

To: MTB Distribution
From: George T. Williams
Date: July 5, 1977
Subject: Multics Performance Test Results as of System 31.4

Attached is a summary of the performance tests for systems 30.10 through 31.4; and, in an attempt to make this report a bit more meaningful, there are graphs of some selected areas. The areas to be graphed were selected arbitrarily. I hope that readers of this report will get back to me as to the relevance of the graphs and with suggestions for additional and/or more suitable areas to be graphed.

	Current Status (MSS 31.4)		
	30.10	31.4	% change
Elapsed Time:	57.1 min	59.3min	3.9%
Virtual CPU:	1963 sec	1871 sec	-4.7%
Total CPU:	3088 sec	3190 sec	3.3%
Page Faults:	482276	515880	7.0%
Memory Units:	35956	39408	9.6%

related MTB's:

MTB-304 Multics Performance Test Results as of System 28.11c
MTB-278 Multics Performance Test Results as of System 28.3
MTB-267 Multics Performance Test Results as of System 28.0
MTB-126 Revision of Multics Performance Tests
MTB-087 Multics Performance Goals for 1974

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Metering Comparisons for 30.10, 30.11, 30.12, 30.13, 31.0, 31.1, 31.2, 31.3, 31.4

System:	30.10	30.11	30.12	30.13	31.0	31.1	31.2	31.3	31.4
Date:	04/04/77	04/14/77	04/27/77	05/01/77	05/05/77	05/12/77	05/22/77	05/25/77	06/12/77
Write-through status:	dirw	dirw	dirw	dirw	dirw	dirw	dirw	dirw	dirw
SYST:	none	none	none	none	none	none	none	none	none
TELAST:	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
CPU:	A	A	A	A	A	A	A	A	A
Caches:	on	on	on	on	on	on	on	on	on
Memories:	A,B	A,B	A,B	A,B	A,B	A,B	A,B	A,B	A,B
External Interface:	off	off	off	off	off	off	off	off	off
Disk Channels:	2,8	2,8	2,8	2,8	2,8	2,8	2,8	2,8	2,8

Elapsed Time:	57.1 min	57.2 min	58.0 min	58.3 min	59.3 min	57.7 min	58.5 min	53.1 min	59.3 min
Costs (shift 1):	\$518.22	\$527.33	\$524.58	\$535.39	\$548.79	\$552.84	\$546.66	\$547.11	\$550.41
Costs (shift 2):	\$281.18	\$286.24	\$284.74	\$290.63	\$297.93	\$300.13	\$296.76	\$297.01	\$298.31
Costs (shift 3):	\$184.73	\$188.26	\$187.26	\$191.19	\$196.02	\$197.49	\$195.25	\$195.41	\$196.61
CPU, total:	3088 sec	3094 sec	3110 sec	3142 sec	3158 sec	3193 sec	3192 sec	3173 sec	3190 sec
CPU, virtual:	1963 sec	1847 sec	1845 sec	1846 sec	1867 sec	1869 sec	1869 sec	1870 sec	1871 sec
CPU, good (1):	2233 sec	2290 sec	2309 sec	2318 sec	2330 sec	2327 sec	2344 sec	2310 sec	2321 sec
Memory Units:	35556	37444	37205	38181	39282	39638	39075	39112	39408
Page Faults:	482276	493219	498338	509013	513517	520009	521510	512925	515880

tfm meters:

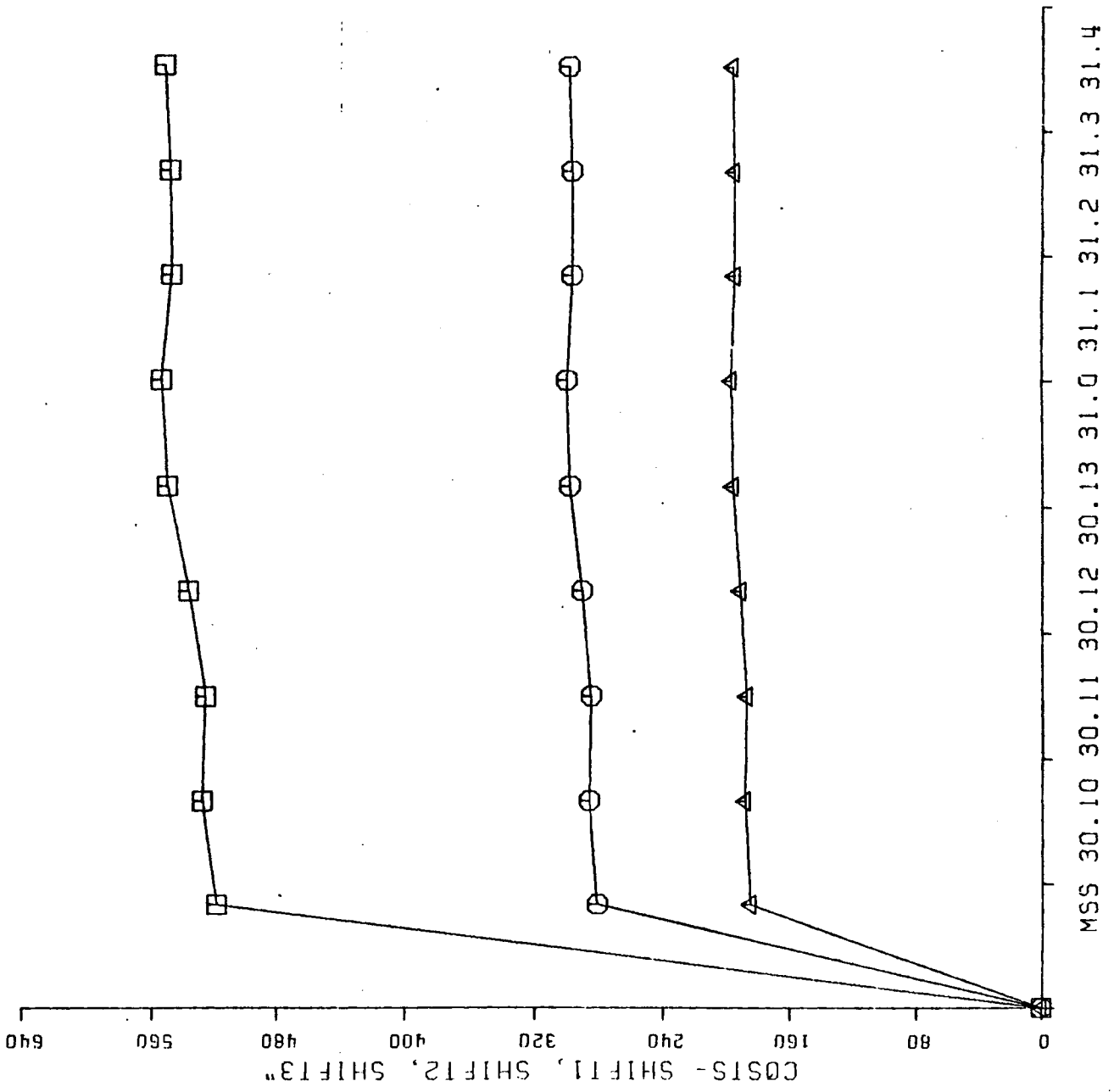
Page Faults:	20.15%	20.37%	20.51%	20.70%	20.53%	21.18%	21.16%	20.75%	20.41%
Getwork:	1.43%	1.39%	1.40%	1.44%	1.40%	1.35%	1.37%	1.35%	1.39%
Seg Faults:	4.16%	2.52%	2.42%	2.49%	2.53%	2.60%	2.38%	2.54%	2.94%
Bound Faults:	0.50%	0.29%	0.29%	0.31%	0.30%	0.30%	0.22%	0.28%	0.31%
Interrupts:	3.45%	3.60%	3.72%	3.85%	3.70%	3.58%	3.72%	3.52%	3.75%
Idle, zero:	1.64%	0.32%	0.58%	0.29%	0.48%	0.36%	0.48%	0.76%	0.85%
Idle, MPI:	4.26%	4.51%	4.45%	4.37%	5.32%	3.22%	3.73%	4.21%	4.91%
Idle, NMP:	0.12%	0.15%	0.21%	0.18%	0.48%	0.09%	0.04%	0.09%	0.10%
Idle, Loading:	0.12%	0.11%	0.15%	0.14%	0.15%	0.07%	0.12%	0.10%	0.11%
Idle, total:	5.14%	5.09%	5.39%	5.08%	6.09%	3.74%	4.37%	5.17%	5.97%
Other (good):	65.19%	66.75%	66.28%	66.22%	65.45%	67.27%	66.78%	66.39%	65.23%

dvm meters:

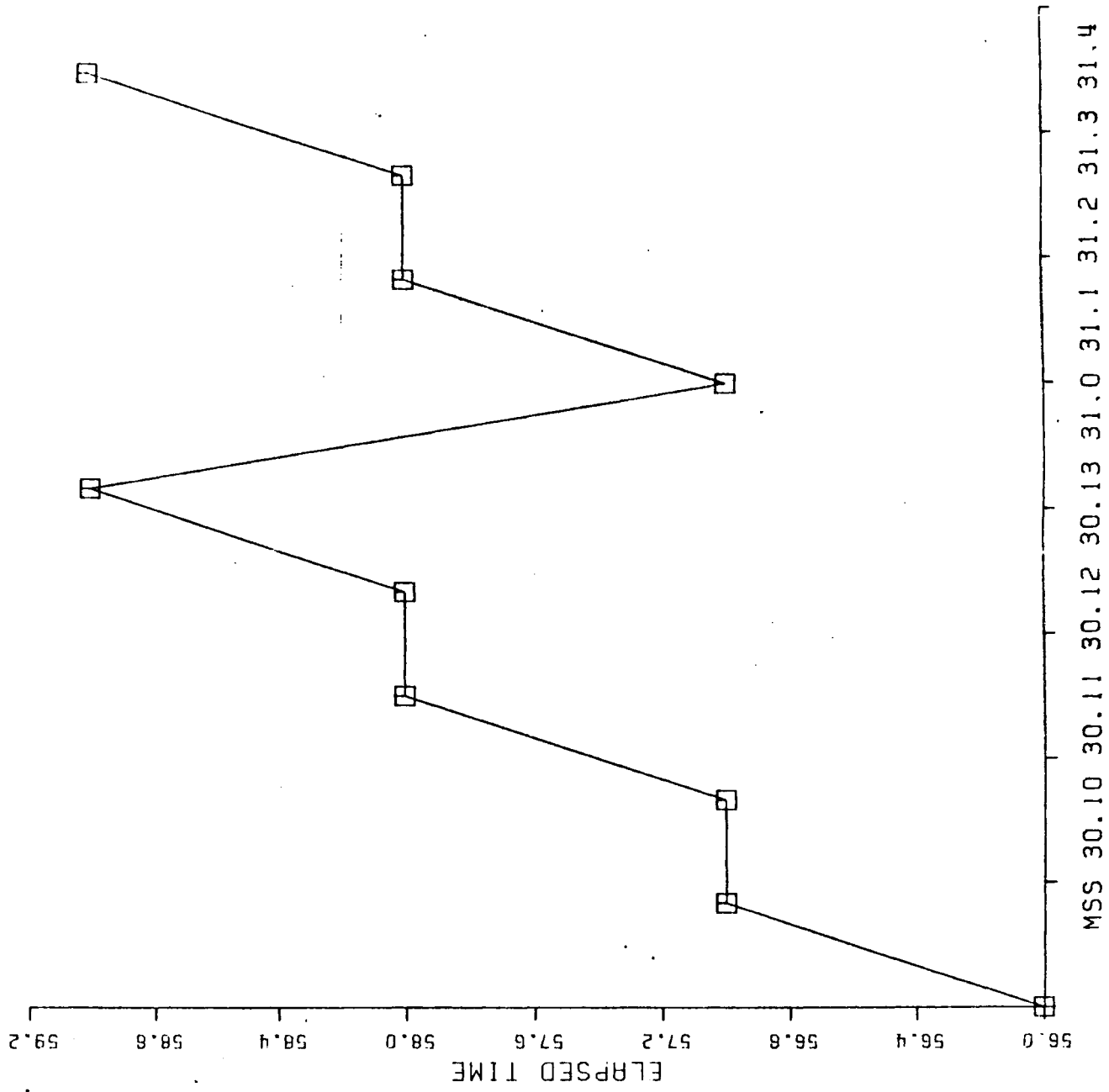
Bulk Prior Page I/O:	245516	245547	250267	255152	253716	255877	258538	251942	255519
Bulk Other Page I/O:	494177	501541	510493	521199	523273	528604	531677	516195	522560
Bulk ATB I/O:	4.637	4.601	4.591	4.513	4.586	4.423	4.450	4.534	4.579
DSKA Prior Page I/O:	30778	30588	32160	33272	31901	30516	32184	30225	32697
DSKA Other Page I/O:	28956	27941	29569	29795	29347	28132	29230	28114	29837
DSKA ATB I/O:	57.4	44.6	43.2	42.6	44.0	44.5	43.5	45.2	42.5
DSKA Avg. Page Wait:	45.9	47.2	46.4	43.9	48.2	40.2	44.5	43.7	41.8

