Test Monitoring Center
6555 Penn Avenue
Pittsburgh, PA 15206-4489
(412) 365-1000

MEMORANDUM: 04-045

DATE: May 24, 2004

TO: Jim McCord,
Chairman, Single Cylinder Diesel Surveillance Panel

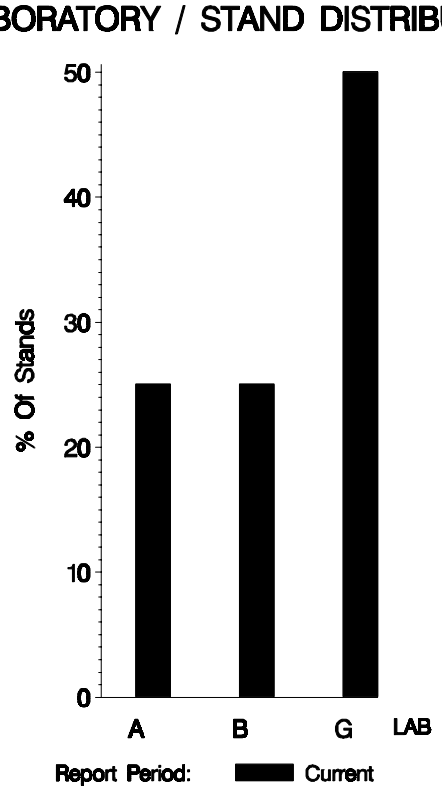
FROM: Scott Parke

SUBJECT: 1R Testing from October 1, 2003 through March 31, 2004

Five calibration tests were reported to the Test Monitoring Center during the period from October 1, 2003 through March 31, 2004. The data from the operationally valid tests is shown on page 7. Following is a summary of testing activity this period.

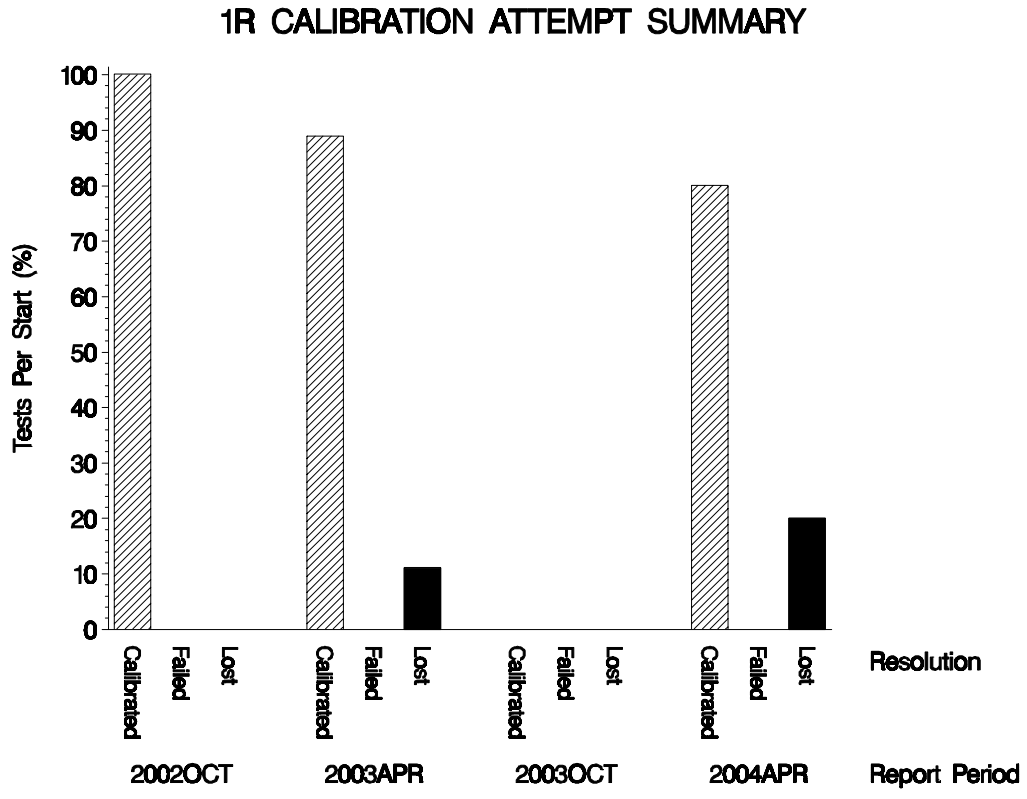
	Reporting Data	Calibrated on 3-31-04
Number of Labs	3	3
Number of Stands	4	4

