CASE STUDY Enhancing Diesel Engine Performance with Milex SR 6008 Additive | On Field Heavy Duty (Mining-company) Test in Indonesia

Introduction

In the quest to optimize diesel fuel efficiency and reduce operational costs, the **Milex SR 6008** Diesel Performance Additive stands out as a promising solution. This case study provides a detailed technical evaluation and analysis of field trial results for the **Milex SR 6008** additive, conducted at a mining operation in East Kalimantan, Indonesia. The study focuses on the additive's impact on fuel economy for heavy-duty equipment, specifically Caterpillar machinery.

Fleet Trial Overview

The trial was meticulously planned and executed over approximately 330 hours, aligning with the fuel filter change intervals, spanning roughly two weeks. The trial utilized B20 diesel fuel, enhanced with **Milex SR 6008** at a concentration of 1000 ppm (vol/vol) or 1100 mg/kg. The location chosen for this trial was a mine site in East Kalimantan, Indonesia, providing a robust environment to test the additive under real-world conditions.

Equipment and Methodology

The fleet test involved a range of heavy-duty machinery, including:

- **Dump Trucks:** Caterpillar 775F and 773D models, each equipped with 12-cylinder engines and a displacement of 1648 cubic inches. The fuel tank capacity for these models was 795 liters, with two units of the 775F and one unit of the 773D tested.
- **Dozer:** Caterpillar D10, also with a 12-cylinder engine but a larger displacement of 1786 cubic inches, and a fuel tank capacity of 1191 liters.

Results and Analysis

The results from the fleet test demonstrated a significant improvement in fuel economy across all tested units. Below is a detailed table of the results:

Unit Type	Make	Model	Unit ID	Base Fuel Burn Rate (l/hr)	Additized Fuel Burn Rate (l/hr)	% Improvement
Dump Truck	Caterpillar	775F	CO3184	58.75	52.16	11.2%
Dump Truck	Caterpillar	775F	CO3185	55.46	54.19	2.3%
Dump Truck	Caterpillar	775D	CO2160	57.76	48.78	15.5%
Dozer	Caterpillar	D10	CD4134	84	75	10.7%

- **Fleet Average Fuel Economy Improvement:** 10%

These results highlight the additive's efficacy in enhancing fuel efficiency in heavy-duty applications, with the most substantial improvement observed in the Caterpillar 775D model, achieving a 15.5% reduction in fuel consumption.

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Conclusion

The **Milex SR 6008** Diesel Performance Additive has proven to be an effective solution for improving fuel economy in heavy-duty diesel engines. The significant reductions in fuel burn rates across various Caterpillar models underscore the additive's potential to lower operational costs and increase efficiency in mining and other industrial settings. This case study serves as a testament to the additive's capabilities, providing a compelling narrative for its adoption in similar applications.

Key Takeaways

- The **Milex SR 6008** additive significantly enhances fuel economy, with an average improvement of 10% across the fleet.
- The most notable improvement was observed in the Caterpillar 775D, with a 15.5% reduction in fuel consumption.
- The trial's success in East Kalimantan suggests promising applicability in other heavy-duty industrial environments.

This case study illustrates the positive impact of the **Milex SR 6008** Diesel Performance Additive, offering a detailed account suitable for technical audiences interested in fuel efficiency solutions.

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