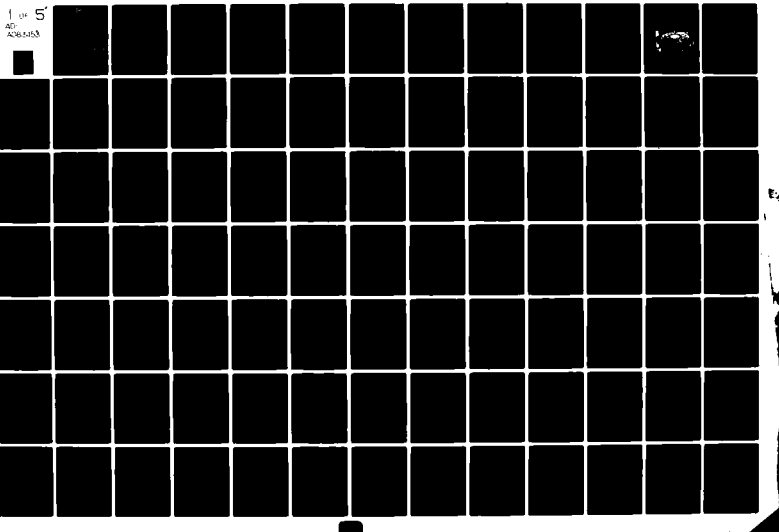
AD-A083 453 MERRITT CASES INC REDLANDS CA F/G 18/3
STATIC TESTS OF SEGMENTS OF TUNNEL LININGS. VOLUME II. DATA.(U)
JUN 79 H C DAVIS, K B MORRILL, J L MERRITT DNA001-77-C-0143
UNCLASSIFIED 78-004-T1 DNA-4976F-2 NL



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STATIC TESTS OF SEGMENTS OF TUNNEL LININGS

Volume II - Data

Merritt CASES, Incorporated
P.O. Box 1206
Redlands, California 92373

30 June 1979

Final Report for Period 14 February 1977—30 June 1979

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MIGHTY EPIC	Compliant Linings
DIABLO HAWK	Structure-Medium Interaction
Tunnel Linings	Static Tests
Composite-Intergral Linings	Material Properties
Voussoir Block Linings	

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

Volume II presents the complete set of laboratory data obtained from the initial series of 16 quasi-static tests of segments of cylindrical tunnel linings. Test specimens included scale models of two composite integral structures fielded in the MIGHTY EPIC Structures Experiment as well as two new structural concepts: the compliant liner and the voussoir block liner.

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PREFACE

The work reported herein was accomplished under Contract No. DNA001-77-C-0143 with Headquarters, Defense Nuclear Agency. The Contracting Officers Representatives were LTC Danny N. Burgess, USAF, who was replaced by LTC John C. Galloway, USAF, when LTC Burgess reported to the Air Staff College. The interest and assistance of LTC Burgess and Galloway throughout the work is gratefully acknowledged. Also acknowledged is the assistance of Dr. E. Sevin, Director of Strategic Structures Division of the Shock Physics Directorate.

Fabrication of the steel components of the segments was performed by Rettig Machine Shop, Redlands, California, under the direction of D. F. Rettig. Design and casting of the cellular concrete inserts for use in the compliant liner was performed by the United States Army Waterways Experiment Station, Vicksburg, Mississippi, under the direction of R. L. Denson.

Actively working on the program at CASES, in addition to the writers, were: Gilbert W. Lo, Michael F. Mullins and several student interns from the Department of Engineering, University of Redlands, Redlands, California. The late Frank W. Galbraith of CASES completed the original conceptual design of the loading and reaction system.

Conversion factors for U.S. customary to metric (SI) units of measurement.

To Convert From	To	Multiply By
angstrom	meters (m)	1.000 000 X E -10
atmosphere (normal)	kilo pascal (kPa)	1.013 25 X E +2
bar	kilo pascal (kPa)	1.000 000 X E +2
barn	meter^2 (m^2)	1.000 000 X E -28
British thermal unit (thermochemical)	joule (J)	1.054 350 X E +3
calorie (thermochemical)	joule (J)	4.184 000
cal (thermochemical)/cm^2	mega joule/m^2 (MJ/m^2)	4.184 000 X E -2
curie	*giga becquerel (GBq)	3.700 000 X E +1
degree (angle)	radian (rad)	1.745 329 X E -2
degree Fahrenheit	degree kelvin (K)	$t_K = (t°f + 459.67)/1.8$
electron volt	joule (J)	1.602 19 X E -19
erg	joule (J)	1.000 000 X E -7
erg/second	watt (W)	1.000 000 X E -7
foot	meter (m)	3.048 000 X E -1
foot-pound-force	joule (J)	1.355 818
gallon (U.S. liquid)	meter^3 (m^3)	3.785 412 X E -3
inch	meter (m)	2.540 000 X E -2
jerk	joule (J)	1 000 000 X E +9
joule/kilogram (J/kg) (radiation dose absorbed)	Gray (Gy)	1.000 000
kilotons	terajoules	4.183
kip (1000 lbf)	newton (N)	4.448 222 X E +3
kip/inch^2 (ksi)	kilo pascal (kPa)	6.894 757 X E +3
ktap	newton-second/m^2 ($N-s/m^2$)	1.000 000 X E +2
micron	meter (m)	1 000 000 X E -6
mil	*meter (m)*	2.540 000 X E -5
mile (international)	meter (m)	1.609 344 X E +3
ounce	kilogram (kg)	2.834 952 X E -2
pound-force (lbs avoirdupois)	newton (N)	4.448 222
pound-force inch	newton-meter (N·m)	1.129 848 X E -1
pound-force/inch	newton/meter (N/m)	1 751 268 X E +2
pound-force/foot^2	kilo pascal (kPa)	4.788 026 X E -2
pound-force/inch^2 (psi)	kilo pascal (kPa)	6.894 757
pound-mass (lbm avoirdupois)	kilogram (kg)	4.535 924 X E -1
pound-mass-foot^2 (moment of inertia)	kilogram-meter^2 ($kg·m^2$)	4.214 011 X E -2
pound-mass/foot^3	kilogram/meter^3 (kg/m^3)	1.601 846 X E +1
rad (radiation dose absorbed)	**Gray (Gy)	1.000 000 X E -2
roentgen	coulomb/kilogram (C/kg)	2.579 760 X E -4
shake	second (s)	1 000 000 X E -8
slug	kilogram (kg)	1.459 390 X E +1
torr (mm Hg, 0° C)	kilo pascal (kPa)	1.333 22 X E -1

*The becquerel (Bq) is the SI unit of radioactivity; 1 Bq = 1 event/s.
**The Gray (Gy) is the SI unit of absorbed radiation.

A more complete listing of conversions may be found in "Metric Practice Guide E 380-74," American Society for Testing and Materials.

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

Volume II presents the complete set of reduced data obtained from the initial series of 16 quasi-static tests of segments of cylindrical tunnel linings. These linings represent several advanced rock opening reinforcement concepts proposed for use in deep-based protective facilities in rock. Test specimens included a steel liner to evaluate the test apparatus and scale models of two composite integral structures fielded by Merritt CASES, Inc. (CASES) in the MIGHTY EPIC structures add-on experiment conducted at the Department of Energy's Nevada Test Site (NTS). In addition, two new structural concepts were also tested: the "compliant lining" and the "voussoir block" or segmented lining.

This volume is organized into three main sections. The first section is the introduction. The second section provides a brief summary of the testing program, including descriptions of the testing apparatus, the data acquisition system and the various test articles. The final section furnishes the actual data obtained during the tests. The data is presented in the form of Cal-Comp plots of applied load distribution, applied load versus strain and applied load versus diametral displacements. A brief description of each test specimen and instrumentation location is given for each test. Also, a computer printout of the actual data points used in generating the plots is included for completeness.

The tests are arranged in chronological order. The data are also grouped into sub-sections based on the five different types of models tested. These models are discussed in Section 2.

SECTION 2

TEST PROGRAM

2.1 TEST PROCEDURE

The principle objective of the tests of segments program was to determine the detailed behavior of several different types of sophisticated lining segments subjected to carefully controlled loading histories. A test procedure was devised in which a radial load distribution, consisting of a superposition of a uniform component and a sinusoidally varying component, was applied to the outer surface of the test specimen in an incremental fashion. A loading ratio was used to specify the particular load distribution used during a test. This loading ratio was defined as the quotient of the minimum and maximum amplitudes of the total applied load as shown in Figure 2.1.

2.2 TEST APPARATUS

The loading system consisted of 16 hydraulic jacks, eight of 100-ton (890 kN) and eight of 150-ton (1330 kN) nominal capacity, resulting in a total load capacity of four million pounds (17.8 MN). For the test specimen dimensions used in this program, this load capacity translated into an equivalent hydrostatic pressure capability of approximately 2000 psi (13.8 MPa). The jacks were supported at their base by a reaction system consisting of a heavy steel ring, weighing approximately 18,000 pounds (80 kN), capable of withstanding at any point a diametrically opposed force of 300 tons (2660 kN) with a "factor of safety" of approximately four (stiffness was considered at least as important as strength in the original design). Figure 2.2 is a detailed drawing of the reaction system showing several jacks in place in the support ring as well as details of the ring cross-section. The 16 jacks were equally spaced around the circumference of the support ring. They, in turn, loaded the exterior surface of the cylindrical test specimen as shown in Figure 2.3. The 16 jacks were controlled through a 10-channel Edison

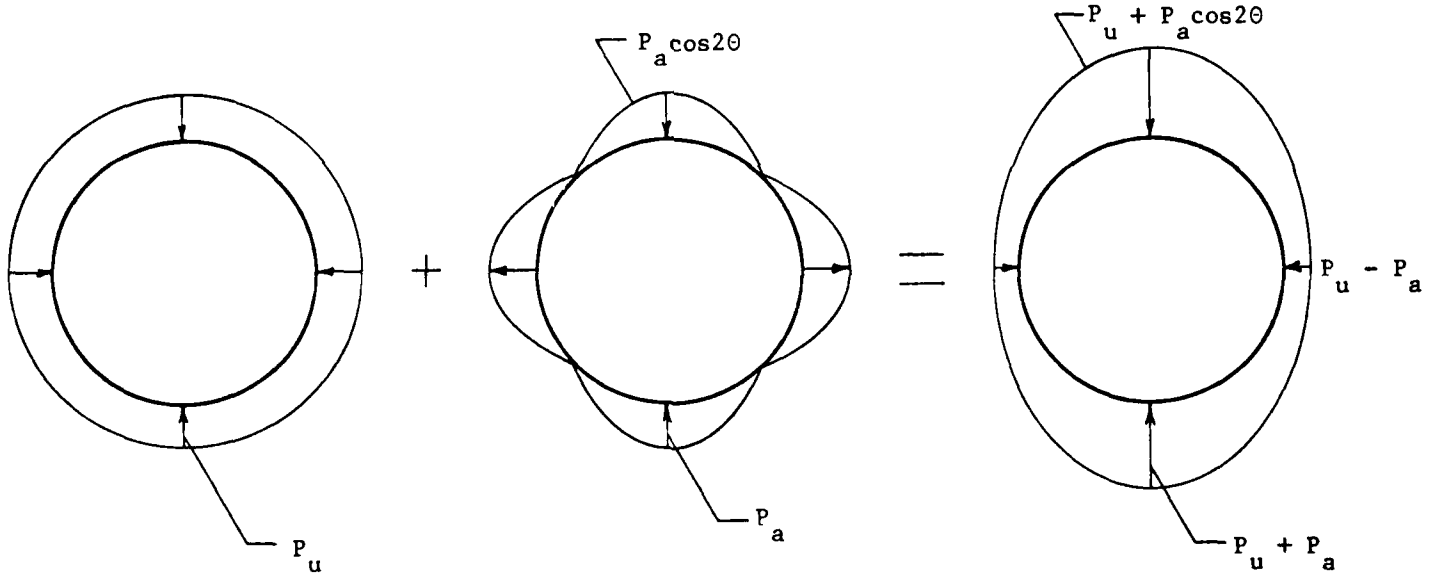


Figure 2.1 Schematic of loading distribution used in tests of segments.

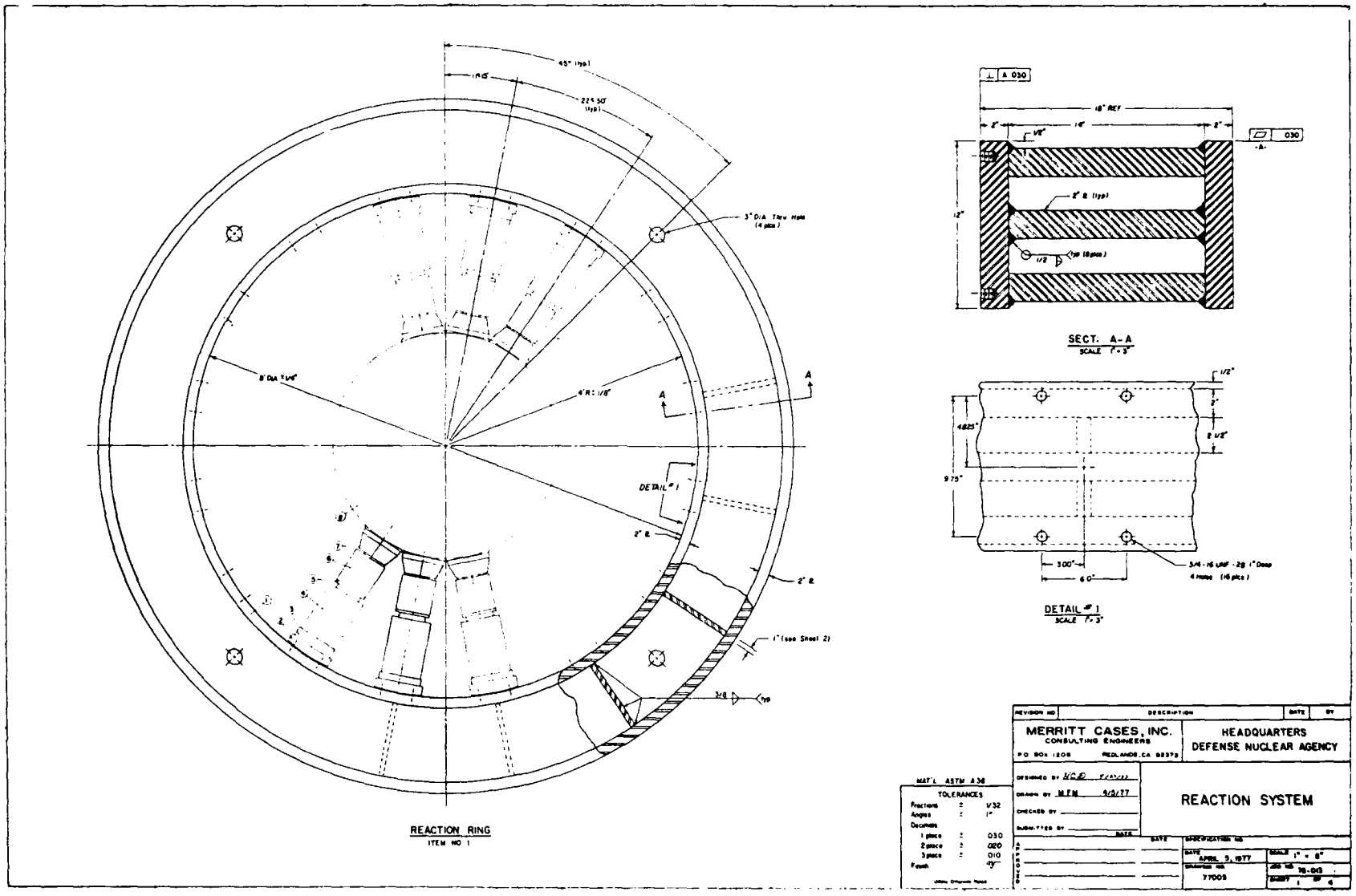


Figure 2.2 Reaction system for test of segments.

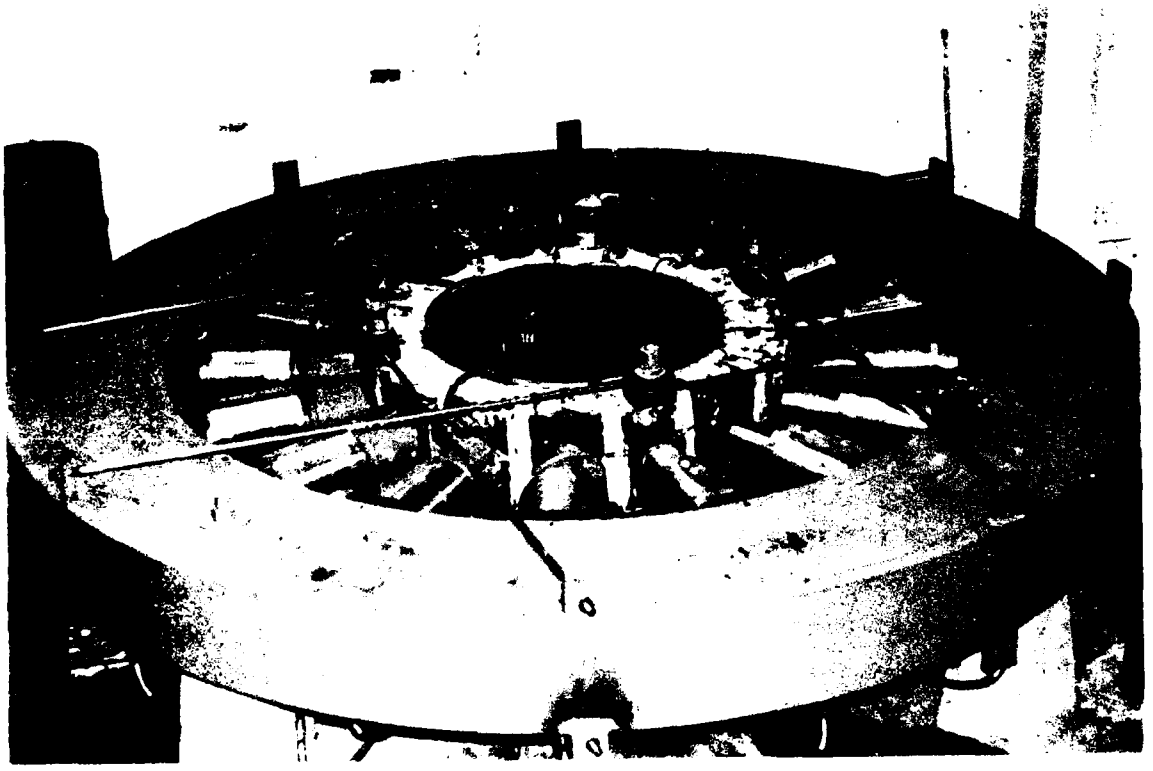


Figure 2.3 Reaction system with test specimen in place.

hydraulic controller, but only five channels were used because of symmetry of the load distributions used in the test program.

2.3 DATA ACQUISITION

Instrumentation typically consisted of eight displacement gages to measure changes in diameter between each of the points at which the load is applied; 12 strain gages to measure strain at selected points on the test specimen; eight cells to measure load under one of the matching pairs of jacks and 16 measurements of torque and drift of the specimen being tested within the support ring.

The data acquisition system if shown in Figure 2.4. This block diagram presents the typical configuration used during the segment testing. Different specimen designs resulted in changes in both the number and location of strain gages. A schematic showing typical gage locations is shown in Figure 2.5.

The primary recording was accomplished with the Fluke Data Logger which produced a printed paper tape output. Approximately 40 channels were recorded on each test. These were sampled sequentially and printed and displayed at 2½ samples per second. An X-Y plot of applied load versus deflection (or strain) was also generated for monitoring and control during each test.

The eight 300k load cells remained in the same positions throughout the test program with each cell measuring axial load in a pair of opposing rams. Since these 180° pairs were connected together hydraulically, the loads imposed on opposite sides of the test items were continuously equalized. Dummy load cells were installed on the opposing rams to act as permanent spacers.

Retention rods were attached to the specimen loading blocks at the major and minor axes to restrict lateral or rotational movement of the test item. These 16 rods, mounted top and bottom, were strain gaged to monitor

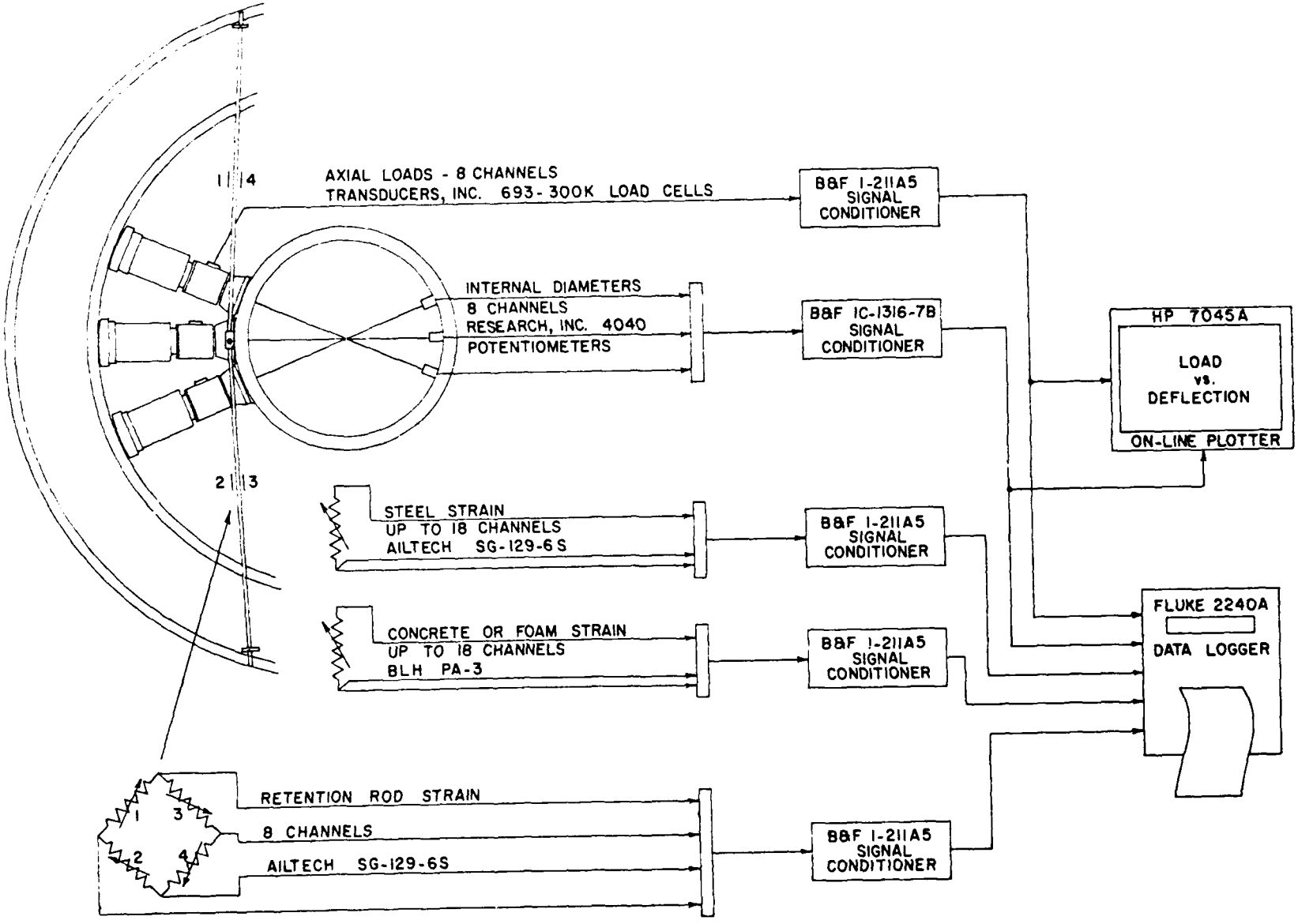
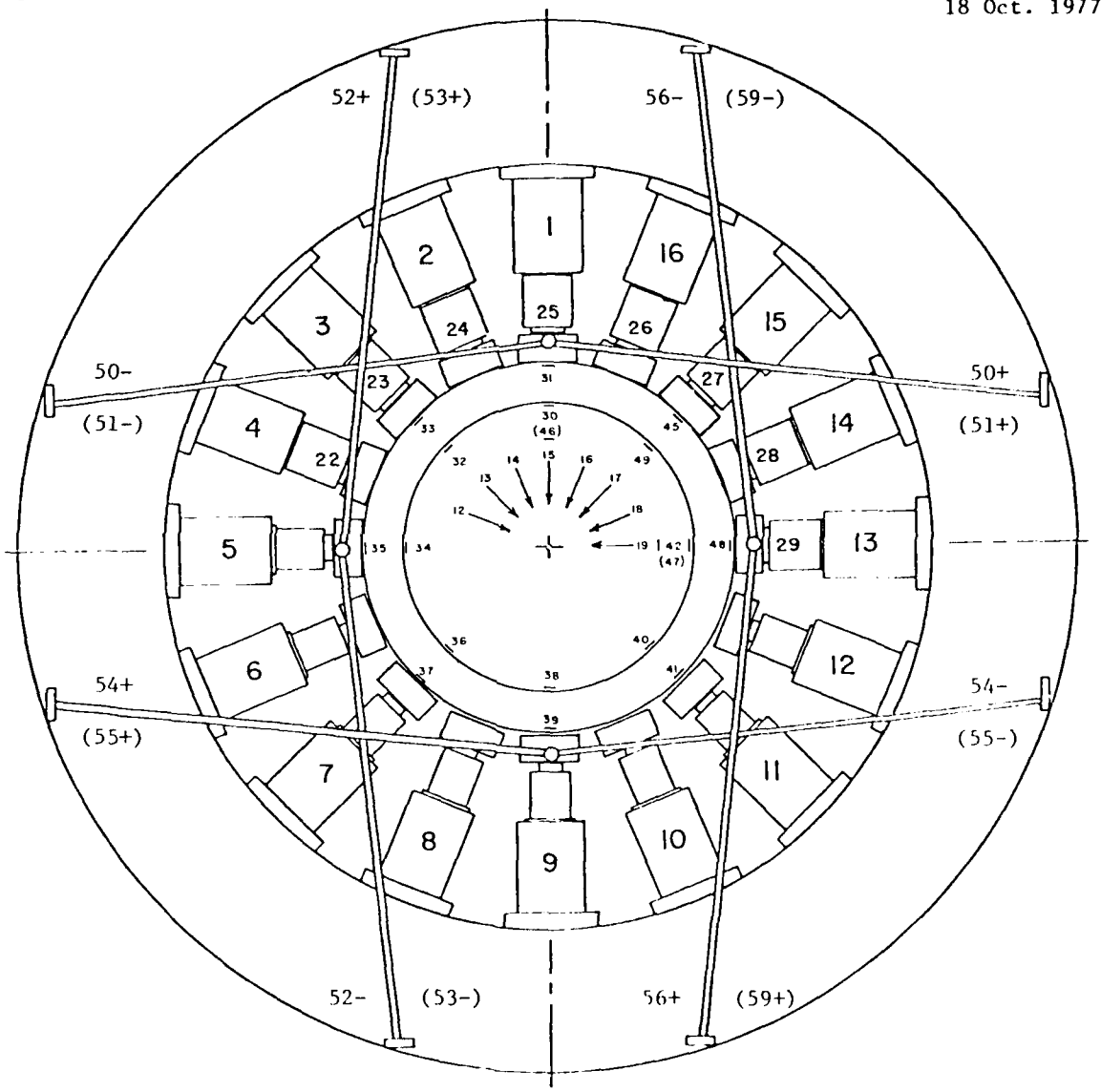


Figure 2.4 Data acquisition system.

REACTION FRAME TEST SET-UP

Specimen #1
C-Y-16

Test #13
1:3 Load
18 Oct. 1977



CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 22-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-42 , 45-49 (Ailtech SG 129-6S) Radial pairs 2" from top, except 46-47 2" from bottom. Odd gages 31-45 and 48 on rebar.
CH 50-56, and 59 (Ailtech SG 129-6S) Polarity indicates rod under tension. Lower rod shown (XX).

Figure 2.5 Typical instrumentation layout for tests of segments.

and record the tension forces imposed during the test. The strain gages on each two opposing rod assemblies were connected into a single four-arm bridge such that tension could be measured in either rod with the output polarity indicating the direction of force. The strain level in each rod was also monitored automatically by the data logger and an alarm was triggered if the load exceeded a pre-set limit. This safety feature prevented excessive build-up of unbalanced forces as the specimens yielded which could have produced a dangerous, catastrophic failure.

The eight specimen diameters at each load axis were continuously monitored with cable-type potentiometers. These were mounted inside each specimen or on top depending on the configuration of the model. Steel strains were measured using Ailtech weldable strain gages.

After each test was completed, data from the logger was transferred to punched cards for processing in the IBM 360 computer at the University of California, Riverside, Computer Center. A special data reduction software package developed specifically for the CASES data acquisition system decommutated the data and automatically plotted results using an off-line CalComp drum plotter. Programs provided for plotting any function versus another function; that is, load versus strain, load versus displacement, strain versus displacement, etc. Typical generated plots for the tests of segments program included a polar plot of incremented load distribution, load versus strain and load versus displacement. Overall data reduction turn-around for a typical segment test was generally accomplished within a 24 hour period once the system was automated.

2.4 TEST ARTICLES

The test program was composed of five different structural types of lining segments: a steel lining, two composite integral linings, a compliant lining and a voussoir block lining. All specimens were 12 inch (305 mm) long segments of cylindrical linings. The steel lining was one inch (25.4 mm)

thick and 44.25 inches (1.12 m) in diameter. This lining was used for initial checkout of the reaction system. The composite integral specimens were scale models of two MIGHTY EPIC structures designated C-Y-16 and C-X-9 as shown in Figures 2.6 and 2.7. The compliant and voussoir block specimens were models of a proposed configuration for each of these special types of linings. Details of the compressible insert of the compliant lining and a segment of the voussoir block lining are shown in Figures 2.8 and 2.9, respectively.

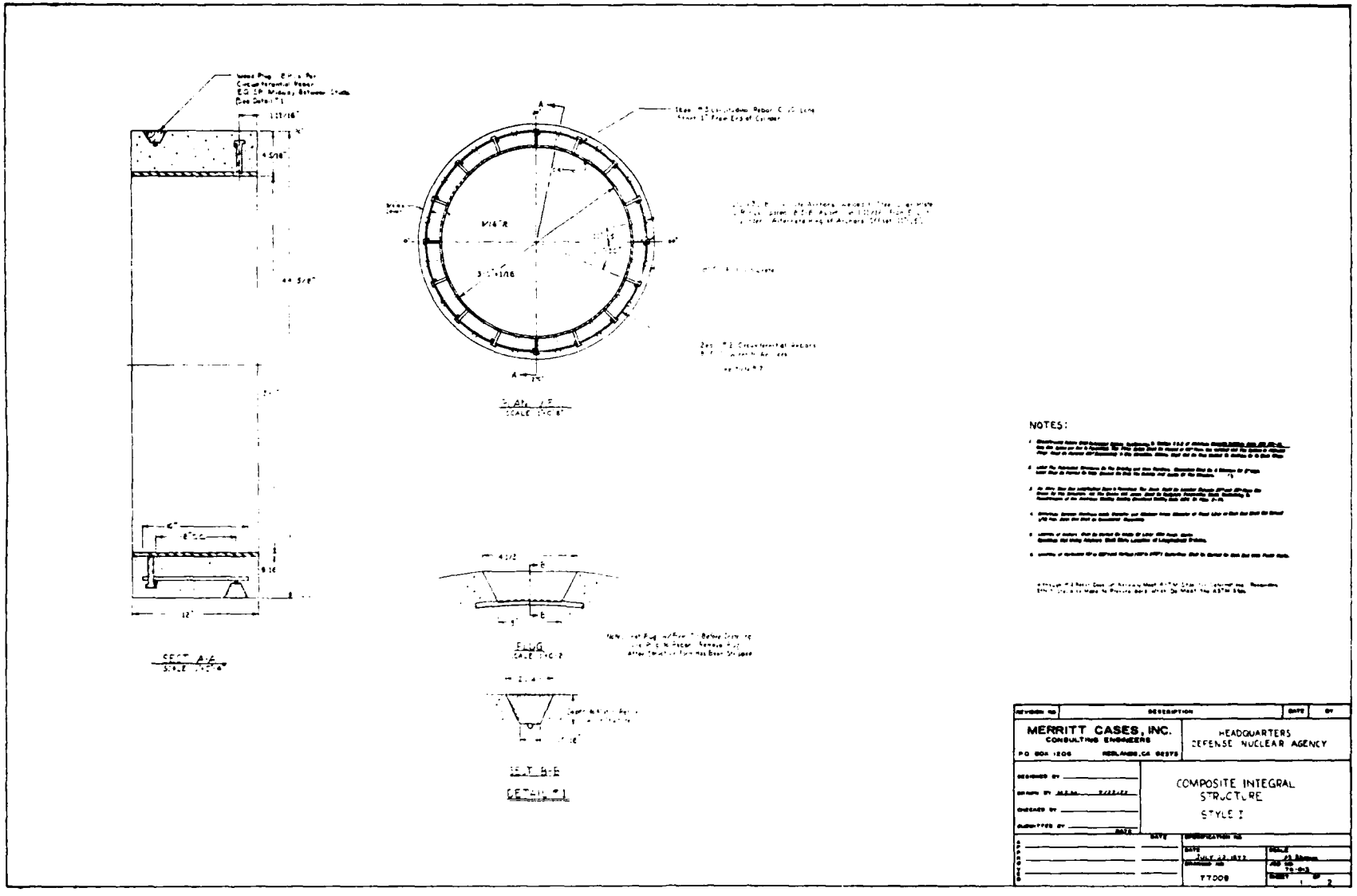


Figure 2.6 Details of MIGHTY EPIC C-Y-16 test specimen.

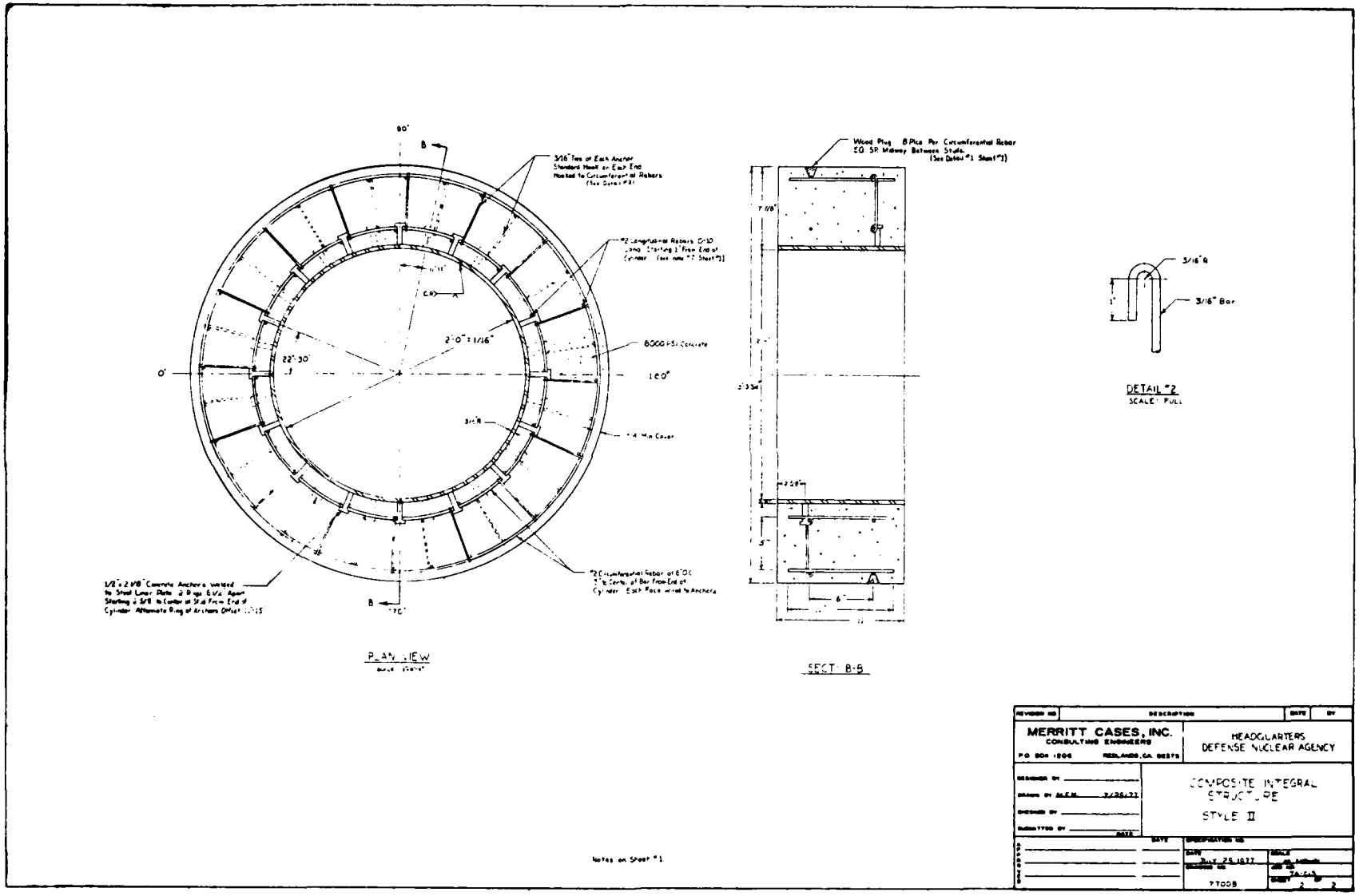


Figure 2.7 Details of MIGHTY EPIC C-X-9 test specimen.

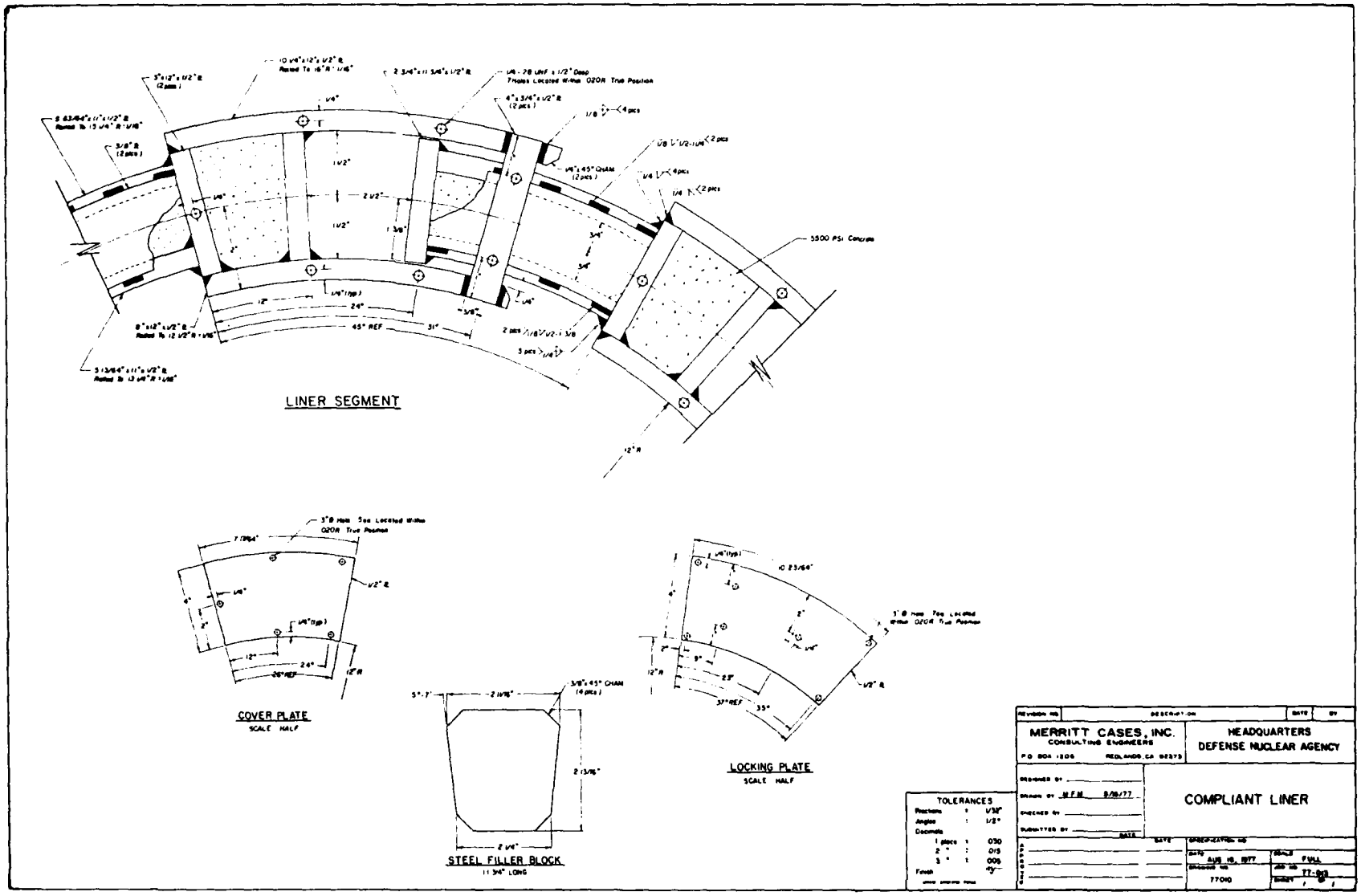


Figure 2.8 Details of compliant lining compressible insert.

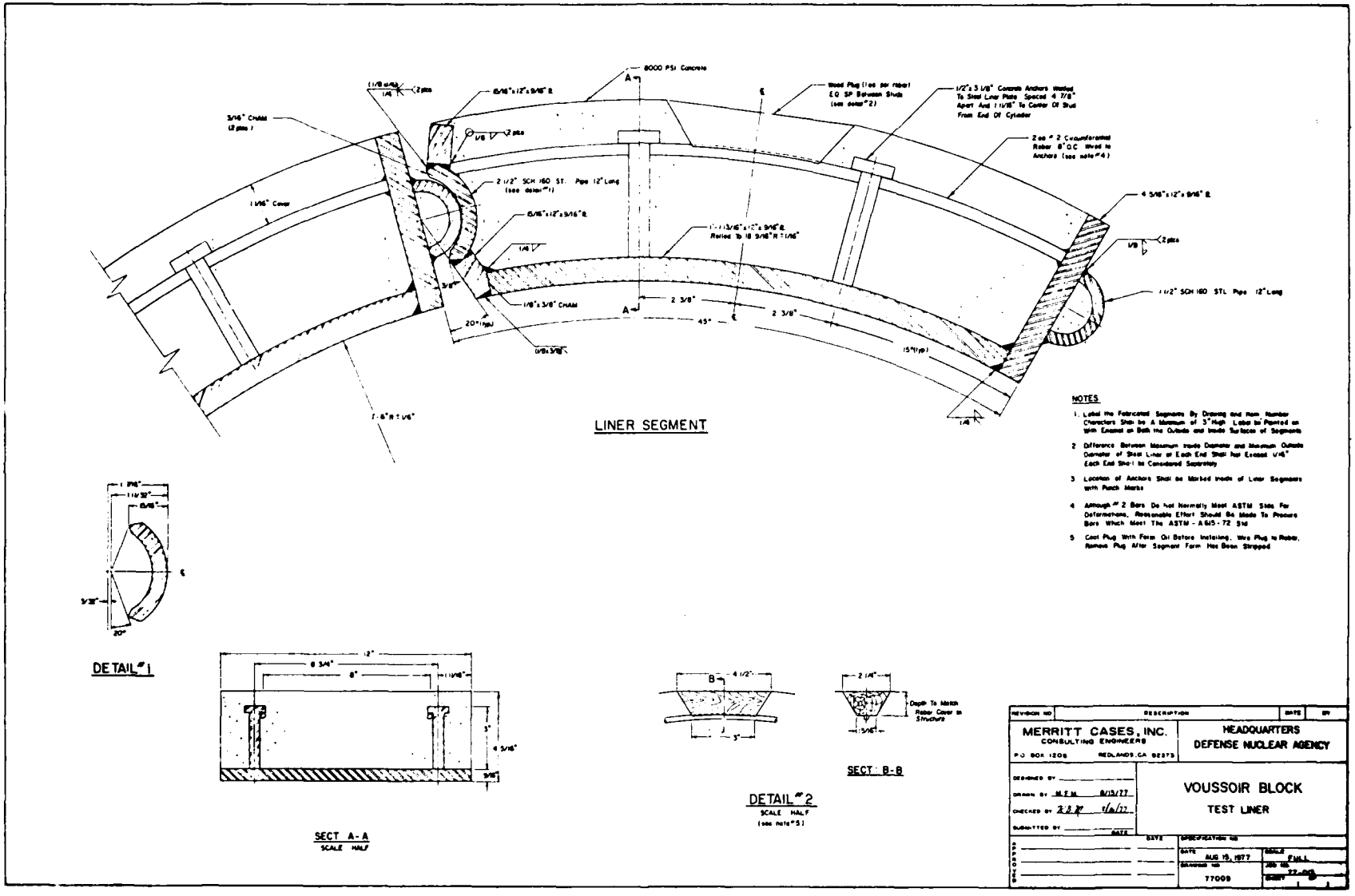


Figure 2.9 Details of voussoir block liner segment.

SECTION 3

TEST DATA

The complete set of data for the test program is presented in this section. The data is arranged into groups determined by structural type. A summary of the test program is given by the test matrix shown in Table 1.

STATIC TESTS OF SEGMENTS
OF TUNNEL LININGS
TEST MATRIX

TEST[1] NO.	STRUCTURE TYPE	SPECIMEN NO.	DESCRIPTION	MODEL SCALE	I.D.	O.D.	L.	DRAWING NO.	TEST DATE	LOAD RATIO	MAX. RAM LOAD kips (kN)
12 1st	Steel Liner	0	System Check-	--	42 1/4"	44 1/4"	12"	--	10-8-77	1:1	50 (222)
12 2nd	Steel Liner	0	Reload	--	42 1/4"	44 1/4"	12"	--	10-10-77	1:1	100 (448)
13	Composite Integral	1	C-Y-16 Model	3/4	36"	44 5/8"	12"	77008-1	10-18-77	1:3	43 (191)
16	Composite Integral	2	C-Y-16 Model	3/4	36"	44 5/8"	12"	77008-1	10-27-77	1:2	84 (374)
20	Composite Integral	4	C-Y-16 Model	3/4	36"	44 5/8"	12"	77008-1	11-7-77	1:1	199 (885)
21	Composite Integral	4	Reload	3/4	36"	44 5/8"	12"	77008-1	11-8-77	1:1	223 (992)
23	Composite Integral	3	C-Y-16 Model[2]	3/4	36"	44 5/8"	12"	77008-1[2]	11-22-77	1:2	63 (280)
25	Compliant Liner	10	Test Model	--	24"	32"	12"	77010	12-15-77	1:1	117 (520)
26	Compliant Liner	10	Reload	--	24"	32"	12"	77010	12-19-77	1:1	135 (601)
32	Composite Integral	5	C-X-9 Model	1/2	24"	39 3/4"	12"	77008-2	2-24-78	1:3	300 (1330)
33	Composite Integral	5	Reload	1/2	24"	39 3/4"	12"	77008-2	3-8-78	1:3	298 (1325)
34	Composite Integral	5	Reload	1/2	24"	39 3/4"	12"	77008-2	3-8-78	1:4	269 (1200)
35	Composite Integral	6	C-X-9 Model	1/2	24"	39 3/4"	12"	77008-2	4-12-78	1:4	300 (1330)
36	Composite Integral	8	C-X-9 Model	1/2	24"	39 3/4"	12"	77008-2	4-25-78	1:5	195 (867)
37	Composite Integral	9	C-X-9 Model	1/2	24"	39 3/4"	12"	77008-2	5-3-78	1:4	202 (899)
38	Voussoir Block	7	Test Model	--	36"	44 5/8"	12"	77009	5-31-78	1:1	176 (783)

1. Test Nos. are assigned serially for the lab.; not for each program. 2. Without Concrete Studs

TABLE 1. Test matrix.

3.1 STEEL LINER

3.1.1 SPECIMEN #0

TEST NO. 12 (1ST)

STEEL LINER

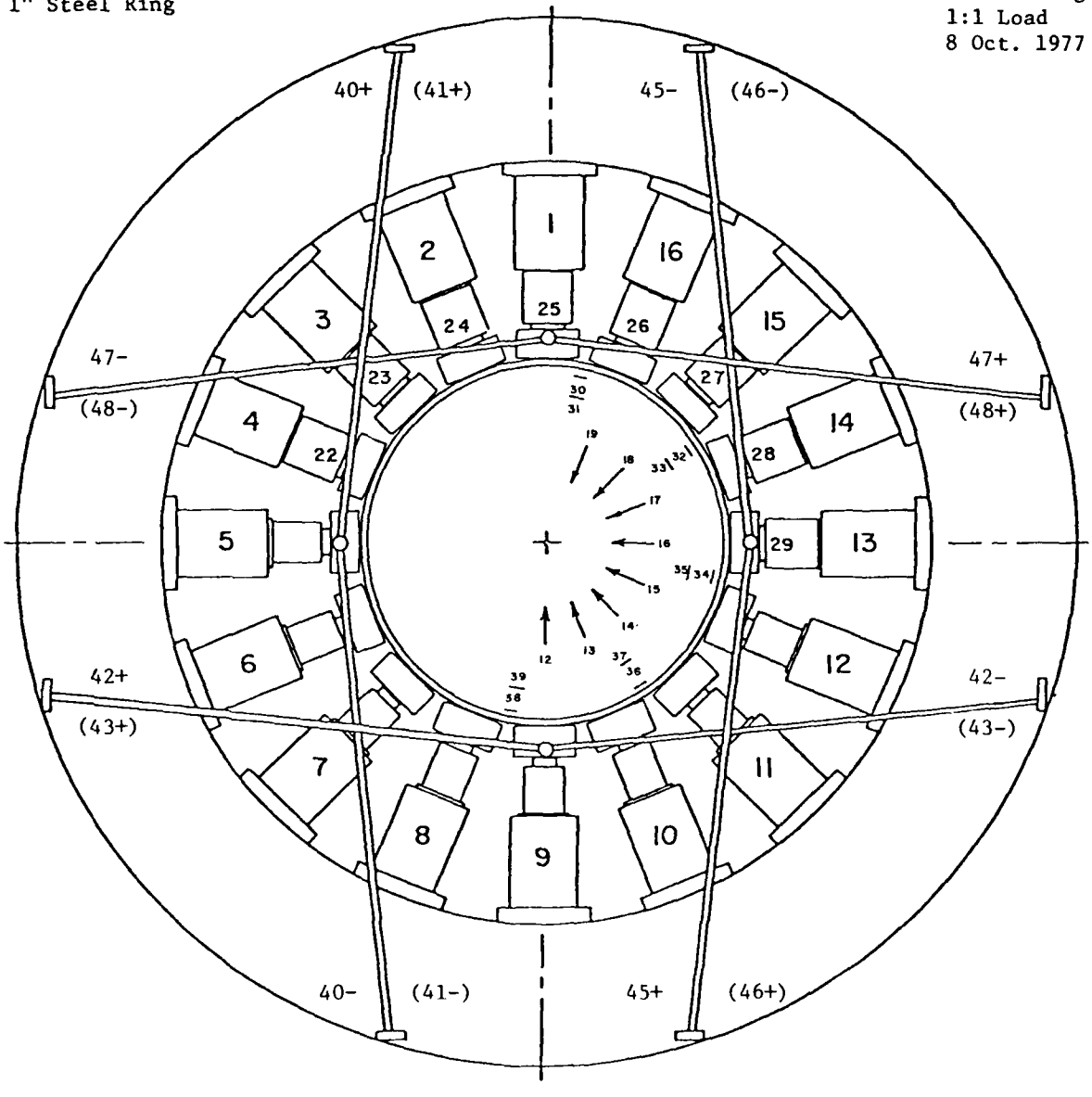
1:1 LOADING RATIO

TESTED 8 OCTOBER 1977

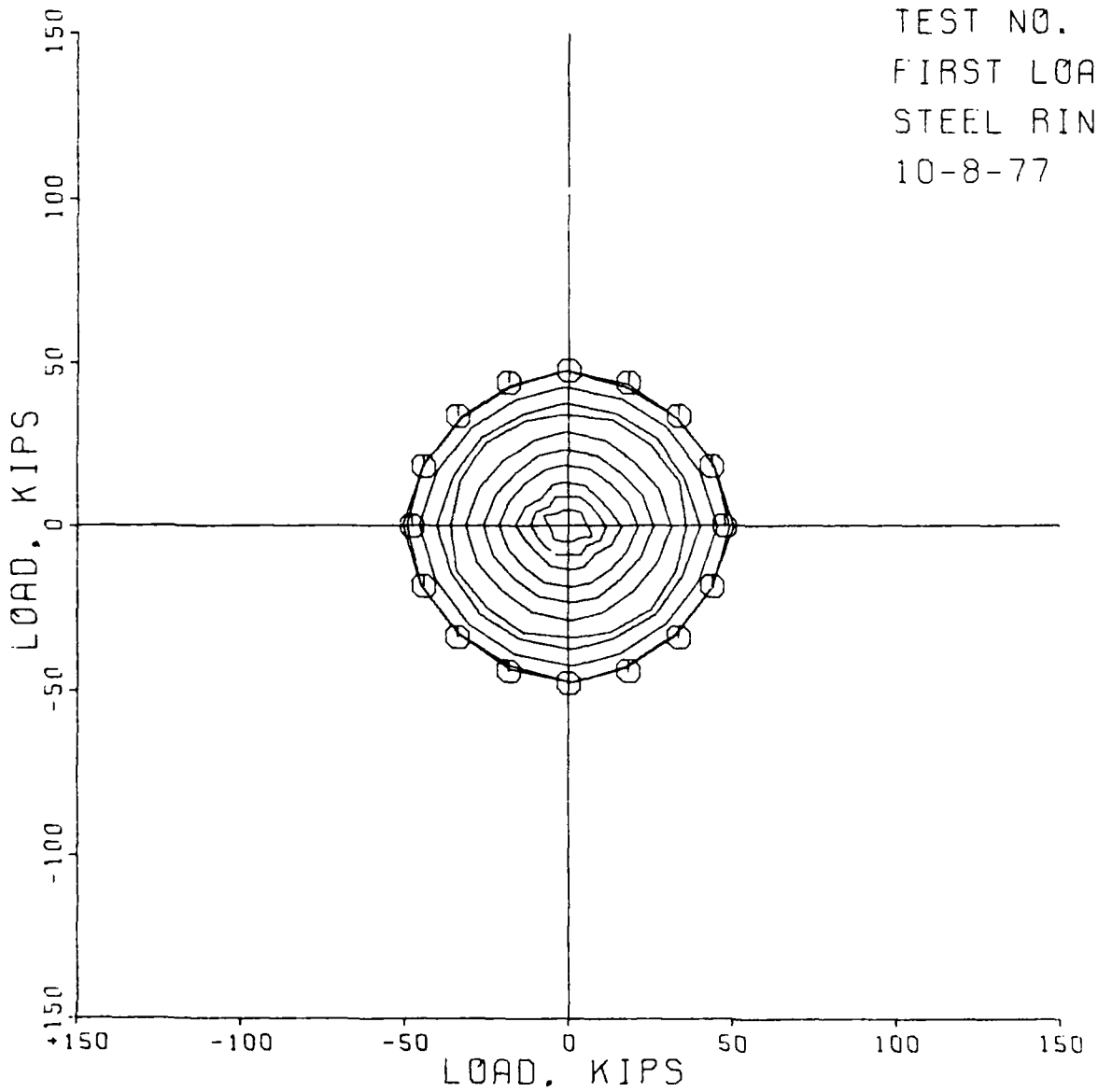
REACTION FRAME TEST SET-UP

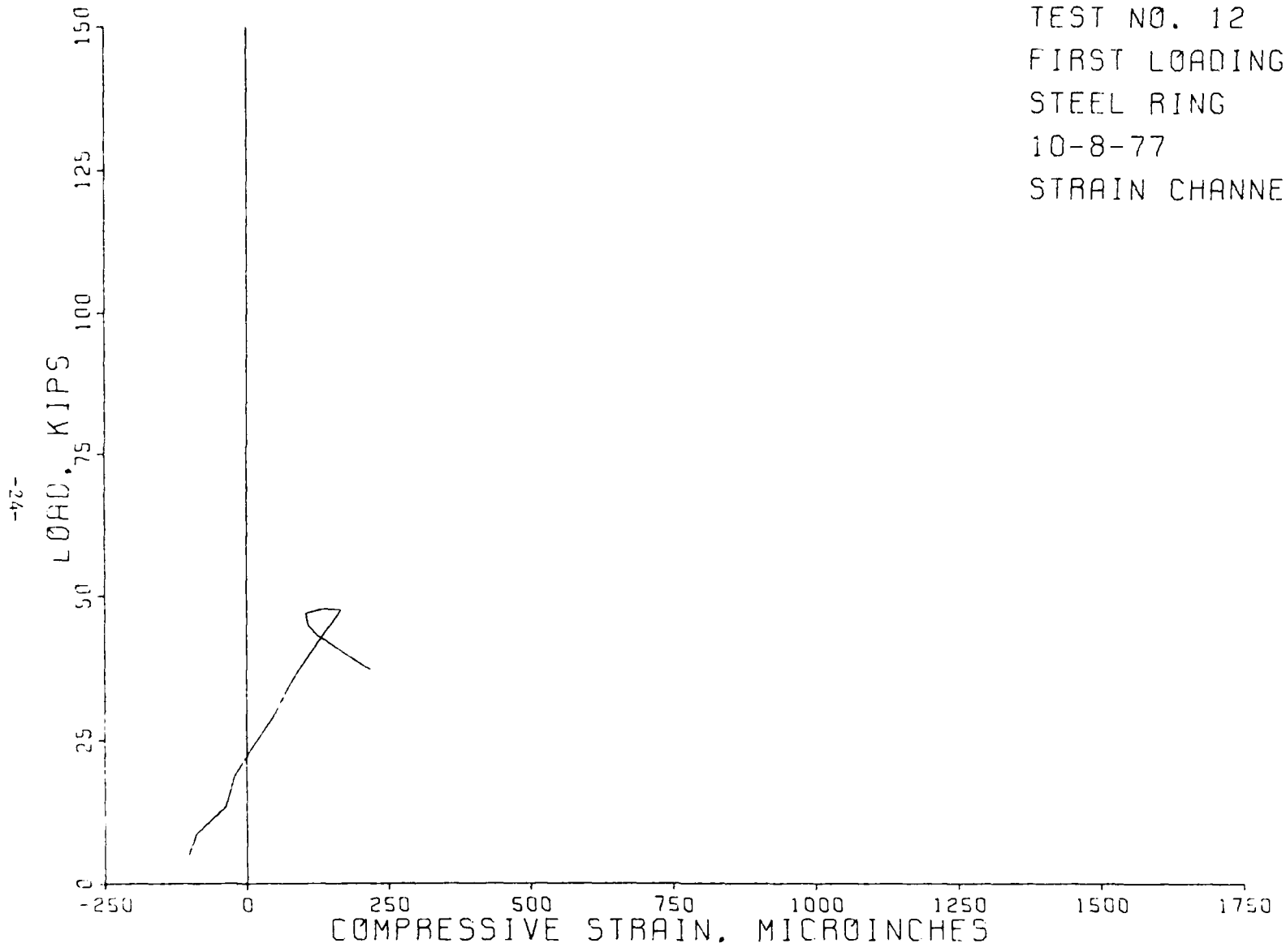
Specimen #0
1" Steel Ring

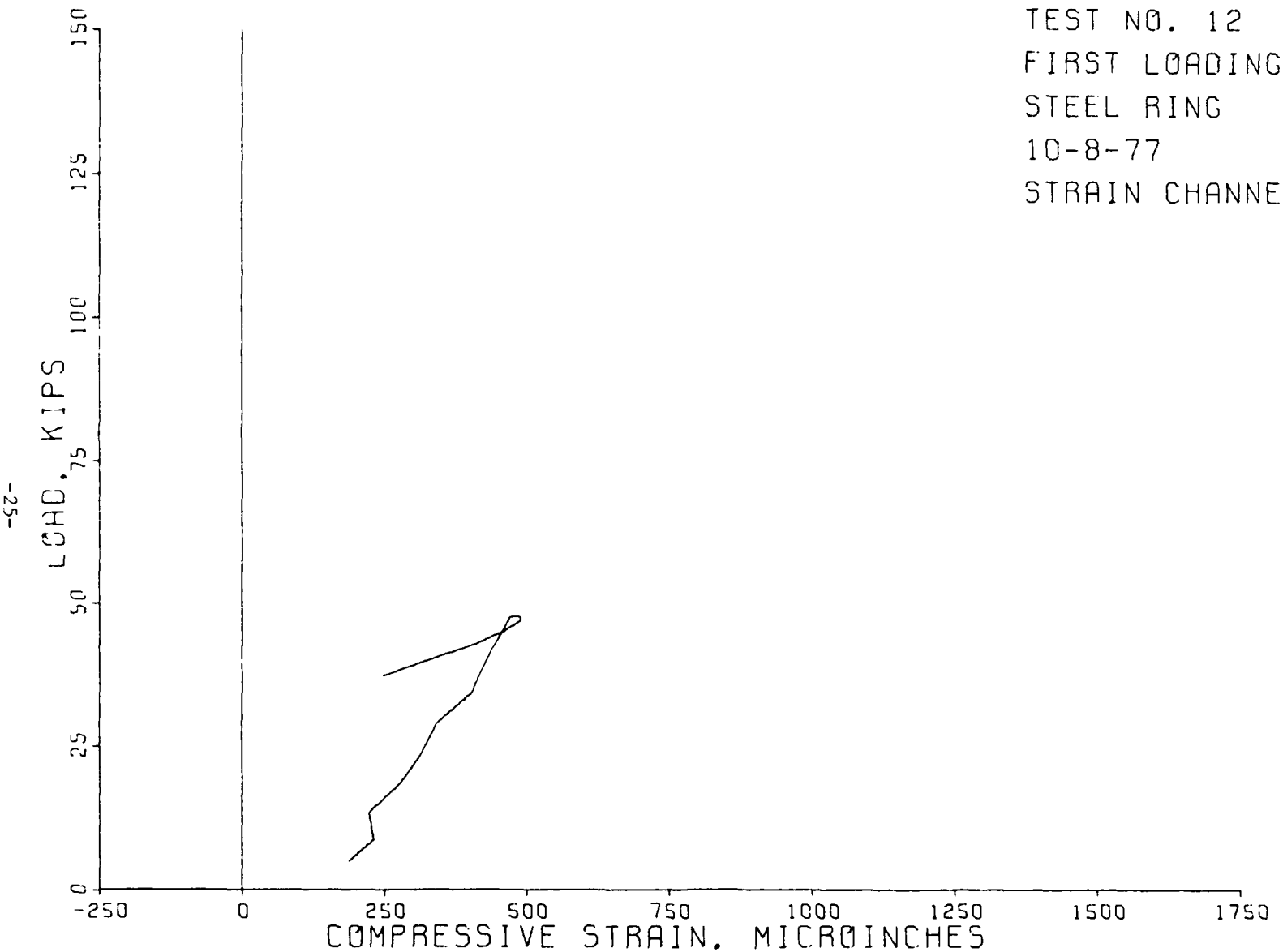
Test #12
1st Loading
1:1 Load
8 Oct. 1977

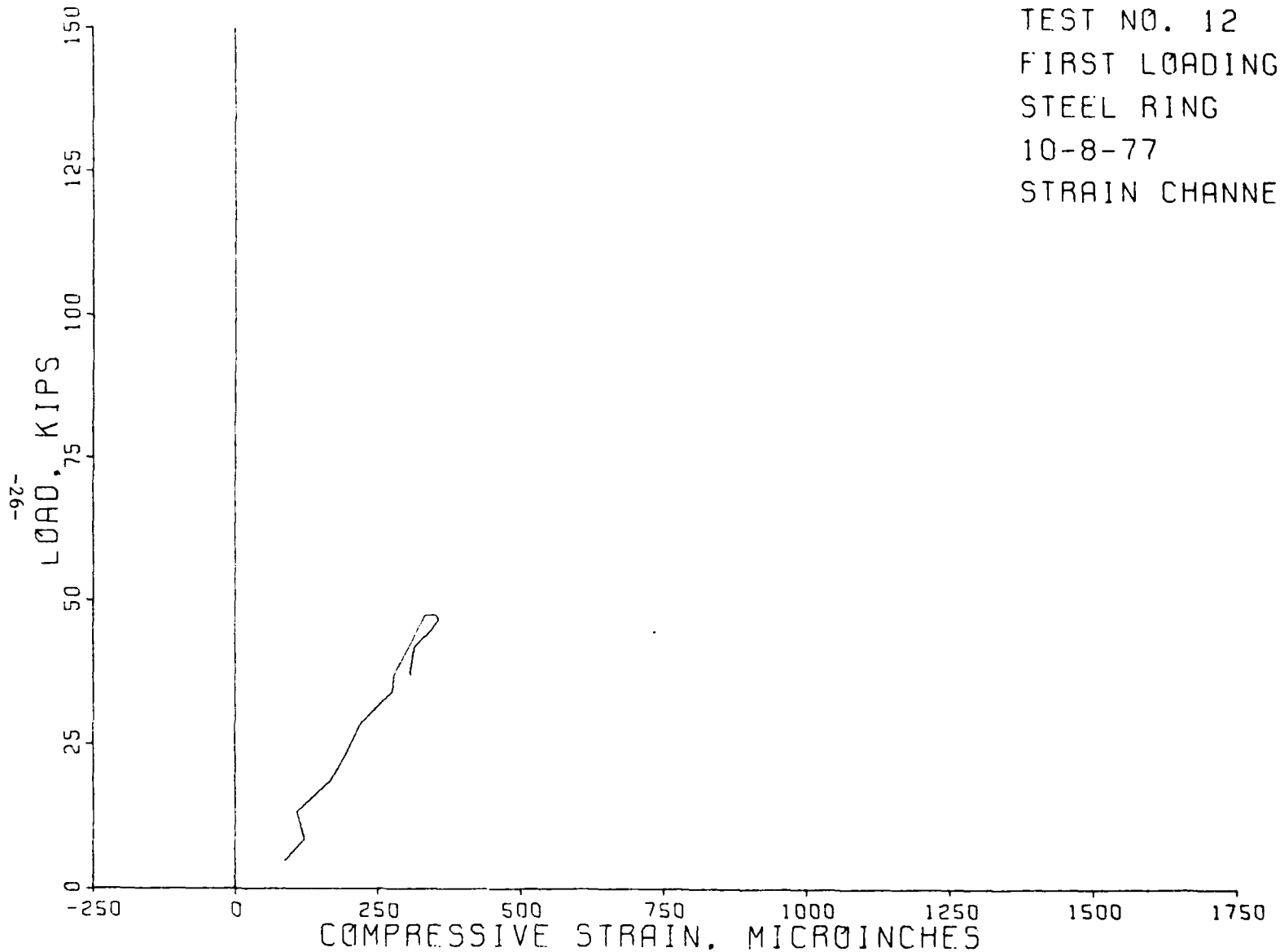


CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 22-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-39 (Ailtech SG 129-6S) Radial pairs inside and out at center between axes.
CH 40-43, 45-48 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
LOAD, KIPS
LOAD, KIPS
150
100
50
0
-50
-100
-150
-150
-100
-50
0
50
100
150


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 30
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 31
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES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STEEL RING
10-8-77
STRAIN CHANNEL 32
LOAD, KIPS
0
25
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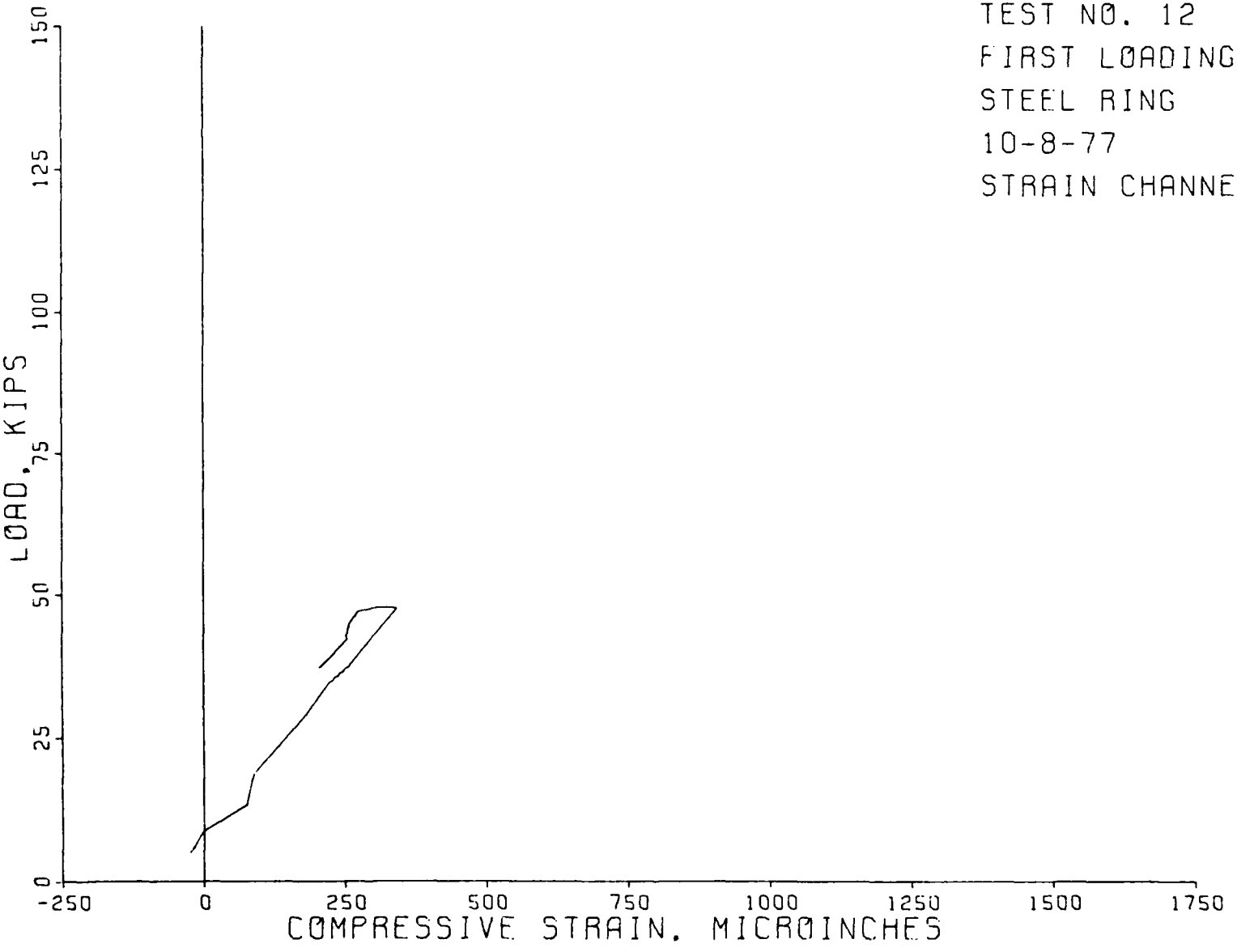
COMPRESSIVE STRAIN, MICROINCHES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STEEL RING
10-8-77
STRAIN CHANNEL 33
LOAD, KIPS
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25
50
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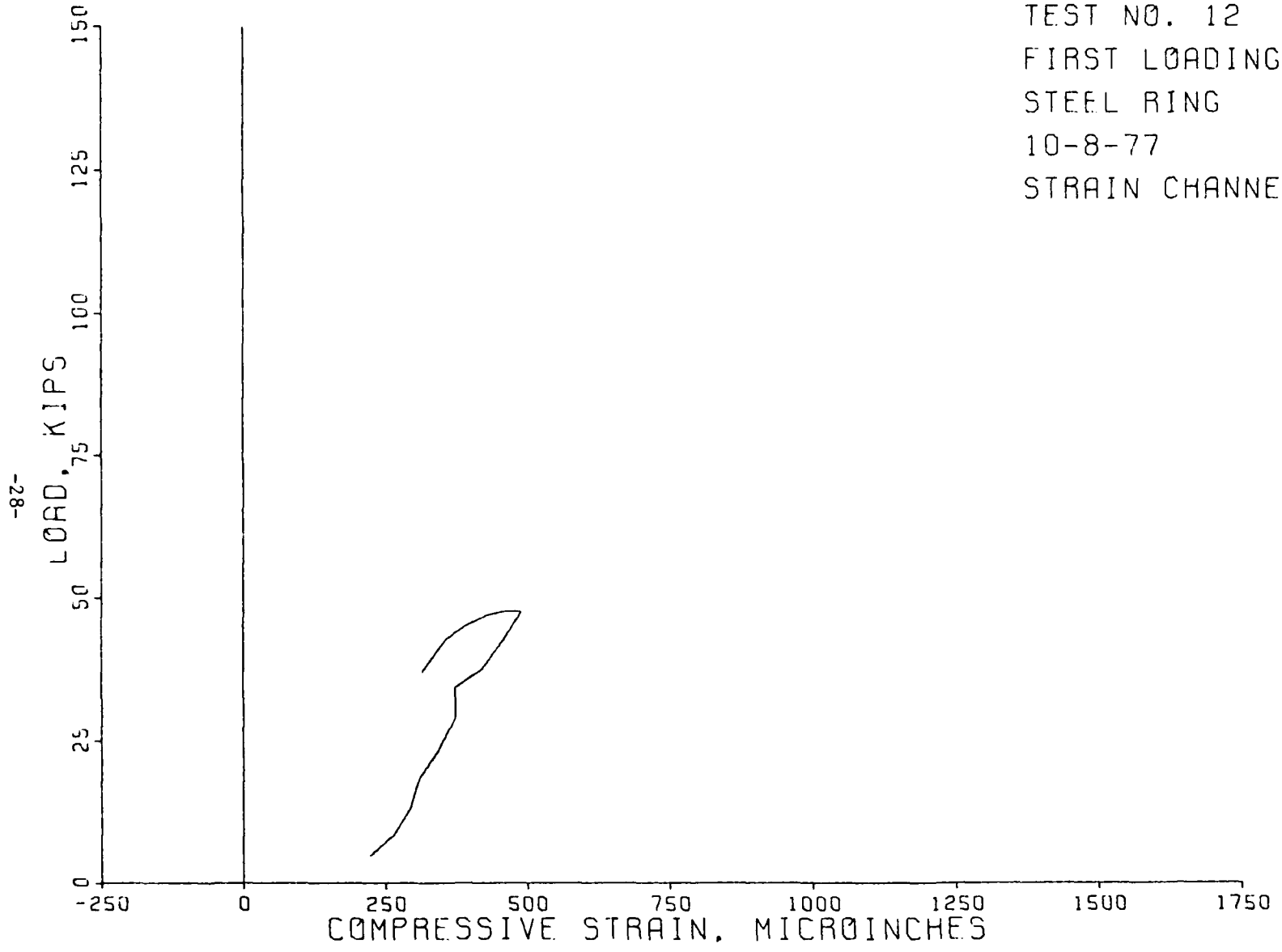
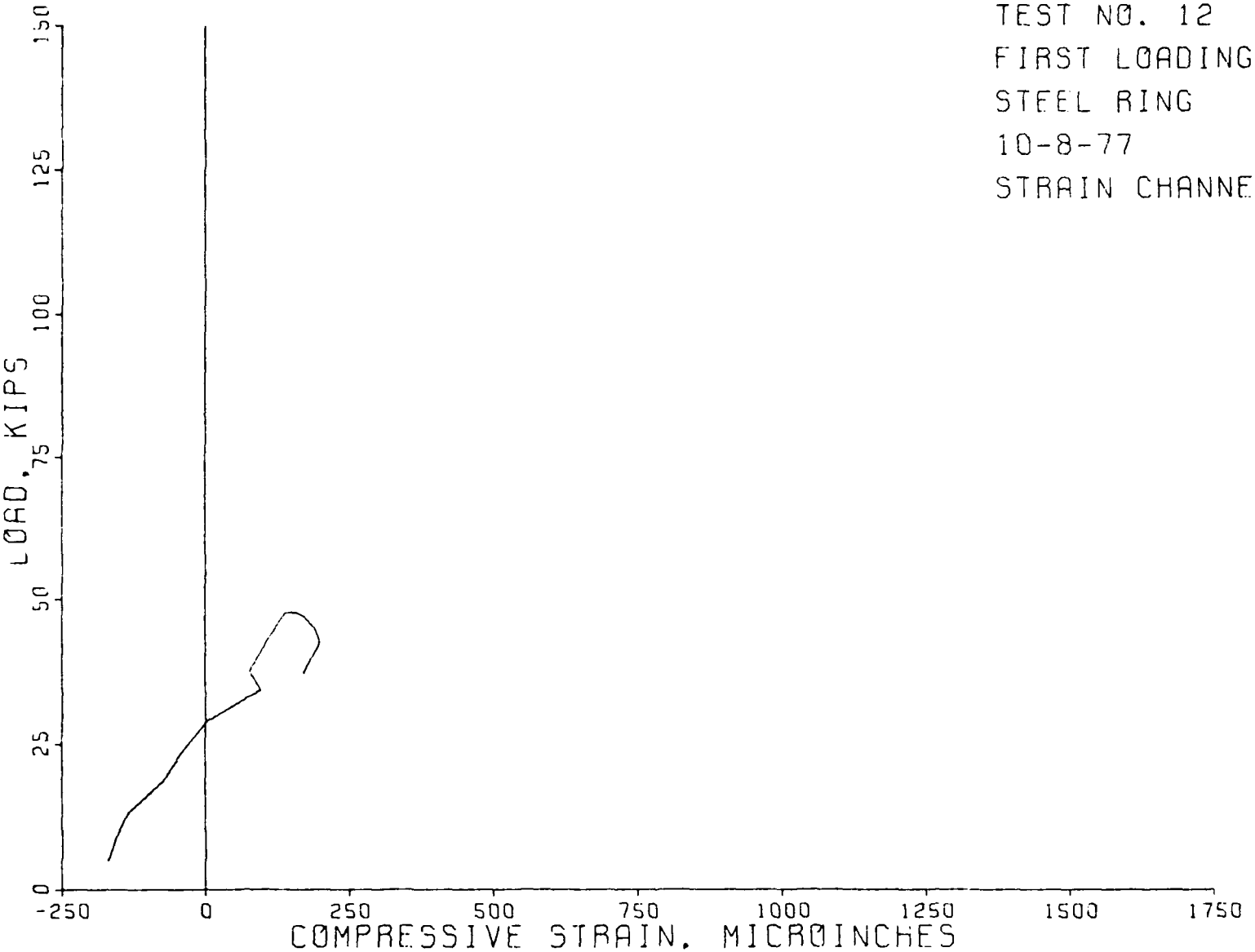
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 34
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 35
LOAD, KIPS
0
25
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-250
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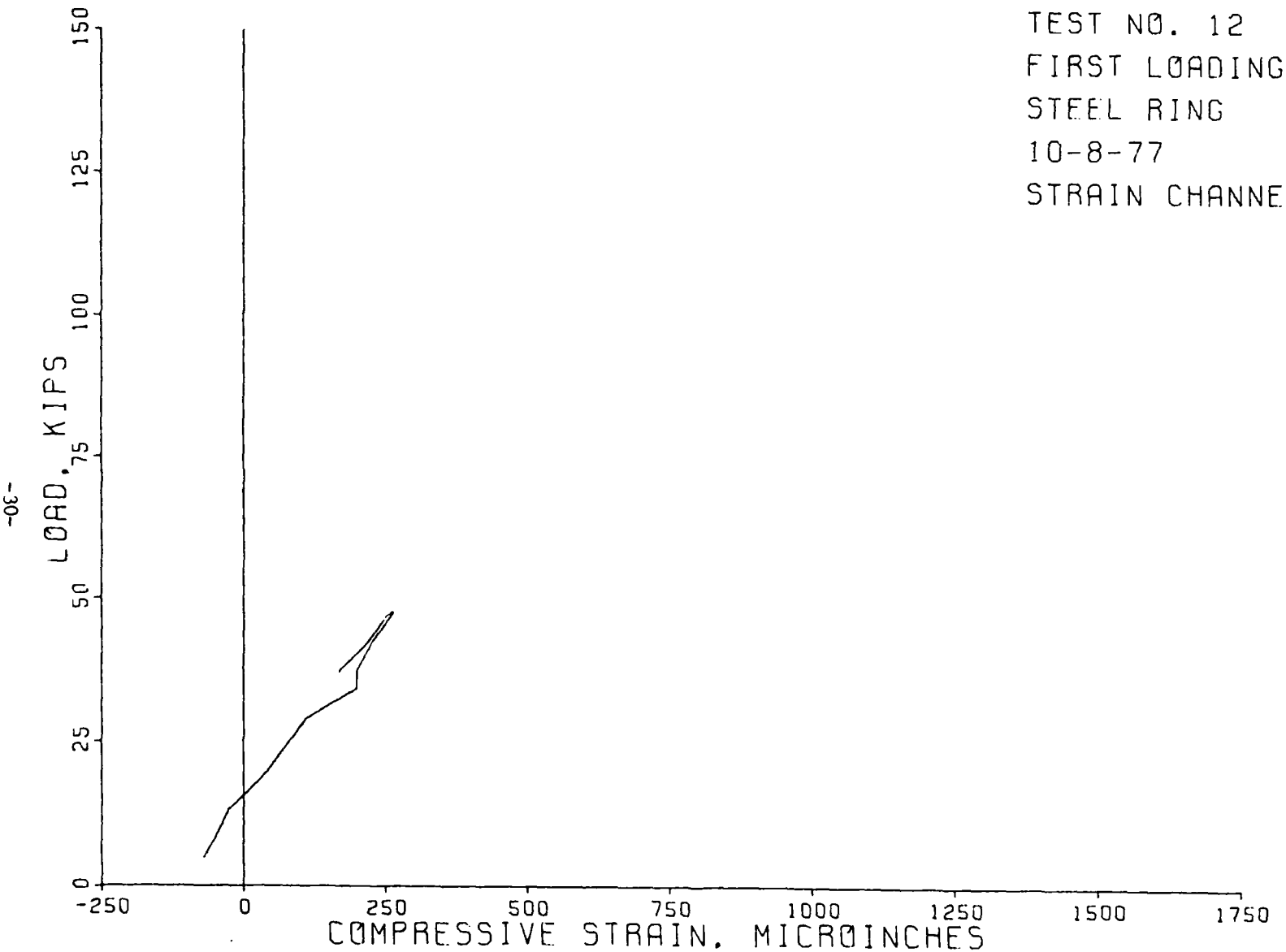
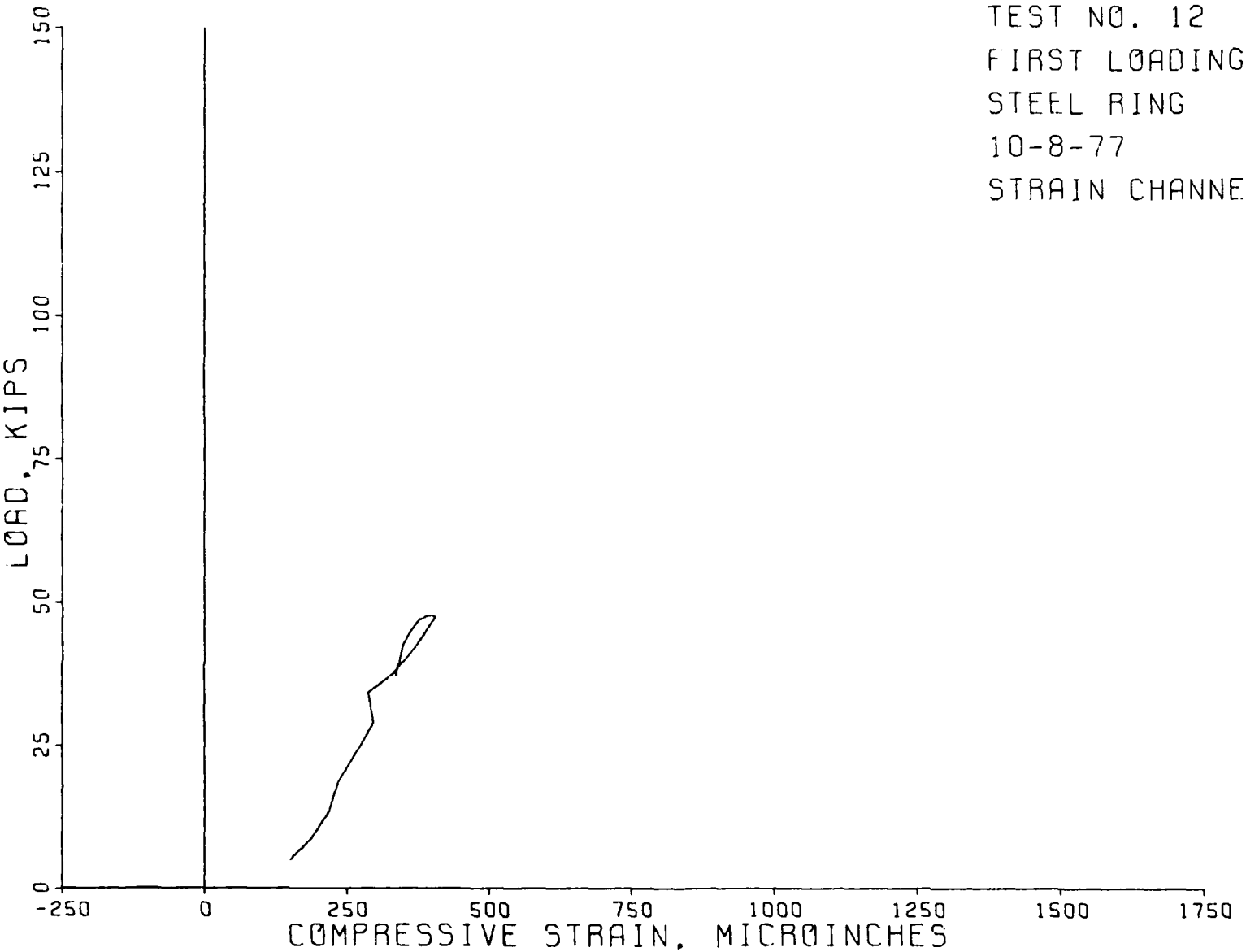
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 36
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 37
LOAD, KIPS
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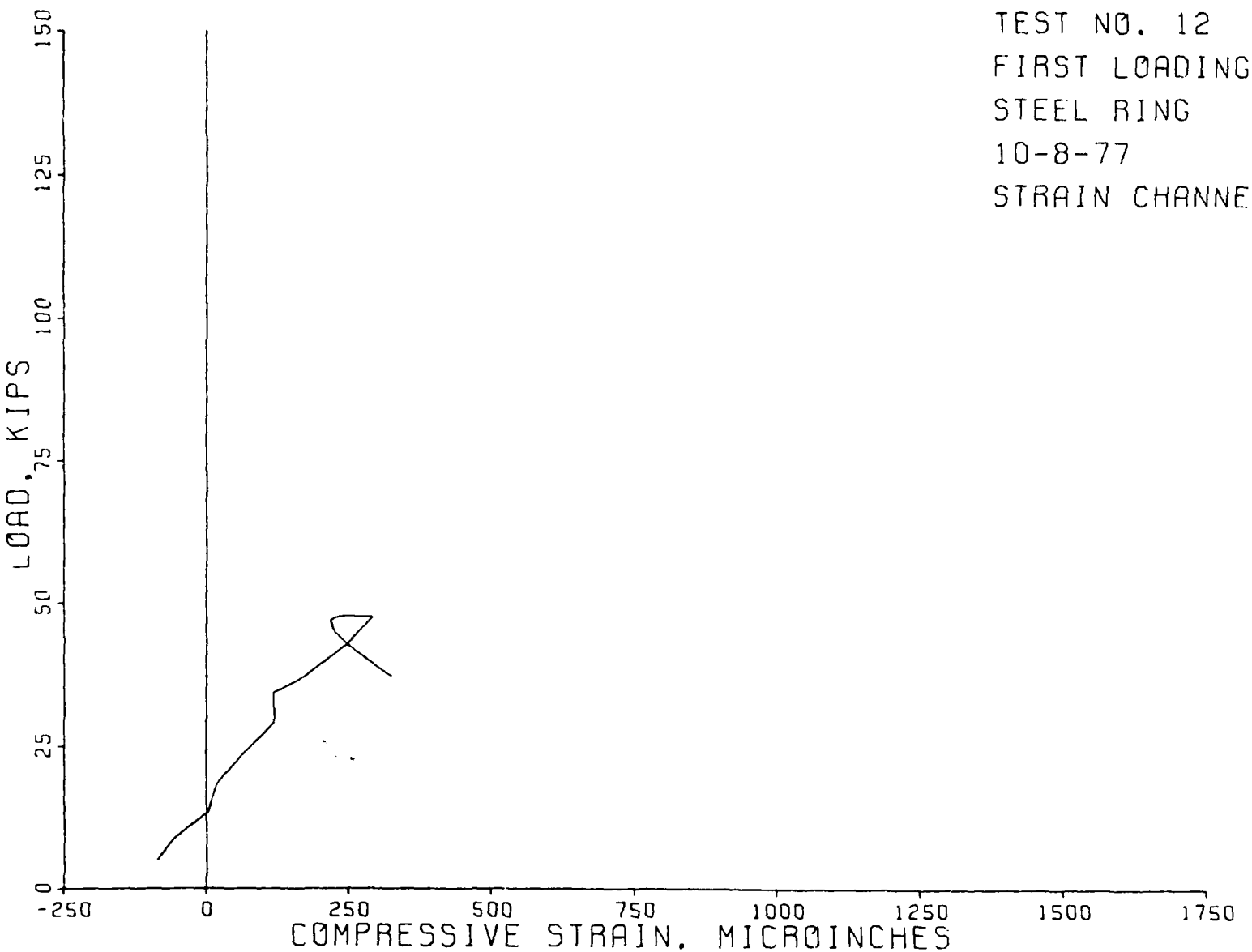
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 38
LOAD, KIPS
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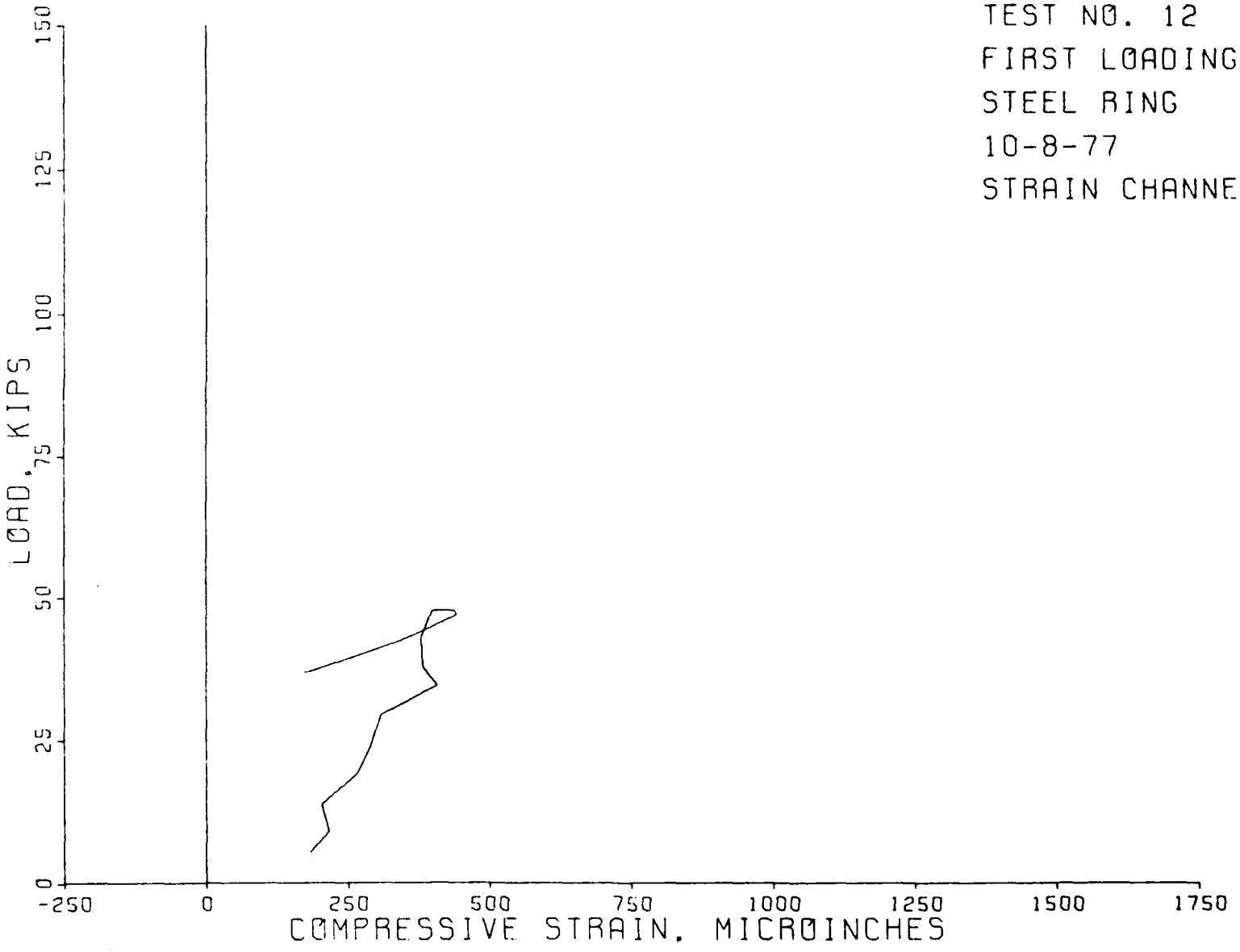
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
FIRST LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 39
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 12 FIRST LOADING STEEL RING 10-8-77

NUMBER OF INCREMENTS= 18
NUMBER OF CHANNELS= 34
NUMBER OF STRAIN CHANNELS= 10
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
48	0.0
47	0.0
46	0.0
45	0.0
43	0.
42	0.1
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
24	0.0
23	0.0
22	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
39	1.000
38	1.000
37	1.000
36	1.000
35	1.000
34	1.000
33	1.000
32	1.000

31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.001
18	0.001
17	0.001
16	0.001
15	0.001
14	0.001
13	0.001
12	0.001

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
24	10.000
23	10.000
22	10.000

ROD CHANNEL	CALIBRATION
48	1.000
47	1.000
46	1.000
45	1.000
43	1.000
42	1.000
41	1.000
40	1.000

S T R A I N C H A N N E L S

	TIME	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34	CH.33	CH.32
1.	8:10:32:58	-184.000	86.000	-150.000	70.000	170.000	-224.000	24.000	-87.000
2.	8:10:35:11	-216.000	59.000	-187.000	49.000	158.000	-264.000	2.000	-121.000
3.	8:10:39:20	-204.000	-2.000	-219.000	26.000	134.000	-294.000	-76.000	-107.000
4.	8:10:42:19	-265.000	-20.000	-235.000	-31.000	72.000	-310.000	-89.000	-167.000
5.	8:10:45:24	-289.000	-63.000	-264.000	-68.000	42.000	-342.000	-131.000	-194.000
6.	8:10:47: 8	-308.000	-119.000	-298.000	-109.000	-4.000	-372.000	-181.000	-223.000
7.	8:10:48:33	-407.000	-117.000	-288.000	-199.000	-96.000	-372.000	-220.000	-275.000
8.	8:10:49:20	-381.000	-178.000	-331.000	-200.000	-78.000	-419.000	-257.000	-279.000
9.	8:10:50:40	-379.000	-245.000	-374.000	-227.000	-106.000	-457.000	-300.000	-307.000
10.	8:10:51:33	-399.000	-291.000	-406.000	-263.000	-138.000	-489.000	-343.000	-333.000
11.	8:10:53:29	-438.000	-250.000	-398.000	-262.000	-151.000	-473.000	-324.000	-343.000
12.	8:10:54: 8	-443.000	-227.000	-386.000	-257.000	-164.000	-450.000	-295.000	-352.000
13.	8:10:54:41	-435.000	-218.000	-377.000	-250.000	-173.000	-428.000	-273.000	-356.000
14.	8:10:56:15	-393.000	-225.000	-362.000	-236.000	-191.000	-389.000	-257.000	-344.000
15.	8:10:58:42	-342.000	-245.000	-350.000	-221.000	-199.000	-358.000	-253.000	-321.000
16.	8:10:59:39	-321.000	-255.000	-348.000	-215.000	-198.000	-351.000	-254.000	-314.000
17.	8:11:11:42	-186.000	-318.000	-338.000	-170.000	-173.000	-317.000	-210.000	-305.000
18.	8:11:12:23	-174.000	-325.000	-337.000	-168.000	-171.000	-315.000	-205.000	-306.000

S T R A I N C H A N N E L S

	TIME	CH.31	CH.30	CH.
1.	8:10:32:58	-188.000	102.000	
2.	8:10:35:11	-231.000	90.000	
3.	8:10:39:20	-222.000	38.000	
4.	8:10:42:19	-279.000	21.000	
5.	8:10:45:24	-313.000	-6.000	
6.	8:10:47: 8	-342.000	-46.000	
7.	8:10:48:33	-403.000	-74.000	
8.	8:10:49:20	-416.000	-94.000	
9.	8:10:50:40	-442.000	-130.000	
10.	8:10:51:33	-470.000	-165.000	
11.	8:10:53:29	-483.000	-145.000	
12.	8:10:54: 8	-489.000	-122.000	
13.	8:10:54:41	-489.000	-104.000	
14.	8:10:56:15	-456.000	-108.000	
15.	8:10:58:42	-409.000	-128.000	
16.	8:10:59:39	-388.000	-141.000	
17.	8:11:11:42	-257.000	-209.000	
18.	8:11:12:23	-246.000	-216.000	

DISPLACEMENT CHANNELS

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	8:10:32:58	-0.540	20.810	0.059	0.108	0.075	-0.004	-0.063	-0.075
2.	8:10:35:11	-0.540	10.060	0.060	0.109	0.075	-0.004	-0.061	-0.073
3.	8:10:39:20	-0.500	20.750	0.060	0.109	0.055	-0.006	-0.032	-0.048
4.	8:10:42:19	-0.540	28.420	0.059	0.109	0.055	-0.006	-0.032	-0.049
5.	8:10:45:24	-0.540	19.030	0.058	0.105	0.053	-0.005	-0.032	-0.049
6.	8:10:47: 8	-0.310	21.950	0.059	0.080	0.052	-0.005	-0.032	-0.045
7.	8:10:48:33	-0.260	25.280	0.059	0.080	0.050	-0.005	-0.024	-0.019
8.	8:10:49:20	-0.260	-0.970	0.059	0.079	0.050	-0.005	-0.024	-0.021
9.	8:10:50:40	-0.260	1.300	0.058	0.080	0.050	-0.004	-0.023	-0.018
10.	8:10:51:33	-0.260	-1.650	0.059	0.079	0.054	-0.003	-0.001	-0.018
11.	8:10:53:29	-0.260	-2.190	0.059	0.079	0.051	-0.004	-0.001	-0.018
12.	8:10:54: 8	-0.260	1.000	0.059	0.079	0.051	-0.005	-0.001	-0.018
13.	8:10:54:41	-0.260	-0.990	0.060	0.080	0.051	-0.005	-0.001	-0.018
14.	8:10:56:15	-0.260	1.390	0.059	0.079	0.052	-0.005	-0.001	-0.018
15.	8:10:58:42	-0.250	25.270	0.059	0.079	0.052	-0.006	-0.001	-0.018
16.	8:10:59:39	-0.260	-23.930	0.059	0.079	0.052	-0.005	-0.001	-0.017
17.	8:11:11:42	-0.250	22.900	0.059	0.078	0.054	-0.004	-0.001	-0.017
18.	8:11:12:23	-0.260	22.500	0.060	0.079	0.054	-0.003	-0.001	-0.017

L O A D C H A N N E L S

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.24	CH.23	CH.22
1.	8:10:32:58	5940.000	5520.000	6100.000	5540.000	5080.000	4750.000	4780.000	8040.000
2.	8:10:35:11	11380.000	10010.000	9510.000	9670.000	8790.000	9780.000	8300.000	10760.000
3.	8:10:39:20	16230.000	13660.000	12870.000	13540.000	13520.000	13390.000	11760.000	14230.000
4.	8:10:42:19	21250.000	19770.000	18560.000	18810.000	18860.000	18340.000	18360.000	19380.000
5.	8:10:45:24	25970.000	24720.000	22990.000	23500.000	23460.000	23200.000	22740.000	24160.000
6.	8:10:47: 8	31560.000	30110.000	28210.000	28680.000	29110.000	28250.000	28020.000	29360.000
7.	8:10:48:33	36100.000	36710.000	35370.000	35450.000	34370.000	34580.000	35580.000	35600.000
8.	8:10:49:20	40290.000	38420.000	38280.000	37650.000	37680.000	36880.000	37780.000	38120.000
9.	8:10:50:40	45470.000	43510.000	42640.000	42490.000	42770.000	41760.000	42160.000	43230.000
10.	8:10:51:33	50410.000	48560.000	46930.000	47290.000	47640.000	46340.000	46790.000	47750.000
11.	8:10:53:29	49330.000	48390.000	47100.000	46220.000	47730.000	46030.000	46490.000	47780.000
12.	8:10:54: 8	47050.000	47770.000	46510.000	44080.000	47250.000	44720.000	45200.000	47100.000
13.	8:10:54:41	44980.000	47180.000	45690.000	42150.000	46750.000	43320.000	43920.000	46550.000
14.	8:10:56:15	40430.000	48000.000	41360.000	41150.000	44750.000	40880.000	41710.000	45720.000
15.	8:10:58:42	36560.000	49500.000	35910.000	41180.000	42670.000	38690.000	39780.000	44500.000
16.	8:10:59:39	35480.000	50070.000	33840.000	41440.000	41920.000	38010.000	39190.000	43920.000
17.	8:11:11:42	29020.000	52770.000	21400.000	41670.000	37370.000	33290.000	35320.000	39500.000
18.	8:11:12:23	28600.000	53050.000	20470.000	41860.000	37000.000	33010.000	35090.000	39230.000

ROD CHANNELS

	TIME	CH.48	CH.47	CH.46	CH.45	CH.43	CH.42	CH.41	CH.40
1.	8:10:32:58	486.848	-64.059	-192.177	-76.871	12.812	25.624	-25.624	-204.989
2.	8:10:35:11	525.284	-128.118	-256.236	-51.247	-51.247	38.435	51.247	-281.859
3.	8:10:39:20	512.472	-140.930	-294.671	-89.683	-76.871	64.059	25.624	-345.918
4.	8:10:42:19	499.660	-153.742	-256.236	-89.683	-166.553	-12.812	-51.247	-550.907
5.	8:10:45:24	512.472	-140.930	-179.365	-76.871	-217.801	-64.059	-89.683	-679.025
6.	8:10:47: 8	525.284	-128.118	-140.930	-64.059	-269.048	-102.494	-102.494	-845.579
7.	8:10:48:33	474.036	-128.118	-38.435	-25.624	-281.859	-89.683	-140.930	-1024.944
8.	8:10:49:20	550.907	-76.871	25.624	12.812	-333.107	-140.930	-140.930	-1101.814
9.	8:10:50:40	666.213	0.0	89.683	38.435	-448.413	-243.424	-166.553	-1255.556
10.	8:10:51:33	768.708	76.871	153.742	76.871	-550.907	-320.295	-192.177	-1447.733
11.	8:10:53:29	755.896	76.871	128.118	64.059	-550.907	-320.295	-192.177	-1486.168
12.	8:10:54: 8	730.272	51.247	89.683	38.435	-525.284	-294.671	-204.989	-1486.168
13.	8:10:54:41	717.461	25.624	64.059	12.812	-486.848	-281.859	-192.177	-1473.357
14.	8:10:56:15	691.837	12.812	-38.435	-38.435	-435.601	-217.801	-204.989	-1434.921
15.	8:10:58:42	704.649	25.624	-128.118	-89.683	-345.918	-140.930	-204.989	-1422.109
16.	8:10:59:39	704.649	25.624	-179.365	-89.683	-307.483	-115.306	-204.989	-1422.109
17.	8:11:11:42	832.767	115.306	-345.918	-179.365	-153.742	12.812	-230.612	-1460.545
18.	8:11:12:23	845.579	128.118	-345.918	-192.177	-140.930	38.435	-230.612	-1460.545

A V E R A G E L O A D

1.	5718.750
2.	9775.000
3.	13650.000
4.	19166.250
5.	23842.500
6.	29162.500
7.	35470.000
8.	38137.500
9.	43003.750
10.	47713.750
11.	47383.750
12.	46210.000
13.	45067.500
14.	43000.000
15.	41098.750
16.	40483.750
17.	36292.500
18.	36038.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 11

3.1.2 RELOAD OF SPECIMEN #0

TEST NO. 12 (2ND)

STEEL LINER

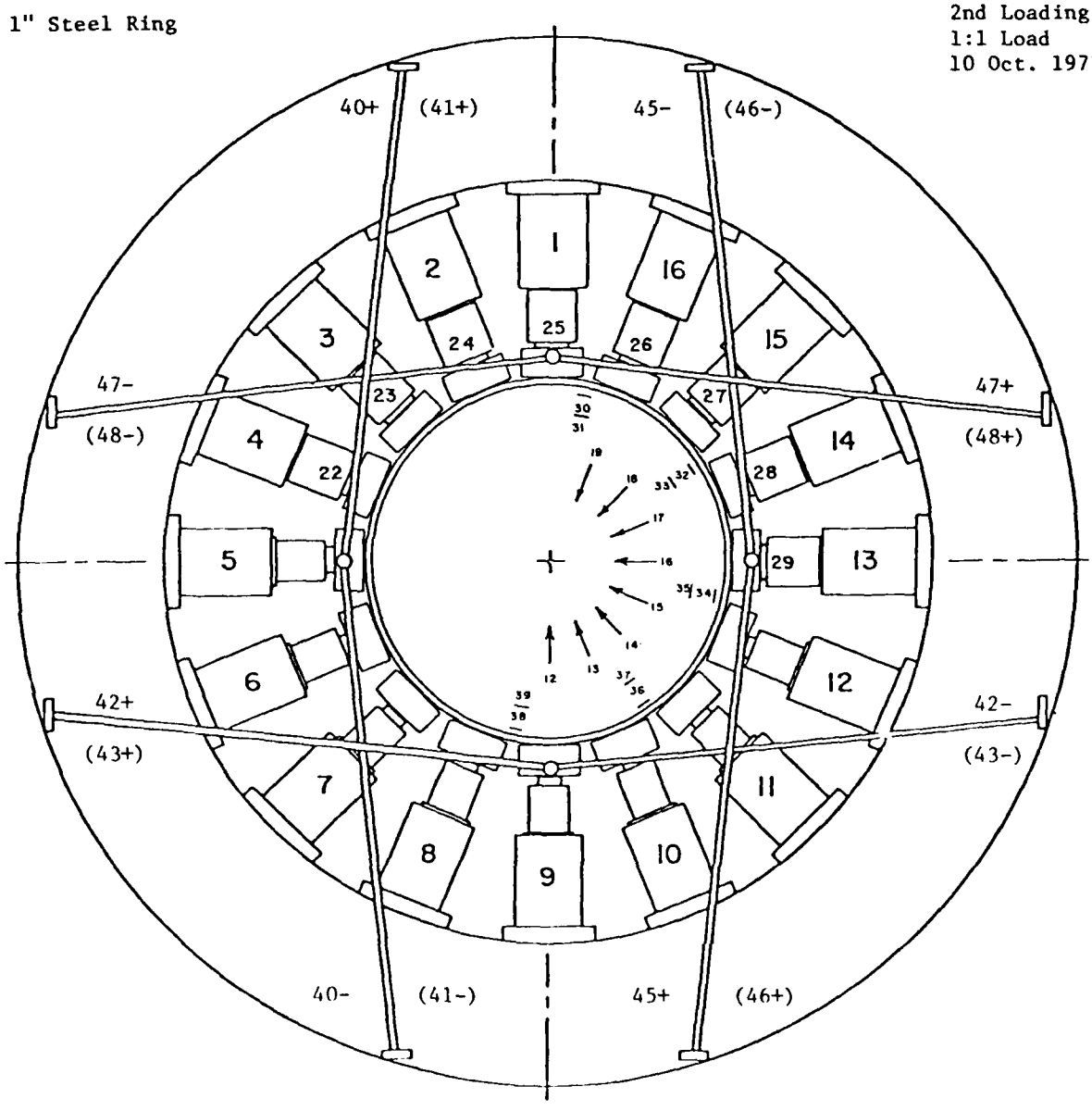
1:1 LOADING RATIO

TESTED 10 OCTOBER 1977

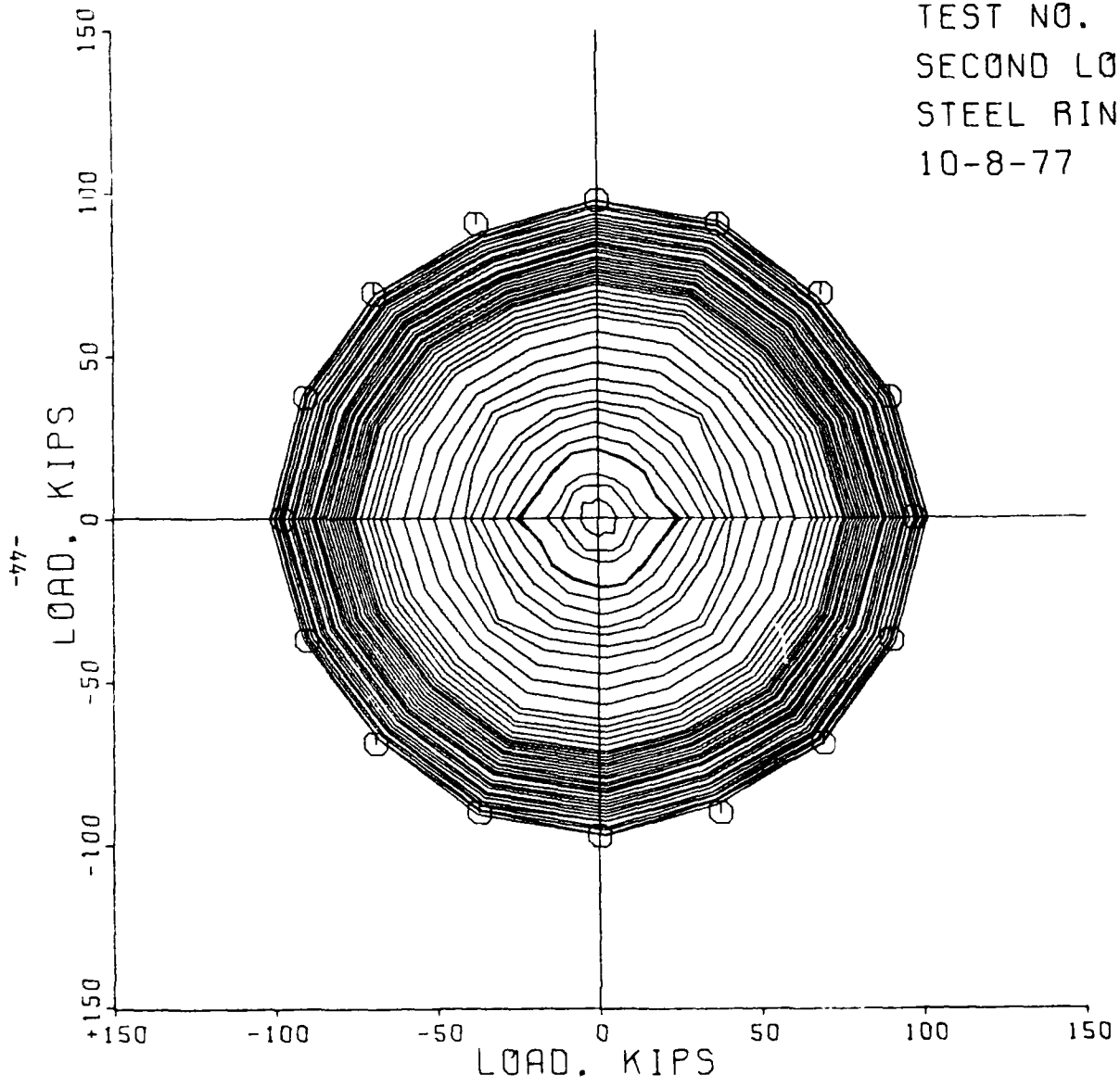
REACTION FRAME TEST SET-UP

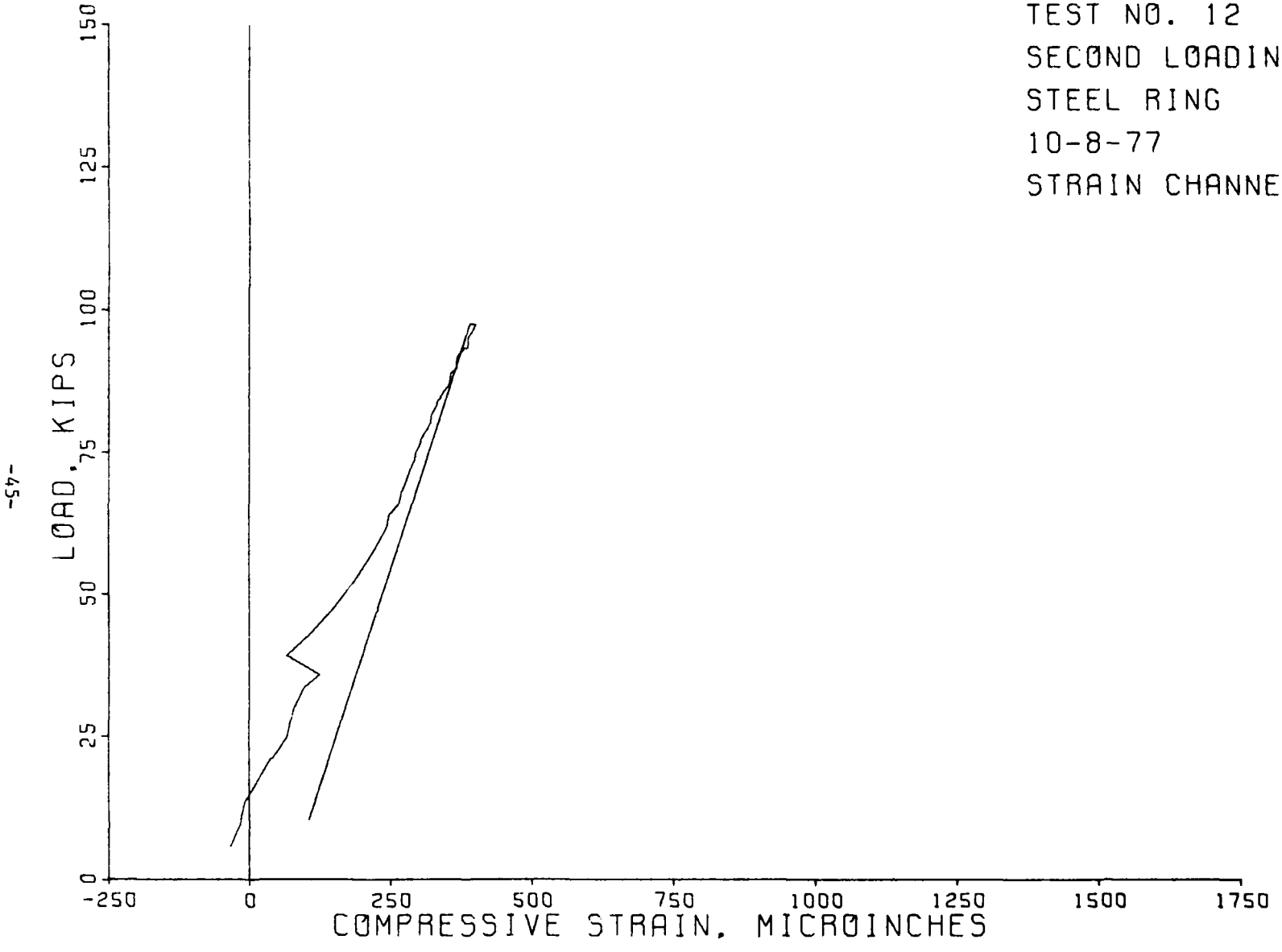
Specimen #0
1" Steel Ring

Test #12
2nd Loading
1:1 Load
10 Oct. 1977



CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 22-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-39 (Ailtech SG 129-6S) Radial pairs inside and out at center between axes.
CH 40-43, 45-48 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
LOAD. KIPS
+150
-100
-50
0
50
100
150
LOAD. KIPS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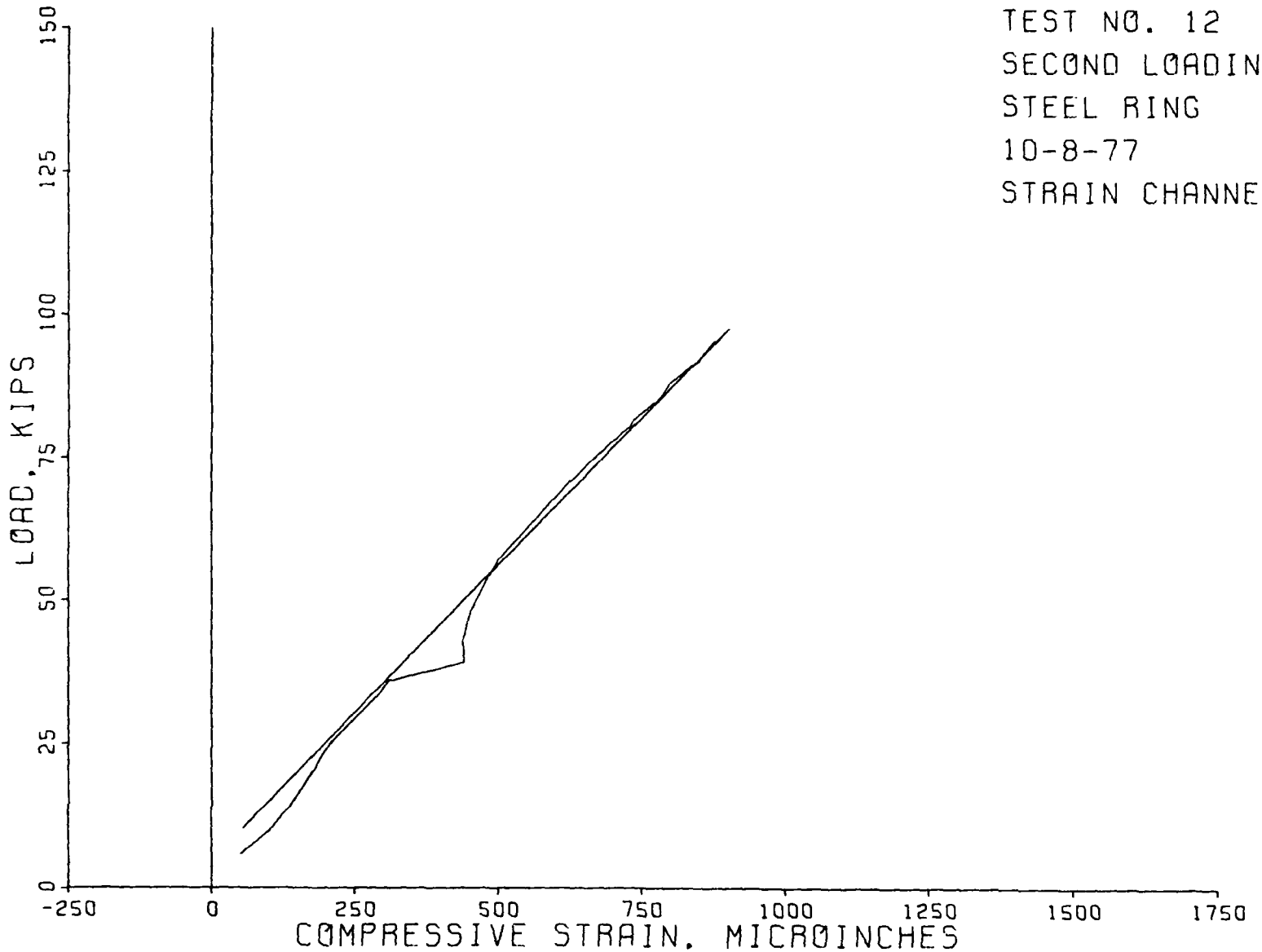
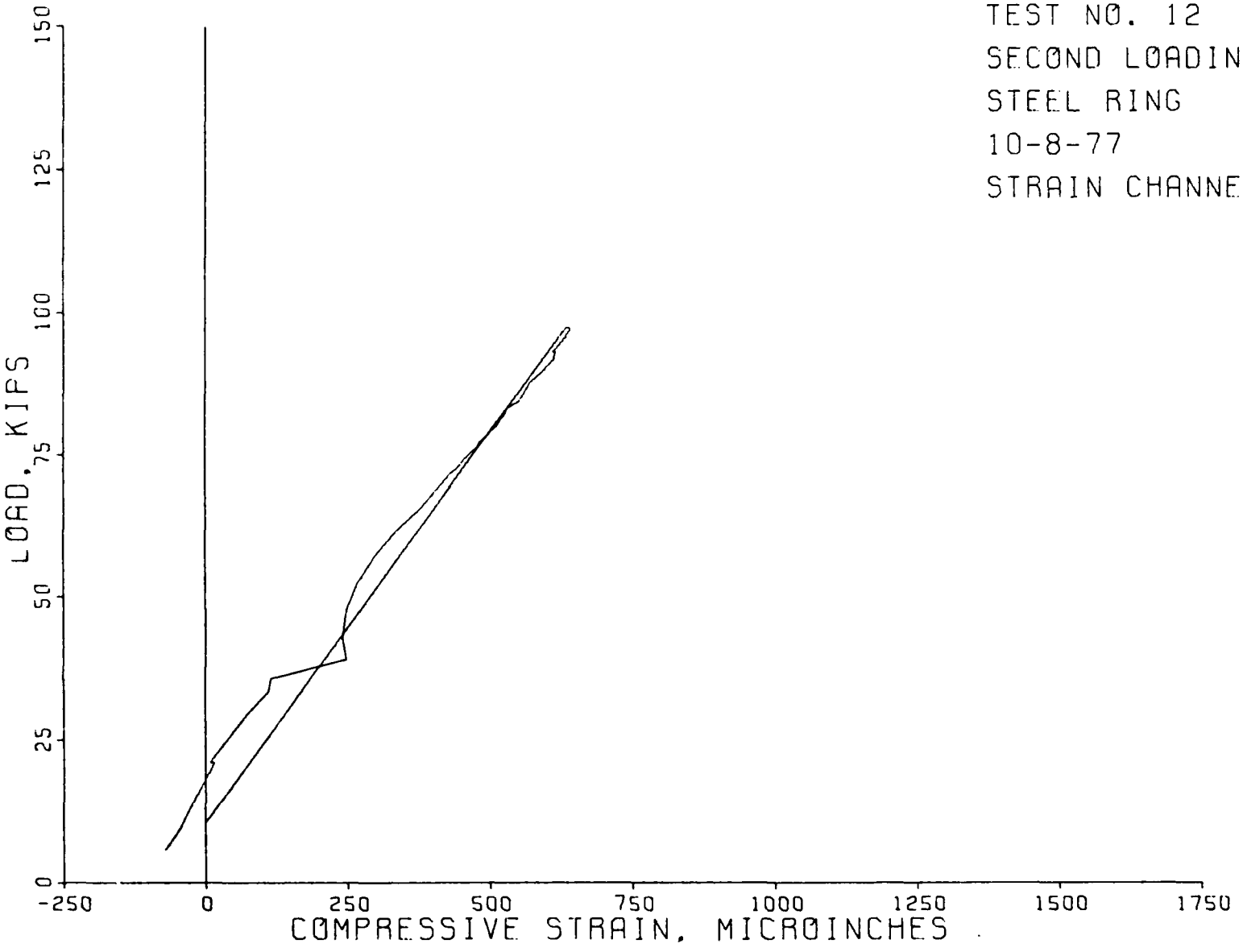
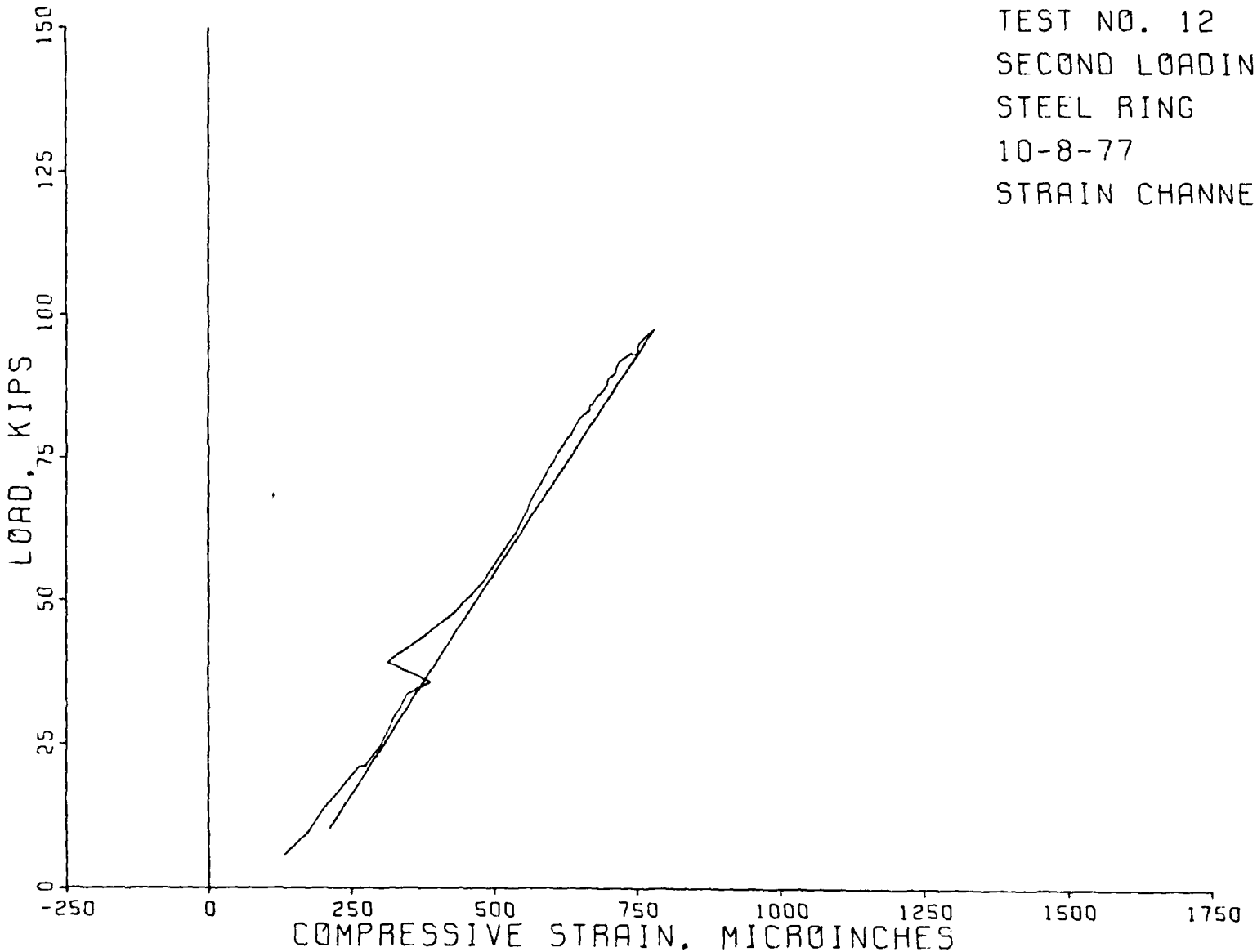
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 30
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 31
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 32
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 33
LOAD, KIPS
0
25
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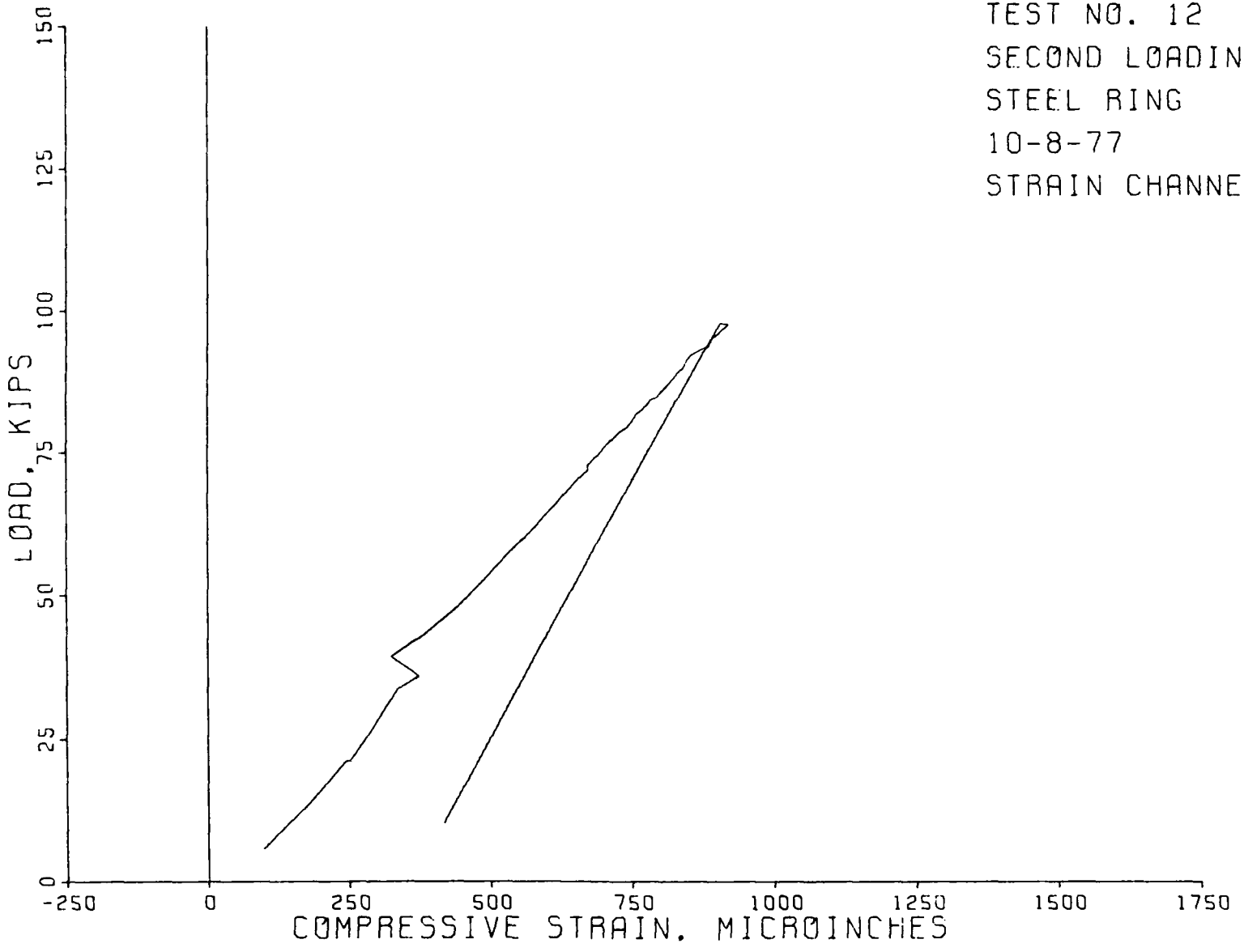
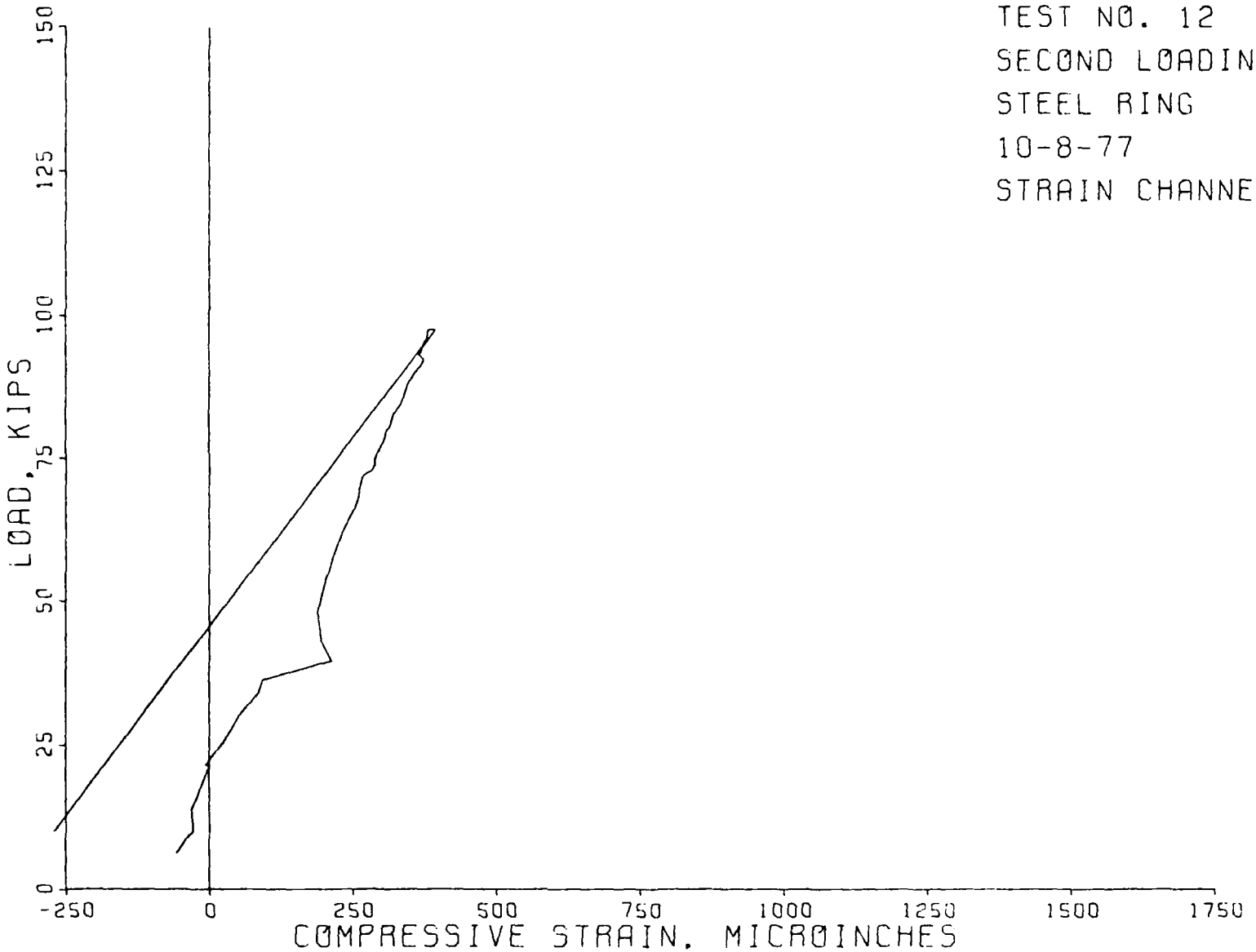
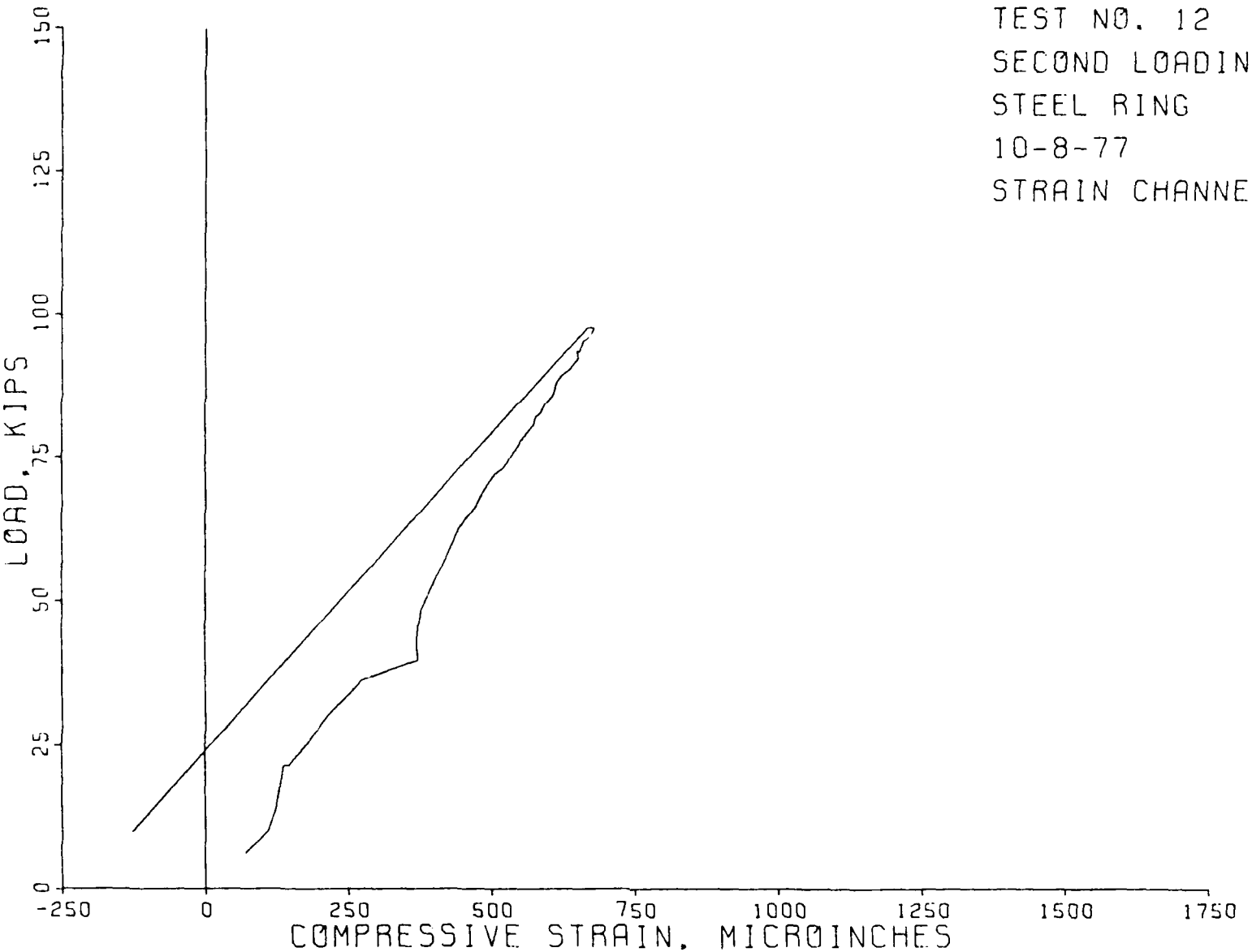
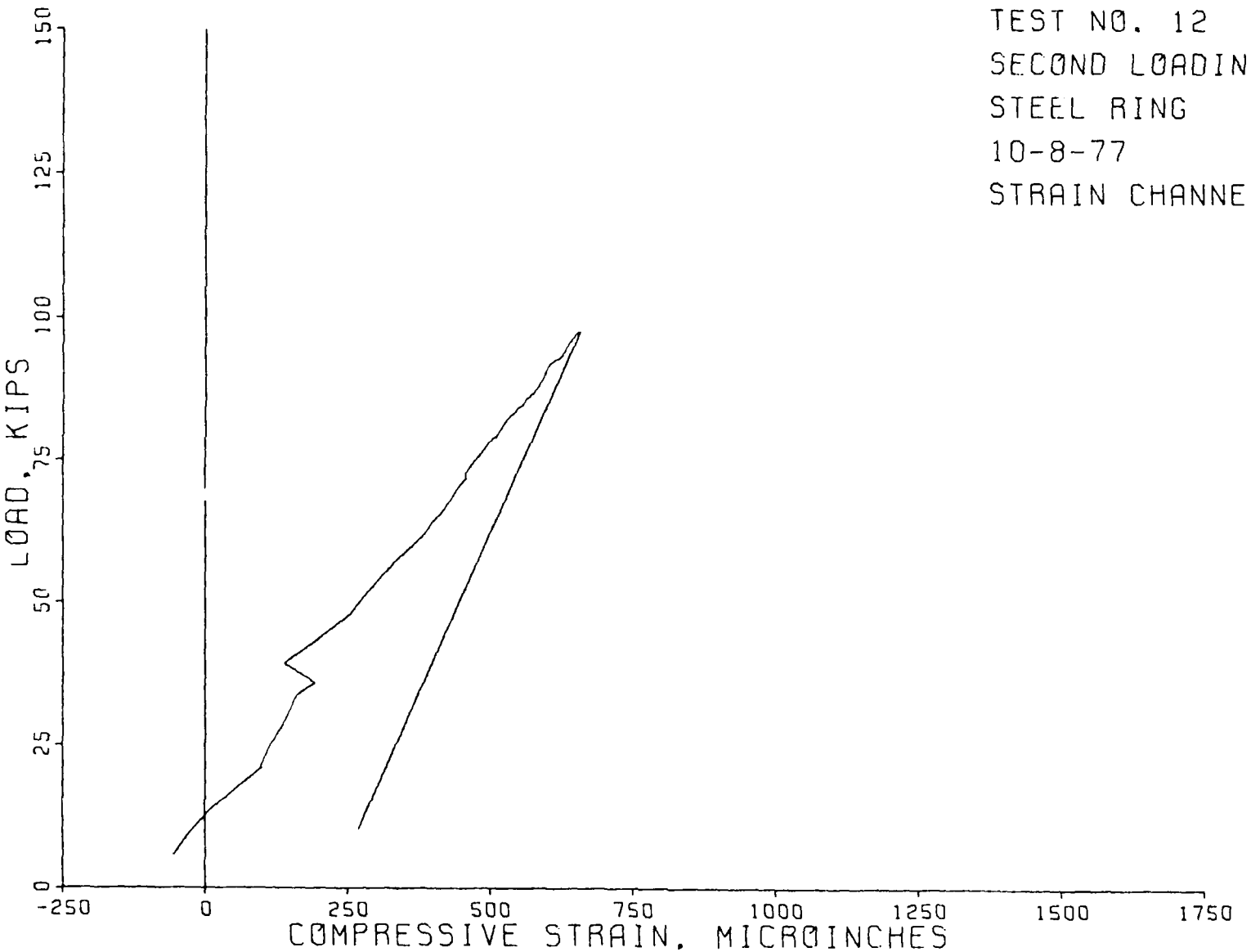
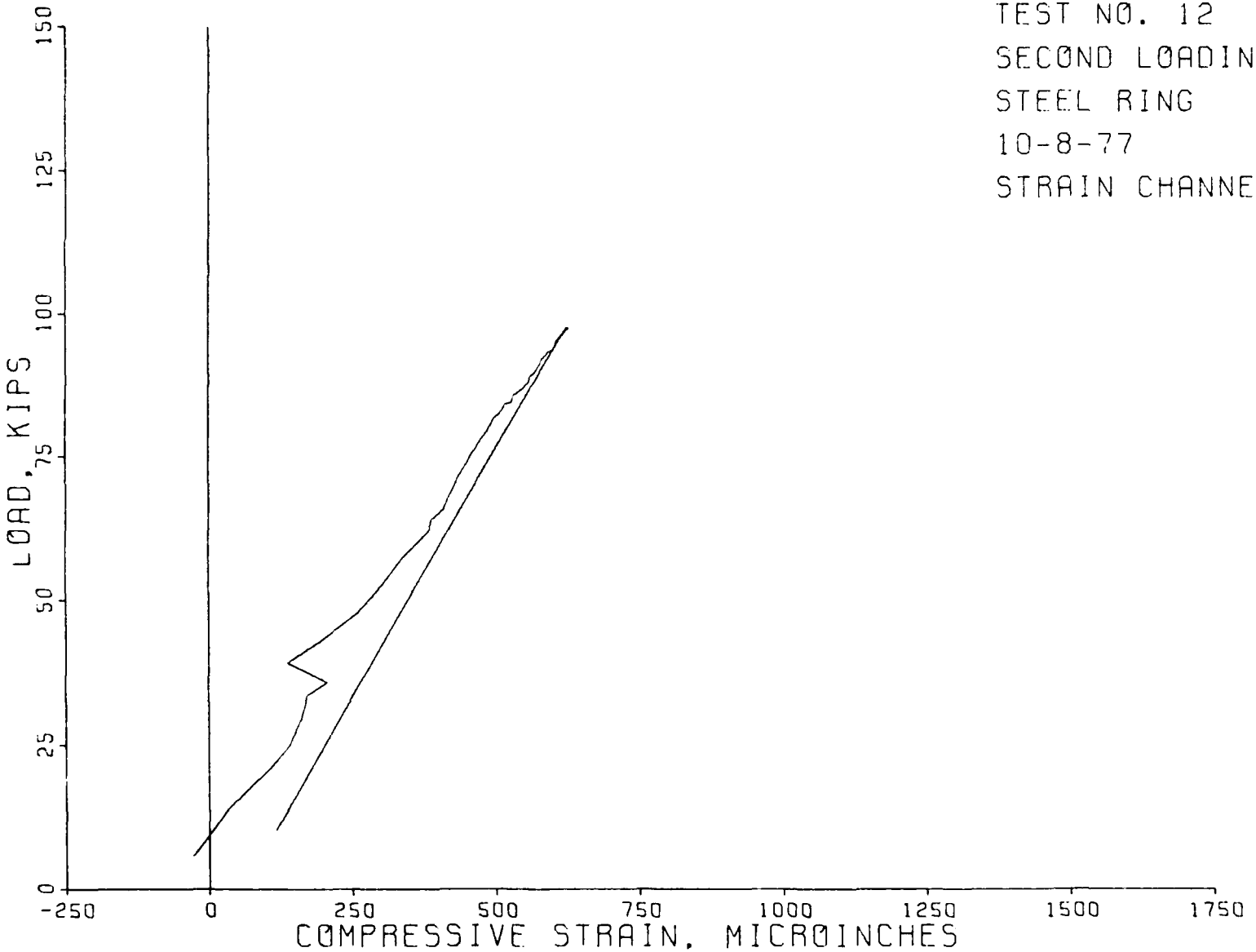
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES

