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RADC ltr, 3 May 1979

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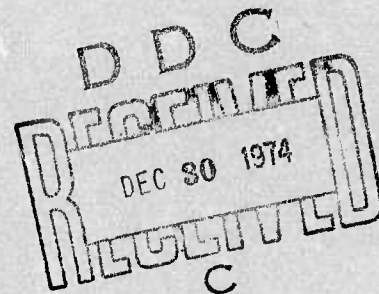


AIR FORCE COMMUNICATIONS SERVICE  
DIGITAL TRANSMISSION STUDY

Volume I  
Test Results

Appendix  
Computer Analysis  
of  
Isochronous Distortion Data

Computer Sciences Corporation



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VOLUME I TEST RESULTS, APPENDIX

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## APPENDIX I

### COMPUTER ANALYSIS OF ISOCHRONOUS DISTORTION DATA

This appendix presents the results of the computer analysis of the data resulting from 174 isochronous distortion tests. In excess of 1,000 isochronous distortion tests were run during the course of the measurement program. However, the time required to reduce all the data through use of the computer was prohibitive. In addition, the test results presented here provide more than sufficient information concerning the statistical trends of isochronous distortion.

As discussed in Section 5, a high speed paper tape punch was used to reduce the results of each pulse width measurement. A computer program then read the paper tapes and transferred the information to punched cards. A second program read the information from the punched cards and accomplished the data reduction. An IBM 1130 computer was used for both purposes.

The first line of the computer print-out identifies each test by number, for reference purposes in Section 5 and as a means of identifying the associated histogram. Also shown is the width of the data interval in seconds. The beginning of the paper tape associated with each test run contained 20 clock period measurements, which were averaged to obtain the unit interval.

The second line of the print-out contains pertinent information concerning the test setup. The driver/receiver, signal format, and type of test are first identified. "PROT" indicates that line protectors were utilized. "NO PROT" indicates that protectors were not utilized. "TERM" indicates that the cable was terminated in 100 ohms at the receiver input. "BM" indicates that the cable was back-matched (50 ohms in each side of the cable) at the driver output. "BAL POT" indicates that the driver output and receiver input balancing components were used. "NO BAL POT" indicates that the balancing components were not used. Cable length, cable type (shielded, inside plant - IP, unshielded, outside plant - OP), and nominal transmission rate are identified at the end of the second line of the print-out. "ONES" indicates that the pulse width measurements were made between rising and falling transitions. "ZEROS" indicates that the measurements were made between falling and rising transitions.

The data were reduced in both absolute time and percent of the unit interval. The mean, standard deviation, minimum, maximum, and average were calculated in both cases. The mean is for the values as calculated, whether positive or negative. The average is for absolute values.

The histograms were generated by sorting, in descending order, the absolute values of the calculated percentage errors, and plotting. The plots show the number of pulse width measurements, from a total of 500, that exceeded some given distortion level in percent of the unit interval. For example, in test number 130, 120 of the 500 measurements had distortion levels exceeding approximately 17 percent.

The computer program was set-up so that the output could be obtained in a variety of forms. The complete program, in addition to the output discussed above, generated a complete listing giving each pulse measurement in seconds, time error in percent of the unit interval, and time error in seconds. Also, in addition to the histogram discussed above, a plot showing percent distortion for each of the 500 measurements could be generated. Since the complete output required considerable computer time, the capability was provided in the program to suppress any portion of the output not desired. The complete computer output was generated for test number 75, as an example of the total capability of the program.

On the histograms, the first digit of the test number identifies the portion of the program used to reduce the data and should, for purposes of relating the histogram to the appropriate portion of the computer print-out, be ignored. The digit in question was an input to the program required to identify the waveform type.

Data resulting from the use of three transmitted waveforms were reduced: bi-phase, NRZ, and RZ.

For the bi-phase data, the program first determined if the measurement corresponded to a half or a full unit interval pulse. The program then subtracted a half or a full unit interval to determine the magnitude of the pulse width error. The result was divided by the unit interval and multiplied by 100 to obtain the error in percent.

For NRZ data, the program subtracted whole unit intervals from the measurement value until the remainder was less than one unit interval. If the remainder was greater than a half unit interval, the error was assumed to be negative and one additional unit

interval was subtracted to obtain the error. If the remainder was equal to or less than a half unit interval, the error was assumed to be positive and represented by the remainder. The pulse width error was divided by the unit interval and multiplied by 100 to obtain the error in percent.

For RZ data, all measurements should have been a half unit interval. Therefore, to obtain the pulse width error, it was only necessary to subtract a half unit interval from each measurement value. The result was divided by the unit interval and multiplied by 100 to obtain the error in percent.

TEST NO. 0001 UNIT INTERVAL (T) = 0.655199E-07  
 BIPHASE GENERATOR 15 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.569303E-08	0.225797E-06	-0.71196E-08	-0.305998E-08	0.569303E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.868896E 01	0.344632E 01	-0.134193E 02	-0.467030E 01	0.868896E 01

TEST NO. 0002 UNIT INTERVAL (T) = 0.662099E-07  
 BIPHASE GENERATOR 15 MBPS ZEROS ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.554514E-08	0.252248E-08	0.239501E-08	0.979005E-08	0.554514E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.837509E 01	0.380982E 01	0.361731E 01	0.147863E 02	0.837509E 01

TEST NO. 0003 UNIT INTERVAL (T) = 0.785799E-07  
 BIPHASE GENERATOR 10 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.650735E-08	0.192573E-08	-0.747996E-08	-0.348998E-08	0.650735E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.669106E 01	0.195307E 01	-0.961652E 01	-0.354025E 01	0.669106E 01

TEST NO. 0004 UNIT INTERVAL (T) = 0.982499E-07  
 BIPHASE GENERATOR 10 MBPS ZEROS ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.574877E-08	0.206561E-08	0.337502E-08	0.995006E-08	0.574877E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.585120E 01	0.210229E 01	0.347514E 01	0.910949E 01	0.585120E 01

TEST NO. 0005 UNIT INTERVAL (T) = 0.200089E-06  
 BIPHASE GENERATOR 5 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.725414E-08	0.173428E-08	-0.958988E-08	-0.454494E-08	0.725414E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.362543E 01	0.866801E 00	-0.479278E 01	-0.227145E 01	0.362543E 01

TEST NO. 0006 UNIT INTERVAL (T) = 0.200099E-06  
 BIPHASE GENERATOR 5 MBPS ZEROS ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.610332E-08	0.215352E-08	0.295006E-08	0.930012E-08	0.610332E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.305014E 01	0.107620E 01	0.147429E 01	0.464774E 01	0.305014E 01

TEST NO. 0007 UNIT INTERVAL (T) = 0.332559E-06  
 BIPHASE GENERATOR 3 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.708944E-08	0.162078E-08	-0.945988E-08	-0.527993E-08	0.708944E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.213178E 01	0.487328E 00	-0.284456E 01	-0.158766E 01	0.213178E 01

TEST NO. 0008 UNIT INTERVAL (T) = 0.332469E-06  
 BIPHASE GENERATOR 3 MBPS ZEROS ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.596491E-08	0.199670E-08	0.386504E-08	0.873012E-08	0.596491E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.179411E 01	0.600610E 00	0.116252E 01	0.262584E 01	0.179411E 01

TEST NO. 0009 UNIT INTERVAL (T) = 0.100024E-05  
 BIPHASE GENERATOR 1 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.693581E-08	0.164182E-08	-0.934937E-08	-0.492468E-08	0.693581E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.693399E 00	0.164182E 00	-0.934705E 00	-0.492346E 00	0.693399E 00

TEST NO. 0010 UNIT INTERVAL (T) = 0.100009E-05  
 BIPHASE GENERATOR 1 MBPS ZEROS ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.596203E-08	0.199892E-08	0.375030E-08	0.870045E-08	0.596203E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.596137E 00	0.199898E 00	0.374992E 00	0.869959E 00	0.596137E 00

TEST NO. 0011 UNIT INTERVAL (T) = 0.199969E-05  
 BIPHASE GENERATOR 500 KBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.706838E-08	0.167510E-08	-0.939917E-08	-0.504951E-08	0.706838E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.353465E 00	0.838014E-01	-0.470029E 00	-0.252513E 00	0.353465E 00

TEST NO. 0012 UNIT INTERVAL (T) = 0.199908E-05  
 BIPHASE GENERATOR 500 KBPS ZEROS ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.131875E-09	0.501874E-09	-0.788986E-09	0.101090E-08	0.415339E-09
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.659668E-02	0.251050E-01	-0.394673E-01	0.505682E-01	0.207760E-01

TEST NO. 0013 UNIT INTERVAL (T) = 0.667299E-07  
 NRZ GENERATOR 15 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.154313E-08	0.607192E-09	-0.242970E-08	0.126021E-08	0.157539E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.231249E 01	0.909956E 00	-0.36412E 01	0.188553E 01	0.236081E 01

TEST NO. 0014 UNIT INTERVAL (T) = 0.495849E-07  
 NRZ GENERATOR 10 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.197517E-08	0.437013E-09	-0.274946E-08	0.180051E-09	0.197589E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.198329E 01	0.438919E 00	-0.240144E 01	0.180792E 00	0.198401E 01

TEST NO. 0015 UNIT INTERVAL (T) = 0.199779E-06  
 NRZ GENERATOR 5 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.143474E-08	0.726888E-09	-0.242985E-08	0.270017E-08	0.151556E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.718331E 00	0.363952E 00	-0.121657E 01	0.135191E 01	0.758797E 00

TEST NO. 0016 UNIT INTERVAL (T) = 0.333269E-06  
 NRZ GENERATOR 3 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.107567E-08	0.644707E-09	-0.206983E-08	0.270165E-08	0.116692E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.322758E 00	0.193457E 00	-0.21070E 00	0.810650E 00	0.350136E 00

TEST NO. 0017 UNIT INTERVAL (T) = 0.999669E-06  
 NRZ GENERATOR 1 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.163031E-08	0.530839E-09	-0.308591E-08	0.904037E-09	0.164722E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.163082E 00	0.531095E-01	-0.308693E 00	0.904336E-01	0.164774E 00

TEST NO. 0018 UNIT INTERVAL (T) = 0.199979E-05  
 NRZ GENERATOR 500 KBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.451910E-09	0.742682E-09	-0.174898E-08	0.340514E-08	0.101149E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.425989E-01	0.371386E-01	-0.899590E-01	0.170274E 00	0.505785E-01

TEST NO. 0019 UNIT INTERVAL (T) = 0.667299E-07  
 NRZ GENERATOR 15 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.508210E-08	0.335842E-09	0.443501E-08	0.563502E-08	0.508210E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.761592E 01	0.503171E 00	0.664621E 01	0.844451E 01	0.761592E 01

TEST NO. 0020 UNIT INTERVAL (T) = 0.999399E-07  
 NRZ GENERATOR 10 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.332676E-08	0.299927E-09	0.233011E-08	0.403002E-08	0.332676E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.332874E 01	0.300258E 00	0.233141E 01	0.403245E 01	0.332874E 01

TEST NO. 0021 UNIT INTERVAL (T) = 0.199599E-06  
 RZ GENERATOR 5 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.233480E-08	0.420361E-09	0.150004E-08	0.320005E-08	0.233480E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.116973E 01	0.210602E 00	0.751524E 00	0.160323E 01	0.116973E 01

TEST NO. 0022 UNIT INTERVAL (T) = 0.333109E-06  
 RZ GENERATOR 3 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.224869E-08	0.439414E-09	0.154511E-08	0.314511E-08	0.224869E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.675047E 00	0.131682E 00	0.463846E 00	0.944168E 00	0.675047E 00

TEST NO. 0023 UNIT INTERVAL (T) = 0.999149E-06  
 RZ GENERATOR 1 MBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.187907E-08	0.762369E-09	0.325297E-09	0.322529E-08	0.187907E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.188063E 00	0.763119E-01	0.926045E-01	0.322804E 00	0.188063E 00

TEST NO. 0024 UNIT INTERVAL (T) = 0.200109E-05  
 RZ GENERATOR 500 KBPS ONES ISO DIST

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.175031E-08	0.803611E-09	0.155523E-09	0.325530E-08	0.175031E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.874659E-01	0.401628E-01	0.777194E-02	0.162676E 00	0.874659E-01

TEST NO. 0025 UNIT INTERVAL (T) = 0.999179E-06  
 FAIR 4621/4620 BIPHASE ISO DIST NU PROT 8M ISO BAL PDT 1000 FT 24 GA IP 1 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.387578E-07	0.145765E-06	-0.303089E-06	0.198910E-06	0.122207E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.387897E 01	0.145885E 02	-0.303338E 02	0.199073E 02	0.122307E 02

TEST NO. 0026 UNIT INTERVAL (T) = 0.133364E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT RM NO BAL POT 100J FT 24 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.254992E-07	0.160898E-06	-0.329624E-06	0.197150E-06	0.132693E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.191199E 01	0.120645E 02	-0.247159E 02	0.147827E 02	0.994964E 01

TEST NO. 0027 UNIT INTERVAL (T) = 0.199956E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT RM NO BAL POT 100J FT 24 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.535533E-07	0.160869E-06	-0.351784E-06	0.199530E-06	0.133576E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.267823E 01	0.804519E 01	-0.175930E 02	0.997869E 01	0.668027E 01

TEST NO. 0028 UNIT INTERVAL (T) = 0.430027E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT RM NO BAL POT 100J FT 24 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.628763E-07	0.162560E-06	-0.35738E-06	0.218961E-06	0.139139E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.157179E 01	0.406373E 01	-0.889264E 01	0.547365E 01	0.347825E 01

TEST NO. 0029 UNIT INTERVAL (T) = 0.999737E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT RM NO BAL POT 100J FT 24 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.485483E-07	0.187815E-06	-0.412436E-06	0.251924E-06	0.139041E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.465597E 00	0.187861E 01	-0.412566E 01	0.251985E 01	0.139074E 01

TEST NO. 0030 UNIT INTERVAL (T) = 0.998979E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT RM NO BAL POT 100J FT 22 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.365091E-07	0.125108E-06	-0.270899E-06	0.156210E-06	0.102435E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.365465E 01	0.125236E 02	-0.271166E 02	0.156369E 02	0.102540E 02

TEST NO. 0031 UNIT INTERVAL (T) = 0.133337E-05  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT RM NO HAL POT 1000 FT 22 GA IP 750 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.398082E-07	0.108740E-06	-0.246589E-06	0.127220E-06	0.909168E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.298551E 01	0.815525E 01	-0.184935E 02	0.954121E 01	0.681853E 01

TEST NO. 0032 UNIT INTERVAL (T) = 0.200208E-05  
 FAIR 9621/9620 BIPHAZE ISO DIST NC PROT RM NO HAL POT 1000 FT 22 GA IP 500 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.217554E-07	0.876742E-07	-0.217944E-06	0.104710E-06	0.679953E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.108663E 01	0.437914E 01	-0.108948E 02	0.523006E 01	0.339621E 01

TEST NO. 0033 UNIT INTERVAL (T) = 0.400147E-05  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT RM NO HAL POT 1000 FT 22 GA IP 250 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.420933E-07	0.850677E-07	-0.184438E-06	0.135560E-06	0.775341E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.105169E 01	0.212641E 01	-0.460927E 01	0.338776E 01	0.143763E 01

TEST NO. 0034 UNIT INTERVAL (T) = 0.100001E-04  
 FAIR 9621/9620 BIPHAZE ISO DIST NC PROT RM NO HAL POT 1000 FT 22 GA IP 100 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.354689E-07	0.117299E-06	-0.258914E-06	0.155732E-06	0.859672E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.356679E 00	0.117297E 01	-0.258979E 01	0.155730E 01	0.859653E 00

TEST NO. 0035 UNIT INTERVAL (T) = 0.333059E-06  
 FAIR 9621/9620 BIPHAZE ISO DIST NC PROT RM NO HAL POT 1000 FT 24 GA CP 3 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.469904E-08	0.304663E-07	-0.632299E-07	0.395701E-07	0.262086E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.141086E 01	0.914137E 01	-0.139445E 02	0.118807E 02	0.786905E 01

TEST NO. 0036 UNIT INTERVAL (T) = 0.499879E-06  
 FAIR 9621/9620 BIPHAISE ISO DIST NO PROT BM NO BAL POT 1000 FT 24 GA CP 2 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.166362E-07	0.243229E-07	-0.613398E-07	0.203601E-07	0.235649E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.332803E 01	0.486574E 01	-0.122709E 02	0.407300E 01	0.471412E 01

TEST NO. 0037 UNIT INTERVAL (T) = 0.999669E-06  
 FAIR 9621/9620 BIPHAISE ISO DIST NO PROT BM NO BAL POT 1000 FT 24 GA CP 1 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.137490E-07	0.217201E-07	-0.574347E-07	0.216305E-07	0.194820E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.137535E 01	0.217274E 01	-0.574537E 01	0.216376E 01	0.194884E 01

TEST NO. 0038 UNIT INTERVAL (T) = 0.133354E-05  
 FAIR 9621/9620 BIPHAISE ISO DIST NO PROT BM NO BAL POT 1000 FT 24 GA CP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.139416E-07	0.202869E-07	-0.564748E-07	0.165503E-07	0.180889E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.104544E 01	0.152127E 01	-0.423492E 01	0.124107E 01	0.135644E 01

TEST NO. 0039 UNIT INTERVAL (T) = 0.199975E-05  
 FAIR 9621/9620 BIPHAISE ISO DIST NO PROT BM NO BAL POT 1000 FT 24 GA CP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.209795E-07	0.202546E-07	-0.545794E-07	0.122404E-07	0.237812E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.104910E 01	0.101286E 01	-0.772930E 01	0.612095E 00	0.116919E 01

TEST NO. 0040 UNIT INTERVAL (T) = 0.333299E-06  
 FAIR 9621/9620 BIPHAISE ISO DIST NO PROT BM NO BAL POT 1000 FT 22 GA CP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.264386E-03	0.429570E-07	-0.831998E-07	0.78500E-07	0.360900E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	0.793237E 00	0.128884E 02	-0.249624E 02	0.233573E 02	0.108280E 02

TEST NO. 0041 UNIT INTERVAL (T) = 0.499819E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT BM NO BAL POT 1000 FT 22 GA CP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.163540E-07	0.302589E-07	-0.713098E-07	0.347901E-07	0.283480E-07
	-0.327198E 01	0.605396E 01	-0.142671E 02	0.6966053E 01	0.567164E 01

TEST NO. 0042 UNIT INTERVAL (T) = 0.999219E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT BM NO BAL POT 1000 FT 22 GA CP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.152669E-07	0.301674E-07	-0.781096E-07	0.319807E-07	0.272624E-07
	-0.152787E 01	0.301916E 01	-0.781706E 01	0.320057E 01	0.272836E 01

TEST NO. 0043 UNIT INTERVAL (T) = 0.133313E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT BM NO BAL POT 1000 FT 22 GA CP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.130324E-07	0.304180E-07	-0.911998E-07	0.297004E-07	0.244984E-07
	-0.977526E 00	0.228158E 01	-0.609099E 01	0.222775E 01	0.193756E 01

TEST NO. 0044 UNIT INTERVAL (T) = 0.200031E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT BM NO BAL POT 1000 FT 22 GA CP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.226705E-07	0.326755E-07	-0.417808E-07	0.417808E-07	0.324071E-07
	-0.113334E 01	0.163352E 01	-0.405233E 01	0.208870E 01	0.162009E 01

TEST NO. 0045 UNIT INTERVAL (T) = 0.235709E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT BM NO BAL POT 1000 FT 19 GA CP 3.5 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.665773E-08	0.295417E-07	-0.652349E-07	0.416450E-07	0.248408E-07
	-0.233022E 01	0.103397E 02	-0.228395E 02	0.145759E 02	0.869444E 01

TEST NO. 0046 UNIT INTERVAL (TI) = 0.500029E-06  
 FAIR 9621/9620 BIPHA SE ISO DIST NO PROT BM NO BAL POT 1000 FT 19 GA CP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.157170E-07	0.165387E-07	-0.475149E-07	0.116850E-07	0.178097E-07
PCT ERROR	-0.314320E 01	0.330756E 01	-0.950241E 01	0.233687E 01	0.356173E 01

TEST NO. 0047 UNIT INTERVAL (TI) = 0.100267E-05  
 FAIR 9521/9620 BIPHA SE ISO DIST NO PROT BM NO BAL POT 1000 FT 19 GA CP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.137859E-07	0.126161E-07	-0.404398E-07	0.412023E-08	0.143660E-07
PCT ERROR	-0.137489E 01	0.125825E 01	-0.403317E 01	0.410922E 00	0.143275E 01

TEST NO. 0048 UNIT INTERVAL (TI) = 0.133294E-05  
 FAIR 9621/9620 BIPHA SE ISO DIST NO PROT BM NO BAL POT 1000 FT 19 GA CP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.162259E-07	0.136951E-07	-0.390747E-07	0.742534E-08	0.176514E-07
PCT ERROR	-0.121728E 01	0.102743E 01	-0.293145E 01	0.557061E 00	0.132423E 01

TEST NO. 0049 UNIT INTERVAL (TI) = 0.199980E-05  
 FAIR 9621/9620 BIPHA SE ISO DIST NO PROT BM NO BAL POT 1000 FT 19 GA CP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.189136E-07	0.166616E-07	-0.458044E-07	0.114905E-07	0.208658E-07
PCT ERROR	-0.945767E 00	0.833169E 00	-0.229044E 01	0.574582E 00	0.104338E 01

TEST NO. 0050 UNIT INTERVAL (TI) = 0.100013E-05  
 FAIR 9621/9620 BIPHA SE ISO DIST NO PROT BM NO BAL POT 1000 FT 24 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.550464E-07	0.135959E-06	-0.306609E-06	0.147130E-06	0.114799E-06
PCT ERROR	-0.550386E 01	0.135940E 02	-0.306626E 02	0.147109E 02	0.114783E 02

TEST NO. 0051 UNIT INTERVAL (T) = 0.133328E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 24 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.373232E-07	0.124674E-06	-0.281744E-06	0.137710E-06	0.100835E-06
PCT ERROR	-0.279932E 01	0.935092E 01	-0.211315E 02	0.103286E 02	0.756290E 01

TEST NO. 0052 UNIT INTERVAL (T) = 0.200013E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 24 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.564482E-07	0.105070E-06	-0.234969E-06	0.122760E-06	0.930195E-07
PCT ERROR	-0.282220E 01	0.525314E 01	-0.117476E 02	0.613761E 01	0.465065E 01

TEST NO. 0053 UNIT INTERVAL (T) = 0.399871E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 24 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.483829E-07	0.457047E-07	-0.117099E-06	0.487816E-07	0.589858E-07
PCT ERROR	-0.120945E 01	0.114299E 01	-0.242740E 01	0.121993E 01	0.147510E 01

TEST NO. 0054 UNIT INTERVAL (T) = 0.100011E-04  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 24 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.488191E-07	0.138626E-07	-0.790169E-07	-0.275586E-07	0.488191E-07
PCT ERROR	-0.488131E 00	0.138632E 00	-0.790001E 00	-0.275555E 00	0.488131E 00

TEST NO. 0055 UNIT INTERVAL (T) = 0.999429E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 22 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.471111E-07	0.120364E-06	-0.274414E-06	0.129570E-06	0.987161E-07
PCT ERROR	-0.471379E 01	0.120433E 02	-0.274571E 02	0.129644E 02	0.987725E 01

TEST NO. 0056 UNIT INTERVAL (T) = 0.133316E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 22 GA IP 750 KBPS

	MEAN	SD	MIN	MAX	AVER OF ABS
TIME ERROR	-0.457675E-07	0.991877E-07	-0.226484E-06	0.114730E-06	0.826063E-07
PCT ERROR	-0.343298E 01	0.744000E 01	-0.169884E 02	0.860564E 01	0.619623E 01

TEST NO. 0057 UNIT INTERVAL (T) = 0.199986E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 22 GA IP 500 KBPS

	MEAN	SD	MIN	MAX	AVER OF ABS
TIME ERROR	-0.277587E-07	0.657085E-07	-0.168834E-06	0.870309E-07	0.533509E-07
PCT ERROR	-0.138802E 01	0.328564E 01	-0.844227E 01	0.435183E 01	0.266771E 01

TEST NO. 0058 UNIT INTERVAL (T) = 0.339888E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 22 GA IP 250 KBPS

	MEAN	SD	MIN	MAX	AVER OF ABS
TIME ERROR	-0.331581E-07	0.285757E-07	-0.700447E-07	0.324107E-07	0.393966E-07
PCT ERROR	-0.829174E 00	0.714600F 00	-0.175100E 01	0.810494E 00	0.985185E 00

TEST NO. 0059 UNIT INTERVAL (T) = 0.999359E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 22 GA IP 100 KBPS

	MEAN	SD	MIN	MAX	AVER OF ABS
TIME ERROR	-0.318581E-07	0.172401E-07	-0.684976E-07	-0.459840E-08	0.318581E-07
PCT ERROR	-0.318779E 00	0.172522E 00	-0.685415E 00	-0.460135E-01	0.318779E 00

TEST NO. 0060 UNIT INTERVAL (T) = 0.333289E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 24 GA UP 3 MBPS

	MEAN	SD	MIN	MAX	AVER OF ABS
TIME ERROR	-0.116770E-07	0.204462E-07	-0.536449E-07	0.158550E-07	0.183194E-07
PCT ERROR	-0.350355E 01	0.613468E 01	-0.160955E 02	0.475713E 01	0.549654E 01

TEST NO. 0061 UNIT INTERVAL (T) = 0.499569E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NC PRO TERM NO BAL POT 1000 FT 24 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.172413E-07	0.159117E-07	-0.477847E-07	0.863042E-08	0.185952E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.345122E 01	0.318509E 01	-0.956518E 01	0.172757E 01	0.372224E 01

TEST NO. 0062 UNIT INTERVAL (T) = 0.100001E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PRO TERM NO BAL POT 1000 FT 24 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.143333E-07	0.111263E-07	-0.379096E-07	0.598038E-08	0.147588E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.143333E 01	0.111263E 01	-0.379096E 01	0.598026E 00	0.147584E 01

TEST NO. 0063 UNIT INTERVAL (T) = 0.133336E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PRO TERM NO BAL POT 1000 FT 24 GA UP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.152988E-07	0.839688E-08	-0.328847E-07	0.430418E-09	0.153021E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.114722E 01	0.629763E 00	-0.246628E 01	0.322805E-01	0.114762E 01

TEST NO. 0064 UNIT INTERVAL (T) = 0.199939E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PRO TERM NO BAL POT 1000 FT 24 GA OP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.143579E-07	0.345189E-08	-0.218994E-07	-0.759863E-08	0.143579E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.718103E 00	0.172683E 00	-0.109530E 01	-0.380055E 00	0.718103E 00

TEST NO. 0065 UNIT INTERVAL (T) = 0.333409E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NC PRO TERM NO BAL POT 1000 FT 22 GA OP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.844042E-08	0.399830E-07	-0.893049E-07	0.576950E-07	0.333747E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.253154E 01	0.119921F 02	-0.267853E 02	0.173045E 02	0.100100E 02

TEST NO. 0066 UNIT INTERVAL (T) = 0.500259E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 22 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.210456E-07	0.300703E-07	-0.757298E-07	0.287403E-07	0.289328E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.420695E 01	0.601095E 01	-0.151381E 02	0.574509E 01	0.578353E 01

TEST NO. 0067 UNIT INTERVAL (T) = 0.999279E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 22 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.179834E-07	0.230281E-07	-0.624396E-07	0.149207E-07	0.210509E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.179963E 01	0.230447E 01	-0.624847E 01	0.149314E 01	0.210660E 01

TEST NO. J06H UNIT INTERVAL (T) = 0.133345E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 22 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.167695E-07	0.187087E-07	-0.567297E-07	0.204404E-07	0.209091E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.125758E 01	0.140303E 01	-0.425432E 01	0.153288E 01	0.156802E 01

TEST NO. 0069 UNIT INTERVAL (T) = 0.200001E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PRC TERM NO BAL POT 1000 FT 22 GA OP 500 K9PS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.177387E-07	0.997124E-08	-0.393035E-07	-0.291902E-08	0.177387E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.486925E 00	0.498566E 00	-0.196545E 01	-0.145949E 00	0.886925E 00

TEST NO. 0070 UNIT INTERVAL (T) = 0.285639E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 19 GA OP 3.5 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.115782E-07	0.198021E-07	-0.523199E-07	0.152800E-07	0.180519E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.405344E 01	0.693257E 01	-0.184917E 02	0.534942E 01	0.631981E 01

TEST NO. 0071 UNIT INTERVAL (T) = 0.499829E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 19 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.170063E-07	0.130873E-07	-0.410148E-07	0.317027E-08	0.172045E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.340242E 01	0.261837E 01	-0.820576E 01	0.634270E 00	0.344208E 01

TEST NO. 0072 UNIT INTERVAL (T) = 0.999409E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 19 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.140091E-07	0.921887E-08	-0.335046E-07	0.289060E-08	0.142598E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.140173E 01	0.922450E 00	-0.335244E 01	0.289231E 00	0.142681E 01

TEST NO. 0073 UNIT INTERVAL (T) = 0.133339E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO HAL POT 1000 FT 19 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.167315E-07	0.805337E-08	-0.308997E-07	-0.379975E-08	0.167315E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.125479E 01	0.603996E 00	-0.231736F 01	-0.284967E 00	0.125479E 01

TEST NO. 0074 UNIT INTERVAL (T) = 0.199994E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM NO BAL POT 1000 FT 19 GA OP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.166197E-07	0.741659E-08	-0.305744E-07	-0.384898E-08	0.166197E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.831002E 00	0.370855E 00	-0.152876E 01	-0.192454E 00	0.831002E 00

TEST NO. 0075 UNIT INTERVAL (T) = 0.999259E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PRO TERM BAL POT 1000 FT 24 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.728028E-07	0.141653E-06	-0.333129E-06	0.138970E-06	0.125476E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.728569E 01	0.141758E 02	-0.333376E 02	0.139073E 02	0.125569E 02

TEST NO. 0076 UNIT INTERVAL (T) = 0.133331E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.620626E-07	0.136325E-06	-0.30609E-06	0.136680E-06	0.117001E-06
PCT ERROR	-0.465473E 01	0.102245E 02	-0.229547E 02	0.935114E 01	0.877519E 01

TEST NO. 0077 UNIT INTERVAL (T) = 0.200029E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.717238E-07	0.111369E-06	-0.259644E-06	0.113210E-06	0.104396E-06
PCT ERROR	-0.358567E 01	0.556767E 01	-0.129803E 02	0.565971E 01	0.521905E 01

TEST NO. 0078 UNIT INTERVAL (T) = 0.400290E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.639672E-07	0.520478E-07	-0.144754E-06	0.431919E-07	0.722321E-07
PCT ERROR	-0.159801E 01	0.130025E 01	-0.361622E 01	0.107901E 01	0.180449E 01

TEST NO. 0079 UNIT INTERVAL (T) = 0.999337E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.630367E-07	0.962457E-08	-0.851760E-07	-0.503887E-07	0.630367E-07
PCT ERROR	-0.630780E 00	0.963426E-01	-0.852324E 00	-0.504221E 00	0.630780E 00

TEST NO. 0080 UNIT INTERVAL (T) = 0.999589E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.645021E-07	0.122831E-06	-0.797894E-06	0.113010E-06	0.107110E-06
PCT ERROR	-0.645285E 01	0.122882E 02	-0.298017E 02	0.113056E 02	0.107154E 02

TEST NO. 0081 UNIT INTERVAL IT1 = 0.133321E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL PDT 1000 FT 22 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.634694E-07	0.103340E-06	-0.246609E-06	0.997804E-07	0.944816E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.476061E 01	0.775117E 01	-0.184973E 02	0.748417E 01	0.708674E 01

TEST NO. 0082 UNIT INTERVAL IT1 = 0.199939E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL PDT 1000 FT 22 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.422471E-07	0.696685E-07	-0.189899E-06	0.741006E-07	0.602621E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.211299E 01	0.348447E 01	-0.949782E 01	0.370614E 01	0.301400E 01

TEST NO. 0083 UNIT INTERVAL IT1 = 0.399847E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL PDT 1000 FT 22 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.480269E-07	0.324007E-07	-0.963309E-07	0.237223E-07	0.521107E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.120112E 01	0.810333E 00	-0.240999E 01	0.593284E 00	0.130325E 01

TEST NO. 0084 UNIT INTERVAL IT1 = 0.999112E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL PDT 1000 FT 22 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.437202E-07	0.141558E-07	-0.750242E-07	-0.225627E-07	0.437202E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.437586E 00	0.141695E 00	-0.750998E 00	-0.225827E 00	0.437586E 00

TEST NO. 0085 UNIT INTERVAL IT1 = 0.333409E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL PDT 1000 FT 24 GA OP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.213403E-07	0.203694E-07	-0.659049E-07	0.419504E-08	0.220024E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.640061E 01	0.610944E 01	-0.197669E 02	0.125822E 01	0.659920E 01

TEST NO. 0086 UNIT INTERVAL (T) = 0.499949E-06  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.264618E-07	0.171561E-07	-0.592748E-07	0.650175E-09	0.264660E-07
	-0.529288E 01	0.343159E 01	-0.118561E 02	0.130048E 00	0.529372E 01

TEST NO. 0087 UNIT INTERVAL (T) = 0.999609E-06  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.230173E-07	0.117844E-07	-0.474046E-07	-0.640943E-08	0.230173E-07
	-0.230262E 01	0.117892E 01	-0.474232E 01	-0.641194E 00	0.230262E 01

TEST NO. 0088 UNIT INTERVAL (T) = 0.131282E-05  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA UP 750 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.239129E-07	0.960966E-08	-0.439147E-07	-0.872933E-08	0.239129E-07
	-0.179414E 01	0.721007E 00	-0.329405E 01	-0.654947E 00	0.179414E 01

TEST NO. 0089 UNIT INTERVAL (T) = 0.199997E-05  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 500 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.247185E-07	0.430125E-08	-0.313996E-07	-0.151790E-07	0.247185E-07
	-0.123593E 01	0.215088E 00	-0.156949E 01	-0.758958E 00	0.123593E 01

TEST NO. 0090 UNIT INTERVAL (T) = 0.333099E-06  
 FAIR 9621/9620 BIPHAZE ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA OP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.209296E-07	0.381171E-07	-0.104749E-06	0.324501E-07	0.333834E-07
	-0.628328E 01	0.114431E 02	-0.314479E 02	0.974186E 01	0.100220E 02

TEST NO. 0091 UNIT INTERVAL (T) = 0.500099E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.308178E-07	0.298363E-07	-0.846499E-07	0.163000E-07	0.336471E-07
	-0.616230E 01	0.596609E 01	-0.169266E 02	0.325936E 01	0.672807E 01

TEST NO. 0092 UNIT INTERVAL (T) = 0.100020E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT TERM BAL POT 1000 FT 22 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.257705E-07	0.231417E-07	-0.716047E-07	0.559043E-08	0.263014E-07
	-0.257651E 01	0.231370E 01	-0.715897E 01	0.558926E 00	0.262959E 01

TEST NO. 0093 UNIT INTERVAL (T) = 0.133342E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA OP 750 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.256855E-07	0.195125E-07	-0.670147E-07	0.757040E-08	0.271648E-07
	-0.192627E 01	0.146333E 01	-0.502574E 01	0.567739E 00	0.203721E 01

TEST NO. 0094 UNIT INTERVAL (T) = 0.199937E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT TERM BAL POT 1000 FT 22 GA OP 500 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.281323E-07	0.116123E-07	-0.499893E-07	-0.997897E-08	0.281323E-07
	-0.140705E 01	0.580805E 00	-0.250024E 01	-0.499103E 00	0.146705E 01

TEST NO. 0095 UNIT INTERVAL (T) = 0.285669E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 3.5 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.220799E-07	0.200768E-07	-0.636349E-07	0.416508E-08	0.224798E-07
	-0.772920E 01	0.702793E 01	-0.222756E 02	0.145800E 01	0.786920E 01

TEST NO. 0096 UNIT INTERVAL IT1 = 0.500009E-06  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.245860E-07	0.131230E-07	-0.483048E-07	-0.510976E-08	0.245860E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.491711E 01	0.262457E 01	-0.966078E 01	-0.102193E 01	0.491711E 01

TEST NO. 0097 UNIT INTERVAL IT1 = 0.100004E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.208680E-07	0.956630E-08	-0.411246E-07	-0.644945E-08	0.208680E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.208669E 01	0.956593E 00	-0.411226E 01	-0.644913E 00	0.208669E 01

TEST NO. 0098 UNIT INTERVAL IT1 = 0.133319E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.238901E-07	0.880889E-08	-0.393996E-07	-0.118997E-07	0.238901E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.179193E 01	0.660734E 00	-0.295527E 01	-0.892568E 00	0.179193E 01

TEST NO. 0099 UNIT INTERVAL IT1 = 0.199992E-05  
 FAIR 9621/9620 BIPHASE ISO DIST NC PROT TERM BAL POT 1000 FT 19 GA OP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.240551E-07	0.744437E-08	-0.374643E-07	-0.130289E-07	0.240551E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.120280E 01	0.372228E 00	-0.187328E 01	-0.651471E 00	0.120280E 01

TEST NO. 0100 UNIT INTERVAL IT1 = 0.999769E-06  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 24 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.633912E-07	0.152690E-06	-0.350184E-06	0.176415E-06	0.131389E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.534058E 01	0.152725E 02	-0.350265E 02	0.176455E 02	0.131420E 02

TEST NO. 0101 UNIT INTERVAL (T) = 0.133307E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 24 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.540899E-07	0.155892E-06	-0.335539E-06	0.156520E-06	0.131373E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.405751E 01	0.116941E 02	-0.251702E 02	0.117412E 02	0.985490E 01

TEST NO. 0102 UNIT INTERVAL (T) = 0.200016E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 24 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.665261E-07	0.135980E-06	-0.310284E-06	0.150131E-06	0.118523E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.332602E 01	0.679845E 01	-0.155129E 02	0.750592E 01	0.592567E 01

TEST NO. 0103 UNIT INTERVAL (T) = 0.399496E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 24 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.652280E-07	0.110676E-06	-0.251983E-06	0.102731E-06	0.100287E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.163274E 01	0.277040E 01	-0.630753E 01	0.257151E 01	0.251032E 01

TEST NO. 0104 UNIT INTERVAL (T) = 0.999236E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 24 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.472031E-07	0.489546E-07	-0.139283E-06	0.335330E-07	0.547654E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.472387E 00	0.480917E 00	-0.139390E 01	0.335586E 00	0.548067E 00

TEST NO. 0105 UNIT INTERVAL (T) = 0.999639E-06  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 22 GA IP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.532539E-07	0.124194E-06	-0.289219E-06	0.125680E-06	0.104703E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.532730E 01	0.124239E 02	-0.289324E 02	0.125725E 02	0.104740E 02

TEST NO. 0106 UNIT INTERVAL (T) = 0.133236E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 22 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.529064E-07	0.106126E-06	-0.239284E-06	0.107930E-06	0.921424E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.397085E 01	0.796522E 01	-0.179593E 02	0.810065E 01	0.691568E 01

TEST NO. 0107 UNIT INTERVAL (T) = 0.199967E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM HAL POT 1000 FT 22 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.295820E-07	0.789140E-07	-0.197139E-06	0.841209E-07	0.632233E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.147932E 01	0.394633E 01	-0.985855E 01	0.420672E 01	0.316166E 01

TEST NO. 0108 UNIT INTERVAL (T) = 0.399900E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM RAL POT 1000 FT 22 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.450190E-07	0.583073E-07	-0.142704E-06	0.355903E-07	0.583332E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.112572E 01	0.145804E 01	-0.356849E 01	0.889979E 00	0.145868E 01

TEST NO. 0109 UNIT INTERVAL (T) = 0.100106E-04  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 22 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.343134E-07	0.254921E-07	-0.826321E-07	0.823638E-08	0.358759E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.342763E 00	0.254655E 00	-0.825441E 00	0.822761E-01	0.358372E 00

TEST NO. 0110 UNIT INTERVAL (T) = 0.332669E-06  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 24 GA GP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.166415E-07	0.221362E-07	-0.633348E-07	0.114650E-07	0.208646E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.500242E 01	0.665411E 01	-0.190383E 02	0.344638E 01	0.627190E 01

TEST NO. 0111 UNIT INTERVAL (T) = 0.499829E-06  
 FAIR 9621/9620 BIPHAISE ISO DIST PROT TERM 8AL POT 1000 FT 24 GA UP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.231698E-07	0.194814E-07	-0.582148E-07	0.547027E-08	0.240048E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.463553E 01	0.389762E 01	-0.116469E 02	0.109442E 01	0.480259E 01

TEST NO. 0112 UNIT INTERVAL (T) = 0.100005E-05  
 FAIR 9621/9620 BIPHAISE ISO DIST PROT TERM 8AL POT 1000 FT 24 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.200451E-07	0.156279E-07	-0.509297E-07	-0.459522E-09	0.200451E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.200439E 01	0.156269E 01	-0.509267E 01	-0.459494E-01	0.200439E 01

TEST NO. 0113 UNIT INTERVAL (T) = 0.133162E-05  
 FAIR 9621/9620 BIPHAISE ISO DIST PROT TERM 8AL POT 1000 FT 24 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.207834E-07	0.138810E-07	-0.489146E-07	-0.202931E-08	0.207834E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.156075E 01	0.104242E 01	-0.367329E 01	-0.152393E 00	0.156075E 01

TEST NO. 0114 UNIT INTERVAL (T) = 0.199981E-05  
 FAIR 9621/9620 BIPHAISE ISO DIST PROT TERM 8AL POT 1000 FT 24 GA UP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.248127E-07	0.118328E-07	-0.439095E-07	-0.551926E-08	0.248127E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.124074E 01	0.591714E 00	-0.219567E 01	-0.275988E 00	0.124074E 01

TEST NO. 0115 UNIT INTERVAL (T) = 0.333079E-06  
 FAIR 9621/9620 BIPHAISE ISO DIST PROT TERM 8AL POT 1000 FT 22 GA OP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.177455E-07	0.379511E-07	-0.102449E-06	0.329600E-07	0.328193E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.532769E 01	0.113940E 02	-0.307553E 02	0.989555E 01	0.985330E 01

TEST NO. 0116 UNIT INTERVAL (T) = 0.500179E-06  
 FAIR 7621/9620 BIPHASE ISO DIST PRCT TERM BAL POT 1000 FT 22 GA CP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.282950E-07	0.310430E-07	-0.842898E-07	0.195100E-07	0.333354E-07
	-0.565697E 01	0.620637E 01	-0.169519E 02	0.390061E 01	0.666470E 01

TEST NO. 0117 UNIT INTERVAL (T) = 0.100057E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PRCT TERM BAL POT 1000 FT 22 GA CP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.261366E-07	0.282679E-07	-0.775898E-08	0.882028E-08	0.290738E-07
	-0.261216E 01	0.282516F 01	-0.775448E 01	0.881517E 00	0.290568E 01

TEST NO. 0118 UNIT INTERVAL (T) = 0.133307E-05  
 FAIR 7621/9620 BIPHASE ISO DIST PRCT TERM BAL POT 1000 FT 22 GA CP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.241975E-07	0.257763E-07	-0.772397E-07	0.114205E-07	0.256662E-07
	-0.181516E 01	0.193359E 01	-0.579408E 01	0.856702E 00	0.192534E 01

TEST NO. 0119 UNIT INTERVAL (T) = 0.200424E-05  
 FAIR 7621/9620 BIPHASE ISO DIST PRCT TERM BAL POT 1000 FT 22 GA CP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.310388E-07	0.243033E-07	-0.715246E-07	0.137506E-07	0.329064E-07
	-0.154864E 01	0.121261E 01	-0.356864E 01	0.686075E 00	0.164183E 01

TEST NO. 0120 UNIT INTERVAL (T) = 0.285669E-06  
 FAIR 7621/9620 BIPHASE ISO DIST PRCT TERM BAL POT 1000 FT 19 GA CP 3.5 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.228070E-07	0.214499E-07	-0.622349E-07	0.626509E-08	0.239189E-07
	-0.798371E 01	0.750862E 01	-0.217856E 02	0.219312E 01	0.837296E 01

TEST NO. 0121 UNIT INTERVAL (T) = 0.500089E-06  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 19 GA GP 2 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.225334E-07	0.149384E-07	-0.483448E-08	-0.104483E-08	0.225334E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.450587E 01	0.298715E 01	-0.266723E 01	-0.208930E 00	0.450587E 01

TEST NO. 0122 UNIT INTERVAL (T) = 0.999239E-06  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM PAL POT 1000 FT 19 GA GP 1 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.193830E-07	0.111724E-07	-0.423175E-07	-0.551961E-08	0.193830E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.193978E 01	0.111808E 01	-0.428521E 01	-0.552381E 00	0.193978E 01

TEST NO. 0123 UNIT INTERVAL (T) = 0.133248E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 19 GA GP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.222727E-07	0.106647E-07	-0.416445E-07	-0.664454E-08	0.222727E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.167151E 01	0.800376E 00	-0.312531E 01	-0.498656E 00	0.167151E 01

TEST NO. 0124 UNIT INTERVAL (T) = 0.200055E-05  
 FAIR 9621/9620 BIPHASE ISO DIST PROT TERM BAL POT 1000 FT 19 GA GP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.236657E-07	0.106658E-07	-0.405776E-07	-0.767977E-08	0.236657E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.118294E 01	0.5333165E 00	-0.202841E 01	-0.383881E 00	0.118294E 01

TEST NO. 0125 UNIT INTERVAL (T) = 0.999839E-06  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA IP 1 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.125359E-06	0.161067E-06	-0.389339E-06	0.186002E-06	0.166203E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.125379E 02	0.161093E 02	-0.389402E 02	0.186032E 02	0.166230E 02

TEST NO. 0126 UNIT INTERVAL (T) = 0.133288E-05  
 FAIR 9621/9620 NRZ 150 DIST NO PROT TERM BAL POT 1000 FT 24 GA 1P 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.106664E-06	0.114935E-06	-0.291459E-06	0.100431E-06	0.130306E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.800253E 01	0.862302E 01	-0.218689E 02	0.753490E 01	0.977624E 01

TEST NO. 0127 UNIT INTERVAL (T) = 0.199966E-05  
 FAIR 9621/9620 NRZ 150 DIST NO PROT TERM BAL POT 1000 FT 24 GA 1P 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.103841E-06	0.542734E-07	-0.144268E-06	0.386171E-08	0.103889E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.519290E 01	0.271416E 01	-0.921496E 01	0.193117E 00	0.519529E 01

TEST NO. 0128 UNIT INTERVAL (T) = 0.399883E-05  
 FAIR 9621/9620 NRZ 150 DIST NO PROT TERM BAL POT 1000 FT 24 GA 1P 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.957160E-07	0.102637E-07	-0.117177E-06	-0.780392E-07	0.957160E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.239358E 01	0.256730E 00	-0.293028E 01	-0.195154E 01	0.239358E 01

TEST NO. 0129 UNIT INTERVAL (T) = 0.100000E-04  
 FAIR 9621/9620 NRZ 150 DIST NO PROT TERM BAL POT 1000 FT 24 GA 1P 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.102231E-06	0.824658E-08	-0.114474E-06	-0.810105E-07	0.102231E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.102229E 01	0.826098E-01	-0.114473E 01	-0.810099E 00	0.102229E 01

TEST NO. 0130 UNIT INTERVAL (T) = 0.999999E-06  
 FAIR 9621/9620 NRZ 150 DIST NO PROT TERM BAL POT 1000 FT 22 GA 1P 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.710942E-07	0.263654E-07	-0.238099E-06	0.106102E-06	0.973618E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.710941E 01	0.963654E 01	-0.238099E 02	0.106102E 02	0.973616E 01

TEST NO. 0131 UNIT INTERVAL (I) = 0.133308E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA IP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.665215E-07	0.628239E-07	-0.169009E-06	0.573318E-07	0.755172E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.499000E 01	0.471266E 01	-0.126840E 02	0.430067E 01	0.566481E 01

TEST NO. 0132 UNIT INTERVAL (I) = 0.149958E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA IP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.609861E-07	0.252064E-07	-0.104663E-06	0.272211E-08	0.610303E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.304991E 01	0.126063E 01	-0.523552E 01	0.136133E 00	0.305211E 01

TEST NO. 0133 UNIT INTERVAL (I) = 0.399901E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA IP 250 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.555248E-07	0.162861E-07	-0.871368E-07	-0.308182E-07	0.555248E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.138844E 01	0.407304E 00	-0.217895E 01	-0.770645E 00	0.138844E 01

TEST NO. 0134 UNIT INTERVAL (I) = 0.100096E-04  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA IP 100 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.579848E-07	0.476383E-08	-0.605895E-07	-0.420150E-07	0.579848E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.579276E 00	0.477258E-01	-0.665251E 00	-0.419743E 00	0.579276E 00

TEST NO. 0135 UNIT INTERVAL (I) = 0.333239E-06  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA UP 3 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.437256E-07	0.250348E-07	-0.929398E-07	0.590080E-08	0.438775E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.131213E 02	0.751259E 01	-0.278897E 02	0.177073E 01	0.131669E 02

TEST NO. 0136 UNIT INTERVAL (T) = 0.499999E-06  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.426833E-07	0.171962E-07	-0.715836E-07	-0.106692E-07	0.426833E-07
	-0.853683E 01	0.347928E 01	-0.143182E 02	-0.213390E 01	0.853683E 01

TEST NO. 0137 UNIT INTERVAL (T) = 0.999919E-06  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.404874E-07	0.456471E-08	-0.493195E-07	-0.289392E-07	0.404874E-07
	-0.404905E 01	0.456590E 00	-0.493234E 01	-0.289415E 01	0.404905E 01

TEST NO. 0138 UNIT INTERVAL (T) = 0.133315E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.400723E-07	0.206607E-08	-0.447594E-07	-0.348936E-07	0.400723E-07
	-0.300580E 01	0.155246E 00	-0.335739E 01	-0.261736E 01	0.300580E 01

TEST NO. 0139 UNIT INTERVAL (T) = 0.199977E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 24 GA OP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.402670E-07	0.228864E-08	-0.458585E-07	-0.359791E-07	0.402670E-07
	-0.201355E 01	0.114825E 00	-0.229318E 01	-0.179915E 01	0.201355E 01

TEST NO. 0140 UNIT INTERVAL (T) = 0.333499E-06  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 22 GA OP 3 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
PCT ERROR	-0.477800E-07	0.497271E-07	-0.142099E-06	0.506001E-07	0.561771E-07
	-0.143268E 02	0.149106E 02	-0.426086E 02	0.151724E 02	0.168447E 02

TEST NO. 0141 UNIT INTERVAL (I) = 0.499849E-06  
 FAIL 9621/9620 URZ ISD DIST NO PRCT TERM HAL POT 1000 FT 22 GA DP 2 MBPS

MEAN	SD	MIN	MAX
-0.460402E-07	0.355756E-07	-0.107849E-06	0.191012E-07
MEAN	SD	MIN	MAX
-0.921079E 01	0.711731E 01	-0.219705E 02	0.382139E 01

AVER OF ABS  
 0.489492E-07  
 AVER OF ABS  
 0.979270E 01

TEST NO. 0142 UNIT INTERVAL (I) = 0.999789E-06  
 FAIL 9621/9620 URZ ISD DIST NO PRCT TERM HAL POT 1000 FT 22 GA DP 1 MBPS

MEAN	SD	MIN	MAX
-0.422204E-07	0.134048E-07	-0.579944E-07	-0.145627E-07
MEAN	SD	MIN	MAX
-0.422291E 01	0.134080E 01	-0.576030E 01	-0.145713E 01

AVER OF ABS  
 0.422204E-07  
 AVER OF ABS  
 0.422291E 01

TEST NO. 0143 UNIT INTERVAL (I) = 0.133319E-05  
 FAIL 9621/9620 URZ ISD DIST NO PRCT TERM HAL POT 1000 FT 22 GA DP 750 KBPS

MEAN	SD	MIN	MAX
-0.413365E-07	0.528944E-07	-0.228944E-07	-0.286941E-07
MEAN	SD	MIN	MAX
-0.310953E 01	0.413899E 00	-0.596765E 01	-0.215264E 01

AVER OF ABS  
 0.413365E-07  
 AVER OF ABS  
 0.310953E 01

TEST NO. 0144 UNIT INTERVAL (I) = 0.199984E-05  
 FAIL 9621/9620 URZ ISD DIST NO PRCT TERM HAL POT 1000 FT 22 GA DP 500 KBPS

MEAN	SD	MIN	MAX
-0.399246E-07	0.267702E-08	-0.460465E-07	-0.327017E-07
MEAN	SD	MIN	MAX
-0.199637E 01	0.133999E 00	-0.230791E 01	-0.163521E 01

AVER OF ABS  
 0.399246E-07  
 AVER OF ABS  
 0.199637E 01

TEST NO. 0145 UNIT INTERVAL (I) = 0.295239E-06  
 FAIL 9621/9620 URZ ISD DIST NO PRCT TERM HAL POT 1000 FT 19 GA DP 3.5 MBPS

MEAN	SD	MIN	MAX
-0.382604E-07	0.232090E-07	-0.883398E-07	0.568036E-08
MEAN	SD	MIN	MAX
-0.134134E 02	0.313667E 01	-0.309703E 02	0.199743E 01

AVER OF ABS  
 0.382604E-07  
 AVER OF ABS  
 0.135660E 02

TEST NO. 0146 UNIT INTERVAL (T) = 0.499839E-06  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 2 MBPS  
 TIME ERROR MEAN SD MIN MAX  
 PCT ERROR -0.370331E-07 0.165692E-07 -0.650337E-07 -0.269892E-08  
 -0.740901E 01 0.331491E 01 -0.136123E 02 -0.539958E 00  
 AVER OF ABS 0.370331E-07  
 AVER OF ABS 0.740901E 01

TEST NO. 0147 UNIT INTERVAL (T) = 0.100017E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 1 MBPS  
 TIME ERROR MEAN SD MIN MAX  
 PCT ERROR -0.368561E-07 0.960868E-08 -0.529794E-07 -0.193385E-07  
 -0.368493E 01 0.960773E 00 -0.529699E 01 -0.193351E 01  
 AVER OF ABS 0.368561E-07  
 AVER OF ABS 0.740901E 01

TEST NO. 0148 UNIT INTERVAL (T) = 0.133315E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 750 KRPS  
 TIME ERROR MEAN SD MIN MAX  
 PCT ERROR -0.363425E-07 0.691830E-08 -0.481533E-07 -0.198742E-07  
 -0.272603E 01 0.518997E 00 -0.361242E 01 -0.149076E 01  
 AVER OF ABS 0.363425E-07  
 AVER OF ABS 0.272603E 01

TEST NO. 0149 UNIT INTERVAL (T) = 0.199980E-05  
 FAIR 9621/9620 NRZ ISO DIST NO PROT TERM BAL POT 1000 FT 19 GA OP 500 KRPS  
 TIME ERROR MEAN SD MIN MAX  
 PCT ERROR -0.374644E-07 0.268916E-08 -0.439095E-07 -0.322270E-07  
 -0.187338E 01 0.134687E 00 -0.219564E 01 -0.161150E 01  
 AVER OF ABS 0.374644E-07  
 AVER OF ABS 0.187338E 01

TEST NO. 0150 UNIT INTERVAL (T) = 0.133327E-05  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL POT 24 GA IP 750 KRPS  
 TIME ERROR MEAN SD MIN MAX  
 PCT ERROR -0.327082E-06 0.175021E-06 -0.478439E-06 0.116028E-08  
 -0.245322E 02 0.131270E 02 -0.358844E 02 -0.870251E-01  
 AVER OF ABS 0.327082E-06  
 AVER OF ABS 0.245322E 02

TEST NO. 0156 UNIT INTERVAL (T) = 0.200099E-05  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 22 GA IP 500 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.136135E-06	0.747571E-07	-0.196499E-06	0.190038E-08	0.136157E-06
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.680336E 01	0.373601E 01	-0.192007E 01	0.949720E-01	0.680444E 01

TEST NO. 0157 UNIT INTERVAL (T) = 0.399890E-05  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 22 GA IP 250 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.471221E-07	0.118435E-07	-0.616542E-07	-0.200543E-07	0.471221E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.117836E 01	0.296196E 00	-0.154177E 01	-0.501495E 00	0.117836E 01

TEST NO. 0158 UNIT INTERVAL (T) = 0.995526E-05  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 22 GA IP 100 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.264201E-07	0.674858E-08	-0.390327E-07	-0.196332E-07	0.264201E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.265384E 00	0.678036E-01	-0.392001E 00	-0.197214E 00	0.265384E 00

TEST NO. 0159 UNIT INTERVAL (T) = 0.200220E-04  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 22 GA IP 50 KRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.429932E-07	0.368820E-08	-0.473101E-07	-0.356103E-07	0.429932E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.214726E 00	0.184540E-01	-0.256290E 00	-0.177855E 00	0.214726E 00

TEST NO. 0160 UNIT INTERVAL (T) = 0.333199E-06  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 24 GA OP 3 MRPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.549560E-07	0.315709E-07	-0.901399E-07	0.121000E-07	0.549560E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.164934E 02	0.947502E 01	-0.270708E 02	0.363148E 01	0.168516E 02

TEST NO. 0161 UNIT INTERVAL (T) = 0.499939E-06  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 24 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.396504E-07	0.220790E-07	-0.639198E-07	0.668012E-08	0.39986E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.793264E 01	-0.441720E 01	-0.127800E 02	0.133045E 01	0.800029E 01

TEST NO. 0162 UNIT INTERVAL (T) = 0.100009E-05  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 24 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.226522E-07	6.102292E-07	-0.369497E-07	-0.649720E-09	0.226522E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.226499E 01	0.102281F 01	-0.369460E 01	-0.649655E-01	0.226499E 01

TEST NO. 0163 UNIT INTERVAL (T) = 0.133294E-05  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 24 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.155989E-07	0.574656E-08	-0.256746E-07	-0.247462E-08	0.155989E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.117025E 01	0.431134F 00	-0.192615E 01	-0.185650E 00	0.117025E 01

TEST NO. 0164 UNIT INTERVAL (T) = 0.200066E-05  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 24 GA OP 500 KBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.976362E-08	0.312645E-08	-0.162344E-07	-0.493446E-08	0.976362E-08
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.488012E 00	0.156286E 00	-0.811452E 00	-0.246640E 00	0.488012E 00

TEST NO. 0165 UNIT INTERVAL (T) = 0.500029E-06  
 FAIR 9621/9620 KZ ISO DIST NO PROT TERM BAL POT 22 GA OP 2 MBPS

TIME ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.688968E-07	0.481905E-07	-0.135514E-06	0.978514E-08	0.895918E-07
PCT ERROR	MEAN	SD	MIN	MAX	AVER OF ABS
	-0.177783E 02	0.963748E 01	-0.271013E 02	0.195691E 01	0.179173E 02

TEST NO. 0166 UNIT INTERVAL (T) = 0.666319E-06  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL POT 22 GA OP 1.5 MBPS

TIME ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.714206E-07	0.388839E-07	-0.108599E-06	0.514023E-06
PCT ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.107186E 02	0.583561E 01	-0.1622924E 02	0.771437E 00

TEST NO. 0167 UNIT INTERVAL (T) = 0.999999E-06  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL POT 22 GA OP 1 MBPS

TIME ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.522556E-07	0.279262E-07	-0.748996E-07	0.522556E-07
PCT ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.522555E 01	0.279266F 01	-0.748997E 01	0.522555E 01

TEST NO. 0168 UNIT INTERVAL (T) = 0.133342E-05  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL POT 22 GA OP 750 KBPS

TIME ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.394213E-07	0.206797E-07	-0.577147E-07	0.394213E-07
PCT ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.295637E 01	0.155087E 01	-0.432823E 01	0.295637E 01

TEST NO. 0169 UNIT INTERVAL (T) = 0.199880E-05  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL POT 22 GA OP 500 KBPS

TIME ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.241352E-07	0.102567E-07	-0.366042E-07	0.241352E-07
PCT ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.120748E 01	0.513145E 00	-0.181130E 01	0.120748E 01

TEST NO. 0170 UNIT INTERVAL (T) = 0.333129E-06  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL POT 19 GA OP 3 MBPS

TIME ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.558397E-07	0.272607E-07	-0.912648E-07	0.558397E-07
PCT ERROR	MEAN	SD	MIN	AVER OF ABS
	-0.167621E 02	0.818322E 01	-0.273962E 02	0.167959E 02

TEST NO. 0171 UNIT INTERVAL (T) = 0.498649E-06  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL PUT 19 GA UP 2 MHPS

TIME ERROR MEAN SD MIN MAX AVER OF ABS  
 -0.431271E-07 0.205707E-07 -0.562248E-07 0.375166E-09 0.431301E-07  
 -0.863150E 01 0.411694 01 -0.132542E 02 0.750659E-01 0.863210E 01

TEST NO. 0172 UNIT INTERVAL (T) = 0.100002E-05  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL PUT 19 GA UP 1 MHPS

TIME ERROR MEAN SD MIN MAX AVER OF ABS  
 -0.289759E-07 0.131650E-07 -0.414146E-07 -0.421471E-08 0.289759E-07  
 -0.289749E 01 0.131649E 01 -0.414134E 01 -0.421458E 00 0.289749E 01

TEST NO. 0173 UNIT INTERVAL (T) = 0.133338E-05  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL PUT 19 GA UP 850 KBPS

TIME ERROR MEAN SD MIN MAX AVER OF ABS  
 -0.253523E-07 0.109459E-07 -0.347947E-07 -0.479474E-08 0.253523E-07  
 -0.190133E 01 0.820924E 00 -0.260949E 01 -0.359590E 00 0.190133E 01

TEST NO. 0174 UNIT INTERVAL (T) = 0.200009E-05  
 FAIR 9621/9620 RZ ISO DIST NO PROT TERM BAL PUT 19 GA UP 500 KBPS

TIME ERROR MEAN SD MIN MAX AVER OF ABS  
 -0.202174E-07 0.739886E-08 -0.267493E-07 -0.624936E-08 0.202174E-07  
 -0.101082E 01 0.369930E 00 -0.133740E 01 -0.312452E 00 0.101082E 01

TEST NO. 0075 UNIT INTERVAL (T) = 0.999259E-06  
 LAIR 062170620 BIPHASE 1SD DIST NU PROT TERM BAL POT 1000 FT 24 GA IP 1 Mbps  
 UNIT INTERVAL (T) = 0.999259E-06

DATA INTERVAL	TIME MEASUREMENT (IN SECONDS)	TIME ERROR (IN SECONDS)	TIME ERROR (IN PERCENT OF T)
1	0.905600E-06	-0.936592E-07	-0.937286E 01
2	0.616399E-06	0.116770E-06	0.116856E 02
3	0.106810E-05	0.688408E-07	0.688918E 01
4	0.240699E-06	-0.258929E-06	-0.259121E 02
5	0.240500E-06	-0.259129E-06	-0.259321E 02
6	0.970600E-06	-0.296593E-07	-0.286805E 01
7	0.970600E-06	-0.286593E-07	-0.286805E 01
8	0.112749E-05	0.128240E-06	0.128335E 02
9	0.449499E-06	-0.501296E-07	-0.501668E 01
10	0.433299E-06	-0.663296E-07	-0.663788E 01
11	0.384600E-06	-0.115029E-06	-0.115114E 02
12	0.208699E-06	-0.290929E-06	-0.291145E 02
13	0.208800E-06	-0.290829E-06	-0.291045E 02
14	0.612199E-06	0.112570E-06	0.112653E 02
15	0.105150E-05	0.522407E-07	0.522794E 01
16	0.178899E-06	-0.320729E-06	-0.320967E 02
17	0.178800E-06	-0.320829E-06	-0.321067E 02
18	0.524000E-06	0.243703E-07	0.243884E 01
19	0.635899E-06	0.136270E-06	0.136371E 02
20	0.112920E-05	0.129940E-06	0.130037E 02
21	0.452199E-06	-0.474296E-07	-0.474648E 01
22	0.435000E-06	-0.646296E-07	-0.646775E 01
23	0.382300E-06	-0.117329E-06	-0.117416E 02
24	0.189900E-06	-0.309729E-06	-0.309959E 02
25	0.190099E-06	-0.309529E-06	-0.309759E 02
26	0.572799E-06	0.731703E-07	0.732245E 01
27	0.911899E-06	-0.873592E-07	-0.874240E 01
28	0.911799E-06	-0.874592E-07	-0.875241E 01
29	0.522400E-06	0.227703E-07	0.227872E 01
30	0.624899E-06	0.125270E-06	0.125363E 02
31	0.110580E-05	0.106540E-06	0.106619E 02
32	0.400899E-06	-0.987296E-07	-0.988028E 01
33	0.264400E-06	-0.235229E-06	-0.235404E 02
34	0.264499E-06	-0.235129E-06	-0.235303E 02
35	0.113019E-05	0.130940E-06	0.131037E 02
36	0.465299E-06	-0.343296E-07	-0.343550E 01
37	0.452000E-06	-0.476295E-07	-0.476648E 01
38	0.429599E-06	-0.700296E-07	-0.700815E 01
39	0.366800E-06	-0.132829E-06	-0.132928E 02
40	0.166499E-06	-0.333129E-06	-0.333376E 02
41	0.166499E-06	-0.333129E-06	-0.333376E 02
42	0.489700E-06	-0.992963E-08	-0.993699E 00
43	0.526499E-06	0.268702E-07	0.268901E 01
44	0.626100E-06	0.126470E-06	0.126564E 02
45	0.110040E-05	0.101140E-06	0.101215E 02
46	0.372600E-06	-0.127029E-06	-0.127123E 02
47	0.170400E-06	-0.329229E-06	-0.329473E 02
48	0.170499E-06	-0.329129E-06	-0.329373E 02
49	0.468800E-06	-0.308296E-07	-0.308524E 01

50	0.467699E-06	-0.319296E-07	-0.319533E 01
51	0.470700E-06	-0.289296E-07	-0.289510E 01
52	0.486799E-06	-0.128296E-07	-0.128391E 01
53	0.522299E-06	0.226707E-07	0.226871E 01
54	0.627600E-06	0.127970E-06	0.128065E 02
55	0.112680E-05	0.127540E-06	0.127635E 02
56	0.463899E-06	-0.357296E-07	-0.357561E 01
57	0.463800E-06	-0.358296E-07	-0.358561E 01
58	0.463099E-06	-0.365296E-07	-0.365567E 01
59	0.464399E-06	-0.352296E-07	-0.352557E 01
60	0.462400E-06	-0.372296E-07	-0.372572E 01
61	0.448399E-06	-0.512296E-07	-0.512676E 01
62	0.428600E-06	-0.710296E-07	-0.710822E 01
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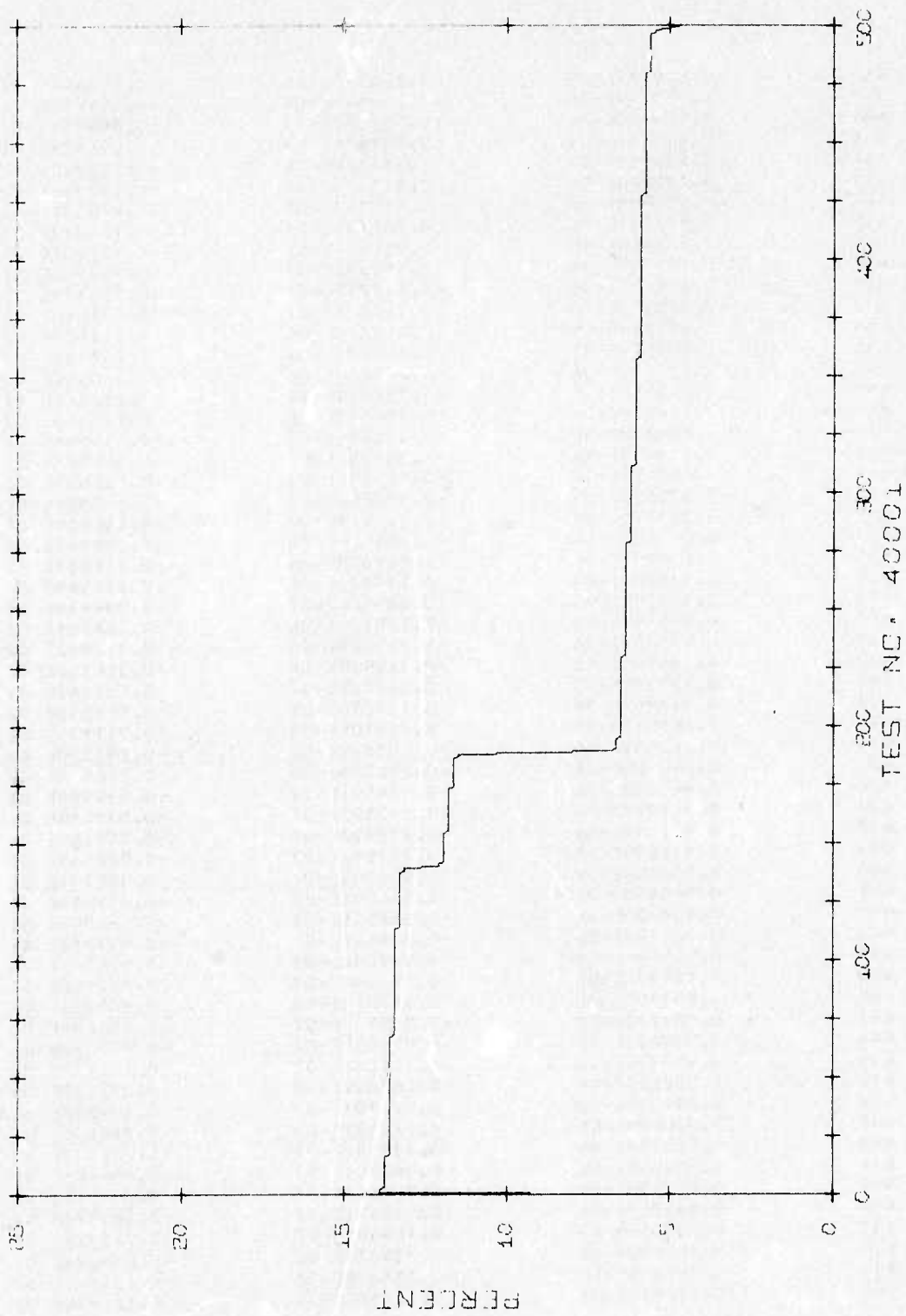
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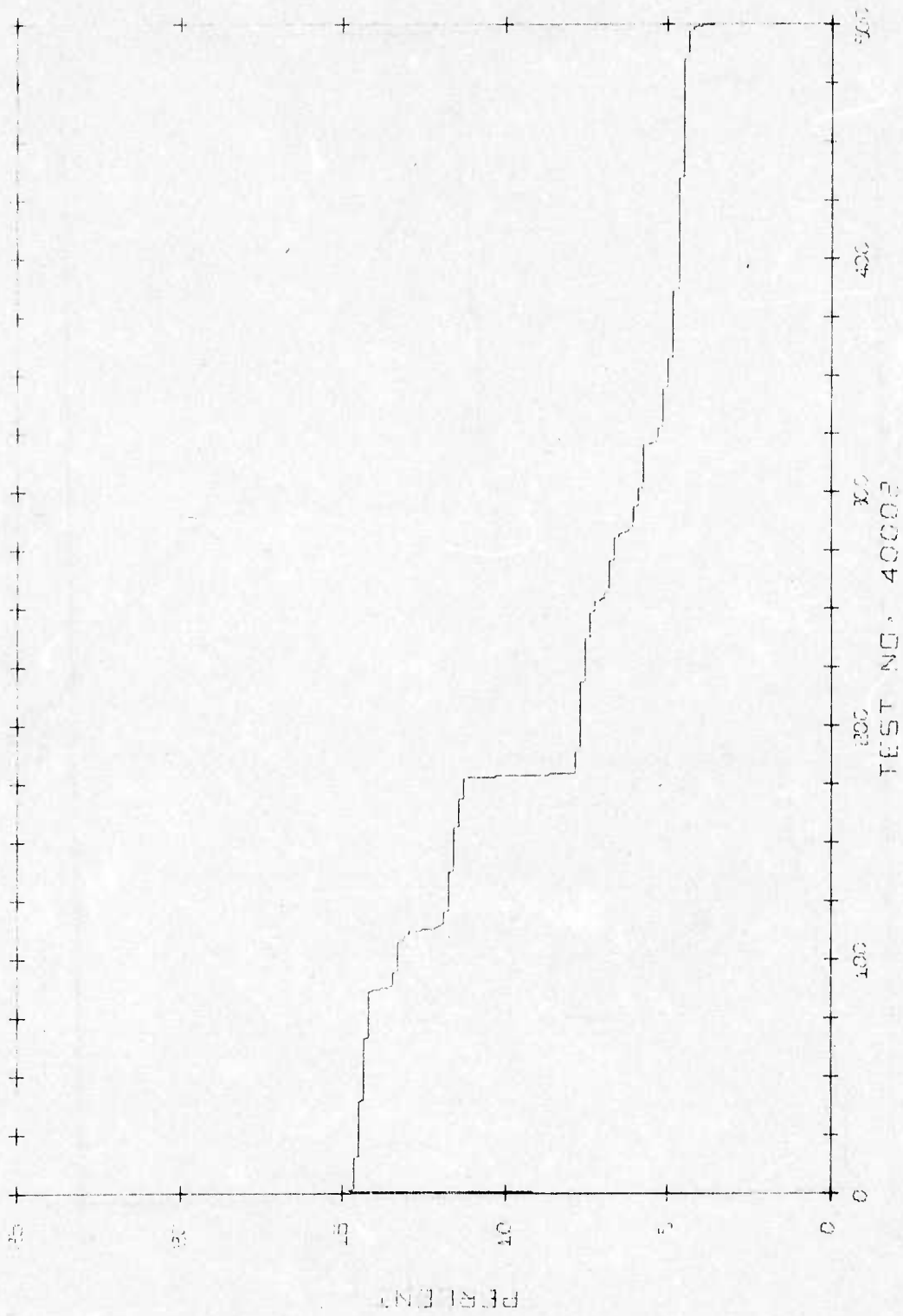
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278	0.612199E-06	0.112570E-06	0.112653E 02
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295	0.110840E-05	0.109140E-06	0.109221E 02
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321	0.110090E-05	0.101640E-06	0.101716E 02
322	0.368899E-06	-0.130729E-06	-0.130826E 02
323	0.171099E-06	-0.328529E-06	-0.328773E 02
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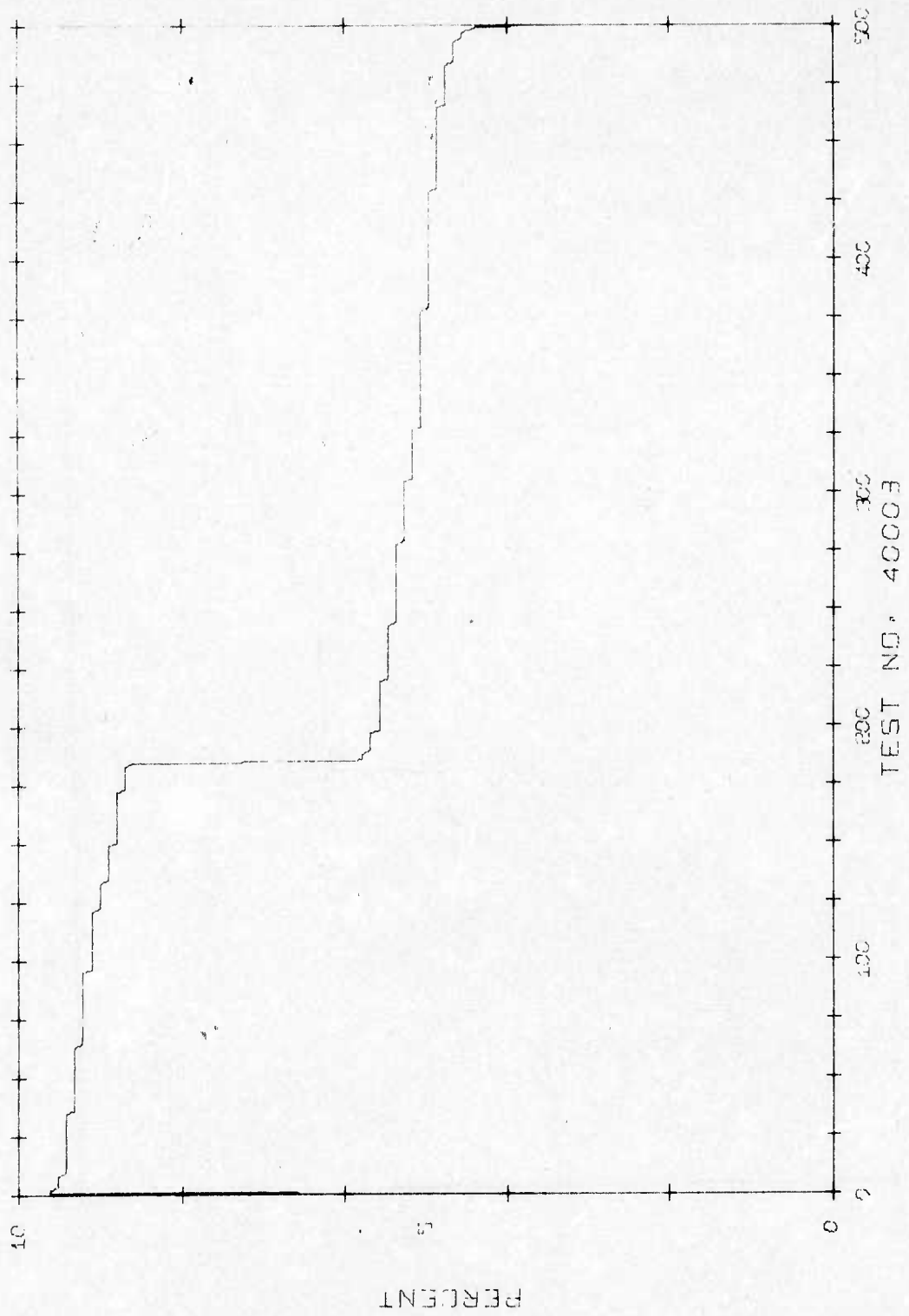
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333	0.922699E-06	-0.765592E-07	-0.766159E 01
334	0.922799E-06	-0.764593E-07	-0.765159E 01
335	0.588399E-06	0.887703E-07	0.888361E 01
336	0.945899E-06	-0.533592E-07	-0.533988E 01
337	0.945899E-06	-0.533592E-07	-0.533988E 01
338	0.919200E-06	-0.800591E-07	-0.801185E 01
339	0.919400E-06	-0.798592E-07	-0.799184E 01
340	0.596099E-06	0.964703E-07	0.965418E 01
341	0.961799E-06	-0.374593E-07	-0.374871E 01
342	0.961500E-06	-0.377592E-07	-0.377872E 01
343	0.106020E-05	0.609407E-07	0.609858E 01
344	0.205199E-06	-0.294429E-06	-0.294647E 02
345	0.205499E-06	-0.294129E-06	-0.294347E 02
346	0.626499E-06	0.126870E-06	0.126964E 02
347	0.107000E-05	0.707407E-07	0.707931E 01
348	0.228499E-06	-0.271129E-06	-0.271330E 02
349	0.228200E-06	-0.271429E-06	-0.271630E 02
350	0.912800E-06	-0.864591E-07	-0.865233E 01
351	0.912800E-06	-0.864591E-07	-0.865233E 01
352	0.501099E-06	0.147031E-08	0.147140E 00
353	0.574499E-06	0.748703E-07	0.749258E 01
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355	0.911299E-06	-0.879592E-07	-0.880245E 01
356	0.508299E-06	0.867032E-08	0.867675E 00
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363	0.918100E-06	-0.811592E-07	-0.812194E 01
364	0.595799E-06	0.961703E-07	0.962416E 01
365	0.972300E-06	-0.269592E-07	-0.269792E 01
366	0.972000E-06	-0.272591E-07	-0.272793E 01
367	0.110849E-05	0.109240E-06	0.109321E 02
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379	0.964899E-06	-0.343593E-07	-0.343848E 01
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381	0.105189E-05	0.526406E-07	0.526796E 01
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383	0.168699E-06	-0.330929E-06	-0.331175E 02
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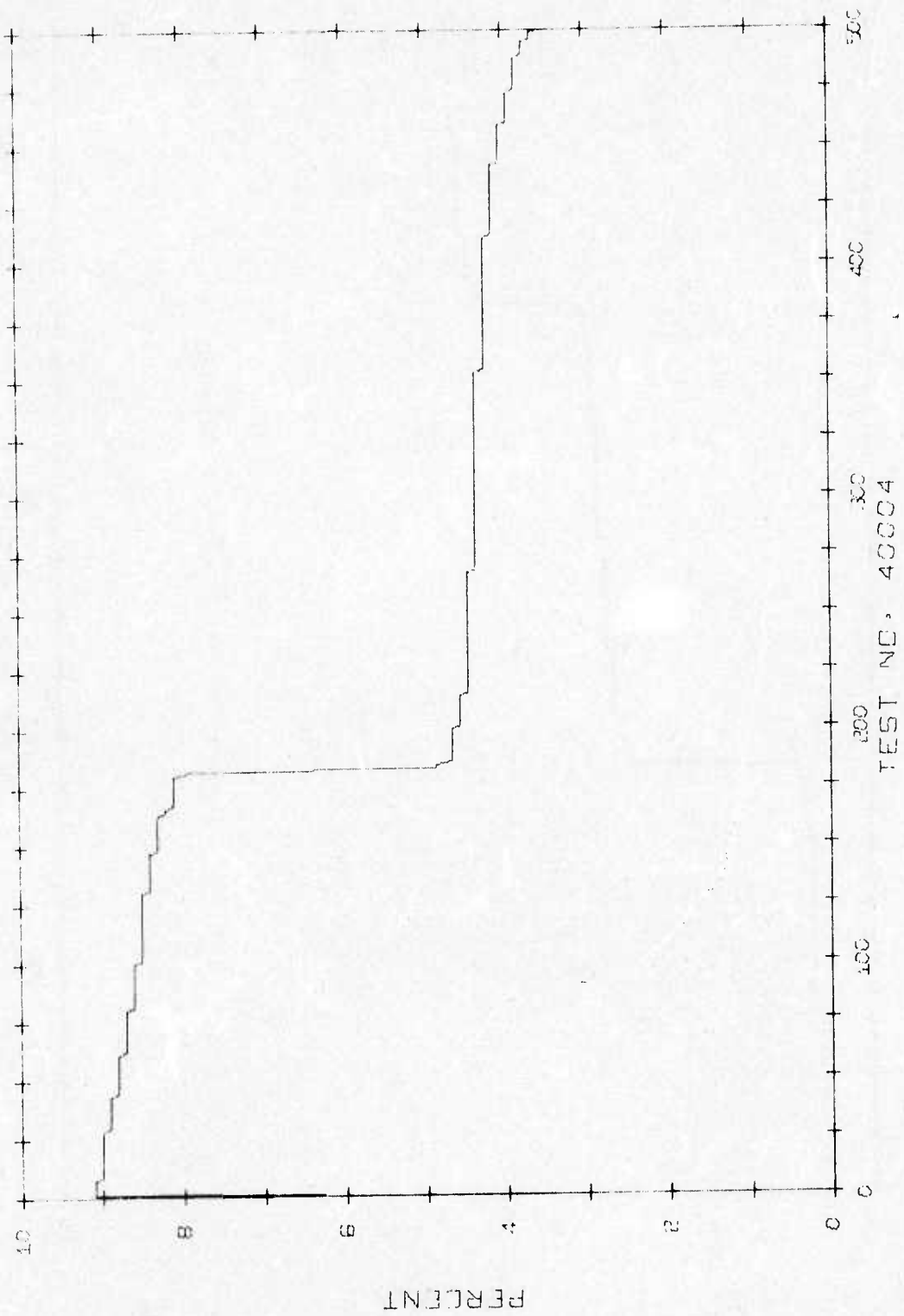
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390	0.947199E-06	-0.520592E-07	-0.520978E 01
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394	0.918700E-06	-0.805591E-07	-0.806189E 01
395	0.918700E-06	-0.805591E-07	-0.806189E 01
396	0.593399E-06	0.937702E-07	0.938397E 01
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399	0.112530E-05	0.126040E-06	0.126134E 02
400	0.450300E-06	-0.493295E-07	-0.493661E 01
401	0.443600E-06	-0.560295E-07	-0.560711E 01
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404	0.268900E-06	-0.230729E-06	-0.230900E 02
405	0.111949E-05	0.120240E-06	0.120329E 02
406	0.370800E-06	-0.128829E-06	-0.128925E 02
407	0.187099E-06	-0.312529E-06	-0.312761E 02
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410	0.609799E-06	0.110170E-06	0.110251E 02
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414	0.515800E-06	0.161703E-07	0.161823E 01
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417	0.263800E-06	-0.235829E-06	-0.236004E 02
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436	0.930400E-06	-0.688592E-07	-0.689102E 01
437	0.627299E-06	0.127670E-06	0.127764E 02
438	0.110020E-05	0.100940E-06	0.101015E 02
439	0.382099E-06	-0.117529E-06	-0.117616E 02
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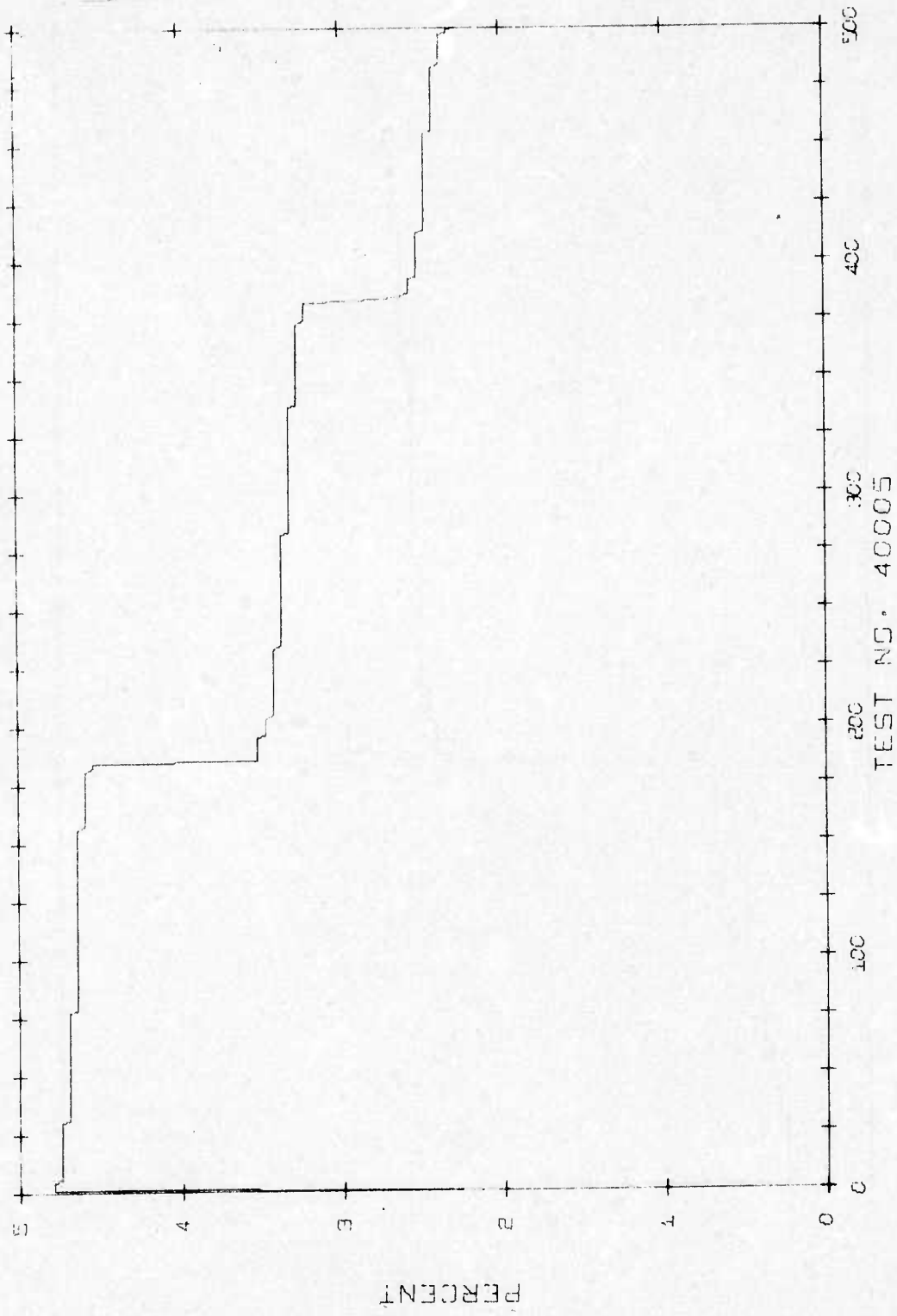
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446	0.185900E-06	-0.313729E-06	-0.313962E 02
447	0.185900E-06	-0.313729E-06	-0.313962E 02
448	0.500099E-06	0.470322E-09	0.470671E-01
449	0.573299E-06	0.736703E-07	0.737249E 01
450	0.903600E-06	-0.956591E-07	-0.957301E 01
451	0.903399E-06	-0.958592E-07	-0.959303E 01
452	0.488300E-06	-0.113295E-07	-0.113379E 01
453	0.515000E-06	0.153703E-07	0.153817E 01
454	0.612399E-06	0.112770E-06	0.112853E 02
455	0.107519E-05	0.759405E-07	0.759968E 01
456	0.263199E-06	-0.236429E-06	-0.236604E 02
457	0.263599E-06	-0.236029E-06	-0.236204E 02
458	0.112819E-05	0.128940E-06	0.129036E 02
459	0.465800E-06	-0.338295E-07	-0.338546E 01
460	0.463099E-06	-0.365296E-07	-0.365567E 01
461	0.447099E-06	-0.525296E-07	-0.525685E 01
462	0.430599E-06	-0.690296E-07	-0.690808E 01
463	0.383100E-06	-0.116529E-06	-0.116615E 02
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465	0.210800E-06	-0.288829E-06	-0.289043E 02
466	0.633499E-06	0.133870E-06	0.133969E 02
467	0.109799E-05	0.987406E-07	0.988138E 01
468	0.371499E-06	-0.128129E-06	-0.128224E 02
469	0.185900E-06	-0.313729E-06	-0.313962E 02
470	0.185700E-06	-0.313929E-06	-0.314162E 02
471	0.518399E-06	0.187702E-07	0.187841E 01
472	0.618900E-06	0.119270E-06	0.119358E 02
473	0.107059E-05	0.713405E-07	0.713934E 01
474	0.242599E-06	-0.257029E-06	-0.257220E 02
475	0.242900E-06	-0.256729E-06	-0.256919E 02
476	0.945800E-06	-0.534591E-07	-0.534988E 01
477	0.945899E-06	-0.533592E-07	-0.533988E 01
478	0.921399E-06	-0.778592E-07	-0.779169E 01
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484	0.905499E-06	-0.937592E-07	-0.938287E 01
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486	0.503500E-06	0.387035E-08	0.387322E 00
487	0.905700E-06	-0.935591E-07	-0.936285E 01
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490	0.502200E-06	0.257034E-08	0.257225E 00
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492	0.920499E-06	-0.787592E-07	-0.788176E 01
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494	0.594000E-06	0.943704E-07	0.944404E 01
495	0.961100E-06	-0.381592E-07	-0.381875E 01
496	0.961700E-06	-0.380591E-07	-0.380873E 01
497	0.107569E-05	0.764495E-07	0.764972E 01
498	0.265600E-06	-0.234029E-06	-0.234203E 02
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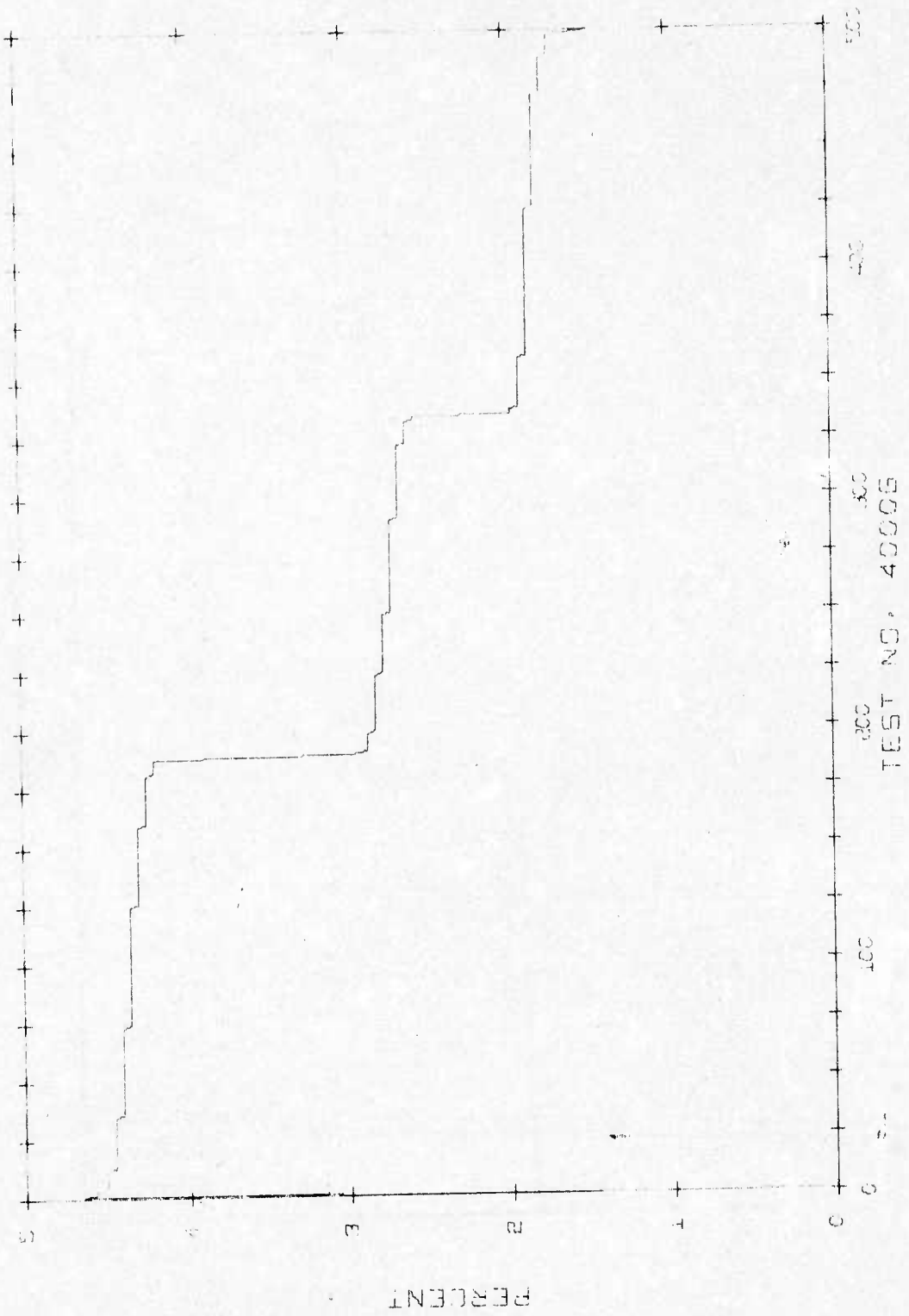




