environmental & OHS Benefits:
Reduced waste from biannual oil changes.

By implementing Ampol's recommendations, the freight and logistics company achieved greater operational efficiency, cost savings as estimated above, and improved equipment reliability, reinforcing the value of using Mobil DTE 10 Excel™ 46 in hydraulic applications.

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