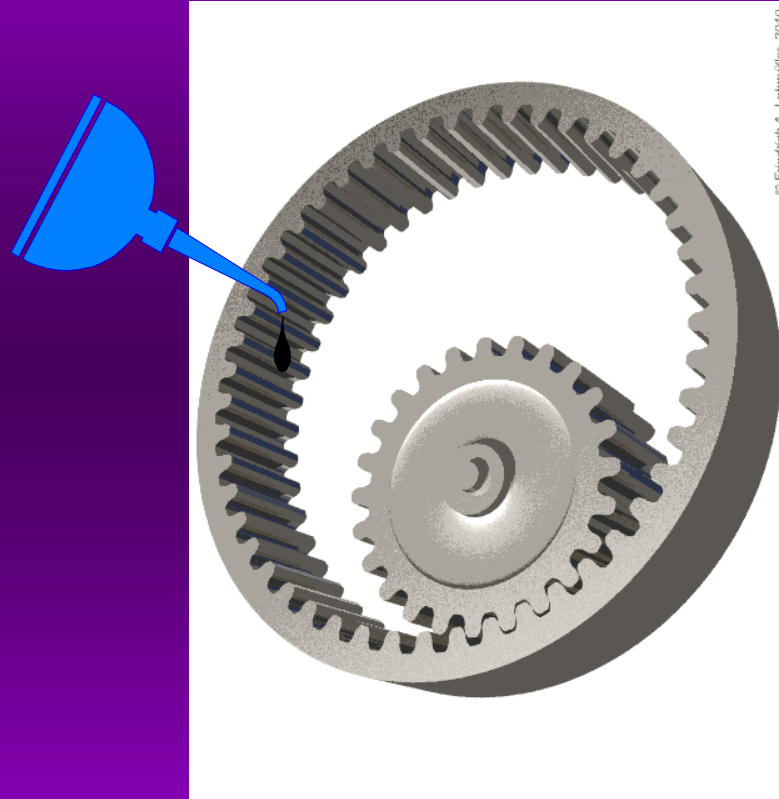


LUBE BEST PRACTICES



Presented by: Darrell Bailey

**IF YOU THINK TRAINING
IS EXPENSIVE, TRY
IGNORANCE!!**

KCP&L Kansas City

THE FIVE RIGHTS OF LUBRICATION

The right lubricant

The right quality

The right amount

The right place

The right time

WATER IN NEW OIL

Most new oil today comes to you in a new drum with 150 PPM of water. In metal drums with metal bungs you can get a lot more than that if not stored properly.

DON'T STORE DRUMS OUTSIDE IF POSSIBLE, AND IF YOU MUST BE SURE TO COVER THEM UP. EXPECT CONTAMINATION FROM THE RUSTY BARREL TOPS AS THEY WILL HAVE WATER IN THEM



**ROLL DRUMS SO THE BUNGS WILL BE AT THE 3 AND 9 O
CLOCK POSITION**





OILERS CAN PROTECT AND CONTAMINATE THE LUBRICATING SYSTEM.

BASIC SEDIMENT AND WATER TRAPS HAVE MANY ADVANTAGES, USED CORRECTLY THEY HAVE A REAL RETURN ON INVESTMENT. WATER IN OIL WILL CAUSE HYDROGEN EMBRITTLEMENT ON YOUR BEARING RACES

OIL CONDITION SIGHT GLASS OR BS&W BOWL IS NEEDED TO SHOW IF THE OIL IS SATURATED W/WATER, THE OIL HAS FREE WATER, AND THE OIL LEVEL IS POSSIBLY TOO HIGH.