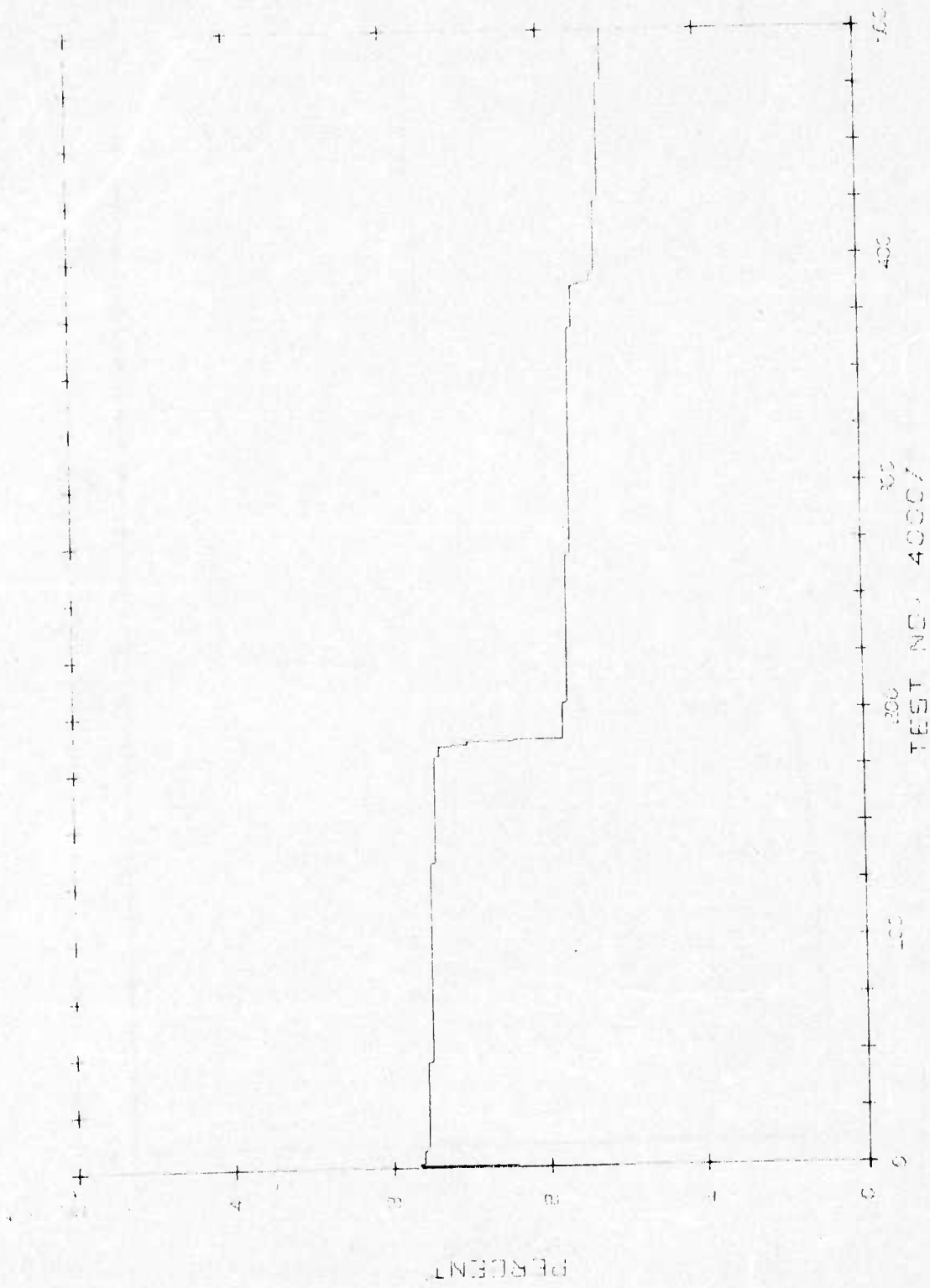


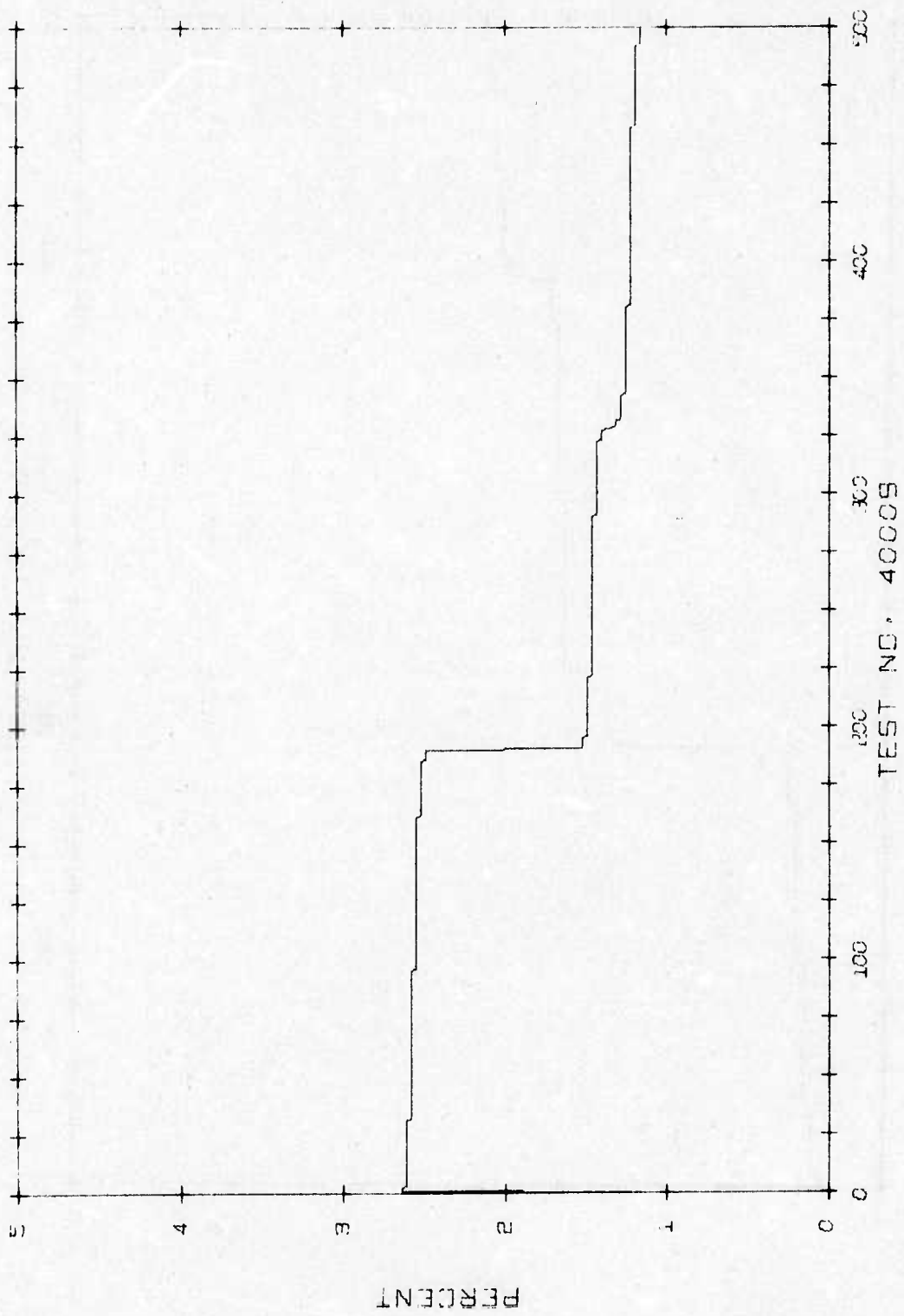


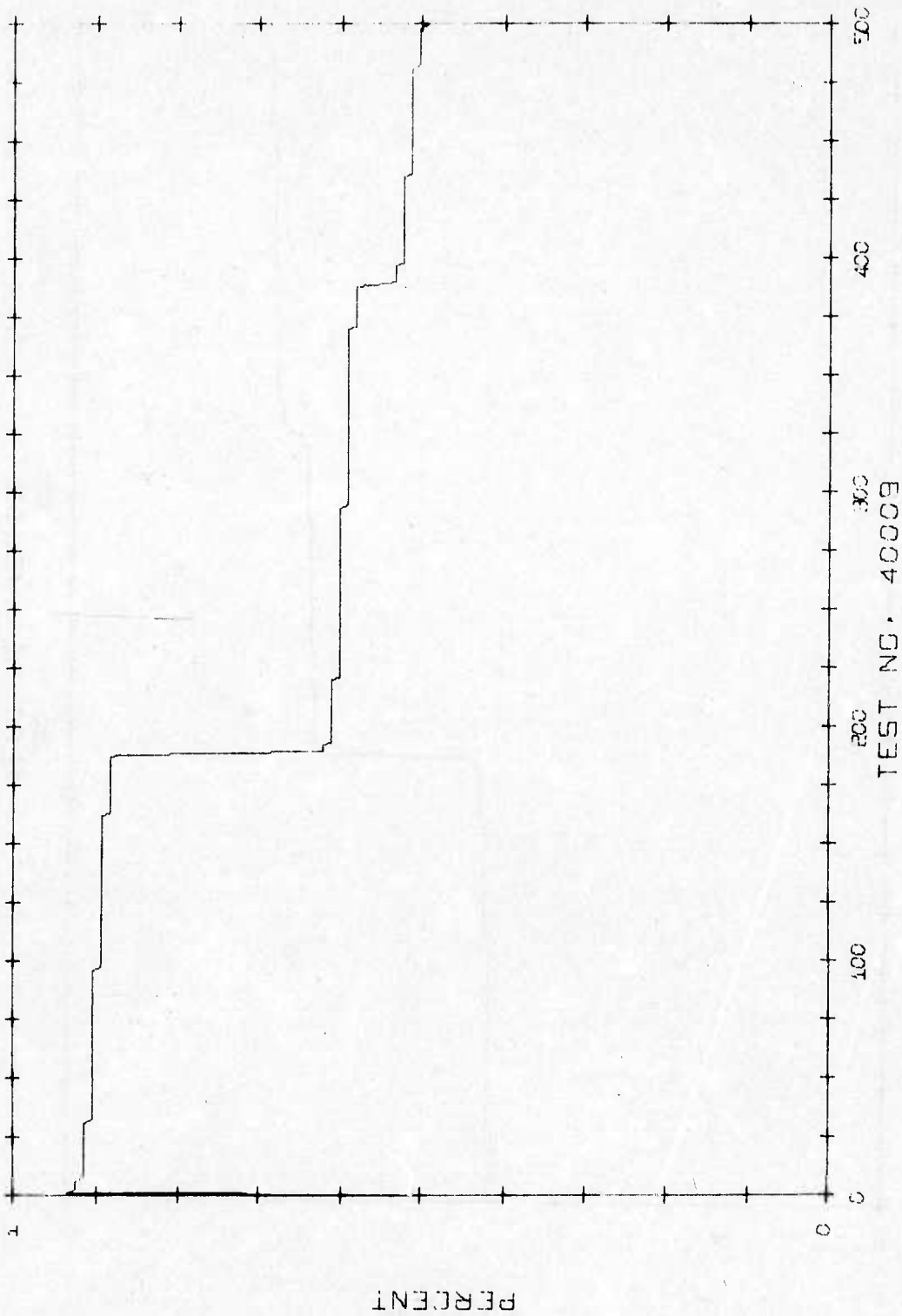
TEST NO. 40005

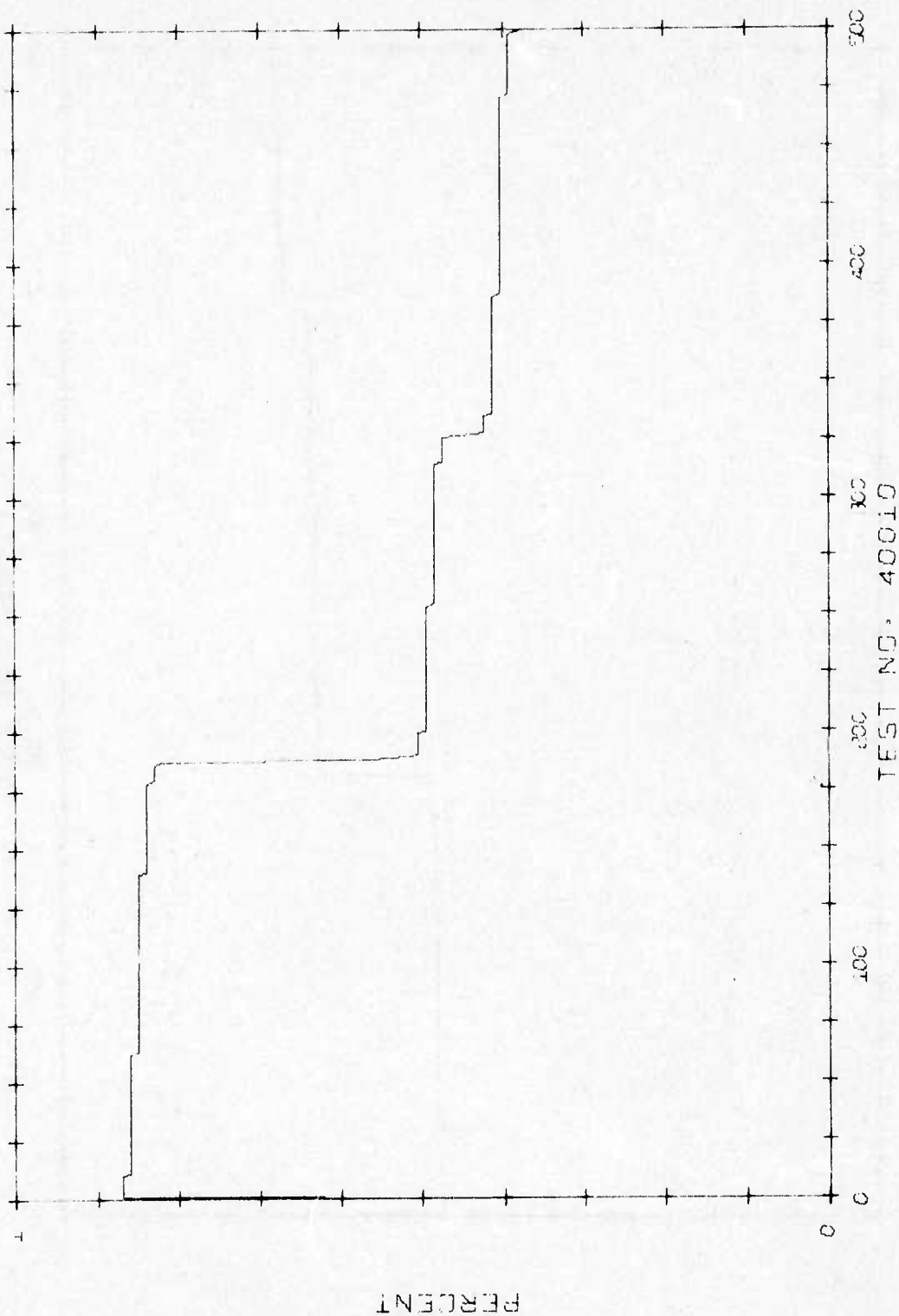


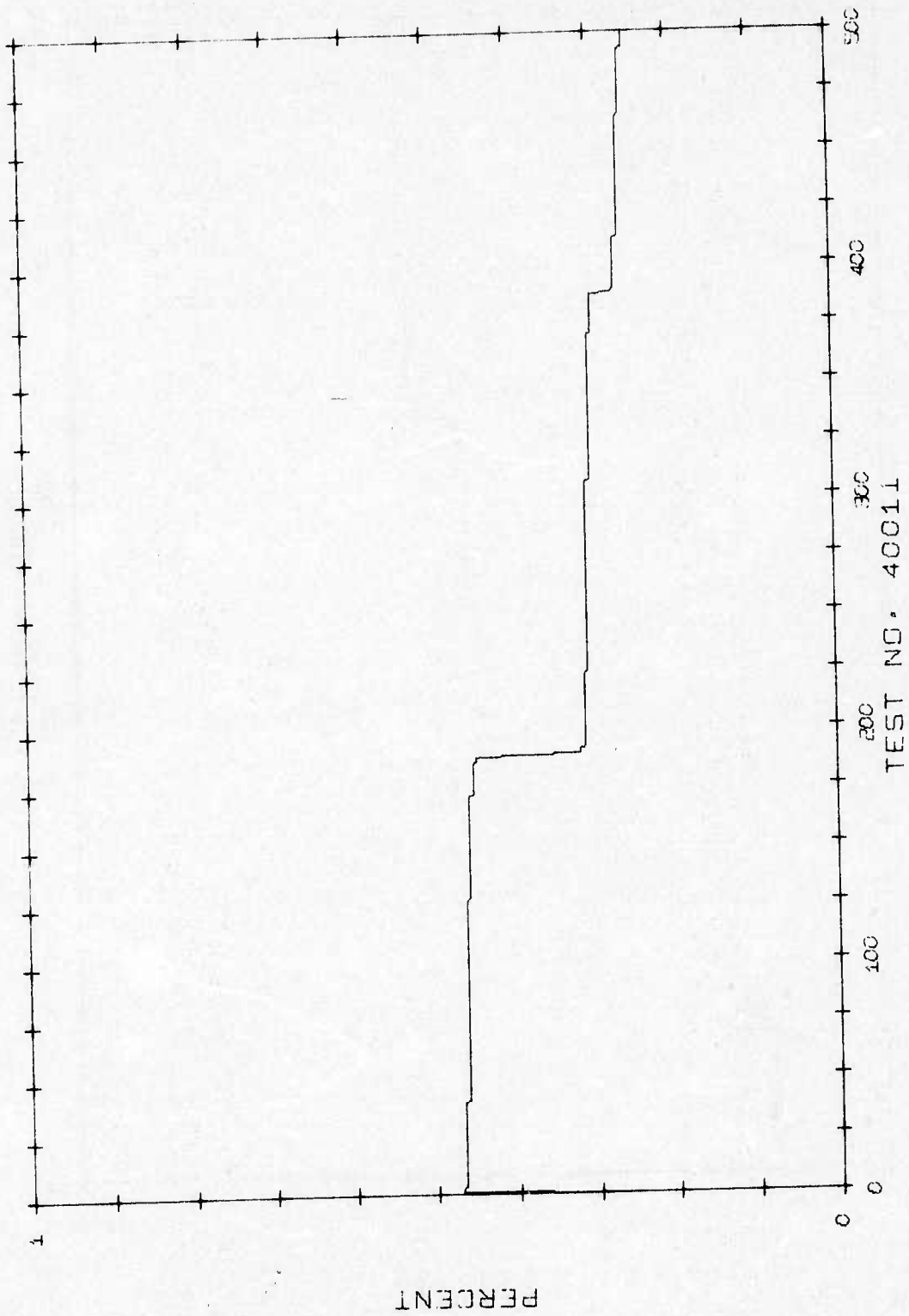
I-53

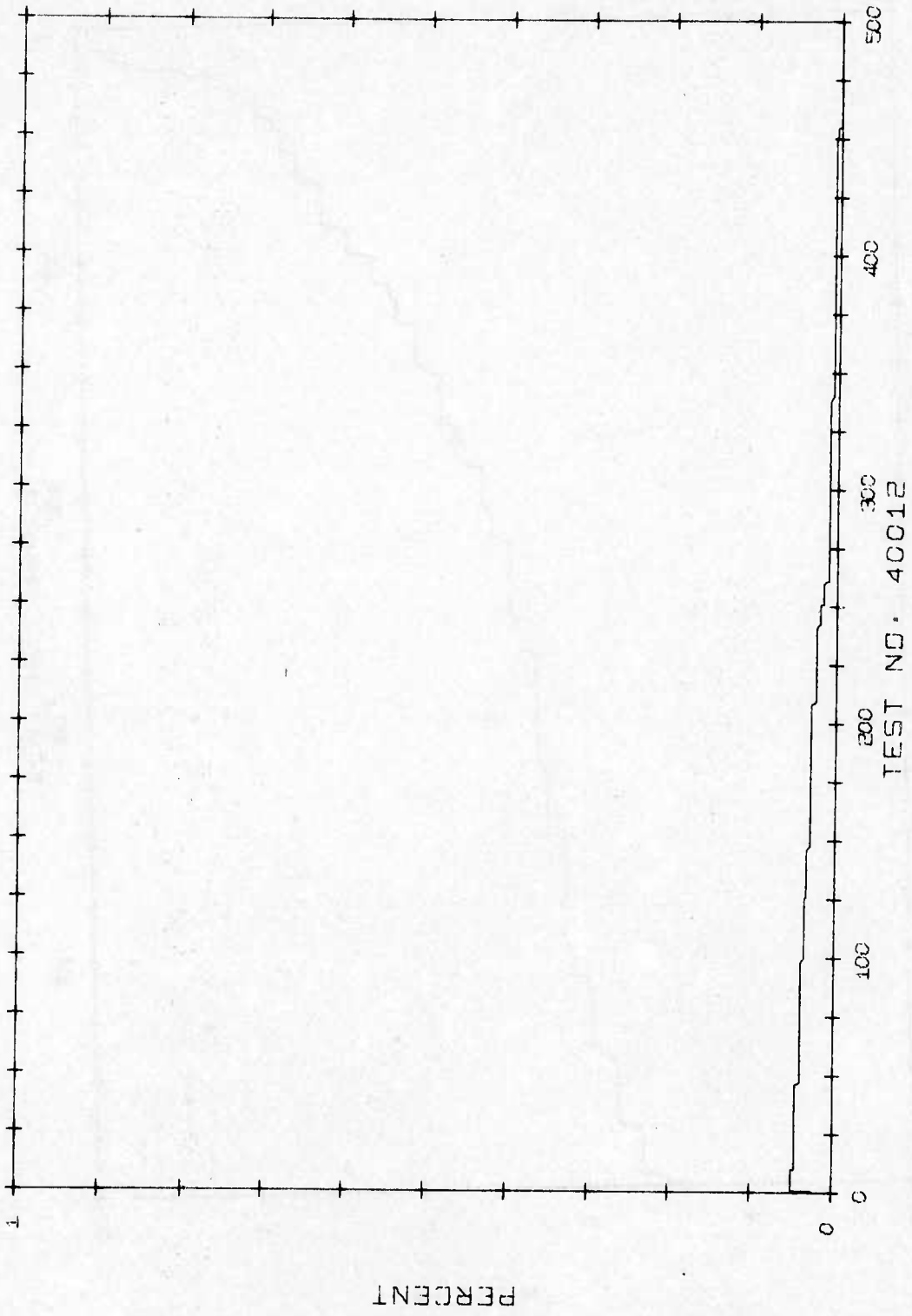


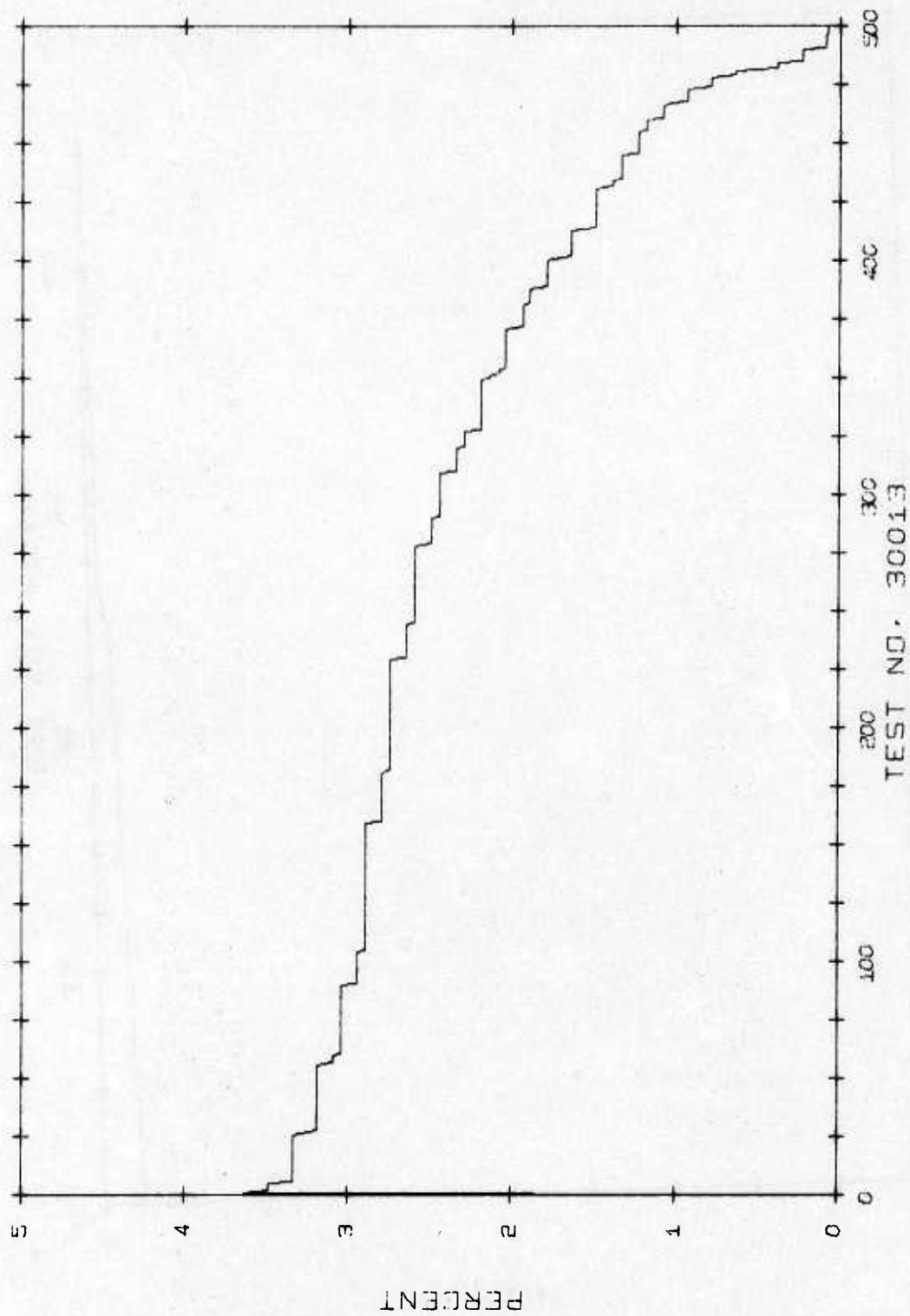


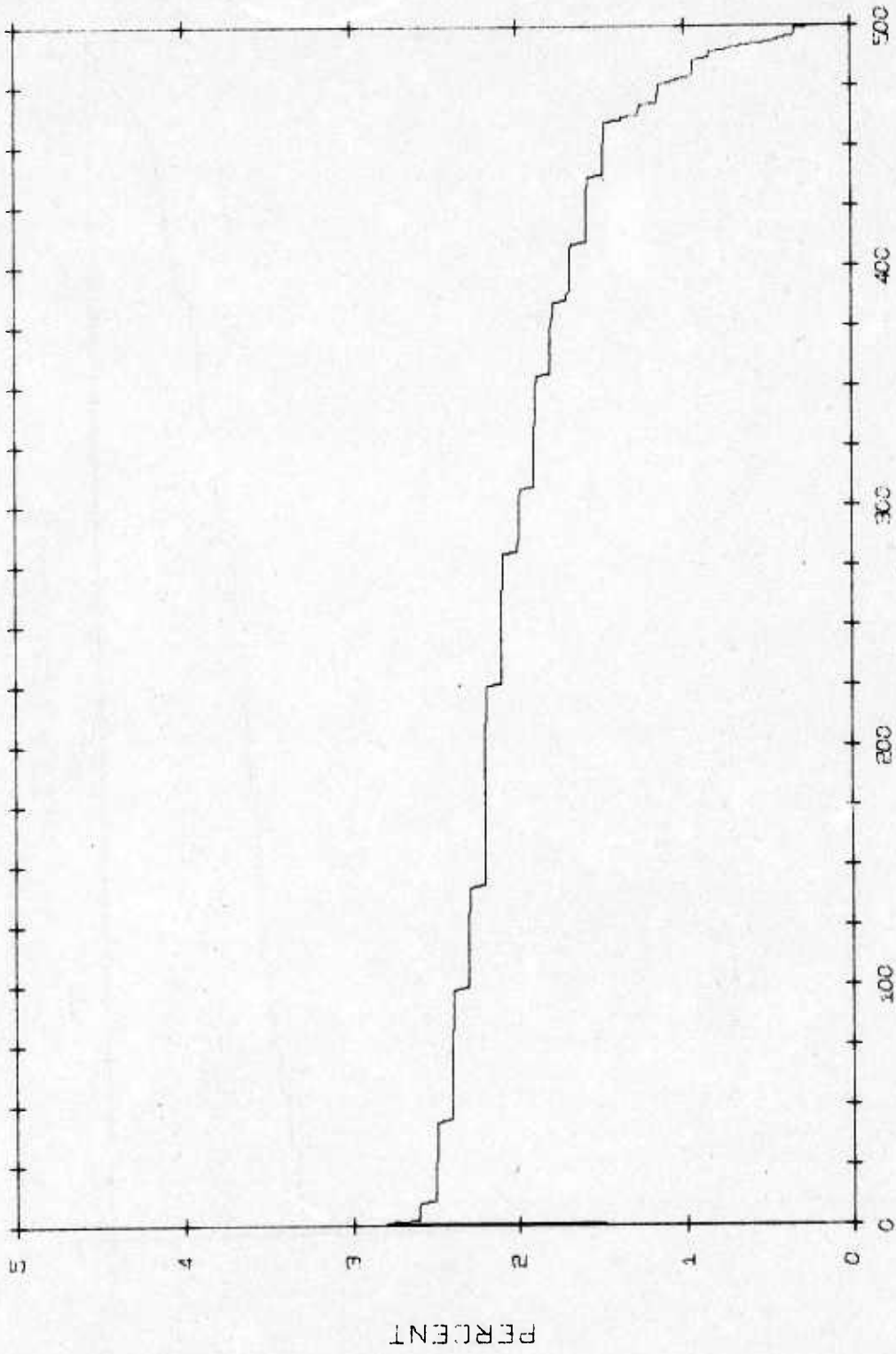


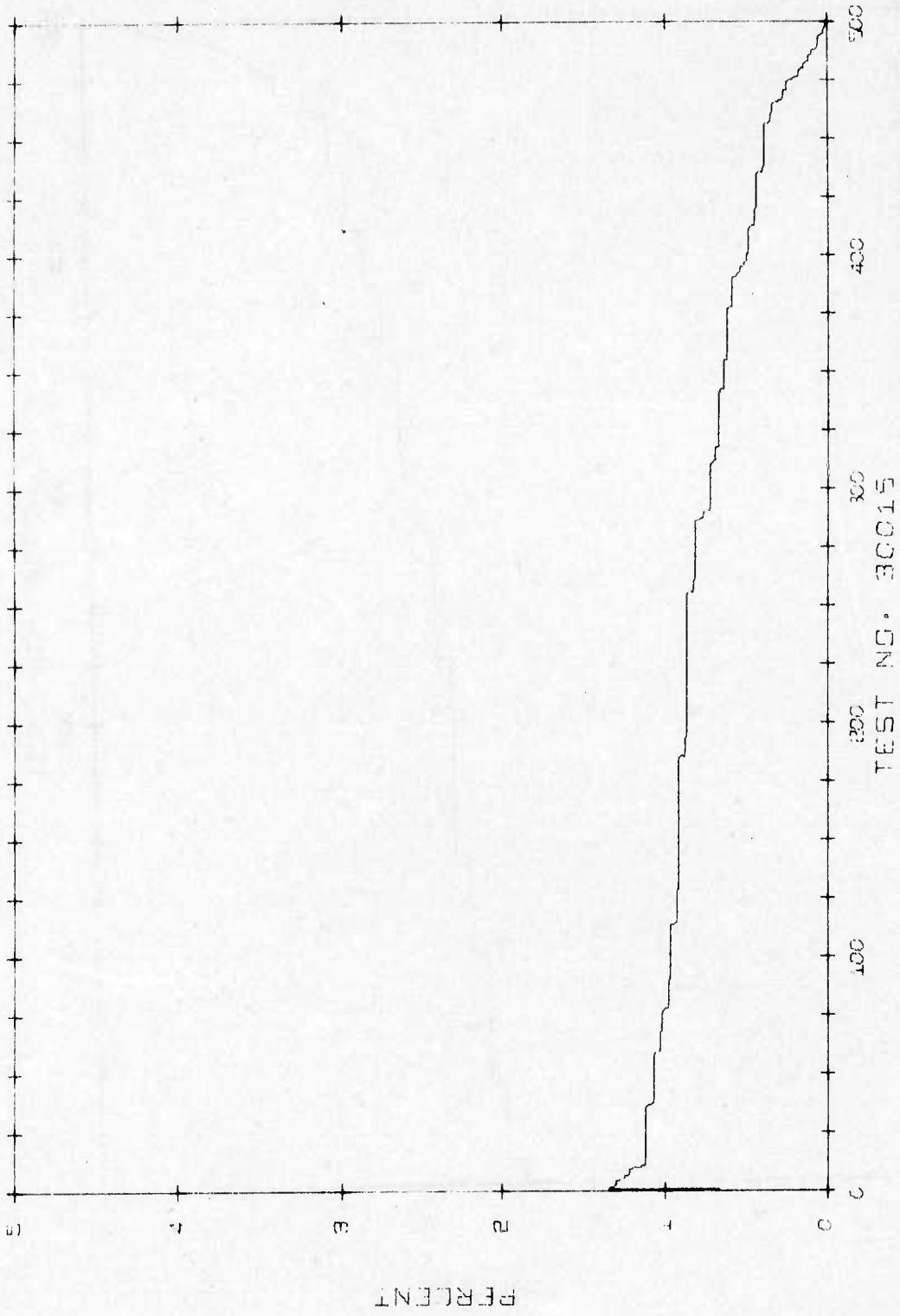


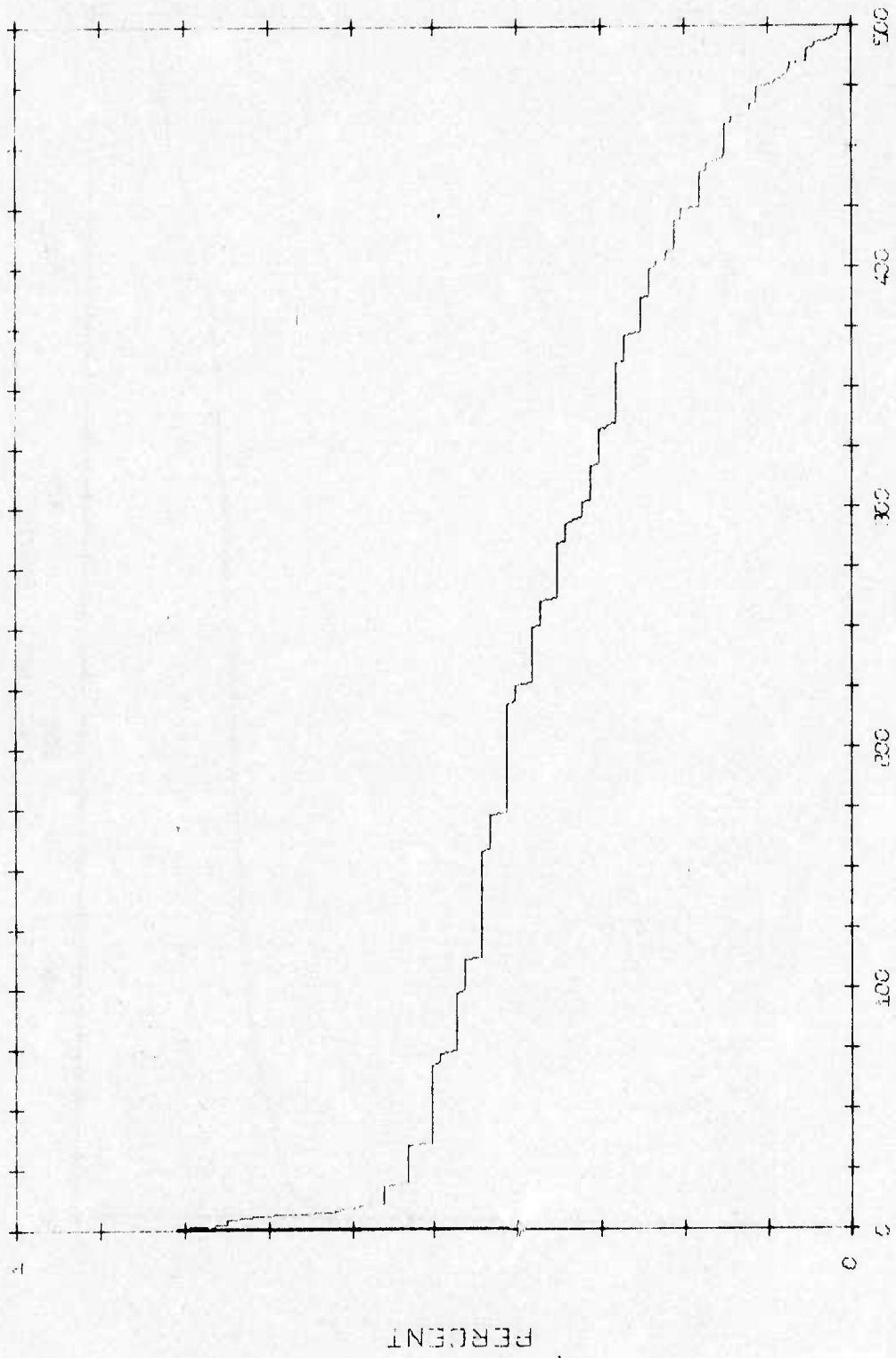




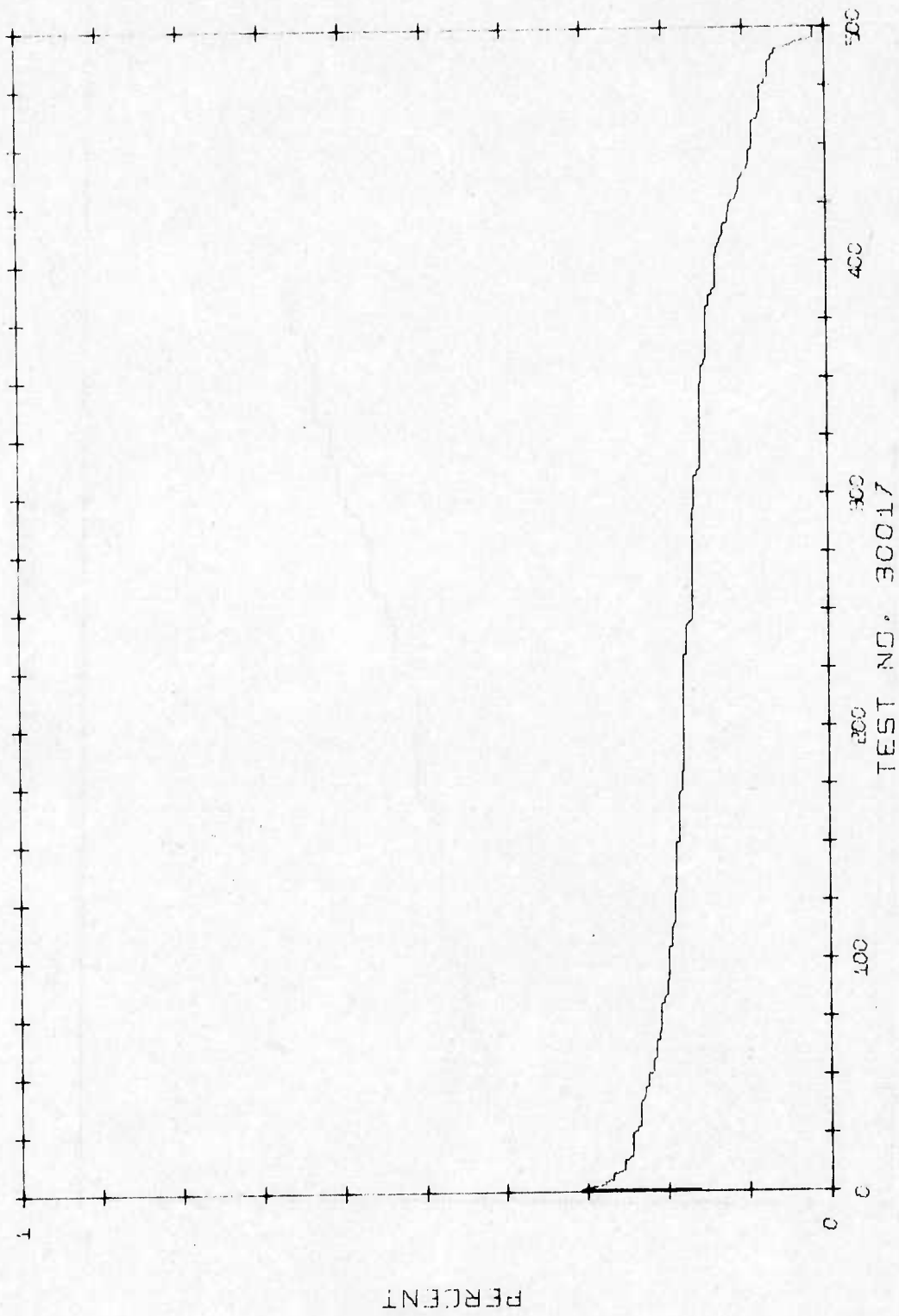


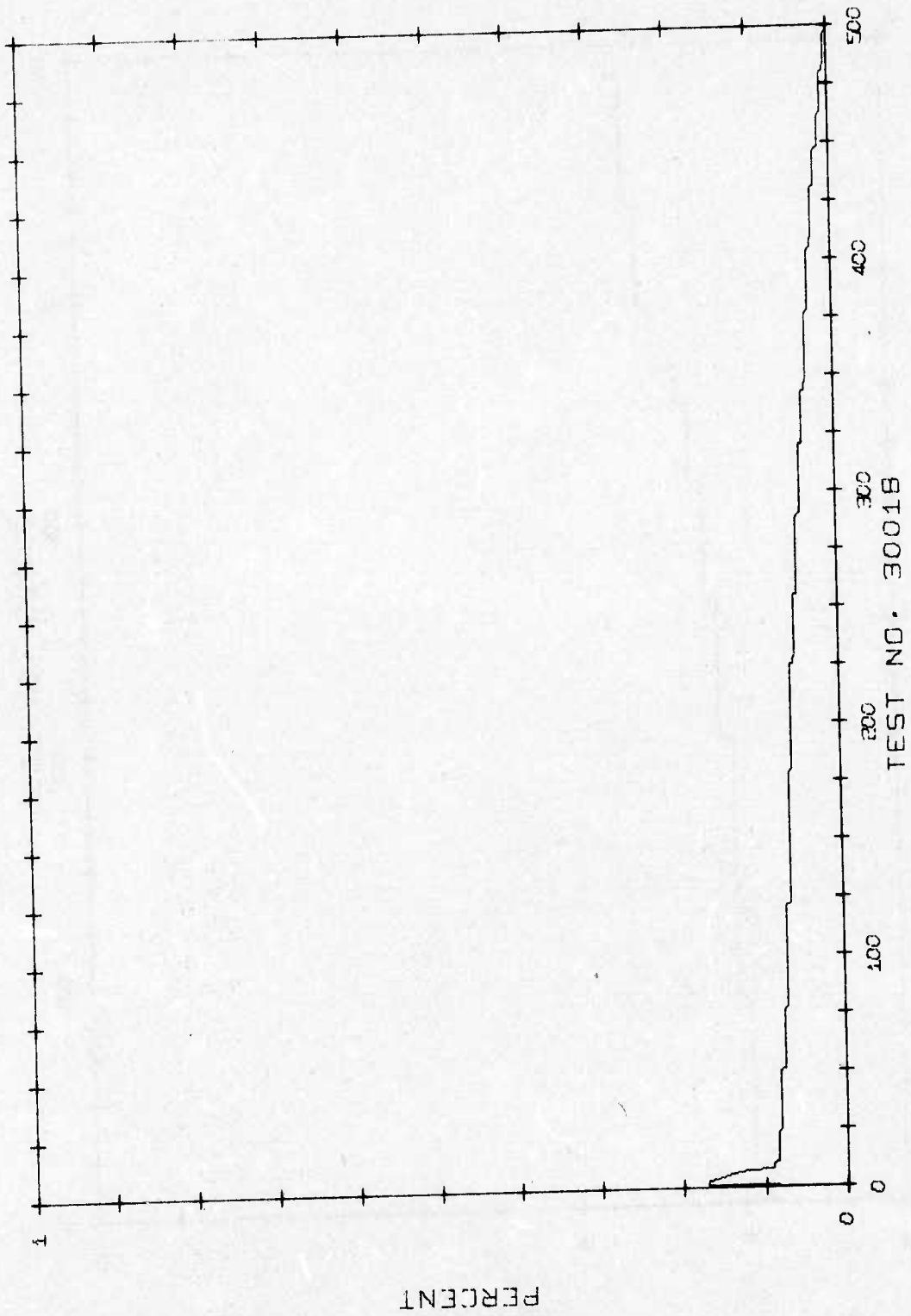


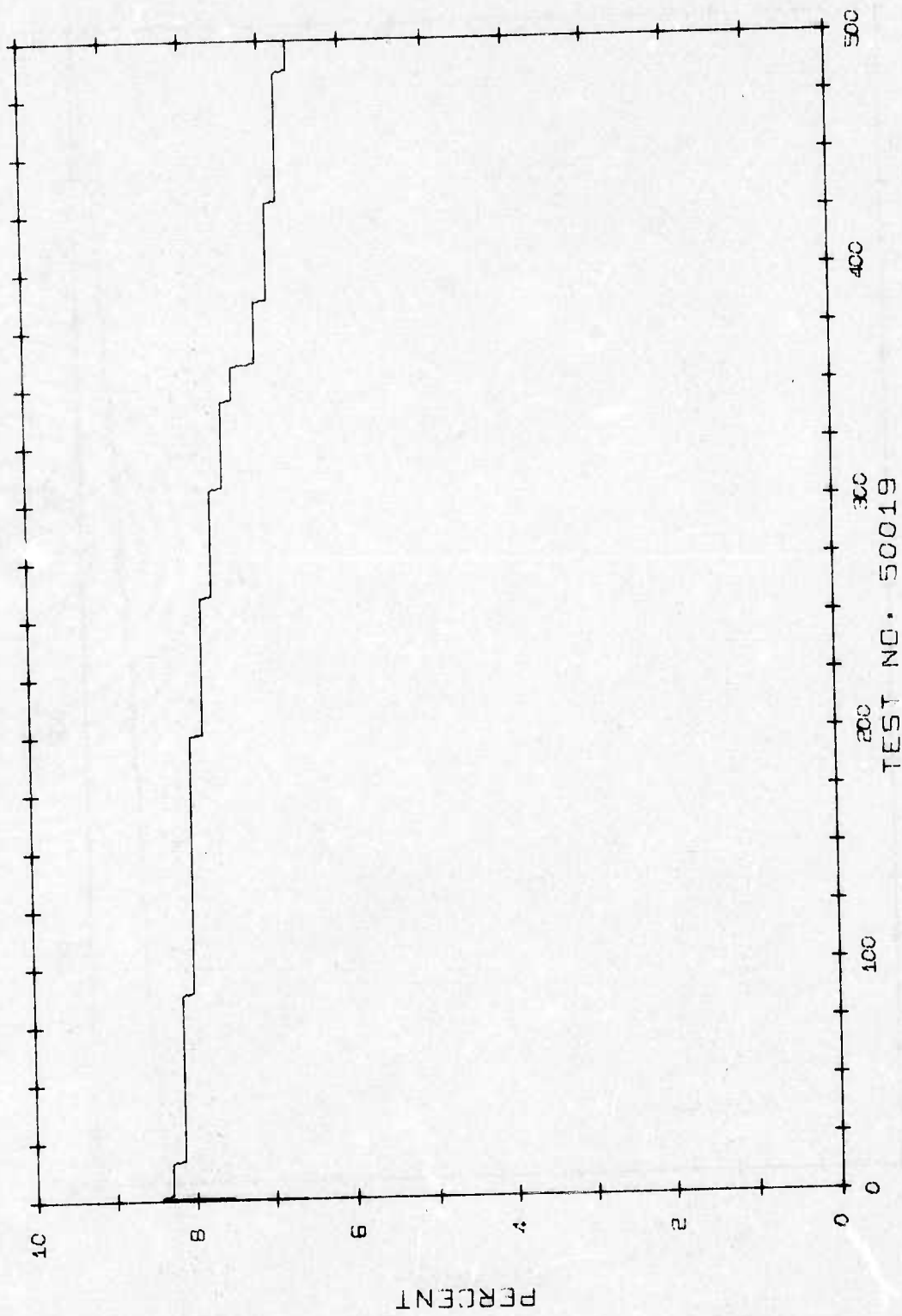


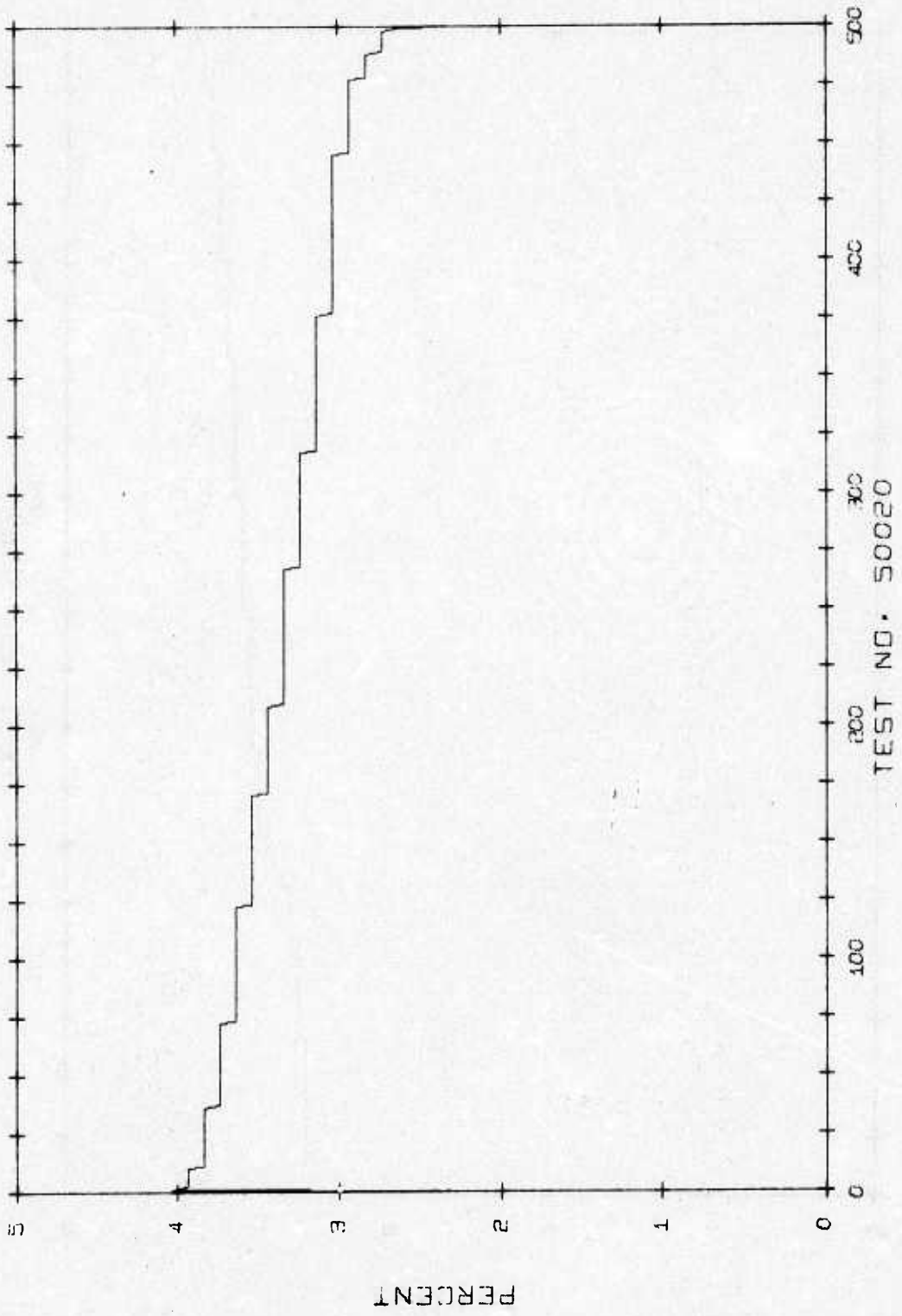


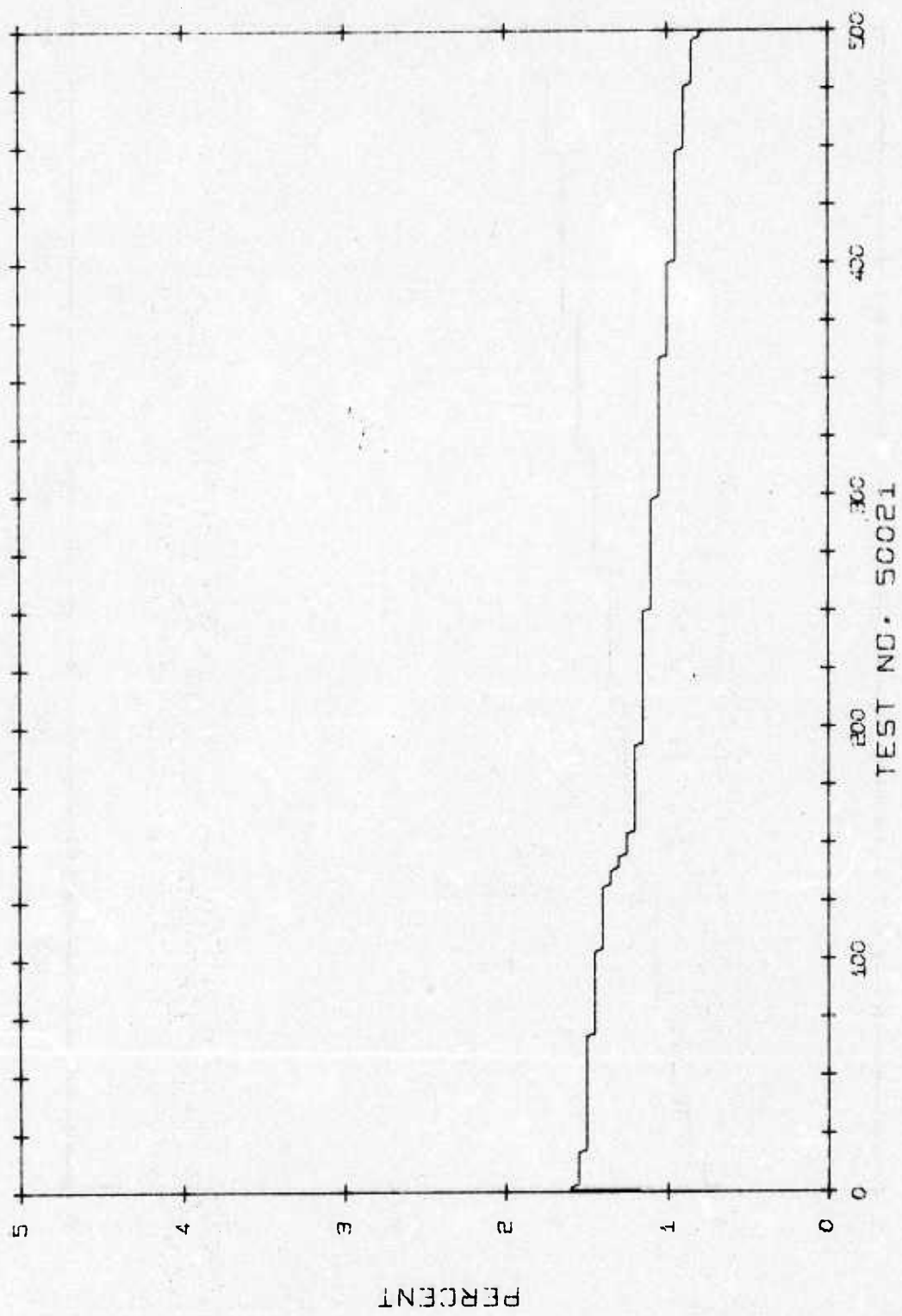
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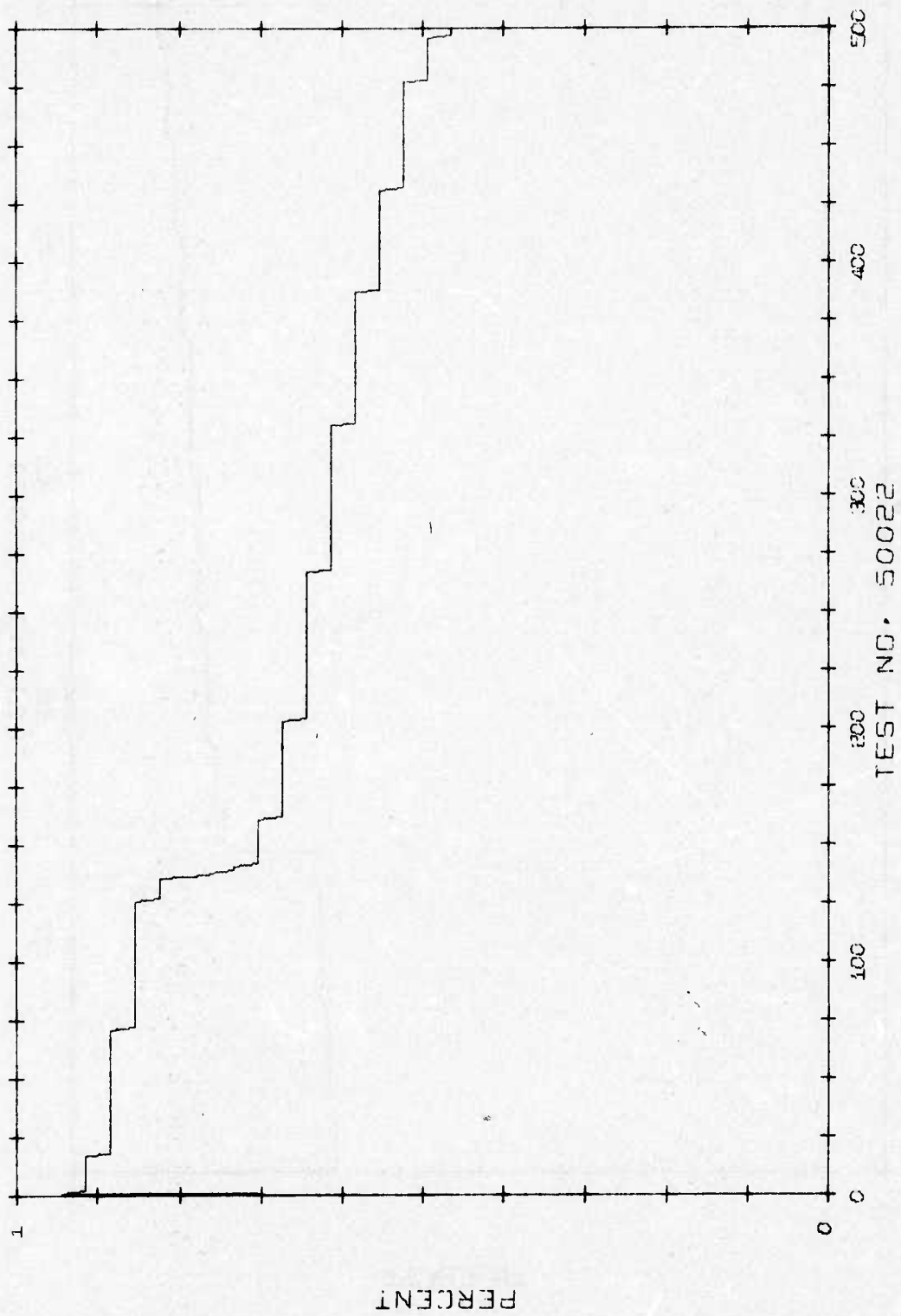




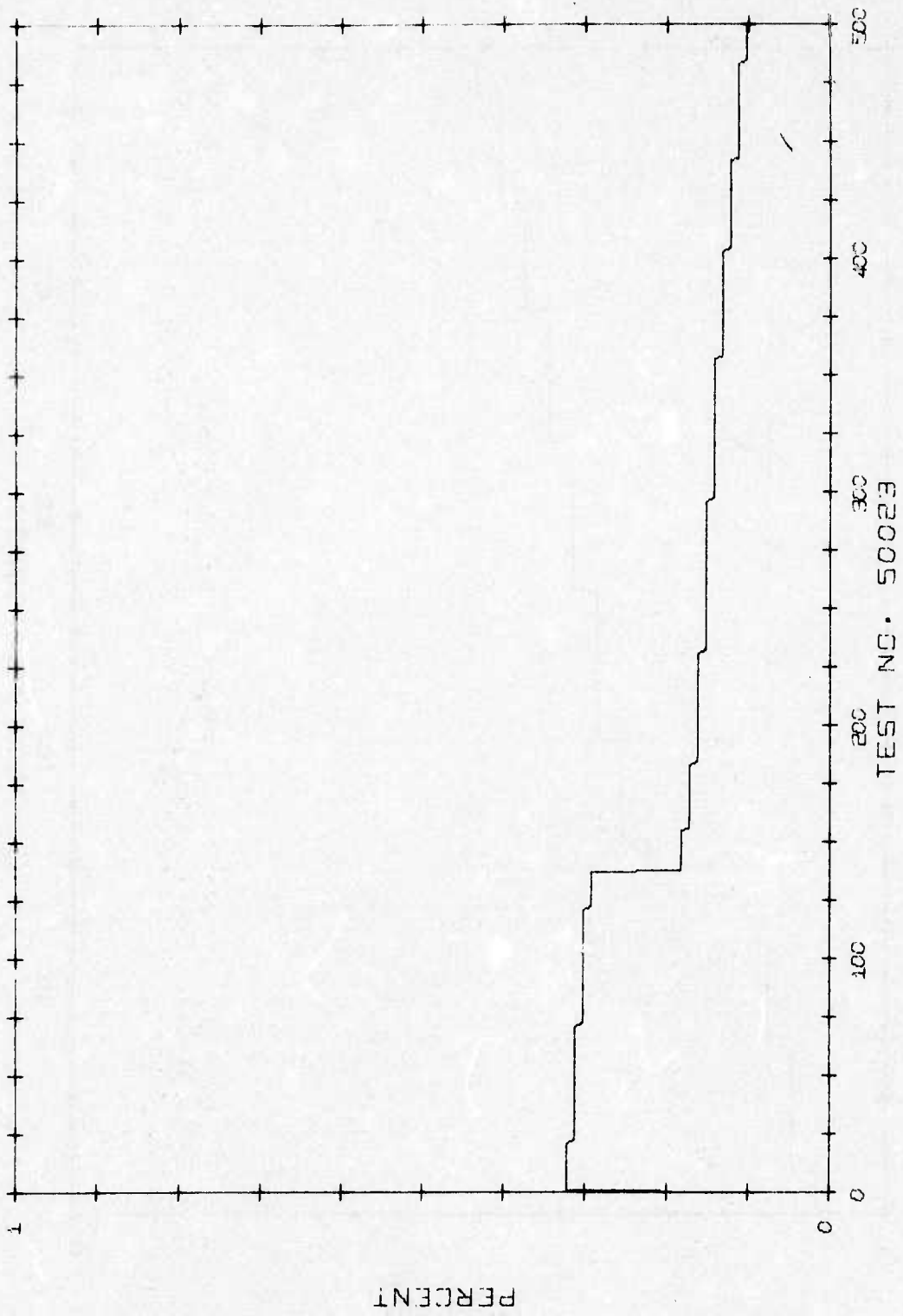




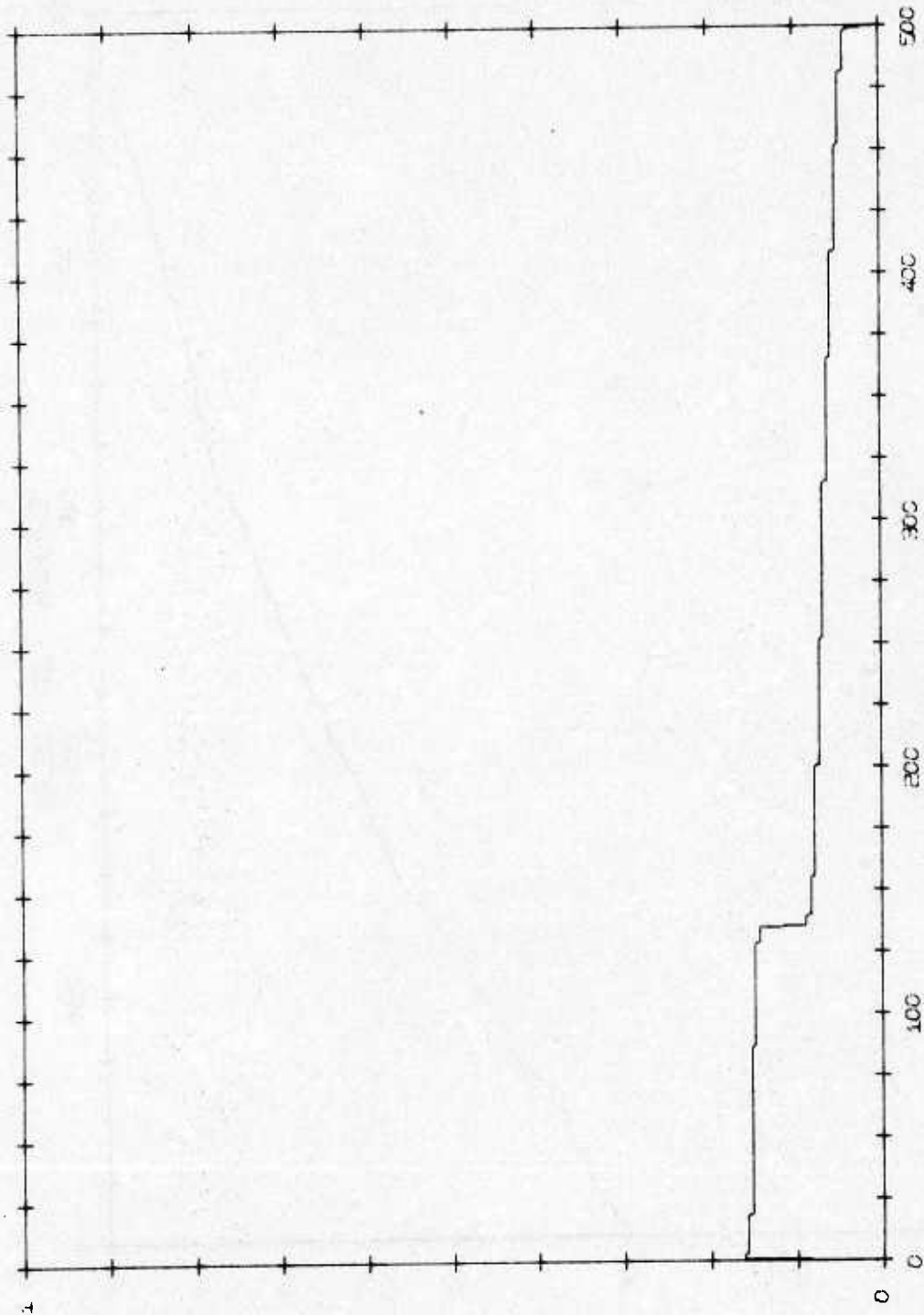




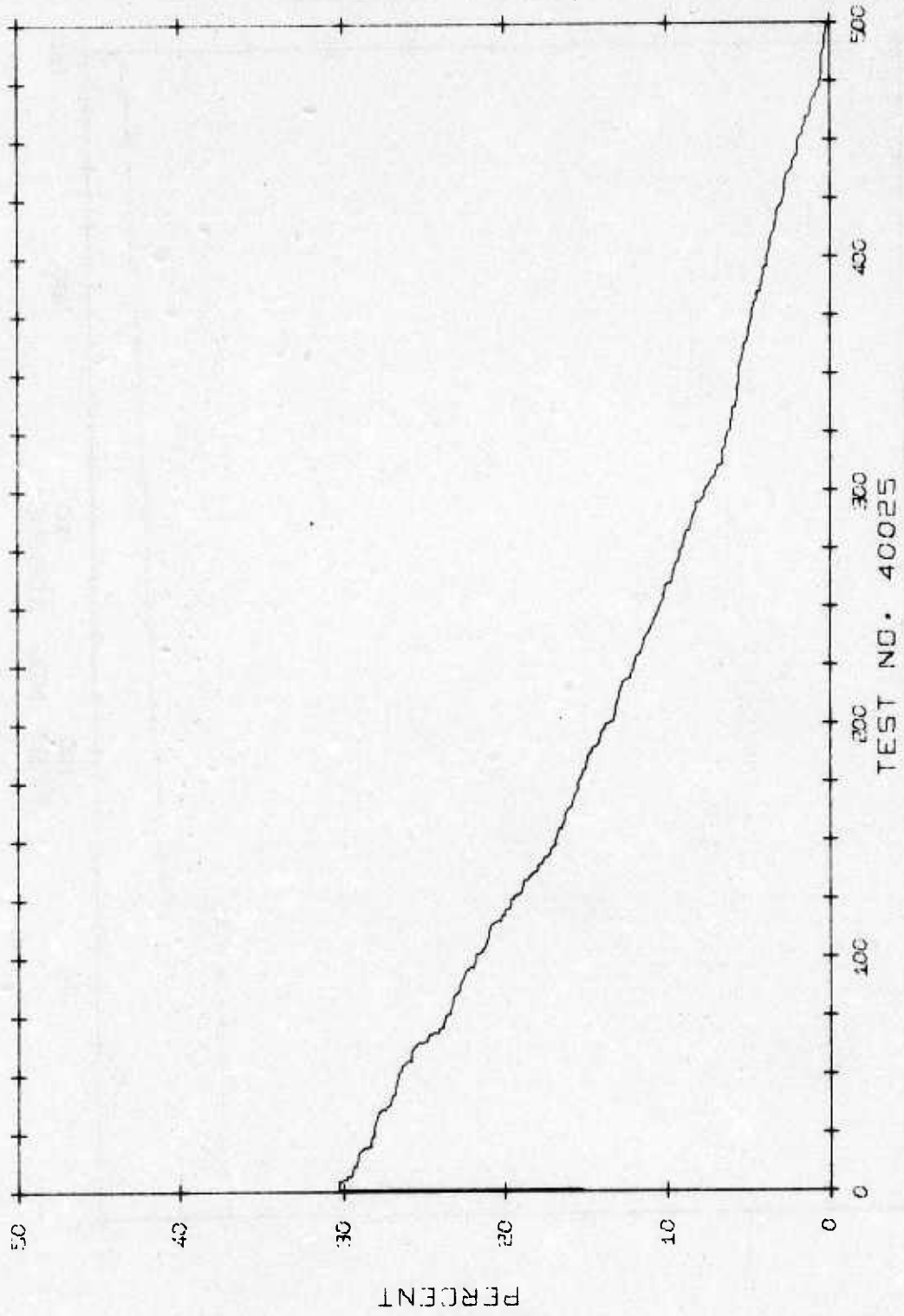
69-1

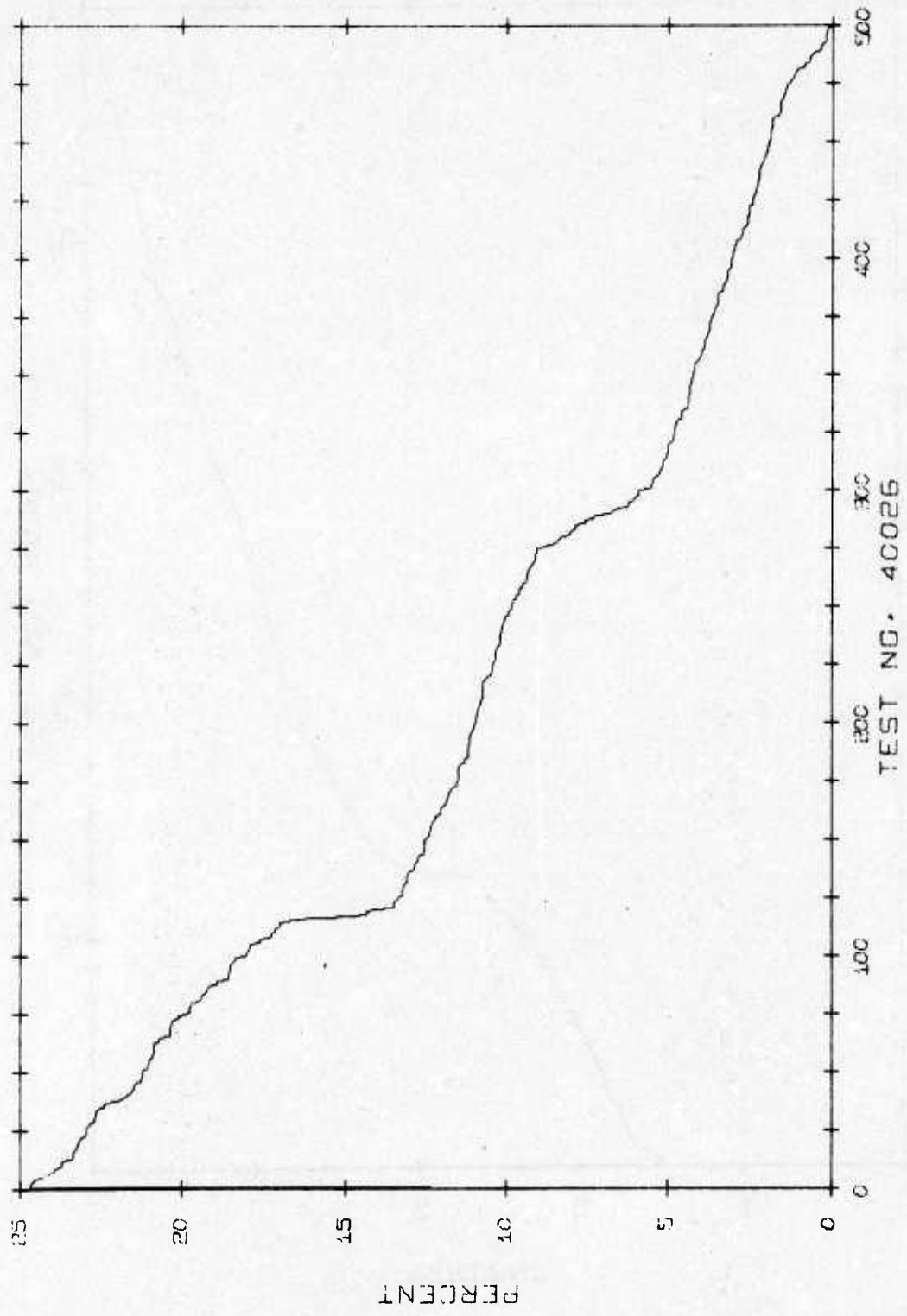


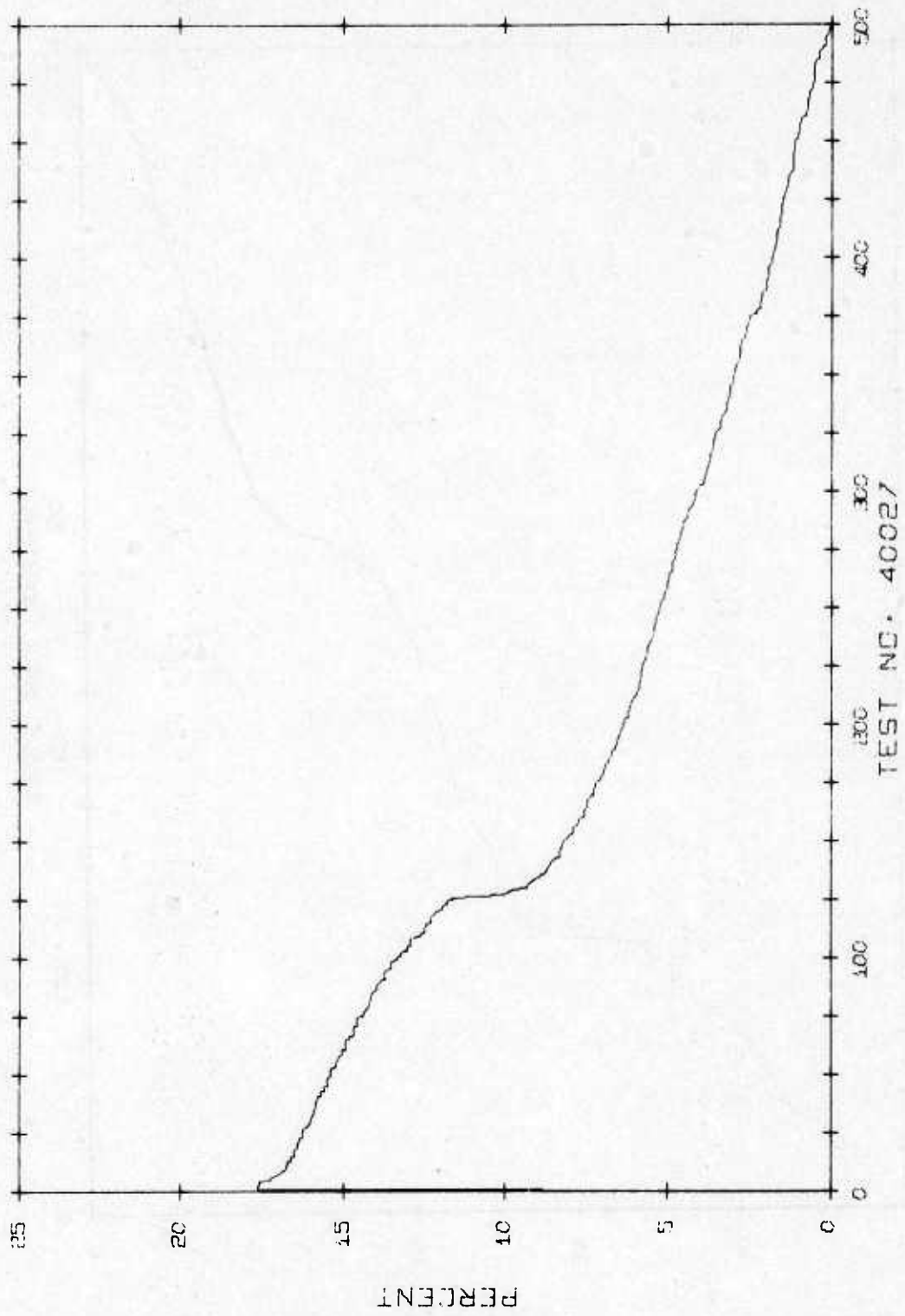
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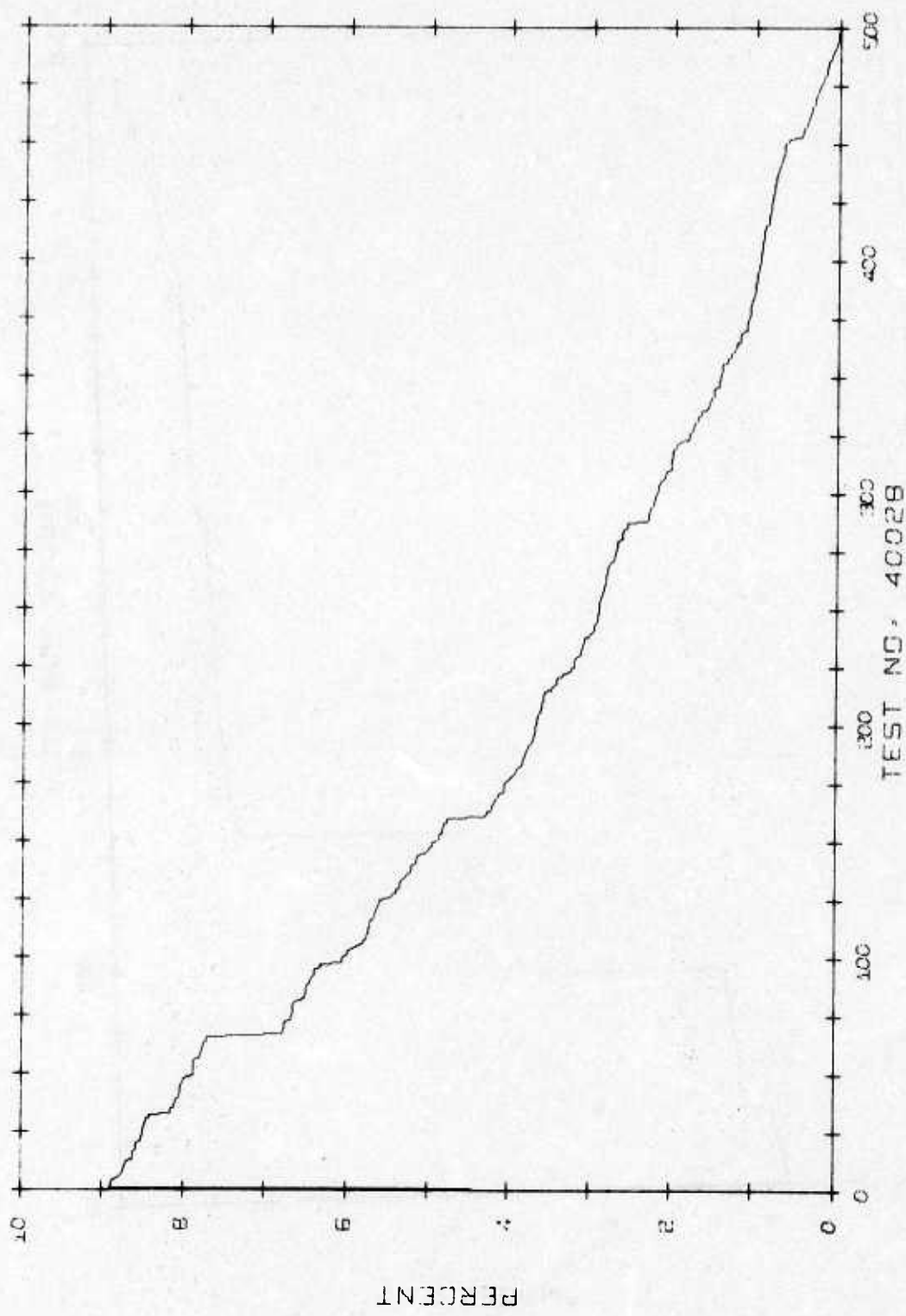