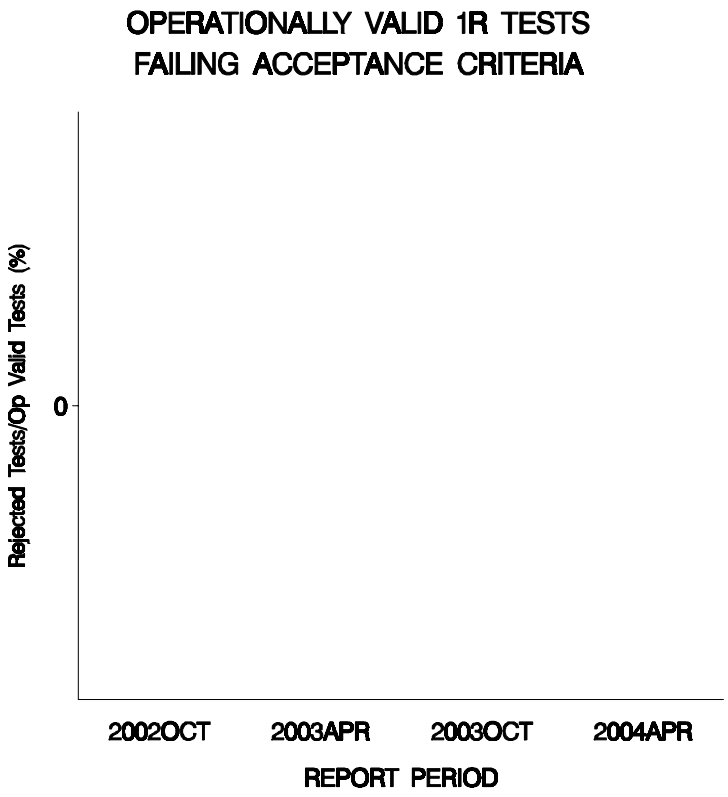
Stands reporting data this period were distributed as shown below:



Test Distribution by Oil and Validity

		820-2	1005-1	Totals Last Period	Totals This Period
Accepted for Calibration	AC	2	2	0	4
Rejected Mild	OC	0	0	0	0
Rejected Severe	OC	0	0	0	0
Rejected for EWMA Precision	OC	0	0	0	0
Rejected for Shewhart Precision	OC	0	0	0	0
Operationally Invalid (lab)	LC	0	0	0	0
Operationally Invalid (lab/TMC)	RC	0	0	0	0
Aborted Calibration	XC	0	1	0	1
Total		2	3	0	5

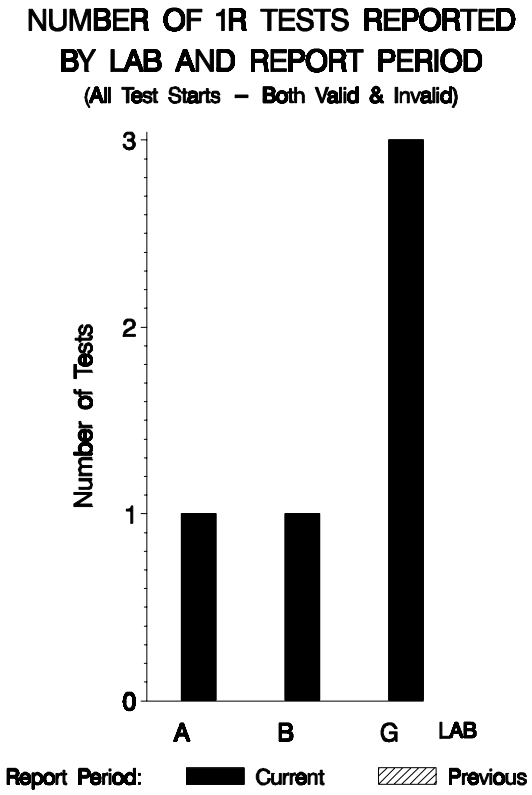




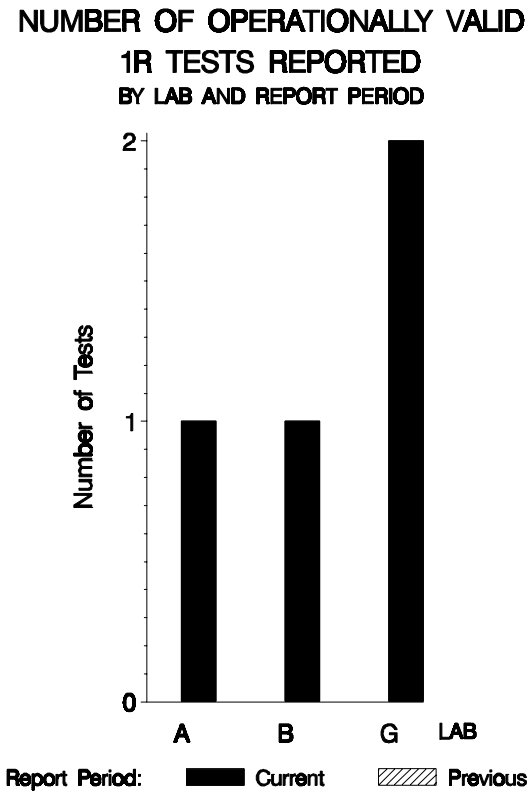
The above chart shows the percentage of failed but operationally valid tests. No tests have failed in any of the last four report periods.