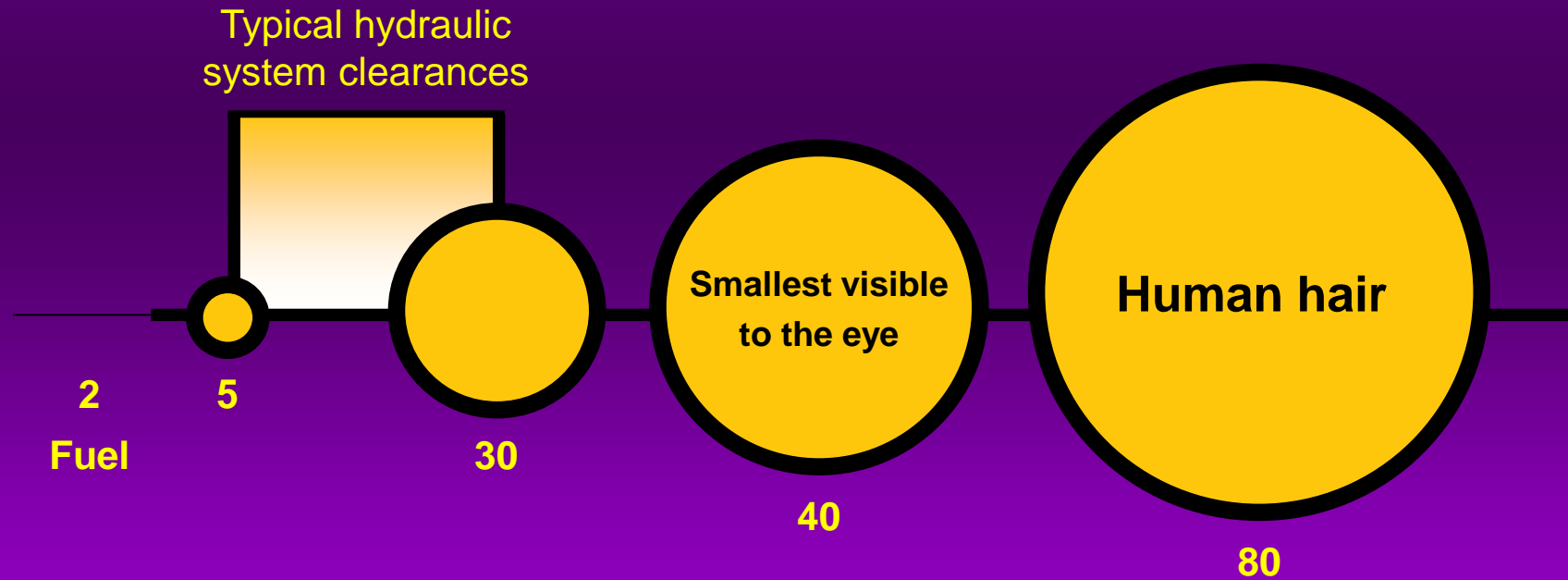


**THIS PHOTO SPEAKS FOR
IT'S SELF**

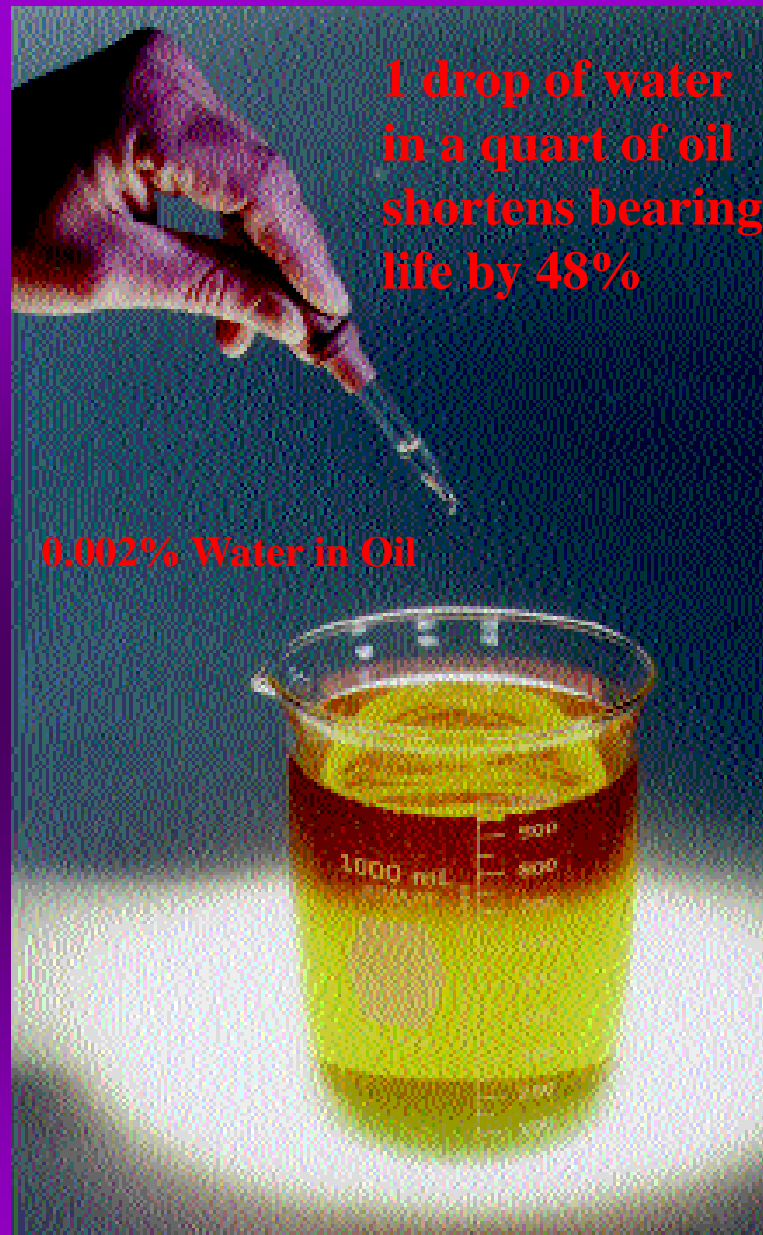


So Does This One

FLUID CLEANLINESS REFERENCE



**TEMPERATURE
AND
CONTAMINATION
EFFECT OIL LIFE
THE MOST. USE
INDUSTRIAL
ASSEMBLY
LUBRICANTS FOR
ALL REBUILDS.**



**1 drop of water
in a quart of oil
shortens bearing
life by 48%**

0.002% Water in Oil

**3% water in
oil reduces
bearing life
by 85%**

CAUTION

Grease motor bearing inspections in plants indicate that most motor bearings are over greased, some refineries surveys confirm 98%.

US Motors

