Test Monitoring Center

FTMC

A Program of ASTM International

Carnegie Mellon University
6555 Penn Avenue, Pittsburgh, PA 15206, USA

http://astmtmc.cmu.edu
412-365-1000

MEMORANDUM: 08-072

DATE: December 3, 2008

TO: Leonard Orzech,
        Chairman, Ball Rust Test Surveillance Panel

FROM: Michael T. Kasimirsky
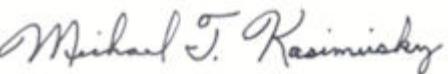
SUBJECT: BRT Testing from April 1, 2008 through September 30, 2008

A total of 103 BRT tests were reported to the Test Monitoring Center during the period from April 1, 2008 through September 30, 2008. The data from these tests is shown beginning on page 5. Following is a summary of testing activity this period.

|	Reporting Data
Number of Labs	4

Tests reported this period were distributed as shown below:

NUMBER OF TESTS REPORTED BY LAB AND REPORT PERIOD

Report Period: ■ Current   ▨ Previous
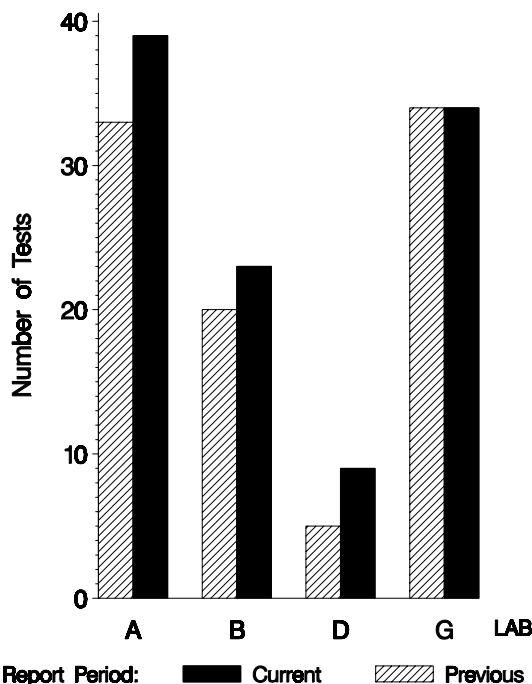
Test Distribution by Oil and Validity

		1006	81	82	Totals	
					Last Period	This Period
Accepted for Calibration	AC	25	48	29	88	102
Hardware Qualification Run	NI	0	0	0	0	0
Rejected Mild	OC	1	0	0	2	1
Rejected Severe	OC	0	0	0	0	0
Operationally Invalid (lab)	LC	1	0	0	2	1
Operationally Invalid (lab/TMC)	RC	0	0	0	0	0
Aborted Calibration	XC	0	1	0	0	1
Total		27	49	29	92	105

OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA
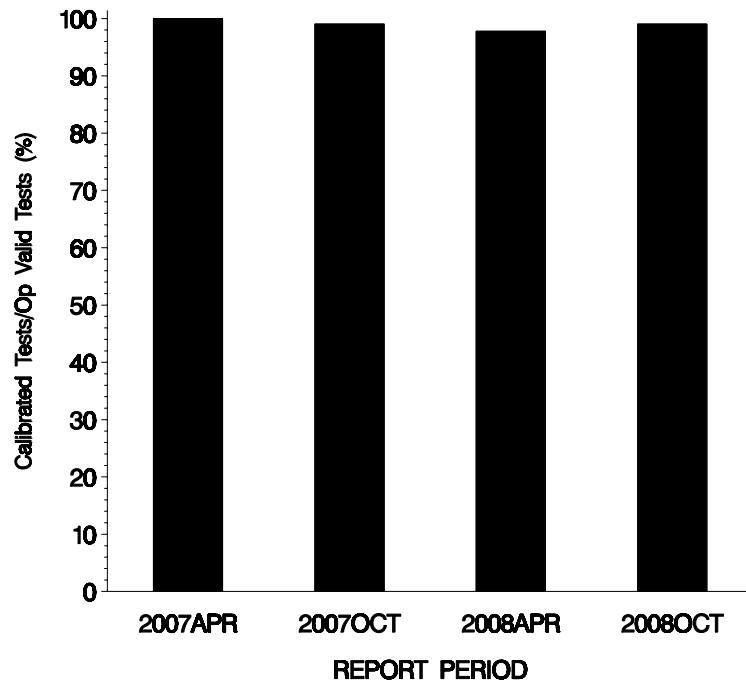
The above chart shows the percentage of accepted operationally valid tests. One test failed to meet the acceptance criteria this period; it was mild and ran oil 1006.

