



Test Monitoring Center

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MEMORANDUM: 07-065
DATE: October 23, 2007
TO: Jim Gutzwiller, Chairman, C13 Surveillance Panel
FROM: Jeff Clark
SUBJECT: C13 Calibration Testing for the October 2007 ASTM Report Period

The following is a summary of C13 reference oil tests completed during the October 2007 ASTM report period, which began on April 1, 2007 and ended on September 30, 2007.

Test Status	TMC Validity Code	Number of Tests
Acceptable Calibration Test	AC	3
Failed Calibration Test (LTMS Criteria)	OC	0
Operationally Invalid Test	RC	1
Aborted Test	XC	1
Total		5

The operationally invalid test was due to a negative QI for speed that resulted from a controller set point error. The aborted test was due to an oil leak in the turbo oil line.

Severity and Precision:

Figures 1 through 4 (attached) show the current industry EWMA severity, EWMA precision, and cusum charts for Top Groove Carbon (TGC), Top Land Carbon (TLC), Second Ring Top Carbon (R2TC), and Delta Oil Consumption (OC). TGC, R2TC, and OC are currently within control chart limits, while TLC is currently in an industry warning alarm for severity in the mild direction. Low-test activity makes it difficult to offer any meaningful commentary regarding any severity issues.

Precision estimates will be presented on an annual basis, in the table below. The precision estimate for 2005 was primarily generated from the PC-10 matrix program. No estimate was available for 2006 because there were zero degrees of freedom. The 2007 estimate is a preliminary estimate and will be update in later reports.

C13 Precision Estimates

Parameter	2005	2006	2007	2008	2009
df	22	0	5		
TGC	7.36	n/a	3.31		
TLC	5.99	n/a	6.70		
R2TC	0.3088	n/a	0.3988		
OC	1.1881	n/a	0.6288		

Reference Oils:

The current reference oil test targets are shown below:

Oils	N	Parameter	Units	Mean	S
831 (PC10B)	8	TGC	Demerits	45.18	7.42
		TLC	Demerits	24.99	7.59
		R2TC	LN(Dem.)	2.8954	0.2055
		OC	SQRT(g/h)	5.7336	0.7280

To date, fifteen tests have been completed on oil 831. The TMC has presented this data to the surveillance panel at the last meeting for consideration of a test target update. To date, the panel has not taken action regarding a possible target update.

The table below shows the supply levels of oils 831 and 831-1.

Oil	TMC Inventory (gallons)	Lab Inventory (samples)	Estimated Life ^A (years)
831	--	4	0.8
831-1	1240	0	3.7
Total Estimated Life of All Reference Oils			4.5

^AThe C13 shares reference oils with the ISB test. Activity levels of both tests are taken into account in the estimated life of the reference oils.

Information Letters:

No C13 Information Letters were issued this ASTM period.

TMC Laboratory Visits:

No TMC laboratory visits were conducted this ASTM period.

Additional Information:

The C13 timeline is attached as Figure 5. The C13 database and alarm logs can be accessed on the TMC's homepage. If you have any questions on how to access this information, contact the TMC.

