



Test Monitoring Center

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

MEMORANDUM: 03-063

DATE: June 19, 2003

TO: Sequence IIIF Surveillance Panel

FROM: Michael T. Kasimirsky *Michael T. Kasimirsky*

SUBJECT: Reference Oil 1006-2 Test Target Update

At the November 15, 2001 meeting of the Sequence IIIF Surveillance Panel the panel approved a motion to introduce reference oil 1006-2 into the LTMS using targets generated from a matrix of five simultaneous reference oil tests run on that oil. The targets for this oil would also be updated when 10, 20, and 30 data points became available. At this time the TMC has received 22 data points on this oil and has updated the test targets based upon this data. The updated targets for reference oil 1006-2, based on these 14 data points, are shown in the following table:

Parameter	Mean	Standard Deviation
PVIS	0.0461786	0.0079007
WPD	4.00	0.459
APV	9.38	0.227
PV60	5.43687	0.171445

Any applicable severity adjustments were applied to the data prior to target generation. The data used to generate these targets is shown in Tables 1 & 2. Table 1 shows unadjusted data. Table 2 shows severity adjusted data, with the adjusted parameters shown in red. The above test targets; as well as the severity-adjusted data used to generate them, the raw test targets, and the final targets for reference oil 1006; are shown in the following figures. Figure 1 shows the PVIS data in transformed units. Figure 2 shows the PVIS data in original units. Figure 3 shows the same data as Figure 2, but with the final 1006 targets removed so that the axes can be condensed and allow more detail to be shown. Figure 4 shows the WPD data in original units. Figure 5 shows the APV data in original units. Figures 6 through 8 show the PV60 data in a manner similar to Figures 1 through 3 respectively.

These targets are effective for all tests completed on or after July 1, 2003.

MTK/mtk

Attachments

c: John L. Zalar, TMC

<ftp://www.astmtmc.cmu.edu/docs/gas/sequenceiii/memos/mem03-063.pdf>

Distribution: Electronic Mail

Table 1 – Unadjusted Data

TESTKE	Y	LTM	SLAB	LTM	SAPP	IND	VAL	LTM	DATE	LTM	TIME	PVIS	PVISTI	APV	WPD	PV60	ACLW	SACLW	OILCON
42510	A	7	1006-2	AC	1/10/2002	21:31	327.6	0.055249	9	3.57	202.37	19.6	12.2	5.43					
42512	A	9	1006-2	AC	3/10/2002	6:10	349.1	0.053521	9.33	3.92	218.06	13.2	13.4	5.47					
43569	A	4	1006-2	AC	6/18/2002	11:03	352.2	0.053285	9.42	3.82	202.83	6.8	6.4	5.15					
43573	A	5	1006-2	AC	6/30/2002	10:43	357.9	0.052859	9.4	4.22	218.07	11.7	11.6	5.26					
45293	A	6	1006-2	AC	8/6/2002	8:27	501.1	0.044672	9.69	3.47	248.86	9.2	9	5.68					
45294	A	9	1006-2	AC	12/13/2002	21:01	429.6	0.048247	9.11	3.35	209.41	15.4	15.6	5.29					
45295	A	5	1006-2	AC	12/22/2002	7:29	718.1	0.037317	9.56	4.5	308.28	12.4	12.6	5.69					
45912	A	4	1006-2	AC	4/21/2003	13:22	507.3	0.044398	9.22	4.12	271.33	16.3	16.3	5.73					
42500	B	1	1006-2	AC	1/12/2002	10:31	793.4	0.035502	9.2	3.91	222.5	13	13.2	5.65					
46855	B1	2A	1006-2	OC	4/25/2003	10:50	1622.3	0.024828	9.43	3.82	165.3	8.5	8.3	5.3					
47160	B1	2A	1006-2	OC	5/4/2003	10:58	736.9	0.036838	9.42	4.42	214.6	7.8	7.6	5.33					
42504	E	1	1006-2	AC	1/14/2002	1:47	320.5	0.055858	9.3	3.94	159.63	4.8	4.7	5.07					
42507	G	3	1006-2	AC	1/12/2002	13:16	476.7	0.045801	9.54	3.65	249.16	11.4	11.7	5.87					
42508	G	1	1006-2	AC	4/9/2002	20:58	555.2	0.04244	9.51	4.43	274.09	9.1	9	5.64					
42509	G	5	1006-2	AC	4/15/2002	9:11	550	0.04264	9.57	4.19	272.52	3.9	3.8	5.47					
44396	G	5	1006-2	OC	7/7/2002	9:05	485	0.045408	9.55	3.91	259.86	3.6	3.4	5.84					
44393	G	1	1006-2	AC	7/12/2002	8:30	433.3	0.04804	9.74	4.4	259.68	7.3	7.1	6.01					
45305	G	4	1006-2	AC	2/24/2003	10:26	535.2	0.043226	9.11	3.43	268.51	14.2	14.2	5.97					
45306	G	3	1006-2	OC	3/15/2003	8:47	441.5	0.047592	8.94	3.83	247.53	13.5	13.3	5.65					
45307	G	3	1006-2	OC	3/22/2003	9:52	460.8	0.046585	8.97	3.57	254.1	7.3	7.5	5.68					
42515	M	2	1006-2	AC	2/4/2002	23:28	293.3	0.058391	9.68	3.78	178.13	10.1	10.2	4.96					
44185	M	2	1006-2	AC	7/14/2002	7:17	507.7	0.044381	9.51	4.27	218.27	2.8	2.5	5.58					