Over-greasing can cause excessive bearing temperatures, premature lubricant breakdown and bearing failure. Care should be exercised against over-greasing.

There are more failures from over lubrication than not enough lubrication 5 to 1 at least.

WHAT CAN HAPPEN WHEN WE OVER LUBRICATE?



Reliability web

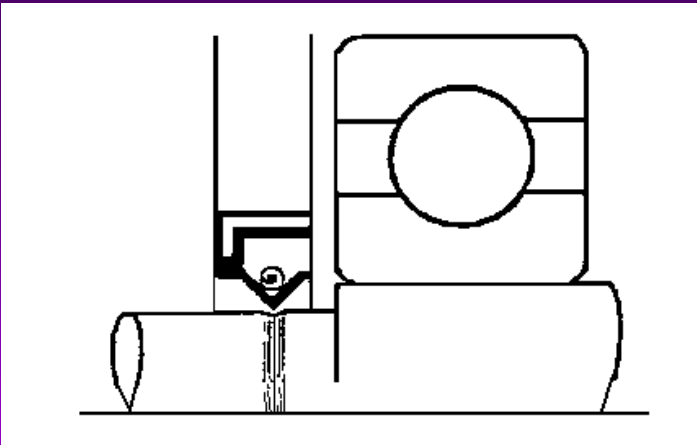
CAUTION

Greases of different bases (lithium, polyuria(silicone), clay, etc.) may not be compatible when mixed. Mixing such greases can result in reduced lubricant life and premature bearing failure. Prevent such intermixing by disassembling motor, removing all old grease and repacking with new grease.