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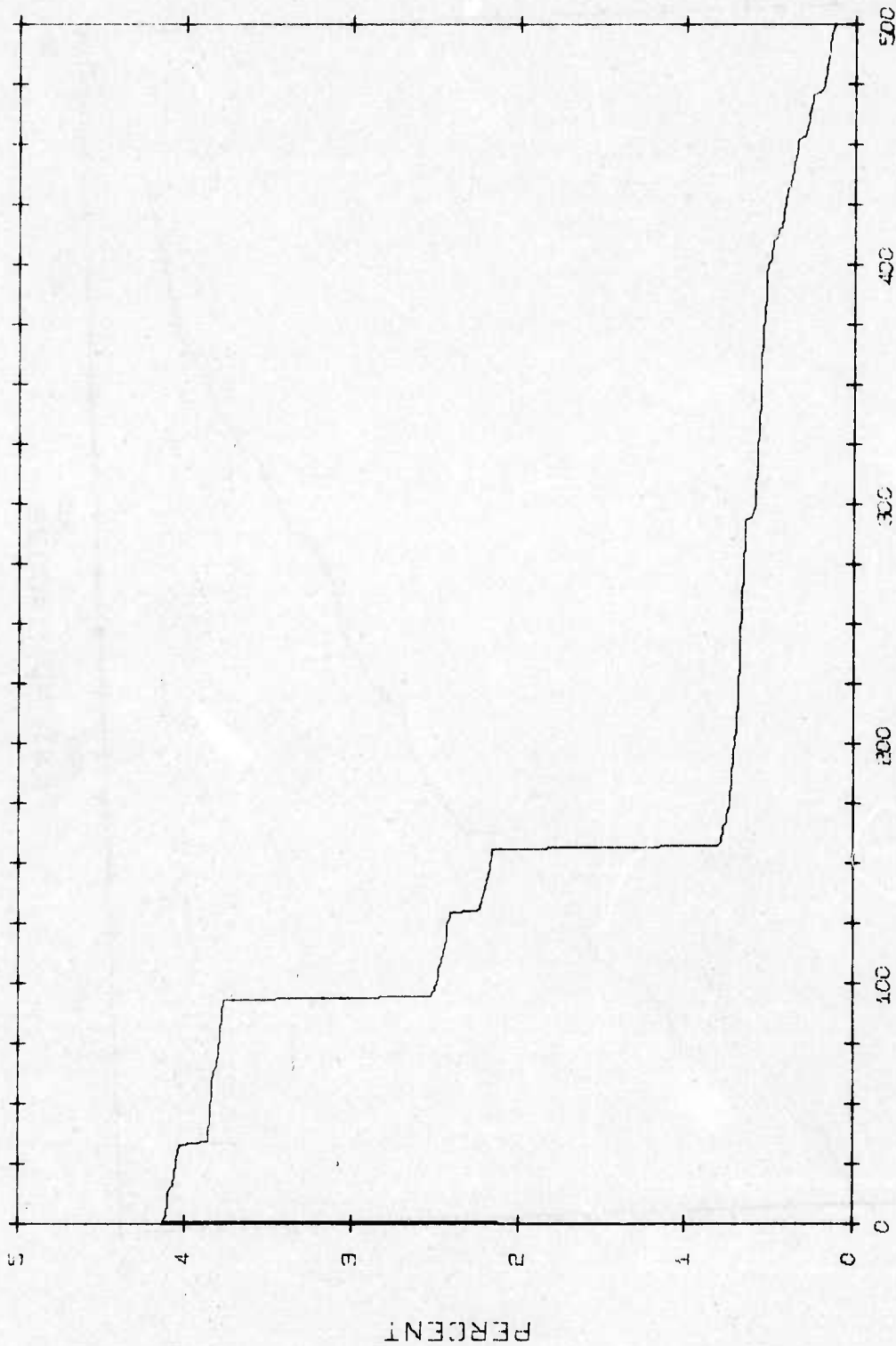


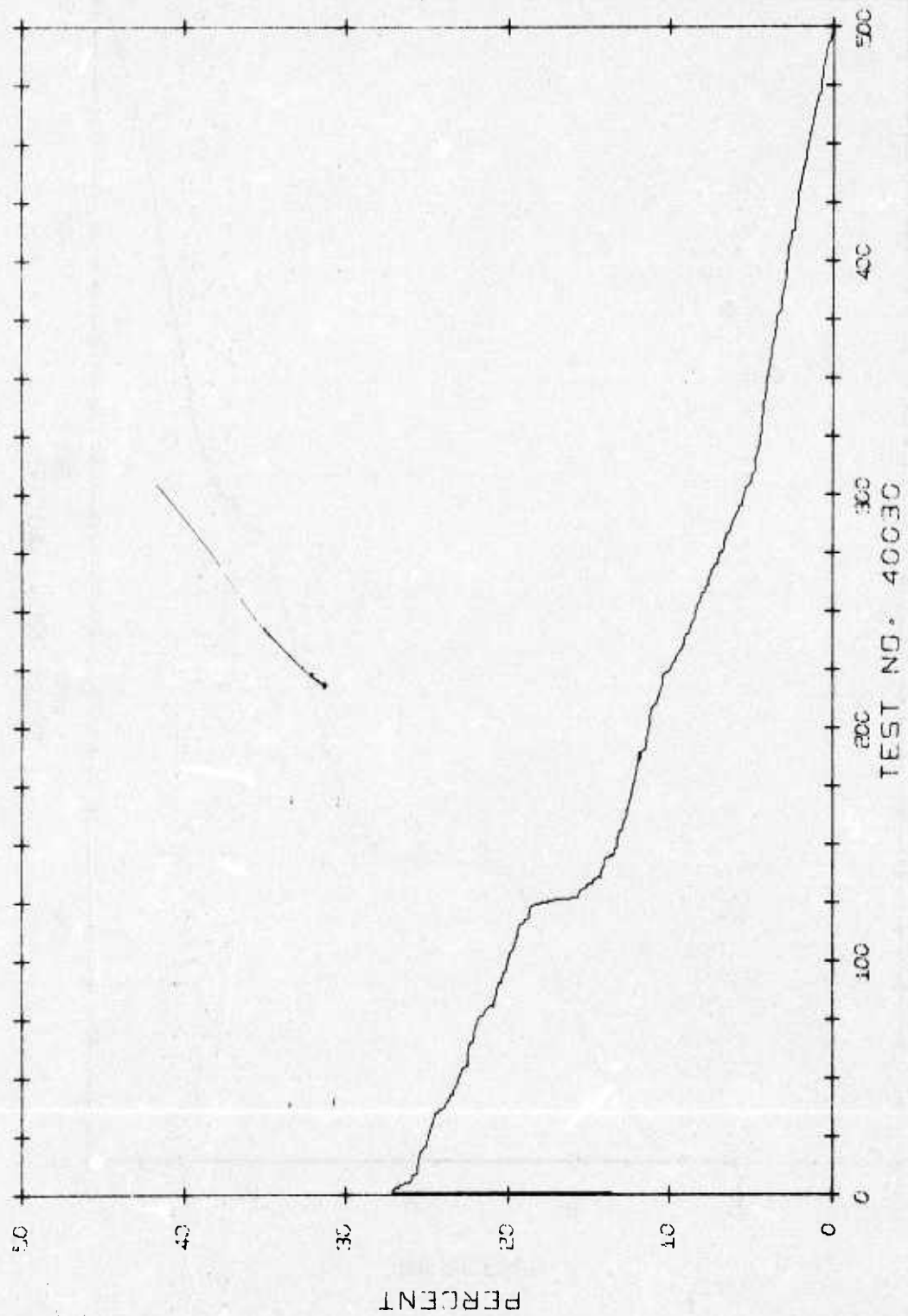




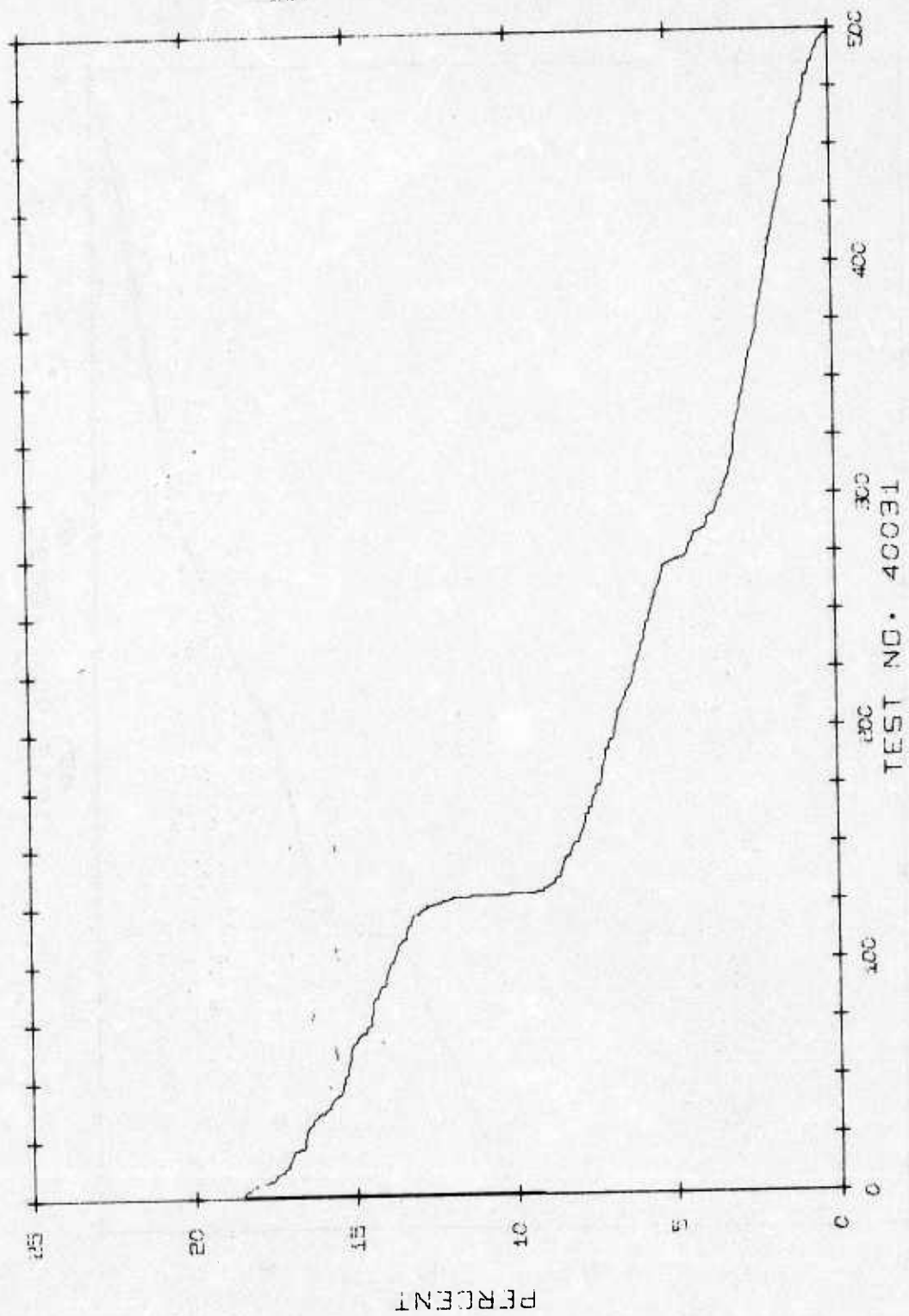


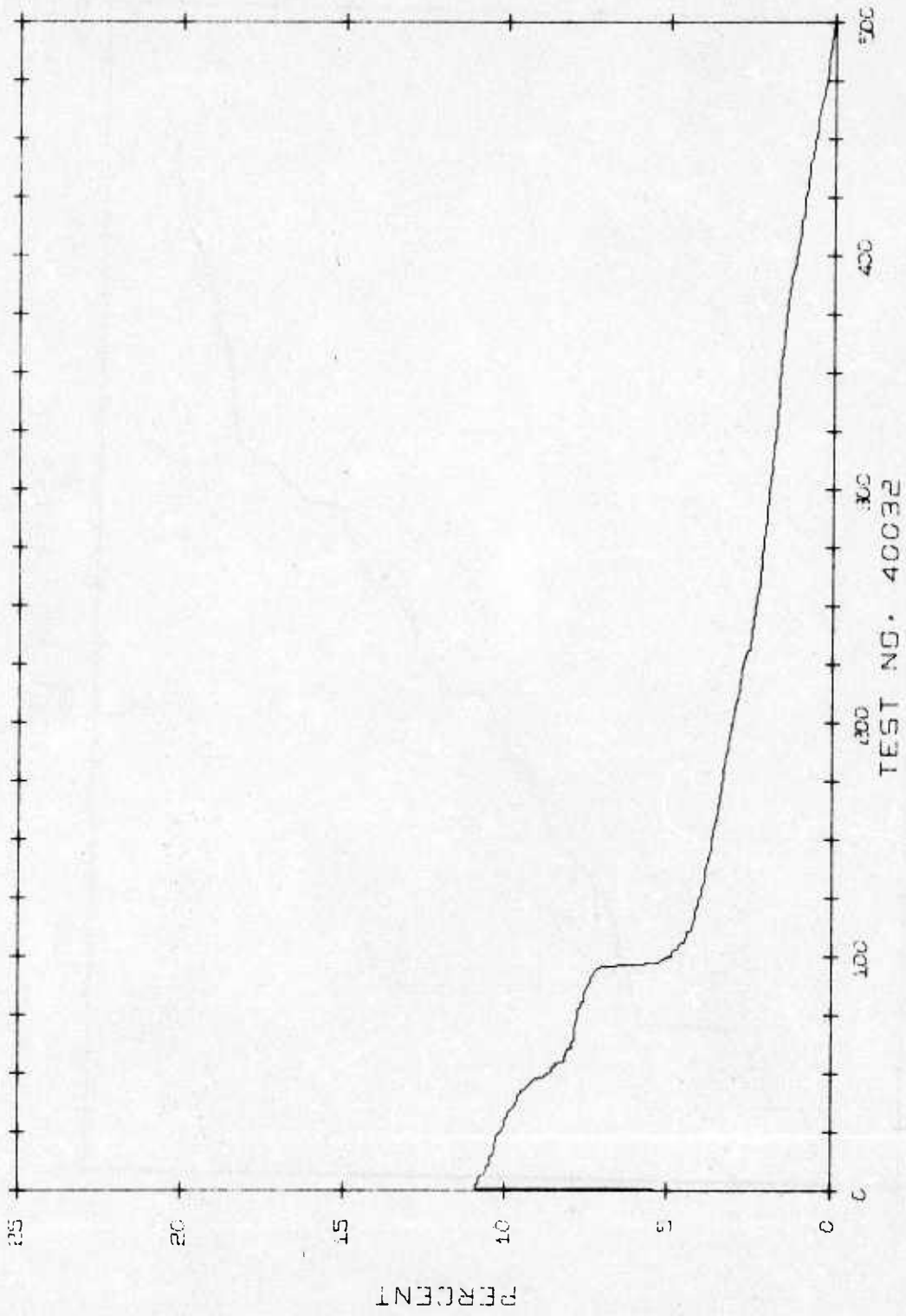
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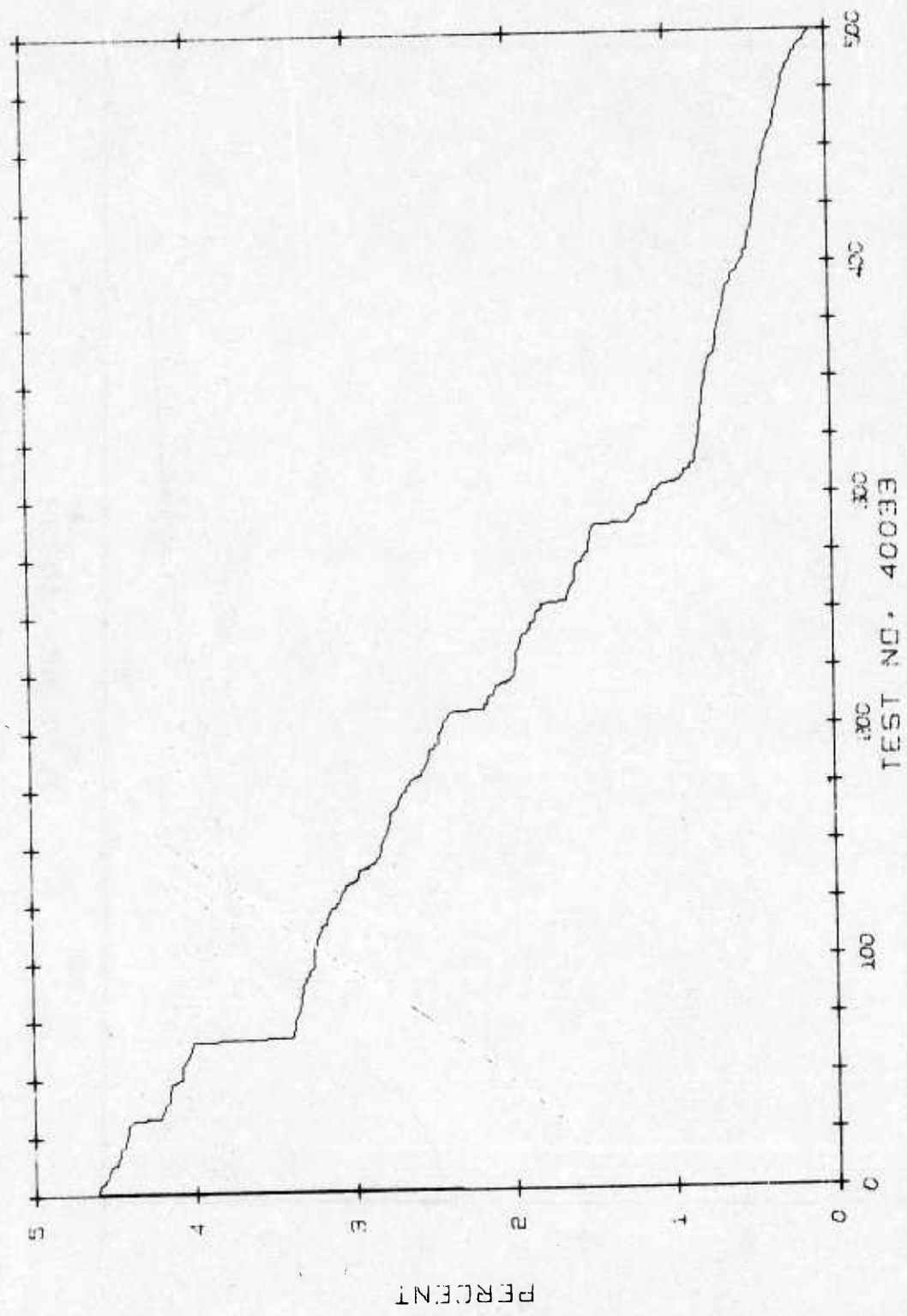


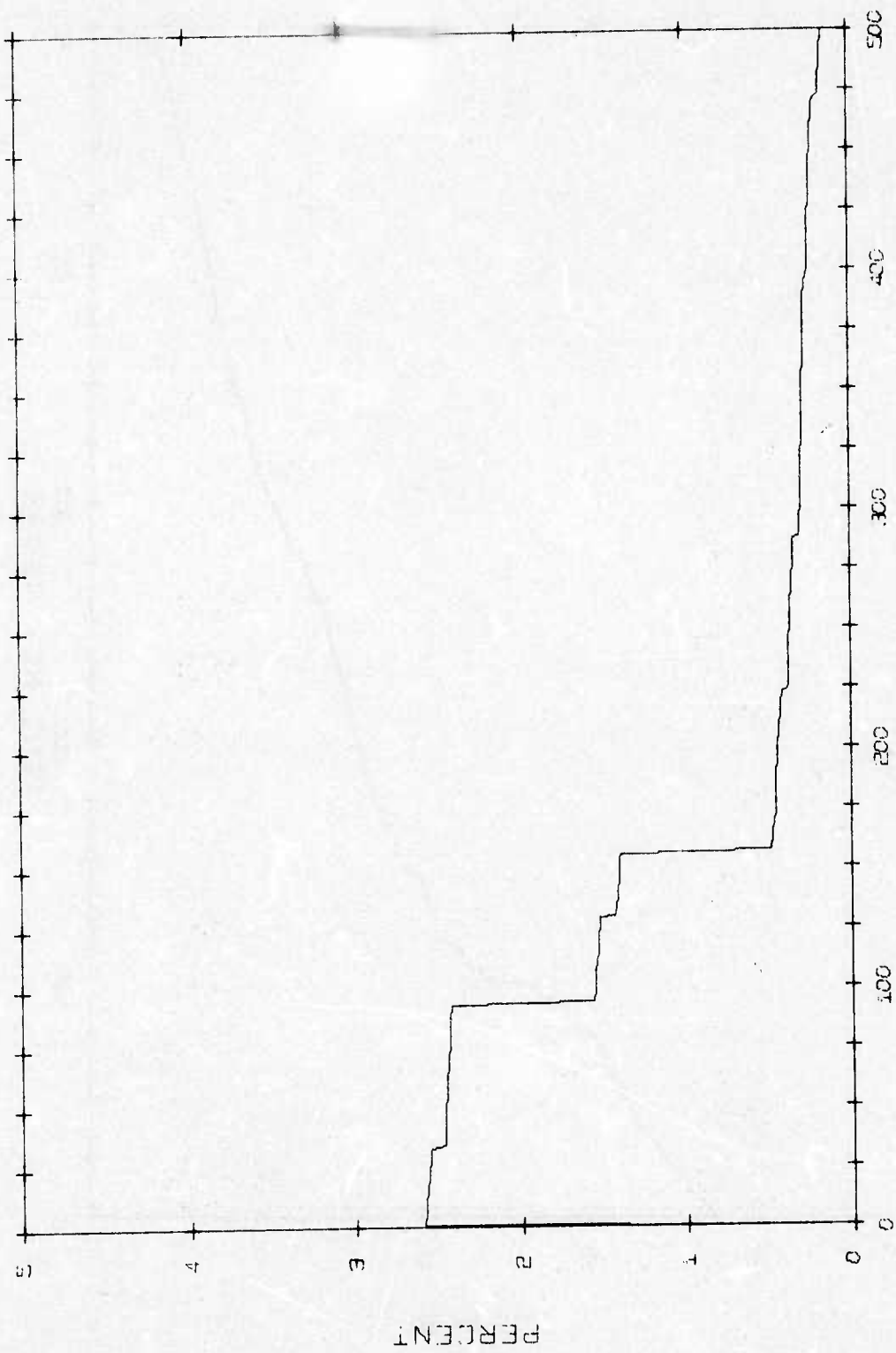


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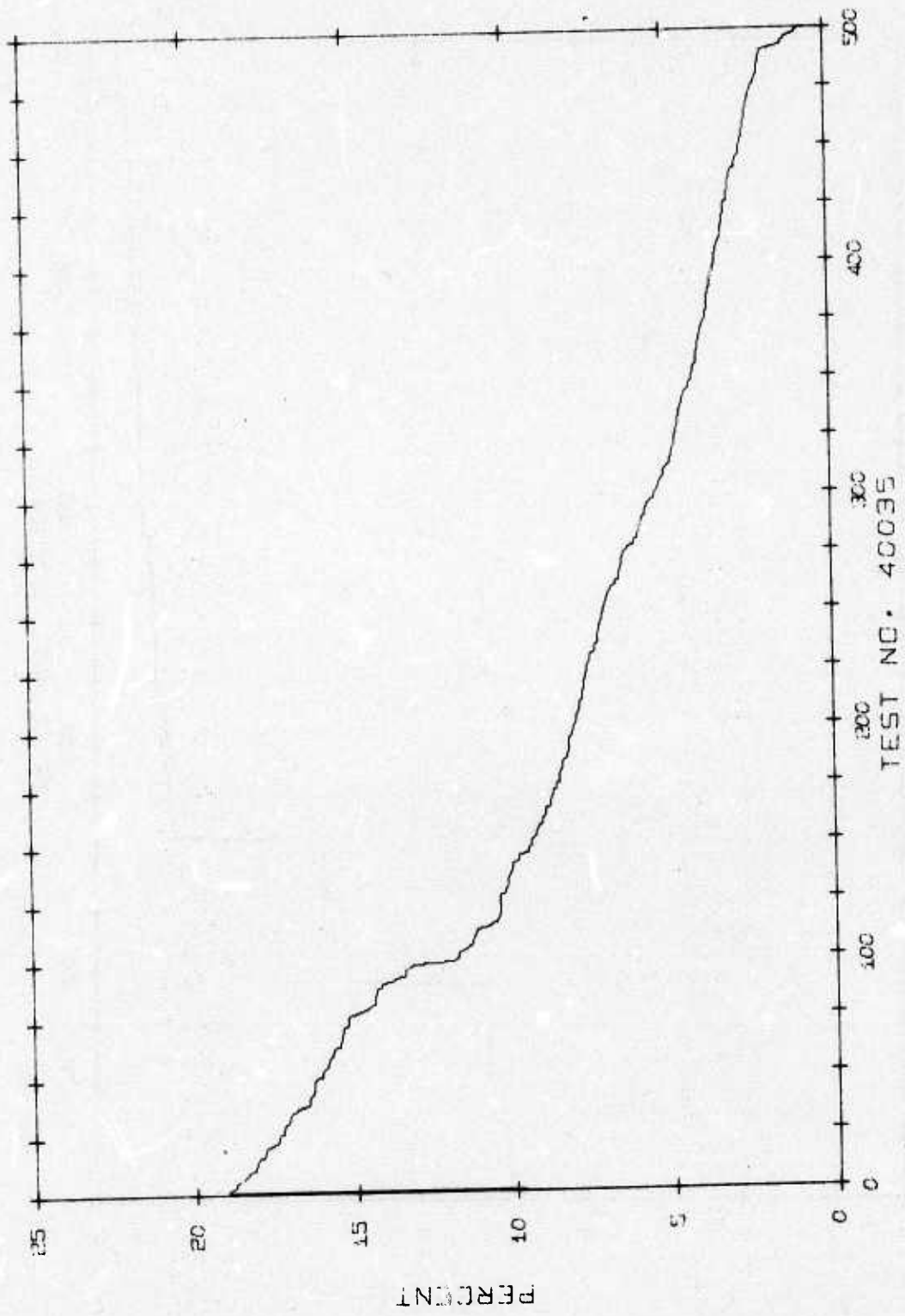


