

# 3751 ALMAGARD® VARI-PURPOSE LUBRICANT

MAJOR MINE OPERATION , Central Montana

Primary Crusher • SIC 1081 Metal Mining Services

## CUSTOMER PROFILE

This open pit precious metals mine operation is located in Central Montana.



## APPLICATION

They operate a primary crusher. It is an older model jaw crusher that has Babbitt bearings. As you can see by the



Primary crusher bearing housing

pictures this is no ordinary jaw crusher; it is very large. There are 16 points of lubrication on the main bearing housing.



Conveyor



Primary crusher structure

CUSTOMER TESTIMONIAL

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## AREA OF INTEREST

The primary crusher has not been in service for almost two years. The mine determined that their production of ore was very limited and that they would need to bring the primary back on line to hit their production goals. However, the reliability of the crusher was very poor at the point it was last used.

## LE SOLUTION

Two years ago, Lubrication Consultant Jim Pezoldt began researching this application to try to determine the lubrication problems associated with the crusher. He found that the lubrication system was inadequate and grease was being restricted through the lines. To offset that problem, all the lines were heated and an unrestricted amount of lubricant was continuously fed to the bearings. This caused a significant amount of over greasing and a very noticeable housekeeping problem. Additionally, in cold weather the restrictions still occurred.

After spending a lot of time researching the problems with LE Technical Services Manager Steve Mauritz, and asking questions of several of his peers, a solution began to emerge. Multiple recommendations were made. The piping, lines and fittings all needed to be bigger to keep the grease from being restricted. A different type of lubricant and delivery system needed to be used as well. Early in Spring 2007, the mine began replacing all of its 1 inch pipe in favor of 2 inch 10k psi pipe. They eliminated all the 3000 psi hydraulic line for 5000 psi line. They changed all their fittings



to 3/8 from 1/4". The single farval system remained but plans to add another system is on their way. Last but not least LE 3751 ALMAGARD® Vari-Purpose Lubricant was installed via a steel tote. A Liquidynamics air operated grease pump specifically designed for totes was installed (mdl 11396 as shown in picture).



Grease tote setup

## CUSTOMER COST SAVINGS

With all these improvements the primary crusher went back on line on August 29, 2007. Jim was on site for the initial run and all pictures shown were taken at that time. It has been clearly determined thus far that there is a non restricted free flow of grease and that the excess grease seen in the past can be controlled. Additionally, the use of LE 3751 has also made a difference in the grease consumption and housekeeping concerns, which in the past were very costly due to the amount of downtime needed to correct the situation.

Additional benefits such as more control of housekeeping related problems and overall grease consumption will be addressed once the second farval system is installed.

*Lubrication Engineers would like to thank the crew at the mine and LE Lubrication Consultant Jim Pezoldt for the information provided to prepare this report.*



Jim Pezoldt