



Test Monitoring Center

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MEMORANDUM: 04-055
DATE: June 10, 2004
TO: Sequence III Surveillance Panel
FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*
SUBJECT: Sequence IIIF Reference Oil 1008-1 Updated Test Targets

The TMC has received 20 data points on reference oil 1008-1 and as such has sufficient data to update the test targets at this time. The updated test targets, based on the 20 available data points on this reference oil, are shown below:

<i>Updated Reference Oil 1008-1 Test Targets</i>		
<i>Parameter</i>	<i>Mean</i>	<i>Standard Deviation</i>
PVIS	0.0930792	0.0059248
APV	9.77	0.103
WPD	4.57	0.699
PV60	4.33528	0.118673

Any applicable severity adjustments were applied to the data prior to target generation. These targets will be updated when the TMC has 30 data points available on this reference oil. Below are two tables showing the individual reference oil test results used in generation of these targets. Table 1 is the raw, unadjusted data as reported to the TMC and Table 2 is the severity-adjusted data used to calculate the test targets, with severity-adjusted parameters shown in *red*.

The new test targets, along with targets based on the raw data, the final test targets on reference oil 1008, the initial test targets on reference oil 1008-1, and the individual data points are displayed graphically in the six attached plots. Figures 1 and 2 show Percent Viscosity Increase at 80 hours, in transformed and reported units, respectively. Figure 3 shows Weighted Piston Deposits in reported units and Figure 4 shows Average Piston Varnish in reported units. Figures 5 and 6 show Percent Viscosity Increase at 60 hours (the IIIF-HD parameter) in transformed and reported units, respectively.

These new targets are effective for all tests completed on or after June 21, 2004.

MTK/mtk

Attachments

c: John L. Zalar, TMC
<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/memos/mem04-055.pdf>

Distribution: Electronic Mail

Table 1 – Unadjusted Reference Oil 1008-I Data

TESTKEY	LTMSLAB	LIMSAPP	IND	VAL	LTMDATE	LTMSTIME	PVIS	PVISTI	APV	WPD	PV60	ACLW	SACLW	OILCON
44914	A	7	1008-1	AC	10/6/2002	22:07	172.4	0.076161	9.69	4.2	102.66	12.6	12.2	3.58
44917	A	4	1008-1	AC	11/1/2002	18:53	109.1	0.095739	9.76	4.22	68.84	10.8	10.6	3.17
44918	A	6	1008-1	AC	1/10/2003	18:47	121	0.090909	9.67	3.75	77.9	14.8	15	3.36
46565	A	7	1008-1	AC	2/9/2003	7:37	119.9	0.091325	9.72	3.98	77.91	12.8	12.9	3.08
46567	A	5	1008-1	AC	4/30/2003	19:27	114.2	0.093577	9.76	4.06	75.19	7	6.9	2.78
47088	A	4	1008-1	AC	12/19/2003	1:47	126	0.089087	9.81	3.85	82.78	27.2	12.3	3.03
49520	A	5	1008-1	AC	4/26/2004	20:42	121.7	0.090647	9.78	4.1	72.59	10.6	10.5	3.07
47073	B1	3A	1008-1	OC	2/10/2003	7:53	101.8	0.099112	9.84	6.1	64.4	4.5	4.4	2.74
47074	B1	3A	1008-1	AC	2/26/2003	0:38	111.3	0.094788	9.82	4.91	68.8	11.2	11	2.71
47161	B1	2A	1008-1	AC	9/2/2003	17:35	155.1	0.080296	9.72	4.34	89.32	13.3	13.3	3.08
48529	B1	2A	1008-1	AC	9/20/2003	12:30	139.1	0.084788	9.58	4.27	85.4	37.6	18.3	3.69
49703	B1	2A	1008-1	AC	1/25/2004	14:59	103.2	0.098437	9.76	5.23	66.2	172.4	9.1	3.44
49704	B1	2A	1008-1	AC	4/30/2004	14:57	115.1	0.09321	9.82	5.31	65.76	7.6	7.5	3.01
44883	G	5	1008-1	OC	7/2/2002	14:21	131.8	0.087105	9.52	5.63	85.61	129	112.8	3.73
44885	G	5	1008-1	AC	7/13/2002	8:23	124	0.089803	9.8	4.57	67.17	10.2	9.8	3.47
44886	G	3	1008-1	AC	11/2/2002	10:52	122	0.090536	9.81	3.95	80.77	12.9	13	3.76
45541	G	1	1008-1	OC	6/21/2003	6:18	117.6	0.092214	9.71	3.89	72.62	54.5	29.4	3.34
45542	G	1	1008-1	AC	6/29/2003	6:44	120.2	0.091211	9.6	4.1	78.09	2.9	2.8	3.41
45543	G	3	1008-1	AC	9/1/2003	9:07	116.8	0.092529	9.77	4.36	74.6	6	6.1	3.18
44897	M	1	1008-1	AC	10/7/2002	5:28	131.3	0.087271	9.82	5.71	80.79	5.8	5.6	3.31

