



Microscopic Analysis Report

Customer Name: ROBERT WILSON
Reservoir Description: ZV30 TYPE WS 5K

Sample Date: 09/30/09
Lab Number: 349375

Discussion of Results

Ferrogram Interpretation: There were a few ferrous cutting wear particles, metallic spherical wear particles, and red oxide particles present on the slide. Also, a few ferrous rolling wear platelet particles, ferrous/nonferrous white metal rubbing wear particles, and abrasive/dust/dirt particles were found on the slide. The presence of cutting wear particles suggests possible misalignment and/or abrasive contamination. The presence of rolling wear platelet particles suggests possible surface fatigue and/or rolling contact due to metal-to-metal sliding and/or abrasive contamination. The presence of red oxide particles suggests possible past or present water contamination. The presence of metallic spherical wear particles suggests possible rolling bearing fatigue and/or welding or grinding processes(contamination). The morphology of the abrasive/dust/dirt particles suggests possible contamination of the sample and/or reservoir from an external source.

Microscopic Analysis



Figure 1: Ferrous Cutting Wear Particles and Abrasive/Dust/Dirt Particles at the Head of the Slide (Magnification 400X).

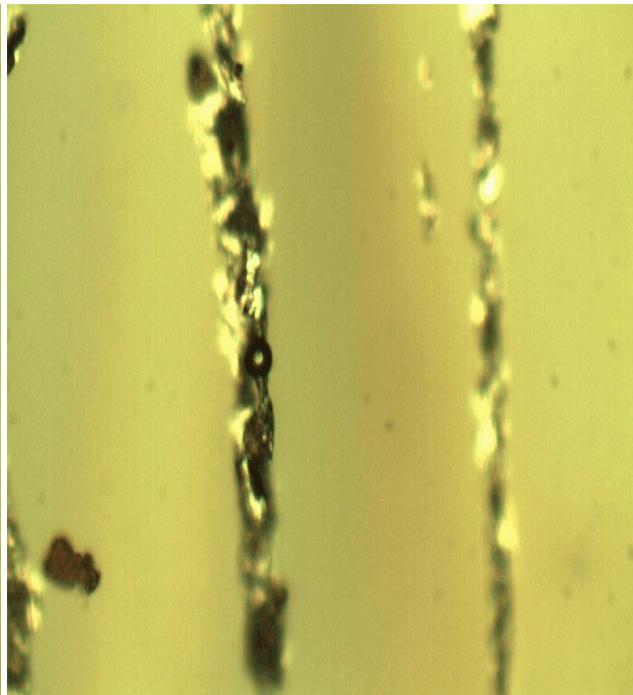


Figure 2: Ferrous Cutting Wear Particle, Metallic Spherical Wear Particles, and Red Oxide Particles at the Head of the Slide (Magnification 400X).

