M11-EGR Ring Wear

- The M11-EGR test operates at about 20 % lower peak BMEP than the Mack T-10 test. Average soot is similar to the T-10.
- The wear portion of the M-11 test is 33 % shorter than the Mack T-10.
  - Lower ring loading (BMEP) combined with shorter time directionally reduces test severity.
- Cummins have indicated that ring face wear, as predicted by ring gap increase (RGI), is of greater concern than ring flank wear.
- Most of the top ring gap increase measurements from the M11-EGR matrix tests show 0.000 to 0.001 ring gap increase.
  - Correlates to 0.00032 wear on the ring face, or about 23 mg. RWL.
- The M11-EGR matrix data show no correlation between RWL & RGI.
- Infineum suggests the elimination of ring wear as a pass / fail target for the M11-EGR and using the T-10 to measure ring wear for PC-9.

M11-EGR Sludge

- M11-EGR matrix data shows a significant lab effect for sludge, with oil E giving results from 7.4 to 9.1.
  - No explanation for this lab bias has been determined.
- Oil Filter delta P appears to be a more sensitive measure of an oil's soot-handling ability.
- Oil E, the featured oil for the test, is a "good" oil and it should pass most of the time.
  - Oil E average sludge is 8.4, and the sigma = 0.60.
    8.4 minus 2 sigma = 7.2.
- Infineum suggests a target of 7.5 merits, minimum as the pass / fail target for M11-EGR sludge.