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MEMORANDUM: 01-006

DATE: January 12, 2001

TO: Gordon Farnsworth, Chairman, Sequence V Surveillance Panel

FROM: Richard E. Grundza

SUBJECT: Sequence VG Reference Oil Status Report for November 1, 2000 through December 31, 2000

Nine operationally valid Sequence VG tests were completed during the period from November 1, 2000 through December 31, 2000. These tests are tabulated below. Table 1 summarizes all operationally valid calibration tests completed during November and December. Table 2 summarizes all operationally valid data completed between July 1, 2000 and December 31, 2000. Table 3 lists the Average Δ/s by Laboratory and Industry of tests completed during November and December. Table 4 lists the industry action alarms observed during the months of November and December.

Remarks:	No. of Tests
Operationally Valid and Statistically Acceptable	8
Operationally Valid, Failed Acceptance Criteria	1
TOTAL	9

Figures 1 through 5 show the Industry Control Charts and plots of summation Δ/s for AES, AEV, APV, OSCR and RAC for all operationally valid reference tests completed through December 31, 2000.

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Attachments

c: Sequence VE Surveillance Panel
Sequence VE Test Engineers
ftp://www.tmc.astm.cmri.cmu.edu/docs/gas/sequencev/memos/memo01-006

TABLE 1
SEQUENCE VG
OPERATIONALLY VALID DATA
TEST DATA COMPLETED FROM NOVEMBER 1, 2000 THROUGH DECEMBER 31, 2000

OIL CODE	DATE COMPLETED	SLUDGE RAC	SLUDGE AES	VARNISH APV	VARNISH AEV	OTHER OSCR	OTHER HSTR
1006	20001210	9.14	7.95	8.70	9.31	2.00	0.00
	20001210	9.40	8.70	8.58	9.25	6.00	0.00
	20001229	9.34	8.90	8.50	9.41	7.00	0.00
1007	20001112	9.04	8.58	8.60	9.10	3.00	0.00
925-3	20001117	7.09	6.22	6.98	8.59	99.00	0.00
	20001118	7.62	6.61	7.59	8.83	70.00	0.00
	20001119	7.54	5.48	7.85	8.53	100.00	0.00
	20001122	7.92	7.46	7.12	8.06	11.00	0.00
	20001229	6.65*	5.45	7.35	8.69	95.00	0.00

* = FAILED ACCEPTANCE CRITERIA, SHEWHART ALARM

TABLE 2
SEQUENCE VG
OPERATIONALLY VALID DATA
DATA FROM JULY 1, 2000 THROUGH DECEMBER 31, 2000

OIL CODE	TEST PARAMETER	N	MEAN	s	REPORTED RANGE
1006	RAC (MERITS*)	12	9.332	0.210	8.870 TO 9.620
	AES (MERITS*)		8.636	0.422	7.920 TO 9.360
	Avg. Pist. Varnish		8.477	0.149	8.320 TO 8.710
	Avg. Eng. Varnish		9.275	0.089	9.150 TO 9.410
	OSCR (ln(OSCR+1))		1.305	0.837	0.000 TO 3.045
	OSCR (% Area)		2.688		0.000 TO 20.01
1007	RAC (MERITS*)	6	8.918	0.167	8.700 TO 9.120
	AES (MERITS*)		8.778	0.228	8.570 TO 9.170
	Avg. Pist. Varnish		8.515	0.125	8.410 TO 8.720
	Avg. Eng. Varnish		9.215	0.102	9.100 TO 9.330
	OSCR (ln(OSCR+1))		0.913	0.579	0.000 TO 1.609
	OSCR (% Area)		1.493		0.000 TO 4.000
925-3	RAC (MERITS*)	5	7.364	0.498	6.650 TO 7.920
	AES (MERITS*)		6.244	0.841	5.450 TO 7.460
	Avg. Pist. Varnish		7.378	0.351	6.980 TO 7.850
	Avg. Eng. Varnish		8.540	0.291	8.060 TO 8.830
	OSCR (ln(OSCR+1))		4.106	0.918	2.485 TO 4.615
	OSCR (% Area)		59.73		11.00 TO 100.0

