

Waste Reduction with Castrol Mining Greases

MINING (USA)

DRAGLINES

Castrol Molub-Alloy® Mining Greases

ANNUAL SAVINGS: \$4,500



THE SITUATION

A major phosphate mining company in southern Florida was using a multiservice grease supplied by Company “W”, at a high consumption rate for dragline bearing and open gear lubrication.

Four (4) drums of waste per dragline were disposed monthly at \$125 per drum. High waste disposal volume also required a large amount of cleaning labor.

The grease contained a significant amount of Antimony which worried the customer for environmental and health reasons.

BEFORE

- Grease from Company “W”
- Average monthly grease disposal volume per dragline – 4 drums
- Annual grease disposal volume per 3 draglines – 144 drums
- Annual grease disposal cost per 3 draglines - \$18,000

AFTER

- Castrol Molub-Alloy mining greases
- Average monthly grease disposal per dragline – 3 drums (**25% reduction**)
- Annual grease disposal volume per 3 draglines – 108 drums
- Annual grease disposal cost per 3 draglines - \$13,500

THE SOLUTION

The following Castrol mining greases were recommended:

- **Molub-Alloy 777-2 ES** – for bearings
- **Molub-Alloy 968 SF Heavy** – for draglines with single lube system for bearings and open gears

(Note: Castrol greases do not contain Antimony)

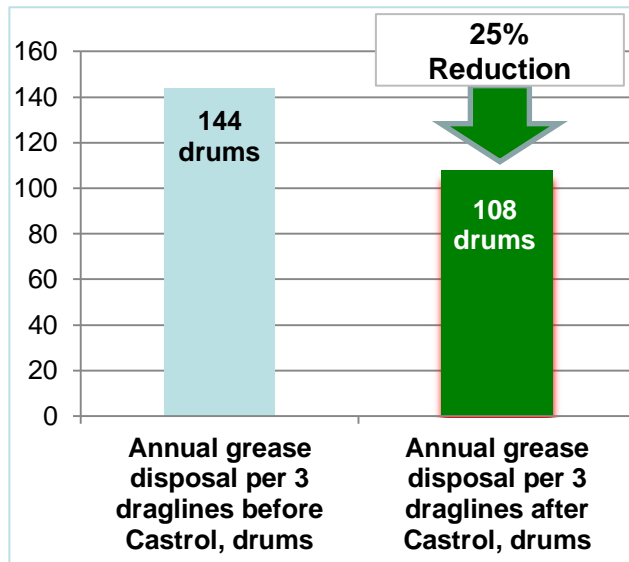
Competitive analysis performed by the Castrol lab indicated the following:

- Up to 50% higher Four Ball wear, Timken and SRV test results (wear protection properties) of Castrol greases, equating to longer life of mechanical components.
- 29% to 43% higher Timken Retention test results for Castrol greases, which means that they stay in the bearings and on the open gears longer, providing significantly reduced consumption and waste disposal cost.

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SAVINGS

- Waste Reduction Savings per year - \$4,500
- Waste Reduction Savings since conversion to Castrol mining greases (6 years) - \$27,000



CONCLUSION

Castrol Molub-Alloy mining greases' outstanding wear protection and mechanical stability properties have provided the customer with the following benefits:

- 30% grease usage reduction with \$20,639 annual savings per dragline.
- Longer life of the bearings as indicated by reduction of fretting wear and dramatic reduction of wear materials in the grease samples.
- Molub-Alloy 968 SF Heavy has improved open gear condition as indicated by 27% reduction of horizontal and 36% reduction of vertical vibration amplitudes.
- No antimony present which may be considered hazardous material.
- Improved housekeeping.



The combined effect of using Castrol mining greases at all draglines operated by Mining Company "M" is usage and waste disposal reduction, longer life of the bearings and open gears, plus improved housekeeping and safe environment.

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IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.