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JAC/jac/mem07-065.jac.doc

Attachments

c: J.L. Zalar, TMC

F.M. Farber, TMC

Cummins Surveillance Panel

ftp://ftp.astmtmc.cmu.edu/docs/diesel/cat_c13/semiannualreports/C13-10-2007.pdf

Distribution: Email

FIGURE 1 C13 INDUSTRY OPERATIONALLY VALID DATA

TOP GROOVE CARBON AVERAGE – FINAL RESULT

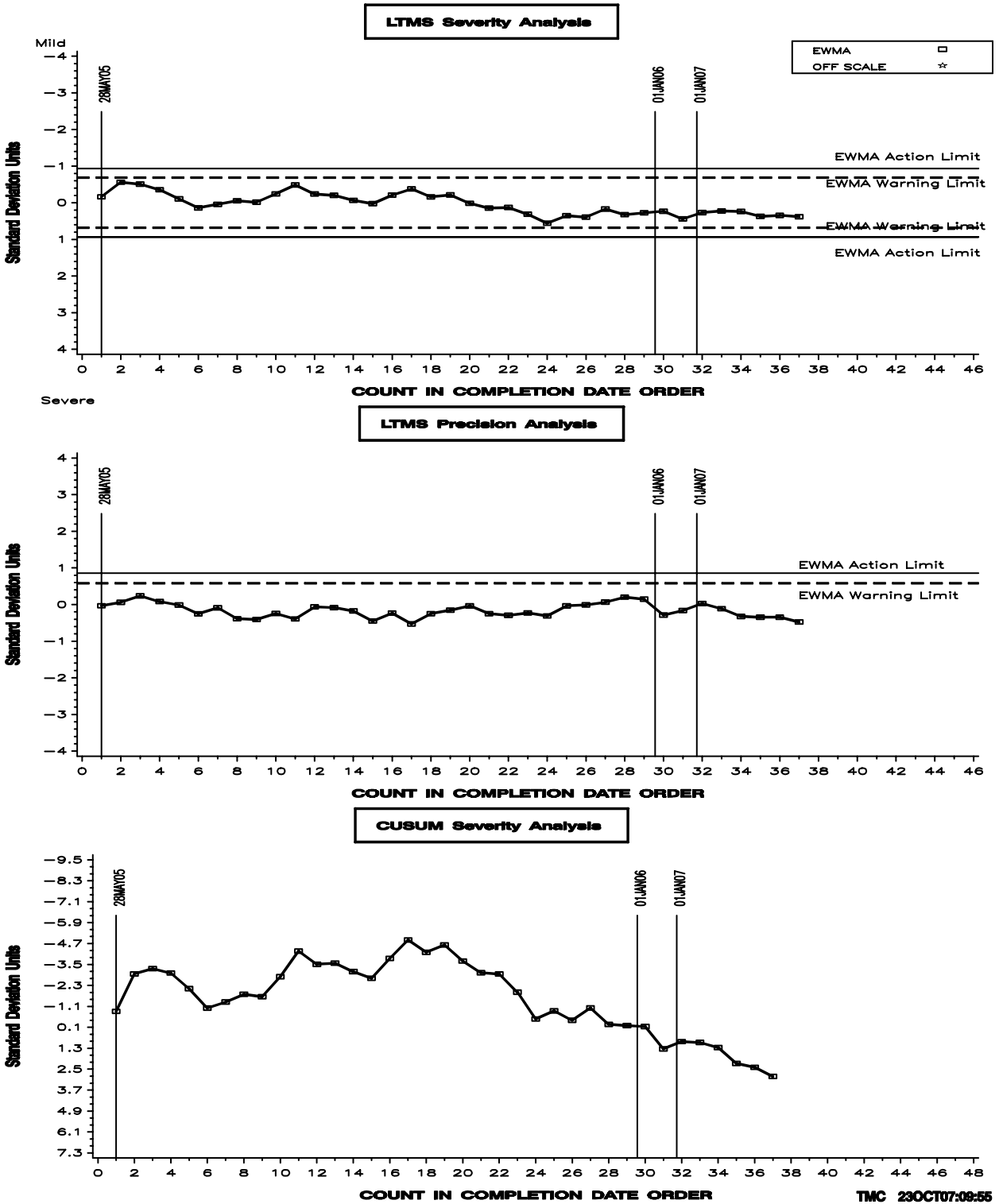


FIGURE 2 C13 INDUSTRY OPERATIONALLY VALID DATA