No LTMS deviations were written this period (none have ever been written for this test).

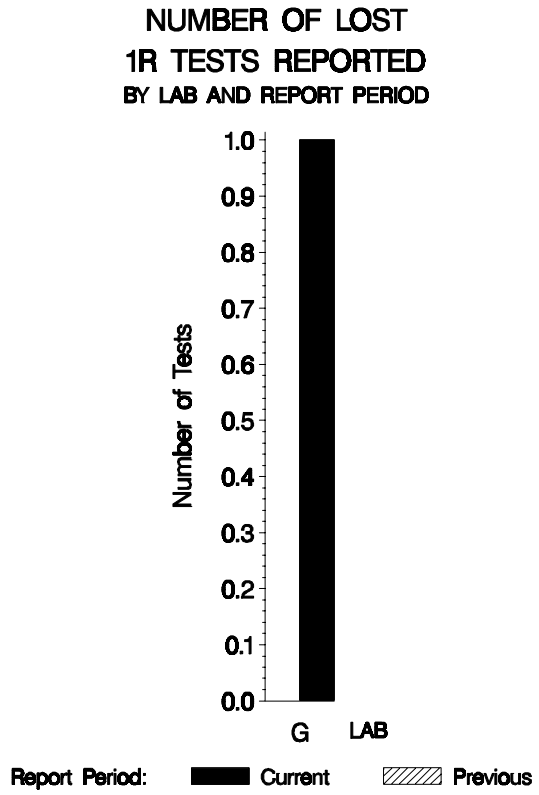
By lab, the tests run this report period were distributed as shown below:



With all operationally invalid tests removed, the distribution looks like this:



And the by-lab distribution of lost tests:



Lost Tests per Start by Oil and Lab

	820-2			**1005-1**			Total		
Lab	Lost	Starts	%	Lost	Starts	%	Lost	Starts	%
A				0	1	0	0	1	0
B	0	1	0				0	2	0
G	0	1	0	1	2	50	1	2	50
Total	0	2	0	1	3	33	1	5	20

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

Causes for Lost Tests

			Oil		Validity			Loss Rate		
Lab	Cause		1005-1	820-2	LC	RC	XC	Lost	Starts	%
G	Test aborted when head stud broke at 97 hrs.		●				●	1	3	33%
		Lost	1	0	0	0	1			
		Starts	5	0	0	0	5			
		%	20%	0%	0%	0%	20%			

Average Δ/s by Lab						
Lab	n	TGC	WDP	TLC	BTOC	EOTOC
A	1	1.062	0.688	1.607	0.364	-1.200
B	1	-0.011	-1.041	-0.554	0.588	0.192
G	2	-1.174	-0.273	-0.852	0.610	0.662
Industry	4	-0.324	-0.225	-0.163	0.543	0.079

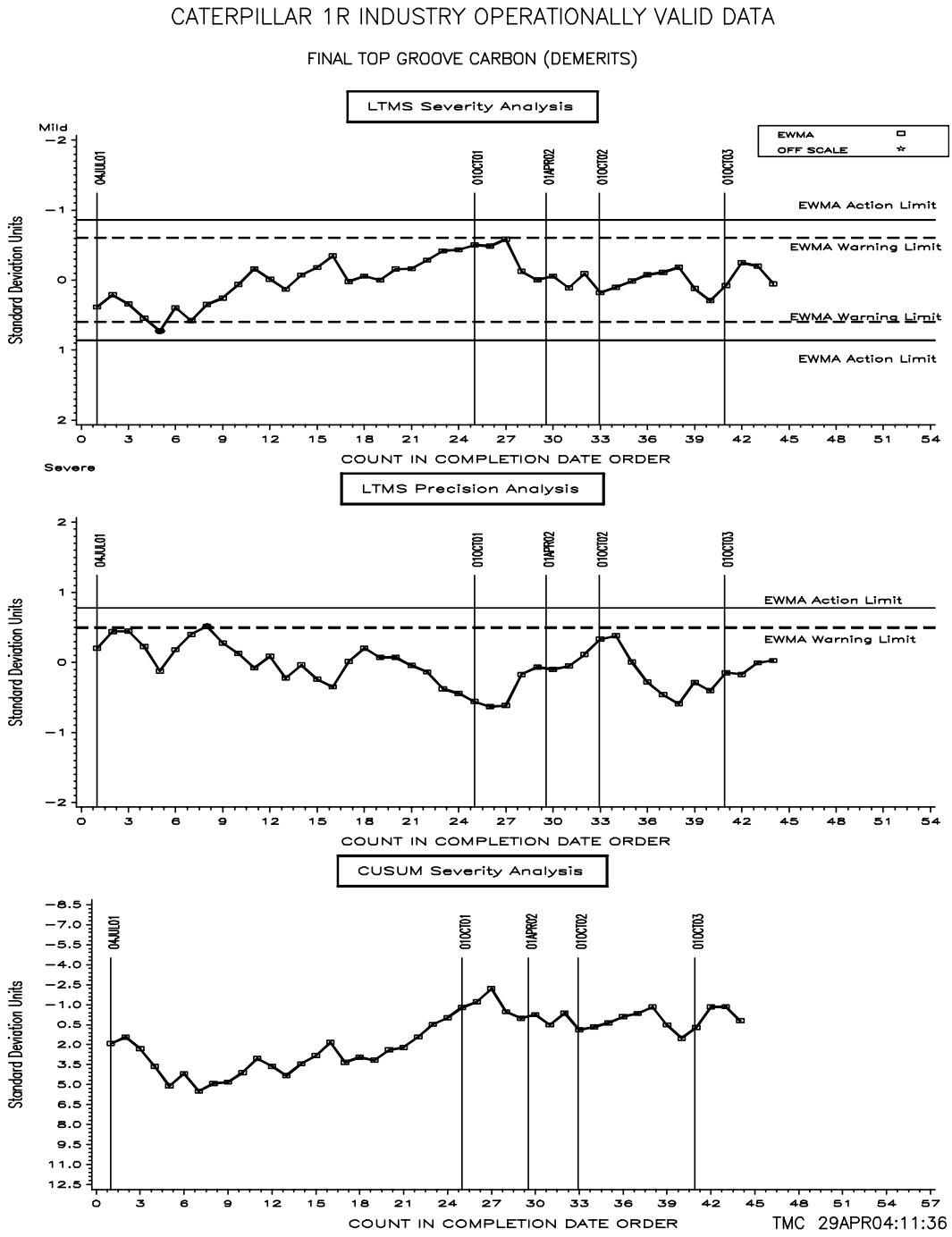
DATA FROM ALL OPERATIONALLY VALID TESTS REPORTED THIS PERIOD:

LTMS DATE	LAB	STAND	OIL	TG	WD	TL	BTOC	ETOC	TGYI	WDYI	TLYI	BTOCYI	ETOCYI
20031106	G	1	1005-1	27.50	319.5	15.00	11.6	9.7	-0.806	-0.364	-0.602	1.455	1.400
20031205	G	4	820-2	18.25	334.6	11.25	7.9	7.7	-1.543	-0.182	-1.102	-0.235	-0.077
20040121	B	1	820-2	34.00	303.5	17.00	9.3	8.4	-0.011	-1.041	-0.554	0.588	0.192
20040213	A	4	1005-1	43.75	343.8	28.25	10.4	7.1	1.062	0.688	1.607	0.364	-1.200

DISCUSSION OF INDUSTRY PERFORMANCE OVER THIS PERIOD

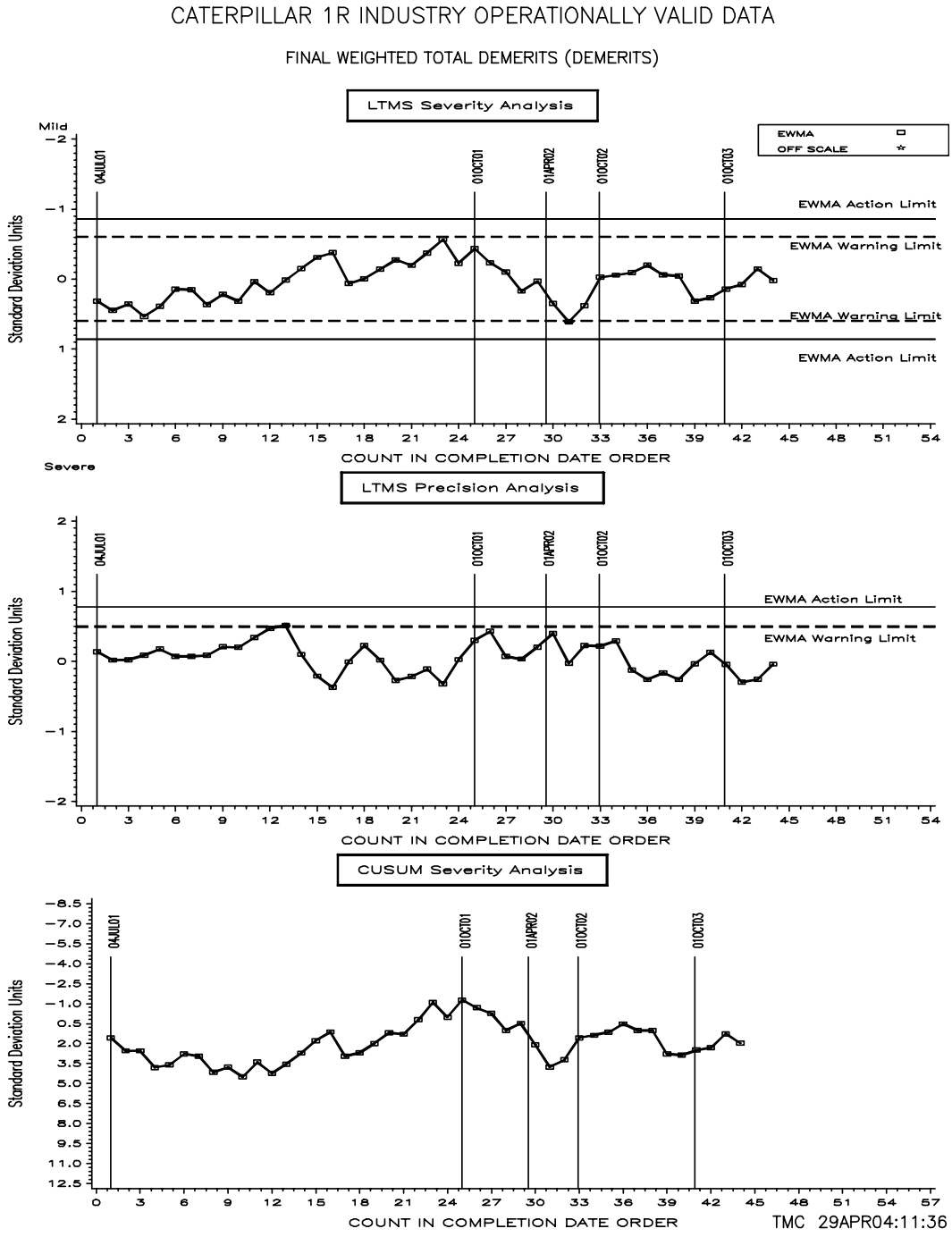
TGC:

The average TGC Yi reported this period was –0.324 (see table on previous page). Using the value 9.70 (which is the root mean square error of the matrix data and the value used to generate lab severity adjustments) to compute an average delta yields 3.14 demerits mild. Severity and precision remained within acceptable limits throughout this period.



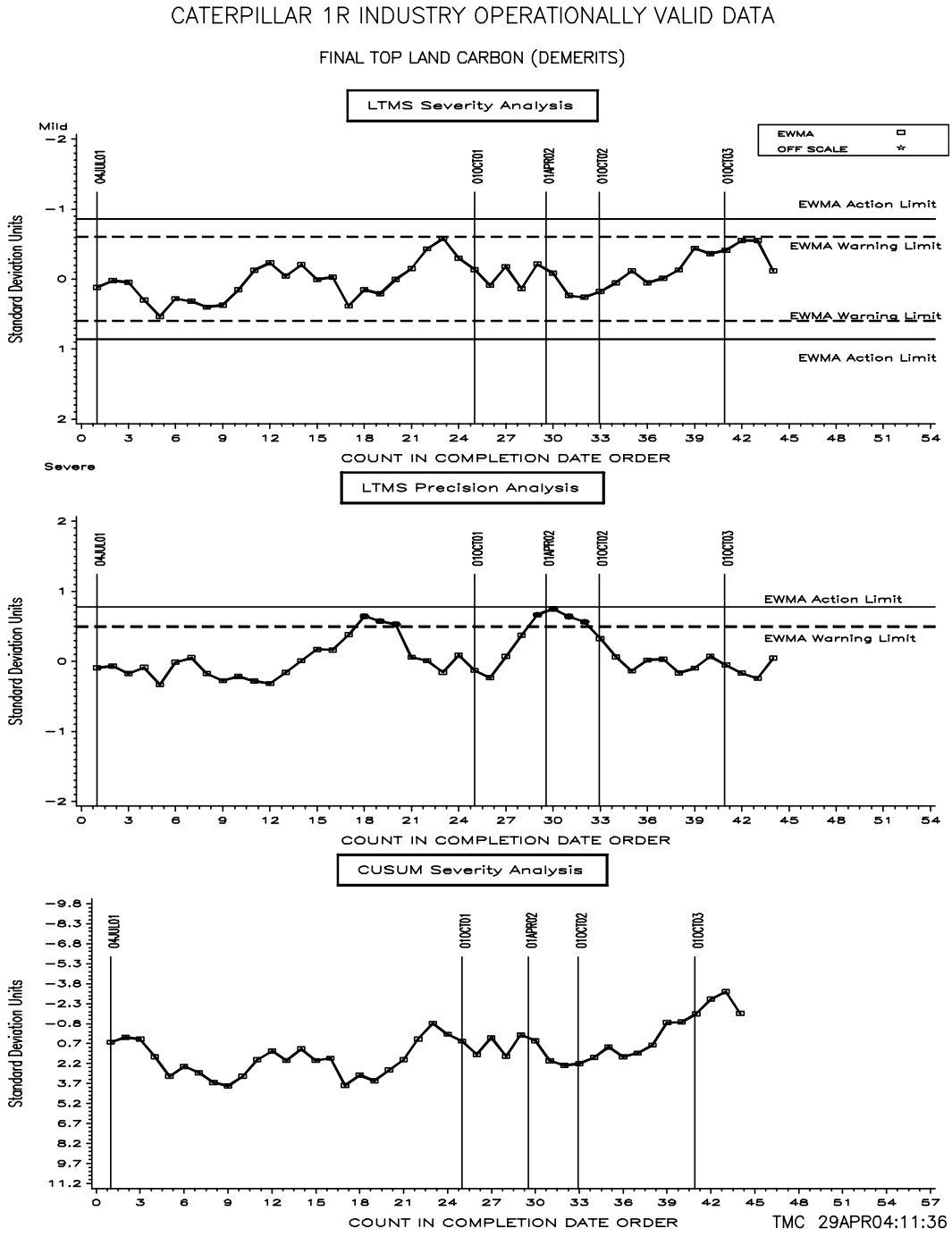
WD:

The average WD Yi reported this period was –0.225 (see table on page 7). Using the value 29.0 (which is the root mean square error of the matrix data and the value used to generate lab severity adjustments) to compute an average delta yields 6.53 demerits mild. Severity and precision remained within acceptable limits throughout this period.



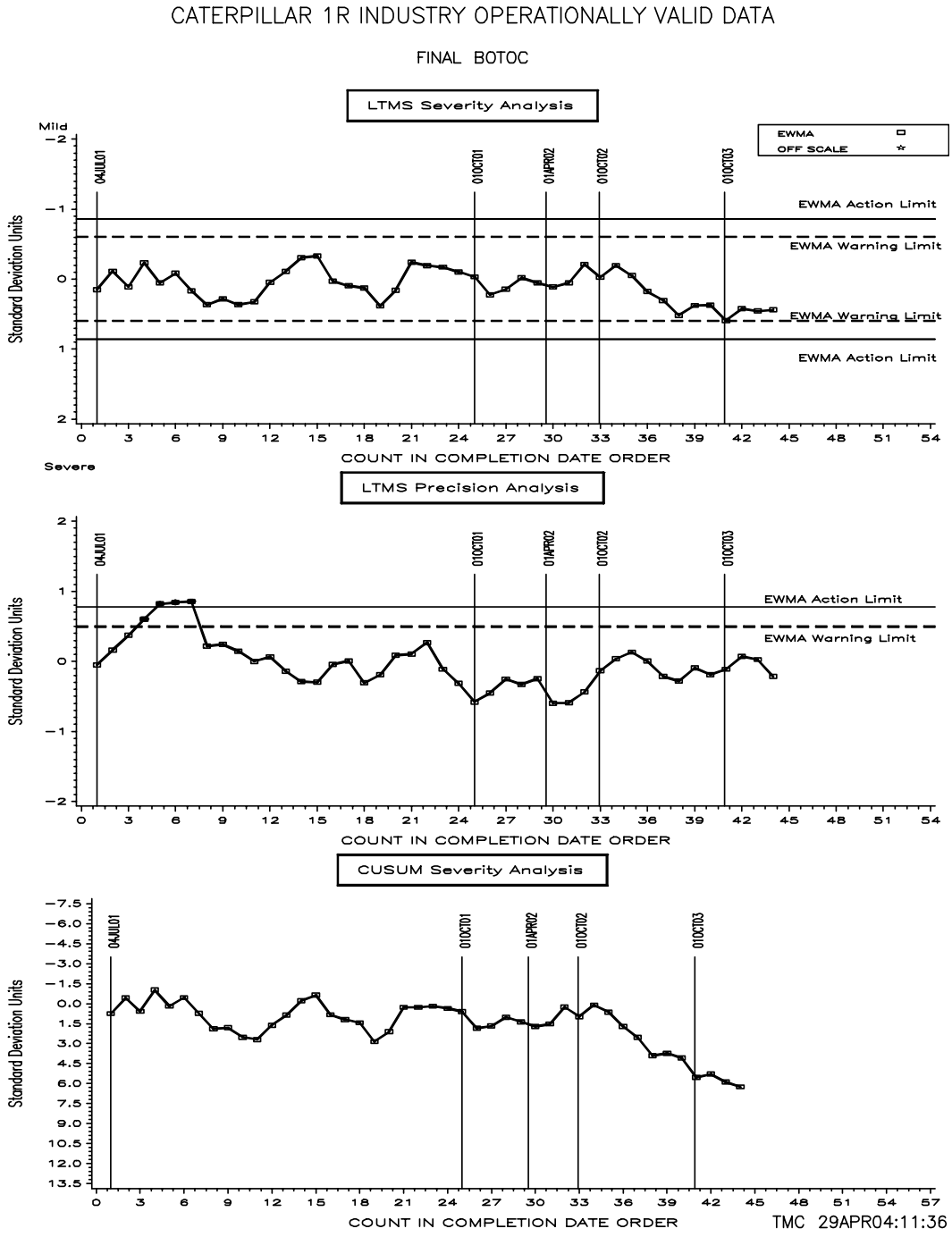
TLC:

The average TLC Yi reported this period was –0.163 (see table on page 7). Using the value 7.84 (which is the root mean square error of the matrix data and the value used to generate lab severity adjustments) to compute an average delta yields 1.28 demerits mild. Severity remained within acceptable limits throughout this period. Precision is no longer exceeding the EWMA warning limit.