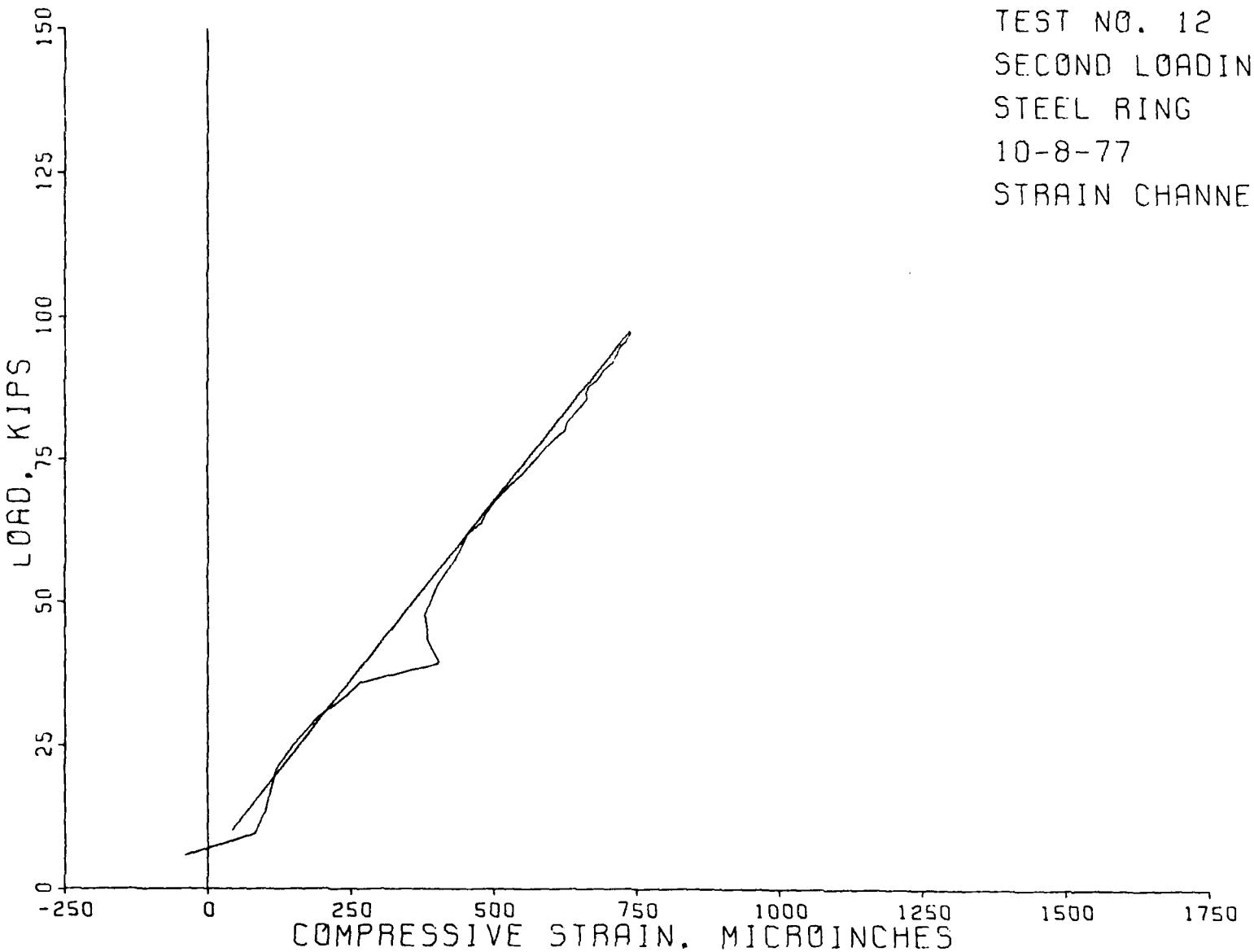

TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 34
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 35
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 36
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 37
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 12
SECOND LOADING
STEEL RING
10-8-77
STRAIN CHANNEL 38
LOAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
COMPRESSIVE STRAIN, MICROINCHES


TEST NØ. 12
SECØND LØADING
STEEL RING
10-8-77
STRAIN CHANNEL 39
LØAD, KIPS
0
25
50
75
100
125
150
-250
0
250
500
750
1000
1250
1500
1750
CØMPRESSIVE STRAIN, MICRØINCHES

TEST NO. 12 SECOND LOADING STEEL RING 10-8-77

NUMBER OF INCREMENTS= 49
NUMBER OF CHANNELS= 34
NUMBER OF STRAIN CHANNELS= 10
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
48	0.0
47	0.0
46	0.0
45	0.0
43	0.0
42	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
24	0.0
23	0.0
22	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
39	1.000
38	1.000
37	1.000
36	1.000
35	1.000
34	1.000
33	1.000
32	1.000

31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.001
18	0.001
17	0.001
16	0.001
15	0.001
14	0.001
13	0.001
12	0.001

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
24	10.000
23	10.000
22	10.000

ROD CHANNEL	CALIBRATION
48	1.000
47	1.000
46	1.000
45	1.000
43	1.000
42	1.000
41	1.000
40	1.000

STRAIN CHANNELS

	TIME	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34	CH.33	CH.32
1.	10:11:59:59	41.000	28.000	55.000	-70.000	58.000	-99.000	-132.000	70.000
2.	10:12: 3:34	-82.000	-2.000	27.000	-109.000	30.000	-136.000	-174.000	44.000
3.	10:12: 4: 7	-100.000	-29.000	-8.000	-122.000	31.000	-177.000	-200.000	25.000
4.	10:12:11:21	-121.000	-106.000	-99.000	-136.000	0.0	-242.000	-263.000	-15.000
5.	10:12:11:35	-122.000	-109.000	-97.000	-147.000	7.000	-253.000	-275.000	-8.000
6.	10:12:11:50	-122.000	-109.000	-97.000	-147.000	6.000	-251.000	-275.000	-9.000
7.	10:12:12:49	-147.000	-140.000	-114.000	-179.000	-22.000	-277.000	-301.000	-36.000
8.	10:12:13:24	-191.000	-161.000	-143.000	-212.000	-51.000	-309.000	-325.000	-74.000
9.	10:12:13:59	-243.000	-173.000	-160.000	-252.000	-85.000	-335.000	-347.000	-111.000
10.	10:12:14:37	-265.000	-207.000	-193.000	-272.000	-93.000	-372.000	-389.000	-115.000
11.	10:12:15:29	-404.000	-136.000	-139.000	-370.000	-213.000	-324.000	-312.000	-247.000
12.	10:12:16: 7	-385.000	-195.000	-191.000	-369.000	-194.000	-380.000	-368.000	-240.000
13.	10:12:16:58	-379.000	-259.000	-253.000	-375.000	-189.000	-441.000	-430.000	-247.000
14.	10:12:17:28	-400.000	-303.000	-294.000	-398.000	-201.000	-489.000	-476.000	-267.000
15.	10:12:18: 1	-430.000	-337.000	-335.000	-420.000	-215.000	-532.000	-508.000	-297.000
16.	10:12:18:56	-454.000	-384.000	-385.000	-441.000	-233.000	-580.000	-537.000	-338.000
17.	10:12:20:24	-478.000	-388.000	-397.000	-455.000	-242.000	-597.000	-547.000	-359.000
18.	10:12:20:47	-486.000	-409.000	-414.000	-469.000	-252.000	-615.000	-558.000	-377.000
19.	10:12:21:11	-503.000	-418.000	-429.000	-480.000	-260.000	-632.000	-565.000	-396.000
20.	10:12:21:38	-522.000	-429.000	-443.000	-492.000	-263.000	-653.000	-577.000	-415.000
21.	10:12:22: 3	-541.000	-438.000	-457.000	-505.000	-268.000	-672.000	-588.000	-430.000
22.	10:12:22:29	-551.000	-442.000	-457.000	-518.000	-282.000	-673.000	-592.000	-441.000
23.	10:12:22:49	-559.000	-449.000	-462.000	-526.000	-287.000	-682.000	-598.000	-450.000
24.	10:12:23:11	-566.000	-454.000	-470.000	-531.000	-287.000	-692.000	-604.000	-457.000
25.	10:12:23:32	-576.000	-459.000	-477.000	-537.000	-291.000	-700.000	-608.000	-467.000
26.	10:12:24: 4	-584.000	-465.000	-485.000	-545.000	-298.000	-708.000	-614.000	-477.000
27.	10:12:24:27	-592.000	-471.000	-493.000	-549.000	-301.000	-718.000	-620.000	-484.000
28.	10:12:24:50	-603.000	-478.000	-500.000	-558.000	-306.000	-728.000	-626.000	-495.000
29.	10:12:25:11	-612.000	-485.000	-510.000	-564.000	-308.000	-741.000	-635.000	-503.000
30.	10:12:25:32	-624.000	-490.000	-516.000	-573.000	-315.000	-749.000	-640.000	-513.000
31.	10:12:25:52	-627.000	-498.000	-525.000	-576.000	-319.000	-757.000	-646.000	-521.000
32.	10:12:26:12	-634.000	-506.000	-531.000	-585.000	-321.000	-768.000	-654.000	-528.000
33.	10:12:27: 0	-642.000	-514.000	-542.000	-590.000	-327.000	-778.000	-666.000	-533.000
34.	10:12:27:25	-650.000	-518.000	-547.000	-594.000	-334.000	-782.000	-666.000	-544.000
35.	10:12:27:40	-652.000	-529.000	-556.000	-598.000	-335.000	-792.000	-671.000	-551.000
36.	10:12:28: 1	-663.000	-531.000	-561.000	-606.000	-339.000	-801.000	-678.000	-559.000
37.	10:12:28:22	-661.000	-548.000	-575.000	-609.000	-342.000	-813.000	-690.000	-565.000
38.	10:12:28:41	-665.000	-557.000	-584.000	-612.000	-346.000	-822.000	-697.000	-571.000
39.	10:12:29: 1	-677.000	-560.000	-589.000	-620.000	-352.000	-830.000	-699.000	-583.000
40.	10:12:29:21	-685.000	-570.000	-594.000	-633.000	-358.000	-840.000	-710.000	-592.000
41.	10:12:29:40	-693.000	-577.000	-597.000	-642.000	-368.000	-845.000	-713.000	-603.000
42.	10:12:30: 0	-705.000	-581.000	-604.000	-650.000	-374.000	-853.000	-718.000	-613.000
43.	10:12:30:21	-712.000	-593.000	-625.000	-648.000	-364.000	-878.000	-737.000	-616.000
44.	10:12:30:42	-711.000	-600.000	-624.000	-653.000	-367.000	-882.000	-749.000	-611.000
45.	10:12:31: 3	-721.000	-605.000	-634.000	-659.000	-374.000	-891.000	-751.000	-626.000
46.	10:12:31:26	-730.000	-613.000	-638.000	-670.000	-379.000	-901.000	-759.000	-633.000
47.	10:12:32: 7	-739.000	-627.000	-651.000	-679.000	-381.000	-919.000	-775.000	-642.000
48.	10:12:35: 4	-737.000	-625.000	-657.000	-666.000	-394.000	-905.000	-779.000	-636.000
49.	10:12:42:33	-42.000	-115.000	-269.000	128.000	271.000	-416.000	-211.000	2.000

S T R A I N C H A N N E L S

	TIME	CH.31	CH.30	CH.
1.	10:11:59:59	-51.000	33.000	
2.	10:12: 3:34	-100.000	16.000	
3.	10:12: 4: 7	-133.000	7.000	
4.	10:12:11:21	-182.000	-38.000	
5.	10:12:11:35	-182.000	-41.000	
6.	10:12:11:50	-182.000	-42.000	
7.	10:12:12:49	-206.000	-68.000	
8.	10:12:13:24	-254.000	-79.000	
9.	10:12:13:59	-293.000	-98.000	
10.	10:12:14:37	-308.000	-125.000	
11.	10:12:15:29	-441.000	-66.000	
12.	10:12:16: 7	-439.000	-107.000	
13.	10:12:16:58	-451.000	-152.000	
14.	10:12:17:28	-475.000	-189.000	
15.	10:12:18: 1	-501.000	-219.000	
16.	10:12:18:56	-544.000	-244.000	
17.	10:12:20:24	-563.000	-248.000	
18.	10:12:20:47	-578.000	-264.000	
19.	10:12:21:11	-597.000	-269.000	
20.	10:12:21:38	-616.000	-277.000	
21.	10:12:22: 3	-635.000	-284.000	
22.	10:12:22:29	-644.000	-288.000	
23.	10:12:22:49	-654.000	-292.000	
24.	10:12:23:11	-663.000	-294.000	
25.	10:12:23:32	-673.000	-298.000	
26.	10:12:24: 4	-684.000	-302.000	
27.	10:12:24:27	-694.000	-305.000	
28.	10:12:24:50	-706.000	-310.000	
29.	10:12:25:11	-715.000	-316.000	
30.	10:12:25:32	-727.000	-321.000	
31.	10:12:25:52	-735.000	-323.000	
32.	10:12:26:12	-744.000	-327.000	
33.	10:12:27: 0	-757.000	-332.000	
34.	10:12:27:25	-766.000	-334.000	
35.	10:12:27:40	-771.000	-339.000	
36.	10:12:28: 1	-782.000	-344.000	
37.	10:12:28:22	-790.000	-354.000	
38.	10:12:28:41	-797.000	-356.000	
39.	10:12:29: 1	-810.000	-358.000	
40.	10:12:29:21	-821.000	-367.000	
41.	10:12:29:40	-834.000	-368.000	
42.	10:12:30: 0	-847.000	-370.000	
43.	10:12:30:21	-856.000	-380.000	
44.	10:12:30:42	-857.000	-387.000	
45.	10:12:31: 3	-871.000	-387.000	
46.	10:12:31:26	-883.000	-392.000	
47.	10:12:32: 7	-899.000	-401.000	
48.	10:12:35: 4	-903.000	-391.000	
49.	10:12:42:33	-55.000	-105.000	

DISPLACEMENT CHANNELS

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	10:11:59:59	-0.025	4.447	-0.005	0.021	0.044	0.032	0.042	0.239
2.	10:12: 3:34	-0.026	4.429	-0.004	0.022	-0.042	0.032	0.043	0.240
3.	10:12: 4: 7	-0.026	4.425	0.026	0.051	-0.042	0.032	0.044	0.240
4.	10:12:11:21	-0.026	4.454	0.025	0.051	-0.055	0.018	0.043	0.240
5.	10:12:11:35	-0.025	4.447	0.025	0.051	-0.054	0.018	0.043	0.239
6.	10:12:11:50	-0.025	4.463	0.025	0.051	-0.054	0.019	0.043	0.239
7.	10:12:12:49	-0.025	4.483	0.026	0.052	-0.053	0.018	0.043	0.239
8.	10:12:13:24	-0.026	4.477	0.026	0.051	-0.052	0.019	0.044	0.240
9.	10:12:13:59	-0.025	4.496	0.025	0.051	-0.052	0.019	0.043	0.240
10.	10:12:14:37	-0.025	4.487	0.025	0.052	-0.052	0.019	0.043	0.240
11.	10:12:15:29	-0.026	4.458	0.056	0.051	-0.040	0.019	0.043	0.218
12.	10:12:16: 7	-0.025	4.469	0.055	0.052	-0.040	0.018	0.043	0.218
13.	10:12:16:58	-0.025	4.473	0.055	0.065	-0.040	0.018	0.042	0.218
14.	10:12:17:28	-0.025	4.476	0.055	0.067	-0.040	0.019	0.043	0.228
15.	10:12:18: 1	-0.025	4.490	0.055	0.081	-0.041	0.019	0.042	0.231
16.	10:12:18:56	-0.025	4.490	0.055	0.080	-0.041	0.018	0.043	0.231
17.	10:12:20:24	-0.025	4.487	0.055	0.081	-0.042	0.018	0.023	0.231
18.	10:12:20:47	-0.026	4.491	0.056	0.080	-0.042	0.018	0.021	0.230
19.	10:12:21:11	-0.025	4.495	0.055	0.081	-0.043	0.019	0.020	0.230
20.	10:12:21:38	-0.025	4.494	0.076	0.080	-0.043	0.018	0.019	0.230
21.	10:12:22: 3	-0.025	4.472	0.085	0.081	-0.042	0.019	0.013	0.229
22.	10:12:22:29	-0.025	4.467	0.085	0.080	-0.043	0.018	0.012	0.228
23.	10:12:22:49	-0.025	4.460	0.086	0.081	-0.043	0.019	0.014	0.223
24.	10:12:23:11	-0.025	4.468	0.087	0.081	-0.044	0.019	0.013	0.222
25.	10:12:23:32	-0.025	4.437	0.092	0.080	-0.043	0.018	0.012	0.221
26.	10:12:24: 4	-0.025	4.421	0.088	0.081	-0.044	0.018	0.013	0.219
27.	10:12:24:27	-0.026	4.418	0.086	0.080	-0.044	0.018	0.013	0.220
28.	10:12:24:50	-0.025	4.388	0.087	0.080	-0.044	0.019	0.012	0.219
29.	10:12:25:11	-0.026	4.416	0.084	0.080	-0.045	0.018	0.012	0.218
30.	10:12:25:32	-0.026	4.426	0.085	0.081	-0.044	0.019	0.013	0.218
31.	10:12:25:52	-0.026	4.419	0.084	0.081	-0.045	0.018	0.013	0.217
32.	10:12:26:12	-0.025	4.402	0.085	0.081	-0.045	0.018	0.012	0.217
33.	10:12:27: 0	-0.025	4.421	0.085	0.089	-0.045	0.018	0.013	0.218
34.	10:12:27:25	-0.026	4.407	0.085	0.090	-0.046	0.019	0.013	0.218
35.	10:12:27:40	-0.025	4.391	0.085	0.092	-0.045	0.018	0.013	0.217
36.	10:12:28: 1	-0.026	4.396	0.085	0.101	-0.045	0.019	0.013	0.217
37.	10:12:28:22	-0.026	4.374	0.085	0.100	-0.045	0.018	0.013	0.217
38.	10:12:28:41	-0.025	4.386	0.085	0.104	-0.046	0.019	0.013	0.217
39.	10:12:29: 1	-0.026	4.404	0.085	0.109	-0.046	0.019	0.013	0.217
40.	10:12:29:21	-0.025	4.392	0.085	0.110	-0.045	0.019	0.012	0.217
41.	10:12:29:40	-0.025	4.385	0.084	0.110	-0.045	0.019	0.013	0.216
42.	10:12:30: 0	-0.026	4.407	0.085	0.111	-0.045	0.018	0.013	0.211
43.	10:12:30:21	-0.025	4.409	0.085	0.110	-0.044	0.019	0.013	0.211
44.	10:12:30:42	-0.025	4.405	0.085	0.110	-0.045	0.018	0.013	0.212
45.	10:12:31: 3	-0.026	4.416	0.085	0.110	-0.044	0.019	0.013	0.212
46.	10:12:31:26	-0.026	4.420	0.085	0.110	-0.046	0.019	0.013	0.212
47.	10:12:32: 7	-0.025	4.408	0.086	0.111	-0.045	0.019	0.013	0.212
48.	10:12:35: 4	-0.025	4.418	0.085	0.109	-0.044	0.019	0.013	0.212
49.	10:12:42:33	-0.025	4.414	0.056	0.081	-0.042	-0.012	-0.047	0.183

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.24	CH.23	CH.22
1.	10:11:59:59	5590.000	5060.000	5350.000	5410.000	5950.000	4870.000	7160.000	5780.000
2.	10:12: 3:34	11550.000	9790.000	9720.000	10690.000	9880.000	10710.000	10810.000	10390.000
3.	10:12: 4: 7	15990.000	12720.000	12940.000	13260.000	13800.000	13780.000	13680.000	13200.000
4.	10:12:11:21	23900.000	19380.000	20240.000	20090.000	21190.000	21410.000	19420.000	20390.000
5.	10:12:11:35	25140.000	19190.000	20470.000	20380.000	21350.000	21510.000	19740.000	20170.000
6.	10:12:11:50	25210.000	19140.000	20520.000	20560.000	21540.000	21490.000	20220.000	19850.000
7.	10:12:12:49	28150.000	24000.000	23390.000	24900.000	25180.000	24550.000	24050.000	24330.000
8.	10:12:13:24	32390.000	28630.000	28140.000	29070.000	29830.000	28620.000	28760.000	28930.000
9.	10:12:13:59	35970.000	32960.000	32550.000	33290.000	33720.000	32770.000	33010.000	33310.000
10.	10:12:14:37	39480.000	34740.000	35910.000	36710.000	36000.000	35630.000	35520.000	35920.000
11.	10:12:15:29	41200.000	40310.000	43710.000	40260.000	39410.000	39770.000	43580.000	41290.000
12.	10:12:16: 7	45700.000	43520.000	45270.000	44020.000	43070.000	42650.000	46050.000	43760.000
13.	10:12:16:58	50870.000	48380.000	48480.000	49090.000	47990.000	46950.000	49340.000	48540.000
14.	10:12:17:28	55840.000	53220.000	52530.000	53800.000	52860.000	51800.000	53440.000	53290.000
15.	10:12:18: 1	60130.000	57850.000	56390.000	58120.000	57460.000	55940.000	57310.000	57850.000
16.	10:12:18:56	65380.000	62630.000	61250.000	63280.000	62100.000	60880.000	62110.000	62930.000
17.	10:12:20:24	67230.000	64630.000	63120.000	65010.000	64130.000	62730.000	63830.000	64890.000
18.	10:12:20:47	69380.000	67010.000	64980.000	67620.000	65930.000	64980.000	65890.000	67120.000
19.	10:12:21:11	71250.000	68640.000	67030.000	69060.000	67980.000	66460.000	67860.000	68850.000
20.	10:12:21:38	73400.000	70770.000	68930.000	71090.000	70080.000	68430.000	69690.000	70880.000
21.	10:12:22: 3	75340.000	72470.000	70770.000	72780.000	71930.000	70130.000	71480.000	72690.000
22.	10:12:22:29	75980.000	73540.000	71870.000	73790.000	72790.000	70810.000	72770.000	73660.000
23.	10:12:22:49	76930.000	74410.000	72870.000	74660.000	73700.000	71590.000	73760.000	74550.000
24.	10:12:23:11	77910.000	75230.000	73690.000	75440.000	74630.000	72380.000	74520.000	75400.000
25.	10:12:23:32	78950.000	76120.000	74740.000	76300.000	75680.000	73210.000	75610.000	76320.000
26.	10:12:24: 4	79920.000	77240.000	75750.000	77590.000	76480.000	74400.000	76690.000	77460.000
27.	10:12:24:27	80940.000	78030.000	76710.000	78350.000	77440.000	75170.000	77570.000	78260.000
28.	10:12:24:50	82000.000	79300.000	77750.000	79600.000	78480.000	76290.000	78720.000	79450.000
29.	10:12:25:11	83040.000	80330.000	78710.000	80690.000	79390.000	77380.000	79560.000	80470.000
30.	10:12:25:32	84230.000	81270.000	79860.000	81880.000	80330.000	78580.000	80700.000	81610.000
31.	10:12:25:52	85150.000	82110.000	80950.000	82380.000	81710.000	78960.000	81930.000	82360.000
32.	10:12:26:12	86220.000	82980.000	81850.000	83350.000	82470.000	79880.000	82740.000	83340.000
33.	10:12:27: 0	87400.000	83870.000	83010.000	84370.000	83500.000	81060.000	83800.000	84270.000
34.	10:12:27:25	87950.000	84780.000	83730.000	85210.000	84190.000	81770.000	84630.000	85170.000
35.	10:12:27:40	88520.000	85590.000	84170.000	85520.000	84680.000	81850.000	85150.000	84930.000
36.	10:12:28: 1	89690.000	86830.000	85240.000	87320.000	85750.000	83710.000	86220.000	87180.000
37.	10:12:28:22	90850.000	88120.000	86140.000	88590.000	86880.000	84940.000	87160.000	88330.000
38.	10:12:28:41	91830.000	88750.000	87220.000	89160.000	88000.000	85550.000	88200.000	89070.000
39.	10:12:29: 1	92670.000	89680.000	88050.000	89860.000	88940.000	86240.000	88940.000	90060.000
40.	10:12:29:21	93940.000	91070.000	89320.000	91560.000	89920.000	87810.000	90410.000	91330.000
41.	10:12:29:40	94760.000	91870.000	90450.000	92100.000	90960.000	88220.000	91540.000	92110.000
42.	10:12:30: 0	95740.000	92760.000	91540.000	93000.000	91970.000	89170.000	92640.000	93110.000
43.	10:12:30:21	97360.000	94290.000	92280.000	94520.000	93350.000	90750.000	93140.000	94780.000
44.	10:12:30:42	97940.000	94580.000	92520.000	95470.000	93240.000	91650.000	93560.000	94800.000
45.	10:12:31: 3	98710.000	95730.000	93880.000	95750.000	95140.000	91830.000	94930.000	96140.000
46.	10:12:31:26	99810.000	96760.000	94890.000	97070.000	95890.000	93180.000	95980.000	97140.000
47.	10:12:32: 7	101510.000	98380.000	96270.000	98750.000	97440.000	94750.000	97390.000	98680.000
48.	10:12:35: 4	100300.000	97620.000	96120.000	97340.000	97610.000	93330.000	97260.000	97640.000
49.	10:12:42:33	9730.000	8940.000	12110.000	18380.000	10160.000	9410.000	9300.000	24260.000

ROD CHANNELS

	TIME	CH.48	CH.47	CH.46	CH.45	CH.43	CH.42	CH.41	CH.40
1.	10:11:59:59	909.637	281.859	-474.036	-230.612	166.553	153.742	-166.553	-768.708
2.	10:12: 3:34	858.390	256.236	-409.978	-166.553	115.306	102.494	-153.742	-819.955
3.	10:12: 4: 7	832.767	256.236	-320.295	-102.494	89.683	89.683	-166.553	-960.885
4.	10:12:11:21	627.778	140.930	-115.306	-38.435	0.0	38.435	-128.118	-960.885
5.	10:12:11:35	640.590	140.930	-102.494	-25.624	12.812	51.247	-115.306	-960.885
6.	10:12:11:50	627.778	140.930	-102.494	-25.624	25.624	64.059	-128.118	-973.697
7.	10:12:12:49	627.778	153.742	-89.683	-25.624	0.0	51.247	-153.742	-1114.626
8.	10:12:13:24	602.154	166.553	-64.059	-12.812	-64.059	12.812	-179.365	-1217.121
9.	10:12:13:59	627.778	192.177	76.871	38.435	-140.930	-38.435	-204.989	-1383.674
10.	10:12:14:37	602.154	192.177	140.930	76.871	-192.177	-76.871	-217.801	-1511.792
11.	10:12:15:29	474.036	115.306	179.365	89.683	-166.553	-38.435	-256.236	-1627.098
12.	10:12:16: 7	512.472	153.742	204.989	115.306	-179.365	-38.435	-243.424	-1703.969
13.	10:12:16:58	550.907	179.365	230.612	128.118	-192.177	-38.435	-256.236	-1780.840
14.	10:12:17:28	589.343	243.424	294.671	153.742	-230.612	-102.494	-281.859	-1934.581
15.	10:12:18: 1	691.837	345.918	397.166	217.801	-281.859	-153.742	-345.918	-2113.947
16.	10:12:18:56	730.272	409.978	448.413	269.048	-345.918	-192.177	-397.166	-2254.876
17.	10:12:20:24	768.708	422.789	499.660	294.671	-358.730	-217.801	-435.601	-2331.747
18.	10:12:20:47	755.896	435.601	512.472	307.483	-371.542	-217.801	-461.225	-2357.371
19.	10:12:21:11	768.708	448.413	538.095	320.295	-397.166	-230.612	-474.036	-2408.618
20.	10:12:21:38	768.708	448.413	550.907	345.918	-397.166	-230.612	-474.036	-2459.865
21.	10:12:22: 3	781.520	474.036	576.531	371.542	-397.166	-230.612	-486.848	-2498.301
22.	10:12:22:29	781.520	461.225	589.343	371.542	-409.978	-243.424	-499.660	-2523.924
23.	10:12:22:49	794.331	486.848	602.154	384.354	-422.789	-243.424	-525.284	-2562.360
24.	10:12:23:11	794.331	486.848	614.966	397.166	-409.978	-230.612	-525.284	-2587.983
25.	10:12:23:32	794.331	486.848	627.778	397.166	-422.789	-243.424	-538.095	-2600.795
26.	10:12:24: 4	807.143	486.848	640.590	397.166	-422.789	-256.236	-538.095	-2626.418
27.	10:12:24:27	807.143	499.660	653.402	409.978	-422.789	-243.424	-538.095	-2652.042
28.	10:12:24:50	819.955	499.660	666.213	422.789	-435.601	-256.236	-550.907	-2677.666
29.	10:12:25:11	832.767	512.472	679.025	435.601	-461.225	-269.048	-576.531	-2716.101
30.	10:12:25:32	845.579	525.284	717.461	461.225	-474.036	-281.859	-576.531	-2741.725
31.	10:12:25:52	845.579	525.284	717.461	461.225	-461.225	-269.048	-589.343	-2780.160
32.	10:12:26:12	858.390	525.284	743.084	474.036	-474.036	-281.859	-602.154	-2792.972
33.	10:12:27: 0	858.390	538.095	768.708	486.848	-474.036	-281.859	-602.154	-2818.595
34.	10:12:27:25	871.202	550.907	768.708	486.848	-486.848	-281.859	-614.966	-2844.219
35.	10:12:27:40	871.202	563.719	781.520	499.660	-499.660	-294.671	-627.778	-2857.031
36.	10:12:28: 1	871.202	563.719	794.331	512.472	-486.848	-294.671	-640.590	-2882.655
37.	10:12:28:22	871.202	563.719	807.143	525.284	-499.660	-281.859	-627.778	-2895.466
38.	10:12:28:41	884.014	563.719	832.767	525.284	-512.472	-294.671	-640.590	-2921.090
39.	10:12:29: 1	884.014	563.719	845.579	538.095	-512.472	-294.671	-653.402	-2946.713
40.	10:12:29:21	871.202	576.531	858.390	550.907	-499.660	-294.671	-653.402	-2959.525
41.	10:12:29:40	871.202	576.531	871.202	563.719	-512.472	-281.859	-653.402	-2985.149
42.	10:12:30: 0	871.202	563.719	896.826	563.719	-512.472	-269.048	-666.213	-3010.772
43.	10:12:30:21	871.202	576.531	896.826	576.531	-486.848	-269.048	-666.213	-3036.396
44.	10:12:30:42	884.014	576.531	896.826	576.531	-474.036	-256.236	-666.213	-3036.396
45.	10:12:31: 3	871.202	576.531	922.449	576.531	-474.036	-243.424	-679.025	-3062.020
46.	10:12:31:26	871.202	576.531	922.449	589.343	-474.036	-256.236	-666.213	-3074.832
47.	10:12:32: 7	884.014	576.531	948.073	589.343	-474.036	-230.612	-666.213	-3100.455
48.	10:12:35: 4	871.202	589.343	935.261	576.531	-461.225	-217.801	-691.837	-3100.455
49.	10:12:42:33	948.073	320.295	1024.944	627.778	-563.719	-435.601	-576.531	-1537.416

A V E R A G E L O A D

1.	5646.250
2.	10442.500
3.	13671.250
4.	20752.500
5.	20993.750
6.	21066.250
7.	24818.750
8.	29296.250
9.	33447.500
10.	36238.750
11.	41191.250
12.	44255.000
13.	48705.000
14.	53347.500
15.	57631.250
16.	62570.000
17.	64446.250
18.	66613.750
19.	68391.250
20.	70408.750
21.	72198.750
22.	73151.250
23.	74058.750
24.	74900.000
25.	75866.250
26.	76941.250
27.	77808.750
28.	78948.750
29.	79946.250
30.	81057.500
31.	81943.750
32.	82853.750
33.	83910.000
34.	84678.750
35.	85051.250
36.	86492.500
37.	87626.250
38.	88472.500
39.	89305.000
40.	90670.000
41.	91501.250
42.	92491.250
43.	93808.750
44.	94220.000
45.	95263.750
46.	96340.000
47.	97896.250
48.	97152.500
49.	12786.250

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 48

3.2 C-Y-16 MODELS

3.2.1 SPECIMEN #1

TEST NO. 13

COMPOSITE INTEGRAL LINER

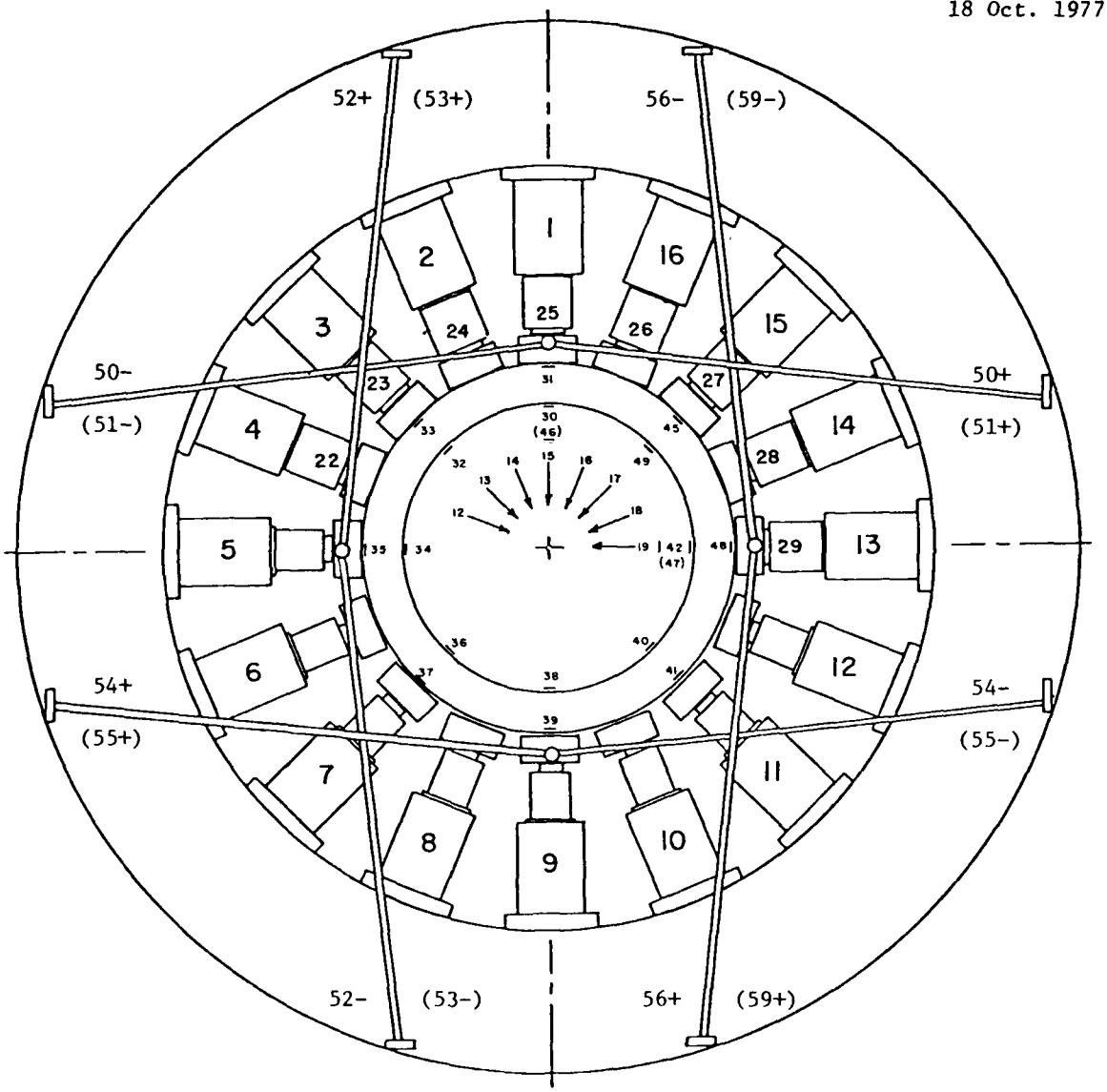
1:3 LOADING RATIO

TESTED 18 OCTOBER 1977

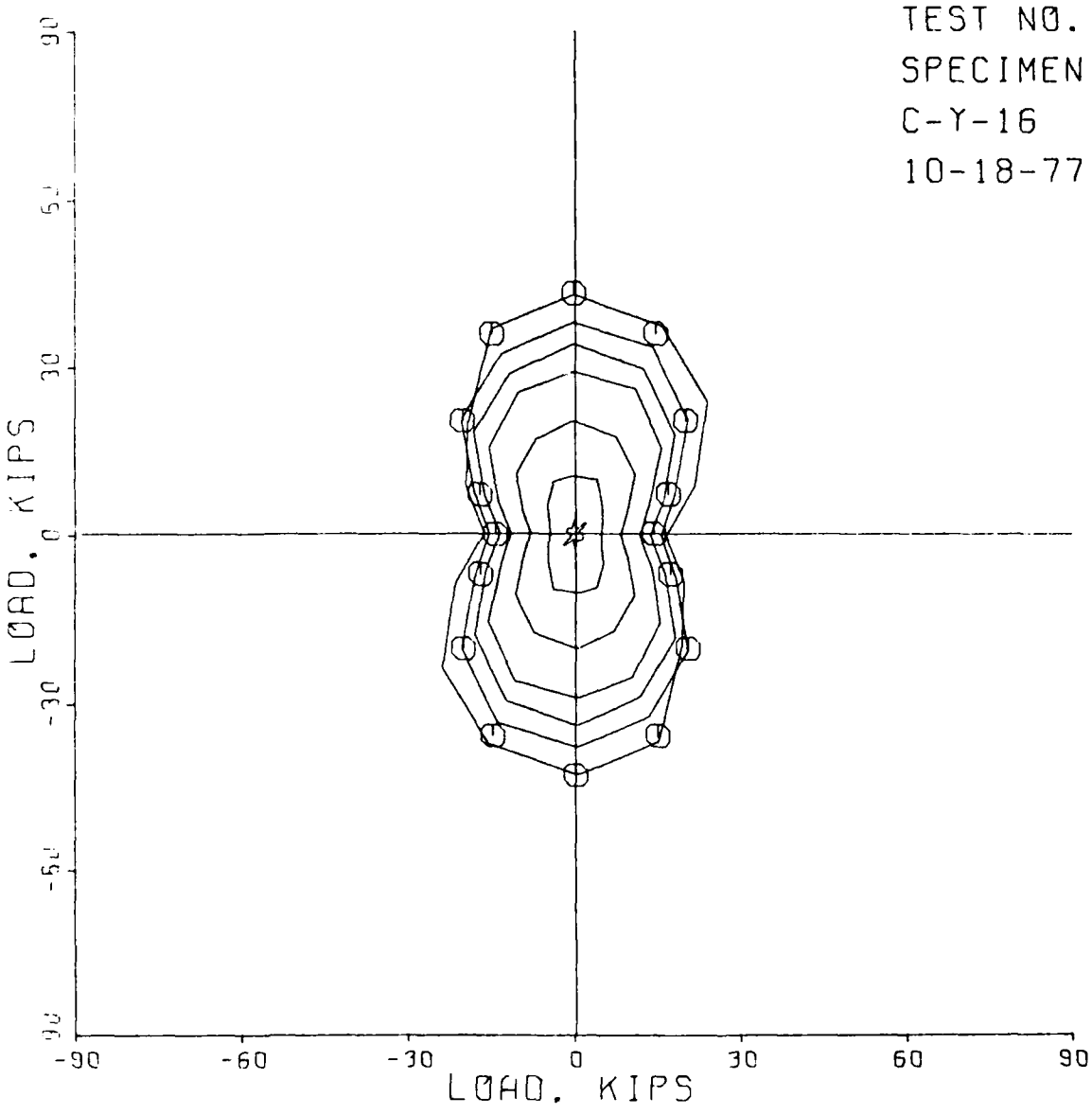
REACTION FRAME TEST SET-UP

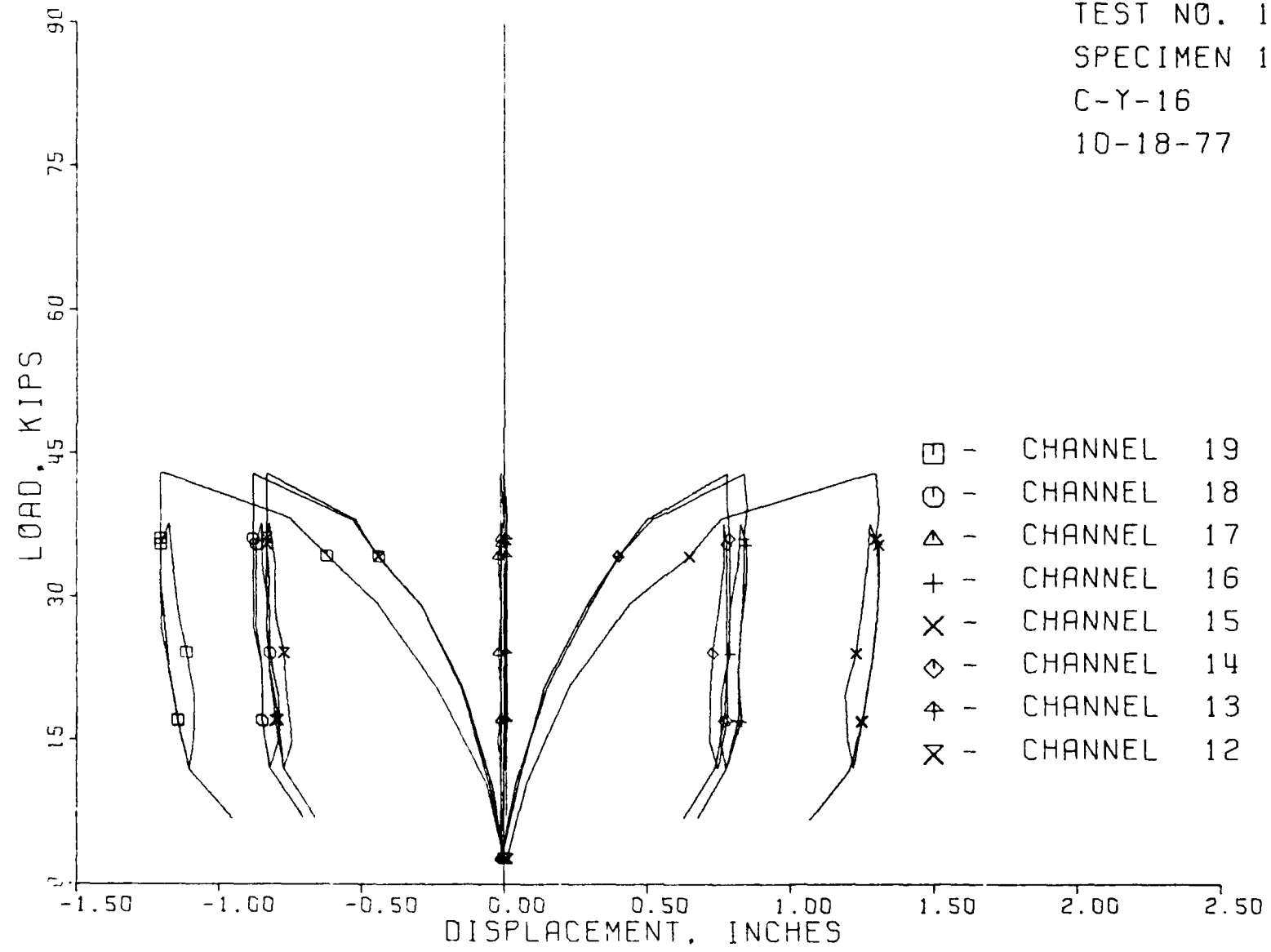
Specimen #1
C-Y-16

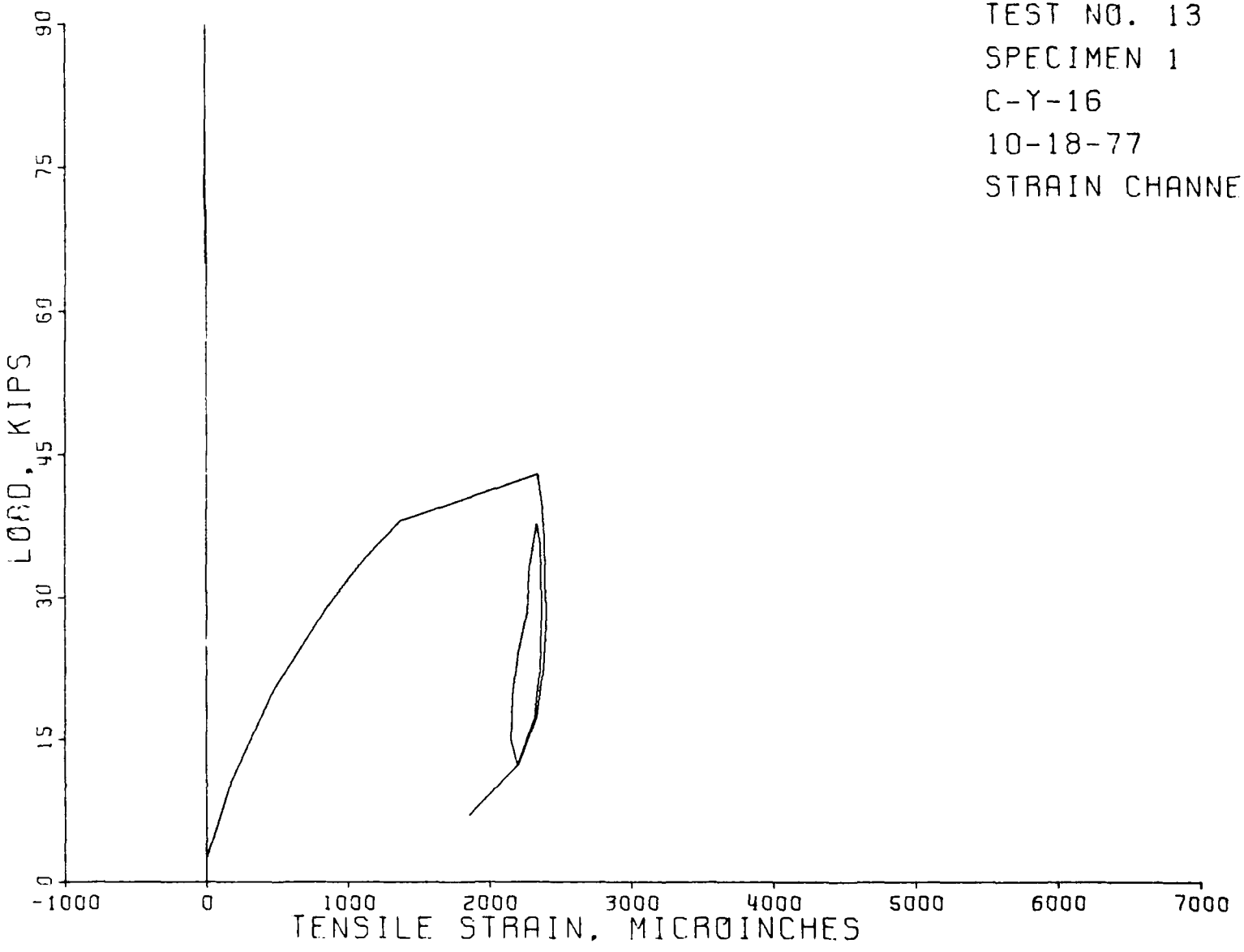
Test #13
1:3 Load
18 Oct. 1977

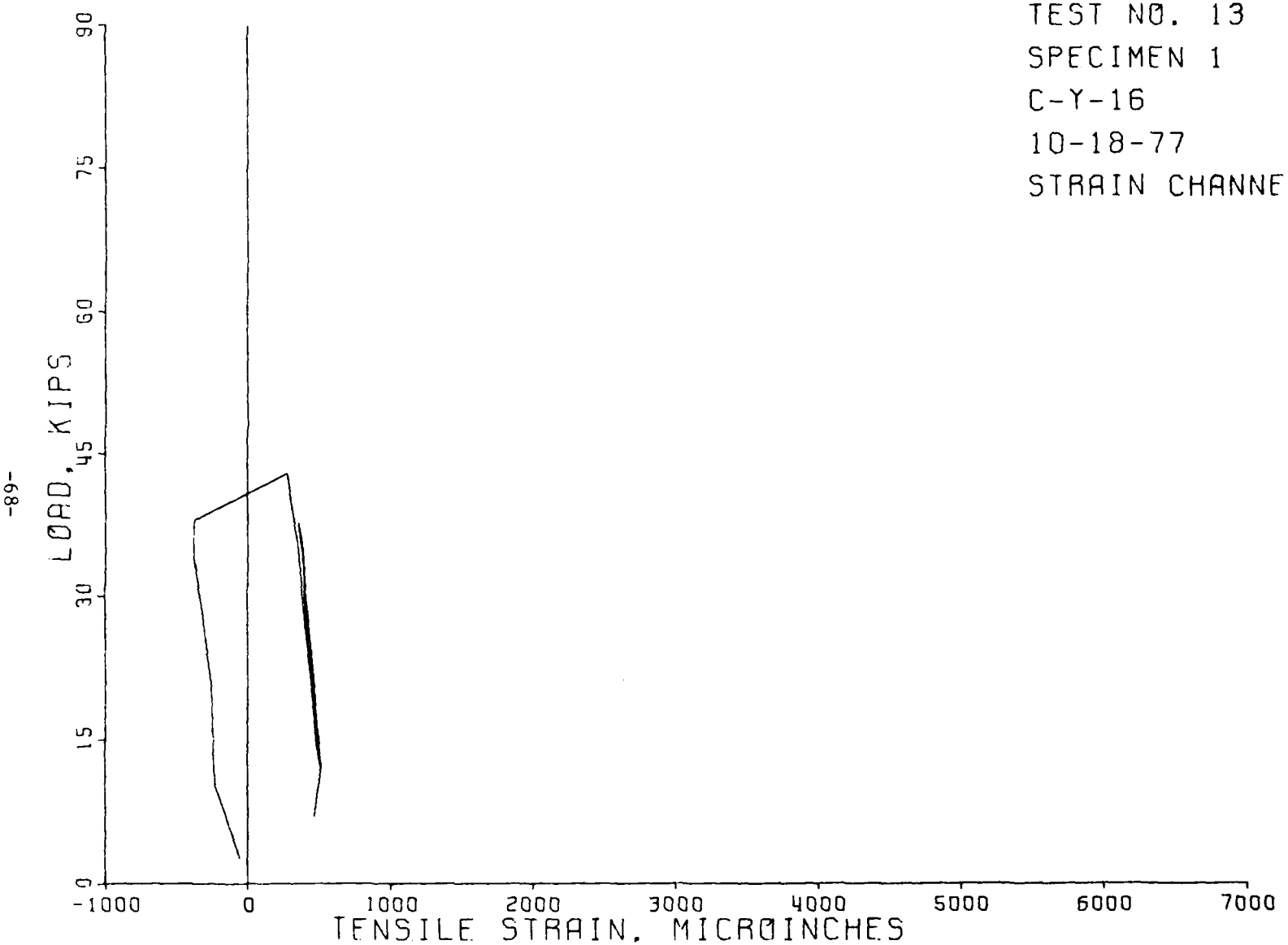


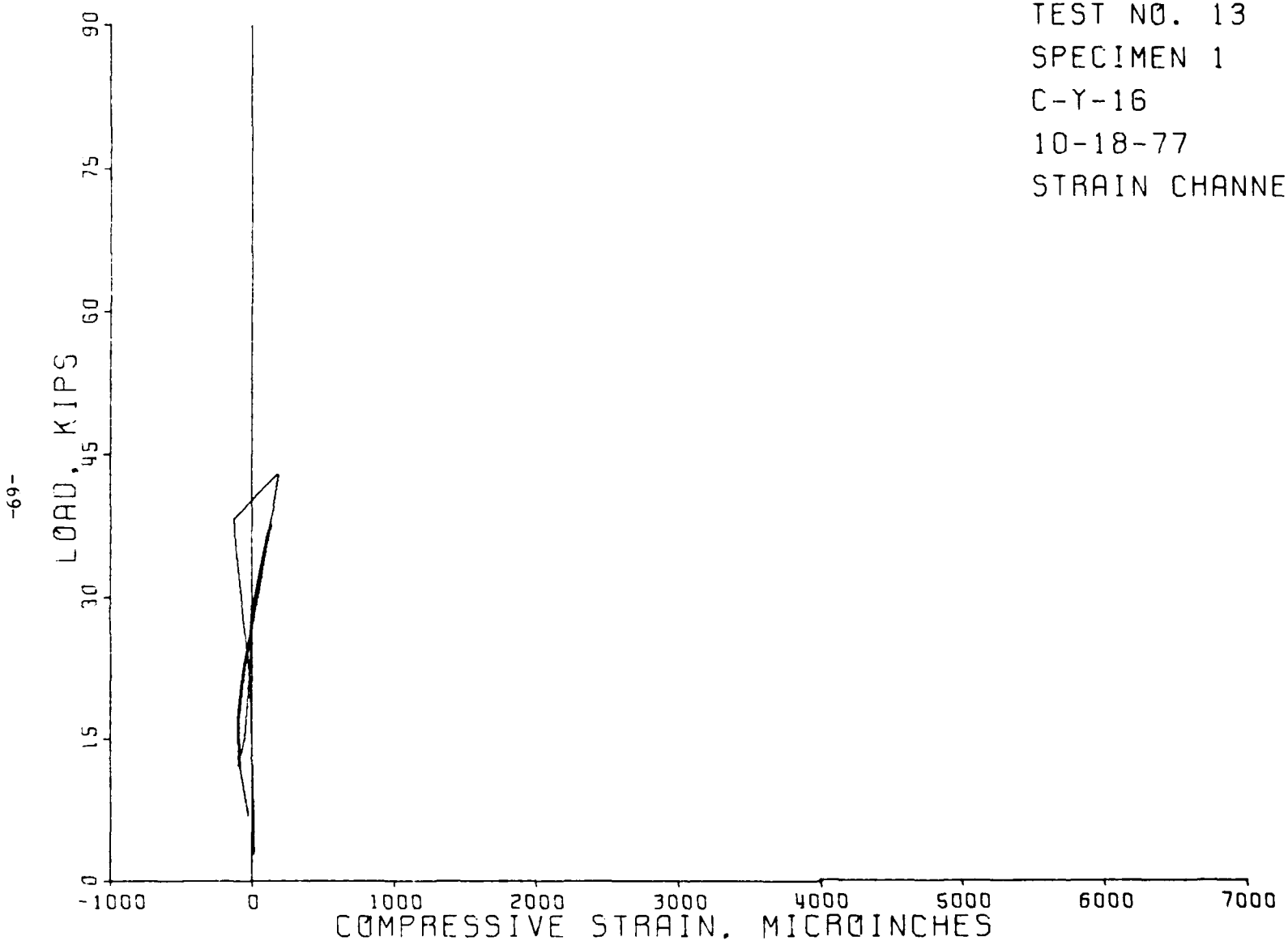
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 22-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-42 , 45-49 (Ailtech SG 129-6S) Radial pairs 2" from top, except 46-47 2" from bottom. Odd gages 31-45 and 48 on rebar.
CH 50-56, and 59 (Ailtech SG 129-6S) Polarity indicates rod under tension. Lower rod shown (XX).

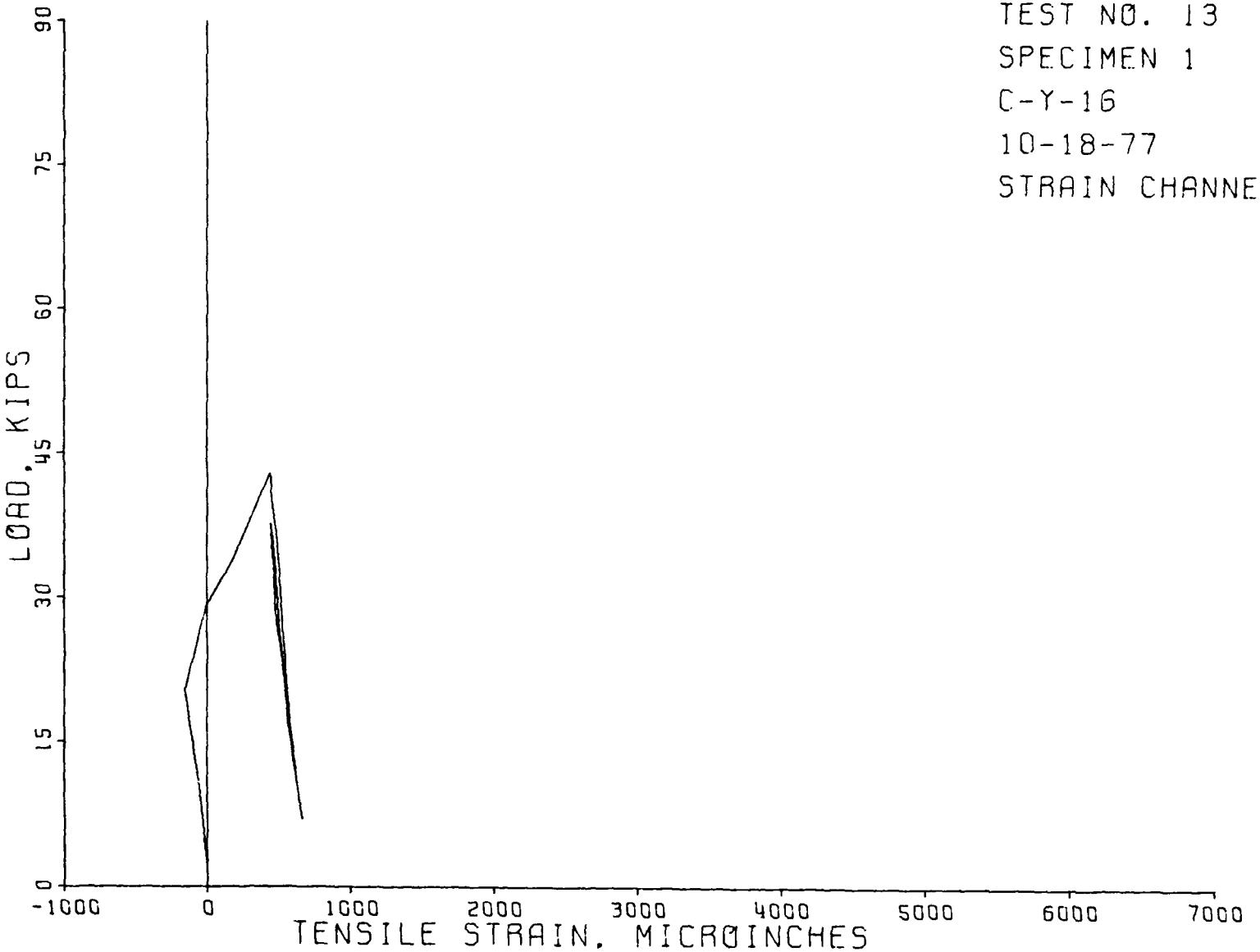

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
LOAD, KIPS
-90
-60
-30
0
30
60
90
LOAD, KIPS

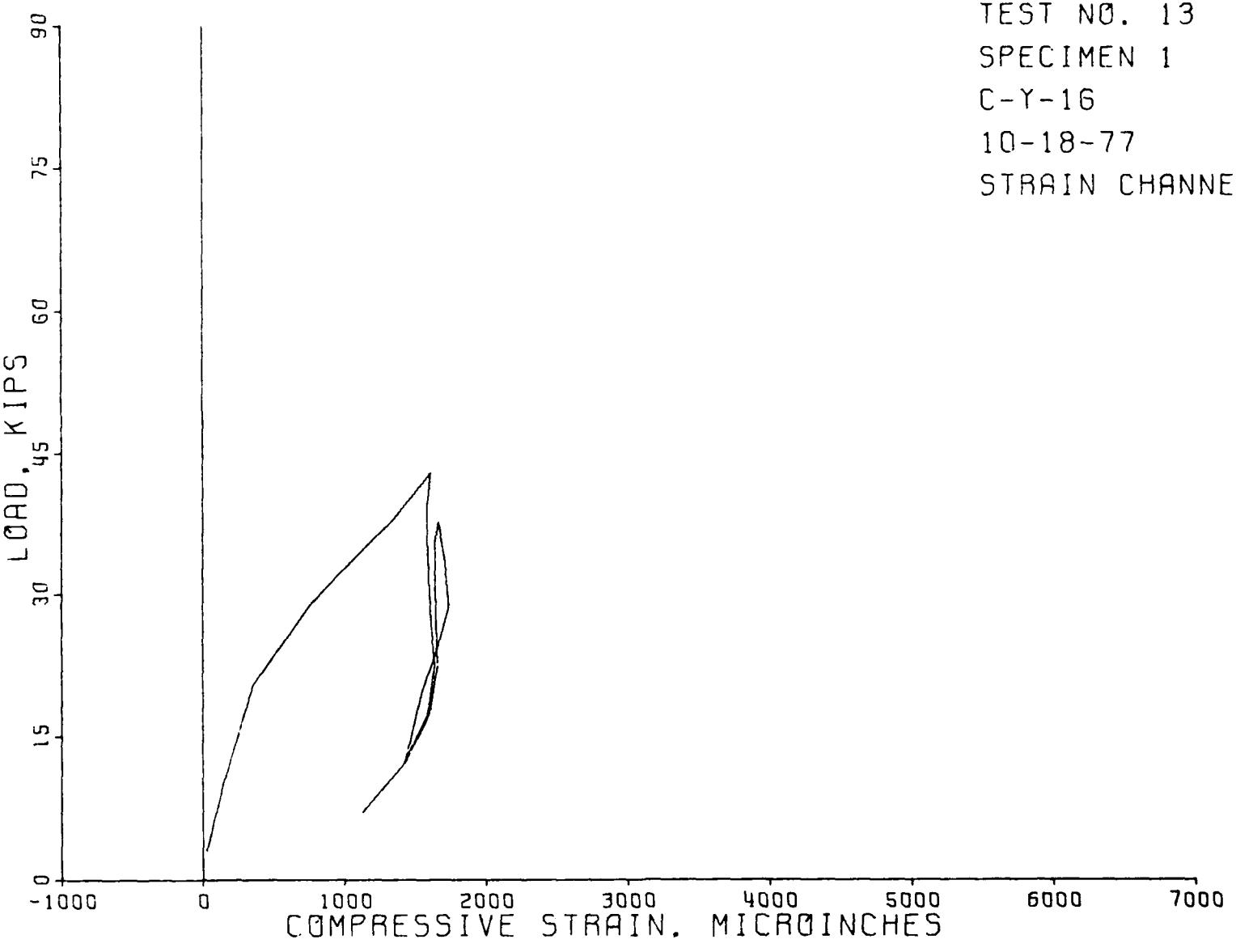

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
LOAD, KIPS
90
75
60
45
30
15
0
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
- CHANNEL 19
- CHANNEL 18
- CHANNEL 17
- CHANNEL 16
- CHANNEL 15
- CHANNEL 14
- CHANNEL 13
- CHANNEL 12

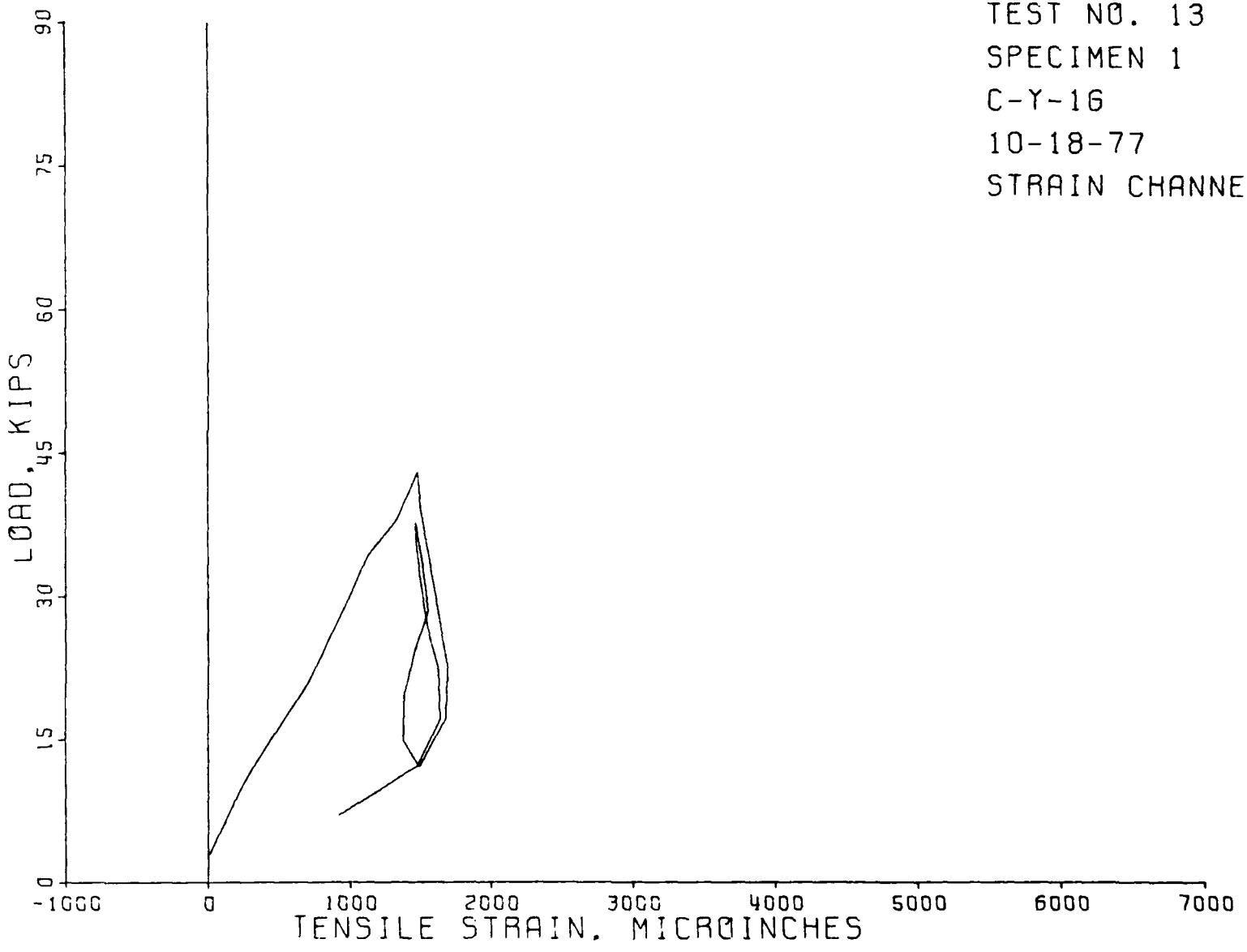

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 30
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

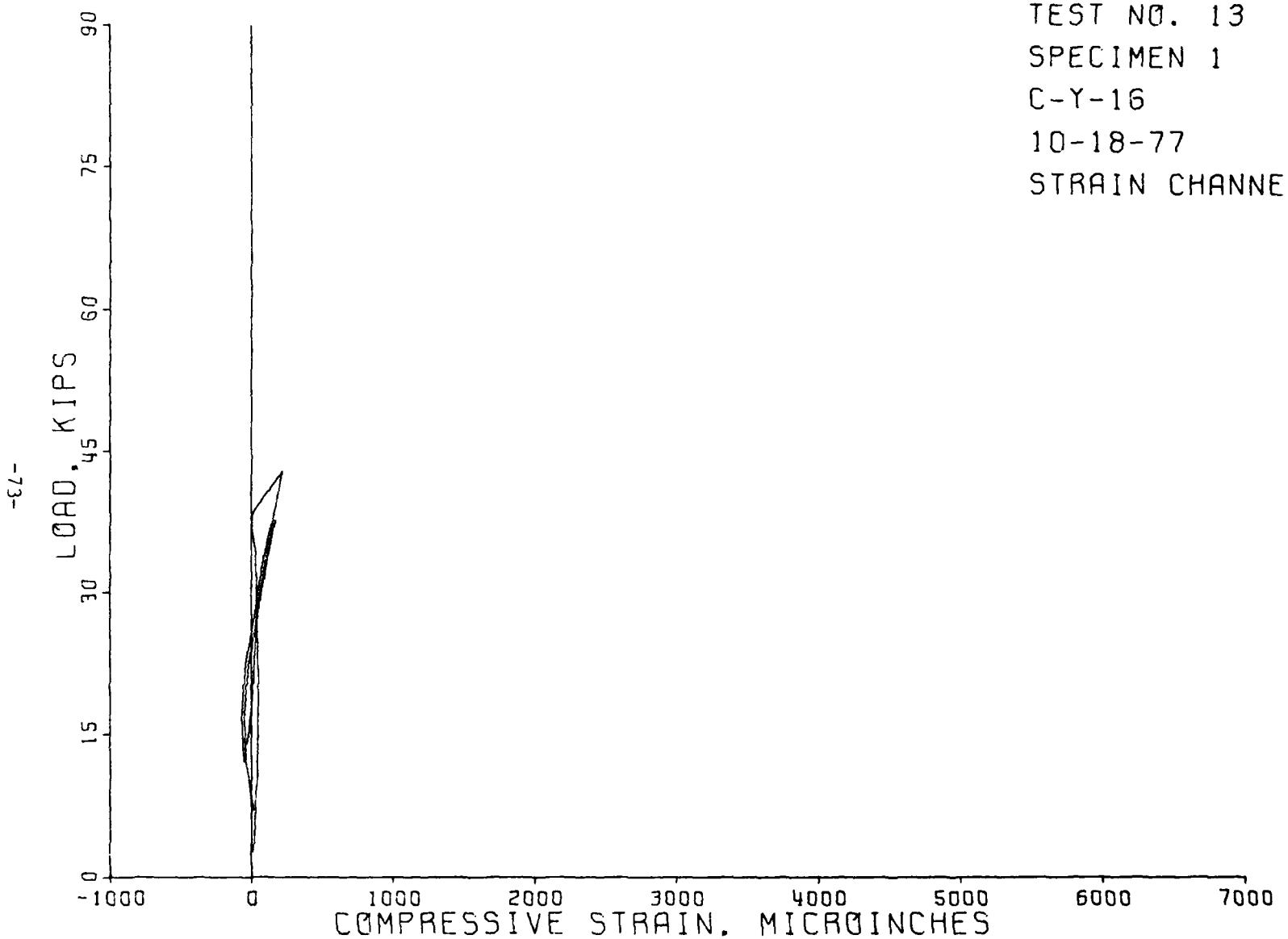

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 31
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

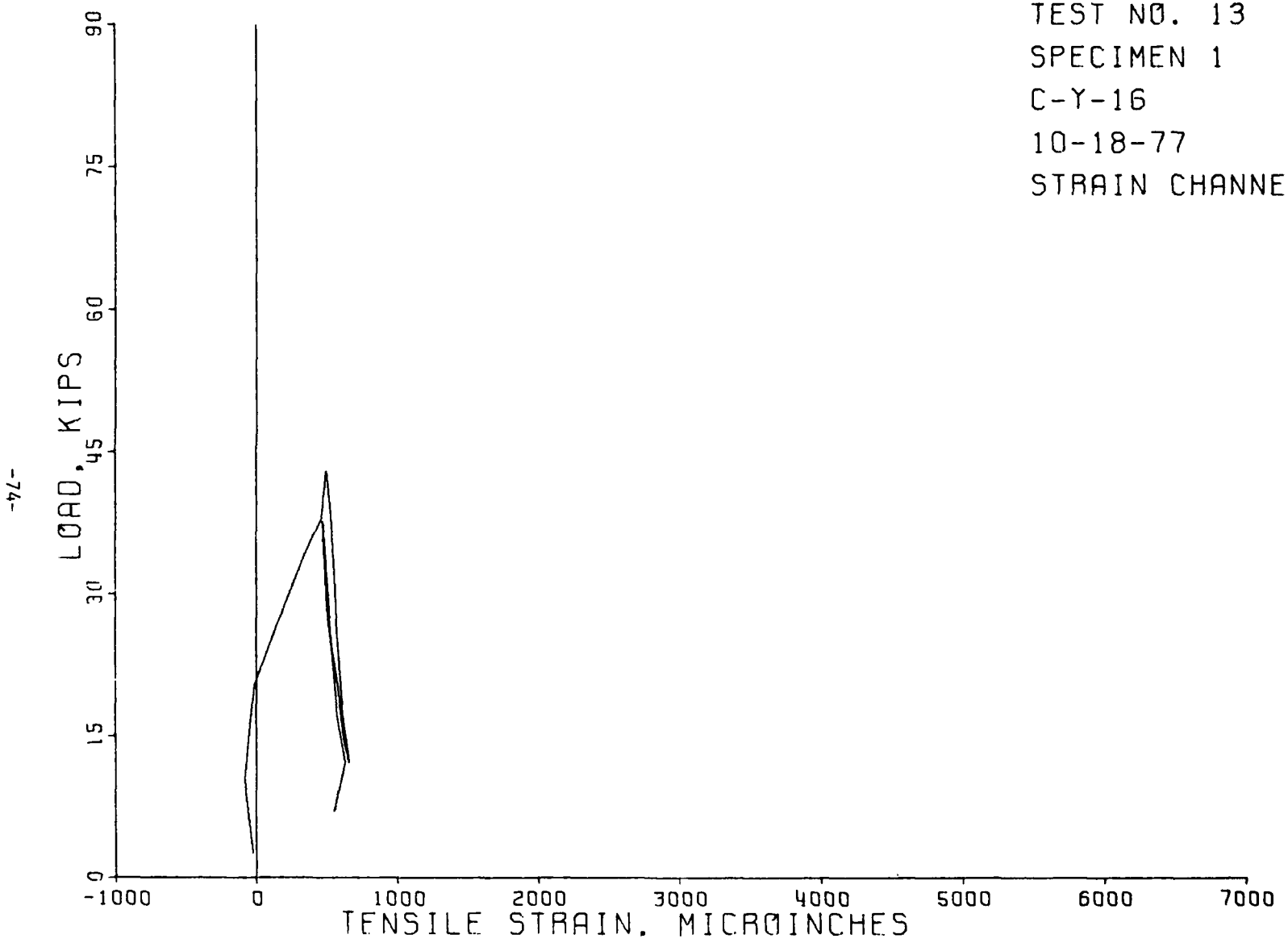

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 32
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

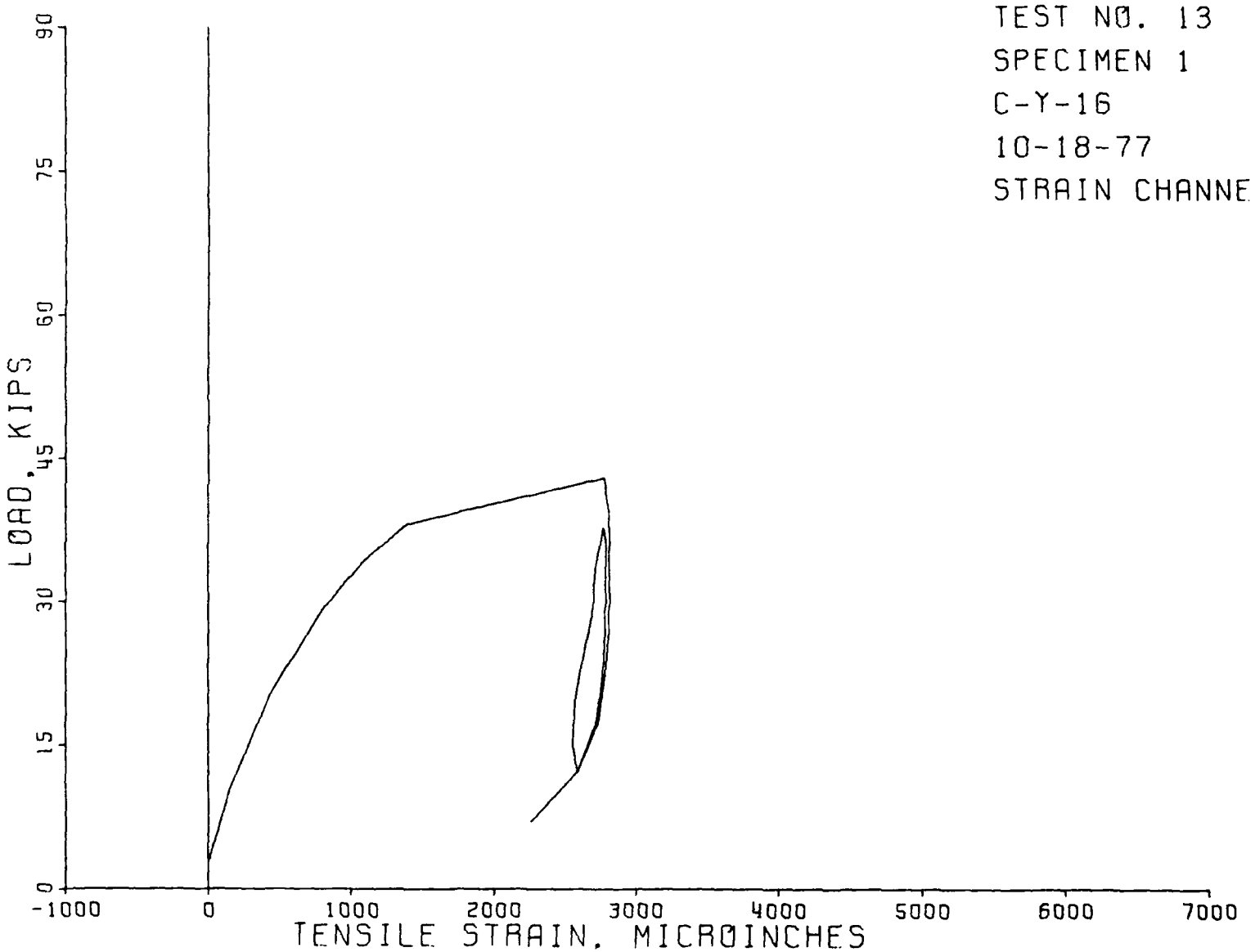

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 33
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

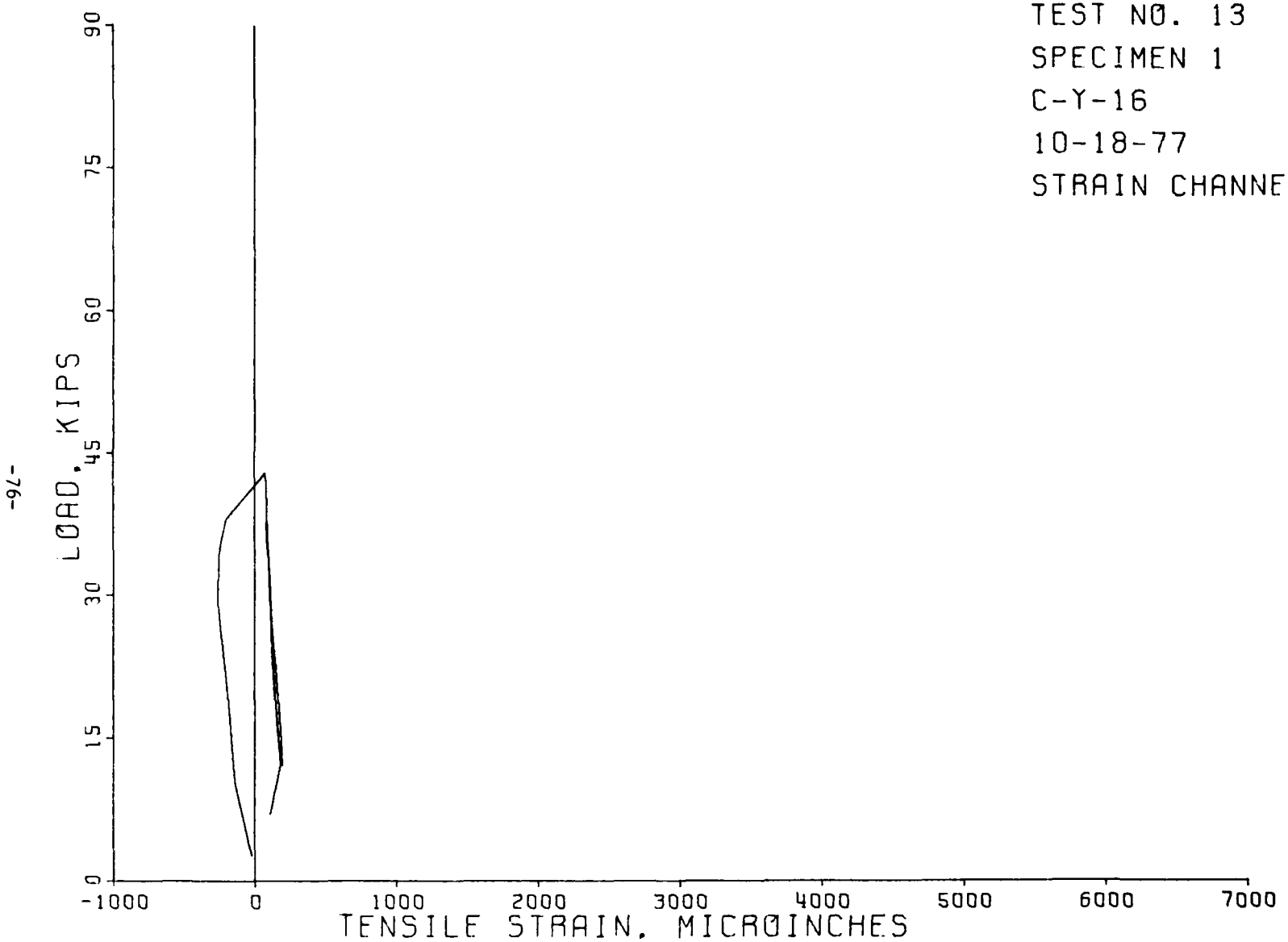

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 34
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

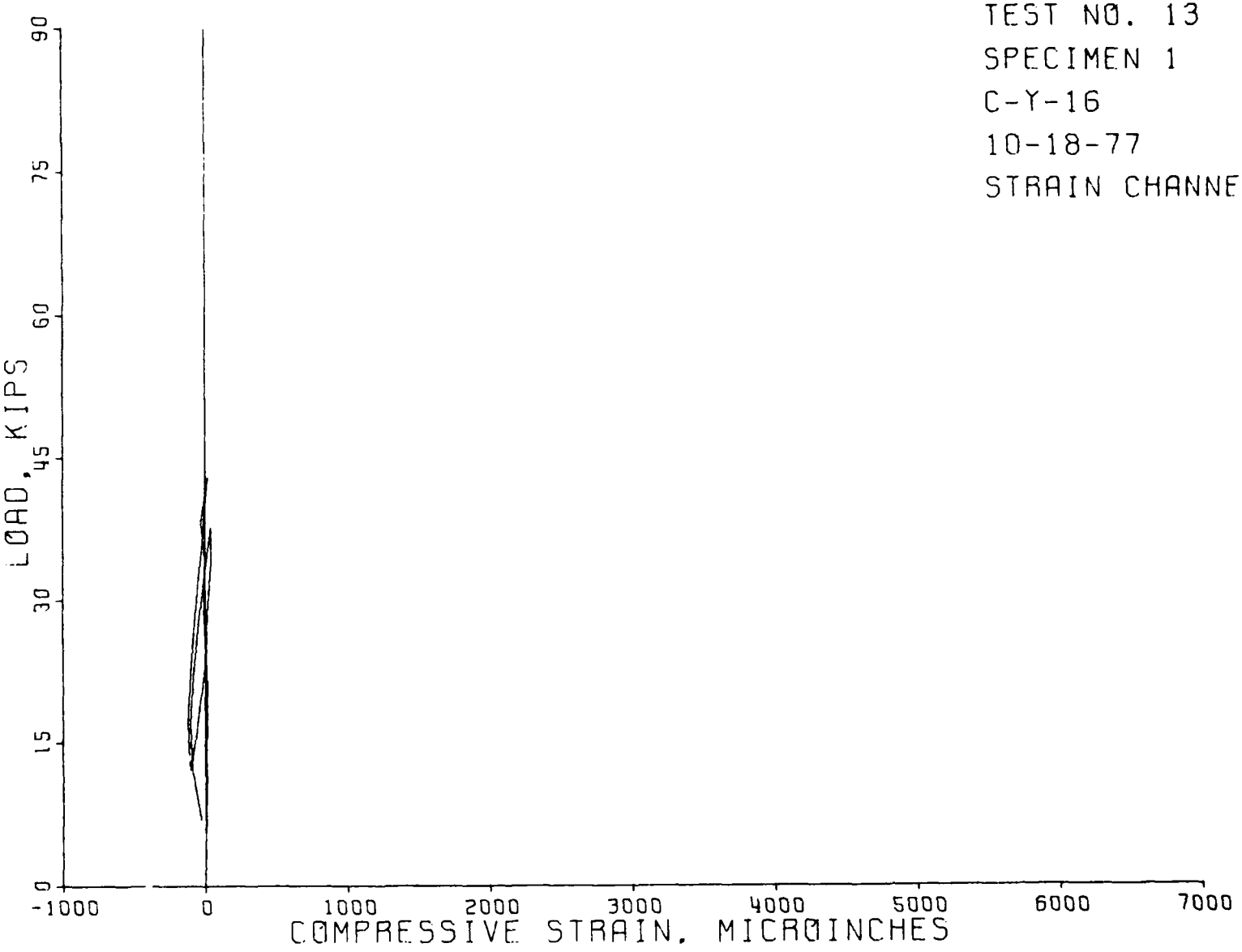

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 35
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

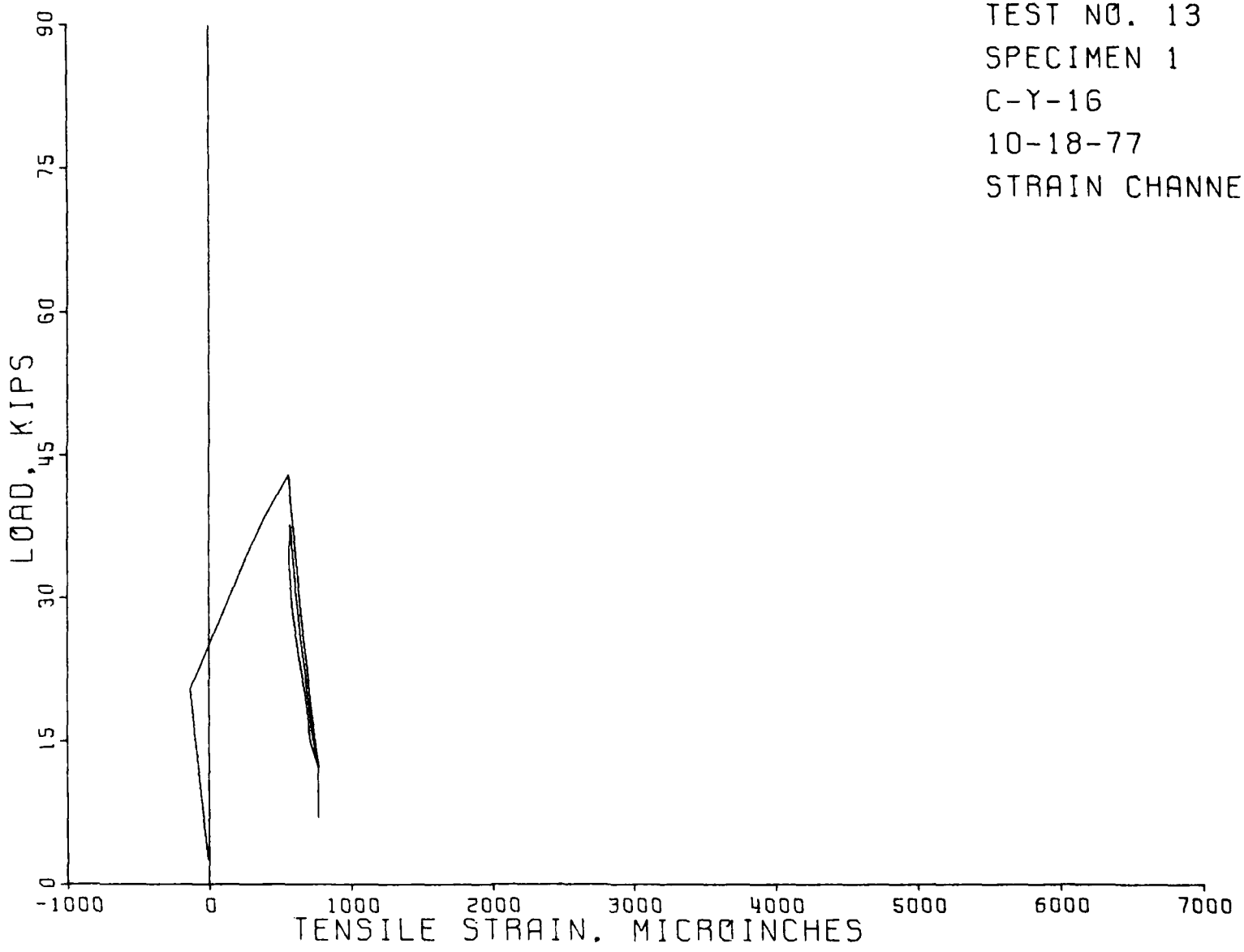

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 36
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

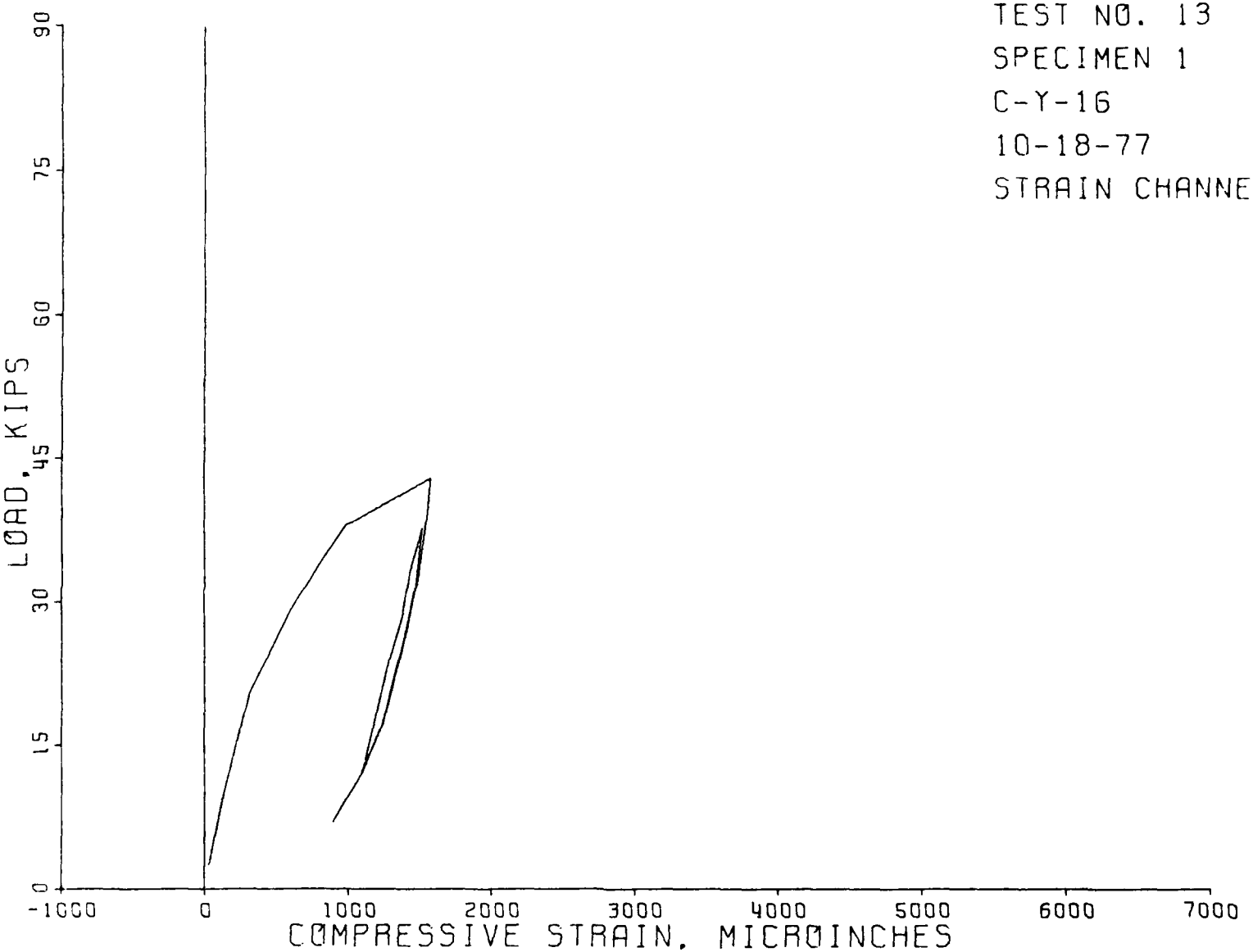

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 37
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

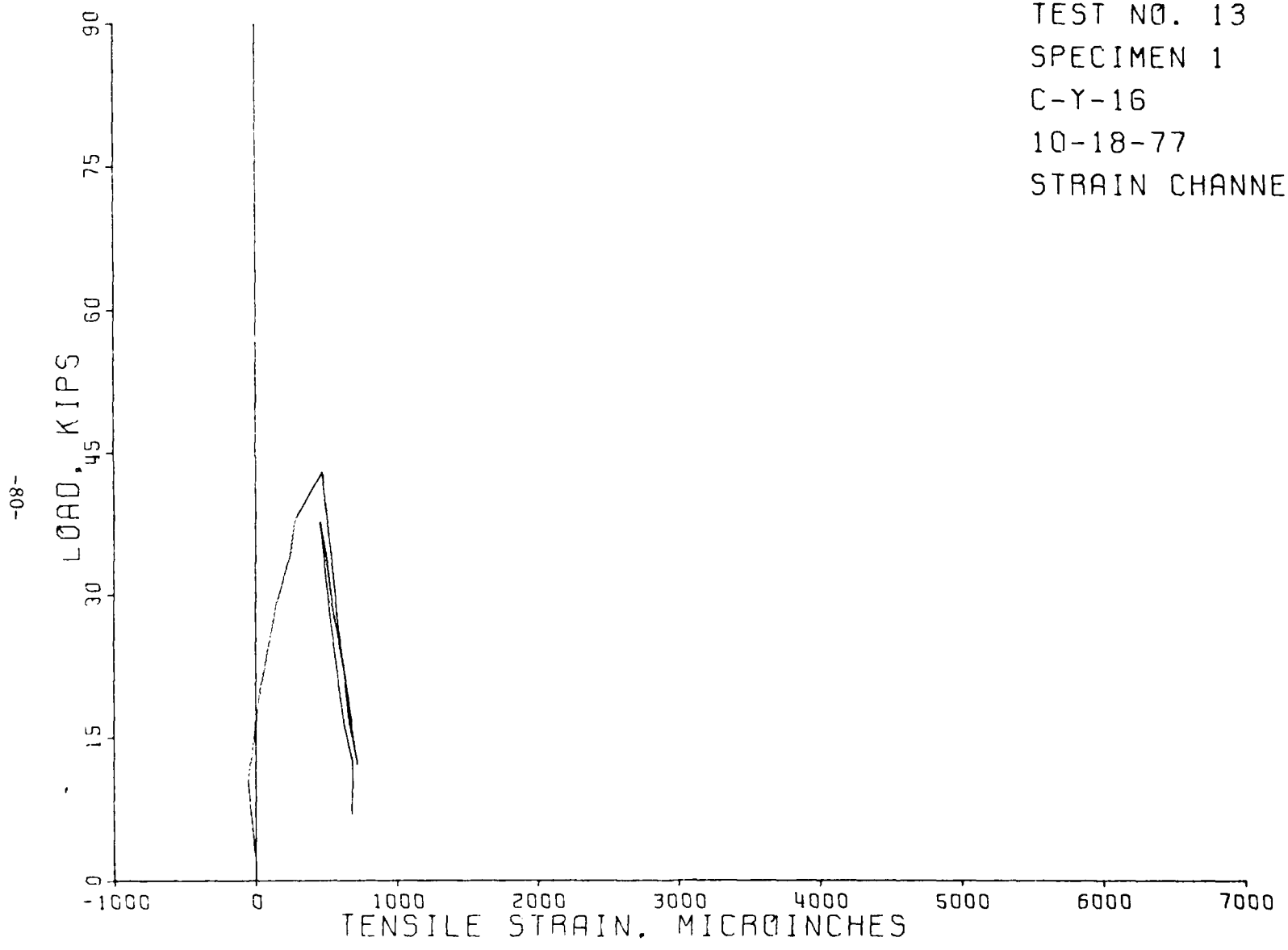

TEST NØ. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 38
LØAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICRØINCHES

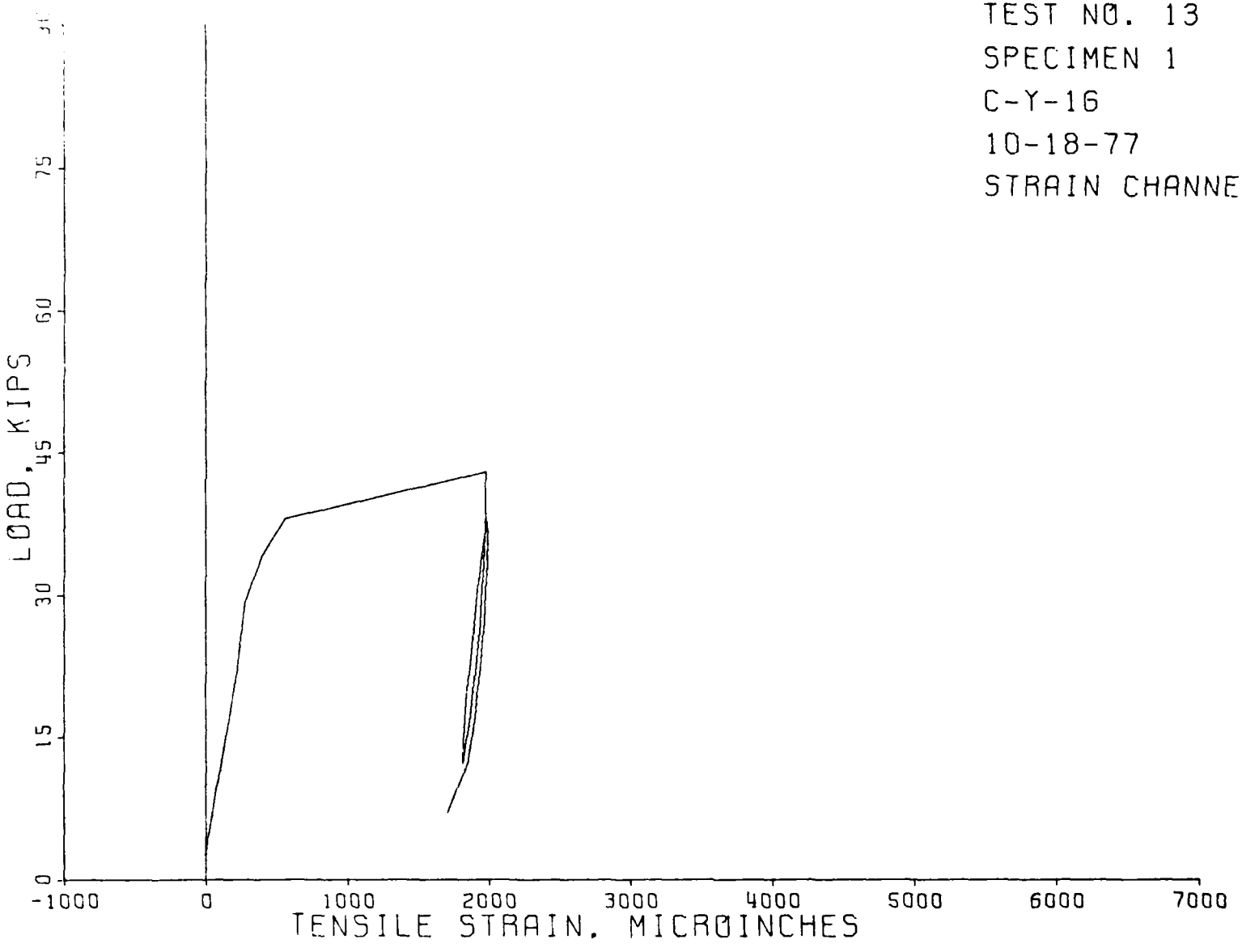

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 39
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

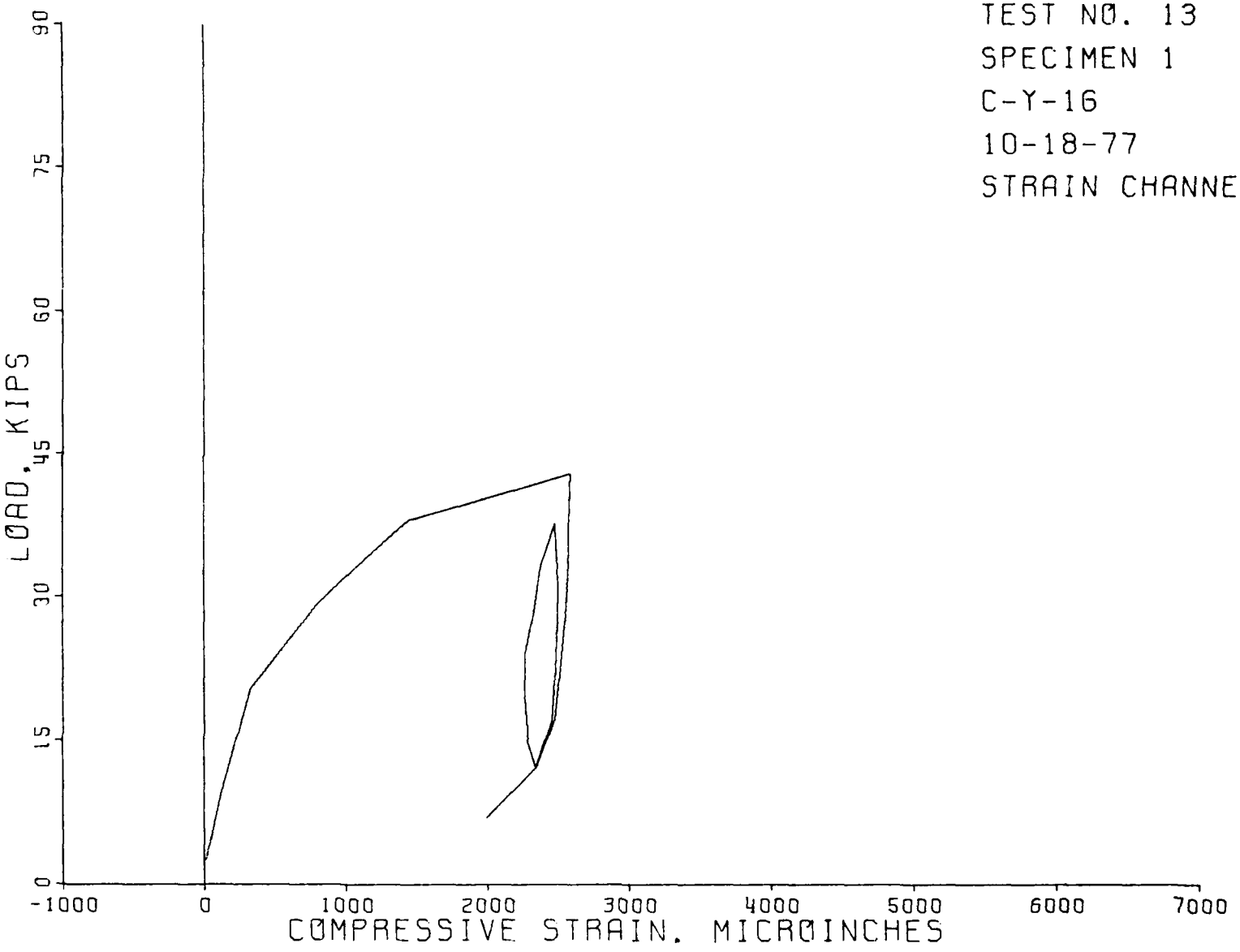

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 40
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

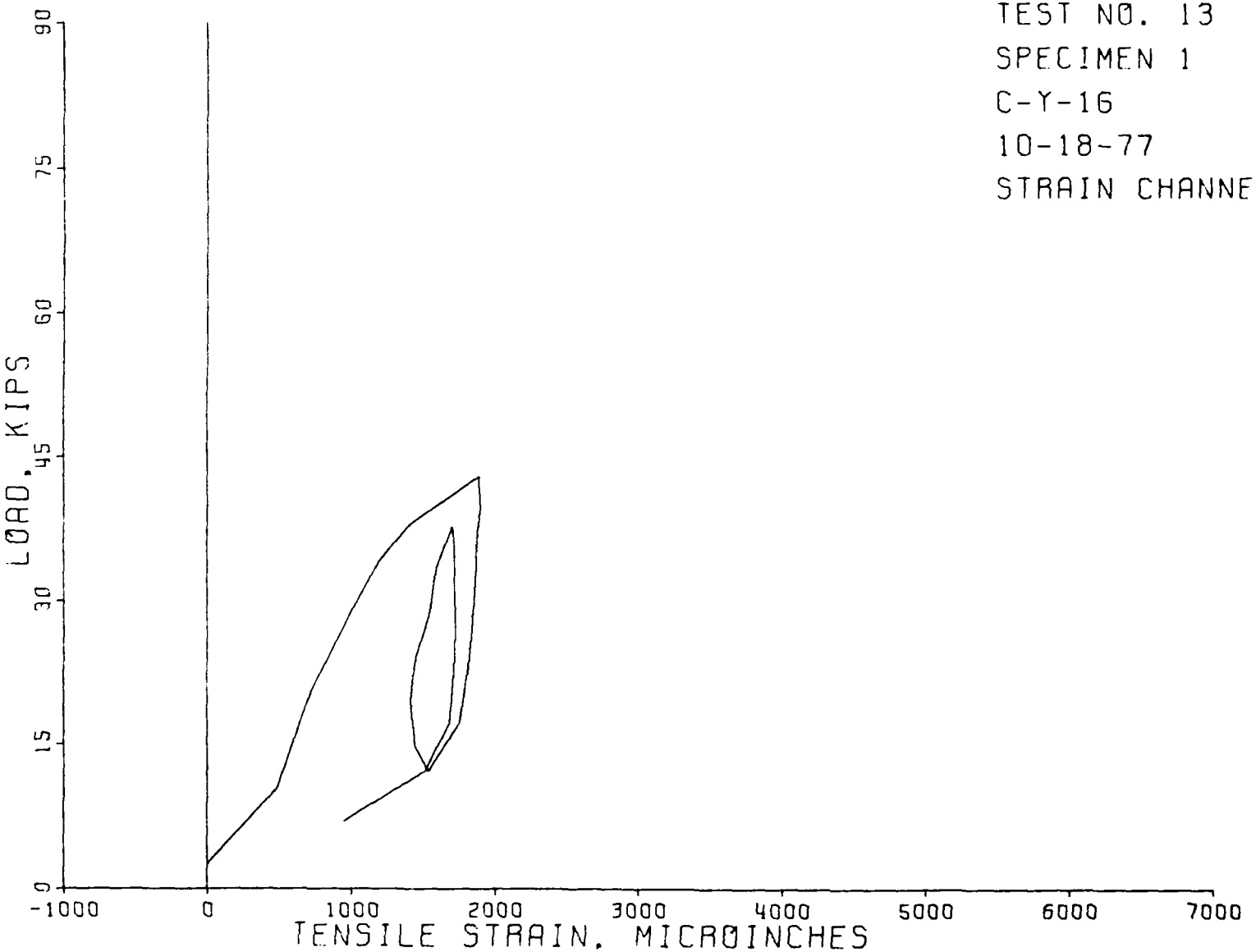

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 41
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

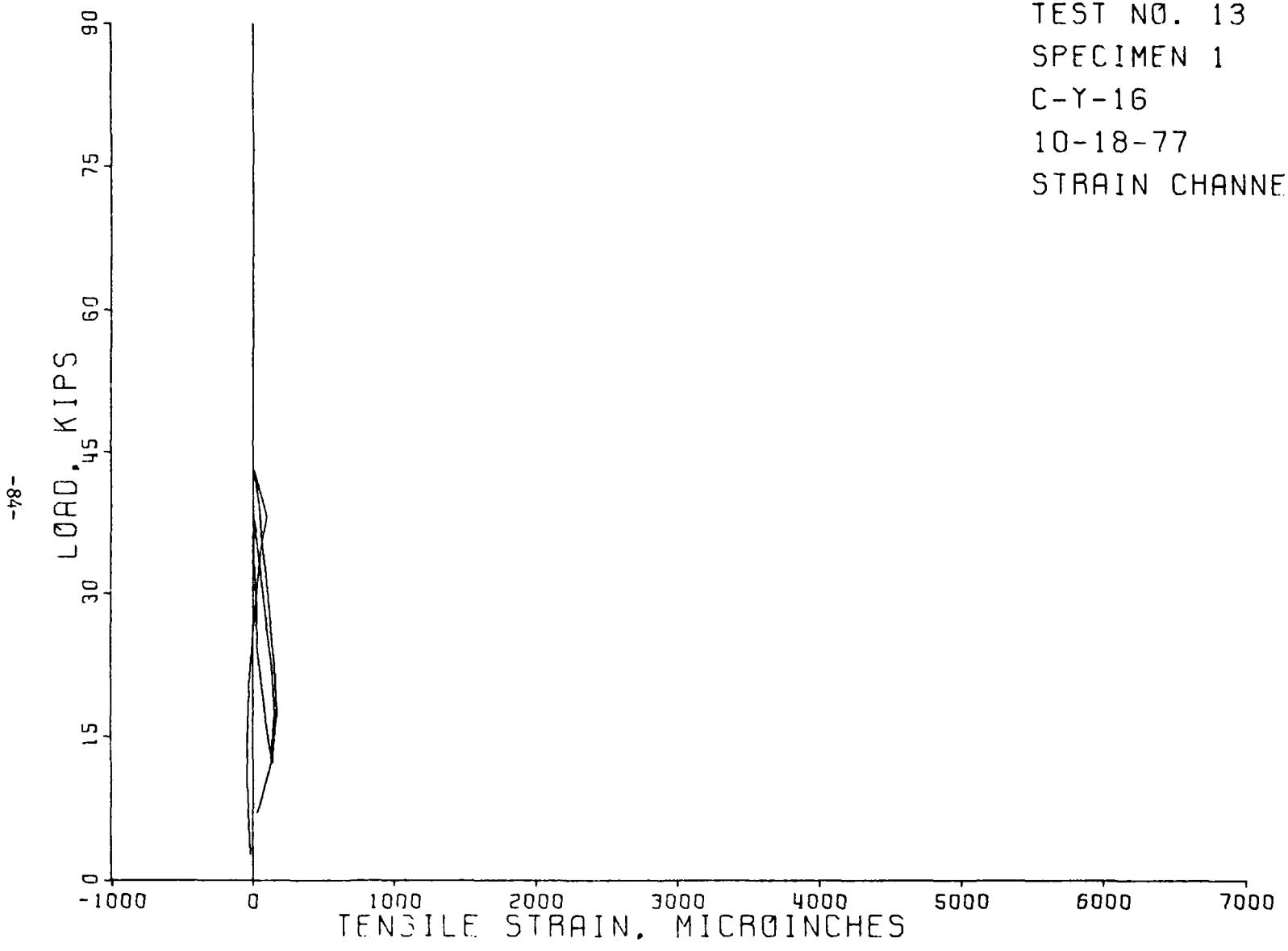

TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 42
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 45
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 46
LOAD, KIPS
0
15
30
45
60
75
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 47
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 48
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 13
SPECIMEN 1
C-Y-16
10-18-77
STRAIN CHANNEL 49
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

TEST NO. 13 SPECIMEN 1 C-Y-16 10-18-77

NUMBER OF INCREMENTS= 27
NUMBER OF CHANNELS= 42
NUMBER OF STRAIN CHANNELS= 18
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
59	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
49	0.0
48	0.0
47	0.0
46	0.0
45	0.0
42	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
24	0.0
23	0.0
22	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION

49	1.000
48	1.000
47	1.000
46	1.000
45	1.000
42	1.000
41	1.000
40	1.000
39	1.000
38	1.000
37	1.000
36	1.000
35	1.000
34	1.000
33	1.000
32	1.000
31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.000
18	0.000
17	0.010
16	0.010
15	0.010
14	0.010
13	0.010
12	0.010

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
24	10.000
23	10.000
22	10.000

ROD CHANNEL	CALIBRATION
59	1.000
56	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000

STRAIN CHANNELS

	TIME	CH.49	CH.48	CH.47	CH.46	CH.45	CH.42	CH.41	CH.40
1.	18:13:50:32	-20.000	1.000	-17.000	-4.000	-8.000	-29.000	-9.000	0.0
2.	18:14:14:55	-46.000	484.000	-136.000	84.000	-61.000	-140.000	-63.000	-11.000
3.	18:14:16:35	-32.000	720.000	-331.000	204.000	29.000	-317.000	-137.000	-16.000
4.	18:14:20:15	21.000	1011.000	-792.000	274.000	138.000	-599.000	114.000	8.000
5.	18:14:33: 3	51.000	1197.000	-1143.000	396.000	237.000	-811.000	257.000	6.000
6.	18:14:34:31	94.000	1415.000	-1443.000	558.000	275.000	-989.000	374.000	30.000
7.	18:14:59:10	5.000	1890.000	-2591.000	1975.000	462.000	-1582.000	560.000	-21.000
8.	18:14:59:53	38.000	1896.000	-2579.000	1974.000	487.000	-1556.000	579.000	4.000
9.	18:15: 0:43	55.000	1876.000	-2574.000	1970.000	512.000	-1525.000	601.000	19.000
10.	18:15: 1:28	91.000	1864.000	-2571.000	1954.000	538.000	-1478.000	624.000	52.000
11.	18:15: 2:17	120.000	1842.000	-2546.000	1933.000	572.000	-1404.000	655.000	81.000
12.	18:15: 3:25	151.000	1809.000	-2513.000	1906.000	608.000	-1323.000	689.000	106.000
13.	18:15: 4:55	166.000	1754.000	-2474.000	1866.000	645.000	-1242.000	724.000	123.000
14.	18:15: 6:13	137.000	1540.000	-2343.000	1809.000	710.000	-1097.000	772.000	106.000
15.	18:15: 8:49	103.000	1445.000	-2287.000	1813.000	678.000	-1143.000	712.000	70.000
16.	18:15: 9:23	64.000	1417.000	-2263.000	1842.000	639.000	-1214.000	673.000	28.000
17.	18:15:10: 0	31.000	1450.000	-2263.000	1875.000	592.000	-1292.000	627.000	-6.000
18.	18:15:10:38	25.000	1546.000	-2331.000	1907.000	537.000	-1381.000	586.000	-17.000
19.	18:15:11:14	5.000	1595.000	-2381.000	1941.000	495.000	-1437.000	561.000	-40.000
20.	18:15:11:52	5.000	1707.000	-2479.000	1985.000	444.000	-1518.000	563.000	-40.000
21.	18:15:12:56	26.000	1719.000	-2486.000	1991.000	461.000	-1500.000	581.000	-19.000
22.	18:15:13:43	54.000	1721.000	-2500.000	1982.000	485.000	-1471.000	601.000	14.000
23.	18:15:14:15	89.000	1725.000	-2494.000	1963.000	519.000	-1411.000	630.000	48.000
24.	18:15:15: 3	128.000	1716.000	-2480.000	1937.000	561.000	-1328.000	669.000	84.000
25.	18:15:15:59	148.000	1685.000	-2456.000	1900.000	606.000	-1242.000	708.000	105.000
26.	18:15:17: 2	123.000	1514.000	-2340.000	1847.000	673.000	-1102.000	764.000	91.000
27.	18:15:18:11	28.000	954.000	-1997.000	1705.000	670.000	-894.000	767.000	32.000

STRAIN CHANNELS

	TIME	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34	CH.33	CH.32
1.	18:13:50:32	-22.000	0.0	-23.000	-13.000	-8.000	-19.000	-4.000	-14.000
2.	18:14:14:55	-140.000	150.000	-84.000	-38.000	238.000	-151.000	-56.000	-5.000
3.	18:14:16:35	-193.000	441.000	-13.000	-49.000	690.000	-357.000	-154.000	10.000
4.	18:14:20:15	-259.000	802.000	204.000	-37.000	973.000	-770.000	-7.000	69.000
5.	18:14:33: 3	-254.000	1083.000	339.000	-28.000	1123.000	-1089.000	187.000	106.000
6.	18:14:34:31	-198.000	1392.000	461.000	10.000	1337.000	-1351.000	296.000	129.000
7.	18:14:59:10	77.000	2771.000	495.000	-217.000	1478.000	-1609.000	434.000	-191.000
8.	18:14:59:53	85.000	2803.000	522.000	-172.000	1499.000	-1586.000	454.000	-149.000
9.	18:15: 0:43	91.000	2809.000	533.000	-119.000	1535.000	-1586.000	484.000	-102.000
10.	18:15: 1:28	104.000	2812.000	548.000	-62.000	1586.000	-1594.000	503.000	-48.000
11.	18:15: 2:17	122.000	2806.000	567.000	-8.000	1638.000	-1610.000	524.000	5.000
12.	18:15: 3:25	148.000	2781.000	587.000	44.000	1691.000	-1636.000	545.000	64.000
13.	18:15: 4:55	176.000	2729.000	609.000	75.000	1681.000	-1585.000	568.000	102.000
14.	18:15: 6:13	195.000	2591.000	655.000	58.000	1496.000	-1421.000	614.000	97.000
15.	18:15: 8:49	165.000	2554.000	616.000	23.000	1380.000	-1468.000	592.000	51.000
16.	18:15: 9:23	141.000	2568.000	582.000	-11.000	1387.000	-1543.000	560.000	25.000
17.	18:15:10: 0	122.000	2624.000	537.000	-26.000	1457.000	-1649.000	516.000	12.000
18.	18:15:10:38	109.000	2690.000	494.000	-38.000	1557.000	-1737.000	476.000	-2.000
19.	18:15:11:14	97.000	2717.000	478.000	-99.000	1517.000	-1712.000	458.000	-65.000
20.	18:15:11:52	80.000	2769.000	463.000	-165 000	1464.000	-1664.000	442.000	-137.000
21.	18:15:12:56	88.000	2789.000	481.000	-133.000	1472.000	-1639.000	460.000	-105.000
22.	18:15:13:43	98.000	2786.000	494.000	-84.000	1501.000	-1638.000	478.000	-58.000
23.	18:15:14:15	113.000	2782.000	517.000	-33.000	1546.000	-1645.000	502.000	-6.000
24.	18:15:15: 3	135.000	2764.000	541.000	25.000	1624.000	-1655.000	530.000	54.000
25.	18:15:15:59	157.000	2717.000	570.000	56.000	1642.000	-1596.000	561.000	89.000
26.	18:15:17: 2	179.000	2592.000	624.000	47.000	1476.000	-1425.000	609.000	83.000
27.	18:15:18:11	108.000	2263.000	552.000	-15.000	923.000	-1125.000	658.000	25.000

S T R A I N C H A N N E L S

	TIME	CH.31	CH.30	CH.
1.	18:13:50:32	-61.000	6.000	
2.	18:14:14:55	-239.000	171.000	
3.	18:14:16:35	-265.000	483.000	
4.	18:14:20:15	-335.000	859.000	
5.	18:14:33: 3	-391.000	1124.000	
6.	18:14:34:31	-385.000	1373.000	
7.	18:14:59:10	269.000	2339.000	
8.	18:14:59:53	303.000	2373.000	
9.	18:15: 0:43	338.000	2390.000	
10.	18:15: 1:28	370.000	2396.000	
11.	18:15: 2:17	400.000	2398.000	
12.	18:15: 3:25	432.000	2381.000	
13.	18:15: 4:55	466.000	2331.000	
14.	18:15: 6:13	509.000	2201.000	
15.	18:15: 8:49	477.000	2149.000	
16.	18:15: 9:23	455.000	2160.000	
17.	18:15:10: 0	430.000	2201.000	
18.	18:15:10:38	407.000	2263.000	
19.	18:15:11:14	388.000	2286.000	
20.	18:15:11:52	356.000	2335.000	
21.	18:15:12:56	379.000	2361.000	
22.	18:15:13:43	402.000	2364.000	
23.	18:15:14:15	426.000	2365.000	
24.	18:15:15: 3	453.000	2357.000	
25.	18:15:15:59	480.000	2315.000	
26.	18:15:17: 2	515.000	2196.000	
27.	18:15:18:11	467.000	1856.000	

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	18:13:50:32	-0.001	-0.001	-0.010	-0.010	0.010	-0.010	-0.010	0.0
2.	18:14:14:55	-0.060	-0.040	-0.010	0.040	0.080	0.050	0.0	-0.050
3.	18:14:16:35	-0.238	-0.146	-0.010	0.150	0.230	0.140	0.010	-0.150
4.	18:14:20:15	-0.443	-0.291	-0.010	0.300	0.440	0.290	0.0	-0.290
5.	18:14:33: 3	-0.619	-0.437	-0.020	0.400	0.650	0.400	0.010	-0.440
6.	18:14:34:31	-0.751	-0.525	0.0	0.520	0.760	0.500	0.010	-0.520
7.	18:14:59:10	-1.202	-0.875	-0.010	0.840	1.300	0.780	0.0	-0.830
8.	18:14:59:53	-1.202	-0.876	-0.010	0.850	1.310	0.780	0.010	-0.830
9.	18:15: 0:43	-1.202	-0.876	-0.010	0.840	1.300	0.790	0.010	-0.830
10.	18:15: 1:28	-1.202	-0.875	-0.010	0.840	1.310	0.790	0.010	-0.830
11.	18:15: 2:17	-1.200	-0.875	-0.010	0.830	1.300	0.790	0.010	-0.830
12.	18:15: 3:25	-1.173	-0.846	-0.010	0.820	1.280	0.780	0.0	-0.820
13.	18:15: 4:55	-1.143	-0.846	-0.010	0.820	1.250	0.780	0.010	-0.790
14.	18:15: 6:13	-1.101	-0.817	-0.010	0.780	1.220	0.750	0.0	-0.770
15.	18:15: 8:49	-1.084	-0.788	-0.020	0.760	1.200	0.720	0.010	-0.740
16.	18:15: 9:23	-1.055	-0.788	-0.010	0.760	1.190	0.720	0.010	-0.760
17.	18:15:10: 0	-1.113	-0.817	-0.020	0.790	1.230	0.730	0.010	-0.770
18.	18:15:10:38	-1.143	-0.817	-0.010	0.790	1.250	0.750	0.010	-0.800
19.	18:15:11:14	-1.159	-0.846	-0.010	0.820	1.270	0.770	0.010	-0.800
20.	18:15:11:52	-1.173	-0.846	-0.010	0.830	1.280	0.770	0.010	-0.820
21.	18:15:12:56	-1.202	-0.865	-0.010	0.850	1.310	0.780	0.010	-0.830
22.	18:15:13:43	-1.202	-0.865	-0.010	0.850	1.310	0.780	0.010	-0.820
23.	18:15:14:15	-1.188	-0.865	-0.010	0.830	1.300	0.780	0.0	-0.830
24.	18:15:15: 3	-1.173	-0.846	-0.010	0.820	1.280	0.780	0.010	-0.820
25.	18:15:15:59	-1.143	-0.846	-0.010	0.830	1.250	0.770	0.010	-0.800
26.	18:15:17: 2	-1.099	-0.817	-0.010	0.780	1.210	0.740	0.010	-0.770
27.	18:15:18:11	-0.951	-0.701	-0.010	0.680	1.070	0.630	0.010	-0.660