Table 2 – Severity Adjusted Reference Oil 1008-1 Data

TESTKEY	LTMSLAB	LTMSAPP	IND	VAL	LTMSDATE	LTMSTIME	PVIS	PVISTI	APV	WPD	PV60	ACLW	SACLW	OILCON
44914	A	7	1008-1	AC	10/6/2002	22:07	172.4	0.076161	9.69	4.66	102.66	12.6	12.2	3.58
44917	A	4	1008-1	AC	11/1/2002	18:53	109.1	0.095739	9.76	4.22	68.84	10.8	10.6	3.17
44918	A	6	1008-1	AC	1/10/2003	18:47	121	0.090909	9.67	3.75	77.9	14.8	15	3.36
46565	A	7	1008-1	AC	2/9/2003	7:37	119.9	0.091325	9.72	3.98	77.91	12.8	12.9	3.08
46567	A	5	1008-1	AC	4/30/2003	19:27	114.2	0.093577	9.76	4.06	75.19	7	6.9	2.78
47088	A	4	1008-1	AC	12/19/2003	1:47	103.6	0.09826	9.81	3.85	82.78	27.2	12.3	3.03
49520	A	5	1008-1	AC	4/26/2004	20:42	121.7	0.090647	9.78	4.1	72.59	10.6	10.5	3.07
47073	B1	3A	1008-1	OC	2/10/2003	7:53	101.8	0.099112	9.84	6.1	64.4	4.5	4.4	2.74
47074	B1	3A	1008-1	AC	2/26/2003	0:38	111.3	0.094788	9.82	4.91	68.8	11.2	11	2.71
47161	B1	2A	1008-1	AC	9/2/2003	17:35	117.6	0.092198	9.72	4.34	89.32	13.3	13.3	3.08
48529	B1	2A	1008-1	AC	9/20/2003	12:30	102.6	0.098736	9.58	4.27	85.4	37.6	18.3	3.69
49703	B1	2A	1008-1	AC	1/25/2004	14:59	87.3	0.107033	9.76	5.23	66.2	172.4	9.1	3.44
49704	B1	2A	1008-1	AC	4/30/2004	14:57	115.1	0.09321	9.82	5.31	65.76	7.6	7.5	3.01
44883	G	5	1008-1	OC	7/2/2002	14:21	107.8	0.096326	9.52	5.63	85.61	129	112.8	3.73
44885	G	5	1008-1	AC	7/13/2002	8:23	124	0.089803	9.8	4.57	67.17	10.2	9.8	3.47
44886	G	3	1008-1	AC	11/2/2002	10:52	122	0.090536	9.81	3.95	80.77	12.9	13	3.76
45541	G	1	1008-1	OC	6/21/2003	6:18	117.6	0.092214	9.86	3.89	72.62	54.5	29.4	3.34
45542	G	1	1008-1	AC	6/29/2003	6:44	120.2	0.091211	9.84	4.1	78.09	2.9	2.8	3.41
45543	G	3	1008-1	AC	9/1/2003	9:07	116.8	0.092529	10.00*	4.8	74.6	6	6.1	3.18
44897	M	1	1008-1	AC	10/7/2002	5:28	131.3	0.087271	9.82	5.71	80.79	5.8	5.6	3.31

* Severity-adjusted rating limited to 10.00 merit upper limit of rating range; actual severity-adjusted value 10.03 merits.