Run the motor for 15 to 30 minutes with the drain plug removed to allow purging of any excess grease (to eliminate the possibility of over-greasing). Shut off unit and replace the drain plug. Put motor back into operation.

TRUTH ABOUT LIP SEALS

**Look at the heat in
this photo where
the lip seal is
wearing the shaft!**



WHAT IS HOT AND WHAT IS NOT HOT?

90-100-110-120-130-140-150-160

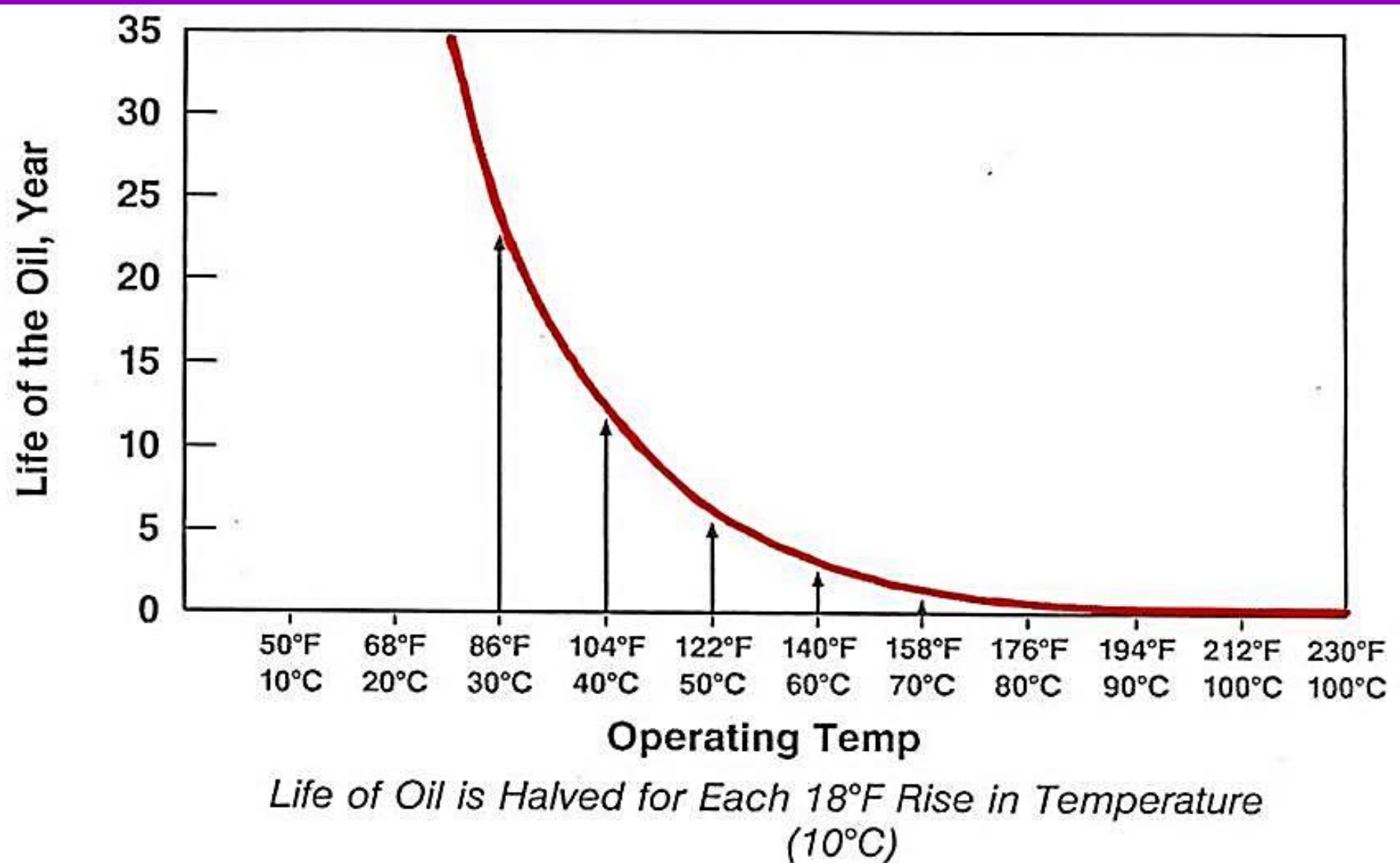
250° and up will push the limits of standard bearings

