MEMORANDUM: 01-056

DATE: May 15, 2001

TO: Mark Sarlo, Chairman, Engine Oil Aeration Test Surveillance Panel

FROM: Jeff Clark

SUBJECT: Engine Oil Aeration Reference Testing for the April 2001 ASTM Report Period

The following is a summary of Engine Oil Aeration reference oil testing completed during the April 2001 ASTM period, which began October 1, 2000 and ended March 31, 2001. It should be noted that for the history of the EOAT, all data has been generated at one laboratory.

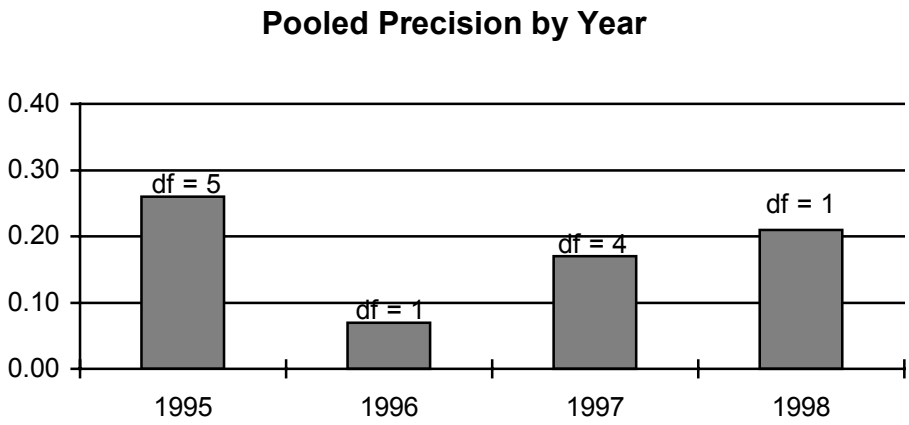
The following summarizes the status of the reference oil tests completed this ASTM report period:

Test Description	TMC Validity Code	Number of Tests
Operationally and Statistically Acceptable	AC	1
Failed Acceptance Criteria	OC	0
Operationally Invalid	LC	0
Aborted	XC	0
Total		1

Severity and Precision:

Figure 1 (attached) shows the current industry severity and precision EWMA control charts and the industry cusum chart for average engine oil aeration (AEOA). AEOA is currently within the industry severity and precision limits. For a history of AEOA industry alarms, refer to the industry alarm log shown in Table 1.

Since testing frequency is low, an estimate of precision by ASTM period will not be presented. Instead, the TMC will provide yearly pooled (across all reference oils) standard deviation as an estimate of test precision as shown on the following chart.



Precision estimates for 1999, 2000, and 2001 are not available due to low test volume. The 1998 precision estimate for AEOA appears to be within historical levels. However, it should be noted that the small degrees of freedom for every year dating back to 1995 makes it difficult to draw any meaningful comparison of precision. Note, the degrees of freedom (df) equals Σ(no. obs. per oil - 1).

Reference Oils and Hardware:

The table below shows the current AEOA test targets.

Parameter	Reference Oil	n	Mean (%)	S
AEOA	1004-2	13	9.46	0.25
	1004-3	-	9.46	0.25
	1005	2	7.80	0.25
	1005-1	-	7.80	0.25

The current test targets for oils 1004-3 and 1005-1 are based on oils 1004-2 and 1005 respectively. These targets will be updated at five tests. To date, three tests have been run on oil 1004-3 and two tests on oil 1005-1.

Information Letters:

No information letters were issued during the April 2001 ASTM period.

Additional Information:

Table 2 (attached) contains the AEOA Timeline which details changes to the Engine Oil Aeration Test since 1995.

Additional Information (cont.):

The EOAT database, the industry LTMS plots, industry alarm log, and the EOAT Timeline may all be accessed from the TMC home page at www.tmc.astm.cmri.cmu.edu.

JAC/jac/mem01-056.jac.doc

Attachments
c: J.L. Zalar, TMC
F.M. Farber, TMC
Engine Oil Aeration Test Surveillance Panel
ftp://tmc.astm.cmri.cmu.edu/docs/diesel/eoat/semiannualreports/eoat-04-2001.pdf