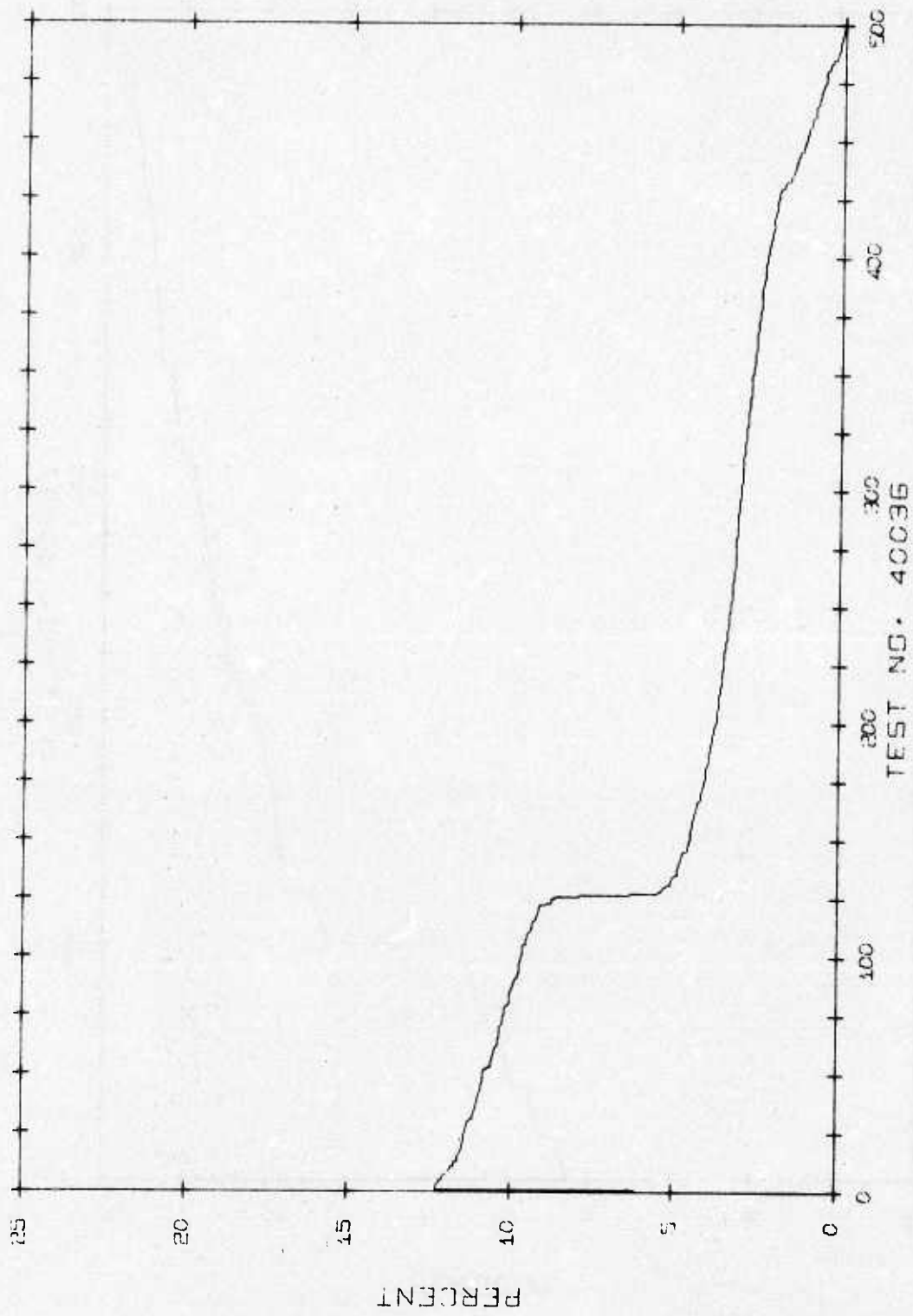




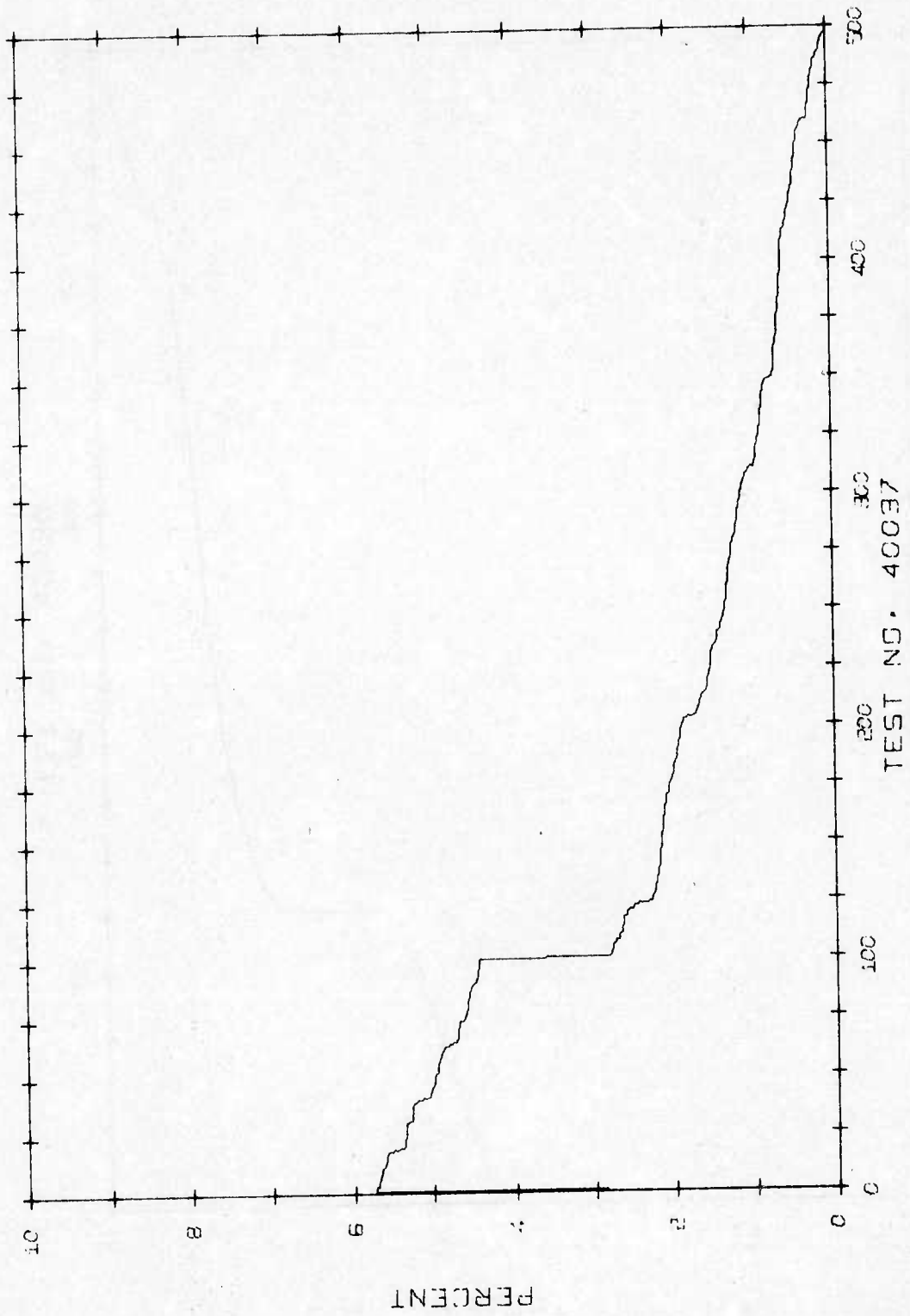


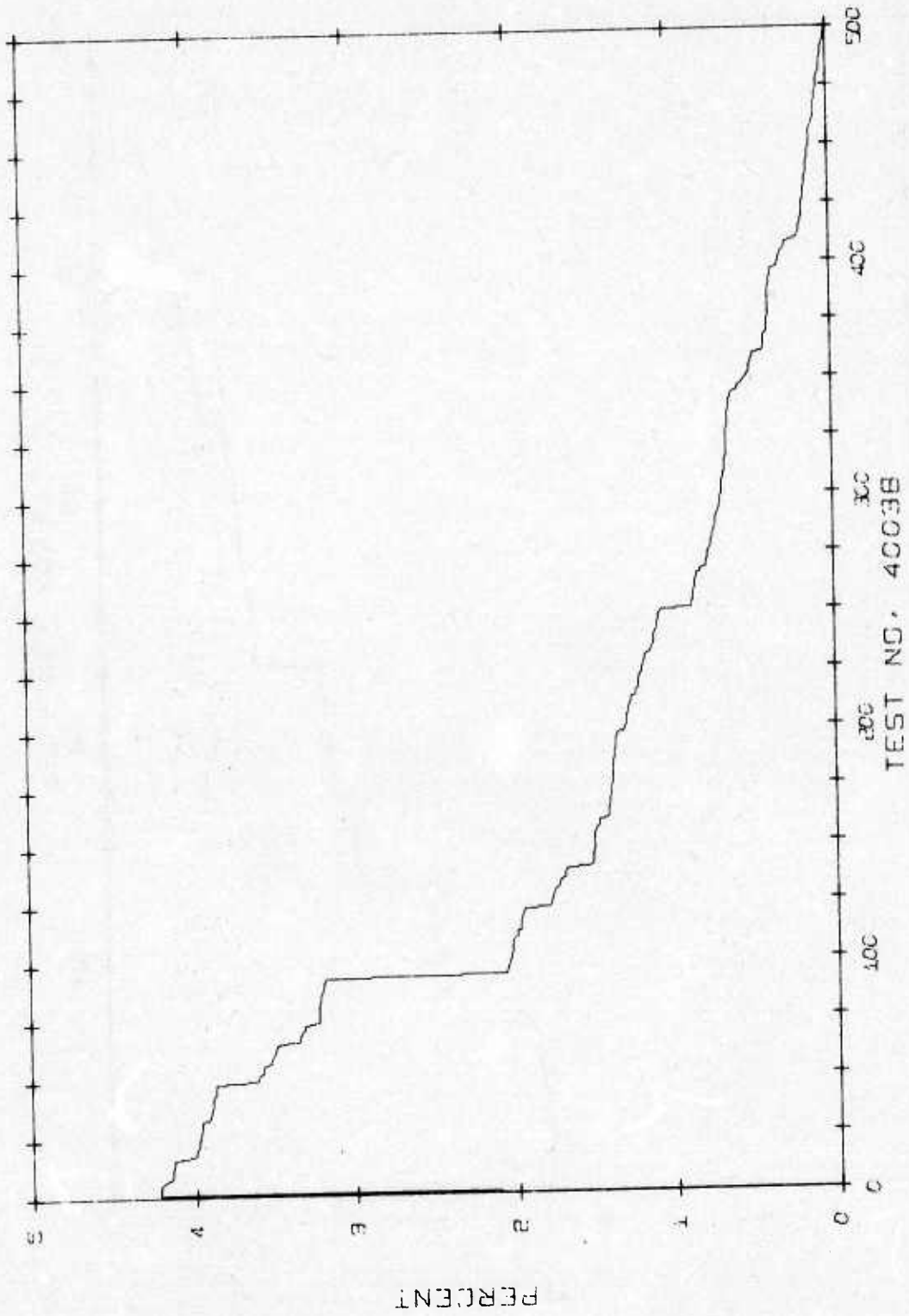
TEST NO. 40034

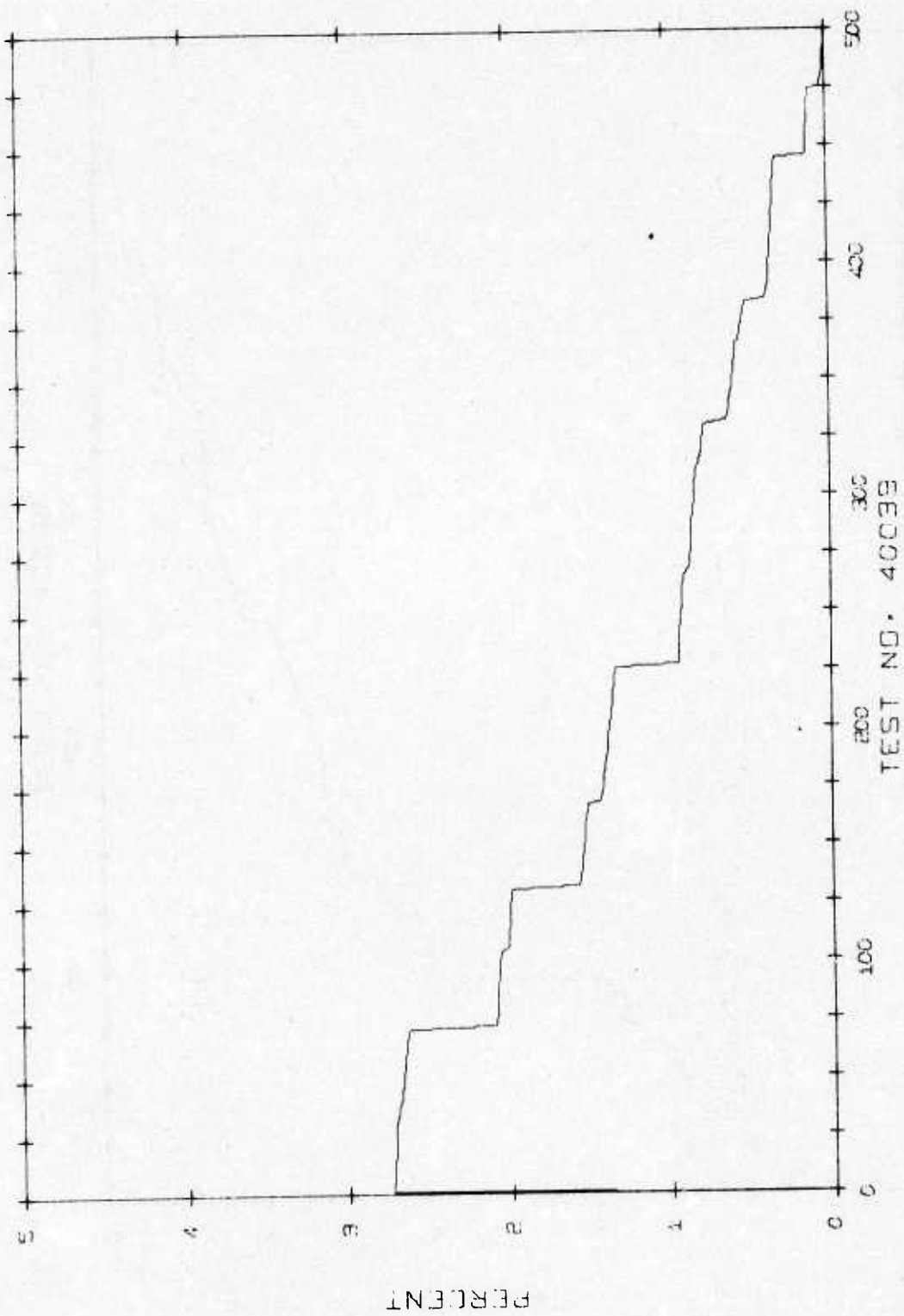


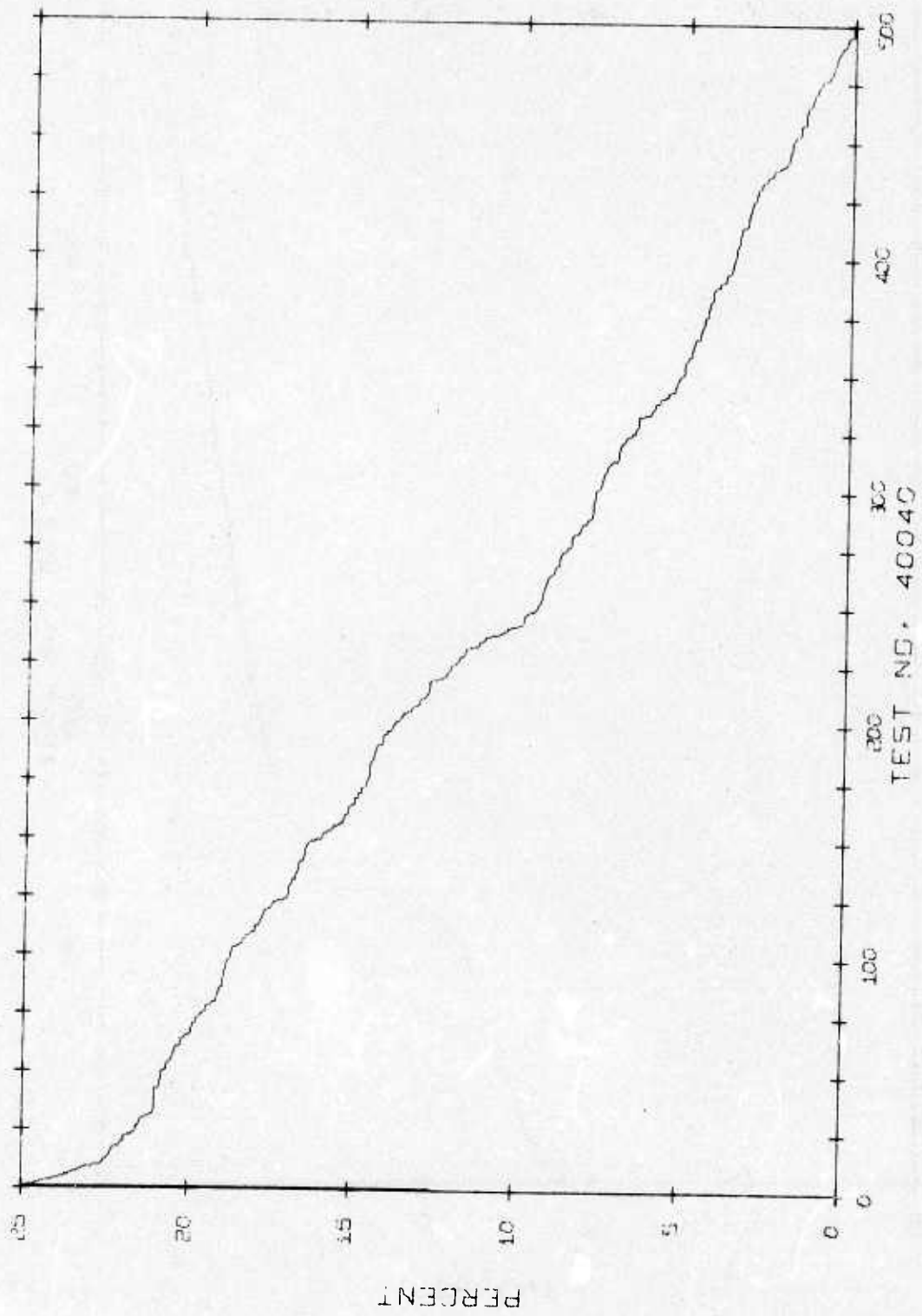


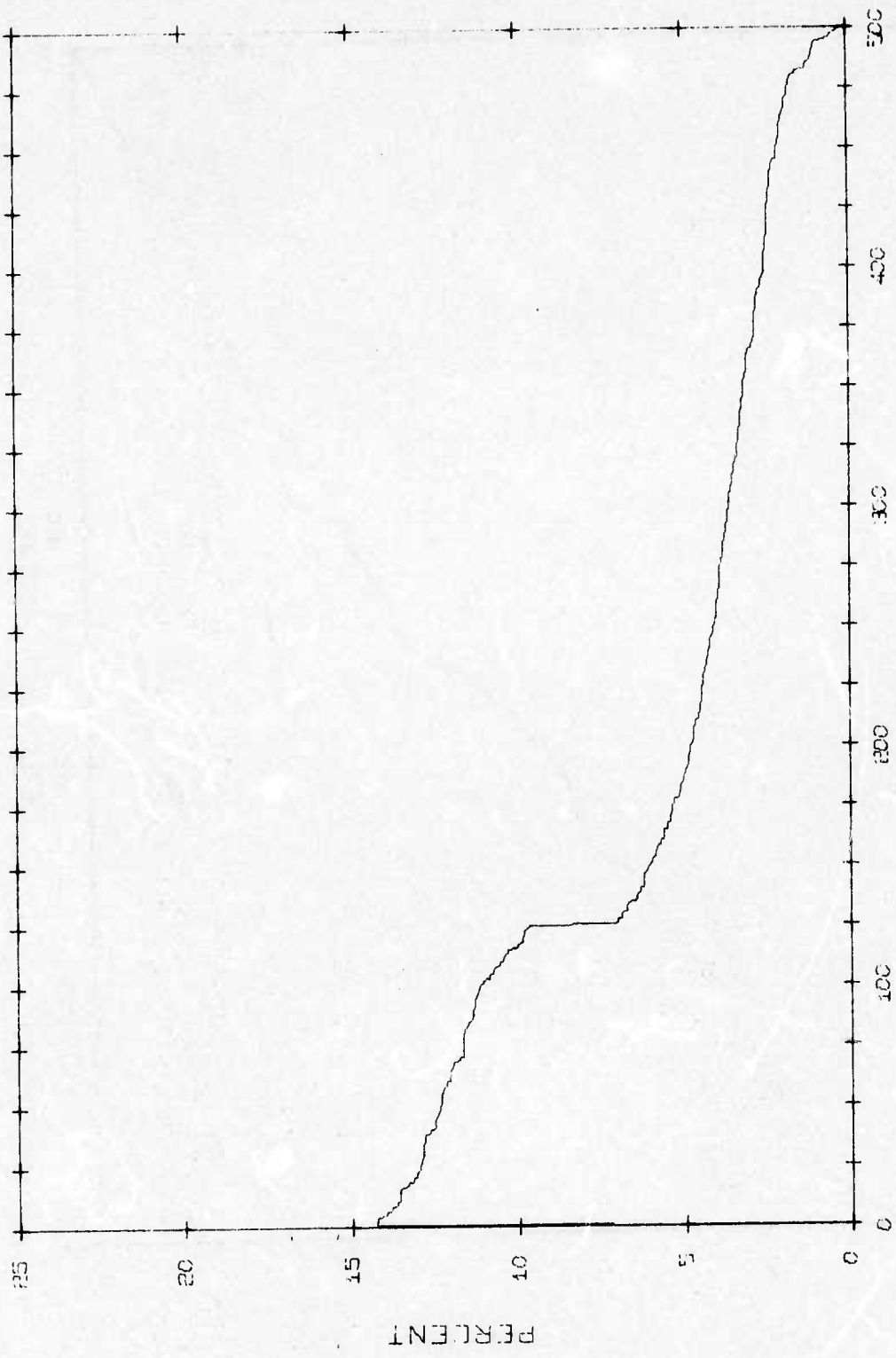
I-83



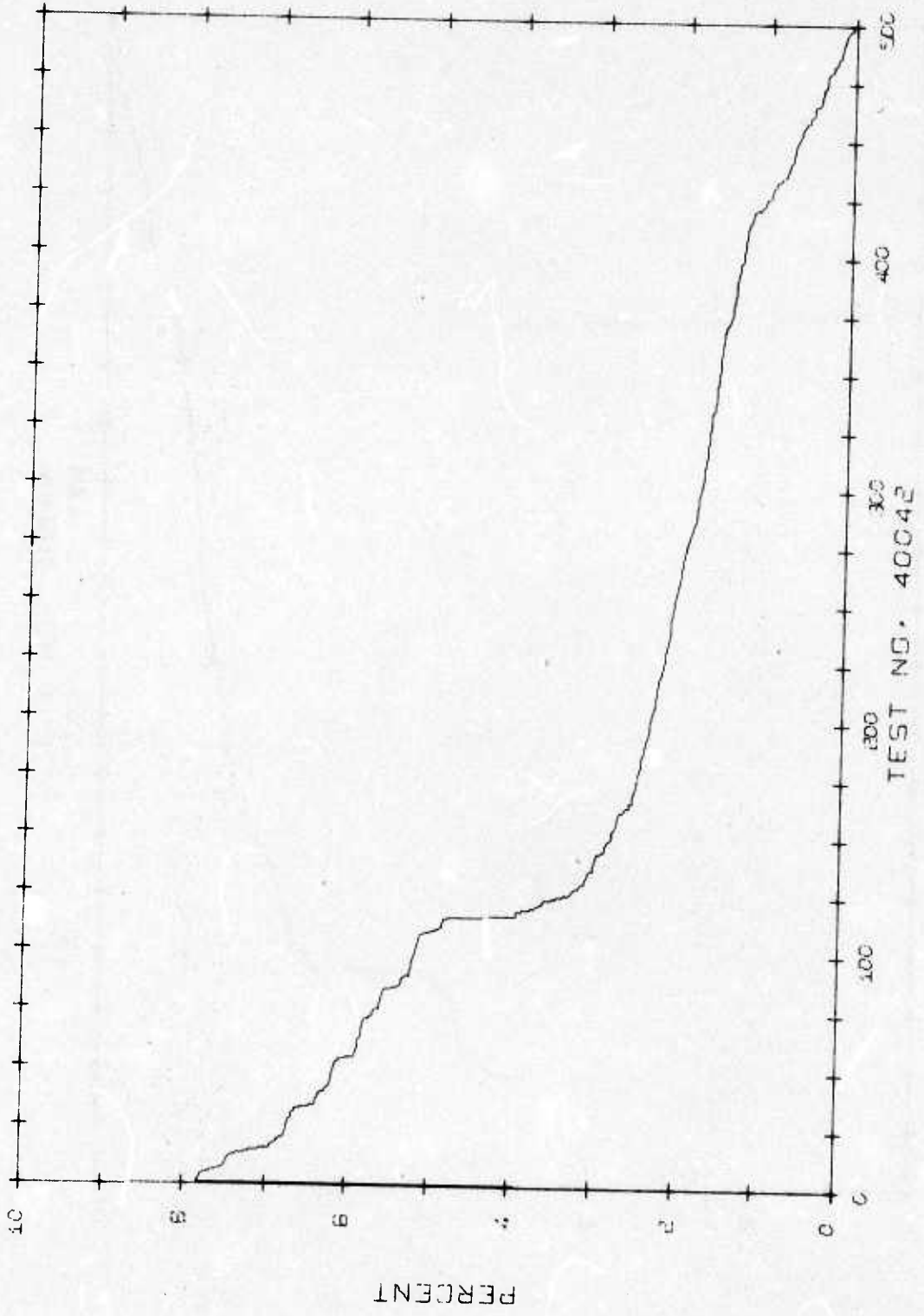


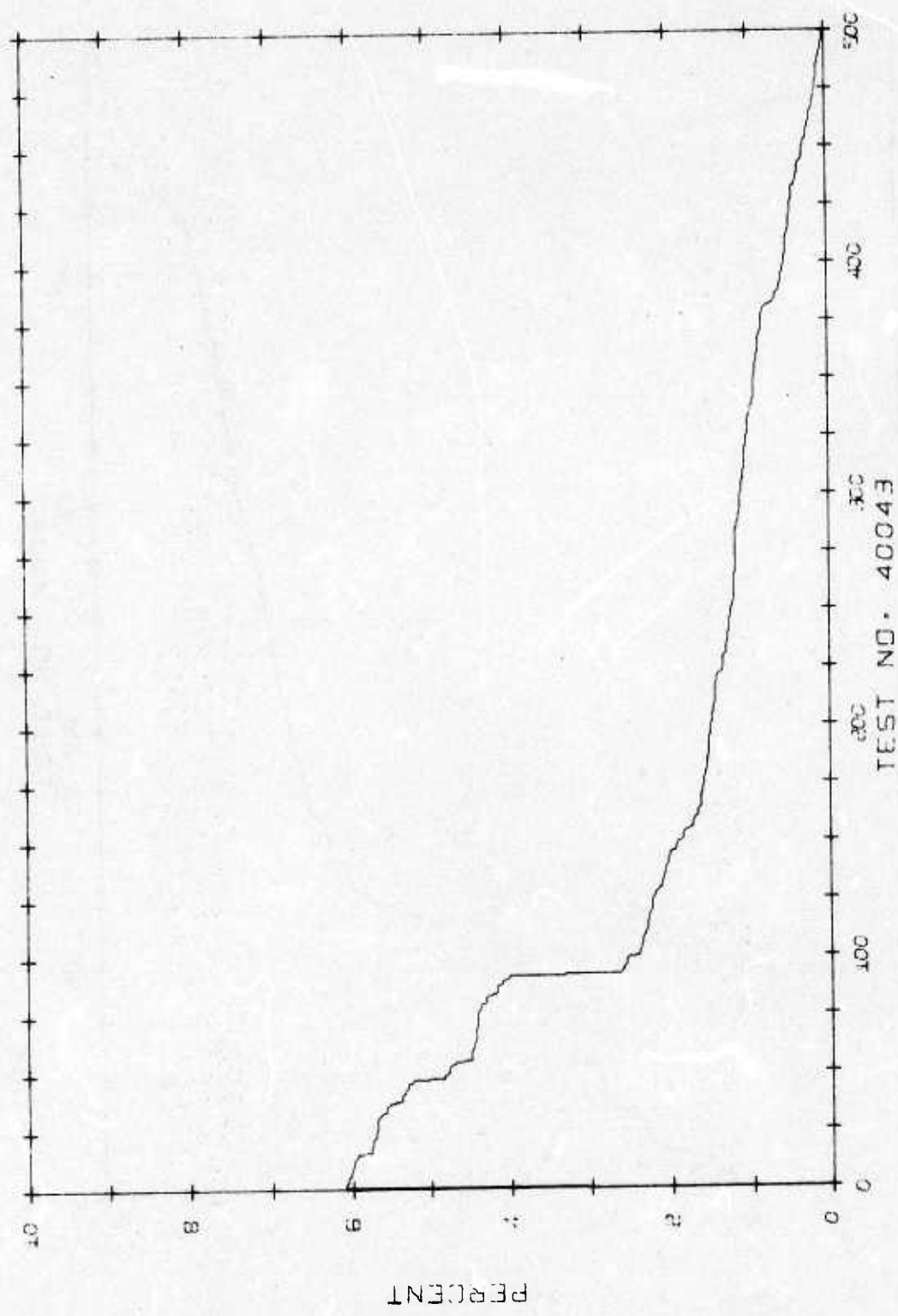


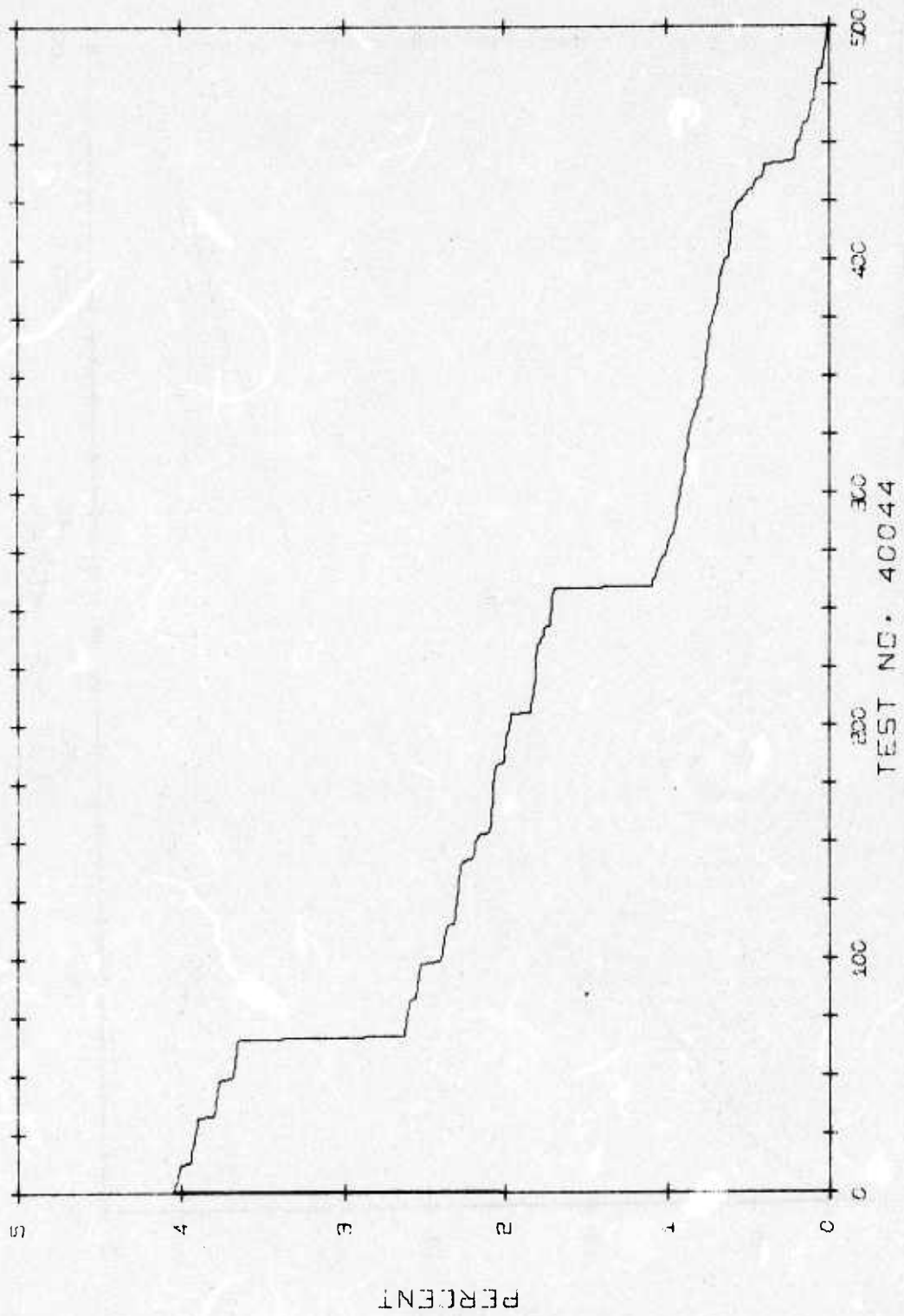


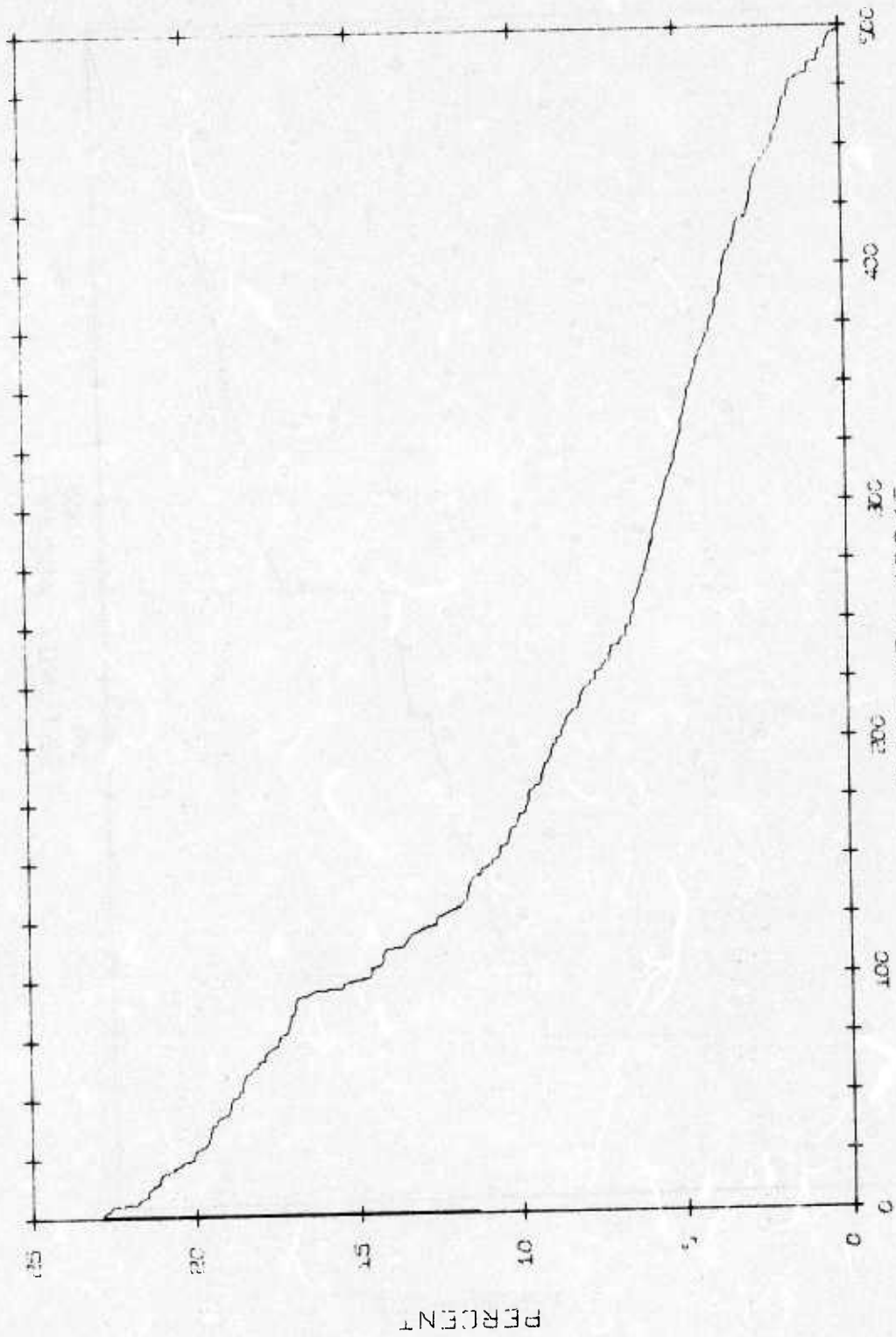


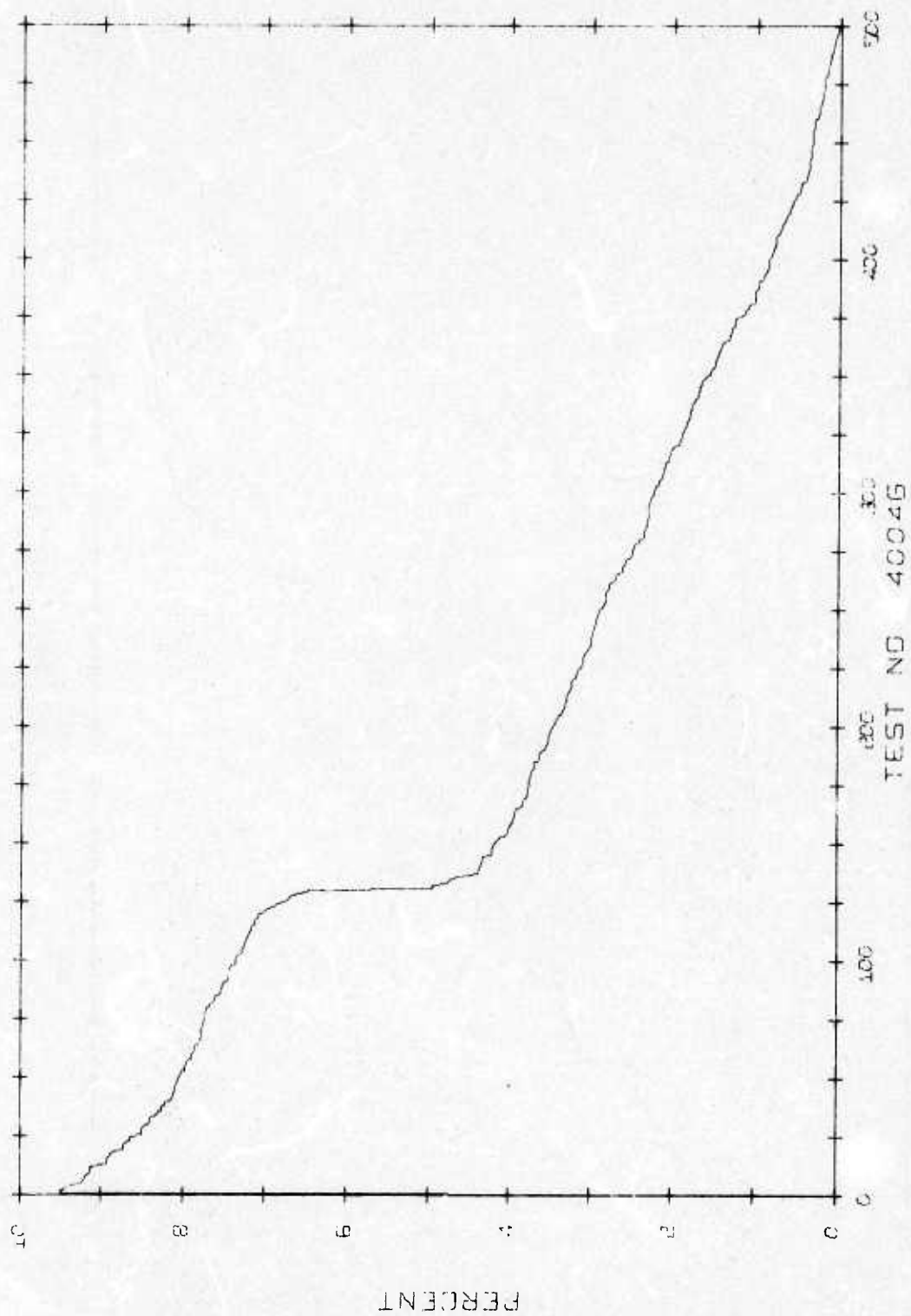
I-88

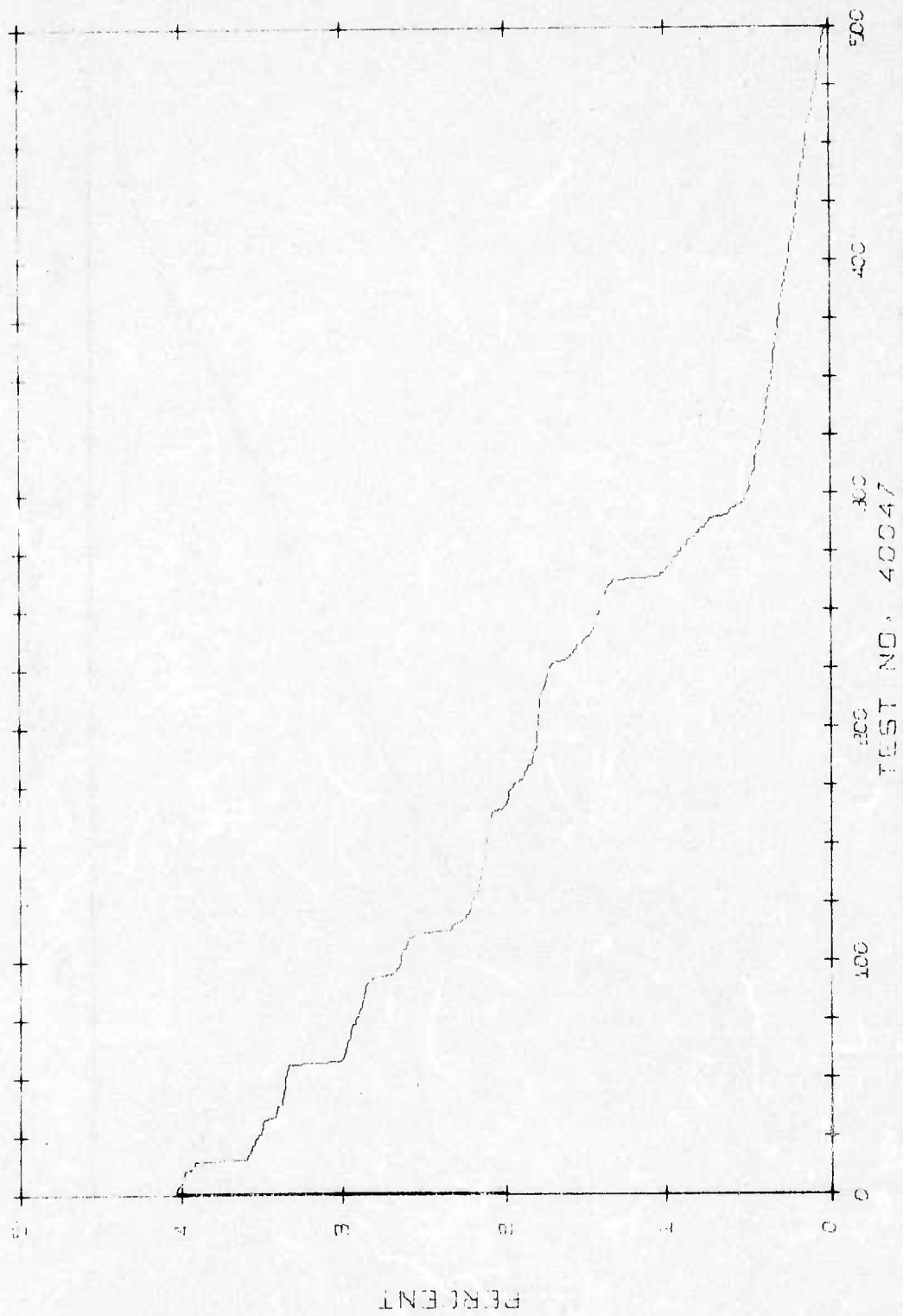


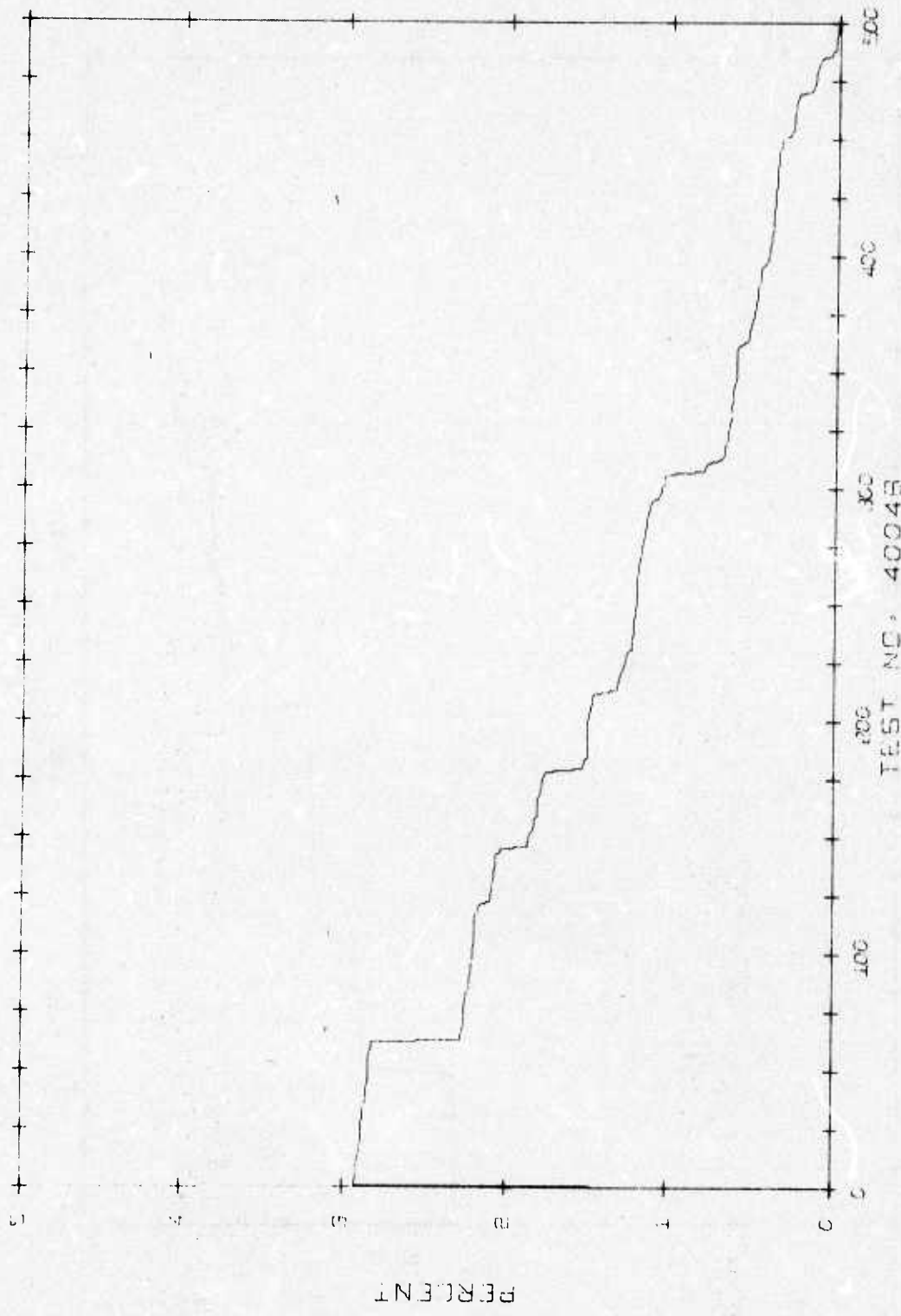


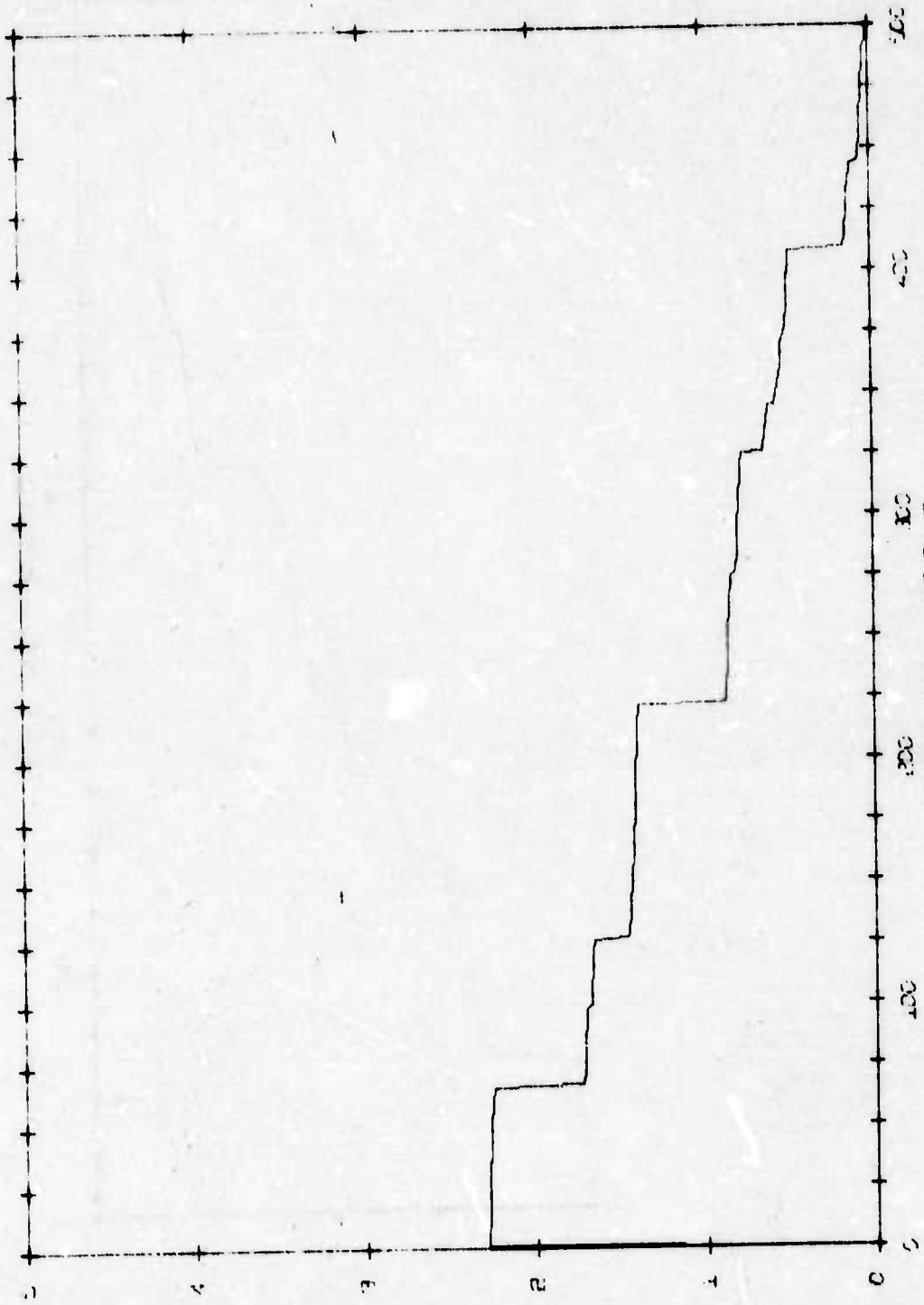






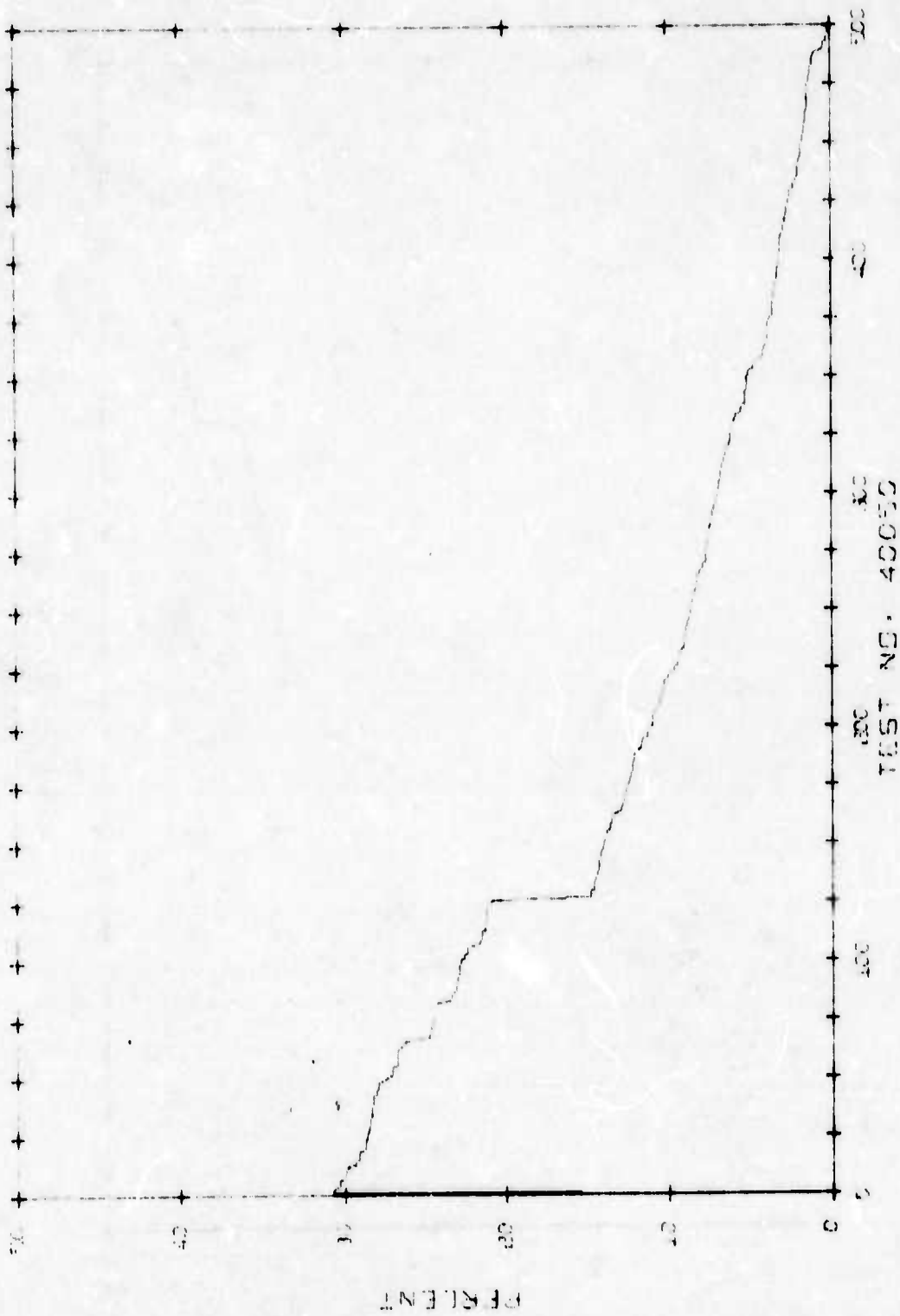


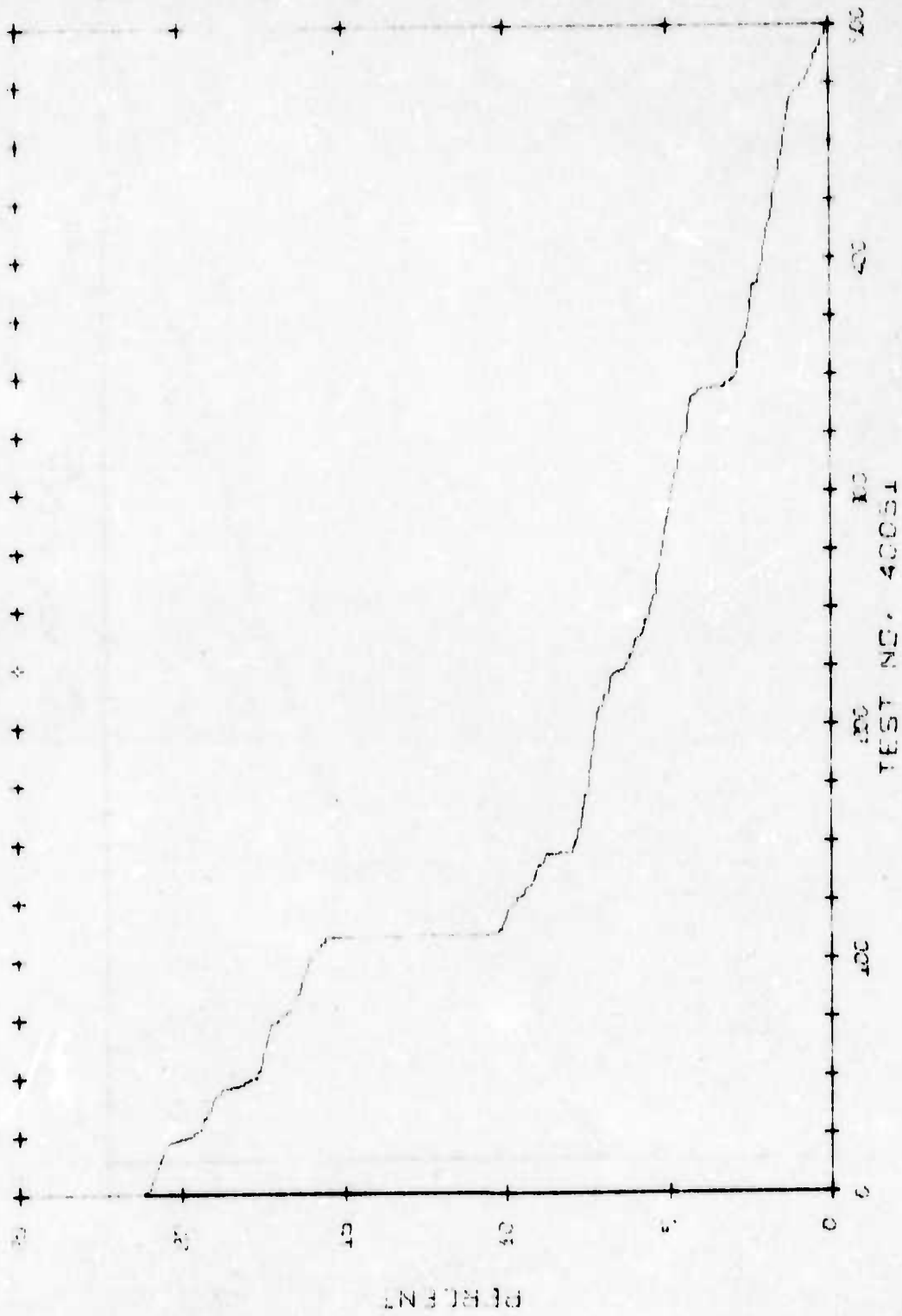


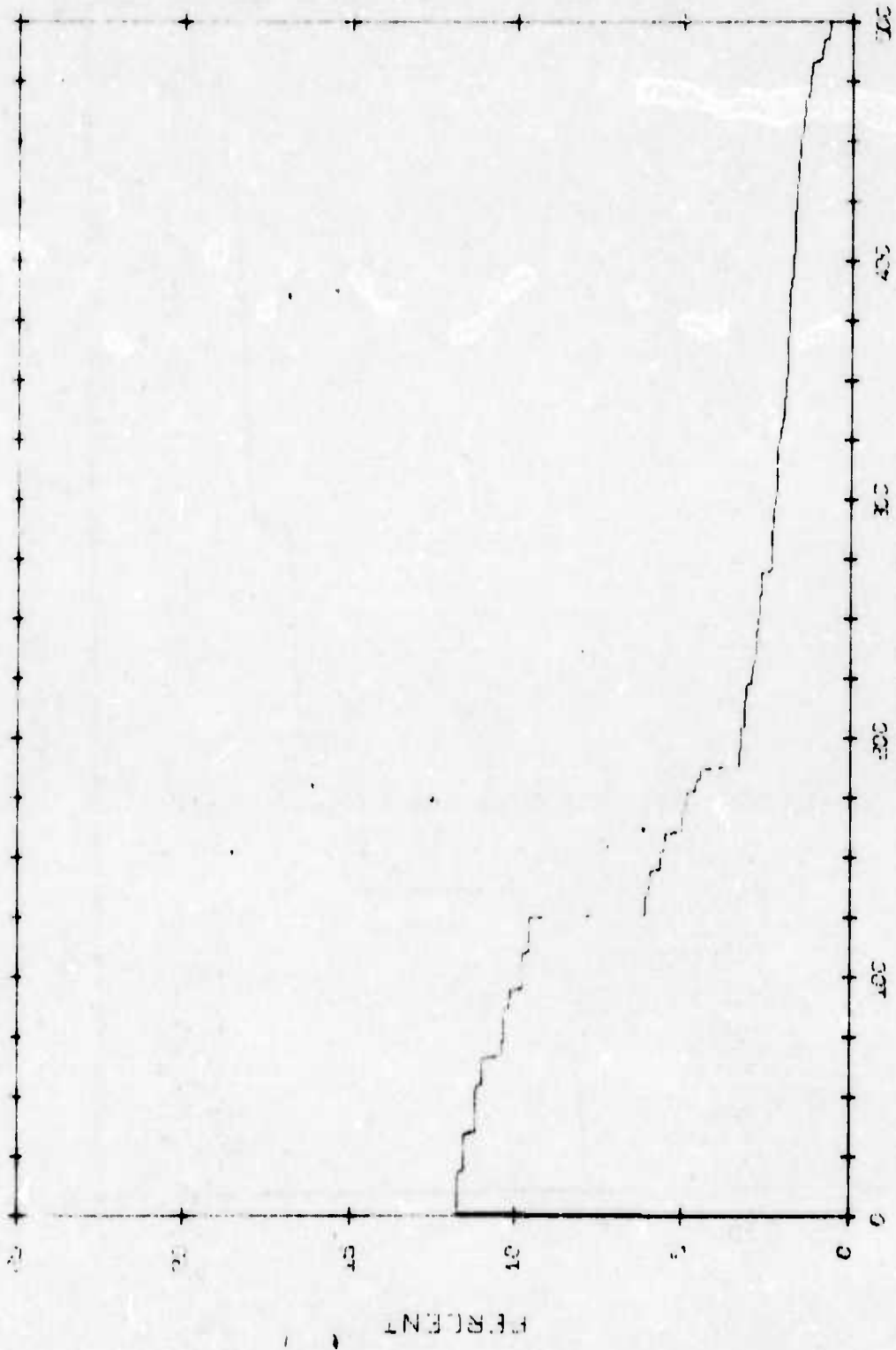


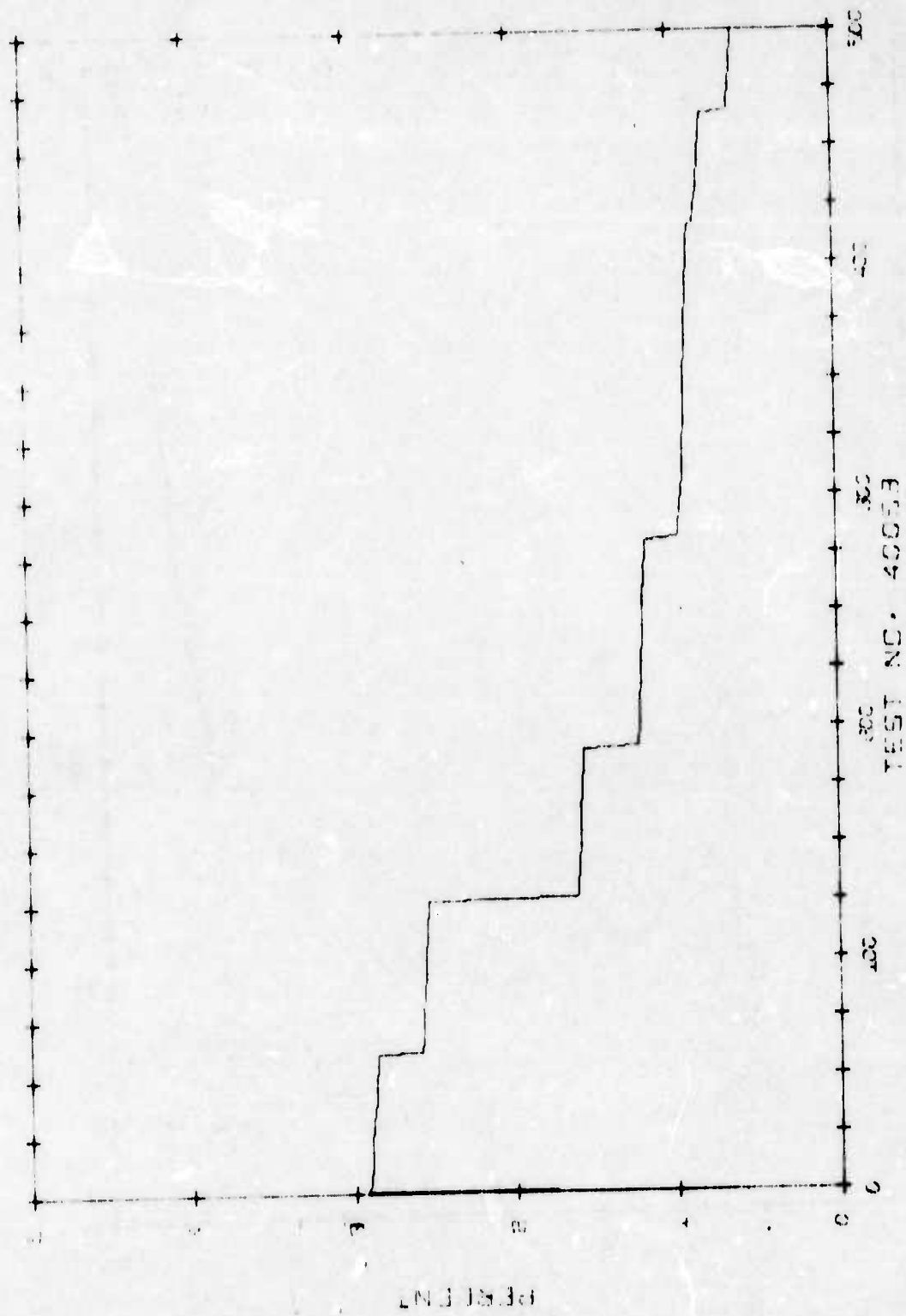
PERCENT

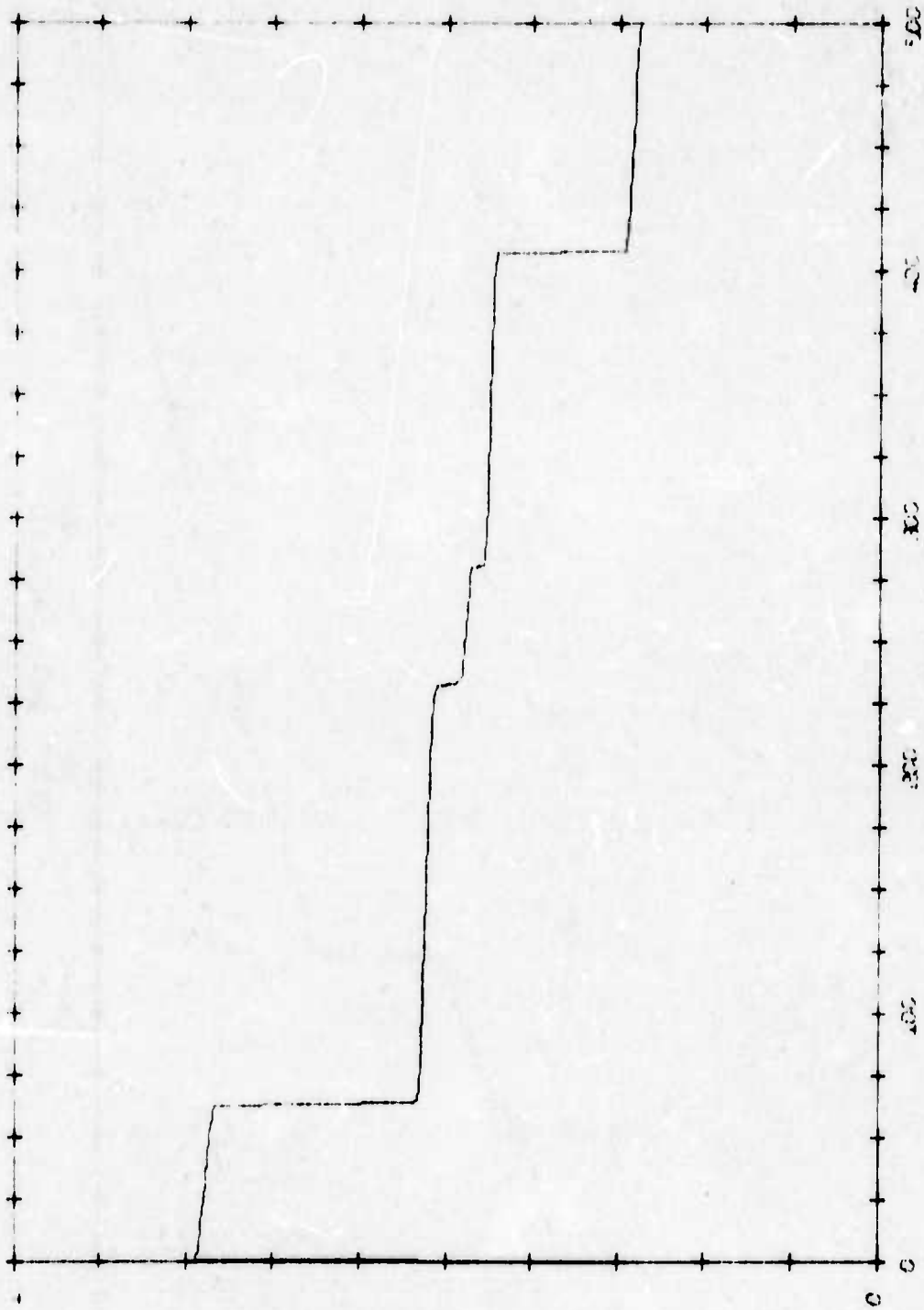
TEST NO. 40043







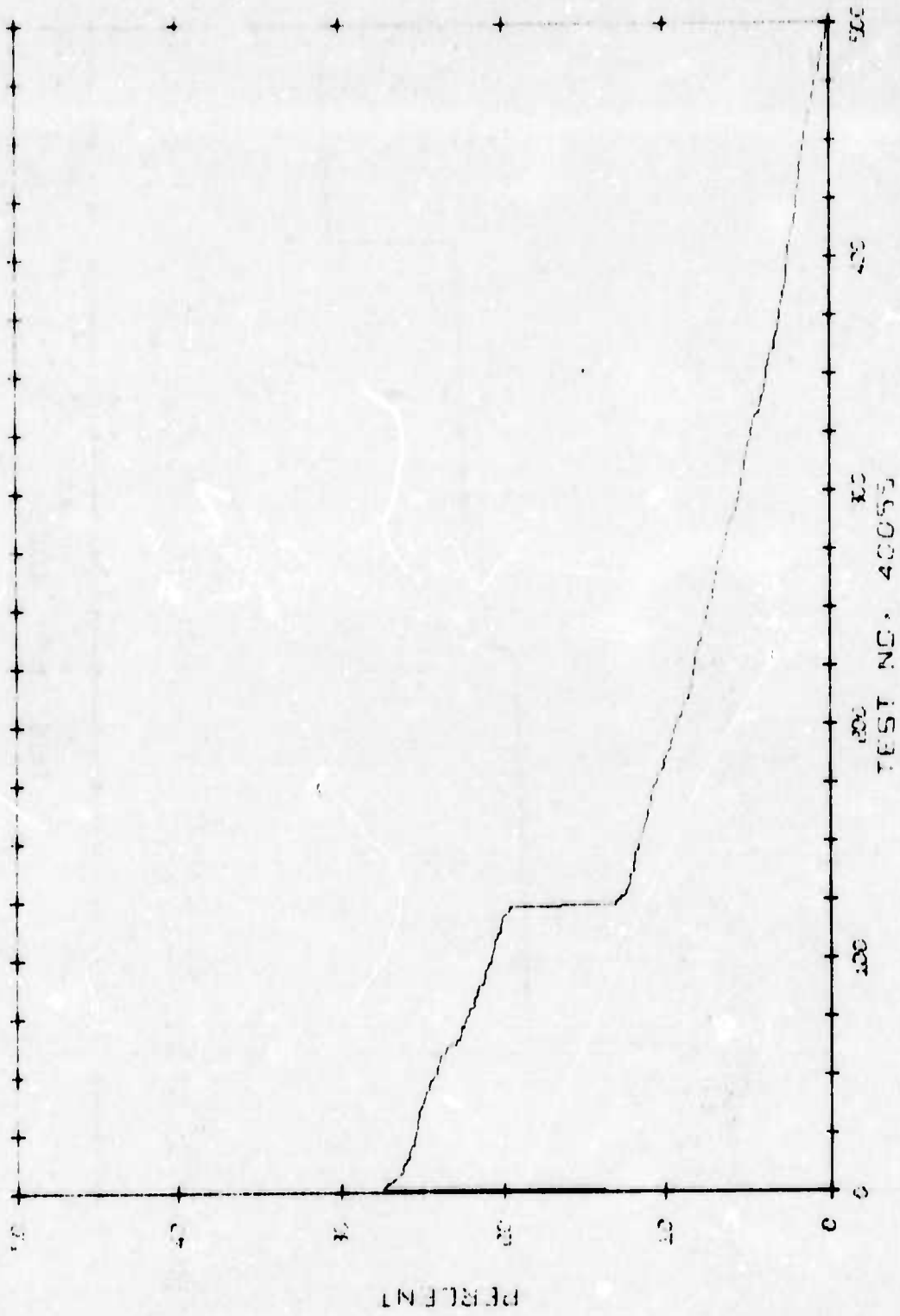


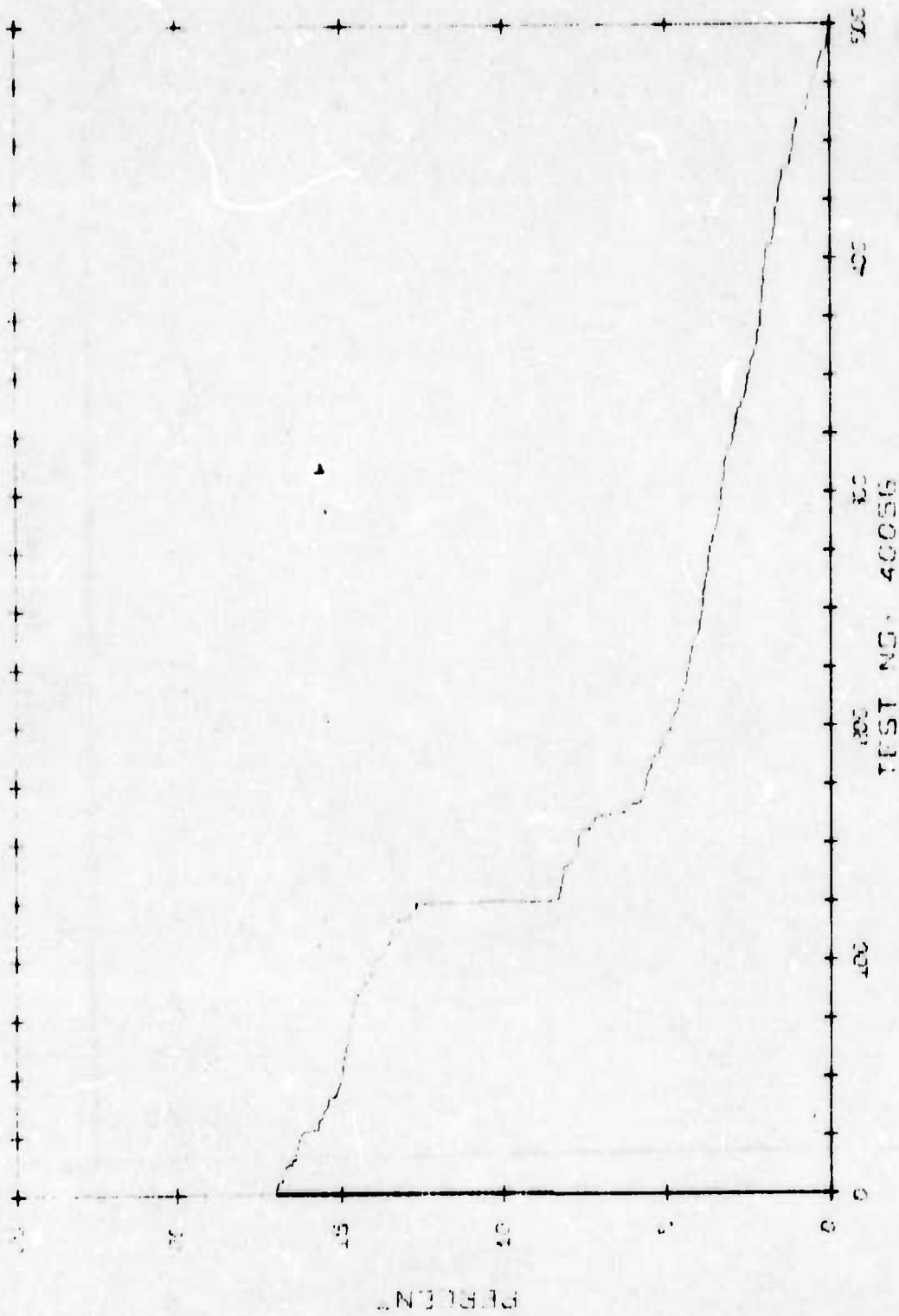


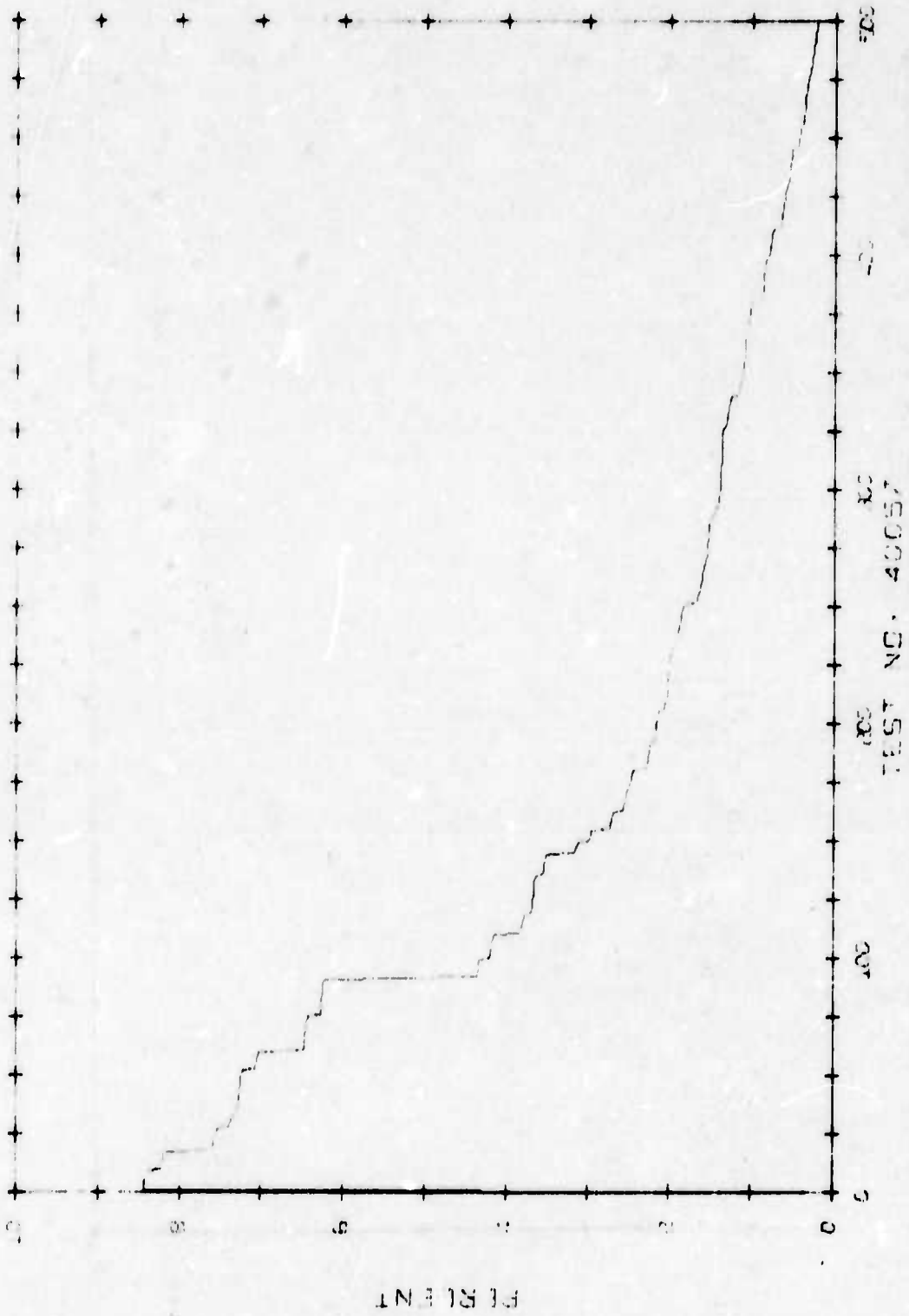
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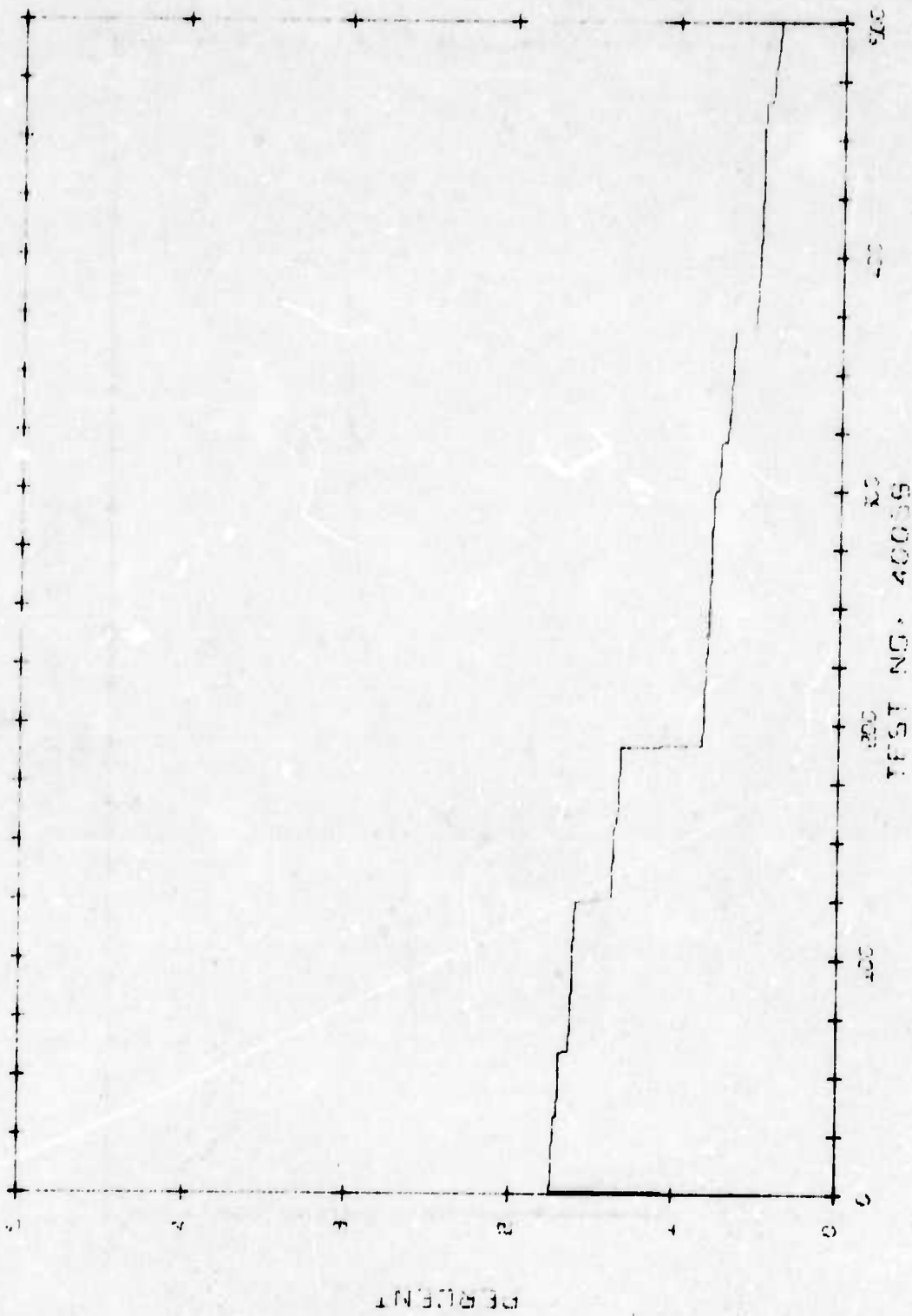
PERCENT

I-101

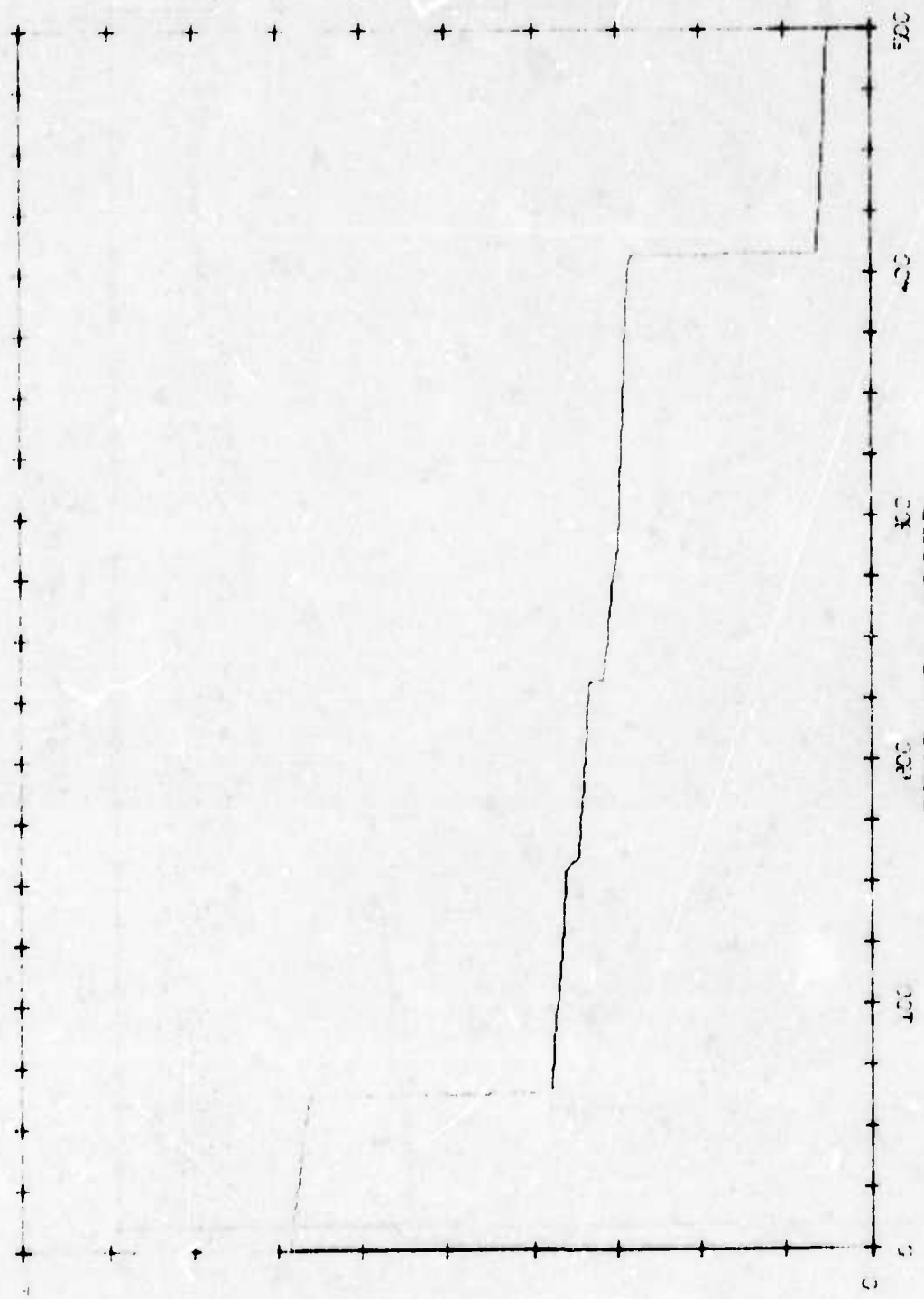






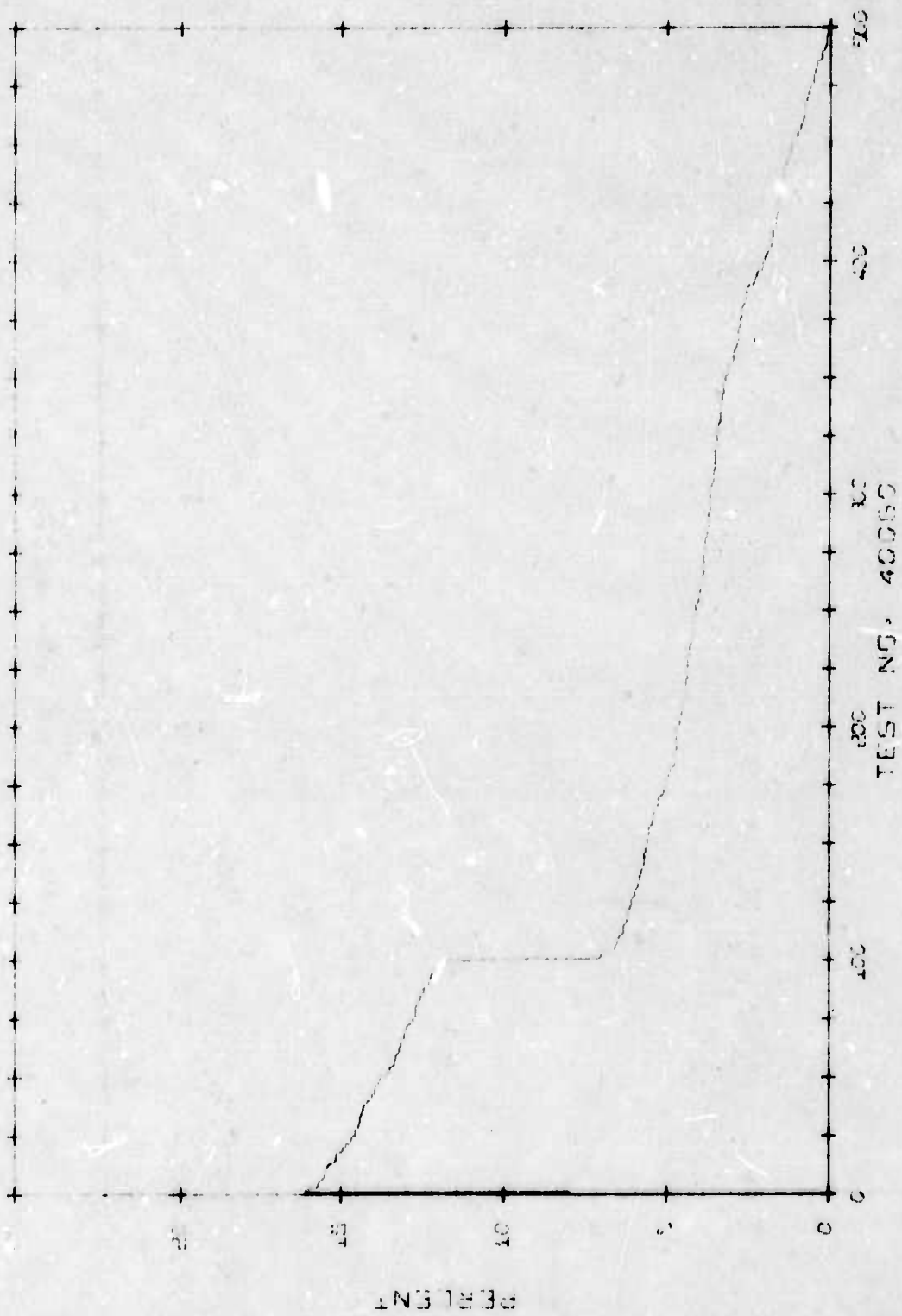


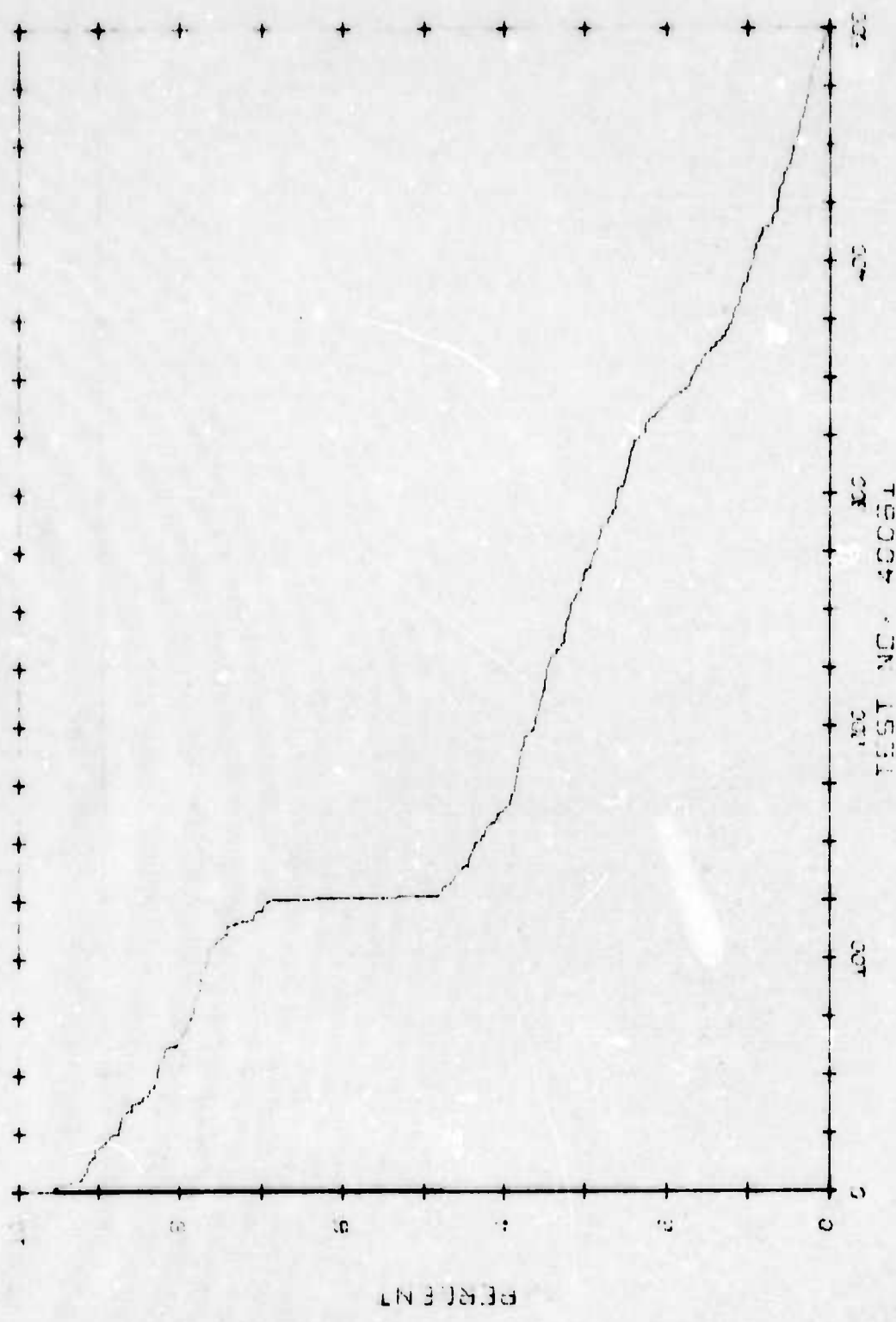
I-105

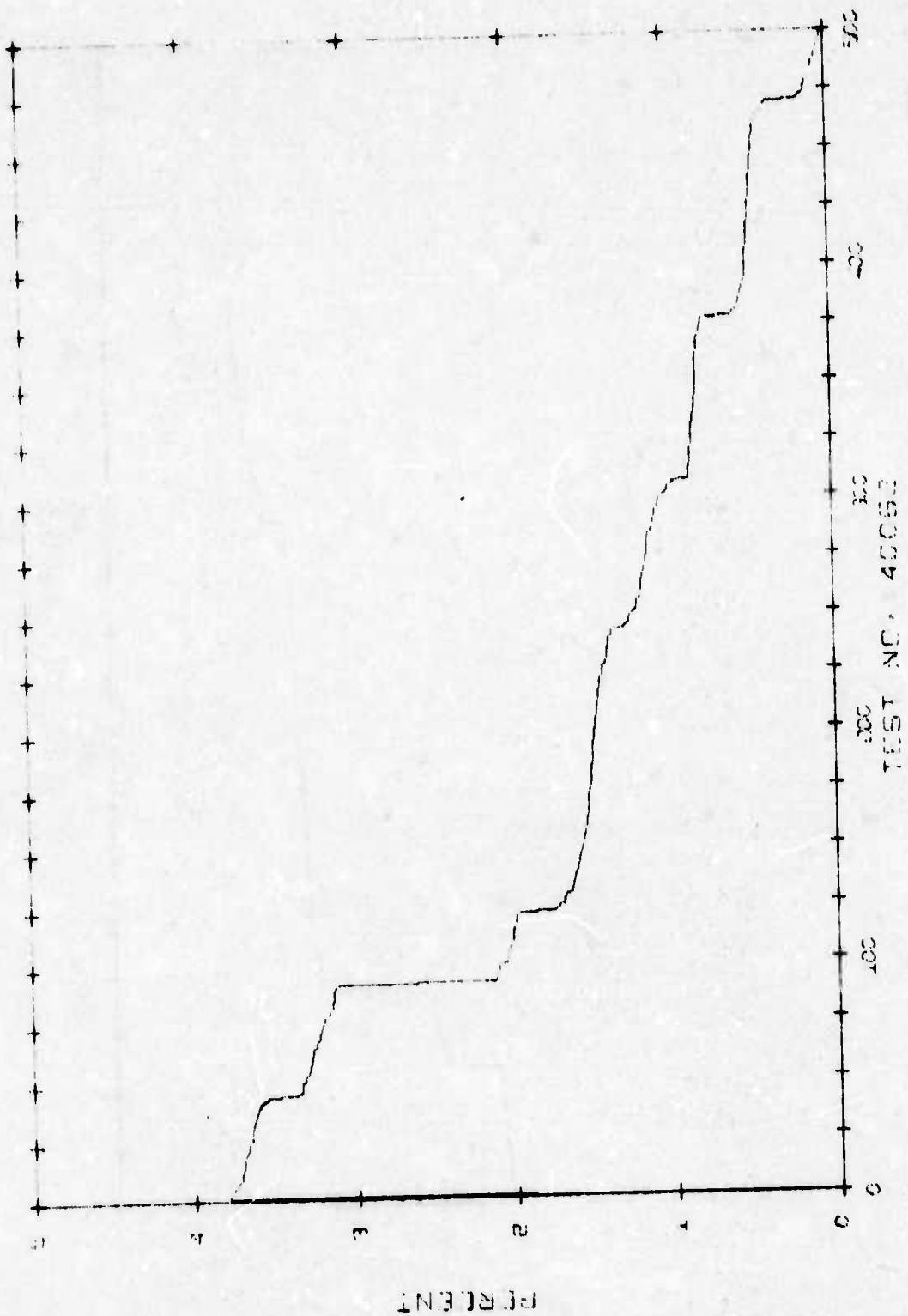


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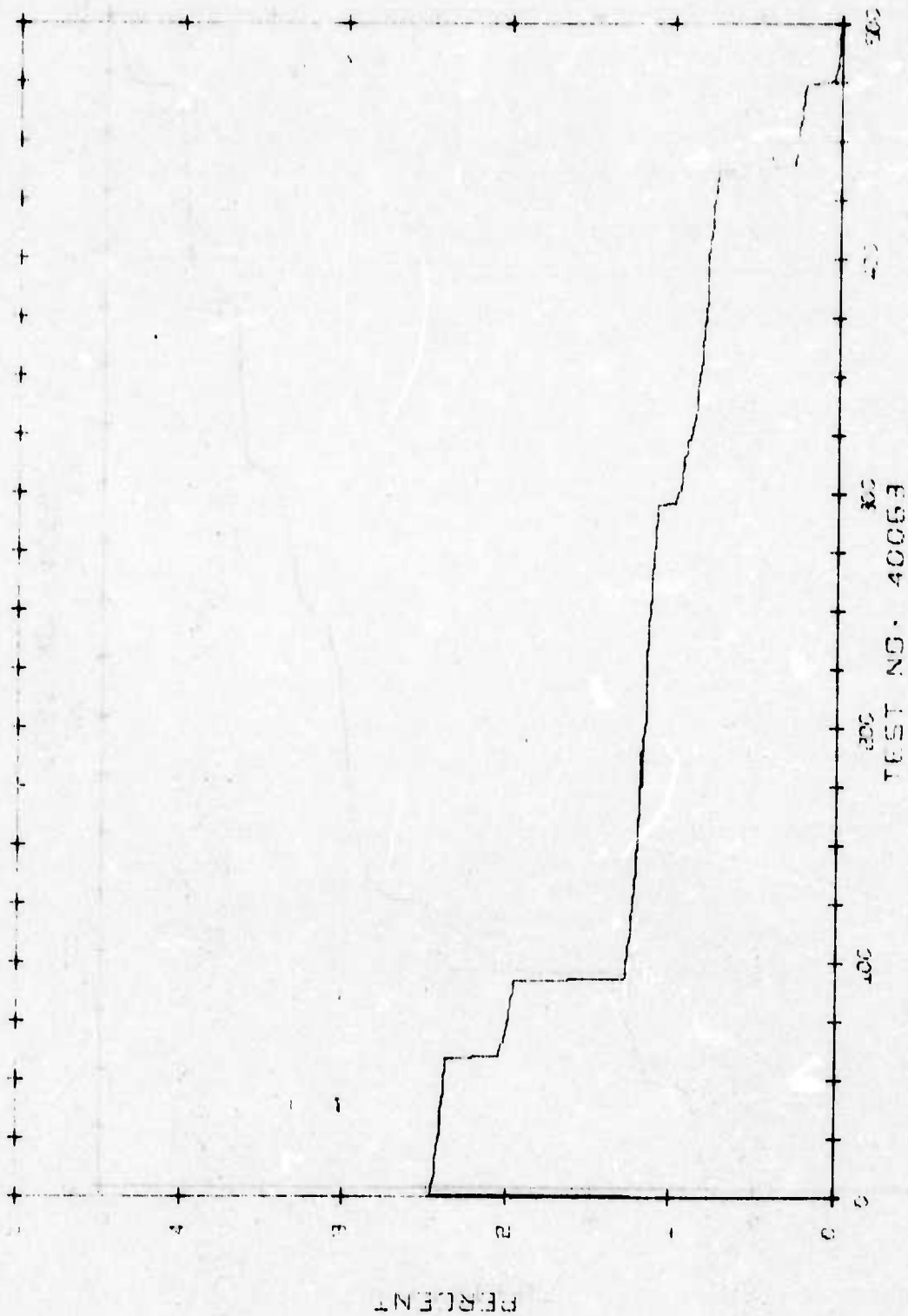
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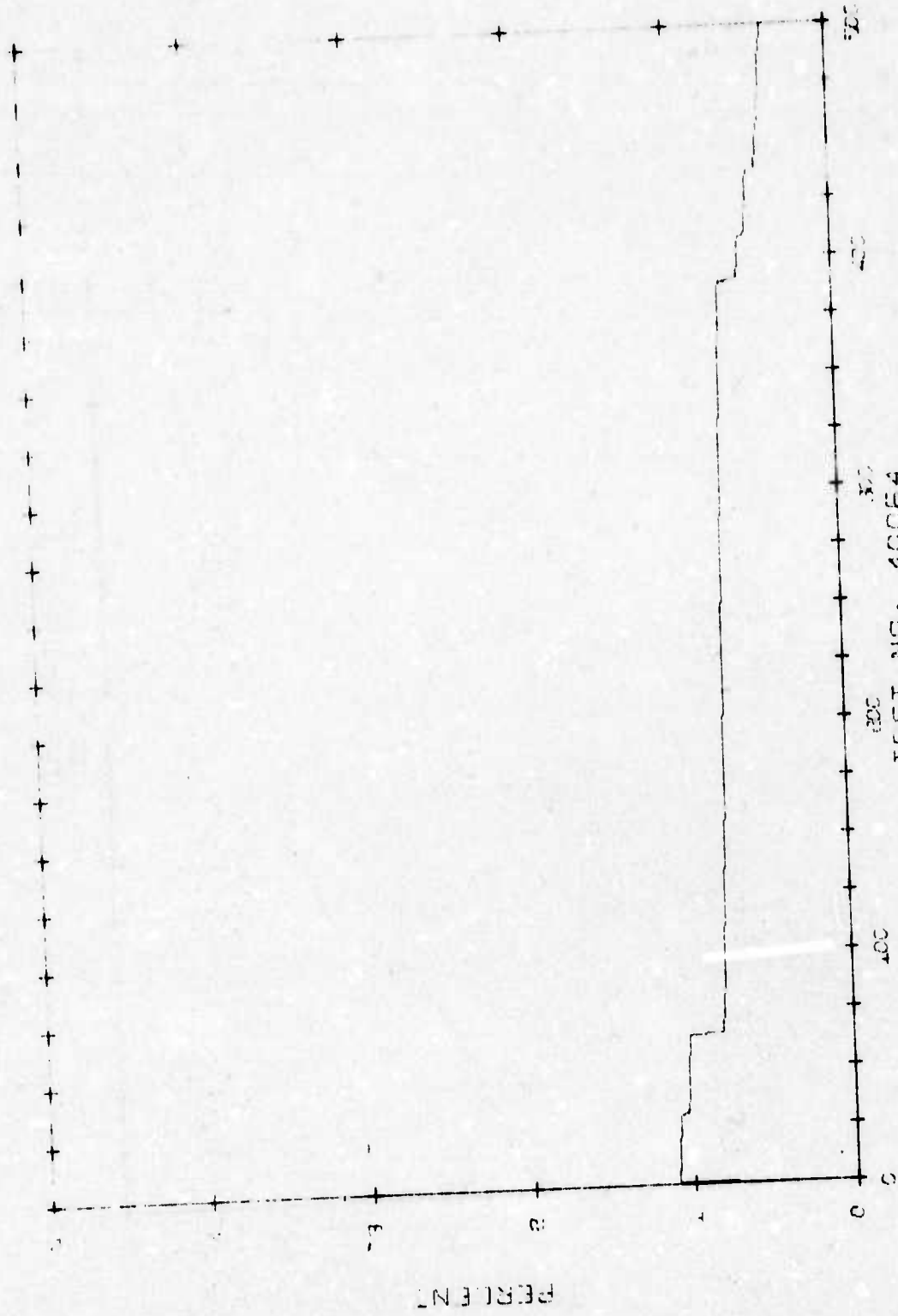


