

# Paper machine oil (PMO) analysis



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► This service monitors paper machine circulation oil for premature wear, contamination and oil condition

## Description

This service provides necessary equipment- and lubricant-specific testing designed to help you optimize your lubrication program, as well as detect equipment problems before they cause expensive unplanned outages. Applicable equipment includes dryer bearing lubrication systems, press lubrication systems and Controlled Crown roll systems. This helps improve equipment reliability by monitoring system cleanliness and lubricant performance.

## Potential benefits



Improved equipment reliability by identifying potential failures before they occur



Increased productivity through reduction of unscheduled downtime



Reduced parts replacement and labor costs



Minimized lubricant consumption and disposal with optimized drain interval

## Analysis options – Paper machine

	Essential ◆	Enhanced ◆◆
Viscosity	✓	✓
Water Vol % Karl Fischer(KF)	✓	✓
Oxidation	✓★	✓★
Total Acid Number (TAN)	★	★
Particle Count		✓
Particle Qualification (PQ) Index		✓
Metals	✓	✓

### Key



Included test



TAN in lieu of oxidation for synthetic products

# Mobil Serv<sup>SM</sup> Lubricant Analysis – Paper machine oil (PMO) analysis

Test	Purpose	Importance of test
<b>Metals</b>	To determine the presence and levels of metallic content in the oil, including contaminants and wear particles	The level of wear metals helps determine if equipment components are wearing or if harmful contamination is entering the oil (i.e., paper machine cleaning chemicals). The level of metals that are part of additive chemistry are also reported
<b>Oxidation</b>	To determine the level of lubricant oxidation and deterioration	Oxidation can mean: <ul style="list-style-type: none"> <li>▪ Increased wear and corrosion</li> <li>▪ Shorter equipment life</li> <li>▪ Increased viscosity</li> <li>▪ Excessive deposits and plugging</li> </ul>
<b>Particle Count Analysis</b>	To measure the level of particulate contaminants in the oil	<ul style="list-style-type: none"> <li>▪ Cleanliness is a critical factor in the running of circulating oil systems</li> <li>▪ Debris can interfere in the fine tolerances of the system's pumps and valves or cause premature bearing wear</li> </ul>
<b>Particle Qualification (PQ) Index</b>	To determine ferrous metal fatigue failures and metal-to-metal contact not usually detectable with current spectrographic analysis	PQ Index can detect at an early stage: <ul style="list-style-type: none"> <li>▪ Anti-friction bearing wear</li> <li>▪ Plain bearing wear</li> <li>▪ Gear wear</li> </ul>
<b>Total Acid Number (TAN)</b>	To measure acidic oil oxidation by-products	An elevated Total Acid Number may indicate increased oil acidity resulting from increased oil oxidation
<b>Viscosity</b>	To determine the oil's resistance to flow	<ul style="list-style-type: none"> <li>▪ An increase in viscosity may be due to high insoluble content, water contamination, or admixture with higher viscosity lubricant</li> <li>▪ A decrease in viscosity may be due to water contamination or admixture with lower viscosity lubricant</li> <li>▪ Both high or low viscosity may result in premature equipment wear</li> </ul>
<b>Water by Karl Fischer</b>	To detect presence of water contamination	Water contamination may cause severe corrosion and subsequent wear, poor oil film thickness or hydrogen embrittlement

## Mobil Serv<sup>SM</sup> Lubricant Analysis

When your sample is processed, the laboratory handles each bottle as a unique and important item. Each sample is coded, labeled and tracked through the entire process. By the time test results are available, your equipment sample has directly benefitted from our knowledge of Mobil<sup>TM</sup> lubricants, decades of OEM relationships and a strong heritage of hands-on application expertise. Sample comments are provided, as required, to help identify potential problems, list possible causes and recommend actions for follow-up.



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By helping you enhance equipment life and reliability – which minimizes maintenance costs and downtime – our expert services can help you achieve your safety, environmental care and productivity goals.