Table 3
Sequence VG
Average Δ/s by Laboratory

Laboratory	N Size	AES	RAC	AEV	APV	OSCR
A	3	-0.225	-1.369	0.743	-0.347	0.661
B	1	0.205	0.056	1.069	0.488	0.266
D	2	-0.978	-0.608	0.217	1.144	0.138
E	2	-0.418	0.092	-0.878	0.289	0.769
G	1	1.229	0.889	-1.586	-0.659	-1.408
Industry	9	-0.226	-0.466	0.043	0.184	0.287

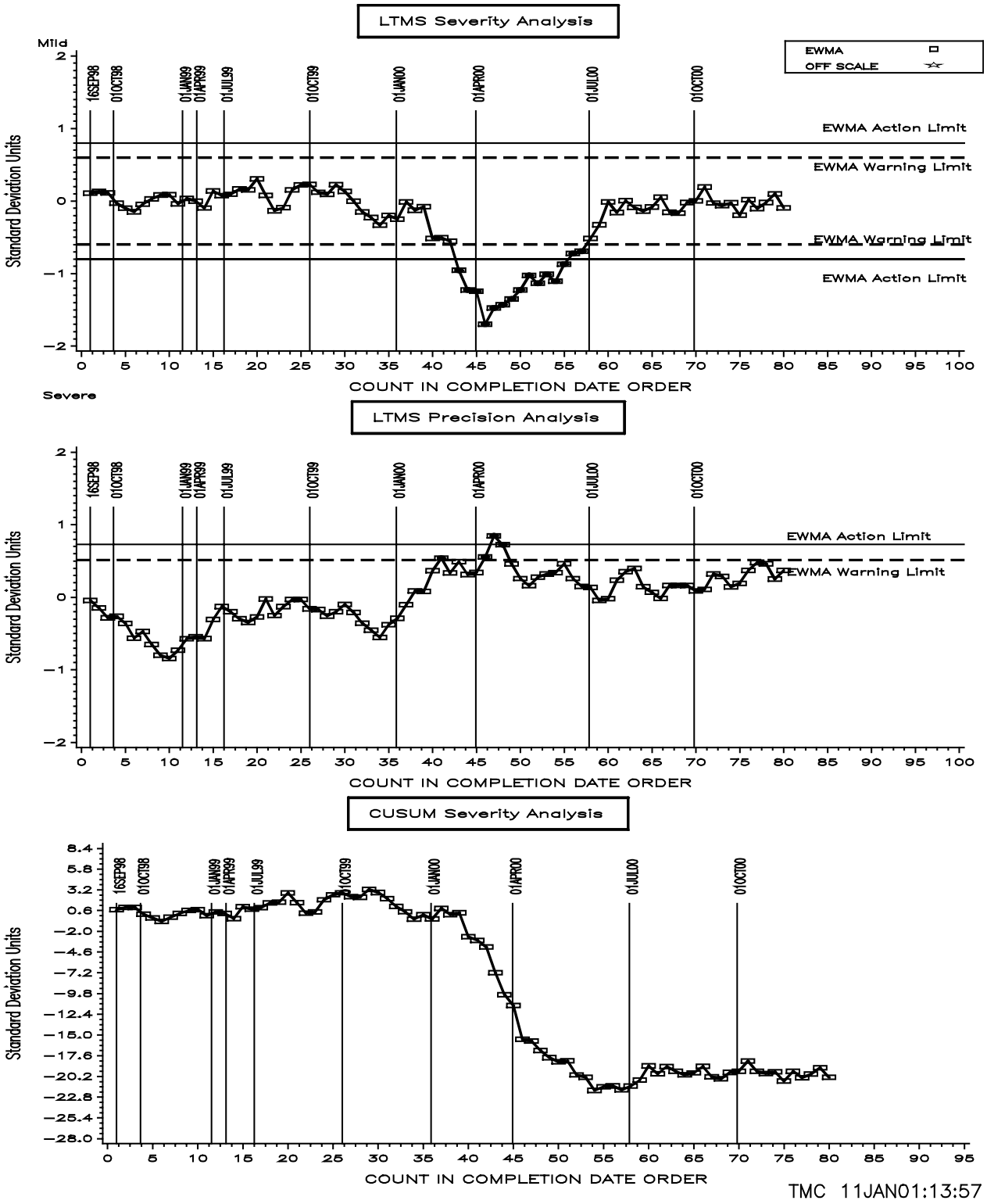
Table 4
Sequence VG
Summary of Industry Action Alarms, Months of November and December