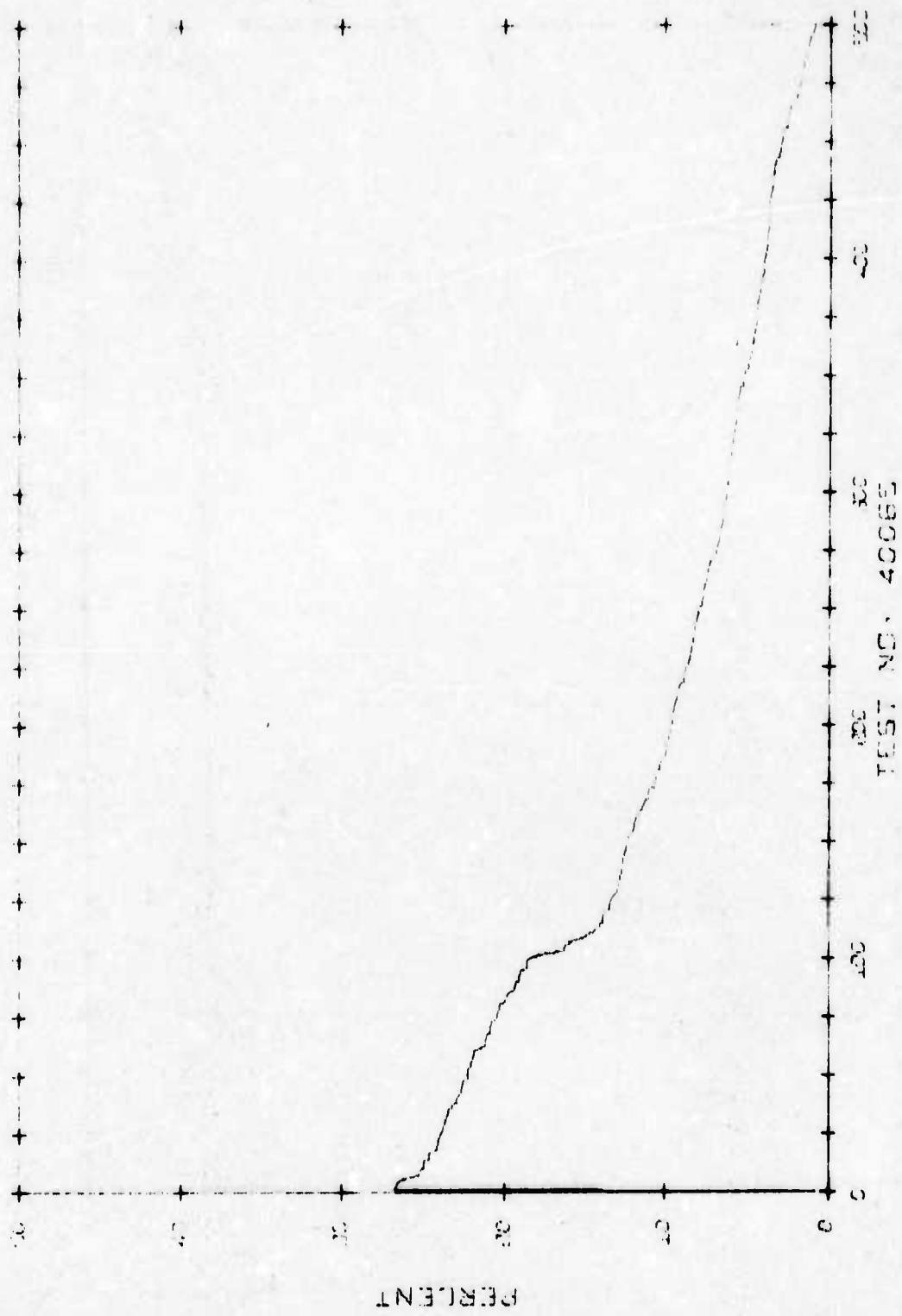


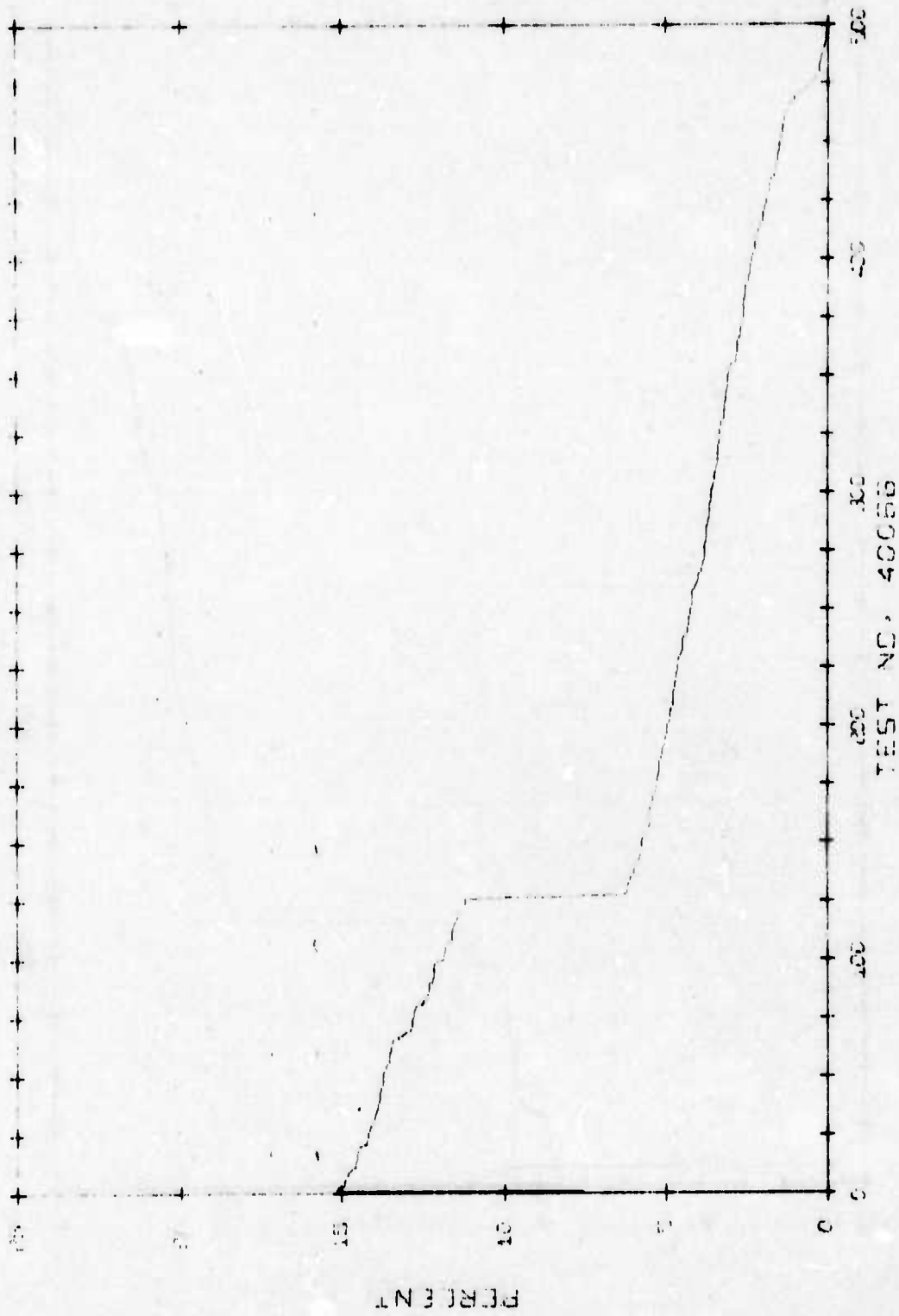


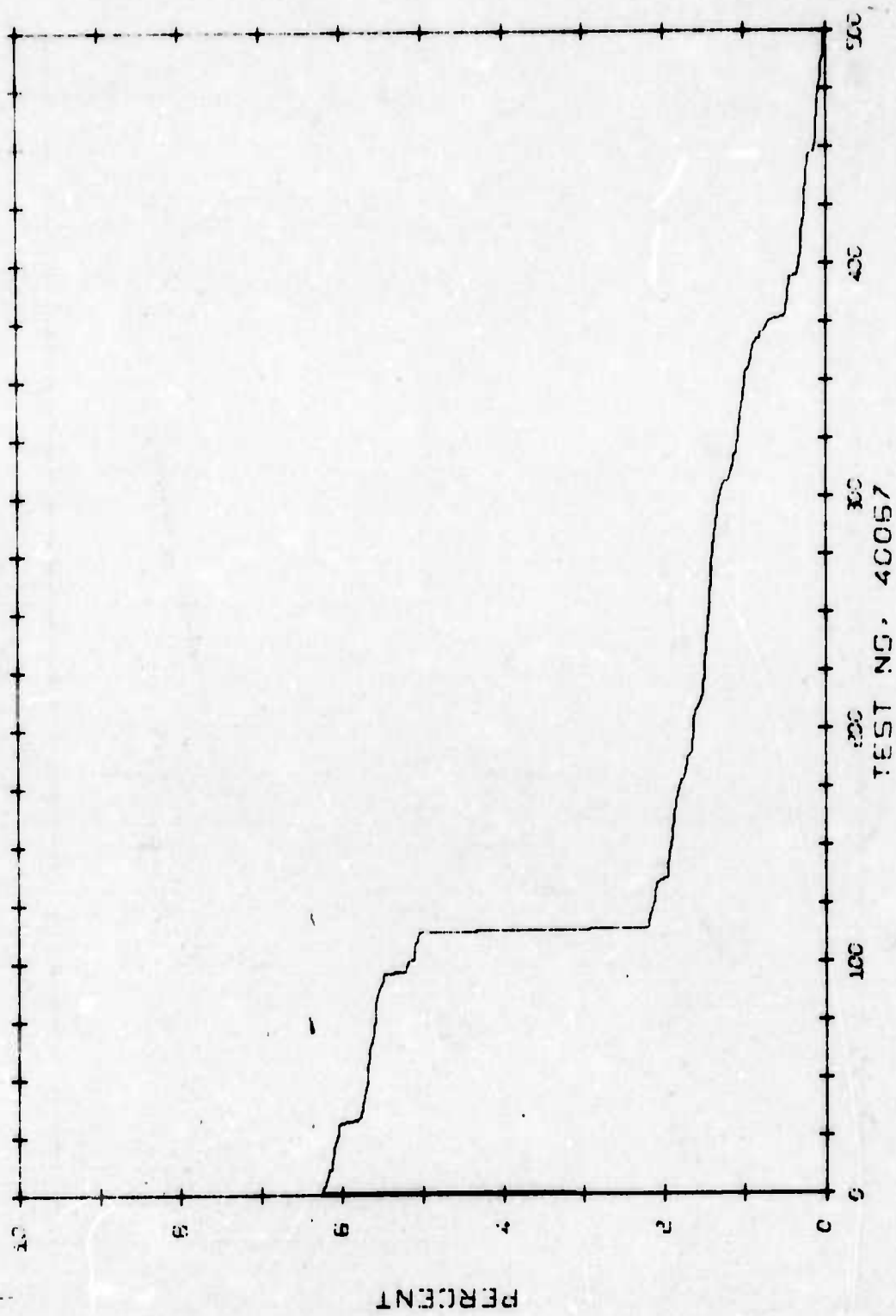
I-109

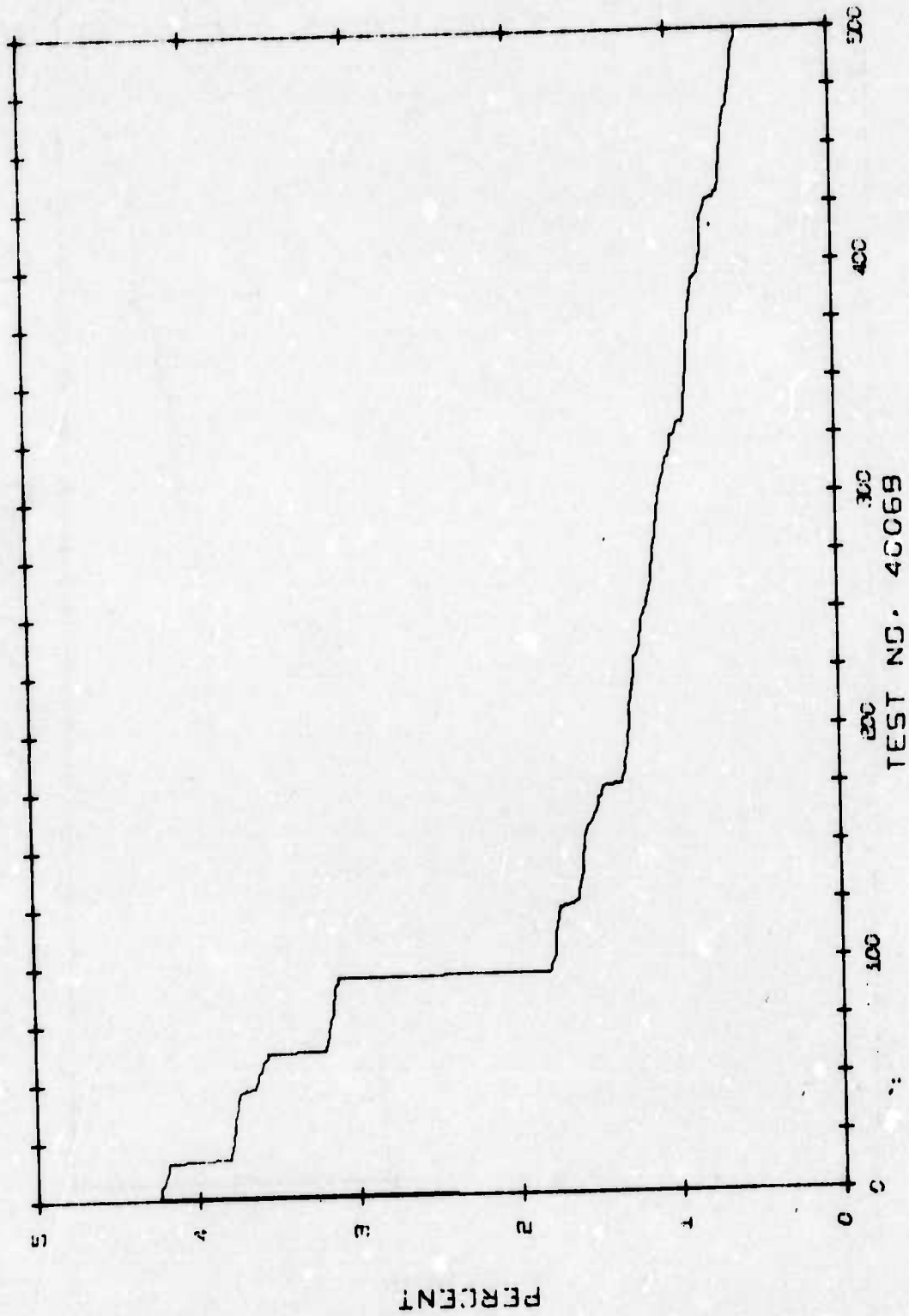


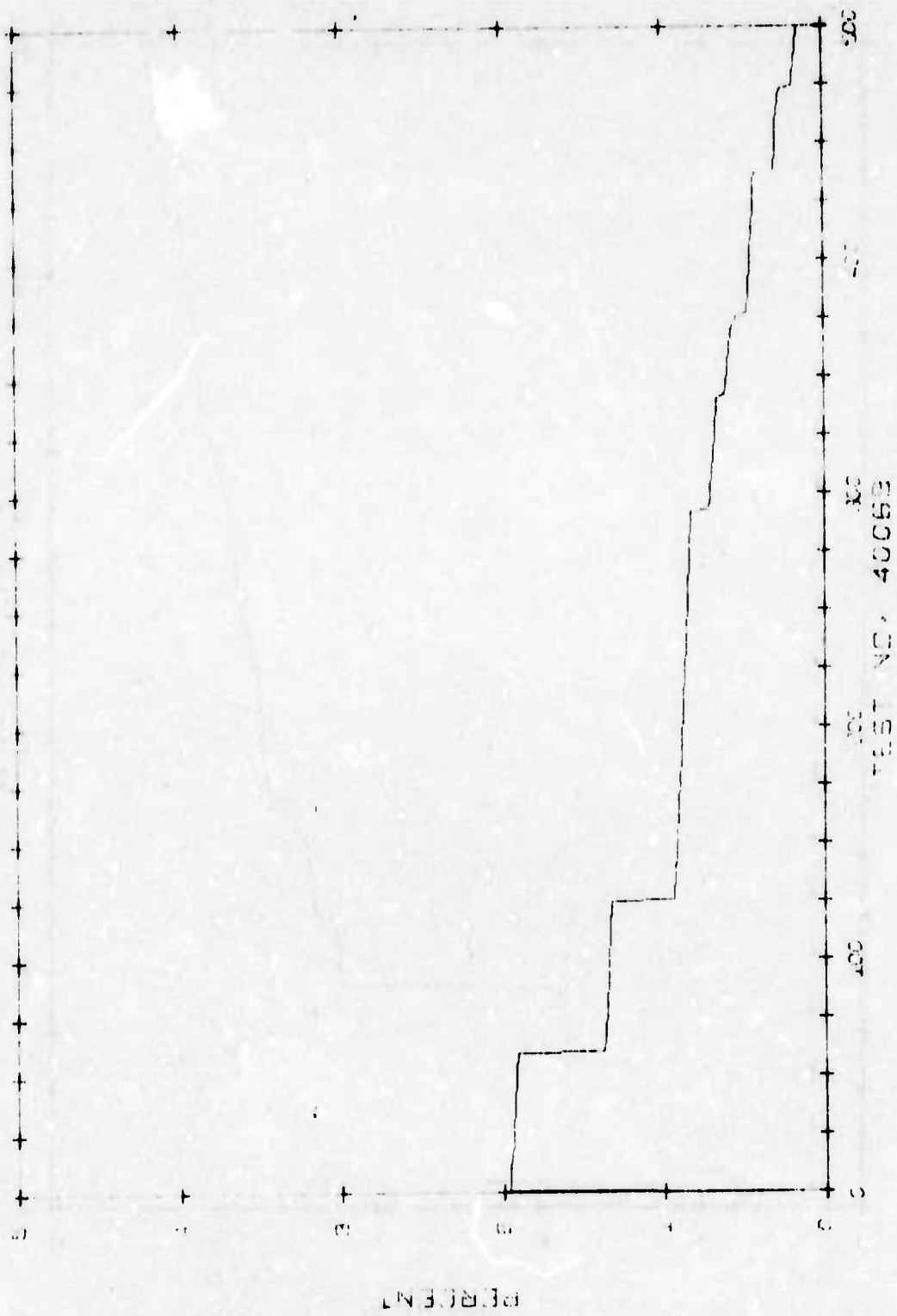


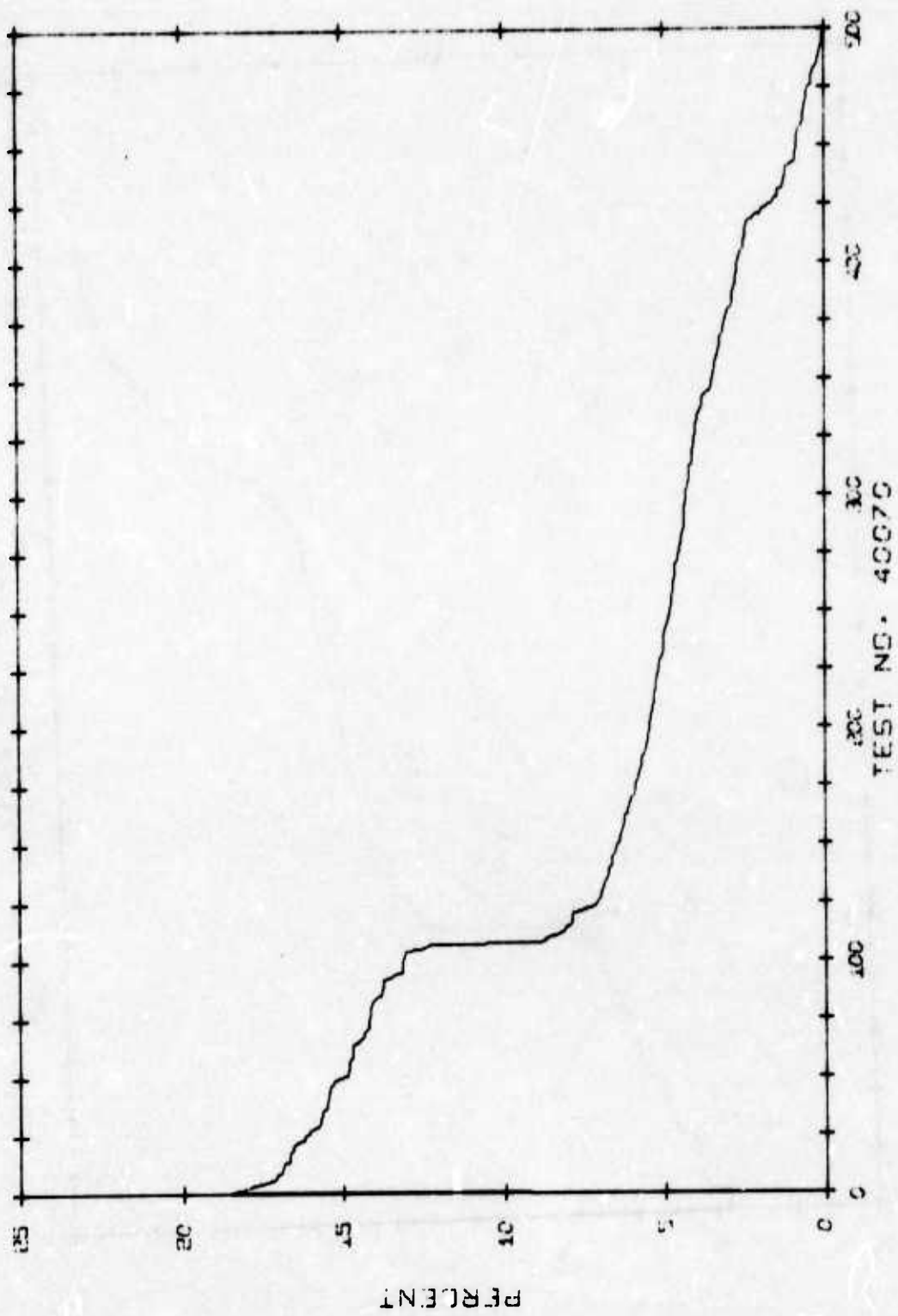


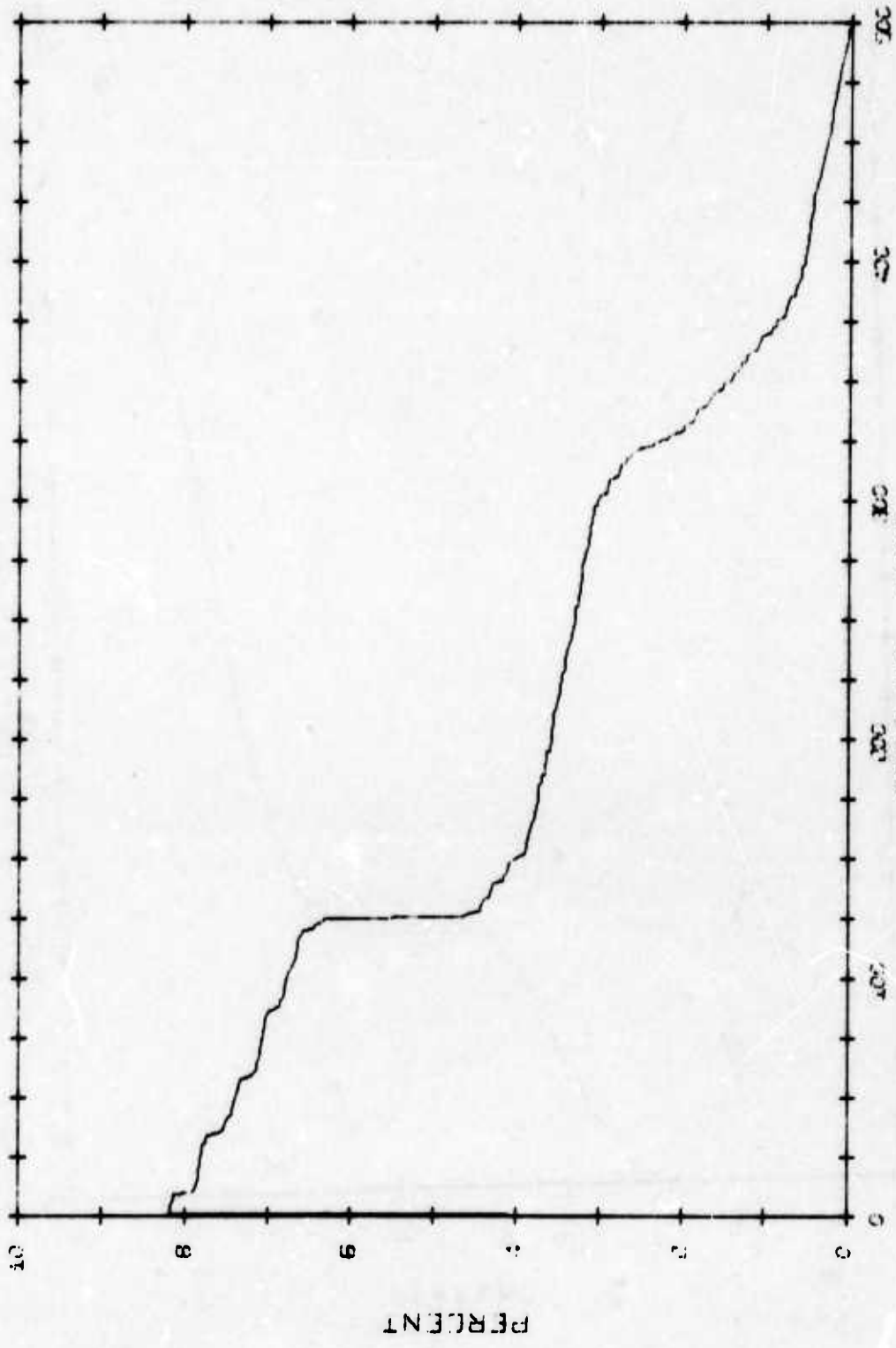


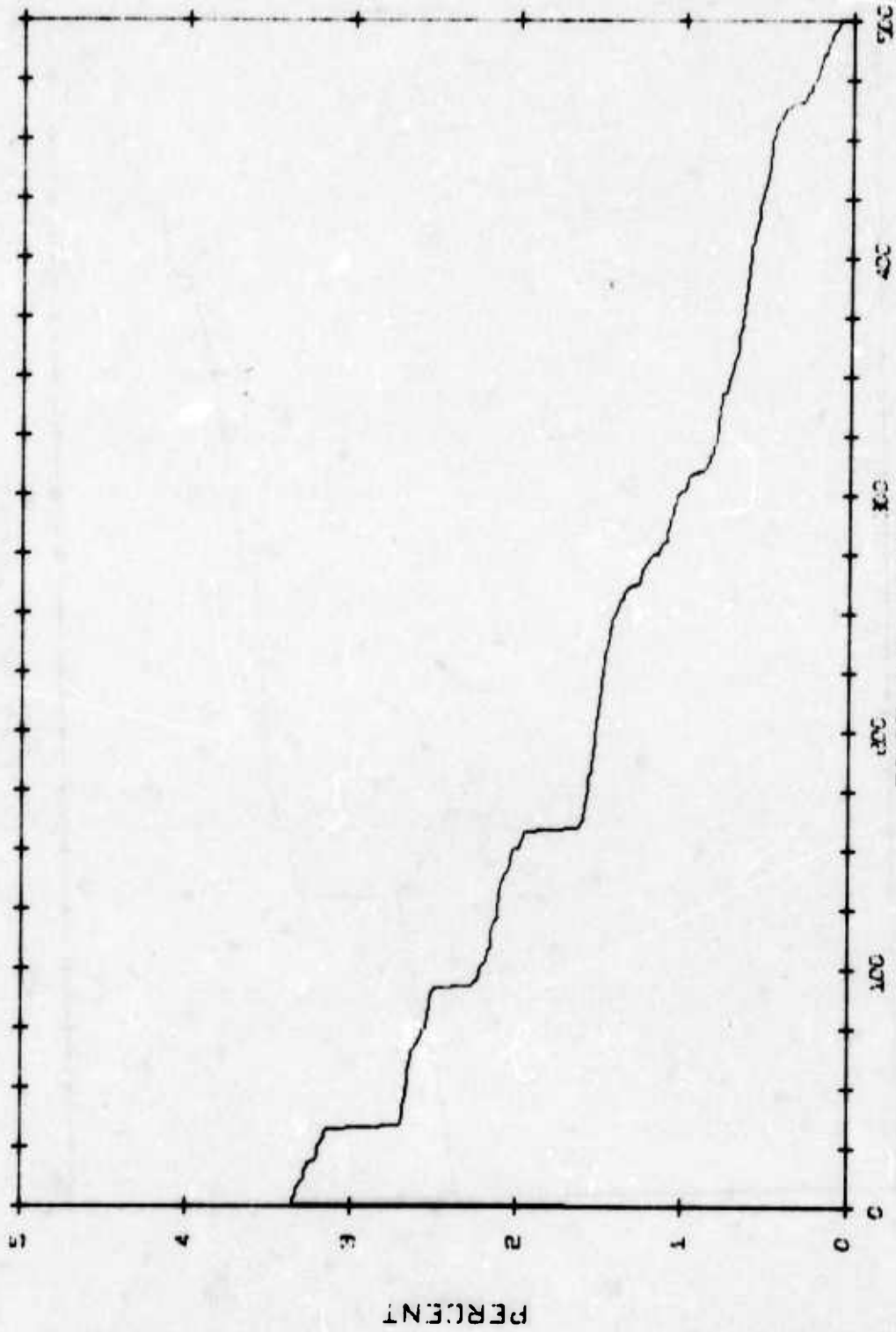




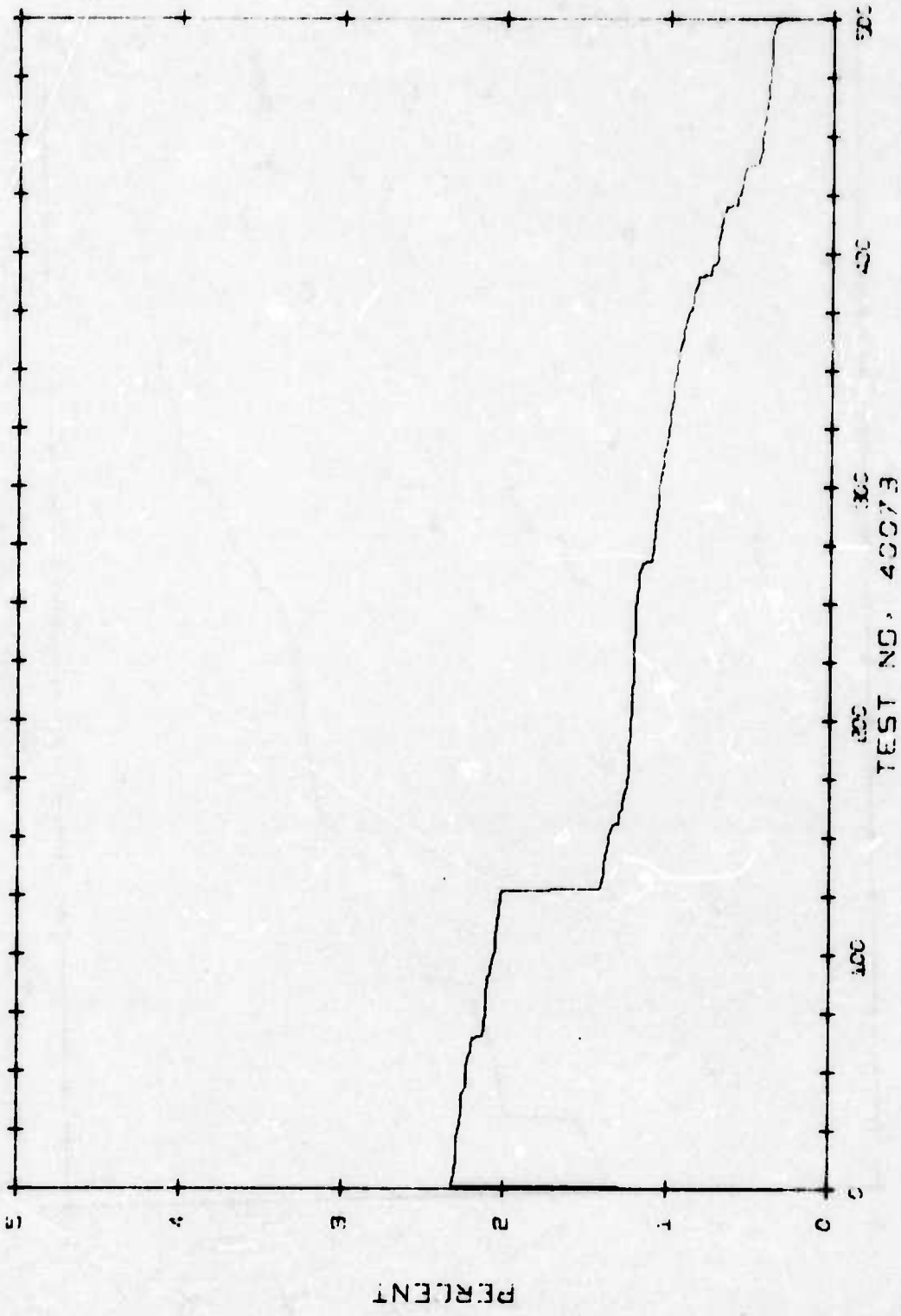


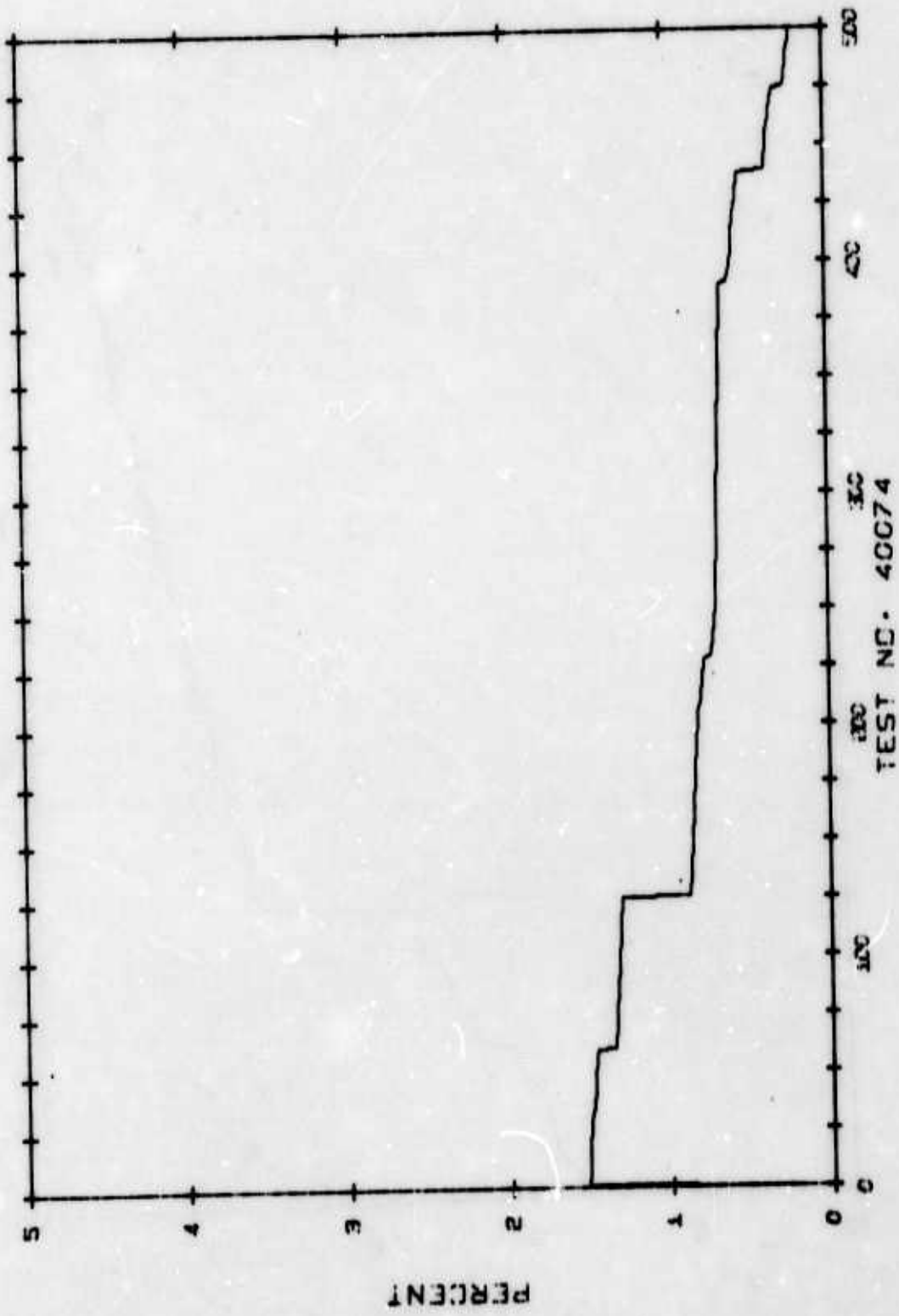


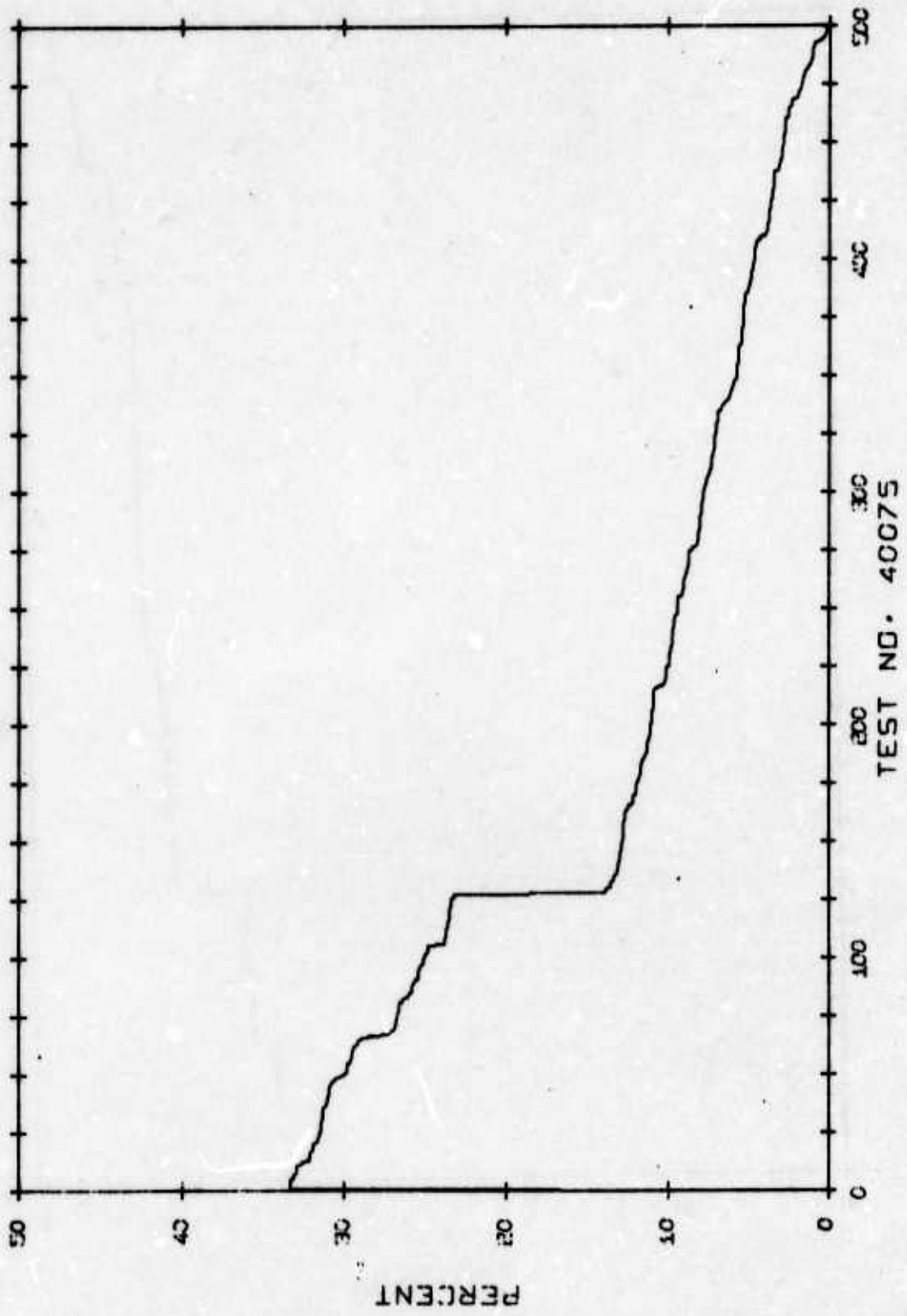


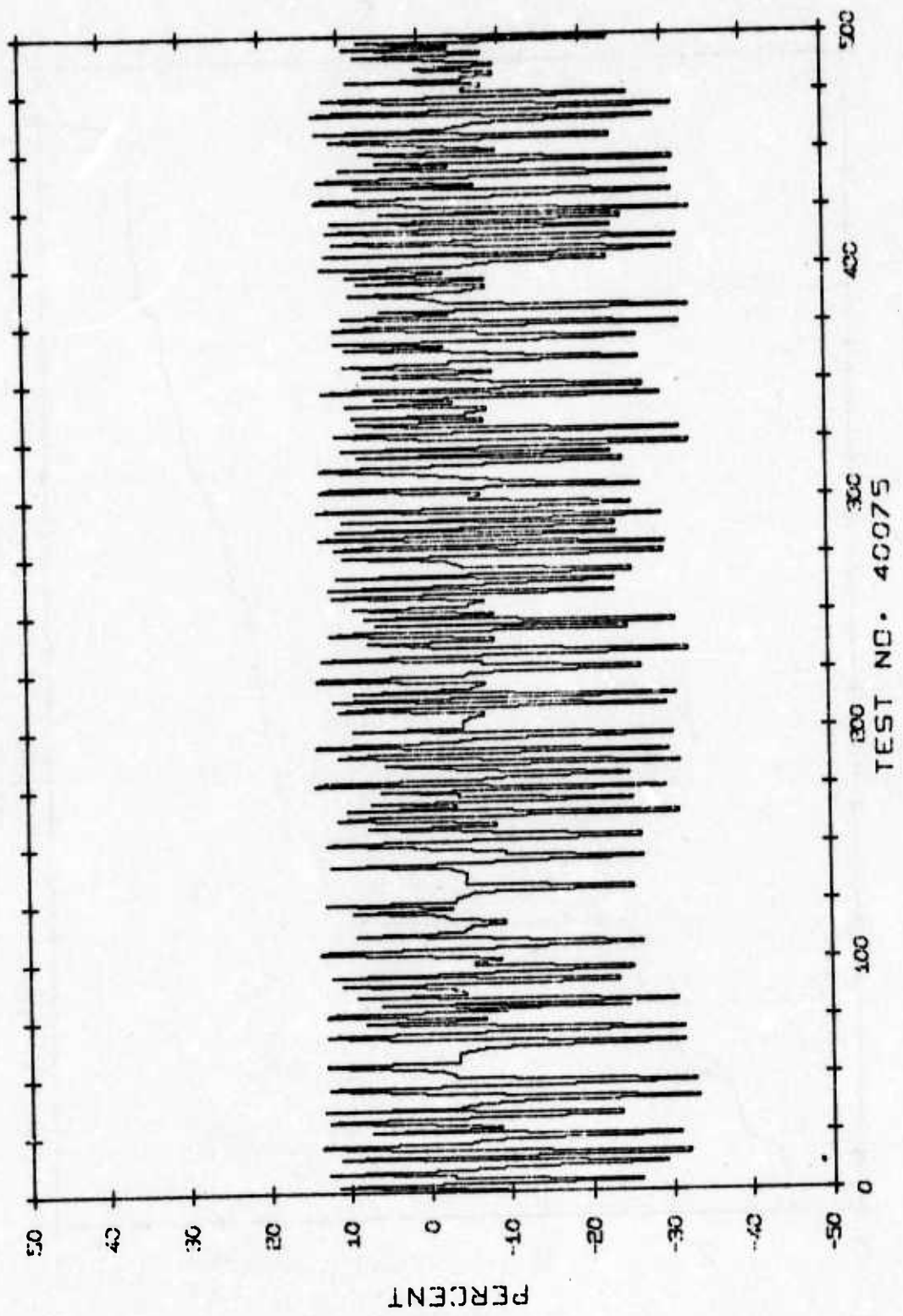


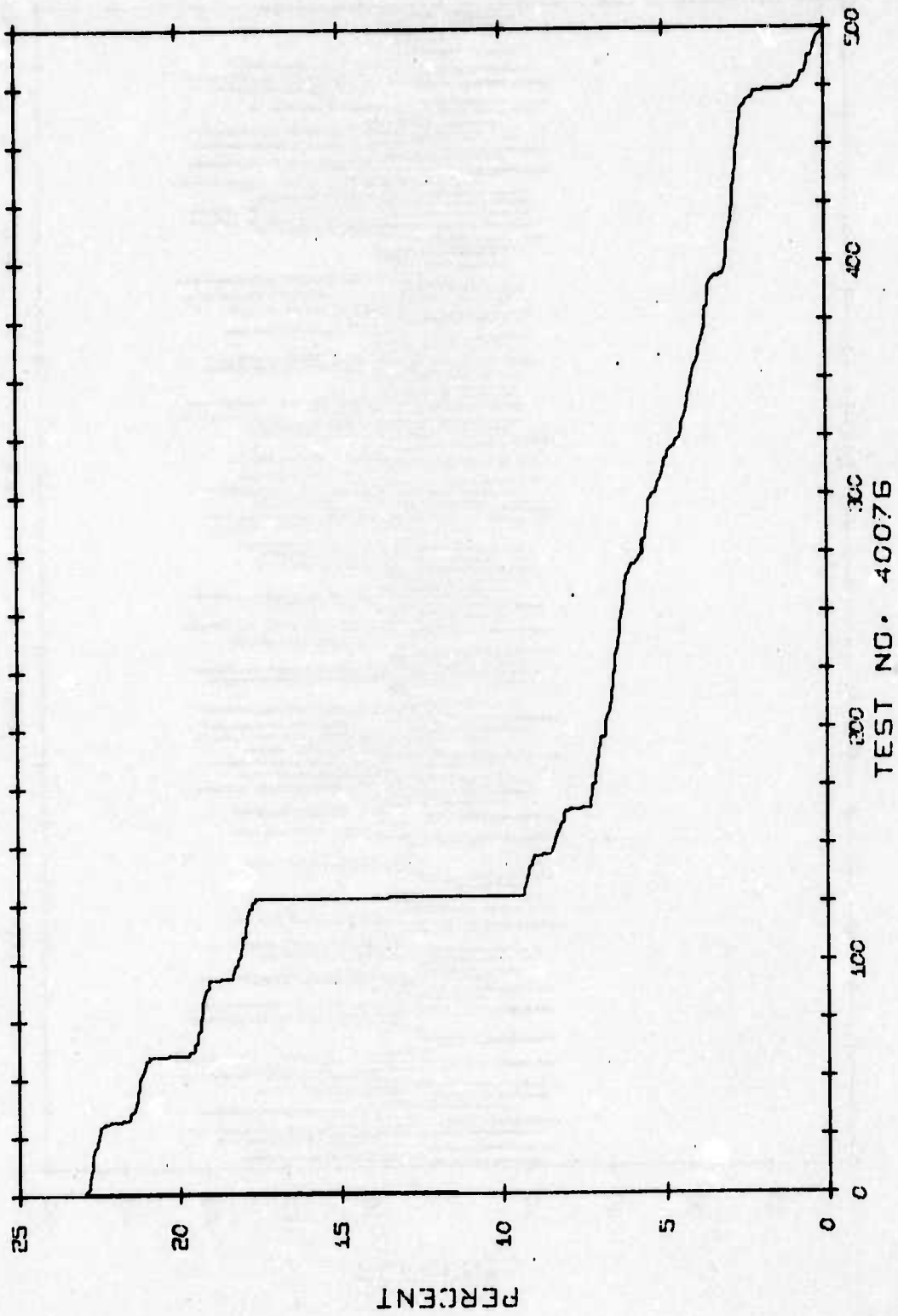
TEST NO. 40072



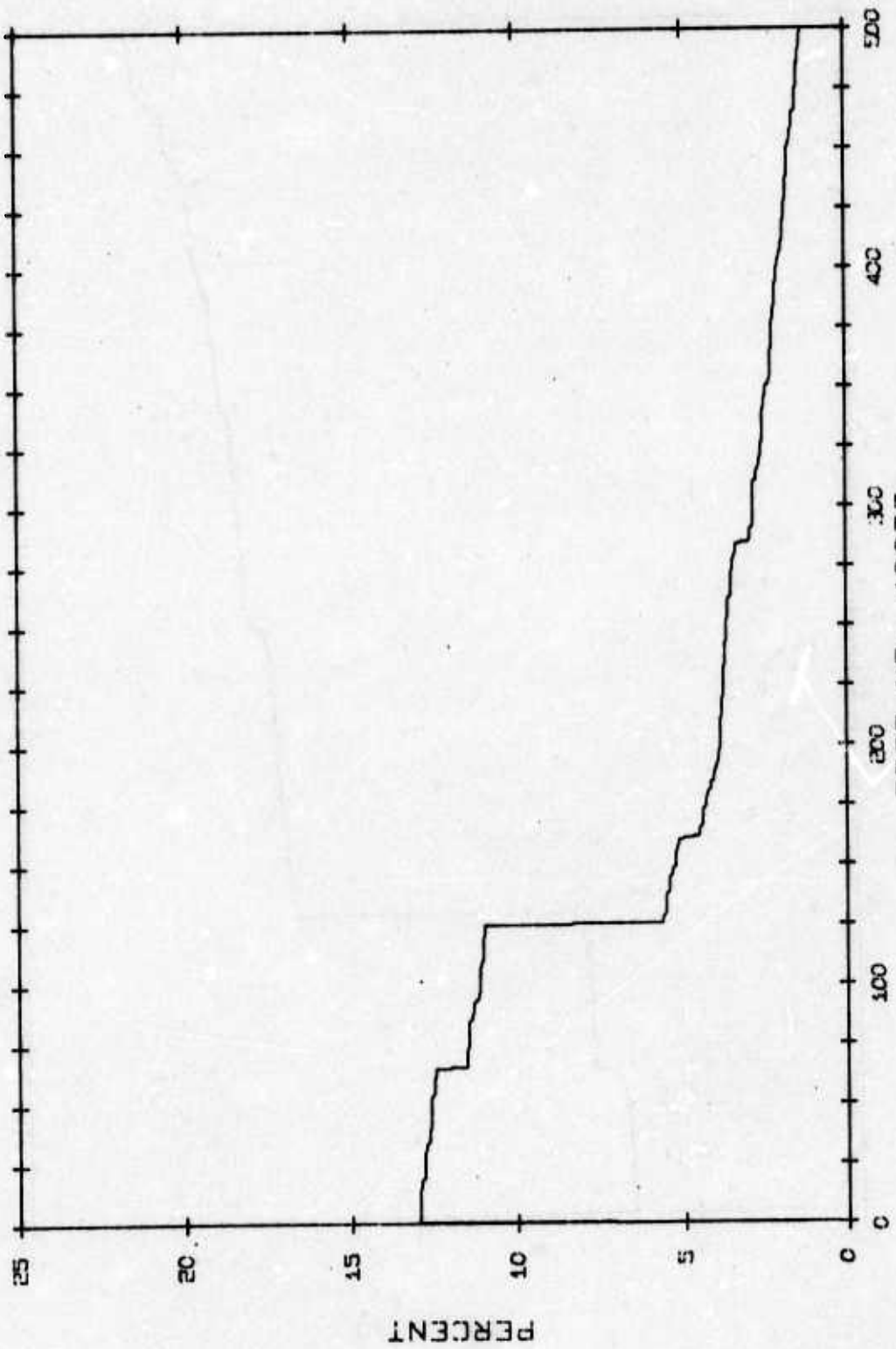




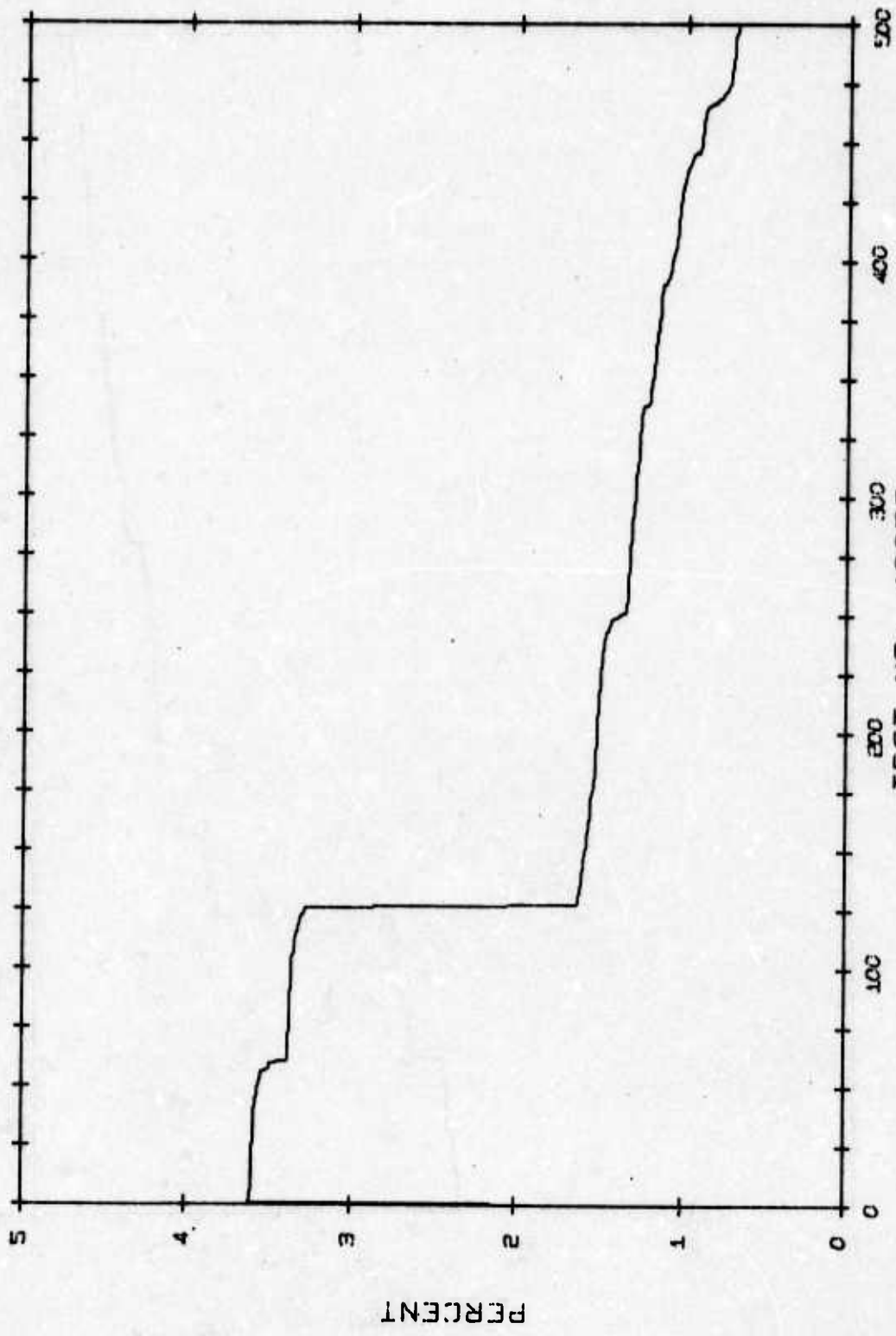


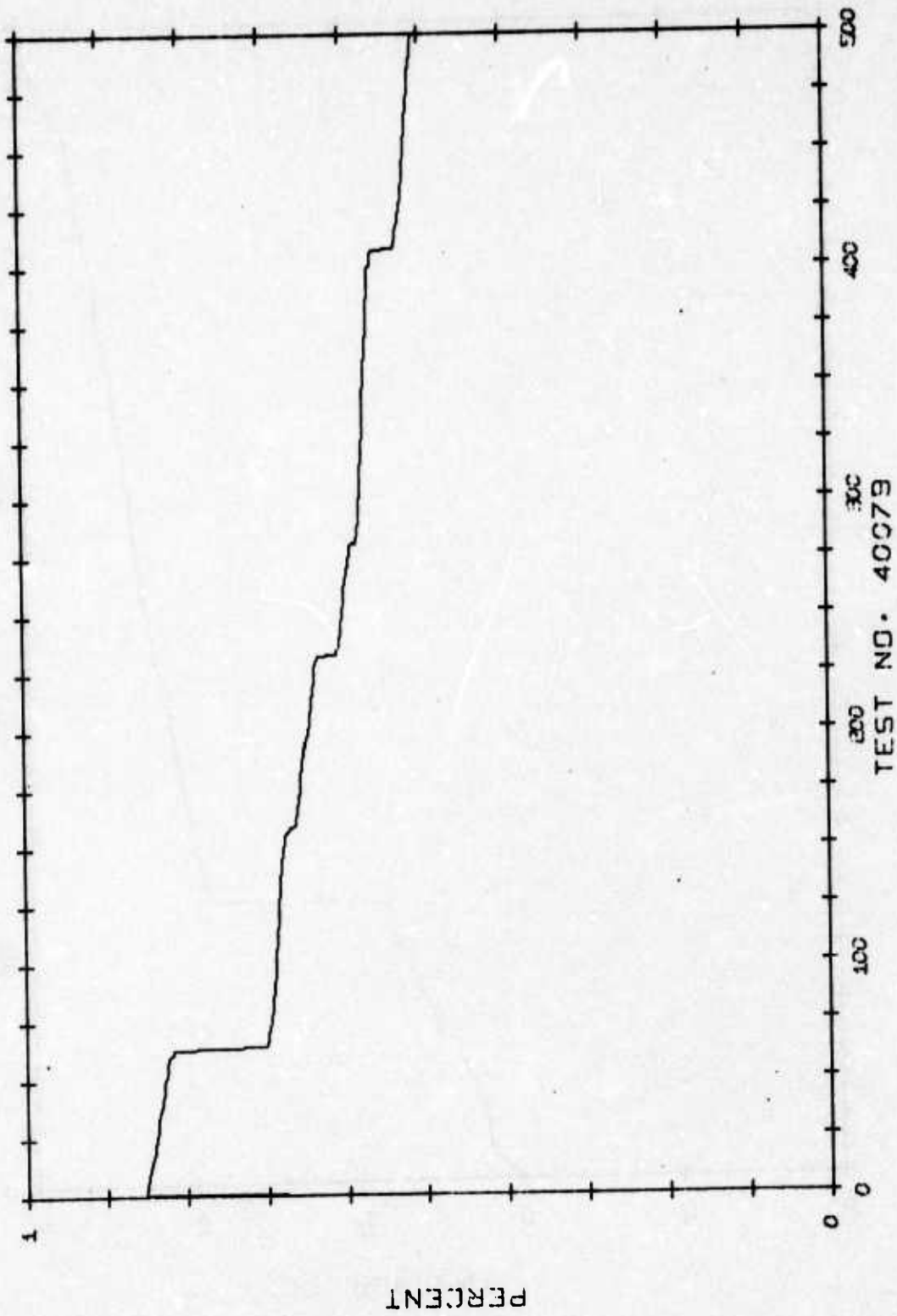


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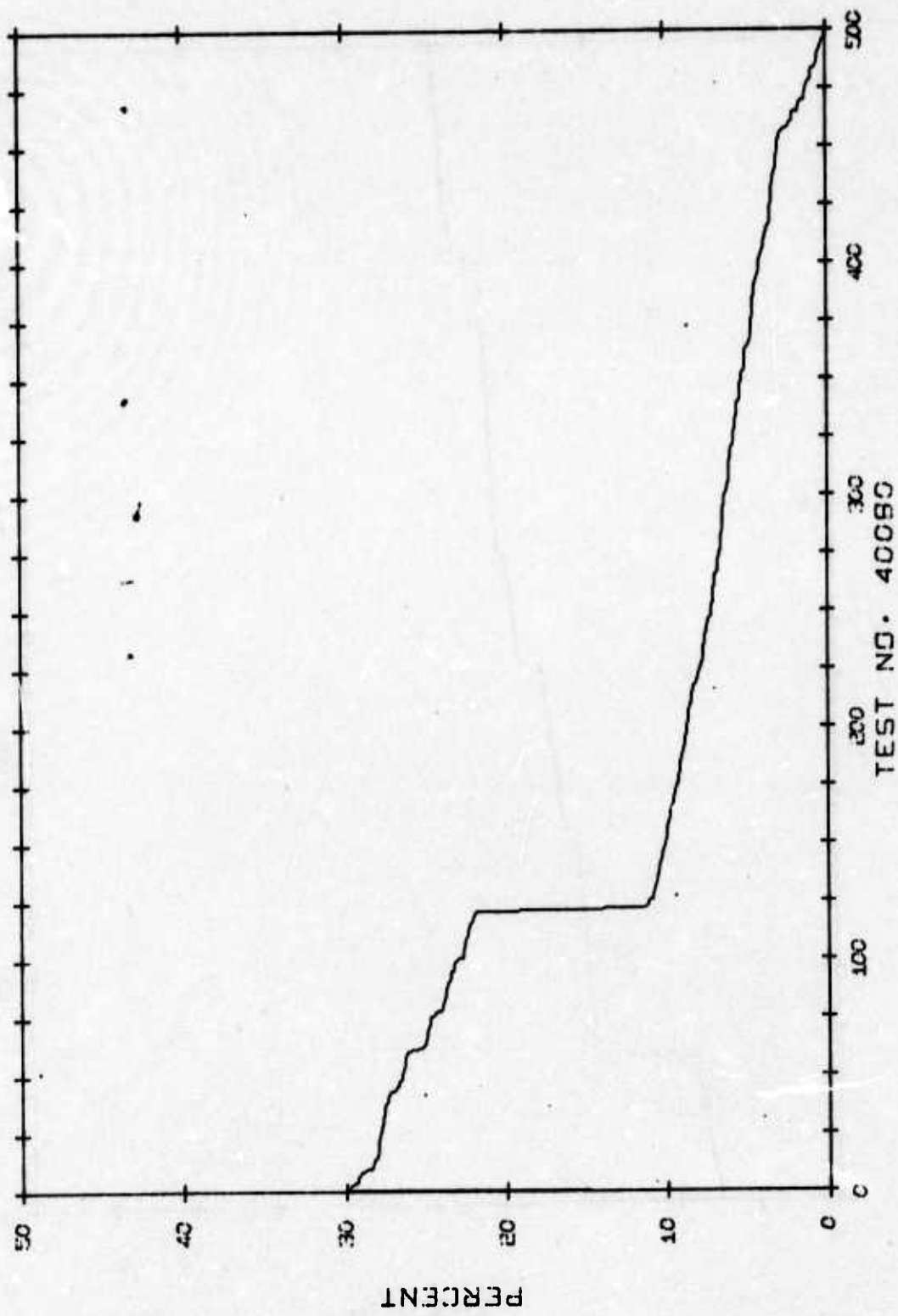


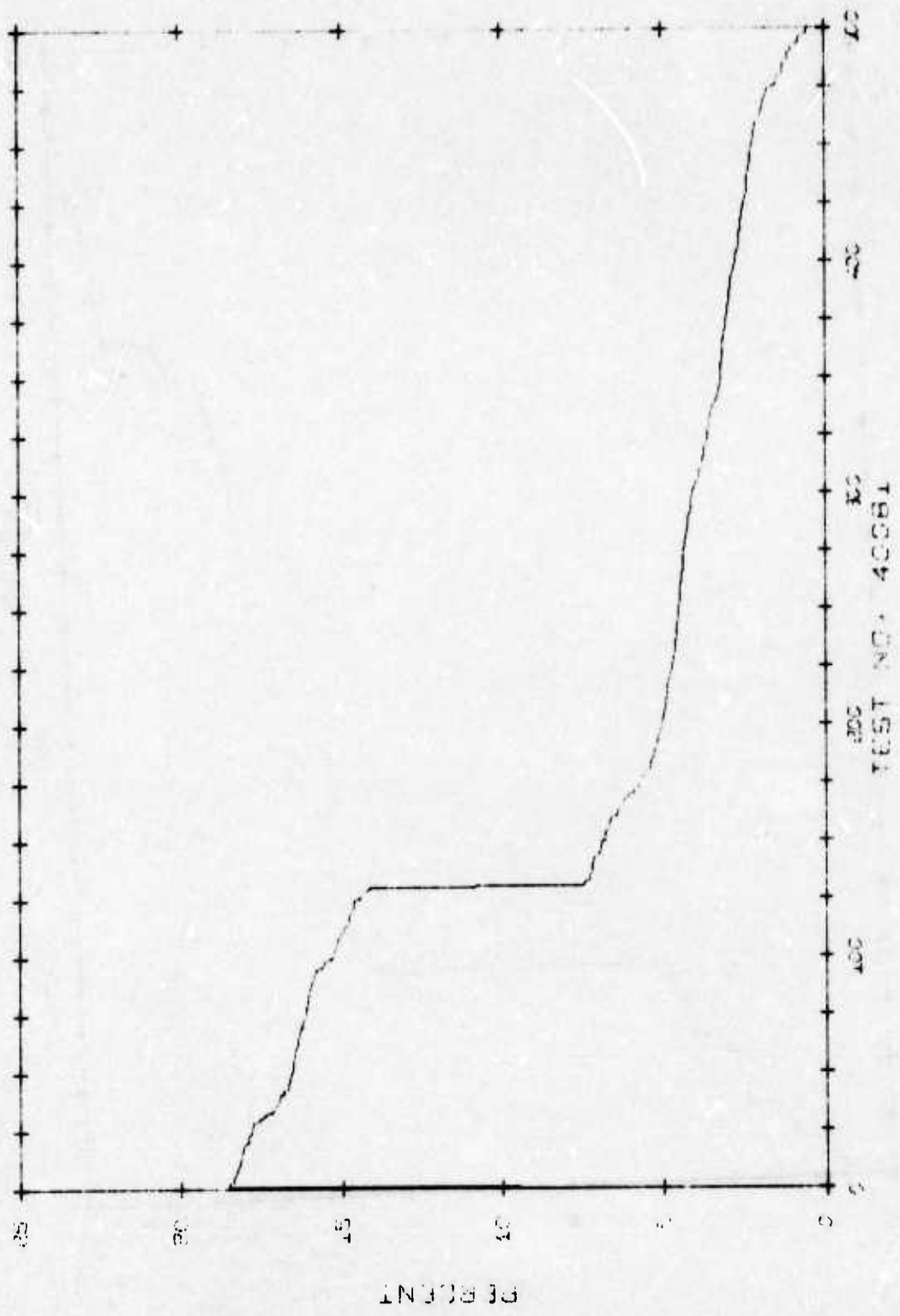
TEST NO. 40077

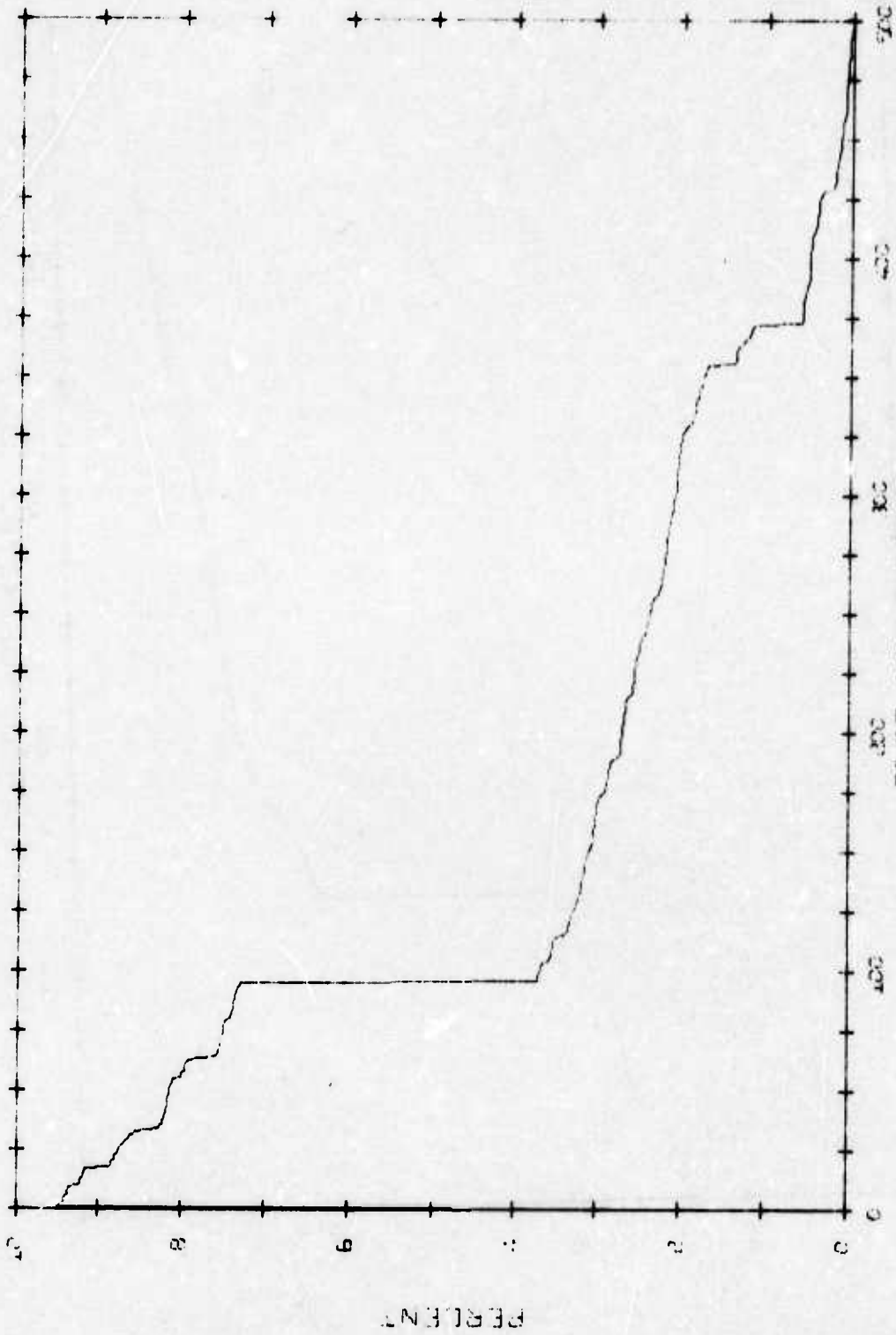


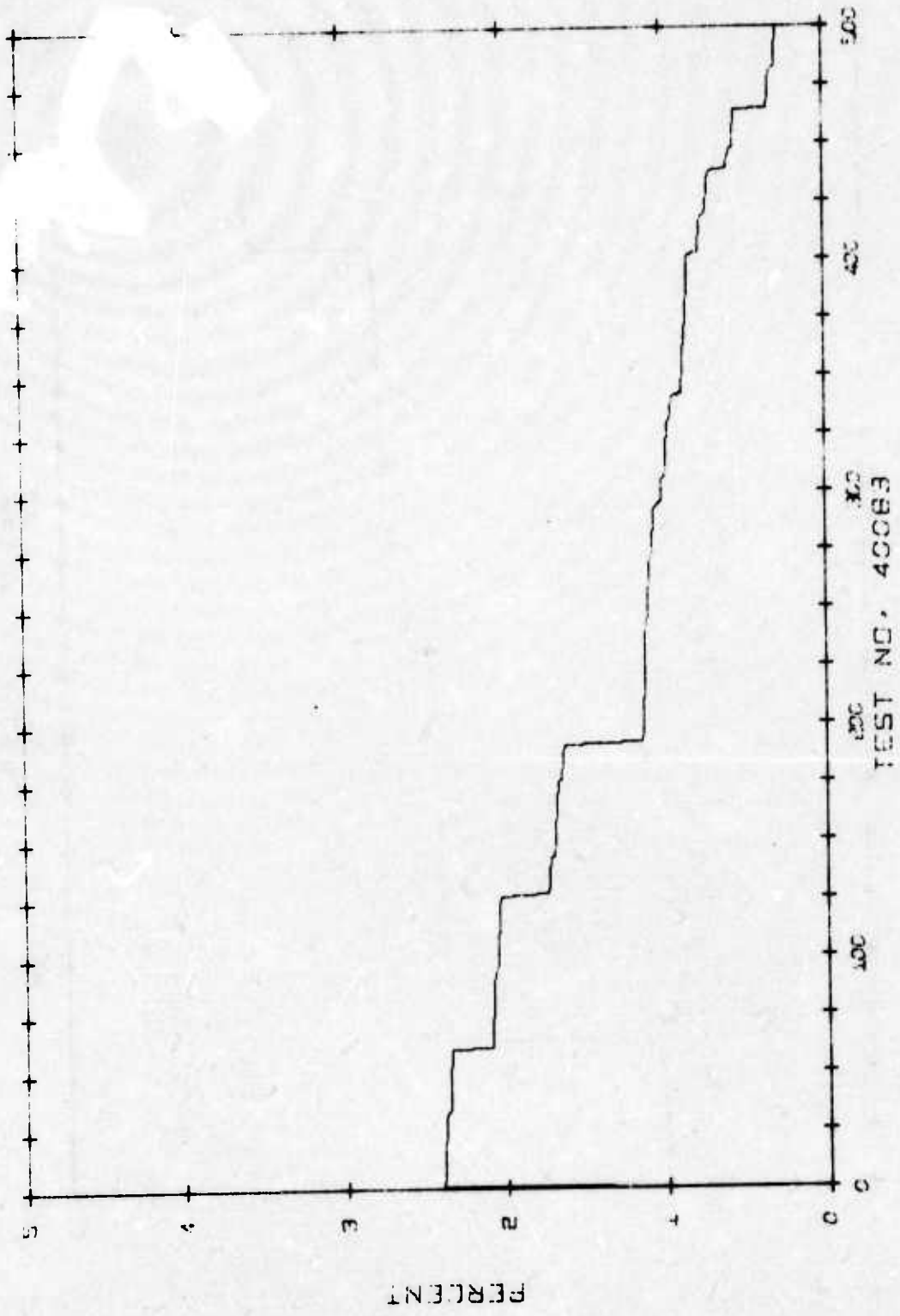


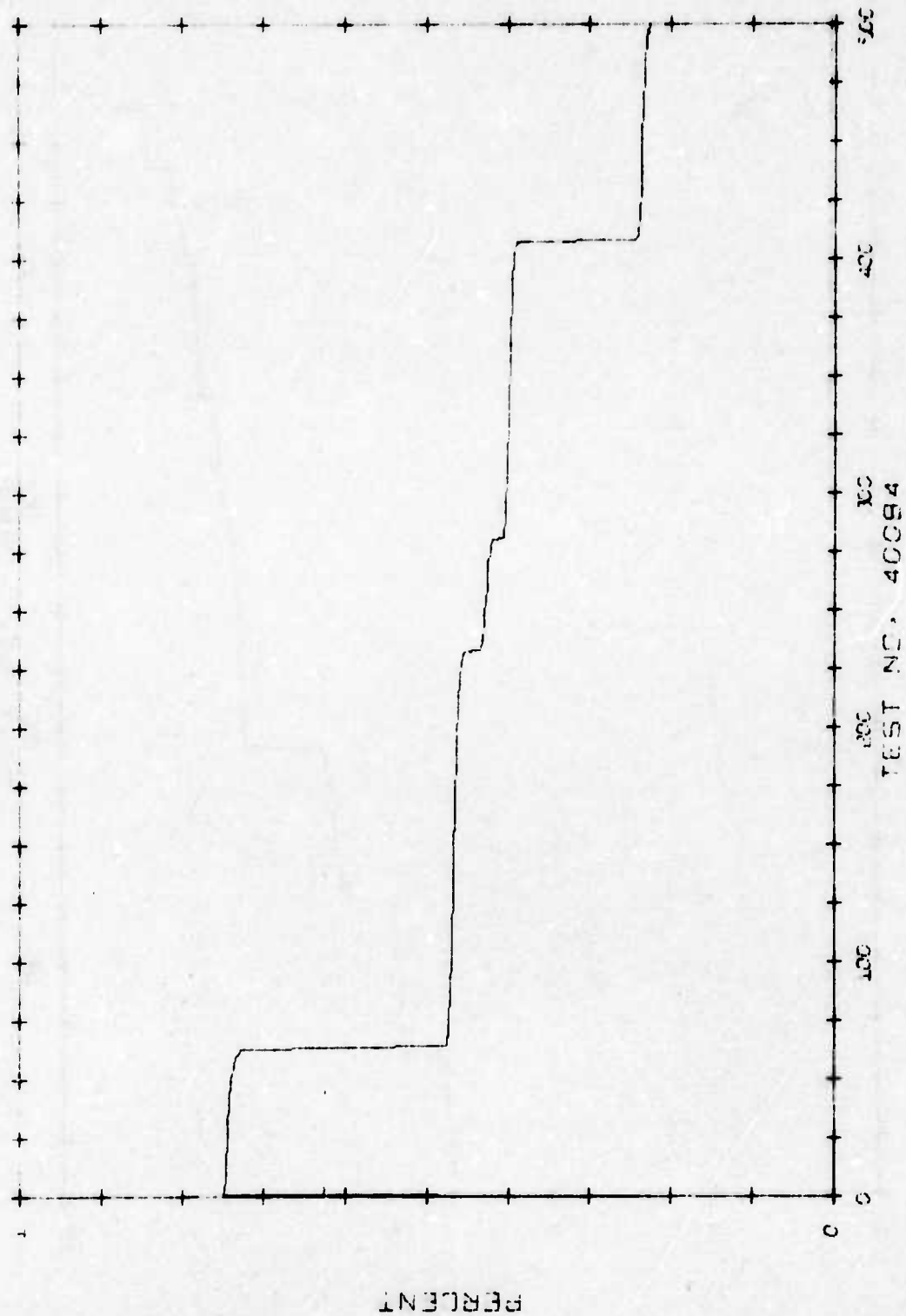
I-127

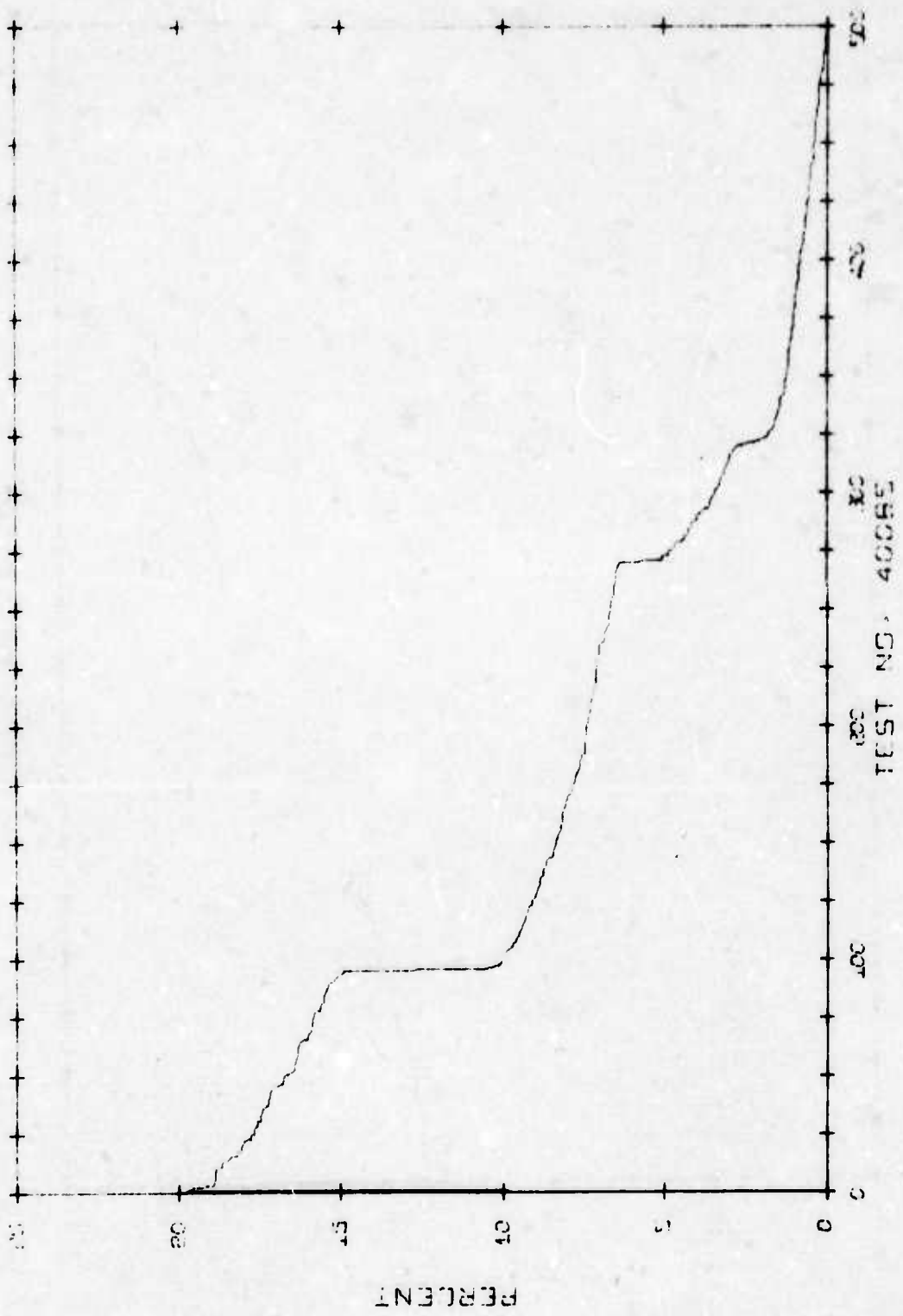


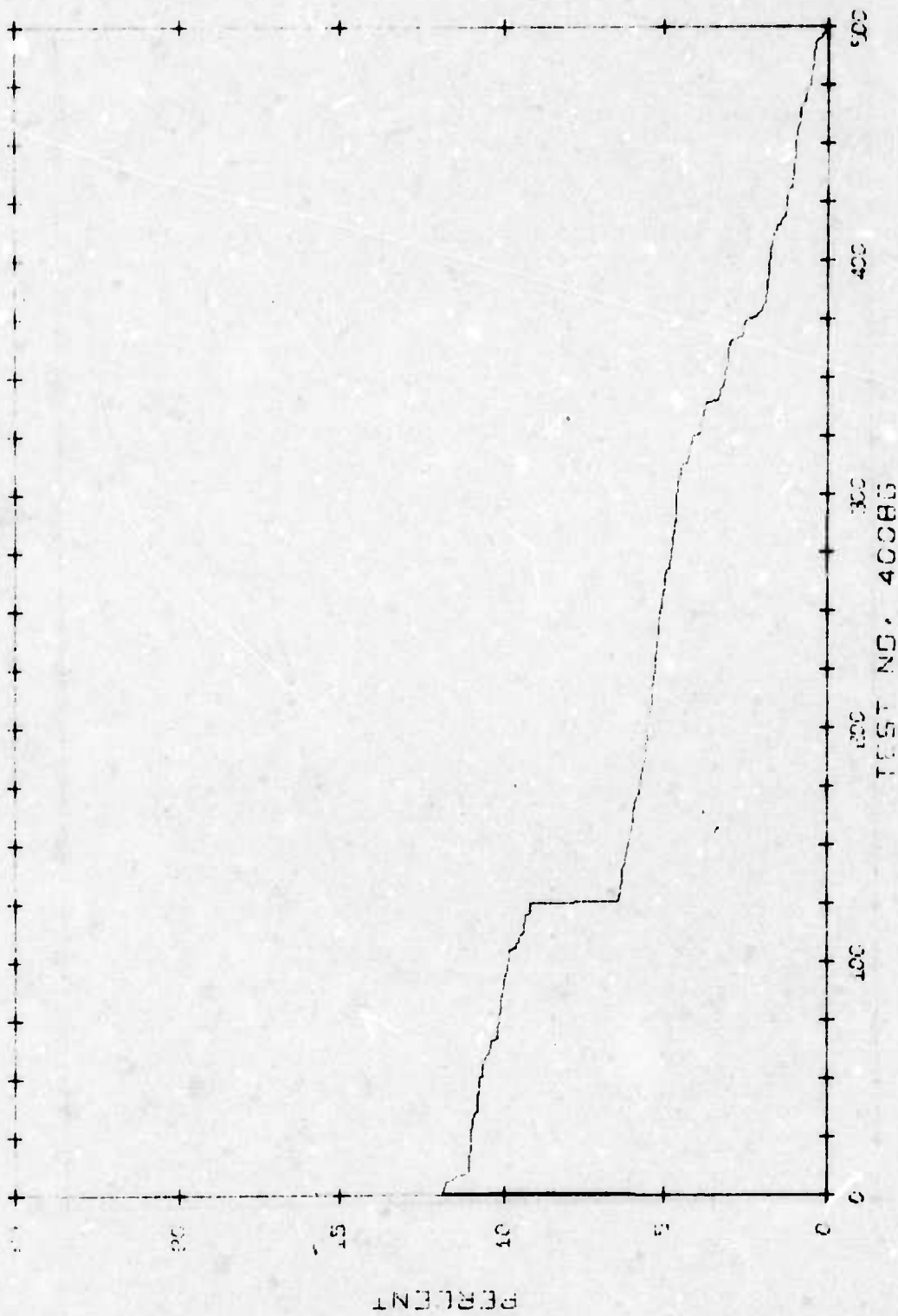


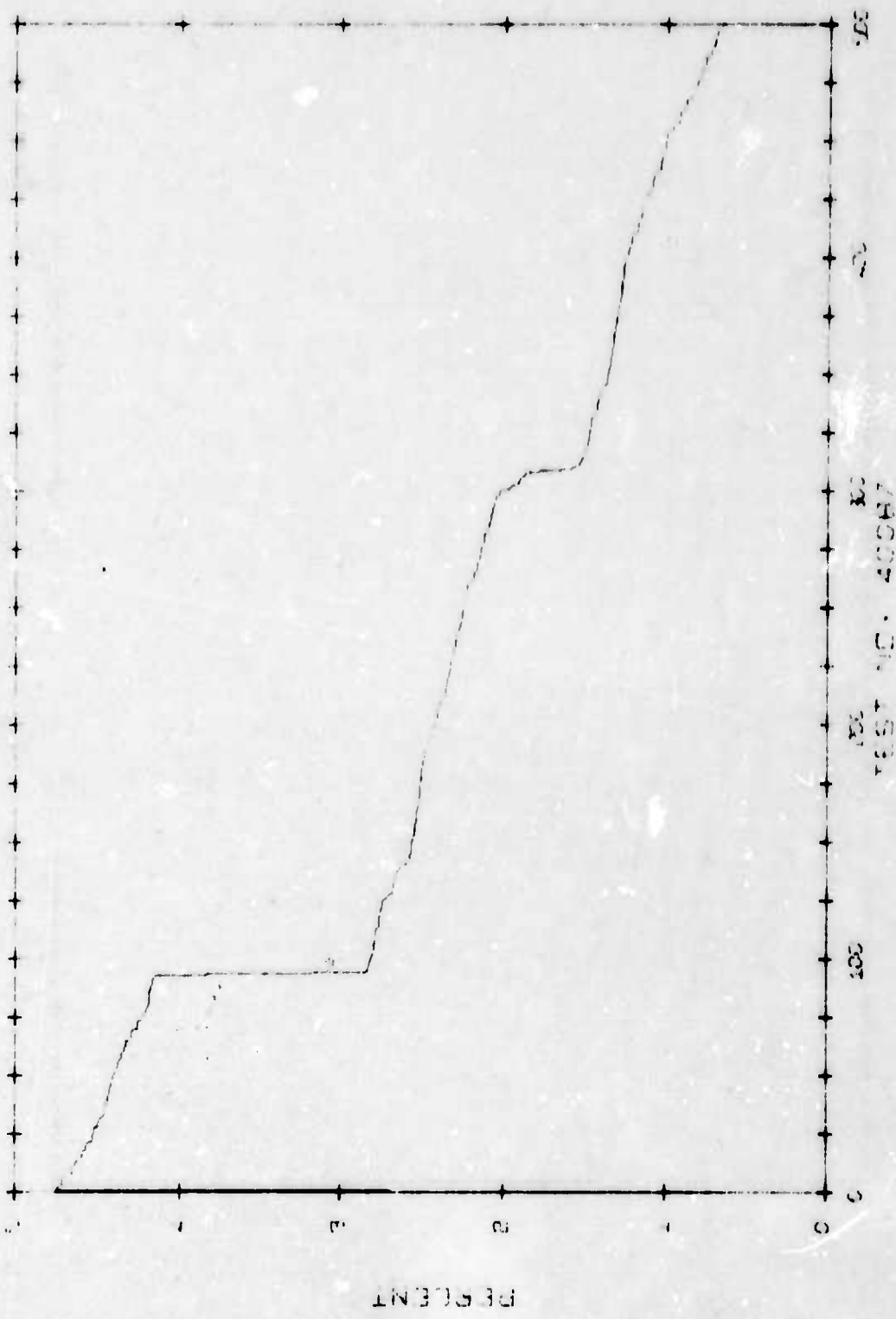


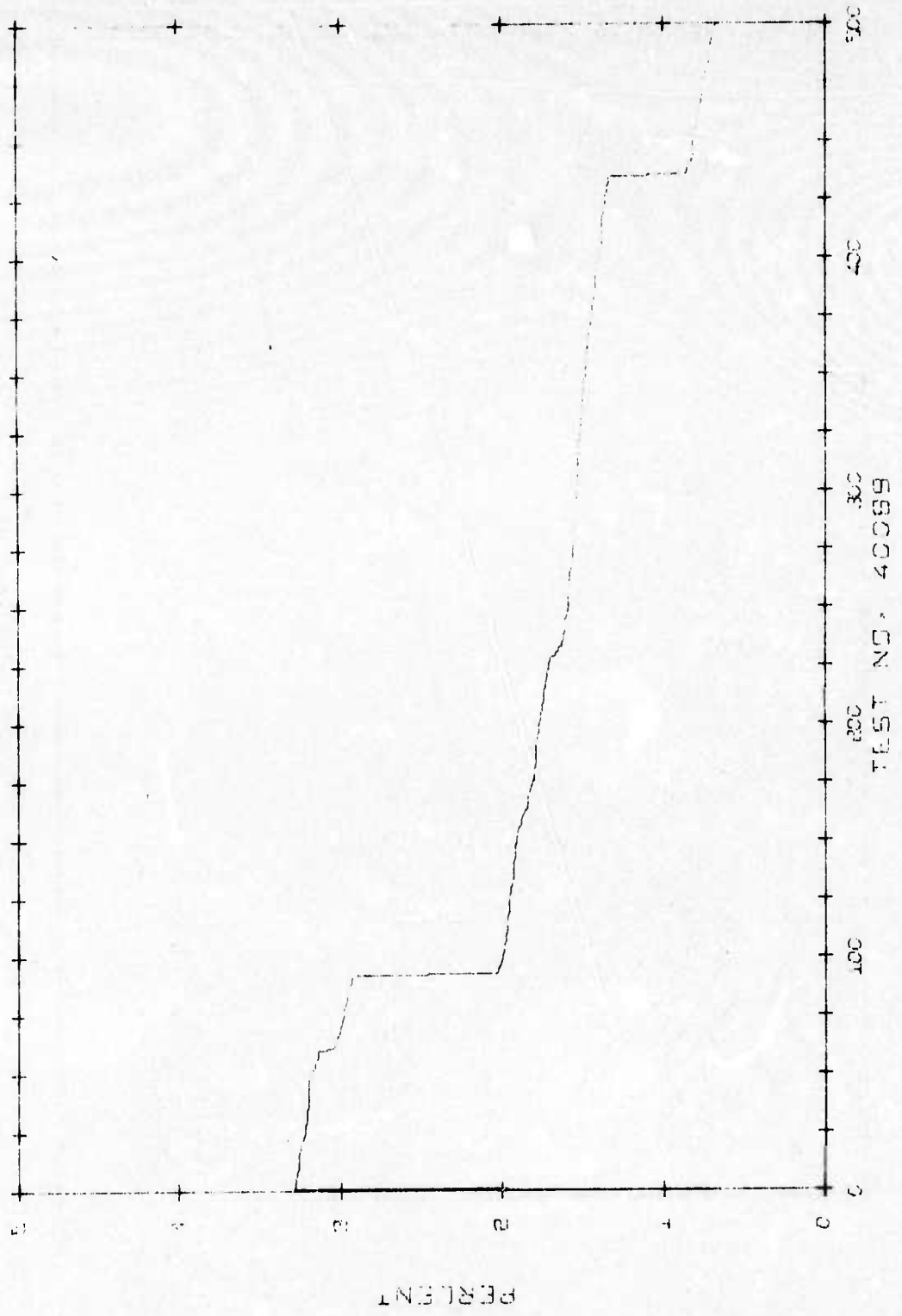


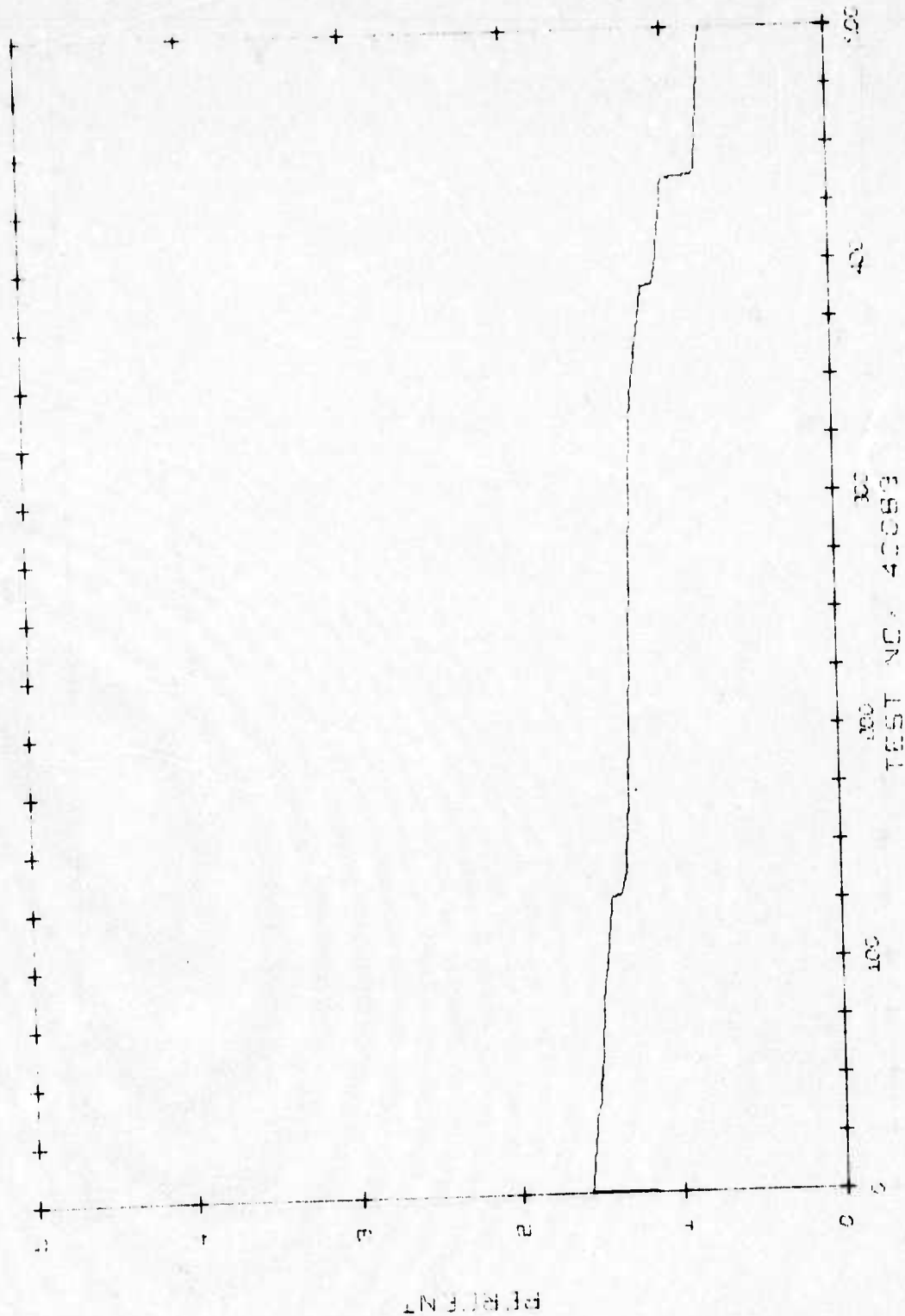


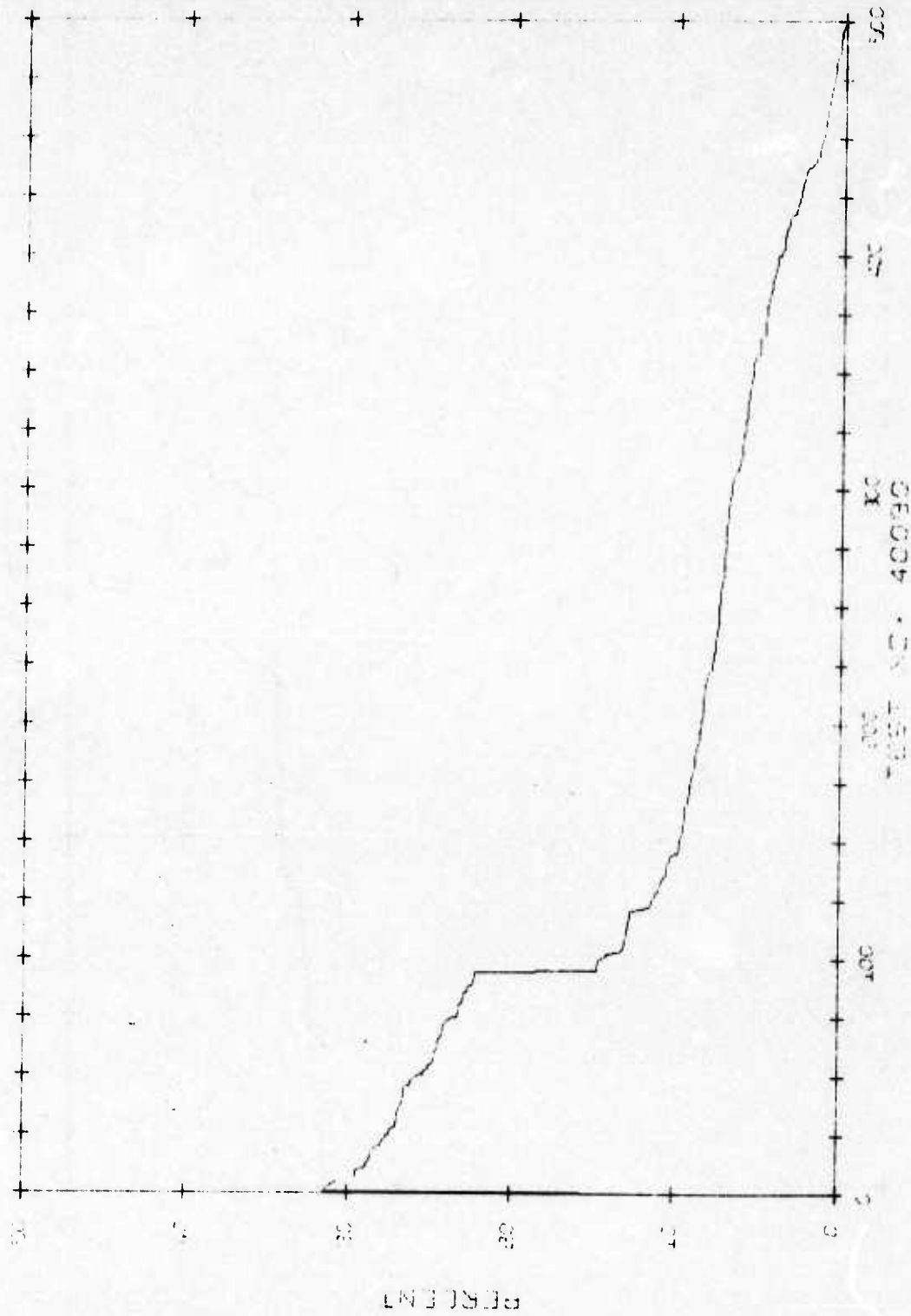




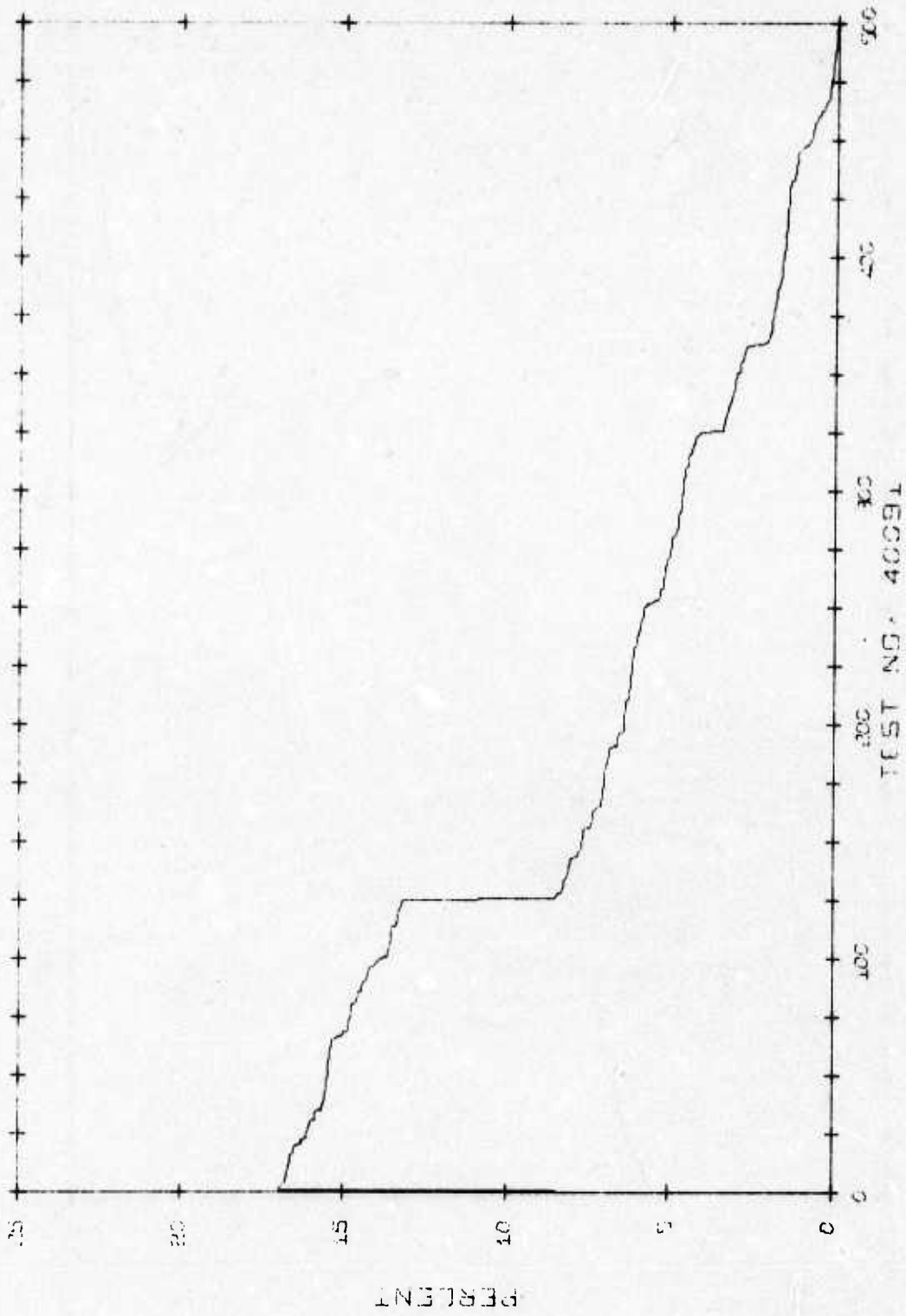


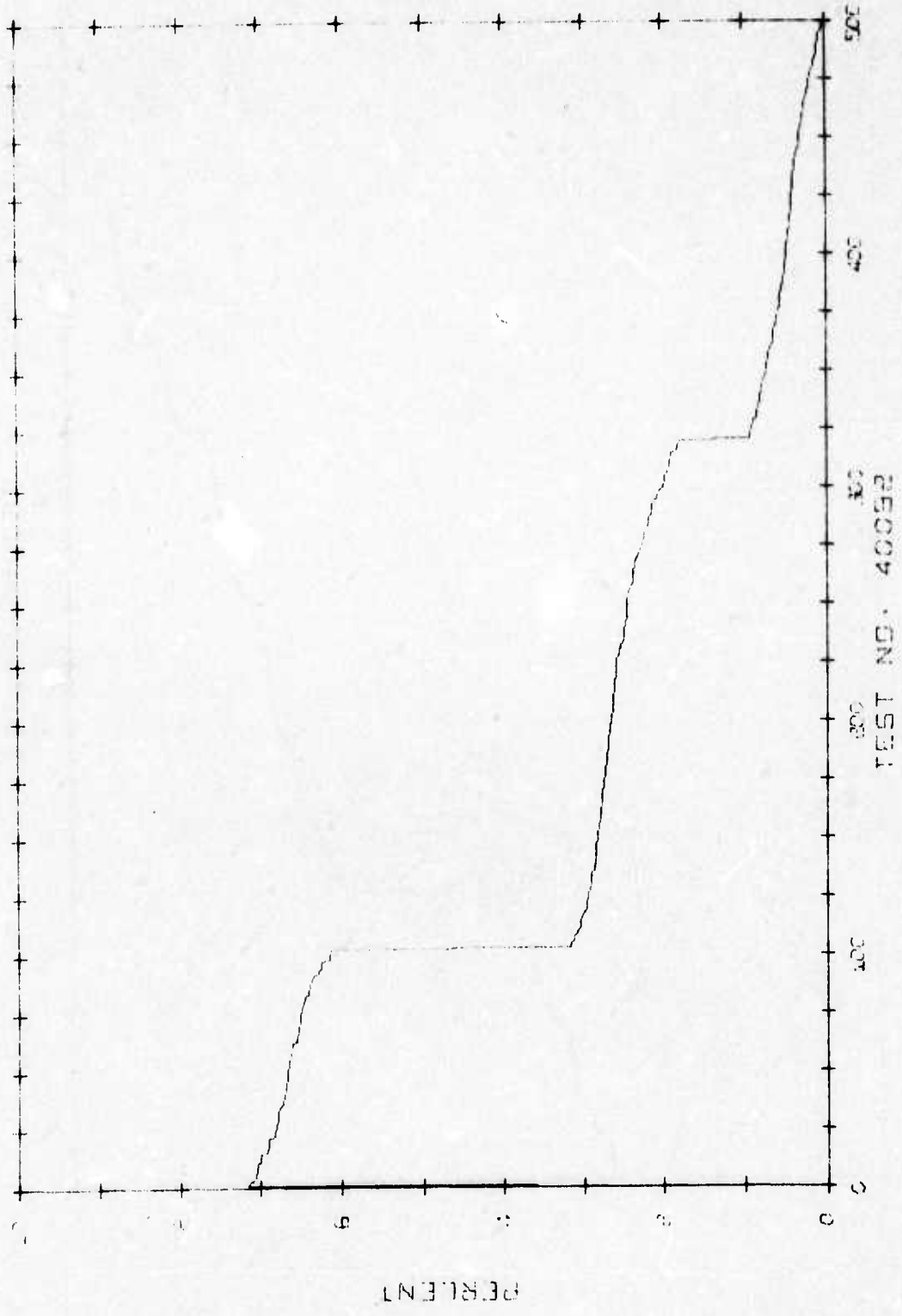


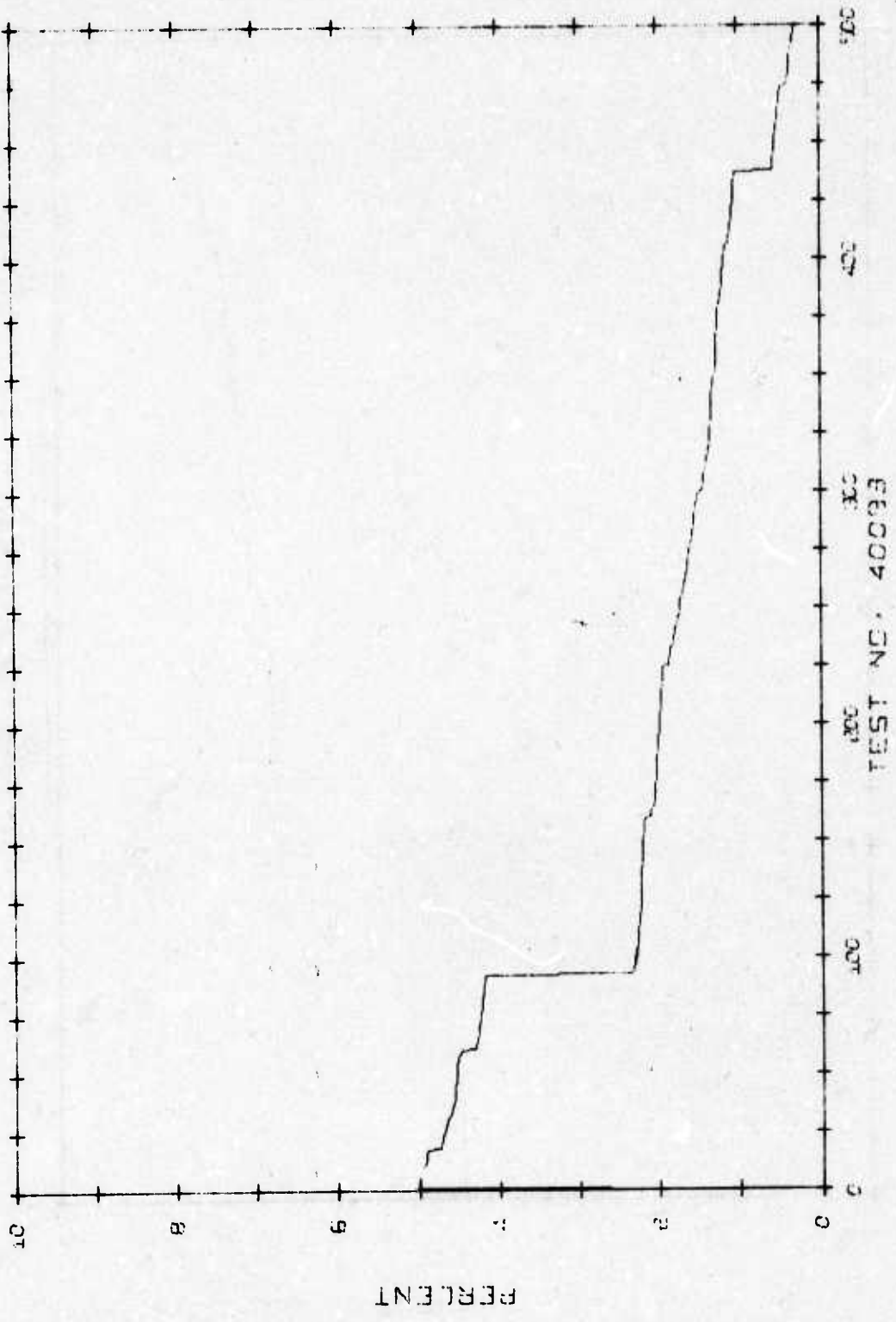


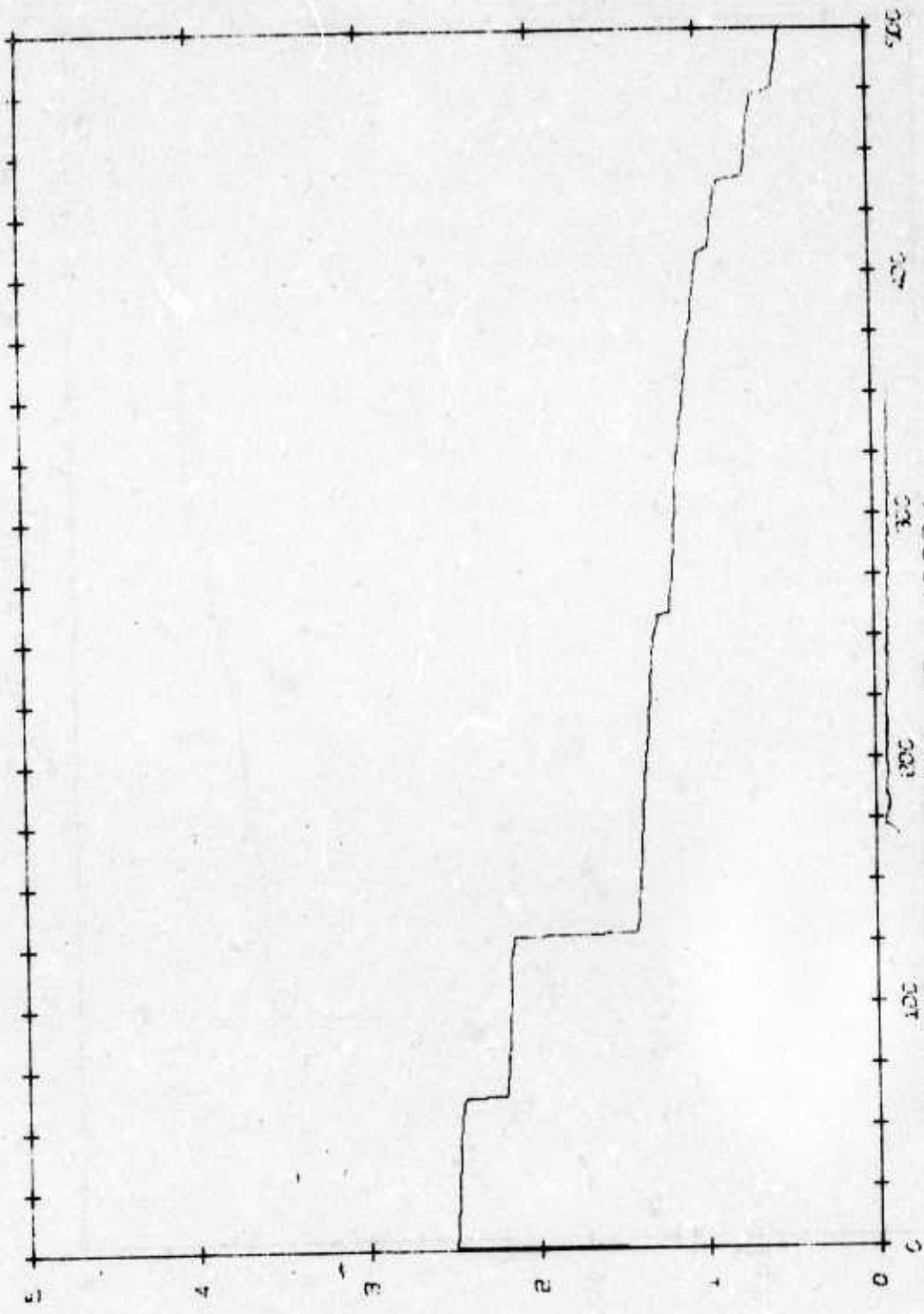


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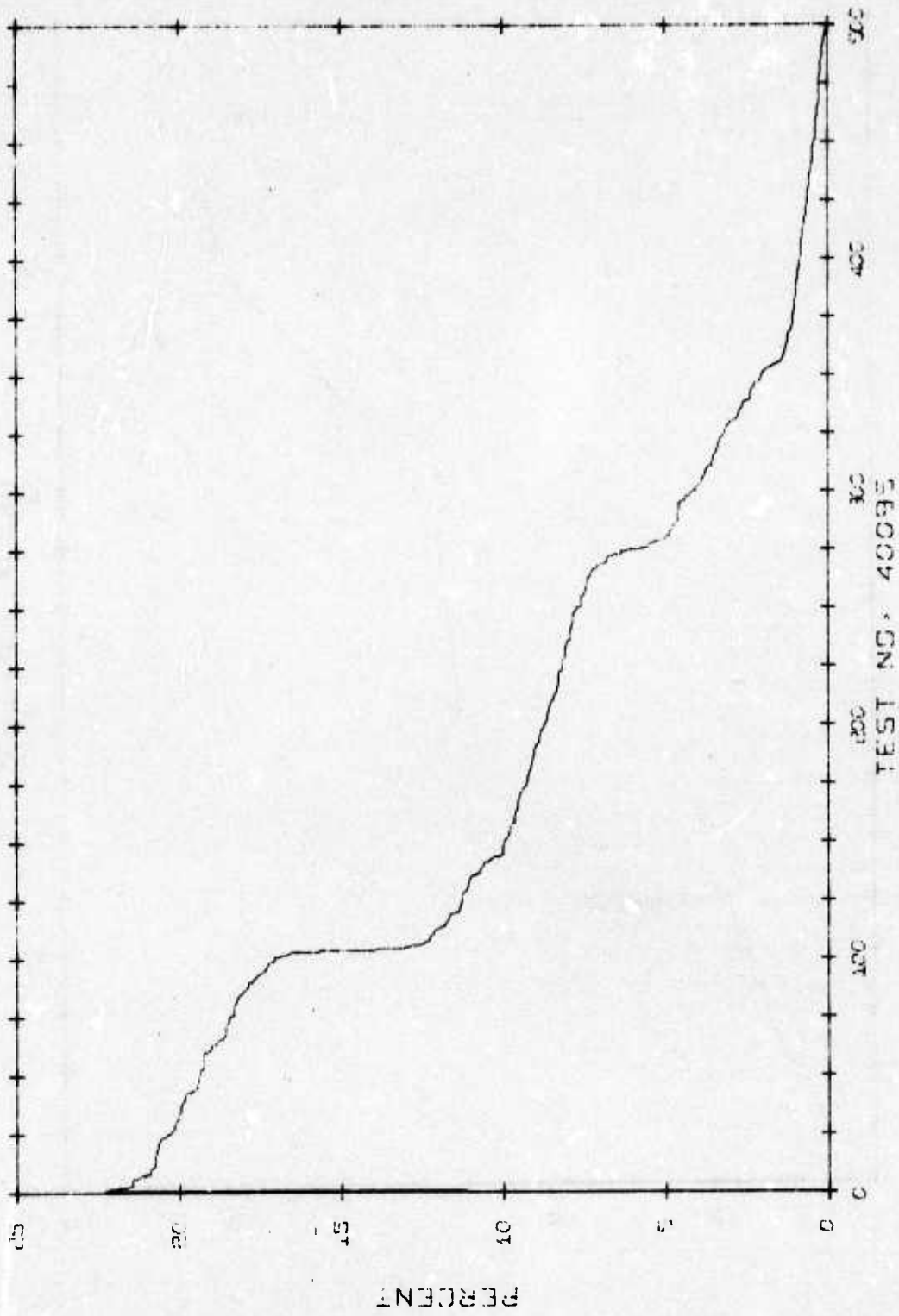