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.24	CH.23	CH.22
1.	18:13:50:32	1360.000	490.000	2890.000	880.000	2640.000	1110.000	1480.000	1620.000
2.	18:14:14:55	4640.000	5320.000	7040.000	10650.000	10450.000	10030.000	7260.000	5230.000
3.	18:14:16:35	8090.000	10040.000	15370.000	19180.000	20440.000	18330.000	15020.000	10260.000
4.	18:14:20:15	11590.000	14520.000	22130.000	28350.000	29200.000	27210.000	21760.000	14880.000
5.	18:14:33: 3	13490.000	17380.000	25530.000	32330.000	34180.000	30960.000	25610.000	17600.000
6.	18:14:34:31	15380.000	19510.000	28880.000	36480.000	38120.000	34960.000	28770.000	19700.000
7.	18:14:59:10	16420.000	23340.000	33740.000	40590.000	42980.000	39730.000	27400.000	21230.000
8.	18:14:59:53	14760.000	20800.000	29880.000	37520.000	39240.000	37150.000	24300.000	18820.000
9.	18:15: 0:43	12100.000	18430.000	26340.000	32430.000	36070.000	34280.000	21120.000	16320.000
10.	18:15: 1:28	9850.000	15390.000	23520.000	28330.000	31770.000	30520.000	18490.000	14550.000
11.	18:15: 2:17	8510.000	11510.000	19810.000	24320.000	26810.000	26570.000	15670.000	11680.000
12.	18:15: 3:25	6740.000	7360.000	16630.000	19140.000	22280.000	21010.000	13520.000	9250.000
13.	18:15: 4:55	4790.000	4690.000	12910.000	15540.000	17050.000	17050.000	11080.000	6710.000
14.	18:15: 6:13	3110.000	2250.000	8620.000	11410.000	12000.000	12330.000	7700.000	4080.000
15.	18:15: 8:49	5340.000	4840.000	10870.000	15440.000	14930.000	15060.000	10510.000	6640.000
16.	18:15: 9:23	7370.000	7890.000	13470.000	17960.000	19550.000	17290.000	13750.000	9220.000
17.	18:15:10: 0	9730.000	12610.000	15610.000	23040.000	24050.000	22260.000	17250.000	12300.000
18.	18:15:10:38	11220.000	15750.000	19250.000	27140.000	28520.000	26410.000	20720.000	14800.000
19.	18:15:11:14	13170.000	18170.000	22910.000	30660.000	33440.000	29980.000	22210.000	17280.000
20.	18:15:11:52	14900.000	20580.000	27450.000	35700.000	37710.000	35120.000	23810.000	19440.000
21.	18:15:12:56	13060.000	18200.000	25310.000	31330.000	35510.000	32570.000	21290.000	16870.000
22.	18:15:13:43	10570.000	15860.000	22730.000	27930.000	31490.000	30040.000	19100.000	14370.000
23.	18:15:14:15	8760.000	12400.000	19390.000	24170.000	26940.000	26220.000	16330.000	12010.000
24.	18:15:15: 3	6740.000	7620.000	16400.000	18770.000	22100.000	20600.000	13690.000	9280.000
25.	18:15:15:59	4770.000	4800.000	12740.000	15110.000	16960.000	16590.000	11130.000	6720.000
26.	18:15:17: 2	3180.000	2260.000	8350.000	10980.000	12010.000	11950.000	7540.000	4020.000
27.	18:15:18:11	1860.000	380.000	4630.000	5920.000	6800.000	6200.000	4230.000	2060.000

ROD CHANNELS

	TIME	CH.59	CH.56	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50
1.	18:13:50:32	0.0	25.624	51.247	12.812	38.435	12.812	64.059	-12.812
2.	18:14:14:55	0.0	307.483	-51.247	25.624	0.0	38.435	217.801	0.0
3.	18:14:16:35	-256.236	384.354	12.812	12.812	-89.683	192.177	89.683	12.812
4.	18:14:20:15	-243.424	563.719	12.812	12.812	-448.413	179.365	64.059	12.812
5.	18:14:33: 3	-269.048	653.402	12.812	12.812	-704.649	192.177	51.247	12.812
6.	18:14:34:31	-422.789	653.402	12.812	0.0	-884.014	269.048	51.247	25.624
7.	18:14:59:10	-179.365	922.449	12.812	307.483	-1652.722	-230.612	-409.978	-384.354
8.	18:14:59:53	-102.494	948.073	25.624	371.542	-1524.604	-128.118	-499.660	-448.413
9.	18:15: 0:43	-166.553	832.767	12.812	422.789	-1306.803	51.247	-550.907	-499.660
10.	18:15: 1:28	-179.365	781.520	12.812	461.225	-1127.438	166.553	-589.343	-525.284
11.	18:15: 2:17	-204.989	730.272	12.812	512.472	-909.637	320.295	-614.966	-550.907
12.	18:15: 3:25	-192.177	679.025	38.435	525.284	-717.461	422.789	-640.590	-550.907
13.	18:15: 4:55	-166.553	653.402	76.871	538.095	-576.531	435.601	-614.966	-550.907
14.	18:15: 6:13	-64.059	602.154	153.742	550.907	-461.225	384.354	-589.343	-576.531
15.	18:15: 8:49	-89.683	614.966	0.0	512.472	-550.907	294.671	-512.472	-525.284
16.	18:15: 9:23	-51.247	666.213	12.812	435.601	-730.272	153.742	-448.413	-461.225
17.	18:15:10: 0	-153.742	614.966	12.812	256.236	-884.014	230.612	-243.424	-307.483
18.	18:15:10:38	-230.612	576.531	12.812	153.742	-1012.132	51.247	-128.118	-217.801
19.	18:15:11:14	-243.424	614.966	12.812	179.365	-1127.438	0.0	-204.989	-230.612
20.	18:15:11:52	-192.177	691.837	25.624	345.918	-1255.556	-38.435	-474.036	-409.978
21.	18:15:12:56	-140.930	781.520	12.812	435.601	-1165.874	38.435	-576.531	-486.848
22.	18:15:13:43	-179.365	704.649	12.812	461.225	-986.508	153.742	-614.966	-512.472
23.	18:15:14:15	-192.177	653.402	12.812	499.660	-819.955	281.859	-627.778	-525.284
24.	18:15:15: 3	-192.177	614.966	25.624	550.907	-627.778	397.166	-666.213	-550.907
25.	18:15:15:59	-153.742	614.966	76.871	550.907	-512.472	422.789	-653.402	-550.907
26.	18:15:17: 2	-76.871	589.343	153.742	563.719	-409.978	409.978	-627.778	-576.531
27.	18:15:18:11	25.624	435.601	243.424	461.225	-281.859	256.236	-448.413	-435.601

A V E R A G E L O A D

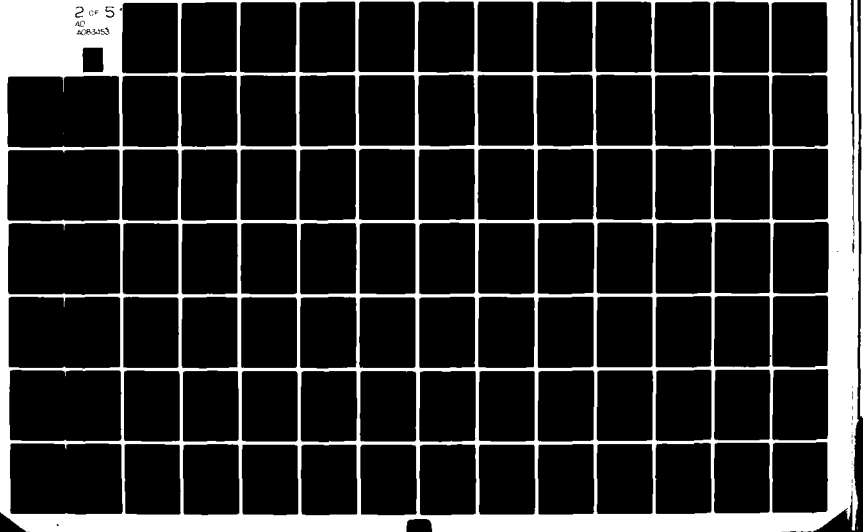
1.	1558.750
2.	7577.500
3.	14591.250
4.	21205.000
5.	24635.000
6.	27725.000
7.	30678.750
8.	27808.750
9.	24661.250
10.	21552.500
11.	18110.000
12.	14491.250
13.	11227.500
14.	7687.500
15.	10453.750
16.	13312.500
17.	17106.250
18.	20476.250
19.	23477.500
20.	26838.750
21.	24267.500
22.	21511.250
23.	18277.500
24.	14400.000
25.	11102.500
26.	7536.250
27.	4010.000

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 7

3.2.2 SPECIMEN #2

TEST NO. 16
COMPOSITE INTEGRAL LINER
1:2 LOADING RATIO
TESTED 27 OCTOBER 1977

AD-A083 453 MERRITT CASES INC REDLANDS CA F/G 18/3
STATIC TESTS OF SEGMENTS OF TUNNEL LININGS, VOLUME II, DATA.(U)
JUN 79 H C DAVIS, K B MORRILL, J L MERRITT DNA001-77-C-0143
UNCLASSIFIED 78-004-T1 DNA-4976F-2 NL

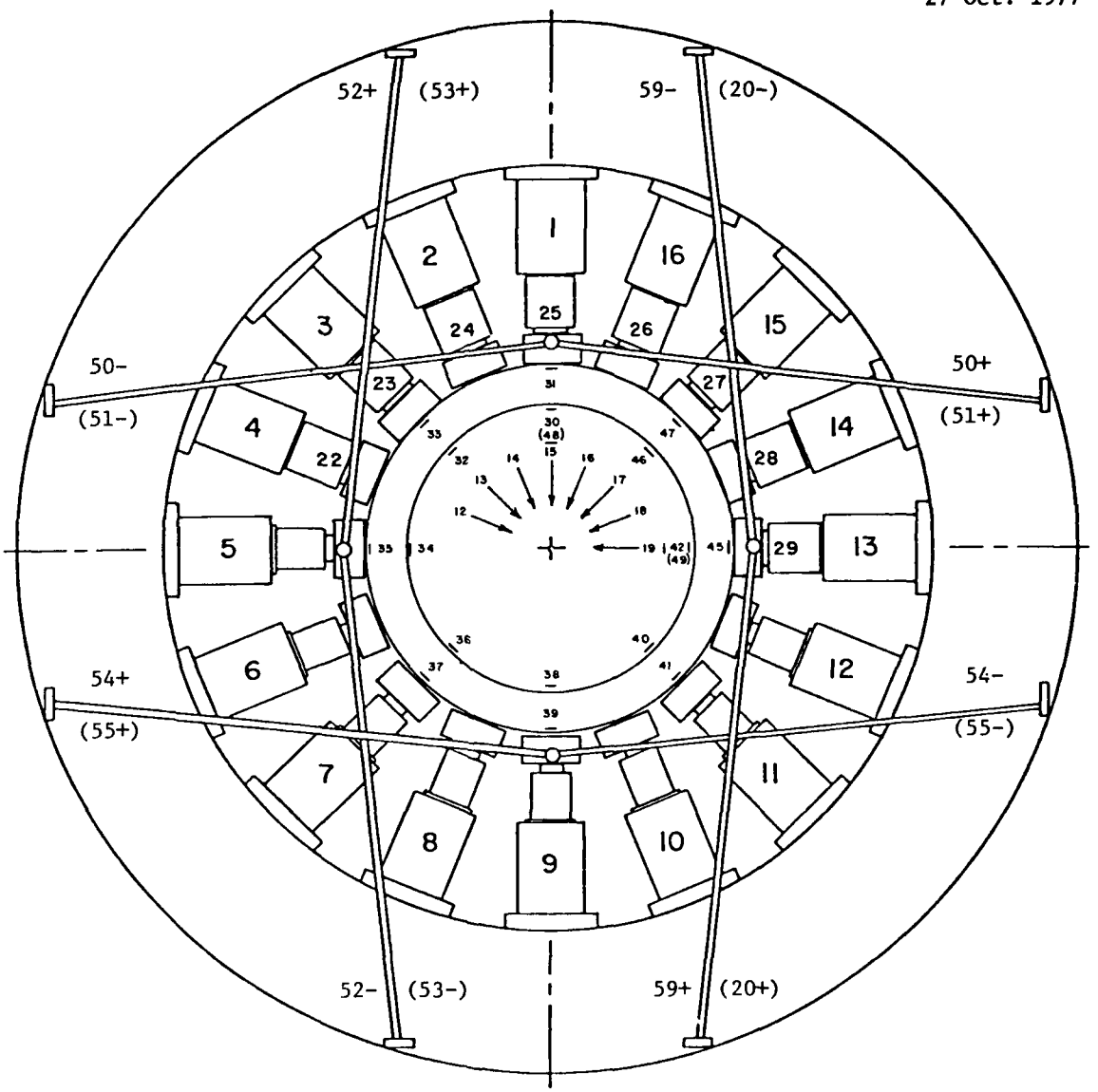


REACTION FRAME TEST SET-UP

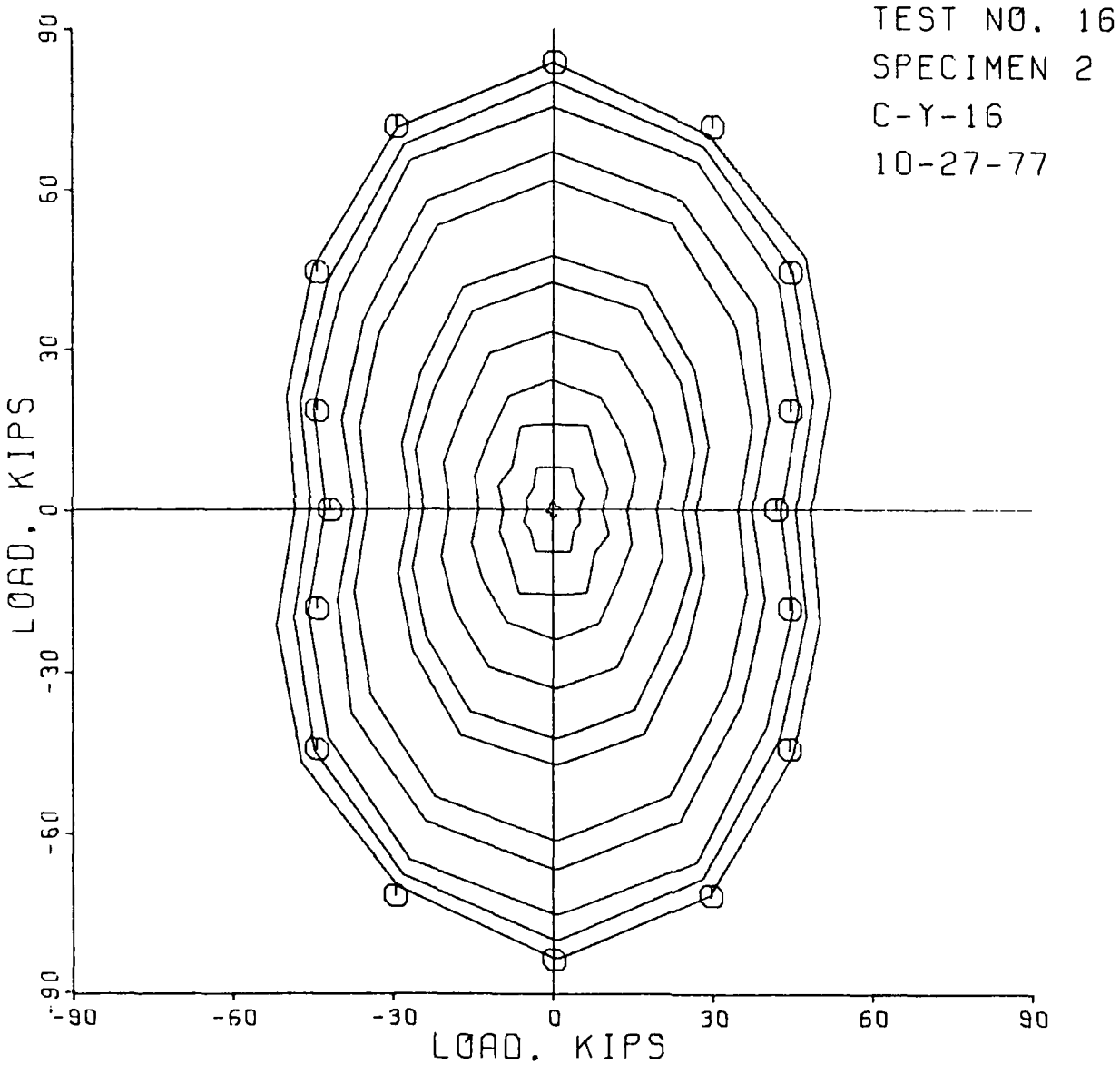
Specimen #2

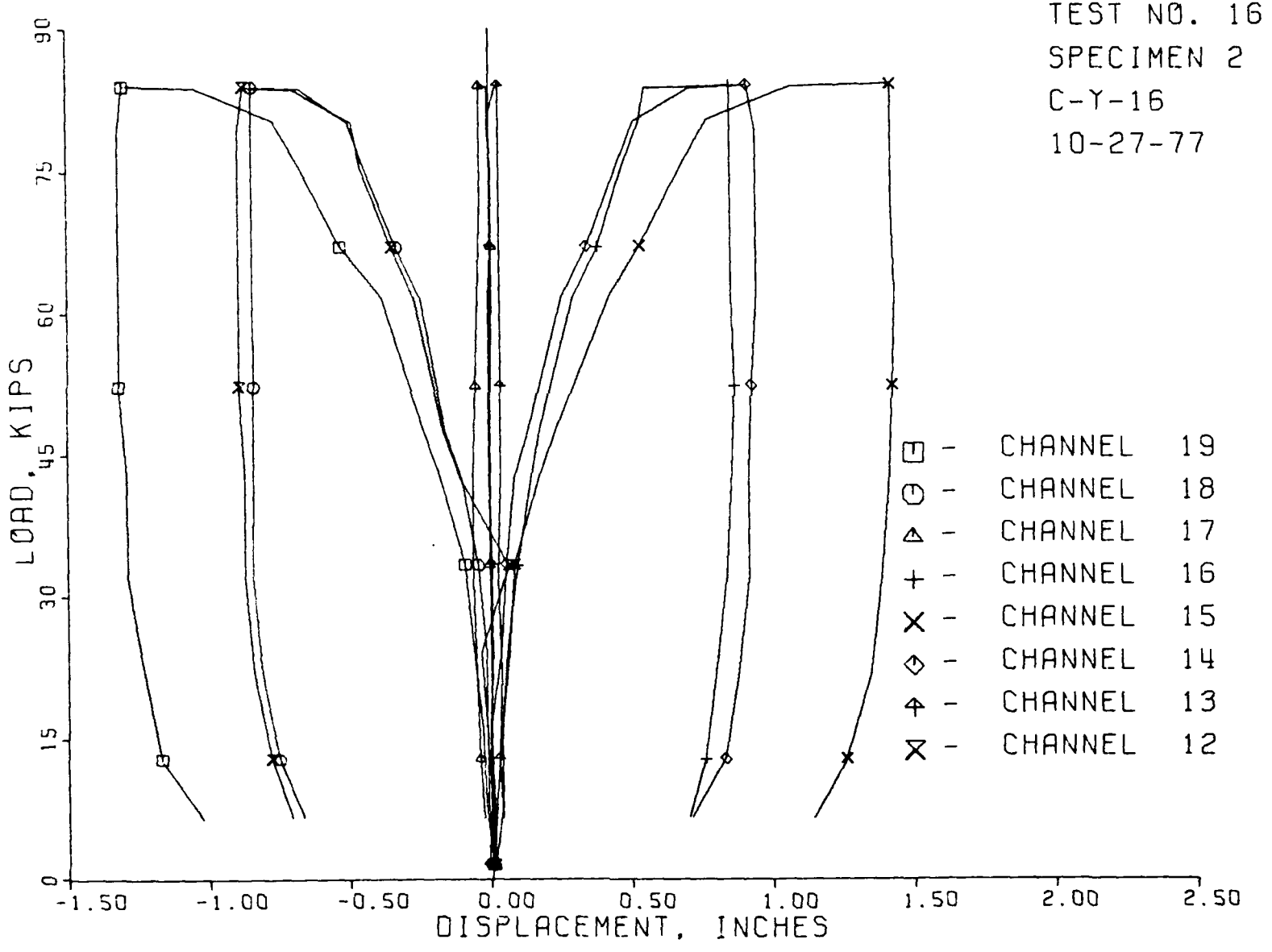
C-Y-16

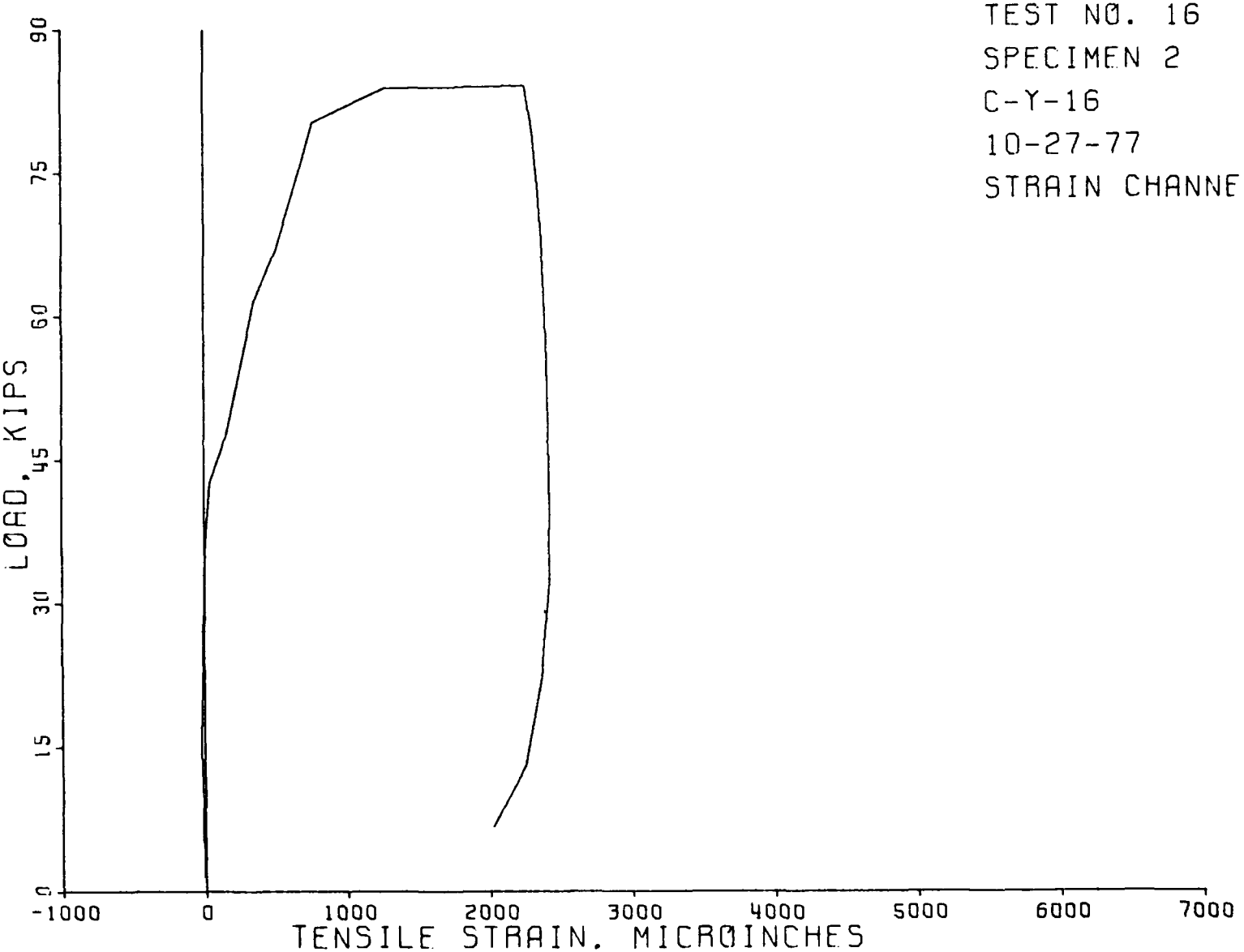
Test #16
1:2 Load
27 Oct. 1977

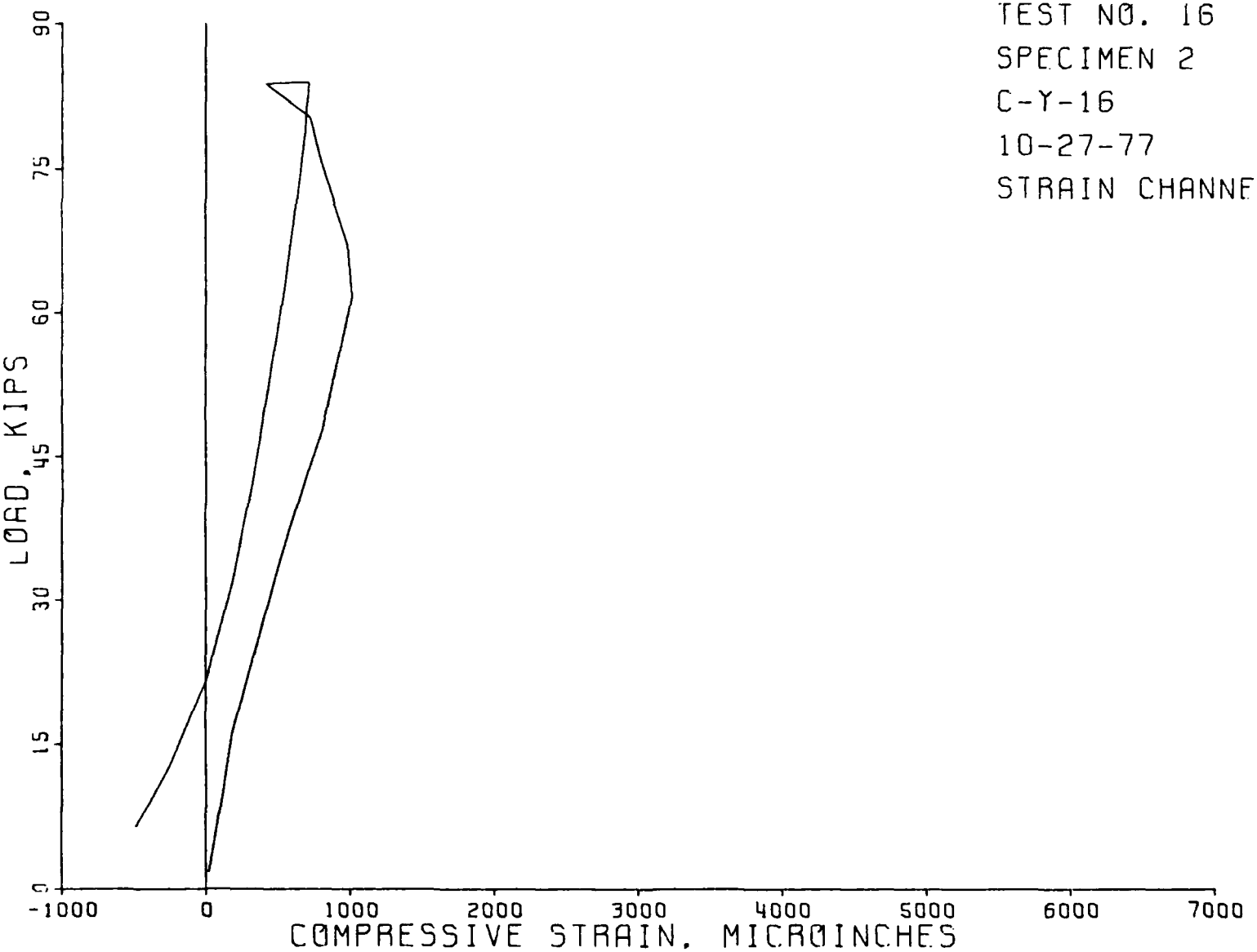


CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 22-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-42, 45-49 (Ailtech SG 129-6S) Radial pairs 2" from top, except 48-49 2" from bottom. Odd gages 31-47 on rebar.
CH 20, 50-55, and 59 (Ailtech SG 129 6S) Polarity indicates rod under tension. Lower rod shown (XX).

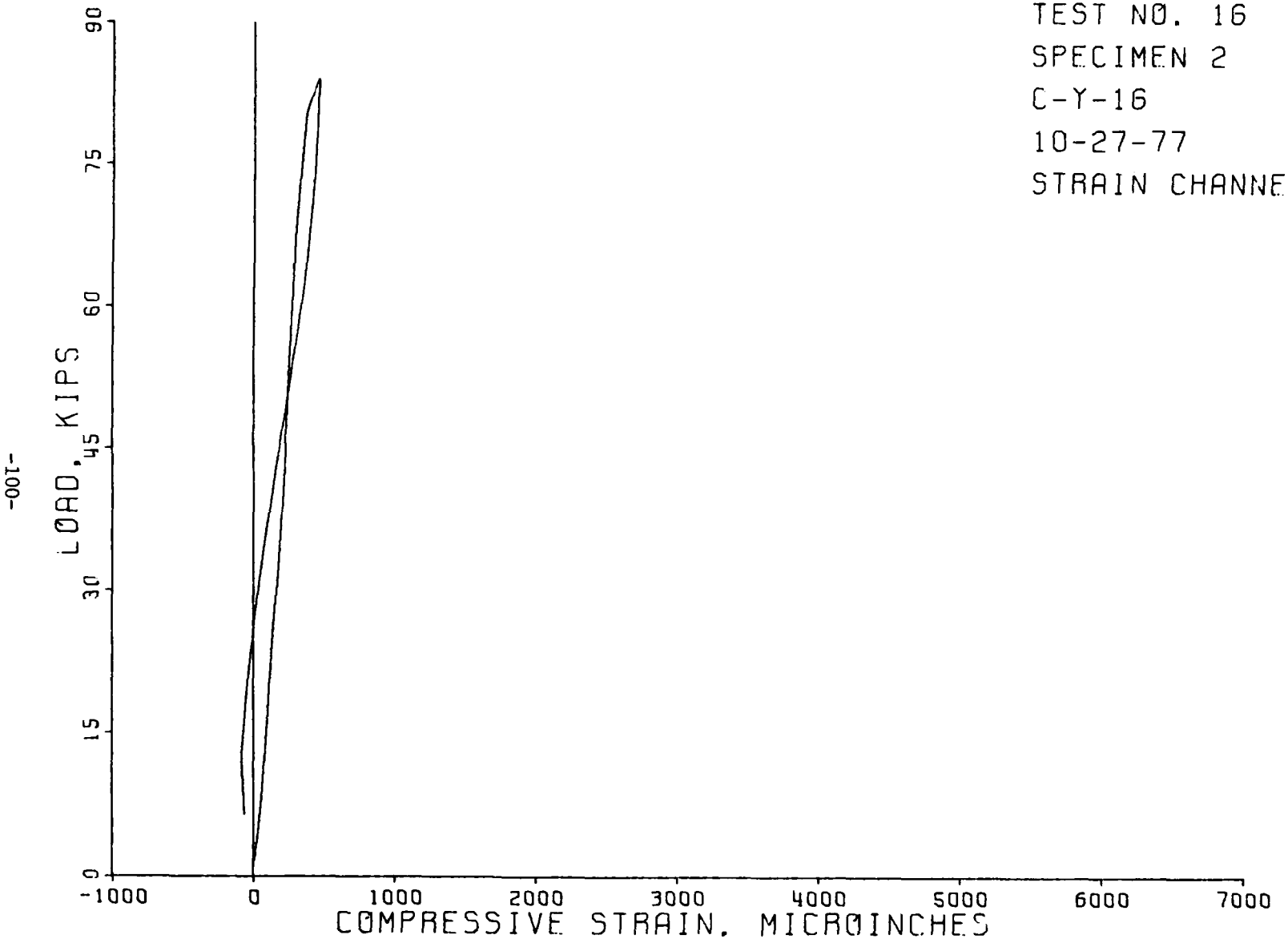

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
LOAD, KIPS
90
60
30
0
-30
-60
-90
-90
-60
-30
0
30
60
90
LOAD, KIPS

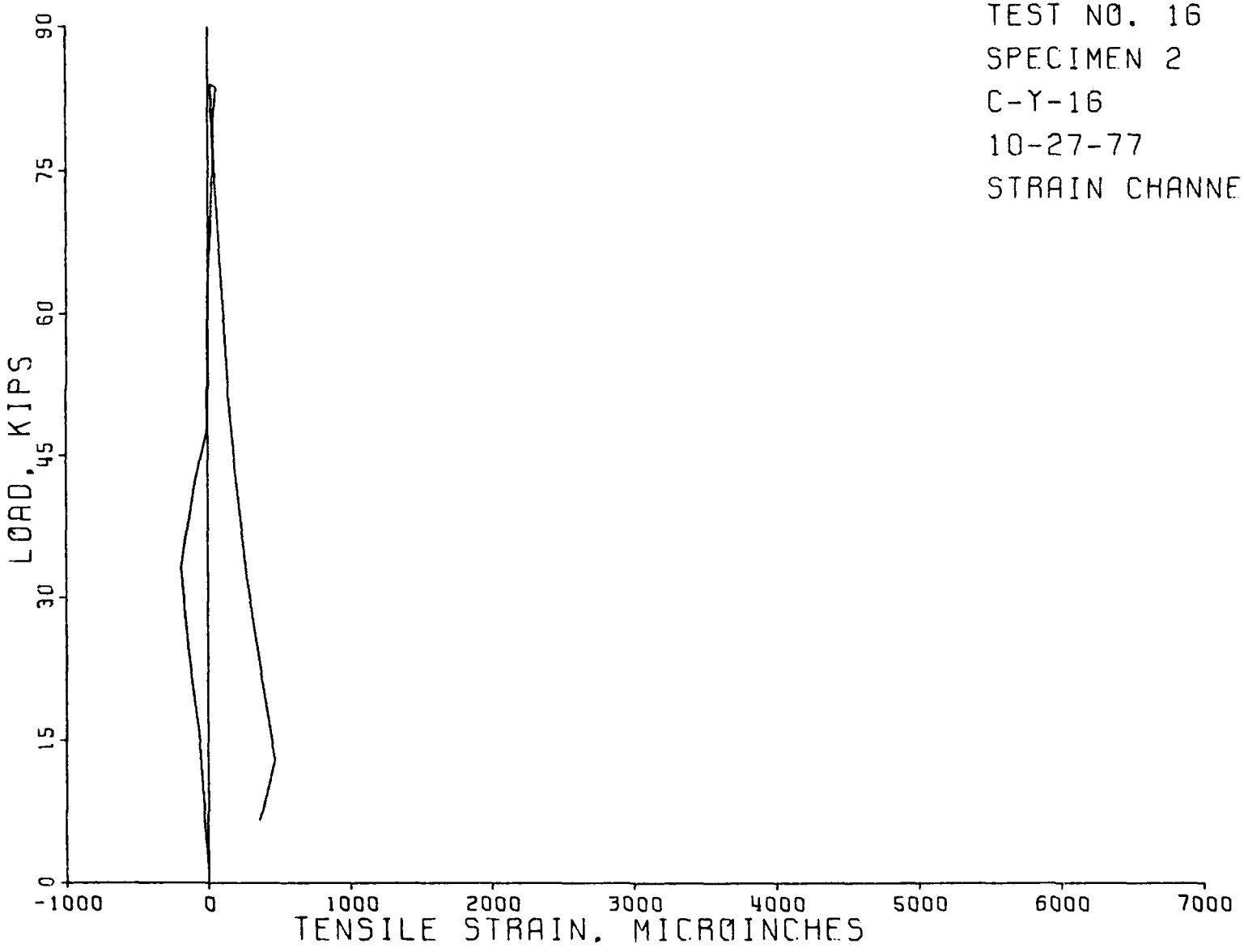

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
LOAD, KIPS
0
15
30
45
60
75
90
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
- CHANNEL 19
- CHANNEL 18
- CHANNEL 17
- CHANNEL 16
- CHANNEL 15
- CHANNEL 14
- CHANNEL 13
- CHANNEL 12

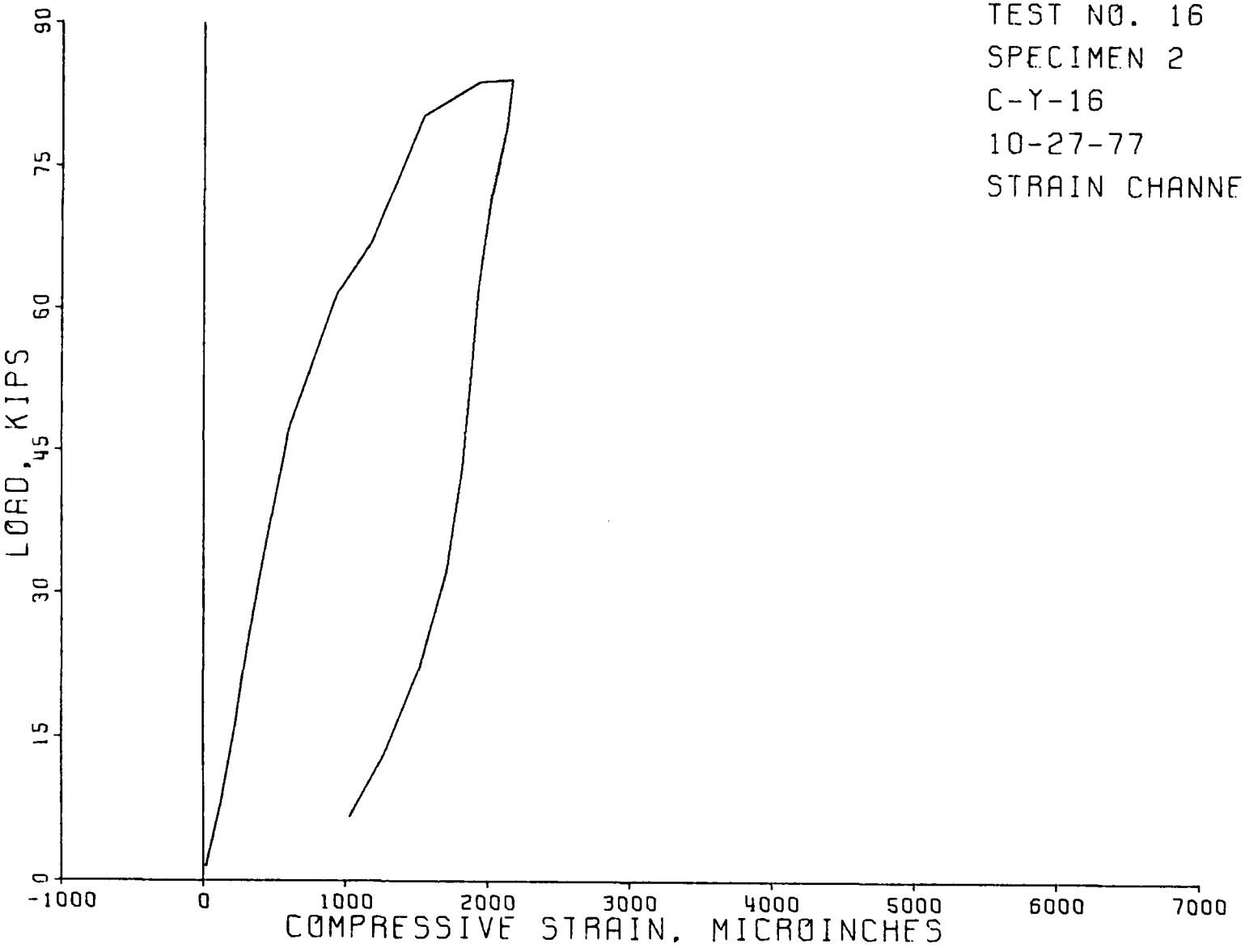

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 30
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

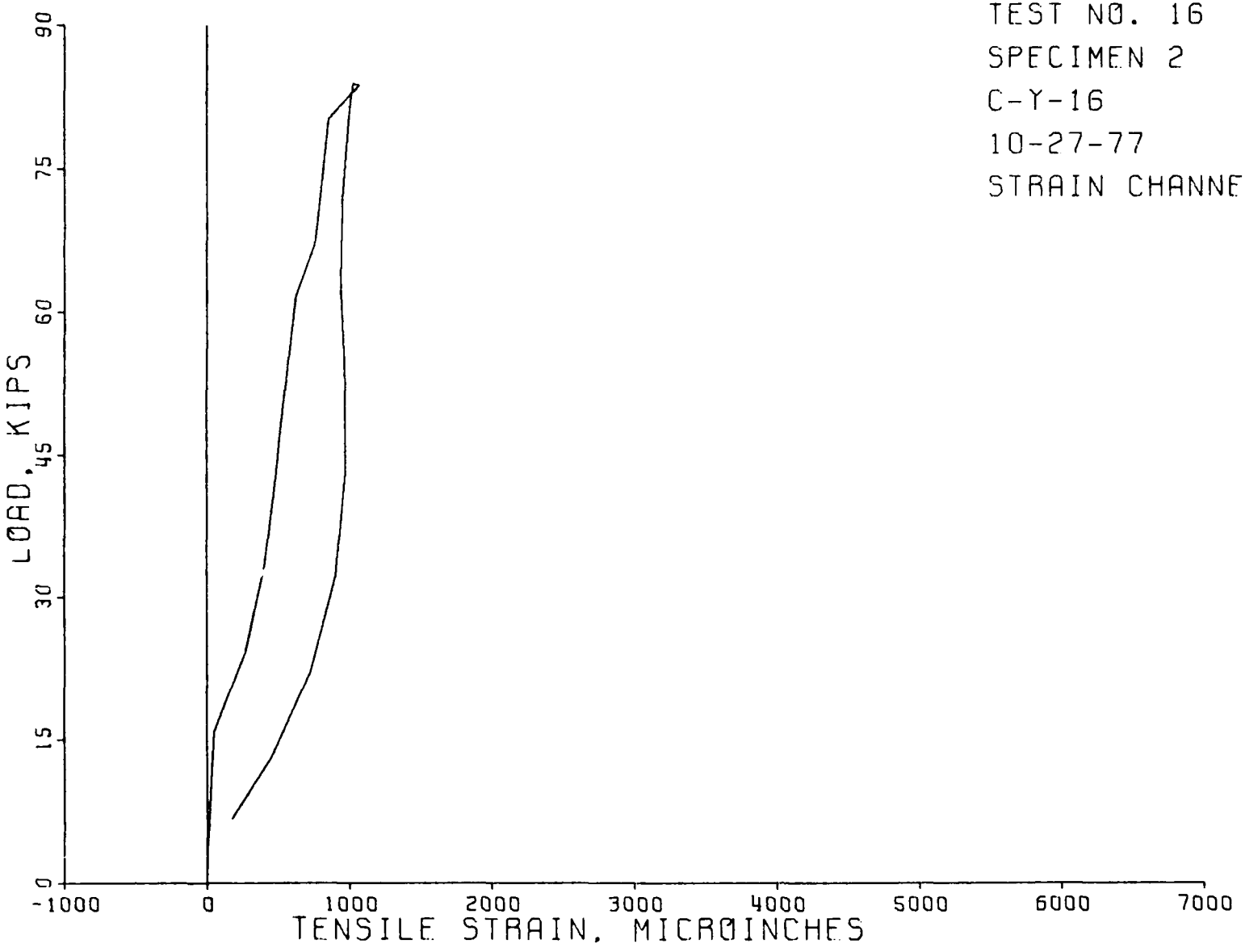


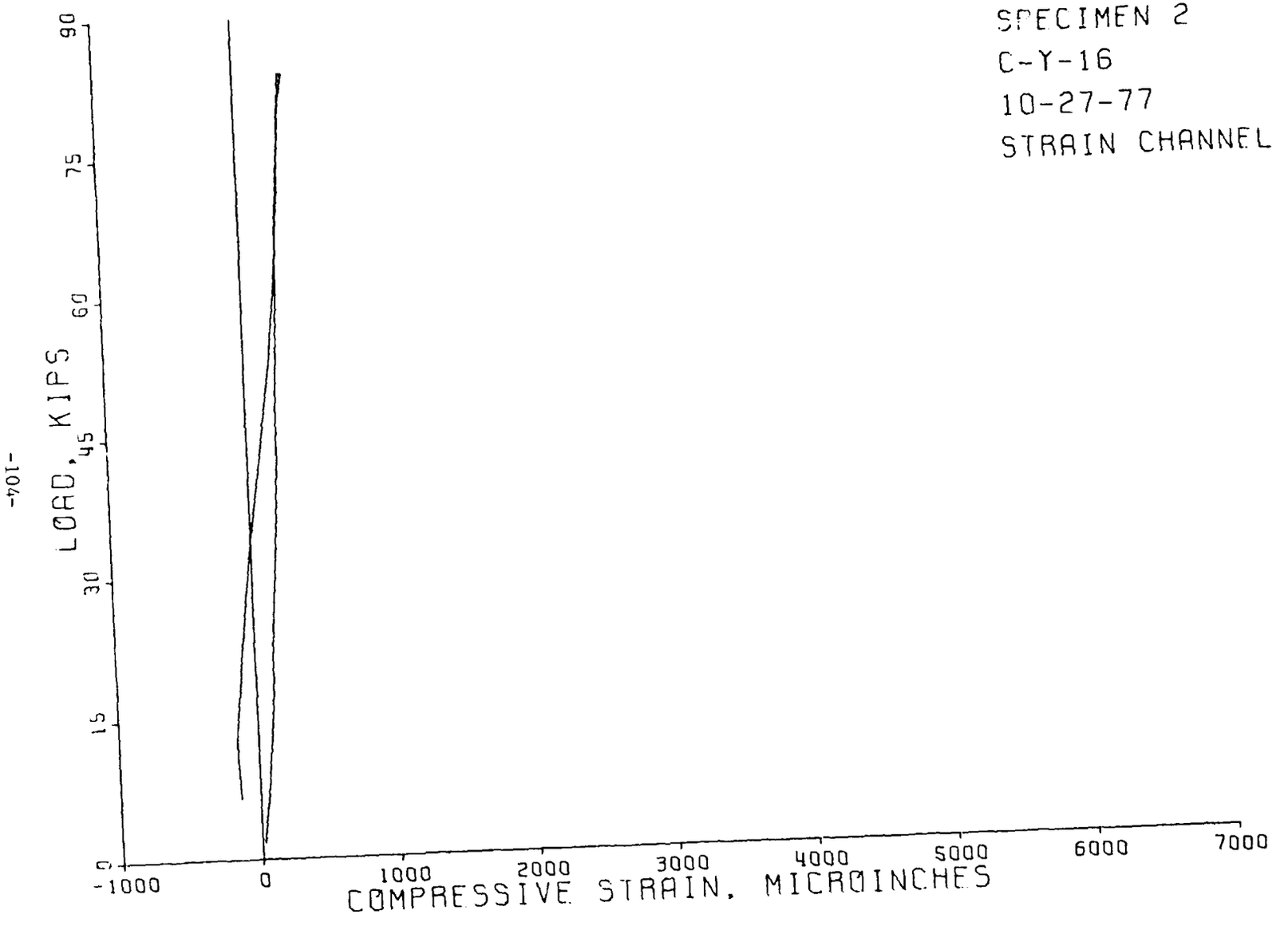
TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 31

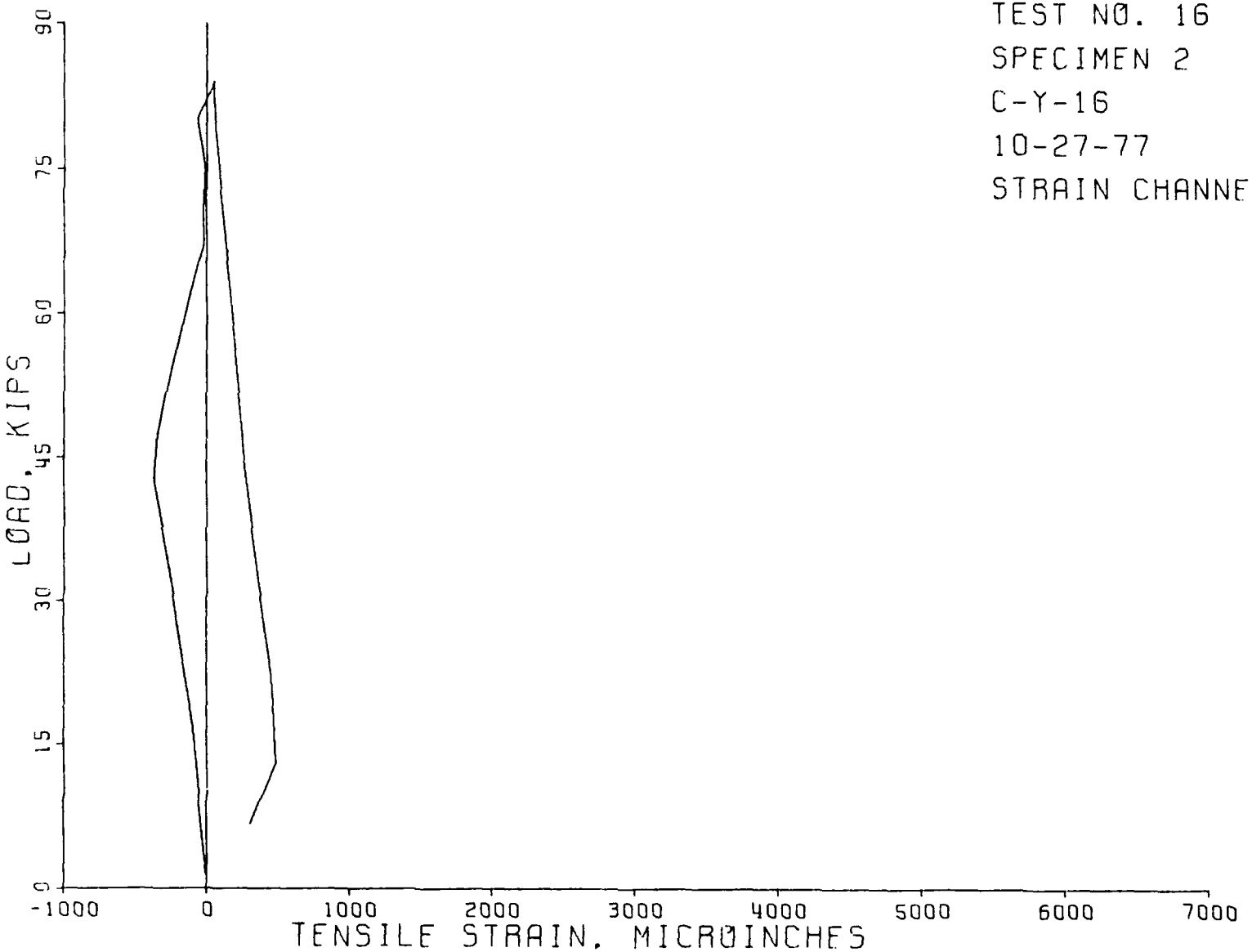

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 32
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

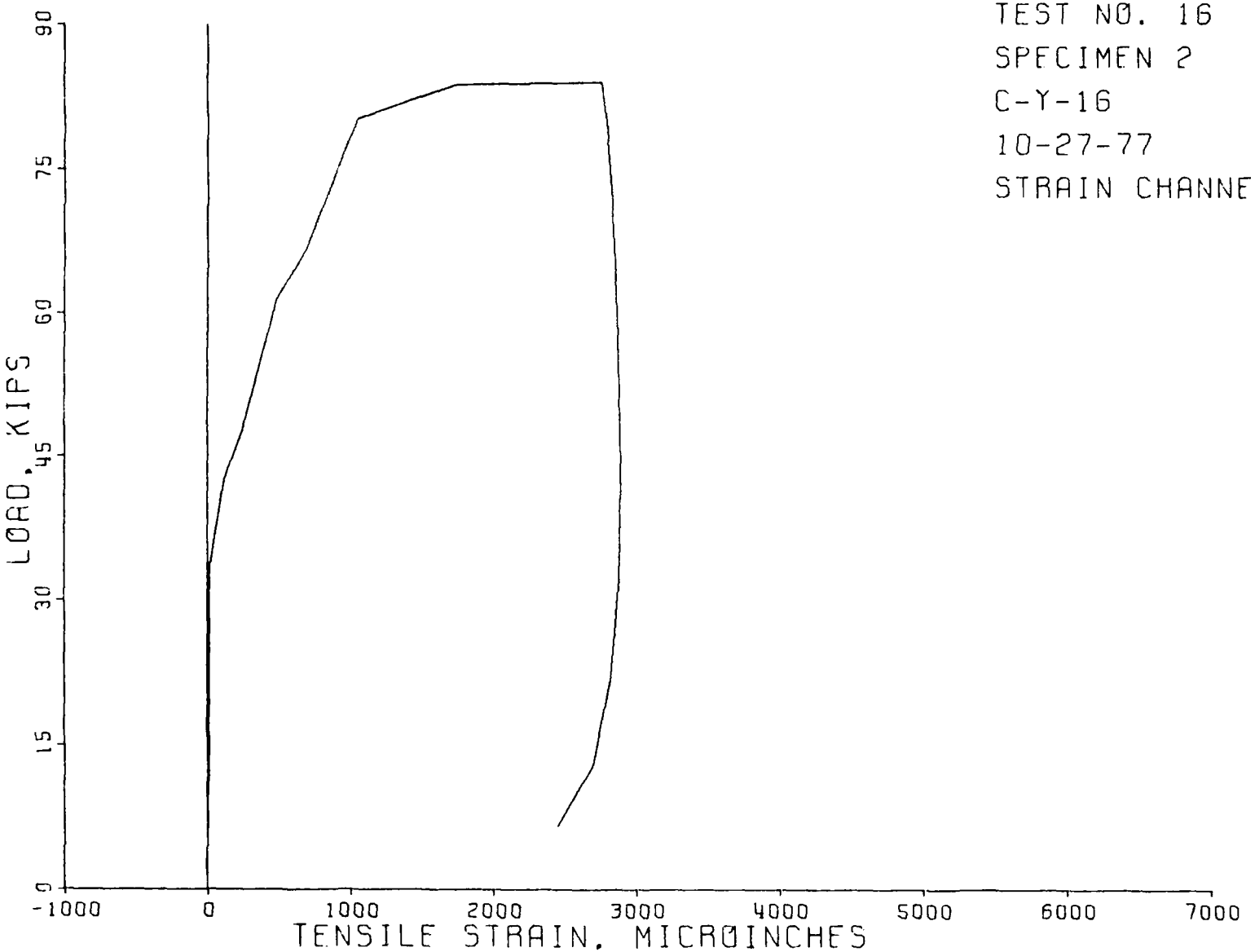

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 33
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

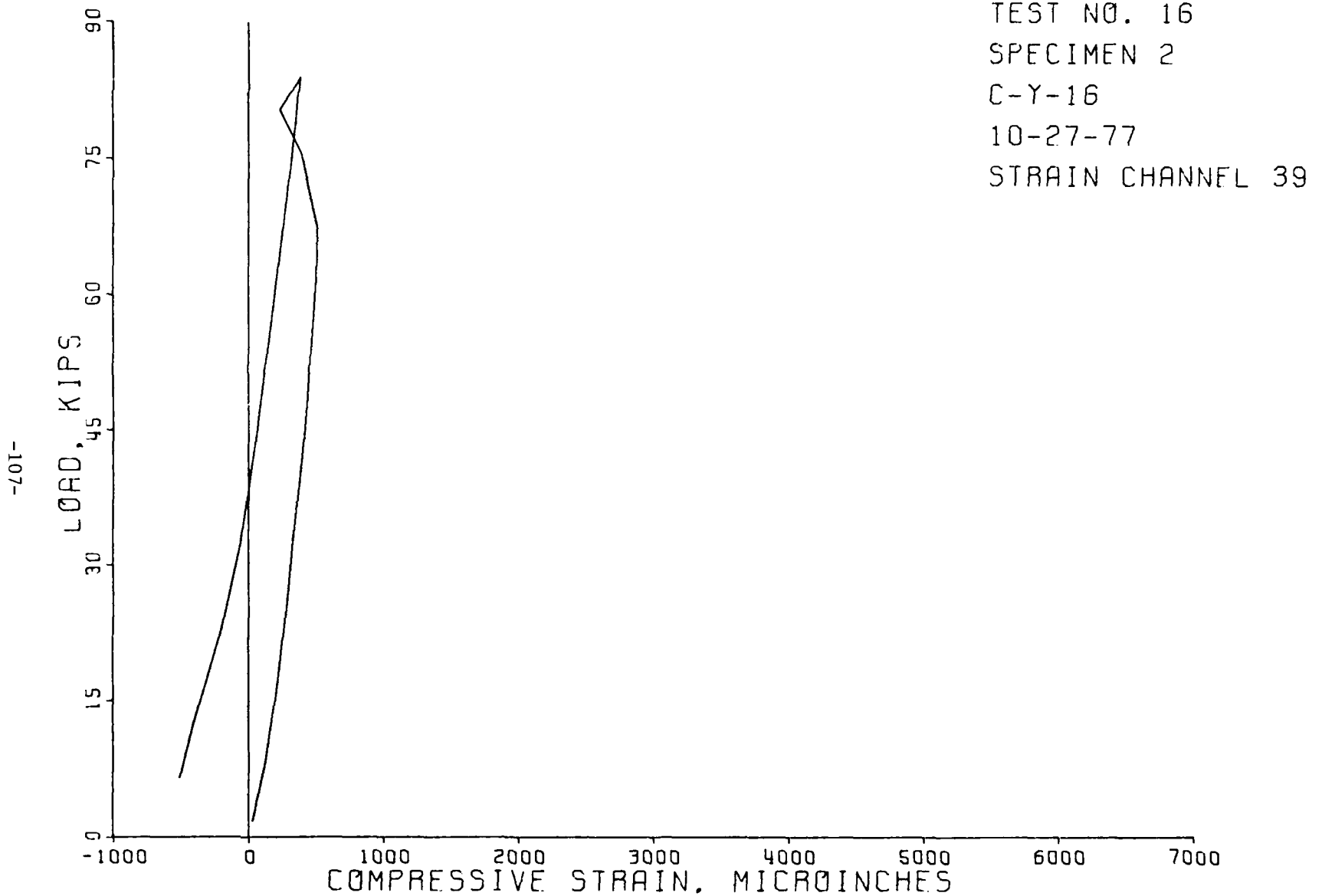

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 34
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

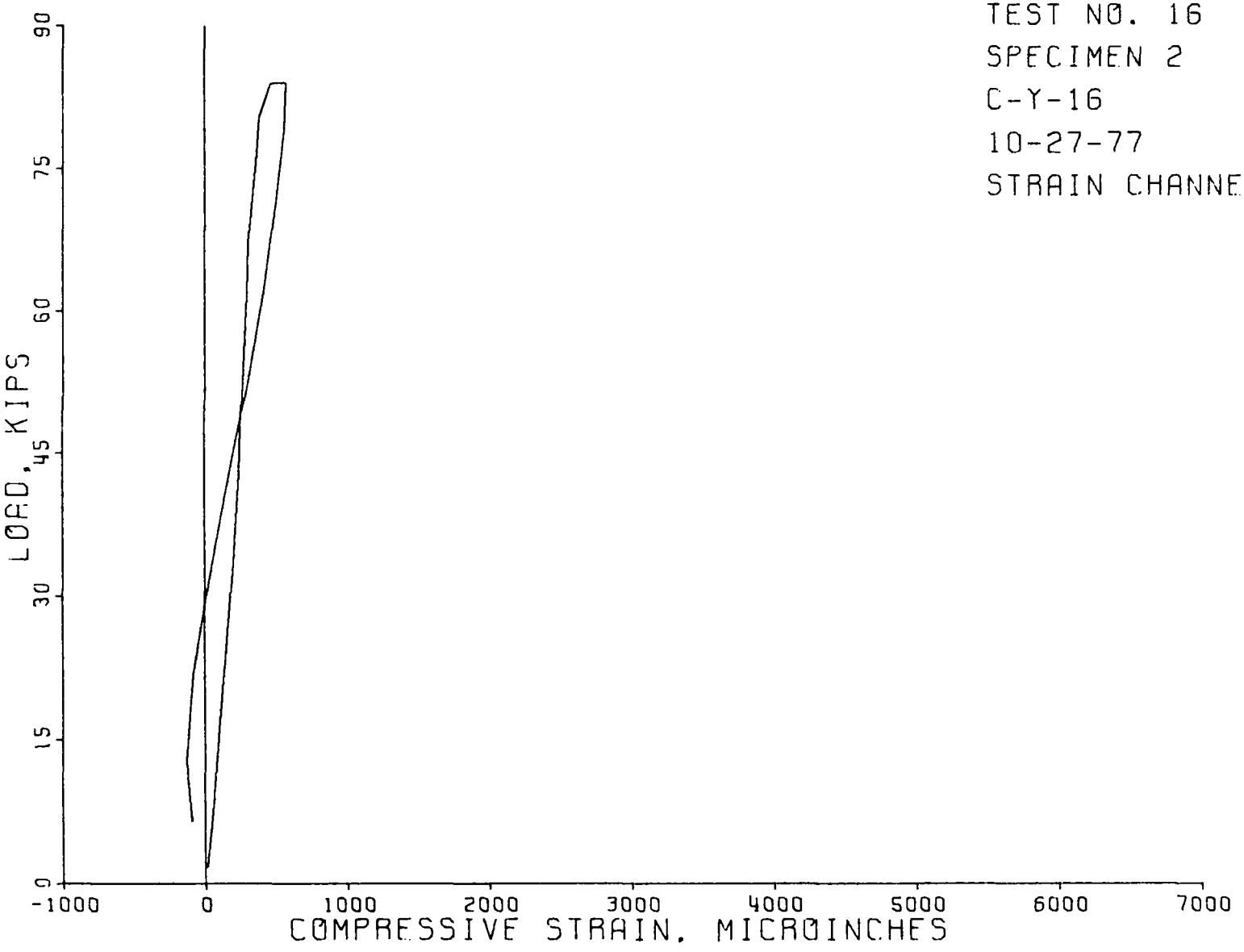

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 35
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

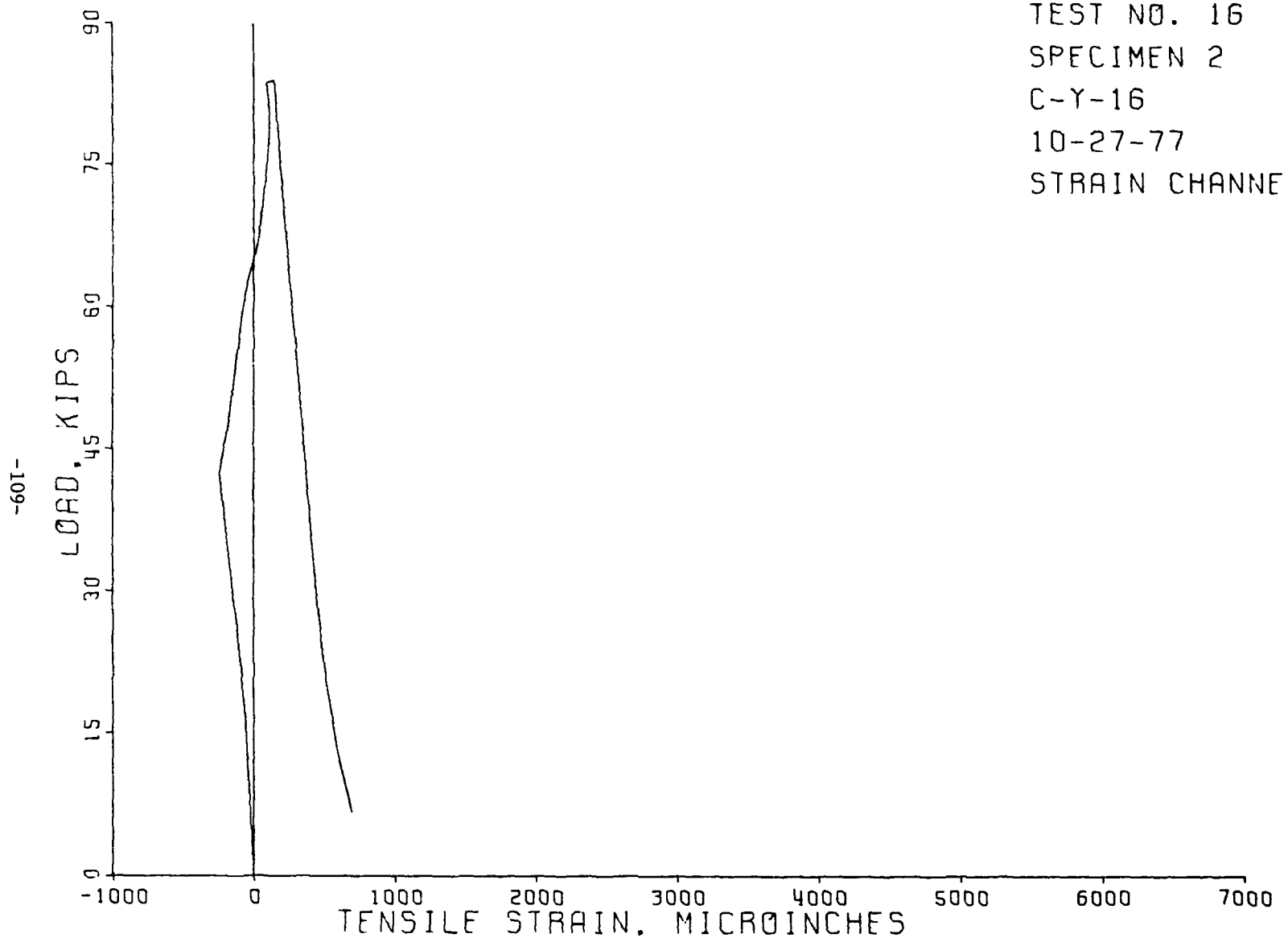

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 36
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

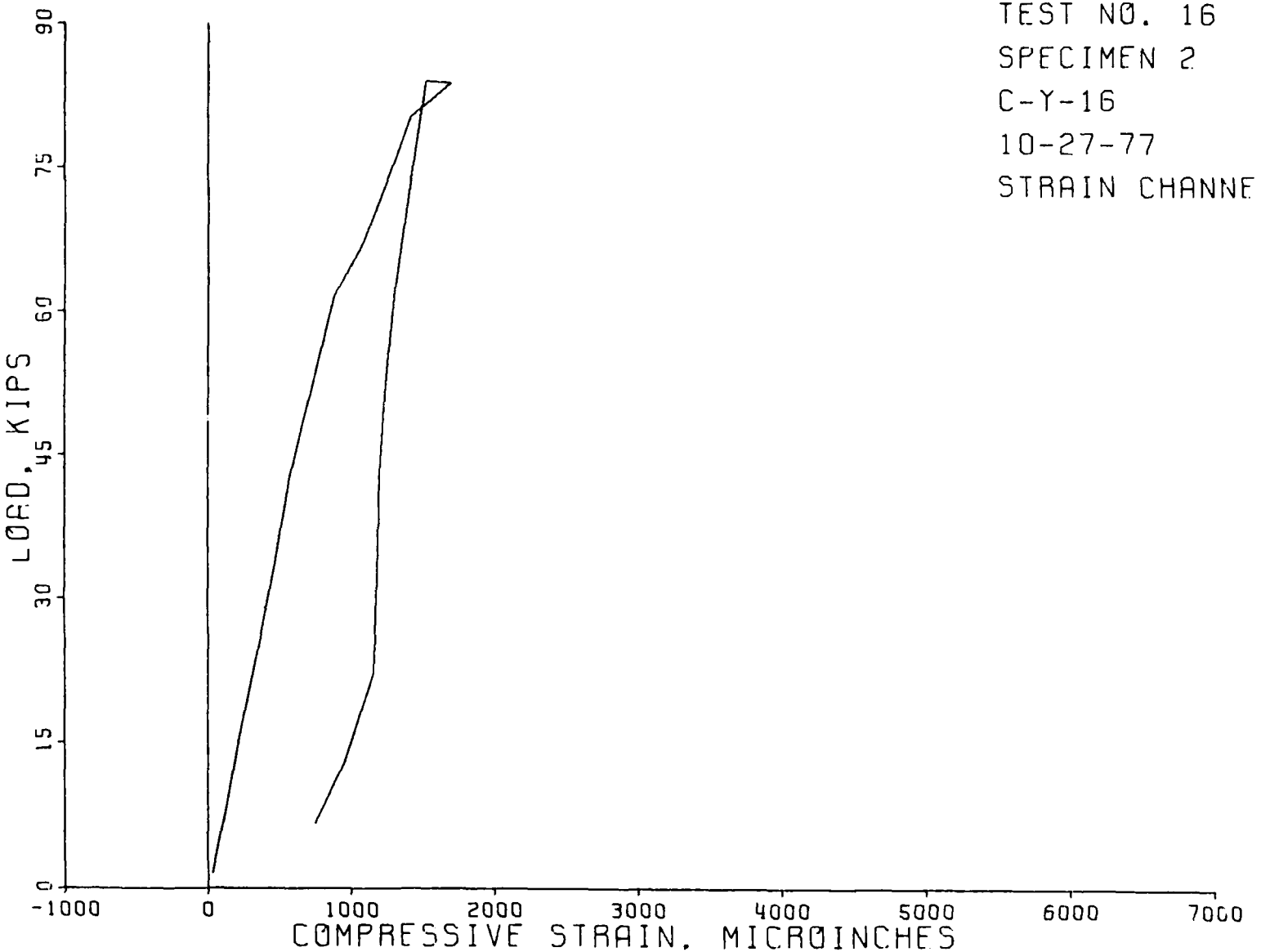

TEST NØ. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 37
LØAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICRØINCHES

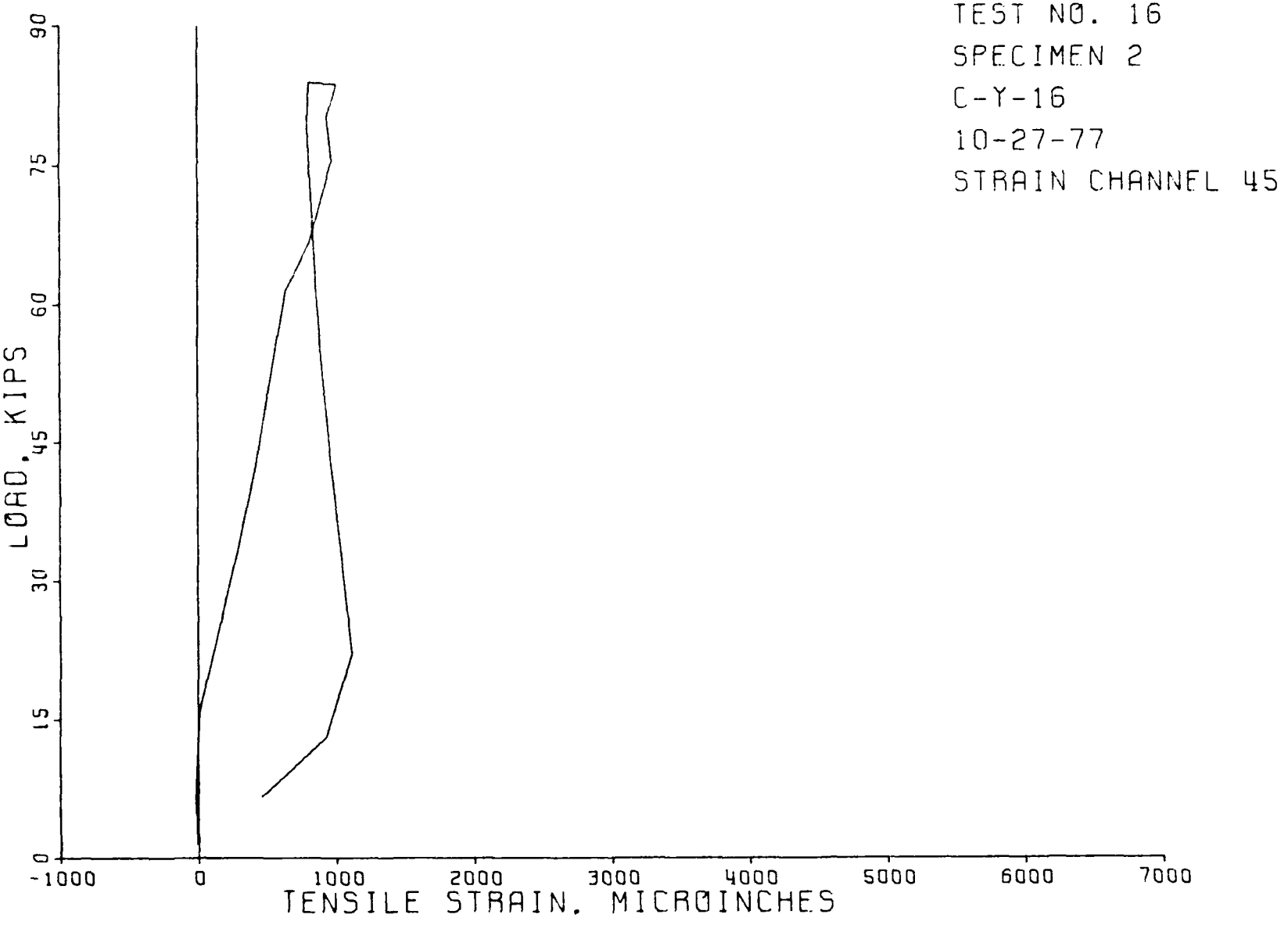

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 38
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

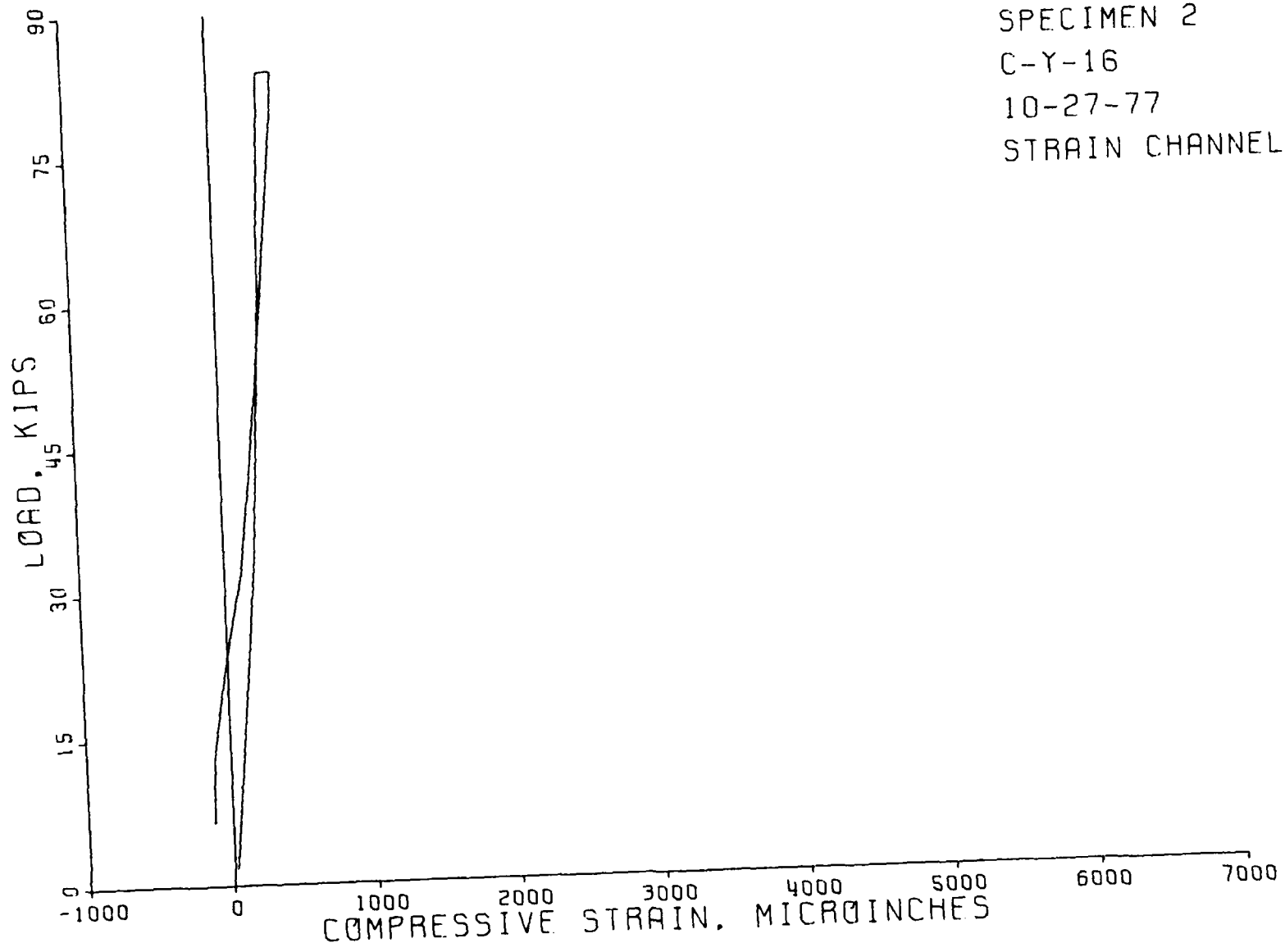

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 39
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

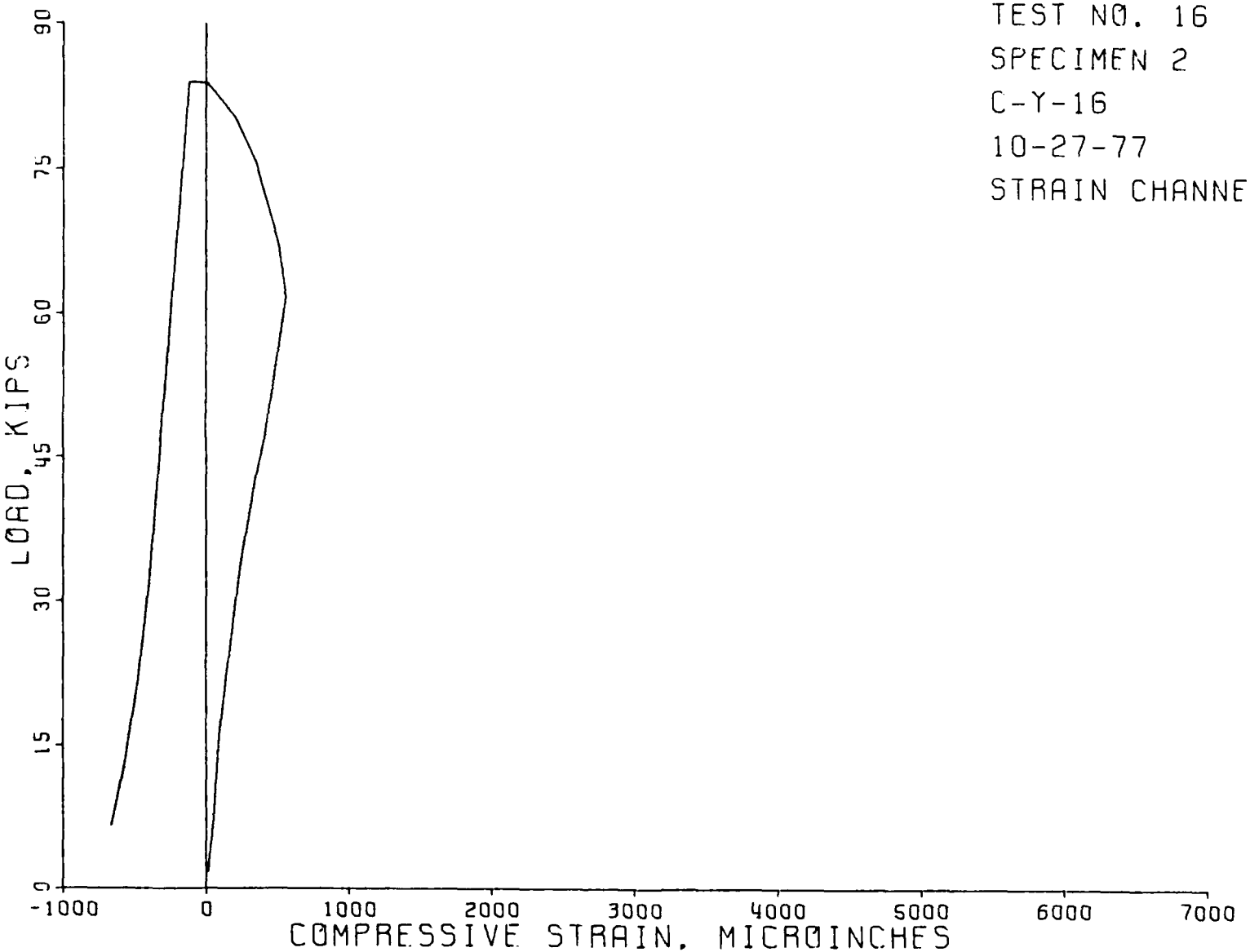

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 40
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

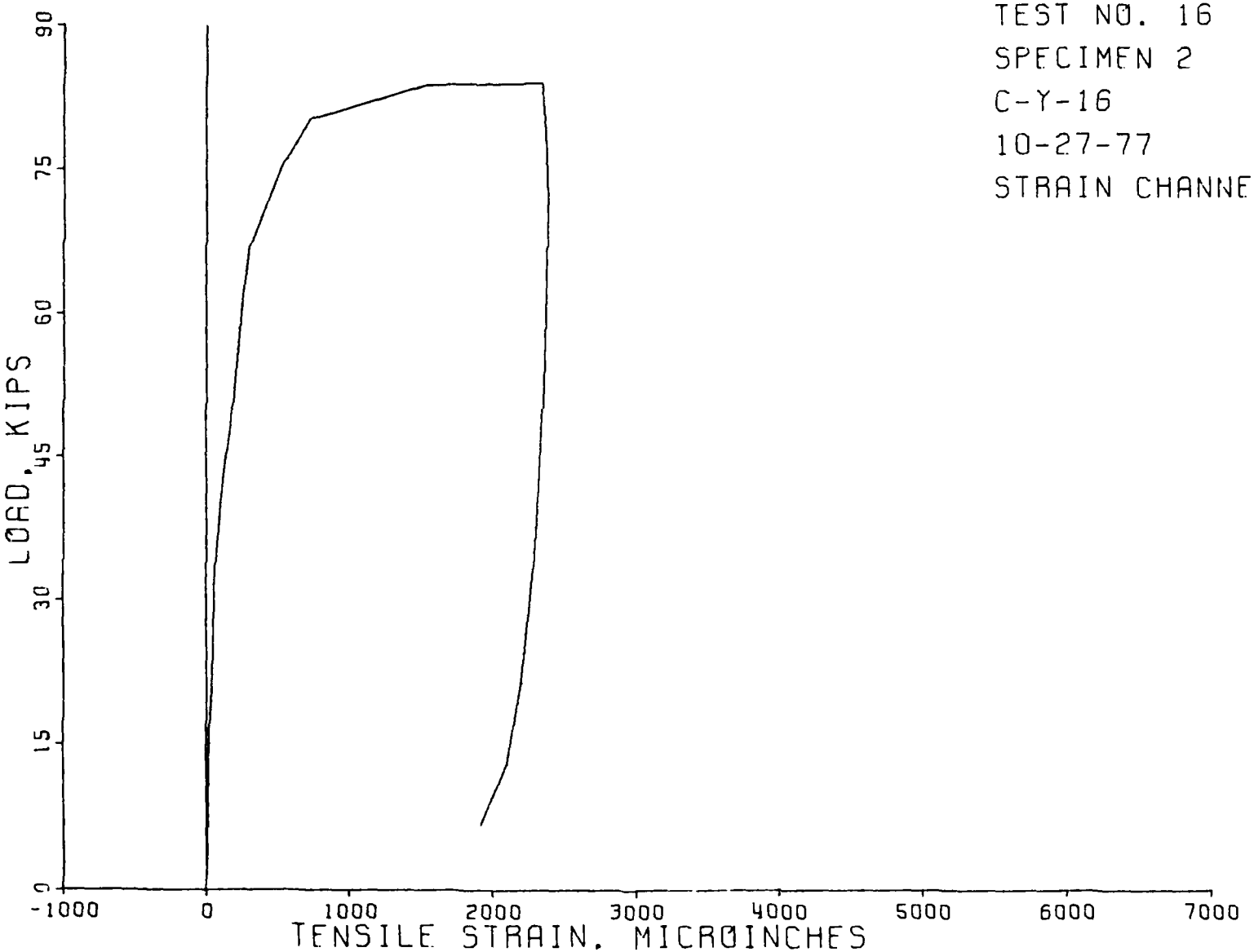

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 41
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

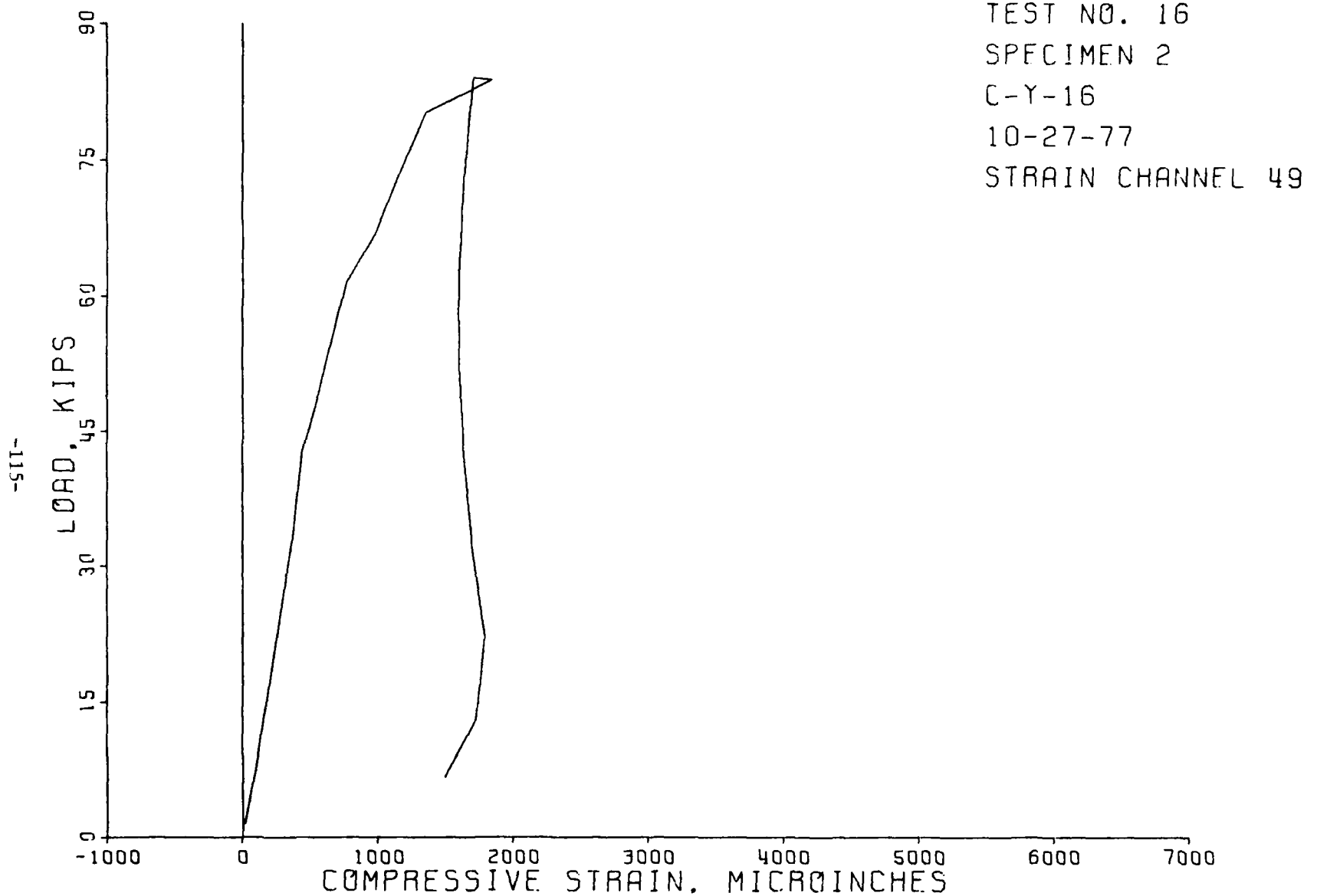

TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 42
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 45
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 46
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 47
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 48
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 16
SPECIMEN 2
C-Y-16
10-27-77
STRAIN CHANNEL 49
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 16 SPECIMEN 2 C-Y-16 10-27-77

NUMBER OF INCREMENTS= 22
NUMBER OF CHANNELS= 42
NUMBER OF STRAIN CHANNELS= 18
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
59	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
49	0.0
48	0.0
47	0.0
46	0.0
45	0.0
42	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
24	0.0
23	0.0
22	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION

49	1.000
48	1.000
47	1.000
46	1.000
45	1.000
42	1.000
41	1.000
40	1.000
39	1.000
38	1.000
37	1.000
36	1.000
35	1.000
34	1.000
33	1.000
32	1.000
31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.000
18	0.000
17	0.010
16	0.010
15	0.010
14	0.010
13	0.010
12	0.010

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
24	10.000
23	10.000
22	10.000

ROD CHANNEL	CALIBRATION
59	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000
20	1.000

STRAIN CHANNELS

	TIME	CH.49	CH.48	CH.47	CH.46	CH.45	CH.42	CH.41	CH.40
1.	27: 9:31:37	-14.000	-2.000	-16.000	-19.000	-13.000	-31.000	-3.000	-15.000
2.	27: 9:37:37	-98.000	10.000	-53.000	-61.000	-18.000	-125.000	-29.000	-60.000
3.	27: 9:39:44	-183.000	19.000	-92.000	-111.000	8.000	-224.000	-61.000	-102.000
4.	27: 9:42:26	-275.000	44.000	-160.000	-162.000	143.000	-343.000	-112.000	-152.000
5.	27: 9:44:15	-368.000	62.000	-237.000	-211.000	288.000	-463.000	-179.000	-202.000
6.	27: 9:45:27	-440.000	114.000	-344.000	-238.000	424.000	-569.000	-250.000	-241.000
7.	27: 9:47:34	-536.000	167.000	-422.000	-253.000	478.000	-652.000	-184.000	-252.000
8.	27: 9:50:34	-769.000	255.000	-560.000	-294.000	647.000	-880.000	-59.000	-293.000
9.	27: 9:53:35	-987.000	307.000	-510.000	-299.000	819.000	-1082.000	36.000	-307.000
10.	27: 9:56: 0	-1214.000	535.000	-349.000	-327.000	981.000	-1302.000	99.000	-358.000
11.	27: 9:56:36	-1357.000	729.000	-206.000	-333.000	947.000	-1417.000	114.000	-385.000
12.	27: 9:57:48	-1842.000	1529.000	-9.000	-339.000	1014.000	-1690.000	90.000	-463.000
13.	27: 9:59:18	-1702.000	2342.000	118.000	-440.000	812.000	-1522.000	144.000	-573.000
14.	27: 9:59:55	-1665.000	2365.000	145.000	-423.000	801.000	-1469.000	170.000	-559.000
15.	27:10: 1: 7	-1626.000	2381.000	187.000	-381.000	825.000	-1393.000	207.000	-507.000
16.	27:10: 2:19	-1591.000	2371.000	239.000	-319.000	860.000	-1302.000	261.000	-416.000
17.	27:10: 3:32	-1595.000	2349.000	288.000	-258.000	908.000	-1234.000	320.000	-298.000
18.	27:10: 4:44	-1623.000	2320.000	338.000	-200.000	966.000	-1196.000	370.000	-174.000
19.	27:10: 5:56	-1692.000	2275.000	400.000	-116.000	1045.000	-1180.000	431.000	-33.000
20.	27:10: 7: 9	-1785.000	2202.000	473.000	22.000	1116.000	-1156.000	498.000	83.000
21.	27:10: 8:21	-1721.000	2098.000	576.000	117.000	925.000	-956.000	593.000	135.000
22.	27:10:10:46	-1491.000	1913.000	666.000	123.000	465.000	-750.000	693.000	95.000

S T R A I N C H A N N E L S

	TIME	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34	CH.33	CH.32
1.	27: 9:31:37	-26.000	-3.000	-17.000	-22.000	-2.000	-22.000	-3.000	-8.000
2.	27: 9:37:37	-114.000	7.000	-53.000	-68.000	22.000	-119.000	-36.000	-56.000
3.	27: 9:39:44	-198.000	13.000	-93.000	-117.000	52.000	-218.000	-72.000	-94.000
4.	27: 9:42:26	-271.000	14.000	-180.000	-142.000	268.000	-306.000	-141.000	-130.000
5.	27: 9:44:15	-332.000	14.000	-268.000	-182.000	405.000	-416.000	-196.000	-179.000
6.	27: 9:45:27	-401.000	113.000	-373.000	-210.000	483.000	-540.000	-90.000	-219.000
7.	27: 9:47:34	-430.000	242.000	-352.000	-215.000	518.000	-604.000	-4.000	-230.000
8.	27: 9:50:34	-502.000	486.000	-114.000	-250.000	627.000	-934.000	-5.000	-277.000
9.	27: 9:53:35	-509.000	695.000	-15.000	-256.000	759.000	-1175.000	17.000	-290.000
10.	27: 9:56: 0	-389.000	918.000	-11.000	-293.000	825.000	-1412.000	33.000	-339.000
11.	27: 9:56:36	-230.000	1044.000	-66.000	-310.000	859.000	-1539.000	40.000	-372.000
12.	27: 9:57:48	-379.000	1733.000	60.000	-348.000	1071.000	-1928.000	59.000	-449.000
13.	27: 9:59:18	-380.000	2753.000	49.000	-323.000	1031.000	-2161.000	18.000	-460.000
14.	27: 9:59:55	-351.000	2792.000	66.000	-311.000	994.000	-2118.000	32.000	-451.000
15.	27:10: 1: 7	-290.000	2827.000	111.000	-287.000	956.000	-2016.000	62.000	-421.000
16.	27:10: 2:19	-212.000	2855.000	172.000	-240.000	946.000	-1924.000	99.000	-353.000
17.	27:10: 3:32	-127.000	2875.000	224.000	-173.000	974.000	-1870.000	141.000	-258.000
18.	27:10: 4:44	-47.000	2885.000	279.000	-92.000	975.000	-1814.000	193.000	-161.000
19.	27:10: 5:56	67.000	2877.000	363.000	16.000	906.000	-1703.000	274.000	-52.000
20.	27:10: 7: 9	220.000	2820.000	461.000	91.000	725.000	-1517.000	375.000	28.000
21.	27:10: 8:21	407.000	2695.000	488.000	153.000	449.000	-1266.000	468.000	83.000
22.	27:10:10:46	515.000	2450.000	309.000	139.000	173.000	-1032.000	365.000	66.000

STRAIN CHANNELS

	TIME	CH.31	CH.30	CH.
1.	27: 9:31:37	-19.000	-8.000	
2.	27: 9:37:37	-97.000	-13.000	
3.	27: 9:39:44	-182.000	-23.000	
4.	27: 9:42:26	-337.000	-9.000	
5.	27: 9:44:15	-502.000	-5.000	
6.	27: 9:45:27	-690.000	42.000	
7.	27: 9:47:34	-806.000	155.000	
8.	27: 9:50:34	-1014.000	354.000	
9.	27: 9:53:35	-986.000	512.000	
10.	27: 9:56: 0	-806.000	678.000	
11.	27: 9:56:36	-723.000	769.000	
12.	27: 9:57:48	-417.000	1281.000	
13.	27: 9:59:18	-715.000	2262.000	
14.	27: 9:59:55	-689.000	2310.000	
15.	27:10: 1: 7	-631.000	2357.000	
16.	27:10: 2:19	-538.000	2391.000	
17.	27:10: 3:32	-433.000	2411.000	
18.	27:10: 4:44	-328.000	2422.000	
19.	27:10: 5:56	-185.000	2413.000	
20.	27:10: 7: 9	-4.000	2359.000	
21.	27:10: 8:21	261.000	2246.000	
22.	27:10:10:46	488.000	2021.000	

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	27: 9:31:37	-0.001	0.0	0.010	0.010	0.010	-0.010	0.010	0.010
2.	27: 9:37:37	-0.021	-0.001	0.010	0.040	0.020	0.0	0.010	-0.010
3.	27: 9:39:44	-0.030	-0.015	0.0	0.040	0.040	0.0	0.0	-0.010
4.	27: 9:42:26	-0.059	-0.014	0.010	0.060	0.070	0.040	0.010	-0.030
5.	27: 9:44:15	-0.089	-0.043	0.0	0.100	0.090	0.060	0.010	0.070
6.	27: 9:45:27	-0.177	-0.100	0.0	0.150	0.180	0.090	0.0	-0.100
7.	27: 9:47:34	-0.235	-0.157	0.0	0.180	0.240	0.140	0.0	-0.160
8.	27: 9:50:34	-0.382	-0.242	0.010	0.300	0.430	0.260	0.0	-0.260
9.	27: 9:53:35	-0.529	-0.328	0.010	0.390	0.540	0.350	0.010	-0.340
10.	27: 9:56: 0	-0.675	-0.440	0.010	0.480	0.690	0.460	0.010	-0.450
11.	27: 9:56:36	-0.762	-0.497	0.0	0.540	0.780	0.520	0.0	-0.480
12.	27: 9:57:48	-1.042	-0.668	0.0	0.560	1.080	0.720	0.030	-0.690
13.	27: 9:59:18	-1.297	-0.839	-0.030	0.860	1.430	0.920	0.040	-0.870
14.	27: 9:59:55	-1.315	-0.839	-0.030	0.860	1.430	0.950	0.040	-0.890
15.	27:10: 1: 7	-1.315	-0.839	-0.030	0.860	1.430	0.950	0.040	-0.890
16.	27:10: 2:19	-1.315	-0.839	-0.040	0.860	1.440	0.950	0.040	-0.890
17.	27:10: 3:32	-1.315	-0.838	-0.050	0.870	1.430	0.930	0.040	-0.890
18.	27:10: 4:44	-1.287	-0.838	-0.060	0.860	1.420	0.920	0.040	-0.870
19.	27:10: 5:56	-1.286	-0.839	-0.060	0.840	1.390	0.920	0.030	-0.870
20.	27:10: 7: 9	-1.227	-0.810	-0.050	0.800	1.350	0.880	0.040	-0.840
21.	27:10: 8:21	-1.169	-0.753	-0.040	0.760	1.260	0.830	0.030	-0.780
22.	27:10:10:46	-1.023	-0.667	-0.030	0.700	1.140	0.710	0.040	-0.710

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.24	CH.23	CH.22
1.	27: 9:31:37	710.000	1390.000	730.000	1290.000	1600.000	1140.000	1020.000	730.000
2.	27: 9:37:37	4820.000	6000.000	6000.000	8520.000	8020.000	8470.000	5570.000	5520.000
3.	27: 9:39:44	9260.000	10850.000	11790.000	16920.000	15890.000	16500.000	11020.000	11360.000
4.	27: 9:42:26	13880.000	16610.000	18630.000	22770.000	24190.000	22520.000	17590.000	16060.000
5.	27: 9:44:15	19430.000	22770.000	26260.000	31860.000	33330.000	31260.000	24580.000	22410.000
6.	27: 9:45:27	24270.000	28620.000	33770.000	40750.000	42580.000	40020.000	31590.000	28150.000
7.	27: 9:47:34	26800.000	31500.000	37440.000	45470.000	47520.000	44770.000	35510.000	30820.000
8.	27: 9:50:34	34770.000	40370.000	48570.000	58010.000	61600.000	57330.000	46140.000	39410.000
9.	27: 9:53:35	37310.000	43810.000	53620.000	62790.000	67080.000	62390.000	50340.000	42980.000
10.	27: 9:56: 0	42700.000	49800.000	59770.000	70640.000	75490.000	70550.000	56540.000	48680.000
11.	27: 9:56:36	45620.000	52750.000	63370.000	73790.000	80240.000	73850.000	60090.000	51510.000
12.	27: 9:57:48	48470.000	56380.000	66770.000	76090.000	83760.000	77270.000	63800.000	54260.000
13.	27: 9:59:18	67630.000	52050.000	60680.000	71130.000	83970.000	73490.000	64330.000	49540.000
14.	27: 9:59:55	66150.000	48760.000	58760.000	68630.000	79060.000	72690.000	59900.000	46830.000
15.	27:10: 1: 7	59430.000	42970.000	53470.000	60170.000	71700.000	67880.000	51620.000	40750.000
16.	27:10: 2:19	50500.000	35690.000	46380.000	51300.000	62050.000	58540.000	44470.000	34200.000
17.	27:10: 3:32	41030.000	29000.000	39110.000	42690.000	52200.000	49060.000	37070.000	28830.000
18.	27:10: 4:44	32490.000	22890.000	32400.000	35160.000	42940.000	40630.000	30000.000	22950.000
19.	27:10: 5:56	21650.000	16410.000	24140.000	26510.000	32060.000	30790.000	21450.000	16320.000
20.	27:10: 7: 9	10460.000	10930.000	16540.000	18140.000	21890.000	20870.000	13300.000	10700.000
21.	27:10: 8:21	4940.000	4170.000	9520.000	10330.000	12800.000	11560.000	6620.000	5650.000
22.	27:10:10:46	2950.000	930.000	5010.000	6060.000	6500.000	6040.000	3010.000	3050.000

ROD CHANNELS

	TIME	CH.59	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50	CH.20
1.	27: 9:31:37	-64.059	-25.624	12.812	64.059	-230.612	320.295	64.059	204.989
2.	27: 9:37:37	-76.871	-38.435	25.624	-128.118	-179.365	294.671	0.0	-102.494
3.	27: 9:39:44	-140.930	-25.624	25.624	-140.930	-243.424	281.859	-102.494	-38.435
4.	27: 9:42:26	-230.612	-25.624	25.624	-76.871	-179.365	243.424	-179.365	12.812
5.	27: 9:44:15	-166.553	-25.624	25.624	-166.553	-204.989	192.177	-243.424	256.236
6.	27: 9:45:27	140.930	-12.812	25.624	-384.354	-358.730	115.306	-294.671	1140.250
7.	27: 9:47:34	204.989	-12.812	38.435	-525.284	-448.413	115.306	-307.483	1511.792
8.	27: 9:50:34	307.483	-12.812	25.624	-653.402	-499.660	102.494	-269.048	2331.747
9.	27: 9:53:35	294.671	-12.812	-25.624	-807.143	-550.907	102.494	-192.177	2703.289
10.	27: 9:56: 0	294.671	-12.812	-38.435	-909.637	-550.907	89.683	-38.435	2933.902
11.	27: 9:56:36	204.989	-25.624	-25.624	-922.449	-499.660	89.683	0.0	3049.208
12.	27: 9:57:48	-12.812	-256.236	-51.247	-512.472	128.118	204.989	25.624	2933.902
13.	27: 9:59:18	25.624	-25.624	-794.331	-1422.109	-499.660	2434.241	217.801	2780.160
14.	27: 9:59:55	12.812	-25.624	-948.073	-1422.109	-499.660	2549.548	230.612	2664.854
15.	27:10: 1: 7	-102.494	-12.812	-1089.003	-1140.250	-281.859	2575.171	230.612	2203.629
16.	27:10: 2:19	-204.989	-25.624	-1178.685	-871.202	-64.059	2549.548	243.424	1755.216
17.	27:10: 3:32	-217.801	-25.624	-1191.497	-679.025	76.871	2472.677	230.612	1486.168
18.	27:10: 4:44	-153.742	-25.624	-1127.438	-589.343	115.306	2331.747	217.801	1422.109
19.	27:10: 5:56	-128.118	-25.624	-781.520	-474.036	128.118	1960.205	153.742	1293.991
20.	27:10: 7: 9	-115.306	-25.624	-153.742	-333.107	166.553	1255.556	25.624	1050.567
21.	27:10: 8:21	-12.812	-25.624	-38.435	-12.812	384.354	448.413	12.812	999.320
22.	27:10:10:46	51.247	896.826	38.435	128.118	281.859	115.306	-512.472	371.542

A V E R A G E L O A D

1.	1076.250
2.	6615.000
3.	12948.750
4.	19031.250
5.	26487.500
6.	33718.750
7.	37478.750
8.	48275.000
9.	52540.000
10.	59271.250
11.	62652.500
12.	65850.000
13.	65352.500
14.	62597.500
15.	55998.750
16.	47891.250
17.	39873.750
18.	32432.500
19.	23666.250
20.	15353.750
21.	8198.750
22.	4193.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 13

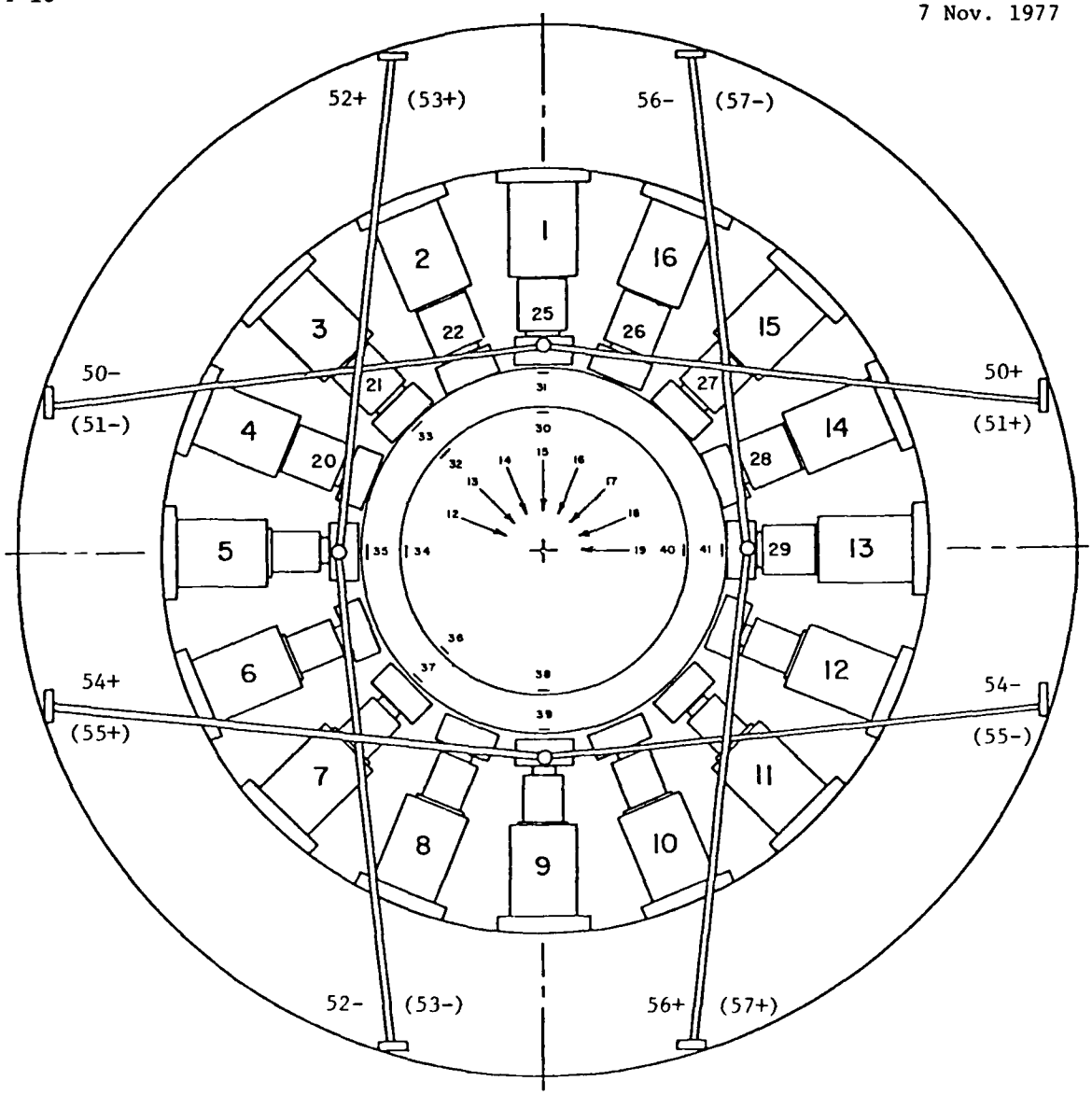
3.2.3 SPECIMEN #4

TEST NO. 20
COMPOSITE INTEGRAL LINER
1:1 LOADING RATIO
TESTED 7 NOVEMBER 1977

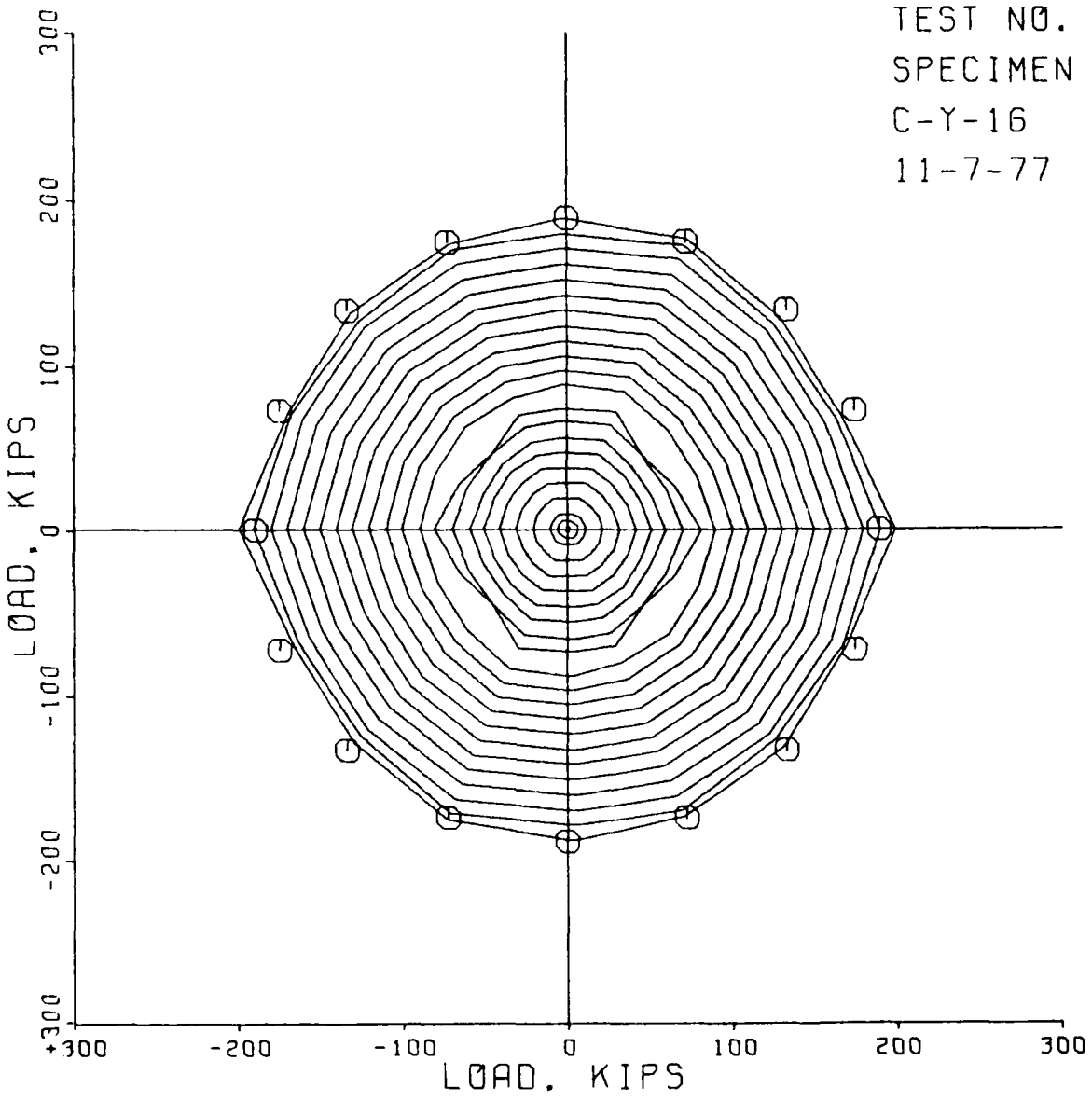
REACTION FRAME TEST SET-UP

Specimen #4
C-Y-16

Test #20
1:1 Load
7 Nov. 1977



CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 2" from top. Odd gages on Rebar.
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).


TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
LOAD, KIPS
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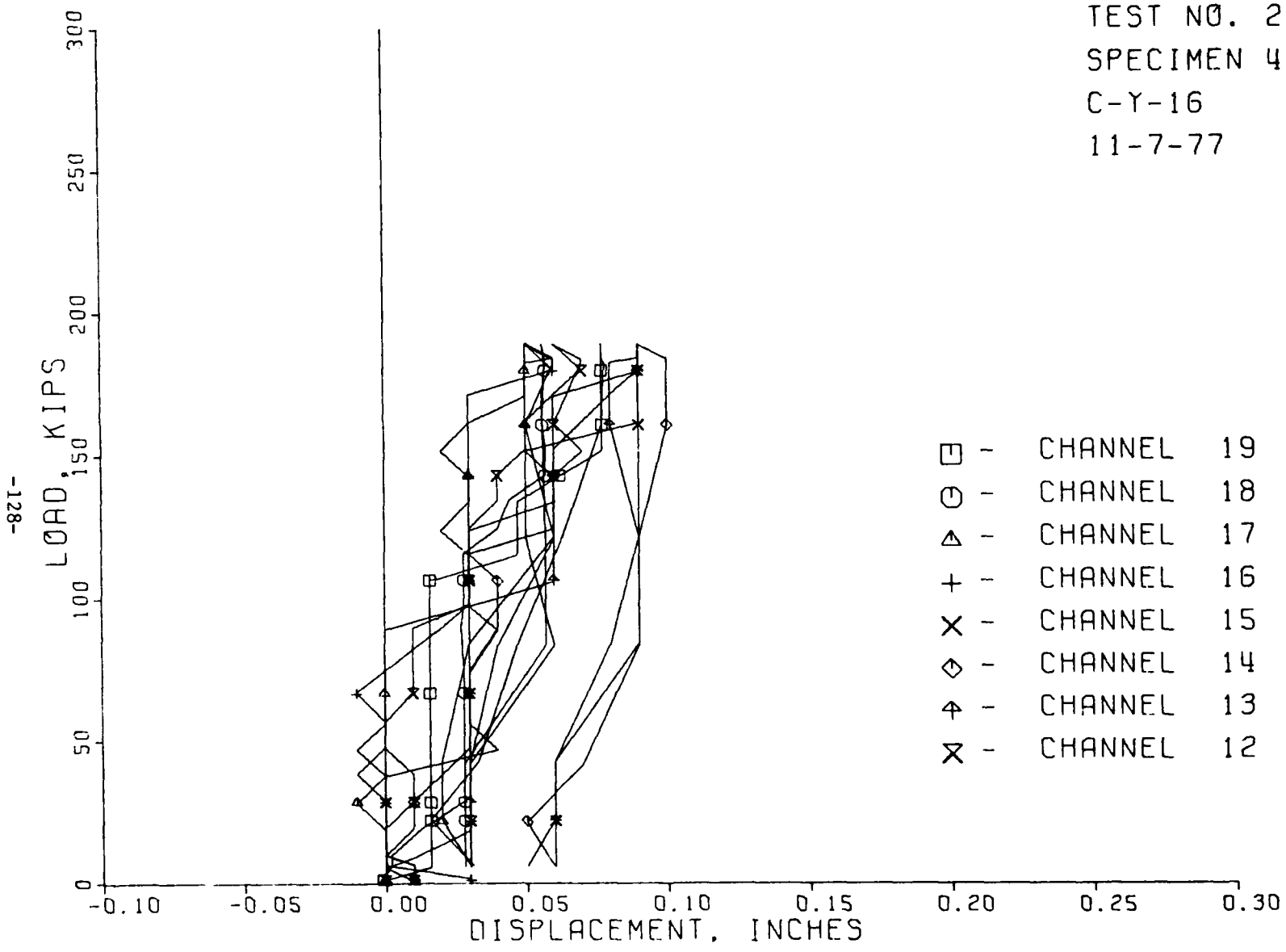
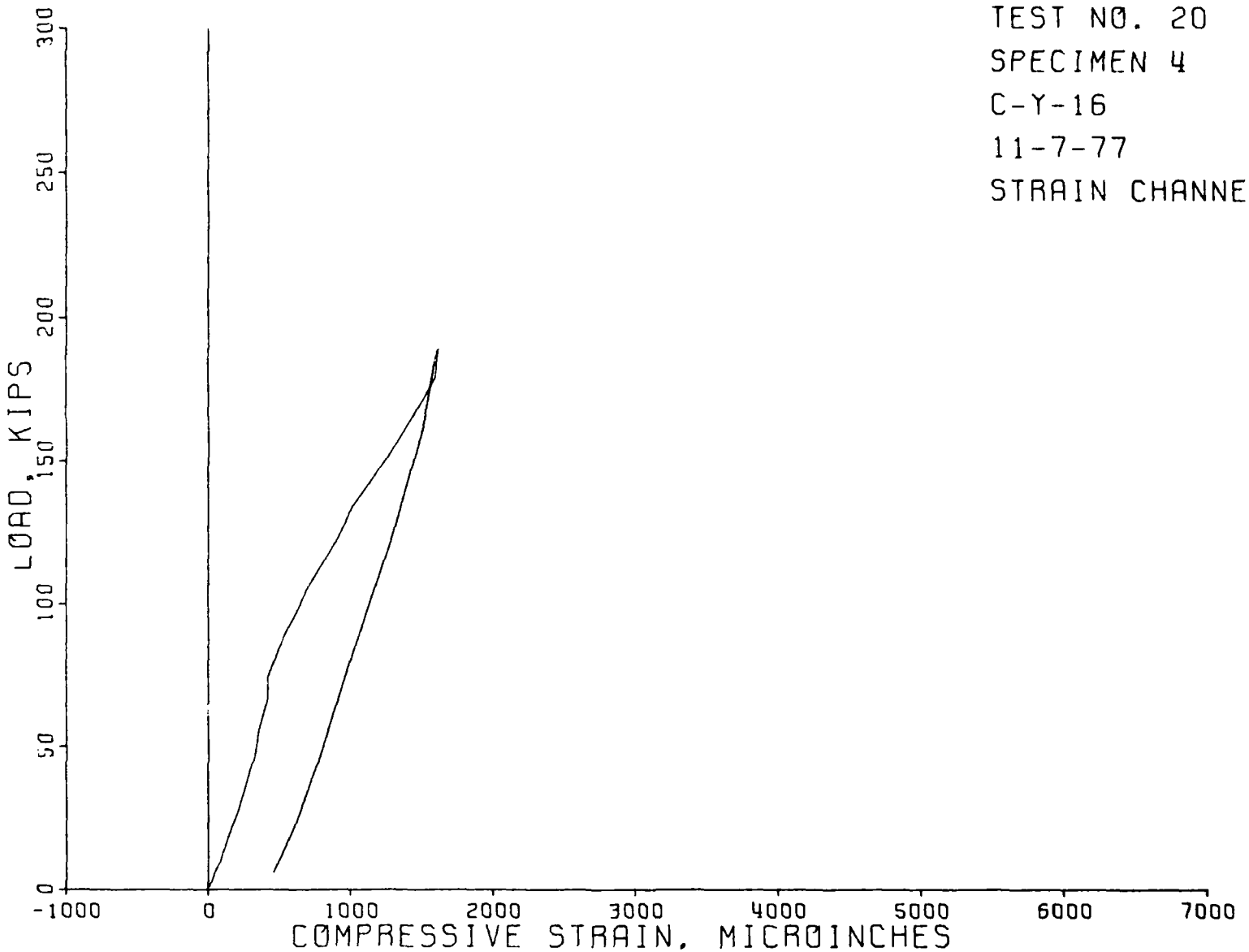
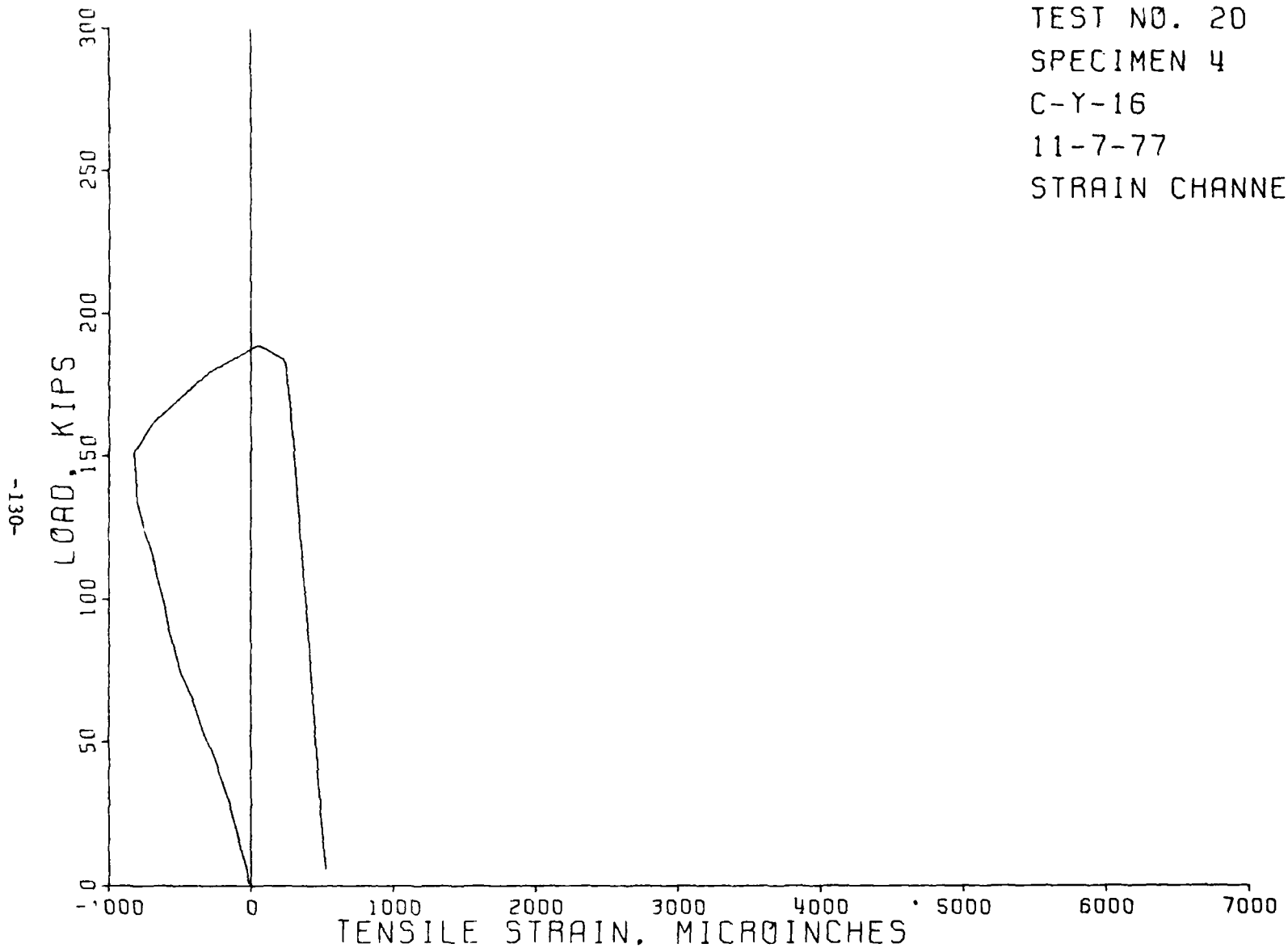
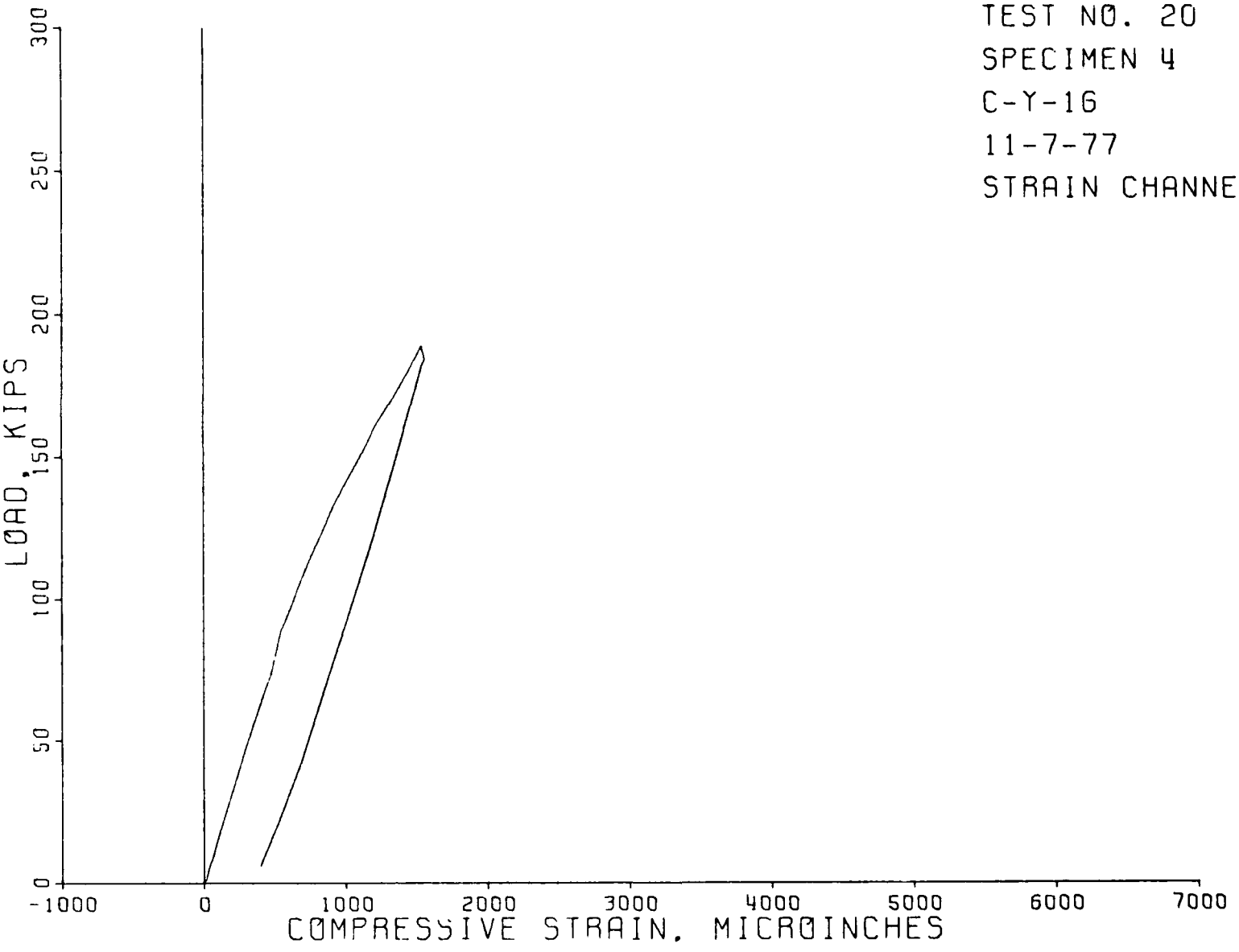
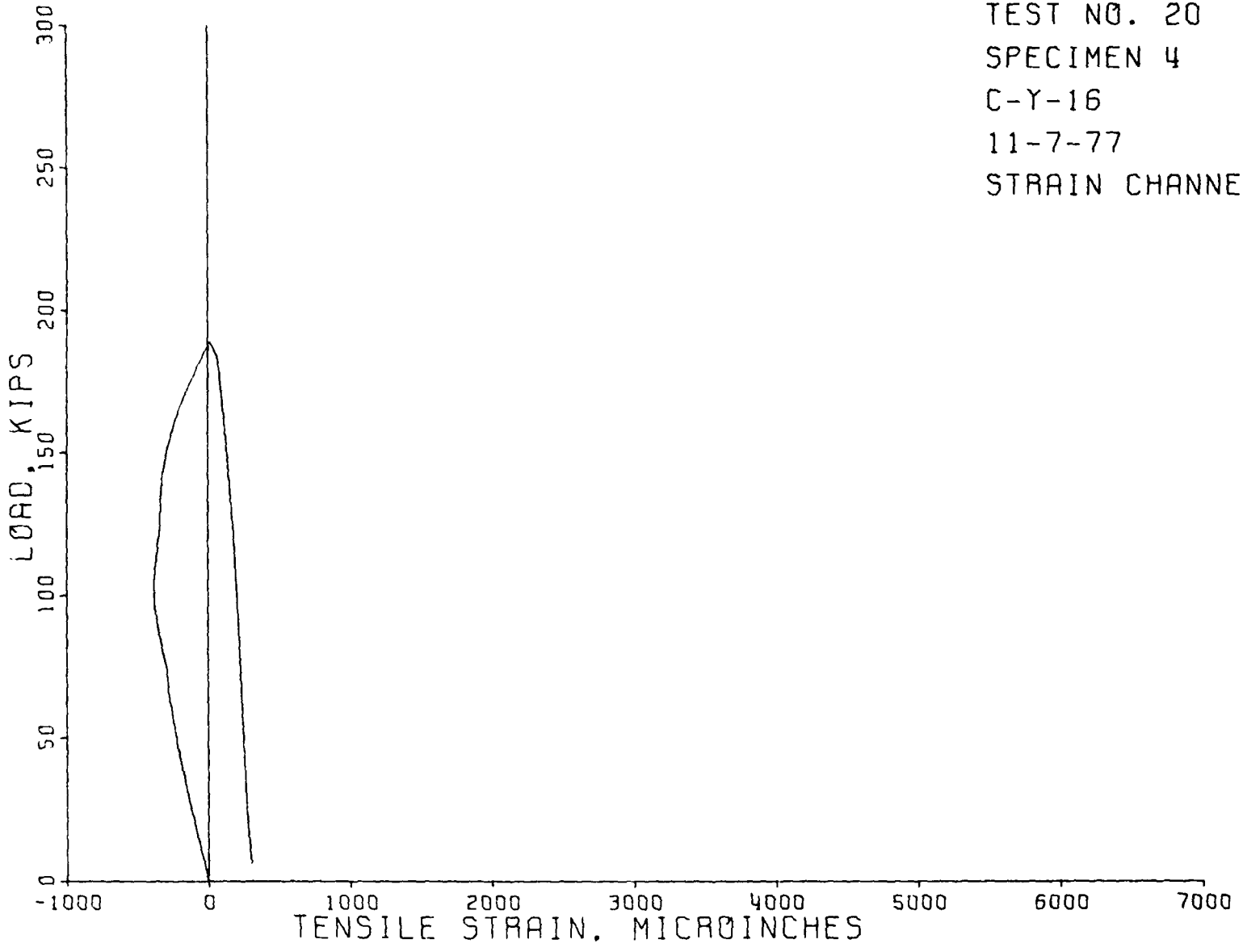
100
0
-100
-200
-300
+300
-200
-100
0
100
200
300
LOAD. KIPS

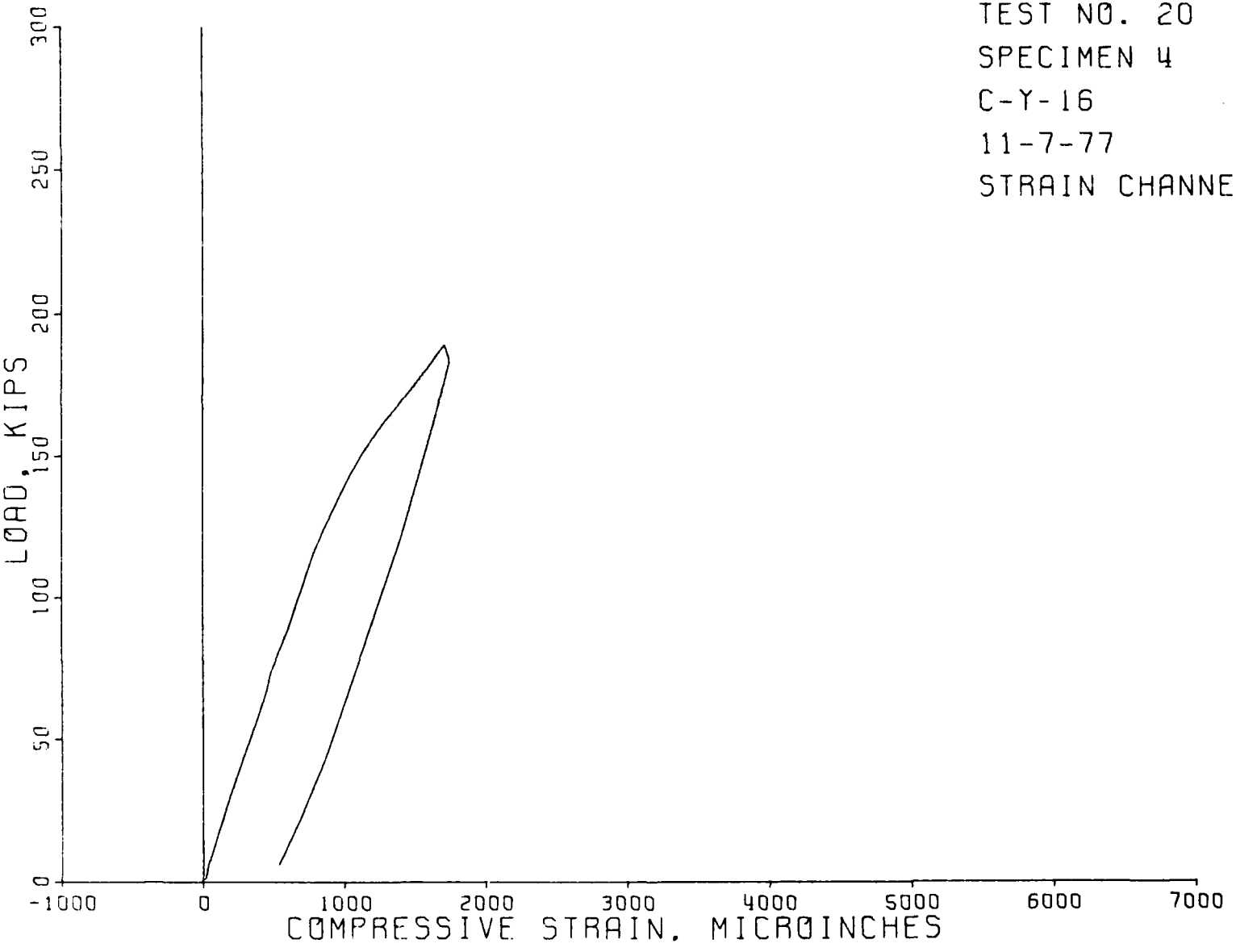

TEST NØ. 20
SPECIMEN 4
C-Y-16
11-7-77
LØAD, KIPS
0
50
100
150
200
250
300
-0.10
-0.05
0.00
0.05
0.10
0.15
0.20
0.25
0.30
DISPLACEMENT, INCHES
- CHANNEL 19
- CHANNEL 18
- CHANNEL 17
- CHANNEL 16
- CHANNEL 15
- CHANNEL 14
- CHANNEL 13
- CHANNEL 12