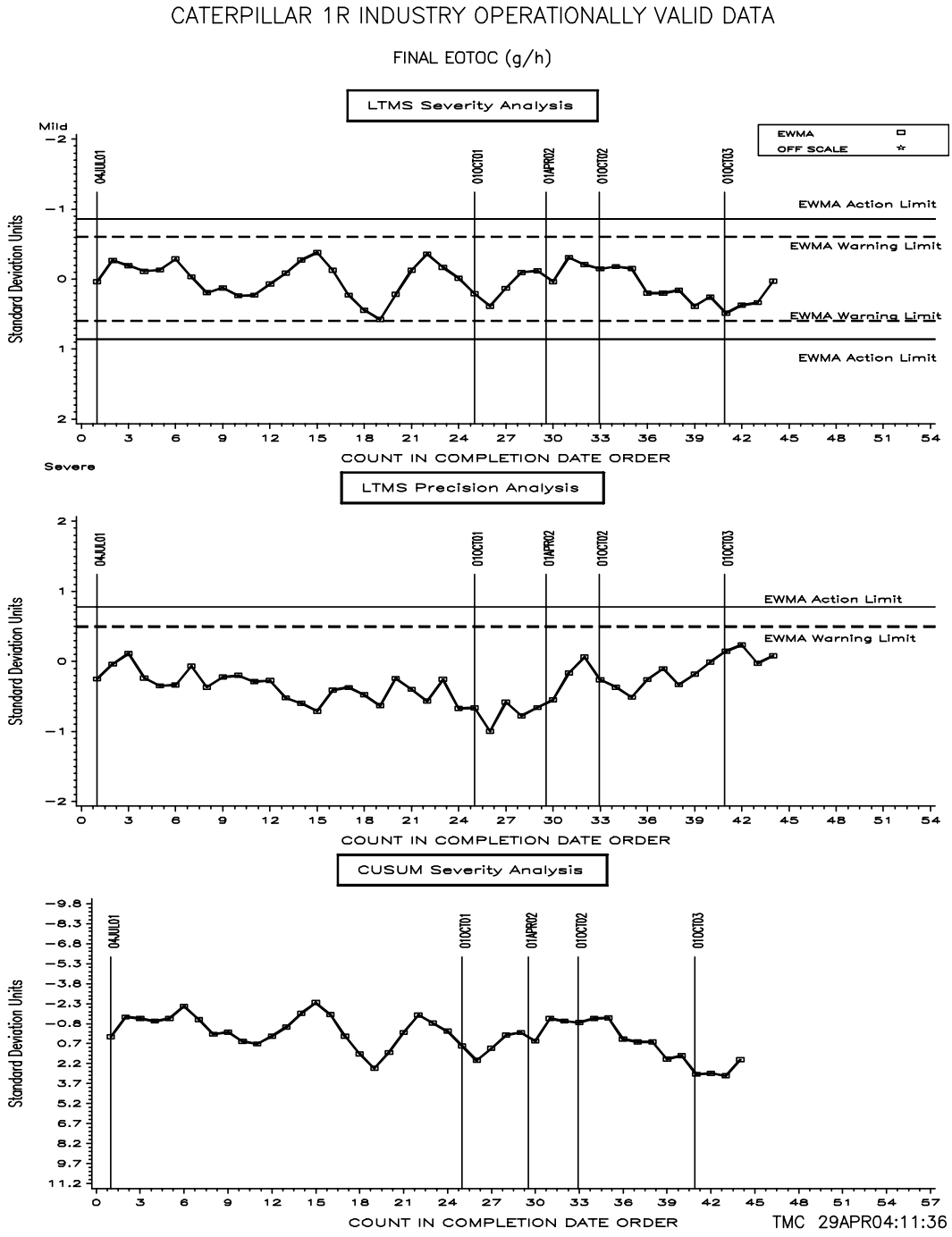
Beginning of Test Oil Consumption (BTOC):

The average BTOC Yi reported this period was 0.543 (see table on page 7). Using the value 1.32 (which is the root mean square error of the matrix data and the value used to generate lab severity adjustments) to compute an average delta yields 0.72g/h severe. Severity and precision remained within acceptable limits throughout this period.