Table 2 – Severity Adjusted Data

TESTKE Y	LTMSLAB	LTMMSAPP	IND	VAL	LTMMSDATE	LTMSTIME	PVIS	PVISTI	APV	WPD	PV60	ACLW	SACLW	OILCON
42510	A	7	1006-2	AC	1/10/2002	21:31	327.6	0.055249	9	4.03	202.37	19.6	12.2	5.43
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45912	A	4	1006-2	AC	4/21/2003	13:22	507.3	0.044398	9.22	4.12	271.33	16.3	16.3	5.73
42500	B	1	1006-2	AC	1/12/2002	10:31	793.4	0.035502	9.2	3.91	222.5	13	13.2	5.65
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45307	G	3	1006-2	OC	3/22/2003	9:52	460.8	0.046585	9.15	3.57	254.1	7.3	7.5	5.68
42515	M	2	1006-2	AC	2/4/2002	23:28	293.3	0.058391	9.68	3.31	178.13	10.1	10.2	4.96
44185	M	2	1006-2	AC	7/14/2002	7:17	352.9	0.053232	9.51	4.27	218.27	2.8	2.5	5.58

Figure 1

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

Percent Viscosity Increase, in transformed units

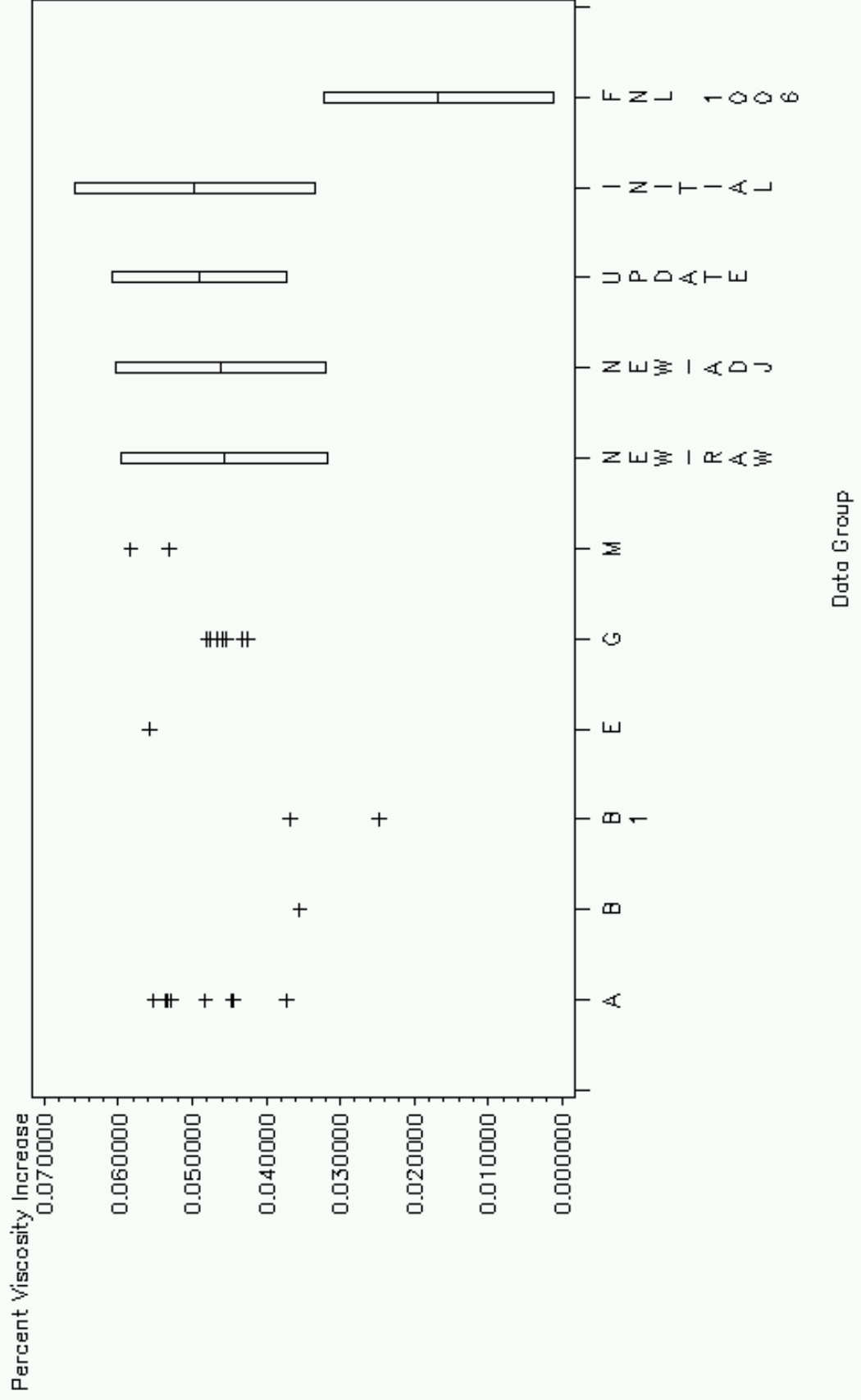


Figure 2

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