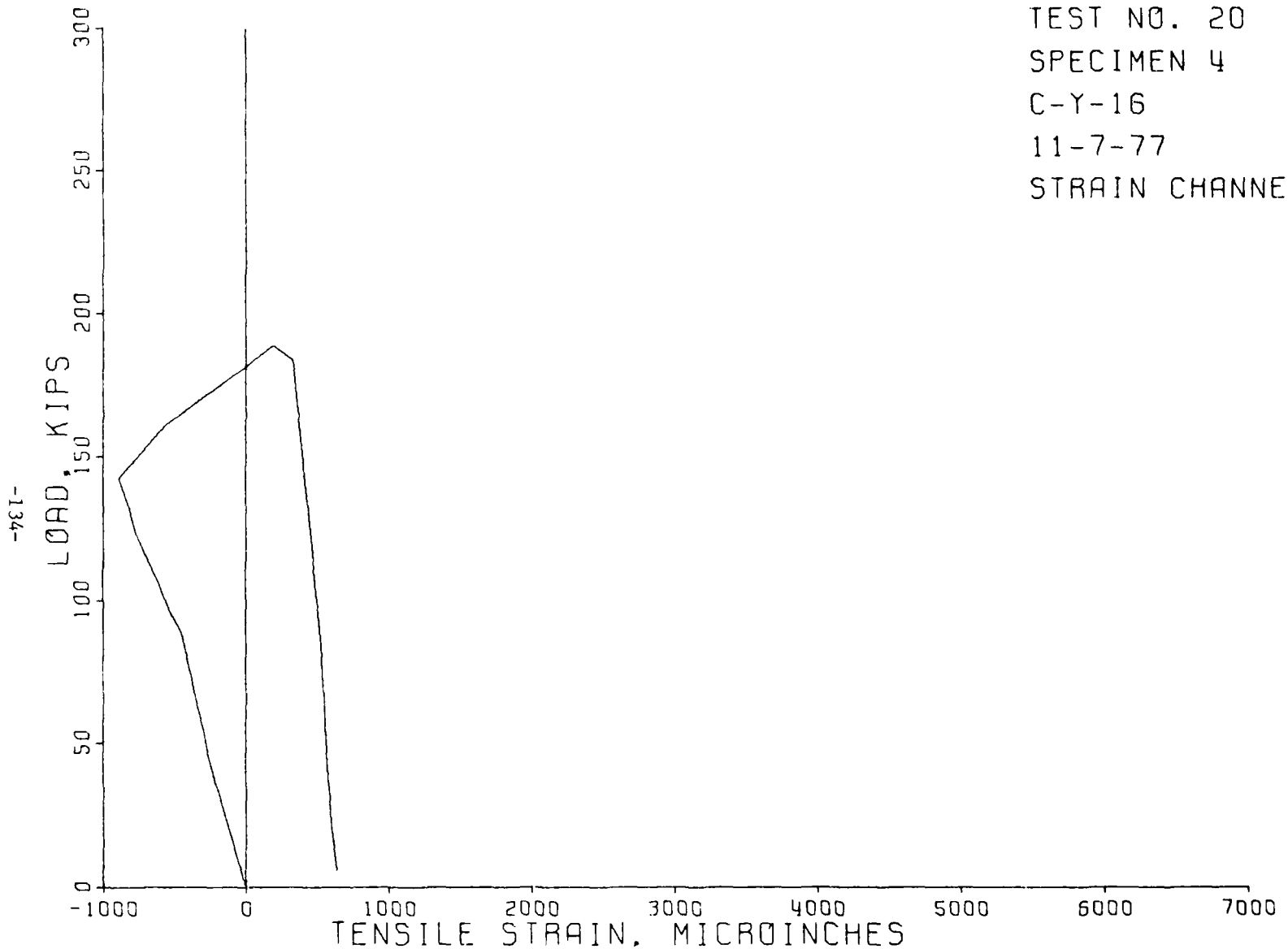

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

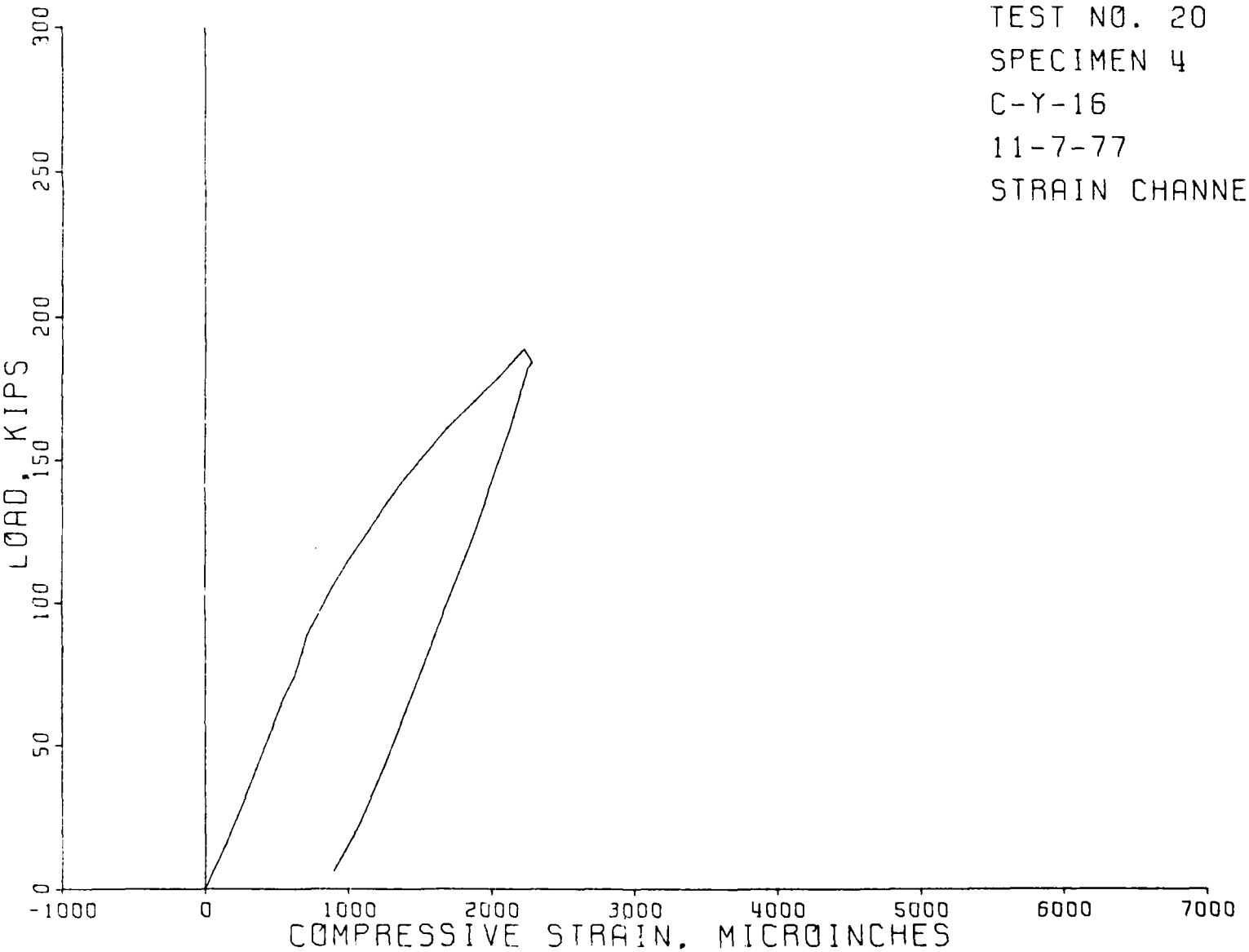

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

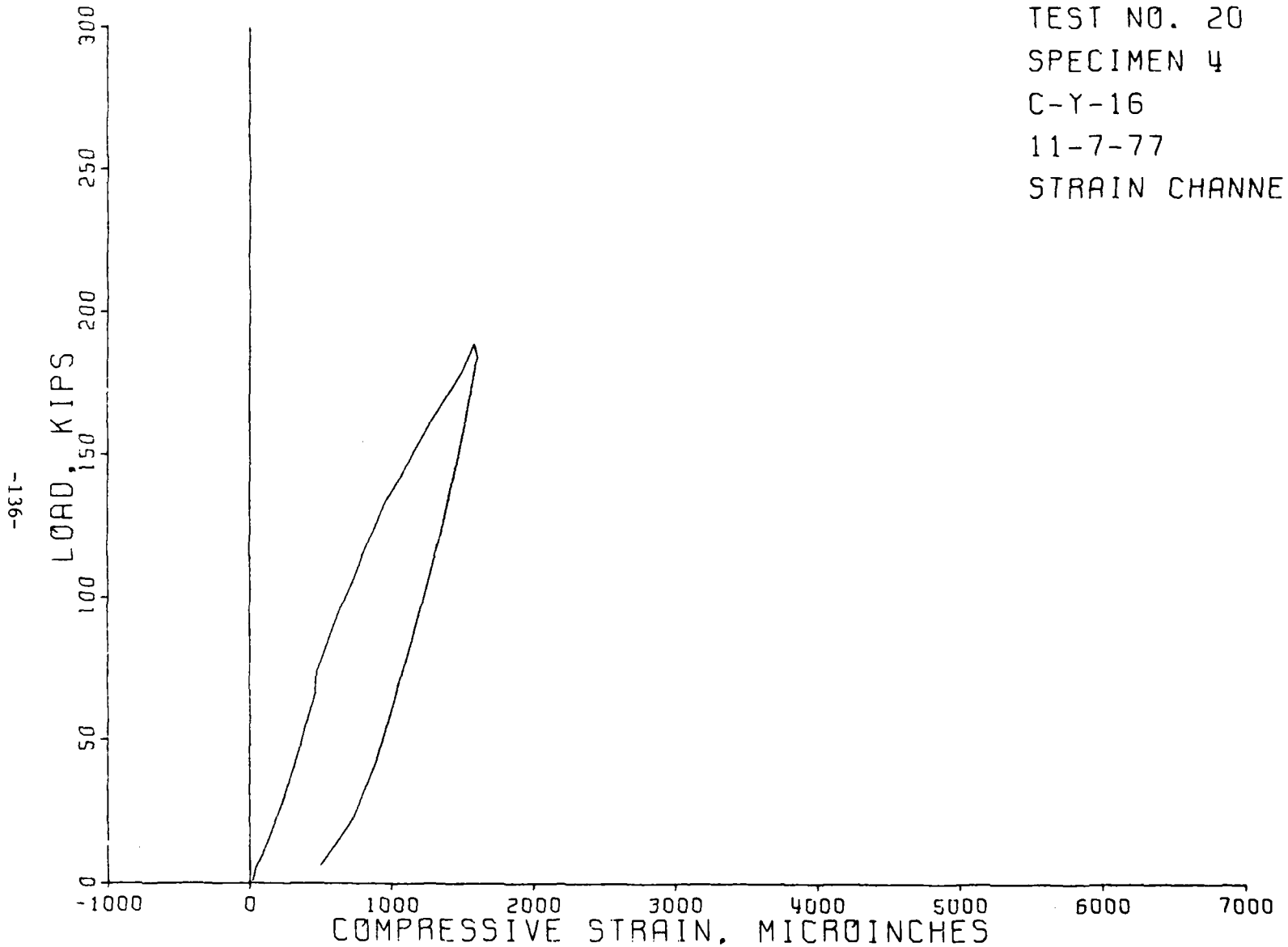

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

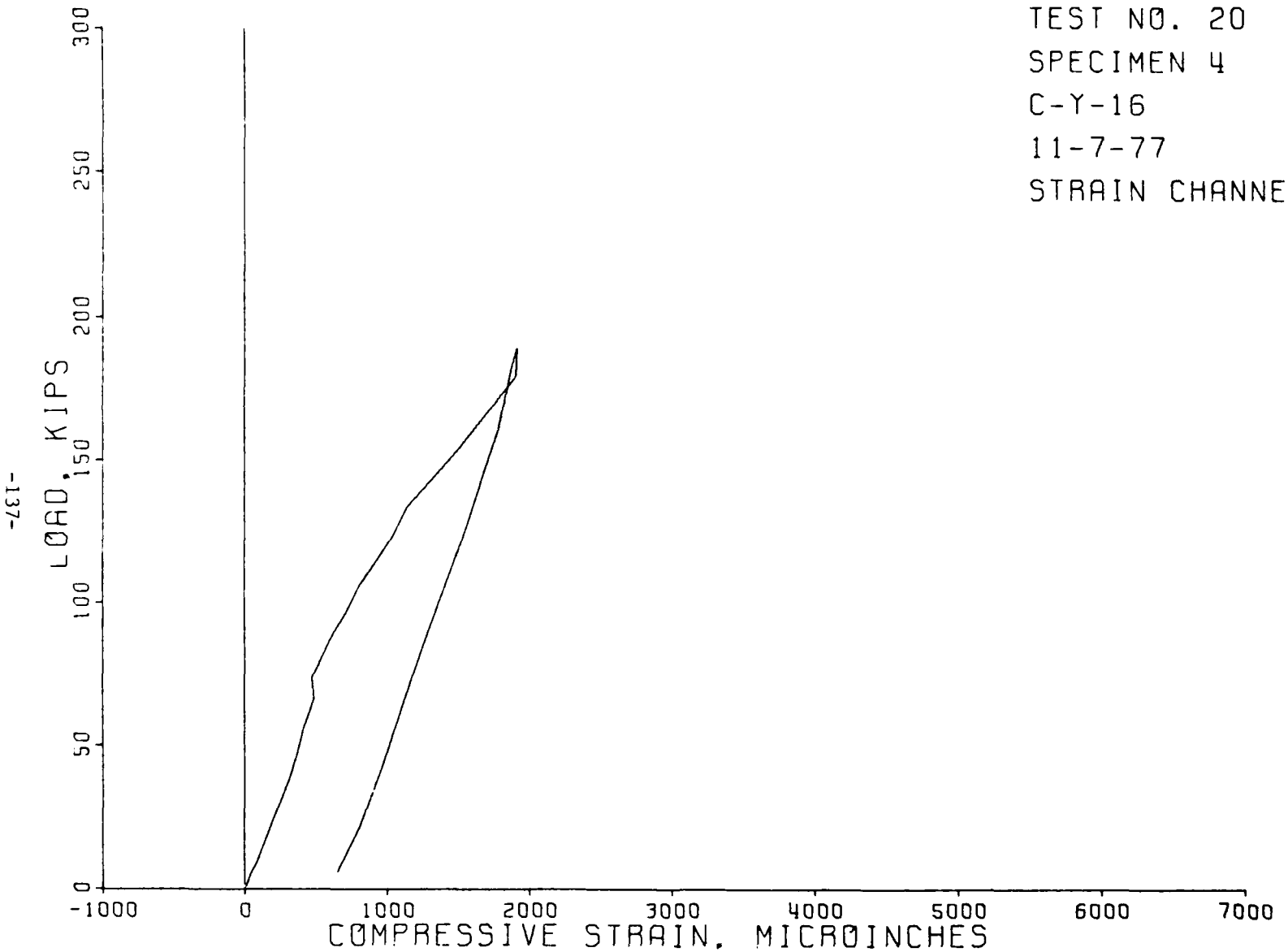

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

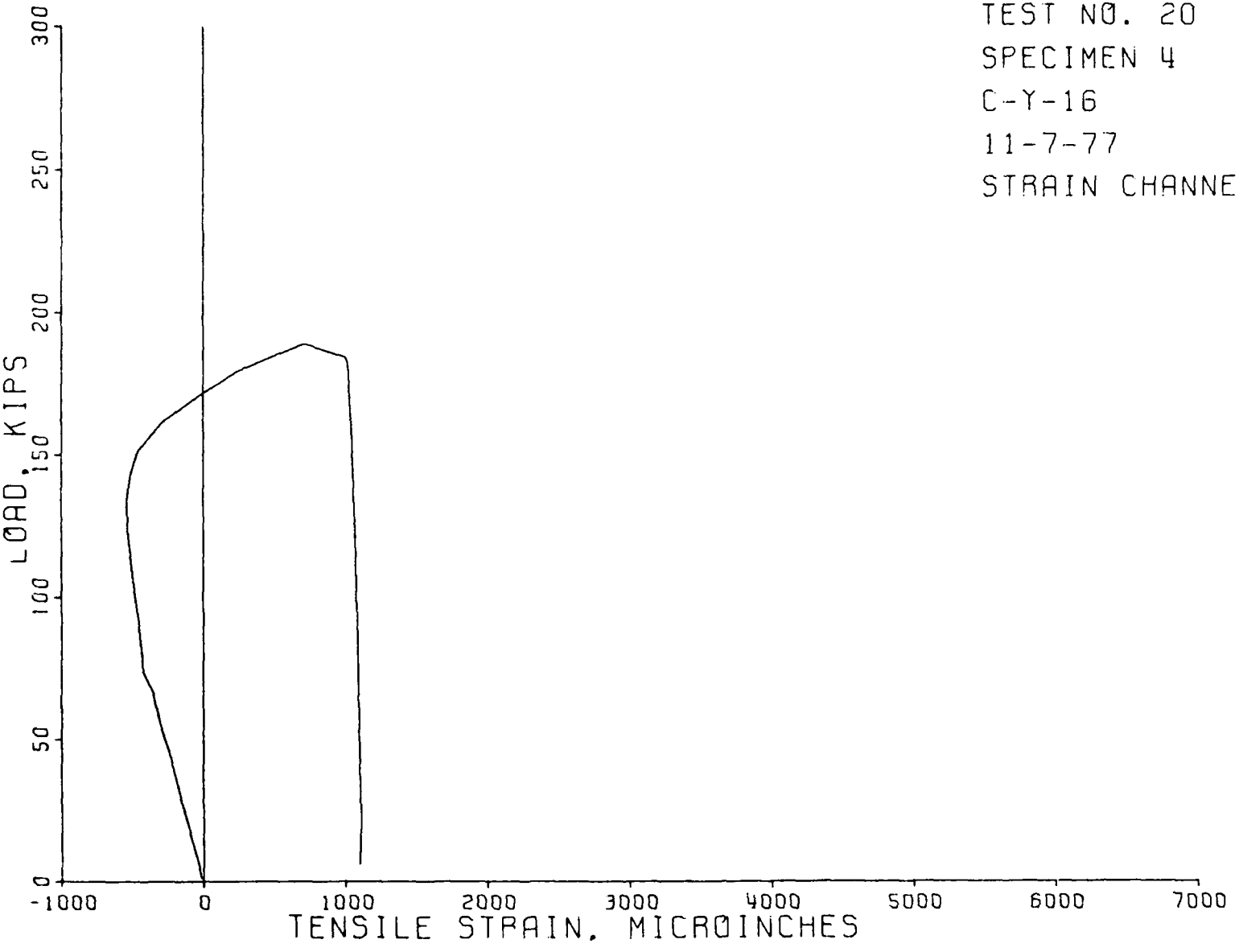

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

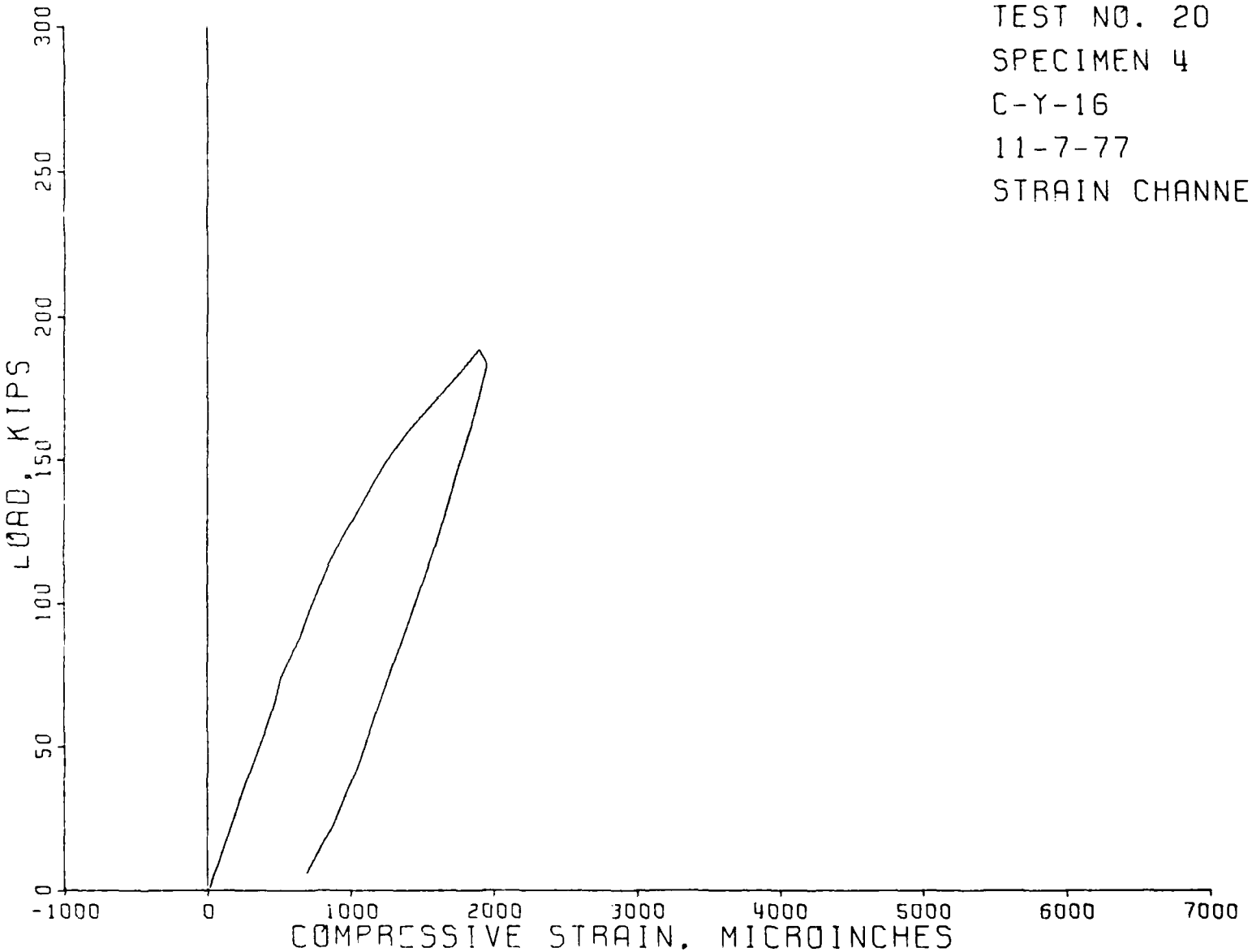

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

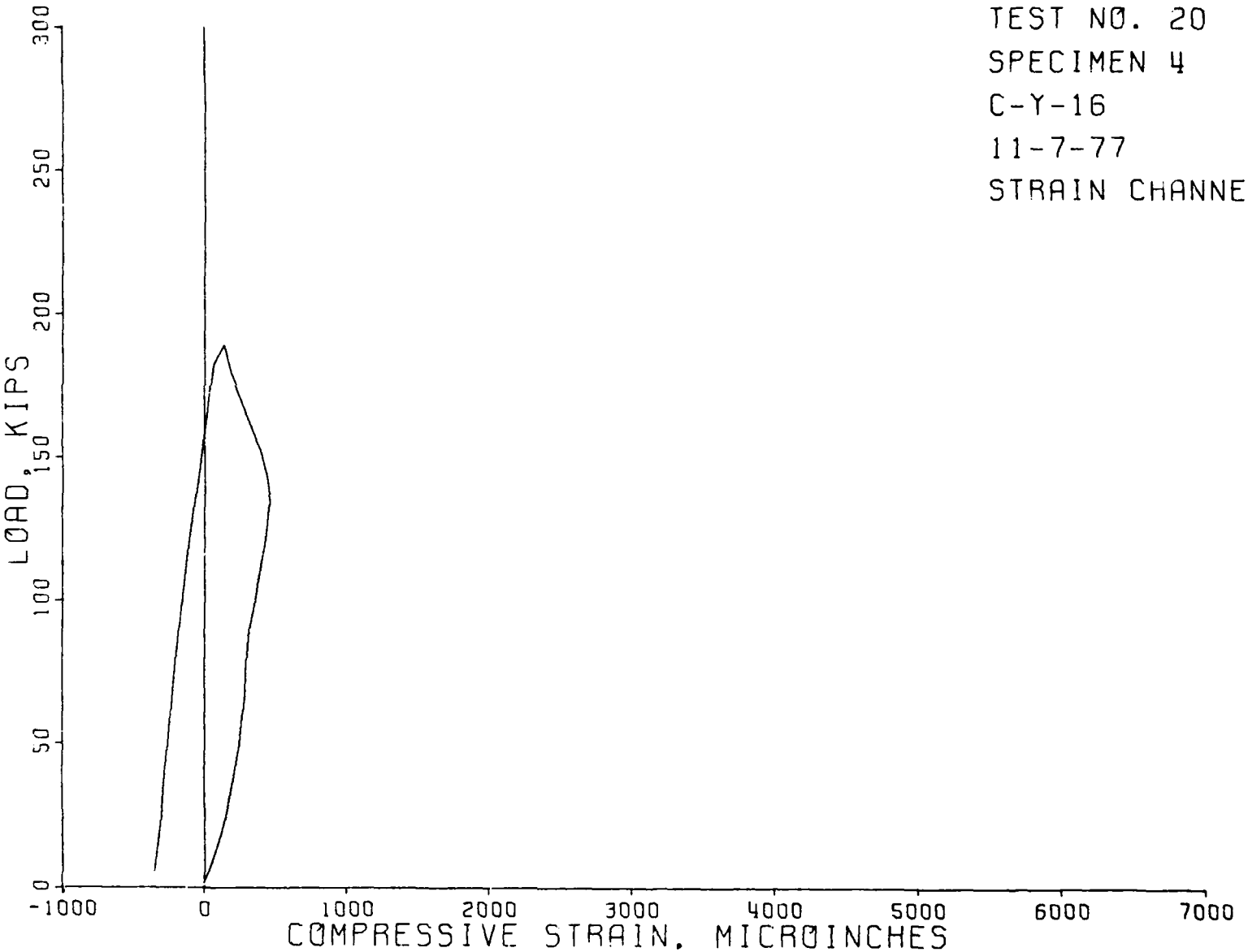

TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 20
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 20 SPECIMEN 4 C-Y-16 11-7-77

NUMBER OF INCREMENTS= 30
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
41	1.000
40	1.000
39	1.000
38	1.000
37	1.000
36	1.000

35	1.000
34	1.000
33	1.000
32	1.000
31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.000
18	0.000
17	0.010
16	0.010
15	0.010
14	0.010
13	0.010
12	0.010

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
57	1.000
56	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000

STRAIN CHANNELS

	TIME	CH.41	CH.40	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34
1.	7: 8:42:23	-2.000	-17.000	-16.000	-11.000	-18.000	-12.000	-5.000	-13.000
2.	7: 8:42:54	-33.000	-43.000	-34.000	-45.000	-46.000	-48.000	-32.000	-35.000
3.	7: 8:43:25	-61.000	-74.000	-55.000	-83.000	-84.000	-84.000	-55.000	-61.000
4.	7: 8:44:28	-123.000	-142.000	-106.000	-160.000	-162.000	-168.000	-110.000	-121.000
5.	7: 8:45:30	-172.000	-206.000	-155.000	-236.000	-233.000	-248.000	-167.000	-182.000
6.	7: 8:46:33	-212.000	-270.000	-201.000	-309.000	-295.000	-325.000	-221.000	-243.000
7.	7: 8:47:35	-239.000	-338.000	-250.000	-372.000	-355.000	-394.000	-263.000	-310.000
8.	7: 8:48:38	-259.000	-408.000	-308.000	-417.000	-401.000	-465.000	-298.000	-376.000
9.	7: 8:49:40	-286.000	-479.000	-354.000	-489.000	-463.000	-547.000	-356.000	-443.000
10.	7: 8:50:43	-288.000	-516.000	-423.000	-473.000	-474.000	-620.000	-378.000	-479.000
11.	7: 8:51:45	-313.000	-653.000	-457.000	-618.000	-585.000	-716.000	-450.000	-607.000
12.	7: 8:52:48	-349.000	-714.000	-475.000	-718.000	-650.000	-804.000	-538.000	-658.000
13.	7: 8:53:50	-377.000	-791.000	-501.000	-807.000	-729.000	-894.000	-607.000	-722.000
14.	7: 8:54:53	-410.000	-864.000	-520.000	-930.000	-801.000	-1001.000	-697.000	-781.000
15.	7: 8:55:55	-436.000	-954.000	-539.000	-1045.000	-877.000	-1118.000	-769.000	-854.000
16.	7: 8:56:58	-456.000	-1069.000	-547.000	-1146.000	-959.000	-1250.000	-824.000	-949.000
17.	7: 8:58:16	-434.000	-1169.000	-522.000	-1305.000	-1068.000	-1379.000	-886.000	-1034.000
18.	7: 8:59:19	-388.000	-1282.000	-465.000	-1465.000	-1163.000	-1528.000	-724.000	-1138.000
19.	7: 9: 0:22	-317.000	-1420.000	-294.000	-1619.000	-1278.000	-1693.000	-550.000	-1274.000
20.	7: 9: 1:24	-246.000	-1586.000	-34.000	-1771.000	-1394.000	-1878.000	-293.000	-1431.000
21.	7: 9: 2:27	-181.000	-1745.000	234.000	-1903.000	-1505.000	-2053.000	-53.000	-1571.000
22.	7: 9: 3:29	-135.000	-1901.000	693.000	-1917.000	-1587.000	-2224.000	190.000	-1711.000
23.	7: 9: 6:22	-73.000	-1949.000	998.000	-1883.000	-1609.000	-2286.000	330.000	-1743.000
24.	7: 9: 6:53	-59.000	-1950.000	1014.000	-1873.000	-1601.000	-2255.000	340.000	-1746.000
25.	7: 9: 8:11	-6.000	-1837.000	1041.000	-1785.000	-1521.000	-2130.000	379.000	-1632.000
26.	7: 9:10:32	109.000	-1607.000	1066.000	-1525.000	-1343.000	-1859.000	461.000	-1405.000
27.	7: 9:12:37	195.000	-1342.000	1086.000	-1252.000	-1140.000	-1572.000	528.000	-1151.000
28.	7: 9:14:43	273.000	-1045.000	1101.000	-965.000	-897.000	-1248.000	577.000	-861.000
29.	7: 9:16: 1	311.000	-875.000	1110.000	-815.000	-731.000	-1075.000	601.000	-691.000
30.	7: 9:17: 4	355.000	-695.000	1102.000	-657.000	-500.000	-897.000	641.000	-536.000

STRAIN CHANNELS

	TIME	CH.33	CH.32	CH.31	CH.30	CH.
1.	7: 8:42:23	-6.000	-13.000	-16.000	-11.000	
2.	7: 8:42:54	-25.000	-41.000	-32.000	-44.000	
3.	7: 8:43:25	-46.000	-64.000	-50.000	-78.000	
4.	7: 8:44:28	-91.000	-122.000	-99.000	-146.000	
5.	7: 8:45:30	-134.000	-181.000	-152.000	-213.000	
6.	7: 8:46:33	-176.000	-240.000	-209.000	-277.000	
7.	7: 8:47:35	-215.000	-296.000	-274.000	-331.000	
8.	7: 8:48:38	-243.000	-356.000	-353.000	-362.000	
9.	7: 8:49:40	-281.000	-423.000	-418.000	-422.000	
10.	7: 8:50:43	-288.000	-480.000	-492.000	-420.000	
11.	7: 8:51:45	-356.000	-552.000	-574.000	-537.000	
12.	7: 8:52:48	-382.000	-618.000	-606.000	-627.000	
13.	7: 8:53:50	-382.000	-686.000	-651.000	-705.000	
14.	7: 8:54:53	-359.000	-762.000	-691.000	-815.000	
15.	7: 8:55:55	-341.000	-841.000	-744.000	-920.000	
16.	7: 8:56:58	-335.000	-924.000	-799.000	-1008.000	
17.	7: 8:58:16	-319.000	-1019.000	-811.000	-1141.000	
18.	7: 8:59:19	-284.000	-1120.000	-819.000	-1266.000	
19.	7: 9: 0:22	-231.000	-1221.000	-689.000	-1384.000	
20.	7: 9: 1:24	-158.000	-1337.000	-495.000	-1498.000	
21.	7: 9: 2:27	-80.000	-1437.000	-297.000	-1599.000	
22.	7: 9: 3:29	11.000	-1533.000	47.000	-1616.000	
23.	7: 9: 6:22	66.000	-1562.000	232.000	-1590.000	
24.	7: 9: 6:53	71.000	-1538.000	245.000	-1583.000	
25.	7: 9: 8:11	114.000	-1420.000	291.000	-1503.000	
26.	7: 9:10:32	181.000	-1195.000	351.000	-1279.000	
27.	7: 9:12:37	218.000	-954.000	408.000	-1027.000	
28.	7: 9:14:43	253.000	-688.000	467.000	-758.000	
29.	7: 9:16: 1	275.000	-534.000	497.000	-610.000	
30.	7: 9:17: 4	306.000	-400.000	524.000	-460.000	

DISPLACEMENT CHANNELS

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	7: 8:42:23	-0.001	-0.001	0.0	0.030	0.0	0.010	0.010	0.010
2.	7: 8:42:54	0.016	0.002	0.0	0.0	0.0	0.010	0.0	0.010
3.	7: 8:43:25	0.016	0.002	0.0	0.0	0.0	0.0	0.010	0.0
4.	7: 8:44:28	0.016	0.013	0.0	0.0	0.0	0.010	0.030	0.0
5.	7: 8:45:30	0.016	0.028	-0.010	0.0	0.0	0.010	0.030	0.010
6.	7: 8:46:33	0.016	0.028	0.0	-0.010	0.0	0.020	0.030	0.010
7.	7: 8:47:35	0.016	0.028	-0.010	0.0	0.040	0.030	0.030	0.0
8.	7: 8:48:38	0.016	0.028	0.0	0.0	0.030	0.030	0.030	0.0
9.	7: 8:49:40	0.016	0.028	0.0	-0.010	0.030	0.030	0.030	0.010
10.	7: 8:50:43	0.016	0.028	0.0	0.0	0.030	0.030	0.030	0.010
11.	7: 8:51:45	0.016	0.027	0.0	0.020	0.040	0.040	0.030	0.010
12.	7: 8:52:48	0.016	0.028	0.030	0.030	0.030	0.040	0.030	0.030
13.	7: 8:53:50	0.016	0.028	0.030	0.030	0.030	0.040	0.060	0.030
14.	7: 8:54:53	0.047	0.028	0.030	0.030	0.030	0.030	0.060	0.030
15.	7: 8:55:55	0.047	0.040	0.020	0.030	0.030	0.060	0.060	0.030
16.	7: 8:56:58	0.047	0.044	0.030	0.030	0.060	0.060	0.060	0.040
17.	7: 8:58:16	0.062	0.057	0.030	0.030	0.060	0.060	0.060	0.040
18.	7: 8:59:19	0.077	0.057	0.020	0.030	0.070	0.060	0.050	0.050
19.	7: 9: 0:22	0.077	0.056	0.030	0.030	0.060	0.070	0.090	0.050
20.	7: 9: 1:24	0.077	0.056	0.050	0.030	0.060	0.080	0.090	0.060
21.	7: 9: 2:27	0.077	0.057	0.050	0.060	0.090	0.090	0.090	0.070
22.	7: 9: 3:29	0.077	0.056	0.050	0.050	0.090	0.090	0.090	0.060
23.	7: 9: 6:22	0.077	0.057	0.060	0.060	0.090	0.100	0.090	0.070
24.	7: 9: 6:53	0.078	0.057	0.050	0.060	0.090	0.100	0.080	0.070
25.	7: 9: 8:11	0.077	0.056	0.050	0.050	0.090	0.100	0.080	0.060
26.	7: 9:10:32	0.063	0.057	0.060	0.050	0.090	0.090	0.090	0.060
27.	7: 9:12:37	0.047	0.057	0.030	0.060	0.090	0.090	0.080	0.040
28.	7: 9:14:43	0.033	0.028	0.020	0.030	0.060	0.070	0.060	0.030
29.	7: 9:16: 1	0.016	0.028	0.020	0.030	0.060	0.050	0.060	0.030
30.	7: 9:17: 4	0.031	0.028	0.030	0.030	0.060	0.060	0.050	0.030

L O A D C H A N N E L S

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	7: 8:42:23	1170.000	1350.000	1290.000	2100.000	960.000	1960.000	1340.000	1240.000
2.	7: 8:42:54	6070.000	6360.000	5660.000	5720.000	5720.000	5780.000	5530.000	5960.000
3.	7: 8:43:25	10920.000	10530.000	10360.000	10540.000	9190.000	10530.000	10220.000	10100.000
4.	7: 8:44:28	21240.000	20370.000	20060.000	20740.000	18660.000	20360.000	19720.000	20370.000
5.	7: 8:45:30	31490.000	30010.000	29690.000	30590.000	28230.000	29900.000	29360.000	30150.000
6.	7: 8:46:33	41380.000	39370.000	39100.000	40190.000	37710.000	39240.000	38900.000	39500.000
7.	7: 8:47:35	50970.000	47810.000	48110.000	49590.000	46960.000	48250.000	48250.000	47880.000
8.	7: 8:48:38	59550.000	55150.000	54840.000	58990.000	56070.000	56840.000	54820.000	54910.000
9.	7: 8:49:40	69760.000	65040.000	64250.000	69480.000	66420.000	66990.000	64140.000	65310.000
10.	7: 8:50:43	80810.000	70500.000	64210.000	78080.000	74090.000	75460.000	64220.000	70700.000
11.	7: 8:51:45	89730.000	85090.000	86590.000	91250.000	89240.000	86300.000	87530.000	86580.000
12.	7: 8:52:48	100380.000	95000.000	96360.000	101160.000	97410.000	96720.000	97140.000	96890.000
13.	7: 8:53:50	110050.000	104430.000	105630.000	110380.000	106230.000	106370.000	106660.000	106620.000
14.	7: 8:54:53	120490.000	114470.000	115610.000	119690.000	115130.000	115960.000	116490.000	116460.000
15.	7: 8:55:55	130380.000	124200.000	125140.000	129310.000	123890.000	125840.000	126280.000	126260.000
16.	7: 8:56:58	140200.000	132980.000	134280.000	139190.000	133930.000	135100.000	135710.000	135630.000
17.	7: 8:58:16	150080.000	142470.000	143700.000	148580.000	142680.000	144760.000	145370.000	145320.000
18.	7: 8:59:19	159790.000	151860.000	153060.000	158150.000	151800.000	154390.000	154960.000	155010.000
19.	7: 9: 0:22	169810.000	161060.000	162480.000	167810.000	161400.000	164010.000	164480.000	164510.000
20.	7: 9: 1:24	179540.000	170090.000	171520.000	177950.000	170870.000	174020.000	173880.000	173830.000
21.	7: 9: 2:27	190070.000	177190.000	177620.000	186790.000	179560.000	183250.000	179130.000	181070.000
22.	7: 9: 3:29	199070.000	180530.000	183140.000	190960.000	188910.000	187080.000	185930.000	183250.000
23.	7: 9: 6:22	190140.000	181700.000	175190.000	189740.000	183760.000	185920.000	179620.000	178690.000
24.	7: 9: 6:53	181710.000	181840.000	175390.000	184020.000	181910.000	181980.000	179590.000	178790.000
25.	7: 9: 8:11	160280.000	164200.000	159260.000	159730.000	160490.000	164870.000	160730.000	160810.000
26.	7: 9:10:32	121080.000	123600.000	123660.000	121140.000	121310.000	125930.000	123410.000	121620.000
27.	7: 9:12:37	81810.000	85190.000	84400.000	86240.000	83660.000	90310.000	85920.000	86920.000
28.	7: 9:14:43	41550.000	42000.000	43450.000	41230.000	42070.000	42560.000	43580.000	43010.000
29.	7: 9:16: 1	20520.000	21890.000	23010.000	21310.000	21850.000	21850.000	23240.000	22620.000
30.	7: 9:17: 4	4150.000	4160.000	5120.000	5060.000	5380.000	5240.000	6040.000	6030.000

ROD CHANNELS

	TIME	CH.57	CH.56	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50
1.	7: 8:42:23	-269.048	102.494	-38.435	12.812	140.930	-89.683	166.553	64.059
2.	7: 8:42:54	-243.424	102.494	-115.306	-115.306	140.930	-140.930	243.424	89.683
3.	7: 8:43:25	-192.177	153.742	-115.306	0.0	115.306	-140.930	269.048	-38.435
4.	7: 8:44:28	-166.553	217.801	-51.247	140.930	102.494	-204.989	230.612	-153.742
5.	7: 8:45:30	-115.306	243.424	12.812	243.424	76.871	-230.612	140.930	-217.801
6.	7: 8:46:33	-64.059	281.859	76.871	345.918	25.624	-256.236	12.812	-320.295
7.	7: 8:47:35	-25.624	307.483	140.930	409.978	-38.435	-307.483	-115.306	-384.354
8.	7: 8:48:38	12.812	345.918	179.365	474.036	-76.871	-358.730	-204.989	-435.601
9.	7: 8:49:40	25.624	371.542	269.048	602.154	-128.118	-397.166	-358.730	-550.907
10.	7: 8:50:43	76.871	448.413	269.048	589.343	-89.683	-409.978	-269.048	-435.601
11.	7: 8:51:45	64.059	461.225	409.978	743.084	-179.365	-448.413	-563.719	-743.084
12.	7: 8:52:48	51.247	486.848	563.719	948.073	-204.989	-435.601	-743.084	-1050.567
13.	7: 8:53:50	128.118	563.719	679.025	1024.944	-307.483	-486.848	-858.390	-1229.933
14.	7: 8:54:53	166.553	614.966	781.520	1101.814	-371.542	-525.284	-948.073	-1486.168
15.	7: 8:55:55	256.236	704.649	845.579	1140.250	-486.848	-602.154	-1037.756	-1652.722
16.	7: 8:56:58	333.107	794.331	922.449	1204.309	-563.719	-640.590	-1114.626	-1844.899
17.	7: 8:58:16	384.354	884.014	1050.567	1281.180	-627.778	-679.025	-1217.121	-2101.135
18.	7: 8:59:19	435.601	960.885	1127.438	1332.427	-704.649	-717.461	-1281.180	-2293.312
19.	7: 9: 0:22	474.036	1037.756	1204.309	1383.674	-743.084	-704.649	-1345.239	-2459.865
20.	7: 9: 1:24	512.472	1114.626	1281.180	1422.109	-768.708	-704.649	-1409.298	-2626.418
21.	7: 9: 2:27	550.907	1191.497	1332.427	1422.109	-807.143	-691.837	-1396.486	-2703.289
22.	7: 9: 3:29	512.472	1204.309	1268.368	1319.615	-781.520	-627.778	-1242.744	-2536.736
23.	7: 9: 6:22	512.472	1204.309	1229.933	1268.368	-781.520	-614.966	-1127.438	-2434.241
24.	7: 9: 6:53	486.848	1165.874	1204.309	1242.744	-755.896	-602.154	-1153.062	-2459.865
25.	7: 9: 8:11	166.553	845.579	1114.626	1140.250	-448.413	-281.859	-1037.756	-2306.124
26.	7: 9:10:32	-358.730	358.730	948.073	986.508	51.247	-12.812	-819.955	-1896.146
27.	7: 9:12:37	-358.730	243.424	845.579	909.637	38.435	-25.624	-614.966	-1486.168
28.	7: 9:14:43	-128.118	269.048	730.272	832.767	-153.742	-115.306	-486.848	-1178.685
29.	7: 9:16: 1	12.812	307.483	614.966	717.461	-243.424	-179.365	-422.789	-922.449
30.	7: 9:17: 4	307.483	435.601	358.730	486.848	-384.354	-435.601	-281.859	-512.472

A V E R A G E L O A D

1.	1426.250
2.	5850.000
3.	10298.750
4.	20190.000
5.	29927.500
6.	39423.750
7.	48477.500
8.	56396.250
9.	66423.750
10.	72258.750
11.	87788.750
12.	97632.500
13.	107046.250
14.	116787.500
15.	126412.500
16.	135877.500
17.	145370.000
18.	154877.500
19.	164445.000
20.	173962.500
21.	181835.000
22.	187358.750
23.	183095.000
24.	180653.750
25.	161296.250
26.	122718.750
27.	85556.250
28.	42431.250
29.	22036.250
30.	5147.500

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 22

3.2.4 RELOAD OF SPECIMEN #4

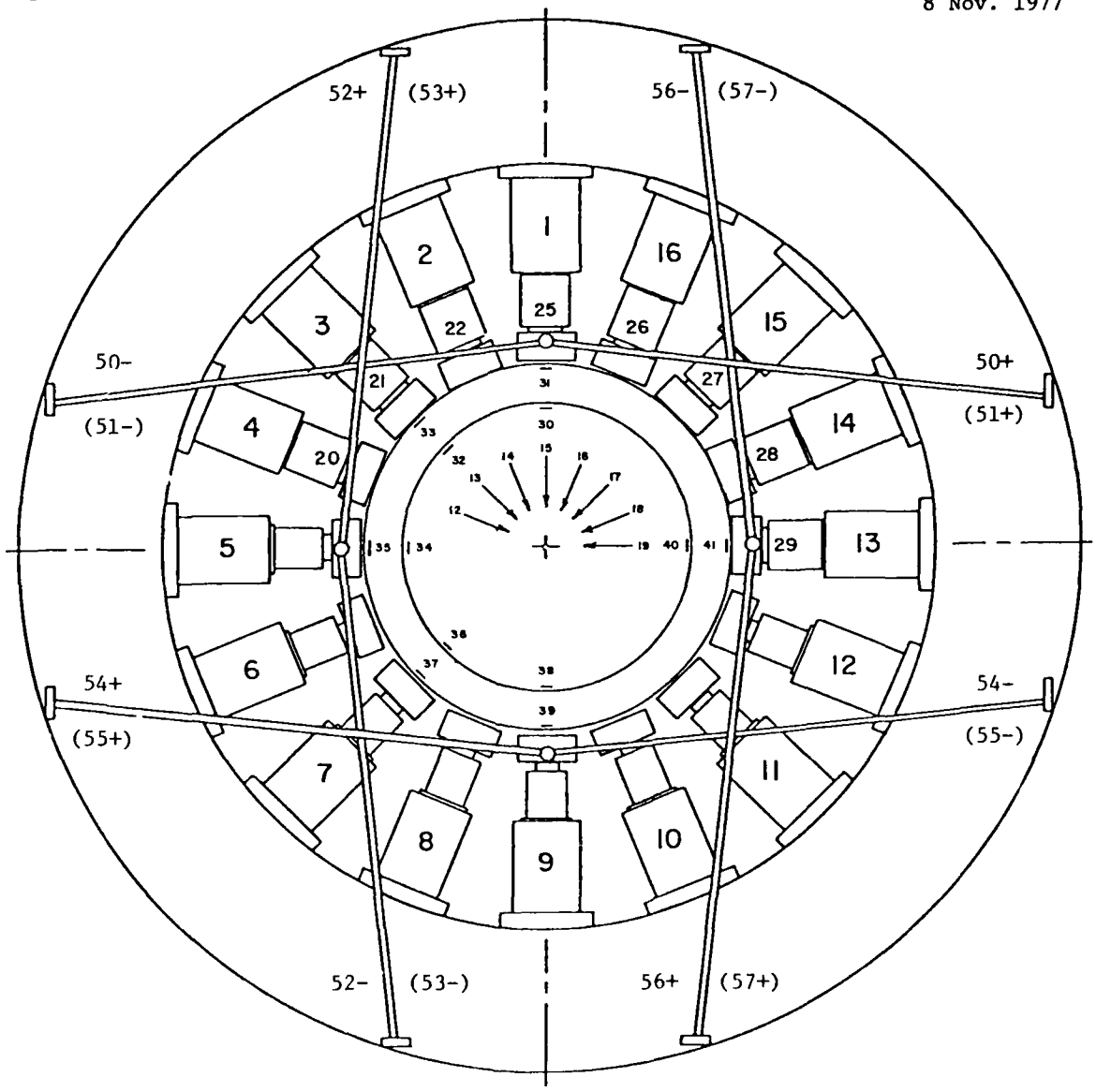
TEST NO. 21
COMPOSITE INTEGRAL LINER
1:1 LOADING RATIO
TESTED 8 NOVEMBER 1977

REACTION FRAME TEST SET-UP

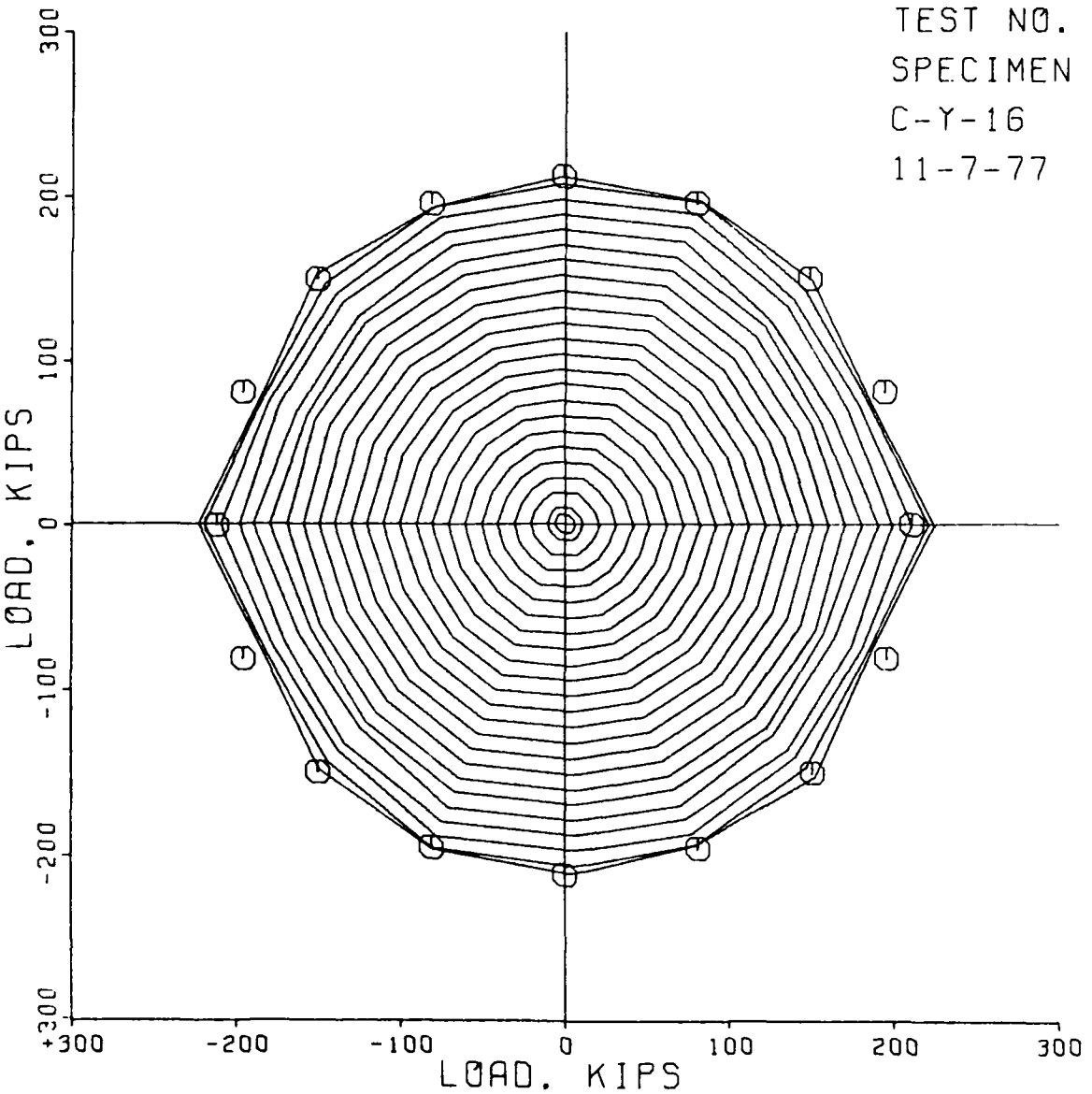
Specimen #4

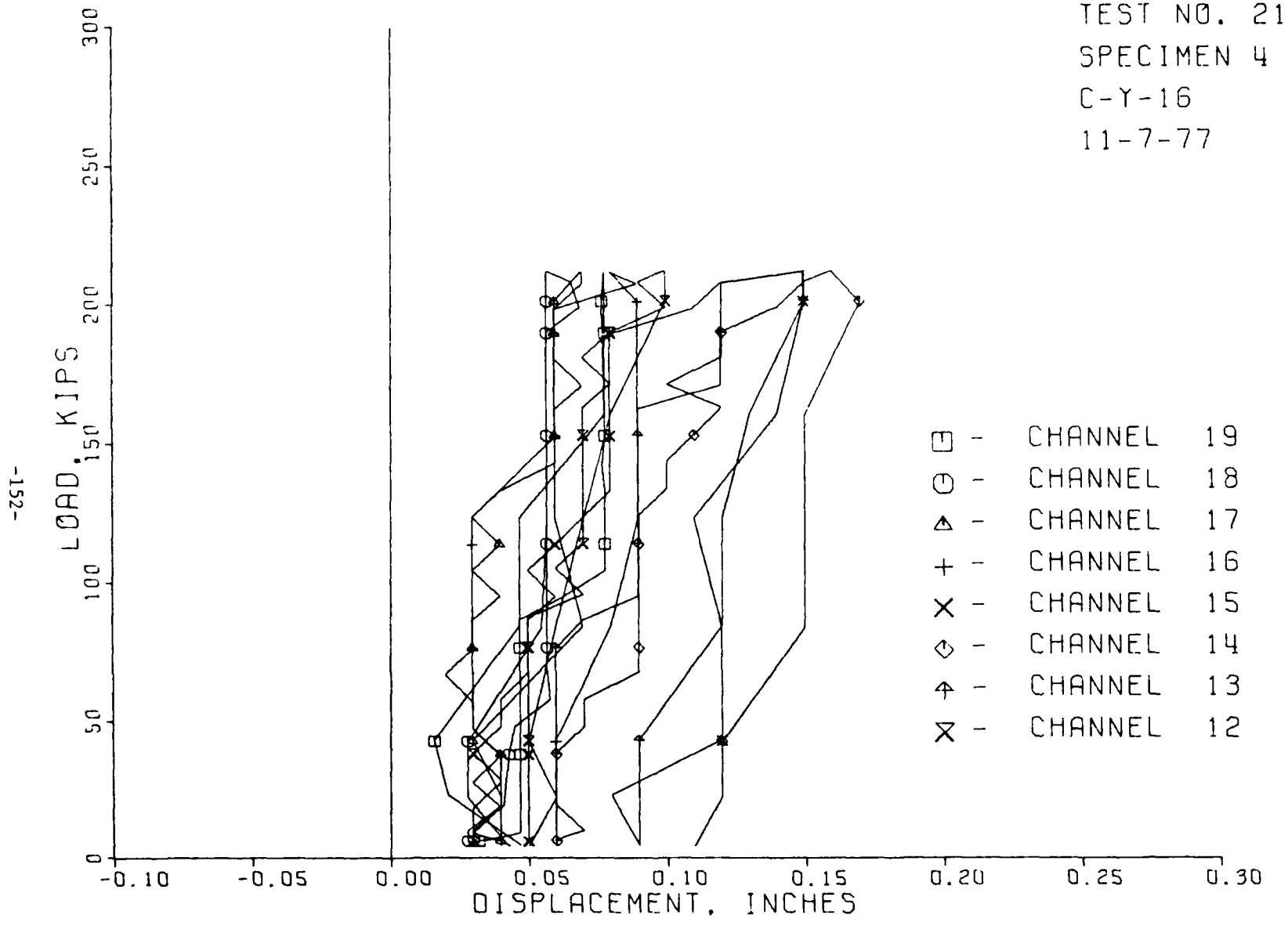
C-Y-16

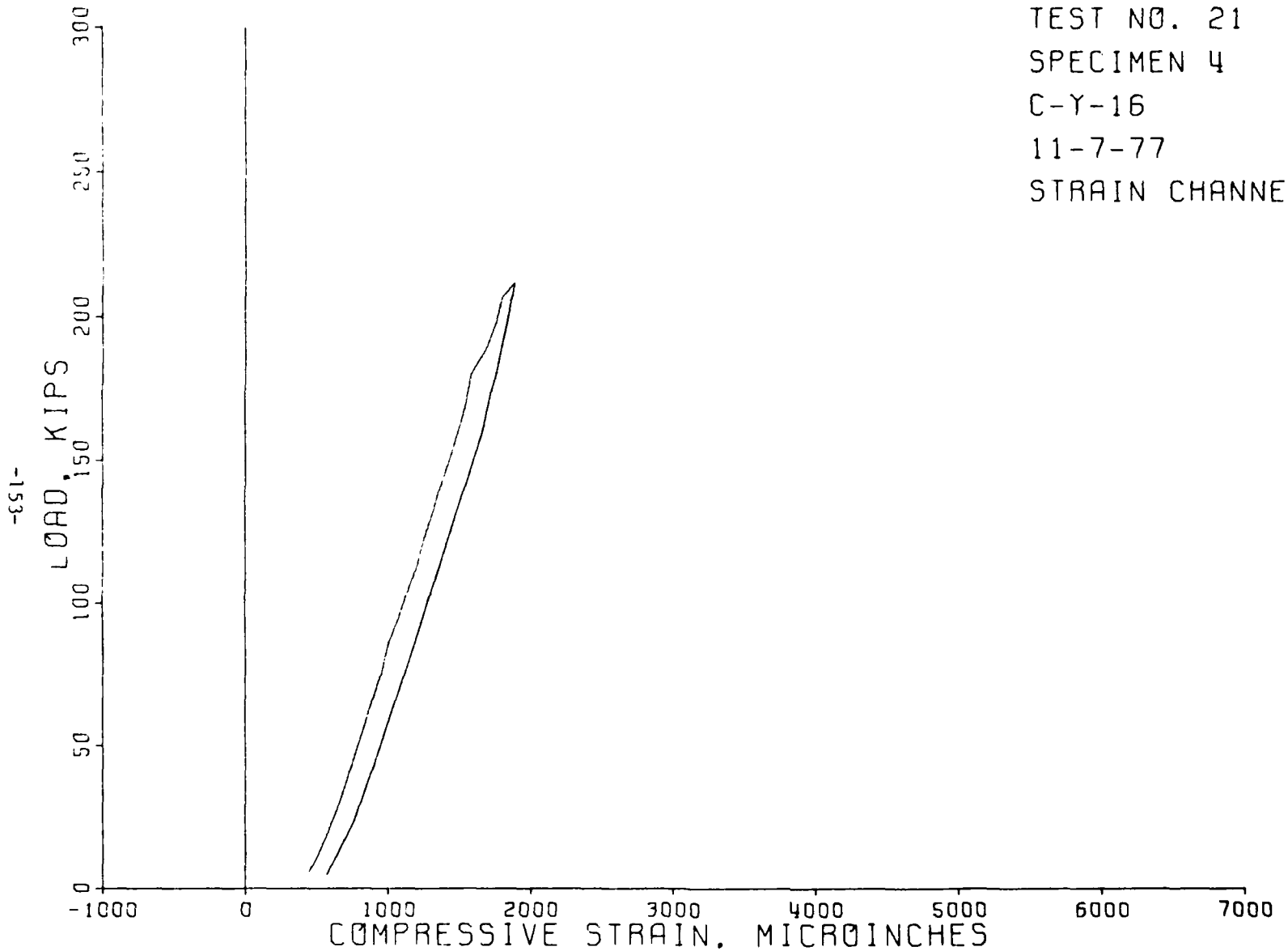
Test #21
1:1 Load
8 Nov. 1977

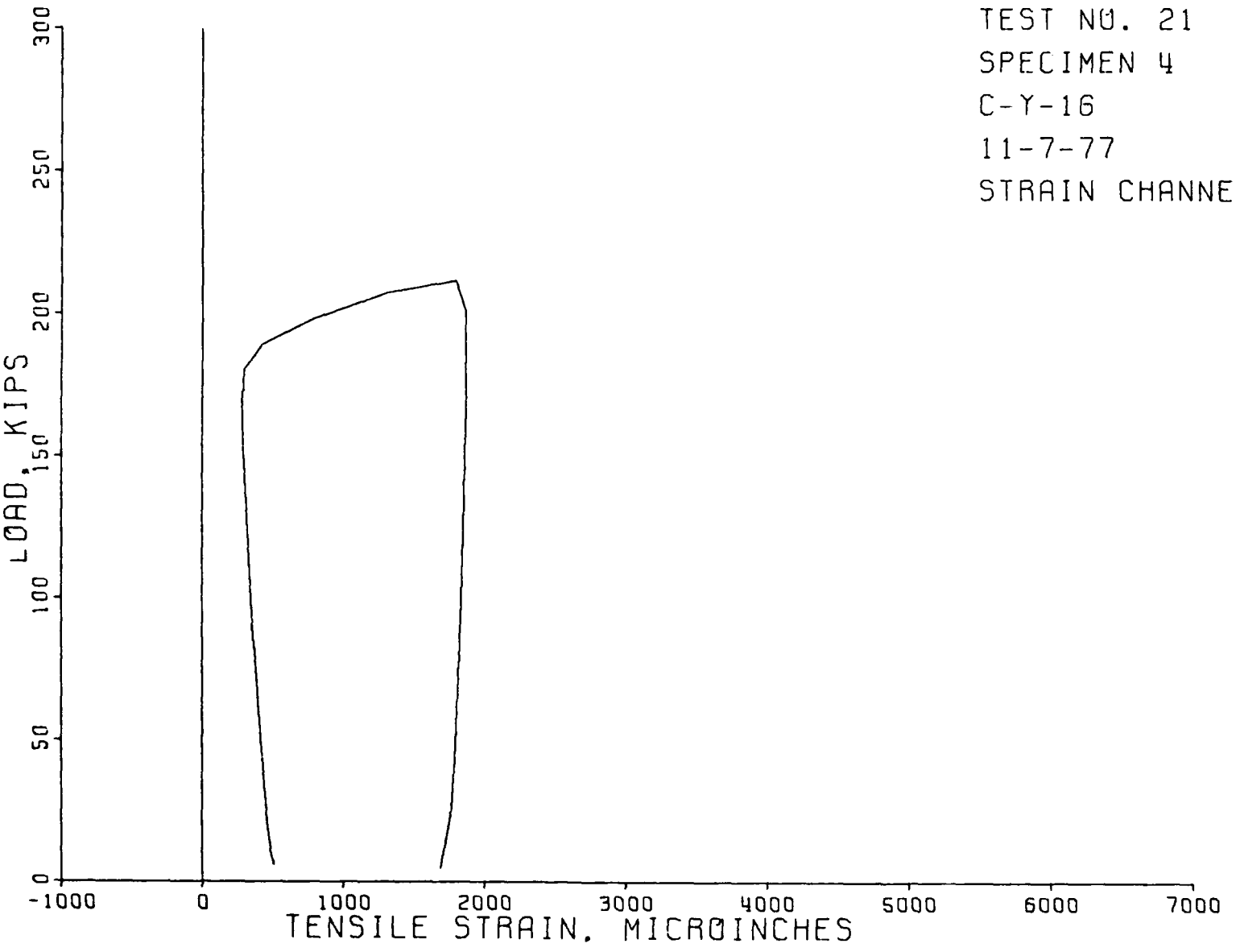


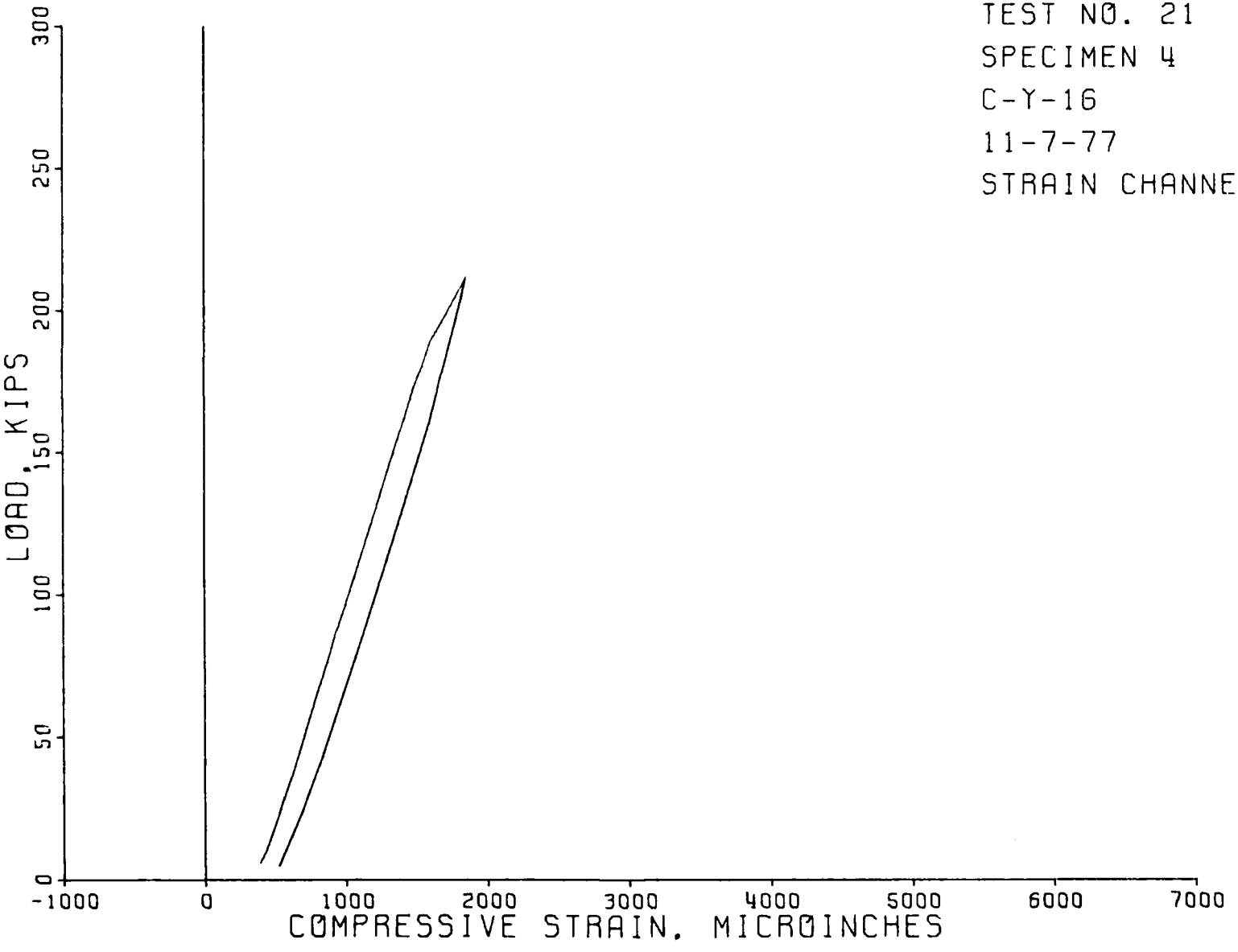
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 2" from top. Odd gages on Rebar.
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

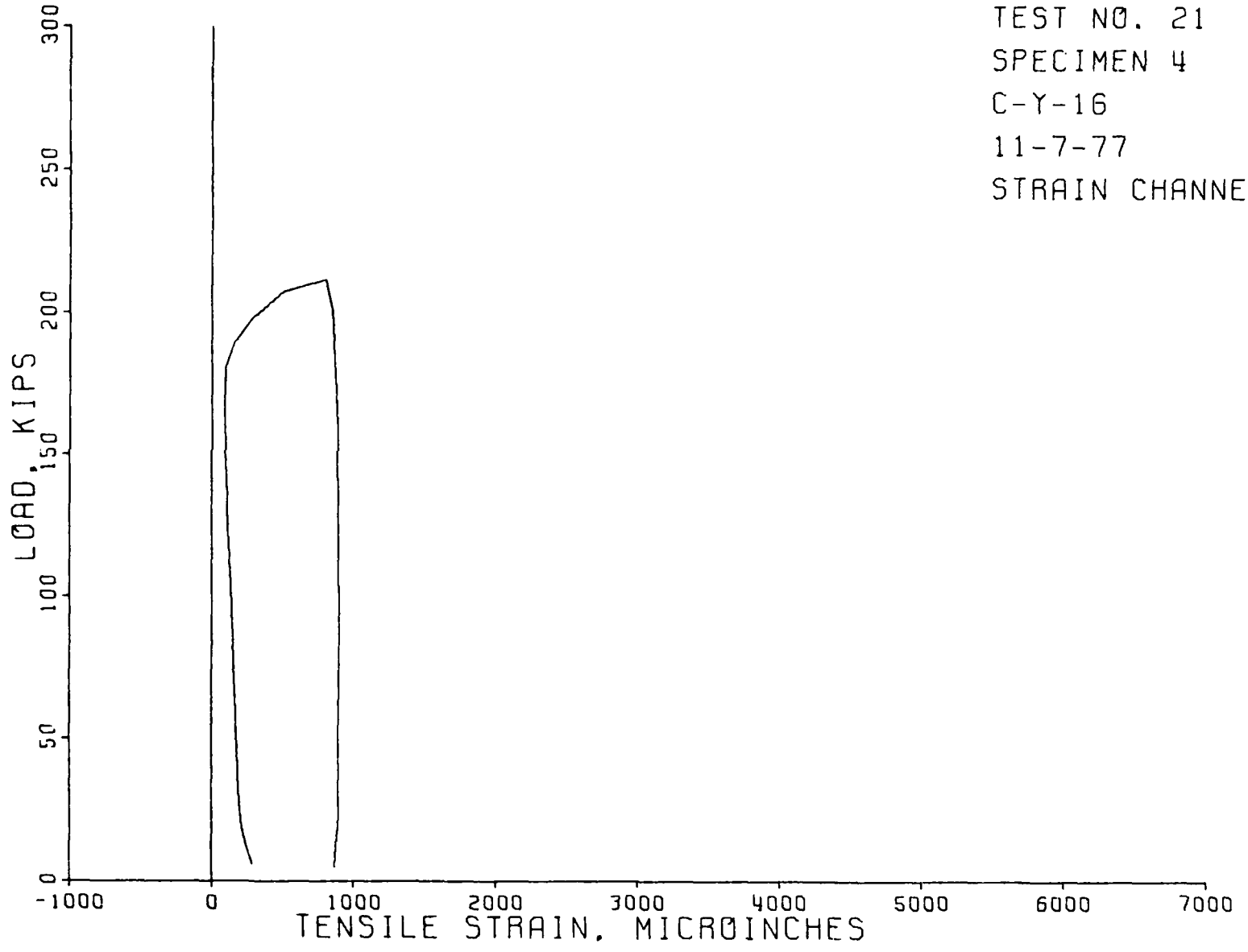

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
LOAD, KIPS
LOAD, KIPS
300
200
100
0
-100
-200
-300
+300
-200
-100
0
100
200
300

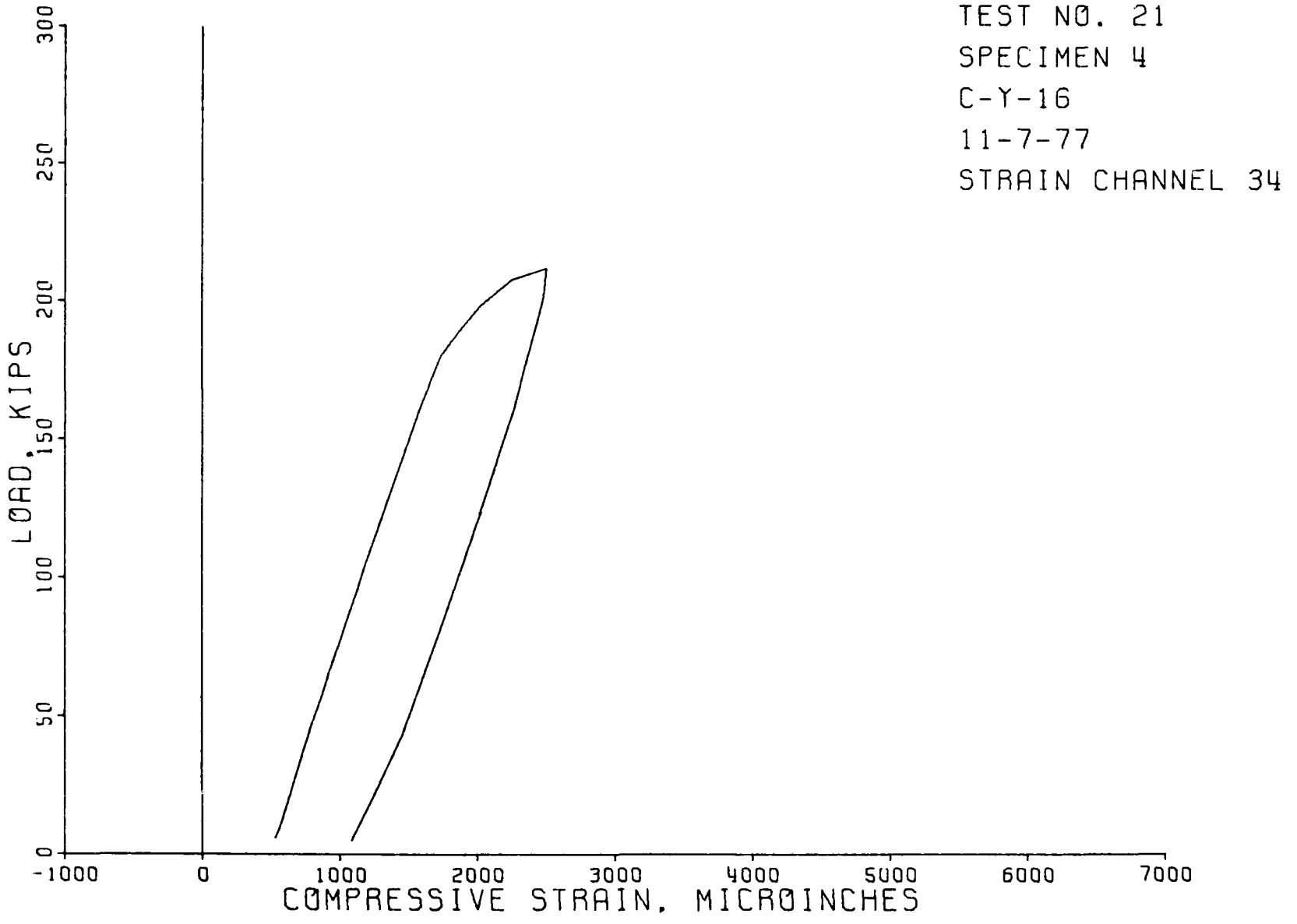

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
LOAD, KIPS
0
50
100
150
200
250
300
-0.10
-0.05
0.00
0.05
0.10
0.15
0.20
0.25
0.30
DISPLACEMENT, INCHES
- CHANNEL 19
- CHANNEL 18
- CHANNEL 17
- CHANNEL 16
- CHANNEL 15
- CHANNEL 14
- CHANNEL 13
- CHANNEL 12

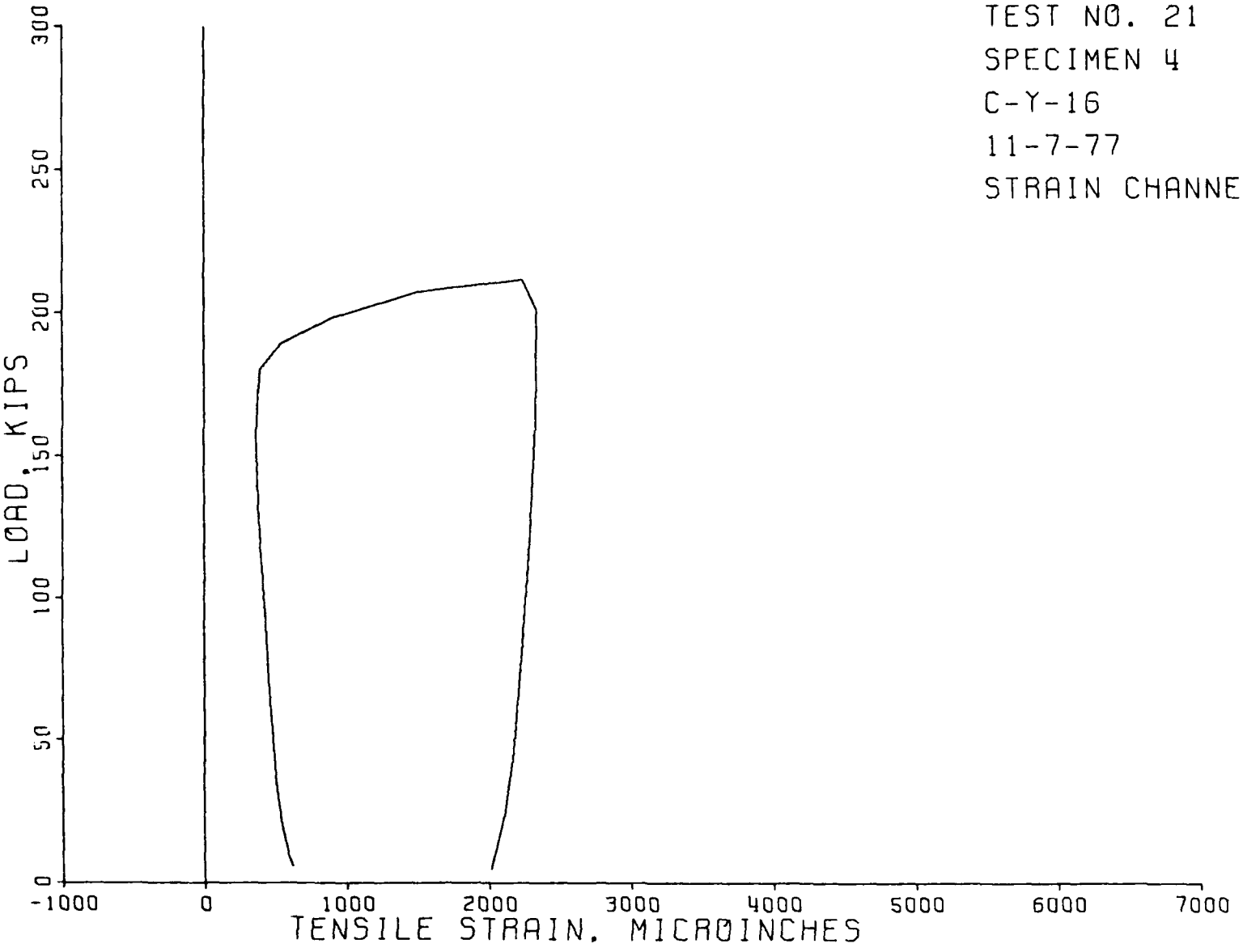

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

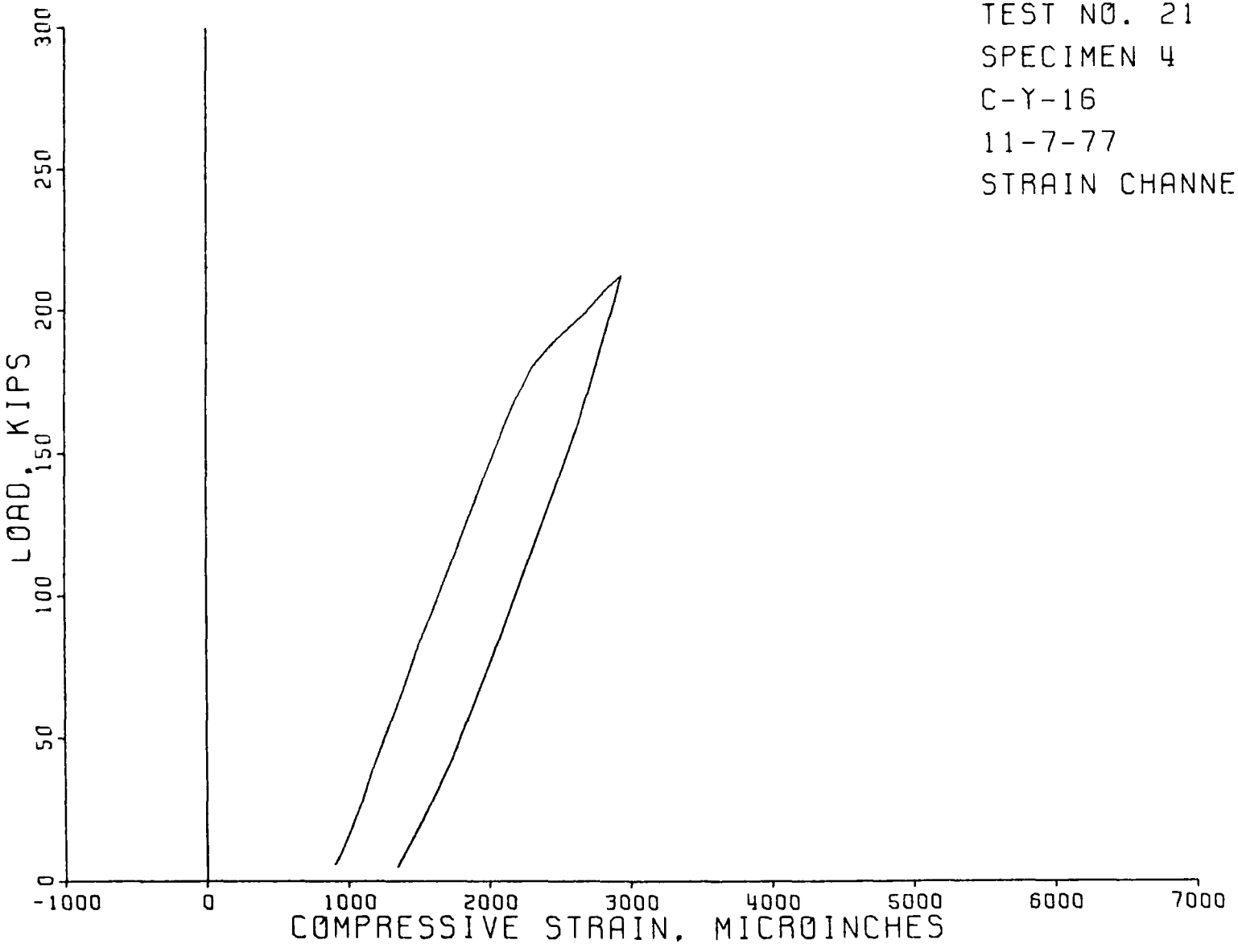

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

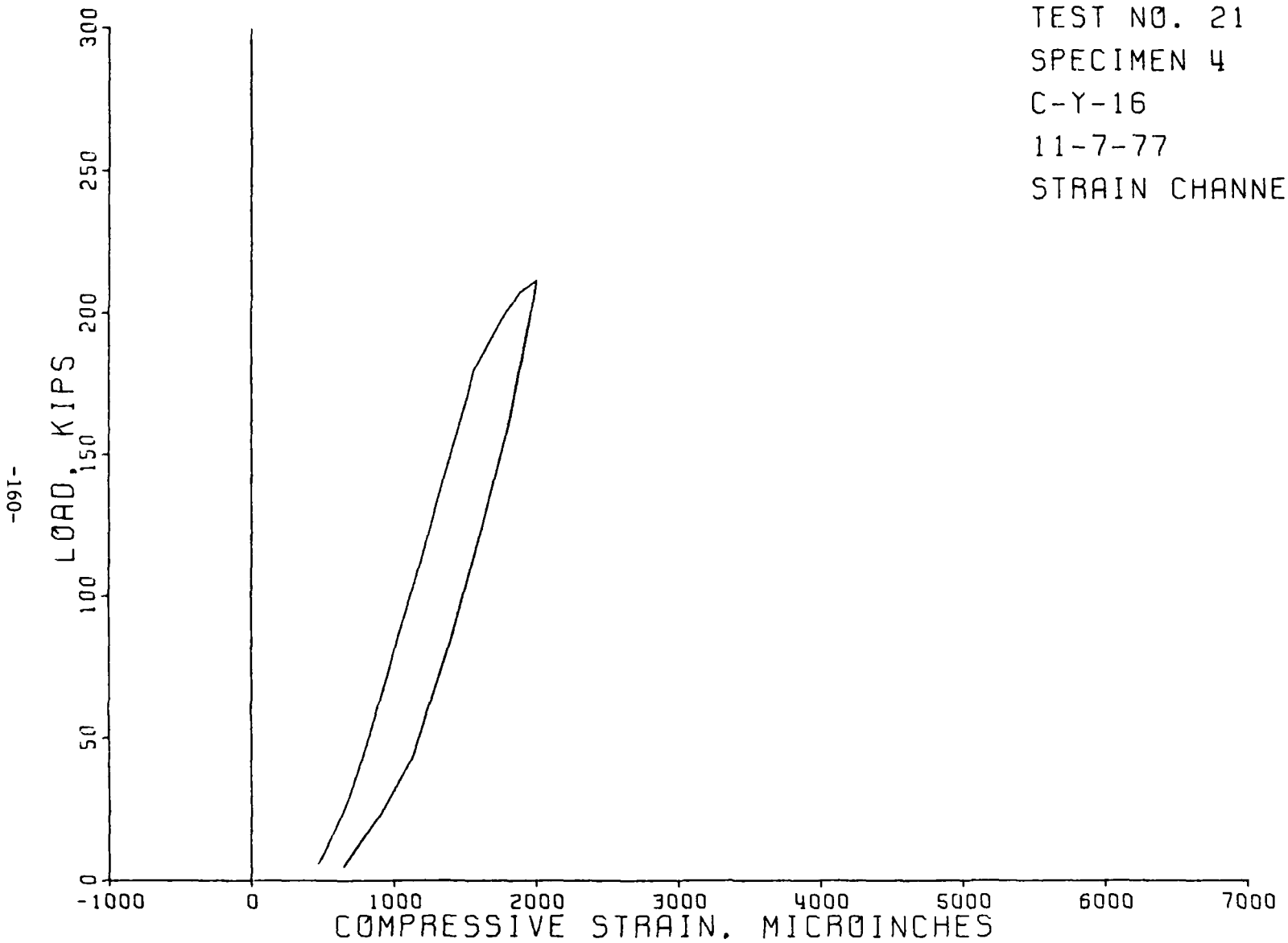

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

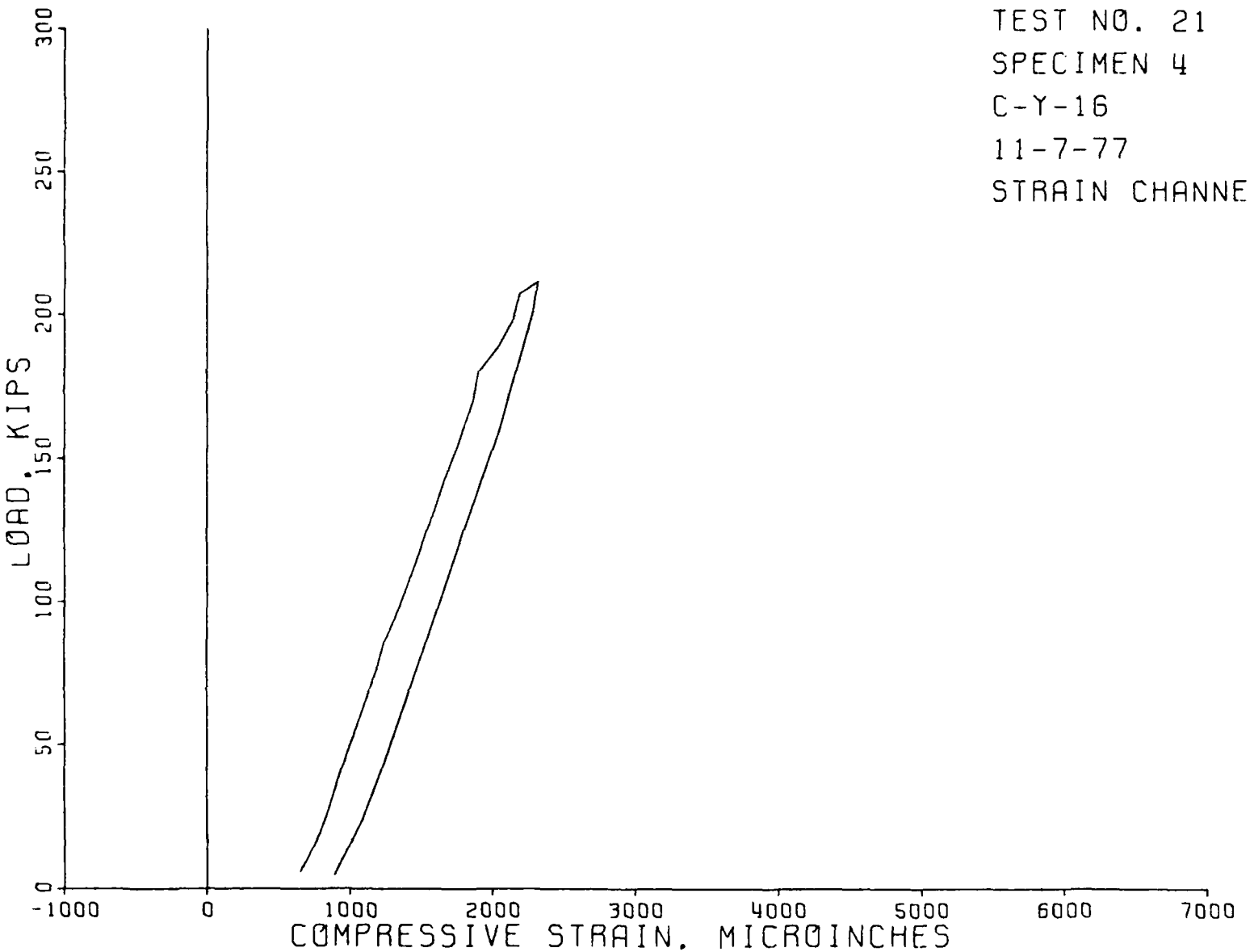

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

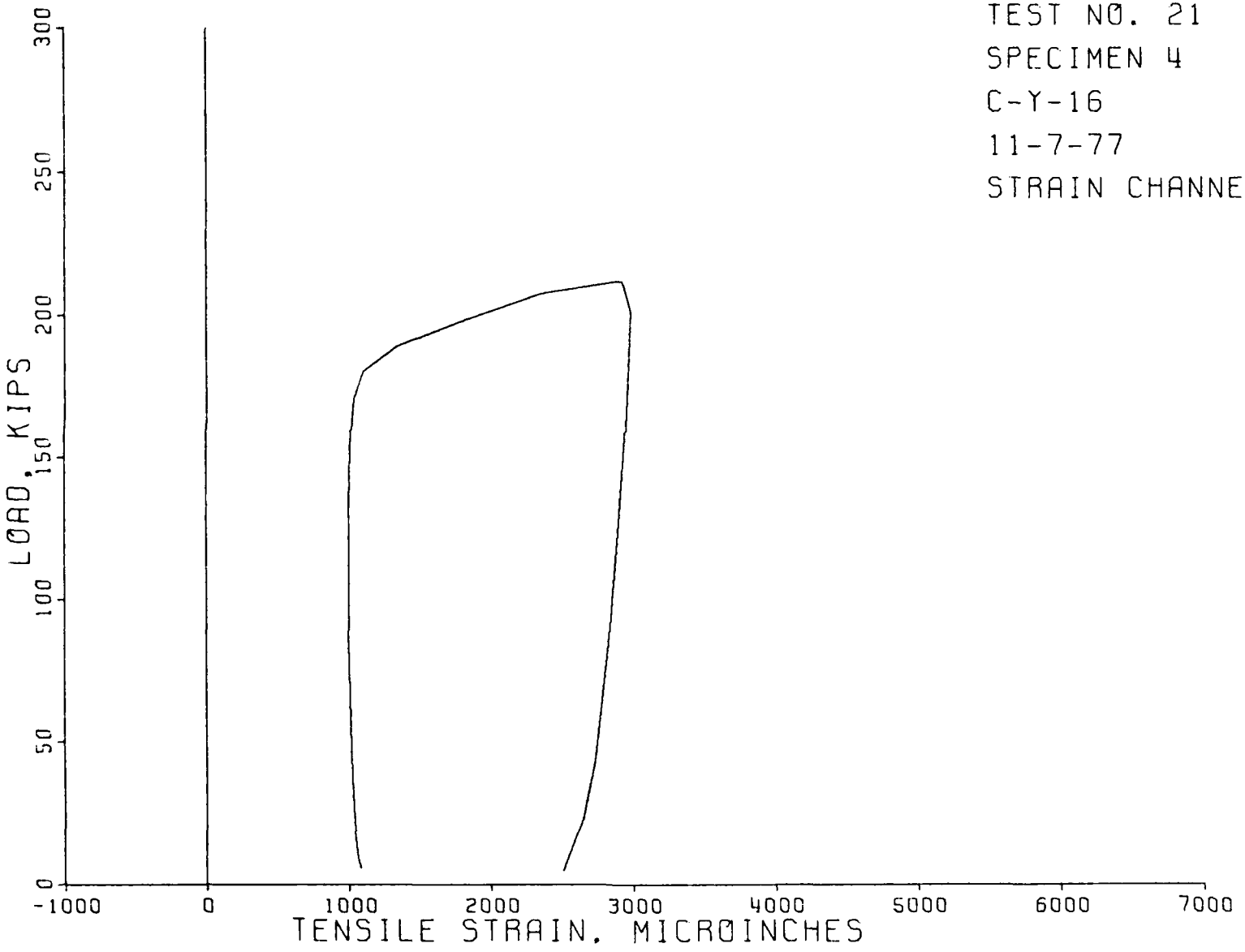

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

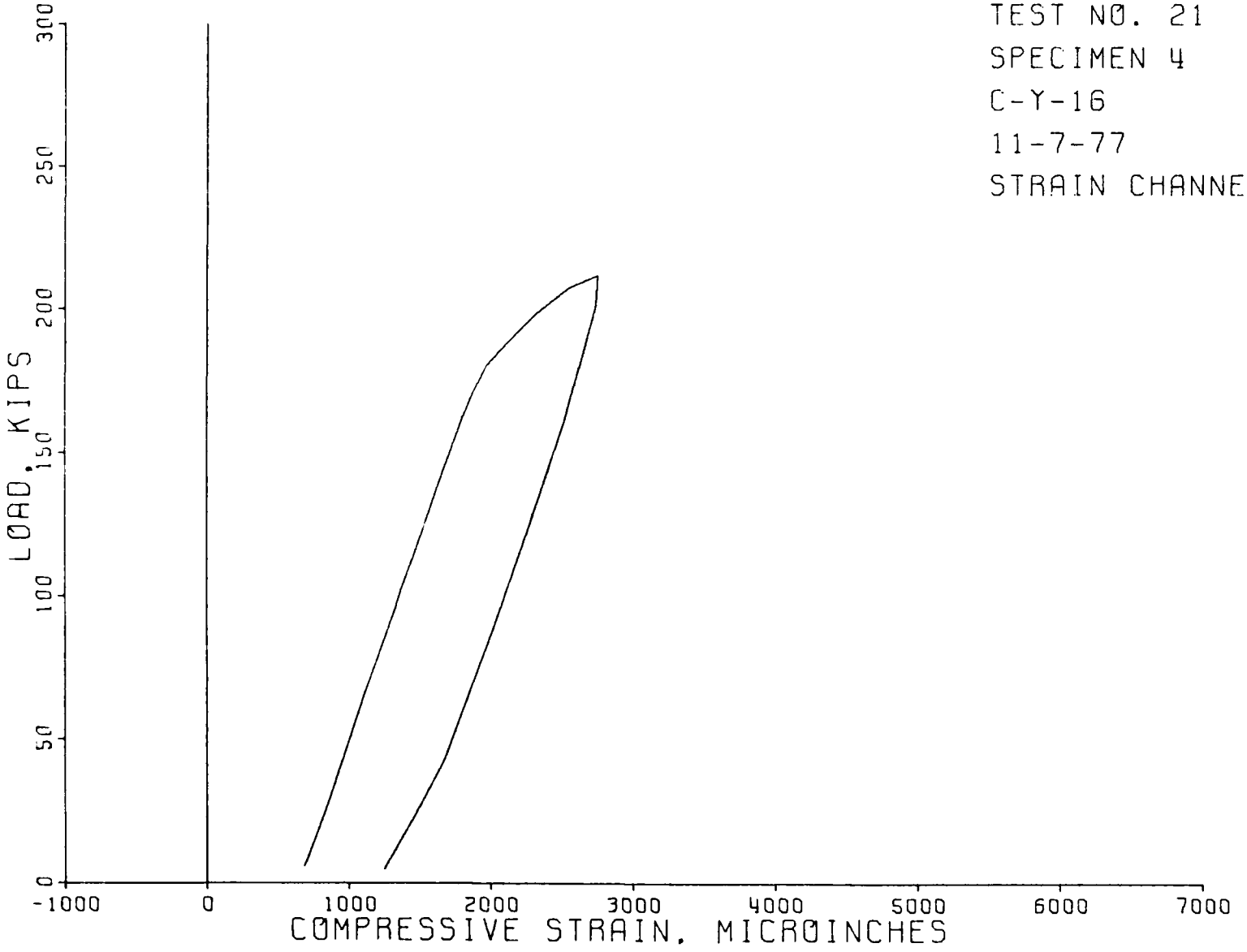

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

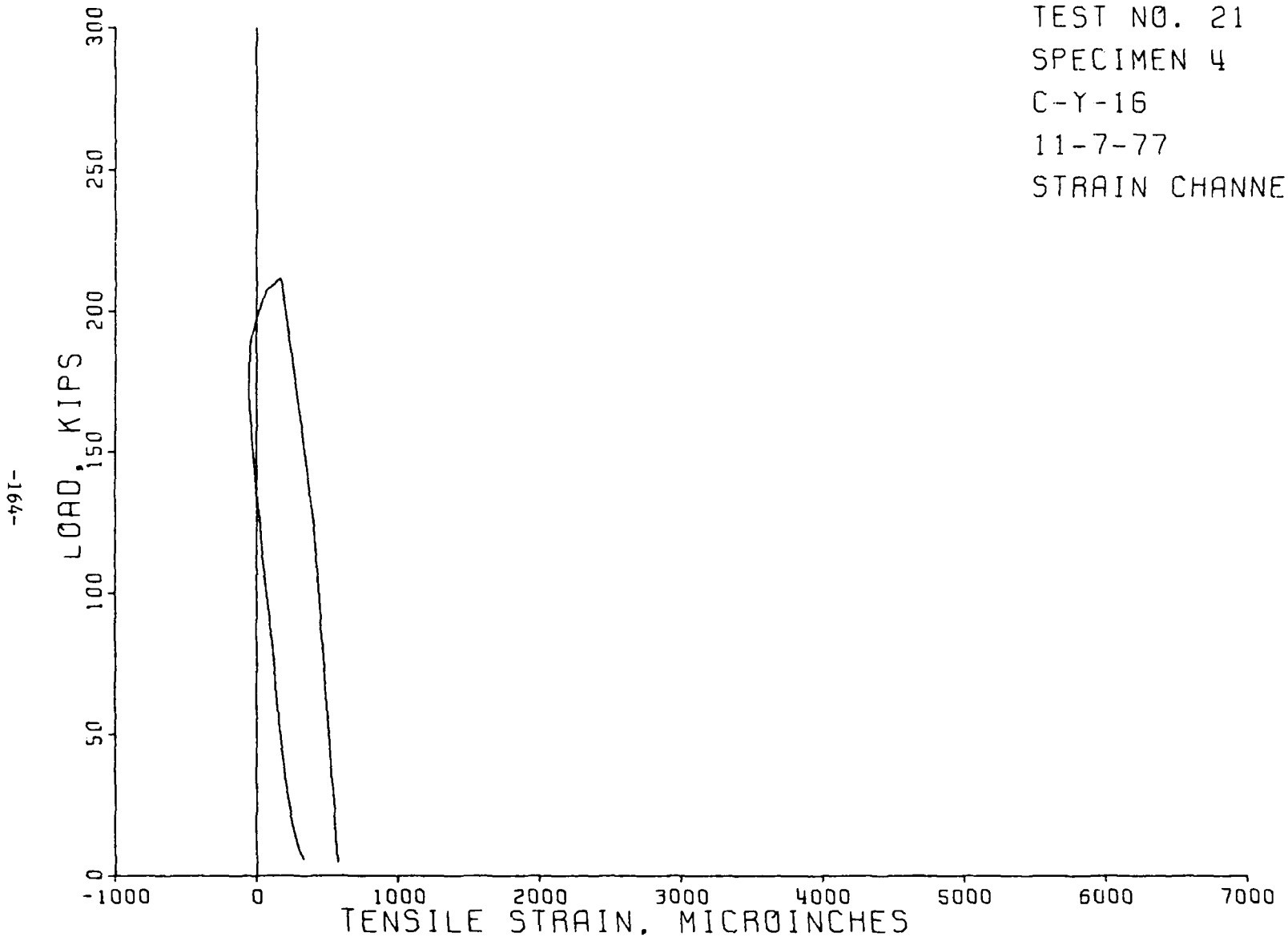

TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 38
LOAD. KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN. MICROINCHES


TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 21
SPECIMEN 4
C-Y-16
11-7-77
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

TEST NO. 21 SPECIMEN 4 C-Y-16 11-7-77

NUMBER OF INCREMENTS= 31
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
41	1.000
40	1.000
39	1.000
38	1.000
37	1.000
36	1.000

35	1.000
34	1.000
33	1.000
32	1.000
31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.000
18	0.000
17	0.010
16	0.010
15	0.010
14	0.010
13	0.010
12	0.010

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
57	1.000
56	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000

STRAIN CHANNELS

	TIME	CH.41	CH.40	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34
1.	8: 9:20:31	331.000	-683.000	1081.000	-651.000	-470.000	-898.000	621.000	-532.000
2.	8: 9:21: 2	298.000	-717.000	1061.000	-690.000	-508.000	-938.000	591.000	-562.000
3.	8: 9:22: 4	254.000	-785.000	1041.000	-783.000	-593.000	-1022.000	548.000	-620.000
4.	8: 9:23: 7	222.000	-853.000	1030.000	-854.000	-675.000	-1095.000	518.000	-673.000
5.	8: 9:24: 9	198.000	-919.000	1021.000	-914.000	-747.000	-1162.000	499.000	-733.000
6.	8: 9:25:12	176.000	-983.000	1015.000	-979.000	-807.000	-1234.000	483.000	-796.000
7.	8: 9:26:14	156.000	-1052.000	1008.000	-1048.000	-866.000	-1310.000	469.000	-863.000
8.	8: 9:27:17	136.000	-1117.000	1004.000	-1118.000	-921.000	-1383.000	456.000	-927.000
9.	8: 9:28:19	118.000	-1185.000	1000.000	-1185.000	-976.000	-1452.000	445.000	-993.000
10.	8: 9:29:22	103.000	-1260.000	995.000	-1244.000	-1032.000	-1525.000	436.000	-1066.000
11.	8: 9:30:24	81.000	-1319.000	994.000	-1320.000	-1086.000	-1599.000	423.000	-1125.000
12.	8: 9:31:27	60.000	-1381.000	993.000	-1392.000	-1140.000	-1675.000	409.000	-1184.000
13.	8: 9:32:29	41.000	-1449.000	993.000	-1462.000	-1195.000	-1749.000	397.000	-1251.000
14.	8: 9:33:32	24.000	-1519.000	993.000	-1530.000	-1249.000	-1824.000	387.000	-1318.000
15.	8: 9:34:34	4.000	-1584.000	995.000	-1600.000	-1302.000	-1899.000	377.000	-1383.000
16.	8: 9:35:37	-14.000	-1655.000	999.000	-1667.000	-1355.000	-1976.000	369.000	-1453.000
17.	8: 9:36:39	-31.000	-1724.000	1005.000	-1738.000	-1408.000	-2053.000	364.000	-1519.000
18.	8: 9:37:42	-45.000	-1796.000	1015.000	-1807.000	-1463.000	-2133.000	364.000	-1591.000
19.	8: 9:38:45	-53.000	-1867.000	1032.000	-1865.000	-1513.000	-2208.000	374.000	-1658.000
20.	8: 9:39:47	-56.000	-1961.000	1102.000	-1898.000	-1563.000	-2311.000	391.000	-1740.000
21.	8: 9:41: 5	-38.000	-2123.000	1346.000	-2041.000	-1665.000	-2471.000	537.000	-1877.000
22.	8: 9:42: 8	5.000	-2305.000	1813.000	-2139.000	-1765.000	-2668.000	888.000	-2025.000
23.	8: 9:43:11	70.000	-2541.000	2356.000	-2192.000	-1883.000	-2838.000	1503.000	-2249.000
24.	8: 9:45:31	168.000	-2745.000	2918.000	-2313.000	-2004.000	-2939.000	2235.000	-2506.000
25.	8: 9:47: 5	206.000	-2732.000	2985.000	-2281.000	-1971.000	-2882.000	2336.000	-2484.000
26.	8: 9:49:11	317.000	-2503.000	2945.000	-2046.000	-1803.000	-2637.000	2323.000	-2265.000
27.	8: 9:51:16	406.000	-2255.000	2890.000	-1787.000	-1611.000	-2361.000	2286.000	-2018.000
28.	8: 9:53:37	462.000	-1979.000	2823.000	-1518.000	-1397.000	-2065.000	2235.000	-1750.000
29.	8: 9:55:42	519.000	-1673.000	2732.000	-1233.000	-1129.000	-1741.000	2166.000	-1448.000
30.	8: 9:56:45	550.000	-1458.000	2646.000	-1080.000	-904.000	-1546.000	2106.000	-1266.000
31.	8: 9:57:47	568.000	-1248.000	2505.000	-890.000	-652.000	-1343.000	2008.000	-1083.000

STRAIN CHANNELS

	TIME	CH.33	CH.32	CH.31	CH.30	CH.
1.	8: 9:20:31	292.000	-391.000	510.000	-447.000	
2.	8: 9:21: 2	266.000	-424.000	492.000	-487.000	
3.	8: 9:22: 4	211.000	-493.000	464.000	-570.000	
4.	8: 9:23: 7	196.000	-556.000	448.000	-643.000	
5.	8: 9:24: 9	187.000	-624.000	433.000	-710.000	
6.	8: 9:25:12	180.000	-684.000	419.000	-771.000	
7.	8: 9:26:14	171.000	-746.000	405.000	-834.000	
8.	8: 9:27:17	163.000	-806.000	391.000	-897.000	
9.	8: 9:28:19	155.000	-863.000	379.000	-956.000	
10.	8: 9:29:22	148.000	-924.000	360.000	-1005.000	
11.	8: 9:30:24	140.000	-984.000	352.000	-1075.000	
12.	8: 9:31:27	133.000	-1046.000	342.000	-1140.000	
13.	8: 9:32:29	125.000	-1106.000	330.000	-1203.000	
14.	8: 9:33:32	117.000	-1169.000	319.000	-1261.000	
15.	8: 9:34:34	110.000	-1229.000	308.000	-1323.000	
16.	8: 9:35:37	104.000	-1291.000	298.000	-1381.000	
17.	8: 9:36:39	96.000	-1352.000	292.000	-1445.000	
18.	8: 9:37:42	90.000	-1414.000	287.000	-1505.000	
19.	8: 9:38:45	89.000	-1467.000	285.000	-1554.000	
20.	8: 9:39:47	97.000	-1539.000	297.000	-1578.000	
21.	8: 9:41: 5	160.000	-1602.000	419.000	-1689.000	
22.	8: 9:42: 8	294.000	-1706.000	782.000	-1759.000	
23.	8: 9:43:11	508.000	-1804.000	1309.000	-1812.000	
24.	8: 9:45:31	805.000	-1848.000	1794.000	-1889.000	
25.	8: 9:47: 5	856.000	-1800.000	1865.000	-1849.000	
26.	8: 9:49:11	888.000	-1585.000	1864.000	-1663.000	
27.	8: 9:51:16	896.000	-1356.000	1848.000	-1426.000	
28.	8: 9:53:37	900.000	-1106.000	1826.000	-1173.000	
29.	8: 9:55:42	897.000	-831.000	1792.000	-901.000	
30.	8: 9:56:45	893.000	-680.000	1758.000	-759.000	
31.	8: 9:57:47	872.000	-520.000	1691.000	-571.000	

DISPLACEMENT CHANNELS

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	8: 9:20:31	0.032	0.028	0.040	0.030	0.050	0.060	0.060	0.030
2.	8: 9:21: 2	0.047	0.028	0.030	0.030	0.050	0.070	0.060	0.030
3.	8: 9:22: 4	0.047	0.041	0.040	0.030	0.050	0.060	0.060	0.040
4.	8: 9:23: 7	0.047	0.042	0.030	0.040	0.050	0.060	0.060	0.040
5.	8: 9:24: 9	0.047	0.043	0.040	0.040	0.050	0.060	0.060	0.030
6.	8: 9:25:12	0.047	0.045	0.030	0.030	0.050	0.070	0.060	0.040
7.	8: 9:26:14	0.047	0.058	0.030	0.030	0.050	0.070	0.060	0.040
8.	8: 9:27:17	0.047	0.057	0.030	0.020	0.050	0.090	0.060	0.050
9.	8: 9:28:19	0.047	0.057	0.030	0.030	0.050	0.090	0.060	0.050
10.	8: 9:29:22	0.047	0.057	0.030	0.030	0.050	0.090	0.070	0.050
11.	8: 9:30:24	0.063	0.057	0.040	0.030	0.060	0.090	0.090	0.070
12.	8: 9:31:27	0.078	0.057	0.030	0.030	0.050	0.090	0.090	0.060
13.	8: 9:32:29	0.078	0.057	0.040	0.030	0.060	0.090	0.090	0.070
14.	8: 9:33:32	0.078	0.057	0.030	0.030	0.070	0.090	0.090	0.070
15.	8: 9:34:34	0.078	0.057	0.040	0.040	0.080	0.100	0.090	0.070
16.	8: 9:35:37	0.077	0.057	0.050	0.060	0.080	0.100	0.090	0.070
17.	8: 9:36:39	0.078	0.057	0.060	0.060	0.080	0.110	0.090	0.070
18.	8: 9:37:42	0.078	0.057	0.060	0.060	0.080	0.120	0.090	0.070
19.	8: 9:38:45	0.078	0.057	0.070	0.060	0.080	0.100	0.120	0.080
20.	8: 9:39:47	0.078	0.057	0.060	0.060	0.080	0.120	0.120	0.070
21.	8: 9:41: 5	0.078	0.057	0.060	0.060	0.080	0.120	0.120	0.080
22.	8: 9:42: 8	0.078	0.069	0.060	0.060	0.110	0.140	0.120	0.100
23.	8: 9:43:11	0.078	0.066	0.070	0.090	0.120	0.150	0.120	0.090
24.	8: 9:45:31	0.078	0.057	0.070	0.080	0.150	0.160	0.150	0.100
25.	8: 9:47: 5	0.077	0.057	0.060	0.090	0.150	0.170	0.150	0.100
26.	8: 9:49:11	0.078	0.057	0.060	0.090	0.140	0.150	0.130	0.080
27.	8: 9:51:16	0.047	0.057	0.060	0.090	0.110	0.150	0.120	0.070
28.	8: 9:53:37	0.047	0.055	0.070	0.080	0.120	0.150	0.120	0.060
29.	8: 9:55:42	0.016	0.028	0.030	0.060	0.120	0.120	0.090	0.050
30.	8: 9:56:45	0.021	0.028	0.040	0.060	0.080	0.120	0.090	0.060
31.	8: 9:57:47	0.047	0.043	0.040	0.060	0.090	0.110	0.090	0.050

L O A D C H A N N E L S

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	8: 9:20:31	5840.000	6030.000	6010.000	5930.000	6070.000	6070.000	6320.000	6060.000
2.	8: 9:21: 2	10660.000	10560.000	10110.000	10850.000	9380.000	10920.000	10350.000	10320.000
3.	8: 9:22: 4	20840.000	20090.000	19320.000	20510.000	18640.000	19990.000	19320.000	19890.000
4.	8: 9:23: 7	30860.000	29600.000	29010.000	30090.000	28060.000	29130.000	28780.000	29370.000
5.	8: 9:24: 9	41380.000	39610.000	38820.000	40310.000	37760.000	39090.000	38640.000	39190.000
6.	8: 9:25:12	51220.000	49100.000	48310.000	49690.000	47360.000	48250.000	48170.000	48740.000
7.	8: 9:26:14	61550.000	59130.000	58090.000	60310.000	57040.000	58630.000	58040.000	58820.000
8.	8: 9:27:17	71610.000	68700.000	67700.000	70300.000	66670.000	68400.000	67780.000	68460.000
9.	8: 9:28:19	81420.000	77390.000	77780.000	79700.000	76080.000	77520.000	77950.000	77650.000
10.	8: 9:29:22	91170.000	86340.000	87390.000	90030.000	86400.000	87110.000	87740.000	87220.000
11.	8: 9:30:24	101030.000	96000.000	96700.000	99600.000	95010.000	96870.000	97070.000	97030.000
12.	8: 9:31:27	110810.000	106010.000	105730.000	109240.000	104470.000	106470.000	106340.000	106970.000
13.	8: 9:32:29	120810.000	114940.000	115530.000	119030.000	113870.000	116000.000	116210.000	116450.000
14.	8: 9:33:32	130520.000	124230.000	125030.000	129020.000	123740.000	125680.000	125770.000	126240.000
15.	8: 9:34:34	140280.000	133540.000	134310.000	138660.000	133250.000	135130.000	135290.000	135840.000
16.	8: 9:35:37	150040.000	142710.000	143660.000	148510.000	143070.000	144760.000	144850.000	145400.000
17.	8: 9:36:39	159600.000	152060.000	153000.000	158160.000	152510.000	154340.000	154420.000	154950.000
18.	8: 9:37:42	169340.000	161180.000	162340.000	167920.000	162140.000	164060.000	163920.000	164310.000
19.	8: 9:38:45	180130.000	167420.000	171270.000	176580.000	170500.000	172910.000	173350.000	169790.000
20.	8: 9:39:47	189910.000	175450.000	176390.000	186940.000	180210.000	183330.000	178810.000	176800.000
21.	8: 9:41: 5	198410.000	185150.000	189300.000	195750.000	189240.000	192000.000	191640.000	188420.000
22.	8: 9:42: 8	210040.000	192580.000	194920.000	205310.000	198240.000	201670.000	197820.000	195040.000
23.	8: 9:43:11	220140.000	198140.000	204080.000	212710.000	207570.000	208740.000	206900.000	198990.000
24.	8: 9:45:31	223400.000	199810.000	211220.000	213340.000	211870.000	208980.000	214980.000	200550.000
25.	8: 9:47: 5	198790.000	198480.000	199820.000	199640.000	200660.000	202800.000	200250.000	198750.000
26.	8: 9:49:11	159690.000	166220.000	162660.000	161570.000	159780.000	169850.000	162390.000	162200.000
27.	8: 9:51:16	120430.000	124160.000	124770.000	120650.000	122760.000	126700.000	123850.000	122590.000
28.	8: 9:53:37	80210.000	83690.000	84750.000	81140.000	83620.000	86000.000	84490.000	83930.000
29.	8: 9:55:42	40960.000	42710.000	44300.000	41410.000	42550.000	42840.000	43990.000	42920.000
30.	8: 9:56:45	20430.000	22140.000	23310.000	21040.000	22470.000	21570.000	23310.000	22900.000
31.	8: 9:57:47	3900.000	4040.000	5220.000	4600.000	4310.000	5130.000	5630.000	5280.000

ROD CHANNELS

	TIME	CH.57	CH.56	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50
1.	8: 9:20:31	269.048	422.789	333.107	435.601	-345.918	-358.730	-230.612	-461.225
2.	8: 9:21: 2	269.048	435.601	333.107	435.601	-371.542	-333.107	-192.177	-448.413
3.	8: 9:22: 4	217.801	435.601	281.859	345.918	-358.730	-307.483	-102.494	-409.978
4.	8: 9:23: 7	166.553	435.601	269.048	294.671	-345.918	-281.859	-51.247	-397.166
5.	8: 9:24: 9	153.742	461.225	281.859	294.671	-345.918	-269.048	-51.247	-435.601
6.	8: 9:25:12	153.742	512.472	333.107	333.107	-371.542	-281.859	-89.683	-525.284
7.	8: 9:26:14	179.365	563.719	397.166	397.166	-397.166	-320.295	-192.177	-653.402
8.	8: 9:27:17	217.801	627.778	474.036	474.036	-435.601	-345.918	-294.671	-819.955
9.	8: 9:28:19	256.236	691.837	550.907	550.907	-474.036	-397.166	-397.166	-973.697
10.	8: 9:29:22	294.671	755.896	602.154	602.154	-525.284	-448.413	-474.036	-1127.438
11.	8: 9:30:24	333.107	819.955	704.649	704.649	-550.907	-486.848	-602.154	-1358.051
12.	8: 9:31:27	384.354	884.014	781.520	819.955	-602.154	-512.472	-730.272	-1575.851
13.	8: 9:32:29	409.978	935.261	858.390	896.826	-640.590	-550.907	-832.767	-1780.840
14.	8: 9:33:32	461.225	999.320	922.449	973.697	-679.025	-576.531	-922.449	-1934.581
15.	8: 9:34:34	474.036	1050.567	999.320	1050.567	-704.649	-589.343	-1024.944	-2088.323
16.	8: 9:35:37	499.660	1089.003	1063.379	1114.626	-717.461	-602.154	-1101.814	-2216.441
17.	8: 9:36:39	512.472	1140.250	1127.438	1191.497	-717.461	-602.154	-1191.497	-2370.183
18.	8: 9:37:42	538.095	1178.685	1191.497	1268.368	-730.272	-512.472	-1281.180	-2511.112
19.	8: 9:38:45	550.907	1217.121	1242.744	1306.803	-730.272	-602.154	-1332.427	-2600.795
20.	8: 9:39:47	550.907	1242.744	1268.368	1306.803	-730.272	-602.154	-1332.427	-2600.795
21.	8: 9:41: 5	550.907	1293.991	1383.674	1409.298	-704.649	-525.284	-1511.792	-2908.278
22.	8: 9:42: 8	563.719	1319.615	1383.674	1358.051	-704.649	-474.036	-1434.921	-2895.466
23.	8: 9:43:11	512.472	1332.427	1319.615	1255.556	-653.402	-384.354	-1319.615	-2792.972
24.	8: 9:45:31	576.531	1422.109	1306.803	1178.685	-755.896	-435.601	-1268.368	-2792.972
25.	8: 9:47: 5	474.036	1293.991	1293.991	1165.874	-614.966	-294.671	-1268.368	-2831.407
26.	8: 9:49:11	-179.365	666.213	1076.191	948.073	89.683	12.812	-948.073	-2357.371
27.	8: 9:51:16	-512.472	333.107	948.073	858.390	256.236	102.494	-743.084	-1960.205
28.	8: 9:53:37	-358.730	294.671	807.143	743.084	179.365	38.435	-538.095	-1524.604
29.	8: 9:55:42	-140.930	307.483	679.025	653.402	12.812	-38.435	-384.354	-1127.438
30.	8: 9:56:45	38.435	384.354	538.095	550.907	-153.742	-102.494	-307.483	-871.202
31.	8: 9:57:47	345.918	538.095	269.048	333.107	-397.166	-358.730	-140.930	-461.225

A V E R A G E L O A D

1.	6041.250
2.	10393.750
3.	19825.000
4.	29362.500
5.	39350.000
6.	48855.000
7.	58951.250
8.	68702.500
9.	78186.250
10.	87925.000
11.	97413.750
12.	107005.000
13.	116605.000
14.	126278.750
15.	135787.500
16.	145375.000
17.	154880.000
18.	164401.250
19.	172743.750
20.	180980.000
21.	191238.750
22.	199452.500
23.	207158.750
24.	210518.750
25.	199898.750
26.	163045.000
27.	123238.750
28.	83478.750
29.	42710.000
30.	22146.250
31.	4763.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 24

3.2.5 SPECIMEN #3

TEST NO. 23

COMPOSITE INTEGRAL LINER WITHOUT CONCRETE STUDS

1:2 LOADING RATIO

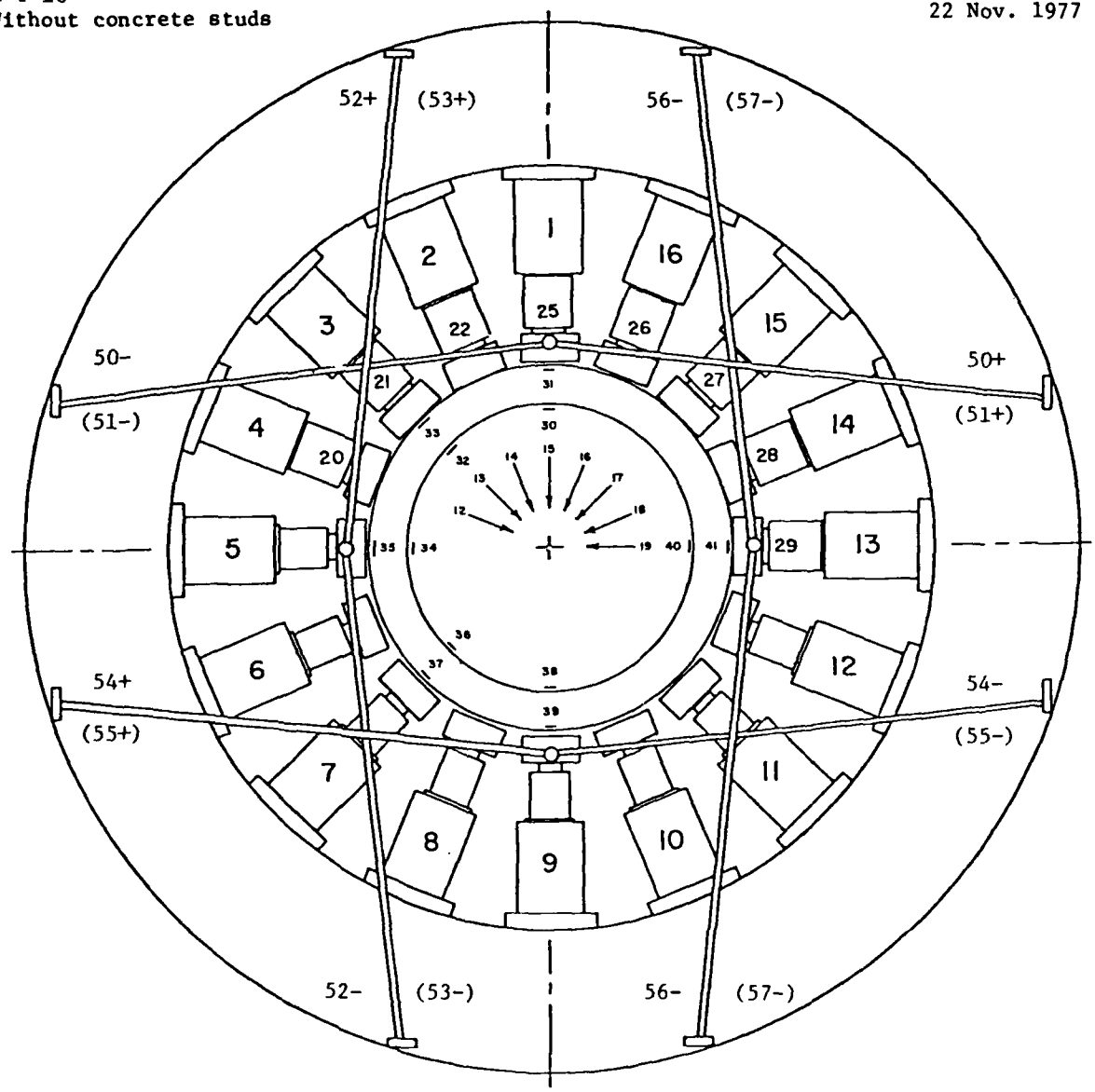
TESTED 22 NOVEMBER 1977

REACTION FRAME TEST SET-UP

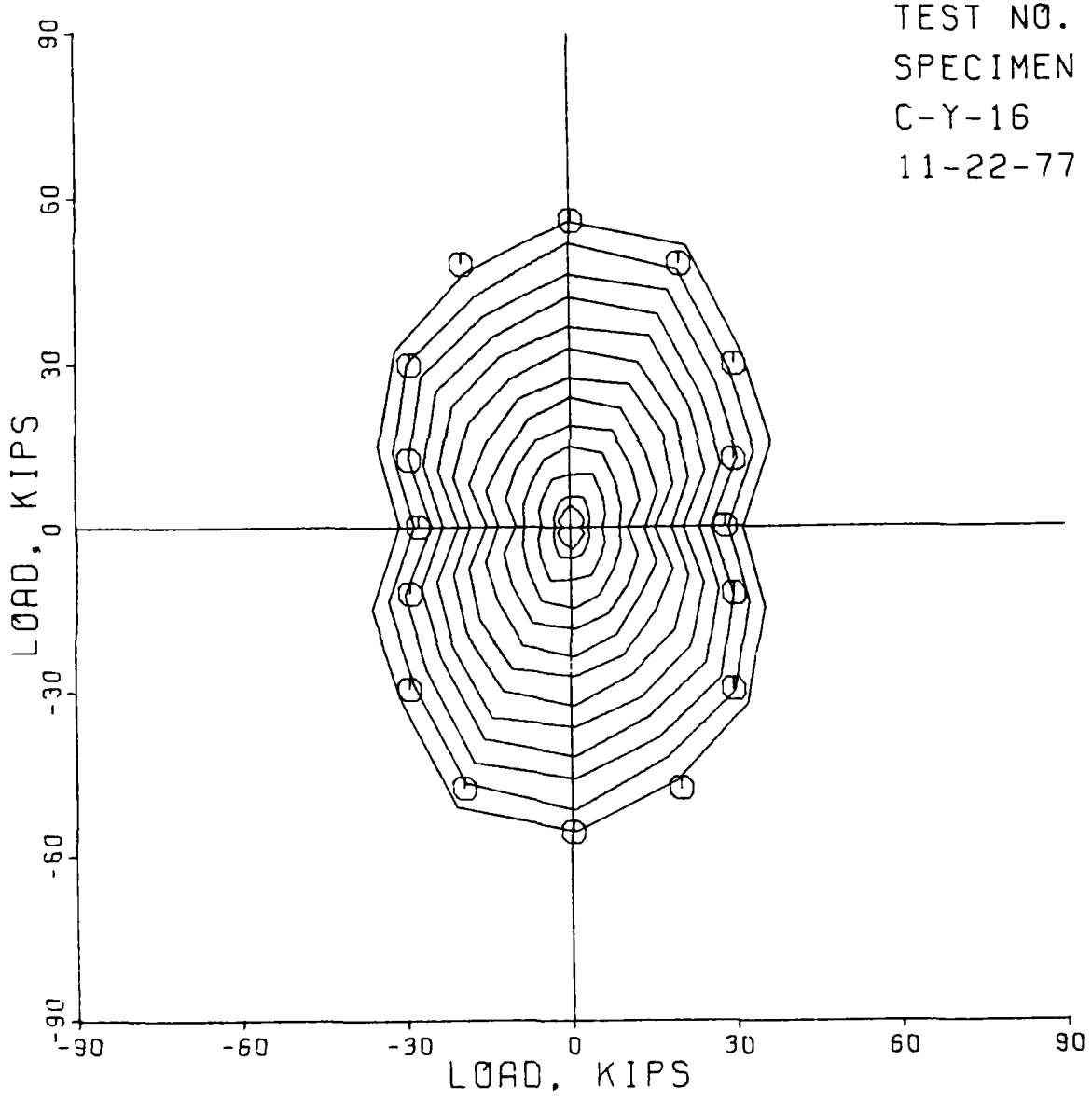
Specimen #3

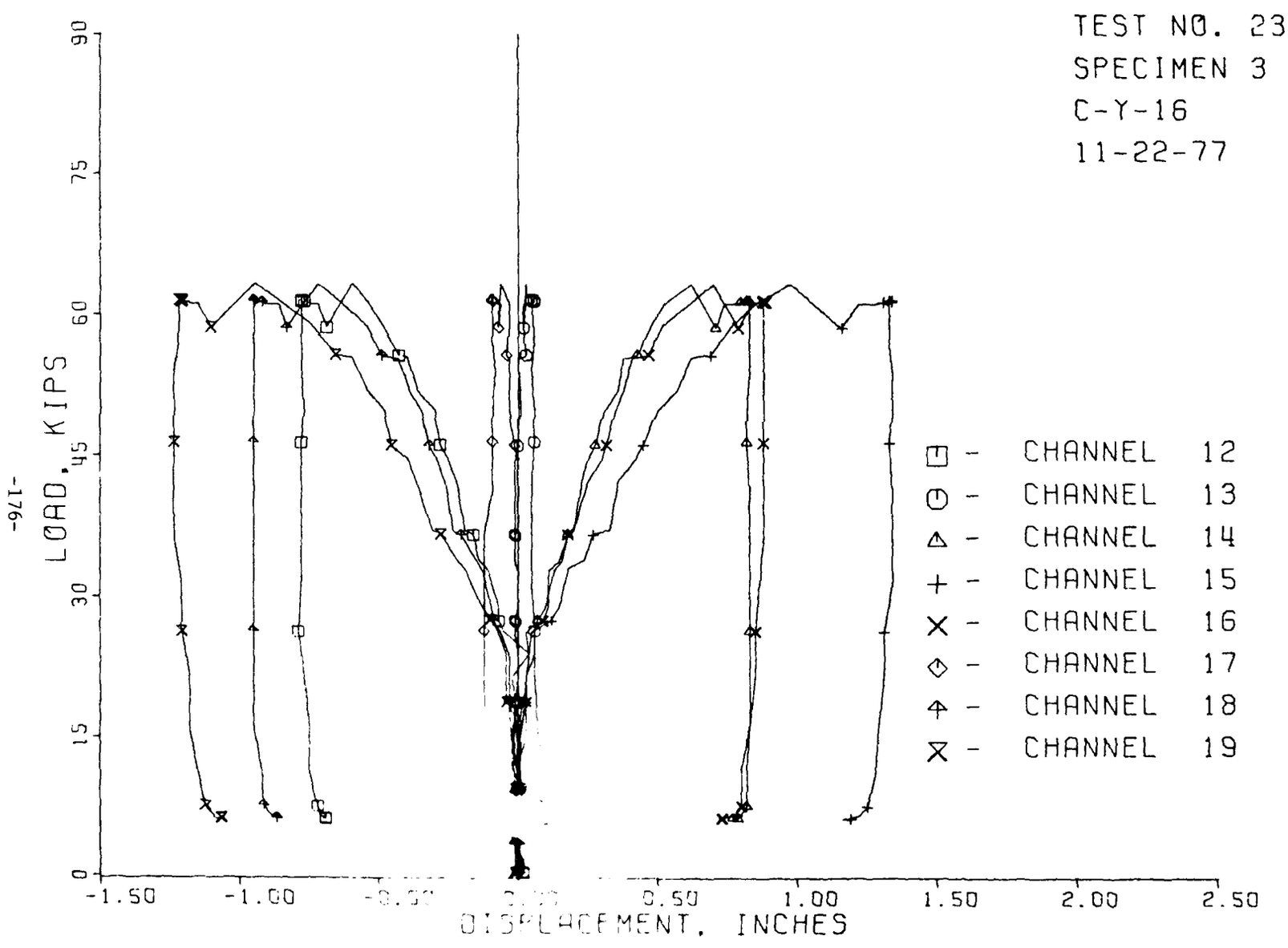
C-Y-16
Without concrete studs

Test #23
1:2 Load
22 Nov. 1977

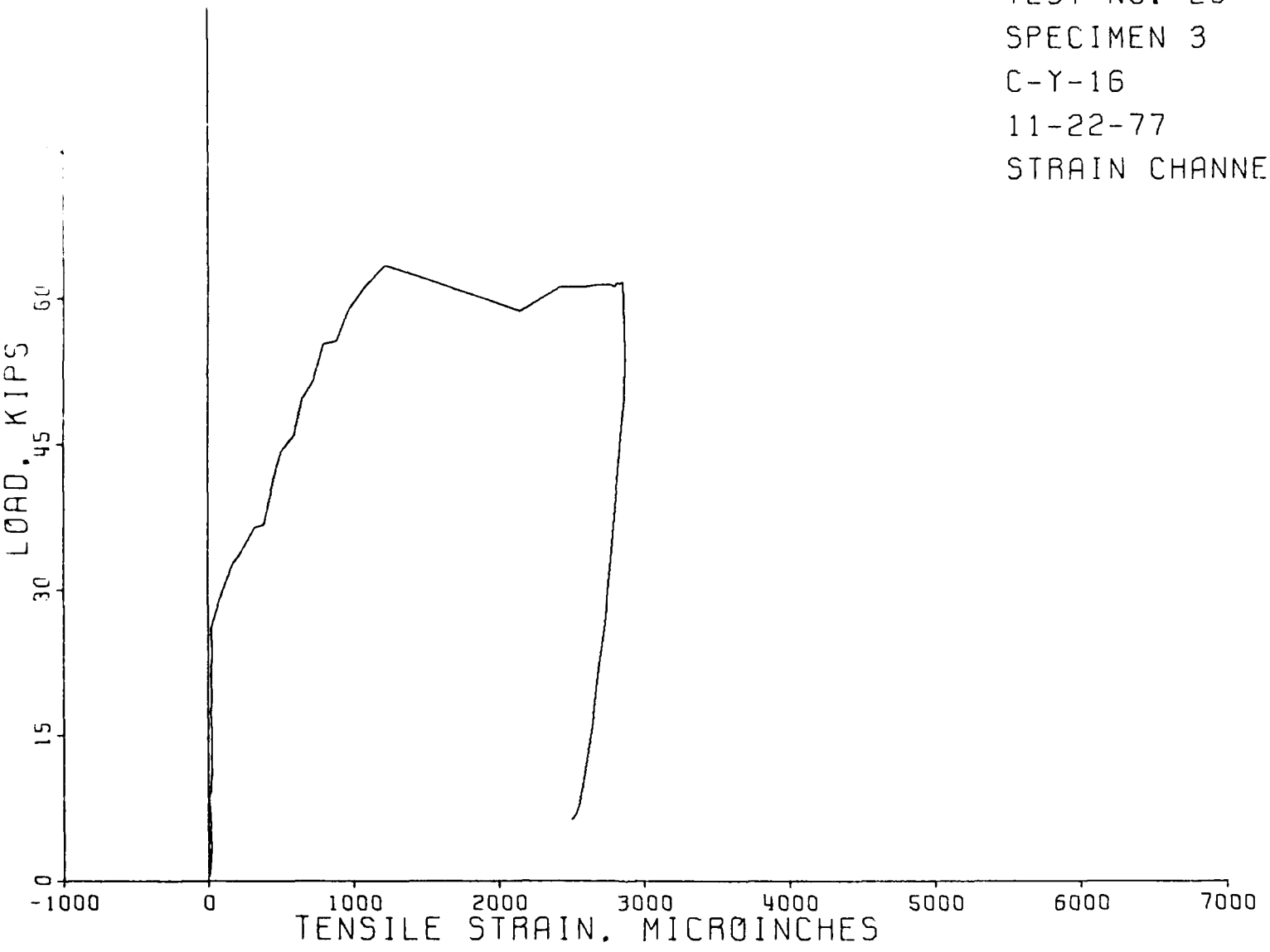


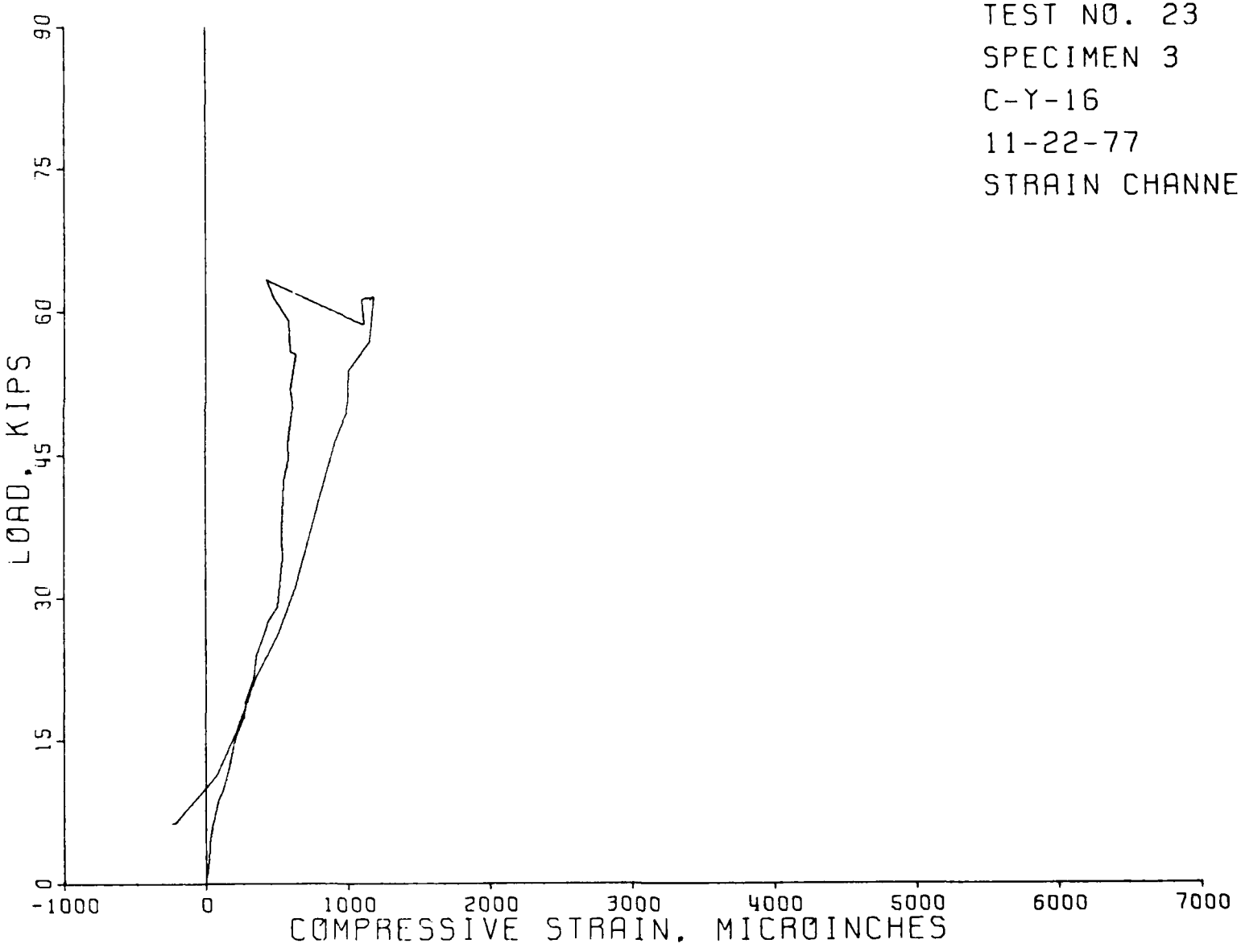
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 2" from top. Odd gages on Rebar.
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