200 ° will push the limits of most oils

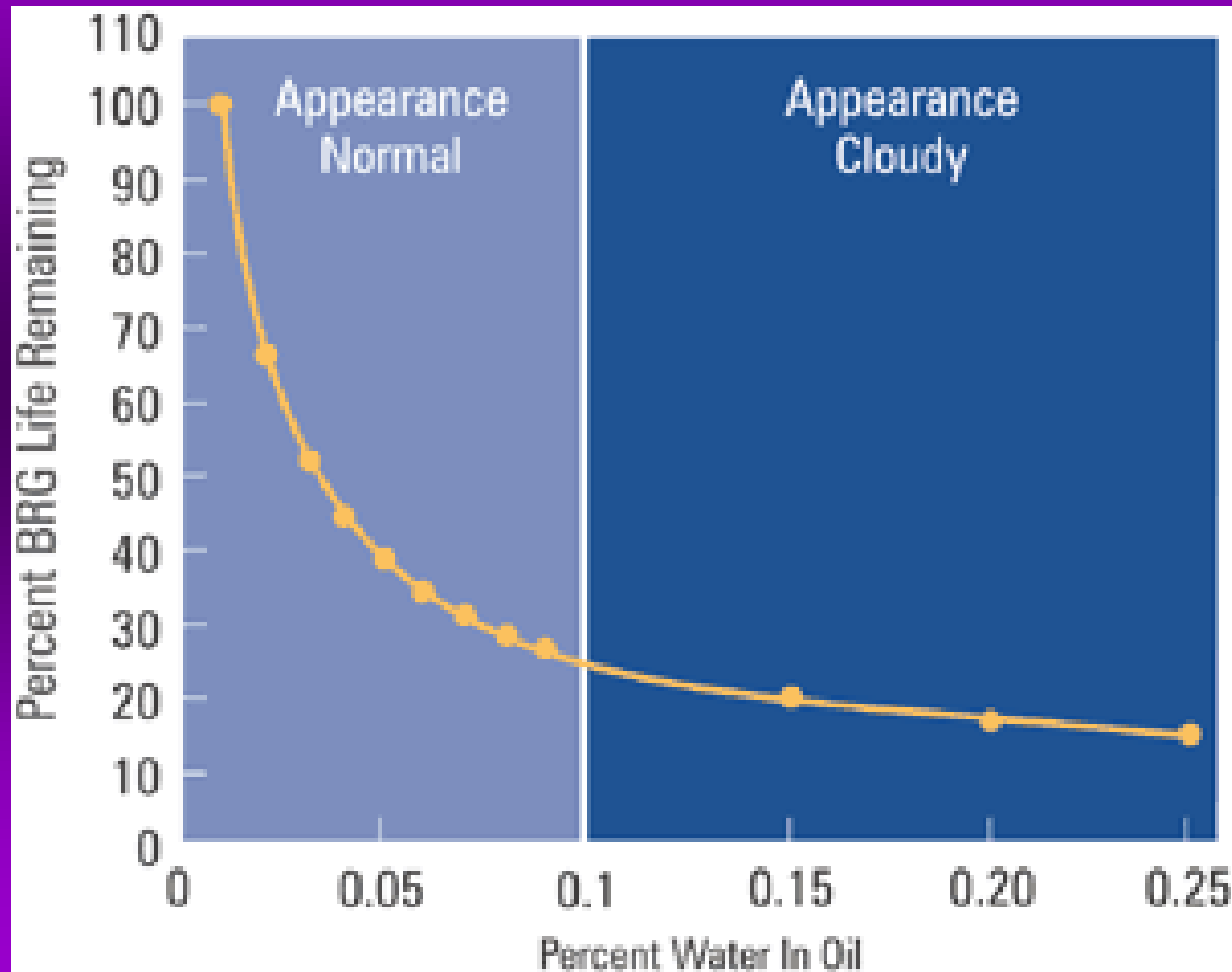
180 ° is a good bearing running temperature

