



Value Recognition Report

Stobie Underground Mining Operation

Account History: The Fuller-Traylor Double-Toggle Jaw Crusher is a critical piece of equipment that processes hard rock for further nickel refining. Rock as large as 12 feet in diameter is quickly diminished in size to 7 inch (or smaller) pieces. Crushers in the Stobie operation experience several costly problems resulting in thousands of dollars in downtime.

The LubeMaster Objective: To develop a reliability partnership that reduces downtime, lowers maintenance and operating expenses and drives a proactive maintenance initiative. The objective included the use of a propriety bearing cleaning compound (Bearing Purge) and a severe duty grease (Premalube Xtreme).

Reduced Lubricant Consumption & Inventory

- Reduced Grease Consumption by Approximately 79% Annually (7440 kg of Unirex EP2 grease annually to 1560 kg of Premalube Xtreme) - \$37,200 to \$15,600.....**\$21,600**

Annual Savings - Parts Repair, and Replacement

- Eliminated Bearing Replacements by 200% by Using BEARING PURGE and Premalube Xtreme Grease:.....**\$175,000**
- Eliminated the need to replace the 4-Ton Toggle which previously was being replaced every 2 months at a cost of \$10,00/ea.....**\$60,000**
- Eliminated 48 magnesium bronze bushing replacements (\$3000/ea) by using DRI-LUBE molybdenum disulfide aerosol:...**\$144,000**
- Central Lubrication System was able to be recalibrated to 30 second events every 16 minutes (rather than 30 second events every 2 minutes)

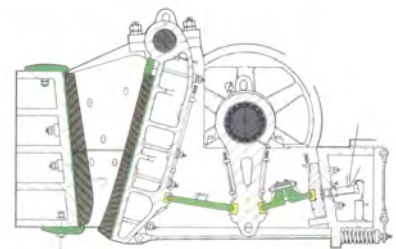
Process Productivity & Reliability Profile

- The glide time on the Pitman has quadrupled with the use of Premalube Xtreme.
- After applying Bearing Purge followed by Premalube Xtreme, the Pitman and pillow block bearings operating temperature reduced over 19°F within the first 3 hours of operation.

Maintenance Entitlement

- Since using Premalube Xtreme, 64 man hours per month have been reduced (\$50/hr)**\$3200**

Fuller-Traylor Heavy-Duty Double-Toggle Jaw Crushers



Savings Summary

Parts Repair & Replacement\$175,000
	\$60,000
	\$144,000
Lubricant Consumption\$21,600
Labor Savings\$3,200
Total Annual Savings	\$400,900



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Cost Reductions Details:

Before this customer switched over to LubeMaster's lubricating grease, Premalube Xtreme, forty eight manganese bronze bushings on the crusher had to be replaced annually at a cost of over \$3000 each, totaling \$144,000. The 4 ton toggle had to be replaced every 2 months at \$10,000 each which accounted for over \$60,000 annually. LubeMaster BEARING PURGE was then used to flush contaminants from the Pitman and pillow block bearings. The new grease, Premalube Xtreme, was then introduced. The cleaned bushings and toggle seats were treated with LubeMaster's DRI LUBE PLUS (a superior dry film lubricant especially formulated with molybdenum disulfide) to provide a long lasting barrier under extreme pressure to help prevent metal to metal contact. The new grease, Premalube Xtreme, is capable of withstanding extreme pressure and high heat as well as being very resistant to water washout even when a power washer was introduced.

Flushing out the Pitman bearing and pillow blocks and switching to a higher performing grease reduced temperature over 19 degrees F within the first 3 hours of operation. Free of contaminants, the glide time on the Pitman has quadrupled with the new grease, Premalube Xtreme. Since October 20, 2005 there has not been any lubricated related downtime incidents. There have been no bushings or toggles replaced. The Maintenance Foreman, happily reports that he now has 64 more man hours per month freed up due to increased reliability. Monthly grease consumption has dropped from 620 kg of Unirex EP2 monthly to 130 kg of Premalube Xtreme. The savings on reduced lubricant usage combined with a reduction in labor and parts replacement could easily equate to over \$400,000 dollars a year.