Figure 1

Sequence III F Reference Oil 1008-1 Test Target Data Set and Shewhart Bands

Percent Viscosity Increase, in transformed units

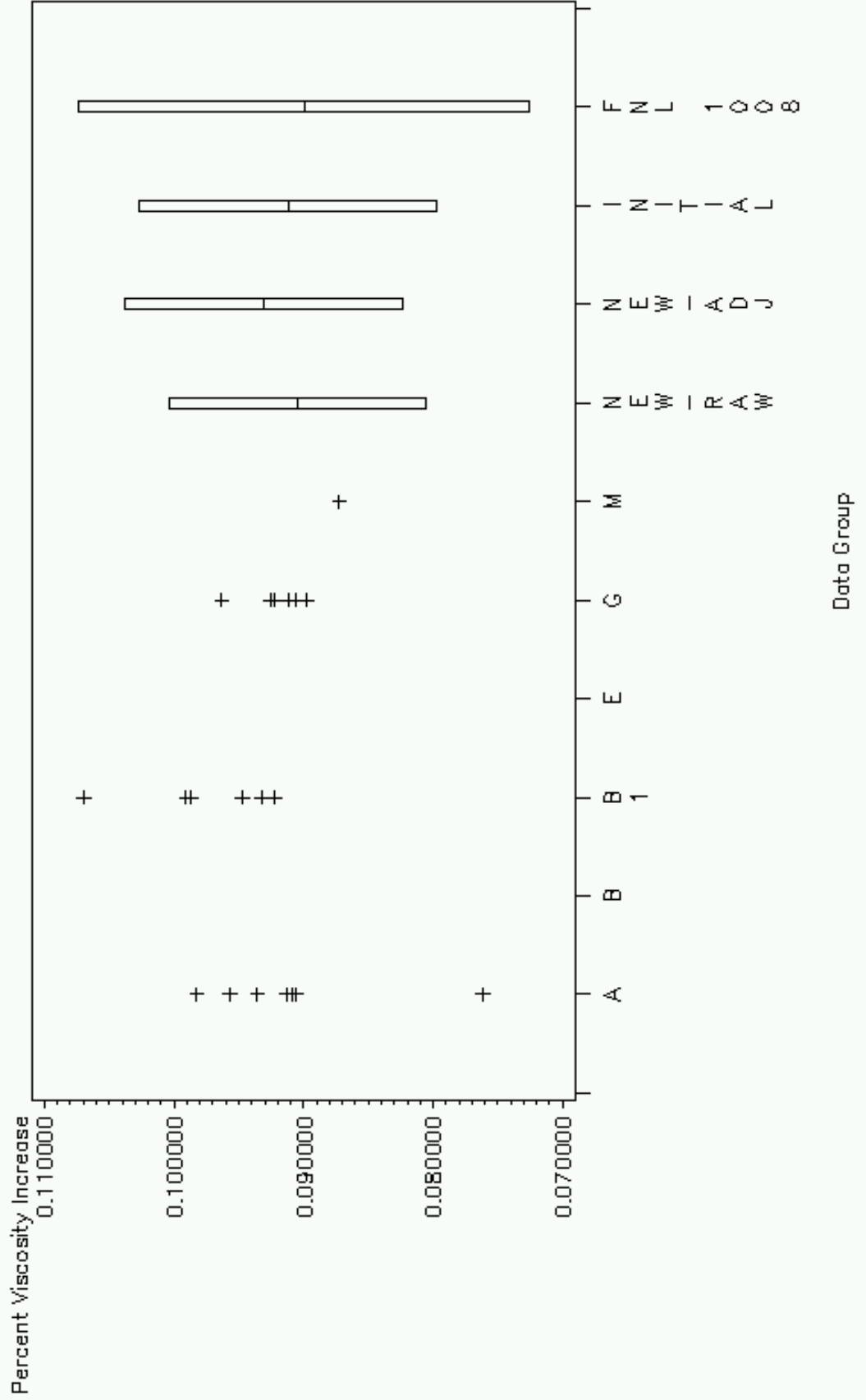


Figure 2