Is the bearing housing the same temperature as the oil and/or bearing?

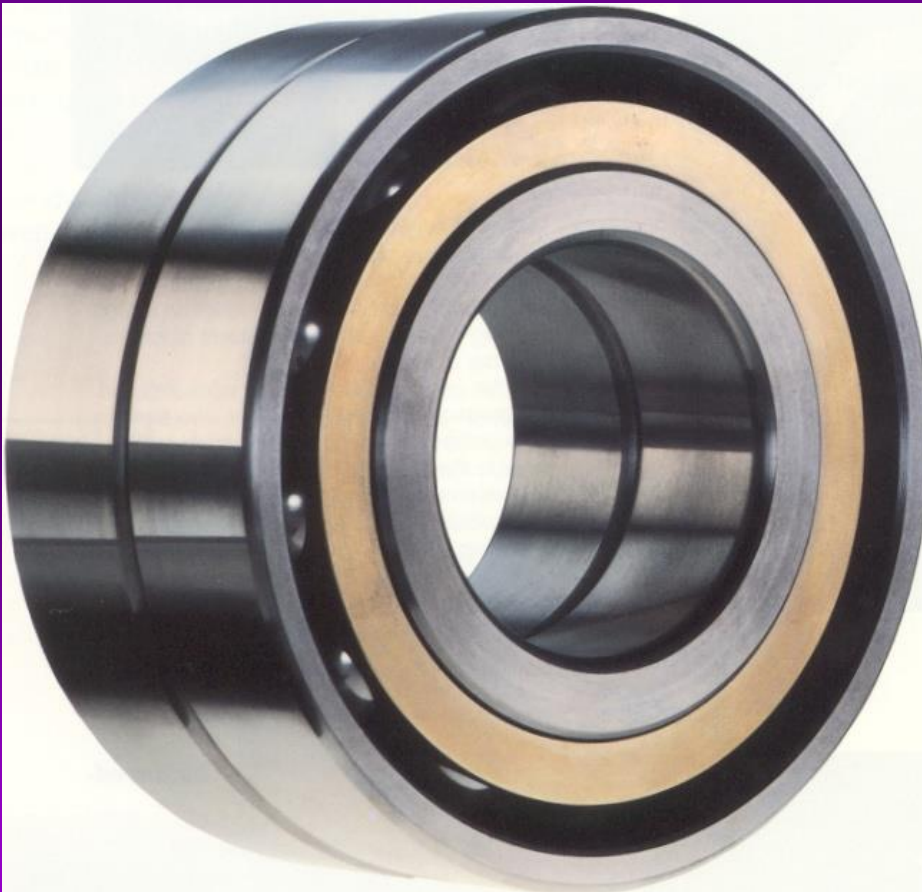
TEMPERATURE AFFECT ON OIL LIFE



OIL APPEARANCE & WATER CONTAMINATION



ADDED VALUE TRAINING



Darrell Bailey

Reliability Manager

Calumet Specialty Products

281 354-8600