

Minutes of meeting held between M/s Bolani Ores Mines and M/s Metshield Corp., Australia

PERFORMANCE REPORT OF "METSHIELD"

Report of committee on trial with the compound "Metshield", supplied by
M/s Metshield Corporation, Australia.

BACKGROUND

"Metshield" compound is a product of M/s Metshield Corporation Pty Ltd, Australia. Metshield is primarily a metal conditioner (lubricant additive) to be used with any grade of lubricants (such as engine oil, gear oil, hydraulic oil) to reduce friction between two matting surfaces of the components in a machine, resultant reduction in wear & tear of the metal components, operational temperature of the circulating oil and amperage consumption of the machine. Thus, enhances the life expectancy of machines.

MetShield Trial at

MetShield trial was conducted at _____ during 1st of May to 5th of May 2015

Please find below the trial details:

Two plant productive Gear boxes were initially identified to conduct the trial and asses MetShield's performance. They are as mentioned below:

1. Gear box LC-2 (Conveyer Lump Washing Plant)
2. Gear box C-4(600TPH Crashing & Screening Plant)

PARAMETERS TO ASSES THE PERFORMANCE

As per the discussion with the supplier and seeing earlier performance reports supplied by them, operational temperature and amperage were finalized as the parameters to assess the performance.

METHODOLOGY ADOPTED DURING TRIAL

1. Temperature and Amperage were measured through Laser gun and Multimeter before addition of MetShield compound.
2. After initial readings, MetShield was added to the lubricant oil in proportion of 1:16 as prescribed by the supplier.
3. After addition of MetShield, same parameters were measured at regular intervals.

OBSERVATION AND FINDINGS

1. LC -4 Gear Box (LWP)

This Gear Box is having oil sump capacity of 75 litres.

Before adding 'Metshield'

Sr. No.	Date	Time	Ambient Temperature	Actual Gear Box Temperature	Amperage
01	01/05/2015	11.15AM	40	56.9	22 AMP
02	01/05/2015	11.30AM	41	57.2	
03	01/05/2015	11.45AM	40	57.6	

After adding 'Metshield'

Sr. No.	Date	Time	Ambient Temperature	Actual Gear Box Temperature	Amperage
01	02/05/2015	2.30PM	41	51.8	21.3 AMP
02	02/05/2015	2.45PM	42	51.3	
03	02/05/2015	3.00PM	42	50.9	

After adding MetShield to the lubricant sump, following could be recorded.

- a) The average operational temperature of the circulating oil in the Gear Box was reduced by 10.31%.
- b) The average amperage consumption was reduced by 3.18%.

2. C-4 Gear Box(C&S)

This Gear Box is having oil sump capacity of 8 litres.

Before adding 'Metshield'

Sr. No.	Date	Time	Ambient Temperature	Actual Gear Box Temperature
01	03/05/2015	01.00PM	41	68.7
02	03/05/2015	05.00PM	40	66.8

After adding 'Metshield'

Sr. No.	Date	Time	Ambient Temperature	Actual Gear Box Temperature
01	05/05/2015	01.00PM	44	66.4
02	04/05/2015	05.00PM	40	60.1

After adding MetShield to the lubricant sump, following could be recorded.

- a) The average operational temperature of the circulating oil in the Gear Box was reduced by 6.64%

Please note that, this equipment was identified for the trial because of its heating problem, maintenance and extra monitoring required. During the trial it was observed that while taking the readings after addition of MetShield compound, ambient temperature had increased by 3.70 % however the operation temperature of the circulating oil was reduced.

3. No abnormal activity and adverse effect was observed during the trial.

4. Noise levels of both the equipment were reduced after addition of MetShield compound.

CONCLUSION & RECOMMENDATION

Based on the above findings and observations, it may be concluded that MetShield compound has proved its potential to reduce friction between two mating surfaces resultant reduction in operational temperature and amperage which in turn contributes towards increasing life of mechanical components and reducing the maintenance requirement for the equipment and cost of operation.

Reduction in operational temperature will contribute to increase in efficiency and life expectancy of the lubricant, hence lubricant consumption can also be reduced.

In order to establish the above findings at mine level, MetShield can be procured and used on continuous basis.

Sourabh Tank

12/05/2015

S.A.TANK
Representative
Metshield Corporation