Sequence IIF Reference Oil 1008-1 Test Target Data Set and Shewhart Bands

Percent Viscosity Increase, in original units

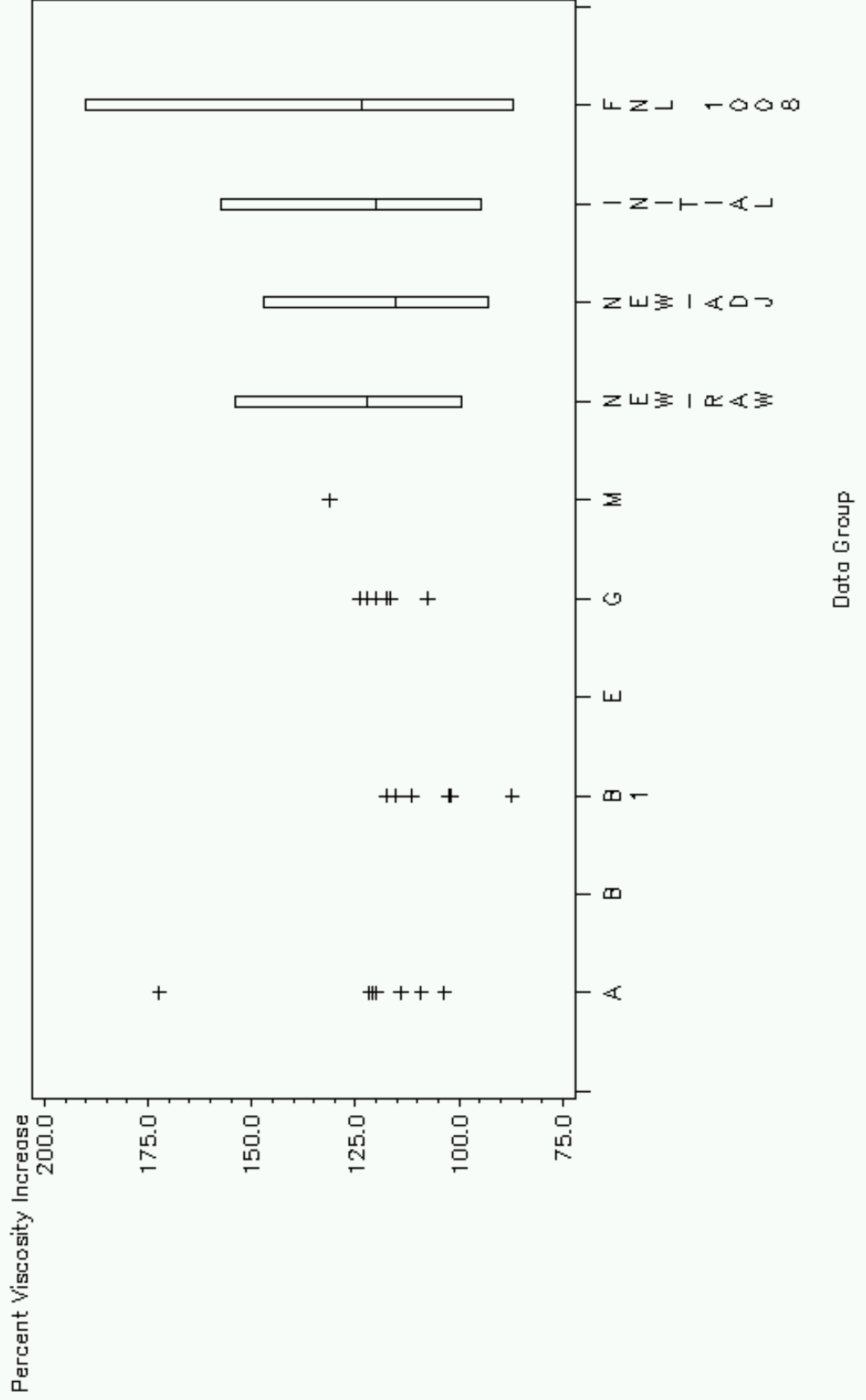


Figure 3

Sequence IIF Reference Oil 1008-1 Test Target