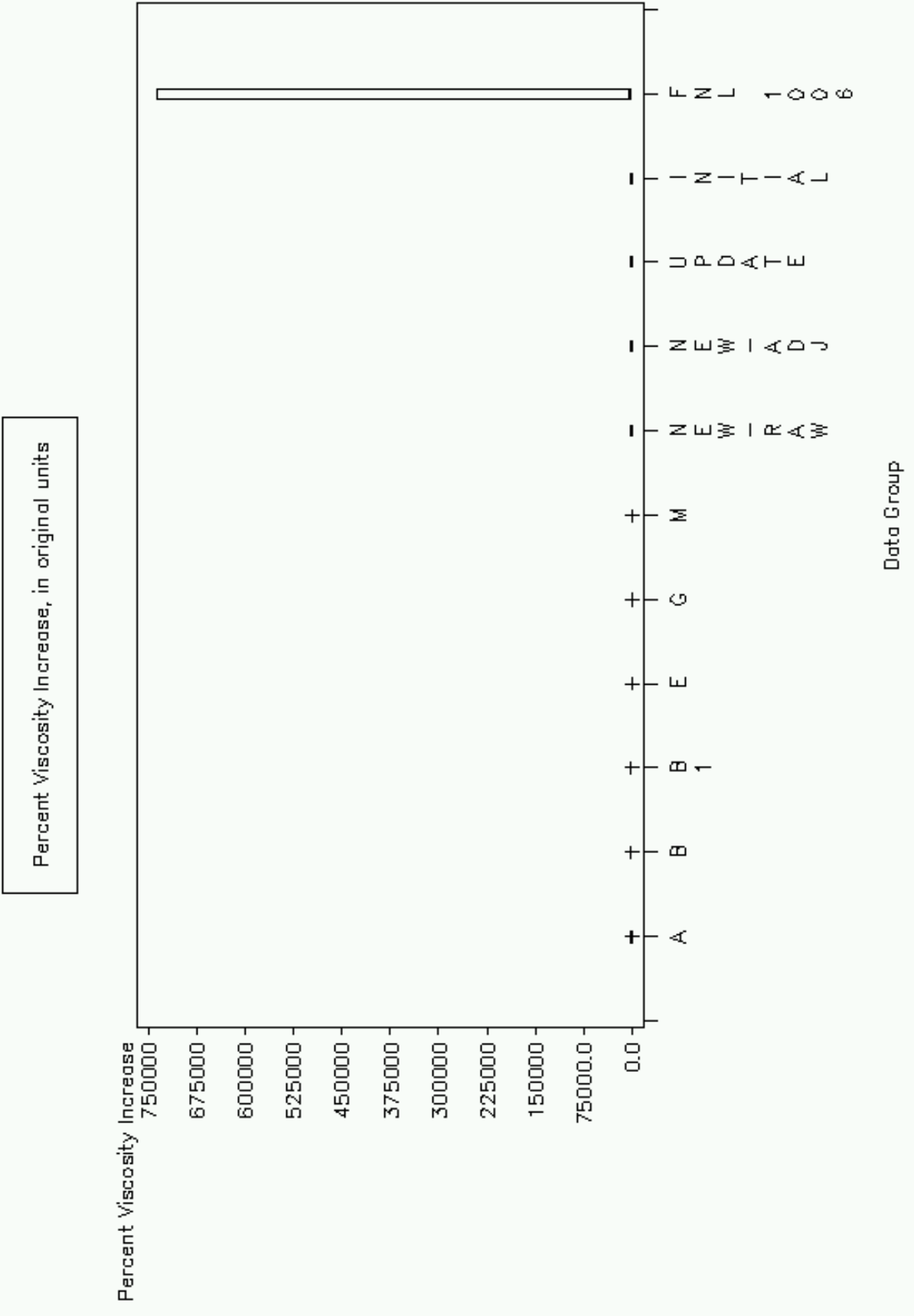


Figure 3

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

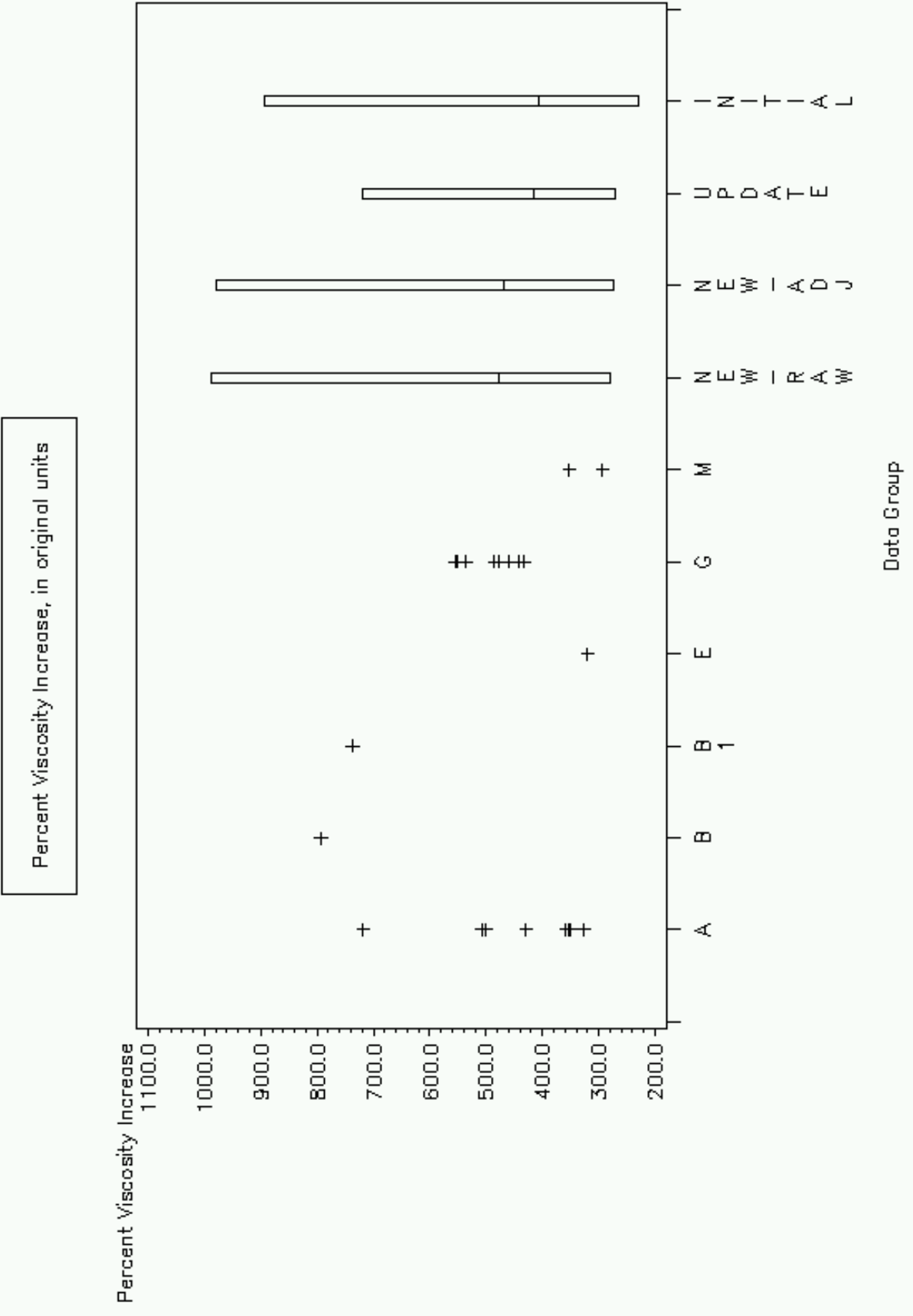


Figure 4

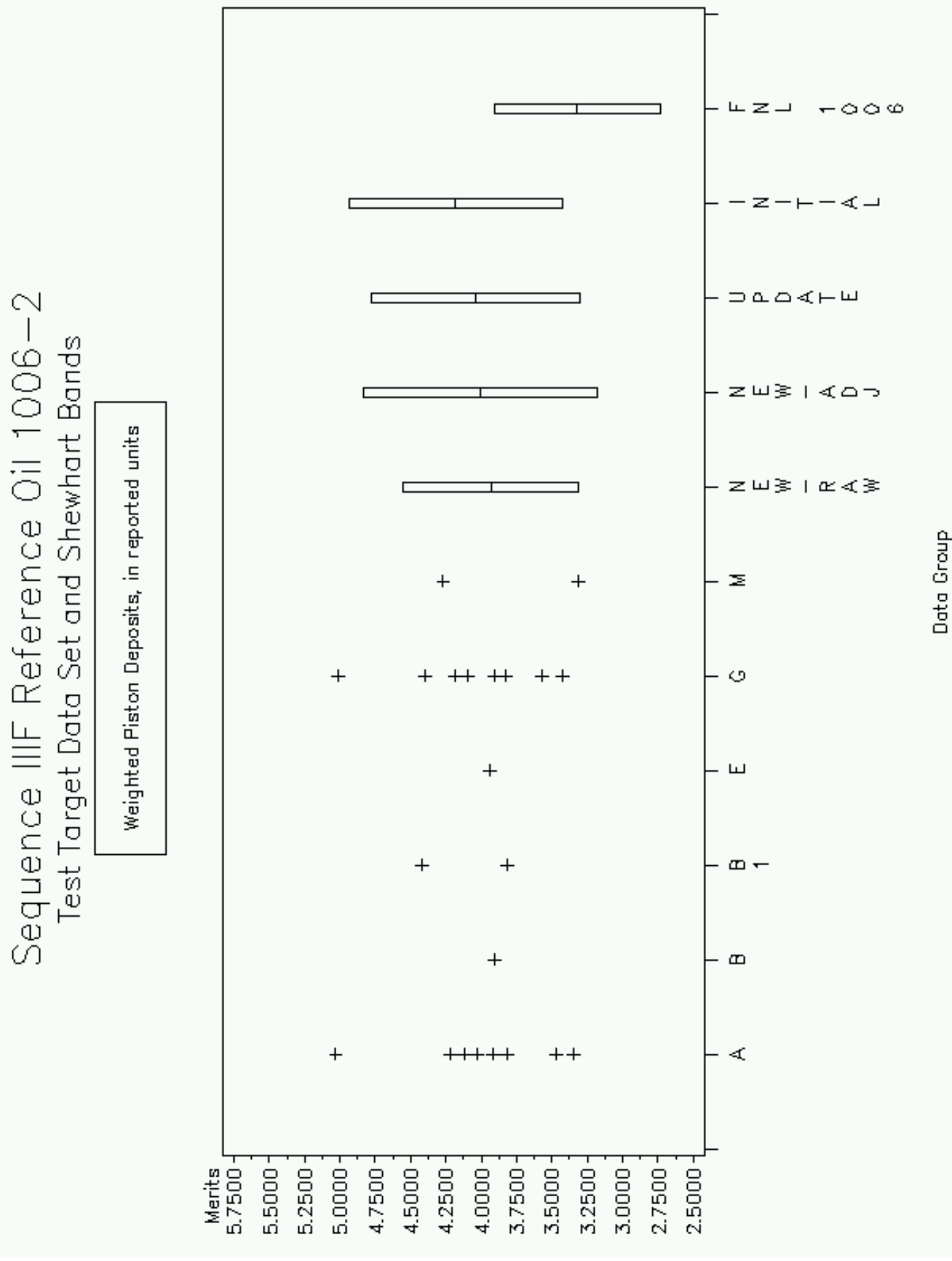