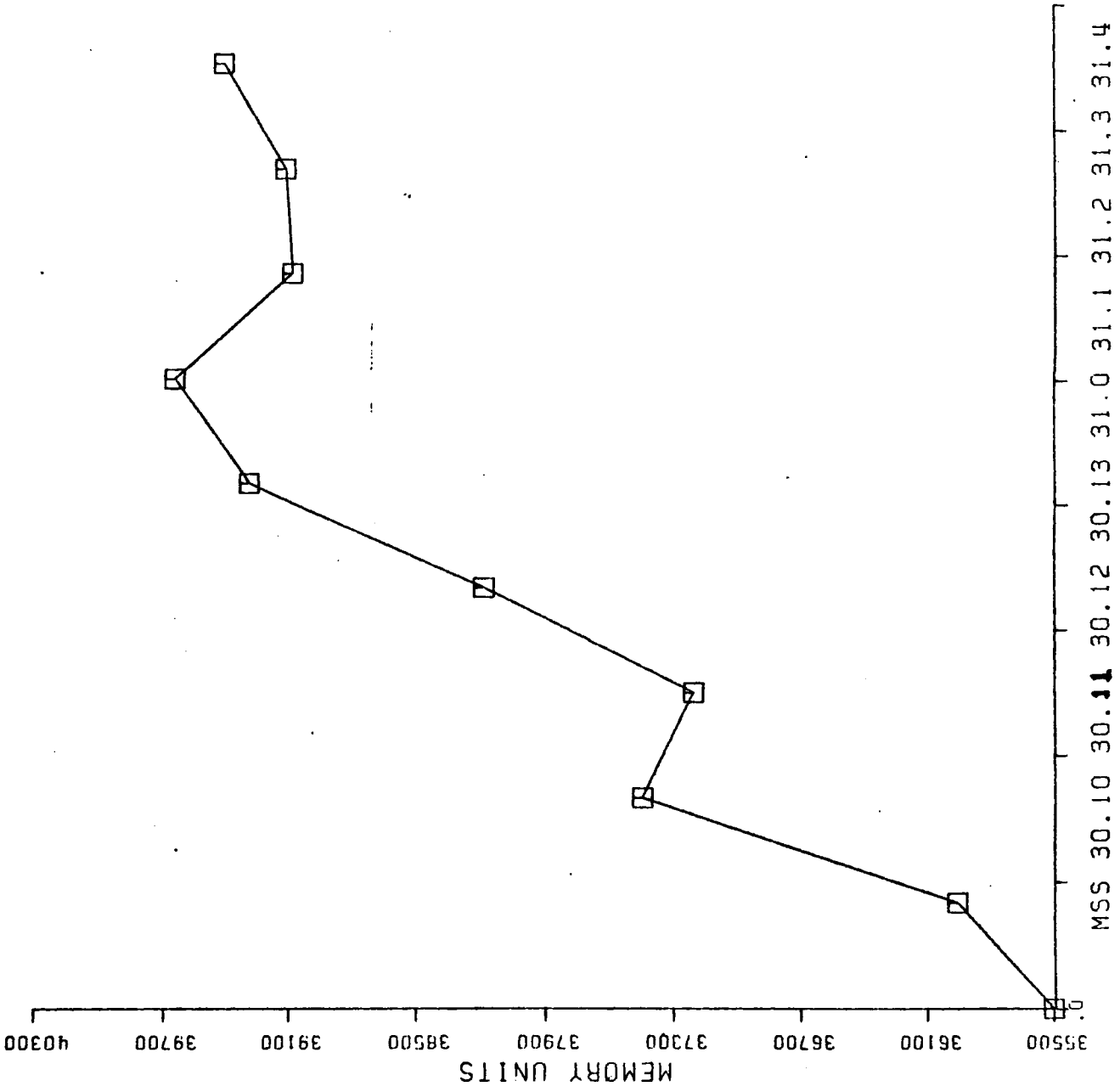
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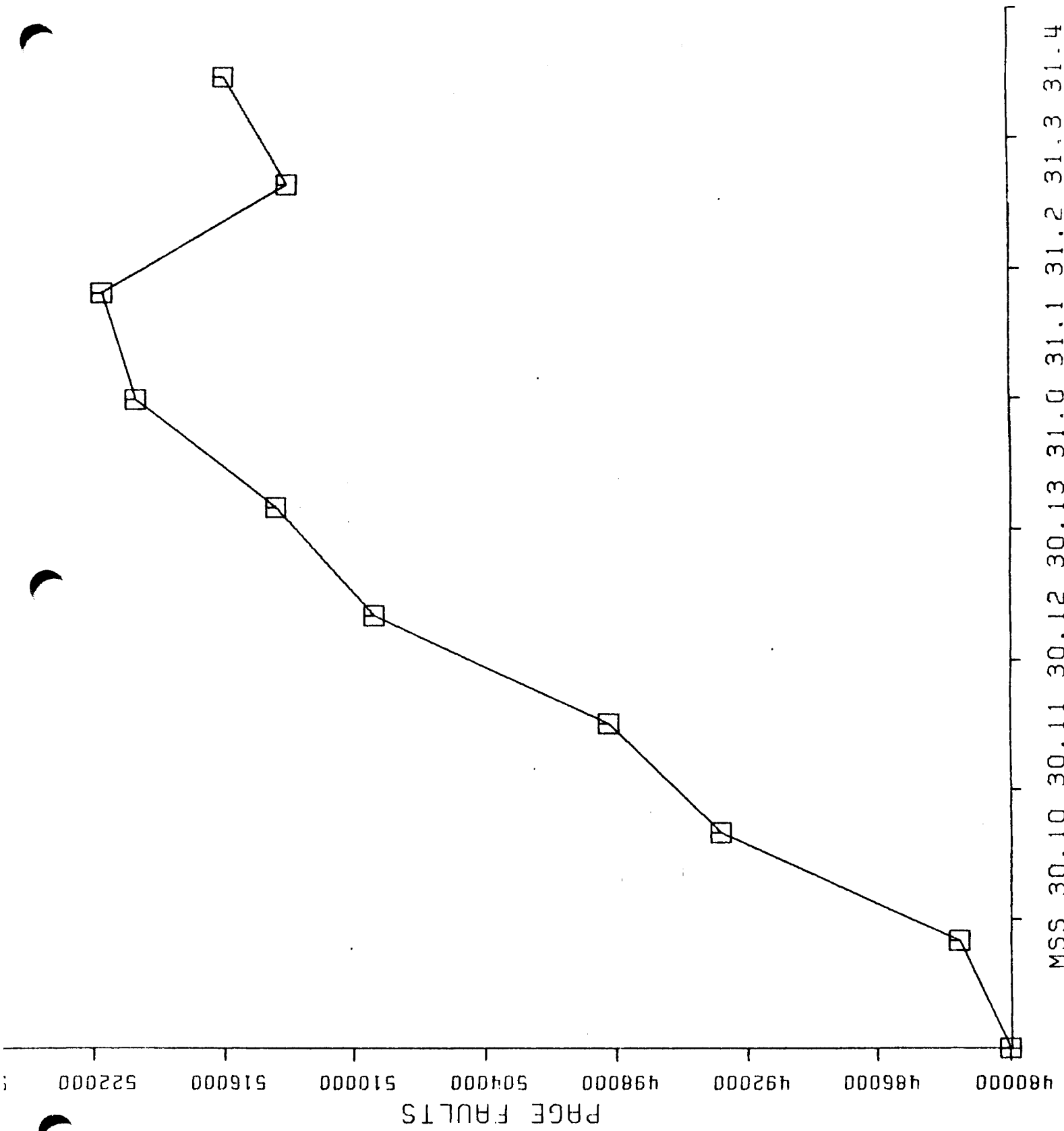
(1) Based on Elapsed Time * percentage good (from tfm meters)