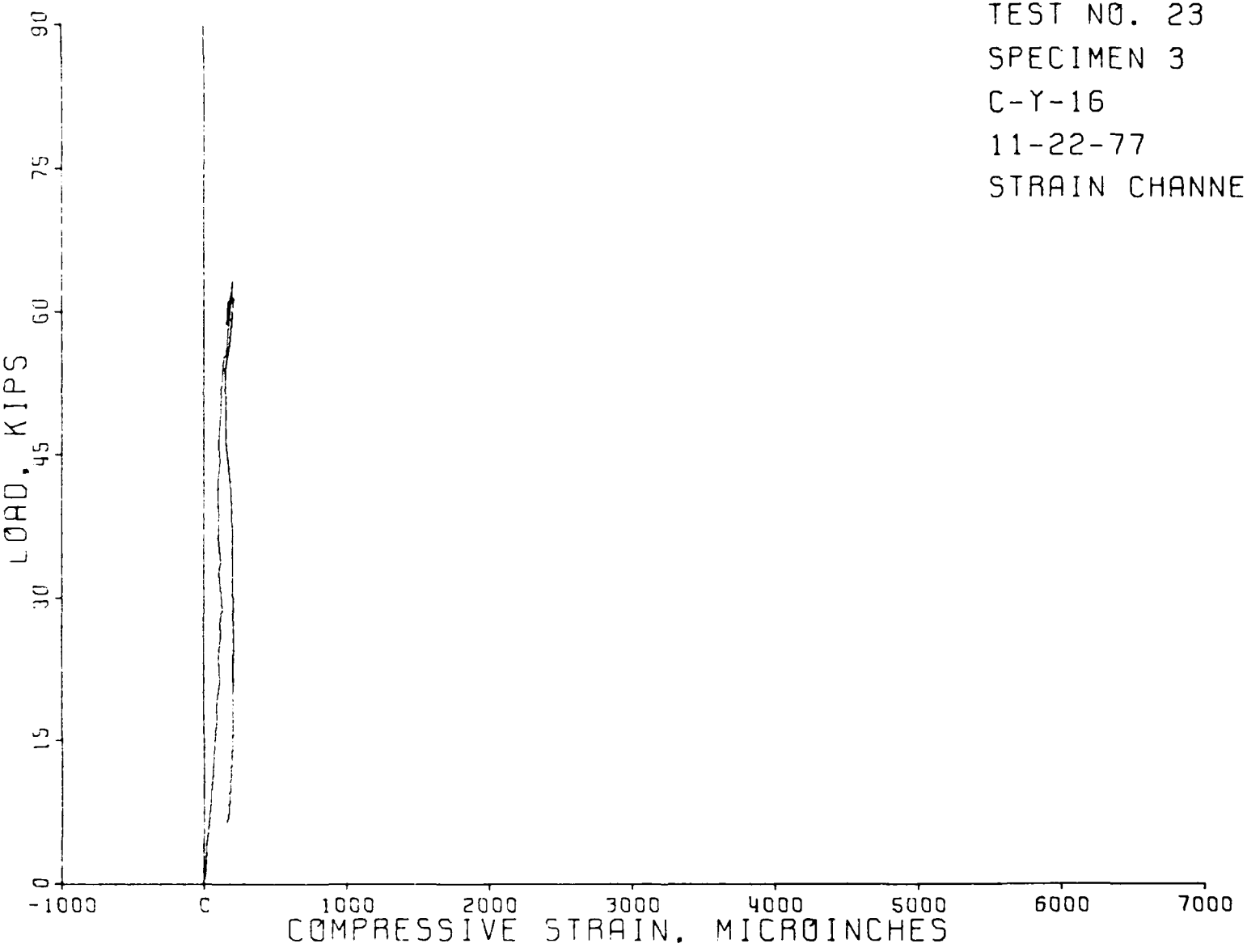

TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
LOAD, KIPS
LOAD, KIPS
90
60
30
0
-30
-60
-90
-90
-60
-30
0
30
60
90


TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
LOAD, KIPS
0
15
30
45
60
75
90
-1.50
-1.00
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
□ - CHANNEL 12
○ - CHANNEL 13
△ - CHANNEL 14
+ - CHANNEL 15
X - CHANNEL 16
◇ - CHANNEL 17
⏃ - CHANNEL 18
⧖ - CHANNEL 19

TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 30




TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 31
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 32
LOAD, KIPS
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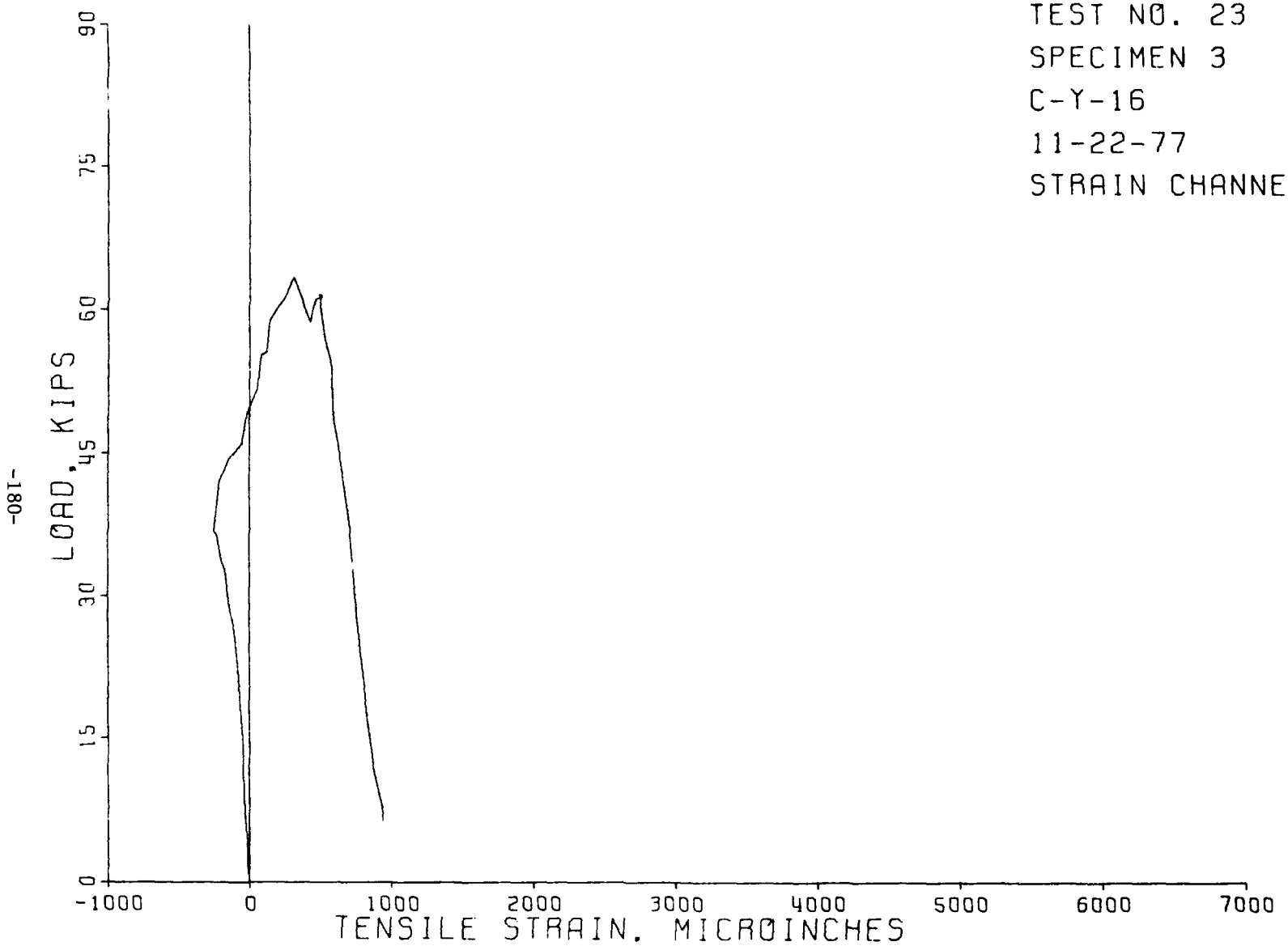
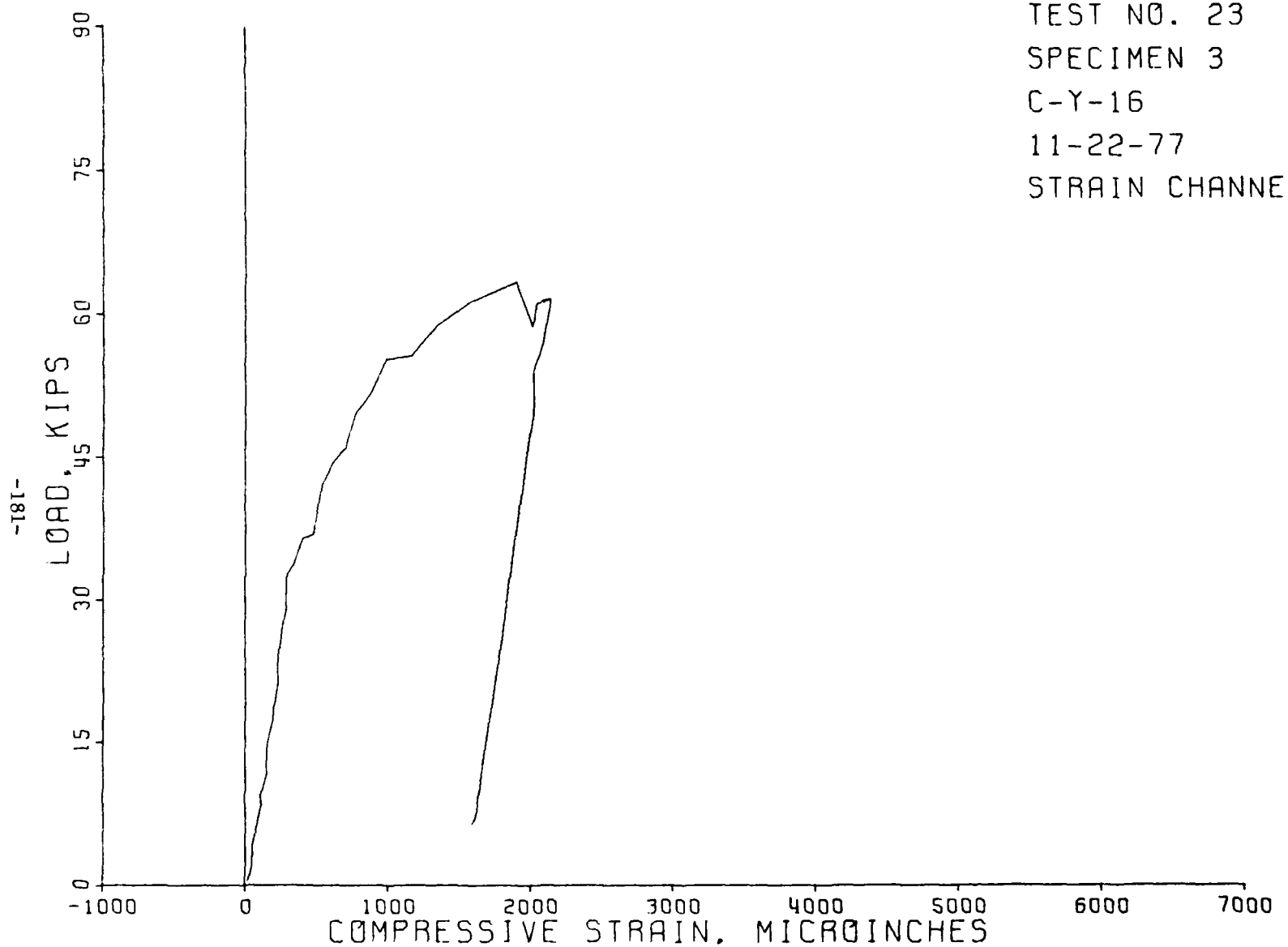
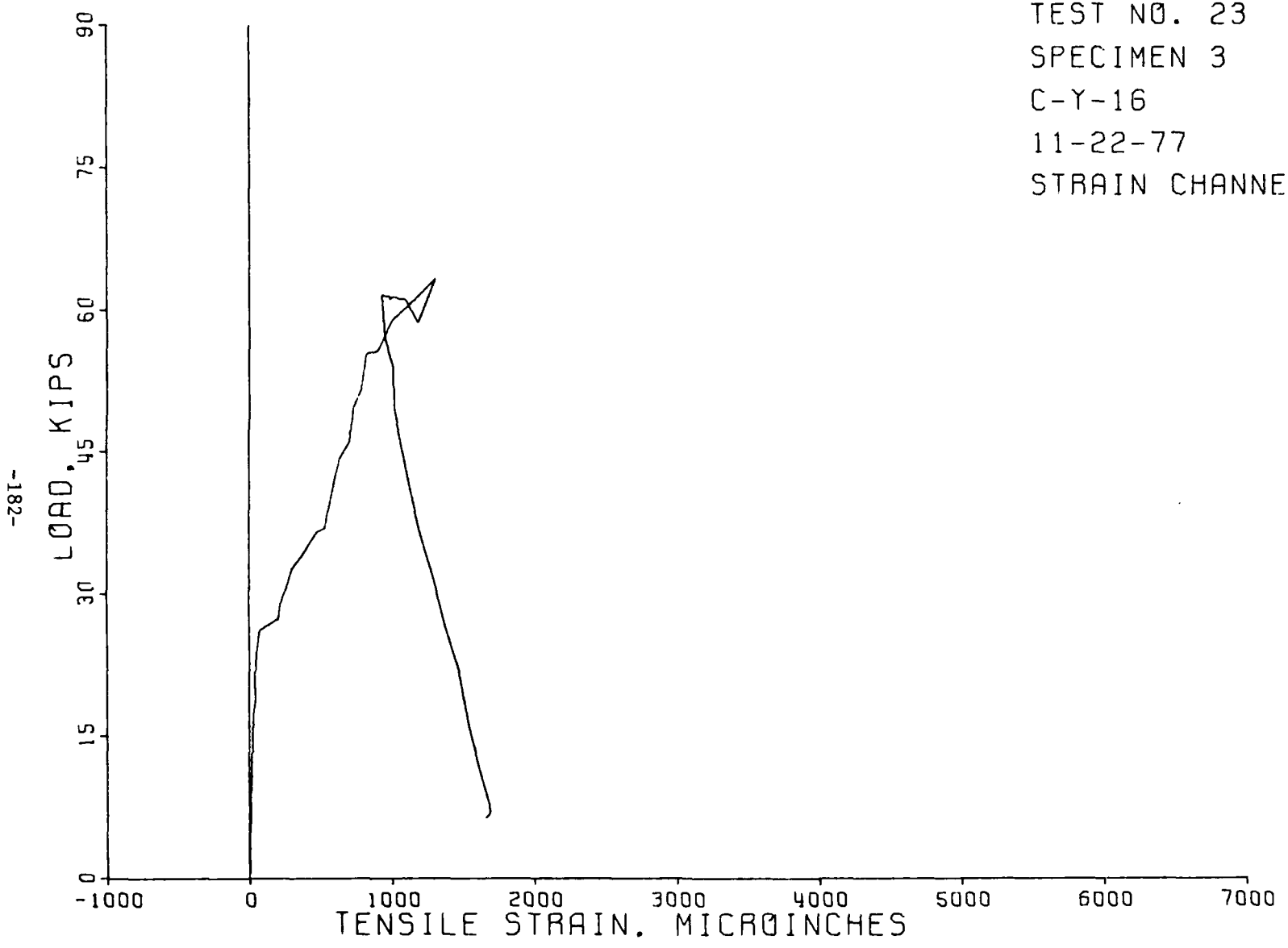
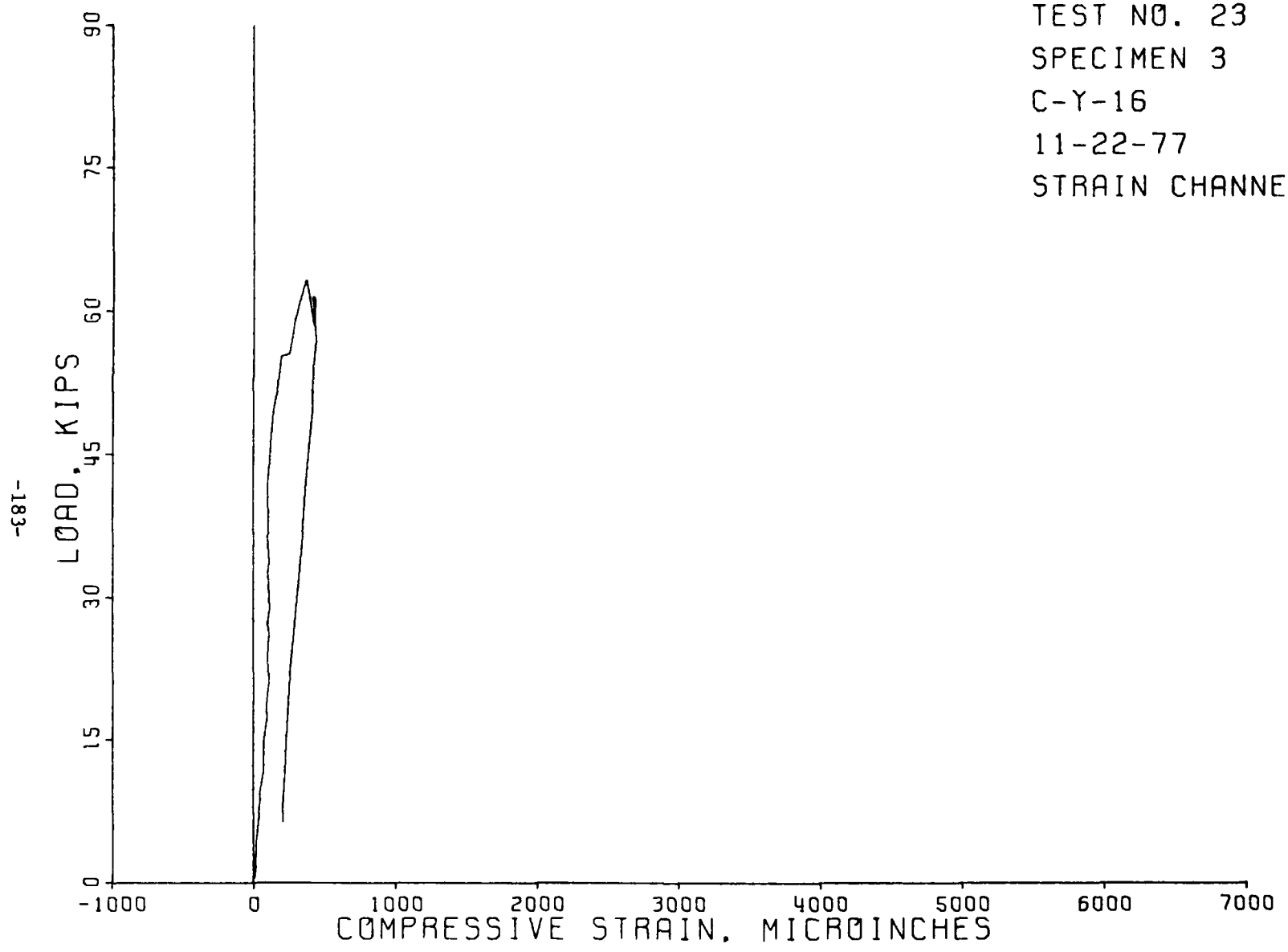
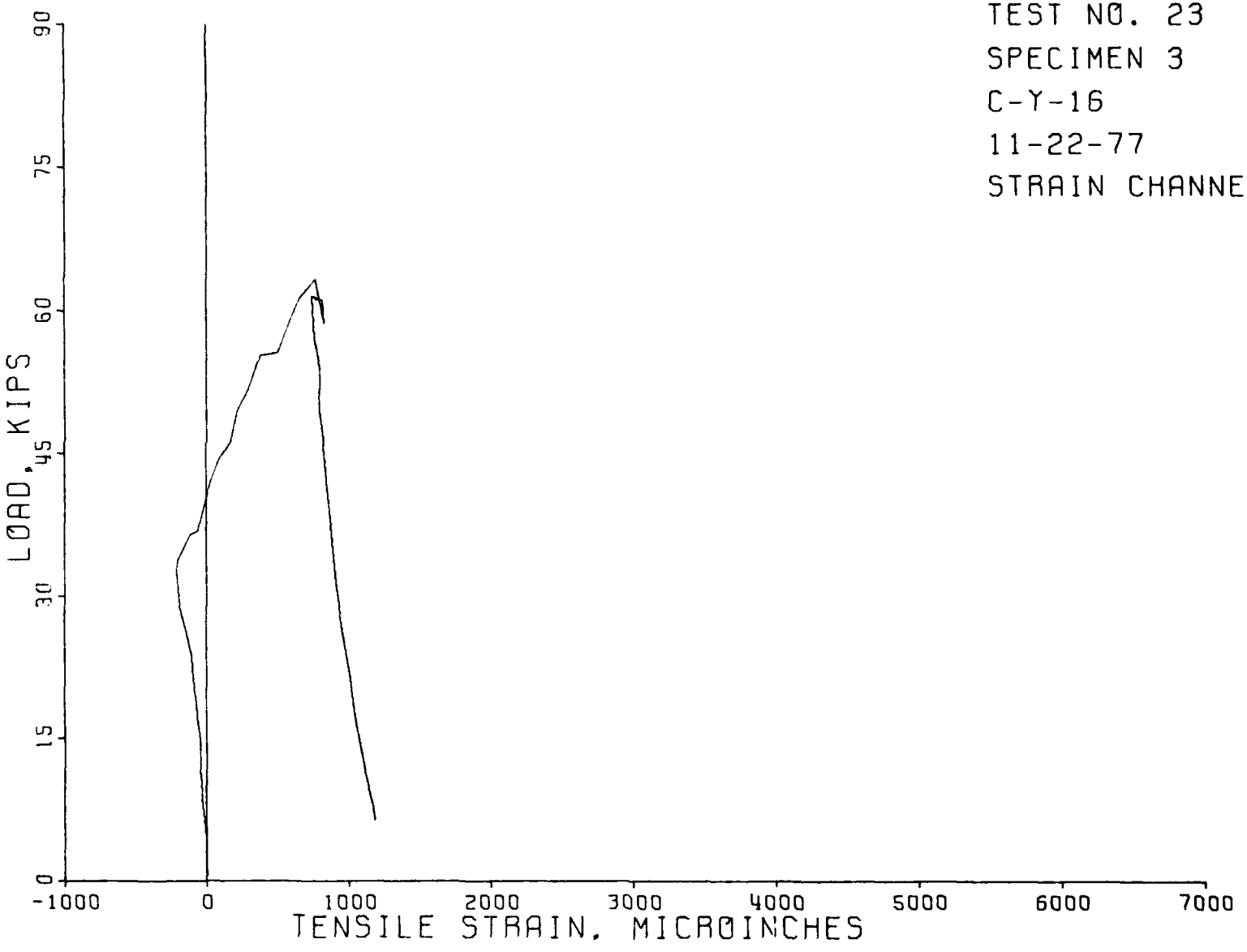
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

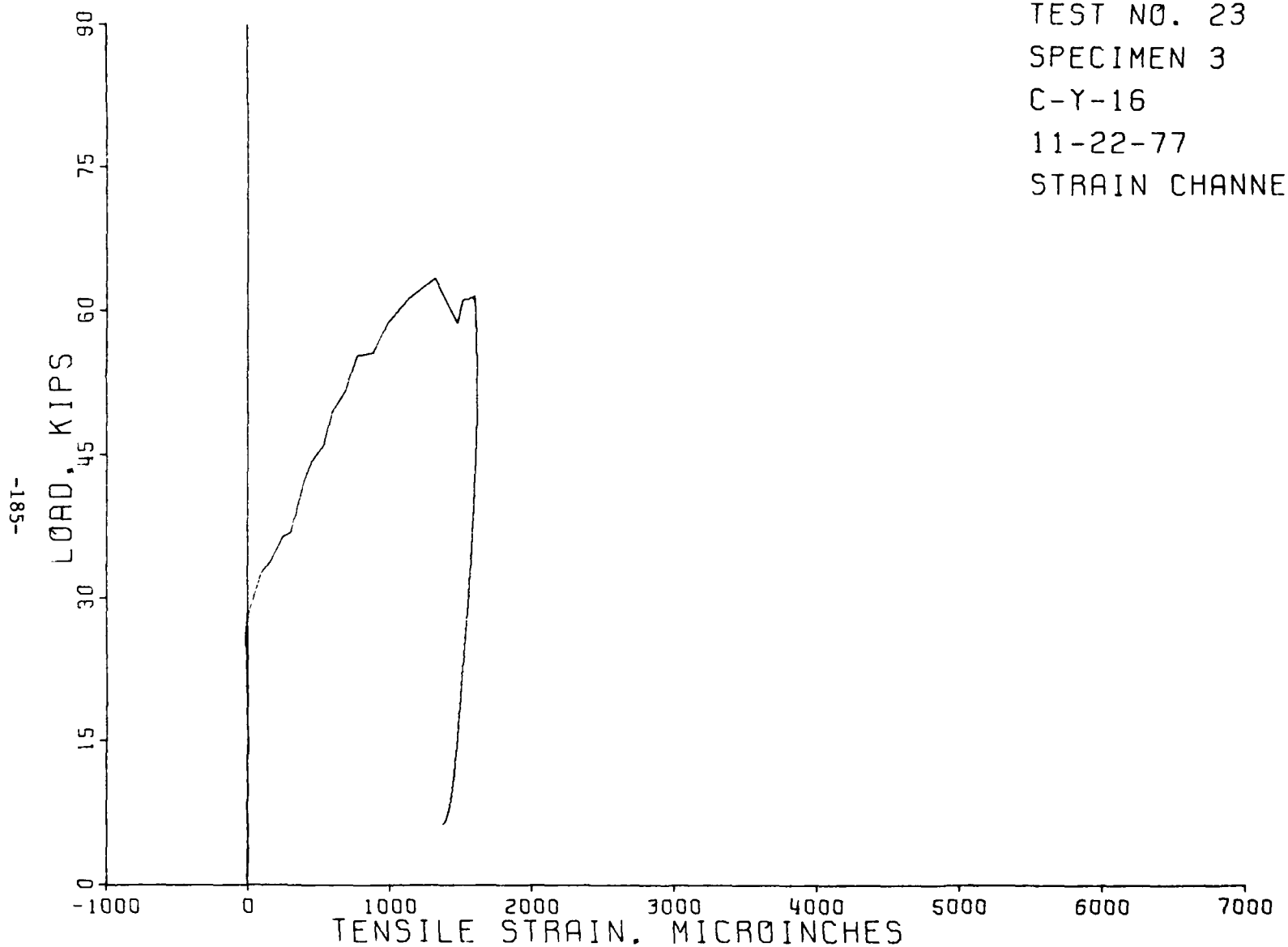

TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 33
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

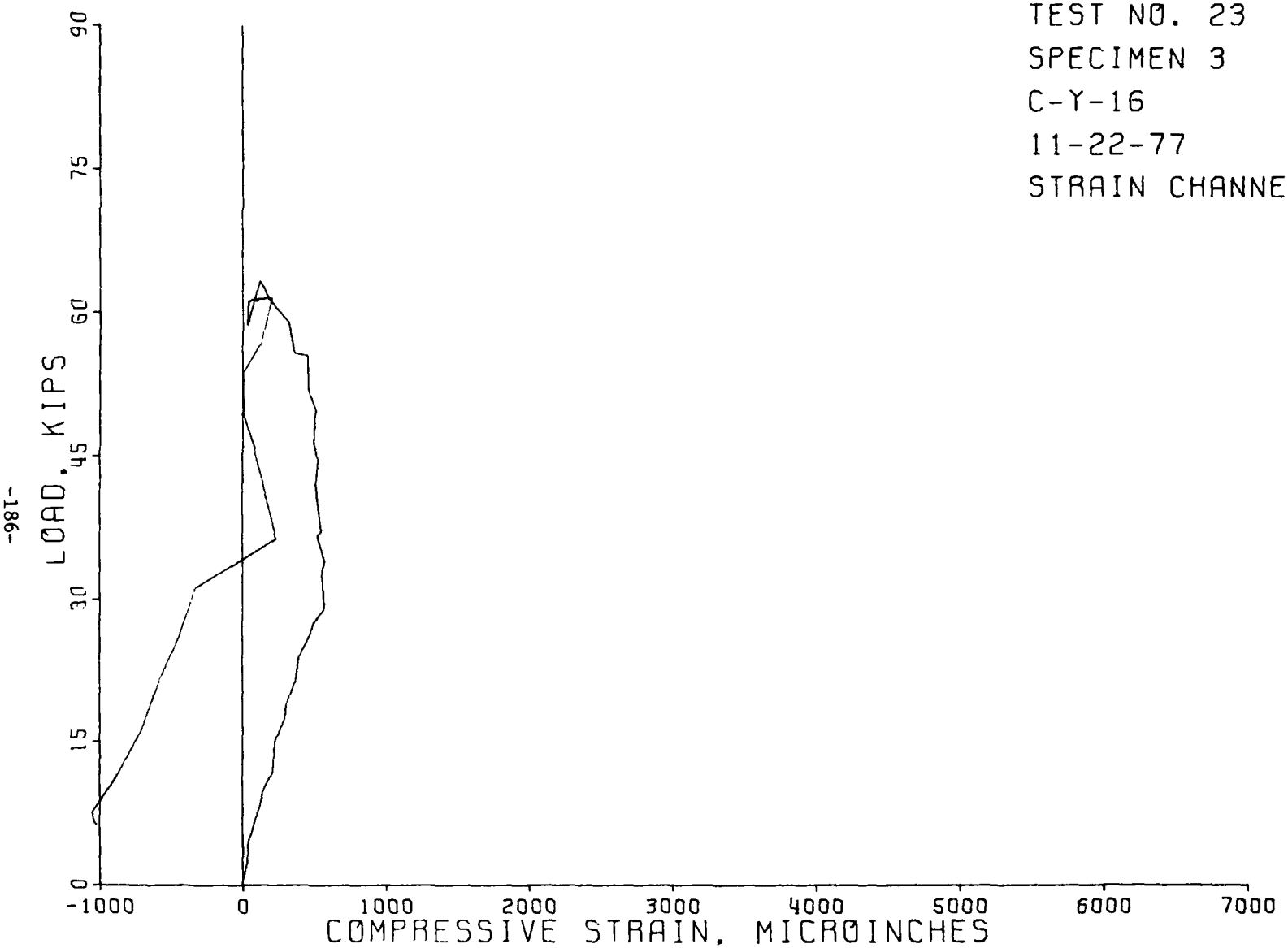

TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 34
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

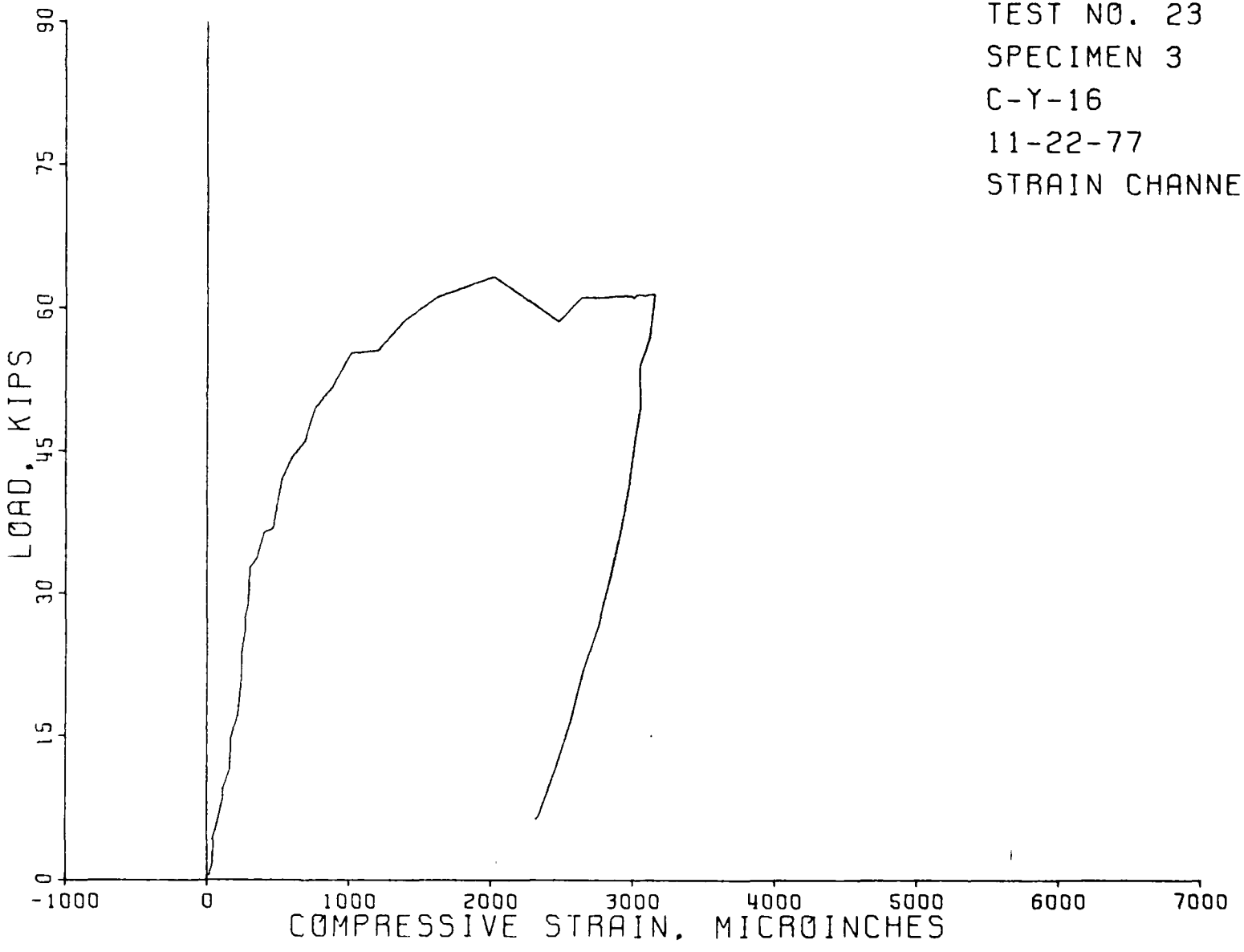

TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 35
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

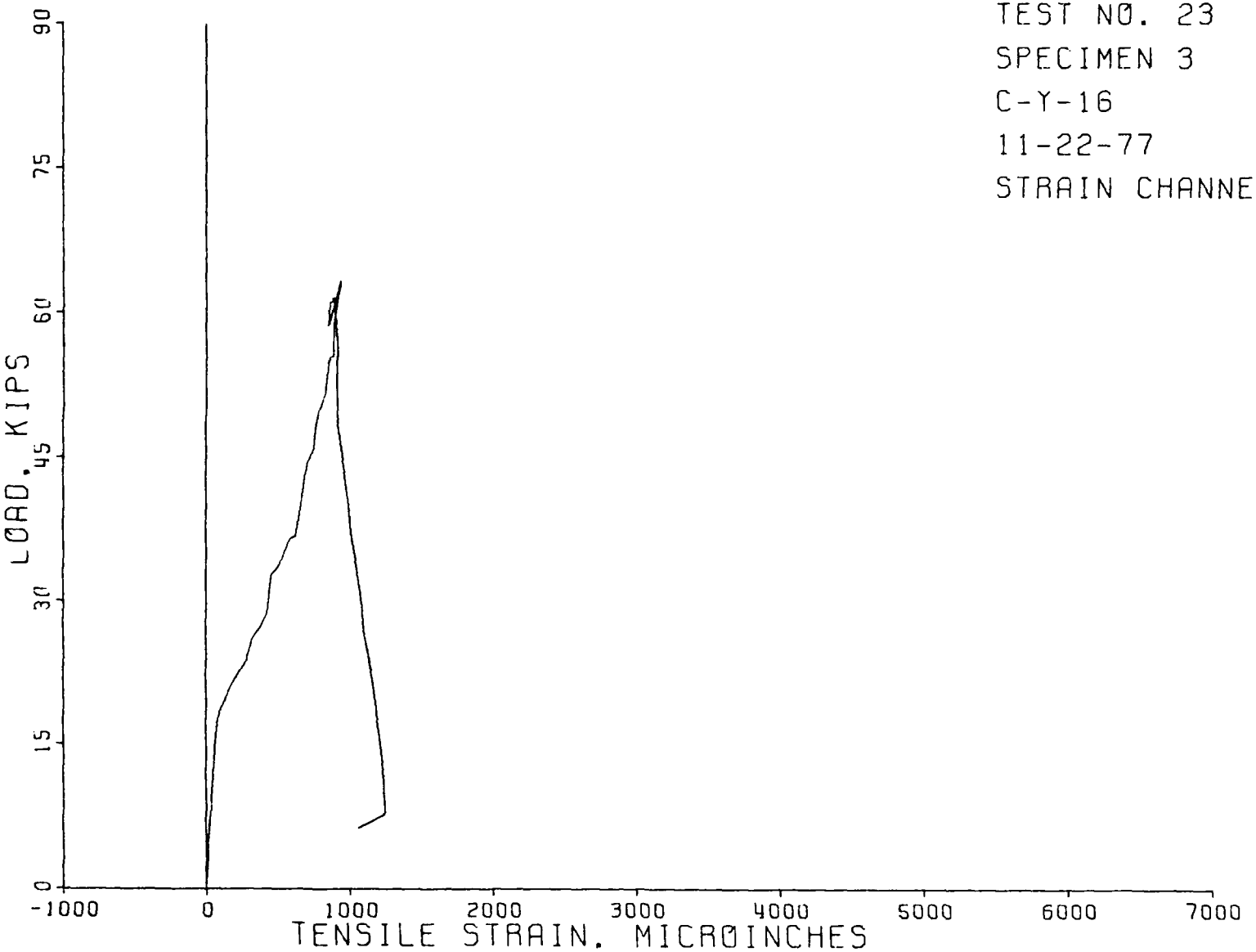

TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 36
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 37
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 38
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 39
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 40
LOAD, KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NØ. 23
SPECIMEN 3
C-Y-16
11-22-77
STRAIN CHANNEL 41
LØAD. KIPS
0
15
30
45
60
75
90
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN. MICRØINCHES

TEST NO. 23 SPECIMEN 3 C-Y-16 11-22-77

NUMBER OF INCREMENTS= 77
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

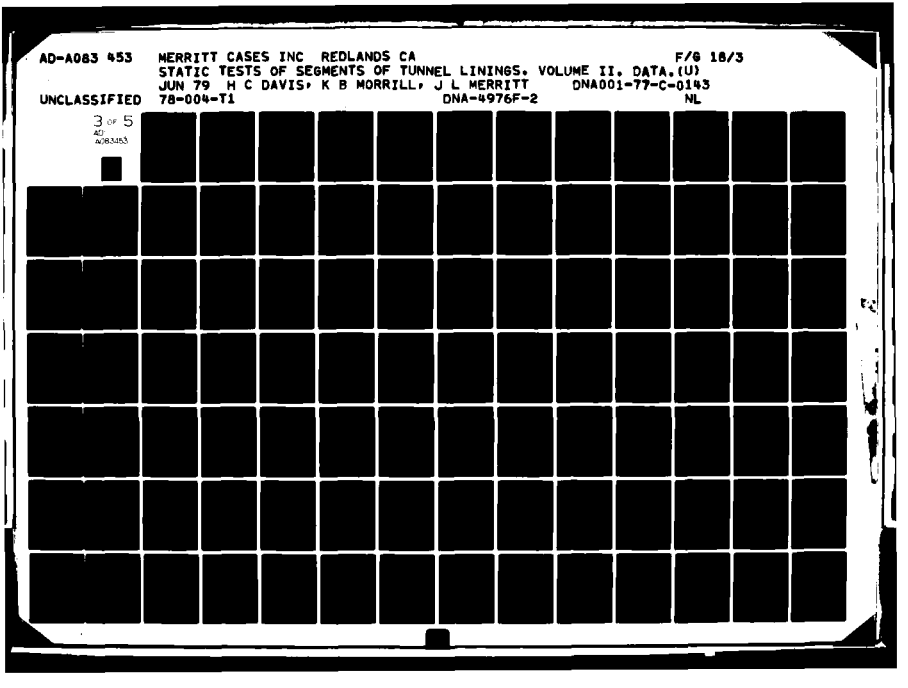
DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

AD-A083 453 MERRITT CASES INC REDLANDS CA F/G 18/3
STATIC TESTS OF SEGMENTS OF TUNNEL LININGS, VOLUME II, DATA.(U)
JUN 79 H C DAVIS, K B MORRILL, J L MERRITT DNA001-77-C-0143
UNCLASSIFIED 78-004-T1 DNA-4976F-2 NL

3 OF 5
AD
A083453



STRAIN CHANNELS

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	22:16:25: 9	6.000	-4.000	-7.000	-7.000	-18.000	3.000	-4.000	4.000
2.	22:16:25:51	10.000	-17.000	-16.000	-14.000	-43.000	4.000	-11.000	-2.000
3.	22:16:26: 6	14.000	-20.000	-15.000	-14.000	-46.000	7.000	-9.000	-2.000
4.	22:16:26:22	19.000	-24.000	-18.000	-16.000	-51.000	5.000	-13.000	-3.000
5.	22:16:26:37	13.000	-23.000	-21.000	-17.000	-48.000	3.000	-14.000	-3.000
6.	22:16:29:27	17.000	-46.000	-32.000	-27.000	-73.000	7.000	-24.000	-11.000
7.	22:16:29:43	19.000	-47.000	-30.000	-26.000	-72.000	9.000	-23.000	-9.000
8.	22:16:29:59	7.000	-88.000	-51.000	-39.000	-114.000	12.000	-46.000	-29.000
9.	22:16:30:14	19.000	-121.000	-50.000	-38.000	-111.000	16.000	-44.000	-29.000
10.	22:16:30:30	23.000	-158.000	-64.000	-46.000	-151.000	22.000	-68.000	-45.000
11.	22:16:30:45	27.000	-206.000	-74.000	-48.000	-154.000	26.000	-70.000	-45.000
12.	22:16:31: 1	22.000	-268.000	-97.000	-62.000	-196.000	29.000	-95.000	-64.000
13.	22:16:31:16	26.000	-276.000	-90.000	-66.000	-201.000	43.000	-88.000	-70.000
14.	22:16:31:32	20.000	-334.000	-115.000	-79.000	-232.000	39.000	-109.000	-93.000
15.	22:16:31:48	27.000	-356.000	-106.000	-88.000	-230.000	48.000	-99.000	-105.000
16.	22:16:32: 3	18.000	-416.000	-122.000	-108.000	-253.000	73.000	-111.000	-139.000
17.	22:16:32:19	47.000	-440.000	-115.000	-119.000	-263.000	207.000	-99.000	-159.000
18.	22:16:32:34	73.000	-504.000	-128.000	-147.000	-288.000	219.000	-114.000	-188.000
19.	22:16:32:50	170.000	-530.000	-107.000	-173.000	-295.000	306.000	-100.000	-208.000
20.	22:16:33: 6	222.000	-541.000	-119.000	-199.000	-342.000	362.000	-109.000	-200.000
21.	22:16:33:21	321.000	-535.000	-99.000	-231.000	-403.000	477.000	-93.000	-111.000
22.	22:16:33:37	386.000	-535.000	-105.000	-256.000	-475.000	532.000	-106.000	-61.000
23.	22:16:33:52	461.000	-550.000	-100.000	-209.000	-539.000	599.000	-99.000	30.000
24.	22:16:34: 8	504.000	-587.000	-113.000	-146.000	-613.000	642.000	-113.000	88.000
25.	22:16:34:24	595.000	-581.000	-104.000	-53.000	-704.000	703.000	-119.000	167.000
26.	22:16:34:39	645.000	-613.000	-119.000	-9.000	-774.000	730.000	-140.000	219.000
27.	22:16:34:55	731.000	-595.000	-125.000	56.000	-880.000	790.000	-171.000	296.000
28.	22:16:35:10	794.000	-635.000	-138.000	82.000	-996.000	824.000	-196.000	378.000
29.	22:16:35:26	886.000	-597.000	-159.000	122.000	-1167.000	902.000	-254.000	501.000
30.	22:16:35:42	972.000	-585.000	-174.000	143.000	-1354.000	999.000	-290.000	584.000
31.	22:16:35:57	1086.000	-479.000	-195.000	249.000	-1586.000	1177.000	-329.000	657.000
32.	22:16:36:13	1217.000	-427.000	-204.000	312.000	-1907.000	1311.000	-372.000	769.000
33.	22:16:36:29	2144.000	-1115.000	-161.000	432.000	-2019.000	1184.000	-424.000	832.000
34.	22:16:36:44	2424.000	-1098.000	-172.000	466.000	-2048.000	1097.000	-433.000	822.000
35.	22:16:37: 0	2584.000	-1107.000	-178.000	490.000	-2068.000	1062.000	-435.000	803.000
36.	22:16:37:15	2687.000	-1129.000	-187.000	502.000	-2087.000	1030.000	-435.000	787.000
37.	22:16:37:31	2759.000	-1159.000	-192.000	506.000	-2104.000	1004.000	-433.000	774.000
38.	22:16:37:47	2802.000	-1159.000	-195.000	501.000	-2101.000	992.000	-437.000	773.000
39.	22:16:38: 2	2815.000	-1163.000	-197.000	507.000	-2107.000	981.000	-432.000	769.000
40.	22:16:38:18	2823.000	-1169.000	-200.000	505.000	-2114.000	973.000	-429.000	765.000
41.	22:16:38:34	2828.000	-1173.000	-202.000	502.000	-2121.000	967.000	-427.000	762.000
42.	22:16:38:49	2834.000	-1170.000	-200.000	502.000	-2120.000	965.000	-429.000	762.000
43.	22:16:39: 5	2839.000	-1173.000	-201.000	502.000	-2121.000	962.000	-429.000	761.000
44.	22:16:39:20	2842.000	-1173.000	-202.000	500.000	-2123.000	958.000	-427.000	759.000
45.	22:16:39:36	2844.000	-1175.000	-204.000	500.000	-2125.000	955.000	-425.000	758.000
46.	22:16:39:52	2846.000	-1175.000	-205.000	498.000	-2129.000	950.000	-424.000	755.000
47.	22:16:40: 7	2848.000	-1175.000	-206.000	497.000	-2131.000	948.000	-423.000	754.000
48.	22:16:40:23	2849.000	-1177.000	-206.000	495.000	-2134.000	946.000	-422.000	752.000
49.	22:16:40:39	2851.000	-1178.000	-207.000	495.000	-2135.000	944.000	-421.000	751.000
50.	22:16:40:54	2852.000	-1181.000	-208.000	494.000	-2138.000	942.000	-420.000	750.000
51.	22:16:41:10	2854.000	-1182.000	-208.000	494.000	-2139.000	940.000	-420.000	749.000
52.	22:16:41:25	2856.000	-1181.000	-208.000	494.000	-2140.000	938.000	-420.000	749.000
53.	22:16:41:41	2857.000	-1181.000	-208.000	493.000	-2142.000	936.000	-419.000	747.000
54.	22:16:41:57	2857.000	-1183.000	-209.000	492.000	-2143.000	934.000	-418.000	746.000

55.	22:16:42:12	2859.000	-1184.000	-210.000	491.000	-2146.000	932.000	-417.000	745.000
56.	22:16:42:28	2860.000	-1186.000	-211.000	490.000	-2148.000	931.000	-416.000	744.000
57.	22:16:42:44	2861.000	-1186.000	-211.000	490.000	-2148.000	930.000	-416.000	743.000
58.	22:16:42:59	2868.000	-1153.000	-185.000	528.000	-2094.000	949.000	-440.000	759.000
59.	22:16:43:15	2873.000	-1004.000	-152.000	582.000	-2024.000	1011.000	-418.000	799.000
60.	22:16:43:31	2868.000	-996.000	-153.000	586.000	-2026.000	1017.000	-416.000	797.000
61.	22:16:43:46	2848.000	-916.000	-157.000	621.000	-1991.000	1057.000	-394.000	819.000
62.	22:16:44: 2	2822.000	-816.000	-188.000	671.000	-1946.000	1124.000	-365.000	849.000
63.	22:16:44:17	2796.000	-728.000	-199.000	709.000	-1896.000	1194.000	-344.000	879.000
64.	22:16:44:33	2767.000	-633.000	-199.000	736.000	-1850.000	1294.000	-316.000	911.000
65.	22:16:44:49	2733.000	-512.000	-208.000	767.000	-1810.000	1377.000	-286.000	954.000
66.	22:16:45: 4	2690.000	-351.000	-207.000	800.000	-1759.000	1470.000	-255.000	1006.000
67.	22:16:45:20	2648.000	-227.000	-204.000	835.000	-1707.000	1537.000	-237.000	1055.000
68.	22:16:45:36	2600.000	-75.000	-192.000	882.000	-1656.000	1614.000	-220.000	1115.000
69.	22:16:45:51	2557.000	147.000	-177.000	935.000	-1625.000	1686.000	-207.000	1177.000
70.	22:16:46: 7	2534.000	193.000	-169.000	939.000	-1609.000	1689.000	-207.000	1180.000
71.	22:16:46:23	2520.000	211.000	-164.000	940.000	-1598.000	1678.000	-206.000	1183.000
72.	22:16:46:38	2513.000	220.000	-162.000	940.000	-1593.000	1672.000	-205.000	1185.000
73.	22:16:46:54	2510.000	226.000	-161.000	941.000	-1588.000	1668.000	-205.000	1185.000
74.	22:16:47:10	2507.000	230.000	-160.000	940.000	-1587.000	1665.000	-206.000	1186.000
75.	22:16:47:25	2505.000	233.000	-159.000	940.000	-1585.000	1662.000	-205.000	1186.000
76.	22:16:47:41	2505.000	235.000	-159.000	940.000	-1583.000	1657.000	-205.000	1187.000
77.	22:16:47:56	2504.000	235.000	-158.000	940.000	-1583.000	1658.000	-205.000	1187.000

STRAIN CHANNELS

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	22:16:25: 9	-3.000	-6.000	-14.000	-1.000	
2.	22:16:25:51	1.000	-25.000	-38.000	7.000	
3.	22:16:26: 6	6.000	-29.000	-41.000	12.000	
4.	22:16:26:22	5.000	-35.000	-45.000	10.000	
5.	22:16:26:37	2.000	-35.000	-42.000	8.000	
6.	22:16:29:27	5.000	-69.000	-71.000	17.000	
7.	22:16:29:43	7.000	-69.000	-69.000	19.000	
8.	22:16:29:59	-3.000	-132.000	-116.000	34.000	
9.	22:16:30:14	3.000	-139.000	-116.000	35.000	
10.	22:16:30:30	1.000	-212.000	-165.000	50.000	
11.	22:16:30:45	5.000	-224.000	-168.000	60.000	
12.	22:16:31: 1	-4.000	-297.000	-221.000	81.000	
13.	22:16:31:16	-3.000	-303.000	-228.000	101.000	
14.	22:16:31:32	-11.000	-372.000	-247.000	175.000	
15.	22:16:31:48	-9.000	-396.000	-245.000	276.000	
16.	22:16:32: 3	-15.000	-474.000	-270.000	326.000	
17.	22:16:32:19	-5.000	-500.000	-272.000	382.000	
18.	22:16:32:34	15.000	-568.000	-296.000	427.000	
19.	22:16:32:50	101.000	-557.000	-306.000	456.000	
20.	22:16:33: 6	153.000	-576.000	-355.000	505.000	
21.	22:16:33:21	252.000	-526.000	-404.000	578.000	
22.	22:16:33:37	304.000	-548.000	-463.000	627.000	
23.	22:16:33:52	395.000	-511.000	-528.000	678.000	
24.	22:16:34: 8	450.000	-530.000	-601.000	707.000	
25.	22:16:34:24	535.000	-495.000	-692.000	750.000	
26.	22:16:34:39	598.000	-510.000	-766.000	781.000	
27.	22:16:34:55	689.000	-458.000	-878.000	831.000	
28.	22:16:35:10	768.000	-453.000	-1009.000	860.000	
29.	22:16:35:26	879.000	-365.000	-1198.000	884.000	
30.	22:16:35:42	990.000	-319.000	-1395.000	889.000	
31.	22:16:35:57	1134.000	-185.000	-1624.000	916.000	
32.	22:16:36:13	1313.000	-121.000	-2009.000	938.000	
33.	22:16:36:29	1475.000	-32.000	-2471.000	850.000	
34.	22:16:36:44	1515.000	-38.000	-2635.000	858.000	
35.	22:16:37: 0	1547.000	-58.000	-2772.000	874.000	
36.	22:16:37:15	1568.000	-72.000	-2885.000	887.000	
37.	22:16:37:31	1583.000	-94.000	-2980.000	897.000	
38.	22:16:37:47	1590.000	-95.000	-3001.000	889.000	
39.	22:16:38: 2	1592.000	-117.000	-3026.000	891.000	
40.	22:16:38:18	1593.000	-133.000	-3048.000	892.000	
41.	22:16:38:34	1593.000	-144.000	-3066.000	895.000	
42.	22:16:38:49	1596.000	-146.000	-3073.000	894.000	
43.	22:16:39: 5	1597.000	-149.000	-3080.000	895.000	
44.	22:16:39:20	1597.000	-153.000	-3088.000	895.000	
45.	22:16:39:36	1597.000	-160.000	-3095.000	893.000	
46.	22:16:39:52	1597.000	-166.000	-3100.000	889.000	
47.	22:16:40: 7	1597.000	-170.000	-3106.000	868.000	
48.	22:16:40:23	1597.000	-176.000	-3113.000	890.000	
49.	22:16:40:39	1597.000	-180.000	-3120.000	890.000	
50.	22:16:40:54	1598.000	-184.000	-3125.000	890.000	
51.	22:16:41:10	1599.000	-187.000	-3130.000	891.000	
52.	22:16:41:25	1599.000	-188.000	-3135.000	893.000	
53.	22:16:41:41	1599.000	-191.000	-3140.000	894.000	
54.	22:16:41:57	1599.000	-195.000	-3145.000	893.000	
55.	22:16:42:12	1599.000	-199.000	-3149.000	892.000	

56.	22:16:42:28	1599.000	-203.000	-3154.000	891.000
57.	22:16:42:44	1600.000	-205.000	-3157.000	892.000
58.	22:16:42:59	1612.000	-130.000	-3119.000	913.000
59.	22:16:43:15	1614.000	-6.000	-3050.000	910.000
60.	22:16:43:31	1614.000	-3.000	-3055.000	908.000
61.	22:16:43:46	1608.000	-72.000	-3020.000	936.000
62.	22:16:44: 2	1596.000	-160.000	-2977.000	982.000
63.	22:16:44:17	1582.000	-237.000	-2917.000	1015.000
64.	22:16:44:33	1558.000	330.000	-2841.000	1070.000
65.	22:16:44:49	1535.000	441.000	-2754.000	1106.000
66.	22:16:45: 4	1507.000	582.000	-2651.000	1162.000
67.	22:16:45:20	1482.000	712.000	-2560.000	1204.000
68.	22:16:45:36	1454.000	884.000	-2453.000	1238.000
69.	22:16:45:51	1418.000	1056.000	-2367.000	1244.000
70.	22:16:46: 7	1402.000	1039.000	-2345.000	1144.000
71.	22:16:46:23	1393.000	1029.000	-2335.000	1109.000
72.	22:16:46:38	1388.000	1026.000	-2329.000	1092.000
73.	22:16:46:54	1385.000	1025.000	-2325.000	1081.000
74.	22:16:47:10	1383.000	1022.000	-2322.000	1075.000
75.	22:16:47:25	1381.000	1020.000	-2320.000	1069.000
76.	22:16:47:41	1379.000	1020.000	-2318.000	1060.000
77.	22:16:47:56	1379.000	1019.000	-2318.000	1060.000

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	22:16:25: 9	0.020	0.020	0.0	0.010	-0.010	0.0	-0.001	-0.005
2.	22:16:25:51	0.020	0.010	0.010	0.0	-0.010	0.0	-0.001	-0.012
3.	22:16:26: 6	0.010	0.010	0.0	0.010	0.0	0.0	-0.001	-0.011
4.	22:16:26:22	0.0	0.0	0.010	0.0	-0.010	0.0	-0.001	-0.011
5.	22:16:26:37	0.0	0.010	0.010	0.0	-0.010	0.0	-0.001	-0.012
6.	22:16:29:27	0.0	0.0	0.010	0.010	0.0	0.0	-0.001	-0.012
7.	22:16:29:43	0.0	0.0	0.020	0.0	0.0	0.0	-0.001	-0.012
8.	22:16:29:59	-0.010	0.0	0.020	0.0	-0.010	0.0	-0.001	-0.012
9.	22:16:30:14	0.010	0.0	0.010	0.010	0.0	0.0	-0.001	-0.012
10.	22:16:30:30	-0.020	0.0	0.010	0.0	0.010	0.0	-0.001	-0.012
11.	22:16:30:45	-0.020	0.0	0.010	0.030	0.010	0.0	-0.019	-0.012
12.	22:16:31: 1	-0.010	-0.010	0.010	0.030	0.020	0.0	-0.030	-0.012
13.	22:16:31:16	-0.010	0.0	0.020	0.030	0.030	-0.010	-0.030	-0.042
14.	22:16:31:32	-0.020	0.0	0.030	0.030	0.030	0.0	-0.030	-0.042
15.	22:16:31:48	0.040	0.0	0.040	0.060	0.040	0.0	-0.030	-0.042
16.	22:16:32: 3	-0.050	-0.010	0.030	0.060	0.050	0.0	-0.059	-0.072
17.	22:16:32:19	-0.070	-0.010	0.070	0.120	0.090	-0.010	-0.087	-0.101
18.	22:16:32:34	-0.070	0.0	0.100	0.150	0.110	0.0	-0.095	-0.130
19.	22:16:32:50	-0.110	0.0	0.130	0.180	0.110	0.0	-0.128	-0.191
20.	22:16:33: 6	-0.140	-0.010	0.160	0.240	0.150	-0.010	-0.145	-0.220
21.	22:16:33:21	-0.160	-0.010	0.180	0.270	0.180	-0.010	-0.202	-0.278
22.	22:16:33:37	-0.190	-0.010	0.200	0.330	0.200	0.0	-0.231	-0.308
23.	22:16:33:52	-0.220	-0.010	0.230	0.360	0.250	0.0	-0.260	-0.366
24.	22:16:34: 8	-0.250	-0.010	0.250	0.420	0.300	0.0	-0.288	-0.396
25.	22:16:34:24	-0.280	0.0	0.280	0.450	0.320	-0.010	-0.317	-0.454
26.	22:16:34:39	-0.300	0.010	0.310	0.500	0.350	-0.030	-0.346	-0.483
27.	22:16:34:55	-0.360	0.010	0.360	0.570	0.380	-0.030	-0.387	-0.541
28.	22:16:35:10	-0.400	0.0	0.380	0.620	0.410	-0.030	-0.431	-0.599
29.	22:16:35:26	-0.430	0.030	0.430	0.690	0.470	-0.040	-0.489	-0.658
30.	22:16:35:42	-0.490	0.020	0.480	0.770	0.520	-0.030	-0.546	-0.745
31.	22:16:35:57	-0.540	0.030	0.530	0.860	0.620	-0.030	-0.632	-0.852
32.	22:16:36:13	-0.600	0.030	0.620	0.980	0.700	-0.060	-0.718	-0.948
33.	22:16:36:29	-0.690	0.020	0.710	1.160	0.790	-0.070	-0.833	-1.104
34.	22:16:36:44	-0.720	0.020	0.740	1.220	0.840	-0.060	-0.861	-1.150
35.	22:16:37: 0	-0.750	0.030	0.770	1.280	0.850	-0.090	-0.890	-1.179
36.	22:16:37:15	-0.760	0.060	0.800	1.310	0.850	-0.100	-0.919	-1.179
37.	22:16:37:31	-0.770	0.050	0.800	1.310	0.890	-0.090	-0.919	-1.208
38.	22:16:37:47	-0.770	0.050	0.820	1.330	0.880	-0.090	-0.948	-1.208
39.	22:16:38: 2	-0.780	0.060	0.820	1.330	0.880	-0.090	-0.948	-1.207
40.	22:16:38:18	-0.780	0.050	0.830	1.340	0.890	-0.090	-0.948	-1.207
41.	22:16:38:34	-0.780	0.060	0.830	1.340	0.880	-0.090	-0.948	-1.207
42.	22:16:38:49	-0.780	0.050	0.830	1.340	0.880	-0.080	-0.948	-1.207
43.	22:16:39: 5	-0.780	0.050	0.830	1.330	0.880	-0.090	-0.949	-1.207
44.	22:16:39:20	-0.780	0.060	0.820	1.340	0.880	-0.090	-0.949	-1.208
45.	22:16:39:36	-0.780	0.050	0.830	1.330	0.880	-0.090	-0.949	-1.207
46.	22:16:39:52	-0.780	0.060	0.830	1.330	0.880	-0.090	-0.949	-1.208
47.	22:16:40: 7	-0.780	0.050	0.830	1.340	0.880	-0.090	-0.949	-1.208
48.	22:16:40:23	-0.780	0.050	0.830	1.340	0.880	-0.090	-0.949	-1.207
49.	22:16:40:39	-0.780	0.060	0.820	1.340	0.880	-0.090	-0.949	-1.208
50.	22:16:40:54	-0.780	0.050	0.830	1.340	0.880	-0.090	-0.949	-1.207
51.	22:16:41:10	-0.780	0.050	0.820	1.330	0.890	-0.090	-0.949	-1.208
52.	22:16:41:25	-0.790	0.050	0.830	1.340	0.880	-0.090	-0.949	-1.207
53.	22:16:41:41	-0.780	0.050	0.820	1.340	0.880	-0.090	-0.949	-1.207
54.	22:16:41:57	-0.780	0.060	0.830	1.340	0.880	-0.090	-0.949	-1.211

55.	22:16:42:12	-0.780	0.060	0.830	1.330	0.880	-0.090	-0.949	-1.213
56.	22:16:42:28	-0.780	0.060	0.830	1.340	0.880	-0.090	-0.949	-1.215
57.	22:16:42:44	-0.780	0.050	0.830	1.330	0.880	-0.090	-0.949	-1.218
58.	22:16:42:59	-0.780	0.060	0.830	1.330	0.880	-0.090	-0.949	-1.219
59.	22:16:43:15	-0.780	0.050	0.830	1.340	0.880	-0.080	-0.950	-1.237
60.	22:16:43:31	-0.770	0.060	0.820	1.340	0.880	-0.090	-0.950	-1.236
61.	22:16:43:46	-0.780	0.060	0.820	1.330	0.880	-0.090	-0.949	-1.236
62.	22:16:44: 2	-0.780	0.050	0.830	1.340	0.880	-0.090	-0.950	-1.237
63.	22:16:44:17	-0.780	0.050	0.830	1.340	0.880	-0.120	-0.950	-1.236
64.	22:16:44:33	-0.780	0.050	0.830	1.340	0.865	-0.120	-0.950	-1.207
65.	22:16:44:49	-0.790	0.060	0.830	1.310	0.850	-0.120	-0.950	-1.208
66.	22:16:45: 4	-0.770	0.060	0.830	1.310	0.850	-0.120	-0.950	-1.179
67.	22:16:45:20	-0.750	0.070	0.830	1.290	0.830	-0.120	-0.950	-1.179
68.	22:16:45:36	-0.750	0.090	0.820	1.280	0.800	-0.120	-0.921	-1.151
69.	22:16:45:51	-0.720	0.080	0.820	1.250	0.800	-0.120	-0.913	-1.122
70.	22:16:46: 7	-0.710	0.080	0.800	1.220	0.780	-0.150	-0.893	-1.093
71.	22:16:46:23	-0.690	0.090	0.800	1.190	0.770	-0.150	-0.884	-1.093
72.	22:16:46:38	-0.690	0.090	0.790	1.160	0.740	-0.140	-0.876	-1.077
73.	22:16:46:54	-0.690	0.090	0.790	1.190	0.730	-0.150	-0.864	-1.064
74.	22:16:47:10	-0.690	0.090	0.790	1.190	0.740	-0.150	-0.864	-1.064
75.	22:16:47:25	-0.700	0.090	0.790	1.190	0.740	-0.150	-0.864	-1.064
76.	22:16:47:41	-0.690	0.080	0.780	1.190	0.730	-0.140	-0.864	-1.064
77.	22:16:47:56	-0.690	0.080	0.770	1.190	0.730	-0.150	-0.864	-1.064

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	22:16:25: 9	510.000	1130.000	1080.000	1800.000	500.000	1620.000	930.000	1110.000
2.	22:16:25:51	780.000	2460.000	2230.000	3680.000	1770.000	3130.000	1930.000	2110.000
3.	22:16:26: 6	960.000	1980.000	2320.000	3660.000	2000.000	3220.000	2090.000	1860.000
4.	22:16:26:22	1100.000	2210.000	2960.000	3070.000	3950.000	2690.000	2660.000	2200.000
5.	22:16:26:37	1650.000	2670.000	2900.000	3420.000	4110.000	3040.000	2620.000	2620.000
6.	22:16:29:27	2570.000	4140.000	4320.000	6100.000	5660.000	5360.000	3870.000	3990.000
7.	22:16:29:43	3010.000	3640.000	4350.000	5950.000	5720.000	5260.000	3950.000	3570.000
8.	22:16:29:59	4270.000	7850.000	8050.000	10640.000	8650.000	9000.000	7160.000	6910.000
9.	22:16:30:14	5550.000	6730.000	8110.000	10530.000	9490.000	9260.000	7390.000	6560.000
10.	22:16:30:30	5140.000	7380.000	10440.000	9540.000	11610.000	8610.000	8200.000	7120.000
11.	22:16:30:45	8740.000	9760.000	11440.000	14770.000	14780.000	13120.000	10600.000	9510.000
12.	22:16:31: 1	11240.000	13020.000	15140.000	19000.000	17260.000	15400.000	13390.000	10560.000
13.	22:16:31:16	10140.000	13450.000	15420.000	19080.000	18660.000	16900.000	14400.000	12960.000
14.	22:16:31:32	14380.000	15860.000	18020.000	21700.000	21230.000	16860.000	15570.000	13570.000
15.	22:16:31:48	13290.000	17100.000	19350.000	23510.000	23690.000	20920.000	17600.000	16890.000
16.	22:16:32: 3	15550.000	20460.000	21970.000	26750.000	26140.000	23170.000	19210.000	18060.000
17.	22:16:32:19	15520.000	20320.000	23910.000	28240.000	27340.000	25030.000	21730.000	20150.000
18.	22:16:32:34	18340.000	22830.000	25340.000	30480.000	28900.000	25710.000	23020.000	20190.000
19.	22:16:32:50	18500.000	23460.000	27270.000	32700.000	32770.000	28820.000	26590.000	23210.000
20.	22:16:33: 6	20450.000	25790.000	28470.000	34760.000	33840.000	29690.000	27420.000	23170.000
21.	22:16:33:21	20610.000	26650.000	30740.000	37910.000	36560.000	33380.000	30800.000	26190.000
22.	22:16:33:37	21480.000	27170.000	31230.000	38200.000	36910.000	33570.000	31650.000	26110.000
23.	22:16:33:52	23410.000	29720.000	33800.000	42090.000	42050.000	37110.000	34710.000	29050.000
24.	22:16:34: 8	25640.000	32940.000	35830.000	45260.000	44370.000	39140.000	35810.000	29690.000
25.	22:16:34:24	25540.000	32930.000	37400.000	46800.000	46070.000	41440.000	38560.000	31990.000
26.	22:16:34:39	28740.000	36420.000	39140.000	50140.000	49650.000	43540.000	39780.000	32900.000
27.	22:16:34:55	28600.000	36200.000	40820.000	50830.000	51760.000	45340.000	42260.000	35000.000
28.	22:16:35:10	31280.000	39500.000	43030.000	55480.000	55340.000	49120.000	43910.000	37680.000
29.	22:16:35:26	31330.000	39490.000	44430.000	55460.000	55660.000	49930.000	45460.000	38130.000
30.	22:16:35:42	34890.000	42680.000	45930.000	57560.000	58880.000	51530.000	46120.000	38780.000
31.	22:16:35:57	35320.000	42990.000	47640.000	58170.000	61280.000	53030.000	47870.000	41280.000
32.	22:16:36:13	38520.000	46310.000	49390.000	62550.000	63310.000	57070.000	48430.000	43750.000
33.	22:16:36:29	34750.000	43020.000	47430.000	57890.000	58600.000	54880.000	45030.000	42890.000
34.	22:16:36:44	34500.000	44100.000	48520.000	58650.000	61110.000	54410.000	42950.000	40920.000
35.	22:16:37: 0	34260.000	44340.000	48790.000	59090.000	61110.000	54890.000	43300.000	40370.000
36.	22:16:37:15	34080.000	44760.000	49180.000	59460.000	61360.000	55440.000	43630.000	40480.000
37.	22:16:37:31	34080.000	45040.000	49720.000	60100.000	61320.000	56110.000	44050.000	40620.000
38.	22:16:37:47	33840.000	44580.000	48760.000	59350.000	61060.000	55370.000	43340.000	40180.000
39.	22:16:38: 2	33710.000	44800.000	48860.000	59100.000	61410.000	55090.000	43610.000	40370.000
40.	22:16:38:18	33790.000	45120.000	48990.000	59520.000	61420.000	55450.000	43830.000	40570.000
41.	22:16:38:34	33780.000	45310.000	49120.000	59760.000	61370.000	55640.000	43960.000	40680.000
42.	22:16:38:49	33590.000	44990.000	48870.000	59230.000	61400.000	55290.000	43830.000	40590.000
43.	22:16:39: 5	33660.000	44560.000	48800.000	59000.000	61250.000	54810.000	43620.000	40360.000
44.	22:16:39:20	33460.000	44790.000	48790.000	58830.000	61370.000	54740.000	43610.000	40450.000
45.	22:16:39:36	33470.000	45060.000	48700.000	58990.000	61410.000	54890.000	43640.000	40560.000
46.	22:16:39:52	33900.000	45030.000	48730.000	59190.000	61500.000	55030.000	43720.000	40610.000
47.	22:16:40: 7	33960.000	45090.000	48690.000	59250.000	61520.000	55080.000	43760.000	40670.000
48.	22:16:40:23	33750.000	45350.000	48650.000	59330.000	61500.000	55160.000	43790.000	40730.000
49.	22:16:40:39	33810.000	45360.000	48690.000	59410.000	61500.000	55210.000	43810.000	40760.000
50.	22:16:40:54	33910.000	45370.000	48760.000	59570.000	61460.000	55350.000	43830.000	40810.000
51.	22:16:41:10	33880.000	45180.000	48810.000	58950.000	61590.000	54940.000	43720.000	40680.000
52.	22:16:41:25	33810.000	45210.000	48810.000	59270.000	61500.000	55200.000	43700.000	40770.000
53.	22:16:41:41	33700.000	45290.000	48770.000	59340.000	61470.000	55180.000	43710.000	40810.000
54.	22:16:41:57	33720.000	45420.000	48750.000	59440.000	61520.000	55230.000	43750.000	40880.000

55.	22:16:42:12	33840.000	45490.000	48760.000	59600.000	61510.000	55360.000	43800.000	40930.000
56.	22:16:42:28	33950.000	45570.000	48780.000	59760.000	61490.000	55500.000	43850.000	40970.000
57.	22:16:42:44	33920.000	45640.000	48800.000	59830.000	61520.000	55560.000	43890.000	41020.000
58.	22:16:42:59	30860.000	41930.000	44980.000	58500.000	56900.000	54040.000	42340.000	38530.000
59.	22:16:43:15	30810.000	36140.000	40450.000	56680.000	53850.000	51410.000	39460.000	36090.000
60.	22:16:43:31	25930.000	35170.000	37200.000	46150.000	49430.000	45720.000	34300.000	30190.000
61.	22:16:43:46	23500.000	32370.000	34080.000	42370.000	46330.000	44290.000	32070.000	28790.000
62.	22:16:44: 2	20010.000	29180.000	30730.000	37510.000	41130.000	42320.000	28420.000	25160.000
63.	22:16:44:17	17680.000	25580.000	26680.000	32900.000	36360.000	35600.000	25320.000	20290.000
64.	22:16:44:33	14470.000	22050.000	23490.000	28320.000	31300.000	30630.000	22700.000	17380.000
65.	22:16:44:49	11630.000	18500.000	19530.000	24190.000	26220.000	26090.000	19720.000	14090.000
66.	22:16:45: 4	8600.000	13640.000	16030.000	18640.000	21610.000	20100.000	16750.000	11170.000
67.	22:16:45:20	6320.000	9810.000	12300.000	15270.000	16190.000	16400.000	12800.000	8520.000
68.	22:16:45:36	4510.000	4450.000	9090.000	10010.000	11350.000	10680.000	9290.000	5560.000
69.	22:16:45:51	1550.000	1690.000	5400.000	6770.000	7540.000	7420.000	5940.000	4570.000
70.	22:16:46: 7	2450.000	1110.000	4810.000	6450.000	6680.000	6790.000	5200.000	3450.000
71.	22:16:46:23	2620.000	900.000	4730.000	6360.000	6420.000	6730.000	4980.000	3280.000
72.	22:16:46:38	2680.000	820.000	4720.000	6340.000	6330.000	6710.000	4880.000	3250.000
73.	22:16:46:54	2740.000	780.000	4730.000	6360.000	6260.000	6740.000	4830.000	3260.000
74.	22:16:47:10	2740.000	730.000	4760.000	6330.000	6200.000	6740.000	4790.000	3240.000
75.	22:16:47:25	2800.000	670.000	4790.000	6340.000	6140.000	6760.000	4770.000	3210.000
76.	22:16:47:41	2990.000	620.000	4820.000	6380.000	6300.000	6790.000	4760.000	3240.000
77.	22:16:47:56	2890.000	660.000	4790.000	6470.000	6280.000	6700.000	4850.000	3260.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	22:16:25: 9	-12.812	25.624	-25.624	0.0	12.812	-12.812	12.812	12.812
2.	22:16:25:51	-12.812	12.812	-51.247	-25.624	0.0	-38.435	38.435	-25.624
3.	22:16:26: 6	-25.624	0.0	-64.059	-25.624	0.0	-38.435	25.624	-12.812
4.	22:16:26:22	-25.624	12.812	-76.871	-38.435	0.0	-51.247	38.435	-25.624
5.	22:16:26:37	-25.624	0.0	-76.871	-38.435	-12.812	-64.059	38.435	-25.624
6.	22:16:29:27	-12.812	25.624	-89.683	-76.871	-12.812	-64.059	64.059	-38.435
7.	22:16:29:43	-12.812	12.812	-102.494	-51.247	-12.812	-64.059	51.247	-51.247
8.	22:16:29:59	-12.812	76.871	-76.871	-89.683	-12.812	-102.494	51.247	-64.059
9.	22:16:30:14	0.0	76.871	-64.059	-89.683	0.0	-89.683	64.059	-38.435
10.	22:16:30:30	25.624	115.306	-51.247	-128.118	0.0	-102.494	76.871	-25.624
11.	22:16:30:45	12.812	102.494	-64.059	-102.494	0.0	-102.494	64.059	-38.435
12.	22:16:31: 1	25.624	128.118	-25.624	-166.553	-12.812	-102.494	64.059	-38.435
13.	22:16:31:16	12.812	115.306	-51.247	-140.930	-12.812	-89.683	51.247	-38.435
14.	22:16:31:32	25.624	153.742	25.624	-217.801	-12.812	-38.435	-38.435	-89.683
15.	22:16:31:48	25.624	153.742	25.624	-230.612	0.0	-12.812	-64.059	-102.494
16.	22:16:32: 3	25.624	128.118	25.624	-230.612	25.624	0.0	-38.435	-89.683
17.	22:16:32:19	25.624	102.494	-12.812	-179.365	38.435	-12.812	-12.812	-76.871
18.	22:16:32:34	25.624	102.494	64.059	-269.048	38.435	0.0	51.247	-64.059
19.	22:16:32:50	25.624	64.059	38.435	-256.236	51.247	12.812	89.683	-38.435
20.	22:16:33: 6	12.812	64.059	76.871	-307.483	51.247	12.812	153.742	-25.624
21.	22:16:33:21	25.624	25.624	51.247	-281.859	51.247	25.624	217.801	-12.812
22.	22:16:33:37	25.624	12.812	102.494	-345.918	64.059	25.624	269.048	-12.812
23.	22:16:33:52	12.812	0.0	89.683	-320.295	76.871	38.435	307.483	-12.812
24.	22:16:34: 8	25.624	12.812	166.553	-397.166	89.683	38.435	345.918	0.0
25.	22:16:34:24	38.435	0.0	166.553	-384.354	89.683	51.247	371.542	0.0
26.	22:16:34:39	25.624	0.0	243.424	-474.036	102.494	64.059	397.166	-12.812
27.	22:16:34:55	12.812	0.0	256.236	-461.225	115.306	76.871	371.542	-38.435
28.	22:16:35:10	25.624	0.0	294.671	-512.472	153.742	102.494	281.859	-115.306
29.	22:16:35:26	25.624	-12.812	179.365	-397.166	217.801	166.553	51.247	-204.989
30.	22:16:35:42	25.624	0.0	51.247	-320.295	269.048	217.801	-204.989	-320.295
31.	22:16:35:57	38.435	51.247	-256.236	-115.306	384.354	294.671	-512.472	-474.036
32.	22:16:36:13	25.624	76.871	-435.601	76.871	538.095	422.789	-1153.062	-819.955
33.	22:16:36:29	12.812	-25.624	-358.730	294.671	1793.652	1345.239	-1652.722	-999.320
34.	22:16:36:44	12.812	-25.624	-589.343	563.719	2293.312	1793.652	-1832.087	-1127.438
35.	22:16:37: 0	-89.683	-25.624	-730.272	730.272	2639.230	2139.570	-2024.264	-1255.556
36.	22:16:37:15	-307.483	-38.435	-781.520	807.143	2869.843	2395.806	-2190.817	-1345.239
37.	22:16:37:31	-550.907	-140.930	-807.143	819.955	3062.020	2587.983	-2229.253	-1396.486
38.	22:16:37:47	-627.778	-166.553	-807.143	819.955	3074.832	2626.418	-2216.441	-1370.862
39.	22:16:38: 2	-653.402	-179.365	-781.520	819.955	3074.832	2626.418	-2229.253	-1370.862
40.	22:16:38:18	-691.837	-192.177	-781.520	807.143	3087.643	2639.230	-2242.064	-1370.862
41.	22:16:38:34	-717.461	-204.989	-781.520	807.143	3100.455	2652.042	-2242.064	-1396.486
42.	22:16:38:49	-730.272	-217.801	-781.520	807.143	3113.267	2664.854	-2229.253	-1383.674
43.	22:16:39: 5	-743.084	-217.801	-781.520	807.143	3113.267	2664.854	-2229.253	-1383.674
44.	22:16:39:20	-743.084	-217.801	-781.520	794.331	3100.455	2664.854	-2242.064	-1383.674
45.	22:16:39:36	-755.896	-230.612	-781.520	794.331	3100.455	2664.854	-2242.064	-1383.674
46.	22:16:39:52	-755.896	-217.801	-768.708	781.520	3100.455	2664.854	-2229.253	-1383.674
47.	22:16:40: 7	-755.896	-217.801	-768.708	781.520	3100.455	2652.042	-2229.253	-1383.674
48.	22:16:40:23	-755.896	-230.612	-768.708	781.520	3100.455	2664.854	-2229.253	-1383.674
49.	22:16:40:39	-768.708	-230.612	-768.708	781.520	3100.455	2664.854	-2280.500	-1383.674
50.	22:16:40:54	-781.520	-230.612	-768.708	794.331	3113.267	2677.666	-2242.064	-1370.862
51.	22:16:41:10	-781.520	-243.424	-768.708	781.520	3113.267	2677.666	-2229.253	-1383.674
52.	22:16:41:25	-794.331	-243.424	-768.708	781.520	3113.267	2677.666	-2229.253	-1370.862
53.	22:16:41:41	-794.331	-243.424	-768.708	781.520	3113.267	2690.478	-2229.253	-1383.674
54.	22:16:41:57	-794.331	-256.236	-755.896	781.520	3113.267	2677.666	-2242.064	-1396.486

55.	22:16:42:12	-794.331	-256.236	-755.896	781.520	3113.267	2690.478	-2242.064	-1396.486
56.	22:16:42:28	-807.143	-243.424	-755.896	781.520	3126.079	2690.478	-2242.064	-1383.674
57.	22:16:42:44	-807.143	-243.424	-755.896	768.708	3126.079	2690.478	-2242.064	-1383.674
58.	22:16:42:59	-1089.003	-307.483	-807.143	819.955	3279.820	2882.655	-2190.817	-1358.051
59.	22:16:43:15	-1537.416	-486.848	-896.826	884.014	3484.809	3087.643	-1998.640	-1242.744
60.	22:16:43:31	-1537.416	-486.848	-884.014	884.014	3484.809	3087.643	-2024.264	-1268.368
61.	22:16:43:46	-1755.216	-602.154	-922.449	871.202	3587.303	3202.949	-1960.205	-1204.309
62.	22:16:44: 2	-1998.640	-717.461	-909.637	845.579	3689.798	3305.444	-1973.017	-1204.309
63.	22:16:44:17	-2101.135	-768.708	-935.261	845.579	3715.421	3331.067	-1896.146	-1153.062
64.	22:16:44:33	-2165.194	-807.143	-973.697	819.955	3689.798	3331.067	-1844.899	-1101.814
65.	22:16:44:49	-2178.006	-884.014	-884.014	743.084	3651.362	3305.444	-1755.216	-1050.567
66.	22:16:45: 4	-2126.758	-794.331	-858.390	704.649	3523.244	3190.138	-1627.098	-973.697
67.	22:16:45:20	-1973.017	-730.272	-845.579	691.837	3331.067	3036.396	-1460.545	-858.390
68.	22:16:45:36	-1652.722	-550.907	-922.449	730.272	2882.655	2677.666	-1140.250	-666.213
69.	22:16:45:51	-1255.556	-397.166	-896.826	704.649	2395.806	2280.500	-794.331	-499.660
70.	22:16:46: 7	-948.073	-192.177	-909.637	691.837	2088.323	1973.017	-666.213	-448.413
71.	22:16:46:23	-858.390	-153.742	-884.014	679.025	1985.829	1908.958	-640.590	-422.789
72.	22:16:46:38	-819.955	-128.118	-871.202	666.213	1934.581	1857.711	-627.778	-422.789
73.	22:16:46:54	-794.331	-115.306	-871.202	666.213	1921.770	1832.087	-614.966	-409.978
74.	22:16:47:10	-781.520	-102.494	-858.390	666.213	1908.958	1832.087	-614.966	-409.978
75.	22:16:47:25	-768.708	-102.494	-858.390	653.402	1896.146	1819.275	-602.154	-397.166
76.	22:16:47:41	-755.896	-102.494	-845.579	666.213	1870.522	1819.275	-614.966	-397.166
77.	22:16:47:56	-743.084	-102.494	-845.579	666.213	1870.522	1819.275	-627.778	-384.354

A V E R A G E L O A D

1.	1085.000
2.	2261.250
3.	2261.250
4.	2605.000
5.	2878.750
6.	4501.250
7.	4431.250
8.	7816.250
9.	7952.500
10.	8505.000
11.	11590.000
12.	14376.250
13.	15126.250
14.	17148.750
15.	19043.750
16.	21413.750
17.	22780.000
18.	24351.250
19.	26665.000
20.	27948.750
21.	30355.000
22.	30790.000
23.	33992.500
24.	36085.000
25.	37591.250
26.	40038.750
27.	41351.250
28.	44417.500
29.	44986.250
30.	47046.250
31.	48447.500
32.	51166.250
33.	48061.250
34.	48145.000
35.	48268.750
36.	48548.750
37.	48880.000
38.	48310.000
39.	48368.750
40.	48586.250
41.	48702.500
42.	48473.750
43.	48257.500
44.	48255.000
45.	48340.000
46.	48463.750
47.	48502.500
48.	48532.500
49.	48568.750
50.	48632.500
51.	48468.750
52.	48533.750
53.	48533.750
54.	48588.750
55.	48661.250
56.	48733.750
57.	48772.500

58.	46010.000
59.	43111.250
60.	38011.250
61.	35475.000
62.	31807.500
63.	27551.250
64.	23792.500
65.	19996.250
66.	15817.500
67.	12201.250
68.	8117.500
69.	5110.000
70.	4617.500
71.	4502.500
72.	4466.250
73.	4462.500
74.	4441.250
75.	4435.000
76.	4487.500
77.	4487.500

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 32

3.3 COMPLIANT LINER

3.3.1 SPECIMEN #10

TEST NO. 25

COMPLIANT LINER

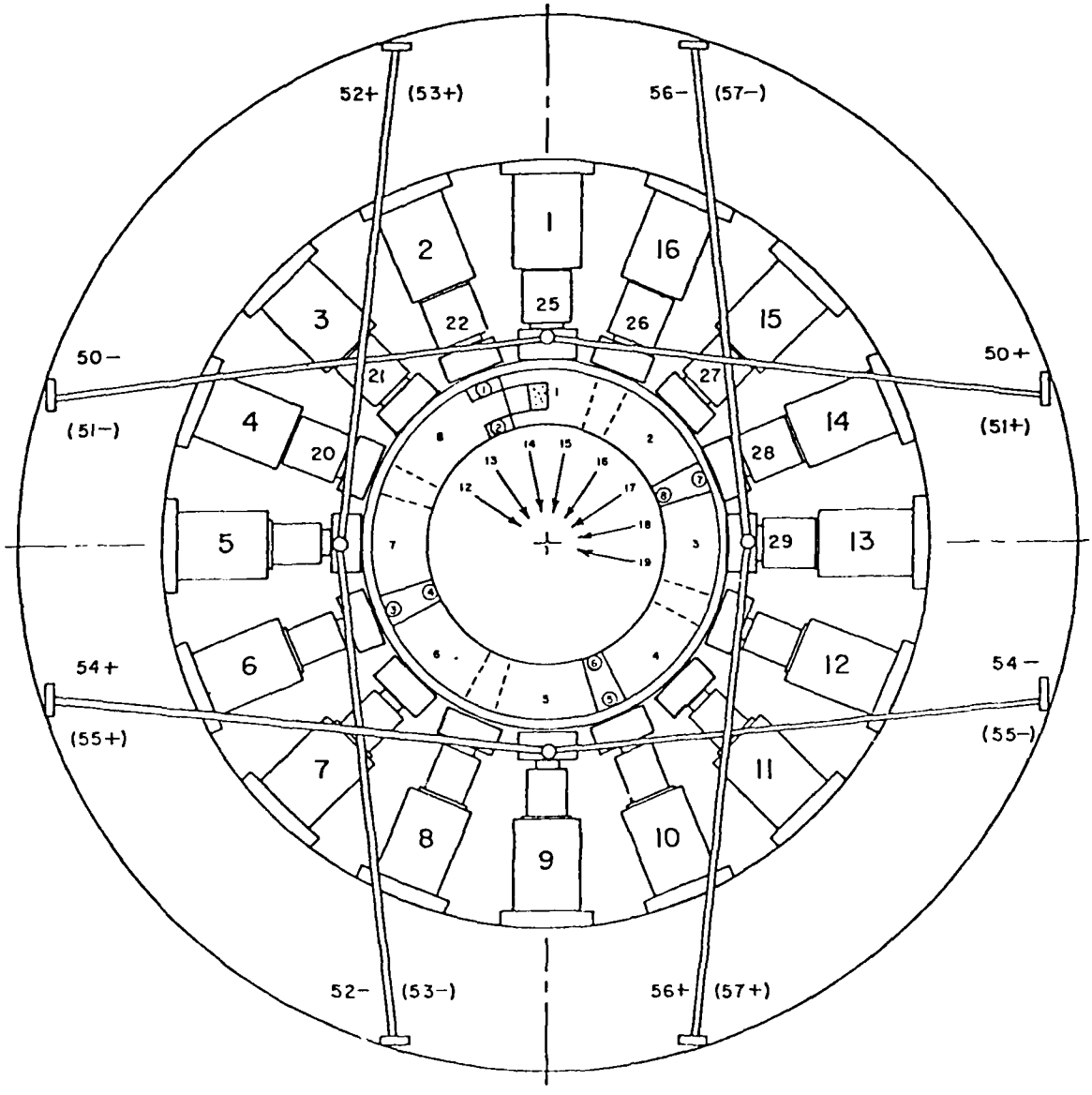
1:1 LOADING RATIO

TESTED 15 DECEMBER 1977

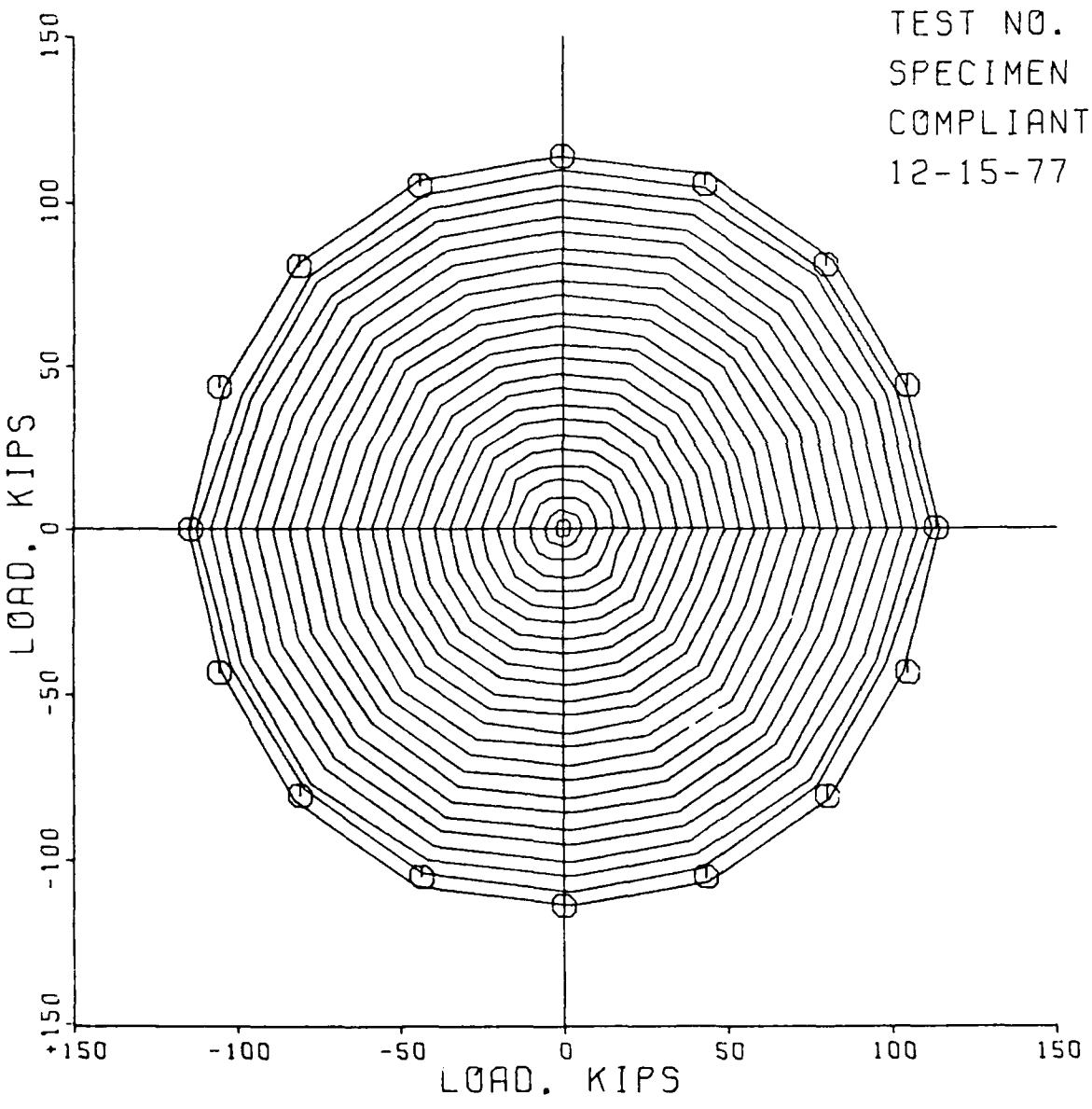
REACTION FRAME TEST SET-UP

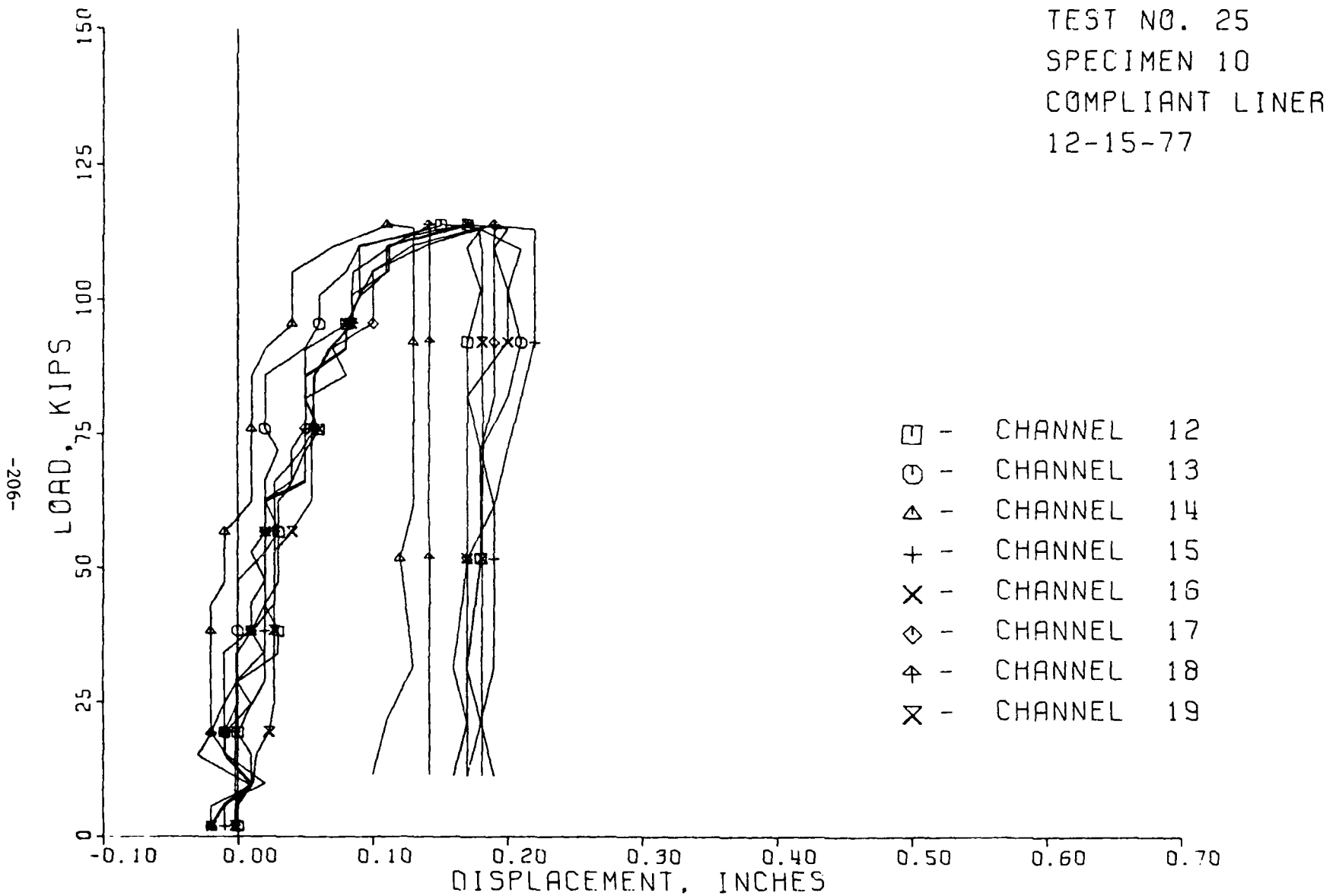
Specimen #10
Compliant Liner

Test #25
1:1 Load
15 Dec. 1977



CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension. Lower rod shown (XX).
Dial Gages ① - ⑧ measure circumferential gap width at the top.


TEST NO. 25
SPECIMEN 10
COMPLIANT LINER
12-15-77
LOAD. KIPS
+150
-100
-50
0
50
100
150
LOAD. KIPS


TEST NO. 25
SPECIMEN 10
COMPLIANT LINER
12-15-77
LOAD, KIPS
0
25
50
75
100
125
150
-0.10
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
DISPLACEMENT, INCHES
- CHANNEL 12
- CHANNEL 13
- CHANNEL 14
- CHANNEL 15
- CHANNEL 16
- CHANNEL 17
- CHANNEL 18
- CHANNEL 19

TEST NO. 25 ' SPECIMEN 10 COMPLIANT LINER 12-15-77

NUMBER OF INCREMENTS= 36
NUMBER OF CHANNELS= 24
NUMBER OF STRAIN CHANNELS= 0
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000

20	10.000

ROD CHANNEL	CALIBRATION
57	1.000
56	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	15:14:50:26	0.0	0.0	-0.020	-0.010	-0.020	-0.020	-0.002	-0.002
2.	15:14:59:48	0.0	0.0	-0.020	-0.010	-0.010	-0.010	-0.001	-0.002
3.	15:15: 0:43	0.010	0.010	0.010	0.010	0.010	0.020	-0.002	0.011
4.	15:15: 1:26	0.010	-0.010	-0.030	-0.010	-0.010	-0.010	-0.002	0.014
5.	15:15: 2:21	0.0	-0.010	-0.020	-0.020	-0.010	-0.010	-0.002	0.023
6.	15:15: 3: 5	0.010	0.0	-0.020	-0.010	0.010	-0.010	-0.001	0.027
7.	15:15: 3:59	0.0	0.0	-0.020	0.0	0.020	-0.010	-0.001	0.027
8.	15:15: 4:43	0.030	0.0	-0.020	0.020	0.020	-0.010	-0.001	0.027
9.	15:15: 5:38	0.030	0.0	-0.020	0.020	0.010	0.010	0.010	0.027
10.	15:15: 6:32	0.020	0.0	-0.020	0.020	0.020	0.010	0.027	0.027
11.	15:15: 7:16	0.030	0.0	-0.010	0.020	0.020	0.020	0.027	0.027
12.	15:15: 8:11	0.030	0.020	-0.010	0.010	0.020	0.020	0.027	0.027
13.	15:15: 8:55	0.030	0.030	-0.010	0.020	0.020	0.020	0.027	0.040
14.	15:15: 9:49	0.030	0.020	0.010	0.020	0.020	0.020	0.027	0.055
15.	15:15:10:33	0.040	0.020	0.010	0.050	0.050	0.040	0.027	0.055
16.	15:15:11:39	0.050	0.030	0.010	0.050	0.050	0.040	0.047	0.055
17.	15:15:12:33	0.060	0.020	0.010	0.050	0.060	0.050	0.056	0.055
18.	15:15:13:28	0.050	0.020	0.010	0.050	0.050	0.050	0.056	0.056
19.	15:15:14:23	0.050	0.020	0.010	0.050	0.050	0.080	0.056	0.057
20.	15:15:15:28	0.050	0.050	0.020	0.080	0.080	0.070	0.067	0.069
21.	15:15:18:13	0.080	0.060	0.040	0.080	0.080	0.100	0.085	0.084
22.	15:15:19:18	0.090	0.060	0.040	0.090	0.090	0.100	0.084	0.084
23.	15:15:21: 8	0.090	0.080	0.040	0.100	0.110	0.100	0.085	0.112
24.	15:15:22:57	0.090	0.090	0.070	0.130	0.110	0.140	0.113	0.112
25.	15:15:36: 6	0.150	0.170	0.110	0.190	0.170	0.190	0.141	0.170
26.	15:15:42:51	0.180	0.180	0.130	0.220	0.200	0.190	0.142	0.178
27.	15:15:45:14	0.170	0.210	0.130	0.220	0.190	0.190	0.142	0.181
28.	15:15:47:58	0.180	0.200	0.130	0.220	0.200	0.190	0.142	0.181
29.	15:15:49:48	0.170	0.210	0.130	0.220	0.200	0.190	0.142	0.181
30.	15:15:51:59	0.170	0.200	0.130	0.210	0.170	0.190	0.141	0.181
31.	15:15:54: 0	0.180	0.180	0.130	0.200	0.170	0.180	0.142	0.182
32.	15:15:56:11	0.180	0.180	0.130	0.190	0.170	0.190	0.141	0.181
33.	15:15:58:34	0.180	0.180	0.120	0.190	0.170	0.170	0.142	0.181
34.	15:16: 2:57	0.170	0.170	0.130	0.190	0.170	0.160	0.142	0.181
35.	15:16: 5: 8	0.170	0.180	0.110	0.180	0.170	0.170	0.142	0.181
36.	15:16: 7:30	0.170	0.170	0.100	0.190	0.160	0.160	0.142	0.181

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	15:14:50:26	2360.000	2090.000	2780.000	2970.000	1900.000	2910.000	2300.000	1850.000
2.	15:14:59:48	5680.000	5700.000	6130.000	5500.000	5720.000	5380.000	5370.000	5200.000
3.	15:15: 0:43	10270.000	10260.000	10640.000	10410.000	9440.000	10060.000	10240.000	9570.000
4.	15:15: 1:26	15200.000	15680.000	15400.000	15790.000	15200.000	15120.000	15120.000	14320.000
5.	15:15: 2:21	20240.000	19340.000	20800.000	20610.000	19260.000	19770.000	20480.000	17950.000
6.	15:15: 3: 5	25100.000	24890.000	25570.000	25450.000	24470.000	24720.000	24760.000	23310.000
7.	15:15: 3:59	29890.000	29520.000	30500.000	30100.000	28770.000	29300.000	29880.000	27580.000
8.	15:15: 4:43	34740.000	34590.000	34840.000	35130.000	33830.000	34060.000	34300.000	32490.000
9.	15:15: 5:38	39450.000	38970.000	39920.000	39670.000	38100.000	38620.000	39030.000	36640.000
10.	15:15: 6:32	44250.000	44090.000	44510.000	44700.000	43220.000	43550.000	43480.000	41850.000
11.	15:15: 7:16	49240.000	48350.000	49360.000	49350.000	47430.000	48010.000	48460.000	45820.000
12.	15:15: 8:11	53880.000	53720.000	54140.000	54550.000	52610.000	53080.000	53130.000	51230.000
13.	15:15: 8:55	58550.000	57760.000	59240.000	59180.000	56610.000	57550.000	58220.000	55240.000
14.	15:15: 9:49	63020.000	63080.000	63740.000	63950.000	62350.000	62140.000	62850.000	60420.000
15.	15:15:10:33	68360.000	67550.000	69780.000	69380.000	66050.000	67440.000	68400.000	64680.000
16.	15:15:11:39	73520.000	73470.000	73900.000	74270.000	71740.000	72180.000	72830.000	70460.000
17.	15:15:12:33	78540.000	77810.000	79010.000	79620.000	75880.000	77450.000	77710.000	74660.000
18.	15:15:13:28	83650.000	83240.000	83100.000	84350.000	81480.000	82120.000	81890.000	79770.000
19.	15:15:14:23	88860.000	87680.000	88850.000	89660.000	85790.000	87250.000	87440.000	84350.000
20.	15:15:15:28	93640.000	92880.000	93090.000	94510.000	90900.000	92120.000	91410.000	89540.000
21.	15:15:18:13	98770.000	97170.000	98760.000	98870.000	95480.000	96470.000	97240.000	93830.000
22.	15:15:19:18	103230.000	102450.000	102720.000	103900.000	100660.000	101440.000	100570.000	99190.000
23.	15:15:21: 8	107730.000	106650.000	109410.000	108400.000	105070.000	105820.000	106460.000	103330.000
24.	15:15:22:57	112200.000	109900.000	111690.000	112970.000	109820.000	110400.000	109240.000	106360.000
25.	15:15:36: 6	114580.000	113030.000	116260.000	117280.000	113690.000	115060.000	114390.000	112270.000
26.	15:15:42:51	112270.000	111620.000	113920.000	115080.000	112940.000	113620.000	112410.000	111260.000
27.	15:15:45:14	109640.000	108490.000	110330.000	110140.000	109350.000	110300.000	108870.000	107920.000
28.	15:15:47:58	104080.000	102850.000	101840.000	101090.000	101650.000	105010.000	101620.000	103470.000
29.	15:15:49:48	94930.000	93780.000	92160.000	90740.000	92010.000	97030.000	92090.000	94190.000
30.	15:15:51:59	84770.000	84470.000	82410.000	80910.000	81960.000	87040.000	82700.000	84660.000
31.	15:15:54: 0	74060.000	74890.000	73180.000	71020.000	72030.000	76610.000	73530.000	74540.000
32.	15:15:56:11	63740.000	64720.000	63240.000	60920.000	61680.000	66010.000	63410.000	64530.000
33.	15:15:58:34	52940.000	54060.000	53120.000	50770.000	51660.000	55200.000	53280.000	54110.000
34.	15:16: 2:57	32270.000	33090.000	33060.000	30630.000	31310.000	33630.000	33100.000	33580.000
35.	15:16: 5: 8	22220.000	22510.000	23160.000	20950.000	21270.000	23090.000	23180.000	23200.000
36.	15:16: 7:30	11660.000	11850.000	12990.000	10950.000	11210.000	12040.000	12790.000	12670.000

ROD CHANNELS

	TIME	CH.57	CH.56	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50
1.	15:14:50:26	-12.812	-25.624	-51.247	12.812	0.0	-51.247	51.247	-25.624
2.	15:14:59:48	-12.812	0.0	-76.871	0.0	-64.059	-51.247	76.871	38.435
3.	15:15: 0:43	-12.812	0.0	-12.812	51.247	12.812	-25.624	89.683	-76.871
4.	15:15: 1:26	-12.812	12.812	38.435	89.683	51.247	12.812	76.871	-166.553
5.	15:15: 2:21	0.0	12.812	128.118	115.306	51.247	51.247	64.059	-204.989
6.	15:15: 3: 5	0.0	12.812	256.236	166.553	51.247	51.247	12.812	-307.483
7.	15:15: 3:59	0.0	12.812	358.730	243.424	38.435	76.871	-12.812	-397.166
8.	15:15: 4:43	12.812	25.624	461.225	320.295	0.0	64.059	-38.435	-499.660
9.	15:15: 5:38	25.624	38.435	576.531	397.166	-25.624	51.247	-64.059	-576.531
10.	15:15: 6:32	64.059	89.683	691.837	474.036	-89.683	25.624	-76.871	-691.837
11.	15:15: 7:16	102.494	166.553	832.767	576.531	-115.306	0.0	-102.494	-781.520
12.	15:15: 8:11	166.553	243.424	973.697	679.025	-166.553	-51.247	-140.930	-896.826
13.	15:15: 8:55	230.612	307.483	1114.626	794.331	-192.177	-64.059	-192.177	-999.320
14.	15:15: 9:49	269.048	371.542	1217.121	884.014	-204.989	-38.435	-243.424	-1101.814
15.	15:15:10:33	281.859	422.789	1332.427	960.885	-204.989	-25.624	-256.236	-1153.062
16.	15:15:11:39	307.483	512.472	1434.921	1024.944	-204.989	-12.812	-281.859	-1229.933
17.	15:15:12:33	307.483	550.907	1524.604	1127.438	-217.801	38.435	-256.236	-1293.991
18.	15:15:13:28	307.483	614.966	1614.286	1178.685	-204.989	76.871	-269.048	-1370.862
19.	15:15:14:23	333.107	691.837	1729.593	1242.744	-230.612	128.118	-281.859	-1447.733
20.	15:15:15:28	307.483	781.520	1806.463	1306.803	-204.989	204.989	-281.859	-1601.475
21.	15:15:18:13	307.483	948.073	1921.770	1319.615	-243.424	333.107	-294.671	-1857.711
22.	15:15:19:18	294.671	1063.379	2024.264	1332.427	-294.671	486.848	-281.859	-2037.076
23.	15:15:21: 8	333.107	1255.556	2190.817	1383.674	-397.166	679.025	-345.918	-2357.371
24.	15:15:22:57	333.107	1588.663	2280.500	1345.239	-589.343	1037.756	-345.918	-2792.972
25.	15:15:36: 6	576.531	2178.006	2165.194	1409.298	-1498.980	2652.042	-550.907	-3881.975
26.	15:15:42:51	640.590	2318.935	2062.699	1345.239	-1768.028	3087.643	-589.343	-4061.340
27.	15:15:45:14	640.590	2280.500	2024.264	1319.615	-1755.216	3113.267	-589.343	-4048.528
28.	15:15:47:58	627.778	2216.441	1870.522	1191.497	-1755.216	3100.455	-512.472	-3946.034
29.	15:15:49:48	486.848	1934.581	1665.534	999.320	-1486.168	3228.573	-358.730	-3715.421
30.	15:15:51:59	384.354	1665.534	1473.357	819.955	-1268.368	3292.632	-204.989	-3446.374
31.	15:15:54: 0	307.483	1473.357	1255.556	627.778	-1140.250	3292.632	-64.059	-3113.267
32.	15:15:56:11	281.859	1332.427	1101.814	538.095	-1127.438	3177.326	-12.812	-2818.595
33.	15:15:58:34	281.859	1268.368	973.697	474.036	-1191.497	2972.337	12.812	-2664.854
34.	15:16: 2:57	230.612	1050.567	704.649	358.730	-1217.121	2472.677	25.624	-2267.688
35.	15:16: 5: 8	179.365	948.073	589.343	294.671	-1191.497	2113.947	12.812	-2049.888
36.	15:16: 7:30	140.930	858.390	422.789	217.801	-1178.685	1550.228	25.624	-1588.663

A V E R A G E L O A D

1.	2395.000
2.	5585.000
3.	10111.250
4.	15228.750
5.	19806.250
6.	24783.750
7.	29442.500
8.	34247.500
9.	38800.000
10.	43706.250
11.	48252.500
12.	53292.500
13.	57793.750
14.	62693.750
15.	67705.000
16.	72796.250
17.	77585.000
18.	82450.000
19.	87485.000
20.	92261.250
21.	97073.750
22.	101770.000
23.	106608.750
24.	110322.500
25.	114570.000
26.	112890.000
27.	109380.000
28.	102701.250
29.	93366.250
30.	83615.000
31.	73732.500
32.	63531.250
33.	53142.500
34.	32583.750
35.	22447.500
36.	12020.000

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 25

3.3.2 RELOAD OF SPECIMEN #10

TEST NO. 26

COMPLIANT LINER

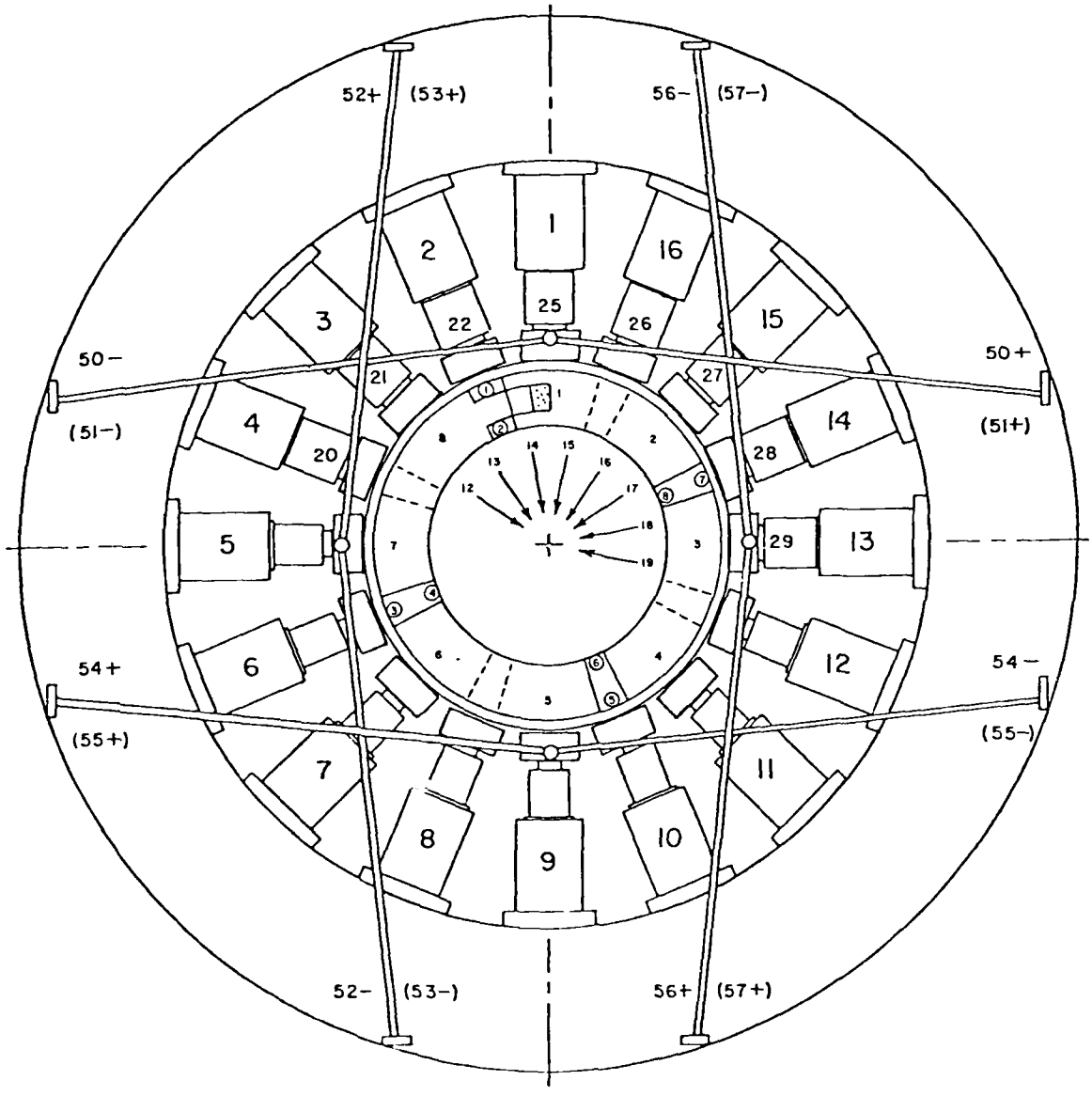
1:1 LOADING RATIO

TESTED 19 DECEMBER 1977

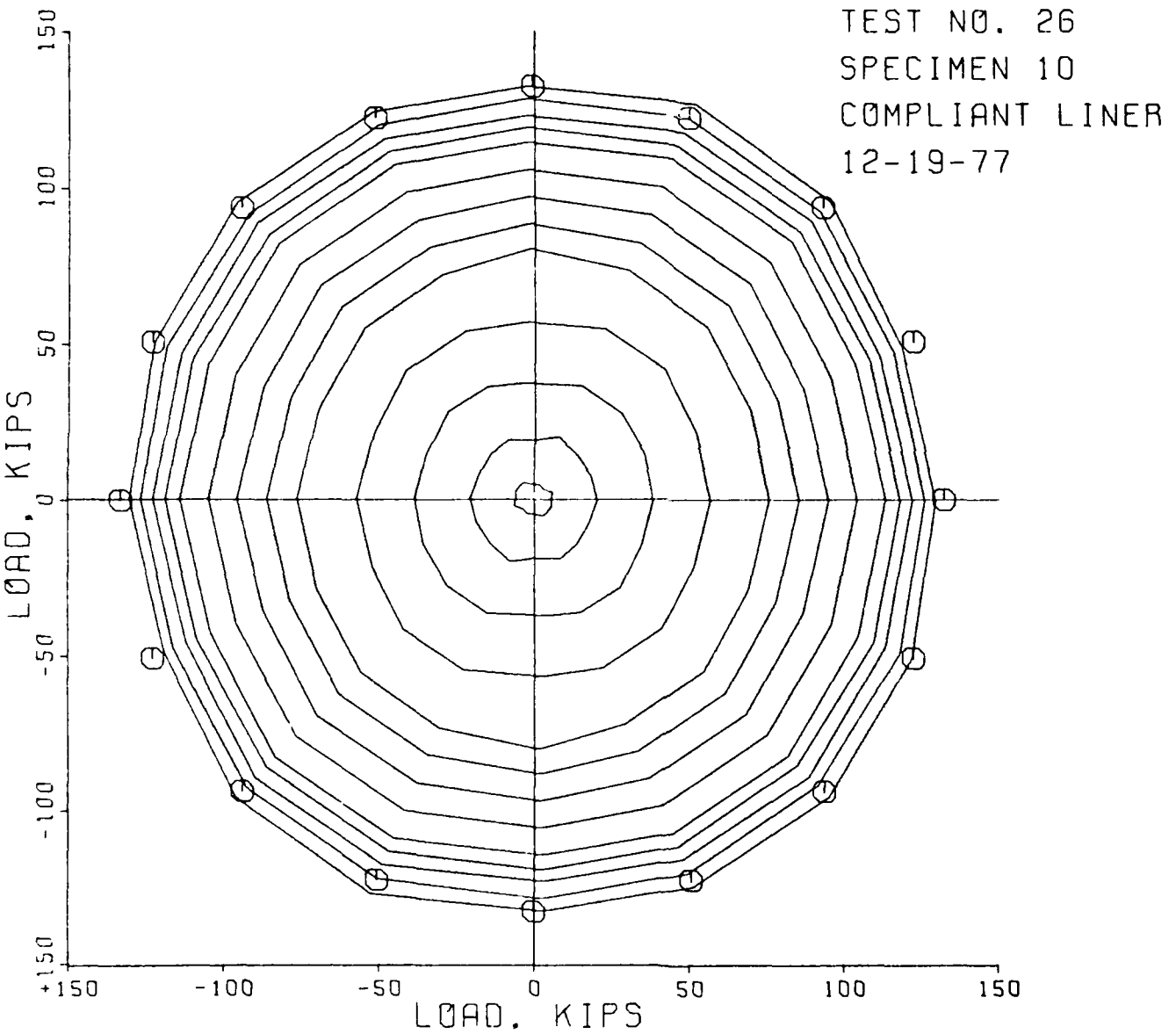
REACTION FRAME TEST SET-UP

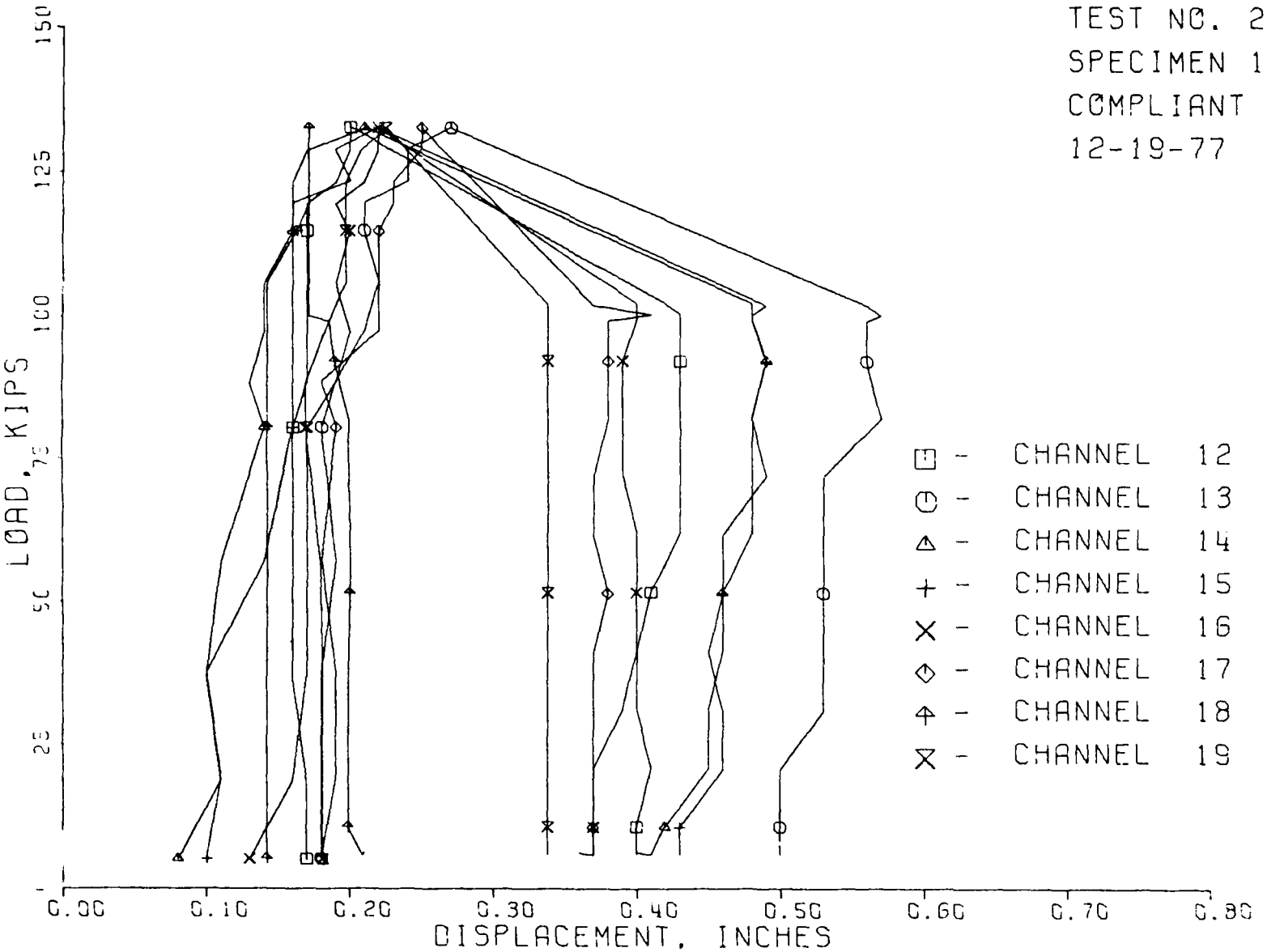
Specimen #10
Compliant Liner

Test #26
1:1 Load
19 Dec. 1977



CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension. Lower rod shown (XX).
Dial Gages ① - ⑧ measure circumferential gap width at the top.


