

Oronite Global Technology

Lubricant Additive Technology

CHEVRON CHEMICAL COMPANY
100 Chevron Way (60-1214)
Richmond, Ca. 94802
USA

Tel. 510-242-1404

Fax 510-242-3173

E-mail: WVDA@Chevron.com

TO : ASTM T-6/T-7/T-8 Surveillance Panel Members

ATT : Scott Richards, SwRI
Charles Passut, Ethyl
Greg Shank, Mack
Bob Campbell, Ethyl
Greg Hillman
Ed Outten / Pat Fetterman, Paramins
Gary Tietze, Test Engineering
Jim Colum, EG&G
Floyd Albert, Shell Dev.
Brian Lawrence, Royal Additives
Jeff Clark, TMC

CC : Jerry Schauss, ALI
Rick Bayles, Shell Chemical
Bill Busher, Texaco
Jon Carlson, Lubrizol
Ralph Cherillo, Shell Oil
Gil Clark, SFC
Jim Gallovich, Paramins
Bruce Hillyer, Mobil
Mark Hull, Lubrizol

DATE : May 28, 1998

Number of pages : 2
(incl. Front page)

Routing:

Approved by : WvD

Subject : Minutes of the Conference Call on Thursday May 21, 1998

Please find attached the minutes of the conference call held on May 21. The major topic of the conference call was to discuss the possibility of allowing a partial rebuild of the Mack T-8 test engine between references. This became an issue because of the flaking of the plasma coating of the top piston rings.

For any questions or comments about these minutes please refer to :

Wim van Dam
Chevron Chemical Company
Oronite Additives Division
100 Chevron Way
P.O. Box 1627
Richmond Ca 94802-0627

If you do not receive all pages, please phone

**Unconfirmed Minutes of ASTM T-6/T-7/T-8 Surveillance Panel Conference Call
Thursday May 21, 1998**

The conference call was initiated to discuss the consequences of piston top ring plasma flaking for the referencing of the engine test stand.

Piston ring flaking has become a serious problem for the engine test laboratories since the extension of the duration of the Mack T-8 test. The problem was described by several of the panel members. In one case the first observations were an increased soot input rate, oil consumption, blowby and crankcase pressure. Even though the test was completed, the oil consumption reached a level of 0.29 g/kWh and the EOT soot level was 6.4 %. Early in the subsequent test, the 7th since referencing, the oil consumption increased to 0.35 g/kWh and that test was aborted. Rebuilding the engine brought the oil consumption back to 0.16 g/kWh and the EOT soot level to 4.1 %. Another panel member reported on two occasions of ring flaking. One of these two tests was the first one following the reference test and all six top rings showed flaking.

Greg Shank commented that he feels the ring flaking is the result of the increased test duration and the higher soot levels that are reached during the 300 hour duration tests. Mack is investigating the problem and they are looking for different binders for the plasma coating which can withstand the higher soot levels observed in the extended tests. Greg also commented that Mack would agree with changing the rings within the reference period, without re-referencing.

Several options for partial engine rebuilds were discussed. Questions that were raised were : How many rebuilds should be allowed ? Should a rebuild be allowed during a test or only between tests ? What should be used as a trigger for a partial rebuild ? Following the discussion a motion was made by Bob Campbell and seconded by Jim Collum :

Motion: Effective as of 5/21/98 a maximum of 1 partial rebuild (piston rings and liners) between tests during the reference period may be done if there are indications that the piston rings have flaked (increased blowby, crankcase pressure, soot input rate, or oil consumption). This partial rebuild must be noted in the test reports of all following tests in the same reference period. TMC and Mack must be notified of the rebuild and verify that ring flaking occurred.

The motion was accepted with 8 panel members in favor and 3 abstains.

The next meeting of the surveillance panel is scheduled for June 22, 1998 in Toronto Canada. The meeting will start at 3.00 PM