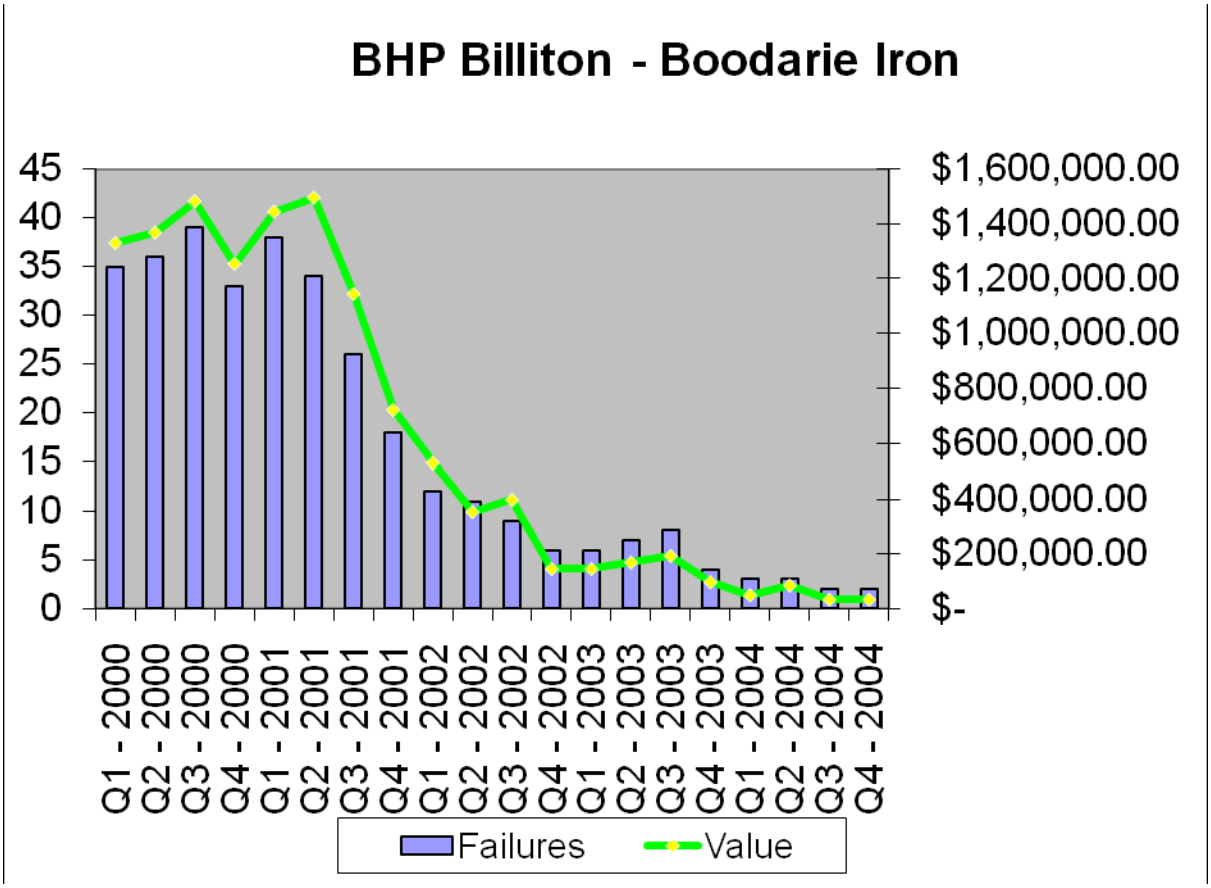
Single Point Chemically-Operated Automatic Lubricators at BHP Billiton's Boodarie Iron Plant



The above graph shows how the use of the Chemically-Operated Automatic single point lubricator on the conveyor bearings and seals of the Boodarie Iron Overland Conveyor system reduced the number of failures form 30-40 per quarter to less than 5.

On the overland system there were 208 bearings varying in model, type, plumber block etc. During the first 2 years of operation all bearings, and numerous plumber blocks, shafts had been replaced, on most bearings twice.

After the installation of the Chemically-Operated Automatic Lubricators failure increased at first, this was primarily due to blocked grease ports and faults that had already been caused. After 2 months in service we noticed that the failures where starting to drop, along with trip outs due to high temp or vibration.

Records were kept of the bearing changes made after the installation of the Chemically-Operated Automatic Lubricators, on only 4 occasions had bearings been changed out twice when using the units. All first failures on bearings while using the Chemically-Operated Automatic Lubricators had shown that the failures could be contributed to either previous damage or poor mounting practices.

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During the original trial period of single point lubricators, 4 different types where used. The 3 units that did not pass our trial where due to the units either deforming in the heat, expelling to much grease to soon, not being able to purge through a 600mm remote line.

During the 2 years the Chemically-Operated Automatic Lubricators units were in operation at the Boodarie Iron HBI plant, based on previous failures and down time, in excess of AU 6 million dollars was saved.

It should be noted that the units where primarily used on seals, the main cause of bearing failure is the dirt entry through the seals. Typically seals are greased on a monthly basis; these have grease purged through the seal, expelling the grease with the dirt in until fresh grease comes out. However, this is to late, the dirt in the grease has already caused the failure.

The continual purging of grease through the seal with a Chemically-Operated Automatic Lubricators does not allow the dirt to enter the bearing in the first plus, therefore eliminating failure due to dirt entry through the seals.

Regards

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Former Lubrication Team Leader

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