TEST NO. 26
SPECIMEN 10
COMPLIANT LINER
12-19-77
LOAD, KIPS
+150
-100
-50
0
50
100
150
LOAD, KIPS


TEST NO. 26
SPECIMEN 10
COMPLIANT LINER
12-19-77
LOAD, KIPS
150
125
100
50
25
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
DISPLACEMENT, INCHES
- CHANNEL 12
- CHANNEL 13
- CHANNEL 14
- CHANNEL 15
- CHANNEL 16
- CHANNEL 17
- CHANNEL 18
- CHANNEL 19

TEST NO. 26 SPECIMEN 10 COMPLIANT LINER 12-19-77

NUMBER OF INCREMENTS= 27
NUMBER OF CHANNELS= 24
NUMBER OF STRAIN CHANNELS= 0
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000

20	10.000
ROD CHANNEL	CALIBRATION
57	1.000
56	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	19: 9: 7:31	0.170	0.180	0.080	0.100	0.130	0.180	0.142	0.181
2.	19: 9: 9:38	0.170	0.180	0.110	0.110	0.160	0.190	0.142	0.181
3.	19: 9:11:20	0.160	0.180	0.100	0.100	0.170	0.190	0.142	0.181
4.	19: 9:13:10	0.160	0.190	0.110	0.140	0.170	0.180	0.142	0.179
5.	19: 9:15: 2	0.160	0.180	0.140	0.160	0.170	0.190	0.142	0.169
6.	19: 9:16:50	0.170	0.190	0.130	0.160	0.190	0.180	0.142	0.169
7.	19: 9:18:47	0.170	0.210	0.140	0.160	0.200	0.220	0.142	0.182
8.	19: 9:20:36	0.170	0.220	0.140	0.160	0.190	0.220	0.142	0.197
9.	19: 9:23:50	0.170	0.210	0.160	0.160	0.200	0.220	0.163	0.197
10.	19: 9:25:38	0.170	0.210	0.160	0.160	0.190	0.230	0.171	0.197
11.	19: 9:28:50	0.190	0.240	0.160	0.200	0.210	0.230	0.171	0.197
12.	19: 9:32:11	0.200	0.240	0.170	0.190	0.220	0.250	0.171	0.208
13.	19: 9:35:42	0.200	0.270	0.210	0.220	0.220	0.250	0.171	0.225
14.	19: 9:38:21	0.420	0.560	0.480	0.490	0.400	0.370	0.171	0.338
15.	19: 9:41: 9	0.430	0.570	0.480	0.480	0.400	0.410	0.171	0.338
16.	19: 9:44:25	0.430	0.560	0.480	0.480	0.400	0.380	0.185	0.338
17.	19: 9:46:18	0.430	0.560	0.490	0.490	0.390	0.380	0.189	0.338
18.	19: 9:48: 4	0.430	0.570	0.480	0.480	0.390	0.380	0.199	0.338
19.	19: 9:49:45	0.430	0.530	0.480	0.490	0.390	0.370	0.199	0.338
20.	19: 9:51:36	0.430	0.530	0.480	0.460	0.400	0.370	0.200	0.338
21.	19: 9:53:30	0.410	0.530	0.460	0.460	0.400	0.380	0.200	0.338
22.	19: 9:55:10	0.400	0.530	0.460	0.450	0.400	0.370	0.199	0.338
23.	19: 9:56:29	0.400	0.530	0.450	0.460	0.390	0.370	0.199	0.338
24.	19: 9:58: 2	0.410	0.500	0.450	0.460	0.370	0.370	0.199	0.338
25.	19: 9:59:38	0.400	0.500	0.420	0.430	0.370	0.370	0.199	0.338
26.	19: 9: 1:11	0.400	0.500	0.410	0.430	0.370	0.370	0.209	0.338
27.	19: 9: 3: 8	0.400	0.500	0.400	0.430	0.360	0.370	0.210	0.338

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	19: 9: 7:31	5700.000	6650.000	5030.000	5440.000	5120.000	5860.000	6020.000	6170.000
2.	19: 9: 9:38	20610.000	20120.000	20000.000	21590.000	18690.000	20860.000	19850.000	19320.000
3.	19: 9:11:20	38520.000	38700.000	39750.000	39840.000	37410.000	38950.000	39690.000	37530.000
4.	19: 9:13:10	57010.000	56420.000	59400.000	59420.000	56950.000	58230.000	58370.000	55860.000
5.	19: 9:15: 2	75940.000	75590.000	78880.000	79890.000	80460.000	77760.000	77550.000	74970.000
6.	19: 9:16:50	85660.000	85020.000	88810.000	89370.000	88520.000	87390.000	87260.000	84690.000
7.	19: 9:18:47	95240.000	94250.000	98650.000	99010.000	97220.000	96900.000	96960.000	94230.000
8.	19: 9:20:36	104620.000	103560.000	108130.000	108860.000	105930.000	106600.000	106490.000	103910.000
9.	19: 9:23:50	113830.000	112460.000	117710.000	118480.000	114700.000	116040.000	116050.000	113410.000
10.	19: 9:25:38	118410.000	117520.000	121960.000	123100.000	119520.000	120720.000	120300.000	118680.000
11.	19: 9:28:50	122590.000	121070.000	126960.000	127770.000	123310.000	125130.000	125360.000	122760.000
12.	19: 9:32:11	126560.000	125590.000	131000.000	132540.000	128780.000	129770.000	129530.000	128120.000
13.	19: 9:35:42	129890.000	128600.000	135900.000	137630.000	132660.000	134610.000	134580.000	132030.000
14.	19: 9:38:21	90590.000	93150.000	95410.000	96270.000	101930.000	109130.000	103840.000	105390.000
15.	19: 9:41: 9	90900.000	93080.000	95730.000	95730.000	100180.000	109990.000	104090.000	104930.000
16.	19: 9:44:25	90840.000	92850.000	95520.000	95550.000	99140.000	110180.000	103920.000	104570.000
17.	19: 9:46:18	82130.000	84350.000	89150.000	88720.000	92040.000	98410.000	94120.000	95530.000
18.	19: 9:48: 4	73030.000	76010.000	81370.000	79510.000	82070.000	88240.000	84250.000	85510.000
19.	19: 9:49:45	63690.000	67550.000	72260.000	69920.000	71950.000	77900.000	74320.000	75500.000
20.	19: 9:51:36	54330.000	58640.000	62830.000	59950.000	61780.000	67300.000	64250.000	65290.000
21.	19: 9:53:30	44990.000	49570.000	53030.000	50010.000	51510.000	56580.000	54020.000	54990.000
22.	19: 9:55:10	35720.000	40390.000	43100.000	40230.000	41240.000	45830.000	43830.000	44650.000
23.	19: 9:56:29	26590.000	31150.000	33120.000	30380.000	30930.000	34790.000	33660.000	34260.000
24.	19: 9:58: 2	17500.000	22130.000	22990.000	20400.000	20660.000	23500.000	23320.000	23610.000
25.	19: 9:59:38	9430.000	12230.000	13030.000	10760.000	10620.000	12400.000	12980.000	12700.000
26.	19: 9: 1:11	5880.000	6990.000	7340.000	6580.000	5700.000	7460.000	7100.000	7450.000
27.	19: 9: 3: 8	6240.000	7480.000	7870.000	7110.000	6330.000	7850.000	7720.000	7910.000

ROD CHANNELS

	TIME	CH.57	CH.56	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50
1.	19: 9: 7:31	153.742	204.989	192.177	-38.435	-38.435	550.907	0.0	-640.590
2.	19: 9: 9:38	243.424	333.107	461.225	102.494	-38.435	858.390	-12.812	-807.143
3.	19: 9:11:20	384.354	474.036	973.697	397.166	-12.812	1204.309	-153.742	-1434.921
4.	19: 9:13:10	627.778	807.143	1409.298	679.025	-64.059	1332.427	-371.542	-2113.947
5.	19: 9:15: 2	640.590	896.826	1601.475	832.767	-38.435	1806.463	-435.601	-2472.677
6.	19: 9:16:50	730.272	1050.567	1844.899	1024.944	-64.059	1857.711	-563.719	-2908.278
7.	19: 9:18:47	819.955	1178.685	1998.640	1153.062	-64.059	1960.205	-653.402	-3215.761
8.	19: 9:20:36	896.826	1293.991	2152.382	1293.991	-89.683	2126.758	-755.896	-3561.680
9.	19: 9:23:50	1012.132	1511.792	2293.312	1396.486	-166.553	2344.559	-884.014	-3958.845
10.	19: 9:25:38	1101.814	1639.910	2318.935	1422.109	-230.612	2408.618	-948.073	-4125.398
11.	19: 9:28:50	1191.497	1819.275	2357.371	1473.357	-358.730	2600.795	-1037.756	-4394.445
12.	19: 9:32:11	1268.368	1947.393	2395.806	1550.228	-512.472	2959.525	-1153.062	-4612.246
13.	19: 9:35:42	1383.674	1985.829	2382.994	1716.781	-807.143	3536.056	-1306.803	-5009.410
14.	19: 9:38:21	-9365.422	-7148.980	7815.195	11786.852	-4151.020	1793.652	0.0	-1806.463
15.	19: 9:41: 9	-9749.777	-7392.406	7904.879	11889.348	-3920.410	1896.146	0.0	-1742.405
16.	19: 9:44:25	-9929.141	-7507.711	7930.500	11902.160	-3817.916	1960.205	12.812	-1703.969
17.	19: 9:46:18	-9467.918	-7084.922	7738.324	11633.109	-4215.078	1601.475	25.624	-1268.368
18.	19: 9:48: 4	-8904.199	-6559.641	7430.840	11248.758	-4663.492	1217.121	64.059	-832.767
19.	19: 9:49:45	-8353.289	-6124.039	7033.676	10761.910	-5022.223	922.449	153.742	-512.472
20.	19: 9:51:36	-7763.949	-5675.625	6585.262	10223.813	-5393.766	704.649	269.048	-230.612
21.	19: 9:53:30	-7123.359	-5214.398	6059.980	9634.469	-5778.117	499.660	409.978	38.435
22.	19: 9:55:10	-6431.520	-4740.363	5457.824	8968.258	-6085.602	294.671	589.343	166.553
23.	19: 9:56:29	-5675.625	-4176.645	4791.609	8148.301	-6200.910	102.494	884.014	179.365
24.	19: 9:58: 2	-4791.609	-3497.621	3920.410	6854.309	-5573.129	-51.247	1178.685	358.730
25.	19: 9:59:38	-3318.256	-2408.618	2754.536	4548.188	-3318.256	-589.343	1242.744	499.660
26.	19: 9: 1:11	-2254.876	-1614.286	1998.640	2997.961	-2037.076	-1101.814	1191.497	563.719
27.	19: 9: 3: 8	-2229.253	-1639.910	2011.452	2985.149	-2062.699	-1101.814	1204.309	563.719

A V E R A G E L O A D

1.	5748.750
2.	20130.000
3.	38798.750
4.	57707.500
5.	77630.000
6.	87090.000
7.	96557.500
8.	106012.500
9.	115335.000
10.	120026.250
11.	124368.750
12.	128986.250
13.	133237.500
14.	99463.750
15.	99328.750
16.	99071.250
17.	90556.250
18.	81248.750
19.	71636.250
20.	61796.250
21.	51837.500
22.	41873.750
23.	31860.000
24.	21763.750
25.	11768.750
26.	6812.500
27.	7313.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 13

3.4 C-X-9 MODELS

3.4.1 SPECIMEN #5

TEST NO. 32

COMPOSITE INTEGRAL LINER

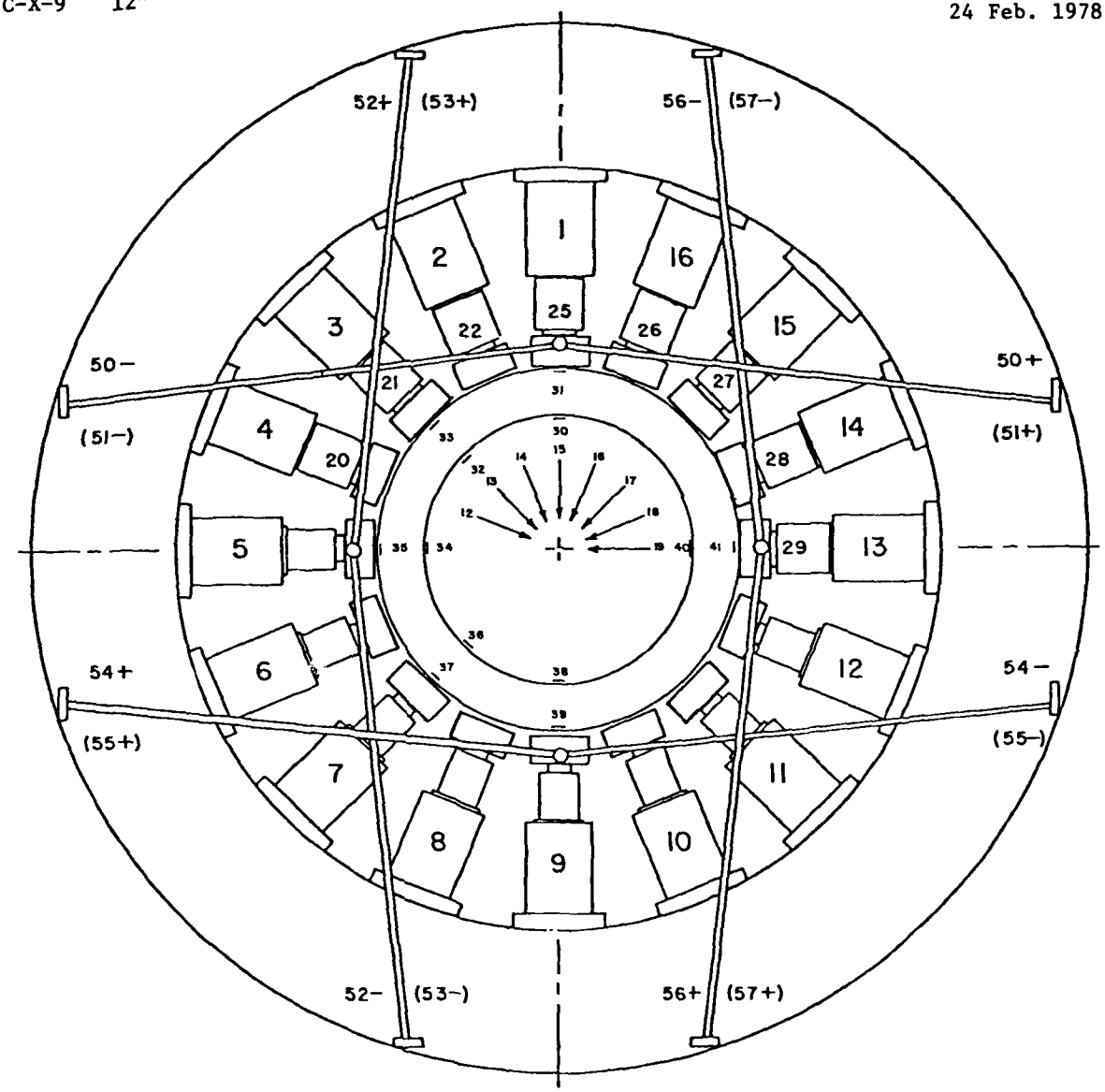
1:3 LOADING RATIO

TESTED 24 FEBRUARY 1978

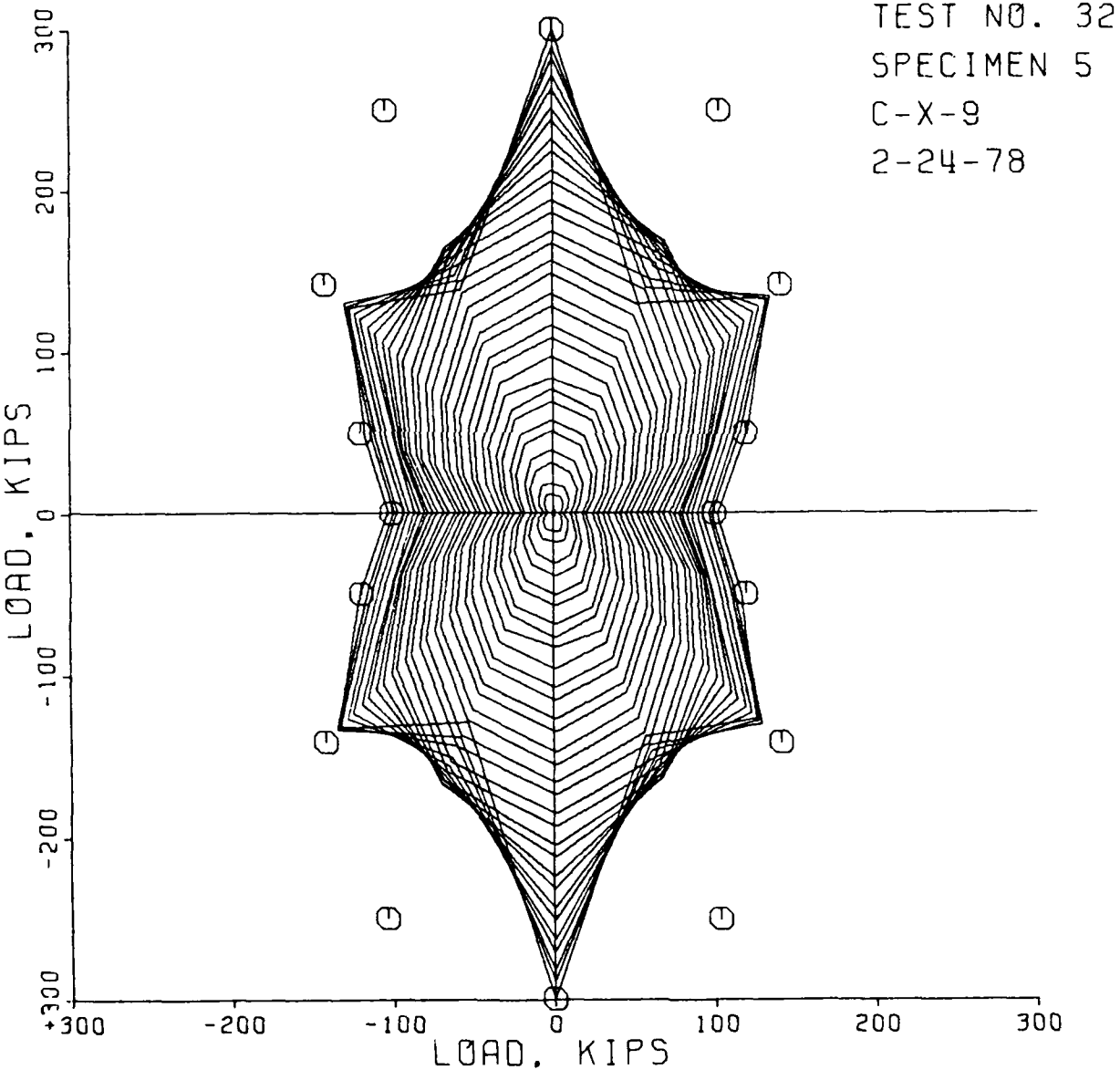
REACTION FRAME TEST SET-UP

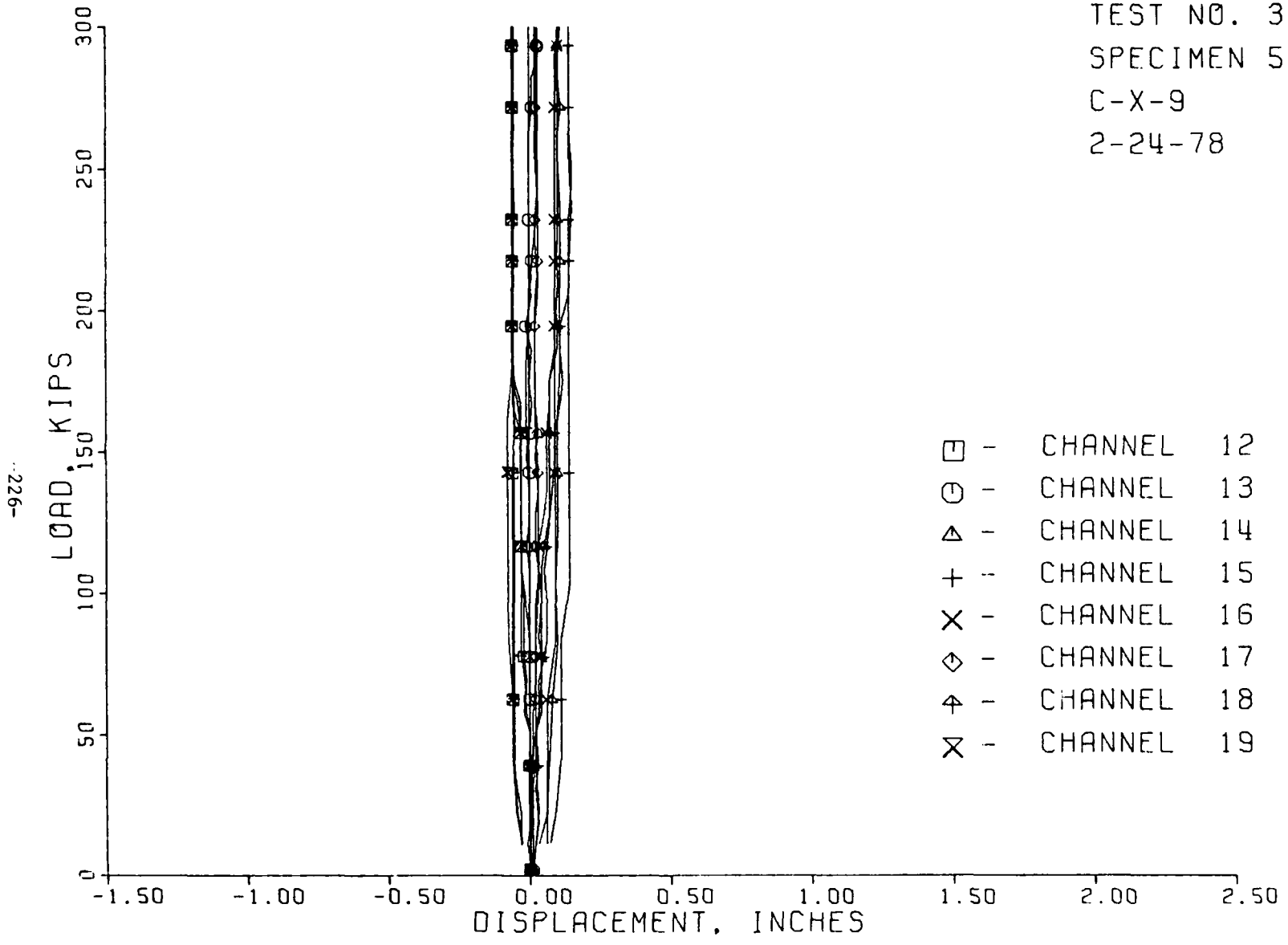
Specimen #5
C-X-9 12"

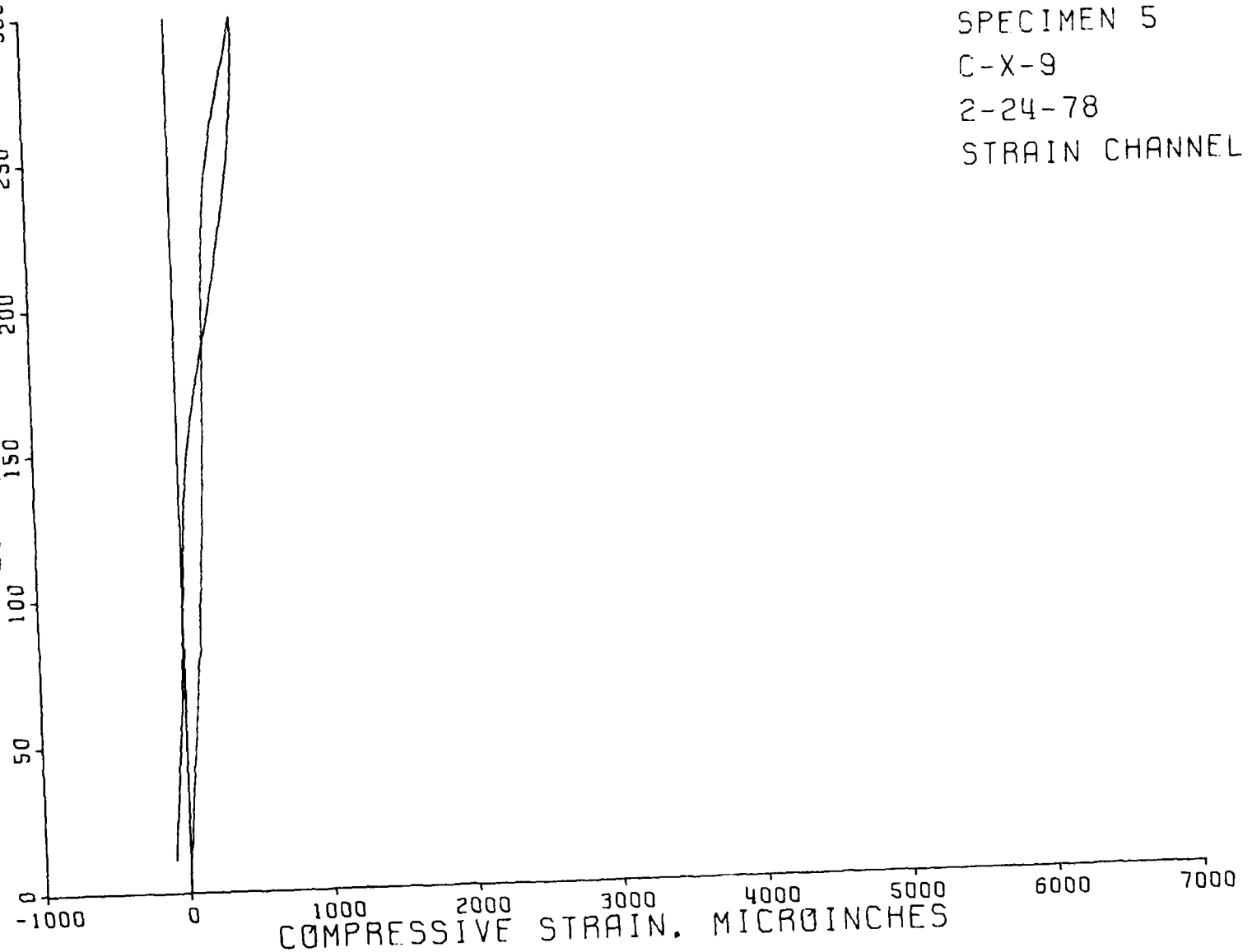
Test #32
1:3 Load
24 Feb. 1978

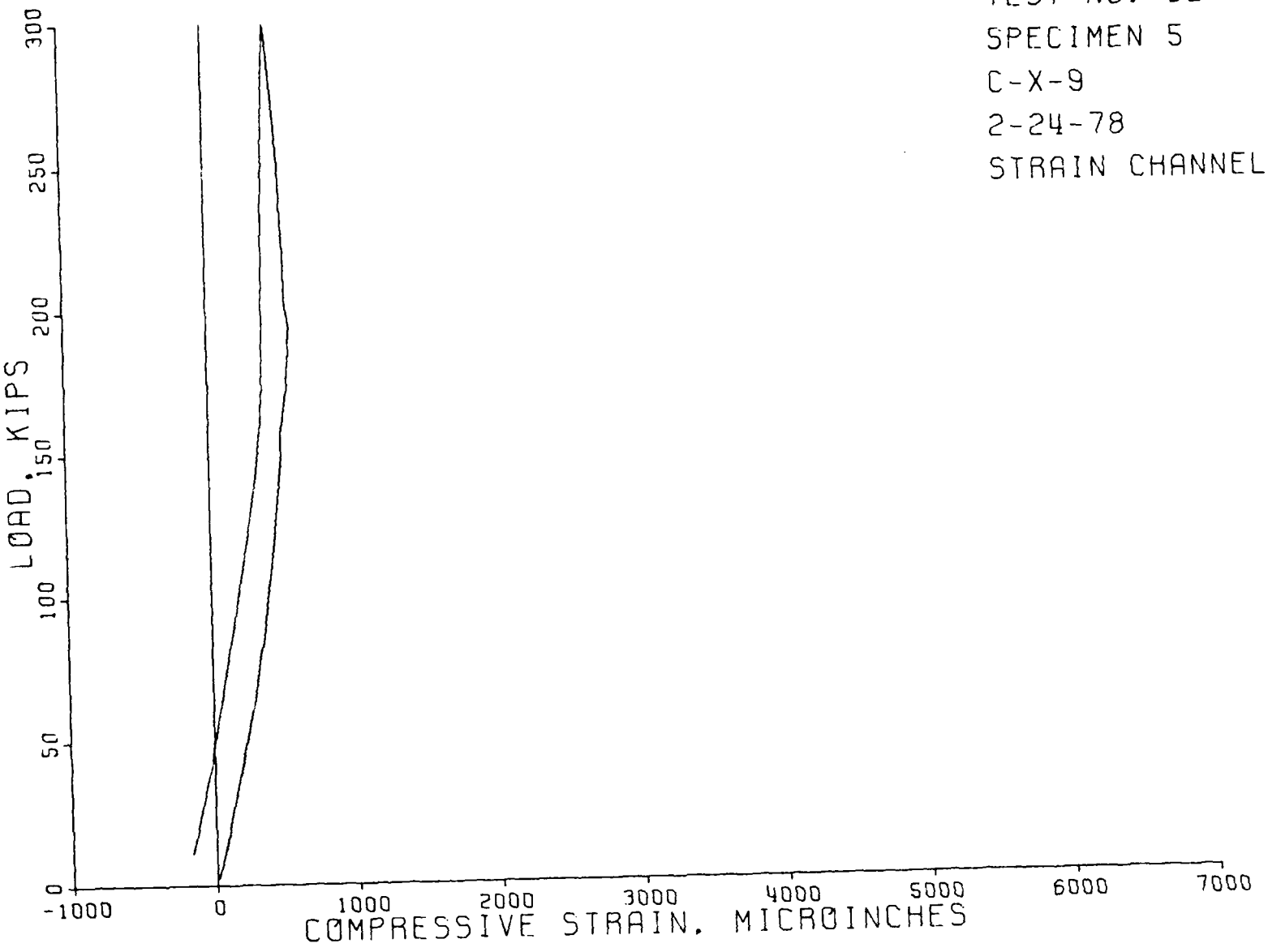


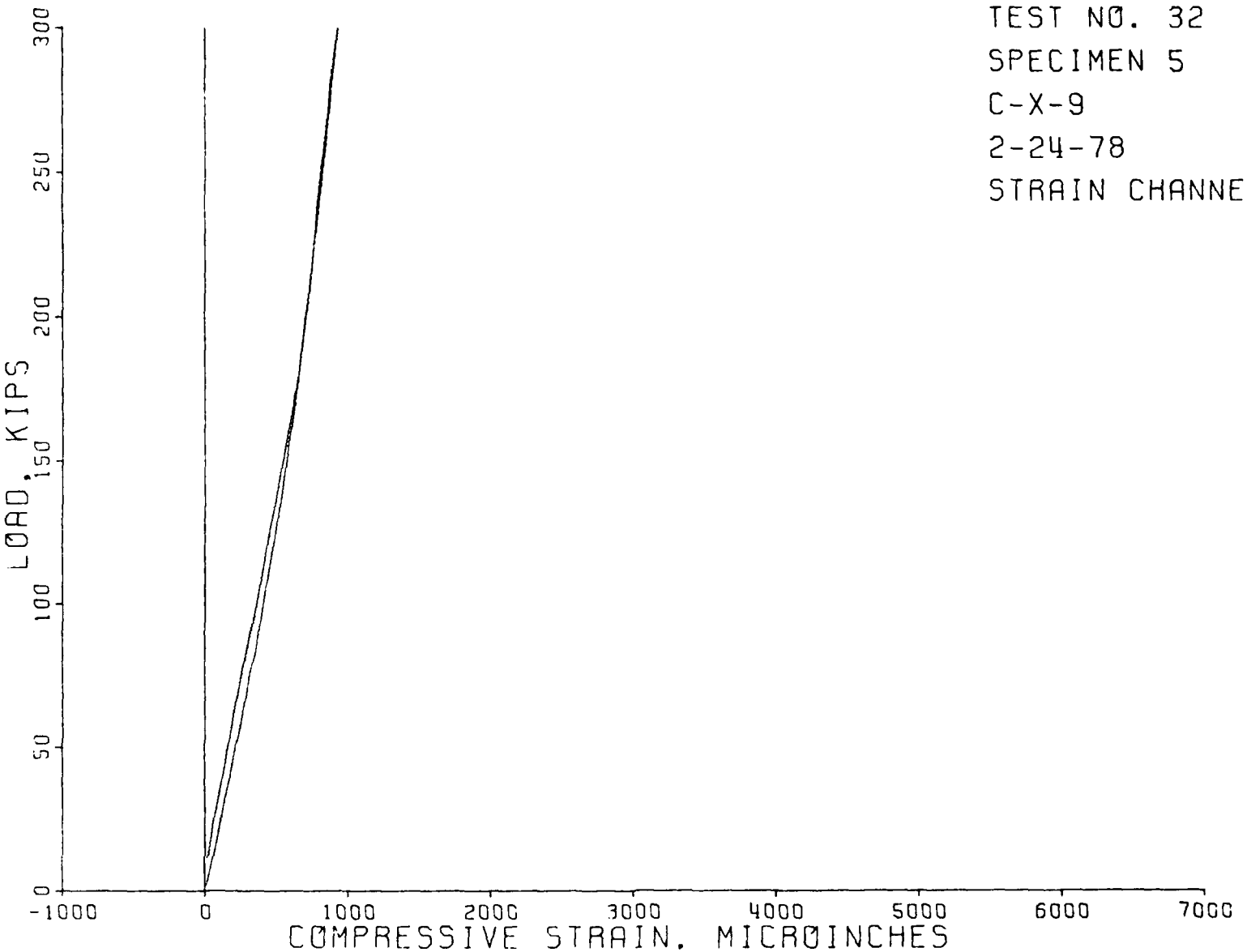
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 3" from top. Odd gages on Rebar
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

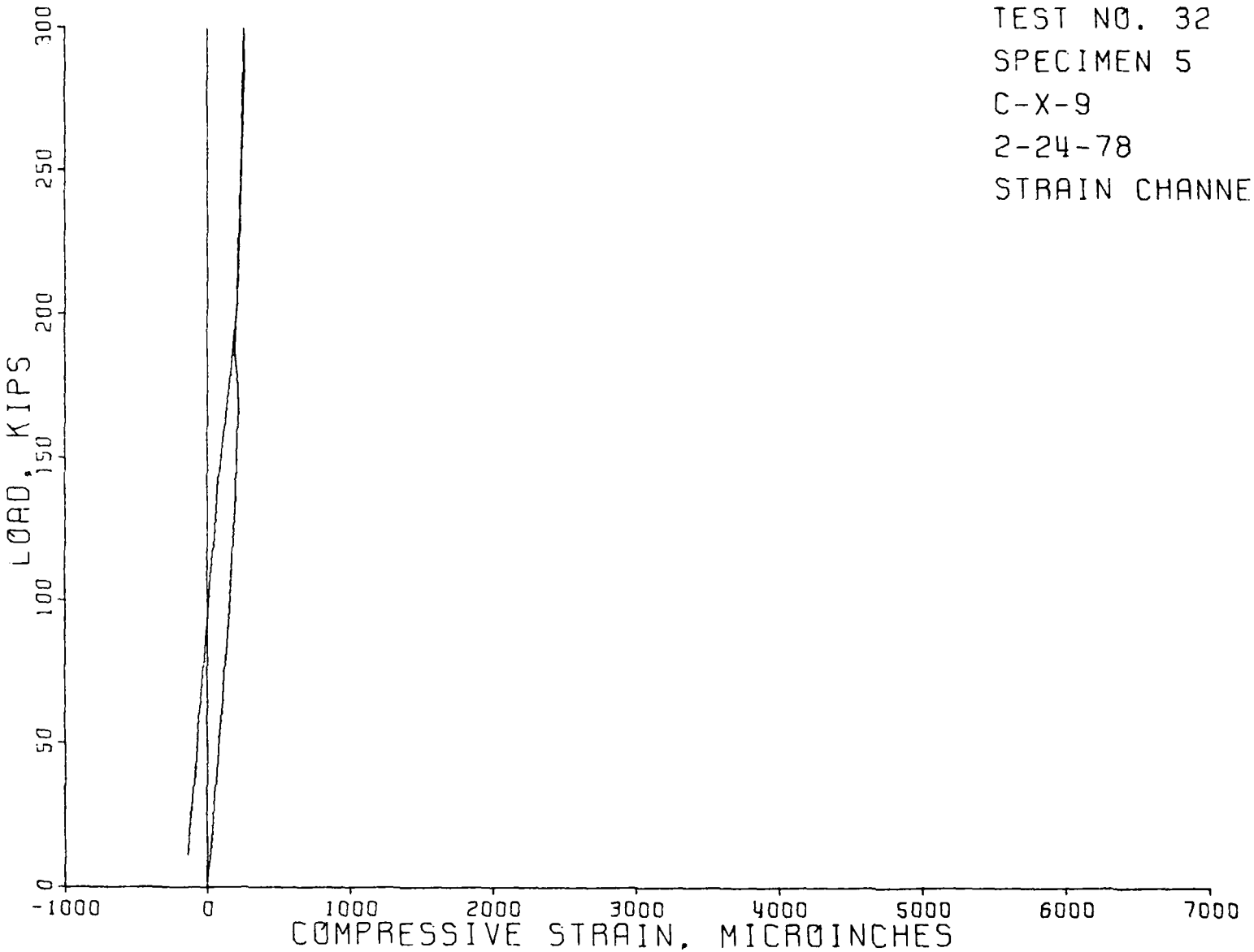

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
LOAD, KIPS
LOAD, KIPS
+300
-200
-100
0
100
200
300

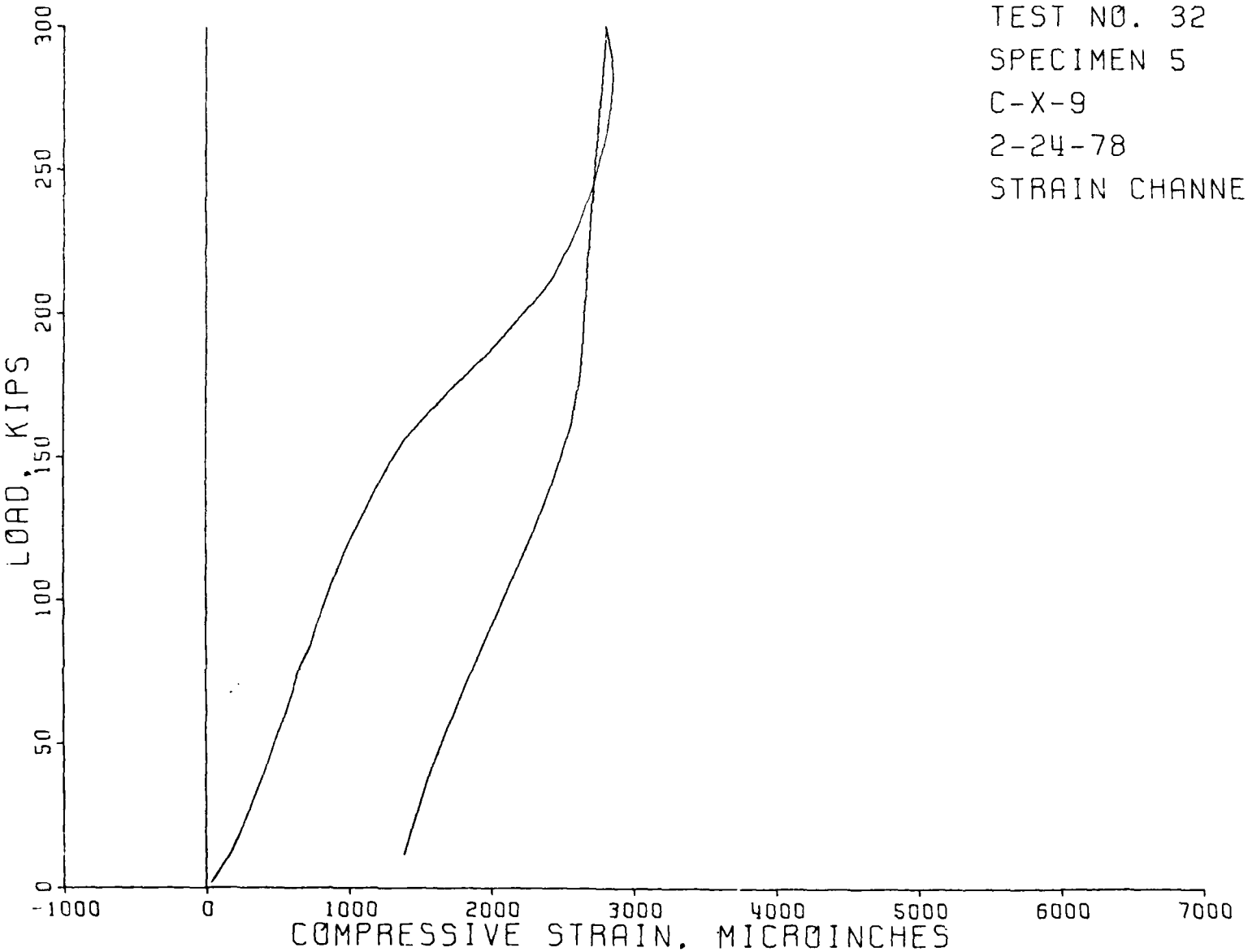

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
LOAD, KIPS
0
50
100
150
200
250
300
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
- CHANNEL 12
- CHANNEL 13
- CHANNEL 14
- CHANNEL 15
- CHANNEL 16
- CHANNEL 17
- CHANNEL 18
- CHANNEL 19


TEST NØ. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 30
LØAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICRØINCHES

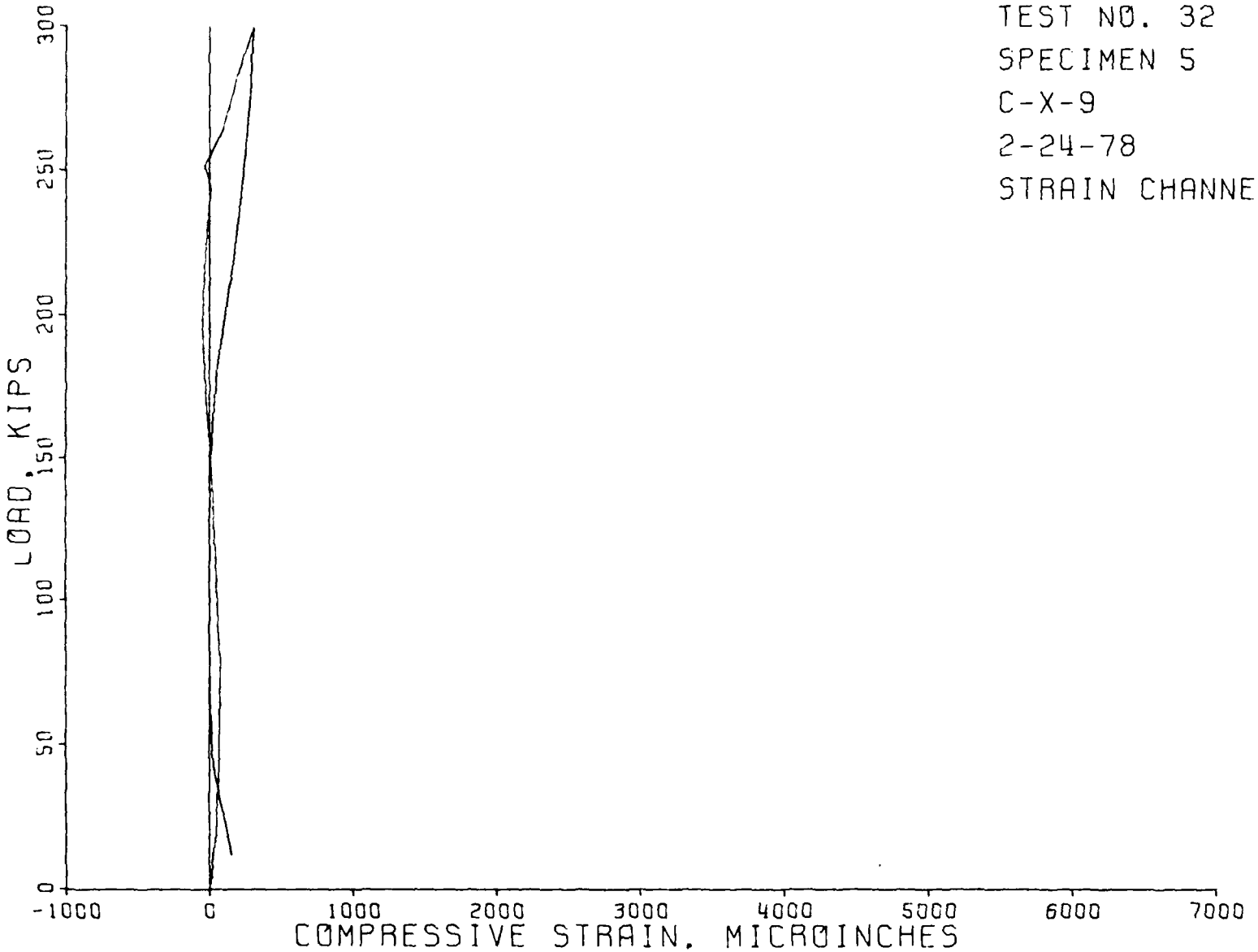

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

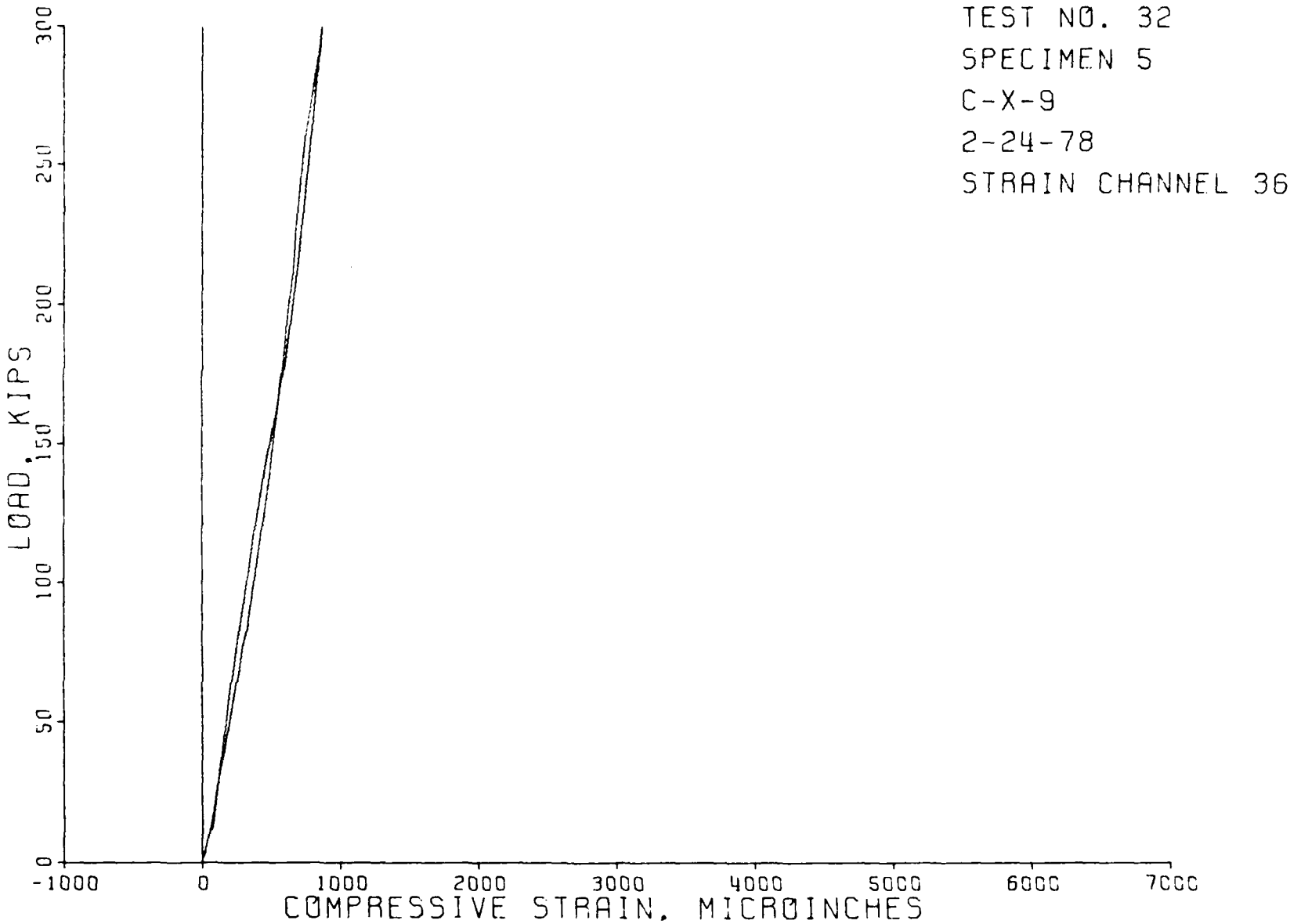

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

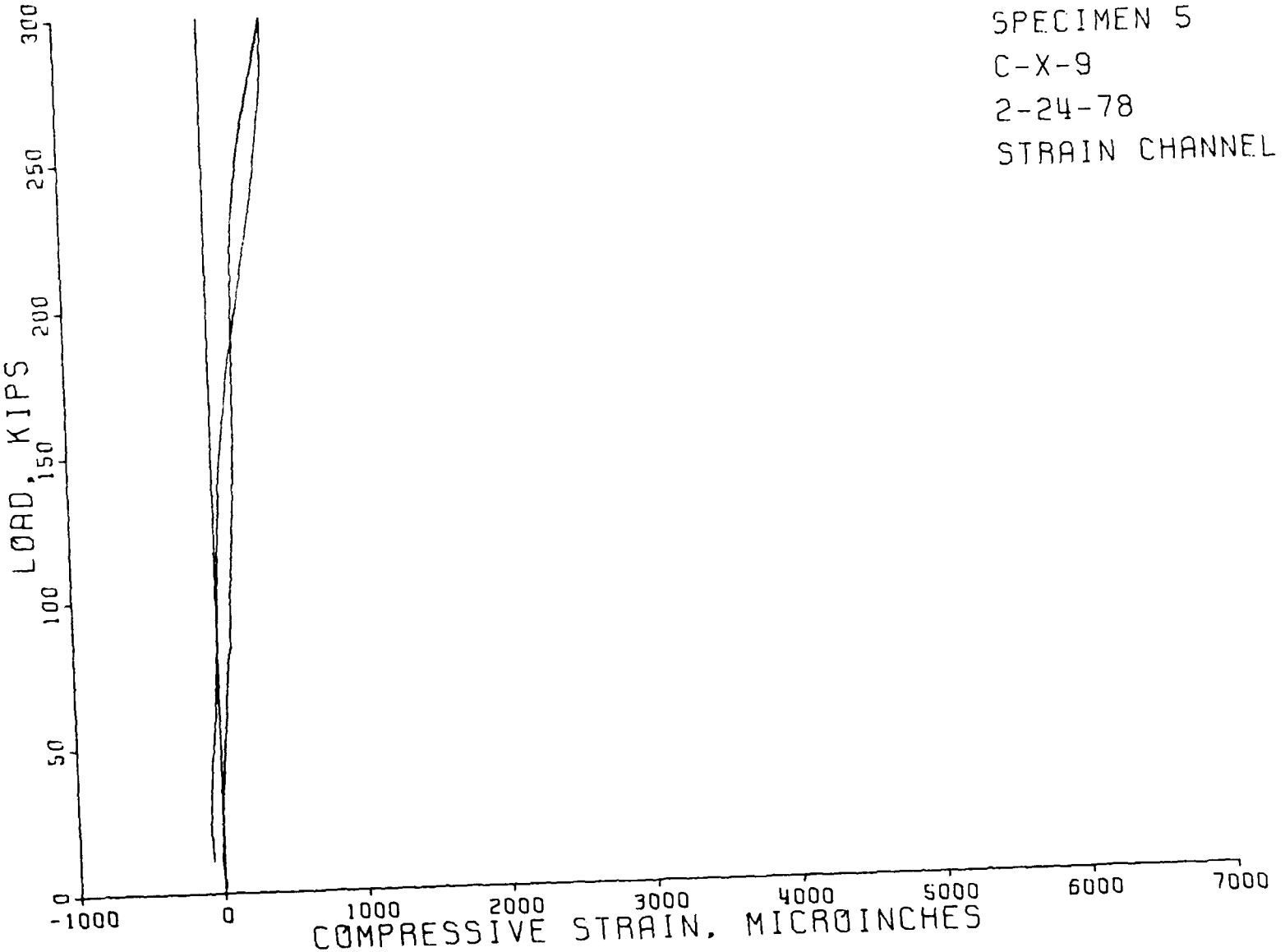


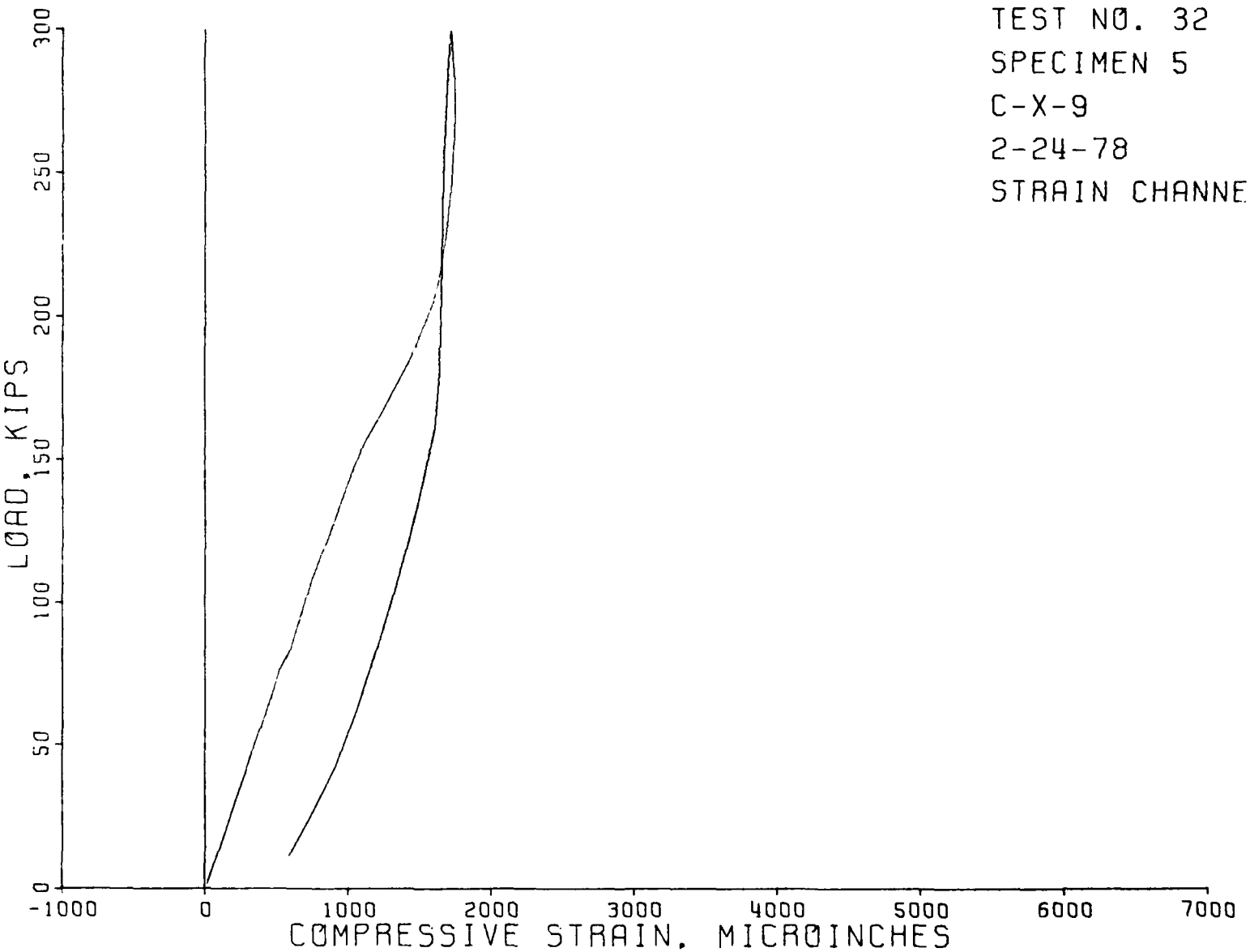
TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 34

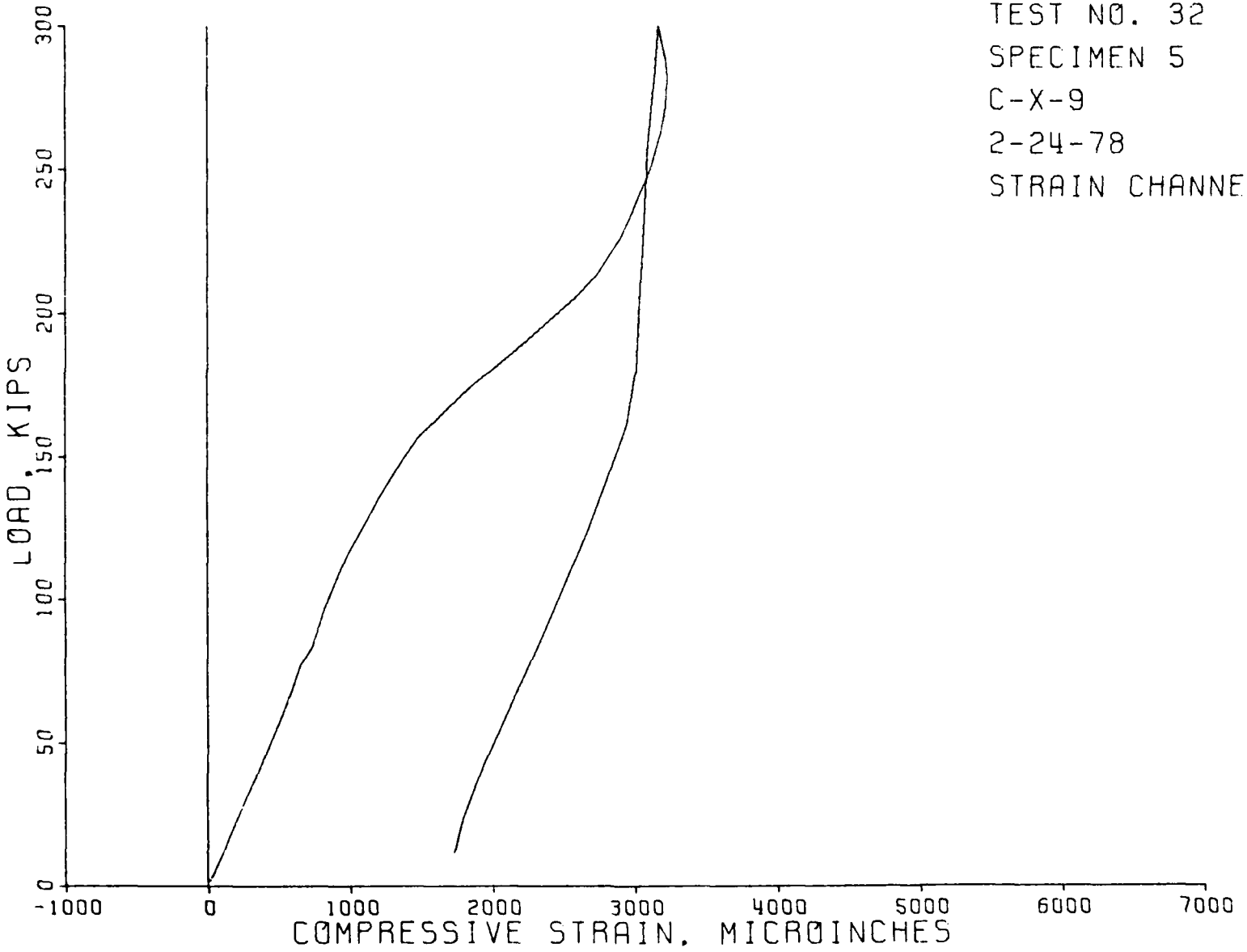

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

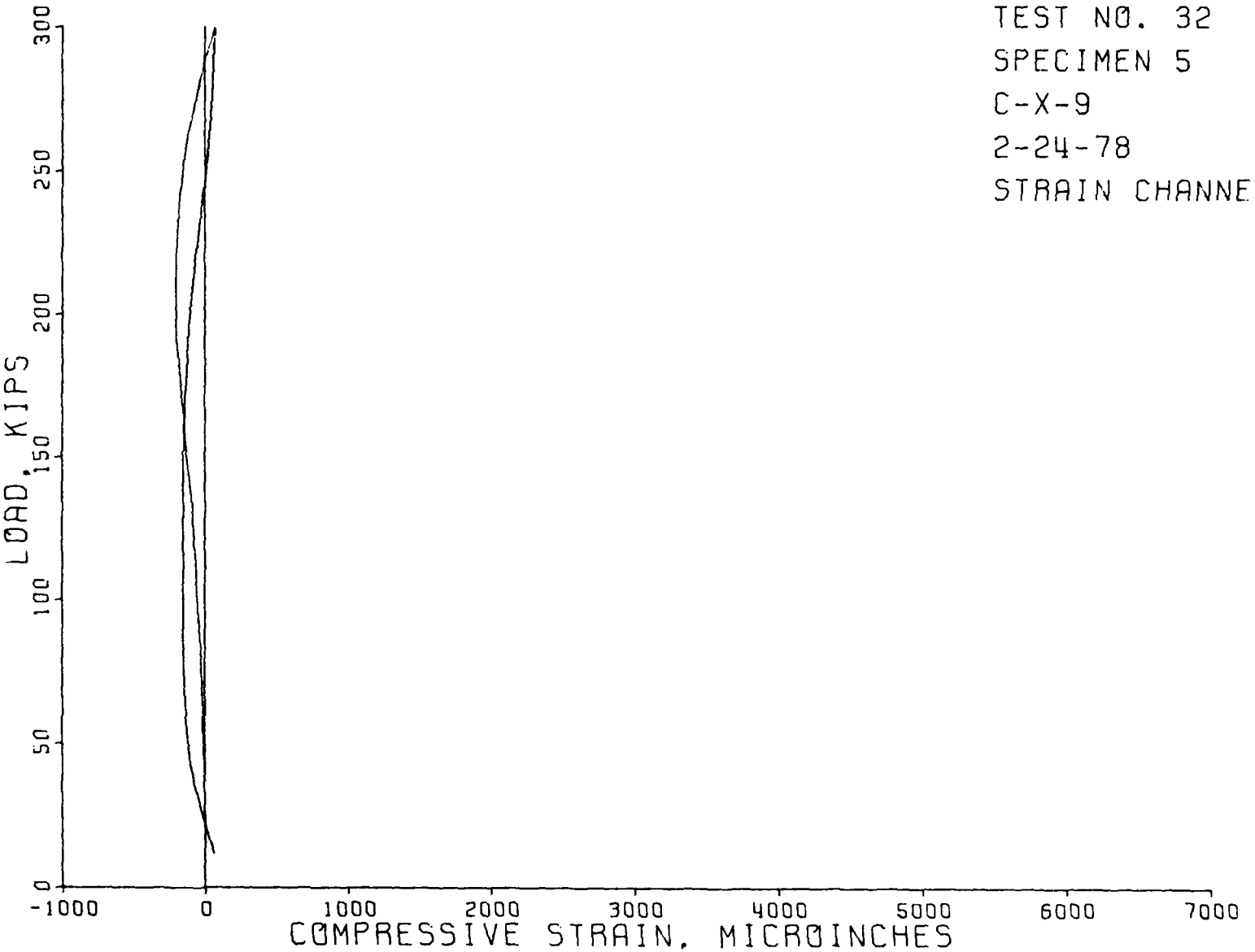

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 37
COMPRESSIVE STRAIN. MICROINCHES
-1000
0
1000
2000
3000
4000
5000
6000
7000
LOAD, KIPS
0
50
100
150
200
250
300


TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 32
SPECIMEN 5
C-X-9
2-24-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 32 SPECIMEN 5 C-X-9 2-24-78

NUMBER OF INCREMENTS= 48
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

S T R A I N C H A N N E L S

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	24:15:43:21	-1.000	-11.000	-11.000	-2.000	-34.000	-8.000	-11.000	-8.000
2.	24:15:52:37	-6.000	-65.000	-53.000	-21.000	-167.000	-26.000	-57.000	-37.000
3.	24:15:53:47	-24.000	-95.000	-84.000	-33.000	-232.000	-46.000	-85.000	-57.000
4.	24:15:57: 2	-36.000	-150.000	-135.000	-52.000	-332.000	-57.000	-126.000	-95.000
5.	24:15:58:13	-50.000	-186.000	-163.000	-63.000	-393.000	-63.000	-157.000	-117.000
6.	24:15:59:55	-68.000	-235.000	-215.000	-81 000	-477.000	-70.000	-200.000	-150.000
7.	24:16: 1:17	-80.000	-265.000	-243.000	-93.000	-529.000	-72.000	-227.000	-171.000
8.	24:16: 3: 7	-97.000	-303.000	-289.000	-111.000	-608.000	-73.000	-269.000	-201.000
9.	24:16: 4: 7	-105 000	-331.000	-318.000	-121.000	-657.000	-73.000	-295.000	-219.000
10.	24:16: 5:36	-125.000	-361.000	-354.000	-136.000	-725.000	-70.000	-329.000	-248.000
11.	24:16: 8:29	-131.000	-392.000	-394.000	-149.000	-806.000	-57.000	-363.000	-271.000
12.	24:16: 9:50	-144.000	-422.000	-436.000	-164.000	-894.000	-50.000	-400.000	-298.000
13.	24:16:10:41	-152.000	-439.000	-464.000	-172.000	-959.000	-42.000	-423.000	-315.000
14.	24:16:13: 2	-165.000	-464.000	-506.000	-185.000	-1073.000	-29.000	-460.000	-343.000
15.	24:16:14:19	-172.000	-478.000	-531.000	-194.000	-1156.000	-25.000	-483.000	-357.000
16.	24:16:15:41	-180.000	-504.000	-568.000	-198.000	-1288.000	-10.000	-513.000	-271.000
17.	24:16:16:28	-186.000	-504.000	-592.000	-205.000	-1388.000	-2.000	-532.000	-270.000
18.	24:16:18: 9	-191.000	-534.000	-625.000	-213.000	-1584.000	18.000	-559.000	-268.000
19.	24:16:19:45	-195.000	-554.000	-646.000	-210.000	-1724.000	28.000	-577.000	-276.000
20.	24:16:22:41	-198.000	-568.000	-676.000	-191.000	-1966.000	40.000	-601.000	-275.000
21.	24:16:24:48	-198.000	-574.000	-695.000	-195.000	-2116.000	48.000	-617.000	-286.000
22.	24:16:27:44	-206.000	-551.000	-724.000	-203.000	-2321.000	46.000	-644.000	-307.000
23.	24:16:29: 5	-211.000	-549.000	-740.000	-211.000	-2427.000	41.000	-659.000	-325.000
24.	24:16:30:54	-223.000	-540.000	-764.000	-220.000	-2557.000	27.000	-680.000	-349.000
25.	24:16:31:51	-232.000	-535.000	-776.000	-224.000	-2620.000	16.000	-691.000	-363.000
26.	24:16:33:25	-252.000	-525.000	-801.000	-232.000	-2704.000	-12.000	-713.000	-382.000
27.	24:16:34:39	-272.000	-518.000	-817.000	-235.000	-2752.000	37.000	-729.000	-395.000
28.	24:16:36:27	-309.000	-505.000	-846.000	-242.000	-2810.000	-86.000	-759.000	-411.000
29.	24:16:38:27	-346.000	-492.000	-864.000	-248.000	-2837.000	-135.000	-787.000	-419.000
30.	24:16:40:44	-390.000	-477.000	-887.000	-253.000	-2851.000	-192.000	-819.000	-428.000
31.	24:16:42:12	-422.000	-465.000	-902.000	-255.000	-2844.000	-234.000	-838.000	-432.000
32.	24:16:45:41	-461.000	-441.000	-934.000	-253.000	-2799.000	-308.000	-869.000	-430.000
33.	24:16:46:34	-463.000	-434.000	-916.000	-252.000	-2793.000	-302.000	-855.000	-426.000
34.	24:16:47:54	-455.000	-422.000	-882.000	-245.000	-2766.000	-284.000	-819.000	-414.000
35.	24:16:49: 3	-419.000	-408.000	-835.000	-235.000	-2729.000	-250.000	-778.000	-392.000
36.	24:16:50:27	-370.000	-402.000	-795.000	-224.000	-2702.000	-212.000	-740.000	-374.000
37.	24:16:51:51	-306.000	-395.000	-750.000	-211.000	-2670.000	-163.000	-702.000	-353.000
38.	24:16:52:54	-239.000	-389.000	-704.000	-198.000	-2644.000	-103.000	-655.000	-330.000
39.	24:16:54: 0	-167.000	-384.000	-660.000	-161.000	-2621.000	-52.000	-600.000	-270.000
40.	24:16:55: 7	-94.000	-367.000	-590.000	-119.000	-2554.000	-18.000	-535.000	-190.000
41.	24:16:56:13	-49.000	-323.000	-520.000	-77.000	-2433.000	-1.000	-459.000	-131.000
42.	24:16:57:16	-22.000	-267.000	-447.000	-45.000	-2278.000	2.000	-392.000	-78.000
43.	24:16:58:18	-10.000	-201.000	-373.000	-12.000	-2107.000	0.0	-330.000	-30.000
44.	24:16:59:17	9.000	-132.000	-291.000	21.000	-1931.000	-1.000	-271.000	19.000
45.	24:17: 0:27	26.000	-57.000	-207.000	53.000	-1749.000	-4.000	-207.000	66.000
46.	24:17: 1:26	53.000	21.000	-134.000	86.000	-1581.000	-26.000	-149.000	116.000
47.	24:17: 2:33	87.000	112.000	-55.000	122.000	-1450.000	-108.000	-99.000	170.000
48	24:17: 3:10	102.000	164.000	-21.000	138.000	-1378.000	-153.000	-70.000	176.000

S T R A I N C H A N N E L S

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	24:15:43:21	-3.000	-14.000	-14.000	-2.000	
2.	24:15:52:37	16.000	-82.000	-104.000	-2.000	
3.	24:15:53:47	5.000	-128.000	-162.000	-6.000	
4.	24:15:57: 2	-3.000	-213.000	-271.000	2.000	
5.	24:15:58:13	-13.000	-268.000	-340.000	5.000	
6.	24:15:59:55	-32.000	-346.000	-439.000	11.000	
7.	24:16: 1:17	-44.000	-396.000	-502.000	15.000	
8.	24:16: 3: 7	-60.000	-474.000	-594.000	22.000	
9.	24:16: 4: 7	-70.000	-524.000	-652.000	26.000	
10.	24:16: 5:36	-89.000	-593.000	-730.000	32.000	
11.	24:16: 8:29	-97.000	-673.000	-813.000	48.000	
12.	24:16: 9:50	-110.000	-747.000	-909.000	59.000	
13.	24:16:10:41	-120.000	-804.000	-983.000	69.000	
14.	24:16:13: 2	-132.000	-897.000	-1113.000	85.000	
15.	24:16:14:19	-139.000	-953.000	-1205.000	95.000	
16.	24:16:15:41	-149.000	-1052.000	-1360.000	123.000	
17.	24:16:16:28	-154.000	-1117.000	-1471.000	138.000	
18.	24:16:18: 9	-156.000	-1237.000	-1687.000	157.000	
19.	24:16:19:45	-161.000	-1314.000	-1844.000	170.000	
20.	24:16:22:41	-163.000	-1438.000	-2130.000	191.000	
21.	24:16:24:48	-164.000	-1507.000	-2318.000	203.000	
22.	24:16:27:44	-171.000	-1594.000	-2579.000	207.000	
23.	24:16:29: 5	-176.000	-1634.000	-2714.000	206.000	
24.	24:16:30:54	-186.000	-1676.000	-2876.000	199.000	
25.	24:16:31:51	-197.000	-1694.000	-2951.000	191.000	
26.	24:16:33:25	-222.000	-1718.000	-3053.000	170.000	
27.	24:16:34:39	-242.000	-1730.000	-3114.000	153.000	
28.	24:16:36:27	-279.000	-1744.000	-3185.000	117.000	
29.	24:16:38:27	-314.000	-1750.000	-3216.000	77.000	
30.	24:16:40:44	-360.000	-1748.000	-3223.000	29.000	
31.	24:16:42:12	-392.000	-1741.000	-3211.000	-6.000	
32.	24:16:45:41	-437.000	-1719.000	-3158.000	-68.000	
33.	24:16:46:34	-434.000	-1712.000	-3152.000	-63.000	
34.	24:16:47:54	-418.000	-1692.000	-3121.000	-48.000	
35.	24:16:49: 3	-377.000	-1672.000	-3082.000	-18.000	
36.	24:16:50:27	-323.000	-1662.000	-3063.000	25.000	
37.	24:16:51:51	-260.000	-1653.000	-3039.000	70.000	
38.	24:16:52:54	-195.000	-1645.000	-3019.000	108.000	
39.	24:16:54: 0	-130.000	-1639.000	-3001.000	131.000	
40.	24:16:55: 7	-85.000	-1606.000	-2936.000	149.000	
41.	24:16:56:13	-43.000	-1525.000	-2804.000	153.000	
42.	24:16:57:16	-23.000	-1427.000	-2653.000	155.000	
43.	24:16:58:18	-9.000	-1316.000	-2485.000	153.000	
44.	24:16:59:17	5.000	-1195.000	-2310.000	153.000	
45.	24:17: 0:27	25.000	-1058.000	-2121.000	138.000	
46.	24:17: 1:26	66.000	-910.000	-1931.000	104.000	
47.	24:17: 2:33	83.000	-712.000	-1780.000	3.000	
48.	24:17: 3:10	77.000	-586.000	-1725.000	-64.000	

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	24:15:43:21	0.0	0.010	0.010	0.010	0.0	0.0	-0.001	-0.001
2.	24:15:52:37	0.0	0.0	0.010	0.020	0.0	-0.010	-0.001	-0.001
3.	24:15:53:47	0.010	0.0	0.010	0.030	0.010	0.0	-0.001	-0.001
4.	24:15:57: 2	0.010	0.0	0.010	0.020	0.0	0.0	-0.002	-0.001
5.	24:15:58:13	0.0	0.0	0.020	0.030	0.0	0.010	-0.002	-0.002
6.	24:15:59:55	0.0	0.0	0.020	0.020	0.020	0.010	-0.001	-0.001
7.	24:16: 1:17	-0.020	0.0	0.040	0.030	0.030	0.010	-0.013	-0.001
8.	24:16: 3: 7	-0.010	0.0	0.040	0.030	0.040	0.020	-0.018	-0.001
9.	24:16: 4: 7	-0.020	0.0	0.040	0.050	0.040	0.020	-0.029	-0.001
10.	24:16: 5:36	-0.020	0.0	0.040	0.060	0.030	0.020	-0.029	-0.001
11.	24:16: 8:29	-0.020	0.0	0.040	0.060	0.040	0.020	-0.029	-0.014
12.	24:16: 9:50	-0.030	0.0	0.040	0.050	0.030	0.030	-0.029	-0.030
13.	24:16:10:41	-0.030	-0.010	0.050	0.060	0.030	0.020	-0.029	-0.030
14.	24:16:13: 2	-0.030	0.0	0.070	0.070	0.050	0.020	-0.029	-0.030
15.	24:16:14:19	-0.030	0.0	0.070	0.080	0.060	0.030	-0.029	-0.030
16.	24:16:15:41	-0.030	-0.010	0.070	0.090	0.060	0.020	-0.029	-0.030
17.	24:16:16:28	-0.030	0.0	0.070	0.090	0.060	0.030	-0.029	-0.030
18.	24:16:18: 9	-0.030	0.010	0.070	0.110	0.070	0.020	-0.041	-0.059
19.	24:16:19:45	-0.050	0.0	0.070	0.120	0.070	0.020	-0.057	-0.059
20.	24:16:22:41	-0.060	0.010	0.100	0.110	0.090	0.020	-0.057	-0.059
21.	24:16:24:48	-0.060	-0.010	0.100	0.110	0.090	0.020	-0.057	-0.059
22.	24:16:27:44	-0.060	0.010	0.090	0.140	0.100	0.030	-0.057	-0.059
23.	24:16:29: 5	-0.060	0.0	0.090	0.140	0.100	0.030	-0.057	-0.059
24.	24:16:30:54	-0.060	0.0	0.100	0.140	0.090	0.020	-0.057	-0.059
25.	24:16:31:51	-0.060	0.0	0.100	0.140	0.090	0.020	-0.057	-0.059
26.	24:16:33:25	-0.060	0.0	0.100	0.150	0.090	0.030	-0.057	-0.060
27.	24:16:34:39	-0.060	0.0	0.100	0.150	0.090	0.030	-0.057	-0.060
28.	24:16:36:27	-0.060	0.0	0.100	0.140	0.090	0.020	-0.056	-0.059
29.	24:16:38:27	-0.060	0.010	0.110	0.140	0.090	0.020	-0.057	-0.060
30.	24:16:40:44	-0.060	0.010	0.100	0.140	0.090	0.020	-0.057	-0.059
31.	24:16:42:12	-0.060	0.030	0.100	0.140	0.090	0.020	-0.056	-0.059
32.	24:16:45:41	-0.060	0.030	0.110	0.140	0.100	0.020	-0.056	-0.059
33.	24:16:46:34	-0.060	0.030	0.100	0.140	0.100	0.030	-0.056	-0.059
34.	24:16:47:54	-0.060	0.030	0.100	0.140	0.090	0.020	-0.056	-0.059
35.	24:16:49: 3	-0.060	0.030	0.100	0.140	0.090	0.020	-0.056	-0.059
36.	24:16:50:27	-0.050	0.030	0.110	0.150	0.090	0.030	-0.056	-0.059
37.	24:16:51:51	-0.060	0.010	0.110	0.140	0.090	0.030	-0.056	-0.059
38.	24:16:52:54	-0.060	0.0	0.110	0.140	0.090	0.020	-0.056	-0.059
39.	24:16:54: 0	-0.060	-0.010	0.110	0.140	0.090	0.020	-0.056	-0.059
40.	24:16:55: 7	-0.050	-0.010	0.100	0.140	0.090	0.020	-0.056	-0.077
41.	24:16:56:13	-0.060	0.0	0.100	0.140	0.090	0.030	-0.056	-0.078
42.	24:16:57:16	-0.060	0.0	0.100	0.140	0.090	0.030	-0.056	-0.078
43.	24:16:58:18	-0.050	0.0	0.090	0.140	0.090	0.030	-0.056	-0.077
44.	24:16:59:17	-0.060	0.0	0.100	0.110	0.090	0.020	-0.056	-0.075
45.	24:17: 0:27	-0.060	0.0	0.080	0.110	0.060	0.020	-0.056	-0.059
46.	24:17: 1:26	-0.060	0.0	0.070	0.110	0.060	0.020	-0.056	-0.059
47.	24:17: 2:33	-0.030	0.0	0.060	0.090	0.060	0.030	-0.044	-0.048
48.	24:17: 3:10	-0.030	0.0	0.060	0.070	0.030	0.020	-0.028	-0.030

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	24:15:43:21	930.000	1010.000	1350.000	2060.000	2070.000	2120.000	1280.000	900.000
2.	24:15:52:37	3490.000	5450.000	8610.000	11510.000	11850.000	11550.000	7950.000	5390.000
3.	24:15:53:47	5950.000	9780.000	13540.000	17660.000	18650.000	17930.000	12520.000	9860.000
4.	24:15:57: 2	10500.000	14280.000	21280.000	27500.000	31410.000	27730.000	20180.000	13460.000
5.	24:15:58:13	13660.000	18090.000	26230.000	35160.000	39090.000	35220.000	24870.000	17040.000
6.	24:15:59:55	17830.000	23980.000	33800.000	45650.000	50860.000	45520.000	32190.000	22810.000
7.	24:16: 1:17	20040.000	27560.000	39080.000	52170.000	57600.000	51900.000	37200.000	26240.000
8.	24:16: 3: 7	24680.000	33220.000	46670.000	62690.000	69080.000	62240.000	44530.000	31670.000
9.	24:16: 4: 7	27600.000	36840.000	51610.000	68760.000	77250.000	68090.000	49230.000	35220.000
10.	24:16: 5:36	30980.000	41450.000	58990.000	78660.000	83720.000	77790.000	56230.000	39640.000
11.	24:16: 8:29	34220.000	46640.000	64360.000	87170.000	96820.000	85860.000	61390.000	45110.000
12.	24:16: 9:50	38390.000	52230.000	72240.000	97790.000	108280.000	96350.000	68900.000	50630.000
13.	24:16:10:41	41420.000	55780.000	77710.000	104560.000	116600.000	102940.000	74200.000	54170.000
14.	24:16:13: 2	45250.000	61690.000	85640.000	115230.000	128010.000	113300.000	81690.000	60020.000
15.	24:16:14:19	48170.000	65490.000	91070.000	121580.000	136210.000	119460.000	87110.000	63690.000
16.	24:16:15:41	52170.000	70390.000	99170.000	132430.000	148660.000	129860.000	94260.000	69430.000
17.	24:16:16:28	55210.000	73810.000	103850.000	139760.000	156430.000	136820.000	98630.000	73090.000
18.	24:16:18: 9	58120.000	79510.000	111870.000	150080.000	167090.000	146750.000	106290.000	78880.000
19.	24:16:19:45	60390.000	83190.000	117530.000	157300.000	174380.000	153680.000	111700.000	82640.000
20.	24:16:22:41	65020.000	88080.000	125340.000	167850.000	186010.000	163700.000	119040.000	87970.000
21.	24:16:24:48	67970.000	91320.000	130270.000	173950.000	194140.000	169450.000	123950.000	91300.000
22.	24:16:27:44	72180.000	96530.000	137600.000	179540.000	205520.000	174510.000	131650.000	95690.000
23.	24:16:29: 5	74820.000	99440.000	142110.000	182130.000	212610.000	177030.000	136120.000	98290.000
24.	24:16:30:54	78140.000	102440.000	149900.000	181080.000	224730.000	175830.000	143730.000	100910.000
25.	24:16:31:51	79810.000	104050.000	155300.000	179330.000	231920.000	174090.000	148990.000	102440.000
26.	24:16:33:25	83220.000	106660.000	162830.000	176420.000	244070.000	171440.000	156350.000	104340.000
27.	24:16:34:39	86000.000	107940.000	168490.000	174030.000	251450.000	169270.000	161920.000	105260.000
28.	24:16:36:27	89480.000	112690.000	175840.000	170330.000	263430.000	165530.000	169120.000	110290.000
29.	24:16:38:27	92530.000	117090.000	180740.000	164990.000	271420.000	163210.000	173630.000	114380.000
30.	24:16:40:44	96380.000	121420.000	187220.000	156800.000	282330.000	158570.000	180080.000	118340.000
31.	24:16:42:12	98550.000	124440.000	190290.000	151150.000	288780.000	154860.000	182980.000	121260.000
32.	24:16:45:41	102160.000	129950.000	187900.000	139780.000	299920.000	148810.000	178760.000	126330.000
33.	24:16:46:34	99270.000	127810.000	188730.000	137980.000	293180.000	147730.000	180310.000	124260.000
34.	24:16:47:54	93420.000	123500.000	183870.000	137520.000	275270.000	147410.000	176280.000	119160.000
35.	24:16:49: 3	86060.000	117510.000	172710.000	139100.000	255390.000	146130.000	167950.000	113220.000
36.	24:16:50:27	79740.000	109520.000	160480.000	143590.000	236280.000	145810.000	157690.000	107580.000
37.	24:16:51:51	74690.000	99310.000	147830.000	147480.000	217590.000	144480.000	146400.000	101020.000
38.	24:16:52:54	67160.000	90940.000	135070.000	151140.000	198610.000	144270.000	135640.000	93480.000
39.	24:16:54: 0	61300.000	82410.000	122490.000	154280.000	179740.000	146340.000	123190.000	84830.000
40.	24:16:55: 7	54750.000	73140.000	109220.000	145160.000	160730.000	144990.000	108440.000	74280.000
41.	24:16:56:13	47720.000	63540.000	95690.000	126920.000	142410.000	135190.000	95130.000	60890.000
42.	24:16:57:16	40220.000	52810.000	83190.000	109490.000	122420.000	119010.000	82910.000	49770.000
43.	24:16:58:18	32810.000	44800.000	69660.000	91980.000	102640.000	100070.000	69360.000	42580.000
44.	24:16:59:17	26360.000	34650.000	56570.000	73350.000	83060.000	80420.000	56010.000	33780.000
45.	24:17: 0:27	19380.000	25880.000	43100.000	55130.000	62290.000	61310.000	42650.000	25190.000
46.	24:17: 1:26	13120.000	17040.000	29350.000	37800.000	41980.000	42630.000	29210.000	17160.000
47.	24:17: 2:33	6650.000	8890.000	15740.000	19230.000	22490.000	22240.000	16330.000	9210.000
48.	24:17: 3:10	3280.000	4710.000	8540.000	10760.000	11260.000	12620.000	9370.000	5210.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	24:15:43:21	38.435	25.624	25.624	12.812	12.812	38.435	0.0	25.624
2.	24:15:52:37	115.306	256.236	243.424	89.683	12.812	76.871	-12.812	12.812
3.	24:15:53:47	140.930	269.048	320.295	115.306	12.812	76.871	25.624	0.0
4.	24:15:57: 2	192.177	307.483	550.907	153.742	12.812	153.742	64.059	38.435
5.	24:15:58:15	204.989	320.295	653.402	166.553	12.812	153.742	64.059	64.059
6.	24:15:59:55	204.989	333.107	807.143	192.177	12.812	140.930	51.247	115.306
7.	24:16: 1:17	204.989	333.107	922.449	192.177	12.812	153.742	25.624	153.742
8.	24:16: 3: 7	192.177	320.295	1076.191	204.989	12.812	153.742	0.0	192.177
9.	24:16: 4: 7	179.365	320.295	1178.685	217 801	0.0	153.742	-12.812	192.177
10.	24:16: 5:36	153.742	281.859	1306.803	204.989	12.812	153.742	-25.624	230.612
11.	24:16: 8:29	102.494	256.236	1383.674	204.989	0.0	140.930	-25.624	256.236
12.	24:16: 9:50	64.059	230.612	1486.168	204.989	12.812	128.118	-51.247	294.671
13.	24:16:10:41	51.247	204.989	1563.039	217.801	12.812	128.118	-64.059	294.671
14.	24:16:13: 2	12.812	166.553	1627.098	179.365	0.0	128.118	-64.059	333.107
15.	24:16:14:19	12.812	128.118	1652.722	166.553	12.812	115.306	-89.683	333.107
16.	24:16:15:41	-12.812	51.247	1703.969	115.306	12.812	140.930	-89.683	333.107
17.	24:16:16:28	-12.812	25.624	1742.405	64.059	0.0	140.930	-115.306	333.107
18.	24:16:18: 9	-12.812	25.624	1742.405	-89.683	12.812	166.553	-140.930	320.295
19.	24:16:19:45	-12.812	25.624	1755.216	-179.365	0.0	179.365	-166.553	307.483
20.	24:16:22:41	-12.812	25.624	1755.216	-320.295	12.812	204.989	-217.801	256.236
21.	24:16:24:48	-25.624	12.812	1729.593	-435.601	25.624	217.801	-217.801	256.236
22.	24:16:27:44	-12.812	38.435	1678.345	-563.719	12.812	204.989	-230.612	230.612
23.	24:16:29: 5	0.0	25.624	1652.722	-614.966	0.0	192.177	-243.424	204.989
24.	24:16:30:54	-12.812	25.624	1601.475	-691.837	0.0	179.365	230.612	217.801
25.	24:16:31:51	-12.812	25.624	1511.792	-755.896	0.0	179.365	-204.989	230.612
26.	24:16:33:25	-25.624	25.624	1434.921	-832.767	12.812	192.177	-192.177	269.048
27.	24:16:34:39	-12.812	38.435	1396.486	-858.390	0.0	192.177	-192.177	243.424
28.	24:16:36:27	-12.812	25.624	1358.051	-884.014	0.0	204.989	-230.612	217.801
29.	24:16:38:27	-12.812	25.624	1281.180	-922.449	0.0	230.612	-217.801	243.424
30.	24:16:40:44	-12.812	25.624	1229.933	-909.637	0.0	294.671	-243.424	217.801
31.	24:16:42:12	-12.812	38.435	1281.180	-832.767	12.812	358.730	-294.671	128.118
32.	24:16:45:41	0.0	25.624	1422.109	-614.966	12.812	422.789	-333.107	-192.177
33.	24:16:46:34	-12.812	25.624	1475.357	-576.531	25.624	409.978	-320.295	-192.177
34.	24:16:47:54	-12.812	25.624	1601.475	-448.413	12.812	435.601	-307.433	-307.483
35.	24:16:49: 3	-12.812	25.624	1806.463	-256.236	38.435	474.036	-345.918	-422.789
36.	24:16:50:27	-12.812	25.624	1870.522	-192.177	38.435	538.095	-333.107	-422.789
37.	24:16:51:51	0.0	25.624	1896.146	-153.742	51.247	614.966	-320.295	-397.166
38.	24:16:52:54	0.0	25.624	1908.958	-115.306	89.683	717.461	-307.483	-345.918
39.	24:16:54: 0	0.0	12.812	1870.522	-179.365	102.494	768.708	-269.048	-281.859
40.	24:16:55: 7	-12.812	12.812	1678.345	-269.048	166.553	884.014	-192.177	-192.177
41.	24:16:56:13	0.0	0.0	1960.205	128.118	269.048	1063.379	-320.295	-614.966
42.	24:16:57:16	-38.435	-25.624	2075.511	371.542	371.542	1191.497	-371.542	-794.331
43.	24:16:58:18	-51.247	-76.871	1780.840	333.107	474.036	1332.427	-217.801	-627.778
44.	24:16:59:17	-89.683	-153.742	1537.416	294.671	602.154	1434.921	-140.930	-538.095
45.	24:17: 0:27	-153.742	-256.236	1217.121	230.612	717.461	1524.604	-89.683	-409.978
46.	24:17: 1:26	-243.424	-384.354	884.014	179.365	819.955	1563.039	-38.435	-281.859
47.	24:17: 2:33	-333.107	-499.660	422.789	115.306	845.579	1409.298	12.812	-140.930
48.	24:17: 3:10	-358.730	-538.095	217.801	76.871	794.331	1178.685	0.0	-64.059

A V E R A G E L O A D

1.	1465.000
2.	8225.000
3.	13236.250
4.	20792.500
5.	26170.000
6.	34080.000
7.	38973.750
8.	46847.500
9.	51825.000
10.	58432.500
11.	65196.250
12.	73101.250
13.	78422.500
14.	86353.750
15.	91597.500
16.	99546.250
17.	104700.000
18.	112323.750
19.	117601.250
20.	125376.250
21.	130293.750
22.	136652.500
23.	140318.750
24.	144595.000
25.	146991.250
26.	150666.250
27.	153045.000
28.	157088.750
29.	159748.750
30.	162642.500
31.	164036.250
32.	164201.250
33.	162408.750
34.	157053.750
35.	149758.750
36.	142586.250
37.	134850.000
38.	127038.750
39.	119322.500
40.	108838.750
41.	95936.250
42.	82477.500
43.	69237.500
44.	55525.000
45.	41866.250
46.	28536.250
47.	15097.500
48.	8218.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 32

3.4.2 RELOAD OF SPECIMEN #5

TEST NO. 33

COMPOSITE INTEGRAL LINER

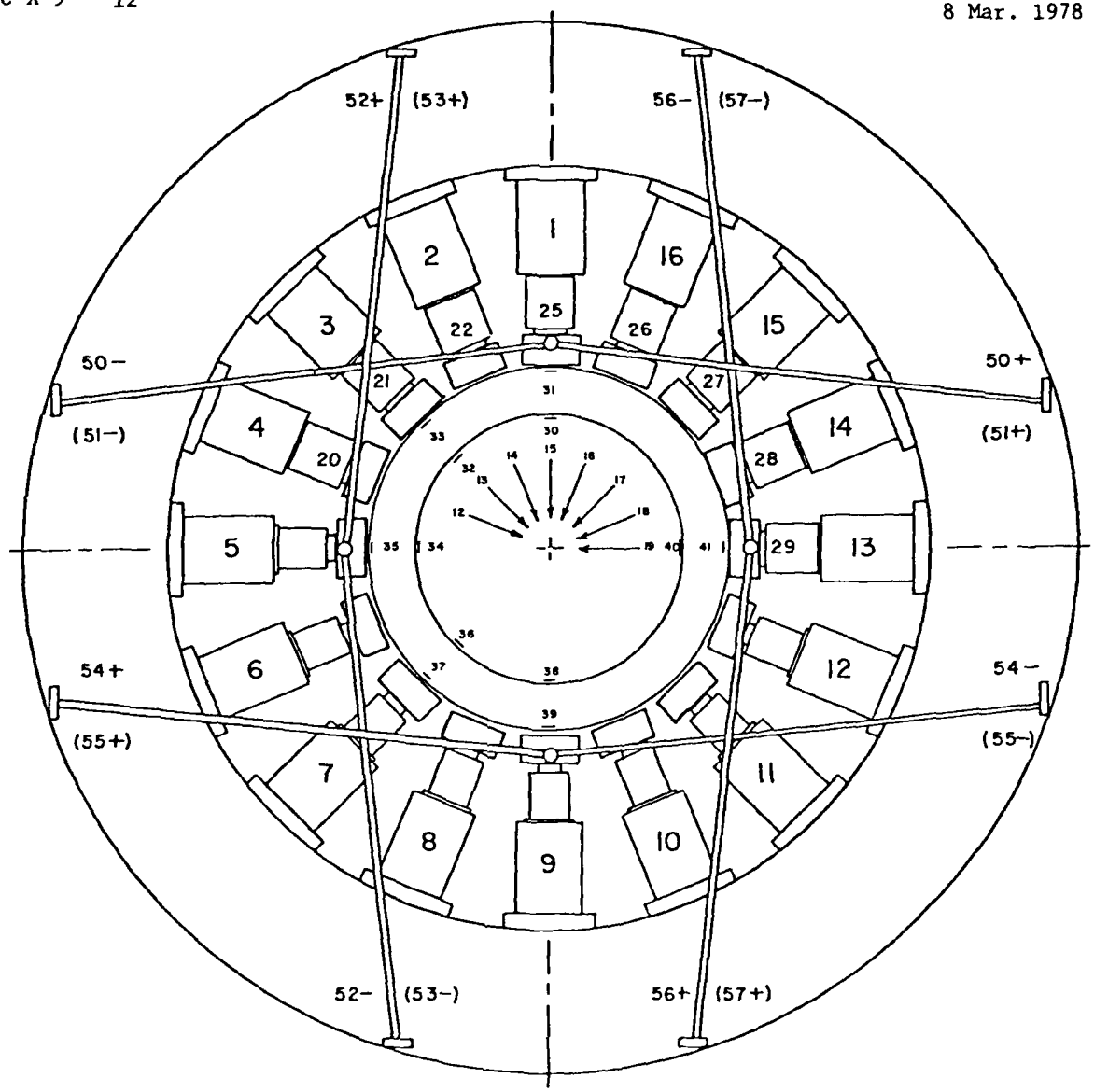
1:3 LOADING RATIO

TESTED 8 MARCH 1978

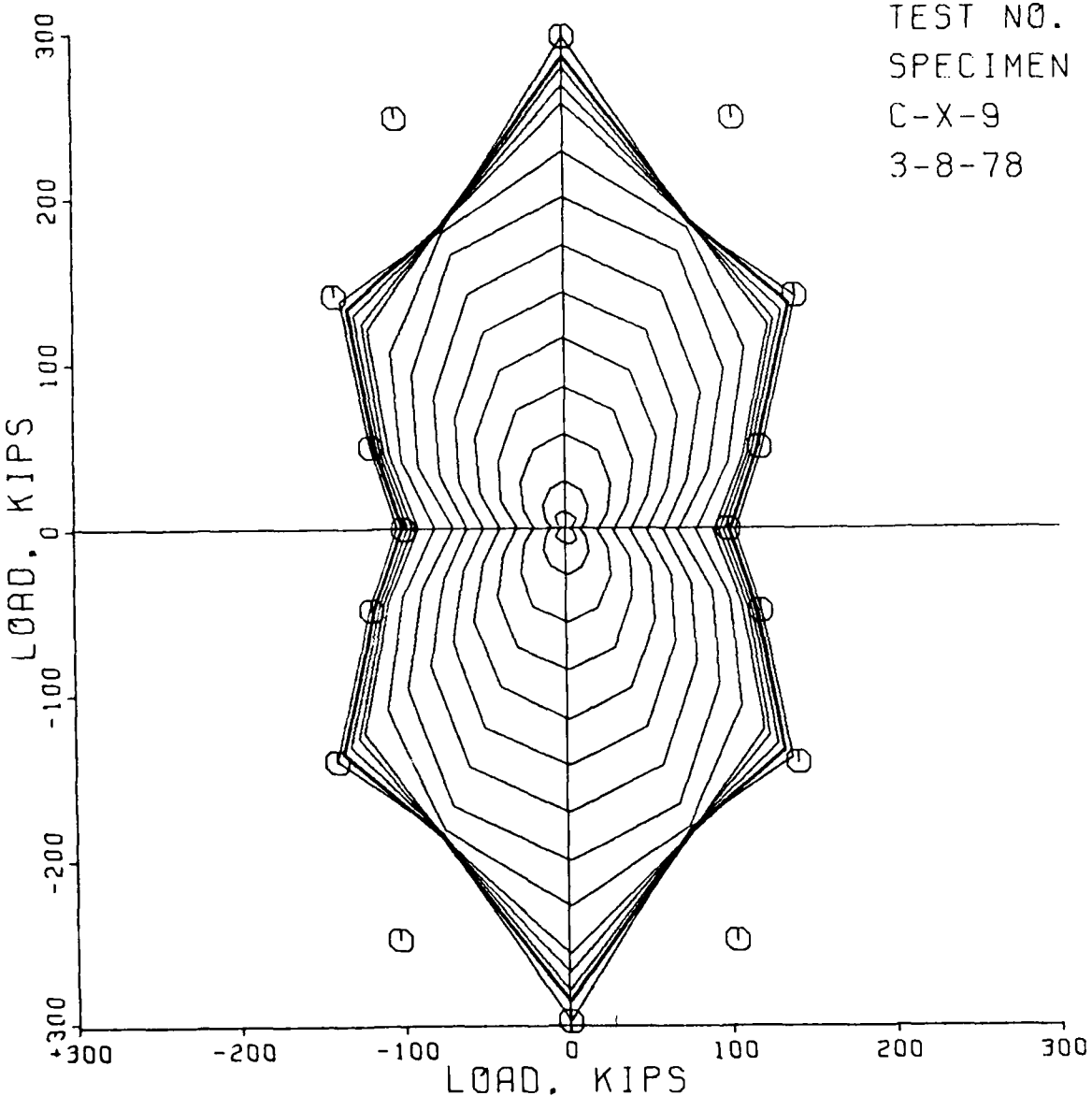
REACTION FRAME TEST SET-UP

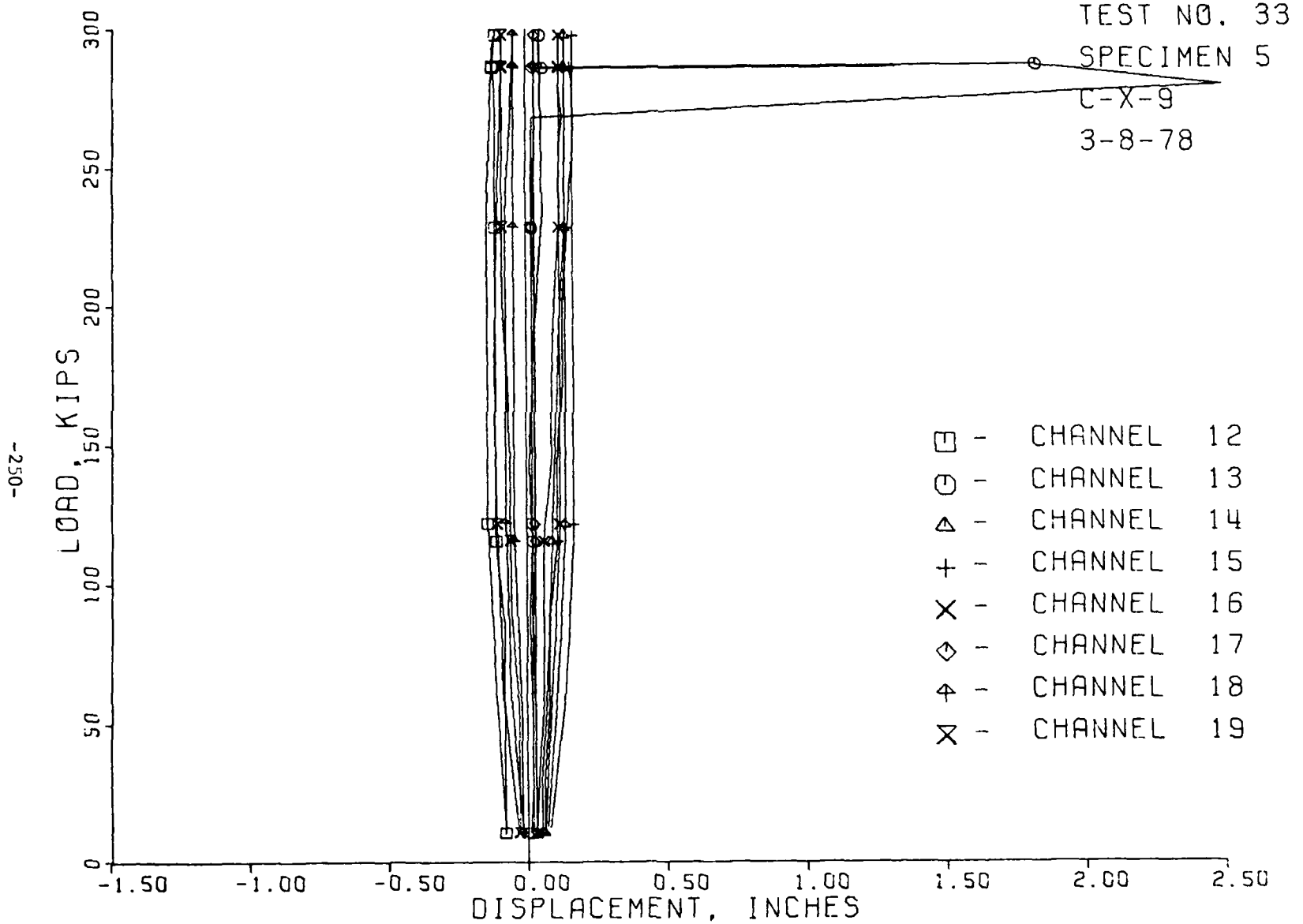
Specimen #5
C-X-9 12"

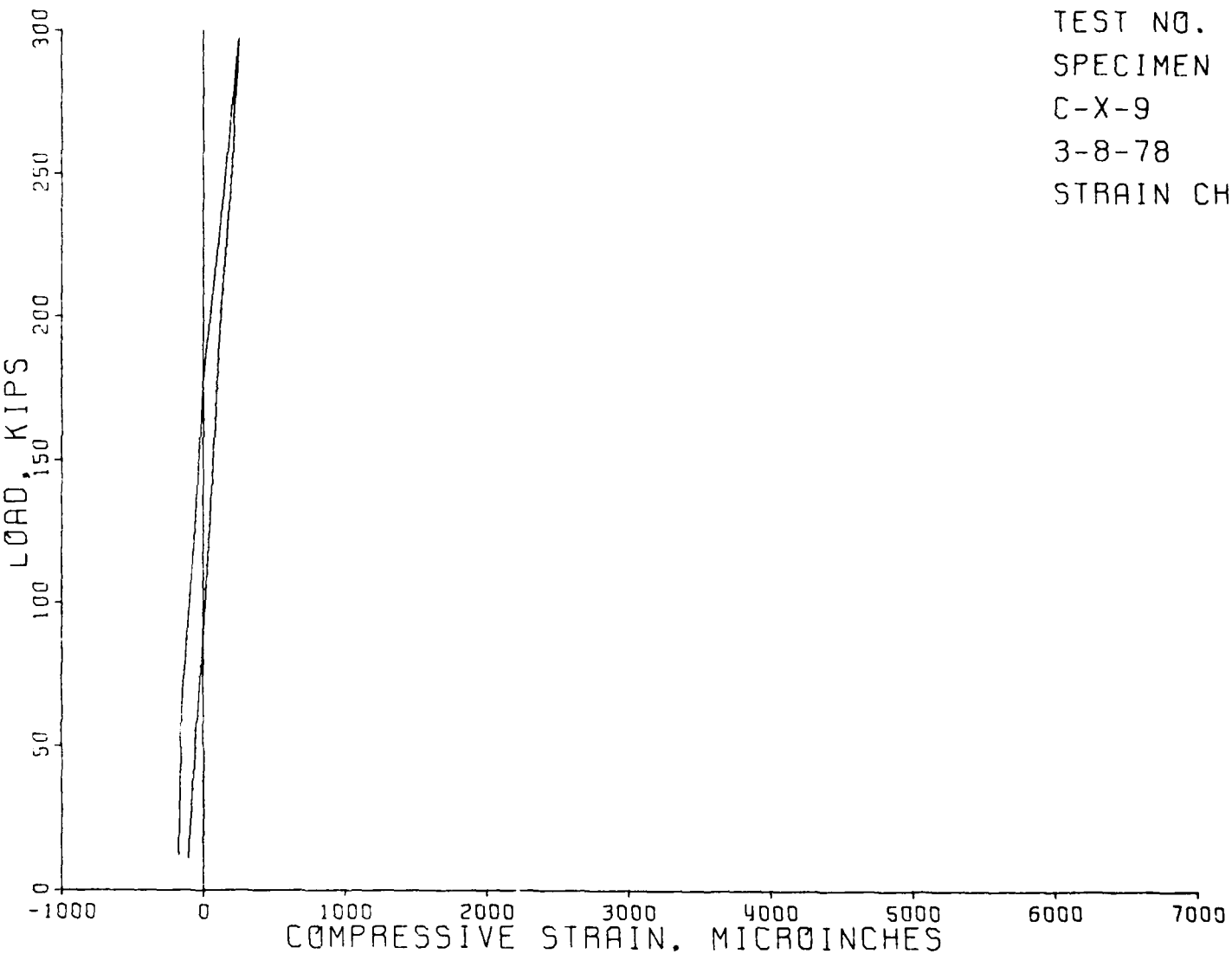
Test #33
1:3 Load
8 Mar. 1978

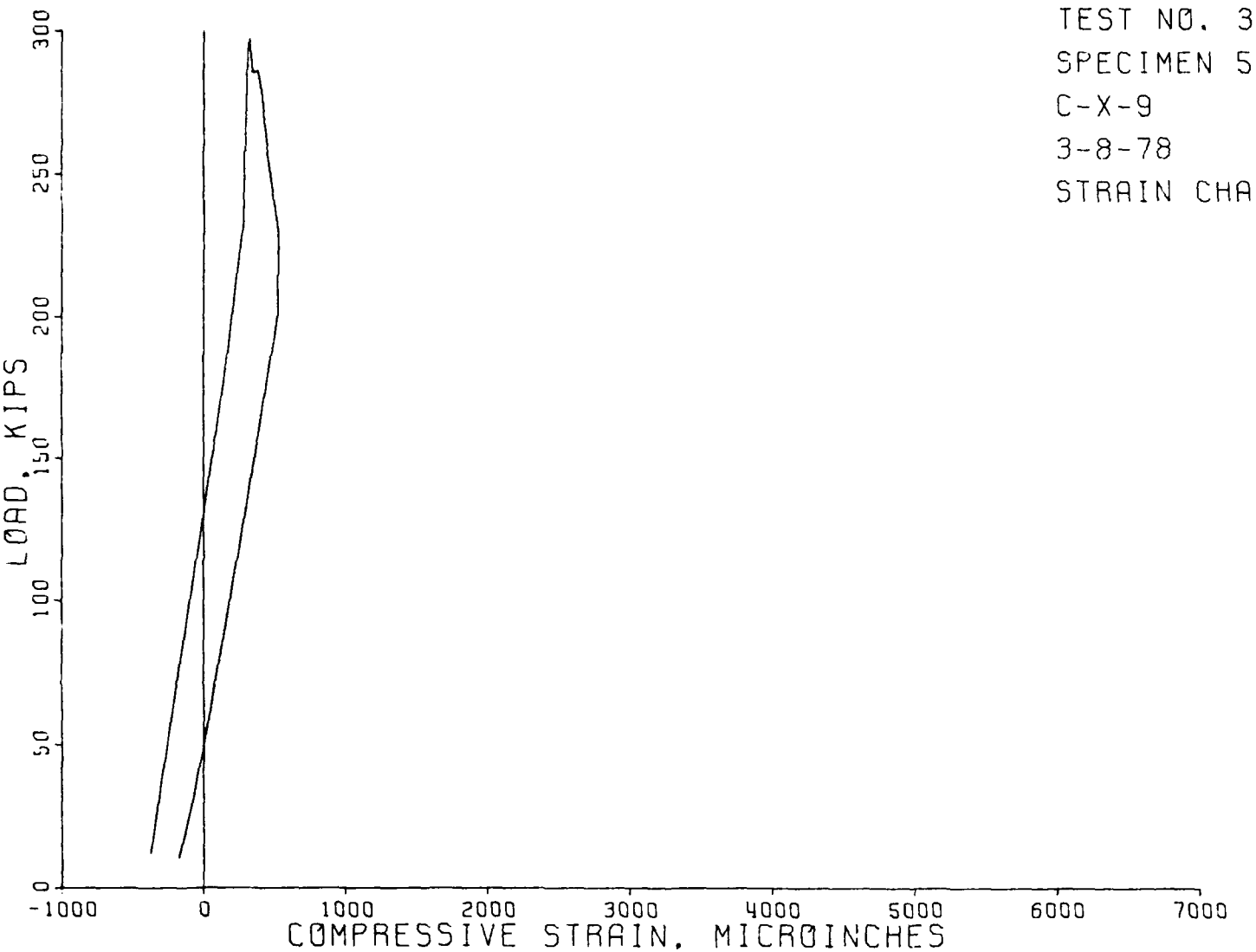


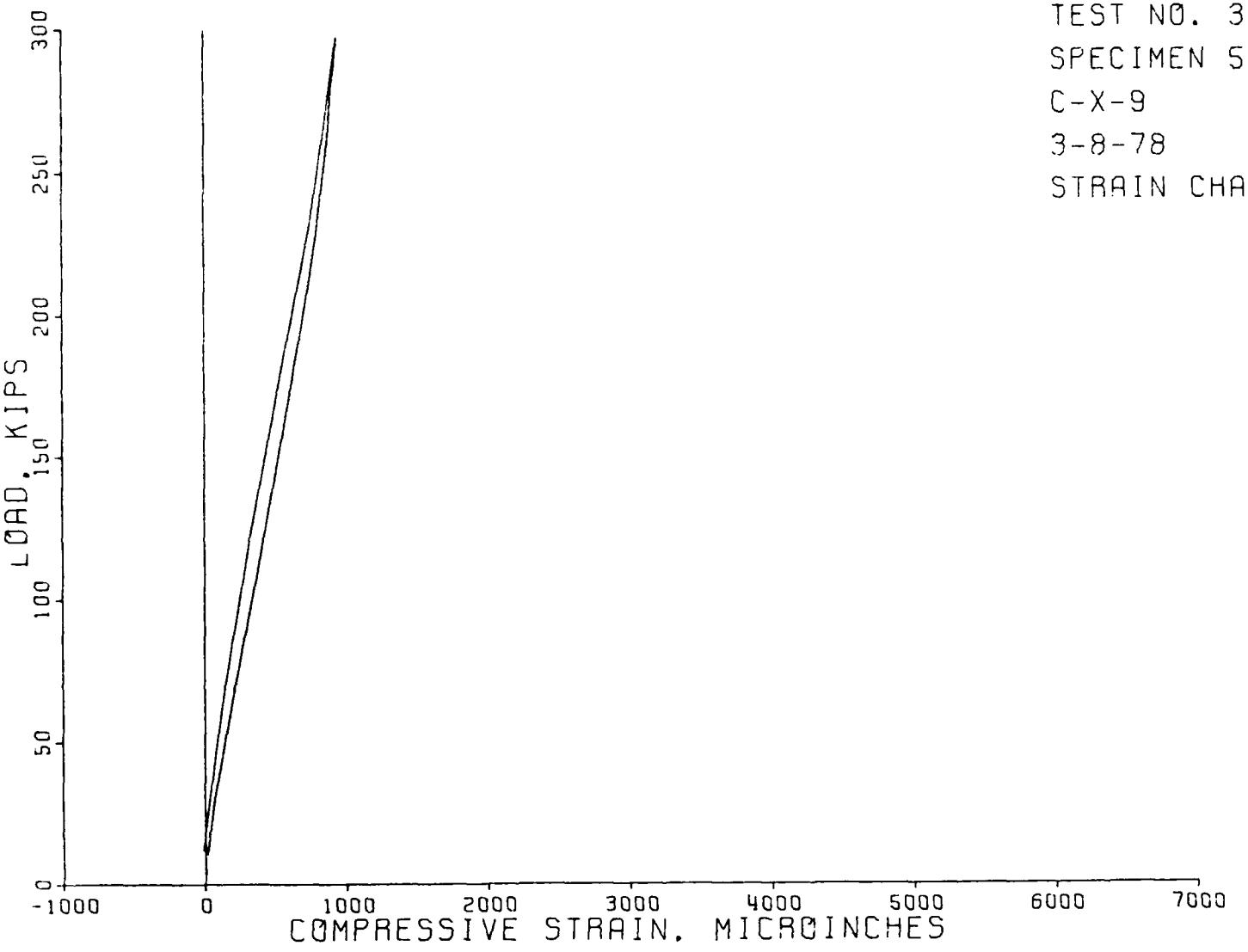
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 3" from top. Odd gages on Rebar
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

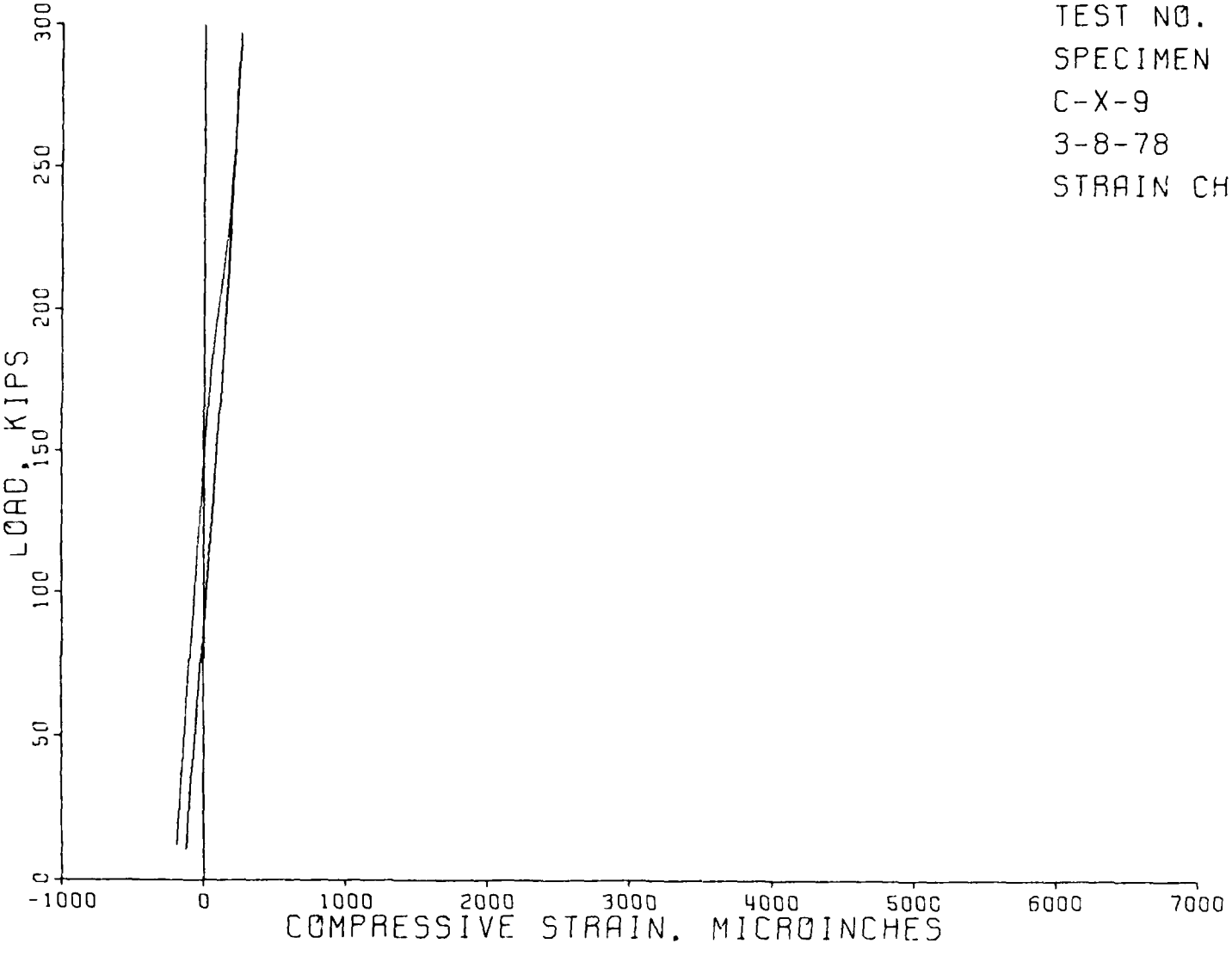

TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
LOAD, KIPS
300
200
100
0
-100
-200
-300
-300
-200
-100
0
100
200
300
LOAD, KIPS

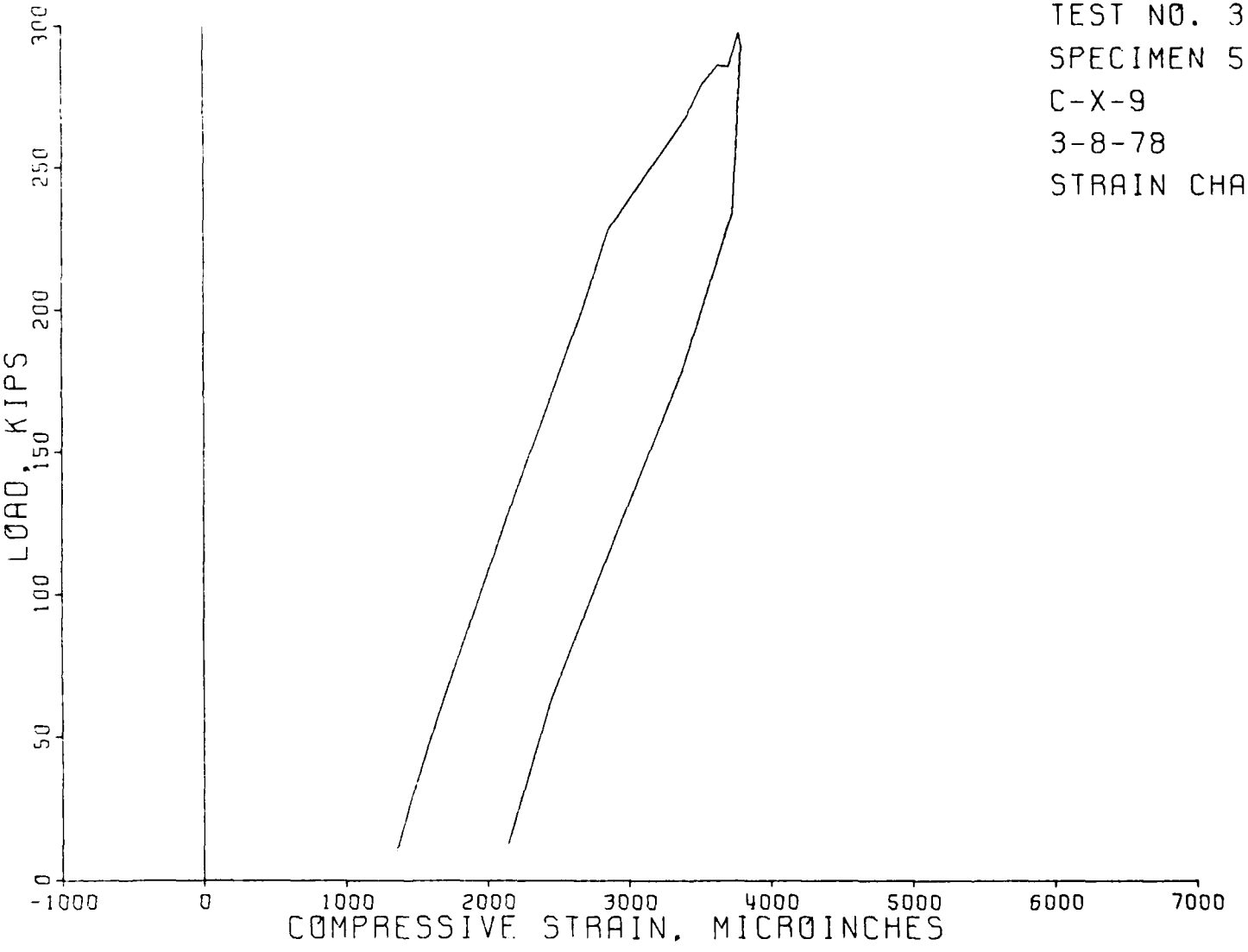

TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
LOAD, KIPS
0
50
100
150
200
250
300
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
□ - CHANNEL 12
○ - CHANNEL 13
△ - CHANNEL 14
+ - CHANNEL 15
X - CHANNEL 16
◇ - CHANNEL 17
✢ - CHANNEL 18
X - CHANNEL 19

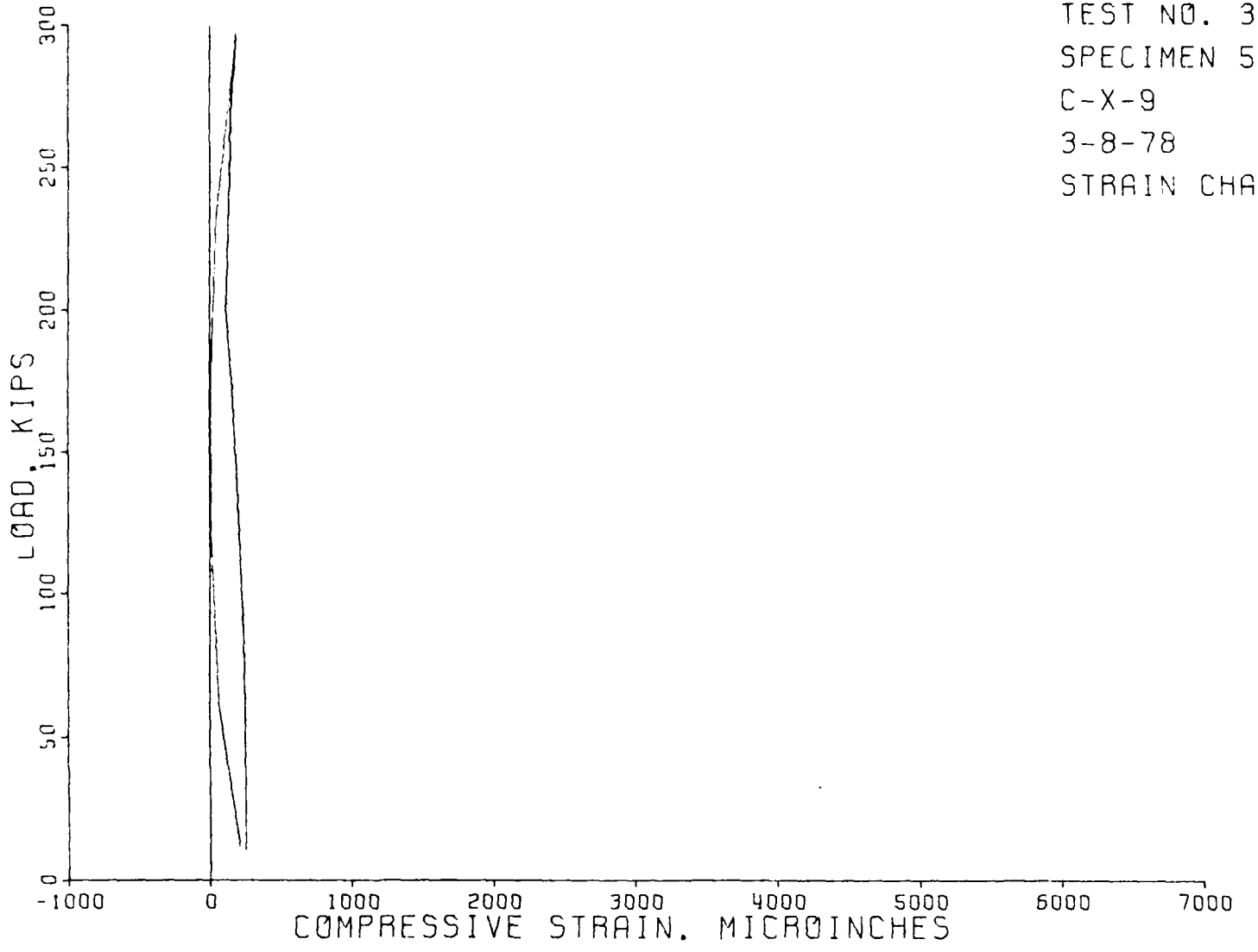

TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

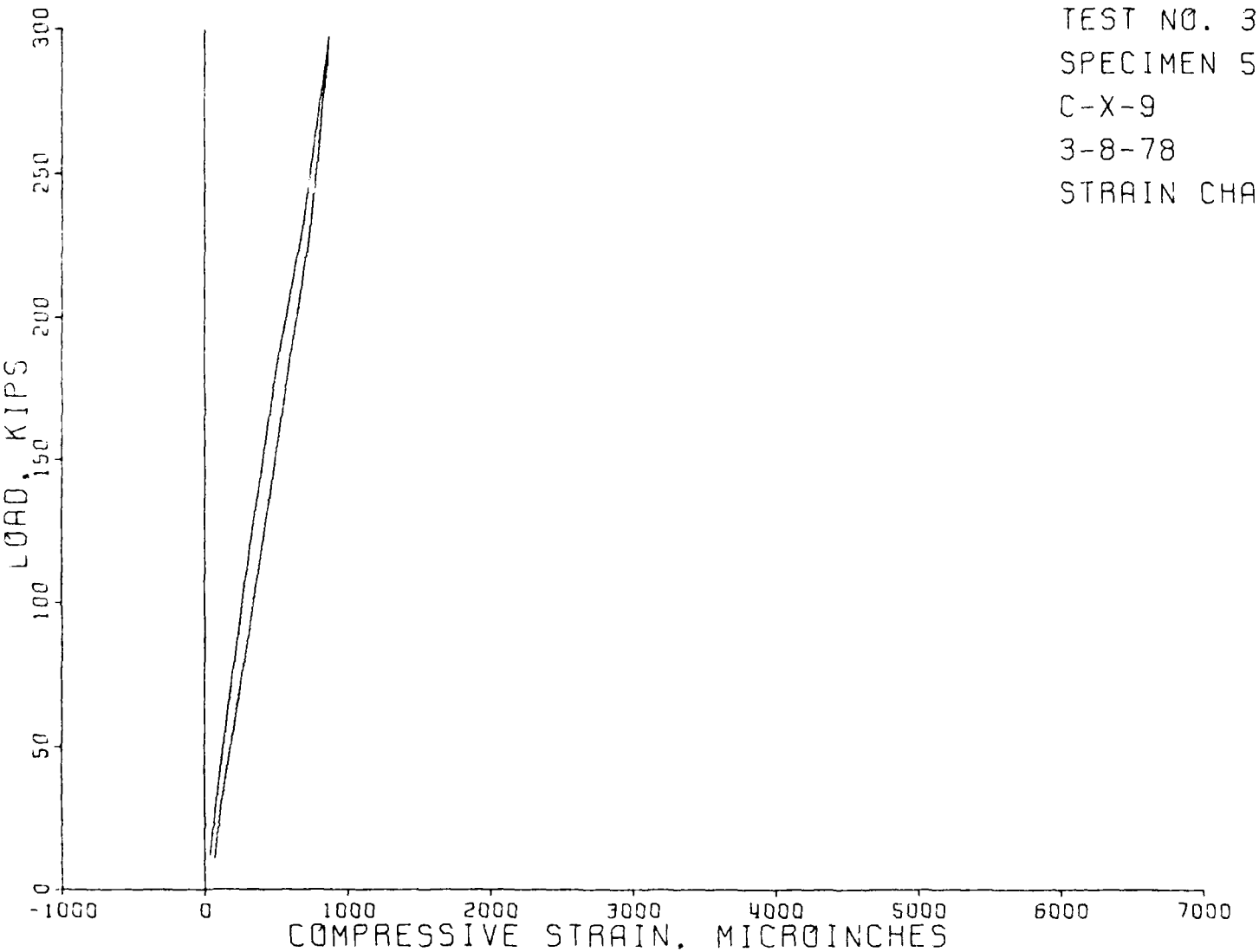

TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

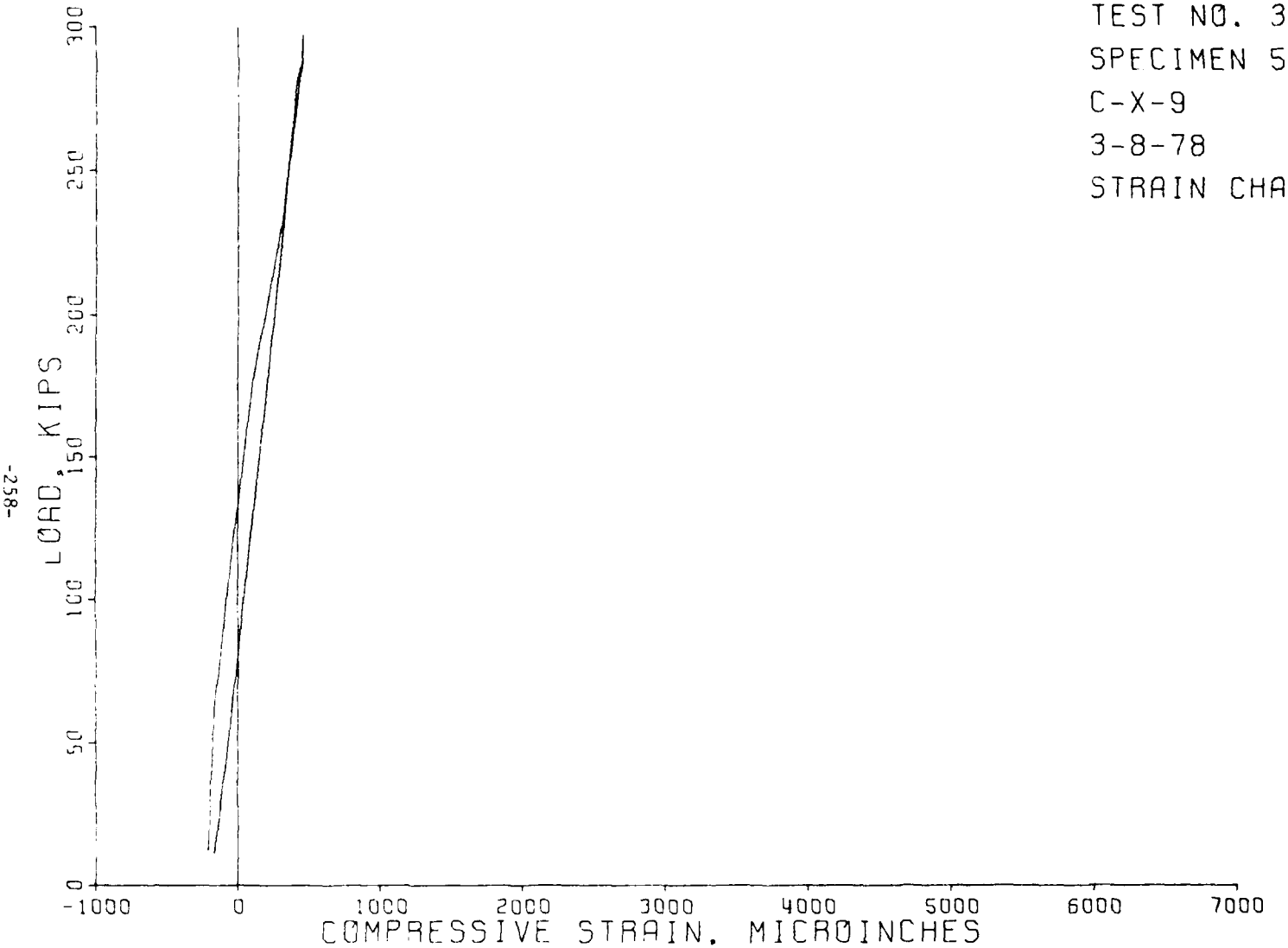

TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

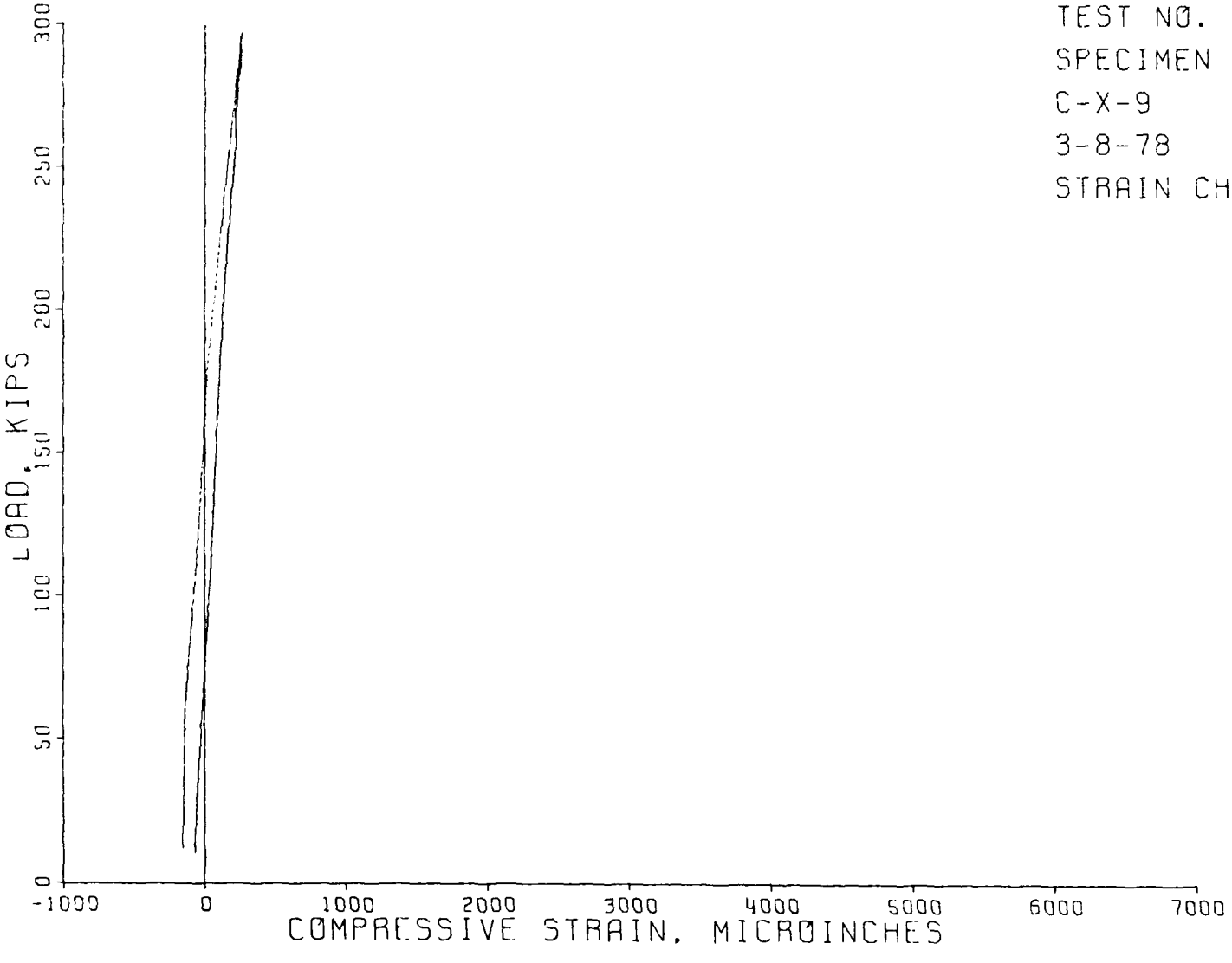

TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

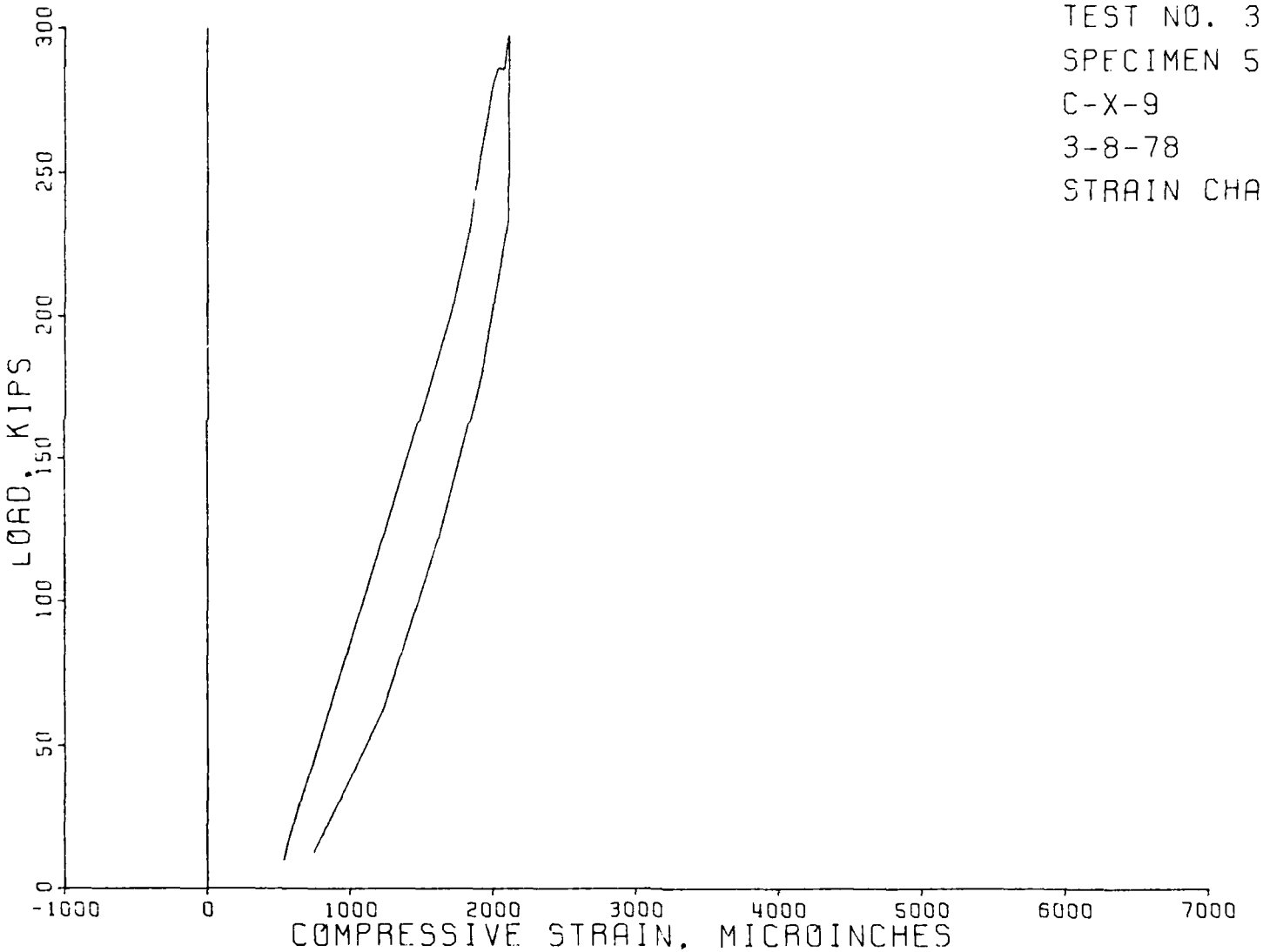


TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 36

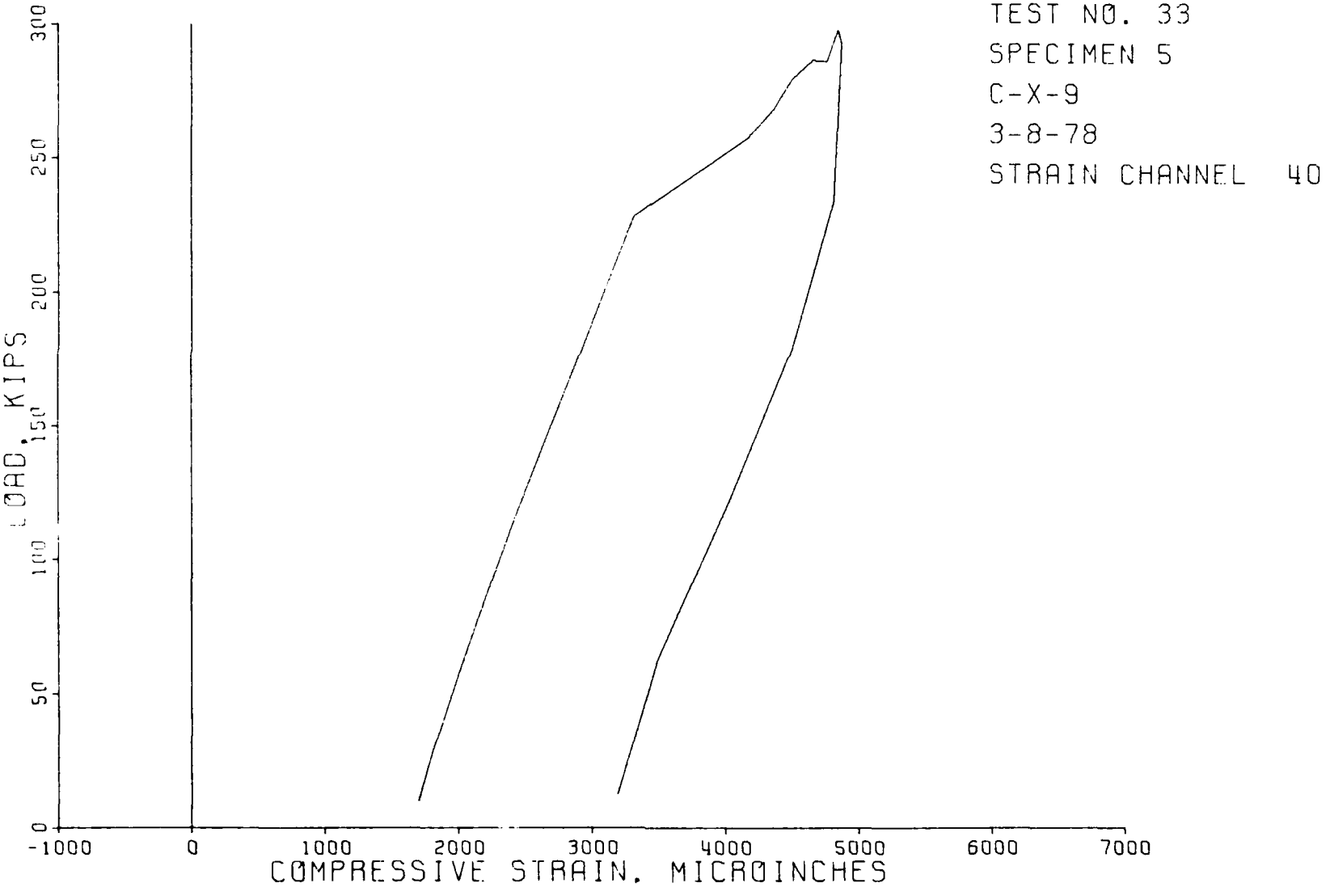


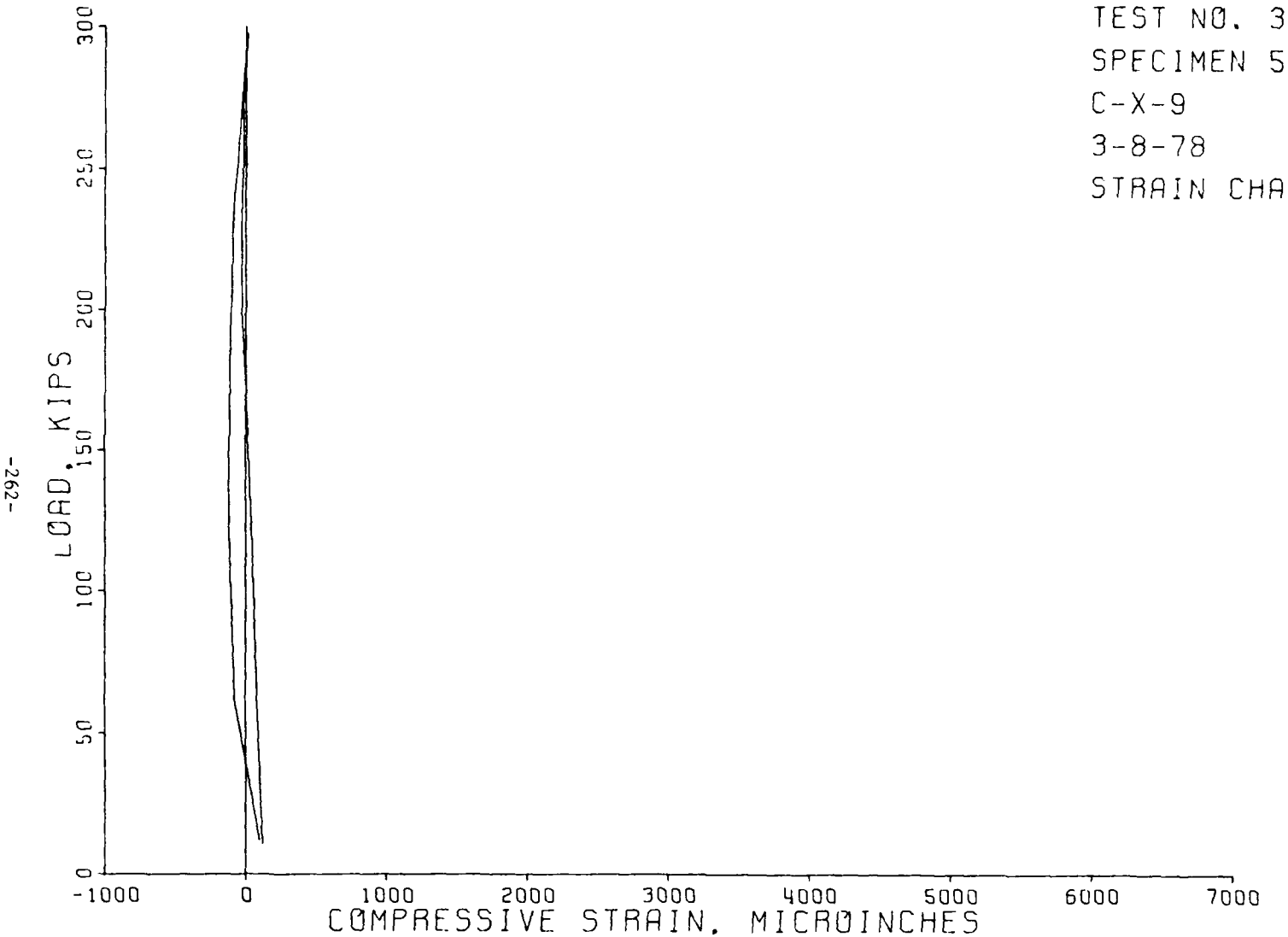
TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 37


TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES



TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 39


TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 33
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 33 SPECIMEN 5 C-X-9 3-8-78

NUMBER OF INCREMENTS= 27
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
25	0.0
26	0.0
27	0.0
28	0.0
29	0.0
30	0.0
31	0.0
32	0.0
33	0.0
34	0.0
35	0.0
36	0.0
37	0.0
38	0.0
39	0.0
40	0.0
41	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

STRAIN CHANNELS

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	8:14:48:46	105.000	173.000	-15.000	124.000	-1357.000	-248.000	-71.000	169.000
2.	8:14:49:44	87.000	85.000	-67.000	99.000	-1462.000	-251.000	-116.000	122.000
3.	8:14:50:40	43.000	-31.000	-171.000	51.000	-1647.000	-250.000	-209.000	52.000
4.	8:14:51:22	2.000	-135.000	-280.000	5.000	-1845.000	-239.000	-300.000	-12.000
5.	8:41:52:27	-35.000	-241.000	-393.000	-41.000	-2053.000	-213.000	-390.000	-75.000
6.	8:14:53:20	-67.000	-335.000	-498.000	-80.000	-2255.000	-189.000	-474.000	-135.000
7.	8:14:54:27	-94.000	-431.000	-603.000	-118.000	-2472.000	-160.000	-562.000	-200.000
8.	8:14:55:17	-126.000	-523.000	-704.000	-156.000	-2679.000	-116.000	-650.000	-256.000
9.	8:14:56: 8	-169.000	-531.000	-797.000	-186.000	-2863.000	-128.000	-737.000	-313.000
10.	8:14:57:12	-215.000	-453.000	-865.000	-214.000	-3264.000	-143.000	-802.000	-366.000
11.	8:14:57:57	-218.000	-428.000	-885.000	-224.000	-3421.000	-148.000	-820.000	-386.000
12.	8:14:58:34	-230.000	-411.000	-902.000	-233.000	-3524.000	-158.000	-838.000	-408.000
13.	8:14:59:37	-246.000	-383.000	-918.000	-243.000	-3645.000	-174.000	-853.000	-433.000
14.	8:14:59:53	-246.000	-378.000	-918.000	-245.000	-3660.000	-173.000	-854.000	-435.000
15.	8:15: 0: 9	-246.000	-374.000	-918.000	-245.000	-3673.000	-173.000	-854.000	-437.000
16.	8:15: 0:24	-247.000	-370.000	-919.000	-246.000	-3683.000	-173.000	-854.000	-439.000
17.	8:15: 0:40	-246.000	-367.000	-919.000	-247.000	-3694.000	-174.000	-854.000	-441.000
18.	8:15: 0:55	-245.000	-361.000	-919.000	-248.000	-3704.000	-173.000	-855.000	-443.000
19.	8:15: 1:11	-245.000	-355.000	-919.000	-248.000	-3712.000	-174.000	-855.000	-443.000
20.	8:15: 1:27	-244.000	-347.000	-920.000	-248.000	-3719.000	-173.000	-855.000	-445.000
21.	8:15: 2:30	-255.000	-326.000	-938.000	-254.000	-3790.000	-187.000	-873.000	-461.000
22.	8:15: 3:23	-247.000	-311.000	-924.000	-253.000	-3807.000	-179.000	-860.000	-459.000
23.	8:15: 4:31	-125.000	-280.000	-754.000	-184.000	-3736.000	-47.000	-697.000	-314.000
24.	8:15: 5:24	1.000	-145.000	-536.000	-47.000	-3378.000	-11.000	-492.000	-111.000
25.	8:15: 6:16	66.000	29.000	-321.000	34.000	-2914.000	-10.000	-319.000	29.000
26.	8:15: 7: 3	156.000	218.000	-118.000	119.000	-2440.000	-64.000	-160.000	164.000
27.	8:15: 7:57	177.000	373.000	17.000	188.000	-2139.000	-212.000	-37.000	209.000

STRAIN CHANNELS

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	8:14:48:46	70.000	-533.000	-1702.000	-120.000	
2.	8:14:49:44	57.000	-642.000	-1803.000	-104.000	
3.	8:14:50:40	21.000	-823.000	-2000.000	-83.000	
4.	8:14:51:22	-15.000	-1003.000	-2204.000	-65.000	
5.	8:41:52:27	-48.000	-1191.000	-2422.000	-46.000	
6.	8:14:53:20	-74.000	-1362.000	-2639.000	-26.000	
7.	8:14:54:27	-98.000	-1536.000	-2871.000	-2.000	
8.	8:14:55:17	-129.000	-1710.000	-3093.000	32.000	
9.	8:14:56: 8	-170.000	-1834.000	-3319.000	29.000	
10.	8:14:57:12	-219.000	-1921.000	-4171.000	22.000	
11.	8:14:57:57	-222.000	-1966.000	-4363.000	21.000	
12.	8:14:58:34	-235.000	-2002.000	-4499.000	14.000	
13.	8:14:59:37	-253.000	-2047.000	-4661.000	2.000	
14.	8:14:59:53	-252.000	-2053.000	-4680.000	3.000	
15.	8:15: 0: 9	-252.000	-2059.000	-4697.000	3.000	
16.	8:15: 0:24	-252.000	-2064.000	-4713.000	3.000	
17.	8:15: 0:40	-251.000	-2070.000	-4728.000	3.000	
18.	8:15: 0:55	-251.000	-2075.000	-4741.000	3.000	
19.	8:15: 1:11	-250.000	-2080.000	-4753.000	3.000	
20.	8:15: 1:27	-250.000	-2083.000	-4763.000	3.000	
21.	8:15: 2:30	-262.000	-2114 000	-4852.000	-8.000	
22.	8:15: 3:23	-251.000	-2119.000	-4876.000	0.0	
23.	8:15: 4:31	-123.000	-2111.000	-4817.000	88.000	
24.	8:15: 5:24	-14.000	-1917.000	-4493.000	116.000	
25.	8:15: 6:16	47.000	-1615.000	-4032.000	122.000	
26.	8:15: 7: 3	142.000	-1231.000	-3491.000	82.000	
27.	8:15: 7:57	155.000	-747.000	-3191.000	-98.000	

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	8:14:48:46	-0.080	0.010	0.060	0.050	0.030	0.030	-0.019	-0.030
2.	8:14:49:44	-0.080	0.020	0.060	0.050	0.040	0.030	-0.019	-0.030
3.	8:14:50:40	-0.080	0.020	0.080	0.070	0.060	0.030	-0.019	-0.030
4.	8:14:51:22	-0.080	0.010	0.080	0.080	0.060	0.020	-0.033	-0.055
5.	8:41:52:27	-0.110	0.020	0.090	0.110	0.060	0.030	-0.046	-0.059
6.	8:14:53:20	-0.110	0.010	0.100	0.110	0.090	0.030	-0.046	-0.059
7.	8:14:54:27	-0.110	0.020	0.110	0.130	0.090	0.030	-0.046	-0.069
8.	8:14:55:17	-0.110	0.020	0.120	0.130	0.100	0.030	-0.046	-0.088
9.	8:14:56: 8	-0.110	0.020	0.140	0.150	0.120	0.020	-0.046	-0.088
10.	8:14:57:12	-0.110	0.020	0.140	0.170	0.120	0.030	-0.046	-0.088
11.	8:14:57:57	-0.110	0.020	0.140	0.170	0.130	0.030	-0.046	-0.088
12.	8:14:58:34	-0.110	2.500	0.140	0.170	0.120	0.030	-0.046	-0.088
13.	8:14:59:37	-0.120	1.830	0.140	0.160	0.120	0.030	-0.046	-0.088
14.	8:14:59:53	-0.120	0.110	0.140	0.170	0.130	0.030	-0.046	-0.088
15.	8:15: 0: 9	-0.120	0.730	0.140	0.160	0.130	0.030	-0.047	-0.088
16.	8:15: 0:24	-0.120	1.330	0.140	0.160	0.120	0.030	-0.046	-0.088
17.	8:15: 0:40	-0.120	0.060	0.140	0.170	0.120	0.020	-0.046	-0.088
18.	8:15: 0:55	-0.120	1.300	0.140	0.160	0.120	0.030	-0.046	-0.088
19.	8:15: 1:11	-0.120	0.050	0.140	0.170	0.120	0.040	-0.046	-0.088
20.	8:15: 1:27	-0.120	0.050	0.140	0.170	0.120	0.030	-0.046	-0.088
21.	8:15: 2:30	-0.110	0.050	0.140	0.170	0.120	0.030	-0.046	-0.088
22.	8:15: 3:23	-0.120	0.050	0.140	0.170	0.120	0.030	-0.046	-0.088
23.	8:15: 4:31	-0.140	0.060	0.140	0.170	0.120	0.030	-0.074	-0.104
24.	8:15: 5:24	-0.140	0.020	0.140	0.170	0.120	0.030	-0.074	-0.117
25.	8:15: 6:16	-0.140	0.020	0.140	0.170	0.120	0.030	-0.074	-0.107
26.	8:15: 7: 3	-0.110	0.020	0.110	0.140	0.090	0.030	-0.059	-0.088
27.	8:15: 7:57	-0.080	0.020	0.070	0.080	0.060	0.030	-0.020	-0.034

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	8:14:48:46	2920.000	4510.000	8200.000	8910.000	10190.000	9700.000	9230.000	5650.000
2.	8:14:49:44	9090.000	13250.000	19400.000	25150.000	28470.000	25000.000	20070.000	13530.000
3.	8:14:50:40	19730.000	27540.000	39140.000	51670.000	57190.000	50970.000	38760.000	28230.000
4.	8:14:51:22	29730.000	41380.000	58690.000	77830.000	85670.000	76680.000	57380.000	42580.000
5.	8:41:52:27	40130.000	54440.000	79360.000	104140.000	115260.000	102630.000	76750.000	56080.000
6.	8:14:53:20	49860.000	67900.000	97670.000	130170.000	143170.000	128060.000	94180.000	70060.000
7.	8:14:54:27	59850.000	80860.000	117150.000	156060.000	171640.000	153390.000	112650.000	82980.000
8.	8:14:55:17	68550.000	94620.000	136970.000	181940.000	200280.000	178790.000	131510.000	96770.000
9.	8:14:56: 8	79750.000	107910.000	154710.000	197240.000	228150.000	193210.000	149950.000	108160.000
10.	8:14:57:12	90150.000	116890.000	174410.000	201080.000	257080.000	196740.000	169810.000	115950.000
11.	8:14:57:57	93500.000	120080.000	179830.000	201160.000	267980.000	196640.000	174660.000	119550.000
12.	8:14:58:34	96500.000	122770.000	186870.000	200160.000	278900.000	195510.000	181530.000	122130.000
13.	8:14:59:37	99450.000	125890.000	192770.000	200760.000	286160.000	195920.000	187400.000	125040.000
14.	8:14:59:53	99780.000	126010.000	192750.000	201130.000	285790.000	196280.000	187340.000	125210.000
15.	8:15: 0: 9	99740.000	126300.000	192760.000	201390.000	285640.000	196460.000	187320.000	125460.000
16.	8:15: 0:24	100020.000	126410.000	192750.000	201590.000	285630.000	196610.000	187280.000	125540.000
17.	8:15: 0:40	99880.000	126600.000	192750.000	201700.000	285670.000	196660.000	187220.000	125740.000
18.	8:15: 0:55	100110.000	126660.000	192740.000	201800.000	285600.000	196770.000	187160.000	125830.000
19.	8:15: 1:11	100010.000	126760.000	192690.000	201860.000	285400.000	196820.000	187130.000	125930.000
20.	8:15: 1:27	100080.000	126800.000	192680.000	201850.000	285510.000	196770.000	187080.000	126030.000
21.	8:15: 2:30	102890.000	129910.000	198830.000	199520.000	297550.000	194530.000	193440.000	128900.000
22.	8:15: 3:23	100300.000	129470.000	195180.000	199700.000	292290.000	194320.000	191040.000	127910.000
23.	8:15: 4:31	80680.000	107970.000	159030.000	205880.000	233300.000	199110.000	158690.000	110450.000
24.	8:15: 5:24	60190.000	78570.000	120360.000	160570.000	177990.000	173200.000	120510.000	74640.000
25.	8:15: 6:16	39410.000	50770.000	82300.000	108510.000	121510.000	118770.000	82740.000	49060.000
26.	8:15: 7: 3	19260.000	24720.000	41890.000	54400.000	62110.000	61190.000	42830.000	24230.000
27.	8:15: 7:57	3630.000	4380.000	8110.000	10800.000	12180.000	13230.000	10040.000	4820.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	8:14:48:46	-243.424	-384.354	204.989	76.871	550.907	935.261	51.247	-12.812
2.	8:14:49:44	-64.059	-140.930	461.225	115.306	422.789	1024.944	64.059	51.247
3.	8:14:50:40	0.0	25.624	845.579	166.553	281.859	960.885	25.624	102.494
4.	8:14:51:22	0.0	38.435	1024.944	76.871	153.742	807.143	0.0	217.801
5.	8:41:52:27	0.0	38.435	1191.497	-89.683	51.247	576.531	-25.624	307.433
6.	8:14:53:20	0.0	51.247	1332.427	-384.354	12.812	461.225	-89.683	345.918
7.	8:14:54:27	0.0	38.435	1460.545	-653.402	12.812	358.730	-179.365	294.671
8.	8:14:55:17	0.0	38.435	1473.357	-909.637	12.812	294.671	-294.671	179.365
9.	8:14:56: 8	12.812	38.435	1383.674	-1127.438	12.812	243.424	-281.859	166.553
10.	8:14:57:12	12.812	51.247	1319.615	-1255.556	12.812	269.048	-243.424	192.177
11.	8:14:57:57	12.812	38.435	1242.744	-1306.803	12.812	256.236	-192.177	230.612
12.	8:14:58:34	0.0	38.435	1153.062	-1370.862	0.0	243.424	-128.118	281.859
13.	8:14:59:37	0.0	38.435	1050.567	-1434.921	12.812	243.424	-76.871	384.354
14.	8:14:59:53	0.0	25.624	1024.944	-1460.545	25.624	256.236	-64.059	397.166
15.	8:15: 0: 9	0.0	38.435	1024.944	-1460.545	12.812	243.424	-64.059	409.978
16.	8:15: 0:24	0.0	38.435	999.320	-1460.545	12.812	256.236	-64.059	409.978
17.	8:15: 0:40	0.0	38.435	999.320	-1460.545	12.812	243.424	-51.247	409.978
18.	8:15: 0:55	12.812	38.435	1012.132	-1473.357	12.812	256.236	-64.059	422.789
19.	8:15: 1:11	0.0	38.435	999.320	-1460.545	12.812	243.424	-64.059	422.789
20.	8:15: 1:27	0.0	38.435	986.508	-1473.357	12.812	243.424	-51.247	422.789
21.	8:15: 2:30	0.0	38.435	909.637	-1511.792	12.812	230.612	-25.624	461.225
22.	8:15: 3:23	12.812	38.435	922.449	-1498.980	12.812	230.612	-25.624	461.225
23.	8:15: 4:31	12.812	38.435	1217.121	-1268.368	12.812	602.154	-153.742	345.918
24.	8:15: 5:24	12.812	25.624	2101.135	-281.859	294.671	1191.497	-397.166	-602.154
25.	8:15: 6:16	-64.059	-102.494	1793.652	115.306	576.531	1575.851	-204.989	-563.719
26.	8:15: 7: 3	-307.483	-409.978	960.885	128.118	960.885	1832.087	12.812	-217.801
27.	8:15: 7:57	-422.789	-589.343	166.553	38.435	858.390	1293.991	64.059	0.0

A V E R A G E L O A D

1.	7413.750
2.	19245.000
3.	39153.750
4.	58742.500
5.	78598.750
6.	97633.750
7.	116822.500
8.	136178.750
9.	152385.000
10.	165263.750
11.	169175.000
12.	173046.250
13.	176673.750
14.	176786.250
15.	176883.750
16.	176978.750
17.	177027.500
18.	177083.750
19.	177075.000
20.	177100.000
21.	180696.250
22.	178776.250
23.	156888.750
24.	120753.750
25.	81633.750
26.	41328.750
27.	8398.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 21

3.4.3 RELOAD OF SPECIMEN #5

TEST NO. 34

COMPOSITE INTEGRAL LINER

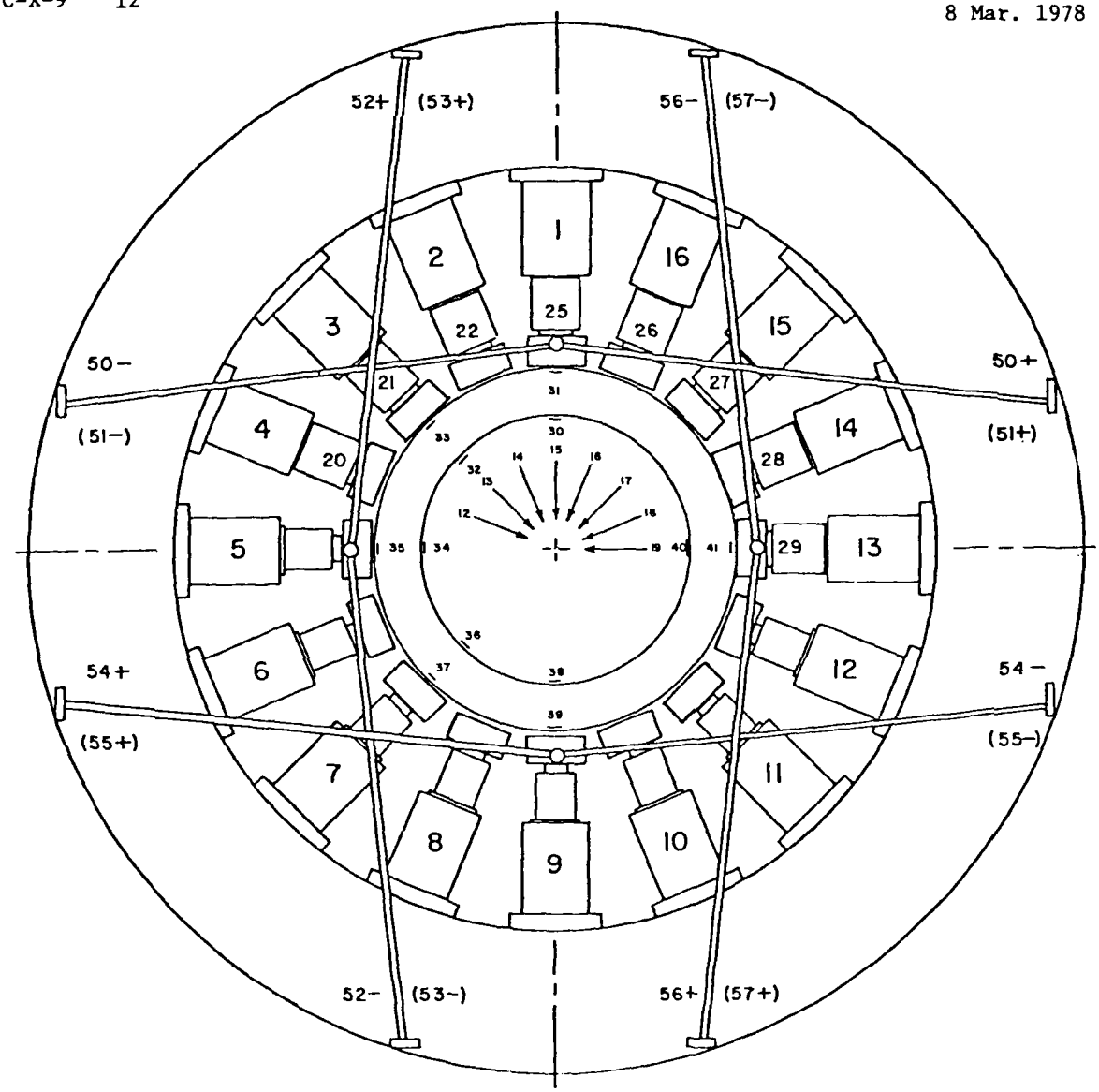
1:4 LOADING RATIO

TESTED 8 MARCH 1978

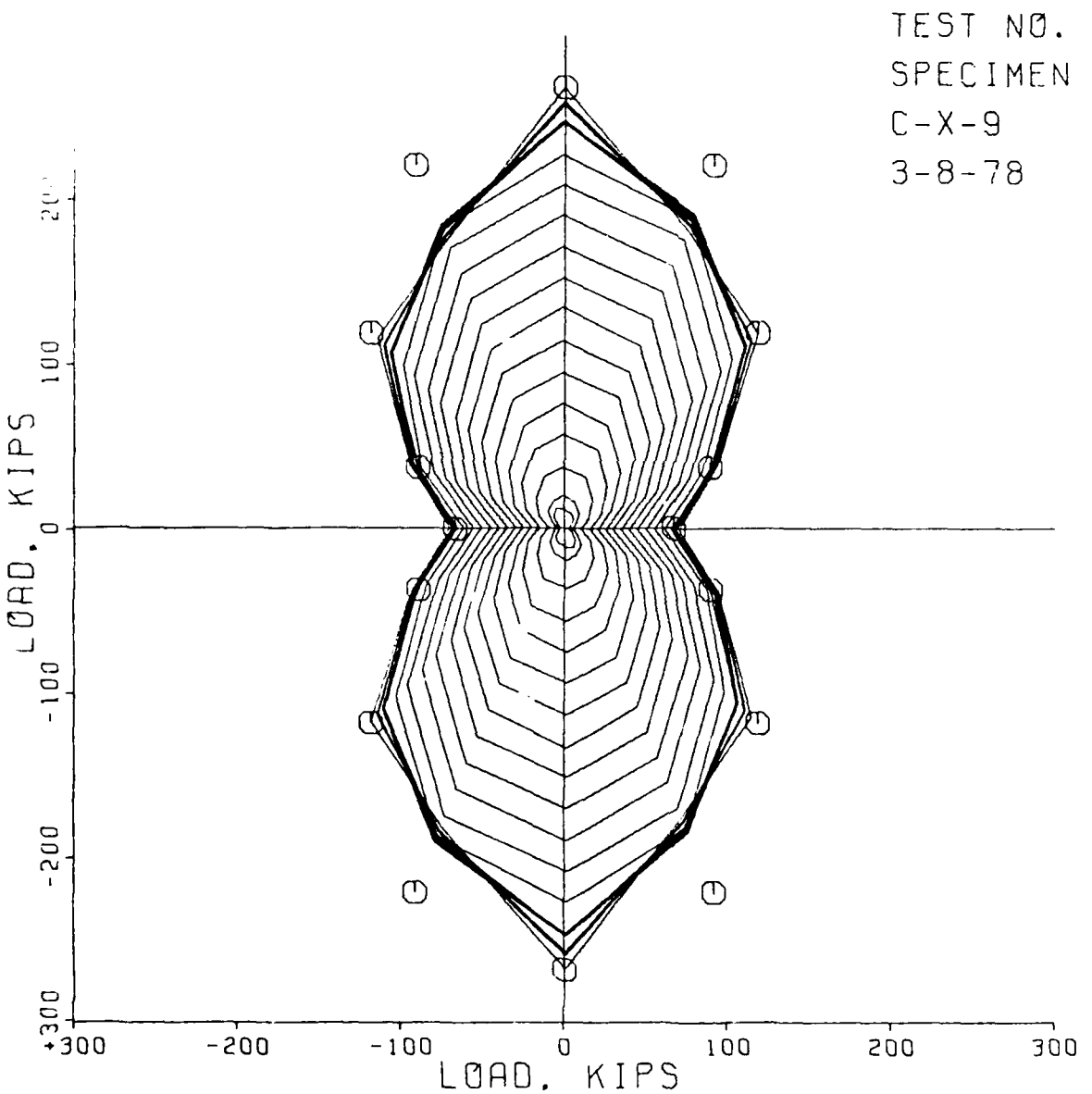
REACTION FRAME TEST SET-UP

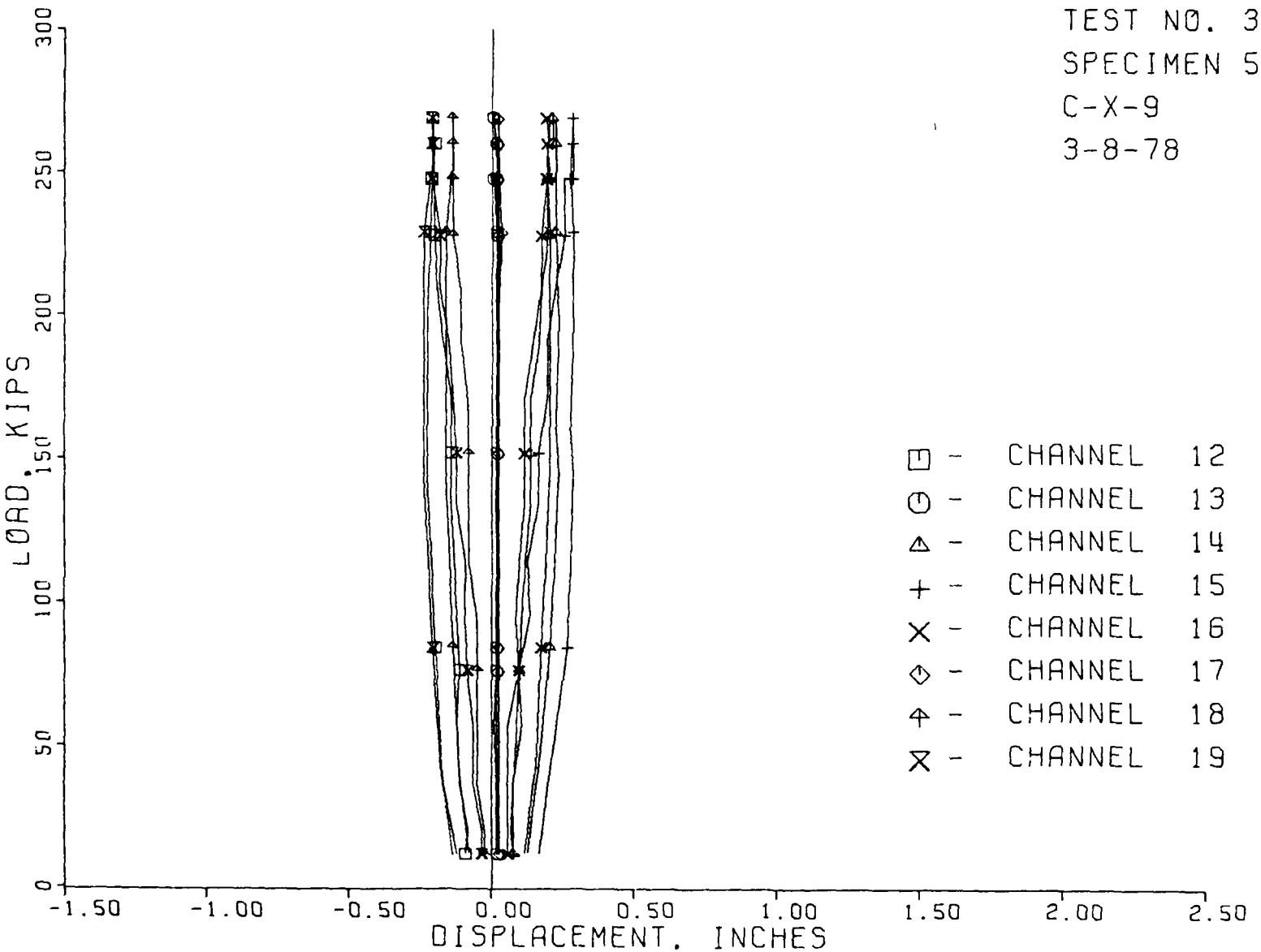
Specimen #5
C-X-9 12"

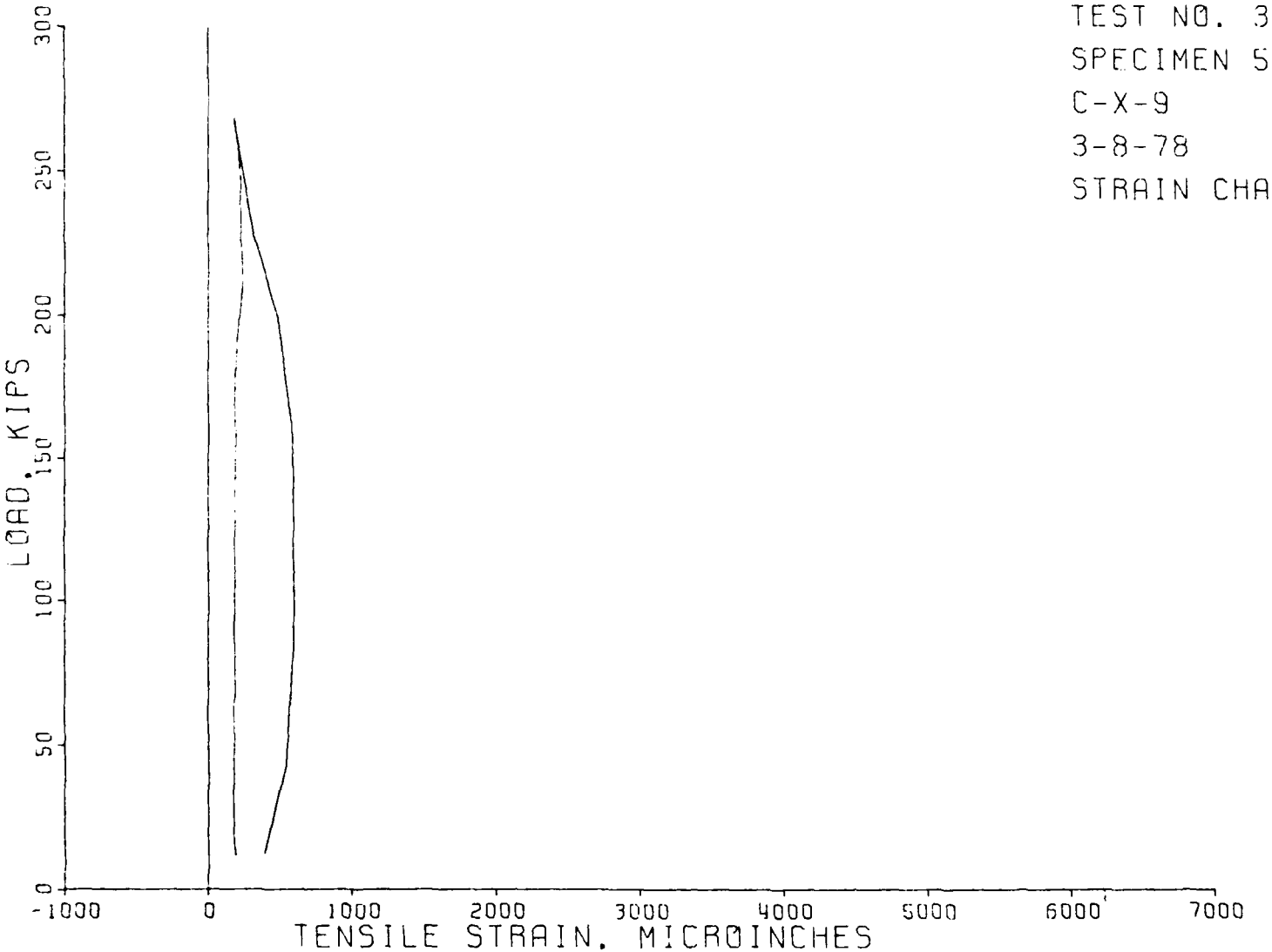
Test #34
1:4 Load
8 Mar. 1978

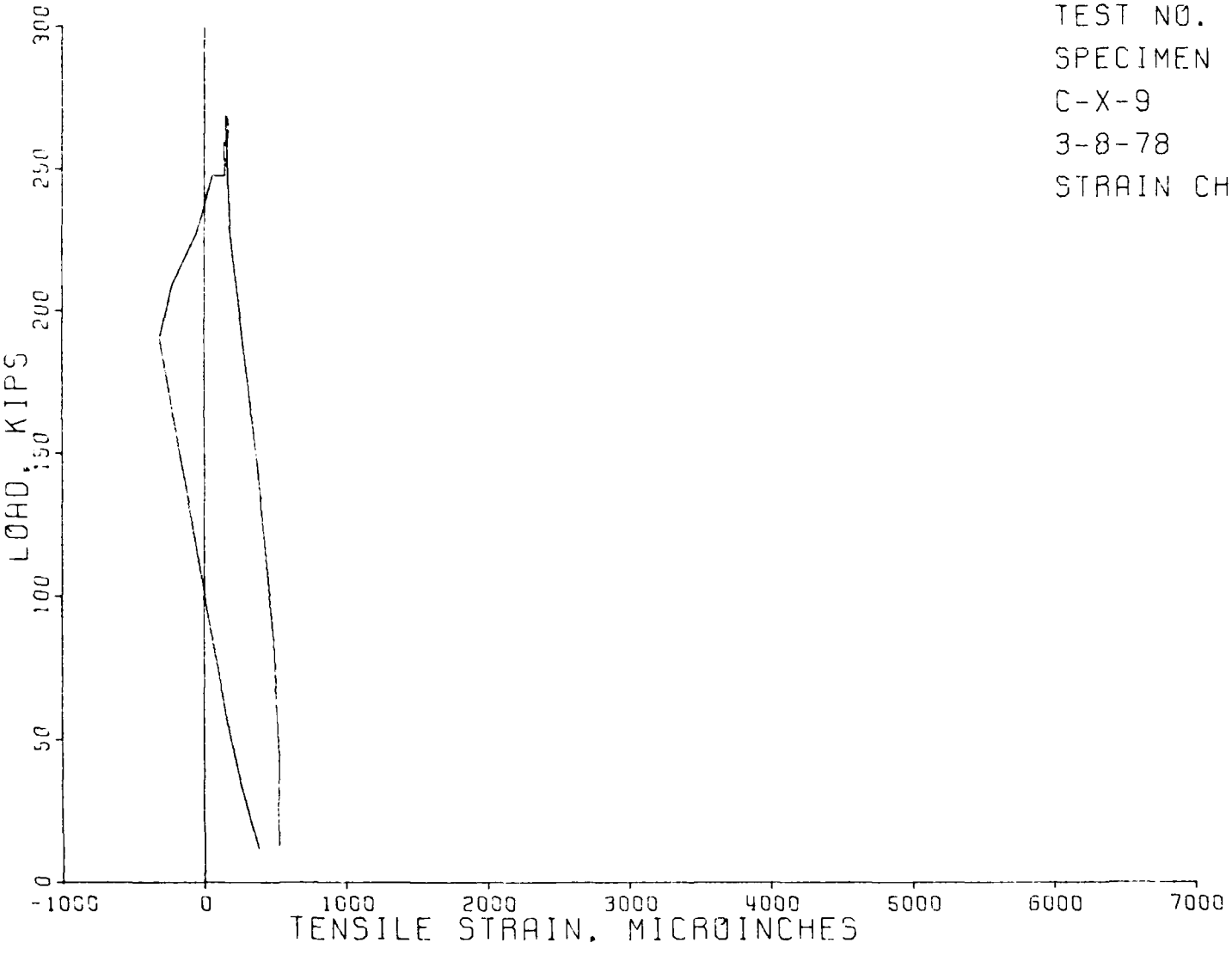


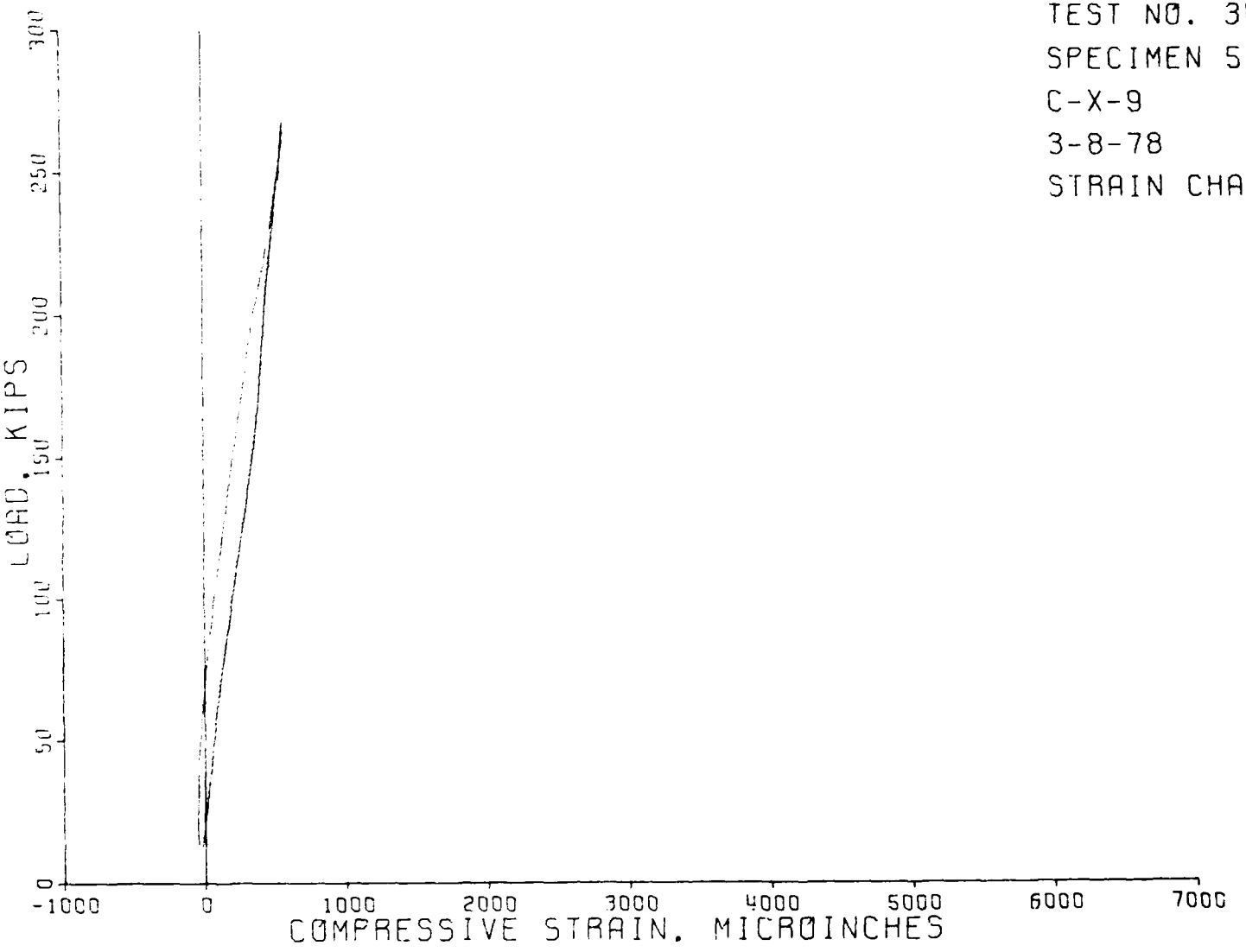
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 3" from top. Odd gages on Rebar
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).


TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
LOAD, KIPS
+300
-200
-100
0
100
200
300
LOAD, KIPS

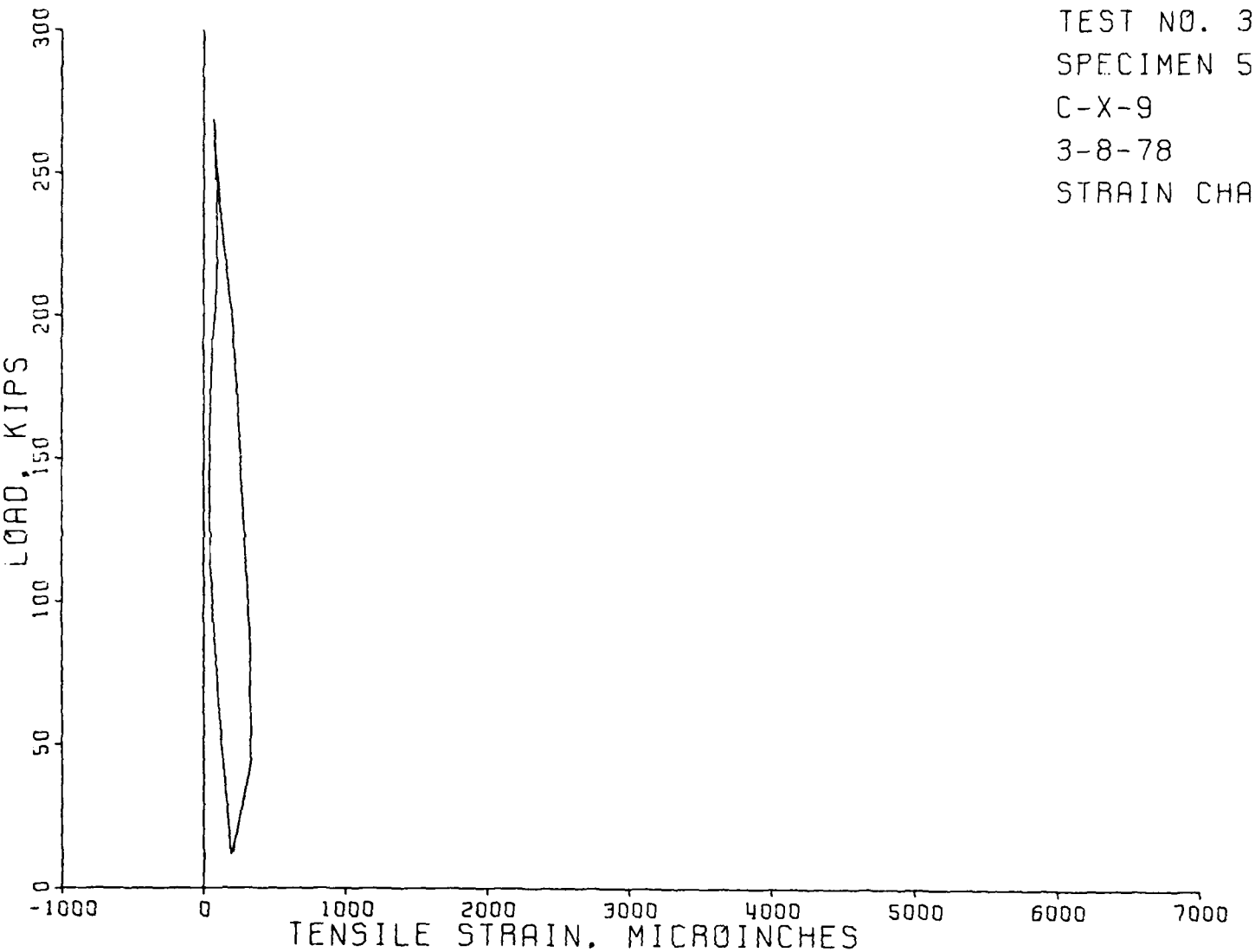

TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
LOAD, KIPS
0
50
100
150
200
250
300
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
□ - CHANNEL 12
○ - CHANNEL 13
△ - CHANNEL 14
+ - CHANNEL 15
X - CHANNEL 16
◇ - CHANNEL 17
☆ - CHANNEL 18
⊠ - CHANNEL 19


TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

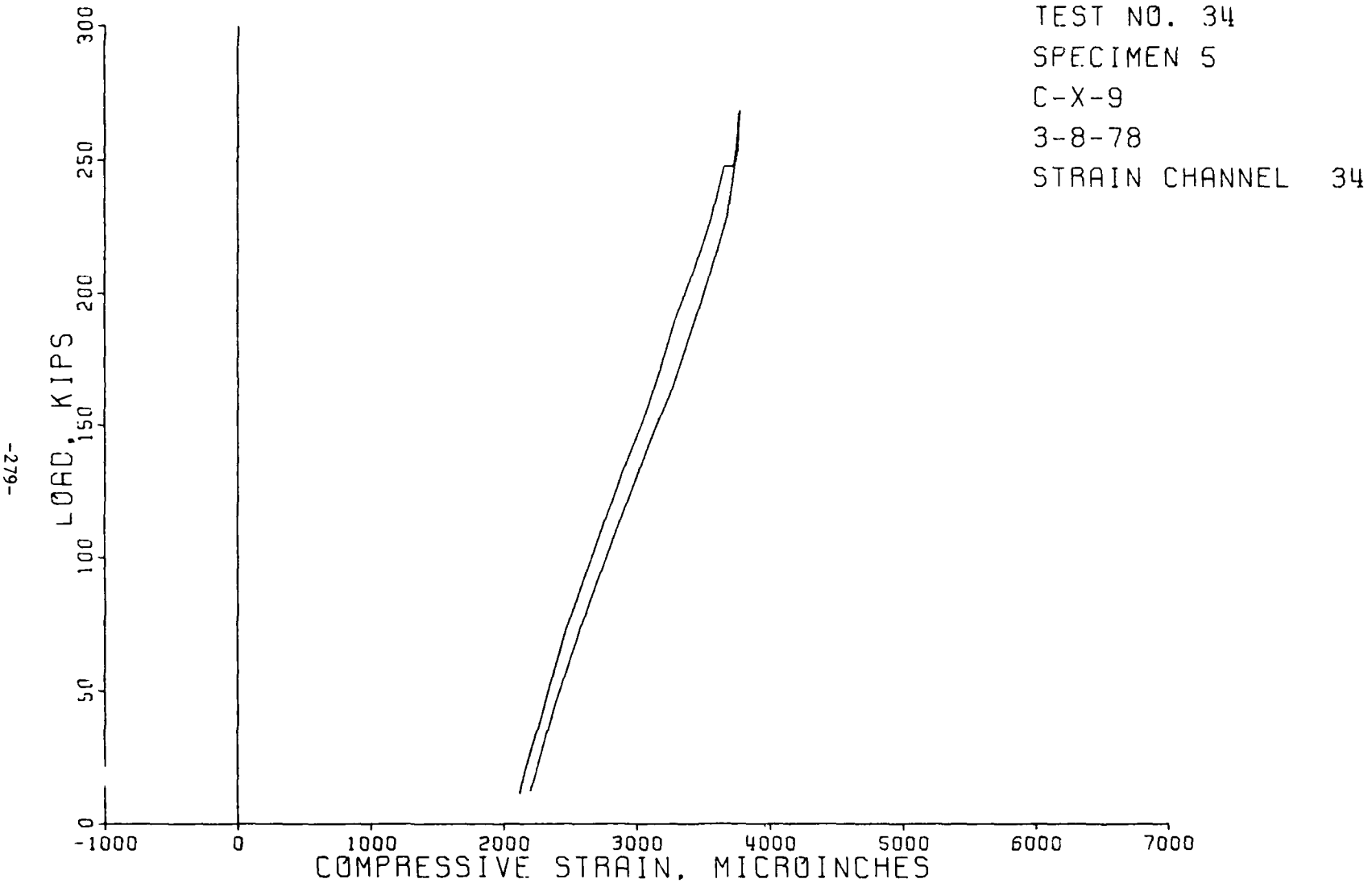

TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

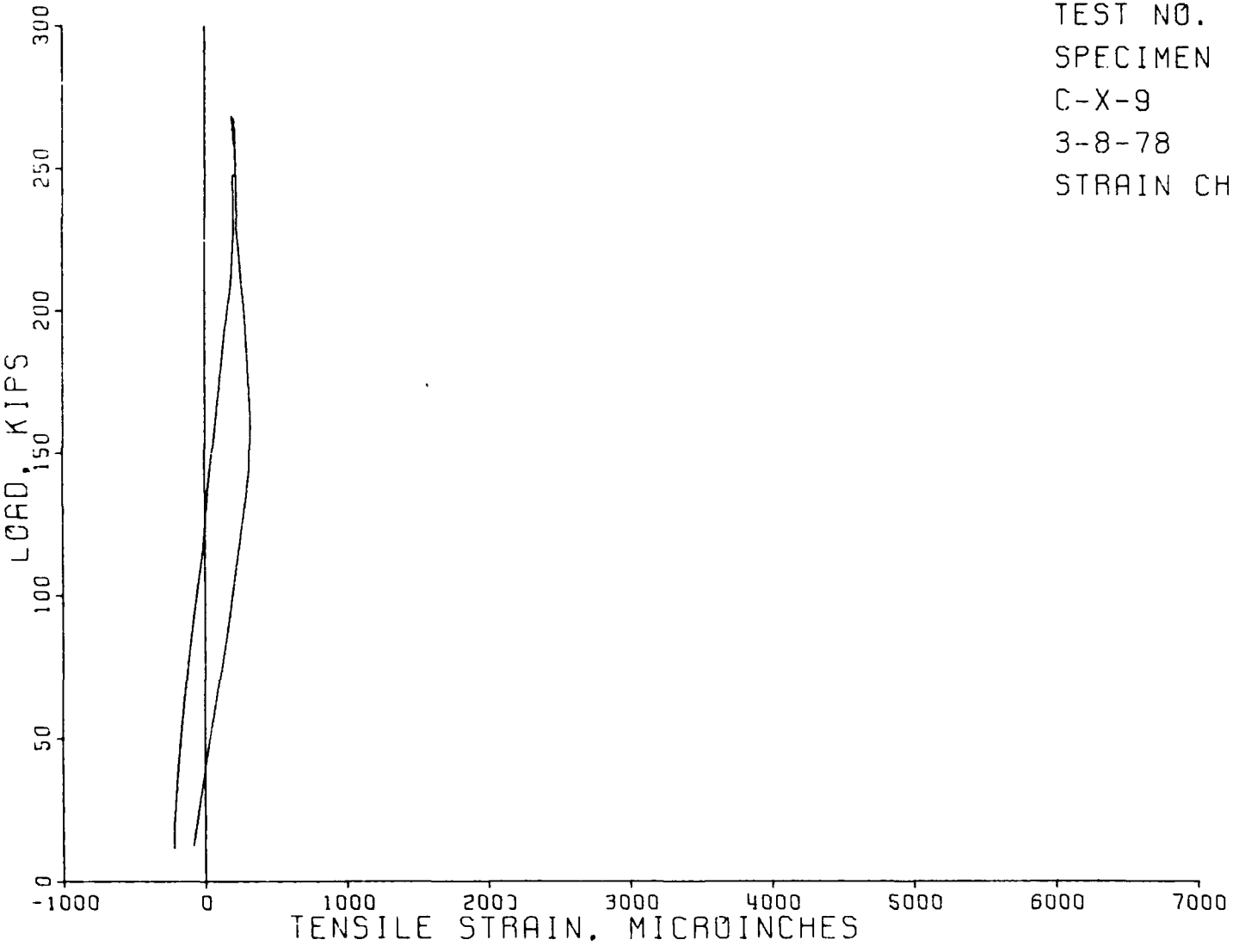


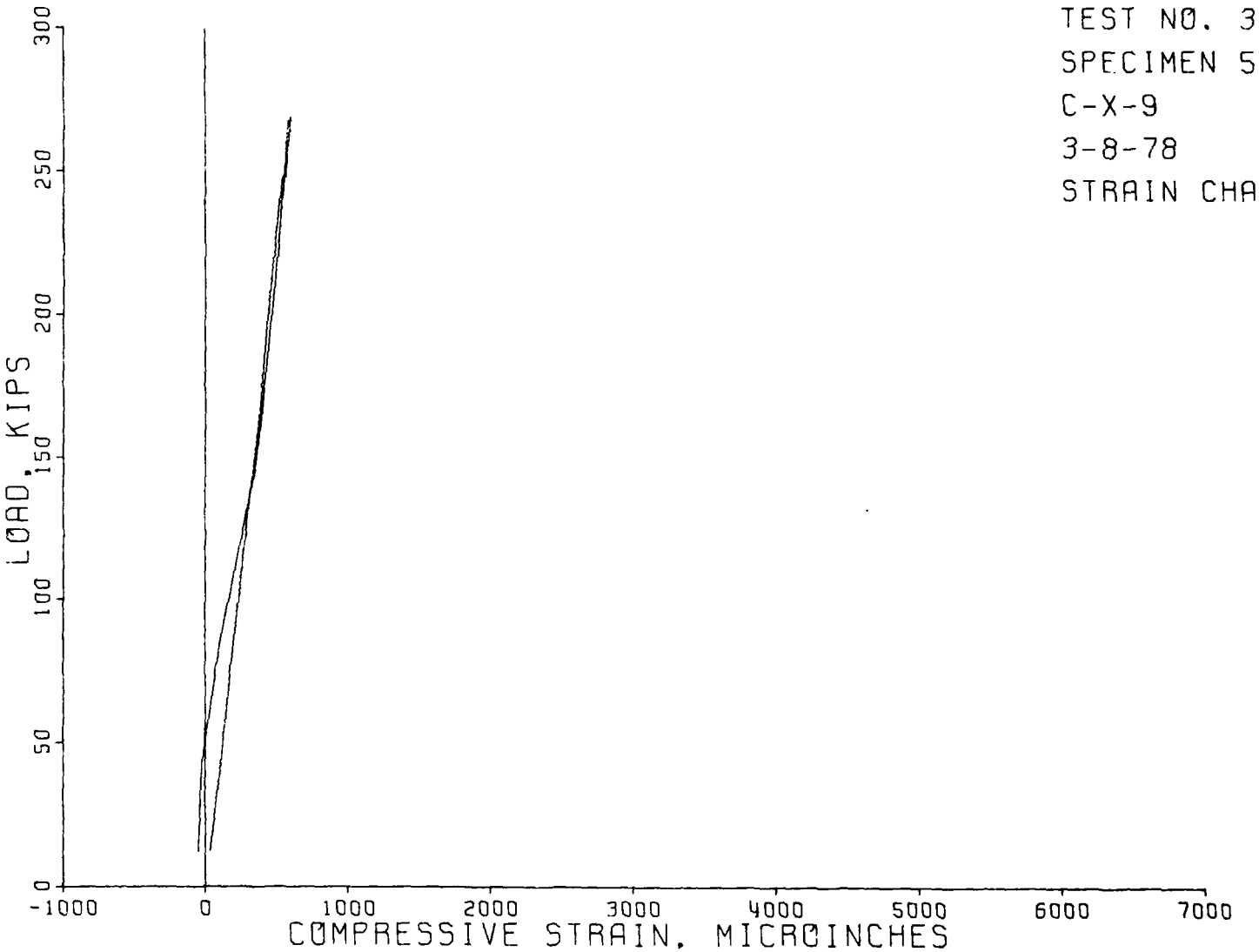
TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 32

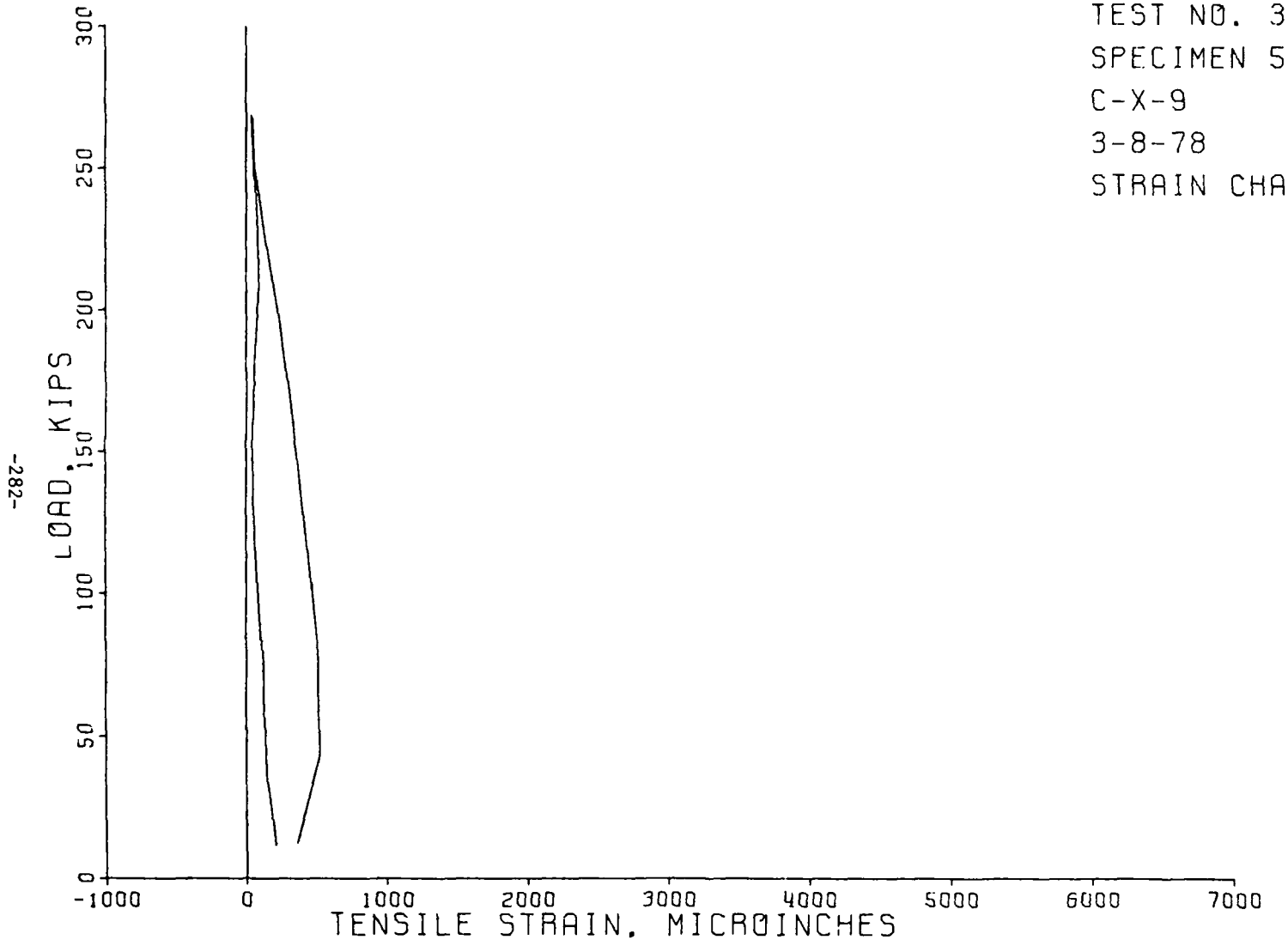


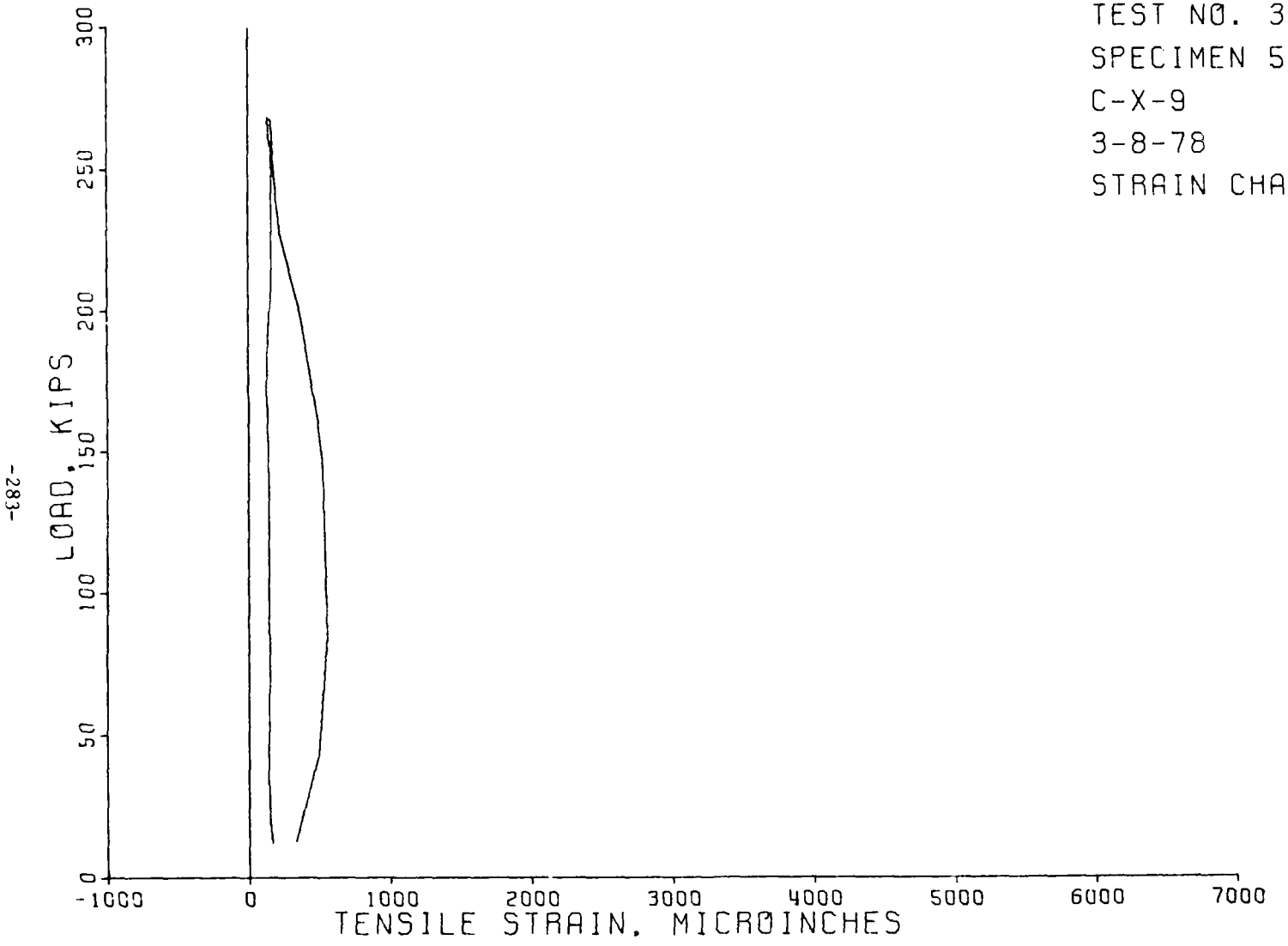
TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 33


TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

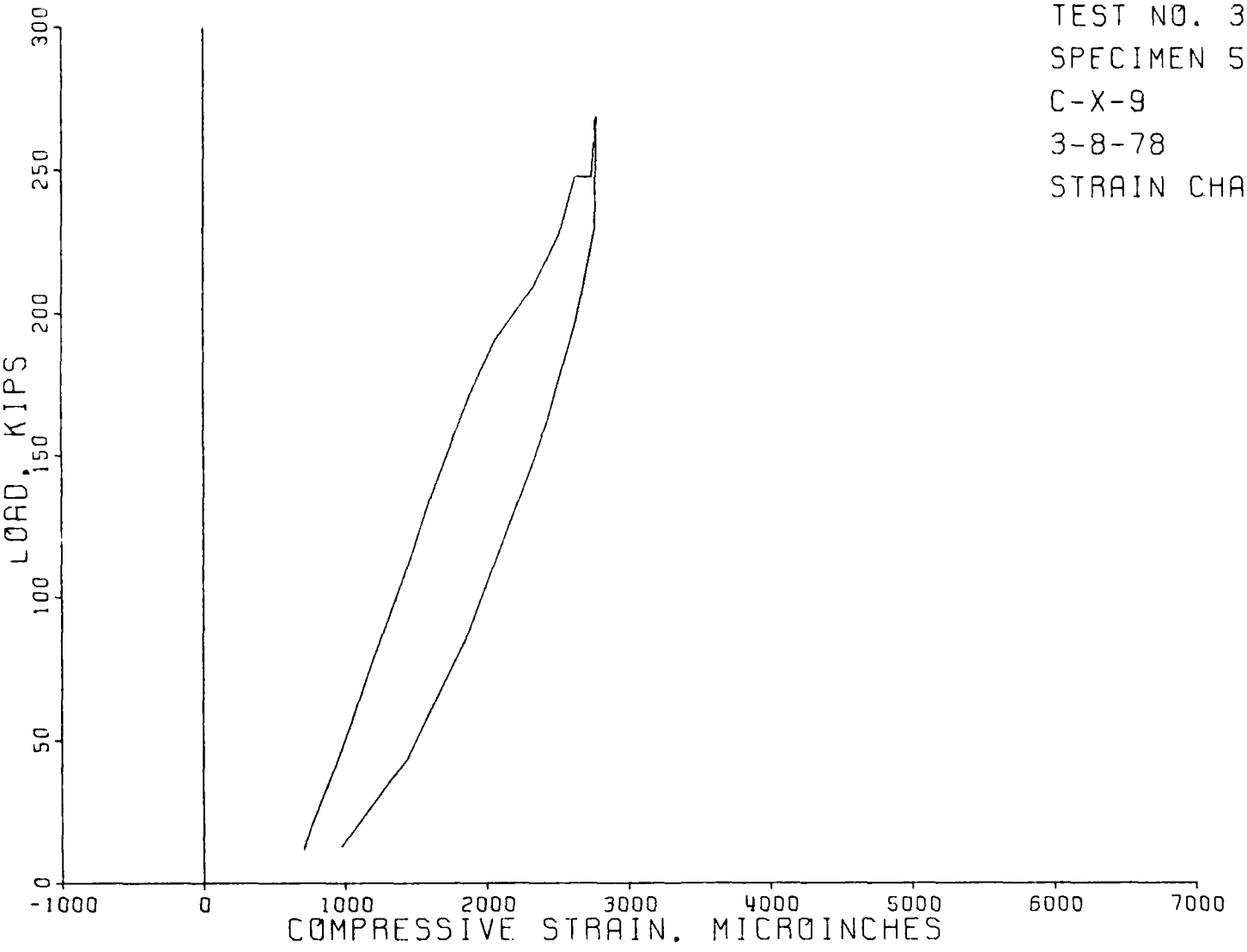

TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

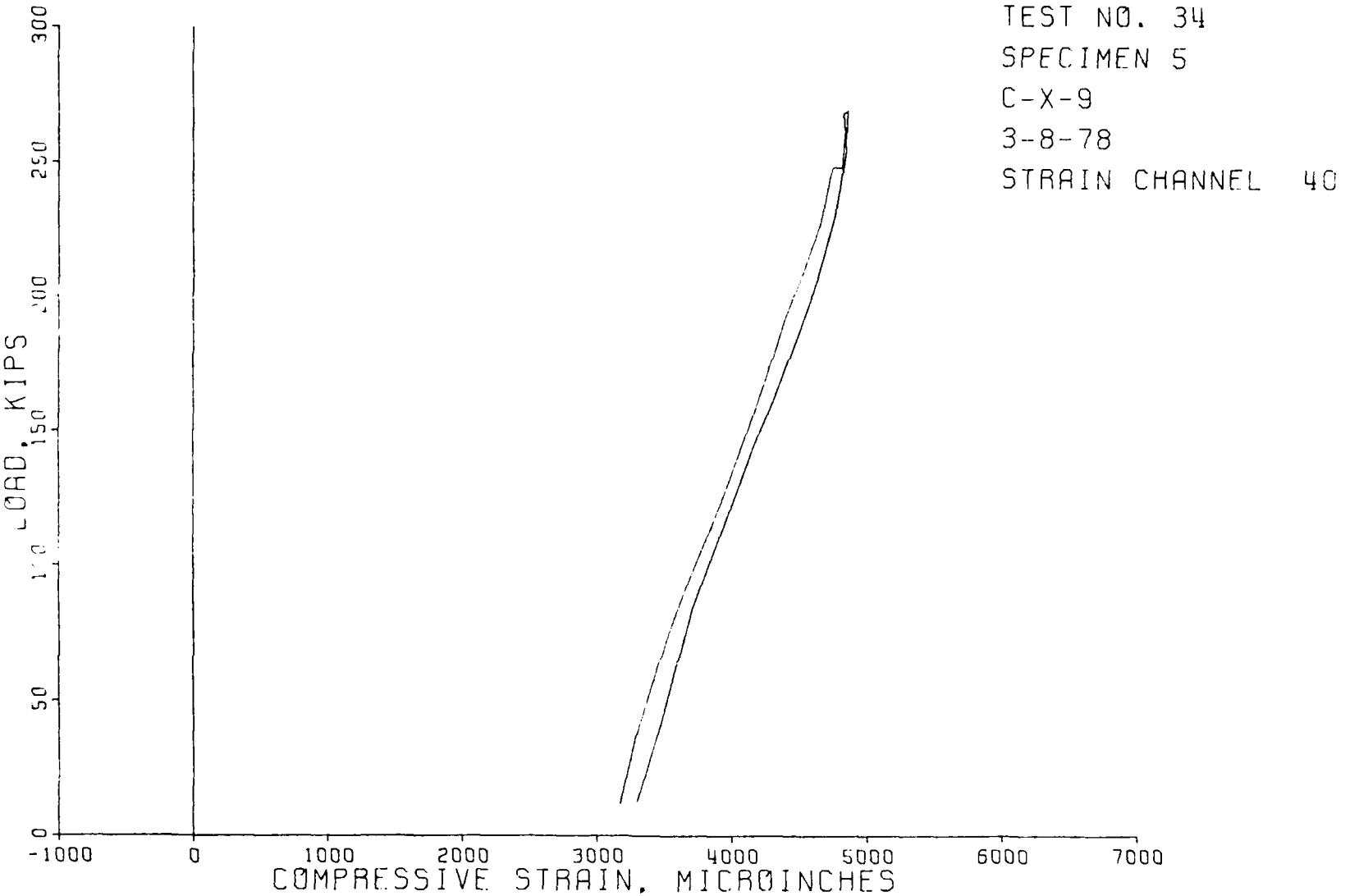

TEST NØ. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 36
LØAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICRØINCHES

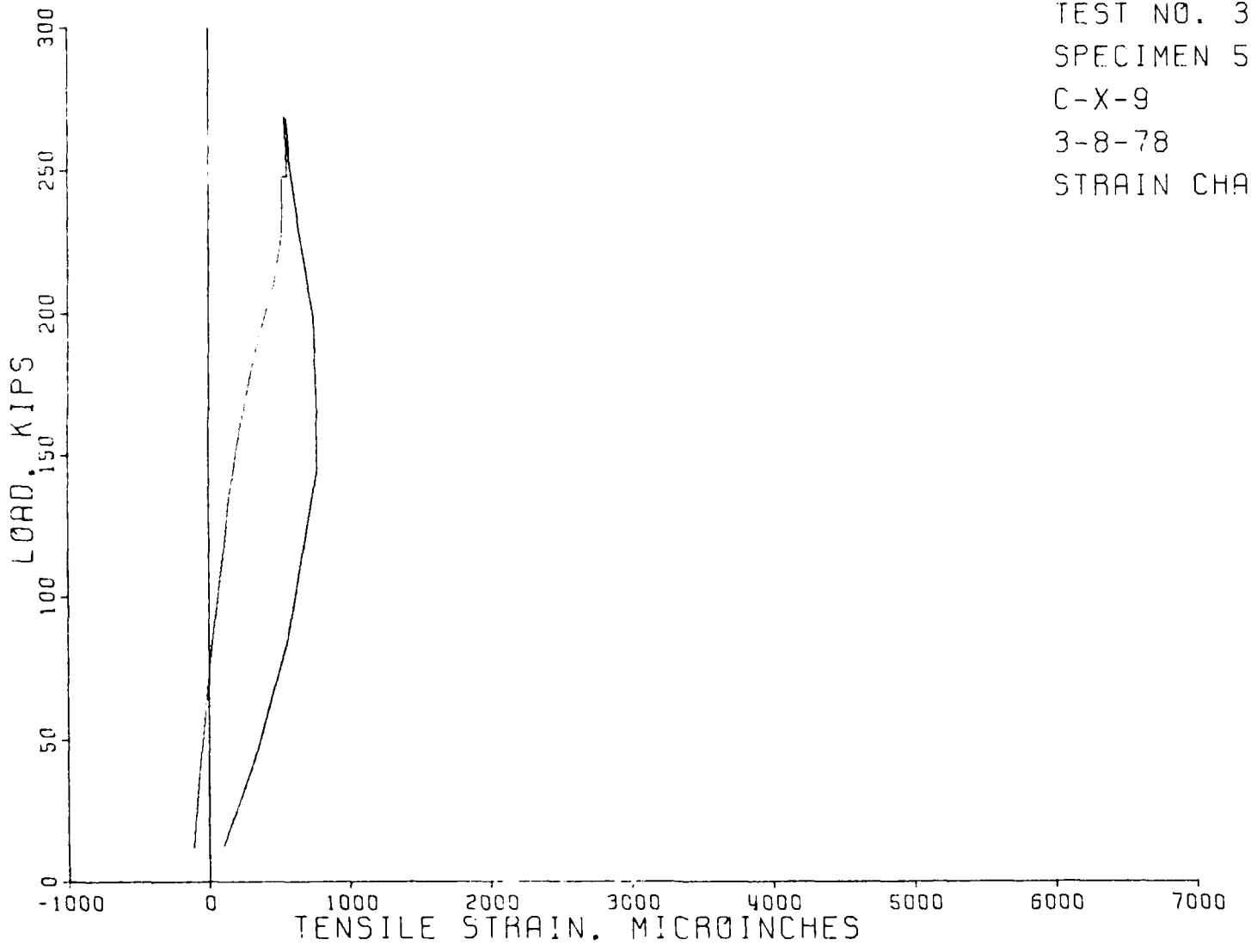

TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES



TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 38

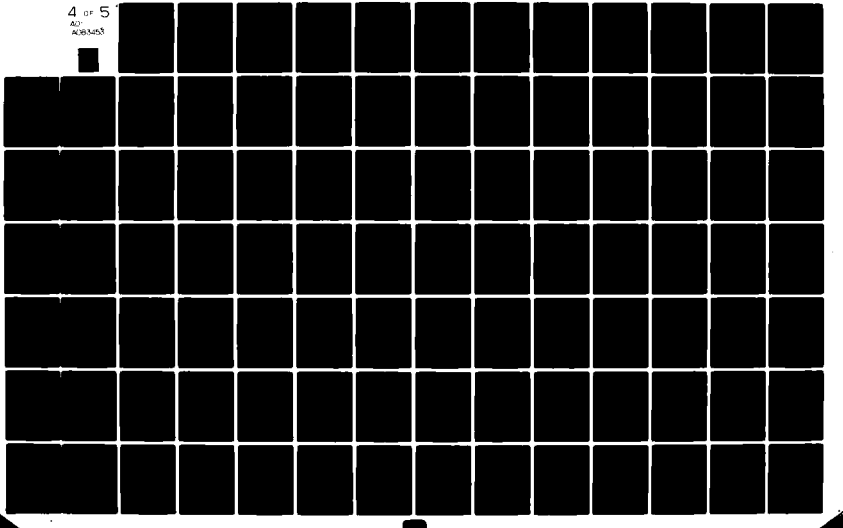

TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
150
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 34
SPECIMEN 5
C-X-9
3-8-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

AD-A083 453 MERRITT CASES INC REDLANDS CA F/G 18/3
STATIC TESTS OF SEGMENTS OF TUNNEL LININGS, VOLUME II, DATA.(U)
JUN 79 H C DAVIS, K B MORRILL, J L MERRITT DNA001-77-C-0143
UNCLASSIFIED 78-004-T1 DNA-4976F-2 NL

4 OF 5
AD
A083453



TEST NO. 34 SPECIMEN 5 C-X-9 3-8-78

NUMBER OF INCREMENTS= 39
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
25	0.0
26	0.0
27	0.0
28	0.0
29	0.0
30	0.0
31	0.0
32	0.0
33	0.0
34	0.0
35	0.0
36	0.0
37	0.0
38	0.0
39	0.0
40	0.0
41	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

STRAIN CHANNELS

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	8:15:16:17	183.000	379.000	24.000	188.000	-2123.000	-219.000	-33.000	212.000
2.	8:15:17:52	176.000	340.000	1.000	180.000	-2162.000	-220.000	-54.000	191.000
3.	8:15:18:39	176.000	250.000	-38.000	148.000	-2264.000	-195.000	-100.000	147.000
4.	8:15:19:25	179.000	167.000	-82.000	114.000	-2373.000	-158.000	-142.000	130.000
5.	8:15:20:11	183.000	96.000	-128.000	90.000	-2490.000	-120.000	-182.000	120.000
6.	8:15:20:59	181.000	24.000	-185.000	66.000	-2624.000	-73.000	-225.000	91.000
7.	8:15:21:47	185.000	-47.000	-241.000	47.000	-2766.000	-21.000	-267.000	64.000
8.	8:15:22:41	187.000	-115.000	-300.000	39.000	-2912.000	16.000	-310.000	49.000
9.	8:15:23:31	188.000	-179.000	-350.000	42.000	-3048.000	55.000	-354.000	46.000
10.	8:15:24:25	184.000	-246.000	-392.000	47.000	-3174.000	95.000	-395.000	52.000
11.	8:15:25:10	201.000	-314.000	-422.000	58.000	-3293.000	137.000	-425.000	69.000
12.	8:15:26: 2	238.000	-232.000	-443.000	90.000	-3435.000	184.000	-459.000	88.000
13.	8:15:26:42	232.000	-53.000	-490.000	92.000	-3561.000	205.000	-502.000	83.000
14.	8:15:27:24	225.000	57.000	-524.000	90.000	-3664.000	196.000	-546.000	59.000
15.	8:15:27:41	223.000	69.000	-529.000	86.000	-3682.000	202.000	-551.000	55.000
16.	8:15:27:56	223.000	79.000	-532.000	82.000	-3691.000	206.000	-555.000	54.000
17.	8:15:28:12	218.000	87.000	-536.000	81.000	-3700.000	207.000	-559.000	52.000
18.	8:15:28:28	220.000	95.000	-537.000	79.000	-3707.000	209.000	-561.000	53.000
19.	8:15:28:43	219.000	99.000	-539.000	79.000	-3712.000	210.000	-562.000	53.000
20.	8:15:28:59	221.000	103.000	-540.000	77.000	-3718.000	212.000	-563.000	55.000
21.	8:15:29:15	222.000	108.000	-540.000	77.000	-3722.000	214.000	-563.000	58.000
22.	8:15:29:30	224.000	113.000	-540.000	77.000	-3725.000	216.000	-564.000	59.000
23.	8:15:29:46	224.000	117.000	-541.000	80.000	-3727.000	216.000	-564.000	59.000
24.	8:15:32:20	224.000	146.000	-542.000	81.000	-3736.000	215.000	-568.000	57.000
25.	8:15:32:36	210.000	141.000	-556.000	78.000	-3759.000	208.000	-582.000	50.000
26.	8:15:32:52	209.000	147.000	-557.000	76.000	-3762.000	207.000	-582.000	47.000
27.	8:15:33: 7	208.000	150.000	-559.000	74.000	-3762.000	206.000	-584.000	46.000
28.	8:15:33:23	208.000	154.000	-560.000	74.000	-3763.000	206.000	-586.000	44.000
29.	8:15:33:39	187.000	151.000	-577.000	71.000	-3780.000	192.000	-558.000	37.000
30.	8:25:33:54	185.000	157.000	-577.000	70.000	-3782.000	191.000	-600.000	35.000
31.	8:15:34:10	186.000	163.000	-569.000	71.000	-3769.000	206.000	-579.000	43.000
32.	8:15:34:26	232.000	162.000	-544.000	84.000	-3762.000	215.000	-566.000	57.000
33.	8:15:35: 1	315.000	178.000	-473.000	129.000	-3684.000	227.000	-524.000	124.000
34.	8:15:35:37	492.000	251.000	-351.000	200.000	-3499.000	279.000	-464.000	232.000
35.	8:15:36:21	579.000	333.000	-244.000	243.000	-3257.000	322.000	-391.000	330.000
36.	8:15:37: 4	597.000	377.000	-192.000	262.000	-3104.000	317.000	-345.000	370.000
37.	8:15:38:11	596.000	488.000	-29.000	325.000	-2655.000	150.000	-100.000	507.000
38.	8:15:39:15	538.000	530.000	43.000	329.000	-2376.000	11.000	27.000	519.000
39.	8:15:39:52	390.000	523.000	52.000	203.000	-2205.000	-84.000	48.000	358.000

STRAIN CHANNELS

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	8:15:16:17	163.000	-709.000	-3176.000	-108.000	
2.	8:15:17:52	151.000	-758.000	-3210.000	-101.000	
3.	8:15:18:39	142.000	-898.000	-3292.000	-69.000	
4.	8:15:19:25	145.000	-1048.000	-3413.000	-32.000	
5.	8:15:20:11	148.000	-1185.000	-3538.000	7.000	
6.	8:15:20:59	146.000	-1326.000	-3684.000	51.000	
7.	8:15:21:47	147.000	-1466.000	-3844.000	99.000	
8.	8:15:22:41	145.000	-1601.000	-4002.000	144.000	
9.	8:15:23:31	139.000	-1735.000	-4131.000	200.000	
10.	8:15:24:25	131.000	-1879.000	-4259.000	265.000	
11.	8:15:25:10	141.000	-2062.000	-4385.000	350.000	
12.	8:15:26: 2	167.000	-2323.000	-4527.000	461.000	
13.	8:15:26:42	167.000	-2516.000	-4660.000	524.000	
14.	8:15:27:24	163.000	-2631.000	-4747.000	526.000	
15.	8:15:27:41	162.000	-2649.000	-4765.000	529.000	
16.	8:15:27:56	161.000	-2662.000	-4775.000	532.000	
17.	8:15:28:12	160.000	-2672.000	-4783.000	533.000	
18.	8:15:28:28	160.000	-2681.000	-4789.000	536.000	
19.	8:15:28:43	162.000	-2688.000	-4795.000	538.000	
20.	8:15:28:59	163.000	-2696.000	-4802.000	542.000	
21.	8:15:29:15	164.000	-2703.000	-4806.000	547.000	
22.	8:15:29:30	165.000	-2710.000	-4809.000	550.000	
23.	8:15:29:46	165.000	-2715.000	-4811.000	552.000	
24.	8:15:32:20	168.000	-2744.000	-4814.000	561.000	
25.	8:15:32:36	159.000	-2759.000	-4836.000	555.000	
26.	8:15:32:52	158.000	-2762.000	-4838.000	554.000	
27.	8:15:33: 7	157.000	-2764.000	-4838.000	553.000	
28.	8:15:33:23	152.000	-2769.000	-4846.000	548.000	
29.	8:15:33:39	141.000	-2778.000	-4856.000	541.000	
30.	8:15:33:54	139.000	-2781.000	-4856.000	539.000	
31.	8:15:34:10	164.000	-2771.000	-4827.000	556.000	
32.	8:15:34:26	175.000	-2777.000	-4847.000	577.000	
33.	8:15:35: 1	221.000	-2763.000	-4762.000	646.000	
34.	8:15:35:37	370.000	-2640.000	-4583.000	743.000	
35.	8:15:36:21	486.000	-2429.000	-4316.000	768.000	
36.	8:15:37: 4	524.000	-2304.000	-4164.000	768.000	
37.	8:15:38:11	554.000	-1846.000	-3712.000	559.000	
38.	8:15:39:15	497.000	-1437.000	-3478.000	323.000	
39.	8:15:39:52	331.000	-974.000	-3295.000	104.000	

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	8:15:16:17	-0.090	0.020	0.080	0.080	0.060	0.030	-0.019	-0.030
2.	8:15:17:52	-0.080	0.020	0.070	0.080	0.060	0.030	-0.019	-0.030
3.	8:15:18:39	-0.110	0.020	0.080	0.080	0.060	0.030	-0.046	-0.059
4.	8:15:19:25	-0.120	0.010	0.090	0.110	0.060	0.030	-0.046	-0.059
5.	8:15:20:11	-0.110	0.020	0.100	0.100	0.100	0.030	-0.046	-0.080
6.	8:15:20:59	-0.120	0.020	0.110	0.140	0.090	0.030	-0.046	-0.088
7.	8:15:21:47	-0.130	0.020	0.120	0.130	0.100	0.030	-0.074	-0.088
8.	8:15:22:41	-0.140	0.020	0.140	0.170	0.120	0.020	-0.074	-0.117
9.	8:15:23:31	-0.140	0.020	0.140	0.170	0.120	0.030	-0.074	-0.117
10.	8:15:24:25	-0.140	0.020	0.140	0.200	0.120	0.030	-0.078	-0.129
11.	8:15:25:10	-0.170	0.020	0.170	0.200	0.150	0.030	-0.102	-0.145
12.	8:15:26: 2	-0.190	0.020	0.180	0.230	0.180	0.030	-0.103	-0.174
13.	8:15:26:42	-0.200	0.020	0.200	0.260	0.180	0.030	-0.129	-0.174
14.	8:15:27:24	-0.200	0.010	0.200	0.260	0.200	0.030	-0.129	-0.202
15.	8:15:27:41	-0.200	0.020	0.200	0.260	0.200	0.030	-0.129	-0.203
16.	8:15:27:56	-0.200	0.010	0.210	0.280	0.200	0.030	-0.129	-0.203
17.	8:15:28:12	-0.210	0.020	0.200	0.280	0.200	0.030	-0.129	-0.203
18.	8:15:28:28	-0.200	0.020	0.200	0.290	0.210	0.030	-0.129	-0.203
19.	8:15:28:43	-0.200	0.010	0.210	0.290	0.210	0.030	-0.128	-0.203
20.	8:15:28:59	-0.210	0.020	0.200	0.290	0.200	0.030	-0.129	-0.203
21.	8:15:29:15	-0.210	0.010	0.210	0.290	0.200	0.030	-0.129	-0.202
22.	8:15:29:30	-0.200	0.010	0.230	0.290	0.210	0.030	-0.129	-0.202
23.	8:15:29:46	-0.210	0.010	0.220	0.290	0.200	0.020	-0.129	-0.202
24.	8:15:32:20	-0.210	0.020	0.230	0.290	0.210	0.030	-0.129	-0.203
25.	8:15:32:36	-0.200	0.020	0.230	0.290	0.200	0.030	-0.129	-0.202
26.	8:15:32:52	-0.210	0.020	0.230	0.290	0.210	0.030	-0.129	-0.203
27.	8:15:33: 7	-0.200	0.010	0.230	0.290	0.210	0.030	-0.129	-0.203
28.	8:15:33:23	-0.210	0.020	0.220	0.290	0.210	0.030	-0.129	-0.203
29.	8:15:33:39	-0.210	0.010	0.220	0.290	0.200	0.030	-0.129	-0.203
30.	8:15:33:54	-0.210	0.020	0.220	0.290	0.210	0.030	-0.129	-0.203
31.	8:15:34:10	-0.210	0.010	0.230	0.290	0.210	0.030	-0.129	-0.203
32.	8:15:34:26	-0.210	0.020	0.230	0.280	0.200	0.030	-0.129	-0.203
33.	8:15:35: 1	-0.220	0.020	0.230	0.290	0.210	0.040	-0.156	-0.232
34.	8:15:35:37	-0.230	0.020	0.240	0.290	0.210	0.030	-0.156	-0.232
35.	8:15:36:21	-0.230	0.020	0.230	0.280	0.210	0.030	-0.156	-0.232
36.	8:15:37: 4	-0.230	0.020	0.240	0.290	0.210	0.030	-0.156	-0.232
37.	8:15:38:11	-0.200	0.020	0.210	0.270	0.180	0.030	-0.129	-0.202
38.	8:15:39:15	-0.180	0.020	0.170	0.210	0.160	0.030	-0.111	-0.174
39.	8:15:39:52	-0.140	0.020	0.130	0.170	0.120	0.030	-0.074	-0.117

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	8:15:16:17	2830.000	3980.000	7870.000	10480.000	12080.000	12810.000	9470.000	4930.000
2.	8:15:17:52	4900.000	7450.000	12960.000	17180.000	20030.000	17110.000	14170.000	8300.000
3.	8:15:18:39	9890.000	15750.000	24380.000	33990.000	37160.000	33040.000	24960.000	16860.000
4.	8:15:19:25	15260.000	24150.000	36940.000	51860.000	56860.000	50260.000	37170.000	25590.000
5.	8:15:20:11	20560.000	31560.000	48510.000	68160.000	76120.000	66120.000	48230.000	33350.000
6.	8:15:20:59	25360.000	39250.000	61070.000	86340.000	94650.000	83650.000	59940.000	41230.000
7.	8:15:21:47	29900.000	46510.000	74000.000	103630.000	114090.000	100650.000	72160.000	48620.000
8.	8:15:22:41	35060.000	54060.000	86080.000	120730.000	134290.000	117070.000	83590.000	56270.000
9.	8:15:23:31	39960.000	61450.000	97530.000	138250.000	151860.000	133890.000	94290.000	63830.000
10.	8:15:24:25	45020.000	68790.000	110970.000	155660.000	170870.000	150510.000	107130.000	71260.000
11.	8:15:25:10	50540.000	76180.000	122890.000	172500.000	190610.000	166510.000	118100.000	78740.000
12.	8:15:26: 2	55530.000	83430.000	135420.000	190500.000	208960.000	183440.000	129980.000	86090.000
13.	8:15:26:42	61650.000	91200.000	145820.000	203460.000	227510.000	196220.000	139050.000	94440.000
14.	8:15:27:24	66390.000	96680.000	156370.000	202980.000	247790.000	195000.000	150470.000	97470.000
15.	8:15:27:41	65630.000	98290.000	156340.000	204690.000	247700.000	196630.000	150250.000	99450.000
16.	8:15:27:56	66200.000	98480.000	156430.000	205660.000	247400.000	197490.000	150110.000	100280.000
17.	8:15:28:12	66900.000	98850.000	156430.000	206570.000	247520.000	198270.000	150180.000	100610.000
18.	8:15:28:28	67020.000	98860.000	156480.000	206770.000	247540.000	198370.000	150040.000	100880.000
19.	8:15:28:43	66830.000	99250.000	156400.000	206860.000	247600.000	198350.000	150020.000	101320.000
20.	8:15:28:59	66920.000	99090.000	156560.000	207080.000	247400.000	198510.000	149980.000	101450.000
21.	8:15:29:15	67030.000	98960.000	156750.000	207290.000	247360.000	198700.000	150060.000	101540.000
22.	8:15:29:30	67130.000	98860.000	156820.000	207310.000	247580.000	198640.000	150060.000	101540.000
23.	8:15:29:46	66960.000	99110.000	156780.000	207280.000	247670.000	198580.000	150040.000	101700.000
24.	8:15:32:20	66420.000	98830.000	156460.000	203830.000	247460.000	195410.000	149790.000	101450.000
25.	8:15:32:36	68470.000	100630.000	161910.000	200670.000	259350.000	191830.000	156090.000	102440.000
26.	8:15:32:52	68000.000	100570.000	161880.000	200520.000	258410.000	191900.000	156040.000	102540.000
27.	8:15:33: 7	68090.000	100530.000	161870.000	200200.000	258310.000	191630.000	156010.000	102380.000
28.	8:15:33:23	68080.000	100430.000	161900.000	199550.000	258140.000	191330.000	156030.000	102180.000
29.	8:15:33:39	70590.000	101600.000	167510.000	197150.000	268680.000	188900.000	161710.000	102580.000
30.	8:15:33:54	70560.000	101550.000	167430.000	197060.000	267980.000	188710.000	161640.000	102770.000
31.	8:15:34:10	69970.000	101550.000	167110.000	197290.000	267210.000	188840.000	161560.000	102770.000
32.	8:15:34:26	63920.000	99620.000	158850.000	200210.000	253460.000	189690.000	155860.000	101240.000
33.	8:15:35: 1	59580.000	91310.000	148400.000	202870.000	228690.000	193120.000	145300.000	94040.000
34.	8:15:35:37	49710.000	76220.000	123240.000	175380.000	198190.000	178200.000	123430.000	76880.000
35.	8:15:36:21	40270.000	58700.000	99550.000	142730.000	162080.000	153540.000	100880.000	54750.000
36.	8:15:37: 4	34620.000	50450.000	88140.000	125100.000	143950.000	135210.000	88230.000	48270.000
37.	8:15:38:11	19670.000	27590.000	50160.000	72210.000	83910.000	78860.000	50630.000	26550.000
38.	8:15:39:15	9560.000	13350.000	25570.000	37610.000	42780.000	42030.000	26450.000	12920.000
39.	8:15:39:52	2370.000	3610.000	6820.000	10860.000	12180.000	12990.000	8450.000	3560.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	8:15:16:17	-384.354	-486.848	179.365	51.247	794.331	1178.685	64.059	-12.812
2.	8:15:17:52	-243.424	-333.107	256.236	89.683	730.272	1204.309	76.871	51.247
3.	8:15:18:39	-76.871	-115.306	525.284	115.306	576.531	1191.497	76.871	102.494
4.	8:15:19:25	-12.812	25.624	819.955	102.494	409.978	1089.003	38.435	128.118
5.	8:15:20:11	0.0	38.435	1050.567	76.871	281.859	960.885	-12.812	128.118
6.	8:15:20:59	0.0	38.435	1165.874	-38.435	166.553	832.767	-38.435	179.365
7.	8:15:21:47	0.0	38.435	1281.180	-204.989	89.683	704.649	-64.059	179.365
8.	8:15:22:41	0.0	38.435	1396.486	-409.978	38.435	589.343	-115.306	140.930
9.	8:15:23:31	12.812	38.435	1409.298	-691.837	12.812	499.660	-166.553	115.306
10.	8:15:24:25	12.812	38.435	1396.486	-935.261	25.624	397.166	-243.424	12.812
11.	8:15:25:10	12.812	38.435	1358.051	-1140.250	12.812	307.483	-320.295	-128.118
12.	8:15:26: 2	12.812	38.435	1358.051	-1319.615	25.624	217.801	-384.354	-294.671
13.	8:15:26:42	0.0	25.624	1383.674	-1460.545	12.812	179.365	-448.413	-422.789
14.	8:15:27:24	12.812	38.435	1293.991	-1550.228	12.812	166.553	-435.601	-435.601
15.	8:15:27:41	0.0	38.435	1306.803	-1550.228	12.812	153.742	-435.601	-461.225
16.	8:15:27:56	0.0	38.435	1319.615	-1524.604	12.812	153.742	-461.225	-474.036
17.	8:15:28:12	0.0	25.624	1332.427	-1524.604	12.812	166.553	-461.225	-486.848
18.	8:15:28:28	0.0	25.624	1332.427	-1511.792	12.812	153.742	-461.225	-486.848
19.	8:15:28:43	12.812	25.624	1332.427	-1524.604	12.812	153.742	-474.036	-486.848
20.	8:15:28:59	0.0	38.435	1345.239	-1524.604	12.812	153.742	-461.225	-486.848
21.	8:15:29:15	0.0	38.435	1332.427	-1524.604	12.812	153.742	-474.036	-486.848
22.	8:15:29:30	0.0	38.435	1332.427	-1537.416	12.812	153.742	-461.225	-486.848
23.	8:15:29:46	0.0	25.624	1332.427	-1537.416	12.812	153.742	-461.225	-499.660
24.	8:15:32:20	0.0	38.435	1319.615	-1537.416	12.812	153.742	-461.225	-499.660
25.	8:15:32:36	12.812	38.435	1306.803	-1537.416	12.812	153.742	-461.225	-512.472
26.	8:15:32:52	12.812	38.435	1306.803	-1550.228	12.812	166.553	-461.225	-525.284
27.	8:15:33: 7	0.0	38.435	1306.803	-1550.228	12.812	153.742	-461.225	-512.472
28.	8:15:33:23	12.812	38.435	1306.803	-1537.416	12.812	179.365	-448.413	-512.472
29.	8:15:33:3	12.812	25.624	1281.180	-1563.039	12.812	166.553	-448.413	-525.284
3	8:15:33:54	12.812	38.435	1281.180	-1550.228	12.812	153.742	-435.601	-525.284
31.	8:15:34:10	0.0	25.624	1281.180	-1550.228	25.624	217.801	-384.354	-448.413
32.	8:15:34:26	0.0	25.624	1293.991	-1537.416	12.812	230.612	-409.978	-486.848
33.	8:15:35: 1	12.812	25.624	1293.991	-1486.168	12.812	422.789	-358.730	-435.601
34.	8:15:35:37	12.812	38.435	1153.062	-1370.862	166.553	1012.132	-153.742	-166.553
35.	8:15:36:21	-25.624	25.624	1844.899	-499.660	345.918	1345.239	-409.978	-845.579
36.	8:15:37: 4	-64.059	12.812	1742.405	-333.107	461.225	1498.980	-333.107	-781.520
37.	8:15:38:11	-422.789	-230.612	884.014	-281.859	858.390	1883.334	-12.812	-204.989
38.	8:15:39:15	-550.907	-384.354	345.918	-115.306	973.697	1832.087	64.059	128.118
39.	8:15:39:52	-486.848	-422.789	51.247	-128.118	768.708	1281.180	89.683	166.553

A V E R A G E L O A D

1.	8056.250
2.	12762.500
3.	24503.750
4.	37261.250
5.	49076.250
6.	61436.250
7.	73695.000
8.	85893.750
9.	97632.500
10.	110026.250
11.	122008.750
12.	134168.750
13.	144918.750
14.	151643.750
15.	152372.500
16.	152756.250
17.	153166.250
18.	153245.000
19.	153328.750
20.	153373.750
21.	153461.250
22.	153492.500
23.	153515.000
24.	152456.250
25.	155236.250
26.	154982.500
27.	154877.500
28.	154742.500
29.	157340.000
30.	157200.000
31.	157037.500
32.	152856.250
33.	145363.750
34.	125156.250
35.	101562.500
36.	89246.250
37.	51197.500
38.	26283.750
39.	7605.000

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 29

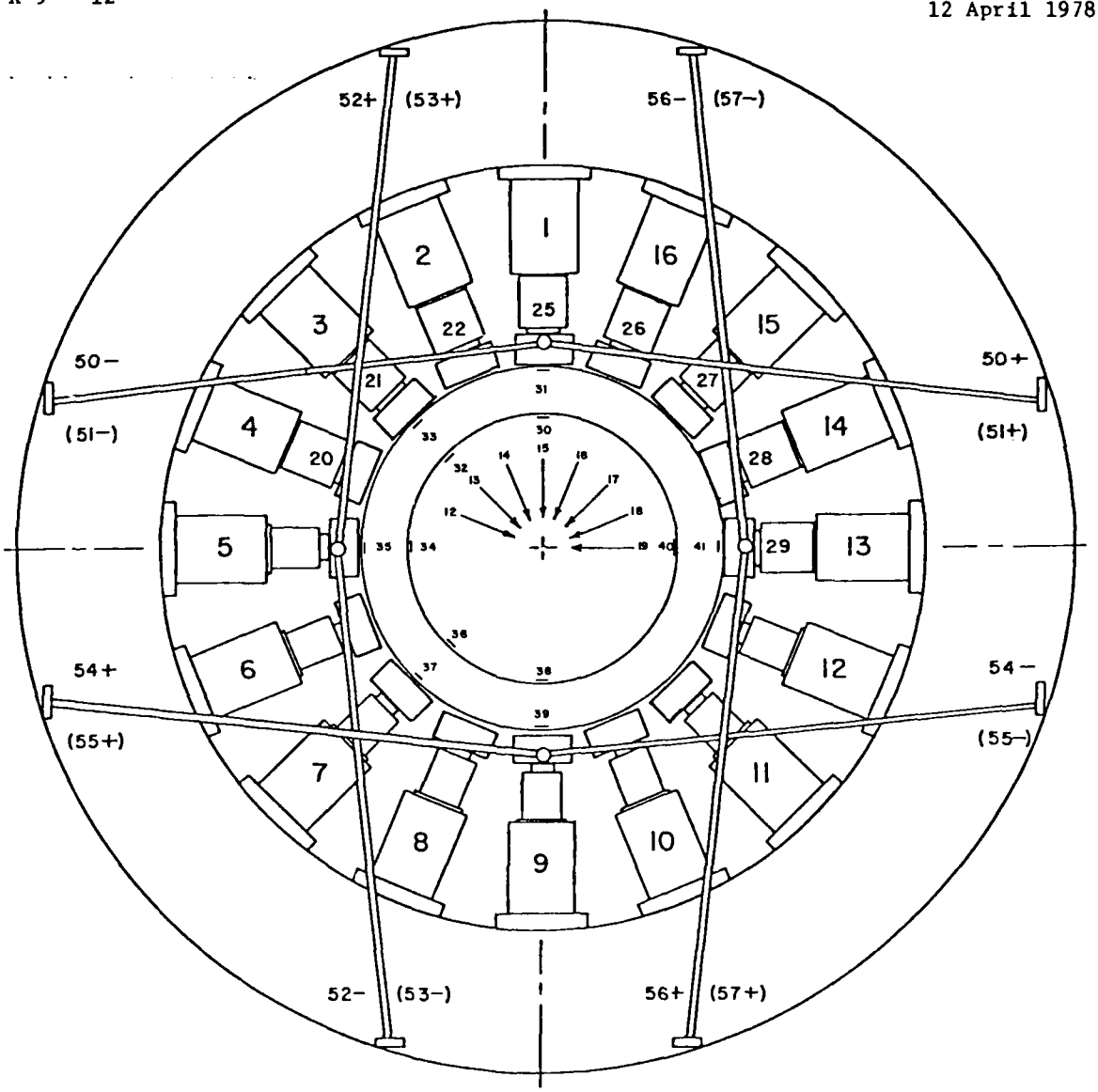
3.4.4 SPECIMEN #6

TEST NO. 35
COMPOSITE INTEGRAL LINER
1:4 LOADING RATIO
TESTED 12 APRIL 1978

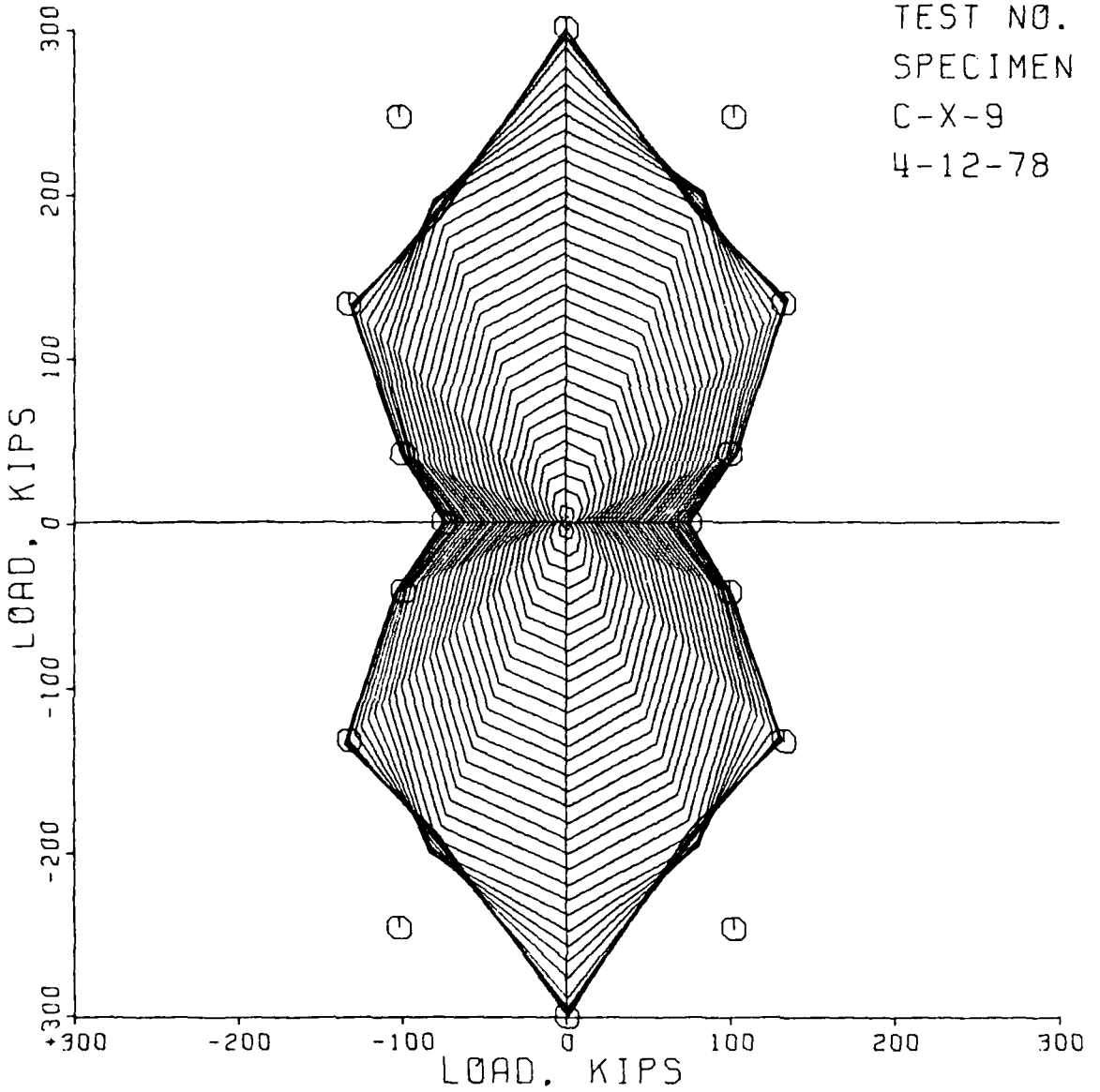
REACTION FRAME TEST SET-UP

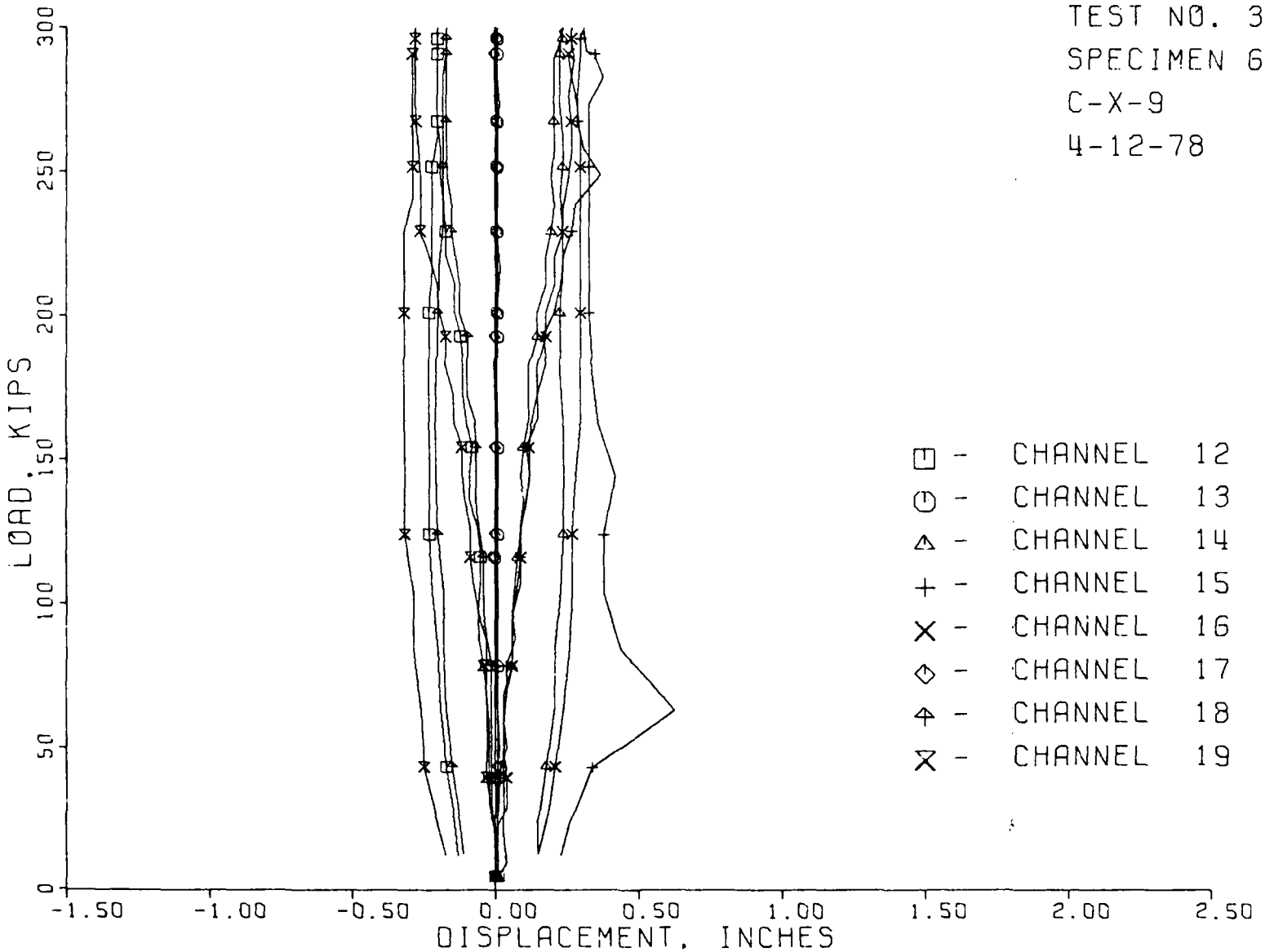
Specimen #6
C-X-9 12"

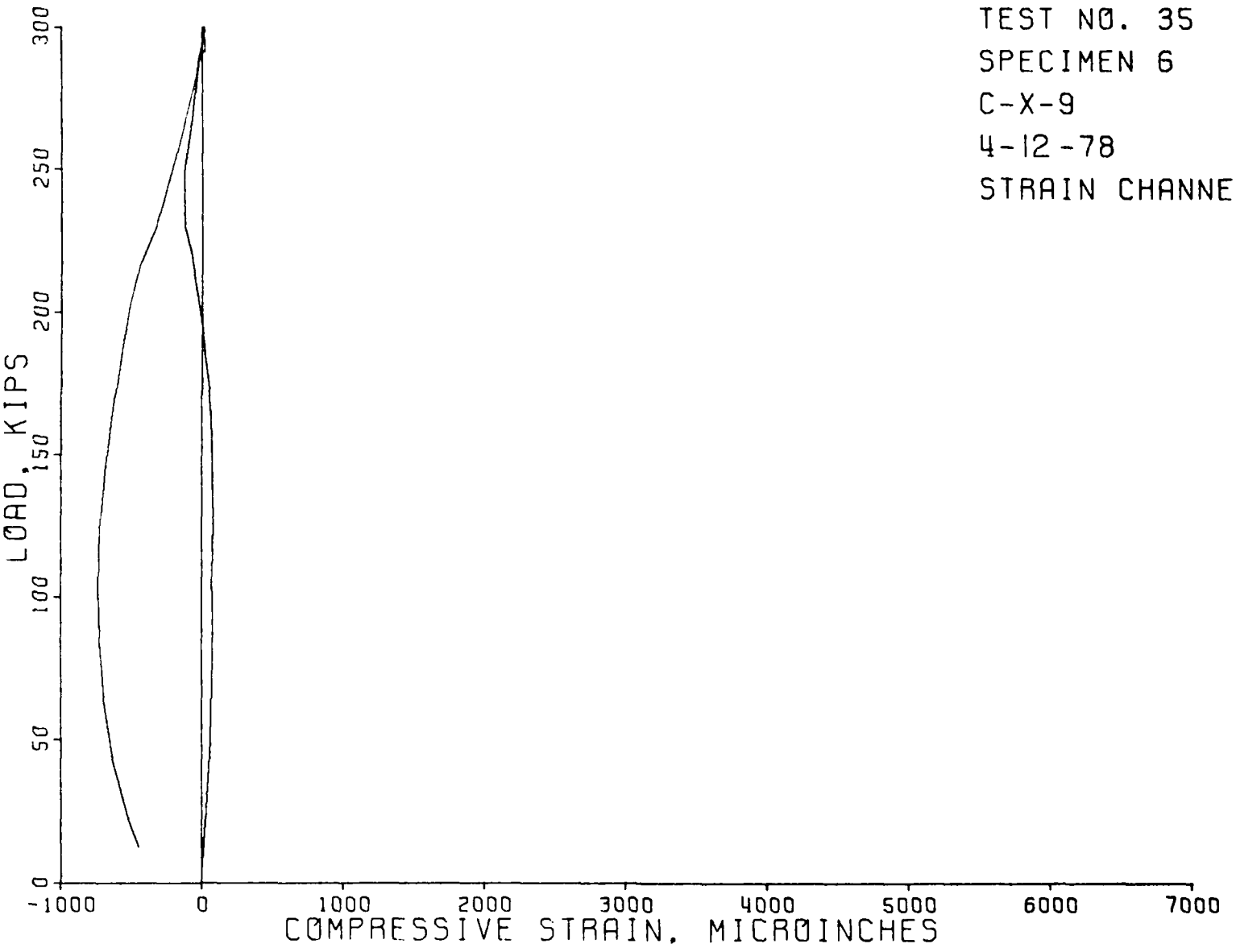
Test #35
1:4 Load
12 April 1978

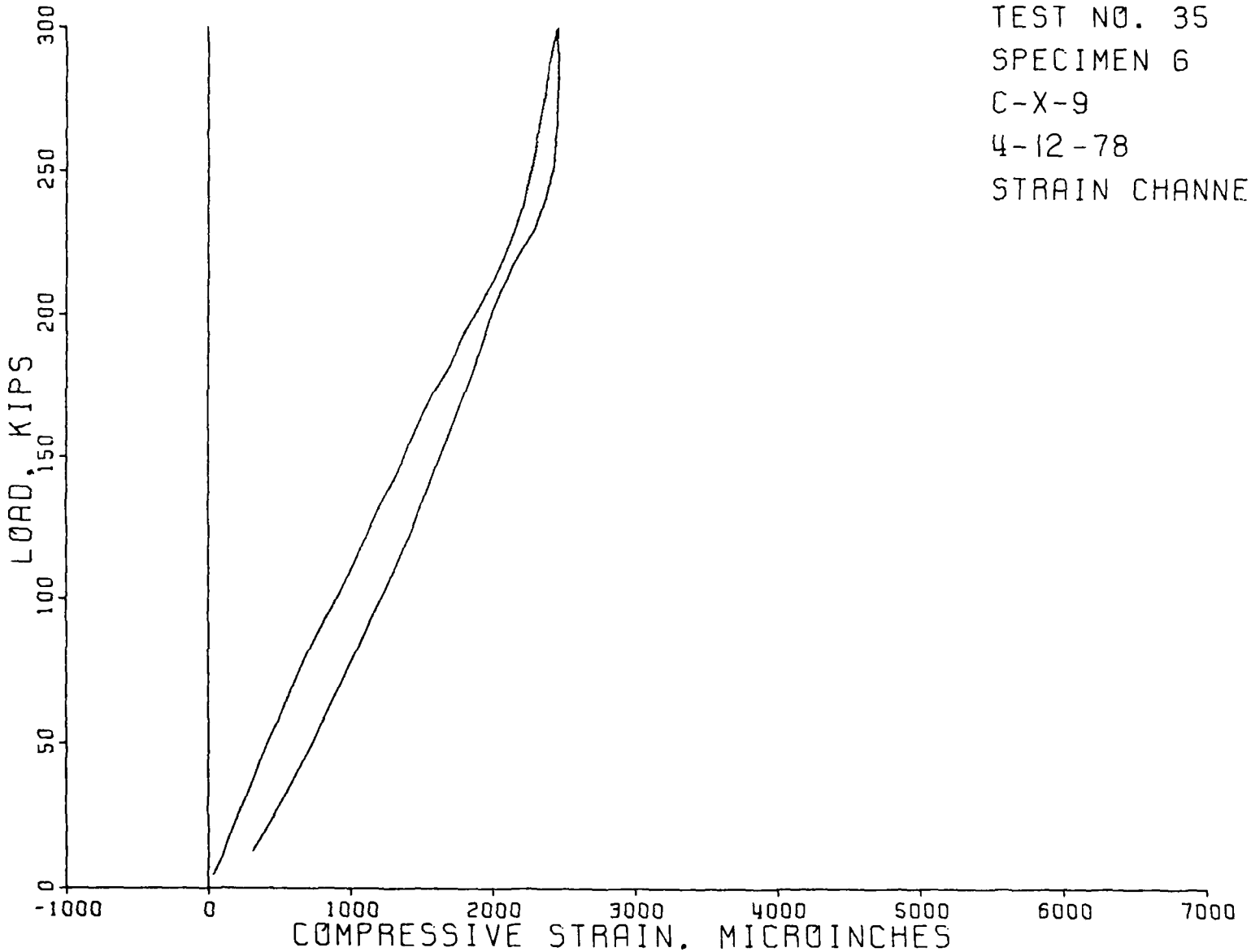


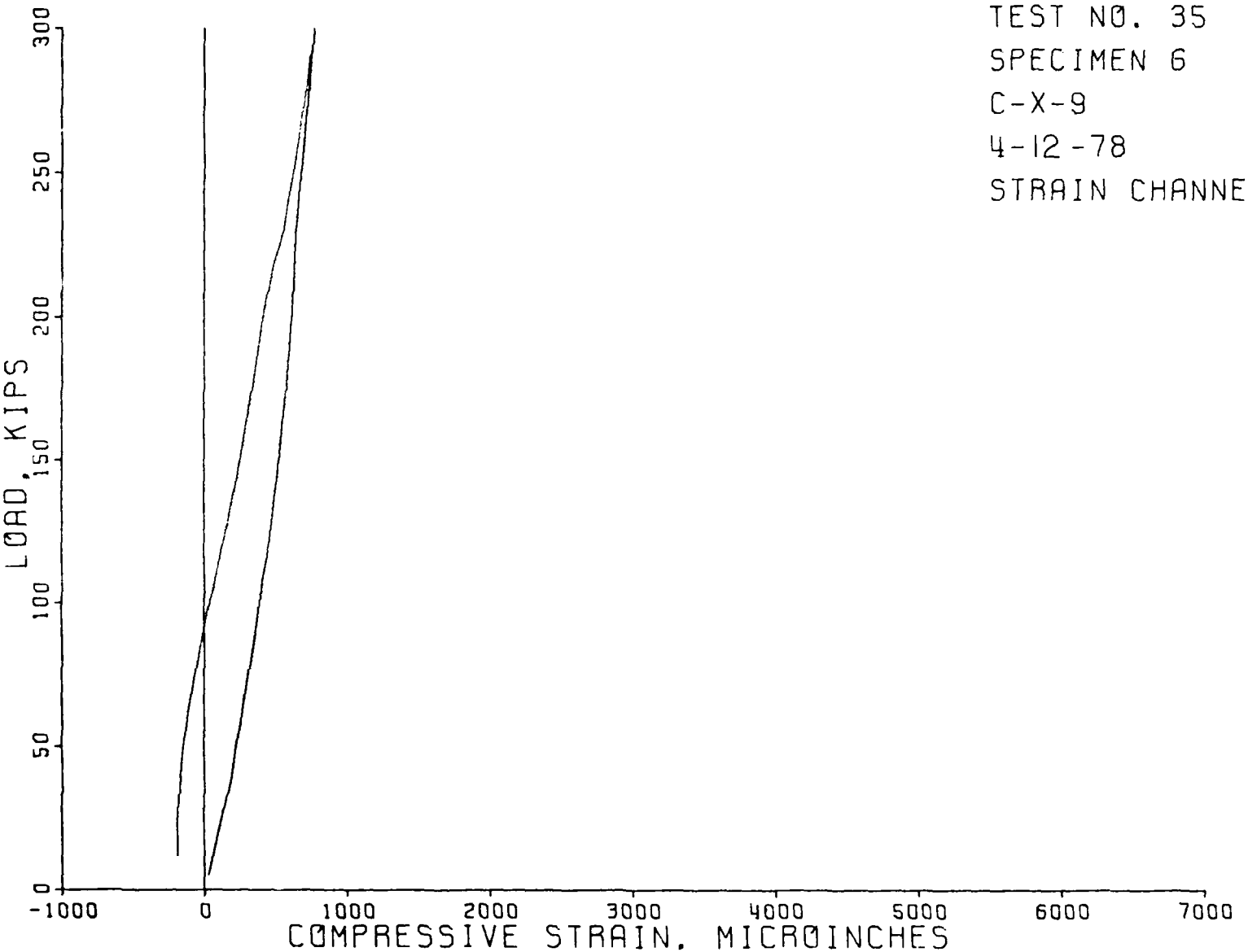
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 3" from top. Odd gages on Rebar .
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

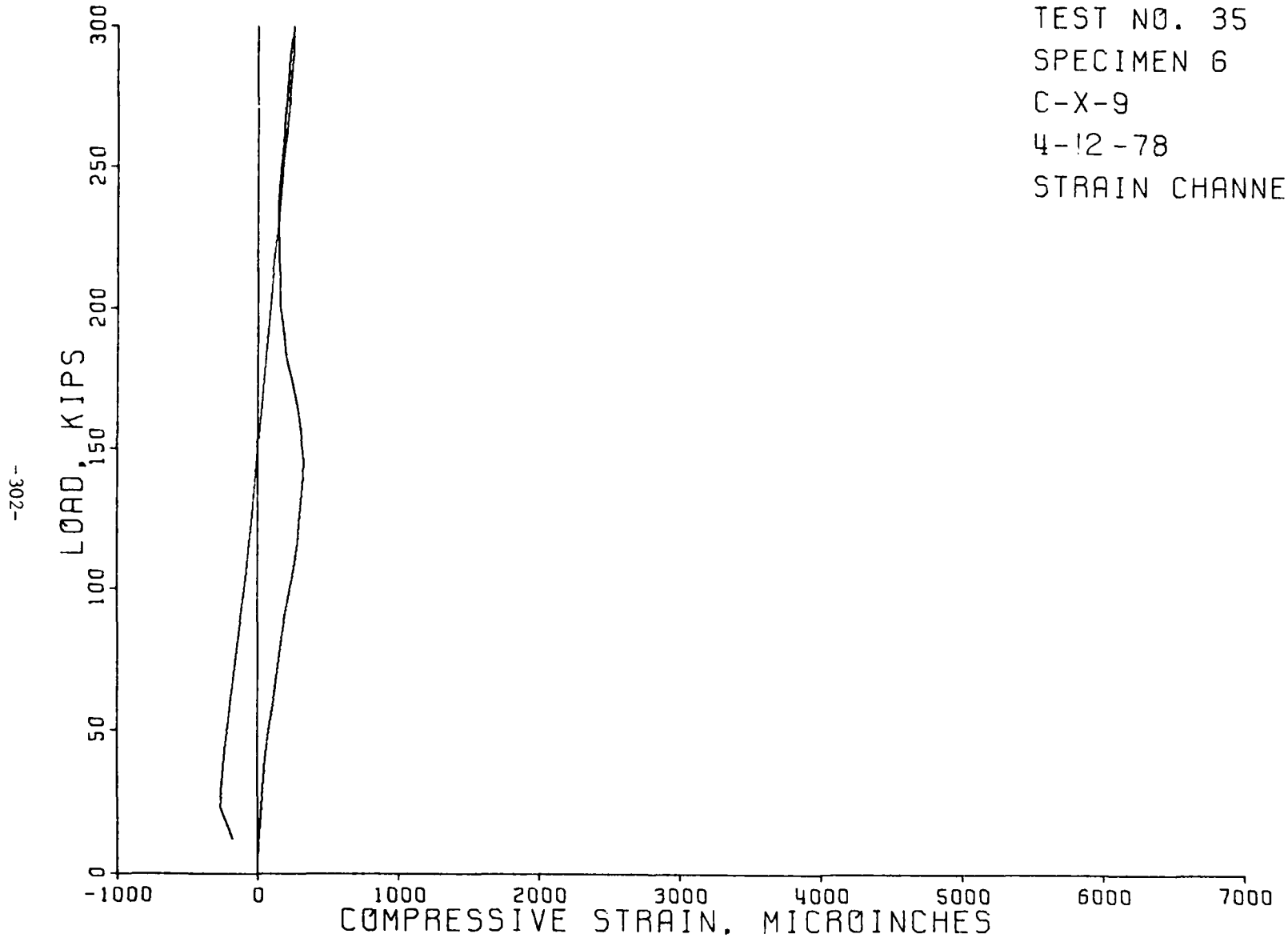

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
LOAD, KIPS
300
200
100
0
-100
-200
-300
+300
-200
-100
0
100
200
300
LOAD, KIPS

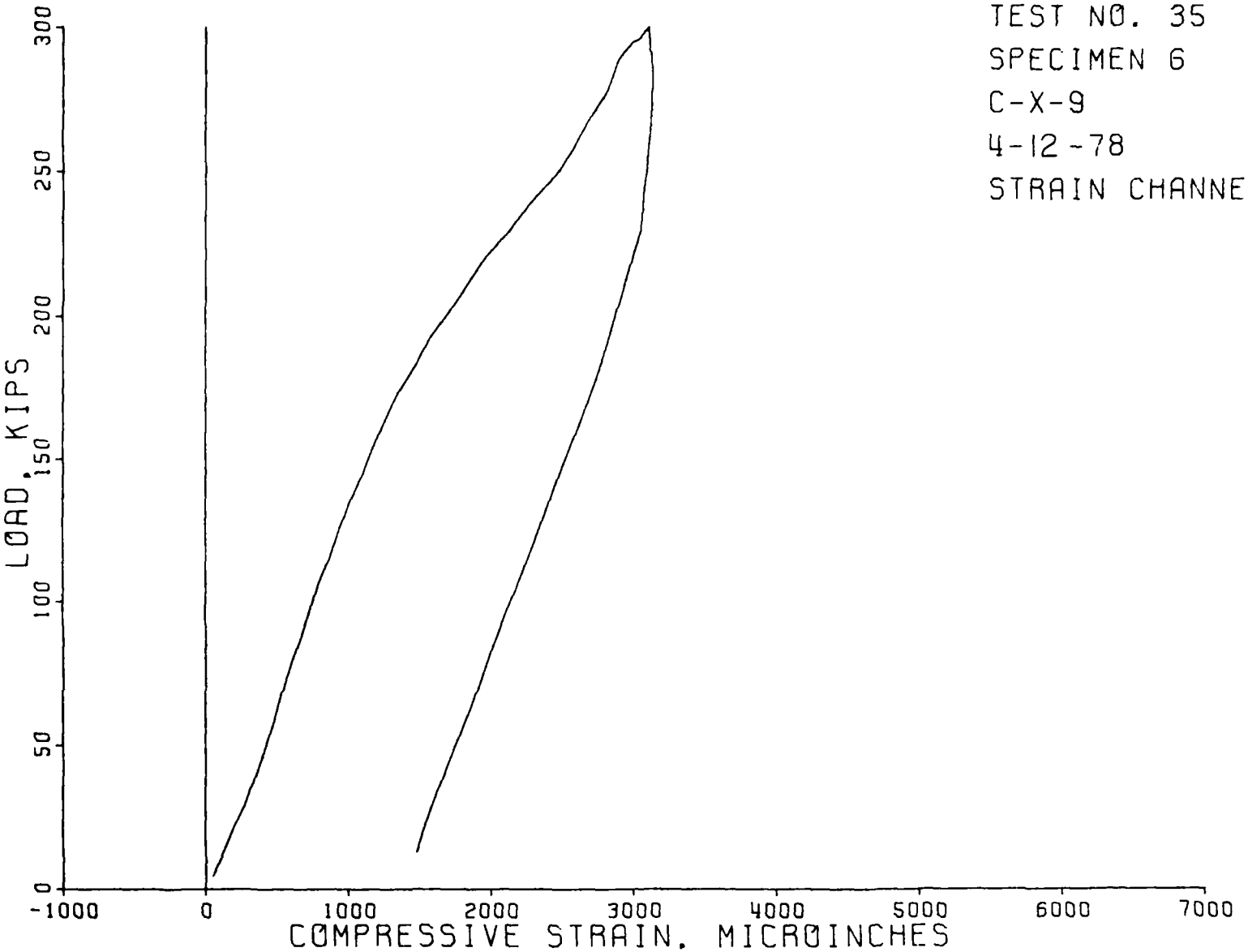

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
LOAD, KIPS
0
50
100
150
200
250
300
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
□ - CHANNEL 12
○ - CHANNEL 13
△ - CHANNEL 14
+ - CHANNEL 15
X - CHANNEL 16
◇ - CHANNEL 17
⊕ - CHANNEL 18
⊠ - CHANNEL 19