□ SHIFT1 COSTS
 ○ SHIFT2 COSTS
 ▲ SHIFT3 COSTS



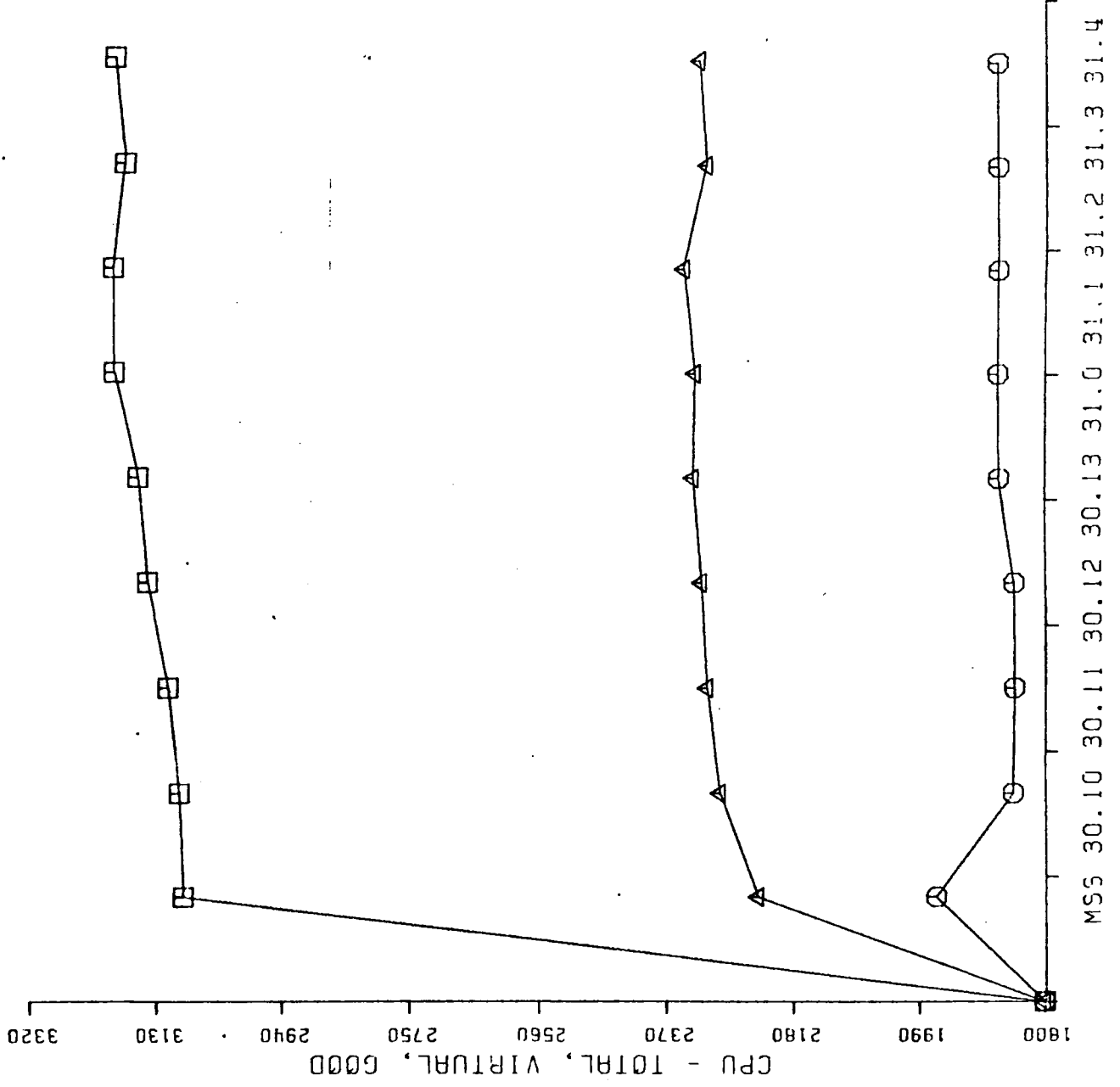


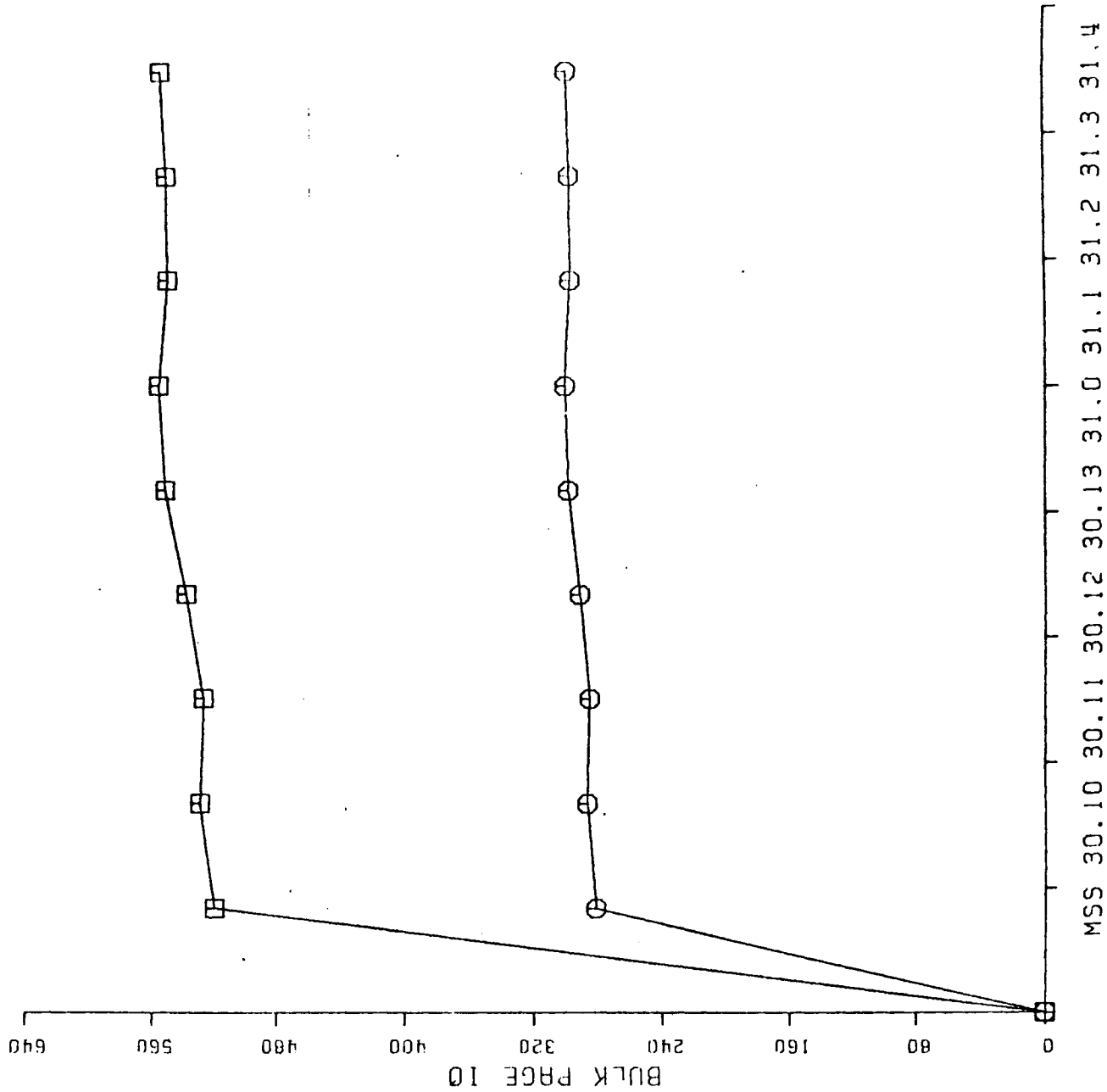


MSS 30.10 30.11 30.12 30.13 31.0 31.1 31.2 31.3 31.4