Lost Tests per Start by Lab and Oil

Lab	1006			81			82			Total		
	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%
A	0	8	0	0	18	0	0	12	0	0	39	0
B	0	5	0	1	11	9	0	6	0	1	23	4
D	0	3	0	0	3	0	0	3	0	0	9	0
G	1	9	11	0	16	0	0	8	0	1	34	3
Total	1	25	4	1	49	2	0	29	0	2	105	2

Lost tests are those that were either aborted, rejected by lab, or operationally invalid.

Causes for Lost Tests

Lab	Cause	Oil			Validity			Loss Rate		
		1006	81	82	LC	RC	XC	Lost	Starts	%
G	Runtime Problem	●			●			1	34	3%
B	Power Failure		●				●	1	23	4%
	Lost	1	1	0	1	0	1			
	Starts	25	49	29	105	105	105			
	%	4%	2%	0%	1%	0%	1%			

Average Δ/s by Lab

Lab	n	AGVYI
A	39	0.041
B	22	0.695
D	9	-0.026
G	33	0.297
Industry	103	0.257

DATA FROM ALL OPERATIONALLY VALID TESTS REPORTED THIS PERIOD:

LTMS DATE	LAB	OIL	AGV	AGVYI
20080403	A	81	121	0.643
20080404	G	1006	123	-0.693
20080404	B	81	130	1.286
20080407	D	82	56	0.739
20080408	A	82	42	-0.478
20080409	A	82	46	-0.13
20080410	A	82	40	-0.652
20080411	B	82	46	-0.13
20080411	A	81	114	0.143
20080417	G	81	132	1.429
20080417	A	82	50	0.217
20080418	A	82	42	-0.478
20080418	G	81	123	0.786
20080421	G	81	116	0.286
20080422	A	1006	123	-0.693
20080423	A	81	123	0.786
20080423	D	81	128	1.143
20080424	A	81	122	0.714
20080424	B	1006	124	-0.555
20080425	A	1006	124	-0.555
20080425	G	82	46	-0.13
20080429	A	82	38	-0.826
20080429	G	1006	126	-0.277
20080501	A	81	125	0.929
20080501	B	81	130	1.286
20080502	A	1006	125	-0.416
20080502	G	81	126	1
20080508	B	82	64	1.435
20080515	B	1006	130	0.277
20080515	G	82	65	1.522
20080516	D	1006	124	-0.555
20080520	A	82	44	-0.304
20080520	B	1006	130	0.277
20080521	G	81	123	0.786
20080522	B	81	130	1.286
20080523	G	82	55	0.652

LTMS DATE	LAB	OIL	AGV	AGVYI
20080529 G		1006	125	-0.416
20080530 G		81	117	0.357
20080603 A		1006	124	-0.555
20080604 D		81	120	0.571
20080604 G		82	56	0.739
20080604 G		1006	123	-0.693
20080605 A		81	112	0
20080605 B		82	55	0.652
20080605 D		1006	117	-1.526
20080606 G		81	114	0.143
20080610 G		81	133	1.5
20080612 D		81	122	0.714
20080612 G		82	65	1.522
20080613 B		1006	132	0.555
20080617 G		1006	123	-0.693
20080619 A		1006	105	-3.19
20080619 B		81	136	1.714
20080619 G		81	126	1
20080620 G		82	60	1.087
20080624 G		1006	131	0.416
20080626 A		81	117	0.357
20080627 A		81	120	0.571
20080627 G		82	53	0.478
20080701 A		82	40	-0.652
20080702 B		82	43	-0.391
20080703 G		1006	123	-0.693
20080715 D		82	43	-0.391
20080716 G		81	124	0.857
20080718 B		81	123	0.786
20080718 G		82	50	0.217
20080724 G		81	119	0.5
20080725 B		81	119	0.5
20080730 A		82	45	-0.217
20080731 A		81	124	0.857
20080801 A		81	124	0.857
20080801 B		81	130	1.286
20080805 A		82	51	0.304
20080806 D		1006	121	-0.971
20080808 A		1006	123	-0.693
20080813 A		81	127	1.071
20080814 A		82	46	-0.13
20080815 A		1006	119	-1.248
20080815 B		81	132	1.429
20080815 G		1006	105	-3.19
20080820 G		81	126	1
20080821 D		82	48	0.043
20080822 B		81	128	1.143
20080822 G		1006	119	-1.248
20080829 A		1006	126	-0.277
20080829 B		81	129	1.214