FIGURE 1

EOAT INDUSTRY OPERATIONALLY VALID DATA

ENGINE OIL AERATION

FIGURE 1

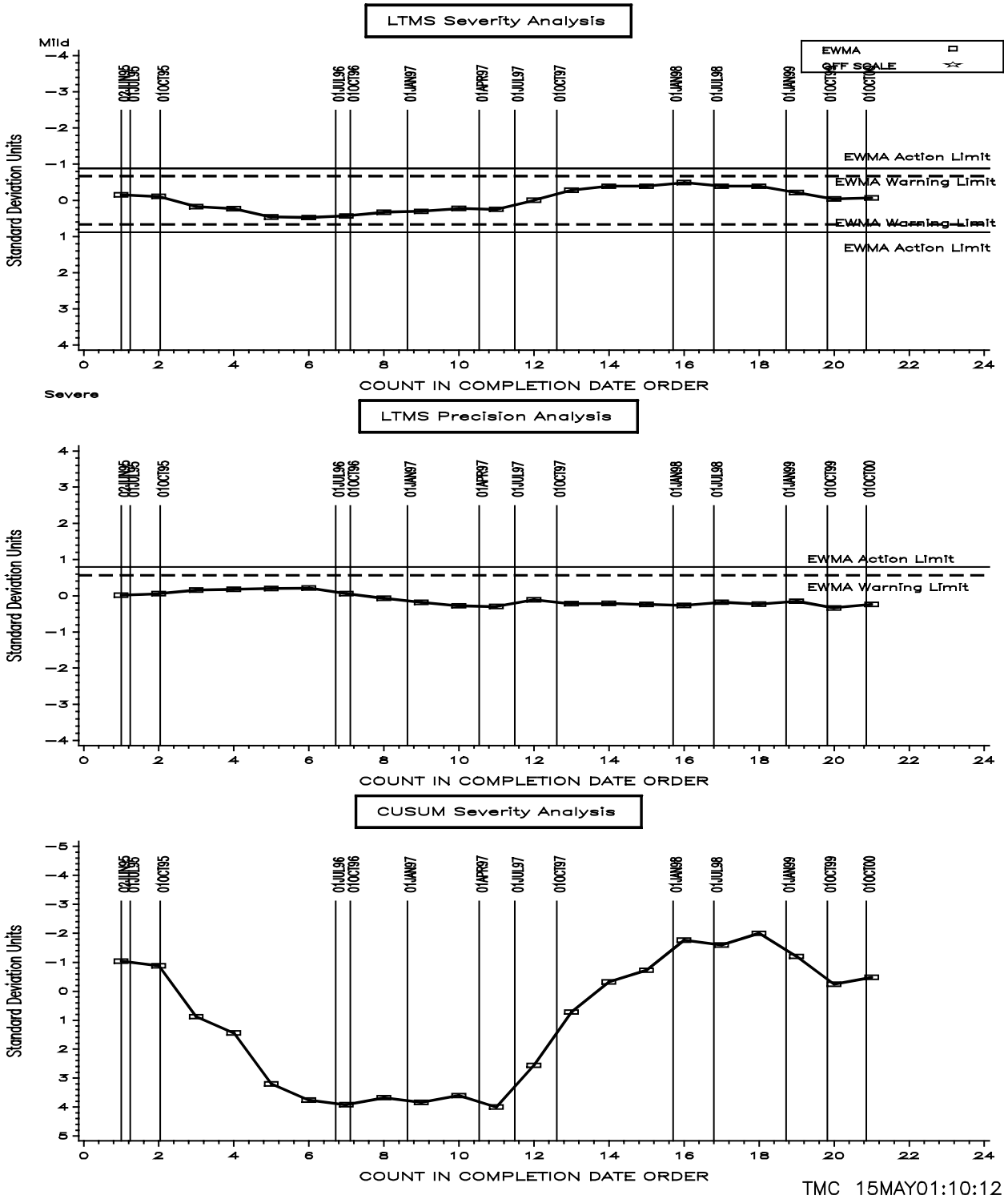


TABLE 1
ENGINE OIL AERATION INDUSTRY ALARM LOG

No industry alarms have occurred.

Updated 5/16/01

TABLE 2
Engine Oil Aeration Test Timeline

Date	Info. Letter	Topic
19950602		OIL 1004-2 INTRODUCED
19970510		OIL 1005 INTRODUCED
19971025		OIL 1004-3 INTRODUCED
19980812		OIL 1005-1 INTRODUCED
19990101		TMC BEGINS MONITORING TEST. LTMS USED FOR DETERMINING TEST STAND CALIBRATION
19990621		CALIBRATION PERIOD SET AS 1 YEAR FROM REFERENCE EOT, OR 30 TESTS
19991101	99-1	DATA DICTIONARY AND REPORT FORMS VERSION 19990803
20001204		INTAKE MANIFOLD TEMPERATURE SPECIFICATION SET TO MAXIMUM 325 DEG. F
20001204		AMBIENT AIR TEMPERATURE CHANGED TO A RECORD PARAMETER