Figure 5

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

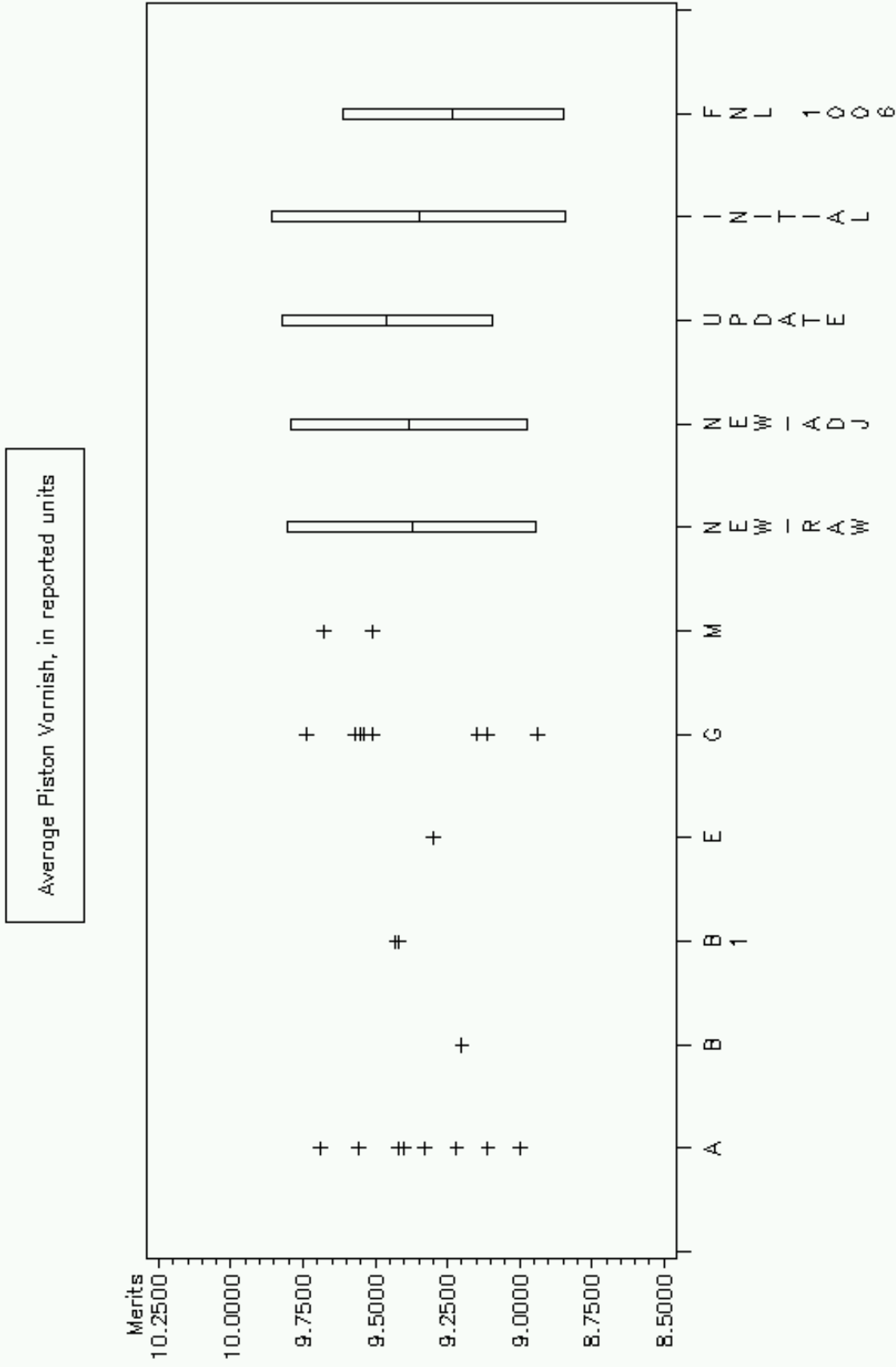


Figure 6

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

Percent Viscosity Increase @ 60H, in transformed units