PAGE FAULTS

480000 486000 492000 498000 504000 510000 516000 522000



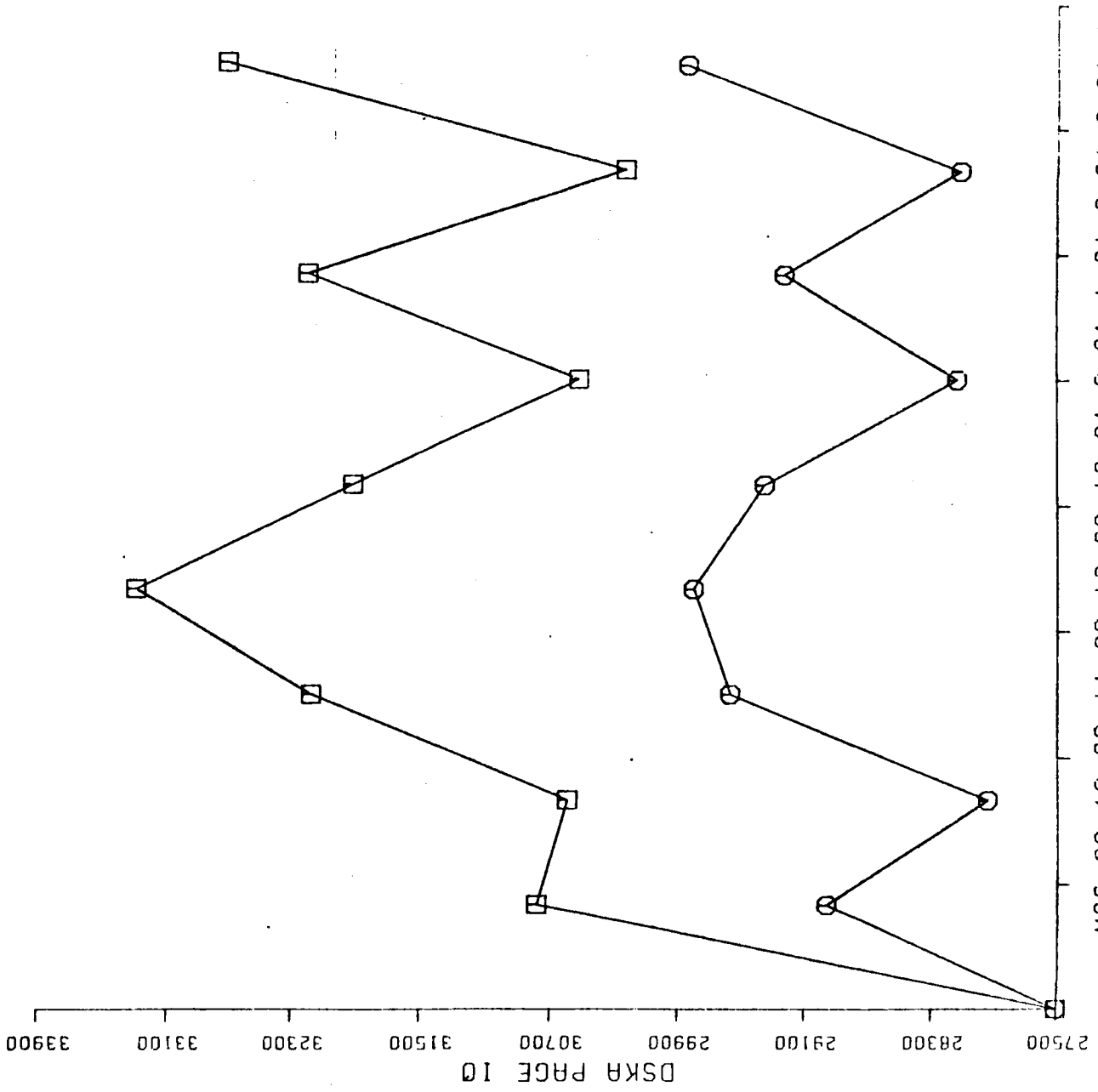


□ BULK PRIOR PAGE I/O

○ BULK OTHER PAGE I/O