TOP LAND CARBON AVERAGE – FINAL RESULT

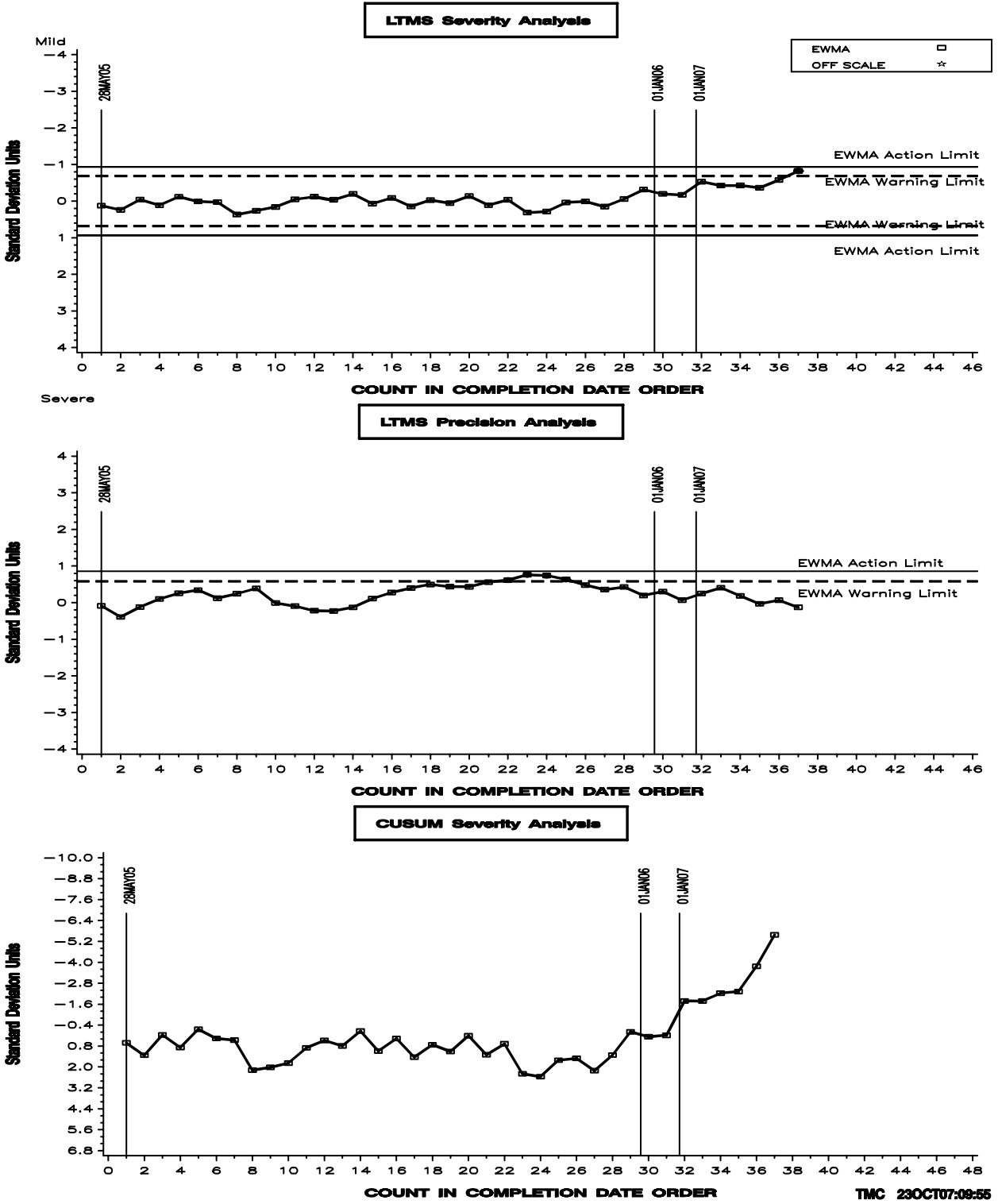


FIGURE 3 C13 INDUSTRY OPERATIONALLY VALID DATA

2ND RING TOP CARBON AVERAGE – FINAL RESULT

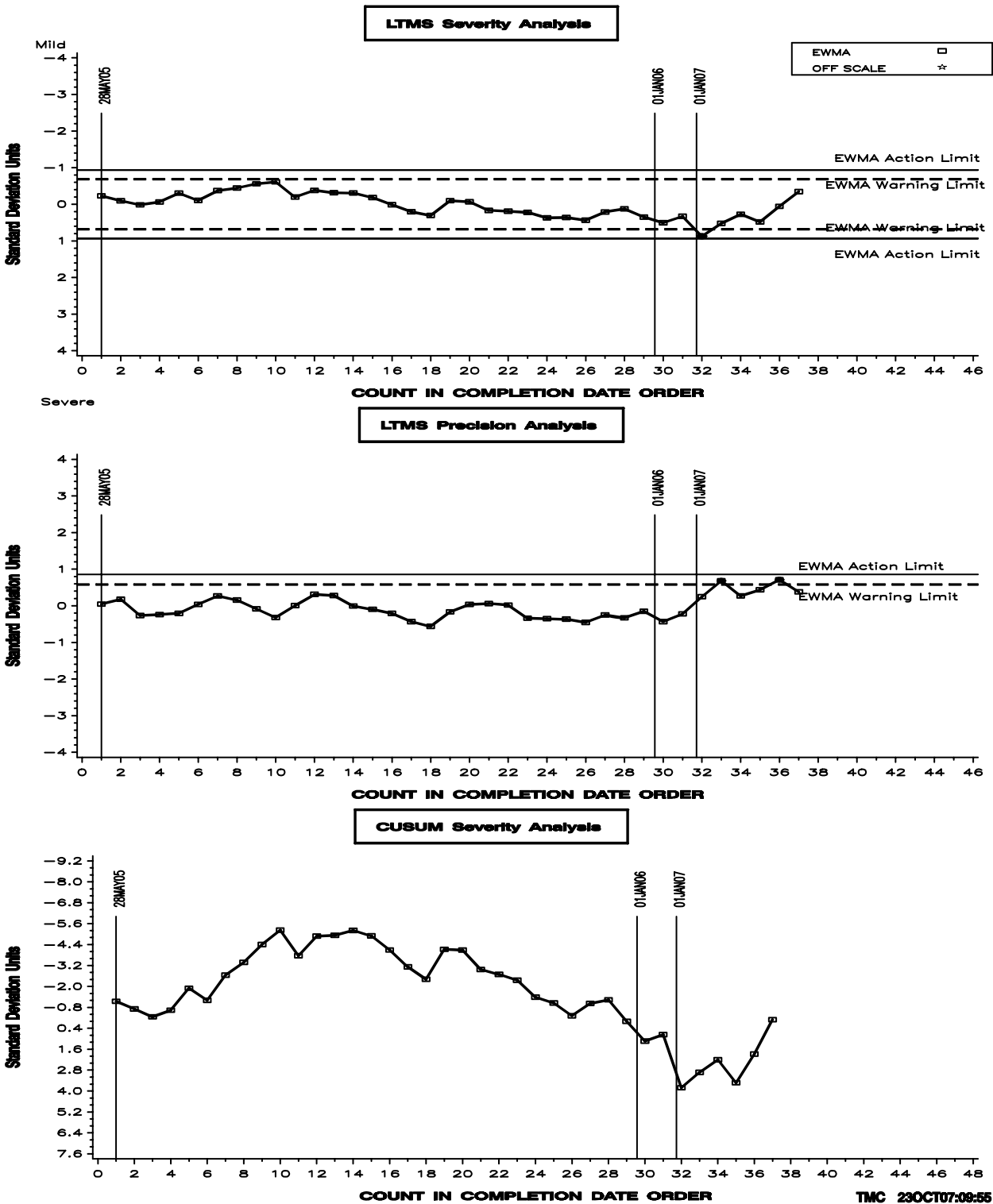


FIGURE 4 C13 INDUSTRY OPERATIONALLY VALID DATA

OIL CONSUMPTION DELTA - FINAL RESULT

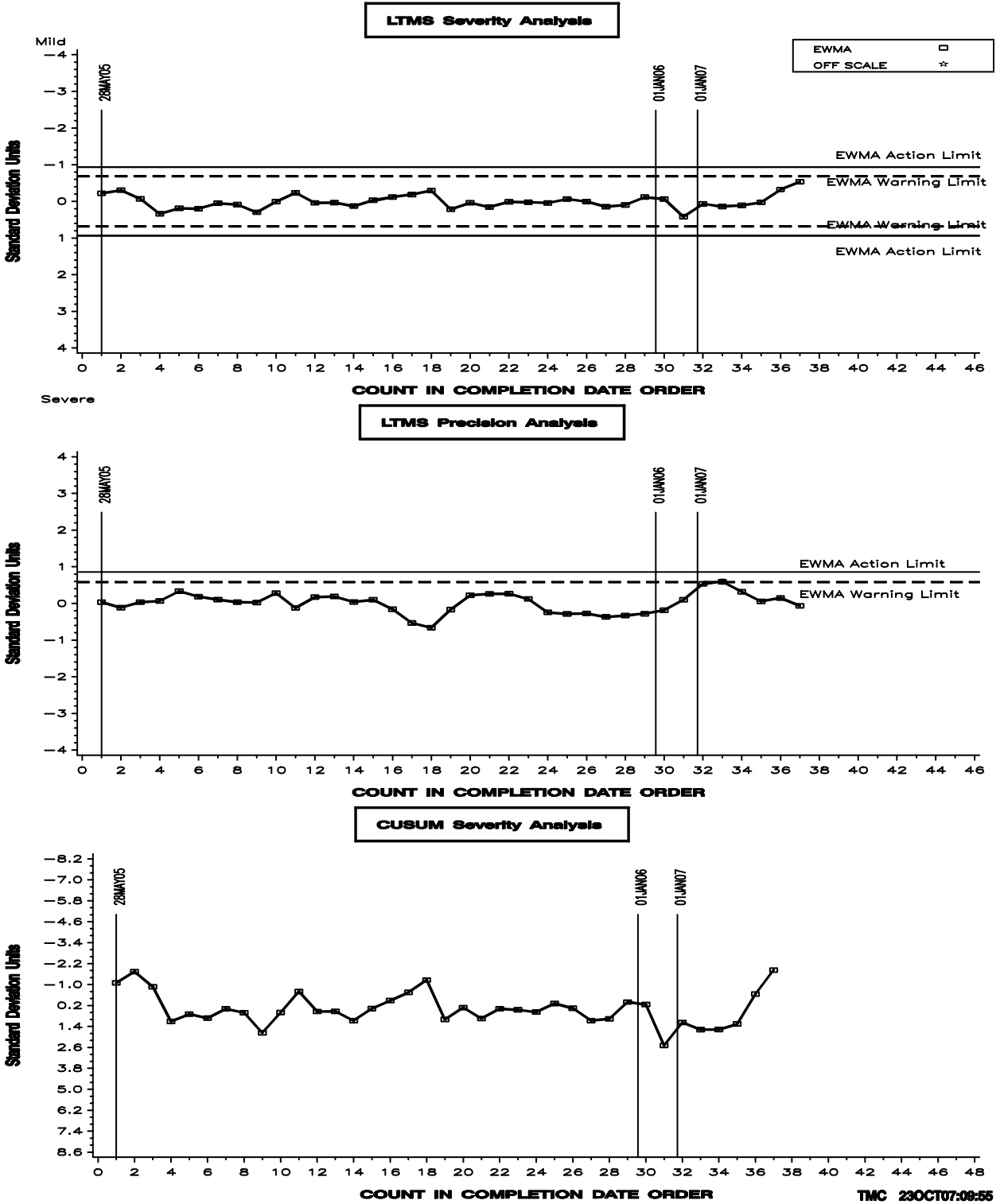


FIGURE 5

C13 Timeline

09:33 Tuesday, October 23, 2007 1

Obs	effective_date	info_letter_number	event
1	20040429		Draft 1 of test procedure issued
2	20040902		Draft 2 of test procedure issued
3	20041026		Draft 3 of test procedure issued
4	20041223		Draft 4 of test procedure issued
5	20050302		Draft 5 of test procedure issued
6	20050429		Draft 6 of test procedure issued
7	20050705		Draft 7 of test procedure issued
8	20050719		Draft 8 of test procedure issued
9	20060214		LTMS implemented
10	20060512		Draft 9 of test procedure issued
11	20060720		Draft 10 of test procedure issued
12	20070130		Draft 11 of test procedure issued
13	20070201	07-1	Quality Index implemented to determine operational validity.
14	20070214	07-1	D 129 removed as fuel sulfur measurement method.
15	20070219		Draft 12 of test procedure issued
16	20070402	07-2	Section 9.3 - calibration test count wording clarified.