Value Recognition Report

Gold Mine, CO

Account History: The operation runs 4 shovels – (2) Hitachi 5500, (1) Hitachi 2500 and a new Komatsu. The equipment experienced excessive grease usage and bearing and bushing wear. Production runs 22 hours per day.

Certified Labs' Objective: Develop a reliability partnership to reduce bearing and bushing failures as they relate to grease performance by offering PREMALUBE grease.

Cost Profile: The OEM pins, bushings and slew rings are all lubricated components. The replacement cost of each are as follows. Please note, pins and bushings must be replaced in sets.

- **Pins:** \$5000 to \$11,000 each
- **Bushings:** \$1100 to \$3500 each

The repair and replacement labor rate is \$55/hr. The labor involved in the repair and replacement of the pins and bushings may fluctuate between 8 hours to 24 hours of labor for installation as well as 24 hours for equipment tear-down. The process requires 5 technicians. Downtime costs \$15,000/hr.

One Pin/Bushing/Bearing Set Replacement

Downtime: \$360,000 (24 hours at \$15,000/hr - repair and teardown labor)

Component Cost: \$16,000 (Averaged Cost of a Pin/Bushing set)

Labor Cost: \$7,500 (5 Technicians)

Total Cost for 1 Pin/Bushing/Bearing Set = \$383,500

Certified Labs has been able to significantly reduce the frequency of Pin / Bushing / Bearing replacements. Due to the competitive nature of mining, the exact savings from Certified Labs cannot be published.

The minimum annual savings this mine experienced using PREMALUBE Grease has been \$383,500 annually, assuming merely one set replacement was eliminated. The total number of sets reduced cannot be published.





Value Recognition Report

Underground Operations, Canada

Account History: One of Canada's best-known companies and largest exporters. Employs over 10,000 people around the world. Underground operations rely on vertical shafts to provide machinery and men to the mine site and to remove ore for further processing. The lifts, also known as the cage, carry men, machines, and skips carrying ore to the surface. Wire rope is an essential component. It is exposed to severe conditions including extreme loads, high speeds and contamination such as high alkaline mine water and abrasive material.

The Certified Lab's Objective: To develop a reliability partnership that reduces downtime, lowers maintenance and operating expenses, and drives a proactive maintenance initiative. The objective included the development of a wire rope dressing designed explicitly for the problems which occur in the vertical shafts. The products being used were only designed for seasonal applications, requiring different products for different temperatures. The wire rope was also experiencing severe corrosion from the alkaline water and abrasive wear.

Reduced Lubricant Products Used

A winter and summer grade wire rope dressing was being used prior to SUPREME EXTRA wire rope dressing. The wide application temperature and functionality of SUPREME EXTRA wire rope dressing allowed for **year-round use**.

Performance Improvement

The Wire rope was originally lubricated with a competitive product, then re-lubricated with SUPREME EXTRA wire rope dressing. Within a one year period, corrosion of the wire rope improved from a 2B rating to a **1A rating**. The breaking load **increased 10,000 psi** and the modulus of elasticity was **reduced 31%** resulting in less wire rope stretch. The wire rope rating was upgraded from CAUTIONARY to **NORMAL** after 6 months of using SUPREME EXTRA.

Annual Savings - Lubricant Related Downtime

The downtime related to applying the wire rope dressing was reduced by 24 hours annually (at a rate of \$70/hr) and clean-up time costing \$16,000 annually was reduced by at **least 50%** resulting in reduced clean-up labor costs totaling **\$9000**.

Value Added Contributions

- On-Site Technical Support Visits for Bearing Purging and Monitoring **Typical Charge \$1800/each**
- 2 Lubrication Training Seminars: **Typical Charge \$1375/each**



Savings Summary

Lubricant Reduction from Two Products to One.

Overall Performance Improvements

Reduced Lubricant Related Downtime by \$9000