MSS 30.10 30.11 30.12 30.13 31.0 31.1 31.2 31.3 31.4

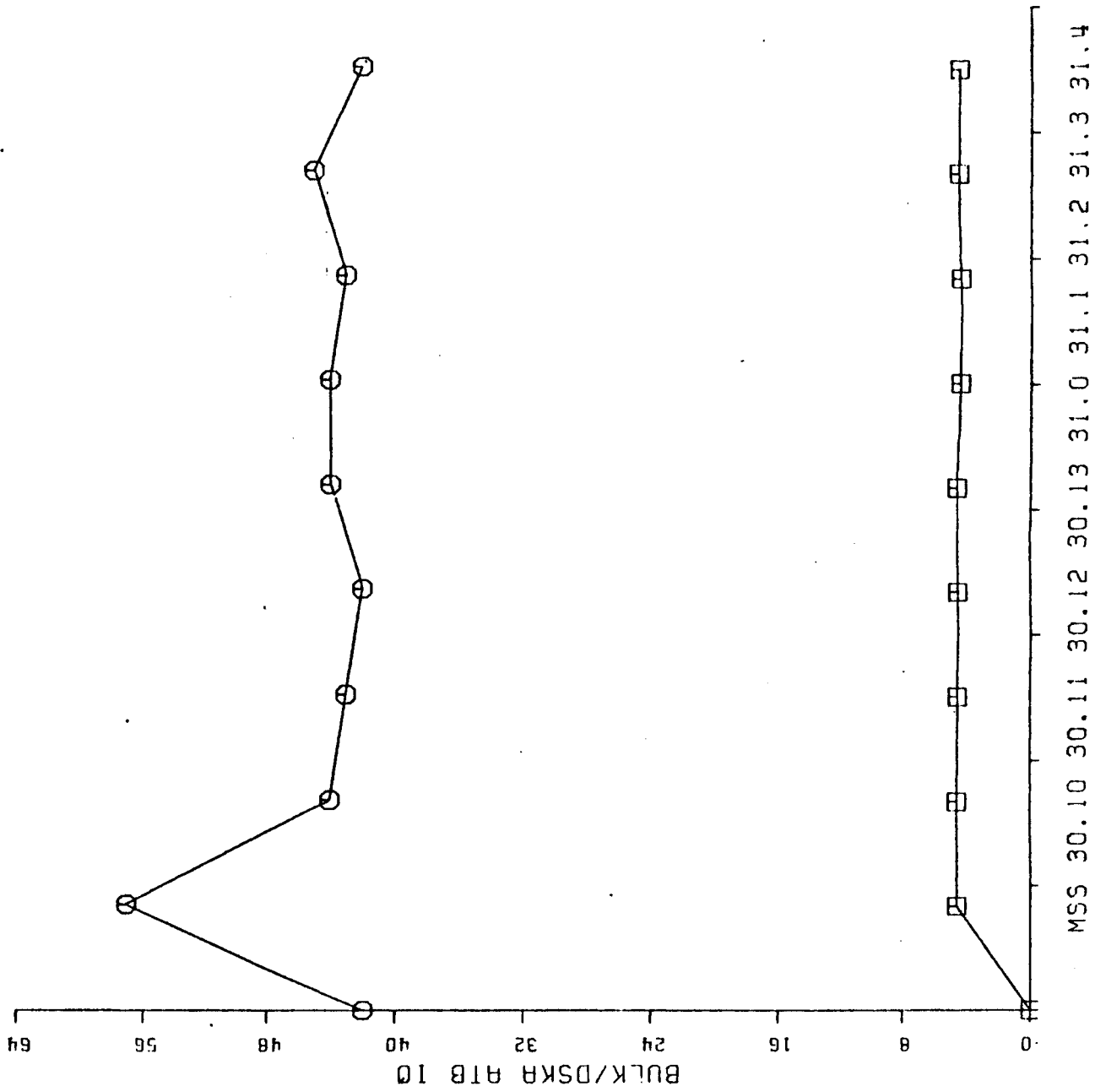
BULK PAGE 10



□ DSKA PRIOR PAGE I/O

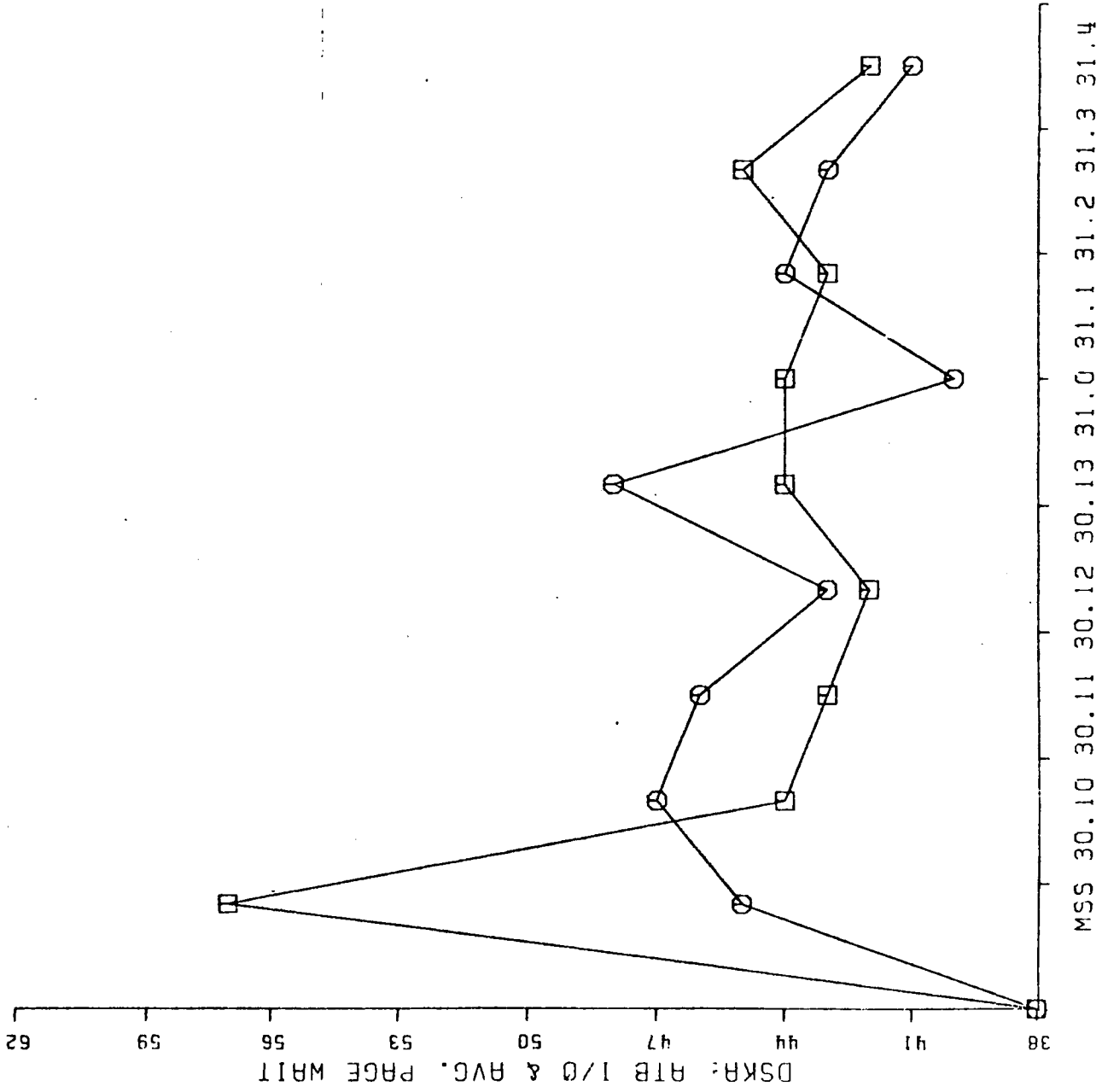
○ DSKA OTHER PAGE I/O

MSS 30.10 30.11 30.12 30.13 31.0 31.1 31.2 31.3 31.4



□ BULK ATB I/O
 ○ DSKA ATB I/O

MSS 30.10 30.11 30.12 30.13 31.0 31.1 31.2 31.3 31.4



Multics

31.4

Total Time Meters

