

# CASE STUDY

## LUBSOIL® SYNTHETIC R&O 2000 OILS

Magnetics material manufacturer – Midwestern United States  
Industrial gear box application

### APPLICATIONS & CHALLENGES

Large manufacturing facility in production 24 hours per day and 7 days a week with approximately 140 industrial gear boxes involved within the production processes.

### CHALLENGES

Plant maintenance staff was experiencing issues with gear box failure as well as sludge and sediment build up within the gear boxes. Due to normal plant processes, low levels of water contamination in some areas were also a common issue. The increasing downtime required to make necessary repairs and/or replace fluid was decreasing plant efficiency and increasing costs. This created concerns with the performance of the existing synthetic oil in use.

### ACTIONS TAKEN

Tulco staff met with maintenance and production managers and gathered information about equipment performance, lubrication procedures, and operational tendencies within the plant. A thorough review of the past three year's oil analysis reports for each gear box was completed and the temperatures of the oil within the gear boxes were recorded. Through this review common issues of elevated oxidation or total acid number (TAN), water contamination, viscosity increase and operating fluid temperatures in excess of 160°F were discovered.

### TULCO OILS LUBSOIL® SOLUTION

After a comprehensive review of the data and analysis of the existing synthetic oil, Tulco Oils' research and development team custom formulated and compounded the Lubsoil® Synthetic R&O Series 2000 Oils.

These oils exhibited superior demulsibility, higher viscosity indexes, greater thermal and oxidation stability, and better resistance to sludge and varnish buildup when compared to the current product in use at the plant. Recommended OEM ISO viscosity grades were confirmed and the Lubsoil® Synthetic R&O 2460 and 2150 were introduced into various applications during routine oil changes. Tulco Oils staff continued the implementation of the annual oil analysis program.

### RESULTS

Ongoing oil analysis of the Lubsoil® Synthetic R&O 2150 and 2460 fluids show lowered TAN numbers and verify the oils are remaining within the viscosity specification range, thereby optimizing gear box function. Fluid operating temperatures were decreased by an average of 40°F. In the areas where water contamination was an issue, the superior demulsibility of the Lubsoil® Synthetic R&O 2150 and 2460 oils enables the separation of water from the oil, allowing the water to drain from the gear boxes more readily. These major improvements in oil quality and equipment performance have allowed this plant to decrease maintenance costs, reduce downtime, extend equipment life, and reduce annual oil consumption by 35%.