Date	Oil Code	Parameter	Alarm Type	Alarm Value	Alarm Limit
No Action Alarms Sounded					

SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA

AVERAGE ENGINE SLUDGE

Figure 1



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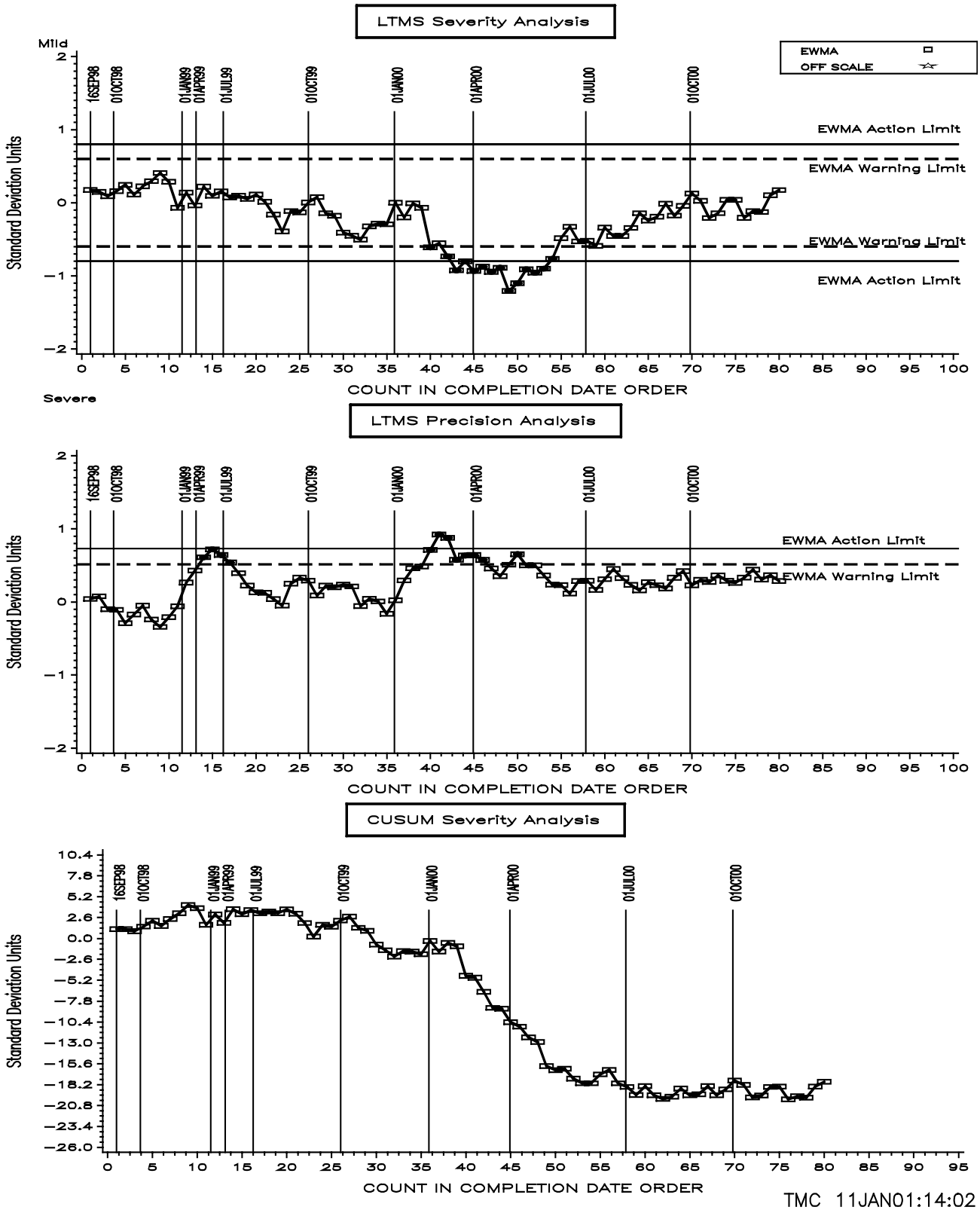
SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA

AVERAGE ENGINE VARNISH 3–PART FINAL RESULT

Figure 2



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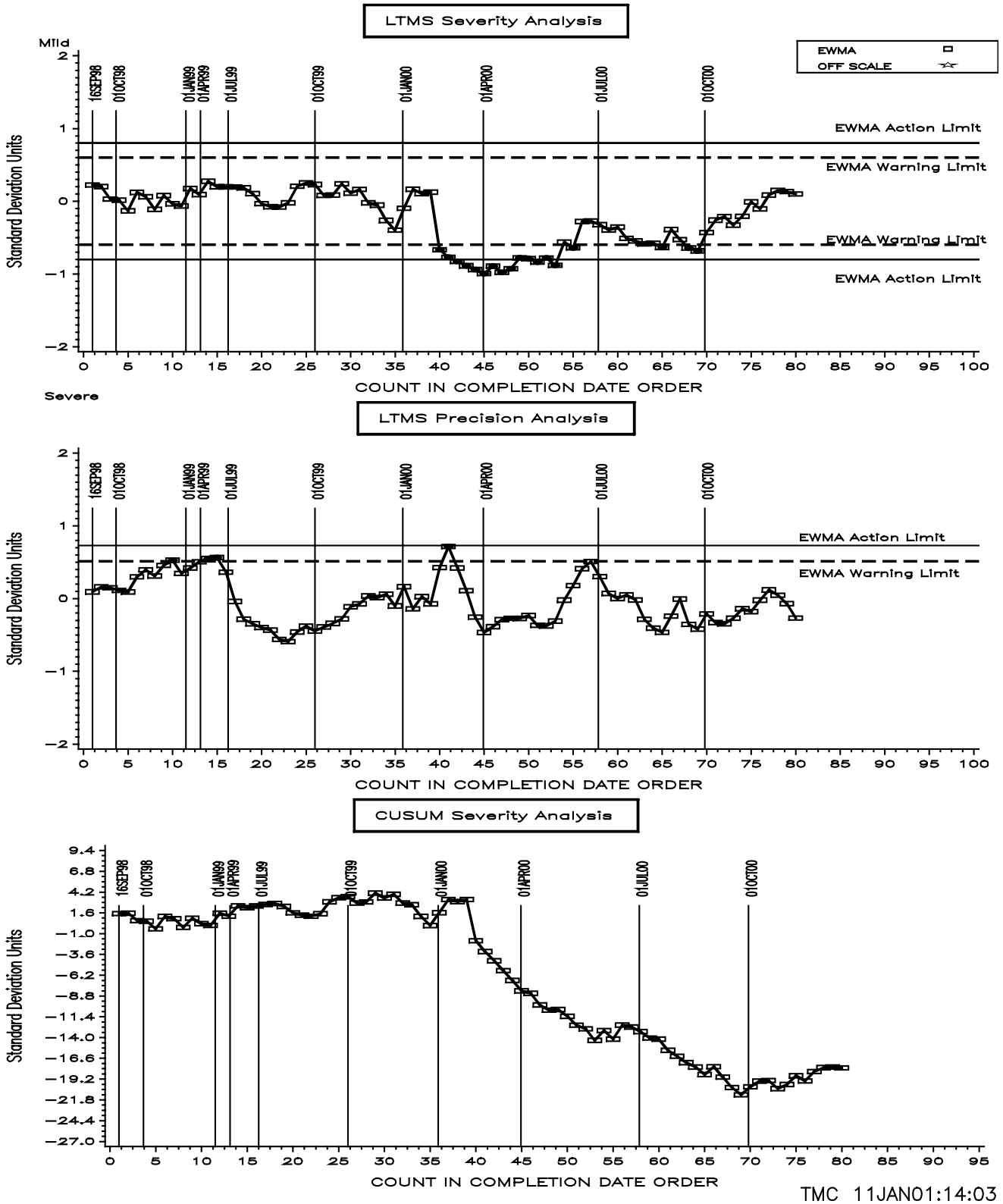
SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA

AVG PISTON SKIRT RATING (MERITS)

Figure 3



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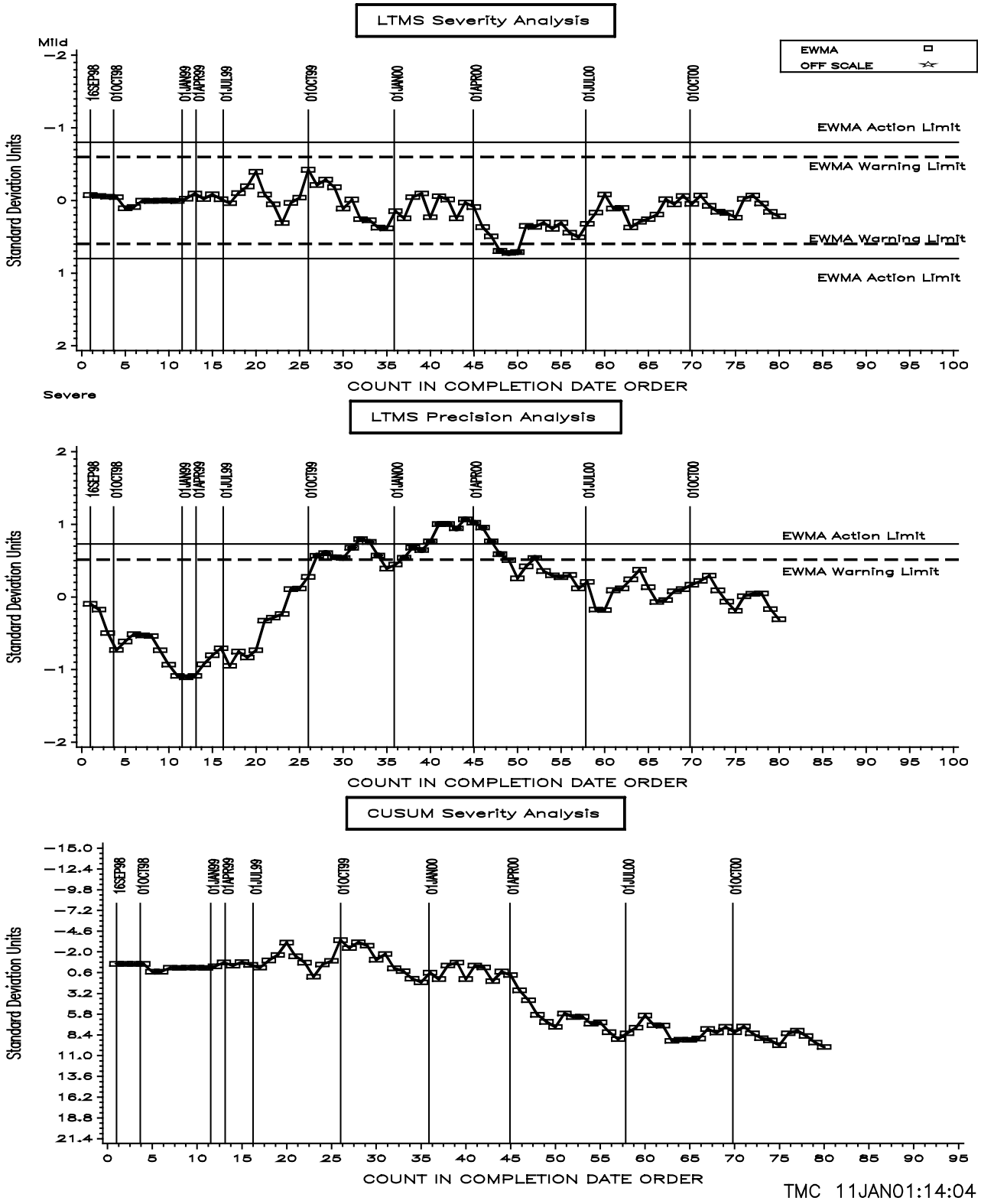
SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA

OIL SCREEN SLUDGE

Figure 4



SEQUENCE VG INDUSTRY OPERATIONALLY VALID DATA

AVERAGE ROCKER COVER SLUDGE

Figure 5