



LONGER OIL LIFETIME, RELIABLE OPERATION WITH THE HELP OF A LUBRICATION SYSTEM REVIEW

COMPANY:
Rikopet Ltd., Csikvánd

INDUSTRY:
Natural gas production and transmission

APPLICATION:
Heat transfer system

PRODUCT:
MOL Thermol 46

SERVICE:
Lubrication technology consulting, LubCheck oil and machine diagnostics

"The technical consultation session held with the participation of MOL-LUB application technology experts revealed that the root cause of our operating problems is inadequate system set-up. Using the jointly developed solution, our system has operated without breakdown for five years."

*Dr. Dániel Magyar
technical leader*



The heat transfer media used in heat transfer systems are usually mineral oil-based lubricants applicable up to 300-340°C. Due to high temperature and the presence of air, these oils manifest continuous aging, their properties change slowly, or sometimes in a jump-like fashion. After some time, such changes may result in operating issues. In the new natural gas cleaning system operated by Rikopet Ltd., in a short while after the first filling, operating problems were observed. Oil diagnostic tests demonstrated the degradation of the heat transfer fluid. Company and MOL-LUB experts teamed up to find the underlying reasons. Following implementation of the proposed solution measures, the system has since operated without fault for years.

The natural, slowly occurring degradation of heat transfer fluids may take place a lot faster, in one jump, in the case of operating problems. Apart from quality, the lifetime of heat transfer fluids largely depends on the system itself. A poorly designed and unsuitably maintained system rapidly destroys even the best quality oil, considerably reducing its lifetime.

In the new natural gas cleaning system operated by Rikopet Ltd. – specialising in natural gas field operation and energetics consulting – shortly after start-up, operating problems were observed. In fact, laboratory tests proved the degradation of lubricant filling. The experts of the two companies set out to discover the cause of short lifetime and the associated operating problems together.

System review shed light on several design issues. The boiler was placed at great distance from the system. The connecting pipes ran under the road, and thus after oil change the remaining oil in the system caused the fresh oil to circulate with used properties. Oil aging was also accelerated because right after unit start-up – due to the failure of a heat exchanger – low-boiling-point condensate seeped out into the heating system and mixed with the new filling. The third critical event was that the hot oil flowed through the expansion tank in continuous contact with air. Consequently, oxidation processes were highly accelerated, contributing to rapid oil degradation.

Once the above defects were known, the plant moved the boiler to another location, eliminated the below-the-ground pipes, refitted the expansion tank, and filled up the system with clean oil after cleaning it. Over the 5 years that passed since then, the samples sent annually to the LubCheck laboratory of MOL-LUB confirmed the suitable conditions of the oil and the system – thanks to the close cooperation of the operator and the lubricant manufacturer.

1

CHALLENGE

To find the effect causing short oil lifetime.

2

SOLUTION

Heat transfer and lubrication system review with oil and machine diagnostics support, repair of system design failures, system reconstruction.

3

RESULT

5 years of uninterrupted operation due to proposed necessary refitting.

LUBRICATION TECHNOLOGY CONSULTING

Using professional lubrication management lubricants may increase production reliability and profitability and improve product quality; in the opposite case, they can get worse! With years of experience, our expert team at MOL-LUB, is ready to help you with any lubrication-related issue whether it is selecting the right lubricant, solution of a technical problem or other issues related to lubricants in general.

Lubricant selection	Solving special problems	Supporting cost-effective operation
We can help you to set up a lubricant portfolio, optimised for your machinery and fully meeting all technical requirements.	We are at your disposal to resolve one-off and special tasks related to the lubrication of machinery and any other eventual problems.	With the help of our highly specialised machine status monitoring system based on oil diagnostics, our engineers can participate in setting up a status monitoring system for you and will then evaluate relevant oil sample laboratory test results to develop recommendations for required actions based on conclusions drawn during the process.

LUBCHECK OIL AND MACHINE DIAGNOSTICS

LubCheck diagnostics is the world's leading lubricant-analysis process, which helps to identify the degree of lubricant ageing, degradation and any kind of damage to machines well before its consequences might cause significant losses in production and lead to high repair costs.

STATE-OF-THE-ART LABORATORY

MOL-LUB Ltd. has been operating a state-of-the art oil testing laboratory for more than 20 years. The accredited laboratory is a specialist member of WearCheck International and analyses and evaluates several thousand oil samples every year, thus saving its customers significant amounts of money and ensuring more efficient production scheduling.



WITH THE HELP OF LUBCHECK DIAGNOSTICS

- potential breakdowns can be recognised and identified at an early stage
- any hidden depreciation and irregular operation of machines can be identified and tested
- production losses can be reduced or eliminated
- machine repair costs can be reduced
- maintenance will be more precise and easier to plan
- machine oil change intervals can be optimised
- machine reliability can be improved



INDICATORS ARE IMPROVING

- more efficient production scheduling
- optimised lubrication
- significant financial savings
- easy-to-plan maintenance costs

YOUR PARTNER

