



ORONITE

Comparison of Caterpillar 1P and 1K Oronite Experience

November 11th 2004



Confidential

A **ChevronTexaco** Company

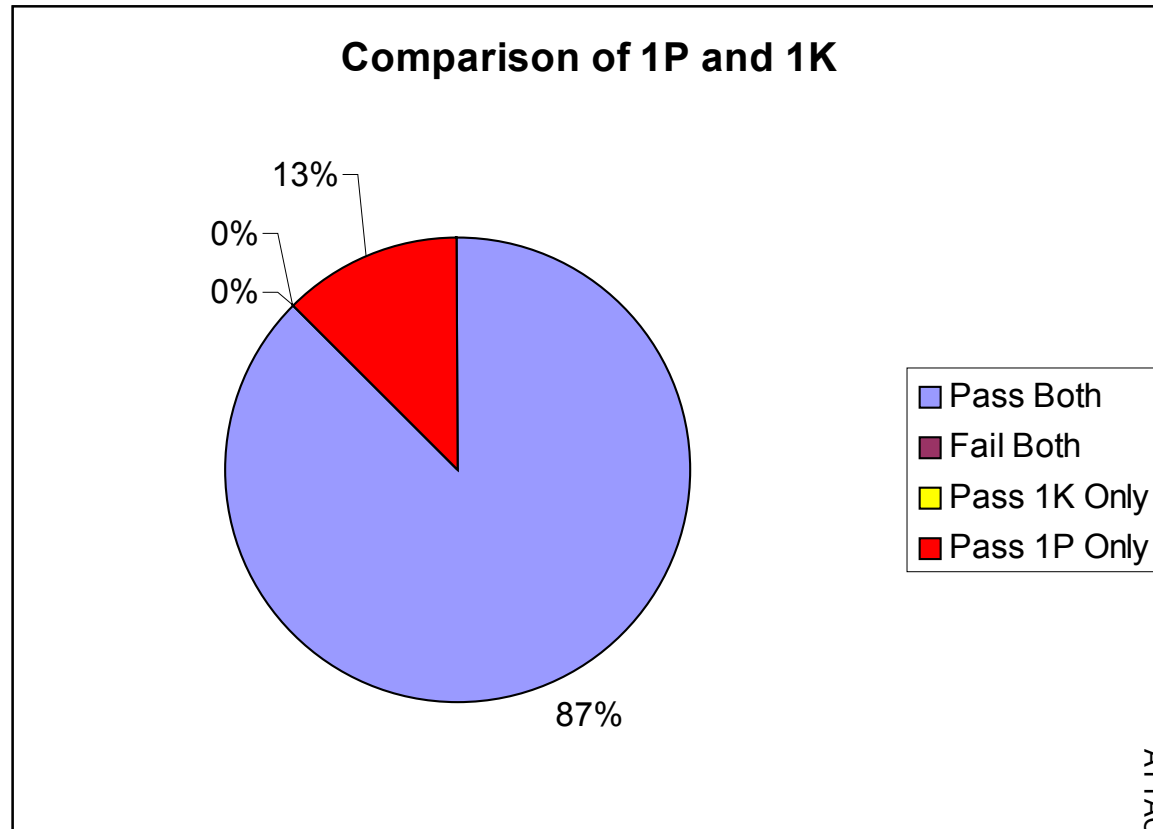
Methodology



- ◆ Comparison of Caterpillar 1P and 1N: Insufficient number of pairs
- ◆ Comparisons of Caterpillar 1P and 1K test results
 - Same oil formulation in each test
 - For each oil where the Caterpillar 1P passed, the Caterpillar 1K also passed
 - ~75% of the oils were API CH-4 quality
 - ~ 25% were API CI-4+ quality
 - Covering a range of 1.3% to 1.6% sulfated ash
 - Both 15W-40 (87%) and 10W-30 (13%) included
 - Group I and Group II base oils
- ◆ The data were analyzed for correlation between parameters
 - No correlation with *weighted* total demerits
 - No correlation of corresponding lands and grooves
 - *Some* correlation exists for non-corresponding locations
- ◆ The data support the conclusion that passing 1P performance will insure passing 1K performance
 - 1P is more severe

1P and 1K Pass/Fail Analysis

- ◆ Analysis based on 1 test pass limits
- ◆ All oils that passed 1P also passed 1K
- ◆ All Oils that failed 1P passed 1K



1P and 1K Pass/Fail Analysis



- ◆ Separate results on the pass/fail limit
- ◆ Twice as many 1P results are borderline as 1K results