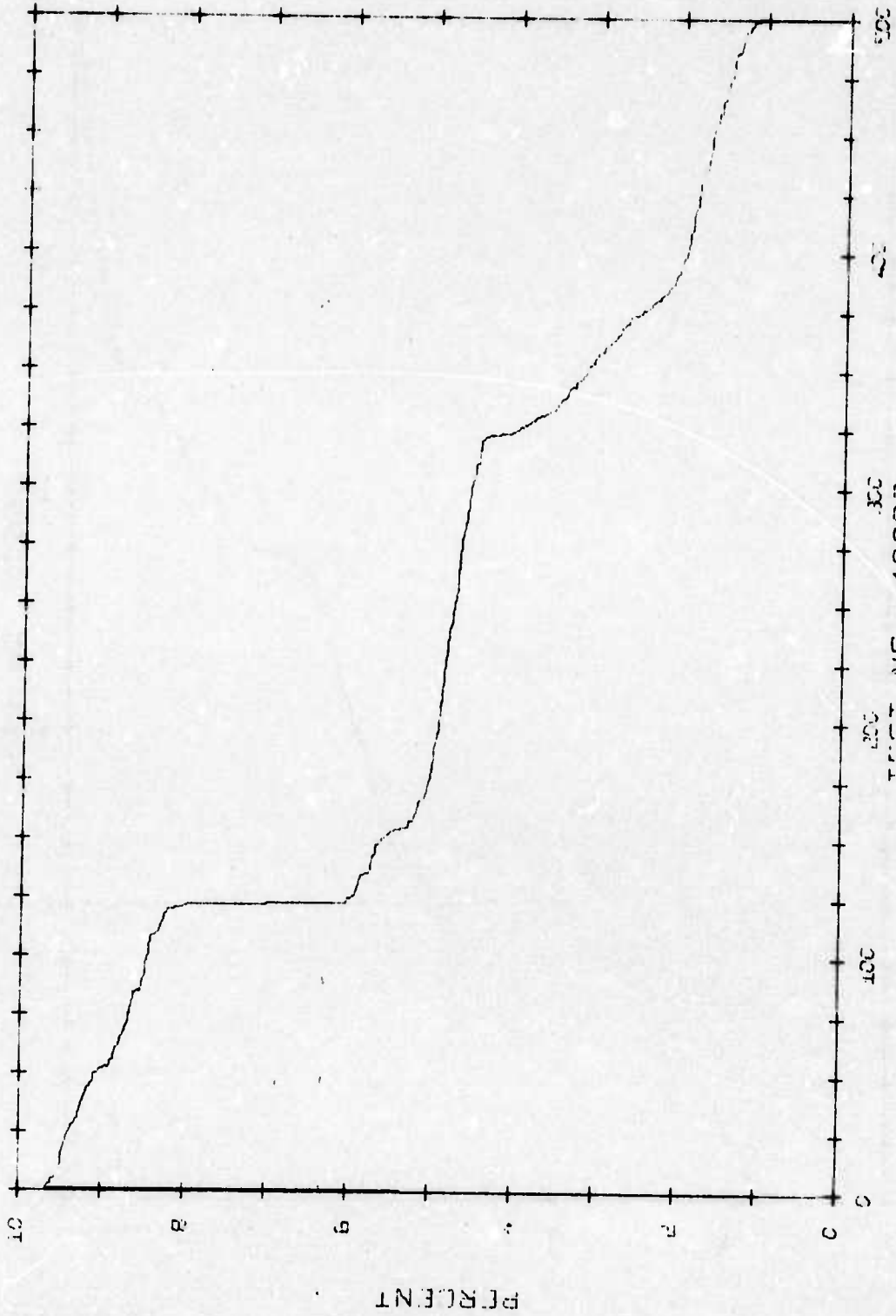


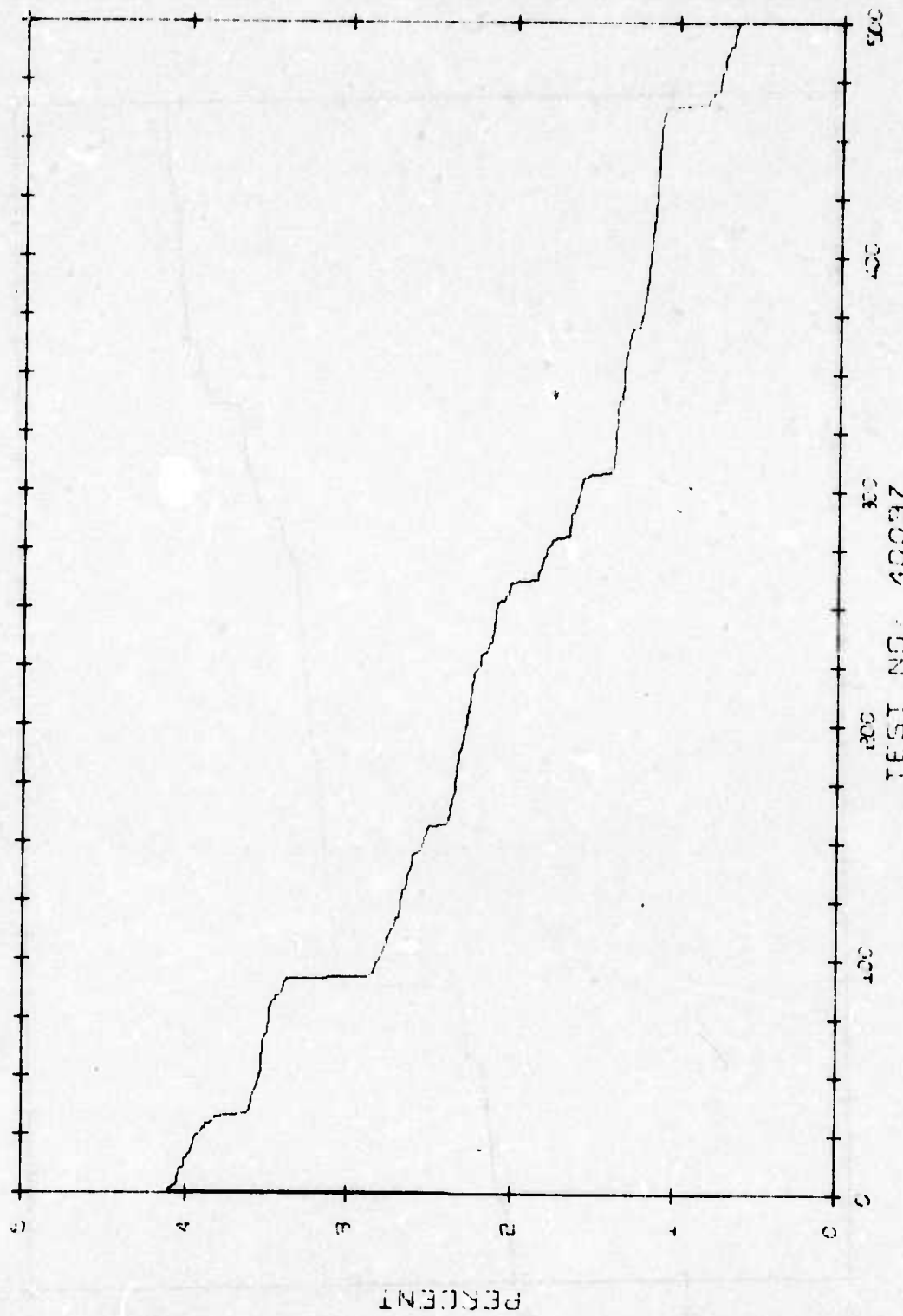
PERCENT

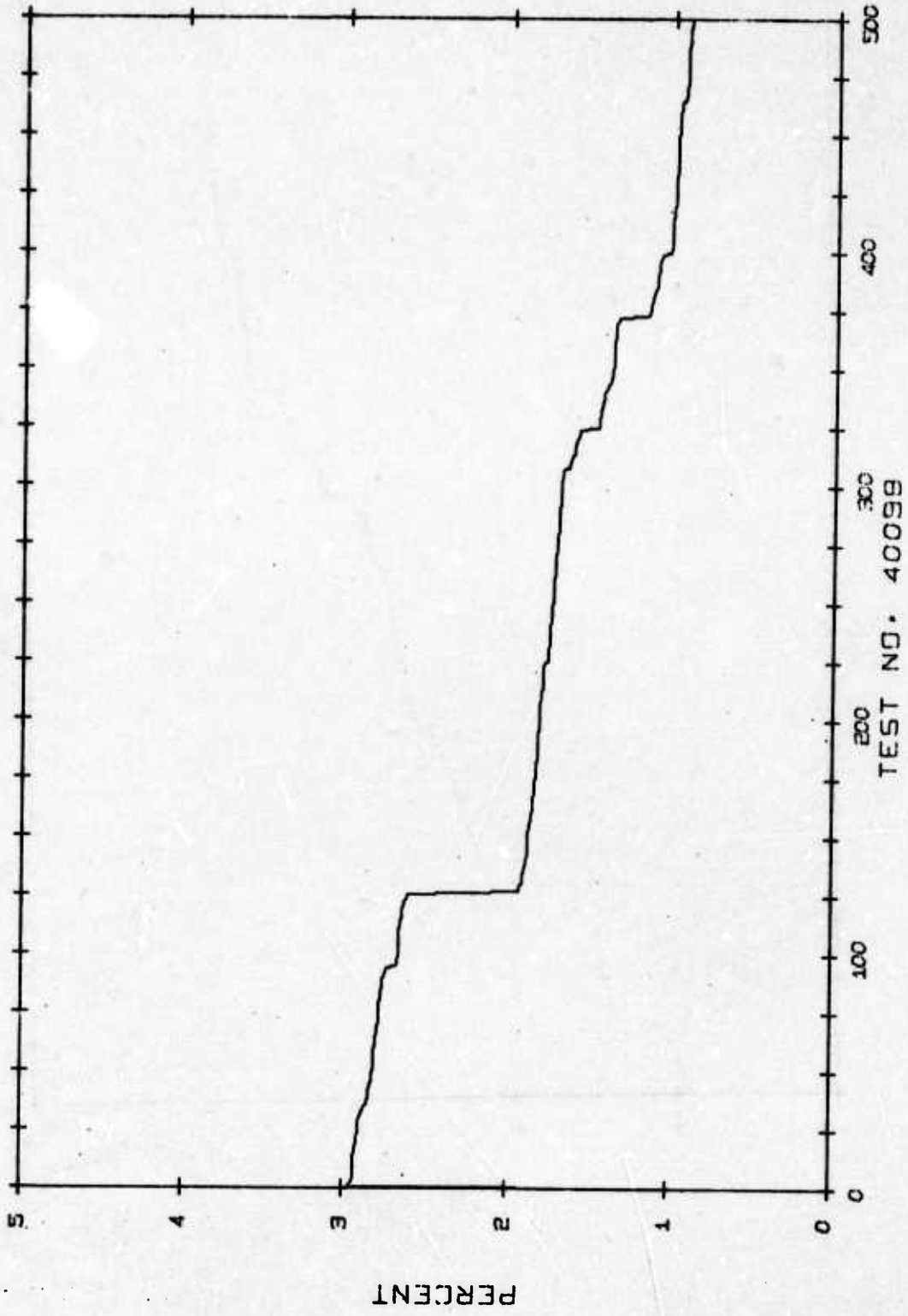
I-142

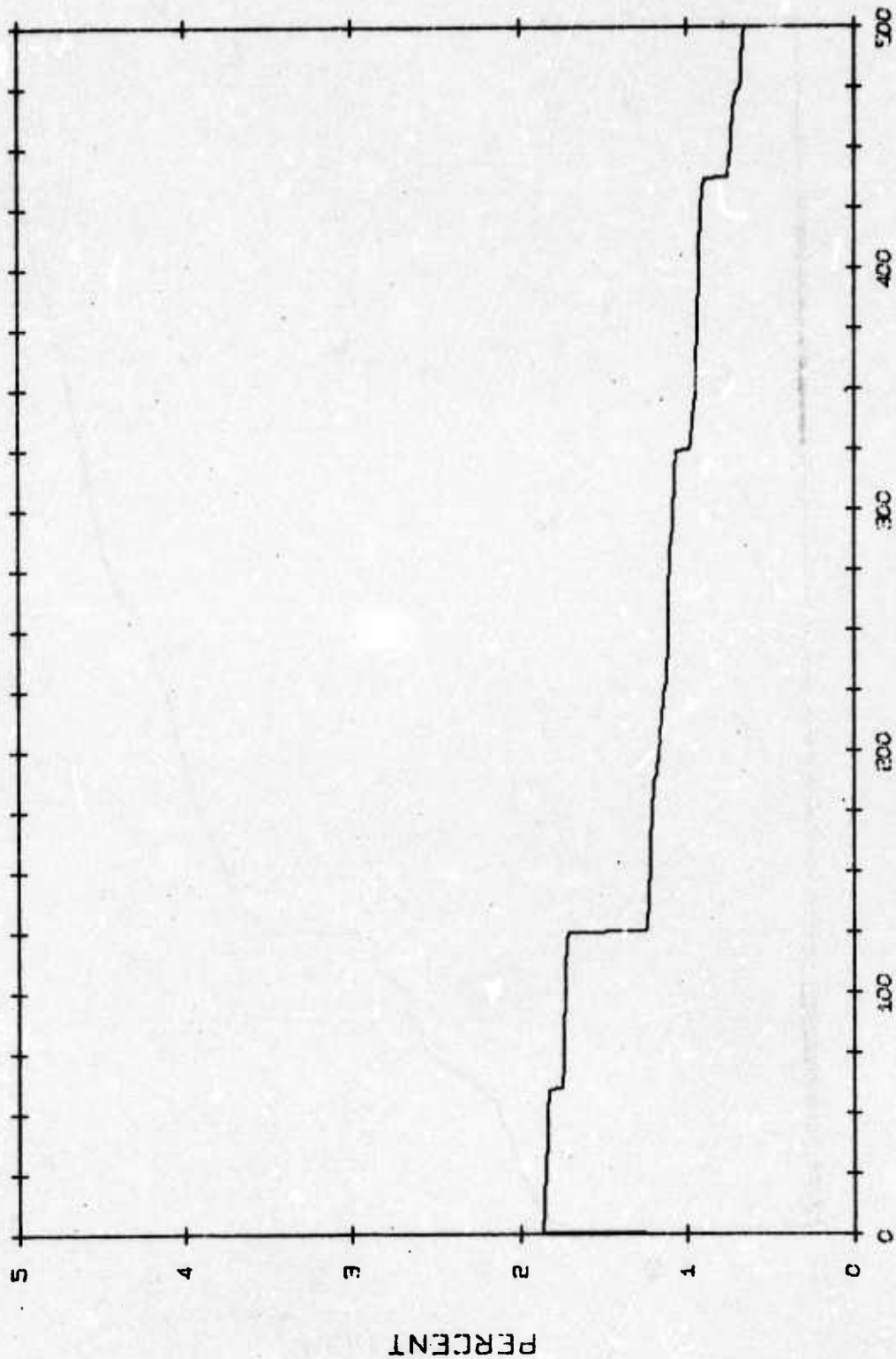


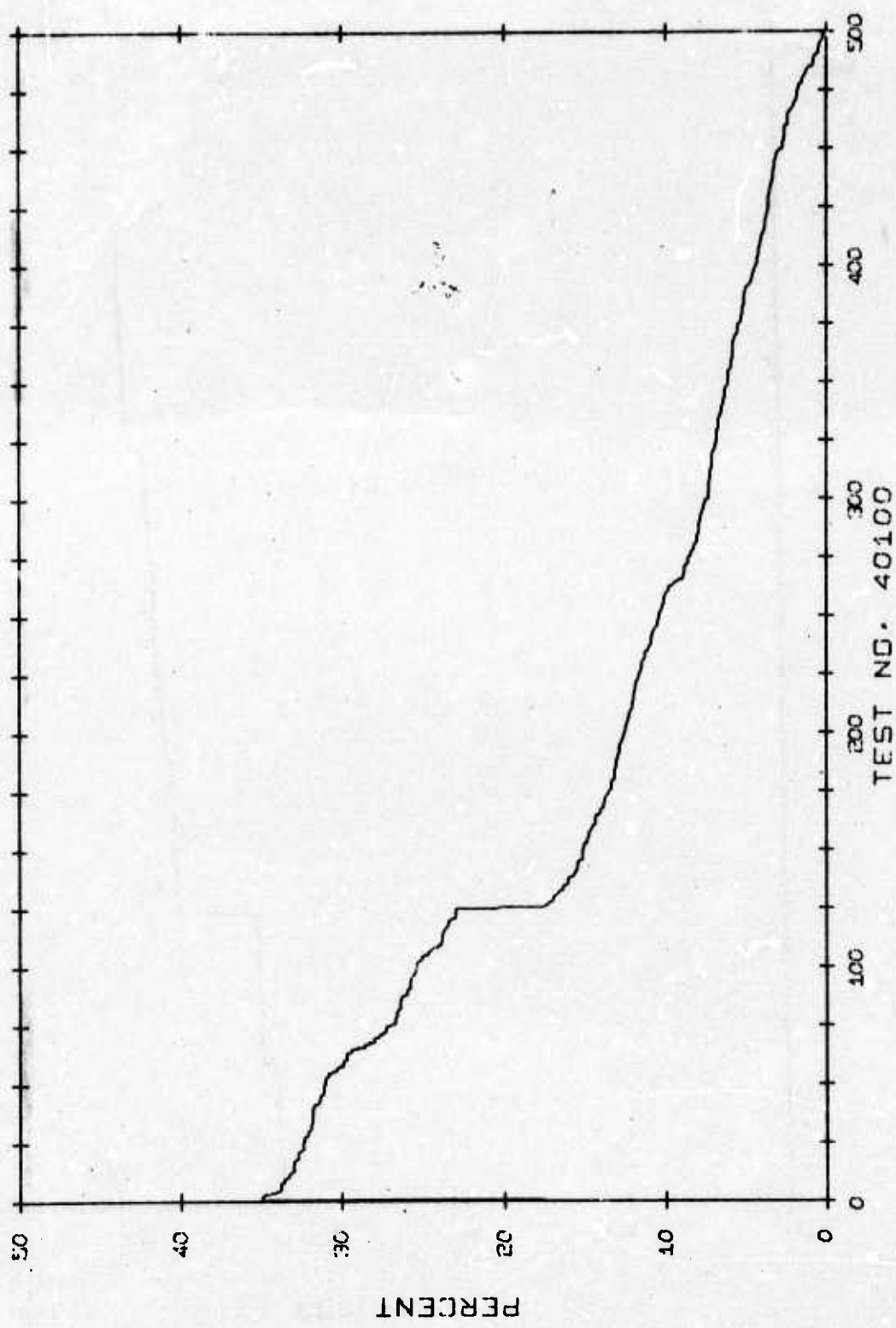
I-143

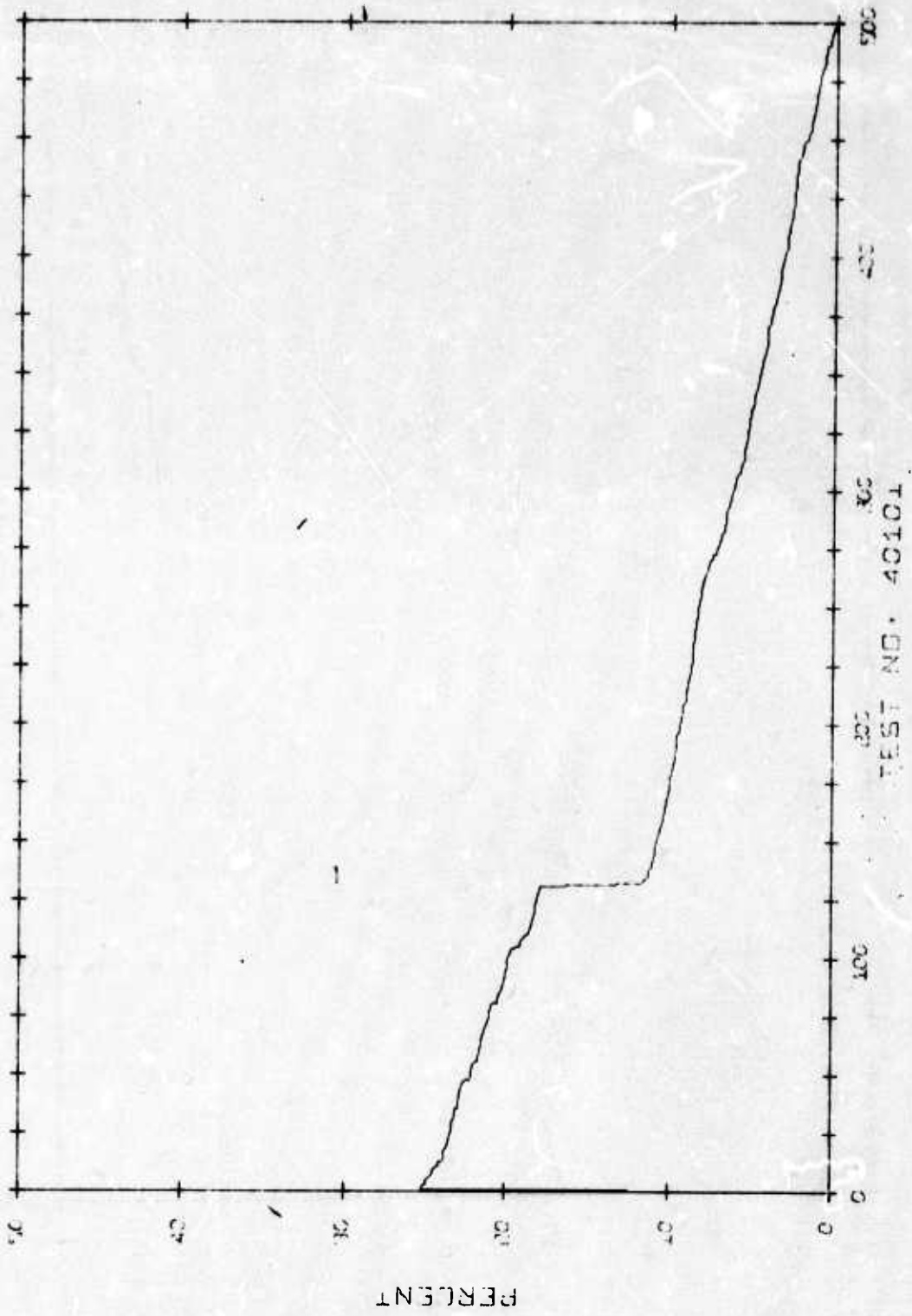


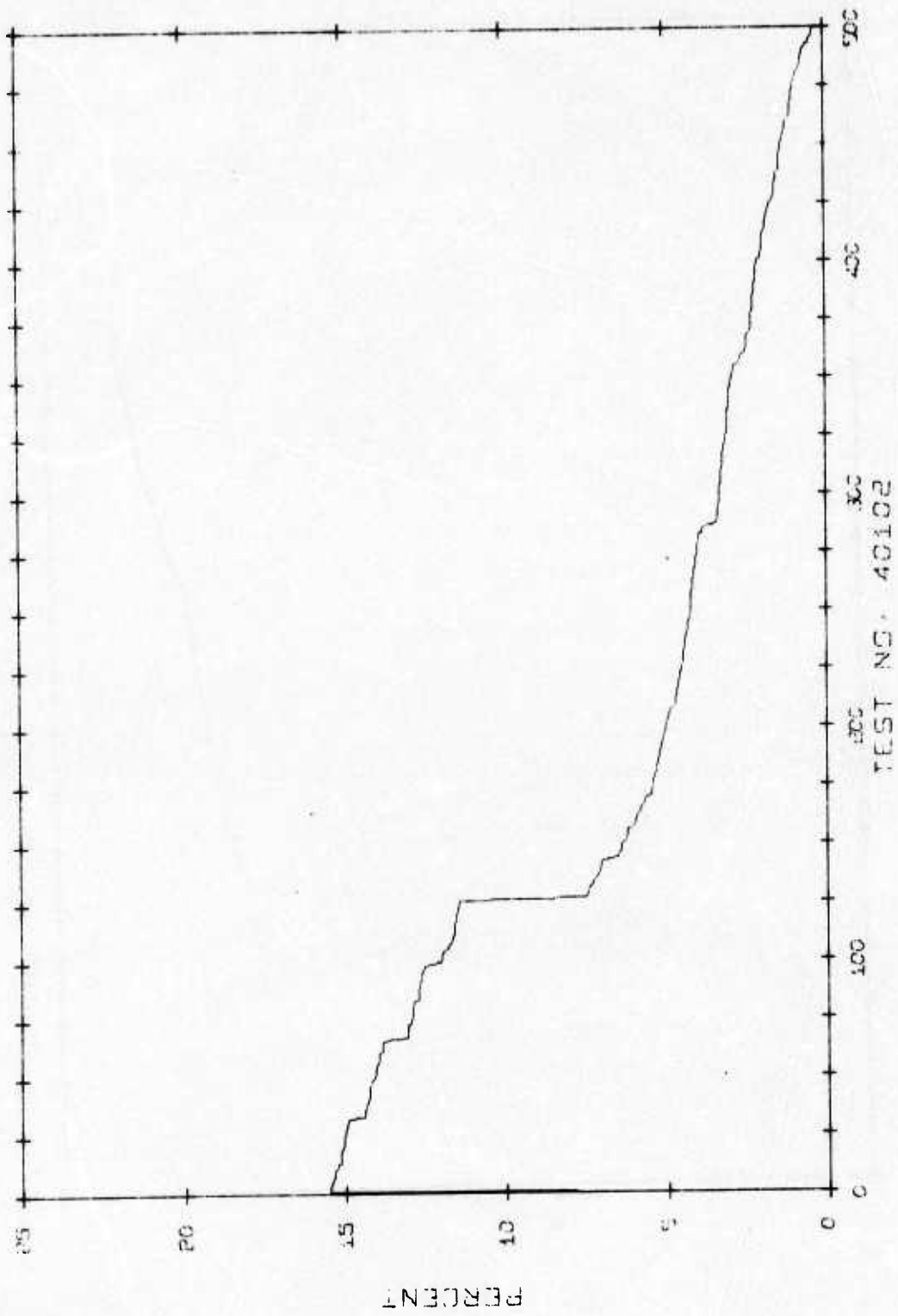


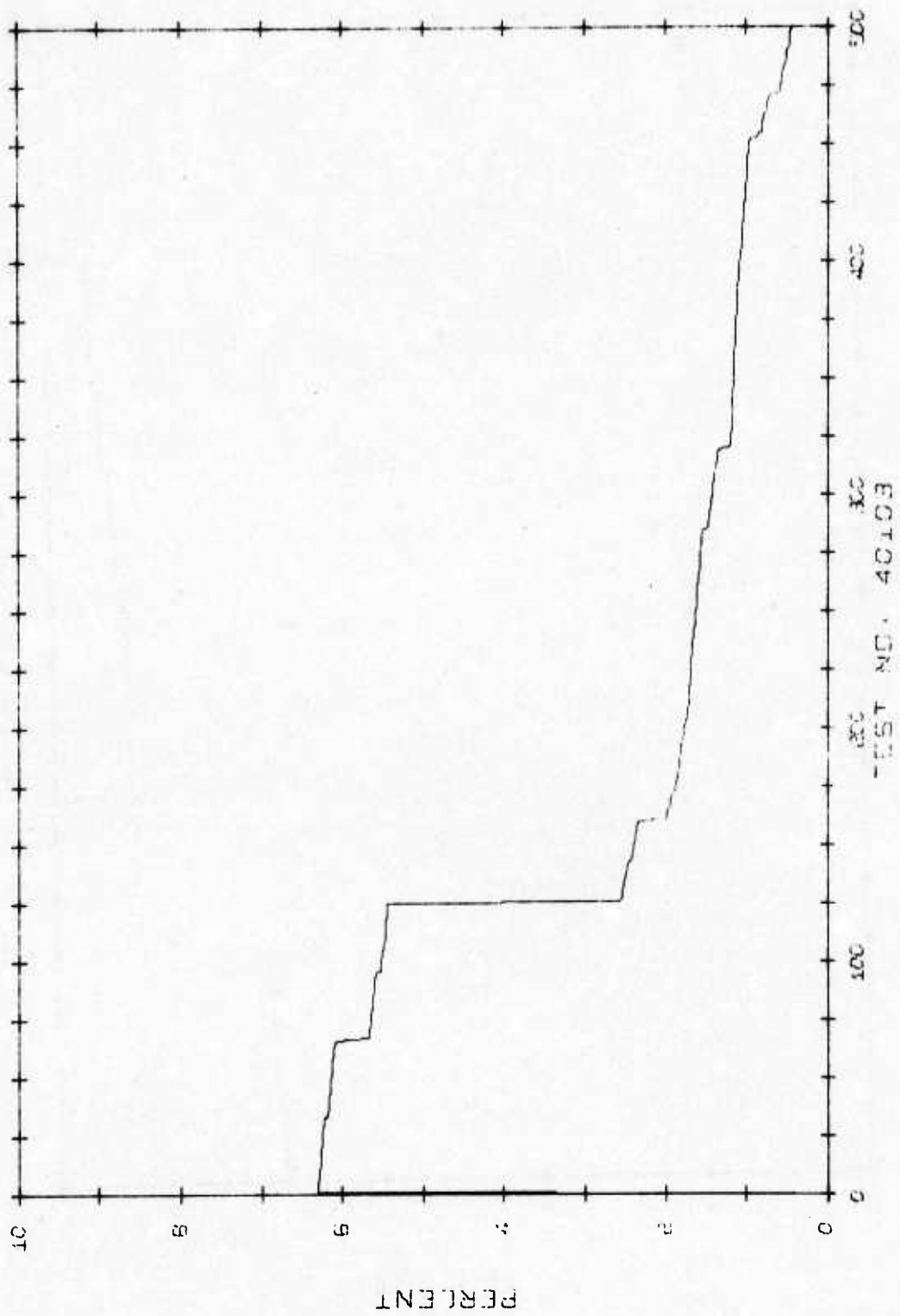


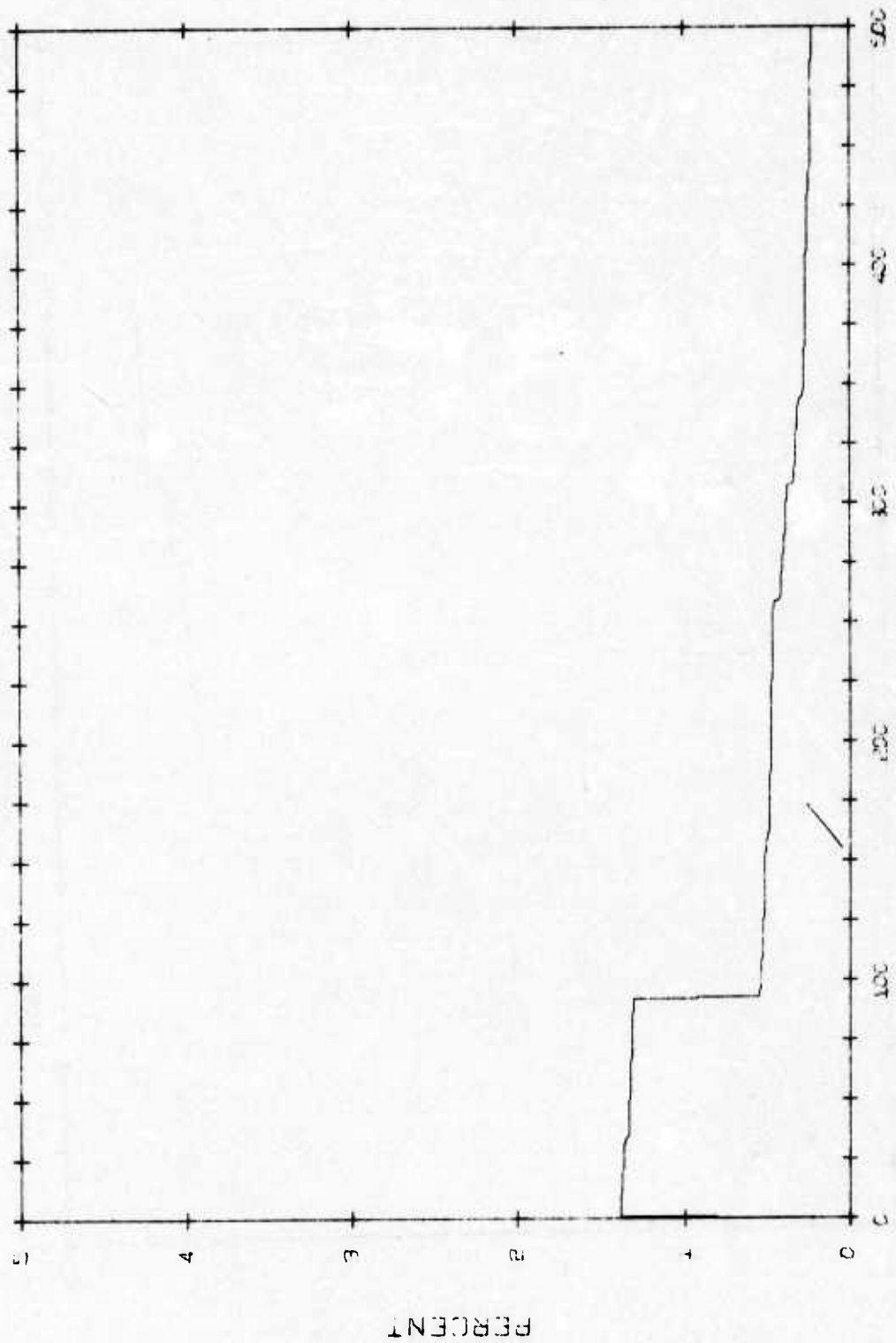


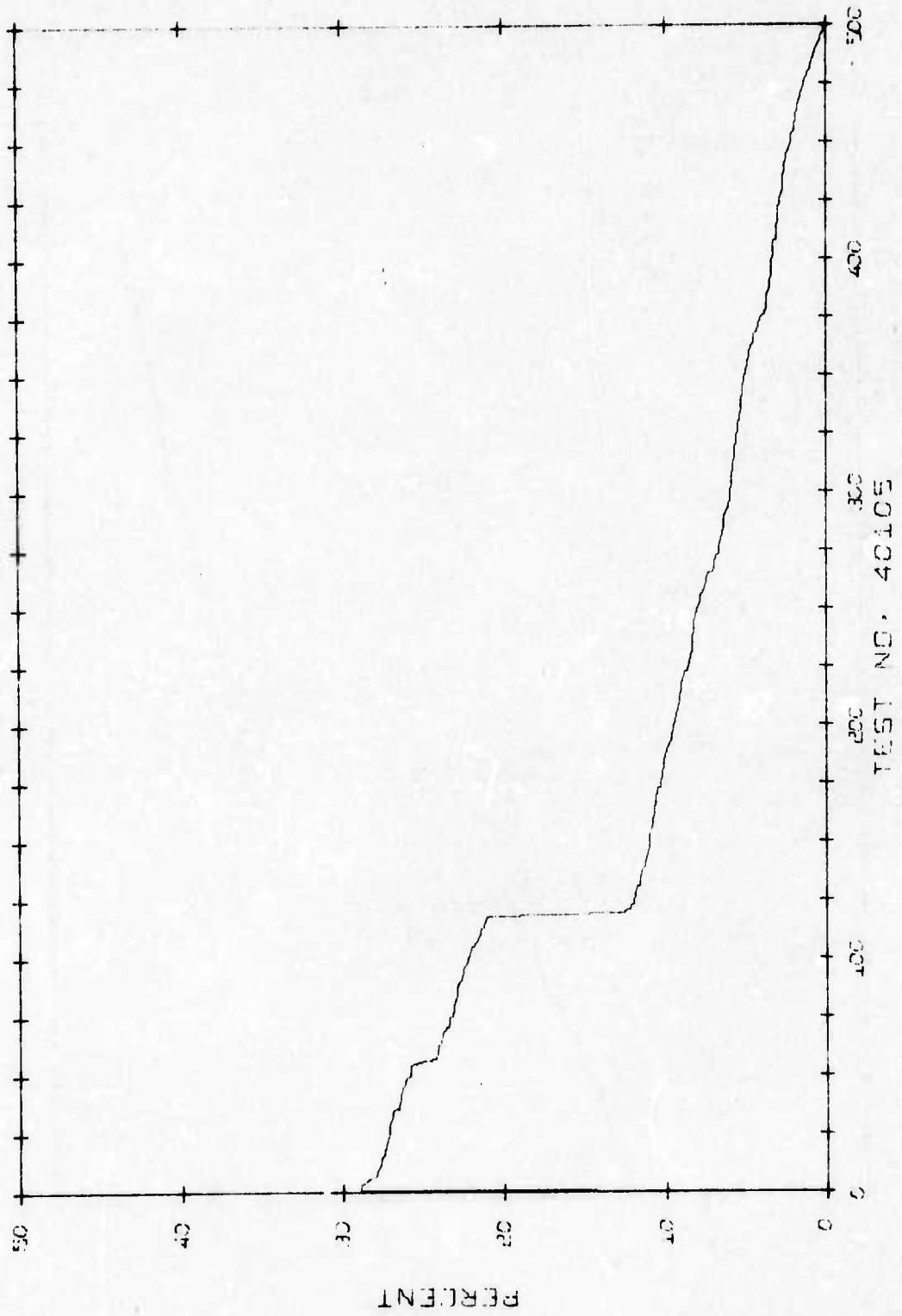


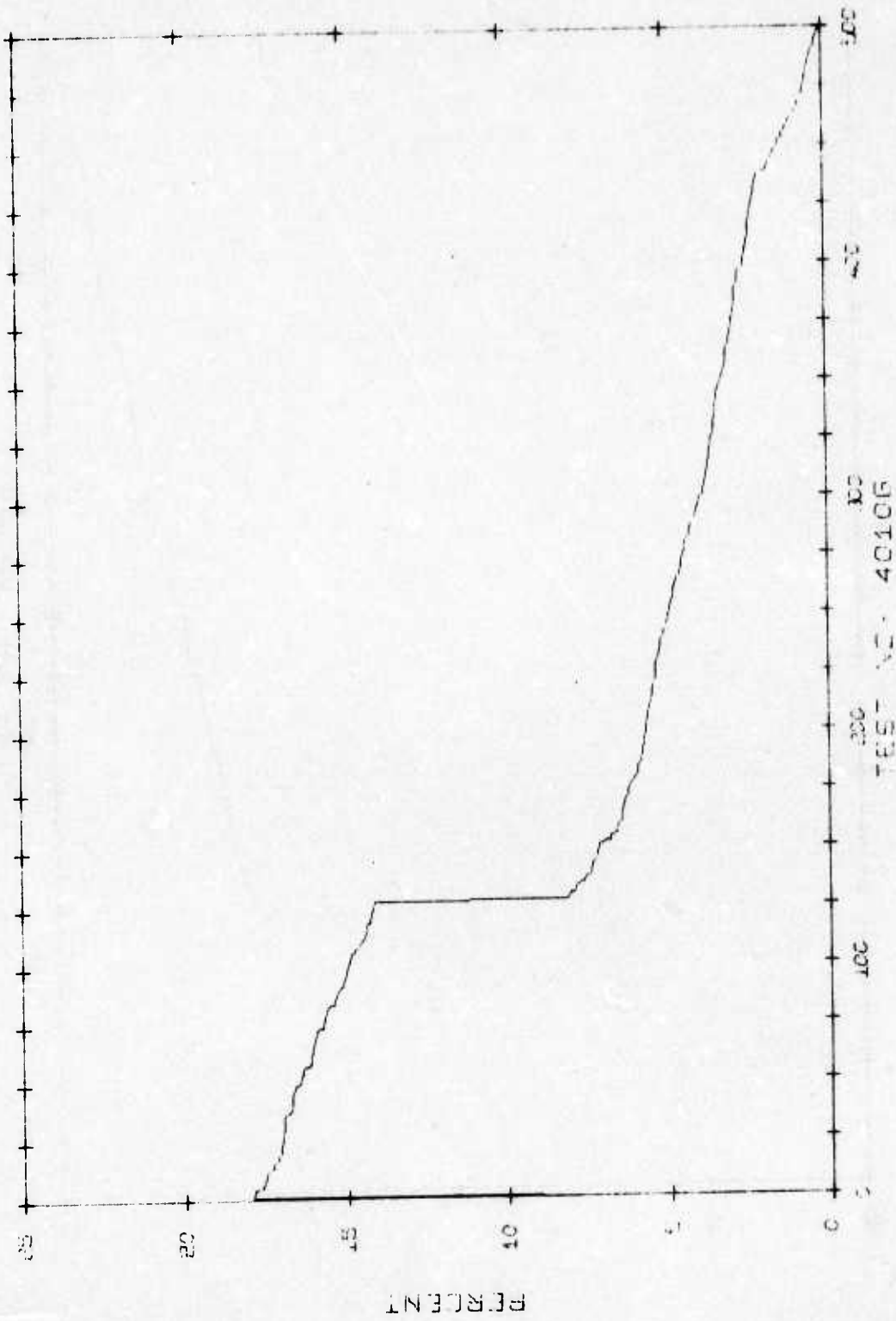


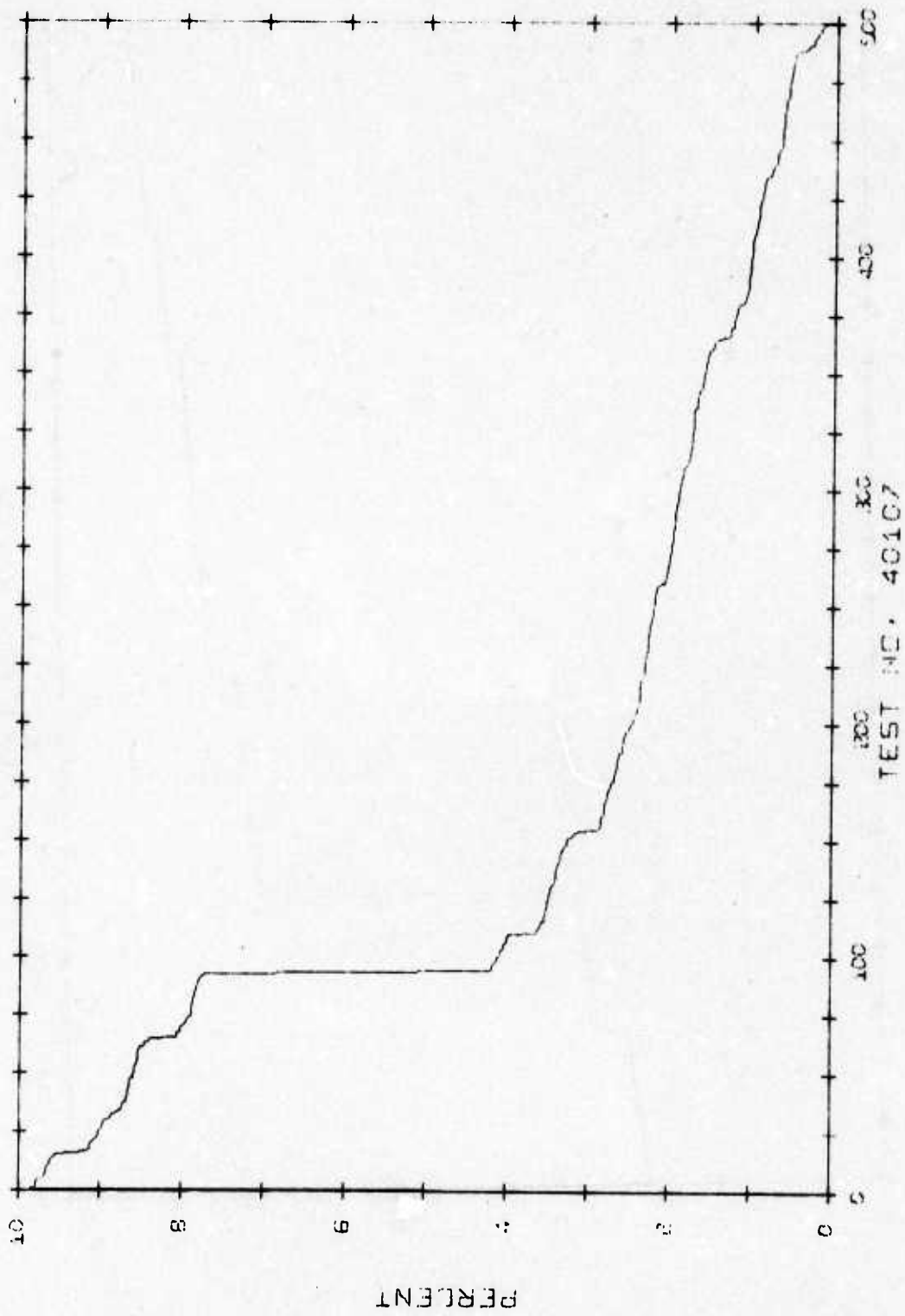


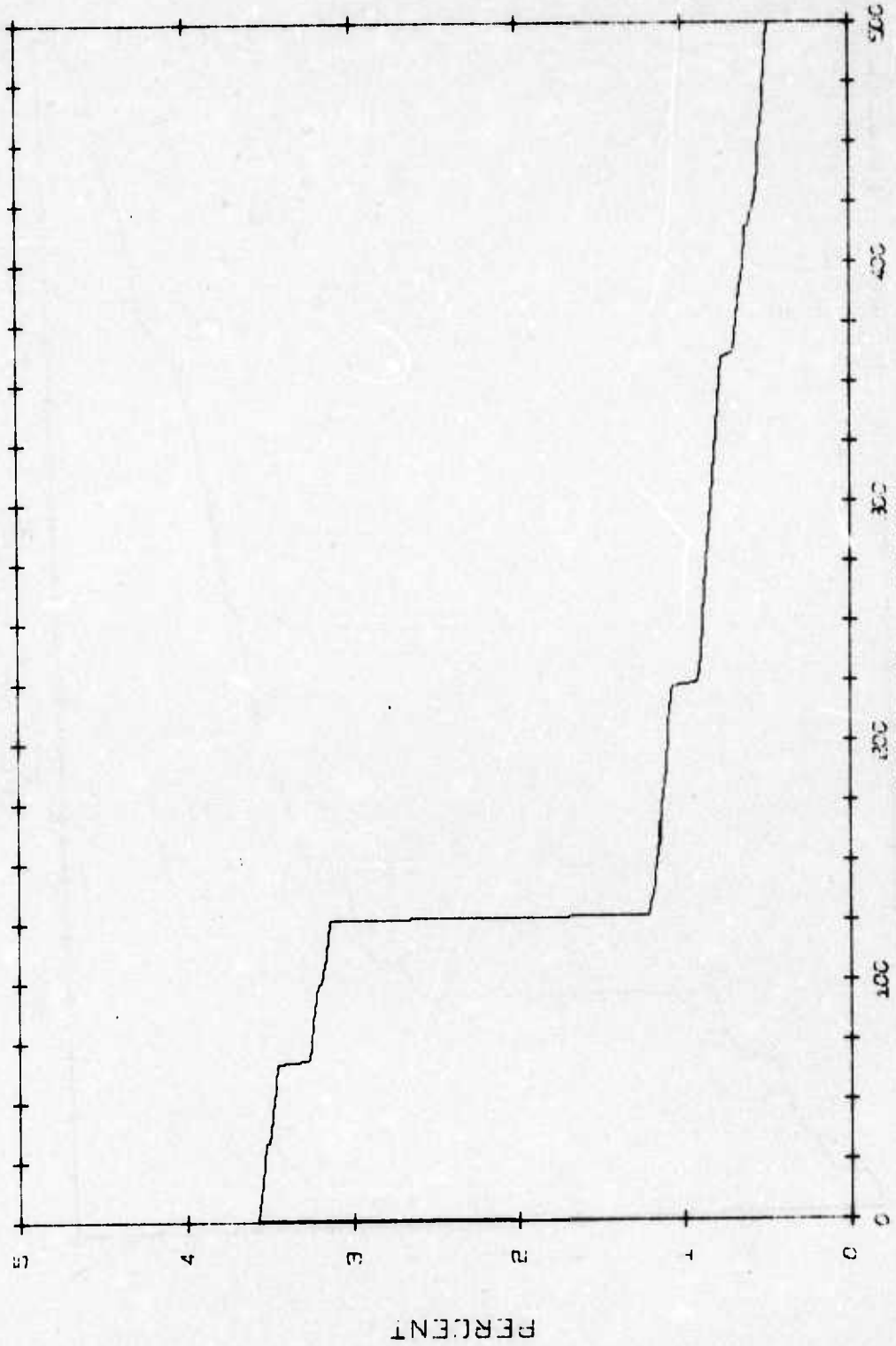


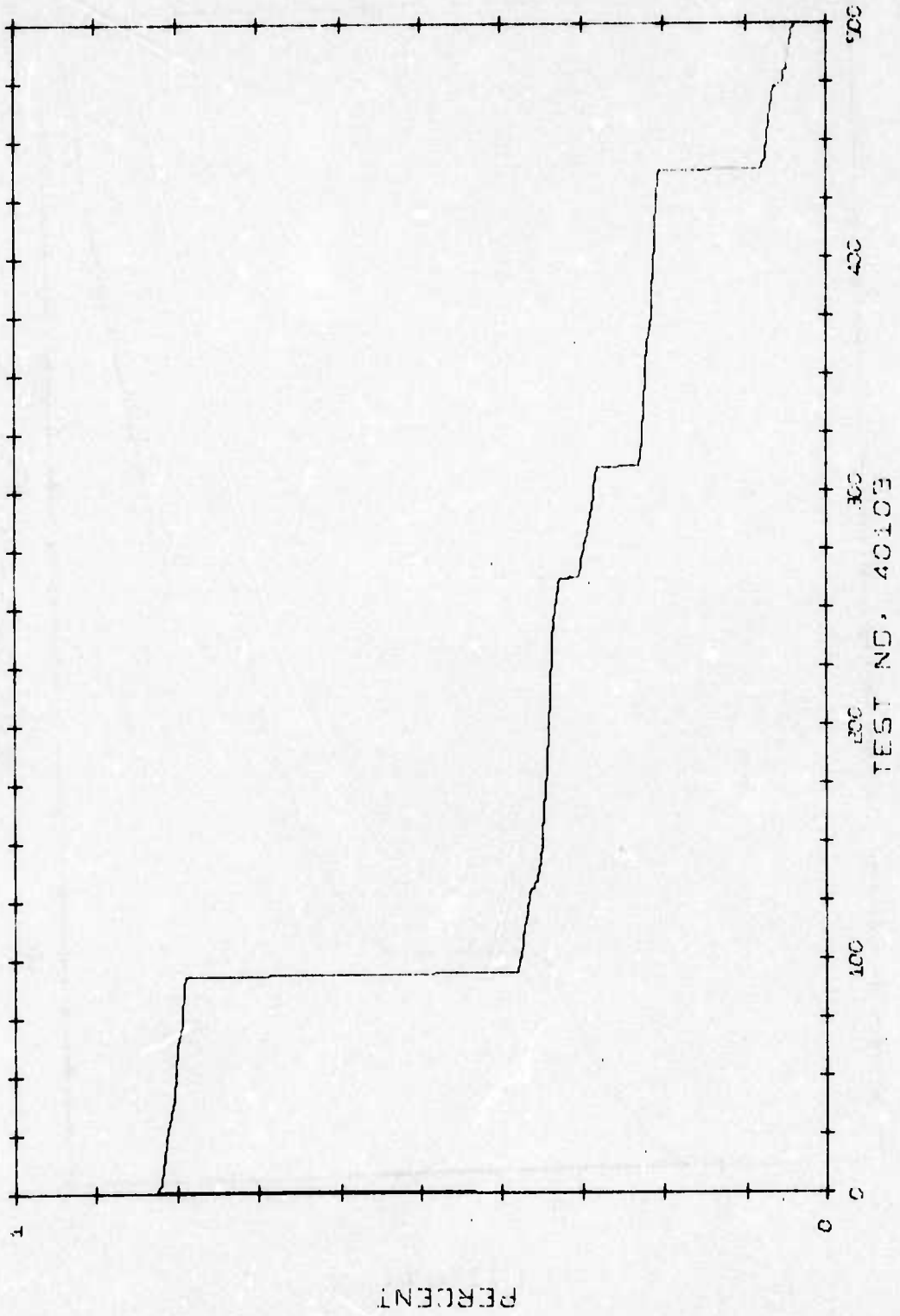


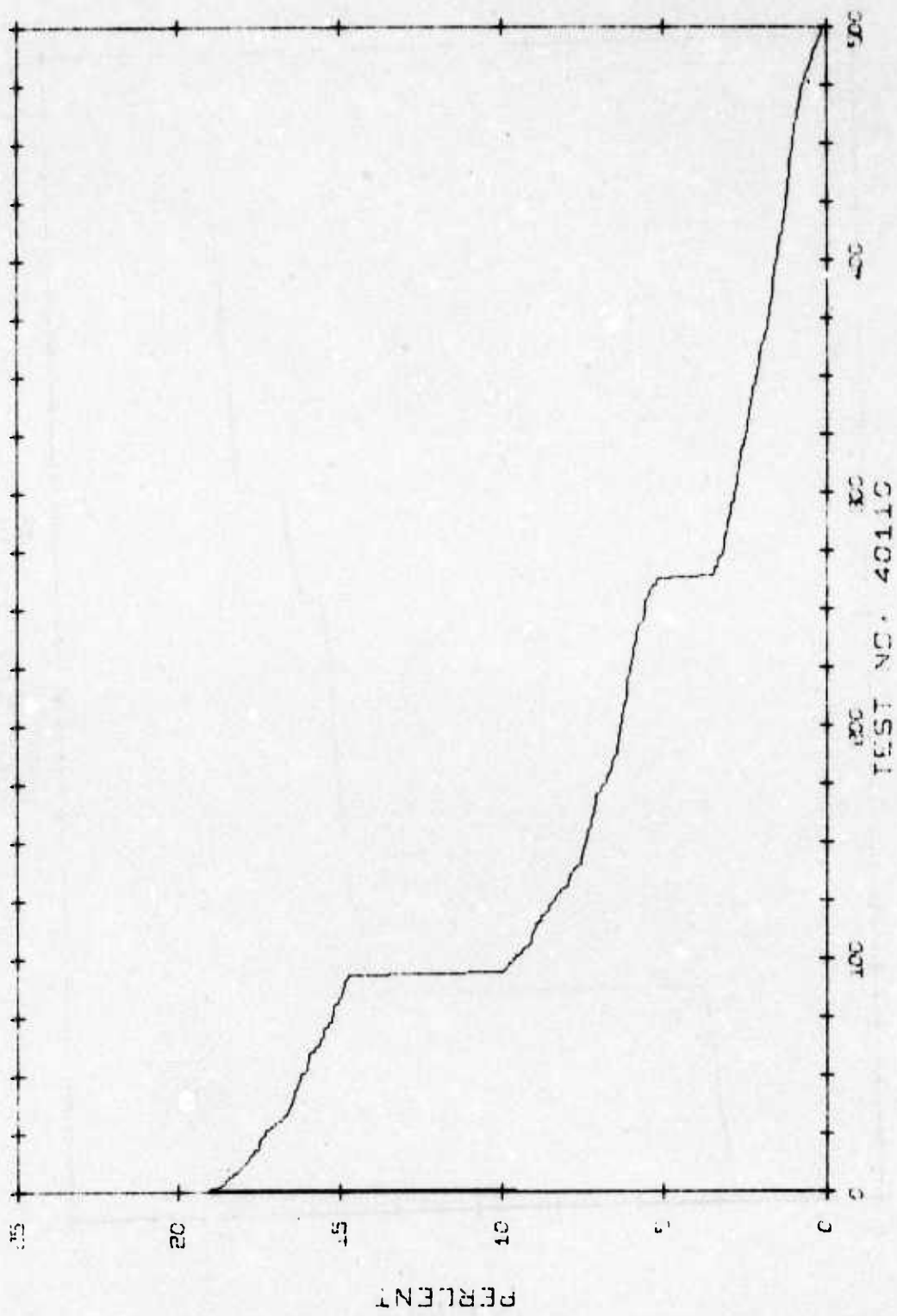




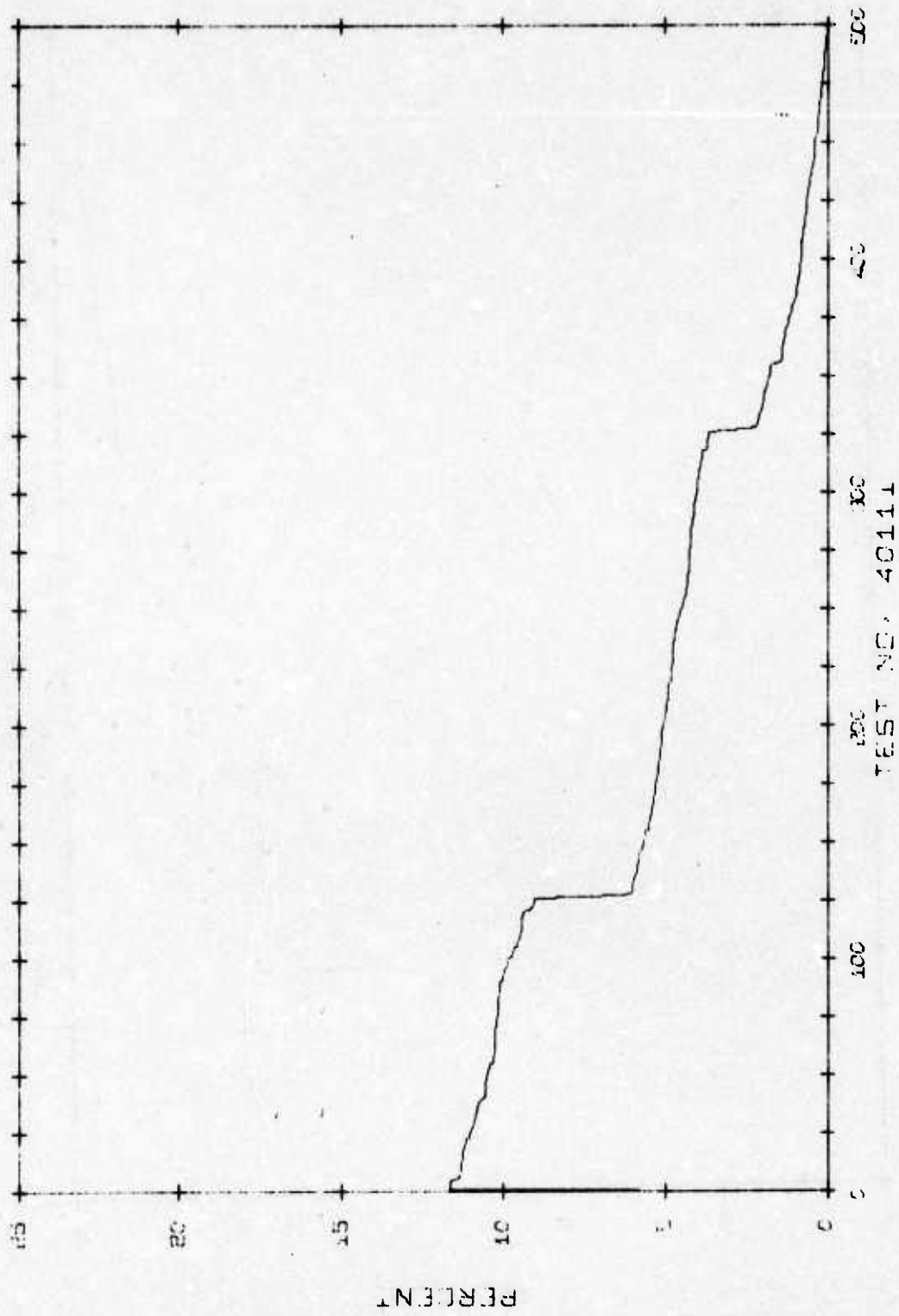


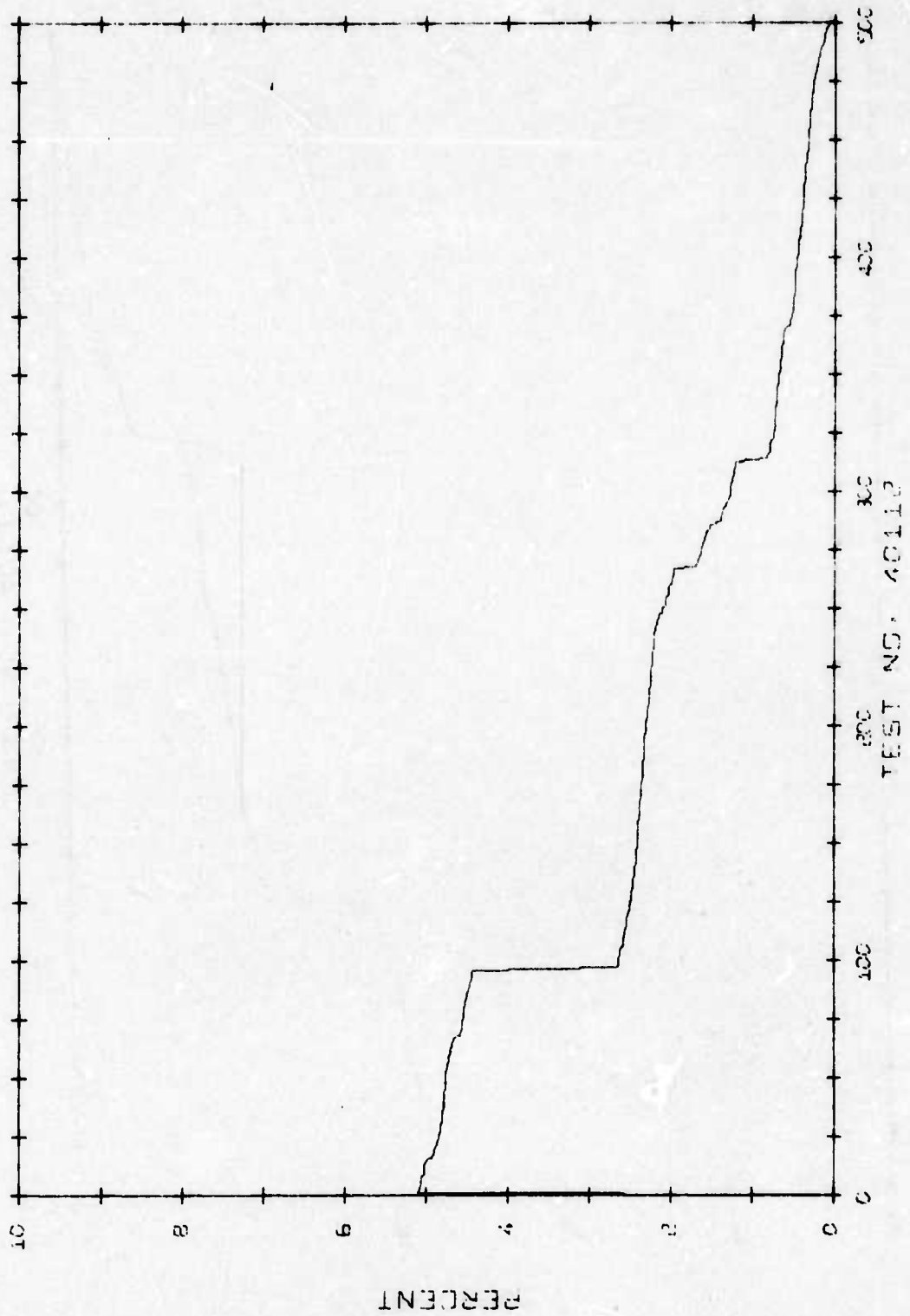




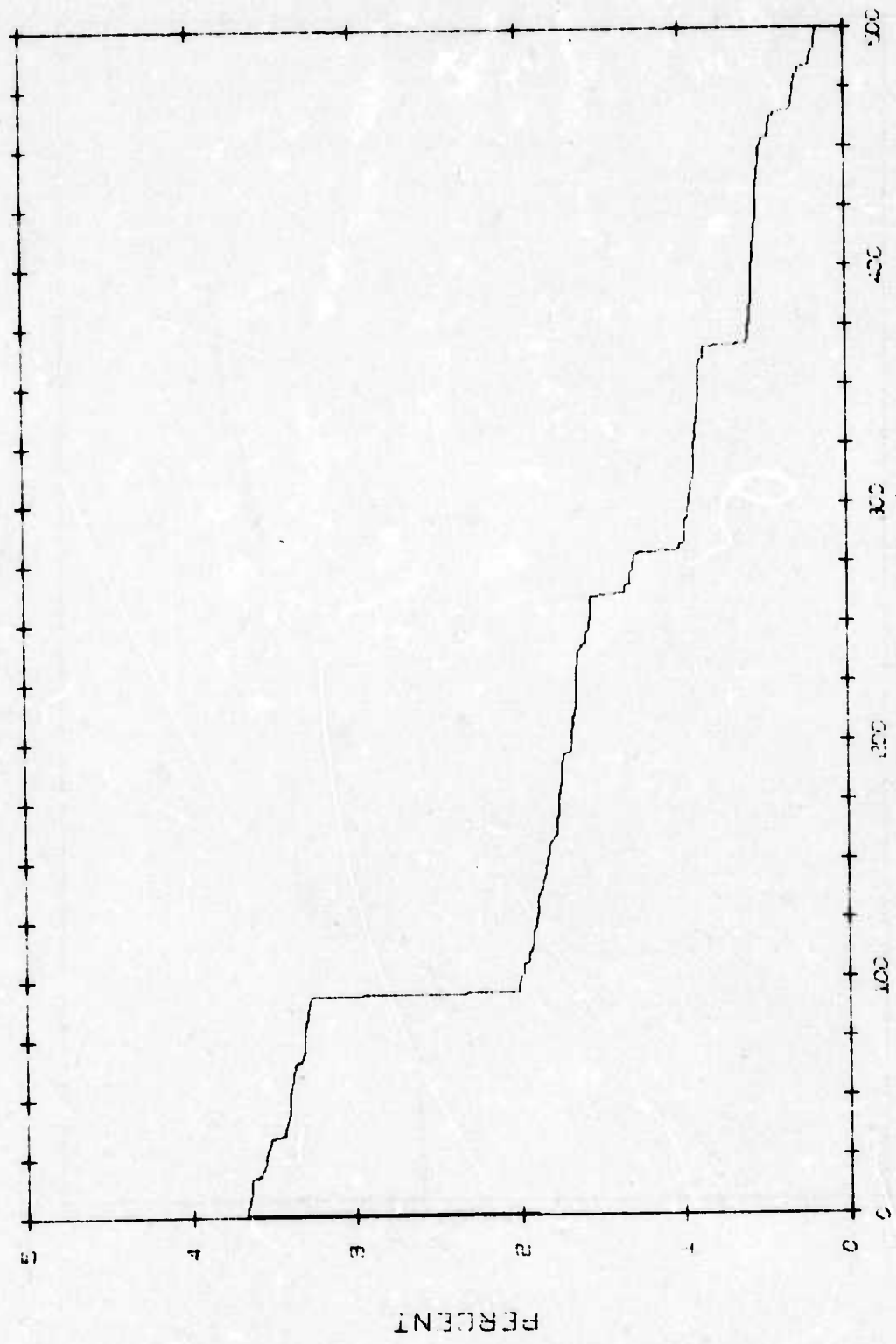


I-158

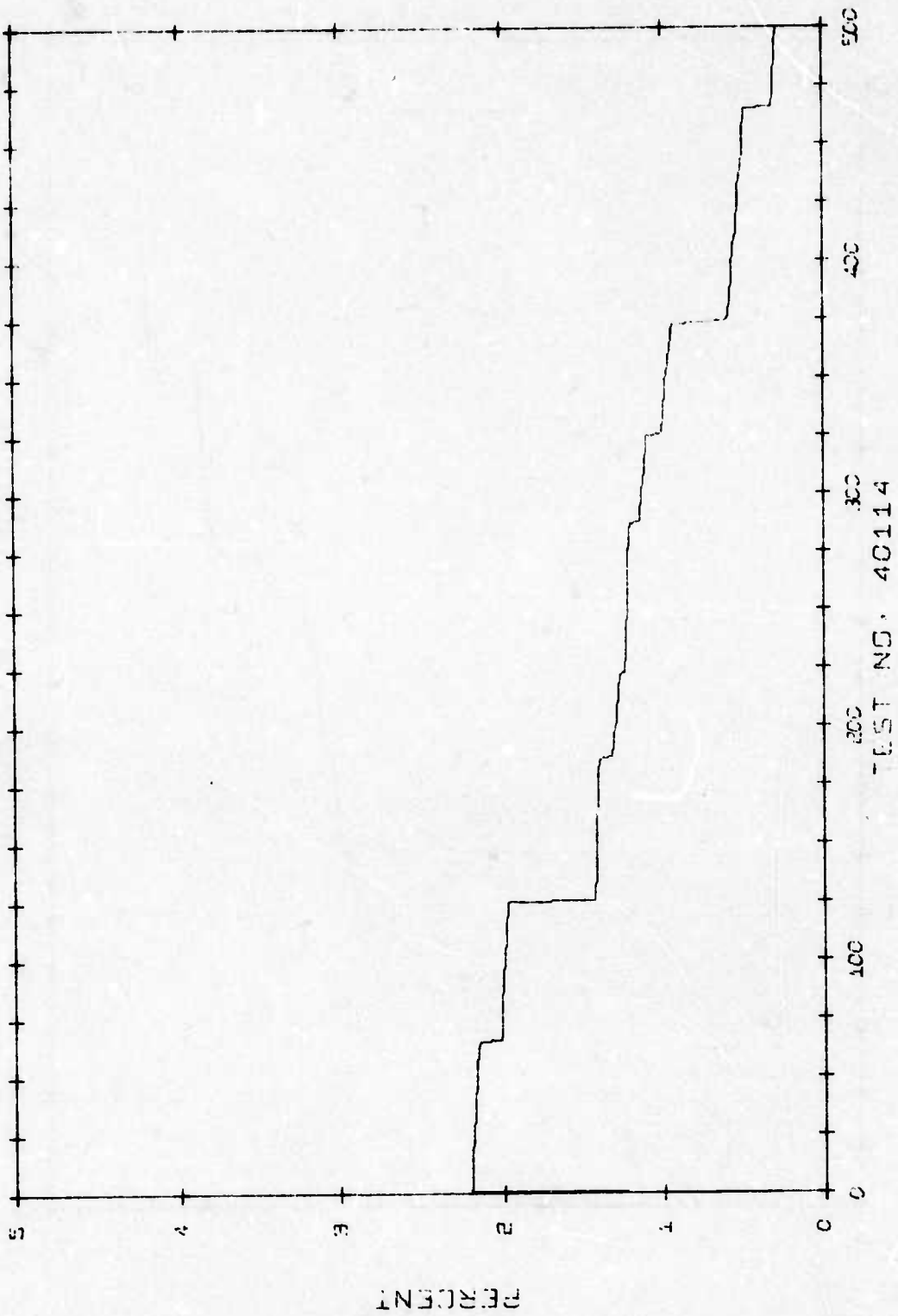


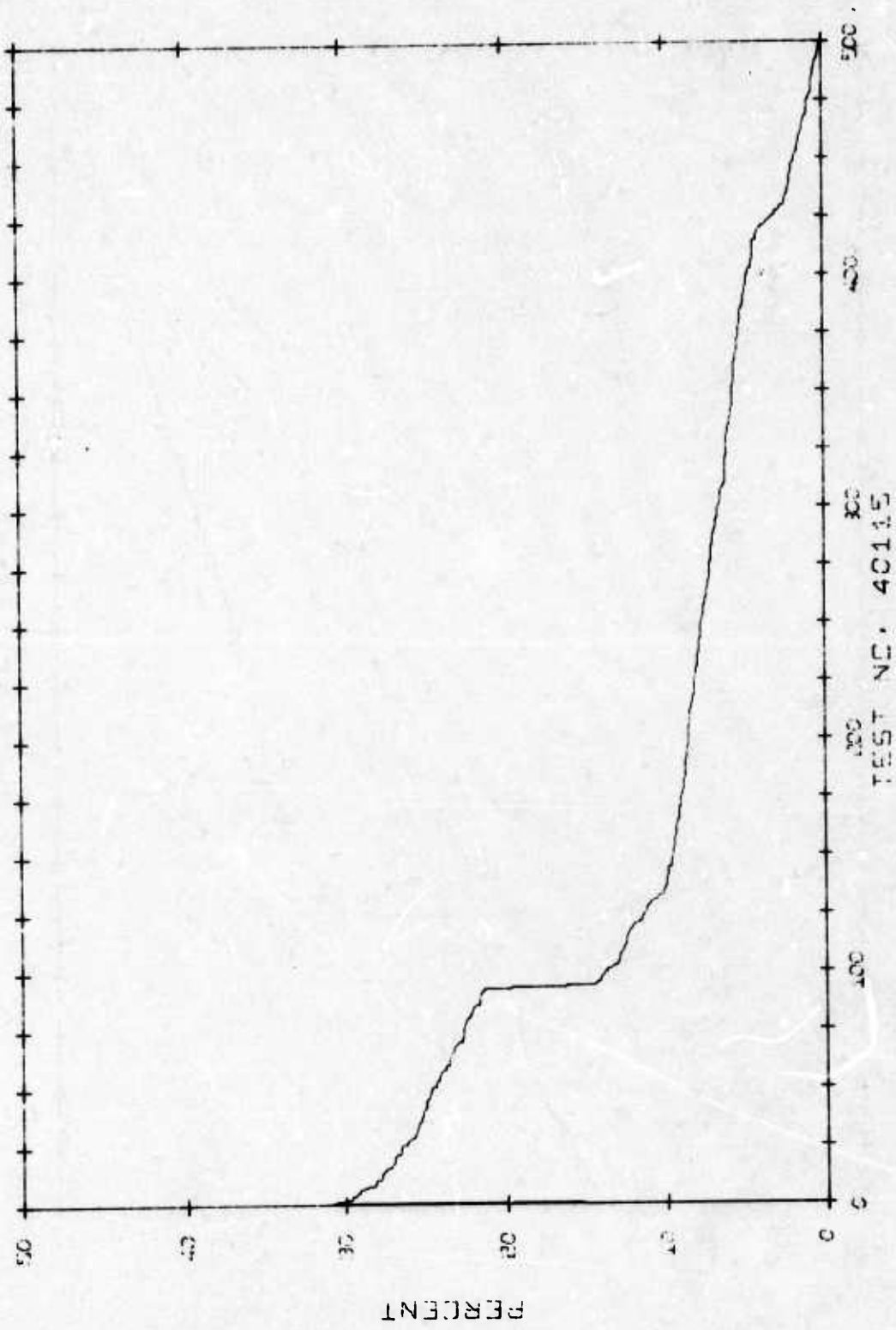


I-160

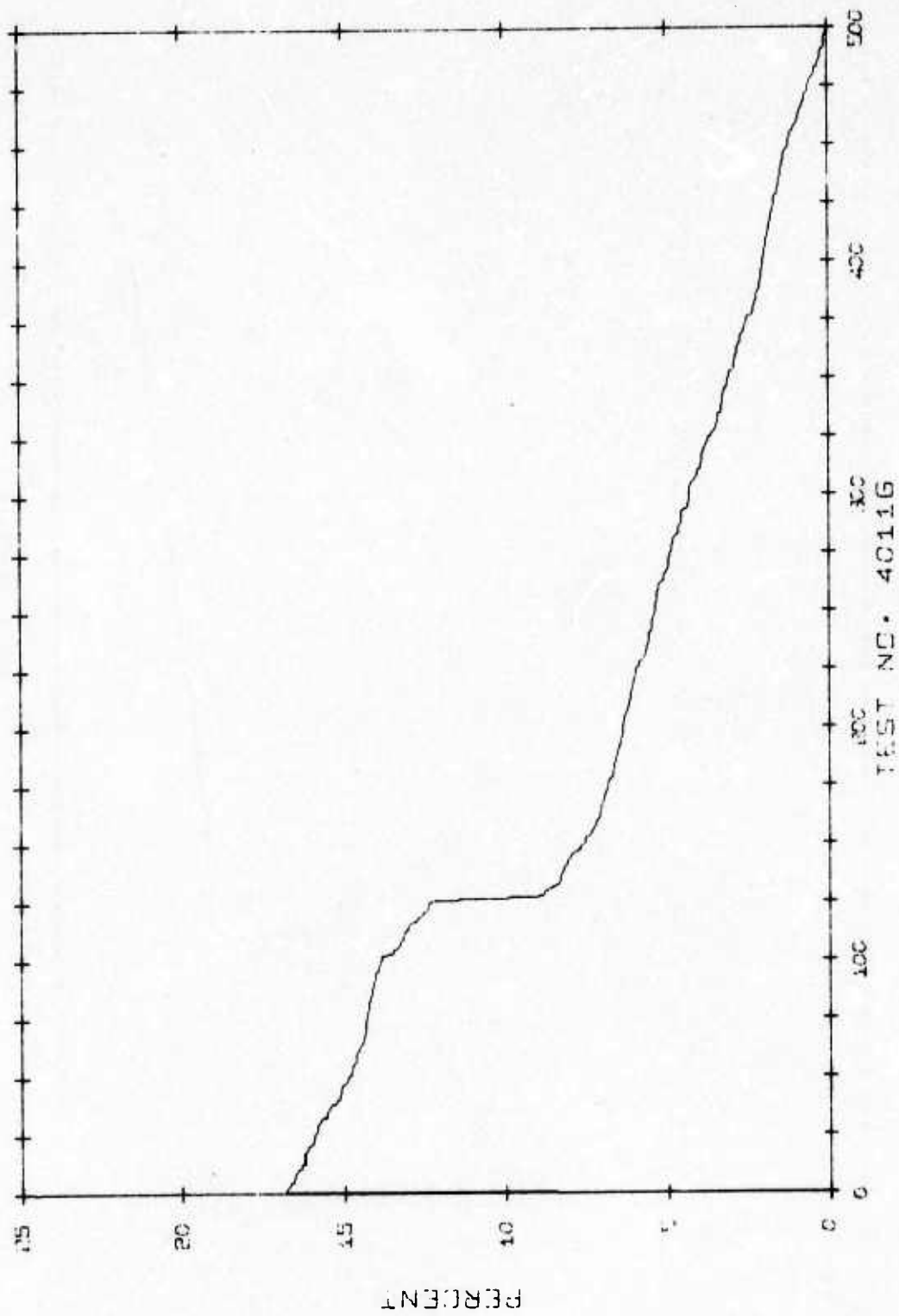


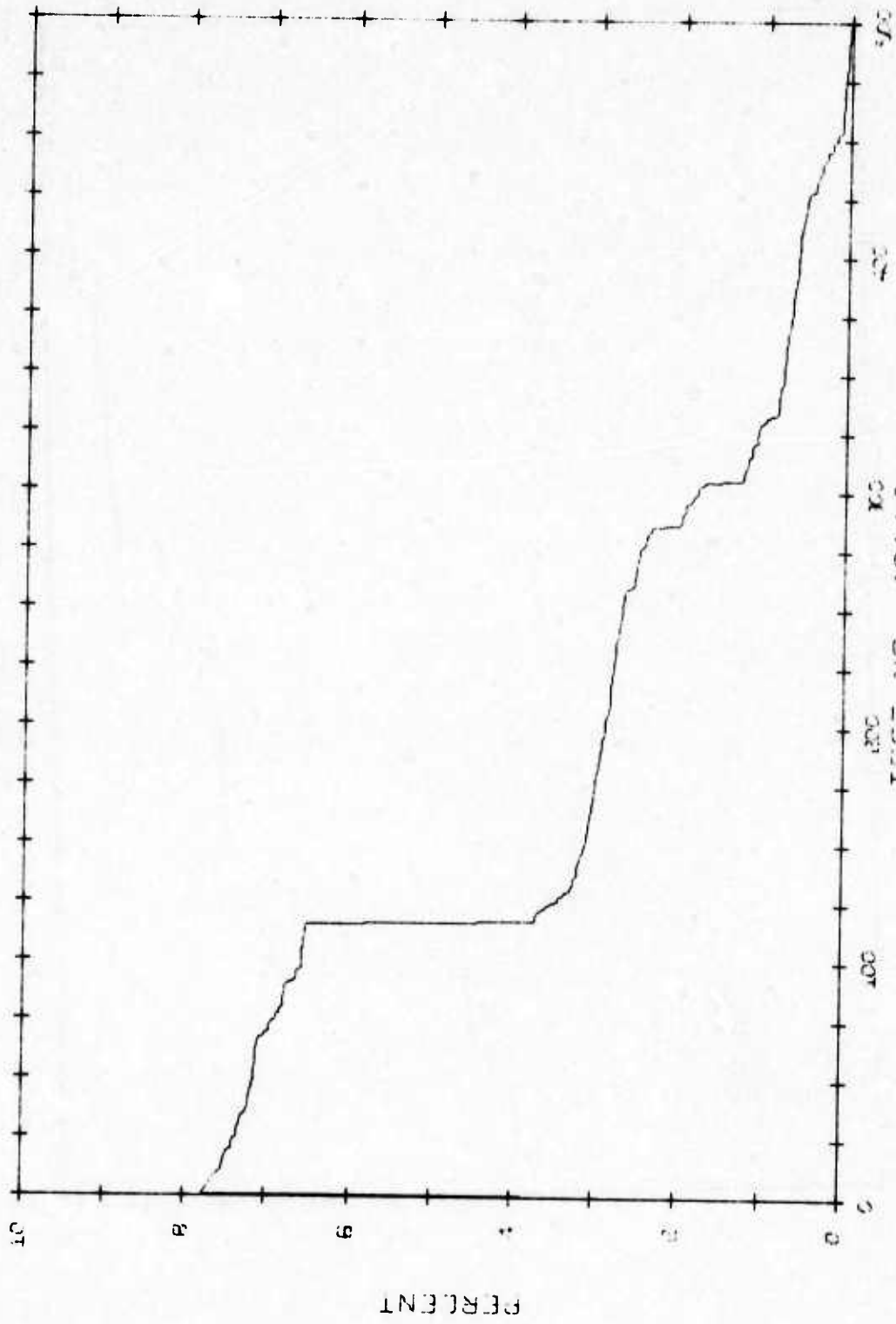
I-161



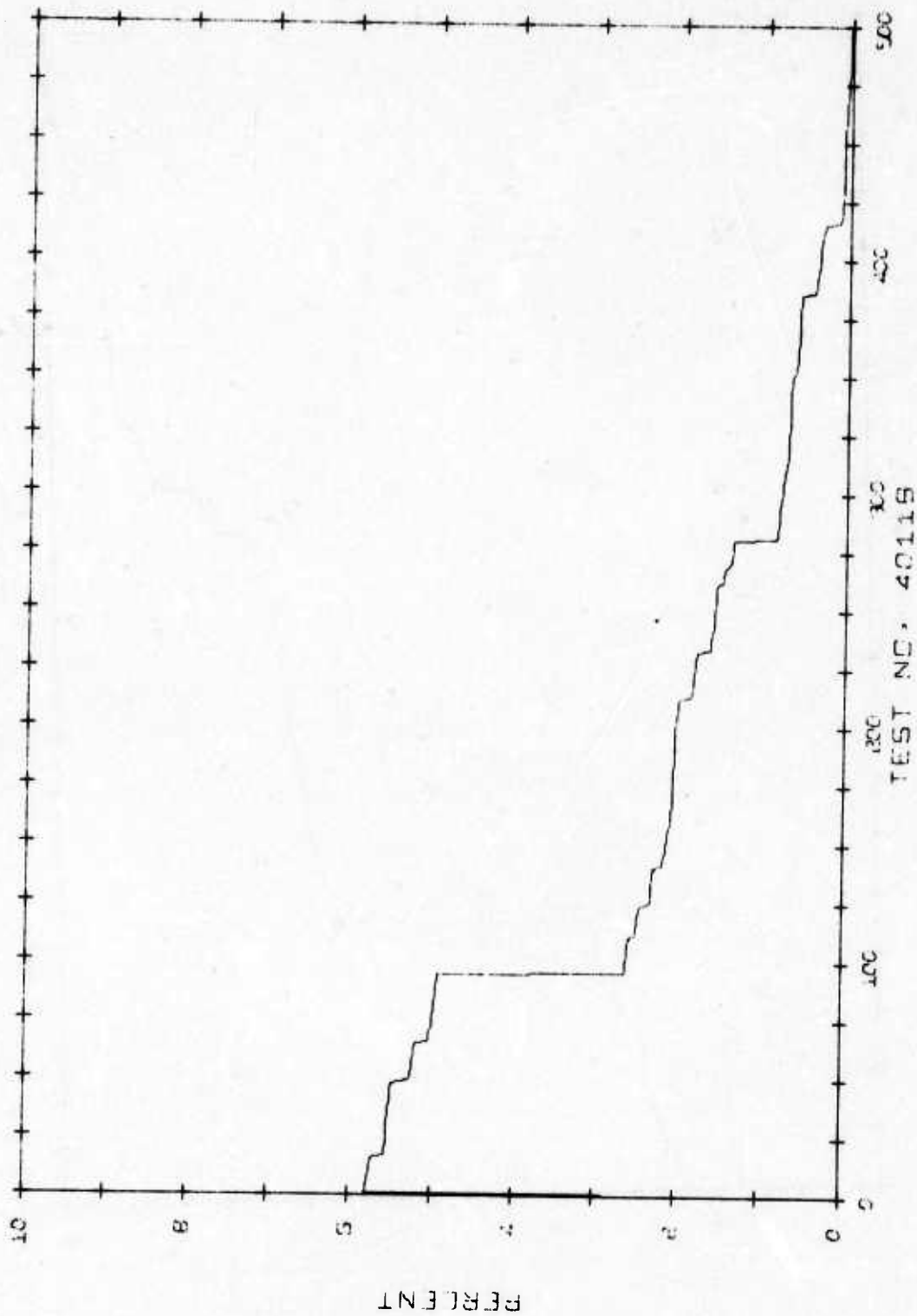