Data Set and Shewhart Bands

Weighted Piston Deposits, in reported units

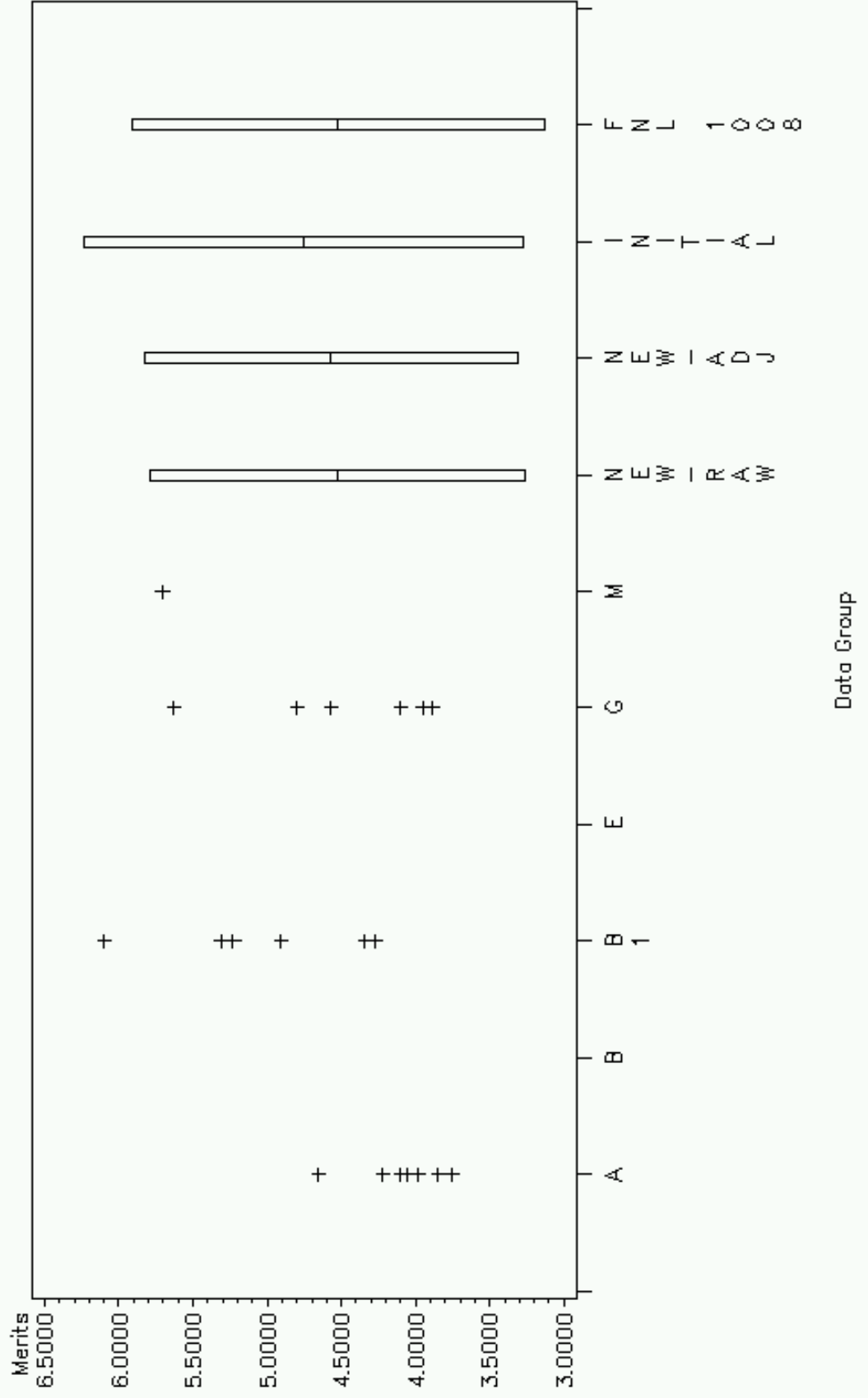


Figure 4

Sequence IIF Reference Oil 1008-1 Test Target Data Set and Shewhart Bands