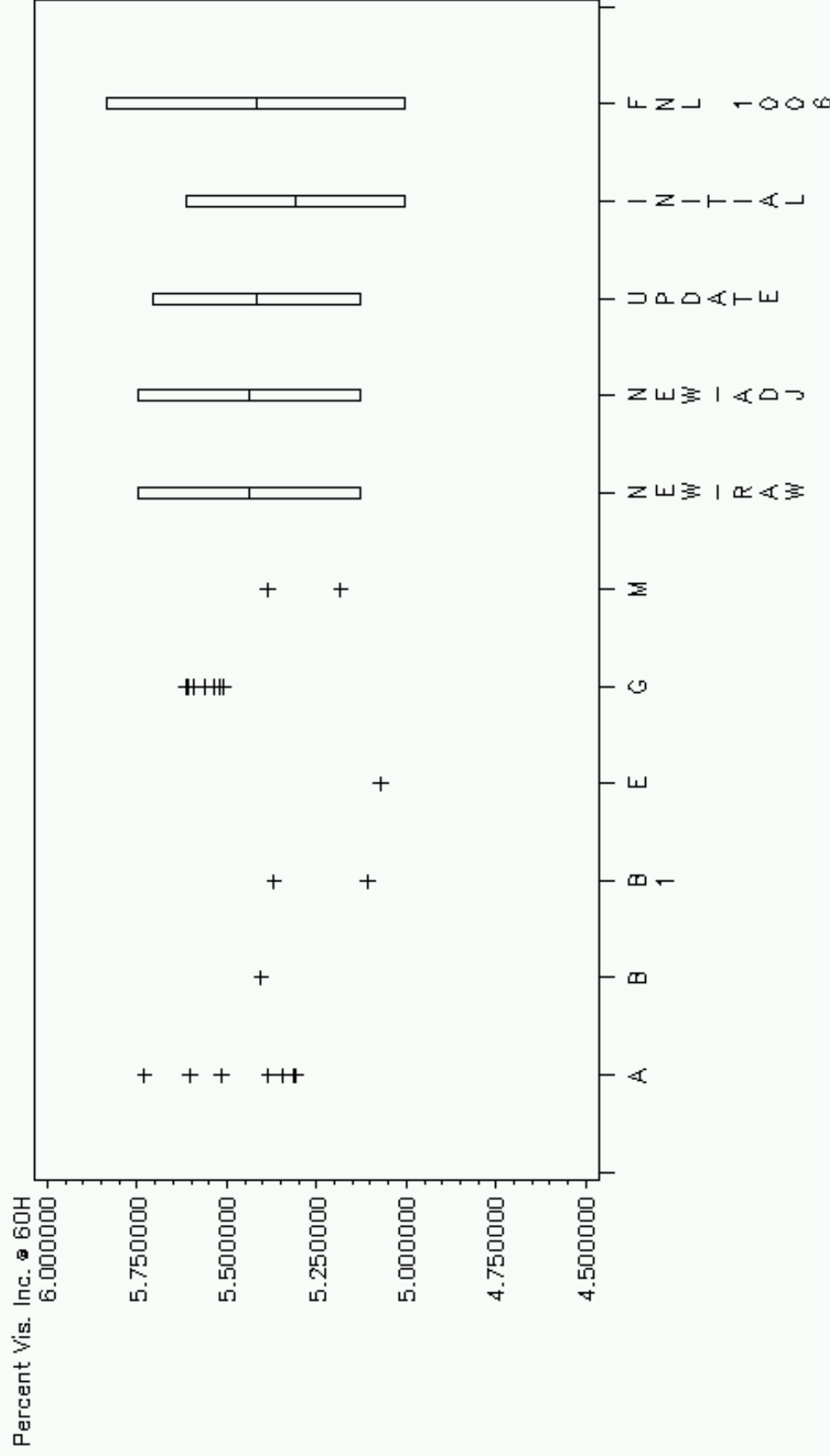


Figure 7

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

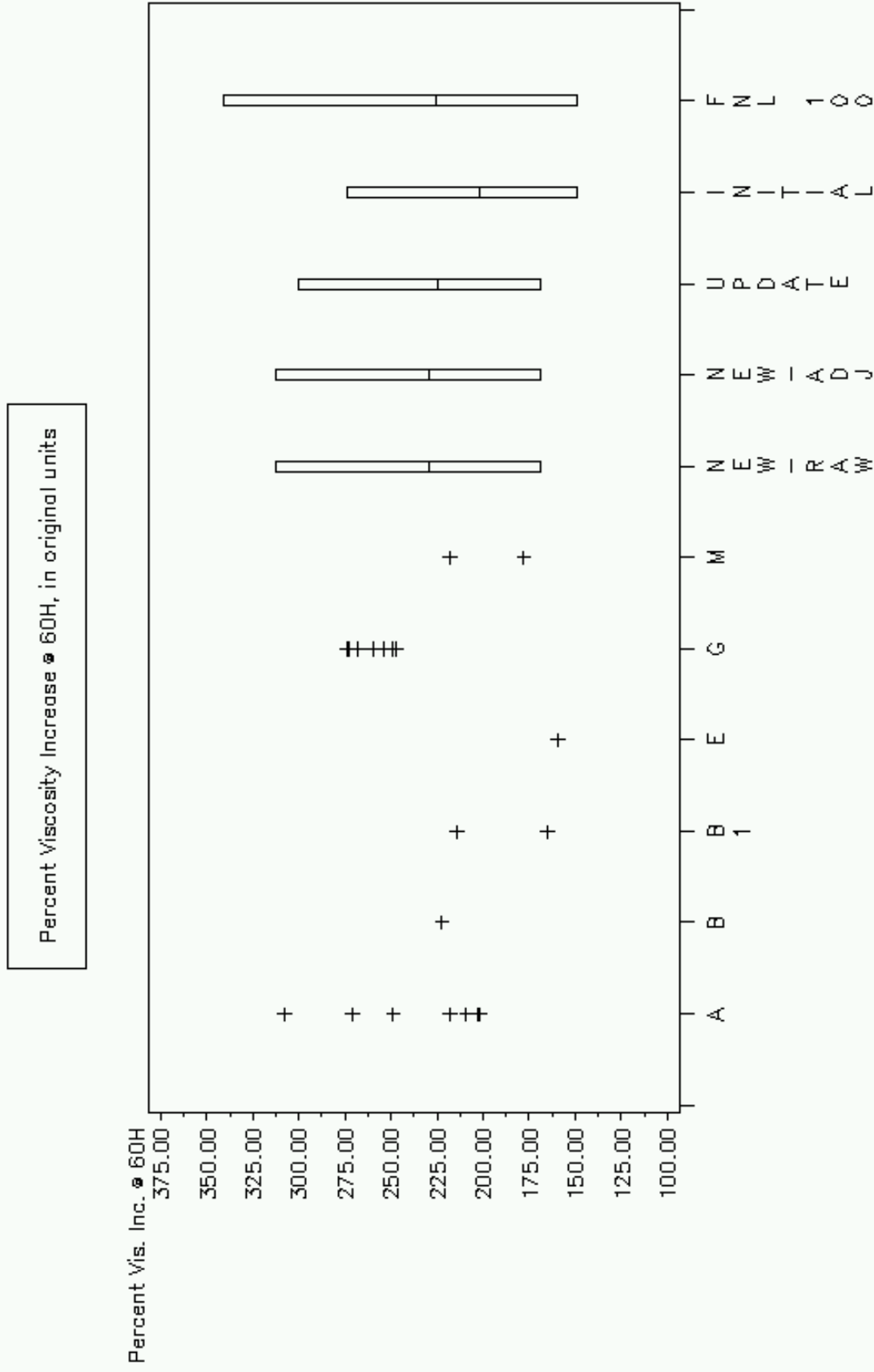


Figure 8

Sequence IIF Reference Oil 1006-2 Test Target Data Set and Shewhart Bands