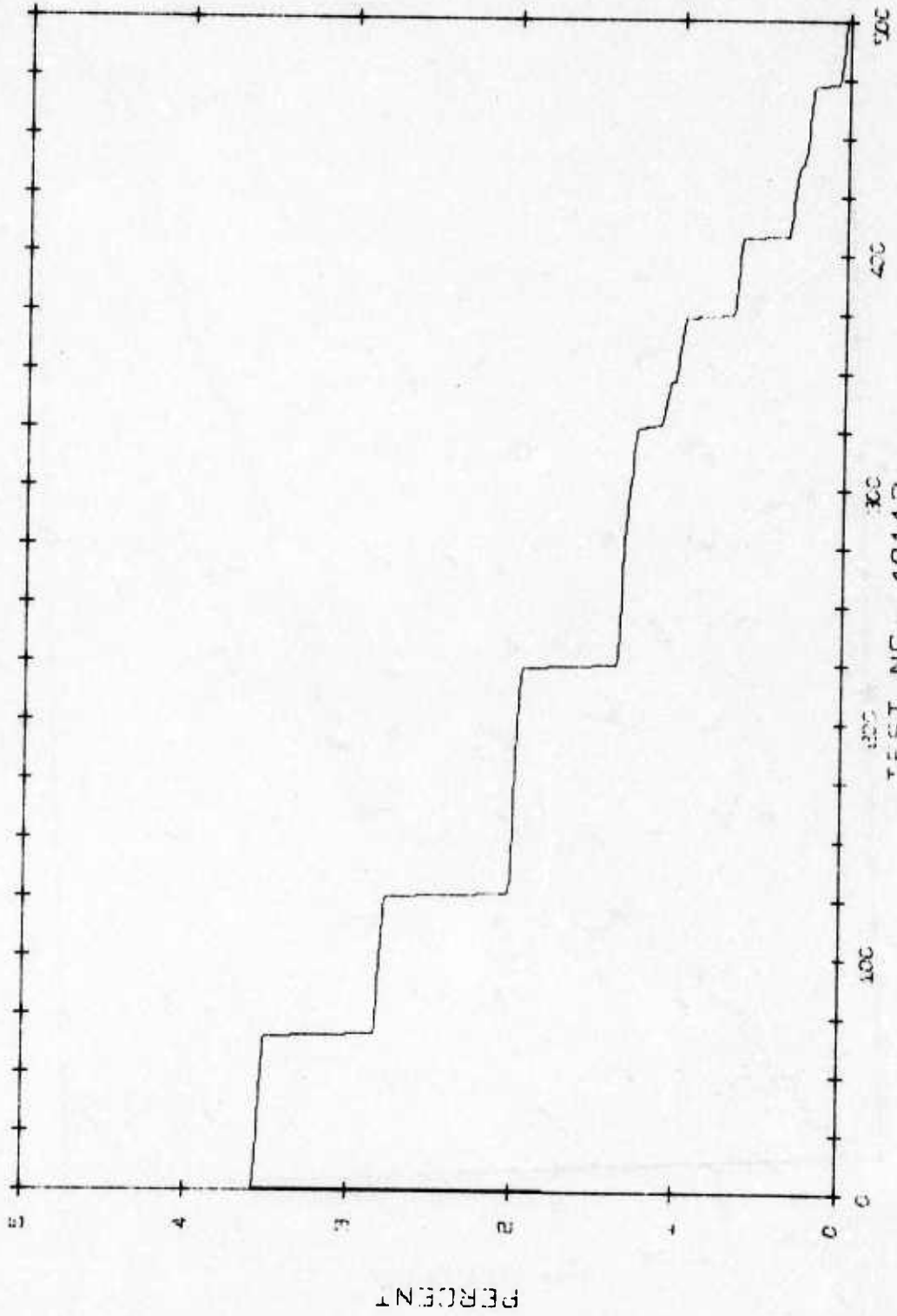
I-163

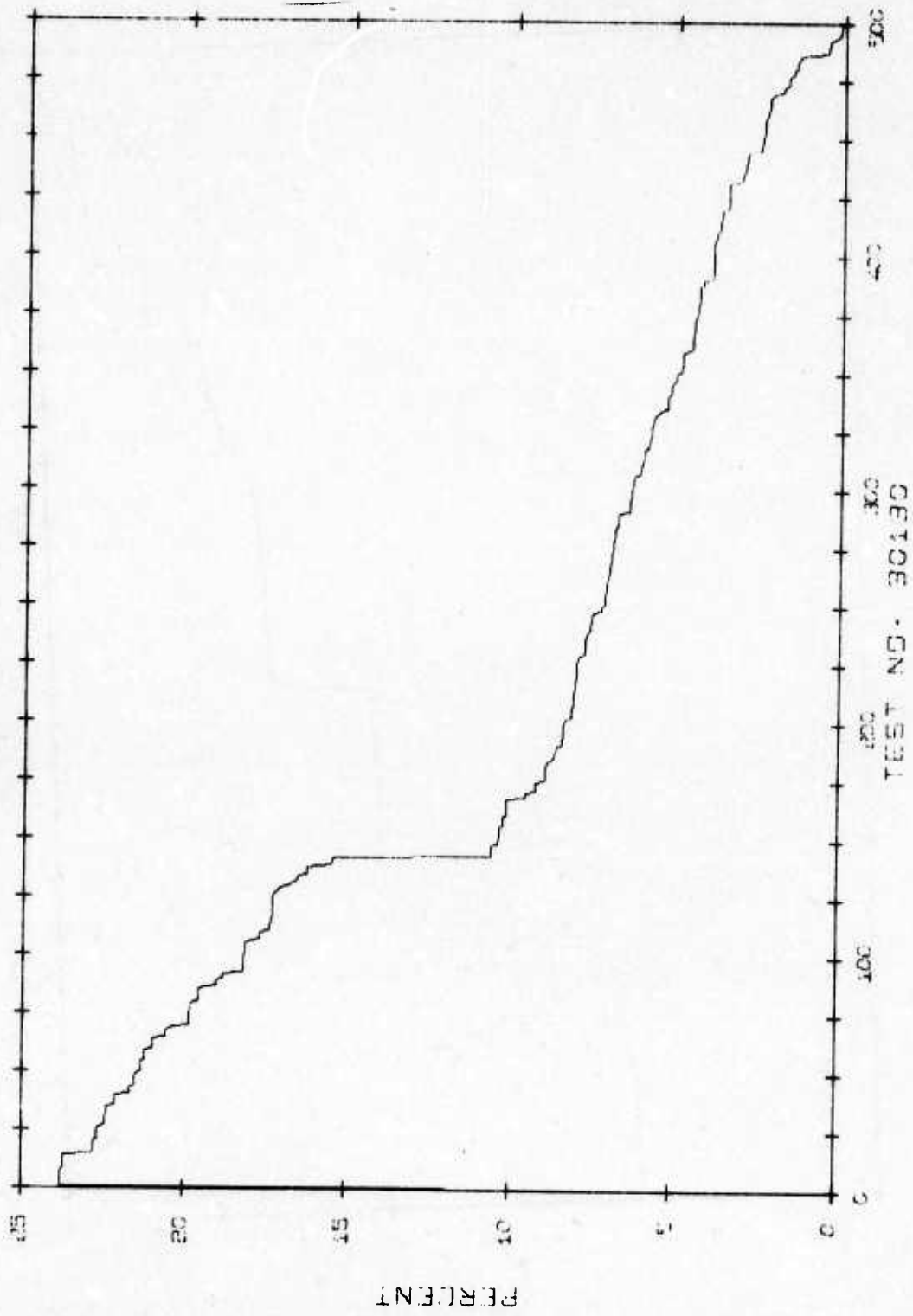


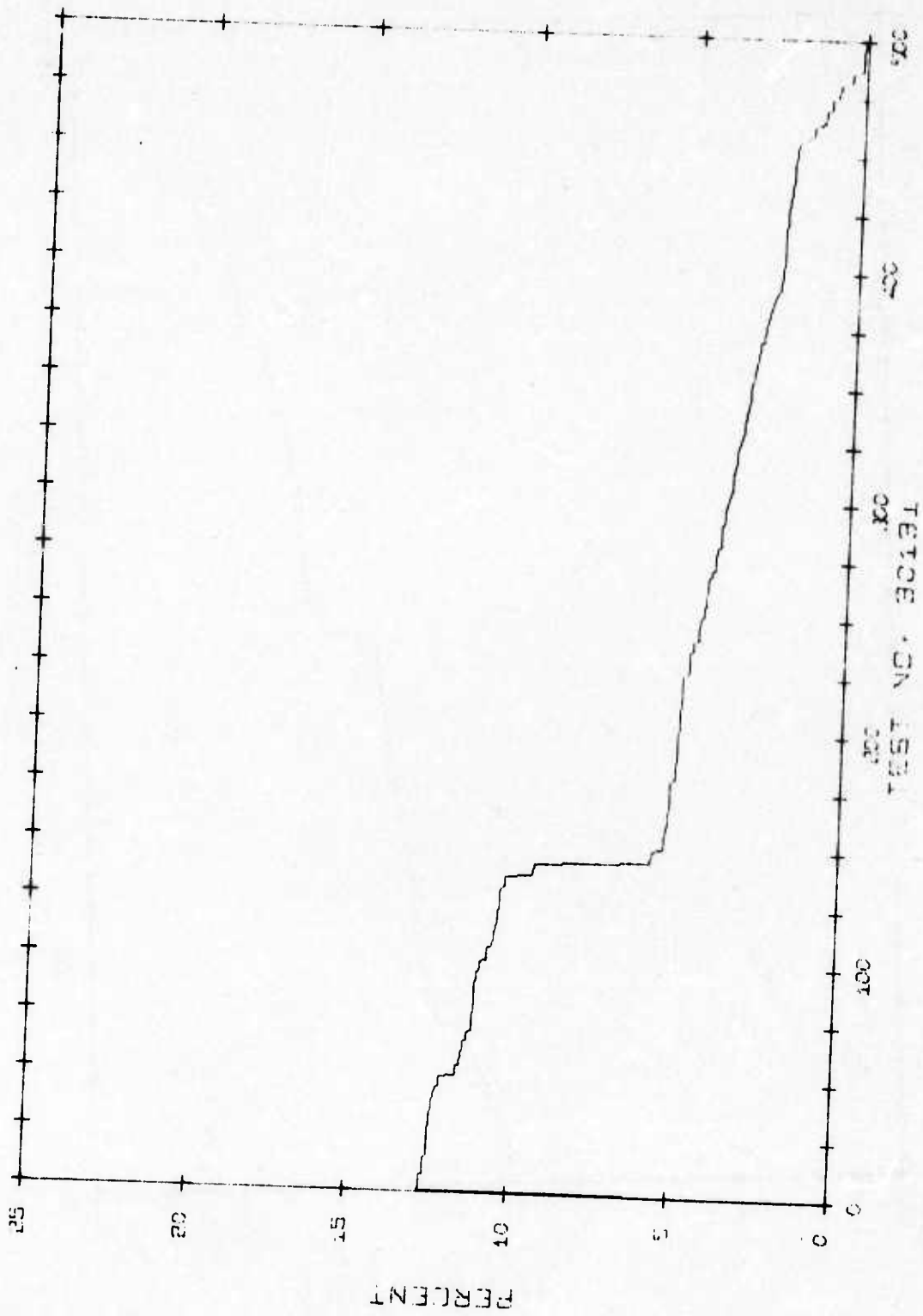


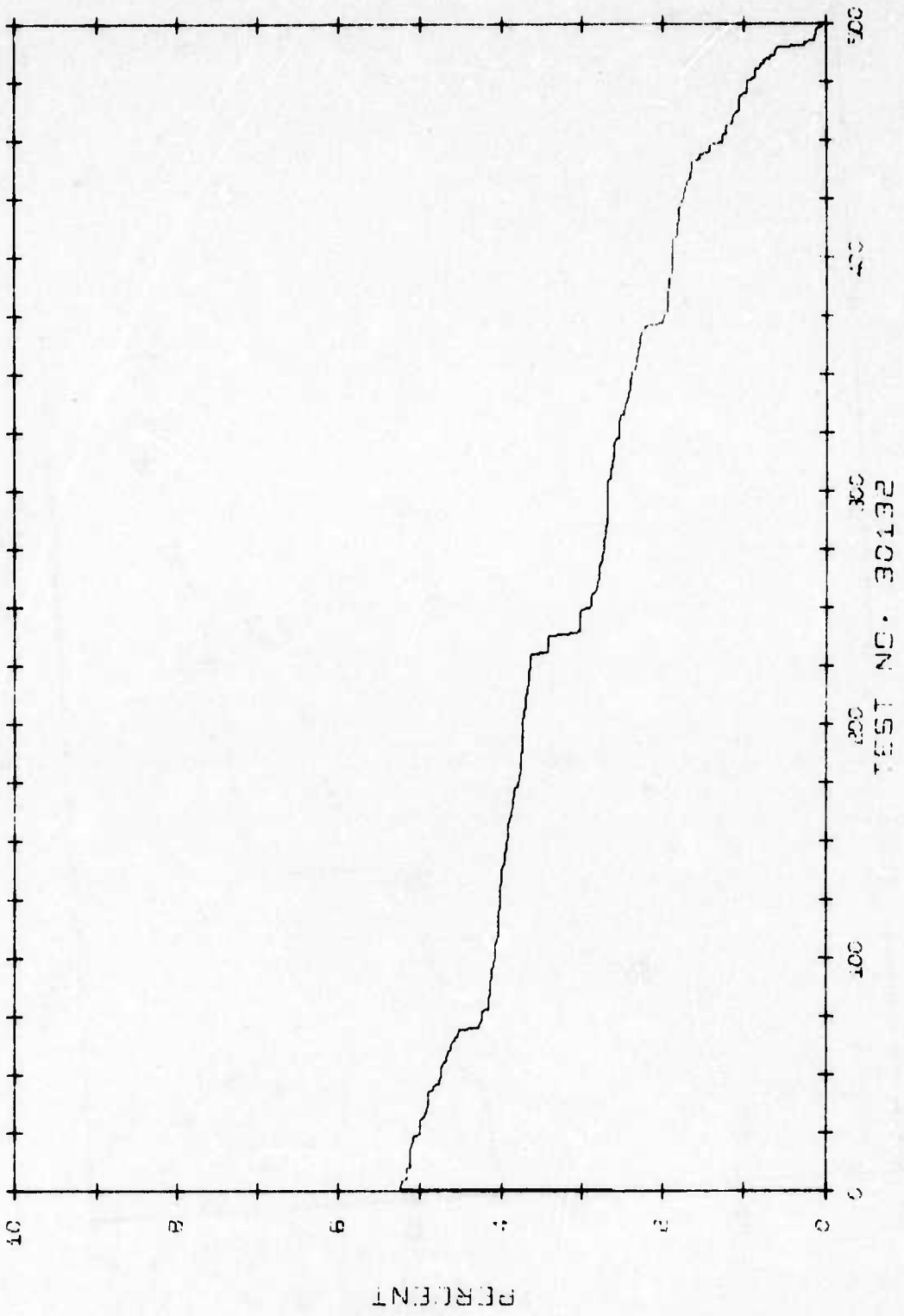
I-165



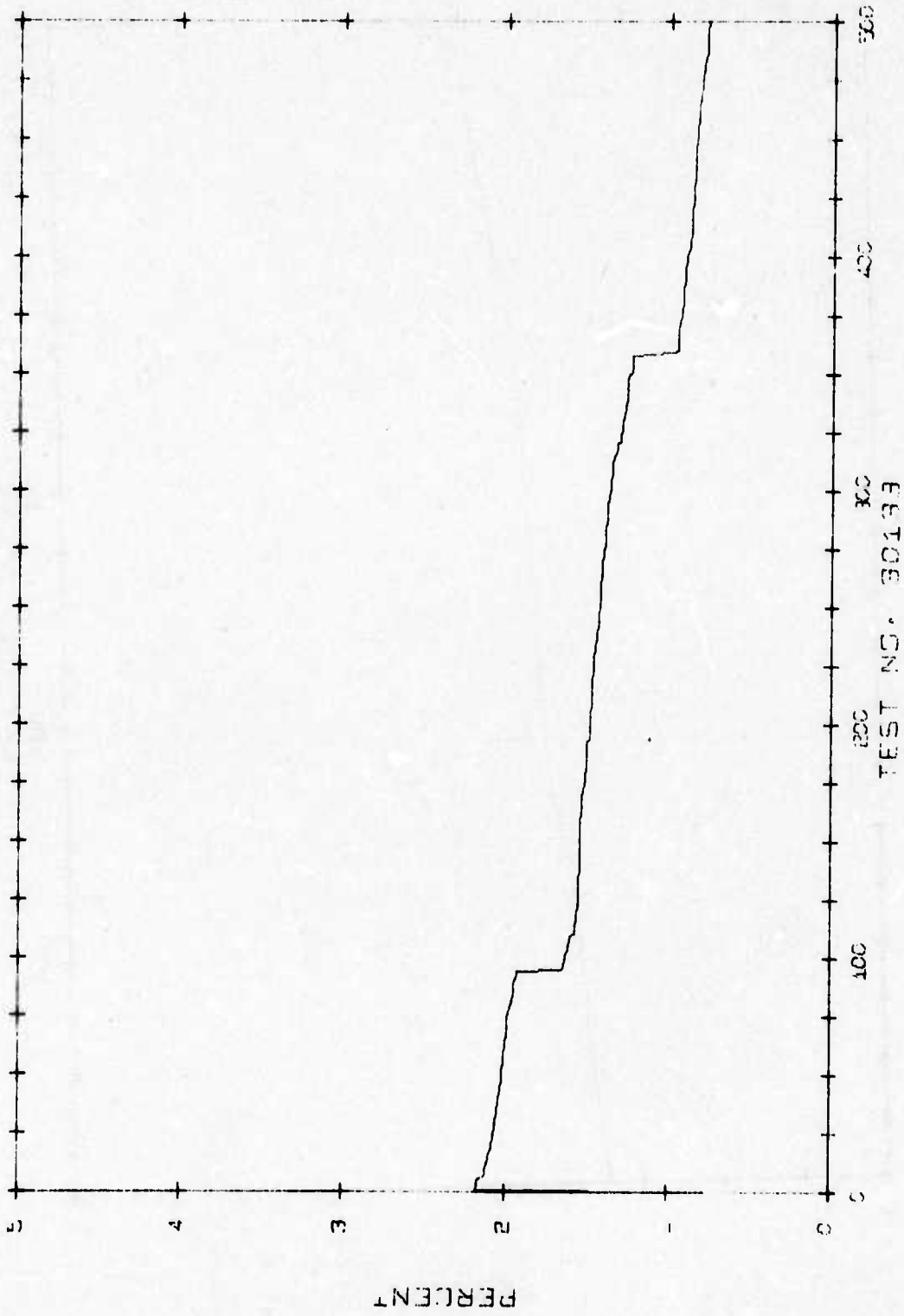


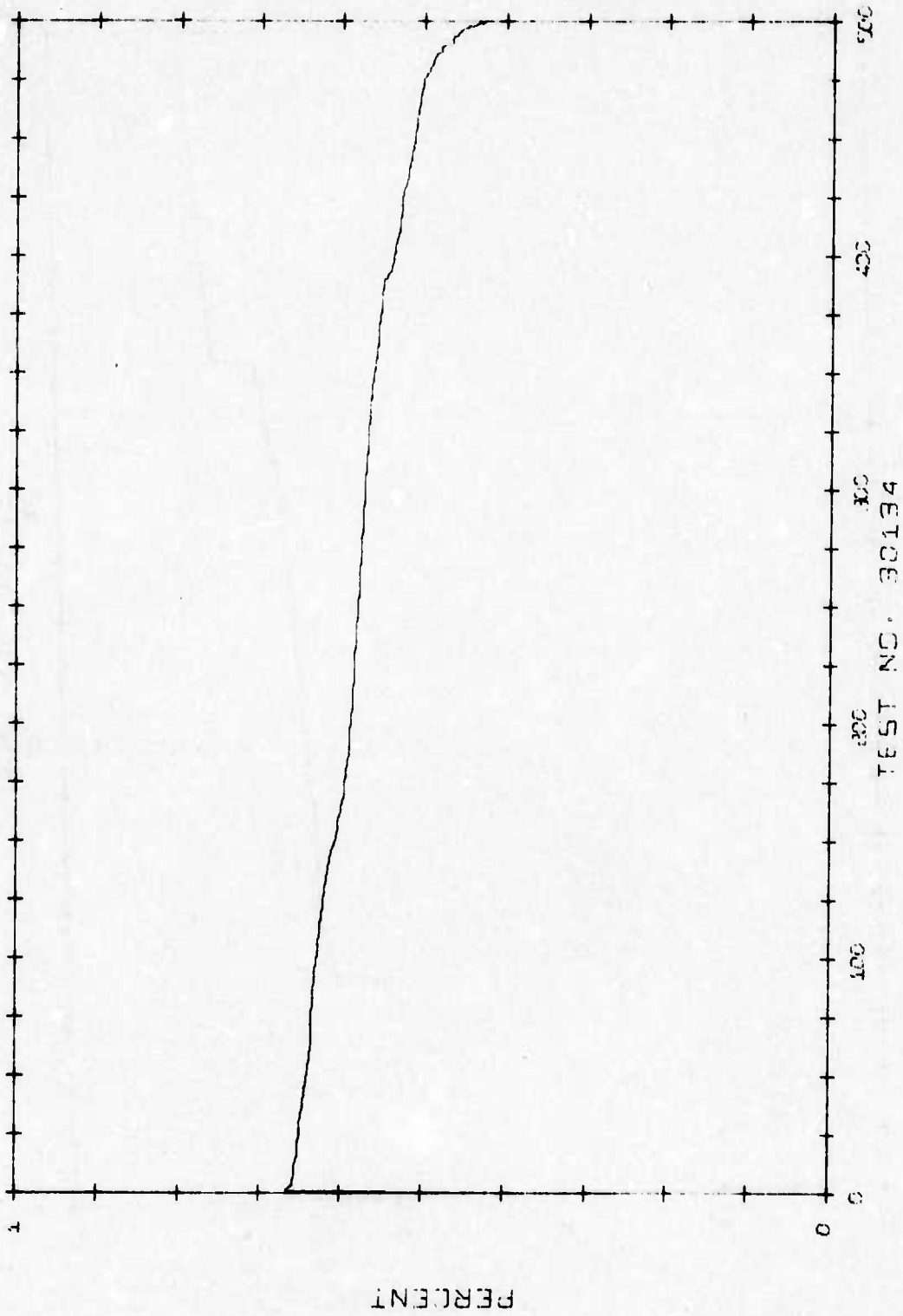


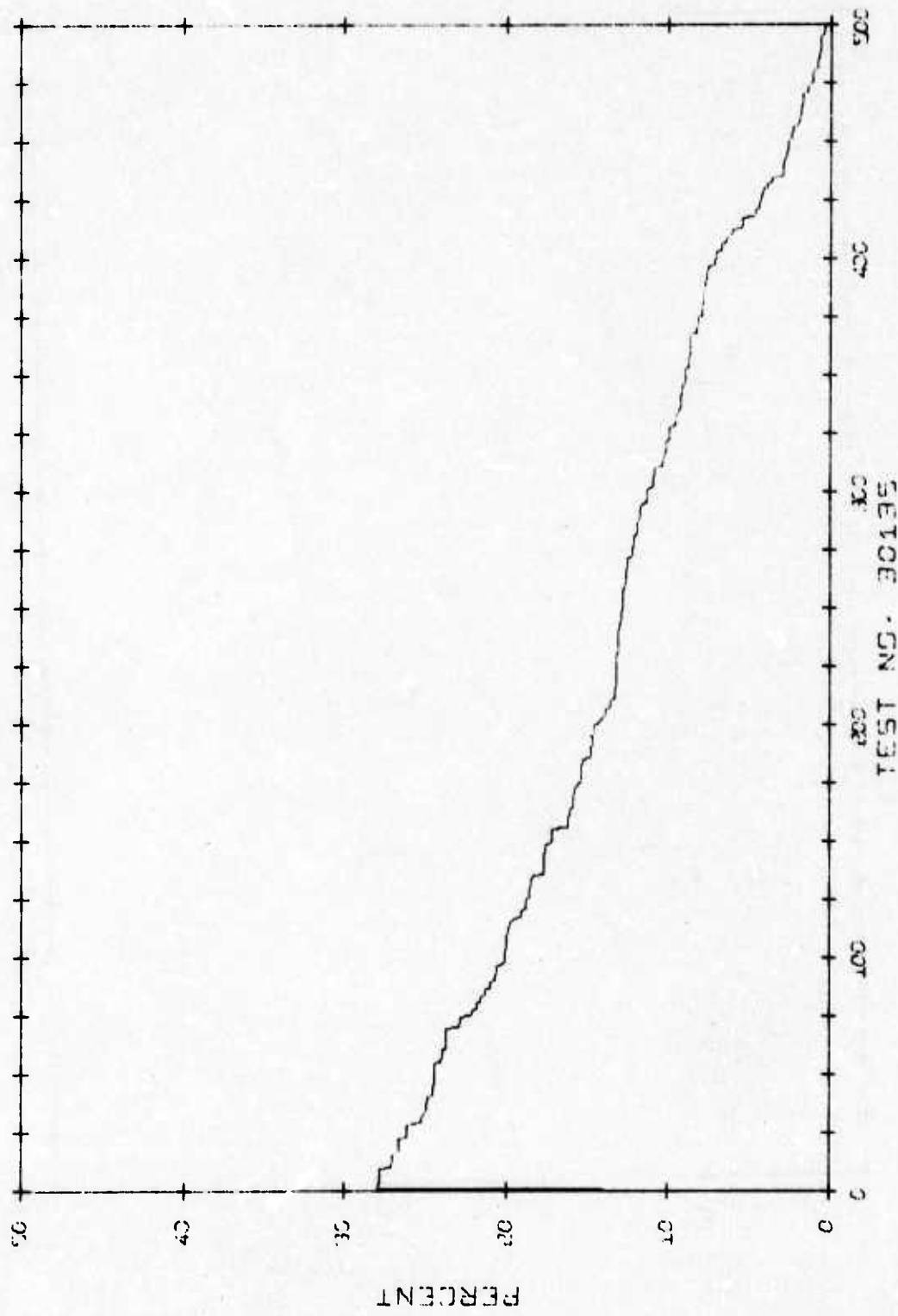


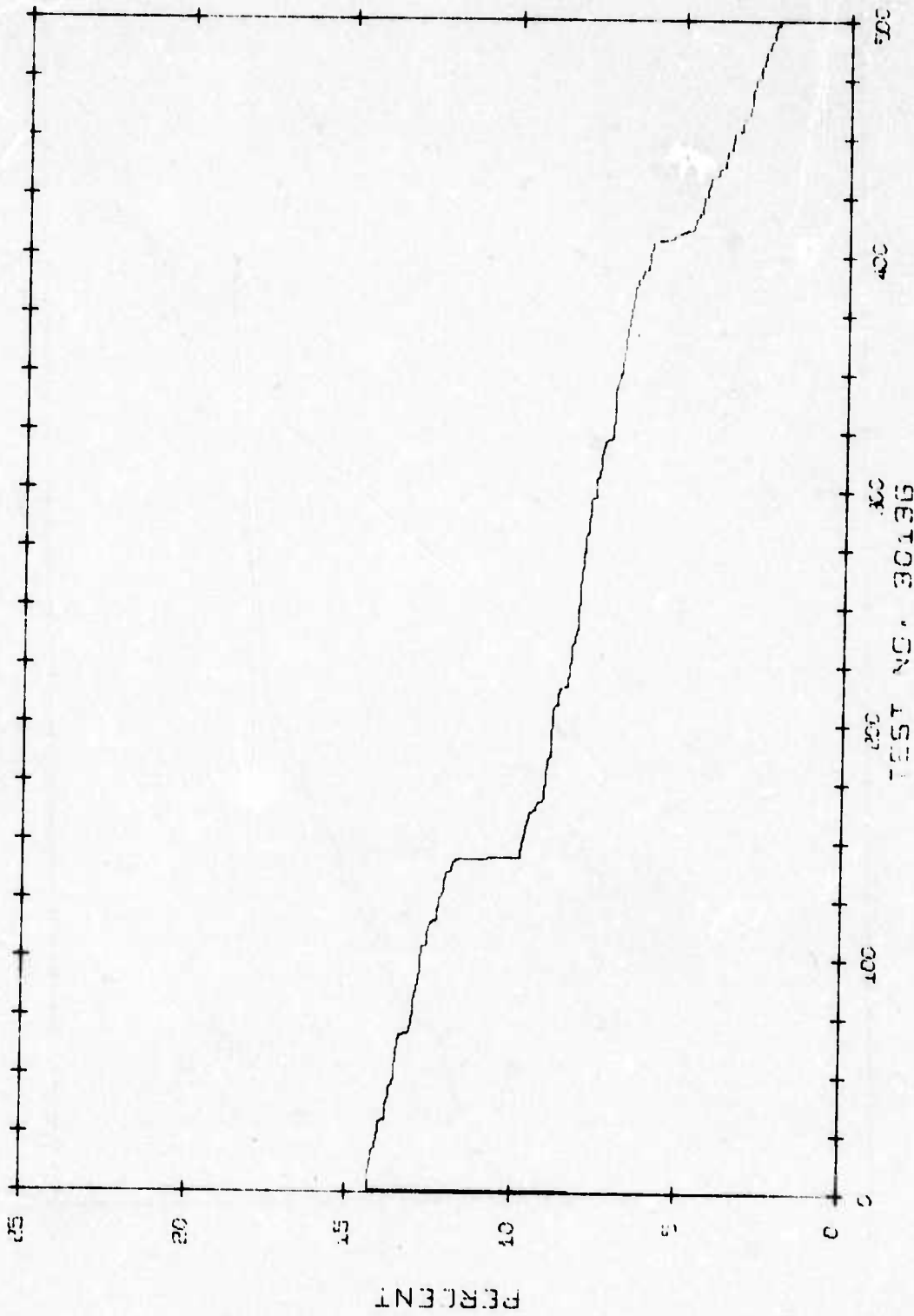


I-170

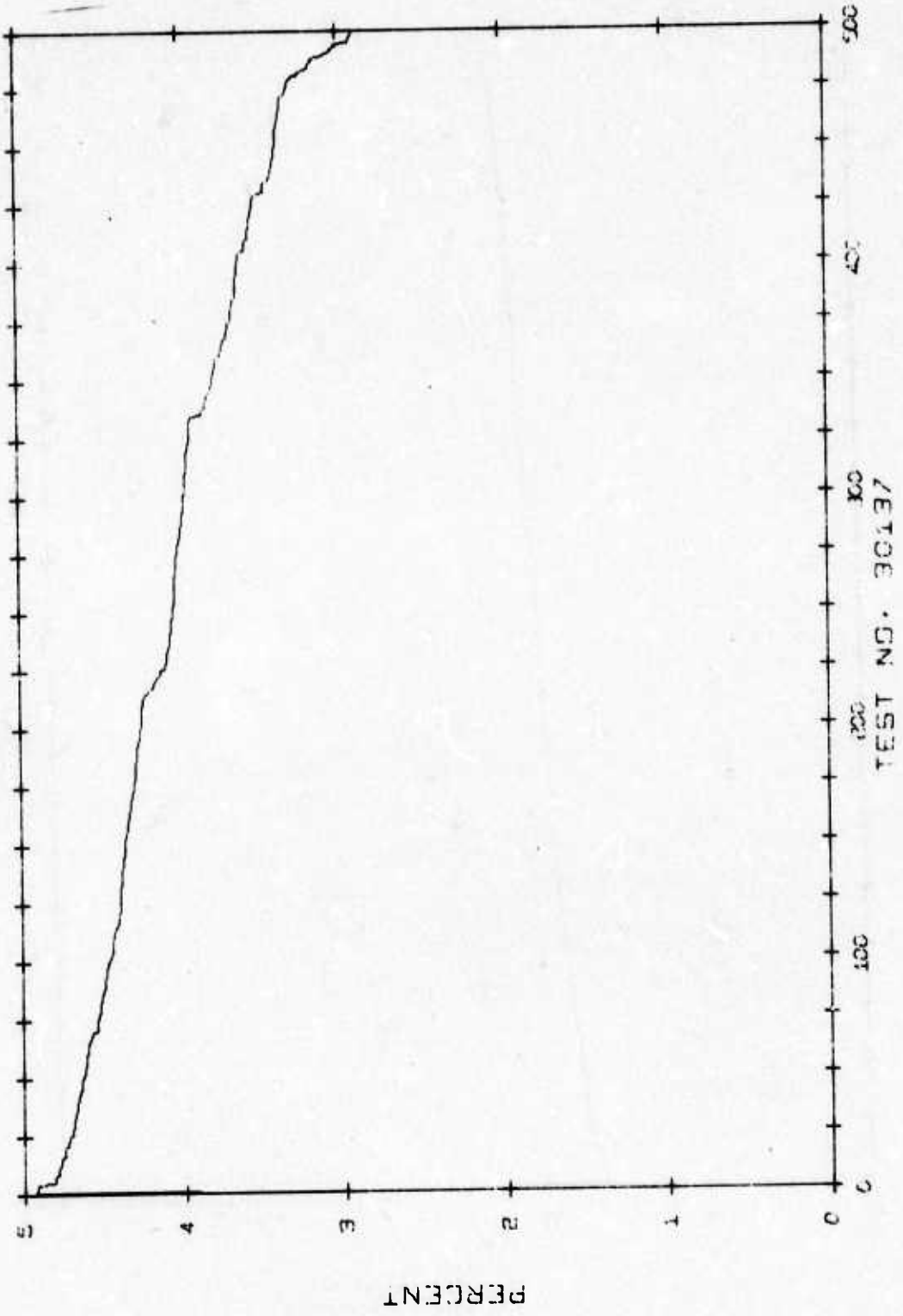


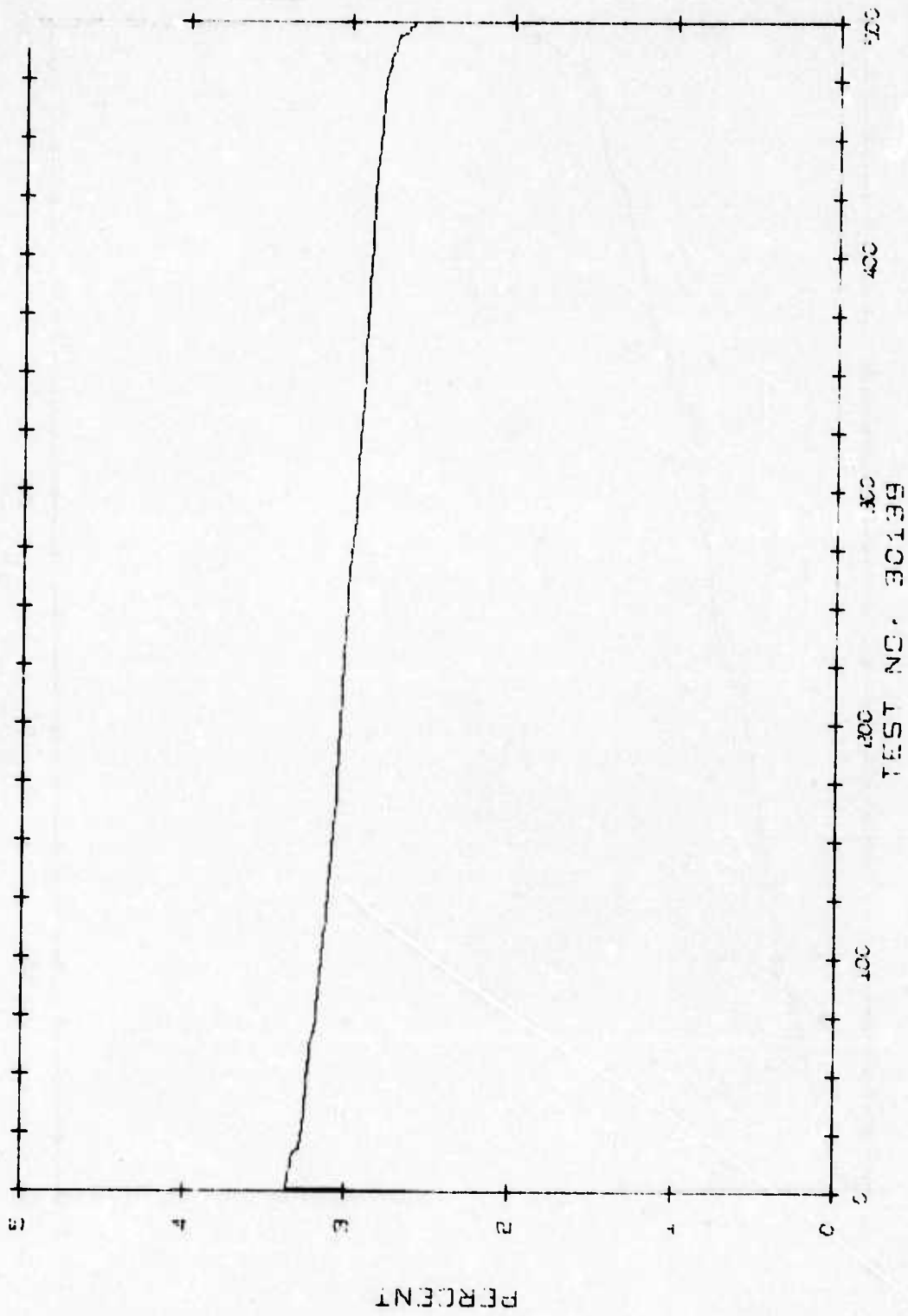




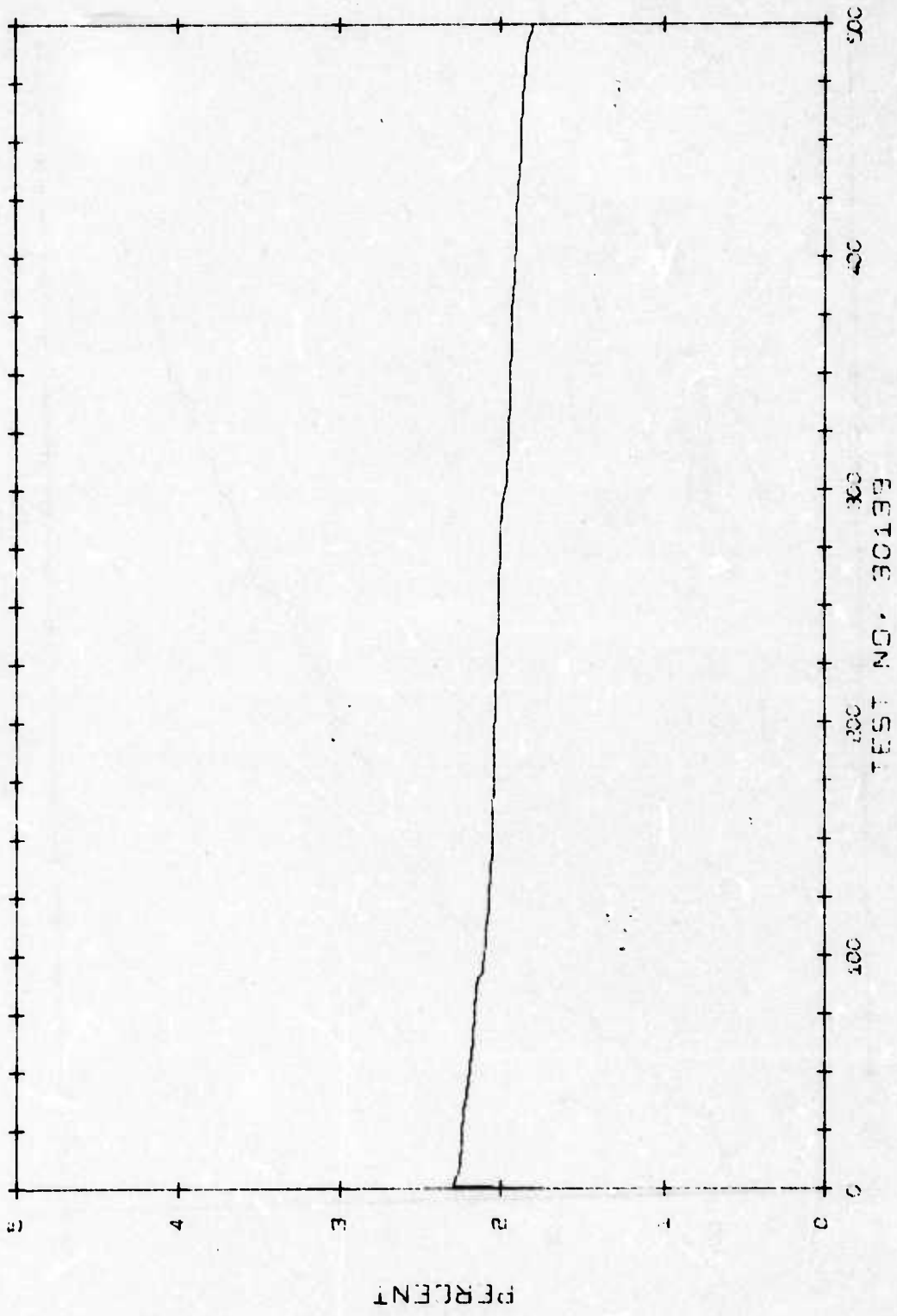


I-174

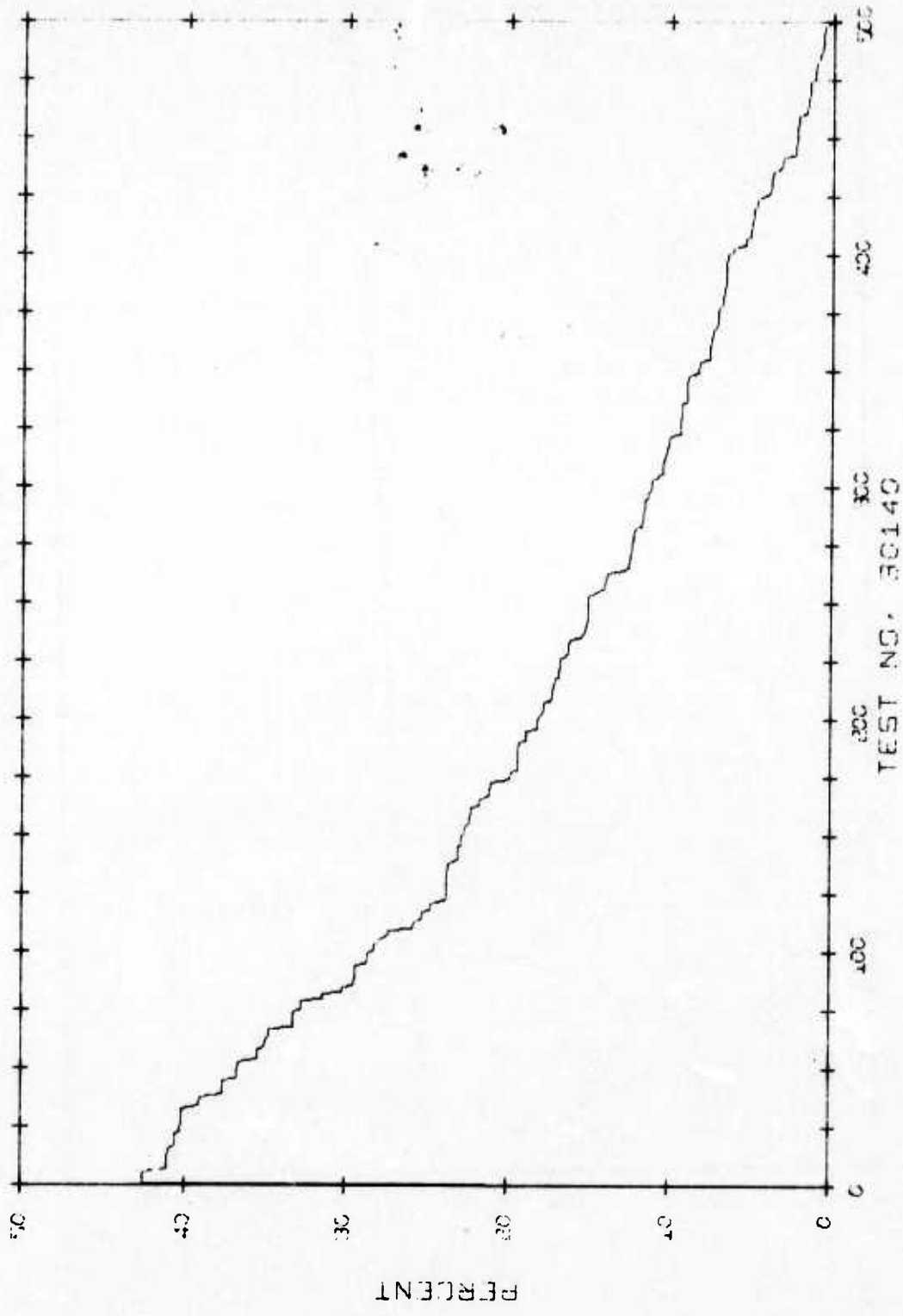


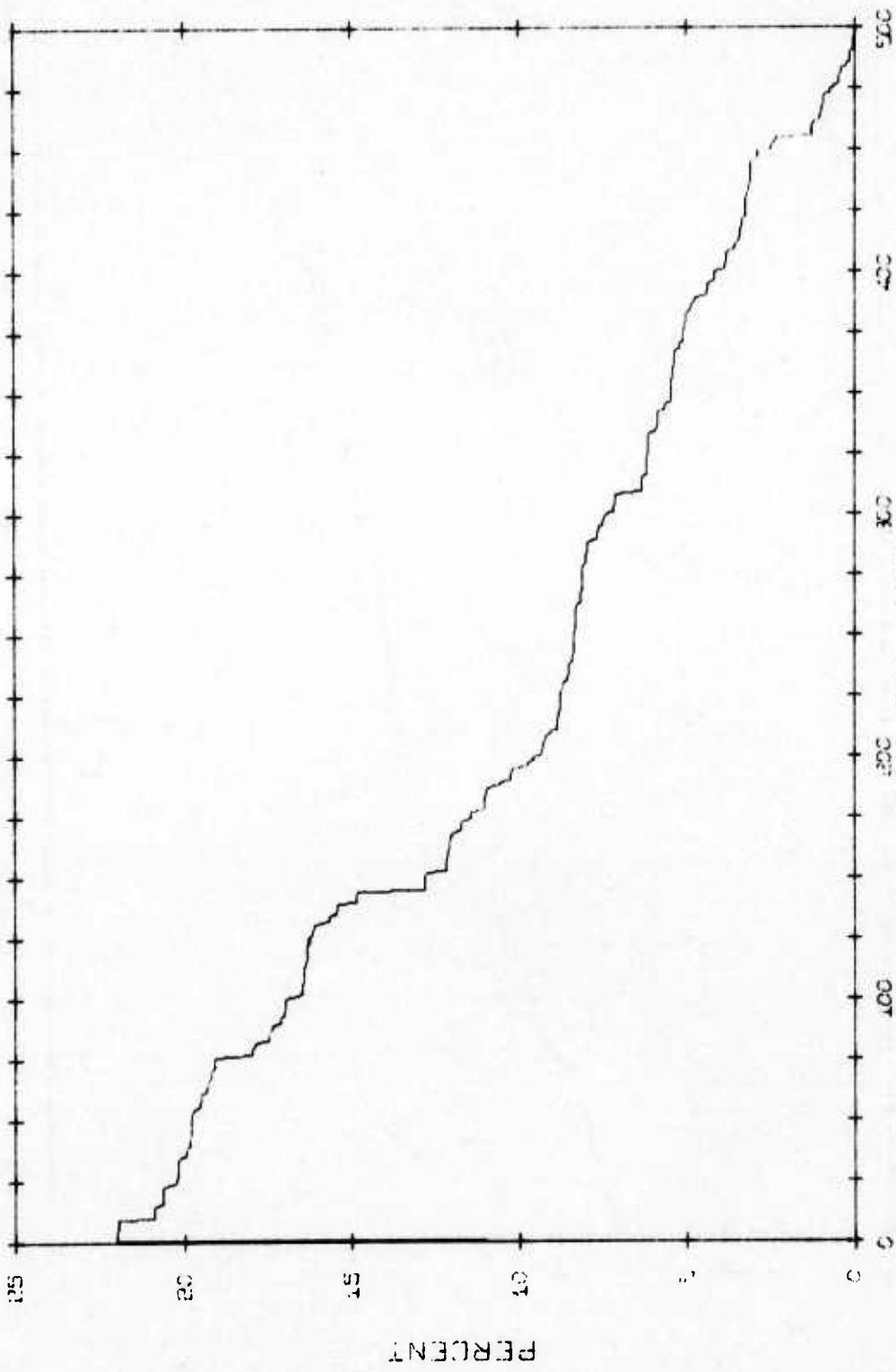


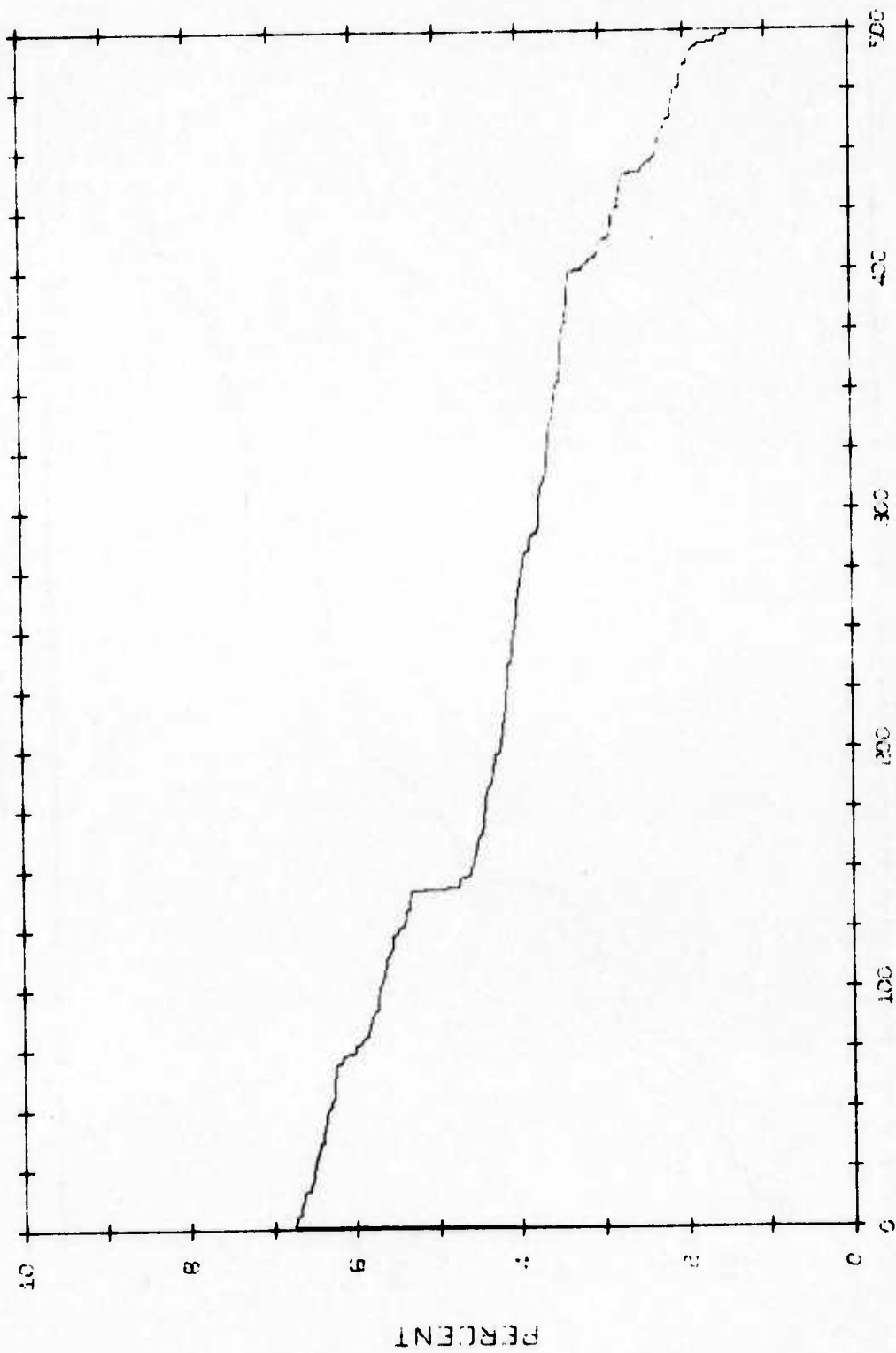
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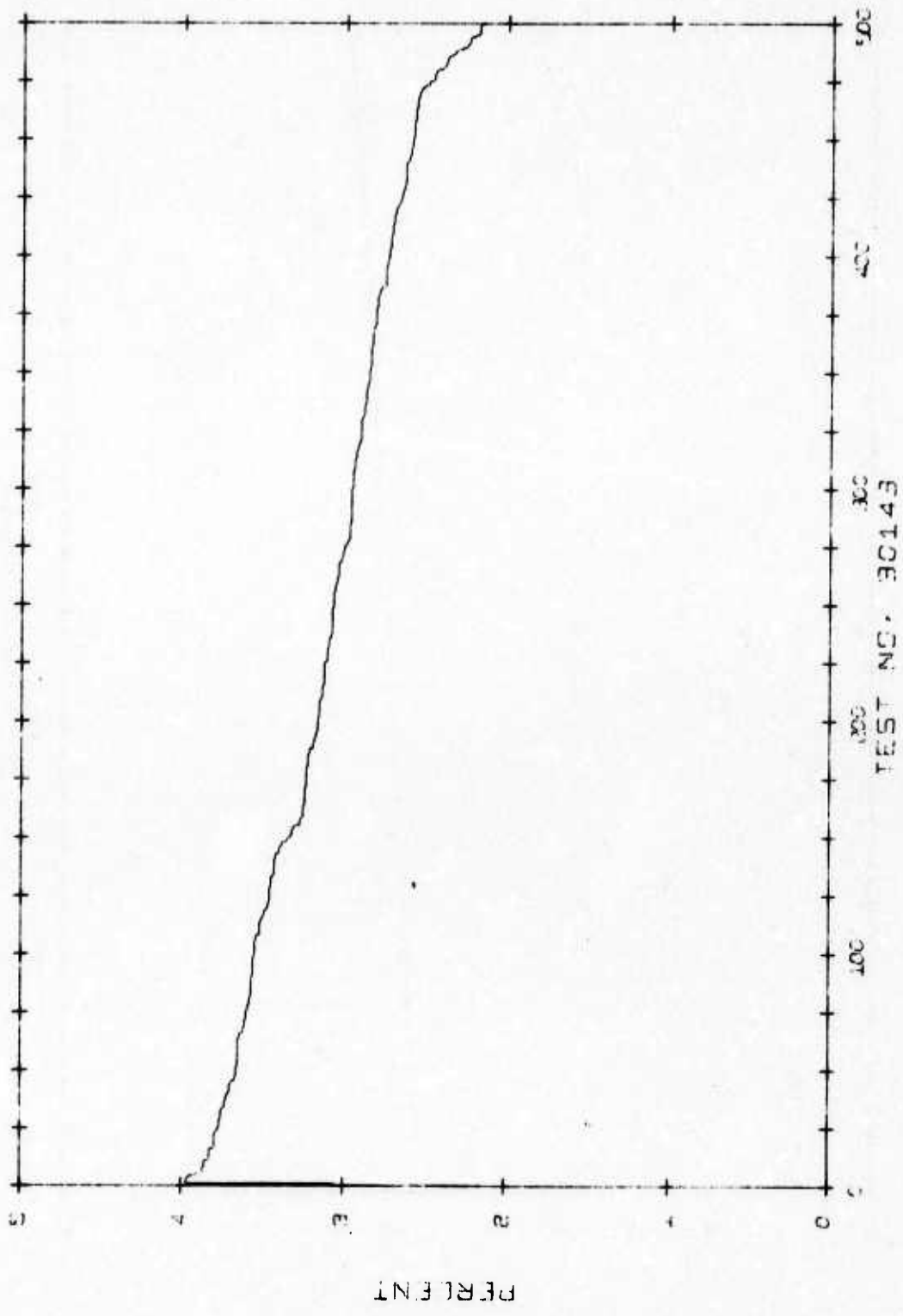
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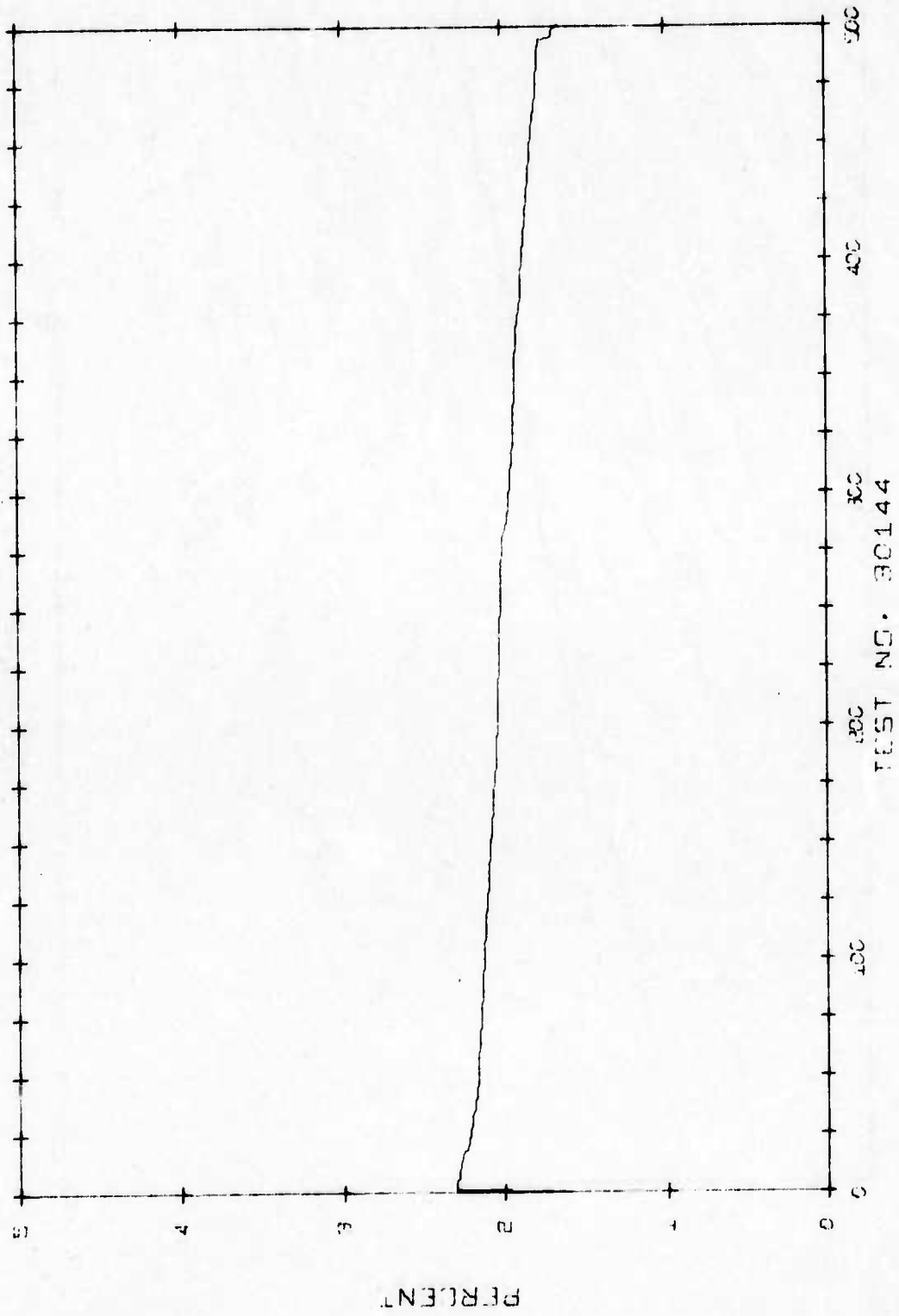


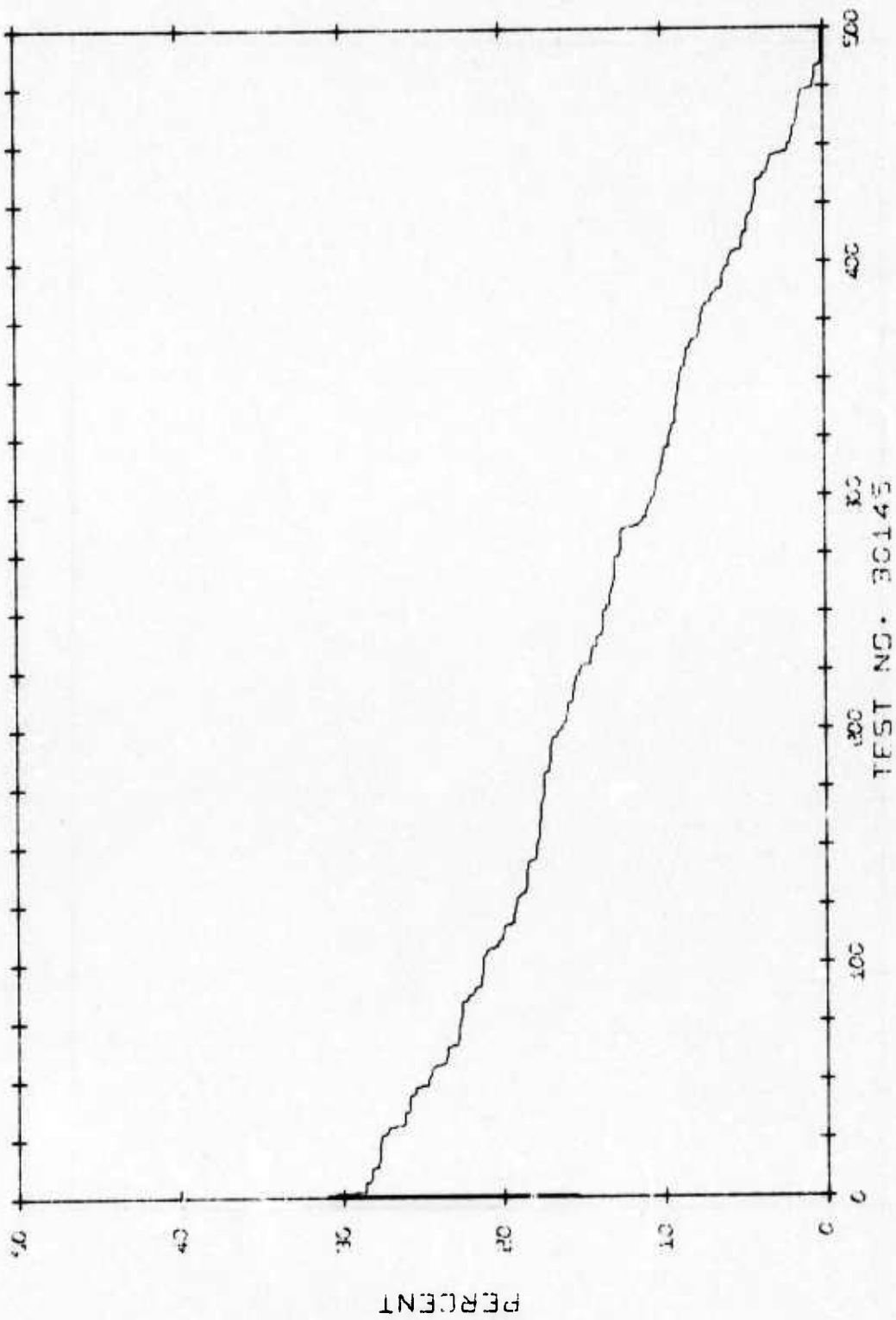


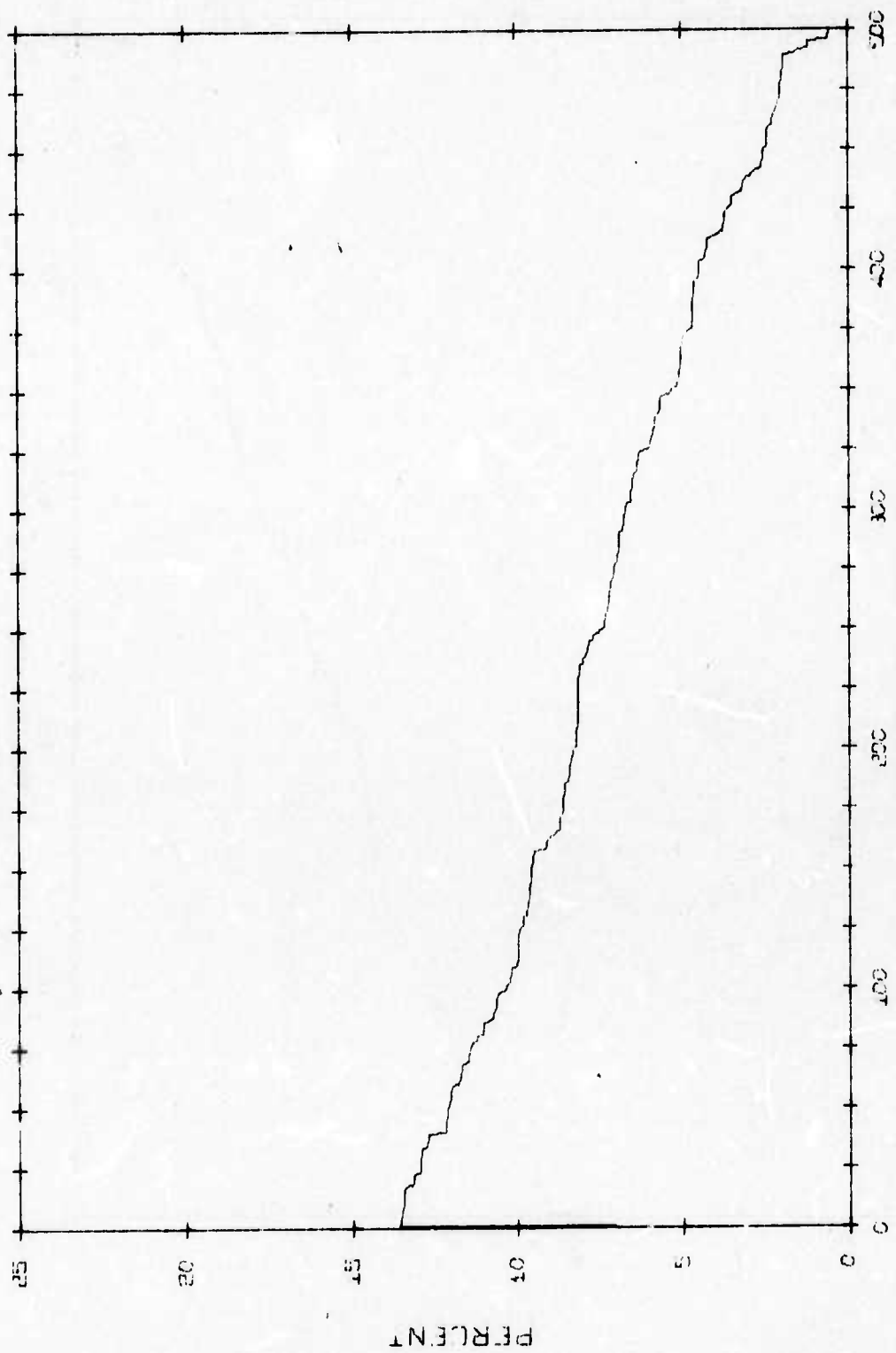


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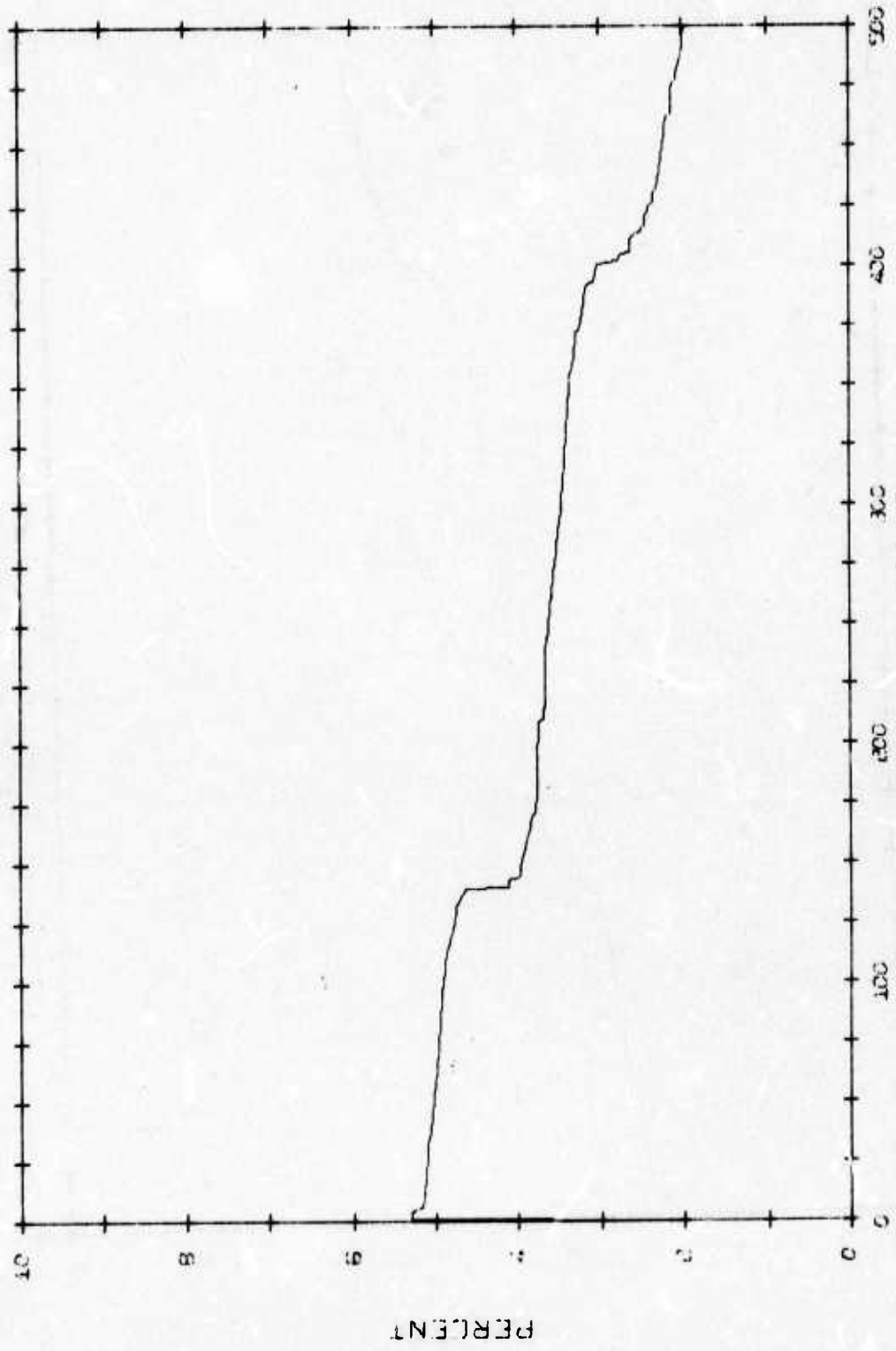