Average Piston Vornish, in reported units

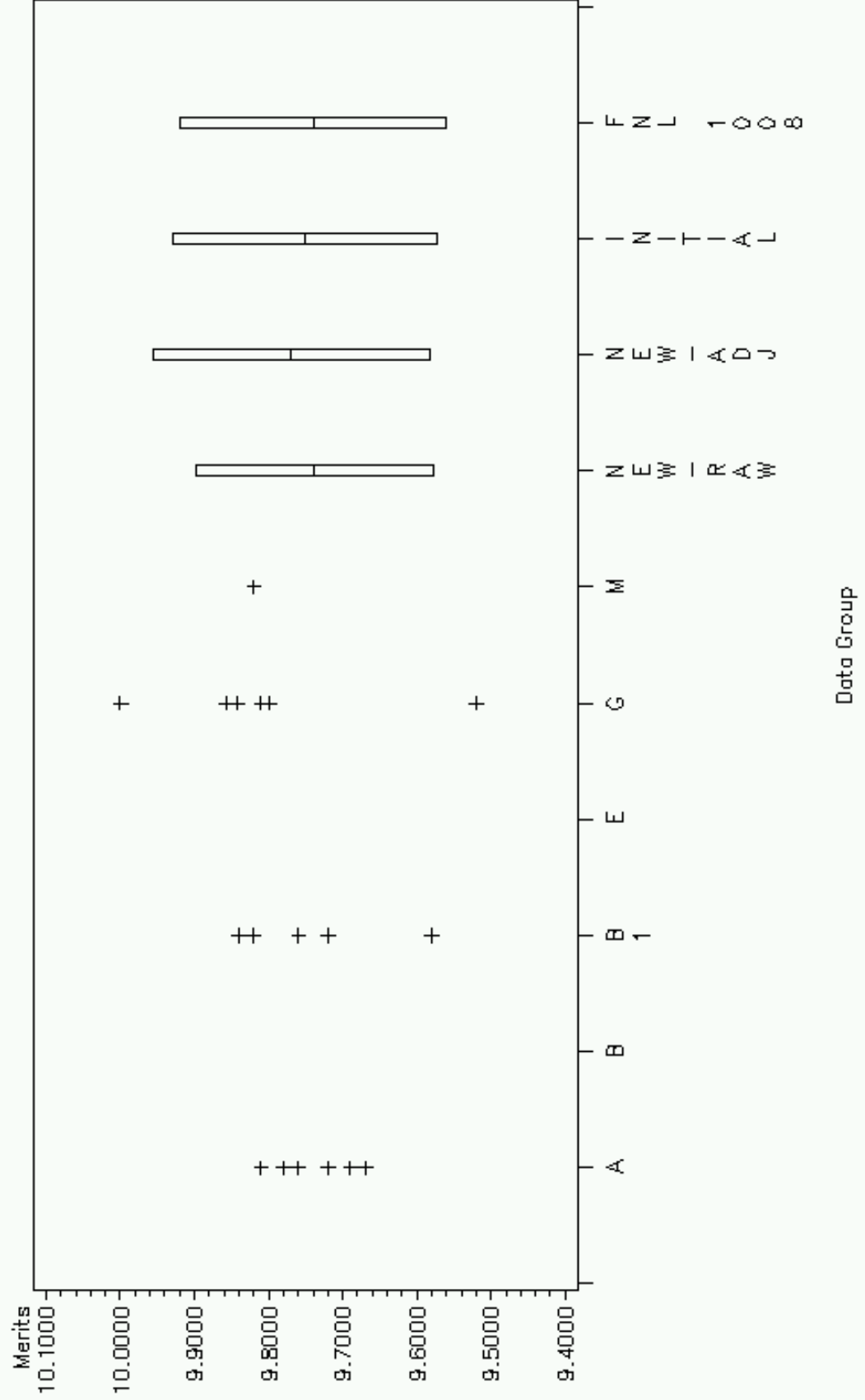


Figure 5

Sequence IIF Reference Oil 1008-1 Test Target Data Set and Shewhart Bands

Percent Viscosity Increase @ 60H, in transformed units