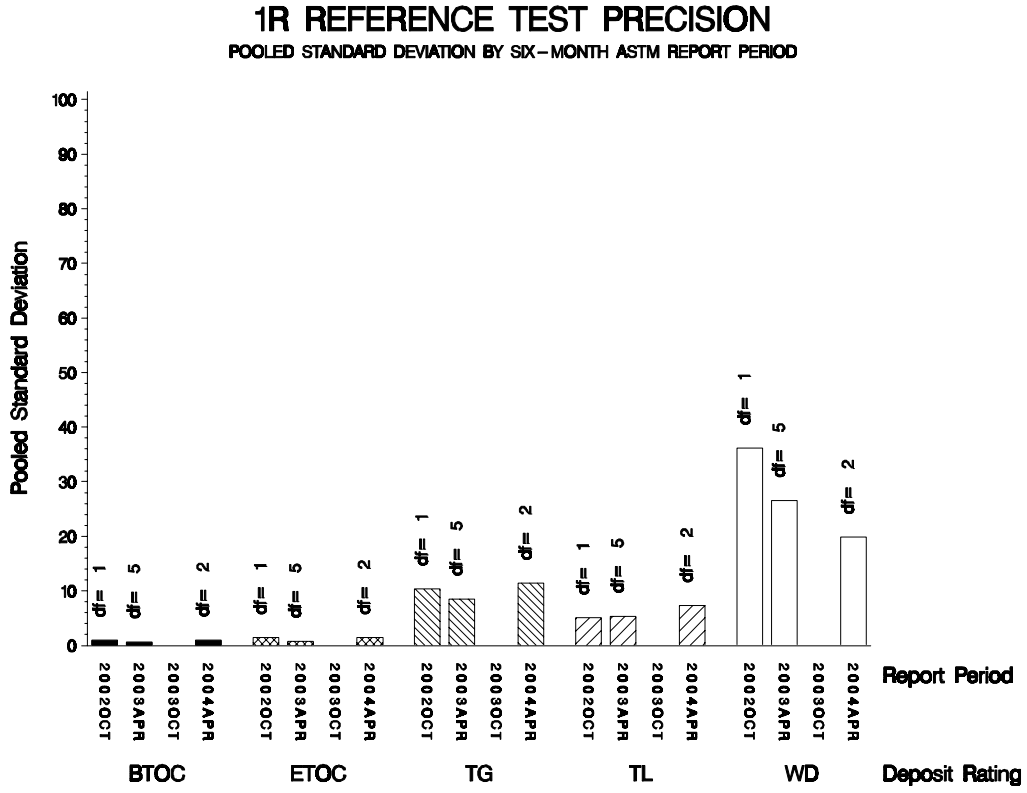
EOT Oil Consumption (ETOC):

The average ETOC Yi reported this period was 0.079 (see table on page 7). Using the value 1.35 (which is the root mean square error of the matrix data and the value used to generate lab severity adjustments) to compute an average delta yields 0.11g/h severe. Severity and precision remained within acceptable limits throughout this period.



POOLED S:

Shown below is a bar chart comparing the pooled s values for the 1R test parameters over the last four report periods.



STATUS OF REFERENCE OIL SUPPLY:

At the end of this report period, the testing oil supply stood as outlined in the following table:

		@ TMC	
Oil	Cans @ Labs	Cans	Gallons
820-2	10	156	2348
1005-1	12	0	5
1005-2	0	94	1410
Total	22	250	3763

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

Be aware that this table presumes that *all* of each of these oils is dedicated to the 1R test area. All of these oils are also used in the other diesel test areas. 1005-2 is now available for testing at the labs. No tests have yet been run on it.

TIMELINE OF SIGNIFICANT EVENTS IN THE LIFE OF THE 1R TEST:

Effective Date	Info Letter	
20010612		START OF FIRST 1R MATRIX TEST
20010902		END OF LAST 1R MATRIX TEST
20011001		BEGIN REGISTERED TESTING
20030101	03-1	FIRST ISSUE OF PROCEDURE DRAFT
20030101	03-1	QUALITY INDEX CALCULATION CONSTANTS FINALIZED
20040212		DD VERSION 20040116 ACC STATEMENT ADDED TO REPORT FORMS

RATING:

During this report period, one 1R re-rate was requested. The WD rating difference was larger than is usually seen. The second referee produced no better agreement so the lab elected to use the original ratings for the test report. The table below summarizes the re-rates for this report period:

Rating Re-rate Summary

Total number of re-rates requested	1
Number of tests where lab rating was changed	0
Number of tests where referee rating was changed	0
Number of tests where no changes were made	1

LAB VISITS:

No 1R lab visits were completed during this report period.

INFORMATION LETTERS/REPORT PACKET REVISION NOTICES:

No information letters were issued this report period.

SUMMARY

- Over the course of this report period, TGC, WD, TLC, BTOC, and ETOC all remained within acceptable severity limits.

- Precision for all parameters remained within acceptable limits throughout this report period.

SDP/sdp/astm0404.doc/mem04-045.sdp.doc

c: J. L. Zalar
F. M. Farber
Abdul Cassim
Single Cylinder Diesel Surveillance Panel
ftp://ftp.astmtmc.cmu.edu/docs/diesel/scote/semiannualreports/1r-04-2004.pdf

Distribution: internet