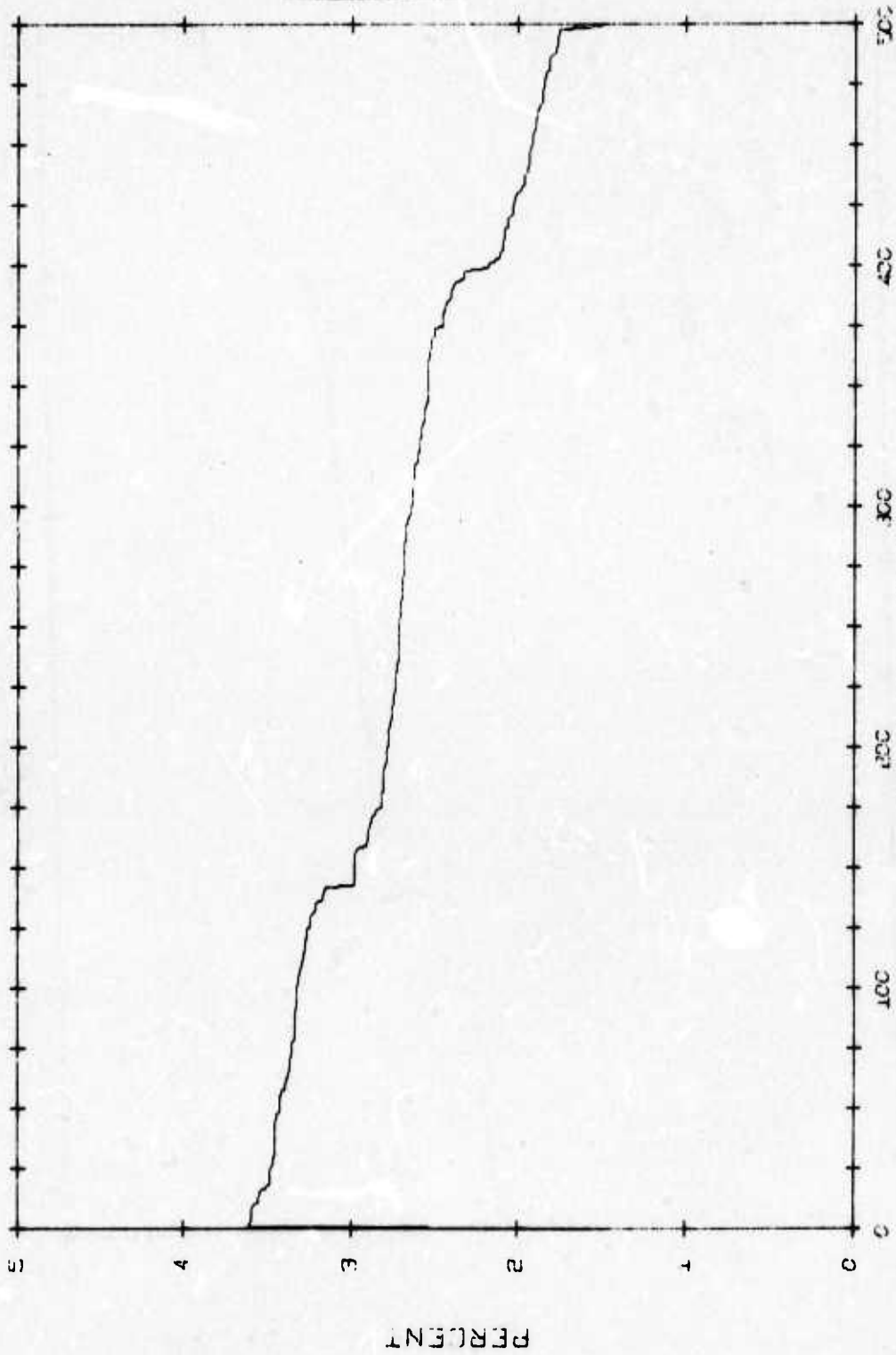


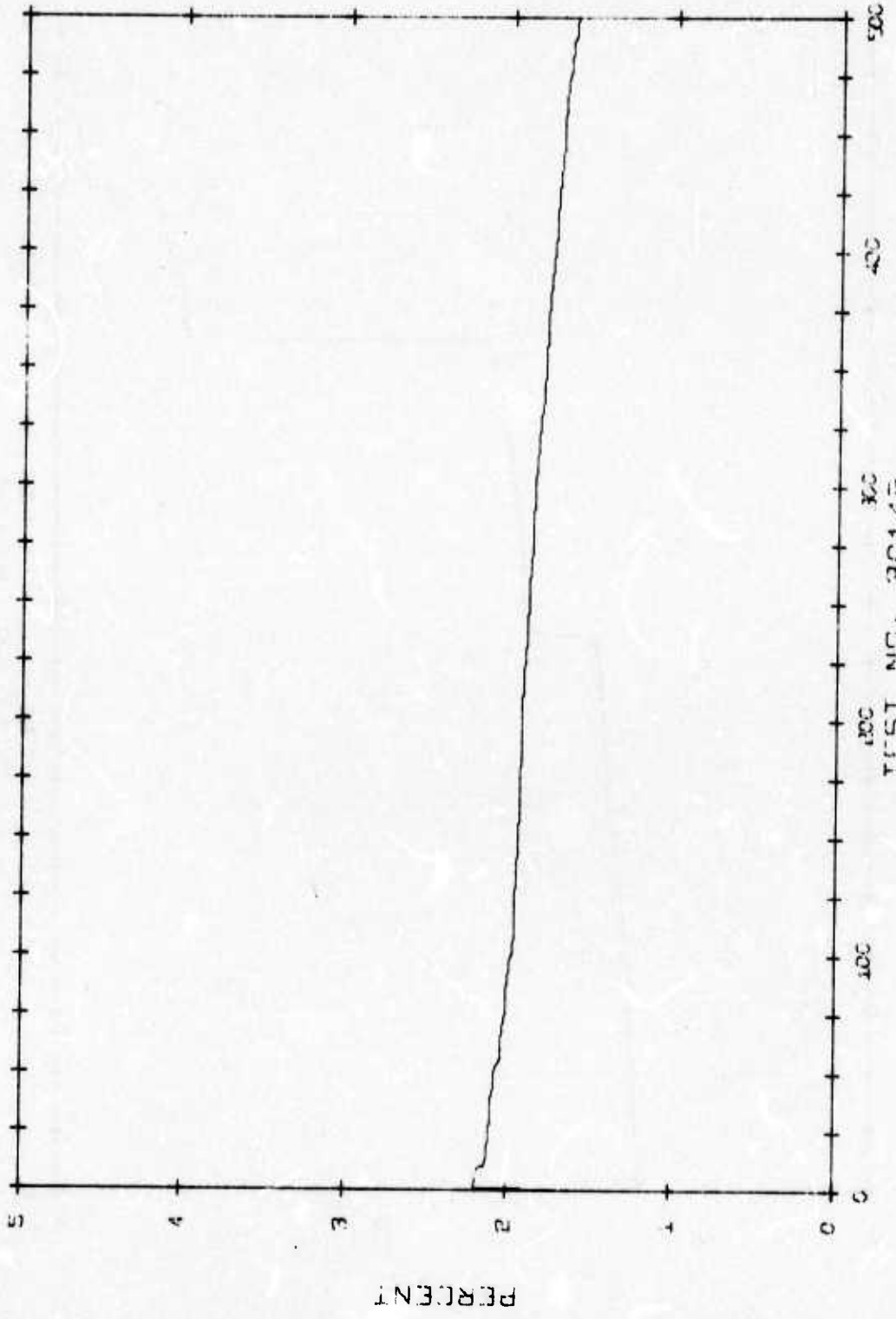


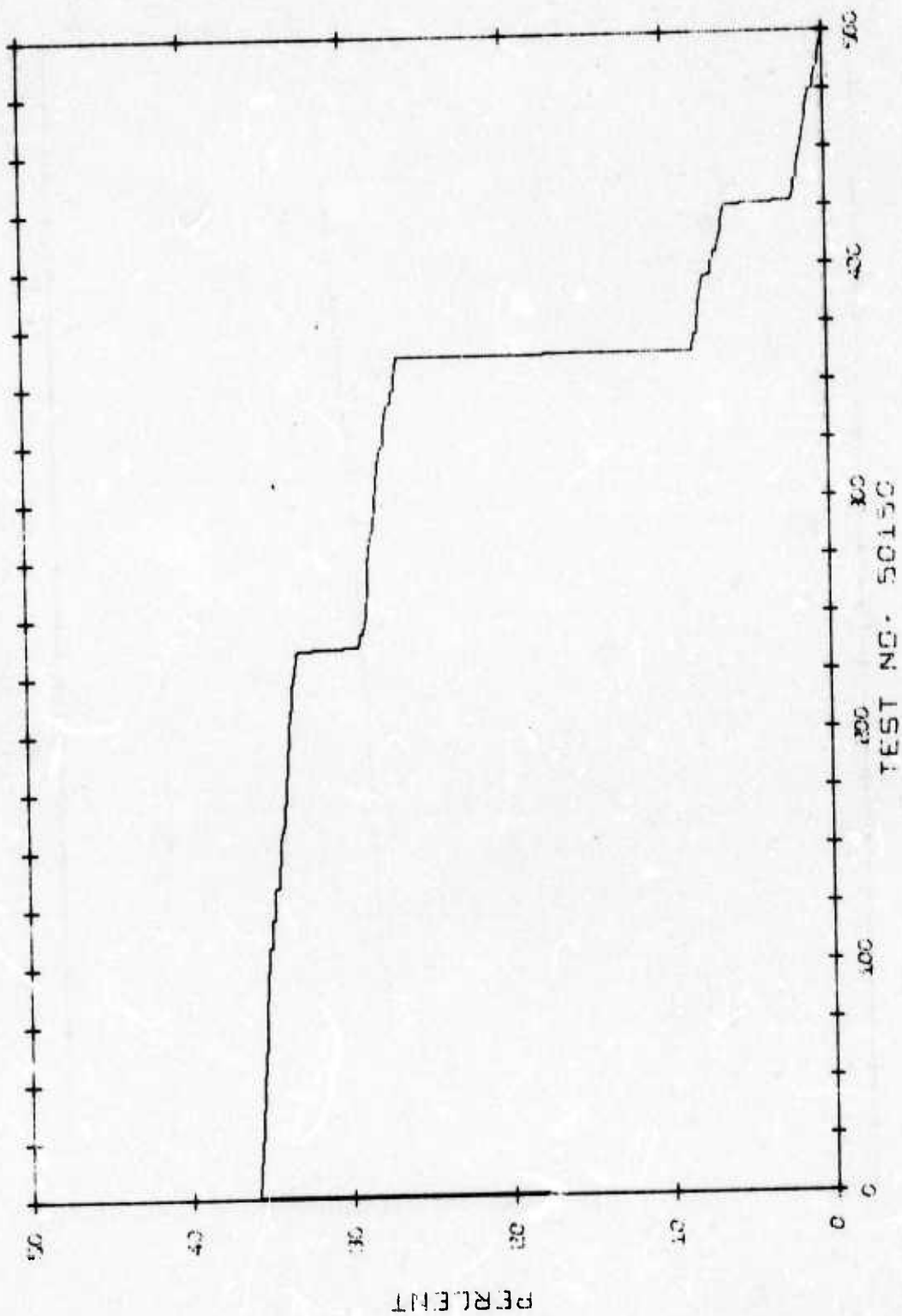


I-184

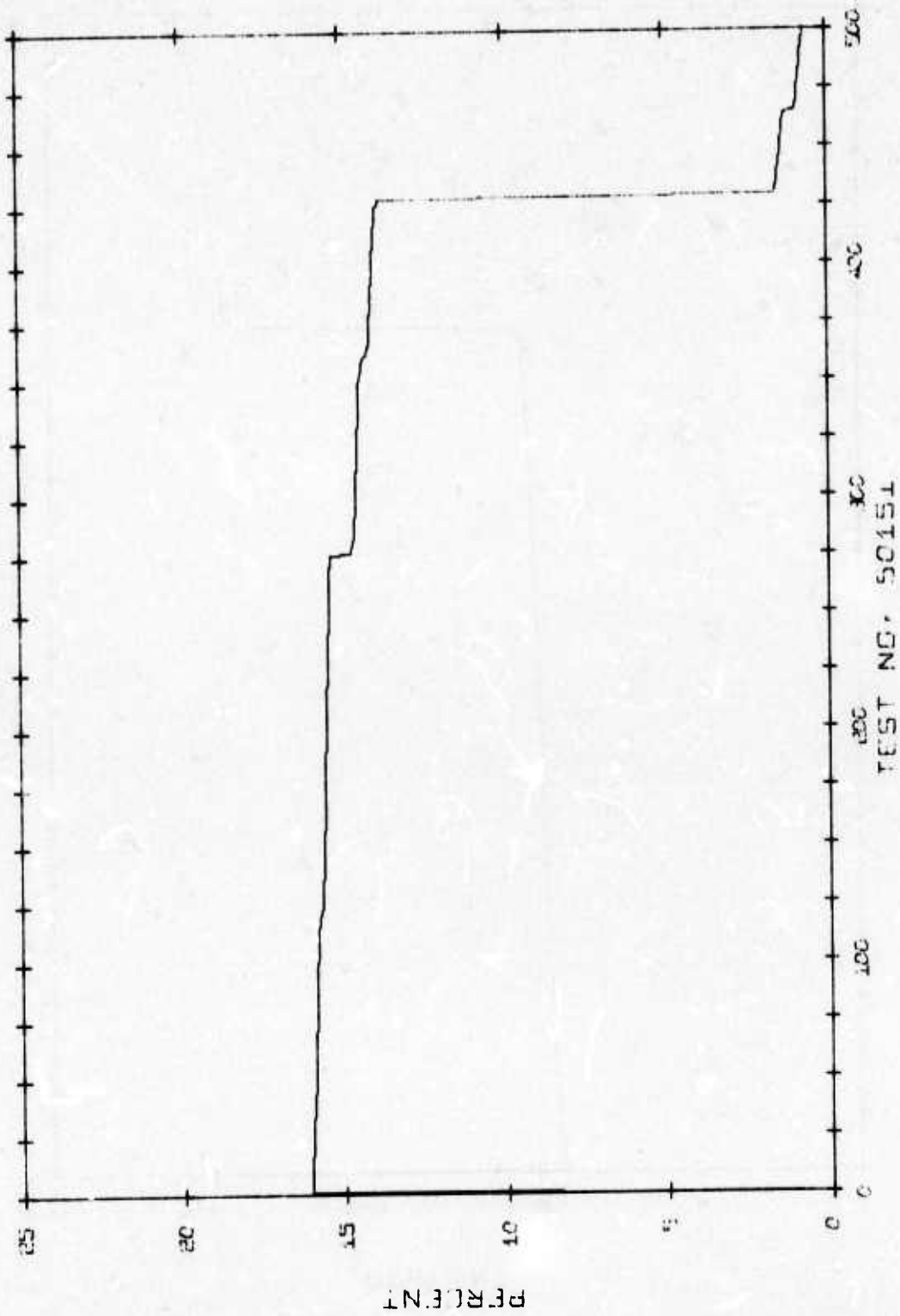


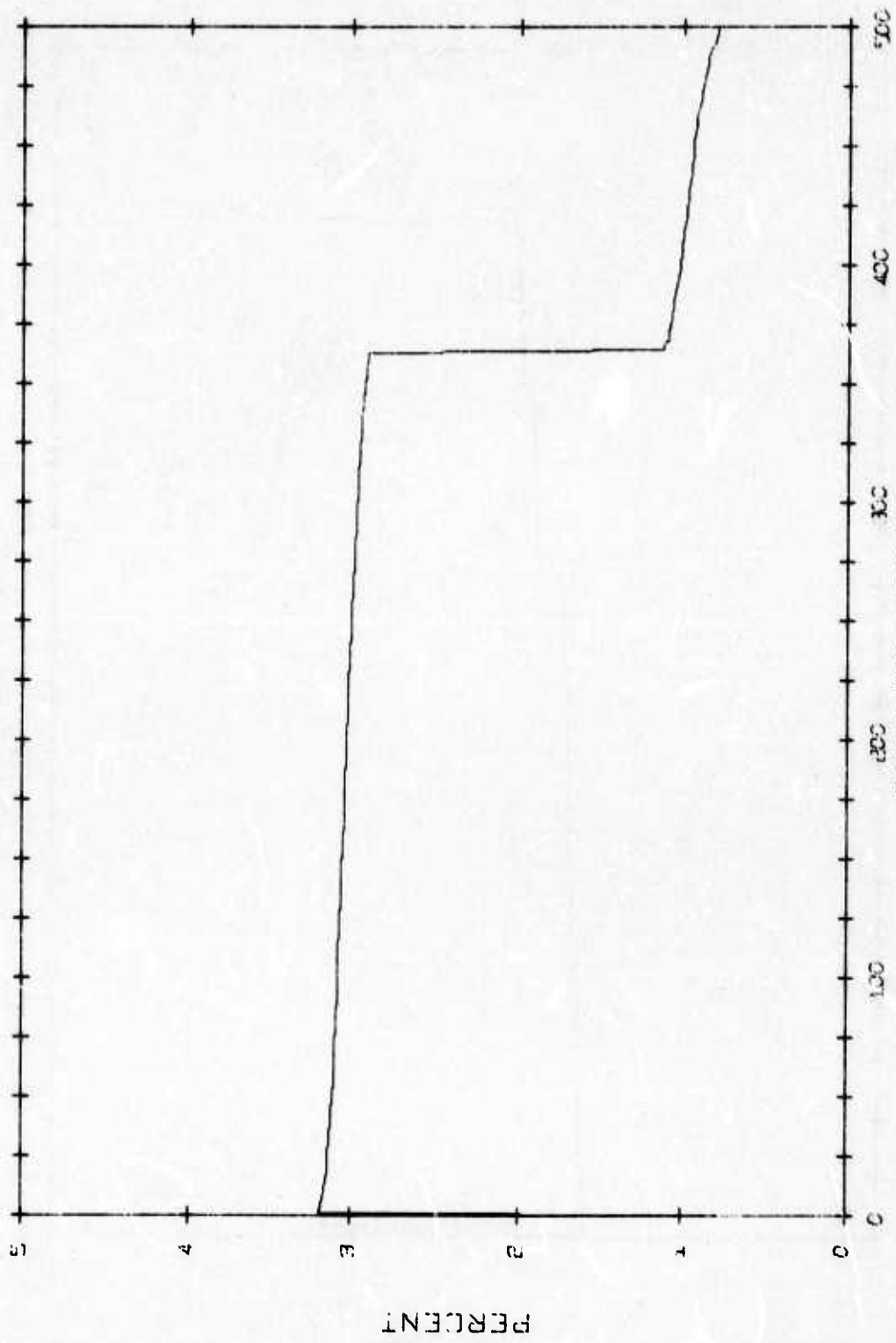




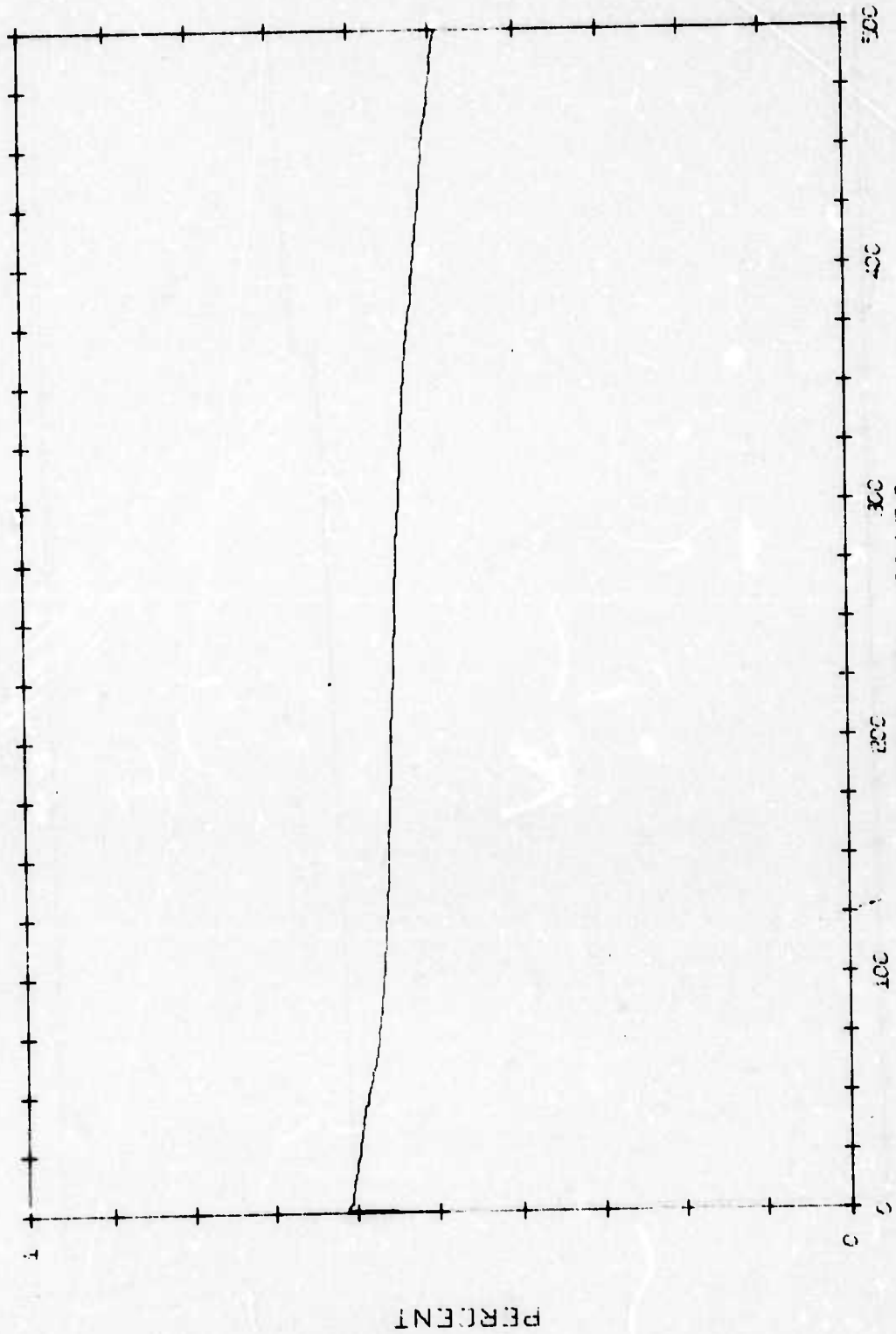


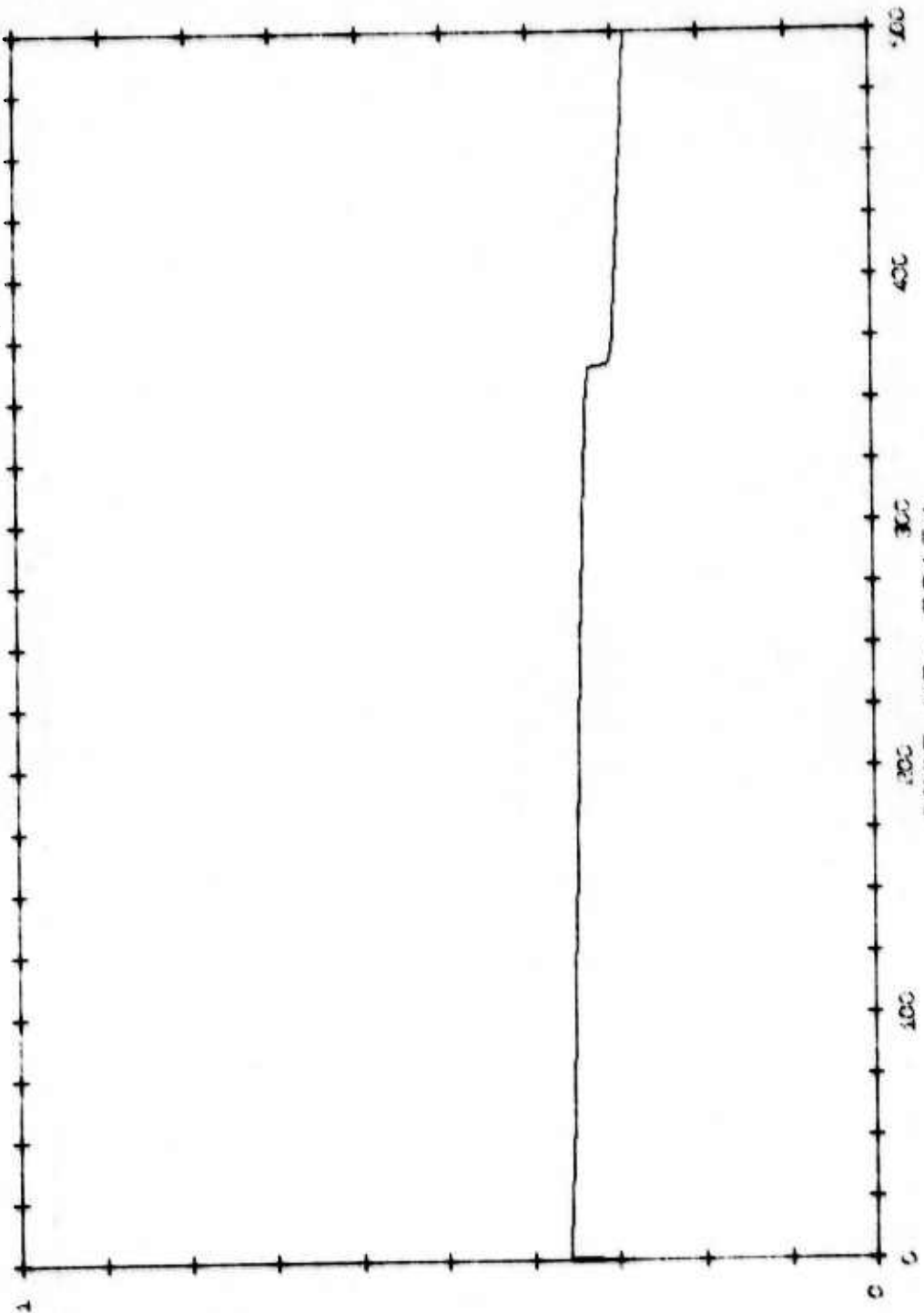
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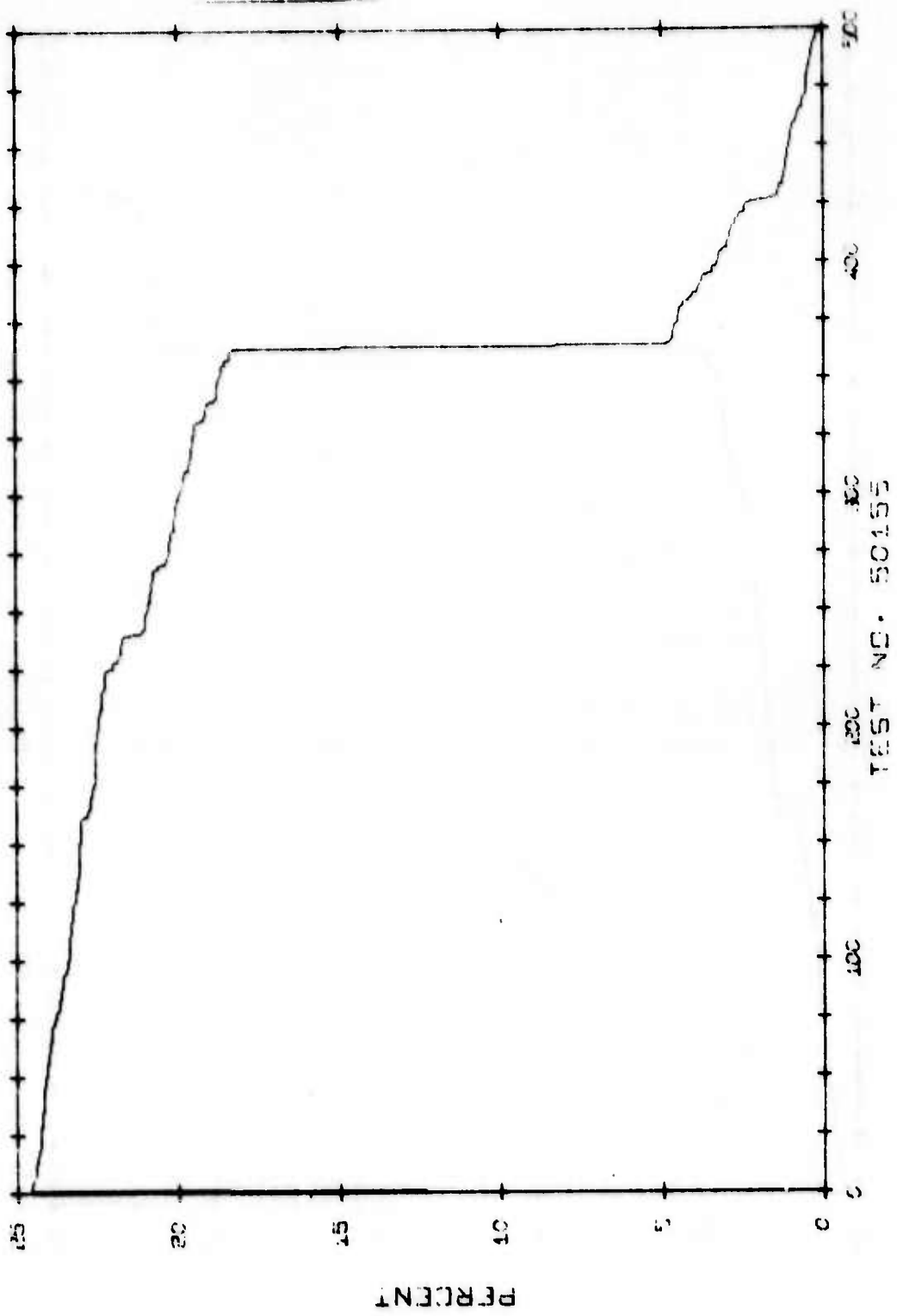
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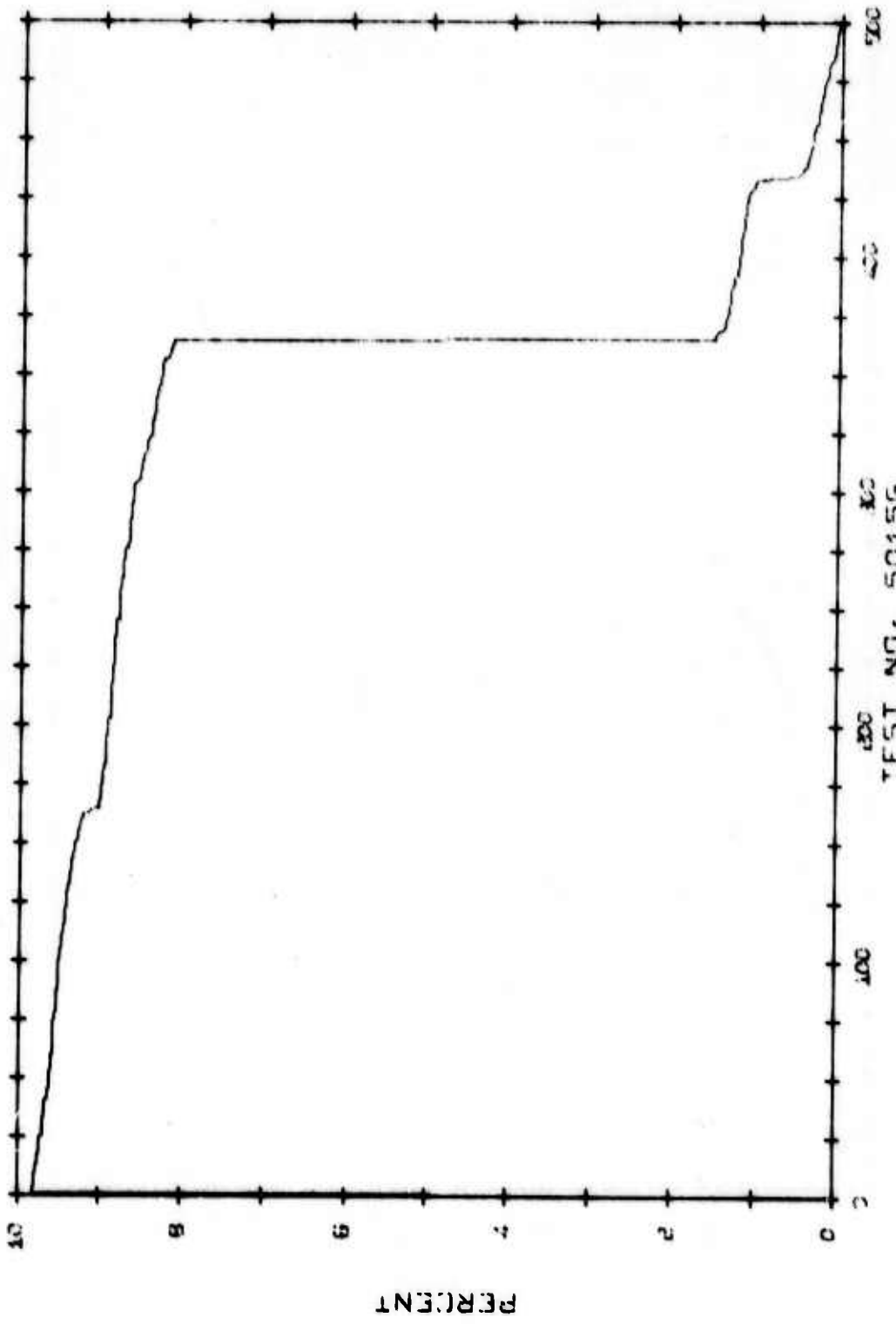


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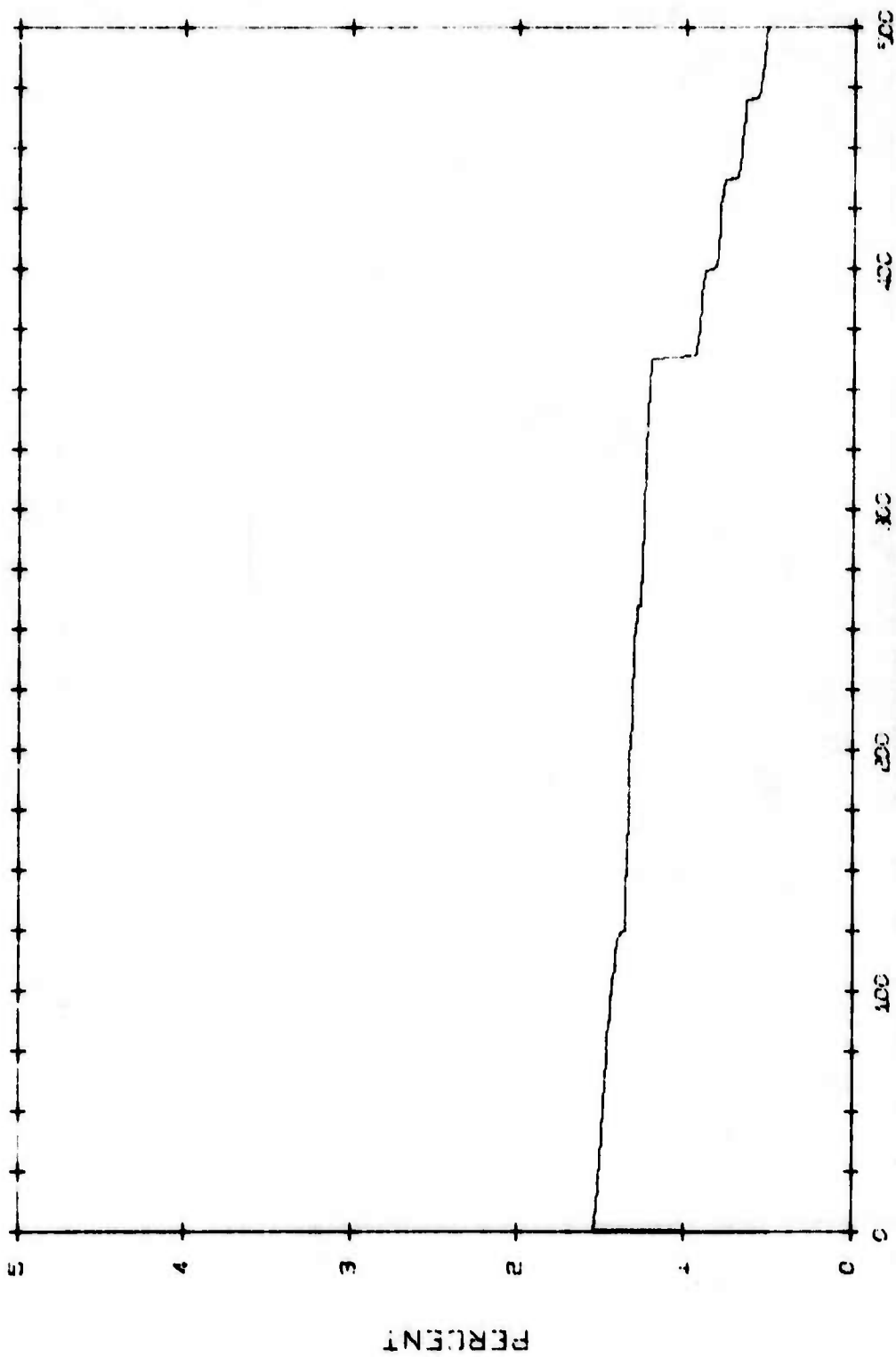
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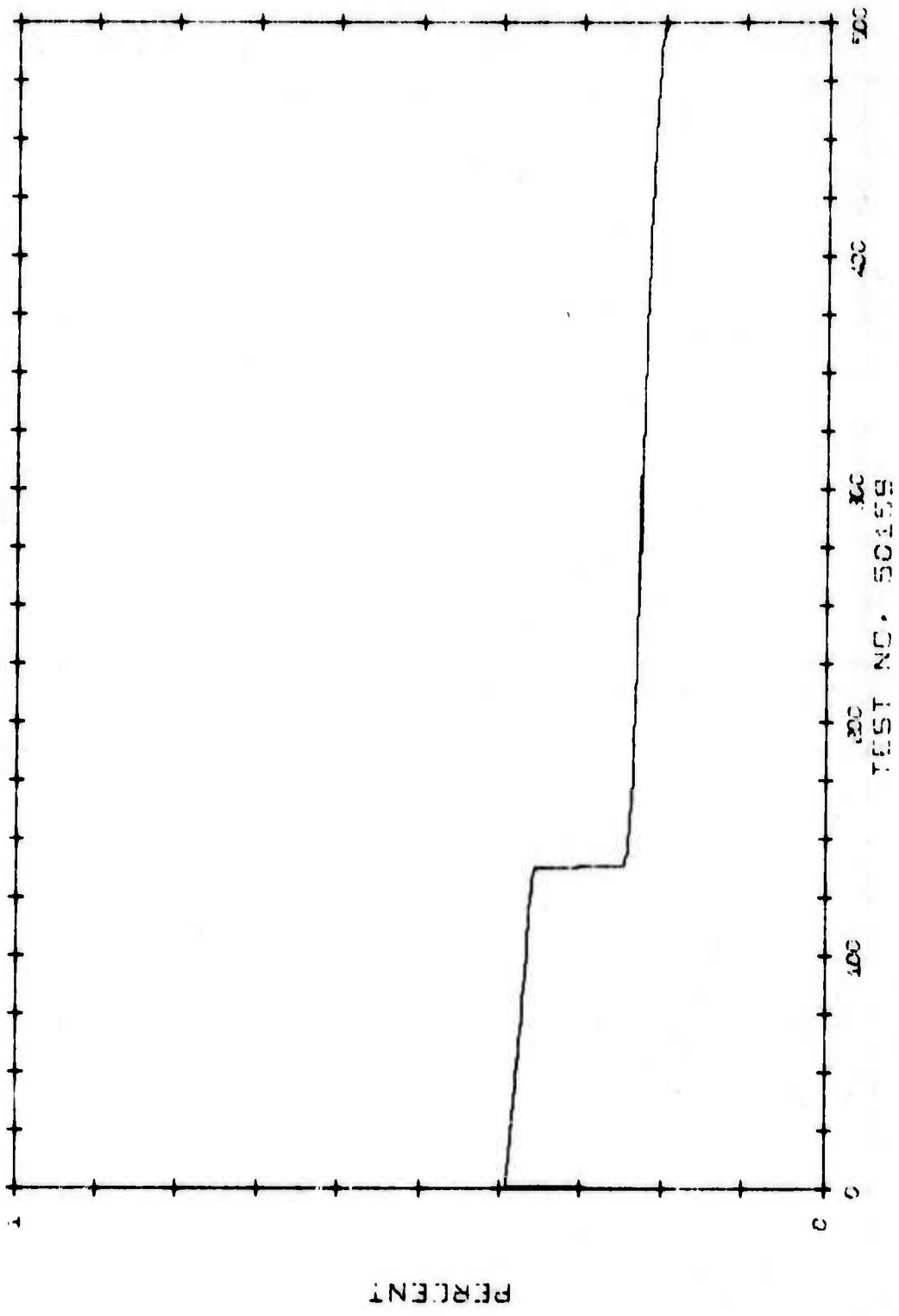


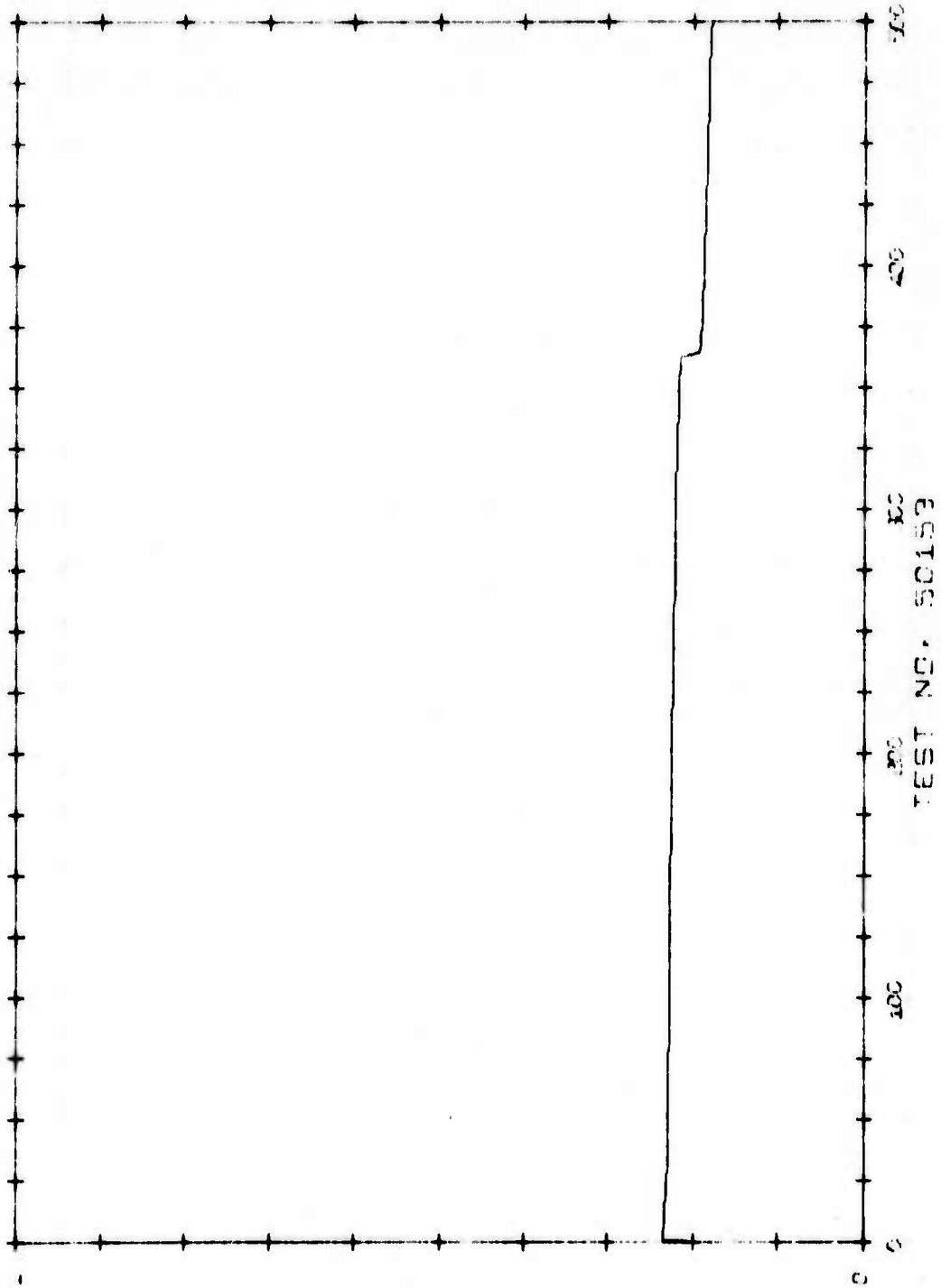
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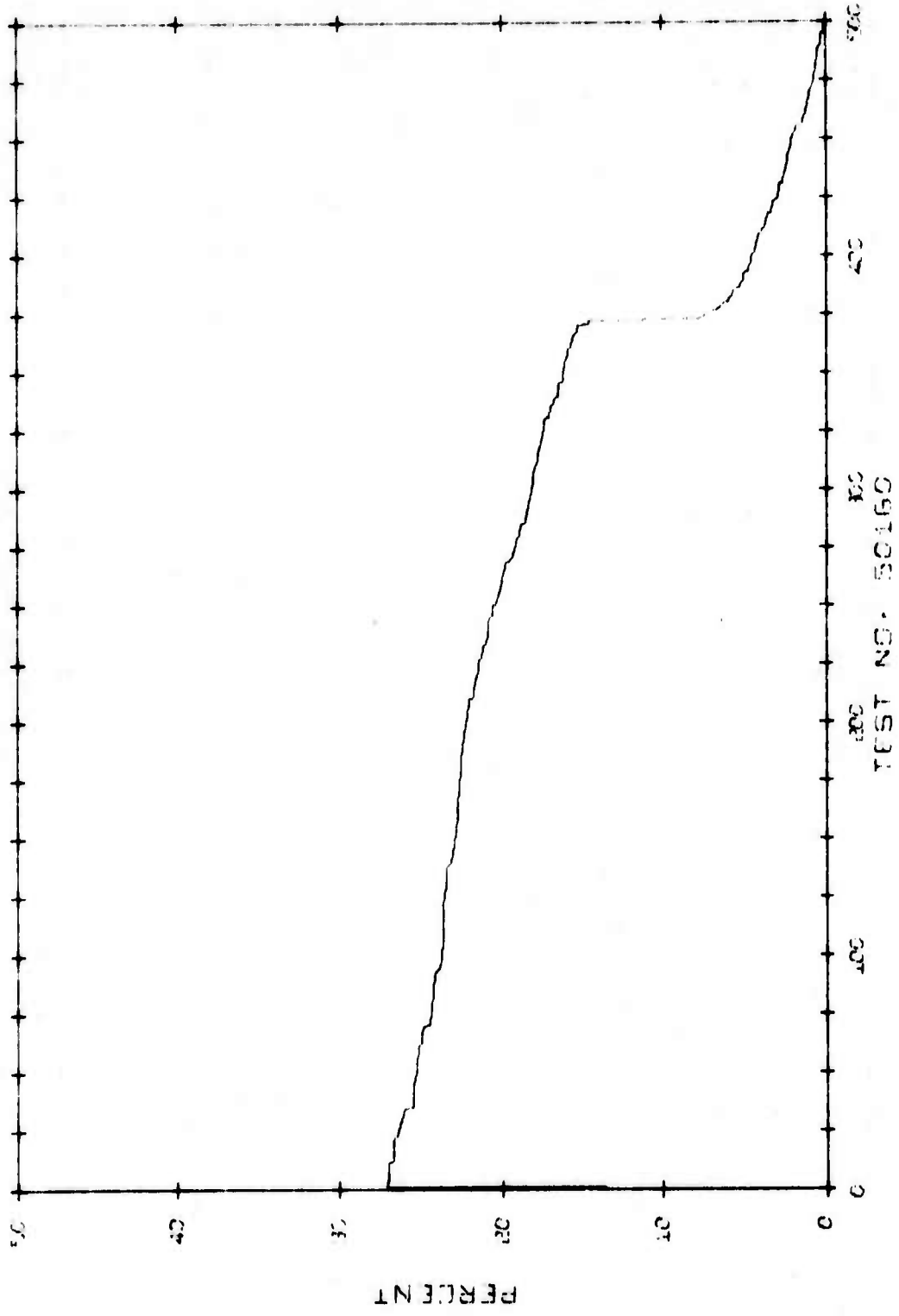
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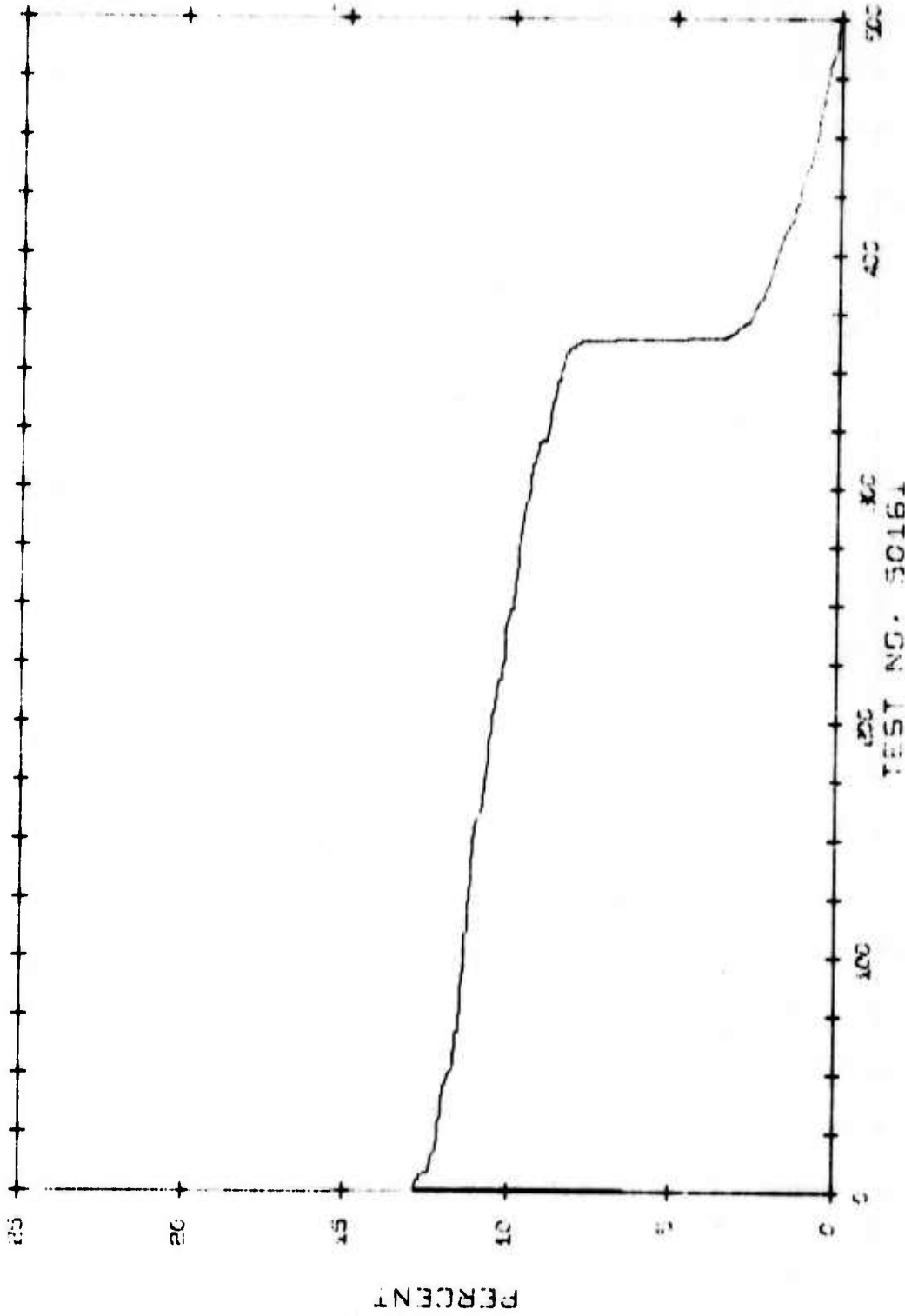


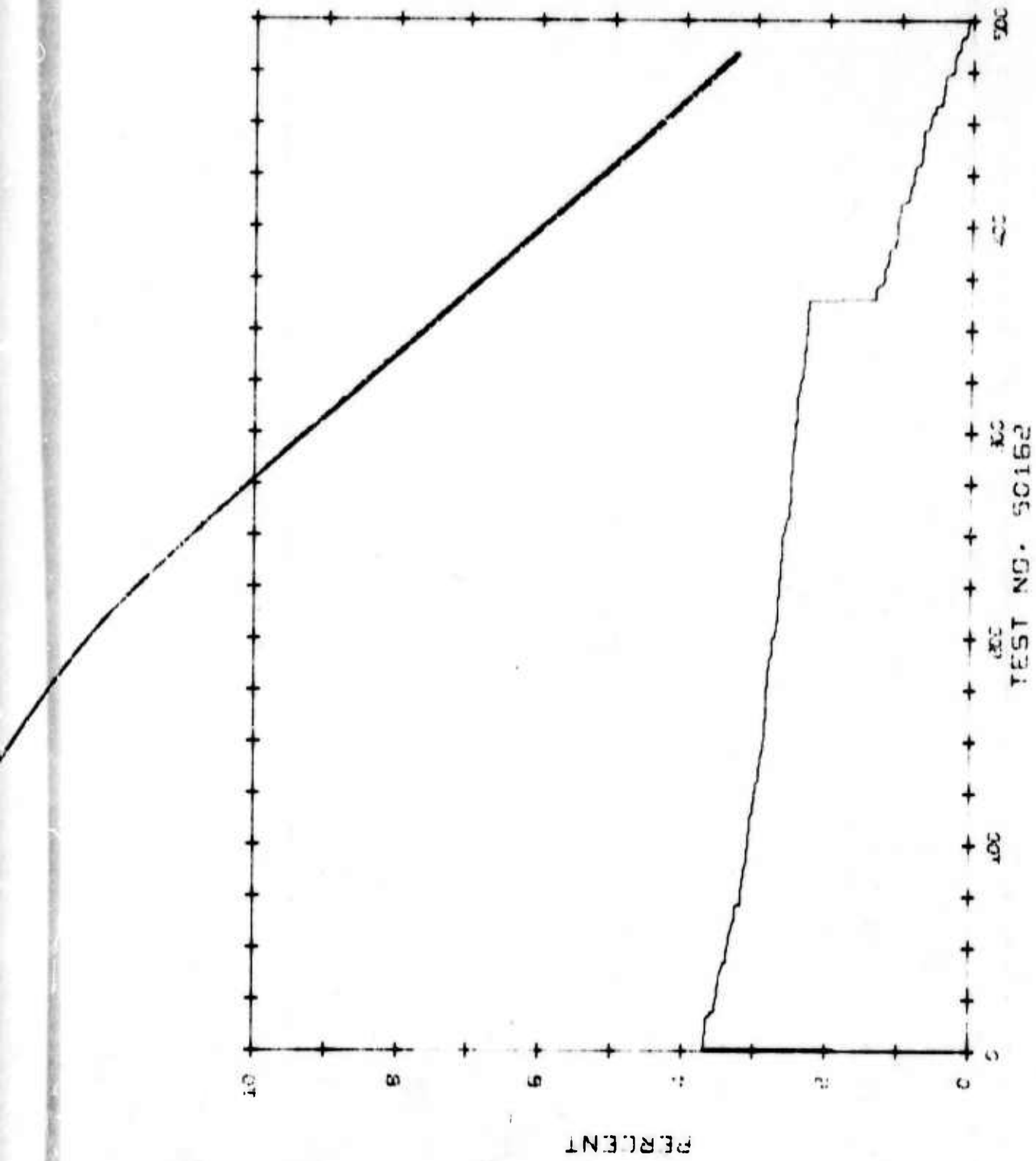




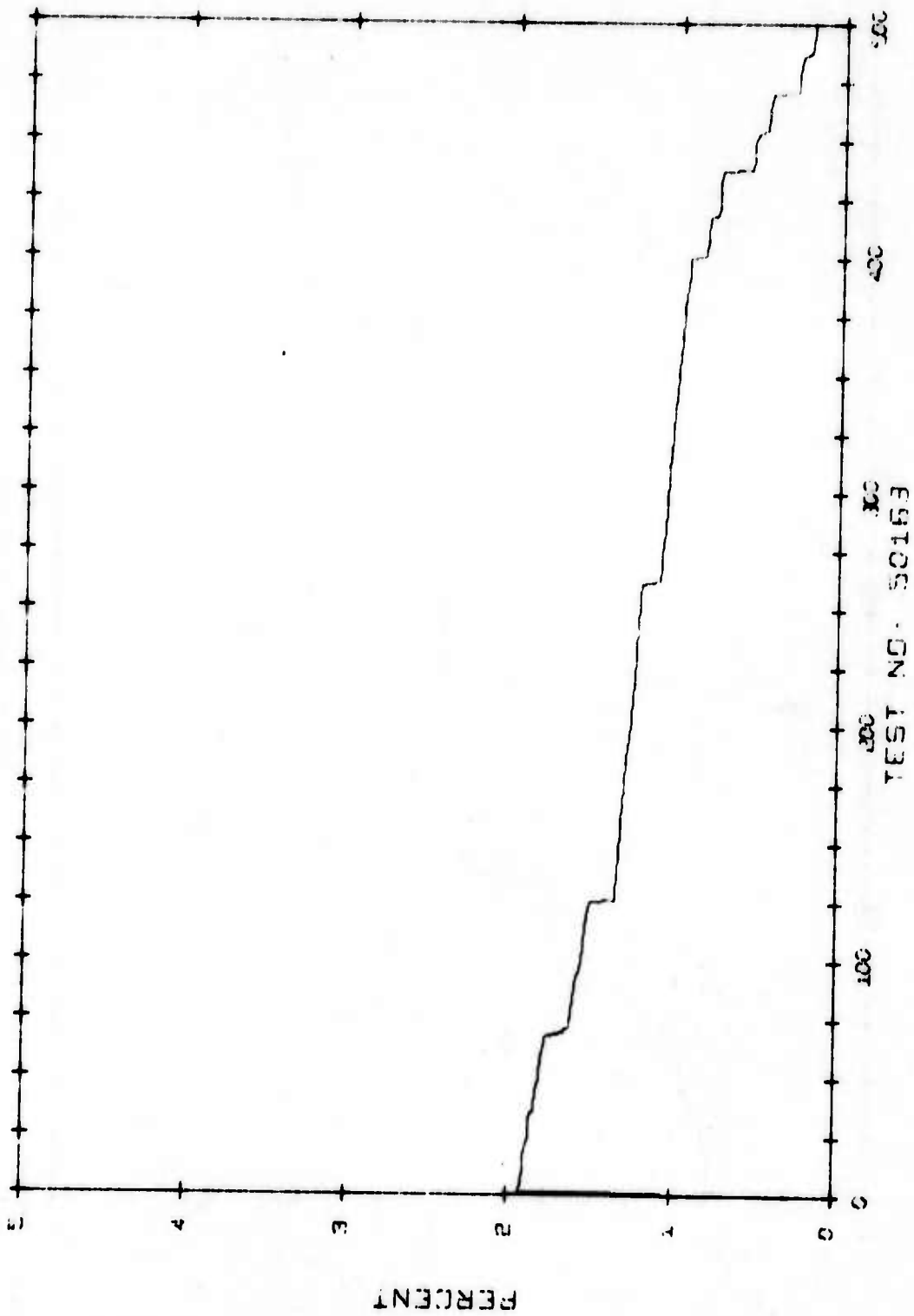
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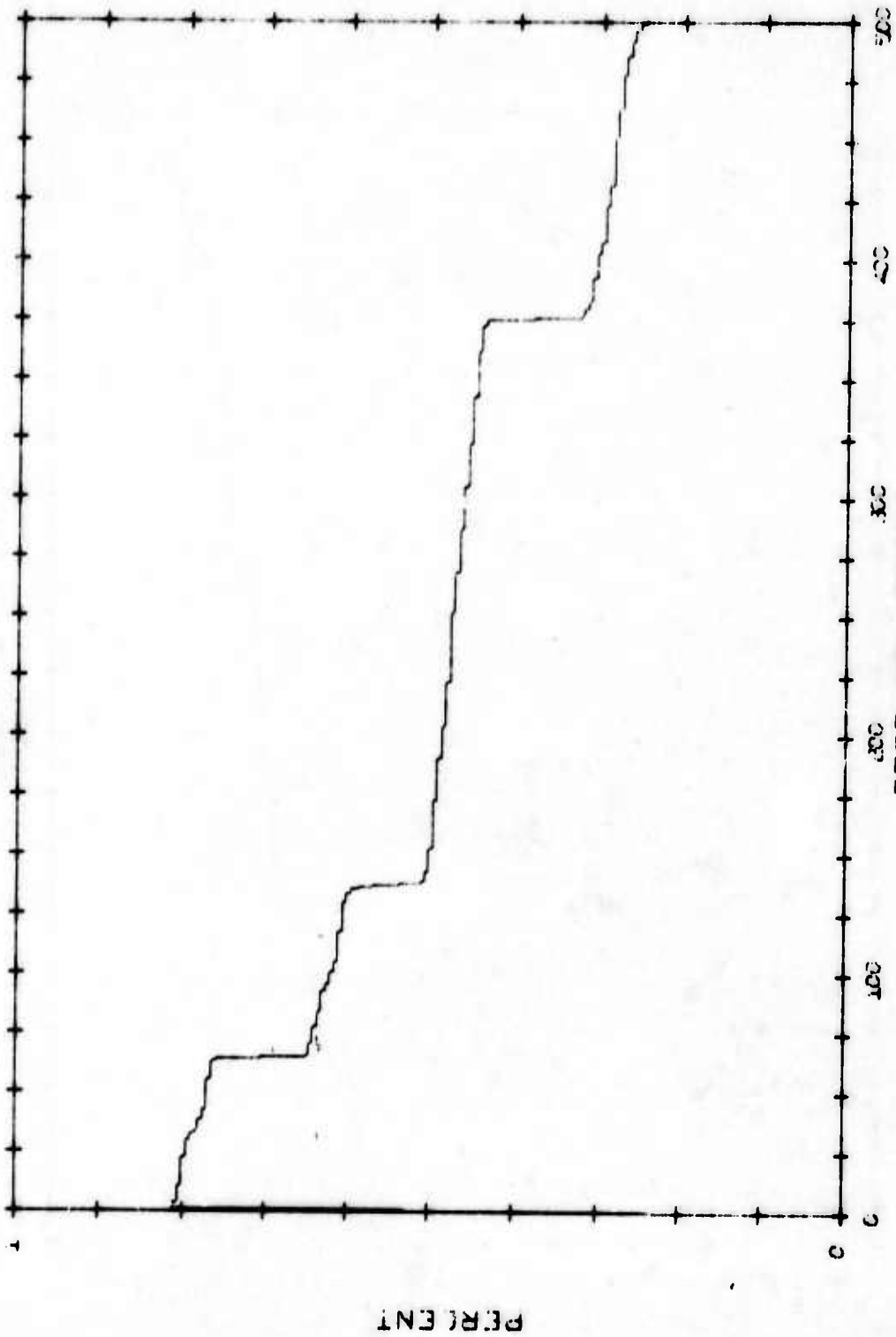




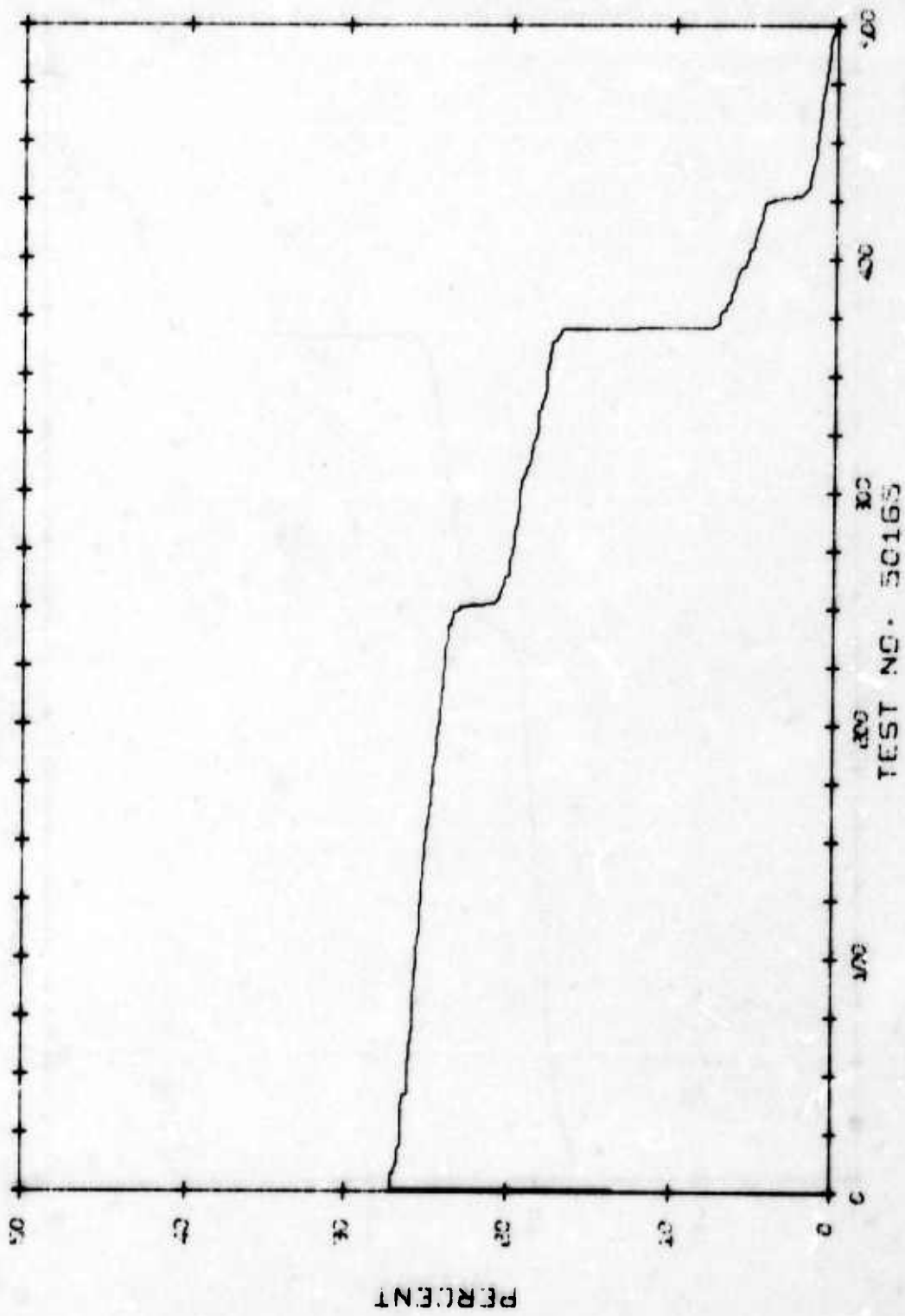
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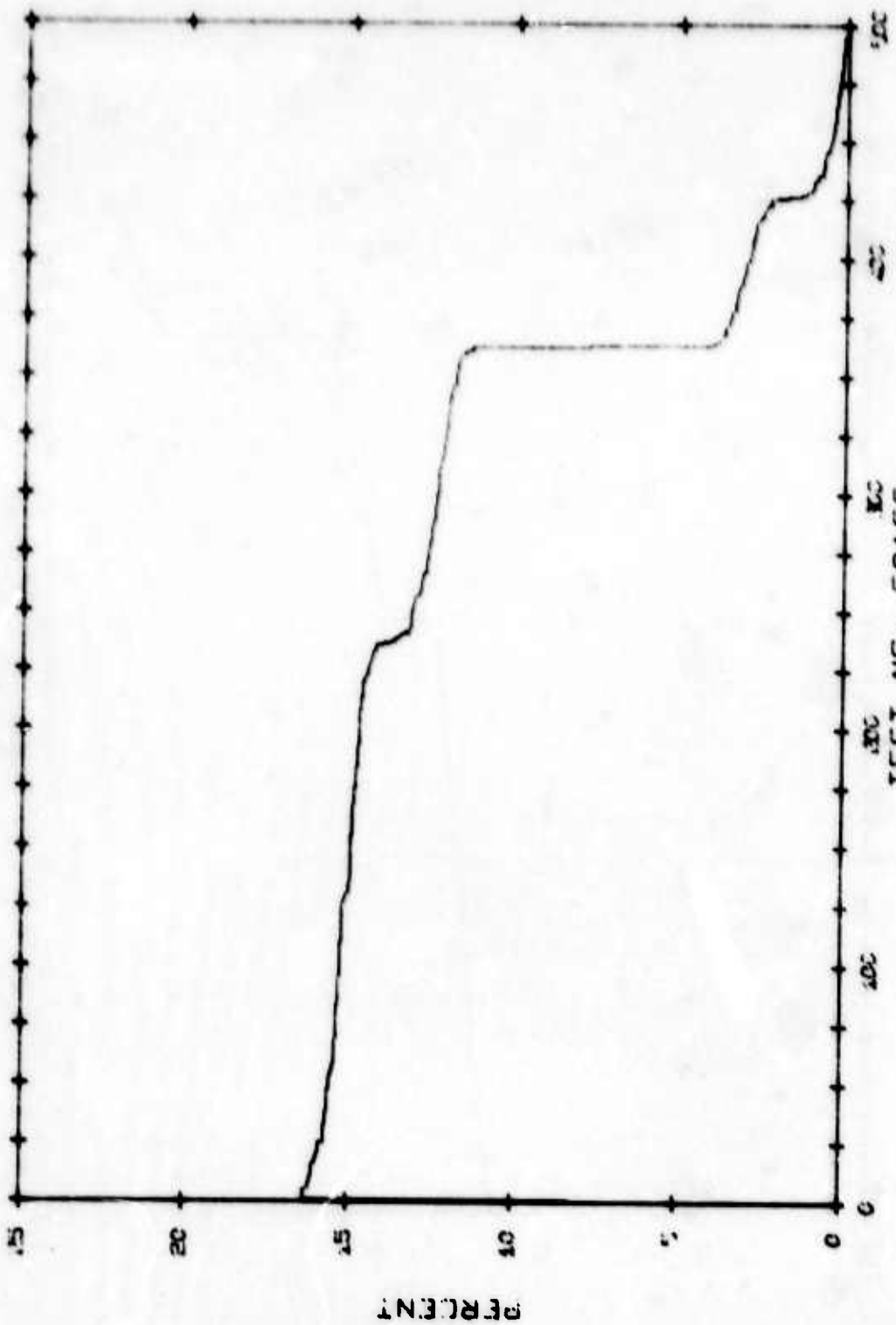


I-201



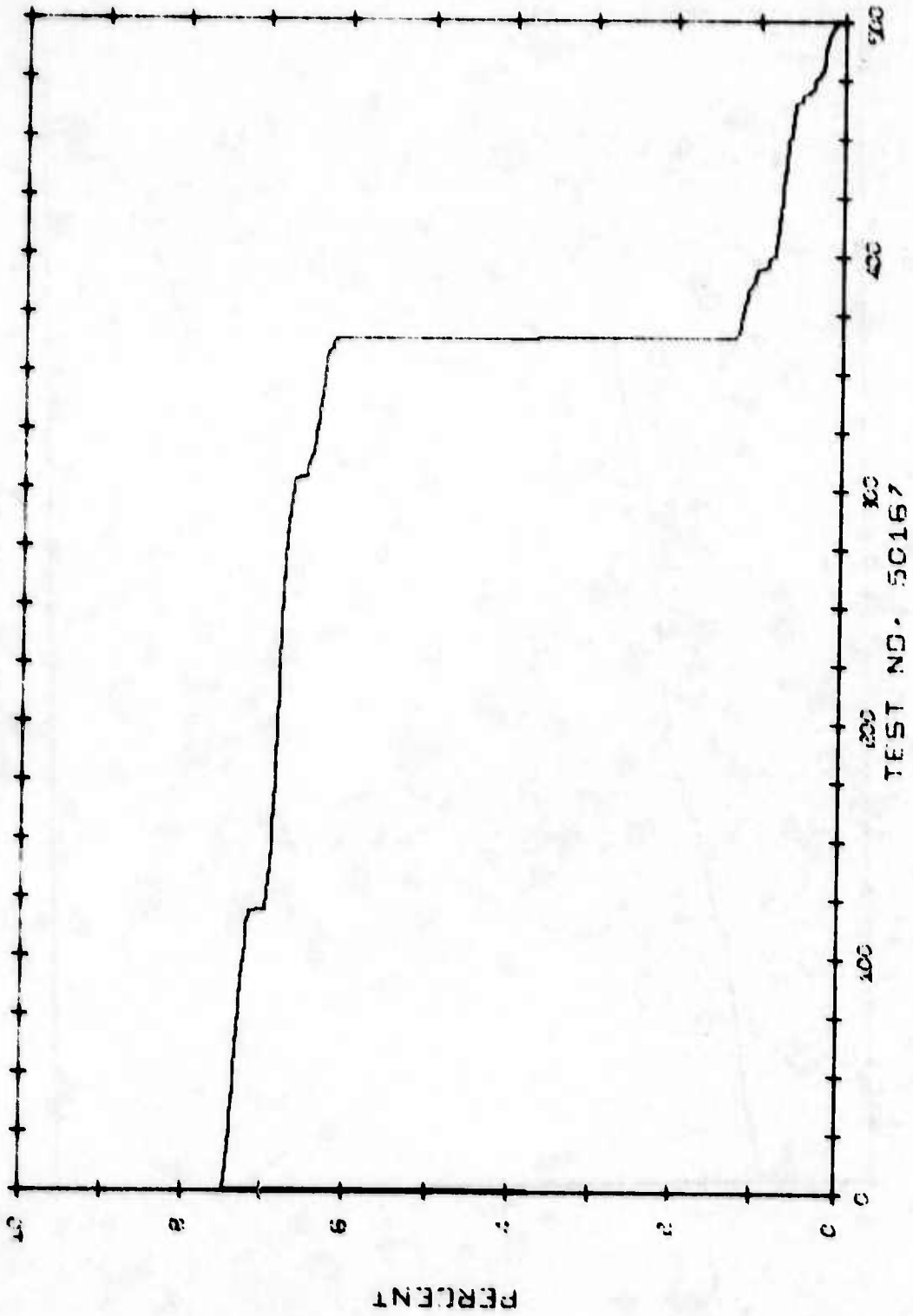
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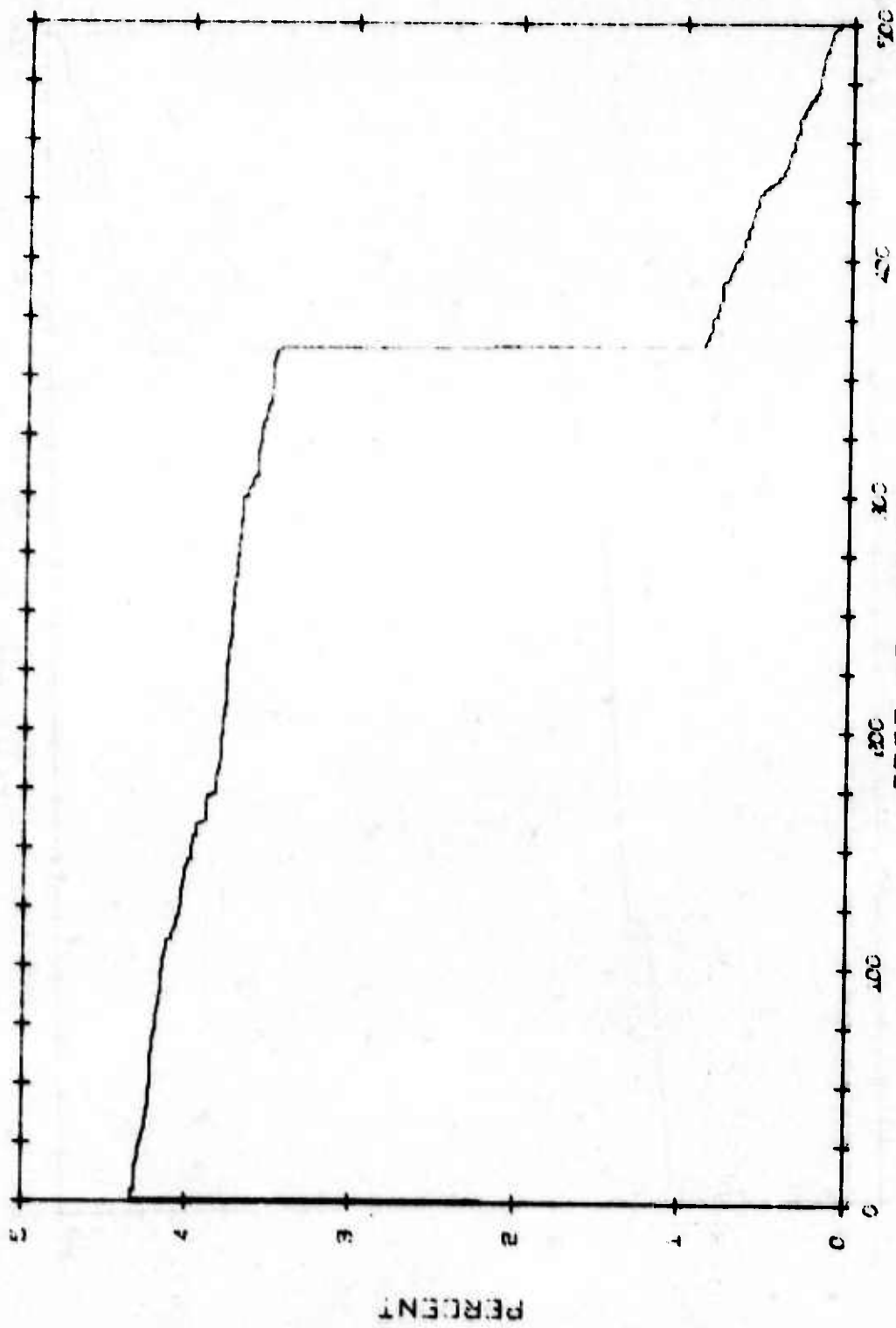


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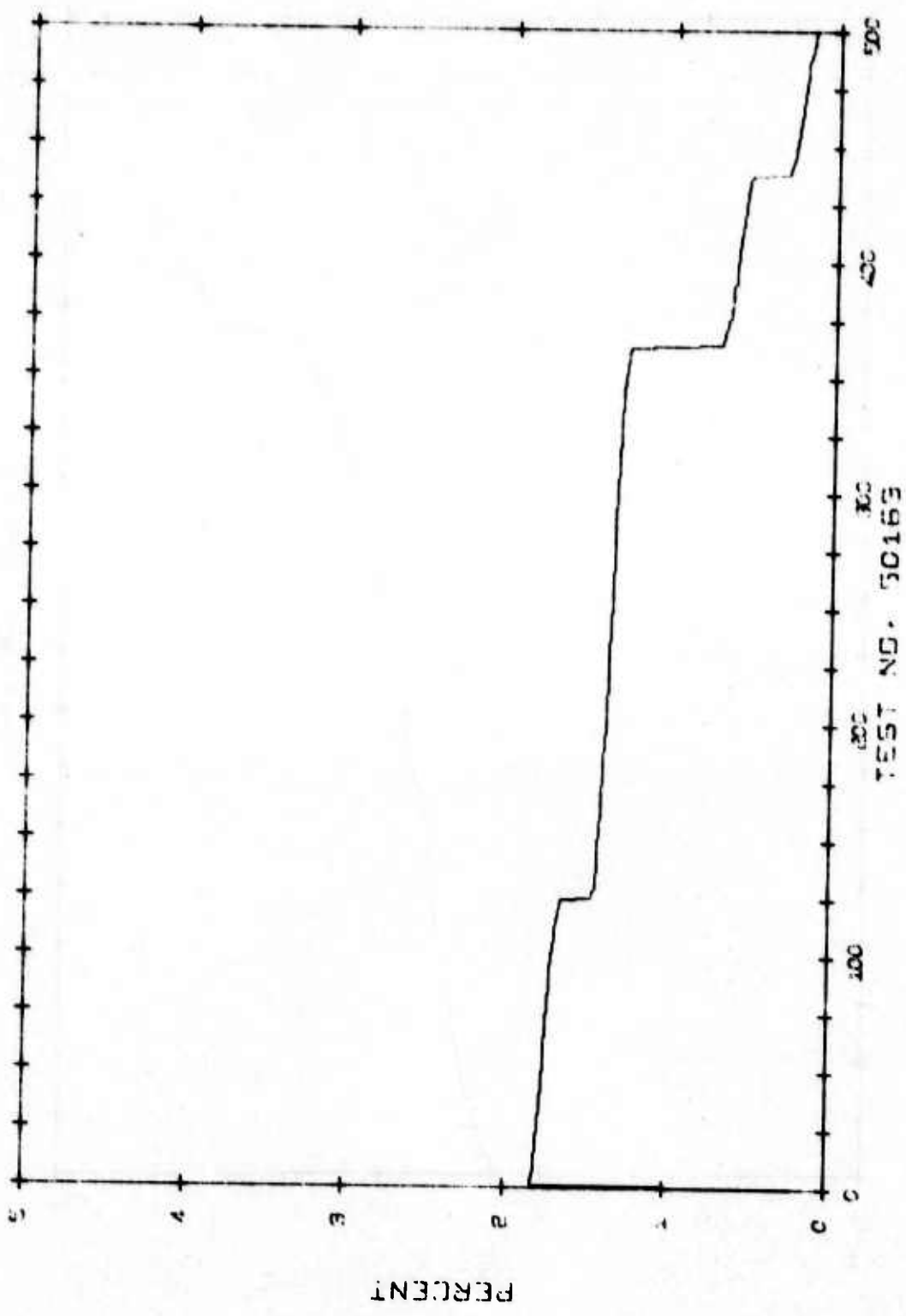
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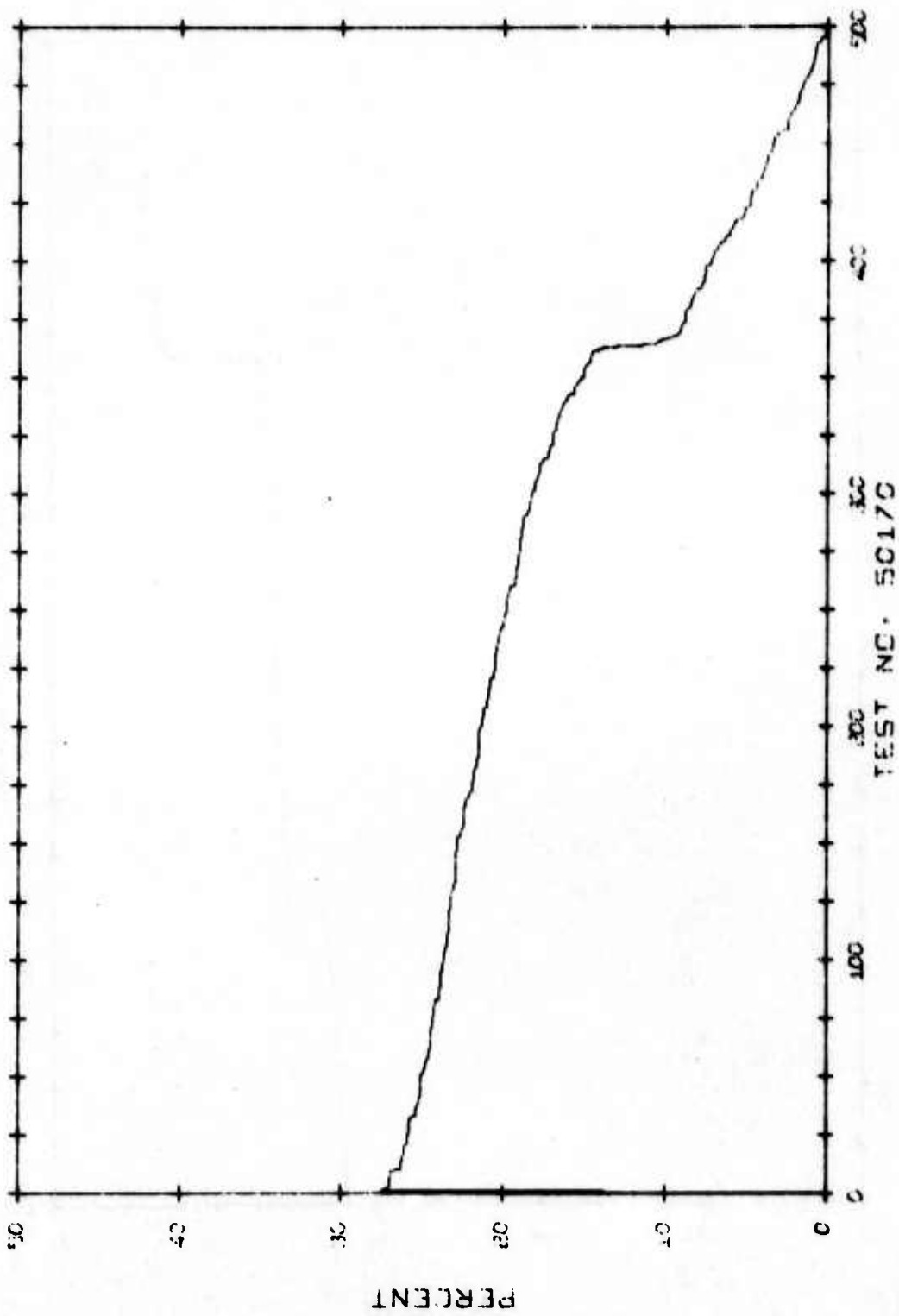
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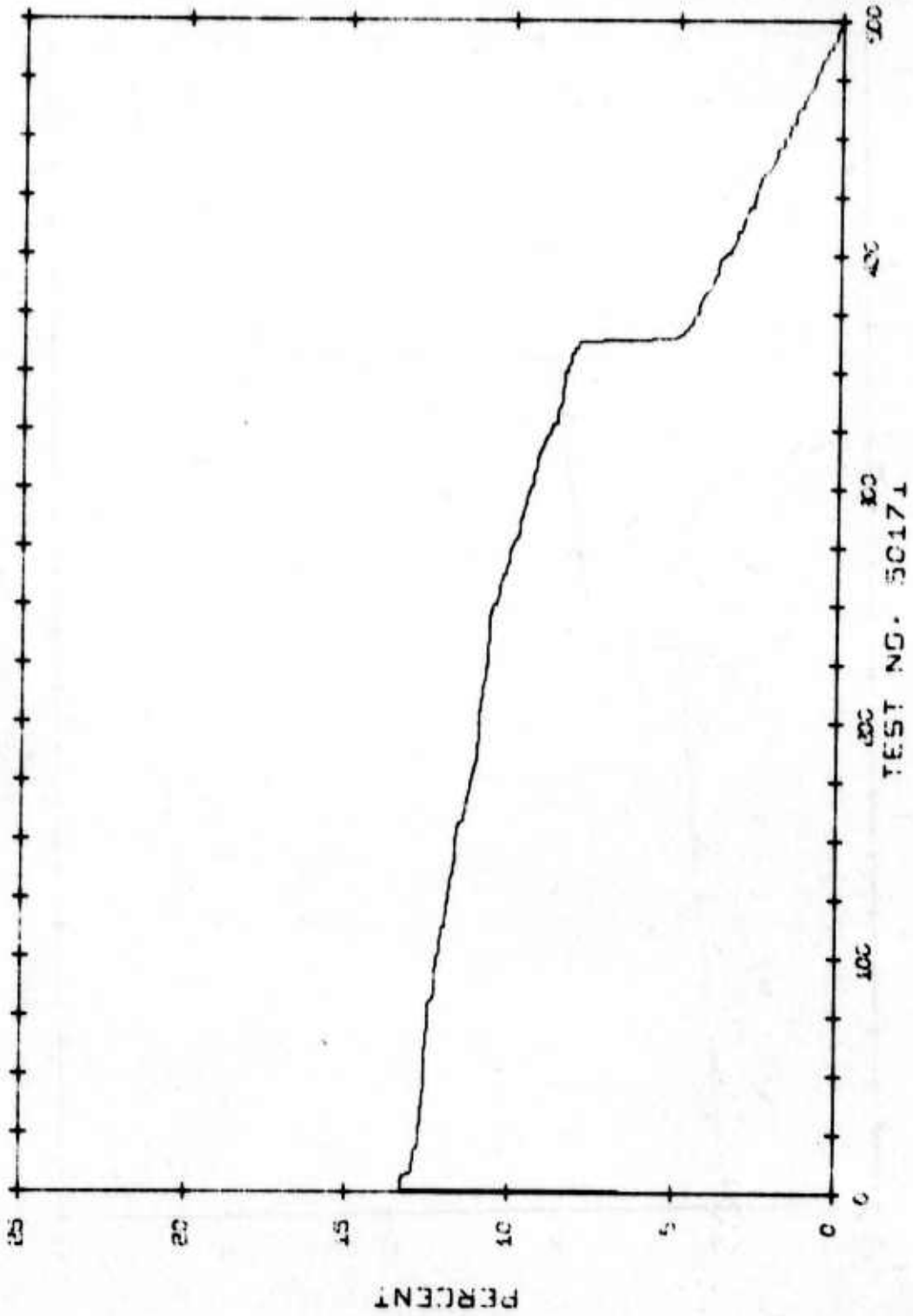
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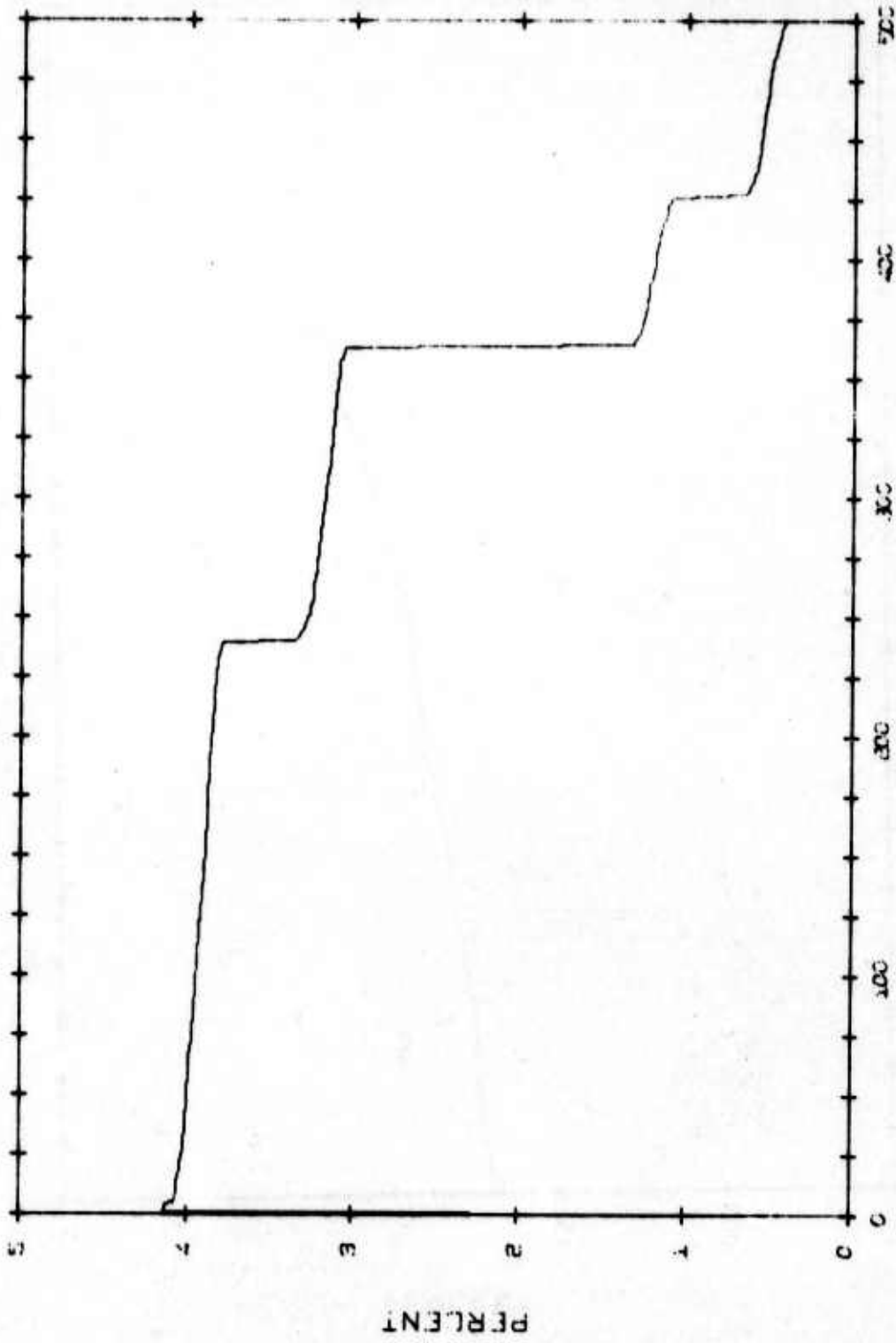
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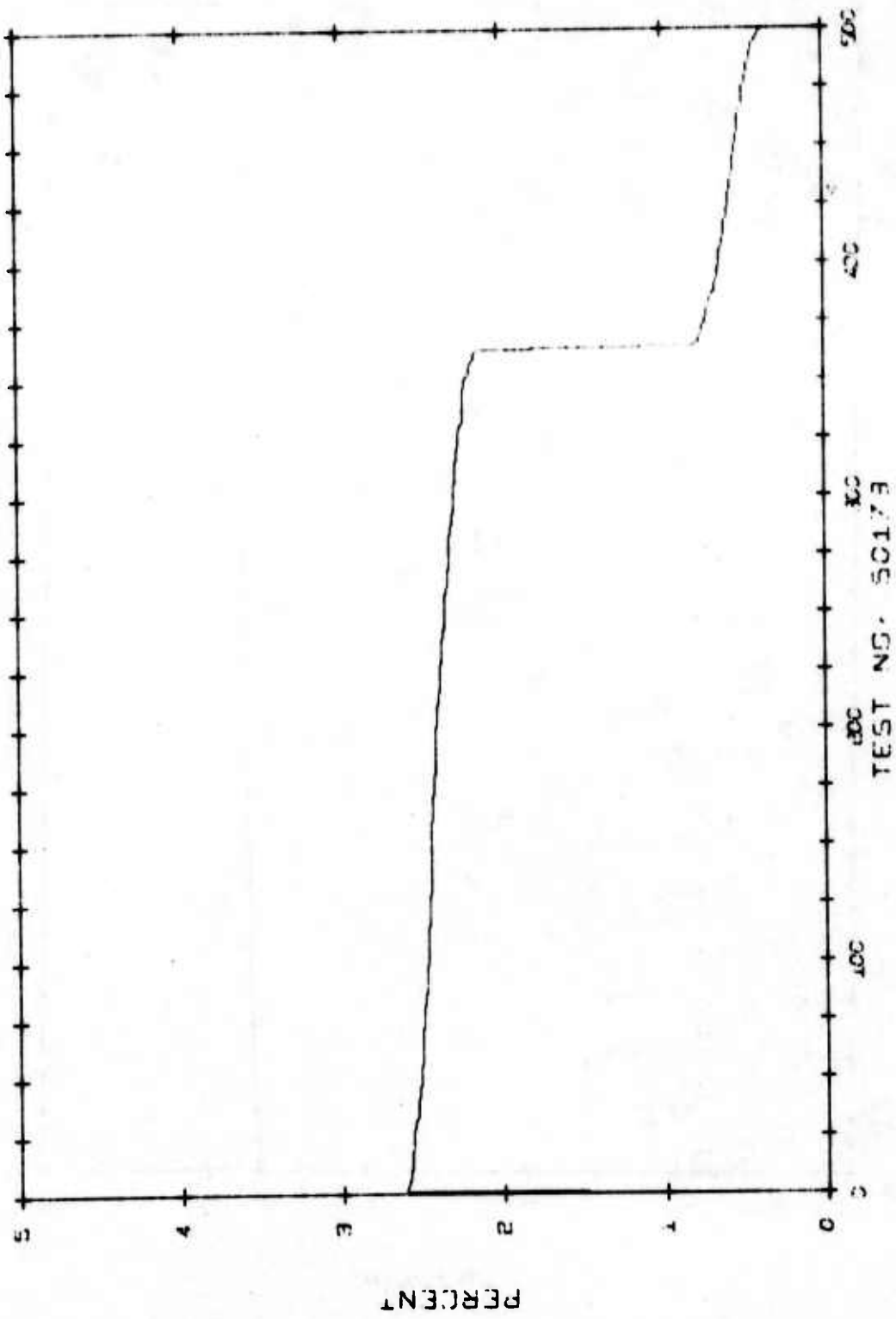


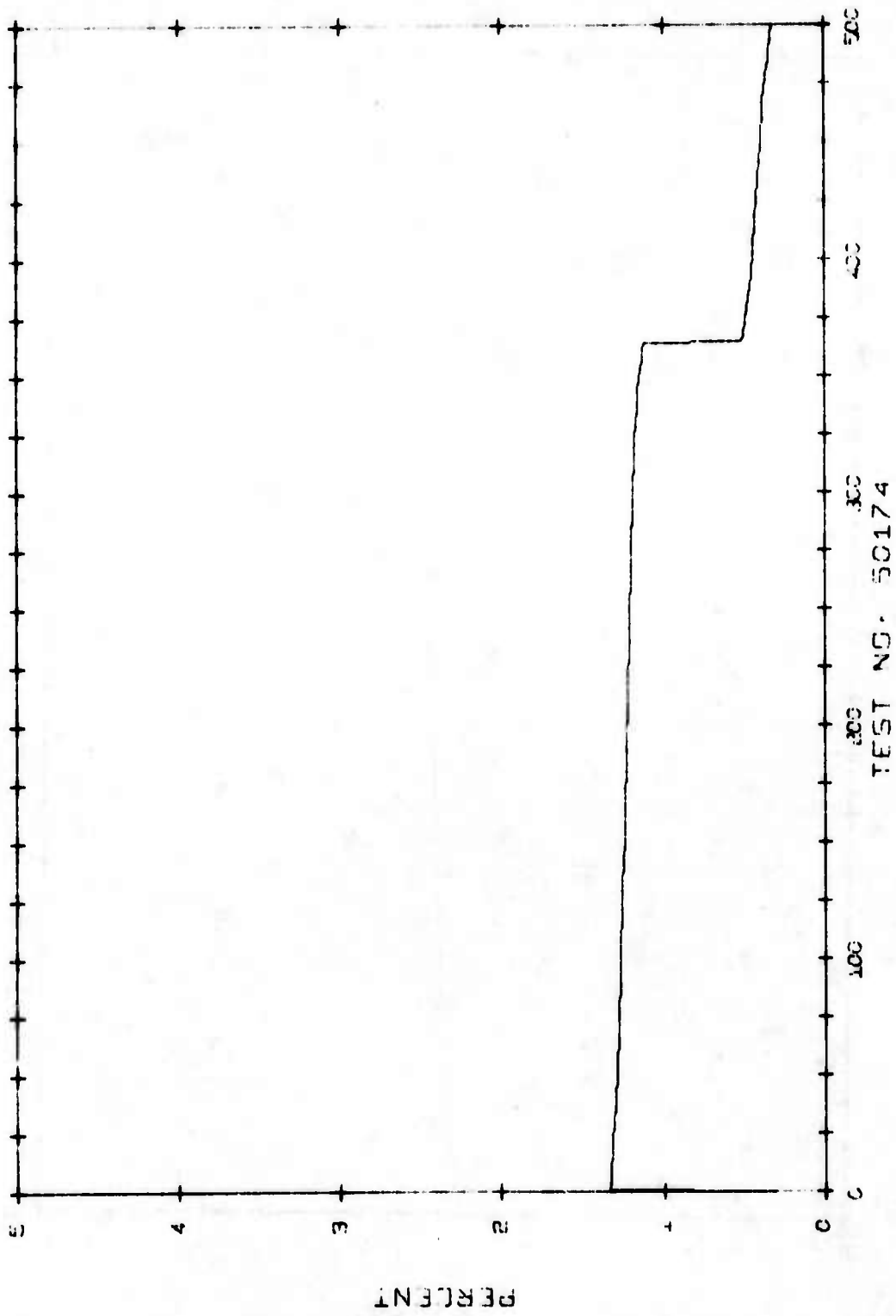
1-208



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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Data Transmission Telephone Cables Integrated Circuits Digital Measurements		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Extensive measurements and predictions have been made at data rates up to 10 megabits per second to characterize the digital transmission of binary (+1,-1) signals over balanced pair cables up to 100,000 feet in length. This report presents the results of experimentation concerned with the transmission of digital signals using existing Air Force multi-pair cables and common station equipment. Integrated circuit line drivers and receivers were used for the Balanced Transmission Devices. It has been demonstrated that the		

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**20. ABSTRACT (continued)**

transmission capability of existing cable plant can be predicted.

Volume I of the report presents the reduced data from the entire test program including laboratory tests, field tests at Patrick Air Force Base, and computer simulation.

Volume II is a handbook for the use of Air Force Communication Services to engineer digital cable transmission facilities. The handbook contains tutorial material as well as step-by-step procedures for the design of digital cable systems.

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