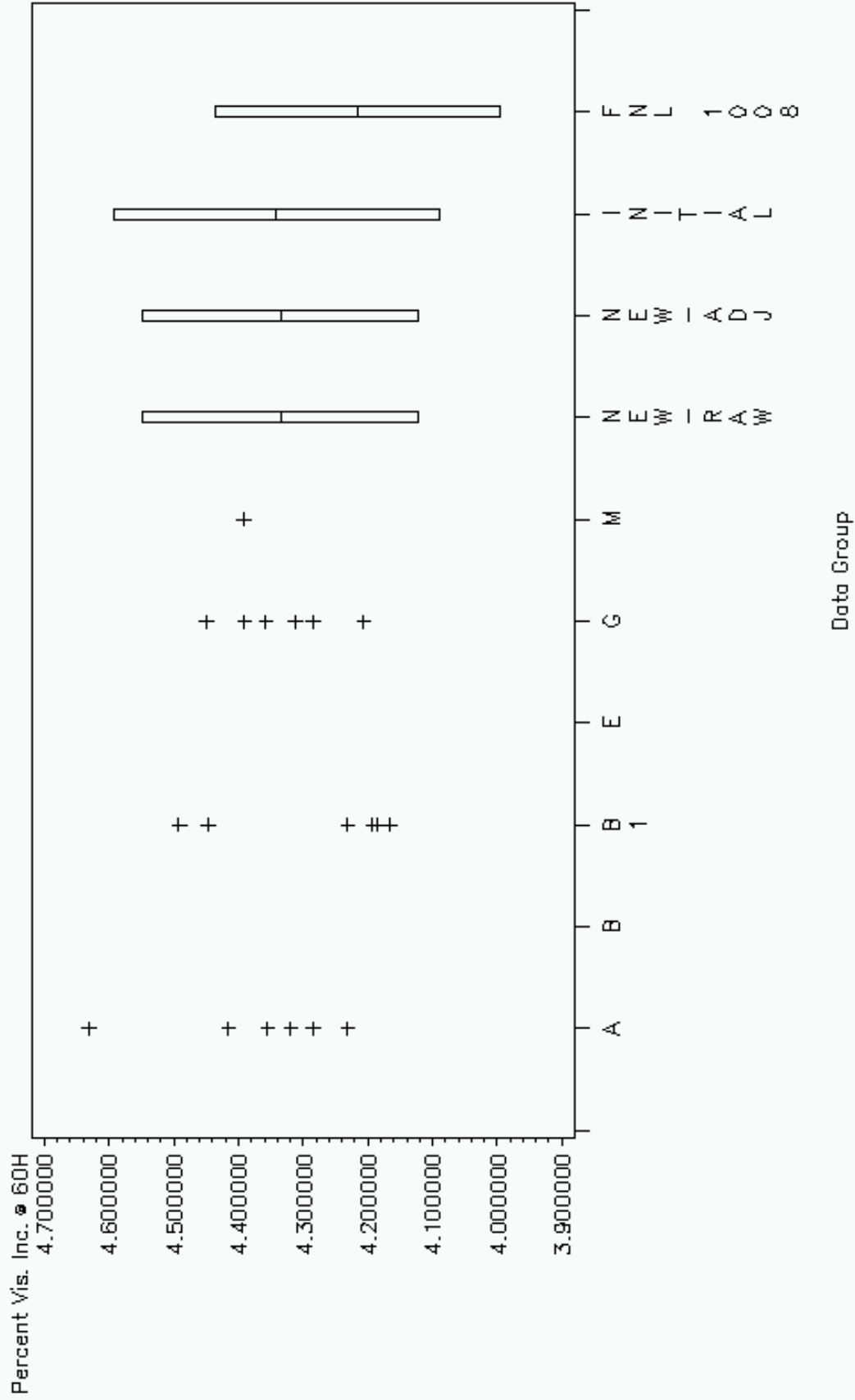


Figure 6

Sequence III F Reference Oil 1008-1 Test Target Data Set and Shewhart Bands

Percent Viscosity Increase @ 60H, in original units

