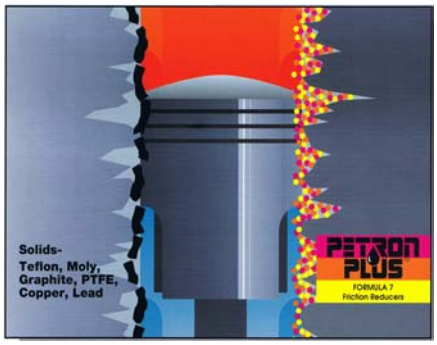
PETRON PLUS™
FORMULA 7




# PRACTICAL SOLUTIONS to LUBRICATION FAILURES

TECHNICAL SERVICE BULLETIN

**In 2000, Premcor Refining (now Valero) began seeking ways to reduce machinery and equipment failures, which resulted in a lubrication reliability department dedicated to the development of programs for identifying poorly functioning equipment and determining the root causes of substandard equipment performance.**

## Establishing a Program

**Due to having more than 30 years experience as a machinist, John Gobert was chosen to head the lubrication department within the rotating equipment reliability section. His knowledge, continuing education and training as a certified lubrication analyst contributed to the success of this department.**

**John established policies and procedures leading to the formulation of a lubrication program that would accomplish the goal of reducing lubrication failures. The challenges were met through lubrication training, an on-site oil analysis laboratory, identification criteria for determining and selecting quality base oils and finished lubricants and partnership with a premium lubricant and fuel supplier. Special attention was given to the potential supplier's capabilities related to product quality, availability, storage, delivery procedures, cleanliness, contamination control, applications and overall quality assurance.**

## Lubricant Survey

**Following supplier evaluations, an alliance was formed with The Hurt Company of Houston, Texas. Gobert and The Hurt Company conducted a plant-wide equipment lubrication survey identifying proper lubricants for individual equipment components. In conjunction with the plant lubrication survey, other topics that were addressed included:**

- **Developing a comprehensive lubrication training program by the two companies for refinery employees.**
- **Establishing a lubricant sampling and testing program supported by an in-house oil analysis laboratory.**
- **Establishing lubricant quality control metrics targeting contamination control and product cleanliness.**
- **Implementing formal reporting and documentation procedures for measuring targeted goals for lubrication excellence.**
- **Changes in lubricants and lubricant formulations to accommodate new or modified equipment components.**

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**Immediate cost savings and benefits were realized upon utilizing the lubrication program on rotating equipment throughout the refinery, including fans, compressors, electric motors, pumps and turbines. Within four years, equipment downtime had dramatically reduced, rotating equipment failures decreased by one-third, pump failures were reduced by more than 50 percent, and Valero reported savings in excess of one million dollars!**

# Continuing Lubrication Excellence

**In an attempt to further their achievements in lubrication excellence, Valero and The Hurt Company continue to work closely together. A formal "Lubrication Standards of Service Agreement" was negotiated and agreed upon by both parties. Management of the key standards includes:**

- **Clearly defined lubricant specifications per individual application**
- **Targeted cleanliness levels (particle counts) for equipment components**
- **Open communication and interaction with Chevron, the lubricant manufacturer**
- **Scheduled lubricant and fuel deliveries with trained, dedicated and quality-conscious Hurt Company drivers**
- **Customized bulk lubricant storage tanks equipped with filters and desiccant breathers**
- **Labeling and tagging every lubrication point within the refinery**
- **Daily technical support from assigned Hurt Company CLS and maintenance personnel**
- **Root cause failure analysis**
- **Routine KPI reports on product volumes and cost trends**
- **On-line lubricant purification on operating equipment by Fluid Reliability Services (FRS), a division of The Hurt Company**
- **High-velocity flushing and lube oil system cleaning and decontamination by FRS**

**John Gobert and his fellow reliability and maintenance professionals were successful in their goal of establishing a best-in-class status for lubrication procedures and practices in the Valero Refinery. The Valero reliability department is continuing to meet its goals for increased reductions in equipment failures, repairs and costs.**

**John Gobert**