LTMS DATE	LAB	OIL	AGV	AGVYI
20080903	B	1006	130	0.277
20080903	G	81	119	0.5
20080905	G	81	110	-0.143
20080905	A	1006	130	0.277
20080911	B	82	47	-0.043
20080912	A	81	126	1
20080916	A	81	119	0.5
20080916	B	82	46	-0.13
20080917	A	81	122	0.714
20080918	A	81	127	1.071
20080919	A	81	127	1.071
20080923	A	81	128	1.143
20080923	G	81	115	0.214
20080924	A	82	42	-0.478
20080926	A	81	117	0.357
20080926	B	81	128	1.143
20080930	G	81	126	1

CUSUM PLOT

BALL RUST TEST INDUSTRY OPERATIONALLY VALID DATA

REFERENCE AVERAGE GRAY VALUE

CUSUM Severity Analysis

COUNT IN COMPLETION DATE ORDER

TMC 02DEC08:14:30
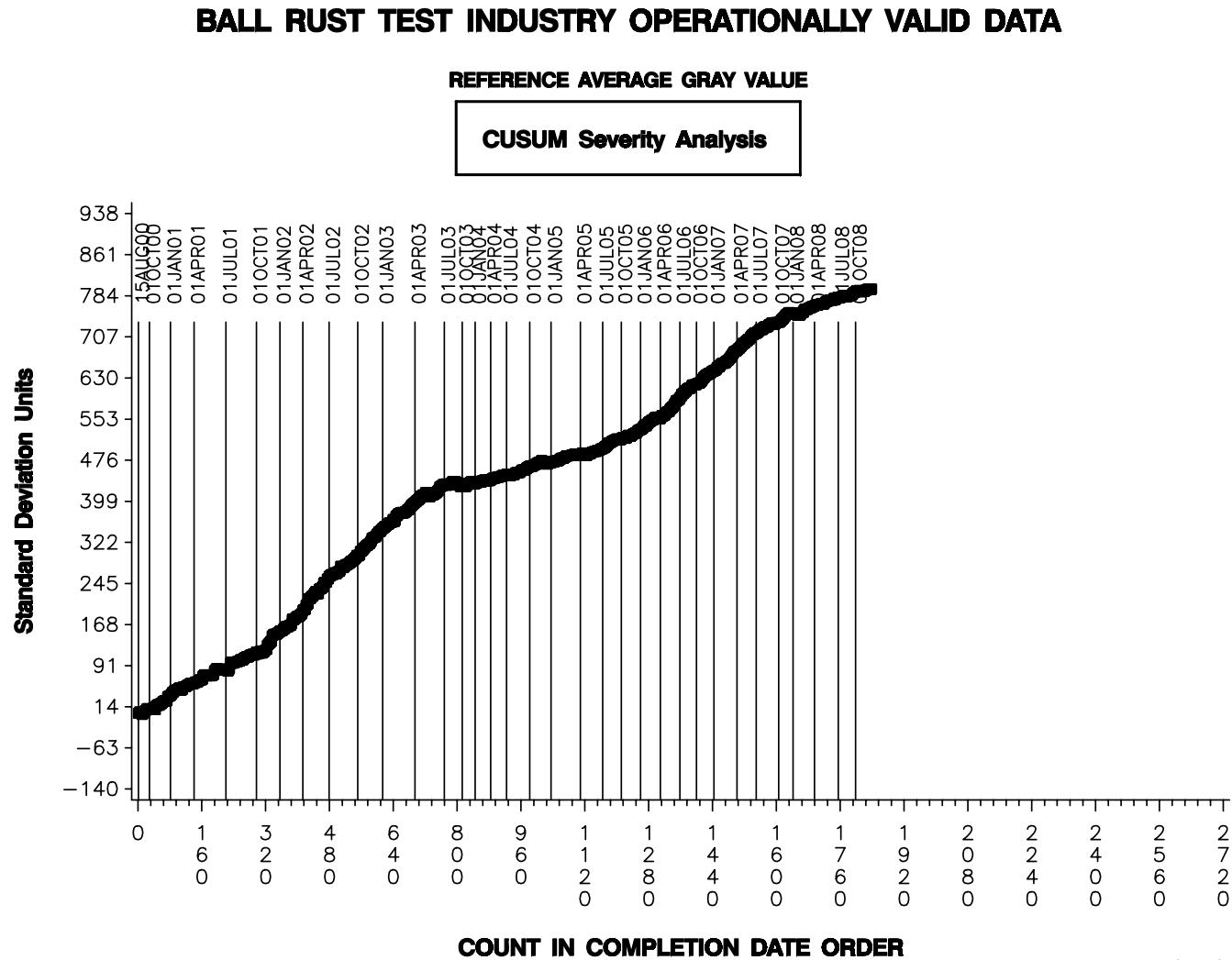
POOLED S:

Pooled s for this period is 6.59. Shown below is a bar chart comparing the pooled s values for AGV over the last four report periods. Where degrees of freedom equal zero, no bars will be shown. This will occur where only one test was reported or where multiple tests are reported but all are on different oils. Periods showing no information had no tests reported.

TEST PRECISION
POOLED STANDARD DEVIATION
BY SIX-MONTH ASTM REPORT PERIOD
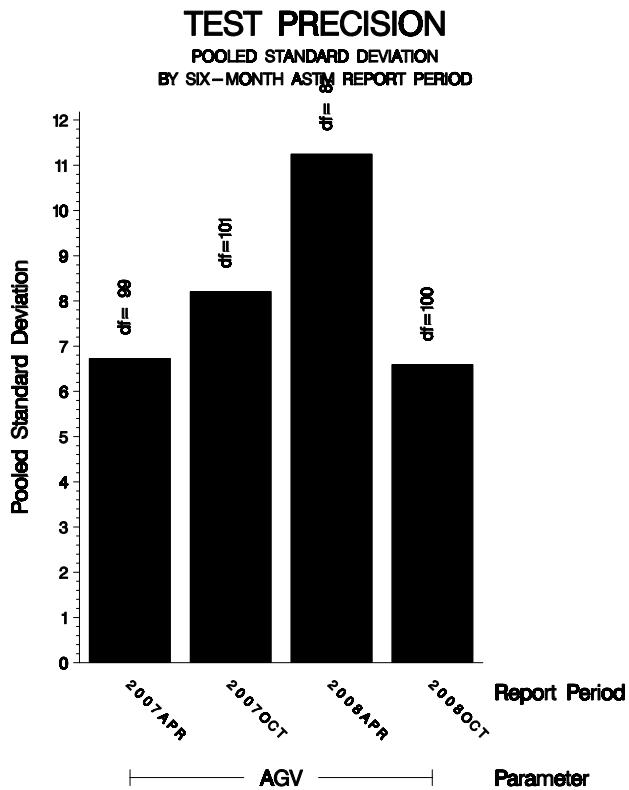
STATUS OF REFERENCE OIL SUPPLY:
At the end of this report period, the testing oil supply stood as outlined in the following table:

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
1006	30	5050	40.4
81	26	1787	14.3
82	19	950	7.6
82-1	0	1250	10.0
Total	75	9037	72.3

* Future reblends of oils marked with an asterisk are not obtainable by TMC.

INFORMATION LETTERS:
No information letters were issued this period.

SUMMARY

- Over the course of this report period, AGV severity as measured by cusum plotting continued the mild trend that has existed since the inception of the test.

- Precision as measured by pooled standard deviation is comparable to previous periods.

MTK/mtk/astm1008.doc/mem08-072.mtk.doc
c: J. L. Zalar
        F. M. Farber
        M. T. Kasimirsky
        BRT Surveillance Panel
        ftp://ftp.astmtmc.cmu.edu/docs/bench/brt/semiannualreports/brt-10-2008.pdf

Distribution: email