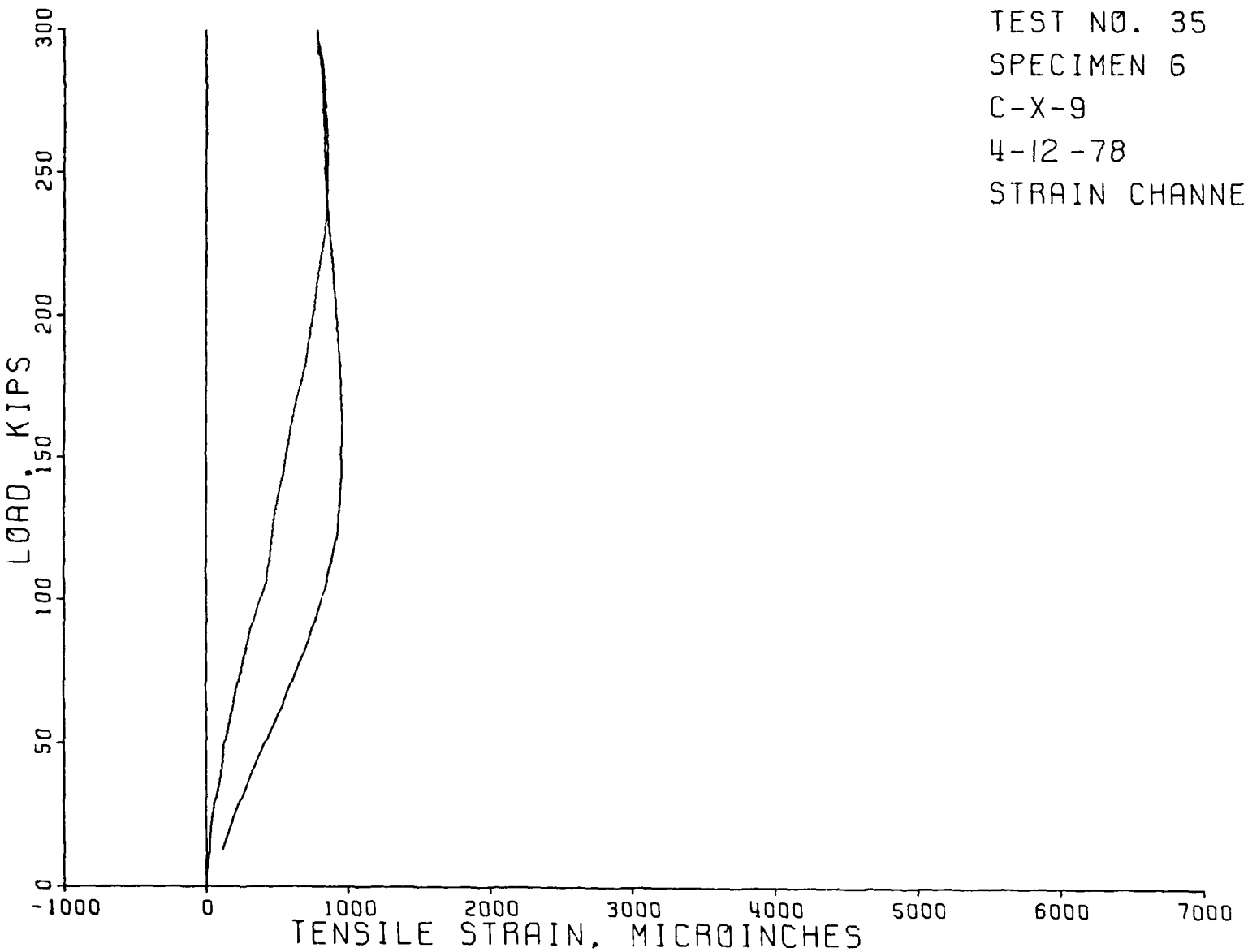

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

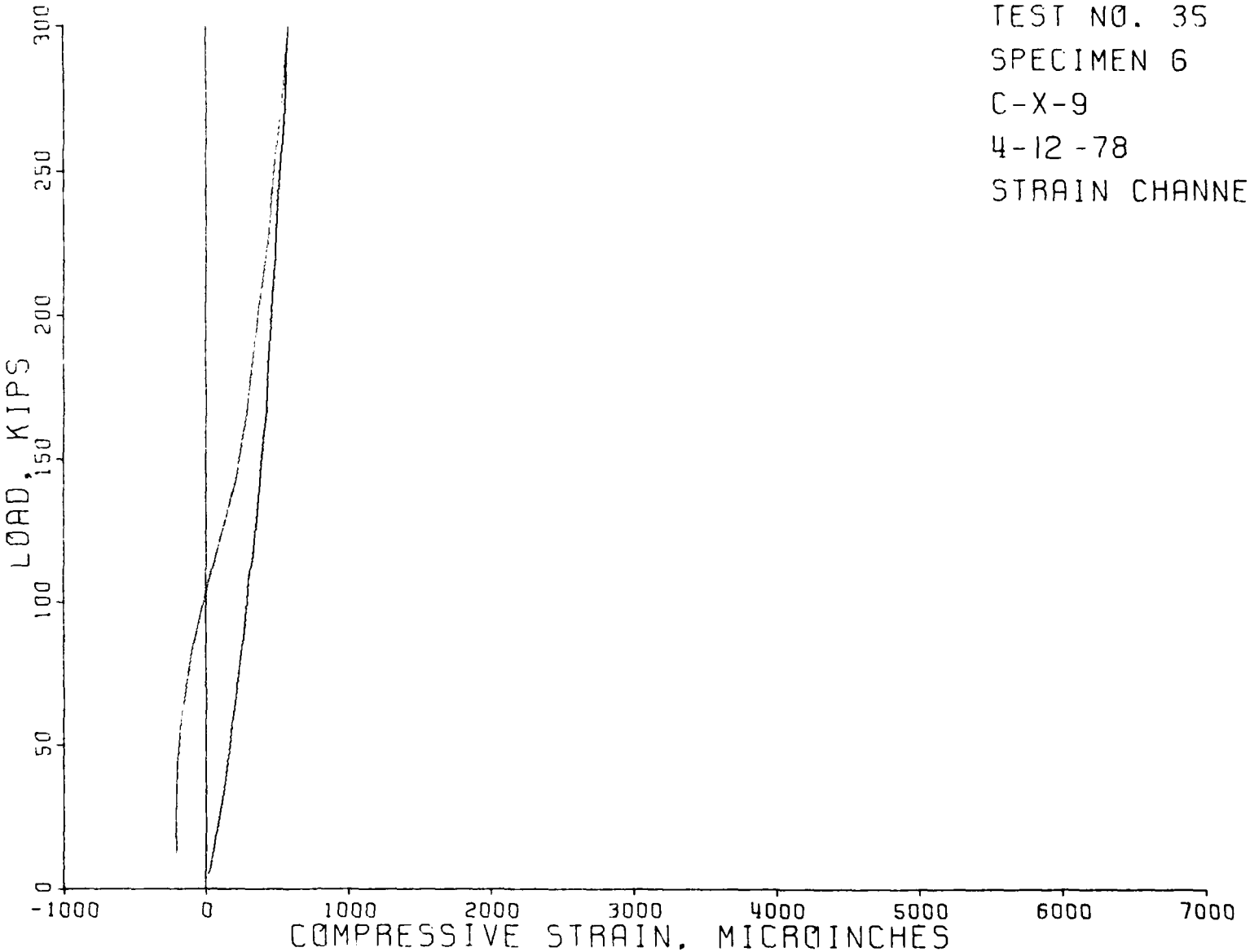

TEST NØ. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 31
LØAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICRØINCHES

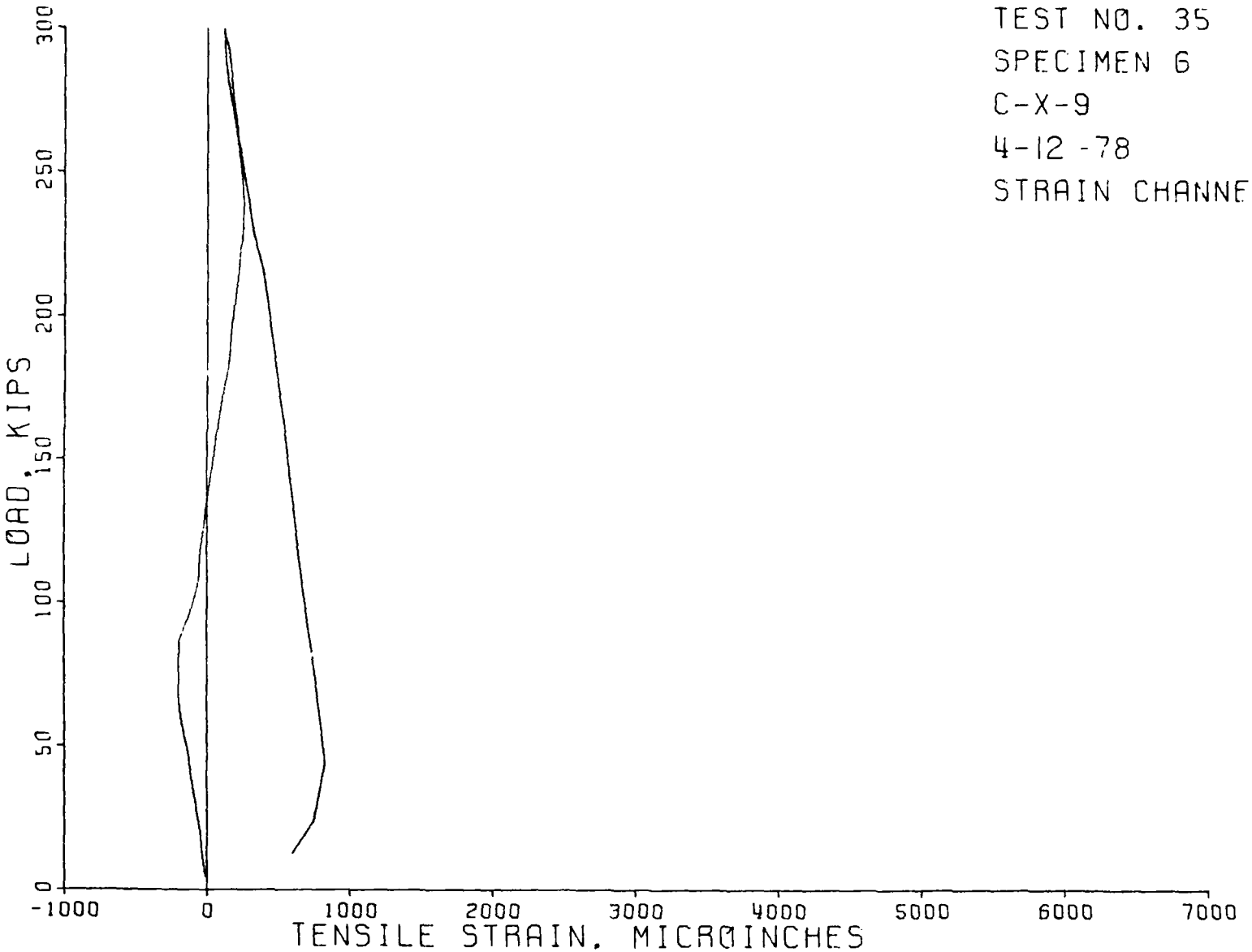

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

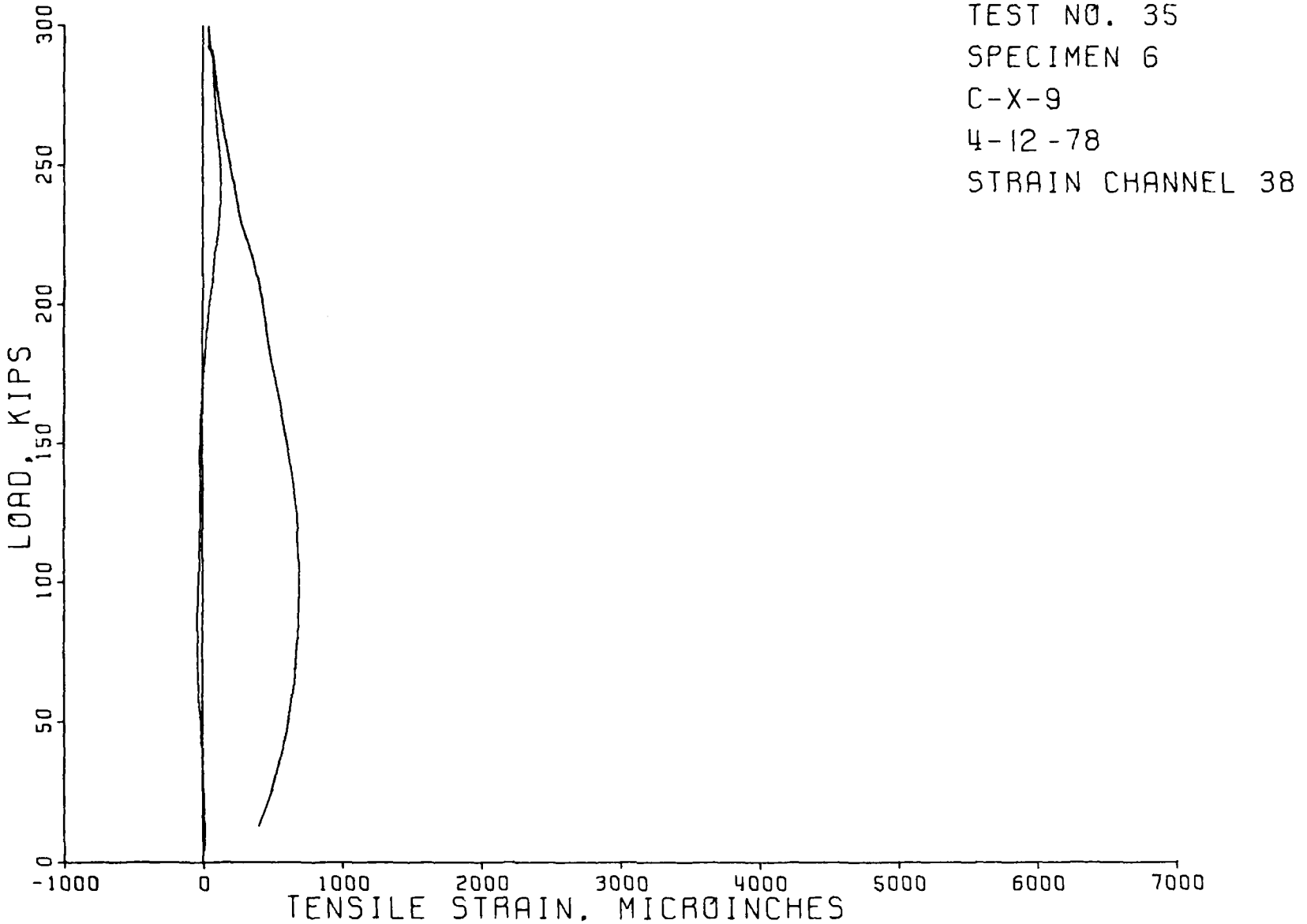

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

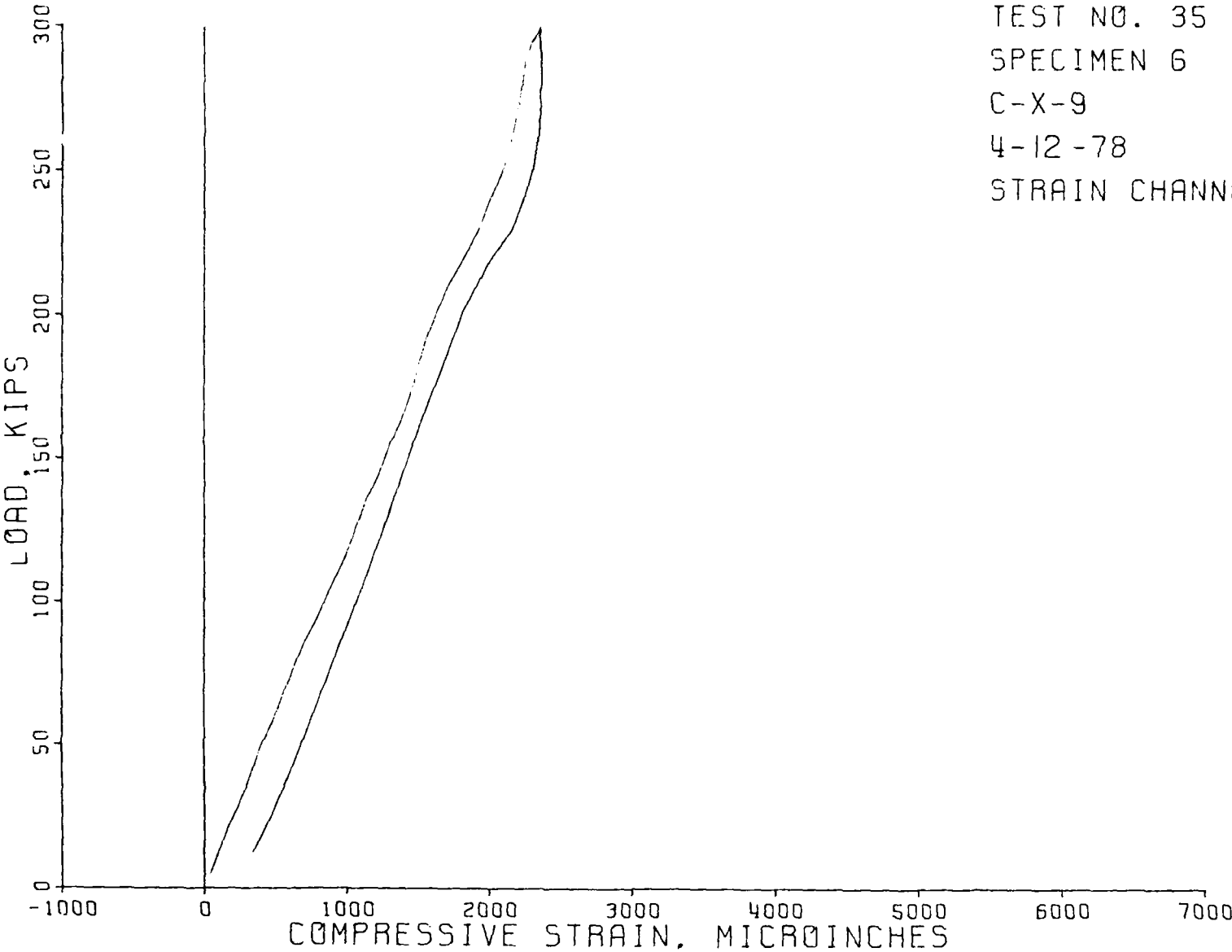

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

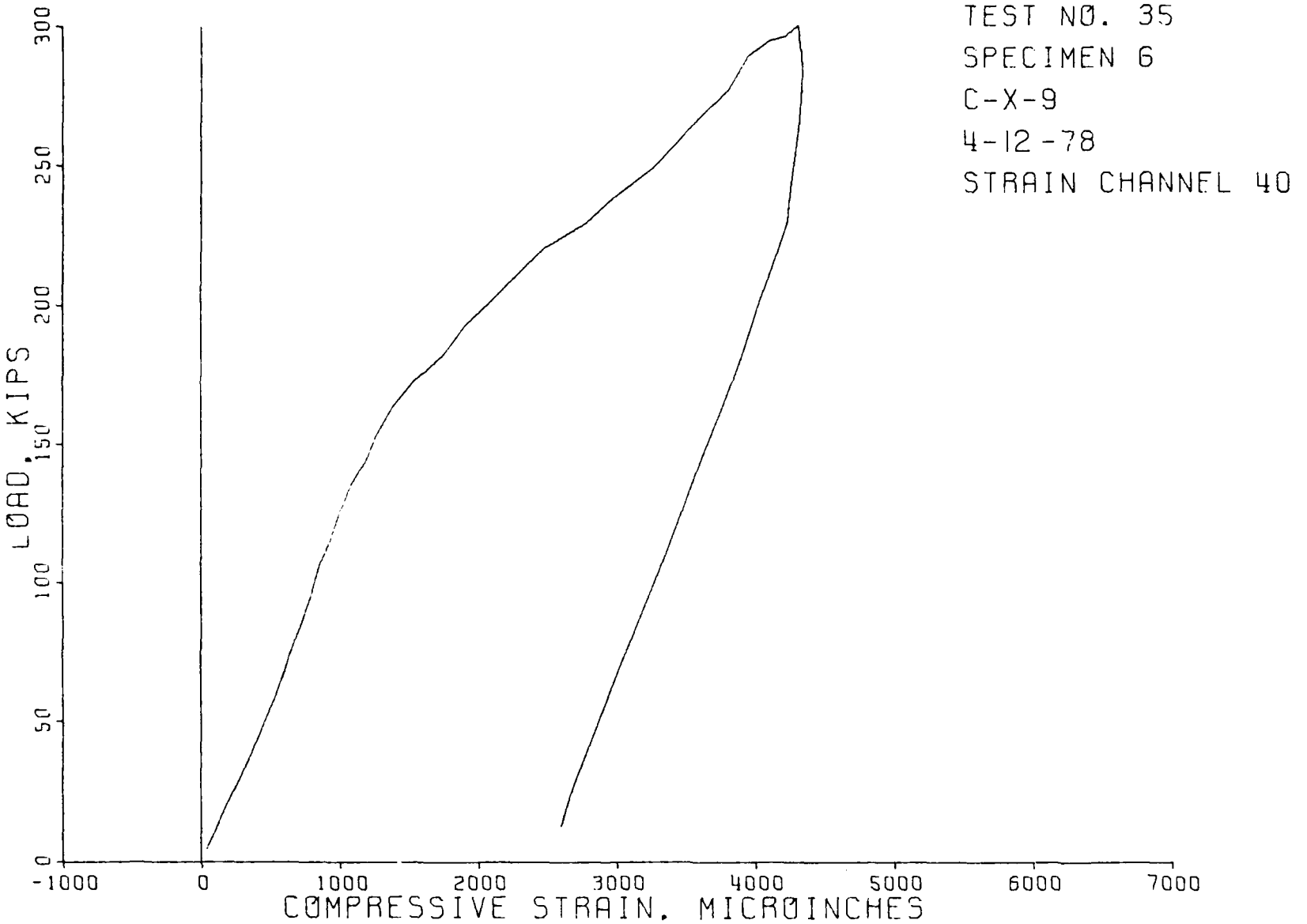

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

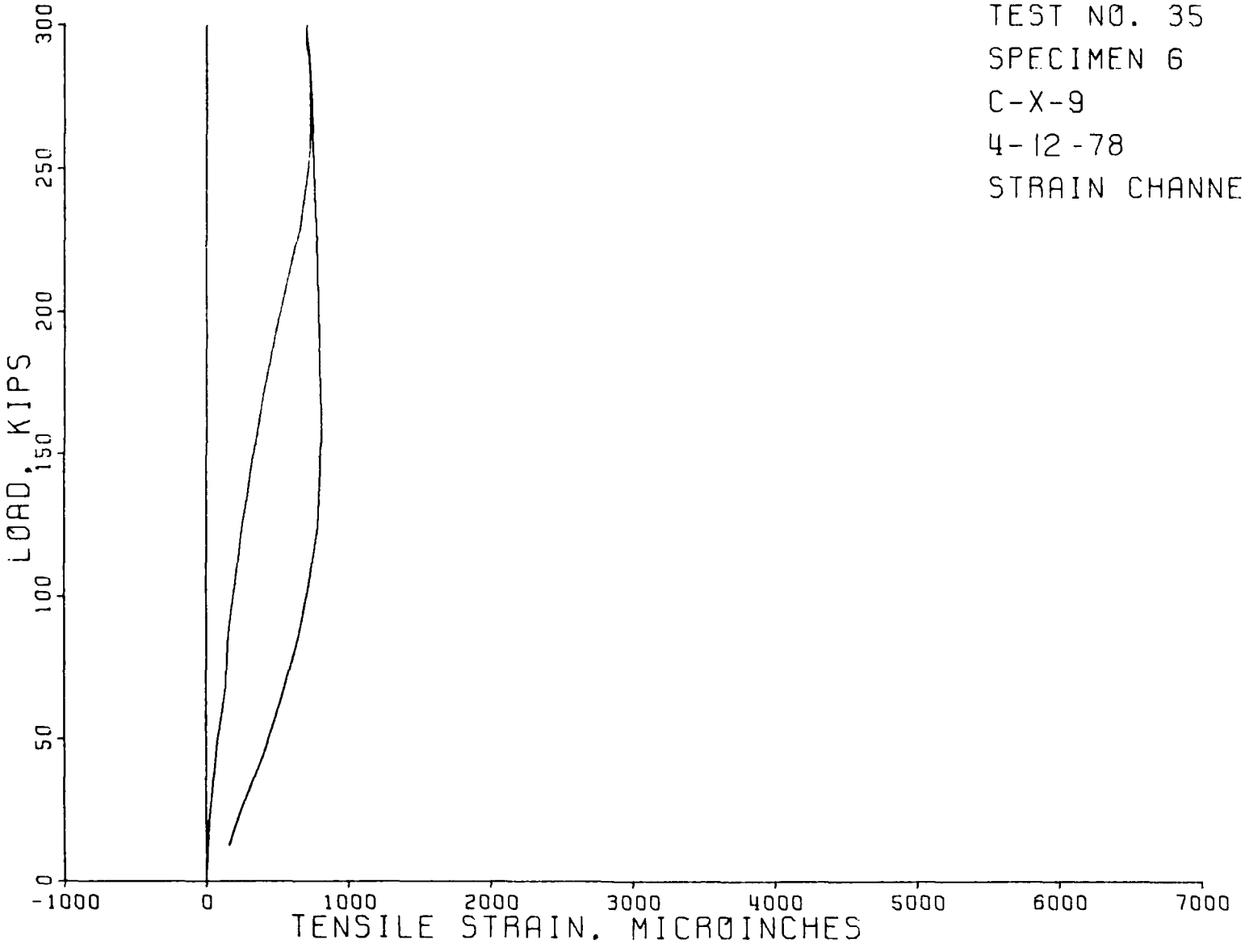

TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 35
SPECIMEN 6
C-X-9
4-12-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

TEST NO. 35 SPECIMEN 6 C-X-9 4-12-78

NUMBER OF INCREMENTS= 55
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
25	0.0
26	0.0
27	0.0
28	0.0
29	0.0
30	0.0
31	0.0
32	0.0
33	0.0
34	0.0
35	0.0
36	0.0
37	0.0
38	0.0
39	0.0
40	0.0
41	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.000
19	0.000

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

STRAIN CHANNELS

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	12:13:30:29	0.0	-37.000	-23.000	-2.000	-48.000	6.000	-20.000	-15.000
2.	12:13:32: 8	-11.000	-83.000	-51.000	-7.000	-97.000	17.000	-40.000	-25.000
3.	12:13:33:32	-23.000	-163.000	-98.000	-21.000	-190.000	31.000	-77.000	-52.000
4.	12:13:34:23	-37.000	-246.000	-145.000	-33.000	-274.000	62.000	-108.000	-79.000
5.	12:13:35:11	-50.000	-329.000	-188.000	-52.000	-351.000	105.000	-139.000	-108.000
6.	12:13:35:55	-60.000	-403.000	-222.000	-76.000	-419.000	123.000	-165.000	-142.000
7.	12:13:36:47	-65.000	-494.000	-253.000	-105.000	-478.000	164.000	-187.000	-179.000
8.	12:13:37:30	-70.000	-576.000	-285.000	-128.000	-536.000	208.000	-211.000	-202.000
9.	12:13:38:10	-73.000	-663.000	-319.000	-154.000	-599.000	255.000	-235.000	-202.000
10.	12:13:39: 4	-76.000	-748.000	-352.000	-182.000	-664.000	297.000	-260.000	-195.000
11.	12:13:42:19	-76.000	-858.000	-381.000	-216.000	-731.000	349.000	-281.000	-120.000
12.	12:13:47:25	-70.000	-968.000	-402.000	-253.000	-793.000	426.000	-295.000	-58.000
13.	12:13:48:41	-75.000	-1051.000	-438.000	-279.000	-870.000	451.000	-325.000	-49.000
14.	12:13:49:42	-79.000	-1141.000	-467.000	-297.000	-940.000	468.000	-346.000	-27.000
15.	12:13:50:42	-76.000	-1229.000	-491.000	-315.000	-1014.000	501.000	-365.000	0.0
16.	12:13:52: 0	-73.000	-1323.000	-511.000	-323.000	-1093.000	541.000	-380.000	30.000
17.	12:13:52:51	-69.000	-1400.000	-532.000	-311.000	-1170.000	574.000	-397.000	56.000
18.	12:13:53:42	-63.000	-1489.000	-552.000	-287.000	-1254.000	607.000	-414.000	80.000
19.	12:13:54:30	-51.000	-1576.000	-571.000	-250.000	-1337.000	644.000	-425.000	111.000
20.	12:13:55:49	-23.000	-1699.000	-585.000	-201.000	-1468.000	694.000	-437.000	151.000
21.	12:13:56:47	-7.000	-1781.000	-600.000	-180.000	-1576.000	724.000	-449.000	167.000
22.	12:13:57:48	19.000	-1880.000	-613.000	-156.000	-1700.000	753.000	-459.000	186.000
23.	12:13:59: 0	50.000	-1985.000	-623.000	-153.000	-1832.000	780.000	-470.000	209.000
24.	12:13:59:50	78.000	-2077.000	-634.000	-152.000	-1962.000	806.000	-483.000	228.000
25.	12:14: 0:57	125.000	-2146.000	-639.000	-143.000	-2128.000	837.000	-490.000	250.000
26.	12:14: 1:46	129.000	-2210.000	-659.000	-147.000	-2258.000	848.000	-502.000	254.000
27.	12:14: 3:10	130.000	-2255.000	-676.000	-160.000	-2451.000	857.000	-517.000	246.000
28.	12:14: 4:10	105.000	-2293.000	-695.000	-178.000	-2577.000	853.000	-530.000	222.000
29.	12:14: 4:58	75.000	-2326.000	-715.000	-192.000	-2682.000	844.000	-544.000	203.000
30.	12:14: 5:59	50.000	-2364.000	-731.000	-212.000	-2807.000	833.000	-554.000	178.000
31.	12:14: 6:43	24.000	-2393.000	-748.000	-225.000	-2895.000	819.000	-567.000	159.000
32.	12:14: 7:45	-7.000	-2420.000	-763.000	-240.000	-2988.000	789.000	-577.000	138.000
33.	12:14: 8:48	-11.000	-2433.000	-764.000	-248.000	-3041.000	787.000	-577.000	129.000
34.	12:14: 9:43	-14.000	-2446.000	-769.000	-253.000	-3084.000	783.000	-579.000	122.000
35.	12:14:10:22	-17.000	-2453.000	-772.000	-256.000	-3105.000	780.000	-581.000	118.000
36.	12:14:11: 5	-18.000	-2451.000	-760.000	-257.000	-3109.000	783.000	-573.000	118.000
37.	12:14:11:51	10.000	-2454.000	-746.000	-257.000	-3123.000	798.000	-566.000	124.000
38.	12:14:12:51	43.000	-2455.000	-723.000	-238.000	-3130.000	817.000	-552.000	138.000
39.	12:14:13:35	90.000	-2449.000	-698.000	-223.000	-3124.000	822.000	-532.000	176.000
40.	12:14:14:31	145.000	-2442.000	-664.000	-203.000	-3114.000	828.000	-507.000	211.000
41.	12:14:15:18	205.000	-2418.000	-630.000	-181.000	-3091.000	835.000	-481.000	250.000
42.	12:14:16: 9	266.000	-2368.000	-594.000	-164.000	-3067.000	847.000	-459.000	285.000
43.	12:14:16:58	330.000	-2285.000	-556.000	-145.000	-3049.000	866.000	-443.000	321.000
44.	12:14:17:44	439.000	-2129.000	-481.000	-113.000	-2968.000	890.000	-408.000	385.000
45.	12:14:18:25	518.000	-1991.000	-416.000	-89.000	-2873.000	915.000	-370.000	436.000
46.	12:14:19: 0	583.000	-1858.000	-353.000	-55.000	-2753.000	938.000	-320.000	486.000
47.	12:14:19:40	638.000	-1724.000	-293.000	-24.000	-2625.000	953.000	-275.000	535.000
48.	12:14:20:23	687.000	-1580.000	-228.000	8.000	-2476.000	950.000	-215.000	582.000
49.	12:14:21: 7	724.000	-1424.000	-145.000	44.000	-2323.000	924.000	-107.000	624.000
50.	12:14:21:59	734.000	-1251.000	-57.000	87.000	-2169.000	835.000	1.000	671.000
51.	12:14:22:37	726.000	-1063.000	32.000	135.000	-2015.000	708.000	95.000	725.000
52.	12:14:23:15	694.000	-862.000	111.000	185.000	-1863.000	539.000	166.000	780.000
53.	12:14:24: 4	633.000	-664.000	164.000	237.000	-1699.000	352.000	203.000	827.000
54.	12:14:24:49	530.000	-452.000	190.000	268.000	-1552.000	188.000	215.000	743.000

55.	12:14:25:46.	445.000	-312.000	188.000	180.000	-1481.000	110.000	208.000	599.000

STRAIN CHANNELS

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	12:13:30:29	12.000	-33.000	-39.000	6.000	
2.	12:13:32: 8	13.000	-77.000	-83.000	9.000	
3.	12:13:33:32	12.000	-156.000	-179.000	20.000	
4.	12:13:34:23	7.000	-239.000	-274.000	38.000	
5.	12:13:35:11	-3.000	-321.000	-365.000	58.000	
6.	12:13:35:55	-17.000	-394.000	-450.000	78.000	
7.	12:13:36:47	-31.000	-480.000	-532.000	111.000	
8.	12:13:37:30	-36.000	-554.000	-605.000	142.000	
9.	12:13:38:10	-36.000	-636.000	-670.000	145.000	
10.	12:13:39: 4	-39.000	-711.000	-737.000	156.000	
11.	12:13:42:19	-33.000	-809.000	-802.000	179.000	
12.	12:13:47:25	-27.000	-901.000	-861.000	208.000	
13.	12:13:48:41	-21.000	-991.000	-937.000	231.000	
14.	12:13:49:42	-22.000	-1061.000	-1003.000	255.000	
15.	12:13:50:42	-22.000	-1135.000	-1085.000	288.000	
16.	12:13:52: 0	-18.000	-1215.000	-1189.000	317.000	
17.	12:13:52:51	-15.000	-1290.000	-1272.000	343.000	
18.	12:13:53:42	-8.000	-1380.000	-1380.000	373.000	
19.	12:13:54:30	1.000	-1447.000	-1527.000	405.000	
20.	12:13:55:19	21.000	-1500.000	-1748.000	449.000	
21.	12:13:56:47	33.000	-1558.000	-1901.000	483.000	
22.	12:13:57:48	52.000	-1630.000	-2083.000	526.000	
23.	12:13:59: 0	73.000	-1708.000	-2275.000	569.000	
24.	12:13:59:50	93.000	-1823.000	-2475.000	613.000	
25.	12:14: 0:57	122.000	-1913.000	-2774.000	658.000	
26.	12:14: 1:46	128.000	-1984.000	-2977.000	684.000	
27.	12:14: 3:10	128.000	-2074.000	-3252.000	716.000	
28.	12:14: 4:10	114.000	-2133.000	-3425.000	729.000	
29.	12:14: 4:58	97.000	-2178.000	-3599.000	731.000	
30.	12:14: 5:59	84.000	-2220.000	-3758.000	731.000	
31.	12:14: 6:43	69.000	-2257.000	-3939.000	724.000	
32.	12:14: 7:45	45.000	-2296.000	-4106.000	708.000	
33.	12:14: 8:48	44.000	-2320.000	-4209.000	707.000	
34.	12:14: 9:43	42.000	-2341.000	-4272.000	707.000	
35.	12:14:10:22	39.000	-2351.000	-4306.000	704.000	
36.	12:14:11: 5	42.000	-2354.000	-4314.000	705.000	
37.	12:14:11:51	68.000	-2360.000	-4325.000	714.000	
38.	12:14:12:51	89.000	-2362.000	-4328.000	729.000	
39.	12:14:13:35	117.000	-2353.000	-4318.000	742.000	
40.	12:14:14:31	150.000	-2340.000	-4303.000	747.000	
41.	12:14:15:18	190.000	-2306.000	-4275.000	753.000	
42.	12:14:16: 9	232.000	-2243.000	-4246.000	759.000	
43.	12:14:16:58	276.000	-2156.000	-4223.000	770.000	
44.	12:14:17:44	360.000	-1980.000	-4140.000	779.000	
45.	12:14:18:25	431.000	-1811.000	-4023.000	785.000	
46.	12:14:19: 0	490.000	-1659.000	-3890.000	795.000	
47.	12:14:19:40	560.000	-1520.000	-3756.000	804.000	
48.	12:14:20:23	627.000	-1387.000	-3607.000	800.000	
49.	12:14:21: 7	677.000	-1247.000	-3455.000	780.000	
50.	12:14:21:59	692.000	-1101.000	-3299.000	721.000	
51.	12:14:22:37	686.000	-947.000	-3141.000	638.000	
52.	12:14:23:15	653.000	-787.000	-2977.000	527.000	
53.	12:14:24: 4	589.000	-628.000	-2816.000	394.000	
54.	12:14:24:49	484.000	-453.000	-2667.000	235.000	
55.	12:14:25:46	400.000	-338.000	-2596.000	162.000	

D I S P L A C E M E N T C H A N N E L S

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	12:13:30:29	0.010	0.0	0.010	0.0	0.0	0.0	0.0	0.001
2.	12:13:32: 8	0.010	0.010	0.040	0.0	0.0	0.010	0.0	0.0
3.	12:13:33:32	0.0	0.010	0.030	0.010	0.0	0.0	-0.001	0.001
4.	12:13:34:23	-0.020	0.010	0.030	0.010	0.040	0.0	-0.012	-0.014
5.	12:13:35:11	-0.020	0.010	0.030	0.010	0.040	0.0	-0.012	-0.029
6.	12:13:35:55	-0.020	0.010	0.030	0.040	0.030	0.0	-0.012	-0.028
7.	12:13:36:47	-0.020	0.010	0.030	0.030	0.030	0.0	-0.012	-0.028
8.	12:13:37:30	-0.030	0.010	0.040	0.040	0.030	0.0	-0.012	-0.028
9.	12:13:38:10	-0.030	0.010	0.060	0.040	0.060	0.0	-0.012	-0.040
10.	12:13:39: 4	-0.030	0.0	0.060	0.070	0.060	0.0	-0.028	-0.056
11.	12:13:42:19	-0.060	0.010	0.060	0.060	0.060	0.0	-0.040	-0.057
12.	12:13:47:25	-0.050	0.010	0.070	0.080	0.090	0.0	-0.040	-0.074
13.	12:13:48:41	-0.050	0.0	0.080	0.090	0.090	0.0	-0.040	-0.085
14.	12:13:49:42	-0.060	0.010	0.090	0.090	0.090	0.0	-0.055	-0.085
15.	12:13:50:42	-0.090	0.010	0.100	0.110	0.110	0.0	-0.068	-0.106
16.	12:13:52: 0	-0.090	0.010	0.090	0.120	0.120	0.0	-0.067	-0.115
17.	12:13:52:51	-0.080	0.010	0.100	0.110	0.120	0.0	-0.068	-0.115
18.	12:13:53:42	-0.100	0.010	0.120	0.150	0.130	0.010	-0.068	-0.143
19.	12:13:54:30	-0.110	0.010	0.120	0.150	0.150	0.0	-0.095	-0.143
20.	12:13:55:49	-0.110	0.0	0.120	0.180	0.150	0.0	-0.095	-0.171
21.	12:13:56:47	-0.120	0.010	0.150	0.170	0.180	0.0	-0.096	-0.171
22.	12:13:57:48	-0.140	0.010	0.150	0.210	0.180	0.0	-0.123	-0.192
23.	12:13:59: 0	-0.140	0.010	0.180	0.230	0.210	0.010	-0.123	-0.200
24.	12:13:59:50	-0.170	0.010	0.180	0.240	0.210	0.0	-0.136	-0.228
25.	12:14: 0:57	-0.170	0.010	0.200	0.270	0.240	0.010	-0.151	-0.257
26.	12:14: 1:46	-0.180	0.010	0.210	0.280	0.240	0.0	-0.151	-0.257
27.	12:14: 3:10	-0.190	0.010	0.200	0.370	0.260	0.0	-0.166	-0.257
28.	12:14: 4:10	-0.190	0.010	0.210	0.310	0.270	0.0	-0.168	-0.264
29.	12:14: 4:58	-0.200	0.010	0.210	0.290	0.270	0.010	-0.168	-0.272
30.	12:14: 5:59	-0.200	0.010	0.210	0.290	0.260	0.0	-0.168	-0.274
31.	12:14: 6:43	-0.200	0.010	0.210	0.300	0.280	0.0	-0.168	-0.274
32.	12:14: 7:45	-0.200	0.010	0.230	0.300	0.270	0.010	-0.168	-0.274
33.	12:14: 8:48	-0.200	0.010	0.240	0.300	0.270	0.010	-0.168	-0.274
34.	12:14: 9:43	-0.200	0.010	0.230	0.310	0.270	0.010	-0.168	-0.274
35.	12:14:10:22	-0.200	0.010	0.240	0.310	0.270	0.0	-0.168	-0.274
36.	12:14:11: 5	-0.200	0.010	0.230	0.320	0.270	0.0	-0.168	-0.274
37.	12:14:11:51	-0.200	0.010	0.230	0.350	0.260	0.0	-0.168	-0.285
38.	12:14:12:51	-0.200	0.010	0.230	0.380	0.270	0.0	-0.179	-0.286
39.	12:14:13:35	-0.200	0.020	0.230	0.330	0.290	0.010	-0.179	-0.286
40.	12:14:14:31	-0.200	0.010	0.240	0.330	0.300	0.010	-0.179	-0.285
41.	12:14:15:18	-0.220	0.010	0.240	0.330	0.300	0.010	-0.179	-0.285
42.	12:14:16: 9	-0.220	0.010	0.230	0.330	0.300	0.010	-0.180	-0.286
43.	12:14:16:58	-0.220	0.010	0.240	0.330	0.300	0.0	-0.179	-0.314
44.	12:14:17:44	-0.220	0.020	0.240	0.330	0.300	0.010	-0.196	-0.314
45.	12:14:18:25	-0.230	0.010	0.230	0.330	0.300	0.010	-0.197	-0.314
46.	12:14:19: 0	-0.230	0.010	0.230	0.340	0.300	0.0	-0.202	-0.314
47.	12:14:19:40	-0.230	0.010	0.240	0.360	0.300	0.010	-0.207	-0.314
48.	12:14:20:23	-0.230	0.010	0.240	0.420	0.280	0.010	-0.207	-0.314
49.	12:14:21: 7	-0.230	0.010	0.240	0.380	0.270	0.0	-0.199	-0.314
50.	12:14:21:59	-0.220	0.010	0.230	0.380	0.270	0.0	-0.180	-0.286
51.	12:14:22:37	-0.200	0.010	0.210	0.440	0.260	0.0	-0.179	-0.286
52.	12:14:23:15	-0.190	0.010	0.210	0.630	0.240	0.010	-0.169	-0.257
53.	12:14:24: 4	-0.170	0.020	0.180	0.340	0.210	0.010	-0.151	-0.248
54.	12:14:24:49	-0.140	0.010	0.150	0.260	0.180	0.0	-0.123	-0.200

55. 12:14:25:46	-0.130	0.010	0.150	0.200	0.150	0.0	-0.111	-0.172

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	12:13:30:29	1280.000	1920.000	2960.000	4430.000	4730.000	4500.000	2800.000	1350.000
2.	12:13:32: 8	2470.000	4010.000	6390.000	9790.000	9850.000	9480.000	5690.000	3490.000
3.	12:13:33:32	4980.000	8490.000	13530.000	18350.000	20500.000	18100.000	12340.000	7430.000
4.	12:13:34:23	7280.000	12690.000	19550.000	27340.000	29610.000	27250.000	17880.000	10820.000
5.	12:13:35:11	10130.000	16820.000	25240.000	36600.000	39470.000	35560.000	23320.000	14290.000
6.	12:13:35:55	12570.000	21110.000	32330.000	44560.000	49610.000	43130.000	29540.000	18500.000
7.	12:13:36:47	14910.000	25170.000	38580.000	53970.000	58550.000	52240.000	35600.000	21790.000
8.	12:13:37:30	17440.000	29140.000	44170.000	62790.000	68140.000	60730.000	41100.000	25160.000
9.	12:13:38:10	19730.000	32860.000	50920.000	70690.000	78240.000	68360.000	47150.000	29150.000
10.	12:13:39: 4	22030.000	36630.000	57670.000	79710.000	87080.000	76980.000	53090.000	33150.000
11.	12:13:42:19	24400.000	40750.000	63280.000	88960.000	96410.000	85710.000	58560.000	37230.000
12.	12:13:47:25	27150.000	44750.000	68540.000	97270.000	107070.000	93810.000	65450.000	40490.000
13.	12:13:48:41	29270.000	48800.000	75820.000	106850.000	115740.000	103110.000	71740.000	45190.000
14.	12:13:49:42	32090.000	52590.000	81820.000	115310.000	126020.000	111270.000	77210.000	49440.000
15.	12:13:50:42	34230.000	56430.000	88530.000	123560.000	135860.000	119220.000	83810.000	53510.000
16.	12:13:52: 0	36580.000	60300.000	94400.000	132180.000	144390.000	127450.000	89510.000	57540.000
17.	12:13:52:51	38800.000	64200.000	100320.000	141260.000	154090.000	136390.000	95320.000	61710.000
18.	12:13:53:42	41350.000	68270.000	106170.000	148880.000	163430.000	144310.000	101840.000	66060.000
19.	12:13:54:30	43530.000	71590.000	112110.000	157910.000	172270.000	153150.000	107690.000	69740.000
20.	12:13:55:49	46320.000	75810.000	117590.000	166980.000	182410.000	161780.000	113560.000	73890.000
21.	12:13:56:47	48770.000	79450.000	124000.000	174880.000	192510.000	169550.000	119770.000	77570.000
22.	12:13:57:48	50890.000	83080.000	130030.000	183730.000	200940.000	178280.000	125900.000	81210.000
23.	12:13:59: 0	53390.000	87060.000	135860.000	192420.000	210740.000	186930.000	131700.000	85110.000
24.	12:13:59:50	56020.000	90690.000	141990.000	200190.000	220560.000	194630.000	138100.000	88750.000
25.	12:14: 0:57	58320.000	94680.000	147650.000	209100.000	229280.000	203520.000	143960.000	92740.000
26.	12:14: 1:46	61580.000	98220.000	152990.000	215710.000	238370.000	209940.000	148200.000	96650.000
27.	12:14: 3:10	63590.000	102180.000	158540.000	217600.000	248430.000	211680.000	153790.000	100270.000
28.	12:14: 4:10	65510.000	104750.000	164680.000	217680.000	257460.000	211780.000	159630.000	102370.000
29.	12:14: 4:58	68400.000	106510.000	170290.000	216270.000	267220.000	210380.000	165050.000	103950.000
30.	12:14: 5:59	70650.000	108770.000	176650.000	214510.000	277000.000	208630.000	171330.000	106020.000
31.	12:14: 6:43	72680.000	111050.000	182640.000	211600.000	288920.000	205650.000	177330.000	107570.000
32.	12:14: 7:45	74170.000	112650.000	188380.000	209700.000	294860.000	203820.000	182900.000	108790.000
33.	12:14: 8:48	74440.000	112680.000	189810.000	208070.000	295920.000	202230.000	184200.000	108970.000
34.	12:14: 9:43	74770.000	113070.000	191070.000	206160.000	298780.000	200320.000	185290.000	109340.000
35.	12:14:10:22	74810.000	113090.000	191770.000	204990.000	299950.000	199300.000	185950.000	109440.000
36.	12:14:11: 5	73580.000	112090.000	189410.000	205970.000	291860.000	200570.000	184390.000	108060.000
37.	12:14:11:51	72880.000	112400.000	183850.000	205660.000	290720.000	198740.000	181640.000	108650.000
38.	12:14:12:51	70340.000	112220.000	178570.000	205900.000	282750.000	199940.000	177360.000	108080.000
39.	12:14:13:35	68000.000	108930.000	173190.000	206360.000	273200.000	200820.000	171710.000	106680.000
40.	12:14:14:31	65400.000	105170.000	167660.000	207130.000	262320.000	201720.000	167050.000	103060.000
41.	12:14:15:18	63160.000	101360.000	161920.000	207790.000	251470.000	202550.000	162170.000	99230.000
42.	12:14:16: 9	61100.000	97800.000	155610.000	208050.000	240910.000	202940.000	156740.000	95780.000
43.	12:14:16:58	58100.000	94330.000	149760.000	208700.000	229290.000	203650.000	151710.000	92240.000
44.	12:14:17:44	53580.000	86360.000	137520.000	194870.000	216690.000	192990.000	140340.000	84440.000
45.	12:14:18:25	48610.000	77860.000	124820.000	178120.000	200820.000	181760.000	127460.000	75090.000
46.	12:14:19: 0	43350.000	67160.000	112730.000	161090.000	180410.000	169770.000	114240.000	63750.000
47.	12:14:19:40	37890.000	58380.000	100830.000	144430.000	162810.000	155190.000	103100.000	55030.000
48.	12:14:20:23	32840.000	49230.000	88830.000	126440.000	144200.000	136880.000	91800.000	47190.000
49.	12:14:21: 7	27440.000	41060.000	76220.000	103990.000	123800.000	119090.000	79340.000	39490.000
50.	12:14:21:59	22760.000	33980.000	63380.000	91740.000	103680.000	101200.000	66360.000	32660.000
51.	12:14:22:37	18580.000	26670.000	50720.000	73340.000	84280.000	81860.000	53650.000	25740.000
52.	12:14:23:15	13610.000	19840.000	38580.000	55540.000	63360.000	62910.000	41370.000	19310.000
53.	12:14:24: 4	9320.000	13650.000	26050.000	38790.000	43180.000	44600.000	28580.000	13200.000
54.	12:14:24:49	4960.000	6840.000	13320.000	19880.000	23400.000	23710.000	15630.000	6590.000

55. 12:14:25:46	2350.000	3870.000	7080.000	11630.000	12200.000	14620.000	9060.000	3800.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	12:13:30:29	0.0	38.435	76.871	25.624	25.624	153.742	0.0	102.494
2.	12:13:32: 8	-12.812	64.059	217.801	76.871	76.871	243.424	38.435	128.118
3.	12:13:33:32	-12.812	25.624	281.859	128.118	153.742	333.107	64.059	243.424
4.	12:13:34:23	-12.812	0.0	345.918	166.553	192.177	422.789	153.742	397.166
5.	12:13:35:11	-12.812	-12.812	358.730	166.553	217.801	486.848	269.048	525.284
6.	12:13:35:55	-12.812	-12.812	320.295	140.930	256.236	563.719	422.789	653.402
7.	12:13:36:47	-12.812	-12.812	256.236	102.494	294.671	640.590	576.531	768.708
8.	12:13:37:30	-12.812	-12.812	230.612	64.059	333.107	717.461	730.272	858.390
9.	12:13:38:10	-12.812	-12.812	217.801	51.247	384.354	807.143	832.767	896.826
10.	12:13:39: 4	-25.624	-64.059	243.424	76.871	448.413	935.261	948.073	960.885
11.	12:13:42:19	-25.624	-128.118	204.989	76.871	525.284	1089.003	1050.567	1012.132
12.	12:13:47:25	-38.435	-256.236	140.930	64.059	640.590	1345.239	1204.309	1089.003
13.	12:13:48:41	-38.435	-281.859	64.059	38.435	691.837	1434.921	1370.862	1178.685
14.	12:13:49:42	-64.059	-320.295	-12.812	51.247	743.084	1550.228	1498.980	1229.933
15.	12:13:50:42	-102.494	-371.542	-64.059	51.247	807.143	1691.157	1568.663	1255.556
16.	12:13:52: 0	-128.118	-409.978	-128.118	51.247	884.014	1806.463	1691.157	1281.180
17.	12:13:52:51	-179.365	-435.601	-192.177	76.871	960.885	1921.770	1780.840	1306.803
18.	12:13:53:42	-230.612	-461.225	-243.424	76.871	1050.567	2037.076	1844.899	1306.803
19.	12:13:54:30	-256.236	-486.848	-269.048	128.118	1089.003	2101.135	1870.522	1293.991
20.	12:13:55:49	-294.671	-499.660	-307.483	166.553	1101.814	2139.570	1870.522	1268.368
21.	12:13:56:47	-320.295	-499.660	-345.918	179.365	1114.626	2178.006	1819.275	1217.121
22.	12:13:57:48	-333.107	-486.848	-371.542	192.177	1127.438	2178.006	1793.652	1127.438
23.	12:13:59: 0	-358.730	-486.848	-397.166	192.177	1114.626	2203.629	1742.405	1024.944
24.	12:13:59:50	-397.166	-474.036	-435.601	192.177	1140.250	2229.253	1652.722	922.449
25.	12:14: 0:57	-435.601	-461.225	-448.413	217.801	1114.626	2203.629	1563.039	768.708
26.	12:14: 1:46	-422.789	-448.413	-461.225	243.424	1037.756	2165.194	1486.168	666.213
27.	12:14: 3:10	-448.413	-435.601	-397.166	333.107	1050.567	2165.194	1383.674	563.719
28.	12:14: 4:10	-461.225	-435.601	-345.918	435.601	1024.944	2178.006	1306.803	474.036
29.	12:14: 4:58	-474.036	-461.225	-333.107	461.225	1012.132	2165.194	1306.803	461.225
30.	12:14: 5:59	-474.036	-448.413	-371.542	422.789	999.320	2165.194	1370.862	538.095
31.	12:14: 6:43	-486.848	-448.413	-422.789	397.166	986.508	2165.194	1447.733	589.343
32.	12:14: 7:45	-512.472	-461.225	-461.225	371.542	986.508	2178.006	1524.604	666.213
33.	12:14: 8:48	-525.284	-474.036	-474.036	358.730	986.508	2190.817	1563.039	704.649
34.	12:14: 9:43	-550.907	-474.036	-486.848	333.107	986.508	2190.817	1563.039	717.461
35.	12:14:10:22	-563.719	-486.848	-486.848	333.107	986.508	2178.006	1575.851	717.461
36.	12:14:11: 5	-589.343	-499.660	-486.848	333.107	986.508	2190.817	1601.475	743.084
37.	12:14:11:51	-589.343	-486.848	-461.225	320.295	973.697	2178.006	1588.663	743.084
38.	12:14:12:51	-614.966	-486.848	-409.978	345.918	999.320	2178.006	1563.039	743.084
39.	12:14:13:35	-704.649	-525.284	-345.918	358.730	1101.814	2254.876	1537.416	717.461
40.	12:14:14:31	-794.331	-563.719	-333.107	358.730	1178.685	2331.747	1511.792	704.649
41.	12:14:15:18	-896.826	-576.531	-294.671	358.730	1293.991	2434.241	1486.168	704.649
42.	12:14:16: 9	-1024.944	-627.778	-269.048	358.730	1396.486	2536.736	1447.733	704.649
43.	12:14:16:58	-1165.874	-666.213	-243.424	345.918	1524.604	2652.042	1396.486	704.649
44.	12:14:17:44	-1511.792	-781.520	-128.118	499.660	1742.405	2844.219	1217.121	614.966
45.	12:14:18:25	-1729.593	-884.014	217.801	922.449	1903.958	2985.149	704.649	269.048
46.	12:14:19: 0	-1960.205	-973.697	653.402	1178.685	2088.323	3138.890	128.118	-76.871
47.	12:14:19:40	-2190.817	-1089.003	960.885	1255.556	2267.688	3267.008	-230.612	-217.801
48.	12:14:20:23	-2498.301	-1281.180	1165.874	1204.309	2472.677	3459.185	-384.354	-256.236
49.	12:14:21: 7	-2741.725	-1422.109	1217.121	1127.438	2639.230	3587.303	-422.789	-243.424
50.	12:14:21:59	-2882.655	-1537.416	1255.556	973.697	2716.101	3612.927	-384.354	-217.801
51.	12:14:22:37	-2908.278	-1588.663	1178.685	807.143	2677.666	3561.680	-269.048	-230.612
52.	12:14:23:15	-2767.348	-1530.228	1050.567	679.025	2549.548	3369.503	-179.365	-256.236
53.	12:14:24: 4	-2382.994	-1332.427	871.202	550.907	2229.253	2972.337	-115.306	-294.671
54.	12:14:24:49	-1768.028	-1050.567	653.402	409.978	1614.286	2190.817	-76.871	-294.671

55. 12:14:25:46	-1345.239	-871.202	602.154	358.7[illegible]	1204.309	1588.663	-76.871	-333.[illegible]7

AVERAGE LOAD

1.	2996.250
2.	6396.250
3.	12965.000
4.	19052.500
5.	25178.750
6.	31418.750
7.	37601.250
8.	43583.750
9.	49637.500
10.	55792.500
11.	61912.500
12.	68066.250
13.	74565.000
14.	80718.750
15.	86893.750
16.	92793.750
17.	99011.250
18.	105038.750
19.	110993.750
20.	117292.500
21.	123312.500
22.	129257.500
23.	135401.250
24.	141366.250
25.	147406.250
26.	152707.500
27.	157010.000
28.	160482.500
29.	163508.750
30.	166695.000
31.	169680.000
32.	171908.750
33.	172040.000
34.	172350.000
35.	172412.500
36.	170741.250
37.	169317.500
38.	166895.000
39.	163611.250
40.	159938.750
41.	156206.250
42.	152366.250
43.	148472.500
44.	138348.750
45.	126817.500
46.	114062.500
47.	102207.500
48.	89676.250
49.	76928.750
50.	64470.000
51.	51855.000
52.	39315.000
53.	27171.250
54.	14291.250
55.	8076.250

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 35

3.4.5 SPECIMEN #8

TEST NO. 36

COMPOSITE INTEGRAL LINER

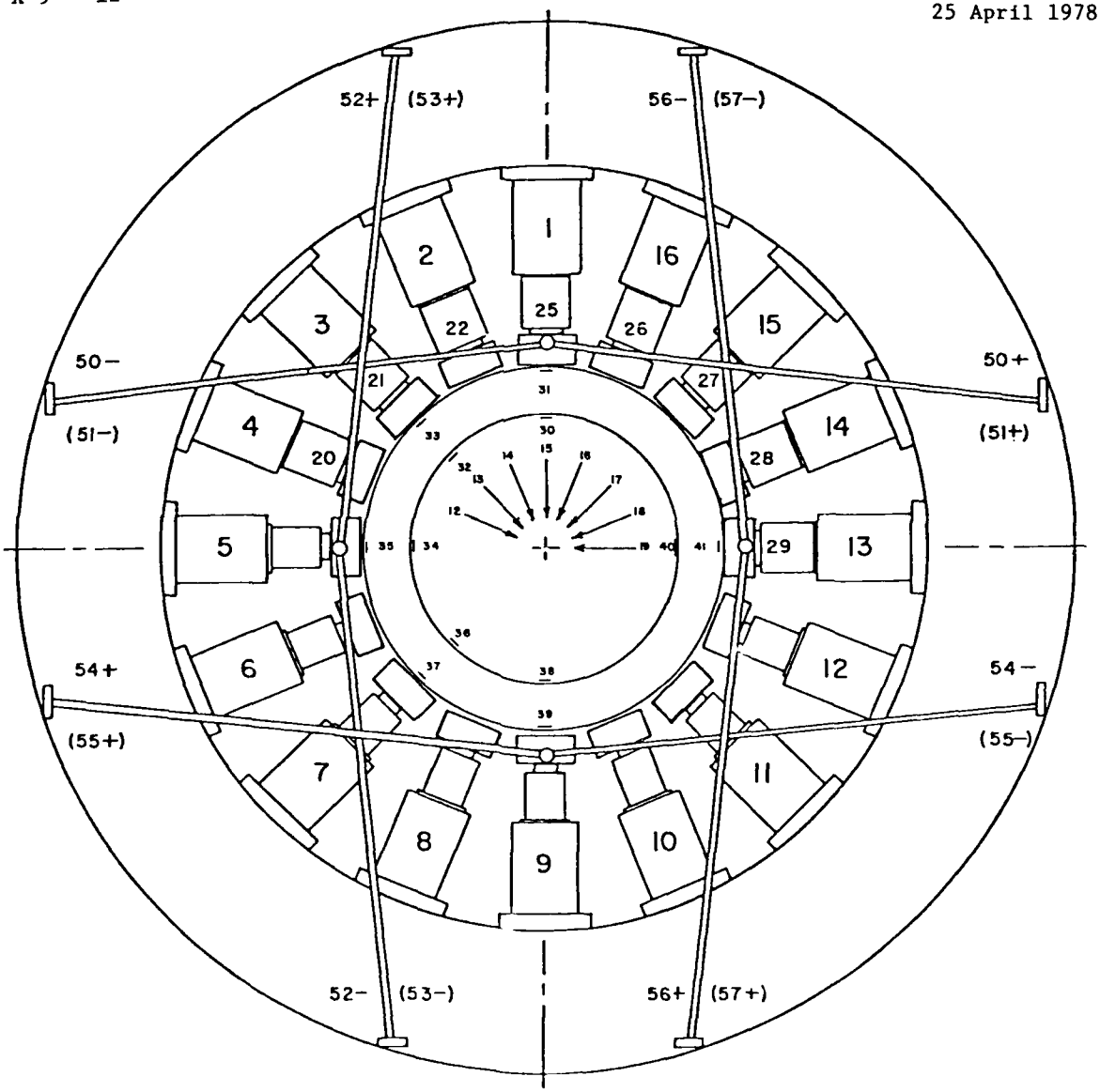
1:5 LOADING RATIO

TESTED 25 APRIL 1978

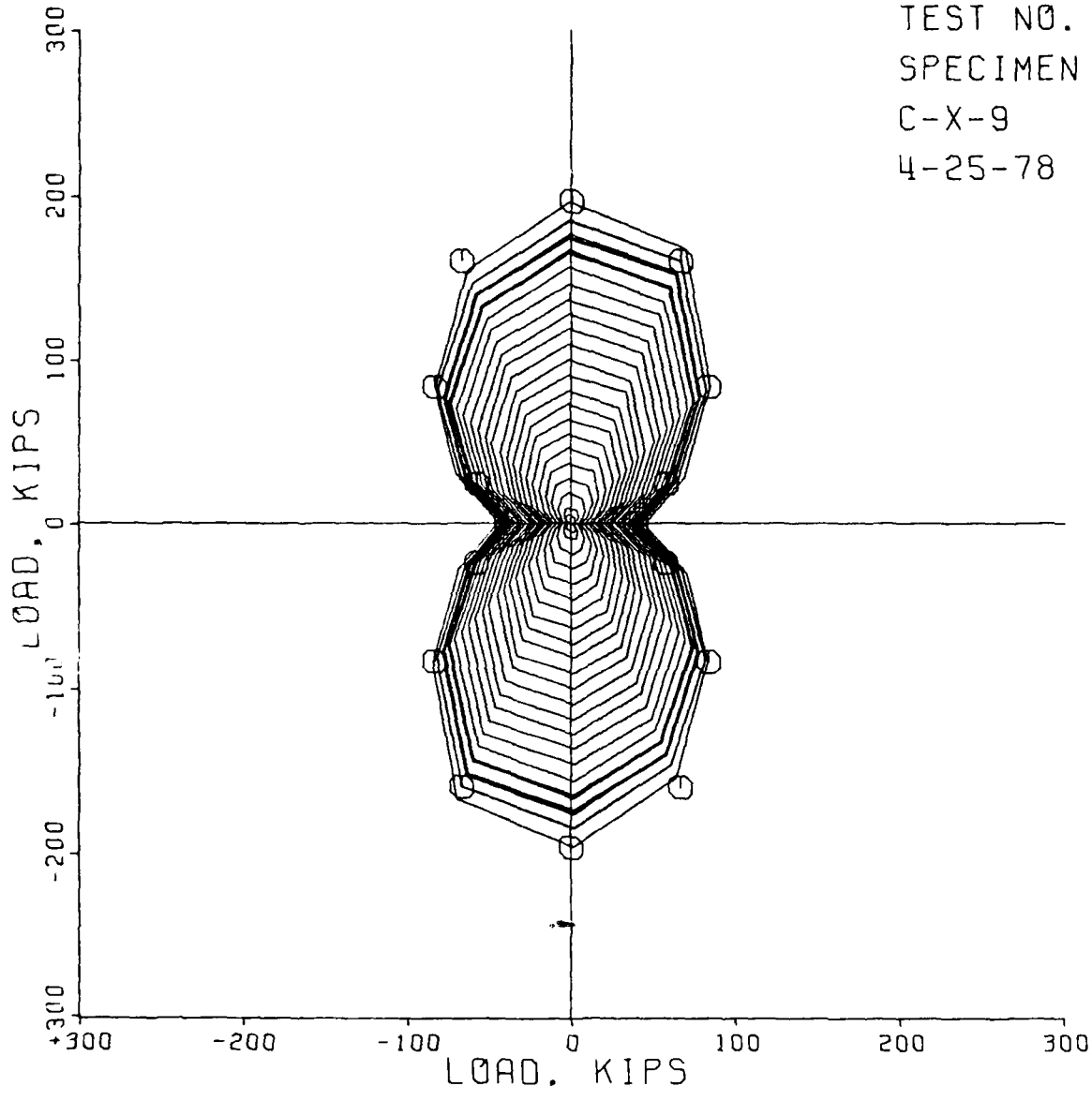
REACTION FRAME TEST SET-UP

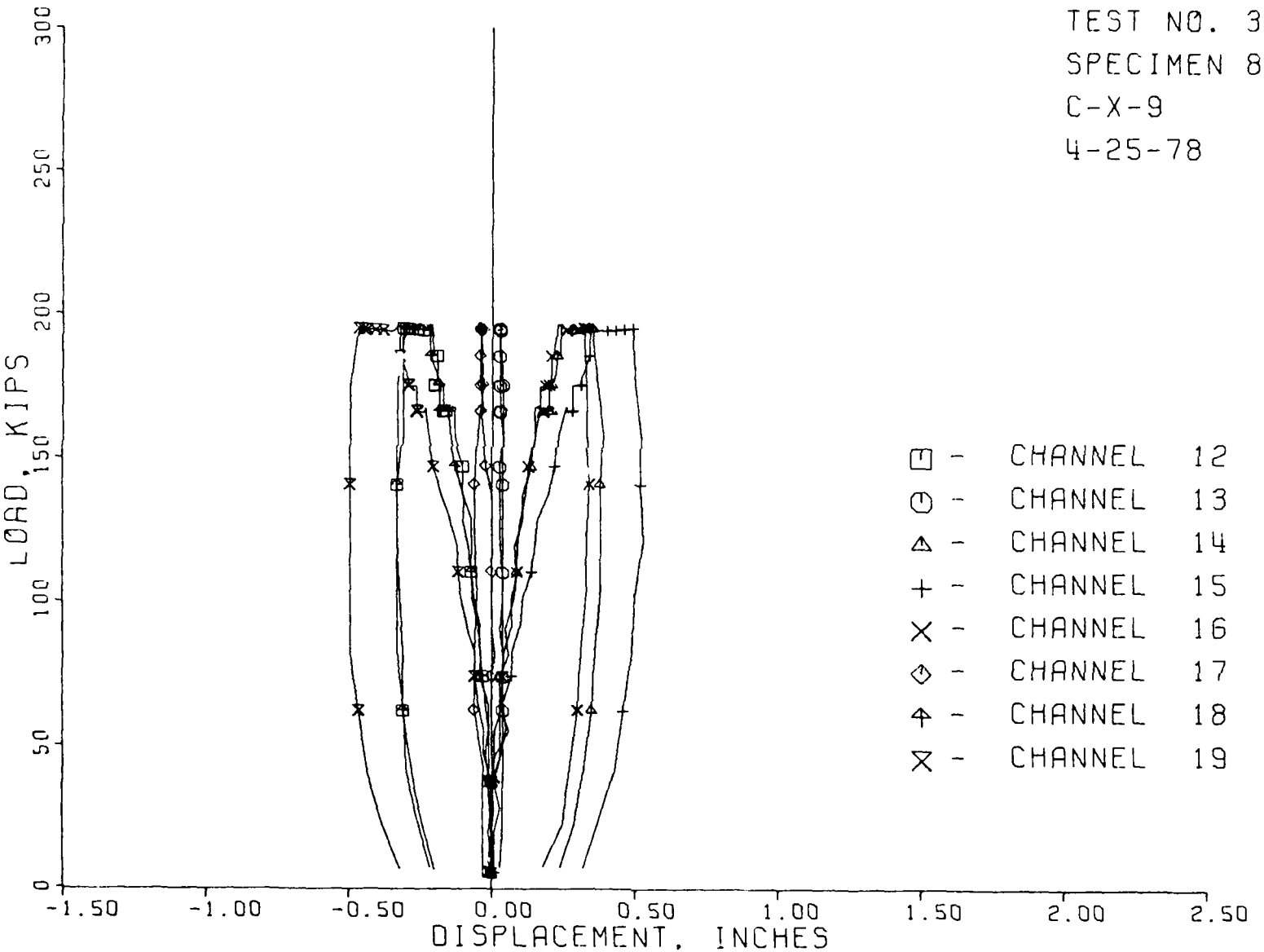
Specimen #8
C-X-9 12"

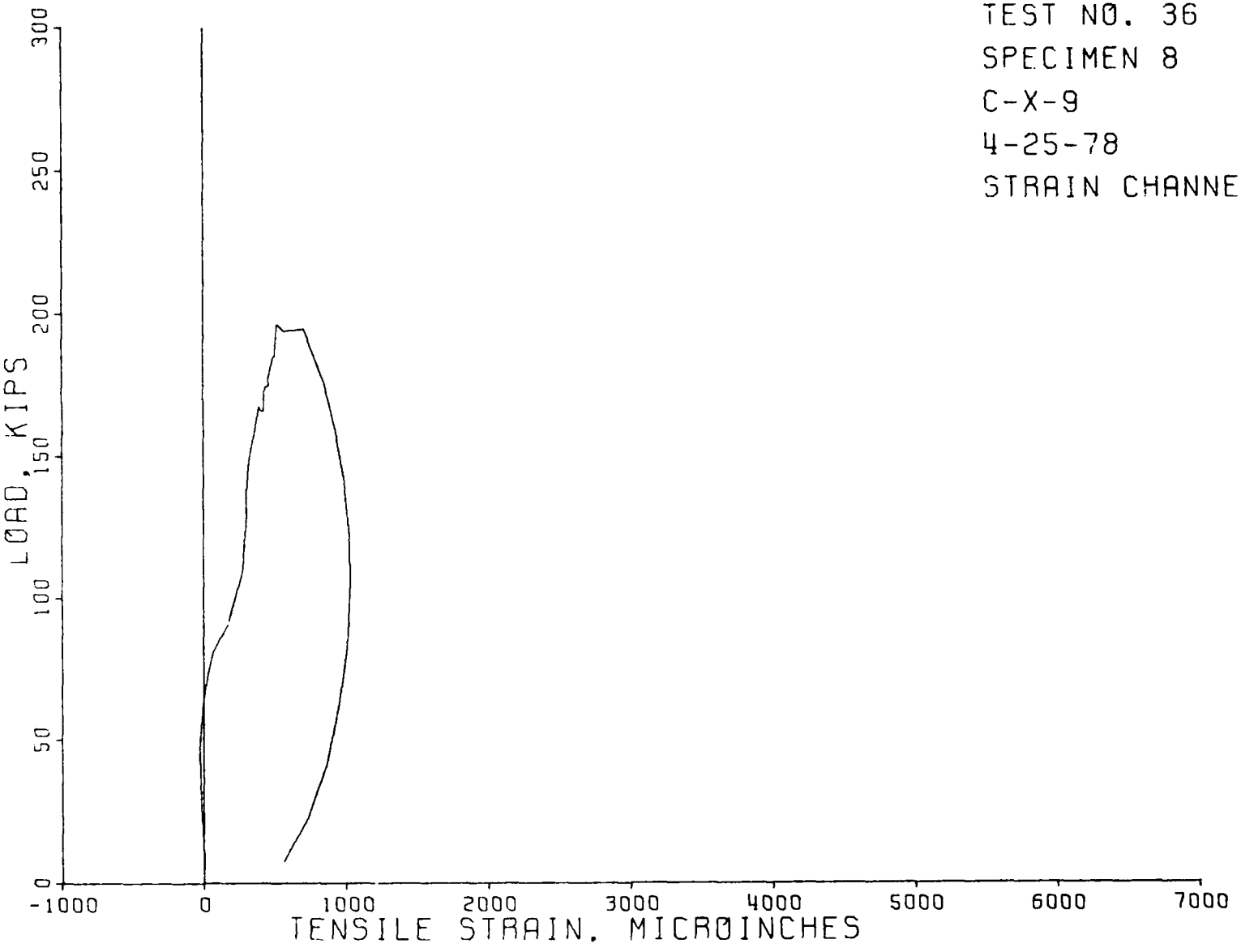
Test #36
1:5 Load
25 April 1978

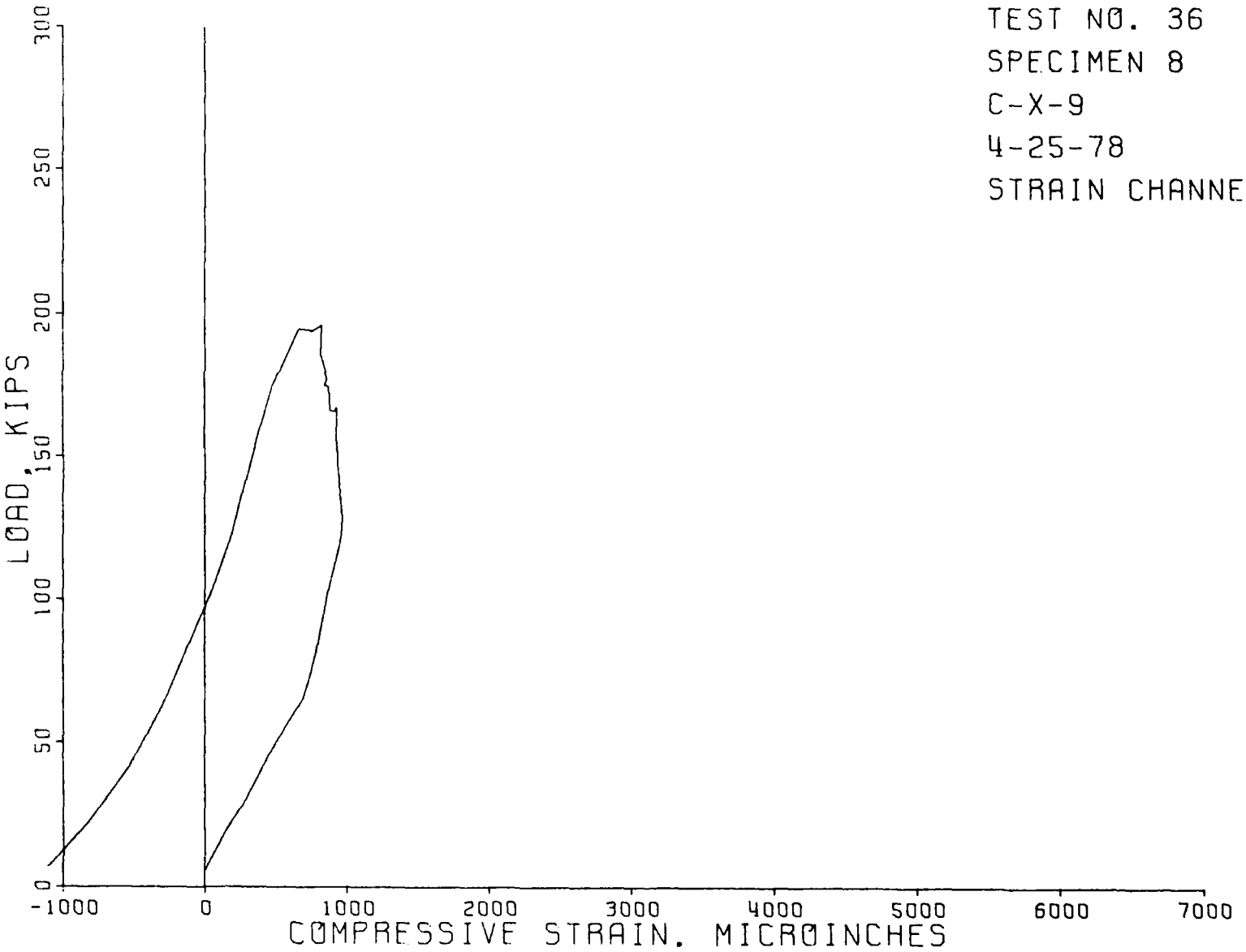


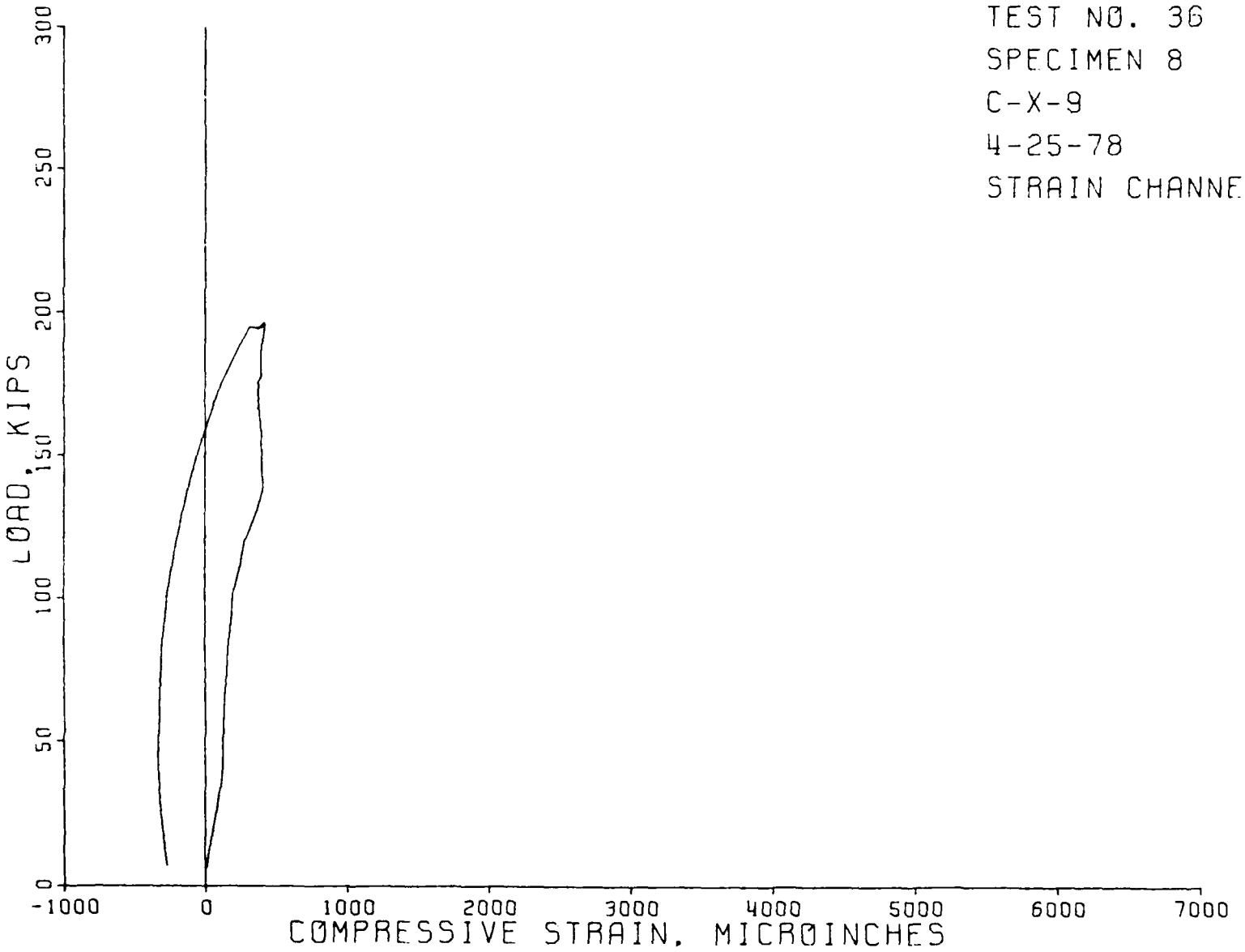
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 3" from top. Odd gages on Rebar .
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

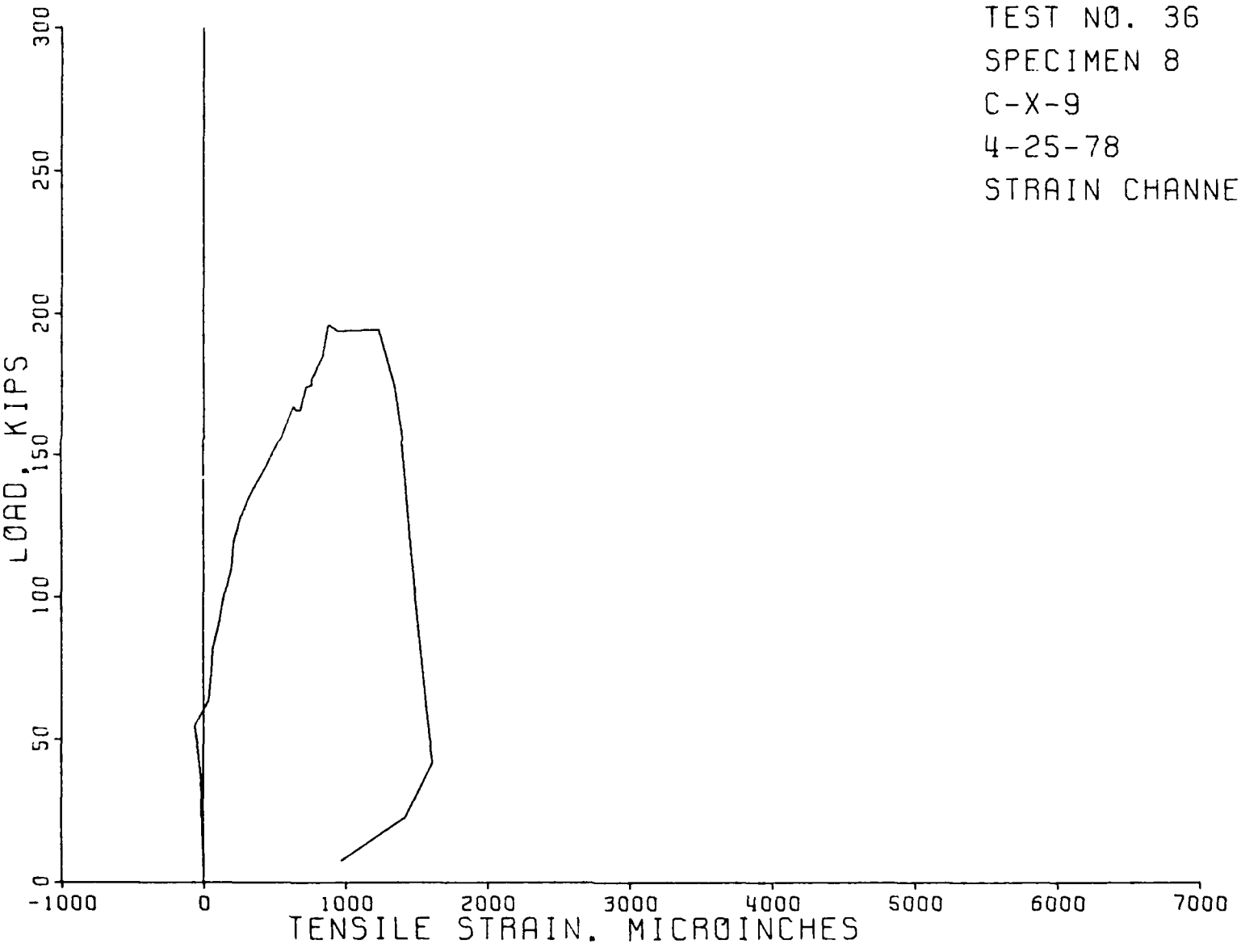

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
LOAD, KIPS
LOAD, KIPS
300
200
100
0
-200
-300
-300
-200
-100
0
100
200
300

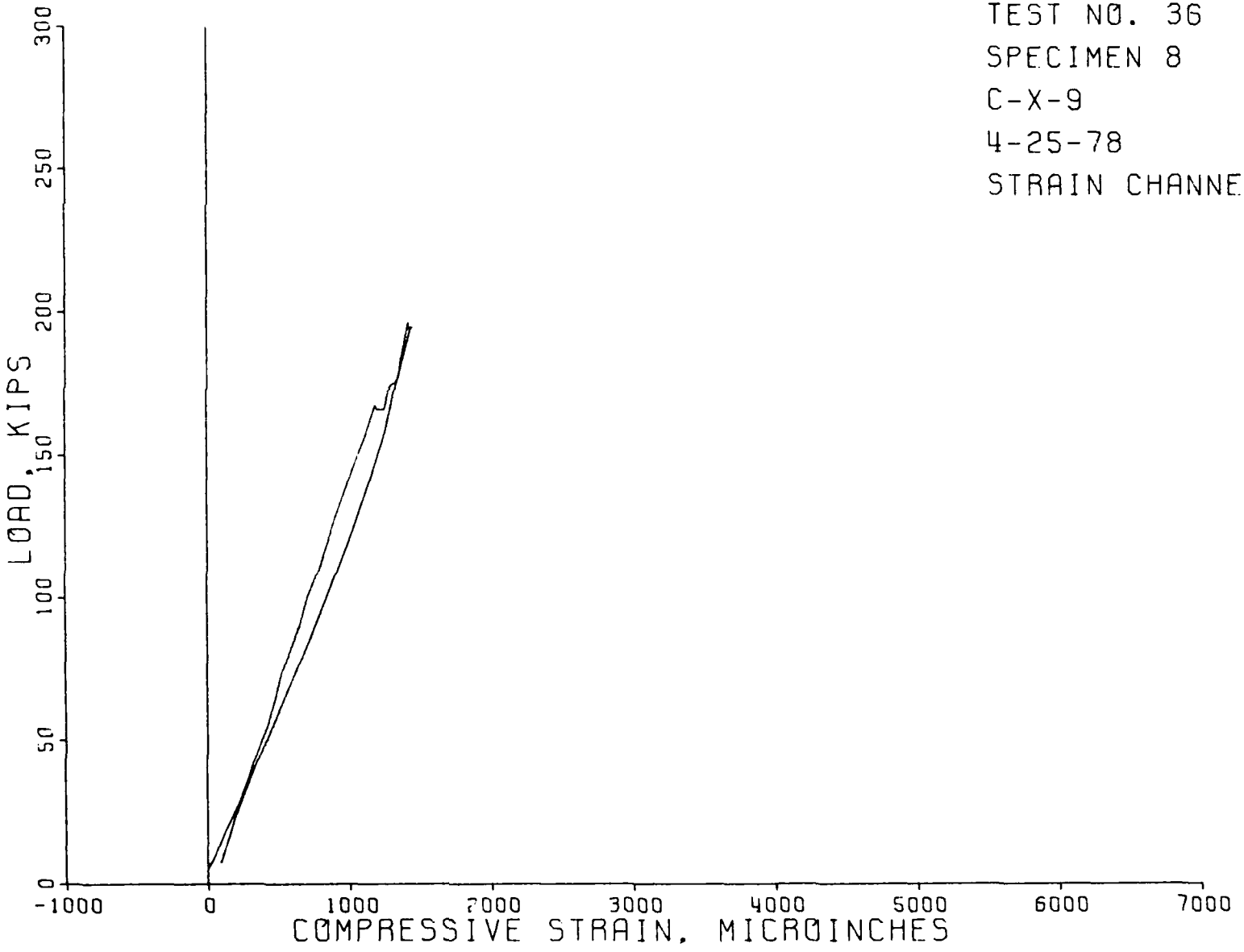

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
LOAD, KIPS
0
50
100
150
200
250
300
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
- CHANNEL 12
- CHANNEL 13
- CHANNEL 14
- CHANNEL 15
- CHANNEL 16
- CHANNEL 17
- CHANNEL 18
- CHANNEL 19

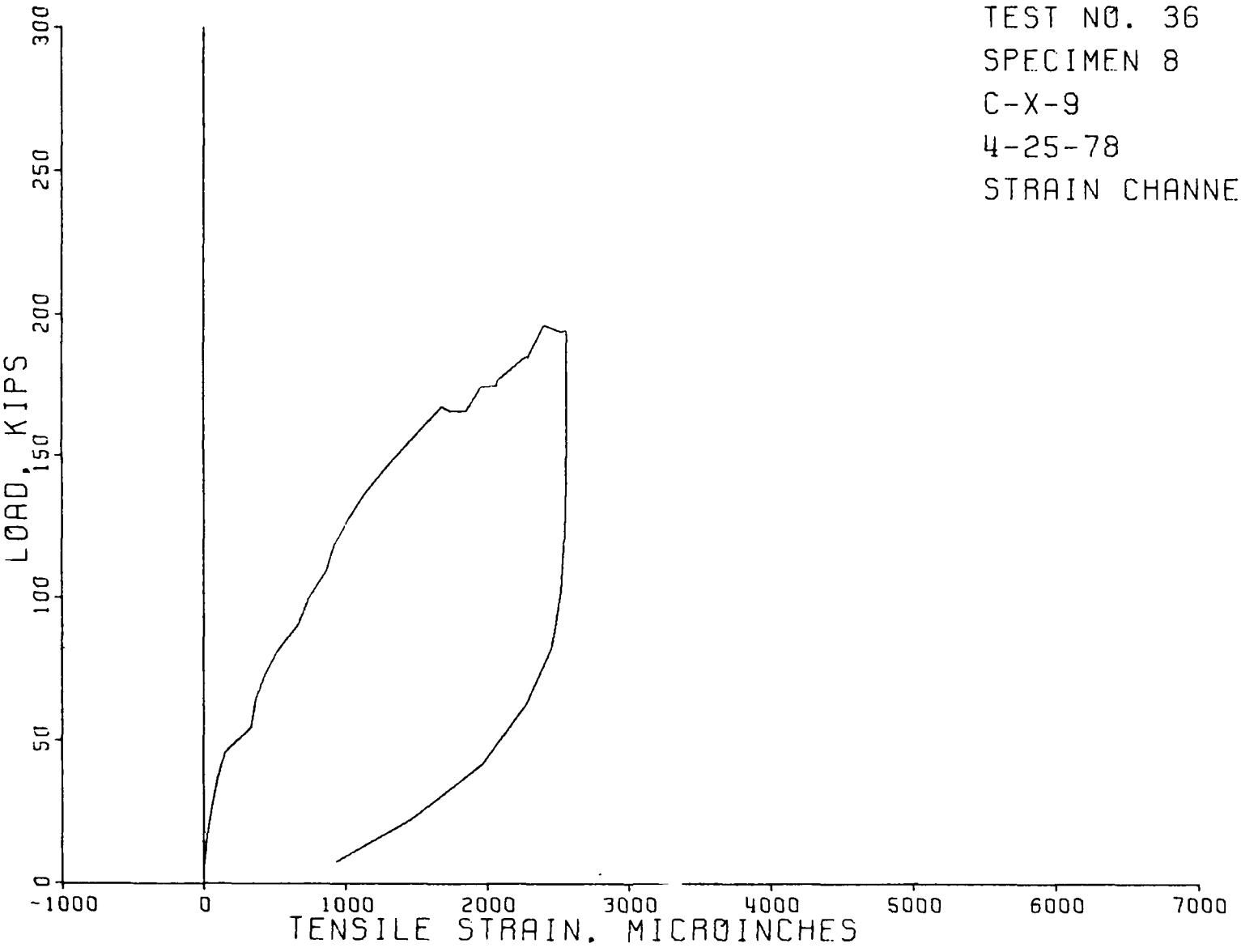

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

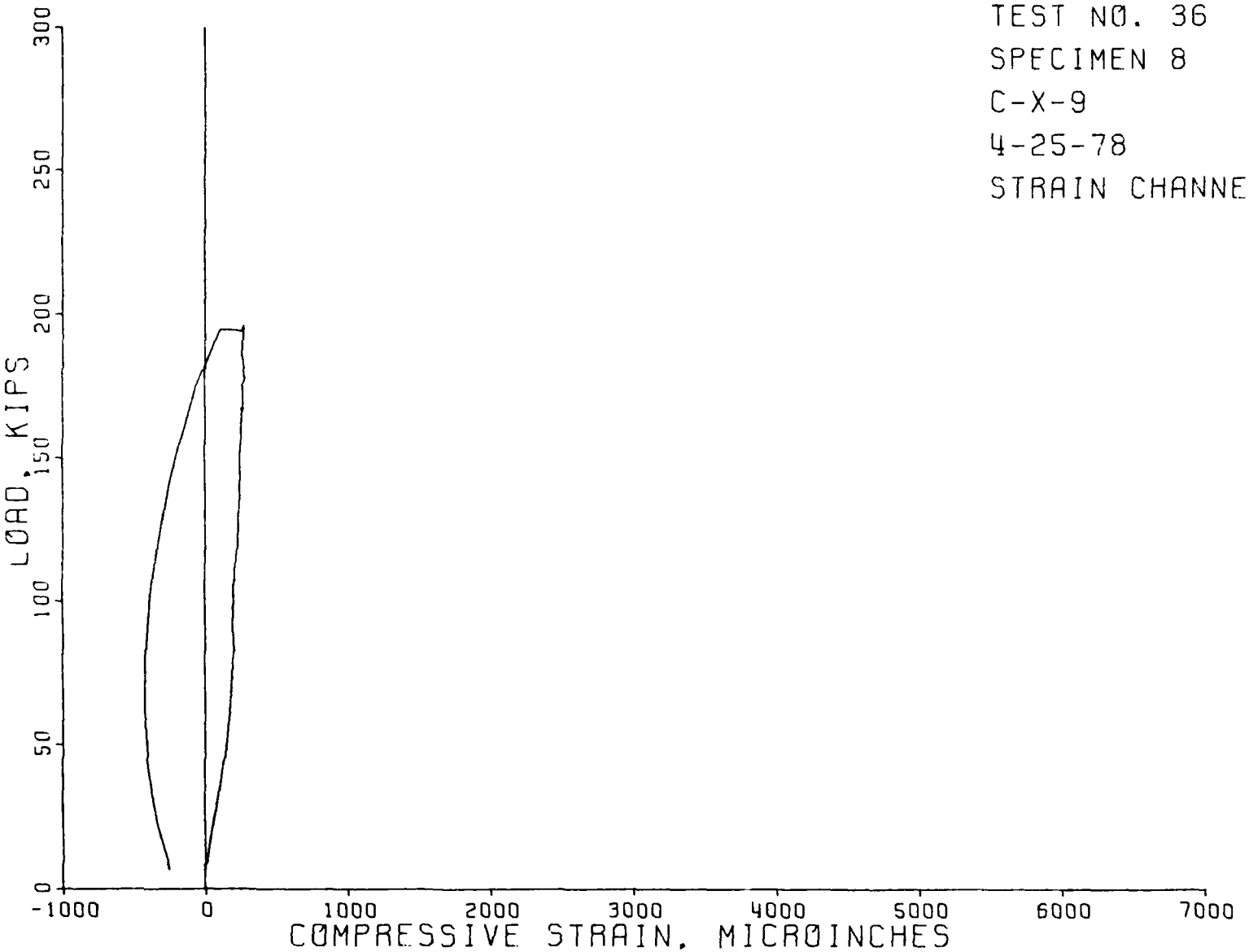

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

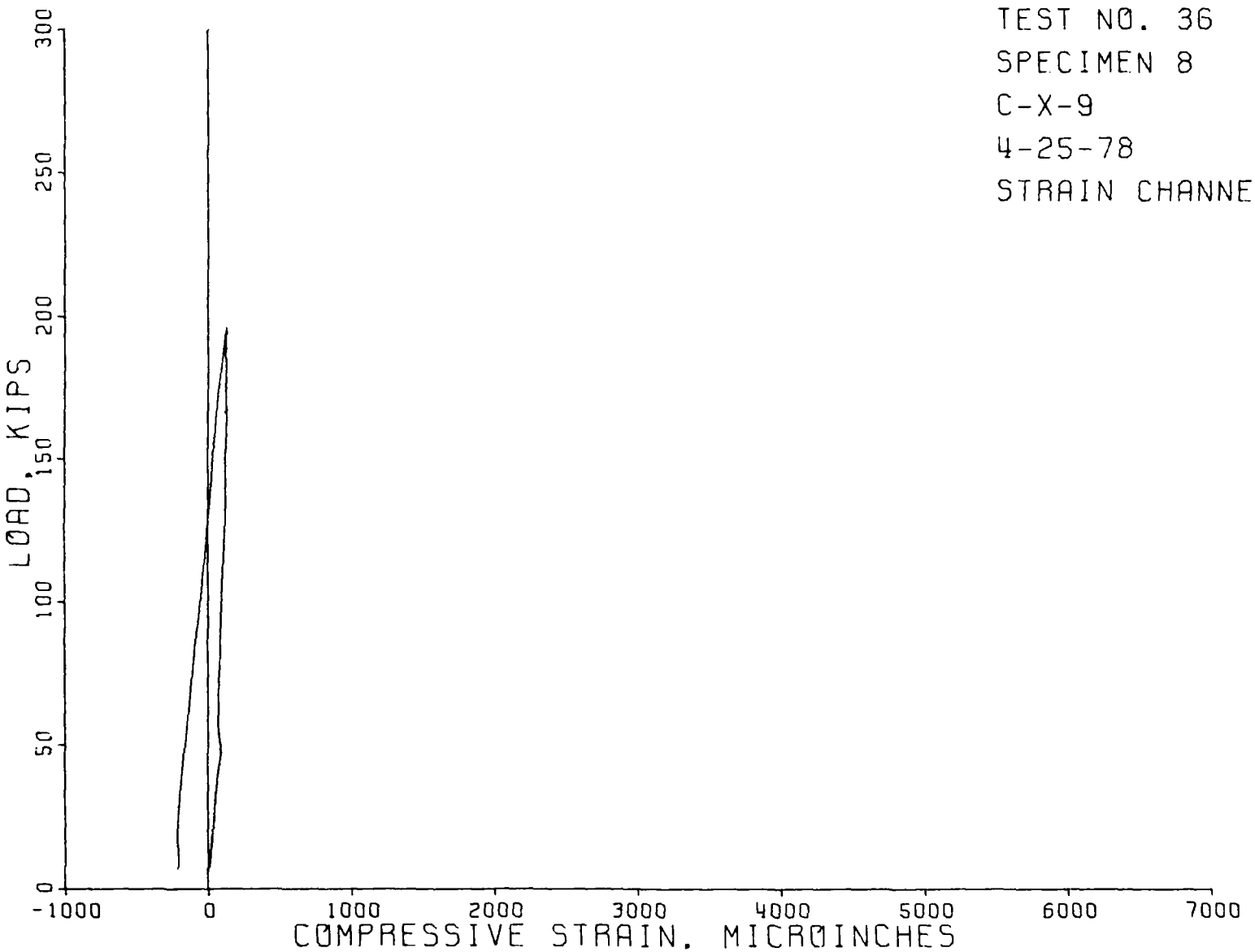

TEST NØ. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 32
LØAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

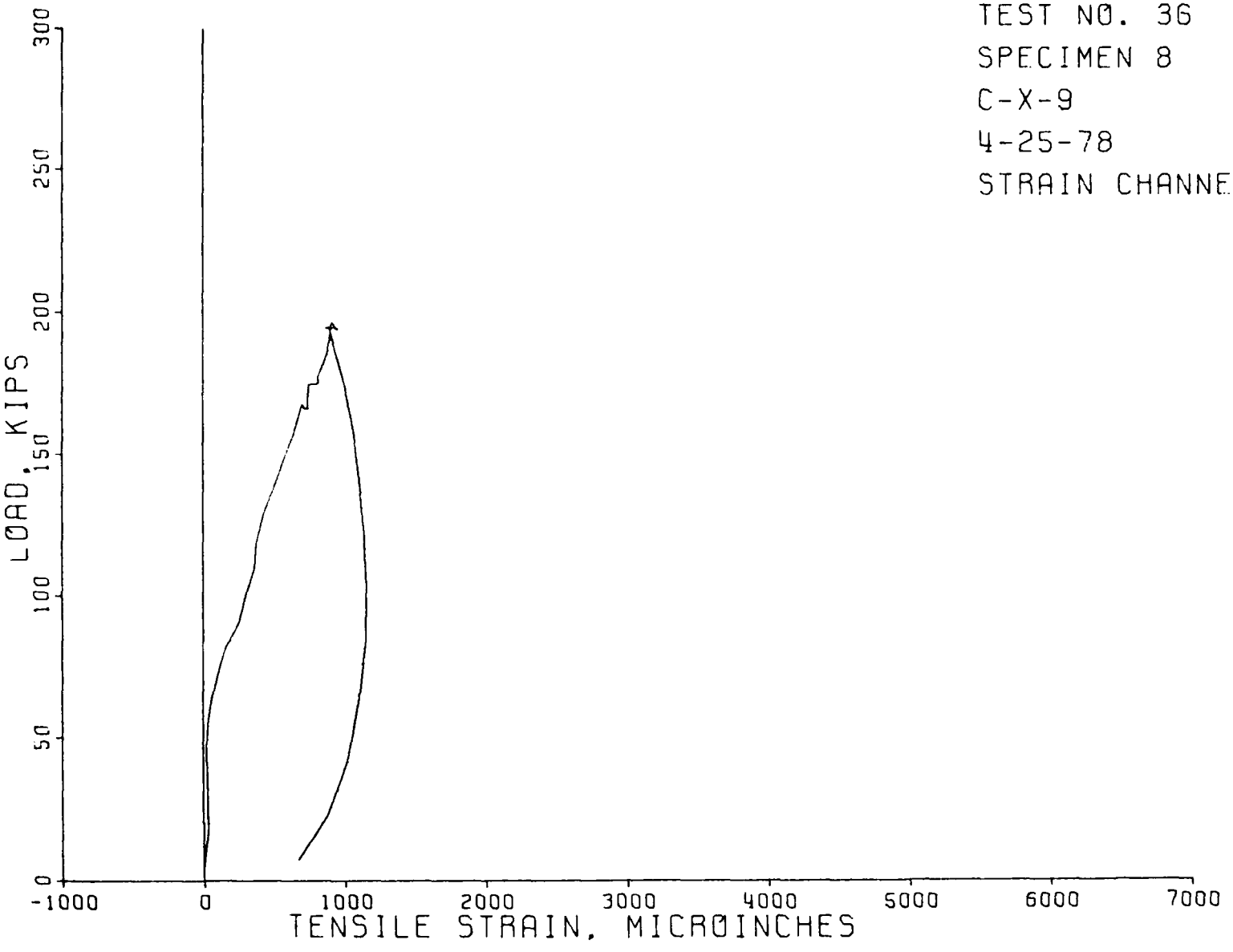

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

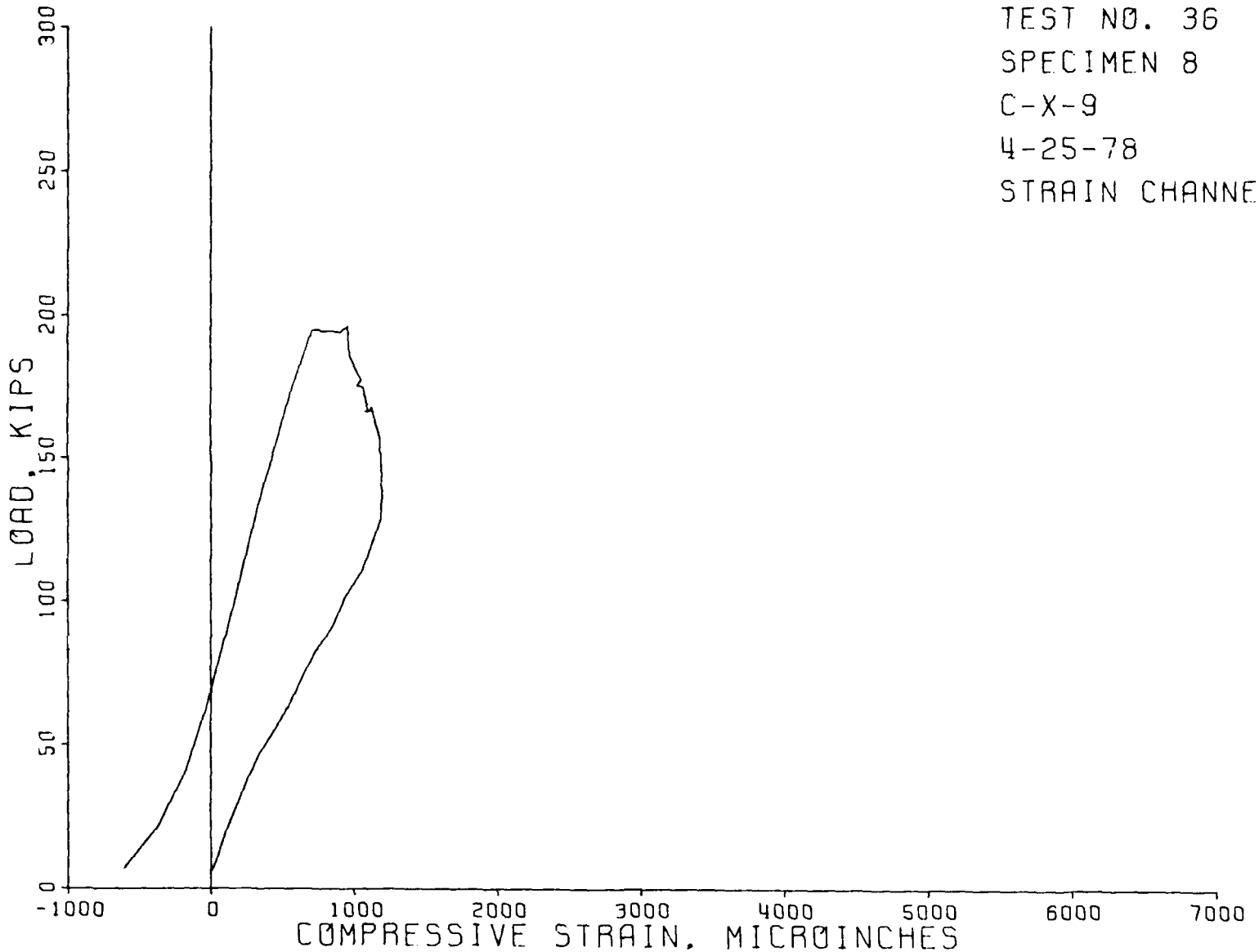

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

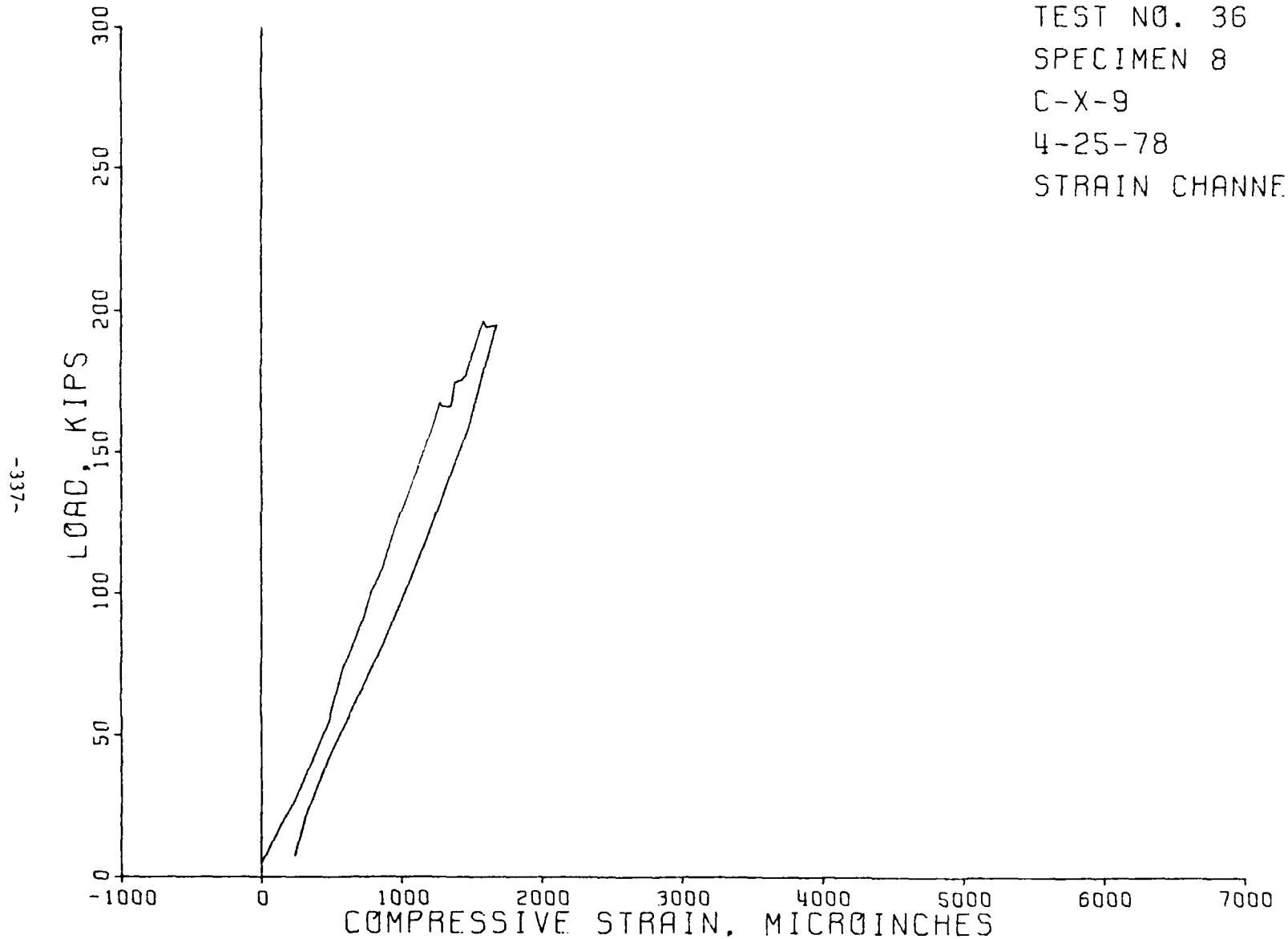

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

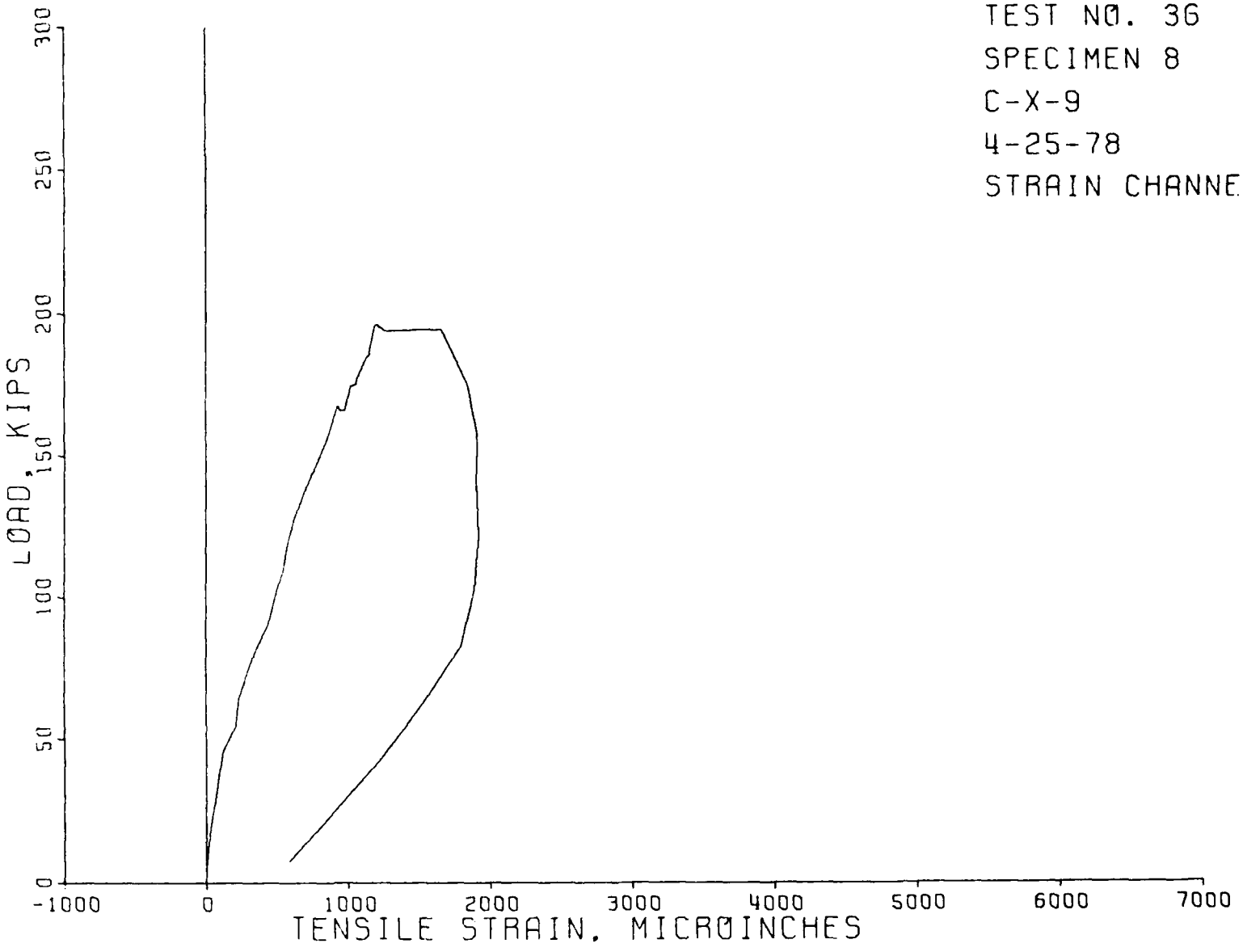

TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 36
SPECIMEN 8
C-X-9
4-25-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES

TEST NO. 36 SPECIMEN 8 C-X-9 4-25-78

NUMBER OF INCREMENTS= 72
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
25	0.0
26	0.0
27	0.0
28	0.0
29	0.0
30	0.0
31	0.0
32	0.0
33	0.0
34	0.0
35	0.0
36	0.0
37	0.0
38	0.0
39	0.0
40	0.0
41	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.001
19	0.001

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

STRAIN CHANNELS

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	25:14: 1: 0	1.000	-6.000	-1.000	0.0	-2.000	0.0	-1.000	-1.000
2.	25:14: 2: 9	1.000	-42.000	-16.000	-2.000	-45.000	11.000	-12.000	-10.000
3.	25:14: 3:25	-9.000	-145.000	-45.000	-8.000	-127.000	31.000	-40.000	-29.000
4.	25:14: 4:17	-19.000	-257.000	-79.000	-13.000	-210.000	61.000	-73.000	-47.000
5.	25:14: 5: 4	-25.000	-366.000	-109.000	-20.000	-292.000	102.000	-112.000	-61.000
6.	25:14: 5:46	-32.000	-462.000	-119.000	-39.000	-352.000	156.000	-141.000	-92.000
7.	25:14: 6:35	-21.000	-567.000	-119.000	-63.000	-419.000	337.000	-160.000	-69.000
8.	25:14: 7:17	1.000	-682.000	-129.000	34.000	-473.000	363.000	-175.000	-69.000
9.	25:14: 7:56	29.000	-742.000	-143.000	53.000	-527.000	433.000	-189.000	-76.000
10.	25:14: 8:38	70.000	-782.000	-157.000	63.000	-585.000	520.000	-198.000	-83.000
11.	25:14:11:57	169.000	-818.000	-173.000	108.000	-654.000	665.000	-191.000	-84.000
12.	25:14:14:11	223.000	-853.000	-192.000	144.000	-710.000	747.000	-198.000	-91.000
13.	25:14:21: 2	275.000	-900.000	-233.000	196.000	-787.000	865.000	-204.000	-102.000
14.	25:14:22:19	284.000	-949.000	-272.000	211.000	-843.000	925.000	-227.000	-112.000
15.	25:14:23:23	298.000	-967.000	-347.000	261.000	-900.000	1018.000	-232.000	-118.000
16.	25:14:24: 7	299.000	-948.000	-399.000	335.000	-963.000	1137.000	-239.000	-122.000
17.	25:14:24:46	314.000	-930.000	-394.000	443.000	-1037.000	1294.000	-245.000	-120.000
18.	25:14:25:28	351.000	-926.000	-390.000	543.000	-1114.000	1482.000	-250.000	-125.000
19.	25:14:26: 0	392.000	-925.000	-376.000	632.000	-1185.000	1677.000	-256.000	-129.000
20.	25:14:26:15	405.000	-909.000	-372.000	647.000	-1199.000	1730.000	-255.000	-125.000
21.	25:14:26:31	409.000	-901.000	-370.000	654.000	-1208.000	1758.000	-255.000	-124.000
22.	25:14:26:46	413.000	-898.000	-368.000	659.000	-1213.000	1775.000	-254.000	-121.000
23.	25:14:27: 2	417.000	-893.000	-367.000	664.000	-1218.000	1791.000	-254.000	-121.000
24.	25:14:27:18	418.000	-889.000	-366.000	666.000	-1222.000	1803.000	-253.000	-119.000
25.	25:14:27:33	419.000	-886.000	-367.000	668.000	-1225.000	1814.000	-255.000	-120.000
26.	25:14:27:49	419.000	-885.000	-370.000	669.000	-1228.000	1820.000	-254.000	-120.000
27.	25:14:28: 5	422.000	-881.000	-367.000	674.000	-1229.000	1828.000	-254.000	-119.000
28.	25:14:28:20	421.000	-880.000	-368.000	674.000	-1231.000	1835.000	-253.000	-118.000
29.	25:14:28:36	422.000	-879.000	-367.000	676.000	-1235.000	1843.000	-254.000	-118.000
30.	25:14:28:52	421.000	-878.000	-373.000	676.000	-1250.000	1850.000	-267.000	-123.000
31.	25:14:29: 7	437.000	-871.000	-372.000	722.000	-1283.000	1955.000	-263.000	-126.000
32.	25:14:29:23	446.000	-860.000	-364.000	735.000	-1290.000	1991.000	-260.000	-124.000
33.	25:14:29:39	448.000	-857.000	-364.000	739.000	-1296.000	2009.000	-260.000	-122.000
34.	25:14:29:54	452.000	-854.000	-363.000	745.000	-1301.000	2025.000	-260.000	-121.000
35.	25:14:30:10	455.000	-849.000	-361.000	749.000	-1305.000	2036.000	-259.000	-121.000
36.	25:14:30:26	456.000	-845.000	-361.000	751.000	-1308.000	2046.000	-259.000	-120.000
37.	25:14:30:42	458.000	-844.000	-364.000	755.000	-1311.000	2054.000	-259.000	-120.000
38.	25:14:30:57	461.000	-842.000	-363.000	758.000	-1312.000	2063.000	-259.000	-119.000
39.	25:14:31:13	460.000	-840.000	-365.000	757.000	-1316.000	2068.000	-258.000	-119.000
40.	25:14:31:29	454.000	-858.000	-388.000	756.000	-1338.000	2075.000	-280.000	-123.000
41.	25:14:32:14	496.000	-817.000	-390.000	828.000	-1367.000	2267.000	-258.000	-123.000
42.	25:14:32:30	503.000	-811.000	-388.000	837.000	-1371.000	2290.000	-256.000	-122.000
43.	25:14:32:45	514.000	-821.000	-413.000	873.000	-1413.000	2397.000	-269.000	-132.000
44.	25:14:33: 1	566.000	-742.000	-367.000	944.000	-1409.000	2522.000	-249.000	-127.000
45.	25:14:33:17	587.000	-756.000	-352.000	974.000	-1407.000	2528.000	-237.000	-125.000
46.	25:14:33:33	602.000	-744.000	-399.000	1008.000	-1406.000	2531.000	-207.000	-125.000
47.	25:14:33:48	616.000	-731.000	-330.000	1035.000	-1403.000	2534.000	-177.000	-125.000
48.	25:14:34: 4	628.000	-722.000	-325.000	1064.000	-1420.000	2536.000	-185.000	-124.000
49.	25:14:34:20	639.000	-708.000	-324.000	1096.000	-1429.000	2539.000	-186.000	-124.000
50.	25:14:34:35	648.000	-700.000	-323.000	1120.000	-1434.000	2543.000	-179.000	-124.000
51.	25:14:34:51	655.000	-694.000	-322.000	1137.000	-1437.000	2545.000	-172.000	-125.000
52.	25:14:35: 7	660.000	-693.000	-322.000	1150.000	-1439.000	2548.000	-166.000	-124.000
53.	25:14:35:22	665.000	-690.000	-322.000	1161.000	-1442.000	2550.000	-160.000	-124.000
54.	25:14:35:38	672.000	-684.000	-320.000	1174.000	-1442.000	2551.000	-154.000	-123.000

55.	25:14:35:54	677.000	-681.000	-717.000	1182.000	-1443.000	2554.000	-147.000	-123.000
56.	25:14:36:10	686.000	-676.000	-310.000	1196.000	-1442.000	2556.000	-136.000	-122.000
57.	25:14:36:25	690.000	-674.000	-311.000	1204.000	-1442.000	2557.000	-130.000	-123.000
58.	25:14:36:41	697.000	-670.000	-311.000	1209.000	-1440.000	2558.000	-123.000	-122.000
59.	25:14:36:57	697.000	-669.000	-311.000	1215.000	-1437.000	2559.000	-118.000	-123.000
60.	25:14:37:12	699.000	-665.000	-309.000	1224.000	-1436.000	2560.000	-112.000	-123.000
61.	25:14:37:28	703.000	-659.000	-309.000	1229.000	-1434.000	2561.000	-107.000	-123.000
62.	25:14:39: 4	854.000	-477.000	-108.000	1341.000	-1326.000	2560.000	67.000	-76.000
63.	25:14:39:55	930.000	-375.000	12.000	1389.000	-1250.000	2559.000	165.000	-46.000
64.	25:14:39:55	930.000	-375.000	12.000	1389.000	-1250.000	2559.000	165.000	-46.000
65.	25:14:40:46	988.000	-282.000	112.000	1419.000	-1142.000	2554.000	253.000	-20.000
66.	25:14:41:25	1027.000	-180.000	200.000	1449.000	-1006.000	2543.000	332.000	11.000
67.	25:14:42: 6	1028.000	-40.000	269.000	1483.000	-854.000	2518.000	384.000	50.000
68.	25:14:42:44	1011.000	134.000	309.000	1525.000	-694.000	2454.000	421.000	94.000
69.	25:14:43:23	949.000	312.000	329.000	1567.000	-522.000	2271.000	425.000	135.000
70.	25:14:44:15	867.000	536.000	341.000	1608.000	-341.000	1969.000	402.000	181.000
71.	25:14:45: 8	736.000	826.000	314.000	1420.000	-184.000	1470.000	334.000	217.000
72.	25:14:45:57	559.000	1105.000	276.000	966.000	-91.000	937.000	251.000	212.000

STRAIN CHANNELS

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	25:14: 1: 0	0.0	-3.000	-3.000	0.0	
2.	25:14: 2: 9	11.000	-36.000	-51.000	10.000	
3.	25:14: 3:25	28.000	-99.000	-143.000	30.000	
4.	25:14: 4:17	32.000	-171.000	-237.000	61.000	
5.	25:14: 5: 4	26.000	-249.000	-325.000	92.000	
6.	25:14: 5:46	21.000	-335.000	-407.000	119.000	
7.	25:14: 6:35	31.000	-449.000	-479.000	211.000	
8.	25:14: 7:17	61.000	-550.000	-531.000	232.000	
9.	25:14: 7:56	109.000	-642.000	-585.000	289.000	
10.	25:14: 8:38	162.000	-725.000	-652.000	348.000	
11.	25:14:11:57	255.000	-846.000	-727.000	438.000	
12.	25:14:14:11	305.000	-929.000	-785.000	490.000	
13.	25:14:21: 2	363.000	-1049.000	-868.000	546.000	
14.	25:14:22:19	381.000	-1113.000	-927.000	573.000	
15.	25:14:23:23	427.000	-1178.000	-988.000	624.000	
16.	25:14:24: 7	488.000	-1192.000	-1058.000	691.000	
17.	25:14:24:46	566.000	-1181.000	-1130.000	775.000	
18.	25:14:25:28	639.000	-1175.000	-1206.000	858.000	
19.	25:14:26: 0	706.000	-1117.000	-1274.000	930.000	
20.	25:14:26:15	722.000	-1100.000	-1286.000	946.000	
21.	25:14:26:31	725.000	-1093.000	-1294.000	954.000	
22.	25:14:26:46	731.000	-1088.000	-1300.000	960.000	
23.	25:14:27: 2	734.000	-1084.000	-1304.000	965.000	
24.	25:14:27:18	738.000	-1081.000	-1319.000	969.000	
25.	25:14:27:33	739.000	-1079.000	-1313.000	971.000	
26.	25:14:27:49	740.000	-1077.000	-1317.000	974.000	
27.	25:14:28: 5	744.000	-1073.000	-1318.000	976.000	
28.	25:14:28:20	745.000	-1071.000	-1321.000	978.000	
29.	25:14:28:36	748.000	-1071.000	-1324.000	980.000	
30.	25:14:28:52	739.000	-1095.000	-1348.000	981.000	
31.	25:14:29: 7	746.000	-1055.000	-1378.000	1019.000	
32.	25:14:29:23	795.000	-1039.000	-1386.000	1031.000	
33.	25:14:29:39	799.000	-1038.000	-1394.000	1038.000	
34.	25:14:29:54	803.000	-1031.000	-1400.000	1043.000	
35.	25:14:30:10	808.000	-1027.000	-1404.000	1049.000	
36.	25:14:30:26	810.000	-1024.000	-1409.000	1052.000	
37.	25:14:30:42	810.000	-1022.000	-1412.000	1055.000	
38.	25:14:30:57	813.000	-1018.000	-1415.000	1058.000	
39.	25:14:31:13	814.000	-1015.000	-1420.000	1060.000	
40.	25:14:31:29	808.000	-1046.000	-1460.000	1067.000	
41.	25:14:32:14	873.000	-972.000	-1504.000	1135.000	
42.	25:14:32:30	880.000	-963.000	-1512.000	1144.000	
43.	25:14:32:45	908.000	-951.000	-1581.000	1196.000	
44.	25:14:33: 1	944.000	-893.000	-1602.000	1267.000	
45.	25:14:33:17	950.000	-863.000	-1617.000	1306.000	
46.	25:14:33:33	955.000	-835.000	-1625.000	1342.000	
47.	25:14:33:48	943.000	-818.000	-1634.000	1377.000	
48.	25:14:34: 4	878.000	-783.000	-1635.000	1407.000	
49.	25:14:34:20	860.000	-767.000	-1642.000	1436.000	
50.	25:14:34:35	860.000	-755.000	-1649.000	1463.000	
51.	25:14:34:51	859.000	-748.000	-1654.000	1489.000	
52.	25:14:35: 7	860.000	-742.000	-1657.000	1508.000	
53.	25:14:35:22	861.000	-737.000	-1660.000	1527.000	
54.	25:14:35:38	864.000	-732.000	-1663.000	1545.000	
55.	25:14:35:54	869.	-728.000	-1665.000	1563.000	

56.	25:14:36:10	876.000	-722.000	-1667.000	1581.000
57.	25:14:36:25	878.000	-719.000	-1670.000	1596.000
58.	25:14:36:41	881.000	-714.000	-1670.000	1612.000
59.	25:14:36:57	882.000	-712.000	-1674.000	1626.000
60.	25:14:37:12	886.000	-708.000	-1676.000	1640.000
61.	25:14:37:28	888.000	-706.000	-1677.000	1653.000
62.	25:14:39: 4	998.000	-565.000	-1563.000	1841.000
63.	25:14:39:55	1067.000	-468.000	-1468.000	1905.000
64.	25:14:39:55	1067.000	-468.000	-1468.000	1905.000
65.	25:14:40:46	1103.000	-364.000	-1335.000	1902.000
66.	25:14:41:25	1141.000	-267.000	-1195.000	1917.000
67.	25:14:42: 6	1157.000	-175.000	-1040.000	1886.000
68.	25:14:42:44	1148.000	-69.000	-869.000	1791.000
69.	25:14:43:23	1094.000	42.000	-678.000	1525.000
70.	25:14:44:15	1014.000	176.000	-476.000	1211.000
71.	25:14:45: 8	872.000	364.000	-321.000	863.000
72.	25:14:45:57	670.000	616.000	-236.000	583.000

DISPLACEMENT CHANNELS

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	25:14: 1: 0	-0.010	-0.010	0.0	0.010	-0.010	0.0	0.001	0.001
2.	25:14: 2: 9	0.0	0.010	-0.010	0.010	0.010	0.0	0.001	0.001
3.	25:14: 3:25	-0.010	0.0	0.9	0.010	0.0	0.0	0.003	0.001
4.	25:14: 4:17	0.0	0.010	0.0	0.030	0.010	0.0	-0.004	0.002
5.	25:14: 5: 4	-0.010	0.0	0.0	0.010	0.0	0.010	-0.012	0.001
6.	25:14: 5:46	-0.020	0.010	0.030	0.030	0.010	0.0	-0.011	-0.028
7.	25:14: 6:35	-0.010	0.010	0.030	0.050	0.060	0.0	-0.011	-0.028
8.	25:14: 7:17	-0.020	0.040	0.030	0.040	0.030	0.0	-0.011	-0.045
9.	25:14: 7:56	-0.030	0.040	0.030	0.070	0.040	0.0	-0.040	-0.058
10.	25:14: 8:38	-0.040	0.040	0.060	0.070	0.040	0.010	-0.040	-0.058
11.	25:14:11:57	-0.040	0.030	0.050	0.100	0.070	0.0	-0.046	-0.086
12.	25:14:14:11	-0.060	0.040	0.080	0.110	0.070	0.0	-0.068	-0.104
13.	25:14:21: 2	-0.070	0.040	0.090	0.140	0.090	0.0	-0.069	-0.115
14.	25:14:22:19	-0.070	0.030	0.080	0.150	0.090	0.0	-0.082	-0.119
15.	25:14:23:23	-0.070	0.030	0.110	0.160	0.100	0.0	-0.099	-0.145
16.	25:14:24: 7	-0.100	0.030	0.110	0.200	0.120	0.0	-0.098	-0.174
17.	25:14:24:46	-0.100	0.030	0.140	0.220	0.130	-0.020	-0.127	-0.203
18.	25:14:25:28	-0.130	0.040	0.150	0.230	0.150	-0.030	-0.146	-0.220
19.	25:14:26: 0	-0.130	0.030	0.170	0.260	0.150	-0.040	-0.156	-0.233
20.	25:14:26:15	-0.170	0.030	0.170	0.250	0.180	-0.030	-0.156	-0.235
21.	25:14:26:31	-0.170	0.030	0.180	0.280	0.180	-0.040	-0.156	-0.262
22.	25:14:26:46	-0.170	0.030	0.180	0.270	0.180	-0.040	-0.156	-0.262
23.	24:14:27: 2	-0.170	0.030	0.180	0.280	0.180	-0.040	-0.164	-0.262
24.	25:14:27:18	-0.160	0.030	0.190	0.280	0.180	-0.040	-0.171	-0.262
25.	25:14:27:33	-0.170	0.030	0.200	0.280	0.180	-0.040	-0.182	-0.262
26.	25:14:27:49	-0.160	0.030	0.200	0.270	0.180	-0.040	-0.185	-0.262
27.	25:14:28: 5	-0.170	0.030	0.210	0.280	0.170	-0.030	-0.184	-0.262
28.	25:14:28:20	-0.170	0.030	0.200	0.270	0.180	-0.030	-0.185	-0.262
29.	25:14:28:36	-0.160	0.030	0.210	0.280	0.180	-0.040	-0.185	-0.262
30.	25:14:28:52	-0.170	0.030	0.200	0.280	0.170	-0.030	-0.185	-0.262
31.	25:14:29: 7	-0.170	0.030	0.200	0.280	0.170	-0.040	-0.185	-0.262
32.	25:14:29:23	-0.170	0.030	0.200	0.310	0.190	-0.030	-0.185	-0.291
33.	25:14:29:39	-0.200	0.030	0.200	0.310	0.190	-0.040	-0.185	-0.291
34.	25:14:29:54	-0.200	0.030	0.210	0.310	0.180	-0.040	-0.185	-0.291
35.	25:14:30:10	-0.190	0.030	0.210	0.310	0.200	-0.040	-0.185	-0.291
36.	25:14:30:26	-0.200	0.030	0.200	0.300	0.200	-0.040	-0.185	-0.291
37.	25:14:30:42	-0.200	0.040	0.210	0.310	0.200	-0.030	-0.185	-0.291
38.	25:14:30:57	-0.200	0.030	0.210	0.310	0.200	-0.040	-0.185	-0.291
39.	25:14:31:13	-0.200	0.030	0.210	0.310	0.210	-0.030	-0.185	-0.291
40.	25:14:31:29	-0.190	0.030	0.220	0.310	0.210	-0.040	-0.185	-0.291
41.	25:14:32:14	-0.190	0.030	0.230	0.340	0.210	-0.040	-0.214	-0.320
42.	25:14:32:30	-0.200	0.030	0.240	0.340	0.220	-0.030	-0.214	-0.321
43.	25:14:32:45	-0.210	0.030	0.240	0.340	0.230	-0.040	-0.214	-0.321
44.	25:14:33: 1	-0.230	0.030	0.260	0.370	0.260	-0.030	-0.243	-0.350
45.	25:14:33:17	-0.240	0.030	0.280	0.400	0.260	-0.040	-0.243	-0.379
46.	25:14:33:33	-0.260	0.030	0.290	0.400	0.260	-0.030	-0.243	-0.379
47.	25:14:33:48	-0.250	0.020	0.290	0.400	0.270	-0.040	-0.272	-0.408
48.	25:14:34: 4	-0.250	0.030	0.300	0.420	0.270	-0.030	-0.272	-0.408
49.	25:14:34:20	-0.260	0.030	0.320	0.430	0.260	-0.030	-0.272	-0.408
50.	25:14:34:35	-0.280	0.030	0.320	0.430	0.270	-0.030	-0.272	-0.408
51.	25:14:34:51	-0.280	0.020	0.320	0.430	0.300	-0.040	-0.272	-0.437
52.	25:14:35: 7	-0.290	0.040	0.320	0.460	0.300	-0.030	-0.284	-0.437
53.	25:14:35:22	-0.290	0.030	0.330	0.460	0.300	-0.040	-0.301	-0.437
54.	25:14:35:38	-0.290	0.030	0.330	0.460	0.290	-0.040	-0.301	-0.437

55.	25:14:35:54.	-0.280	0.030	0.350	0.460	0.300	-0.030	-0.301	-0.437
56.	25:14:36:10	-0.290	0.030	0.350	0.460	0.300	-0.040	-0.301	-0.437
57.	25:14:36:25	-0.300	0.030	0.350	0.460	0.300	-0.040	-0.301	-0.449
58.	25:14:36:41	-0.290	0.030	0.350	0.460	0.330	-0.030	-0.301	-0.466
59.	25:14:36:57	-0.290	0.030	0.350	0.480	0.320	-0.030	-0.301	-0.466
60.	25:14:37:12	-0.310	0.040	0.350	0.480	0.320	-0.040	-0.301	-0.466
61.	25:14:37:28	-0.310	0.030	0.350	0.490	0.320	-0.040	-0.301	-0.466
62.	25:14:39: 4	-0.310	0.040	0.370	0.500	0.330	-0.030	-0.330	-0.496
63.	25:14:39:55	-0.310	0.040	0.390	0.520	0.330	-0.050	-0.330	-0.496
64.	25:14:39:55	-0.310	0.040	0.390	0.520	0.330	-0.050	-0.330	-0.496
65.	25:14:40:46	-0.330	0.040	0.380	0.520	0.340	-0.060	-0.330	-0.496
66.	25:14:41:25	-0.330	0.040	0.380	0.530	0.330	-0.060	-0.330	-0.496
67.	25:14:42: 6	-0.320	0.040	0.380	0.500	0.330	-0.050	-0.330	-0.496
68.	25:14:42:44	-0.310	0.040	0.360	0.490	0.310	-0.060	-0.330	-0.496
69.	25:14:43:23	-0.310	0.040	0.350	0.460	0.300	-0.060	-0.308	-0.466
70.	25:14:44:15	-0.280	0.040	0.320	0.430	0.270	-0.030	-0.301	-0.437
71.	25:14:45: 8	-0.240	0.040	0.290	0.370	0.250	-0.030	-0.254	-0.379
72.	25:14:45:57	-0.200	0.030	0.240	0.320	0.180	-0.030	-0.214	-0.320

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	25:14: 1: 0	1440.000	2250.000	4160.000	4840.000	5510.000	4780.000	3950.000	1920.000
2.	25:14: 2: 9	2250.000	3760.000	6430.000	9790.000	9490.000	9080.000	5950.000	3510.000
3.	25:14: 3:25	4290.000	7020.000	12300.000	17500.000	19030.000	16230.000	11520.000	6500.000
4.	25:14: 4:17	6080.000	10310.000	18110.000	26200.000	27320.000	24410.000	17140.000	9680.000
5.	25:14: 5: 4	8420.000	14060.000	23270.000	35160.000	37130.000	32790.000	21950.000	13640.000
6.	25:14: 5:46	10970.000	18170.000	29930.000	43040.000	46320.000	40150.000	27770.000	18020.000
7.	25:14: 6:35	12670.000	21730.000	36180.000	52080.000	54910.000	48490.000	33340.000	22050.000
8.	25:14: 7:17	14990.000	25230.000	41450.000	60910.000	63960.000	56660.000	38920.000	26020.000
9.	25:14: 7:56	17220.000	28480.000	47030.000	68670.000	73400.000	63780.000	44210.000	29610.000
10.	25:14: 8:38	18640.000	31750.000	52950.000	77040.000	81420.000	71440.000	49990.000	33110.000
11.	25:14:11:57	20790.000	35360.000	57900.000	87000.000	91100.000	80280.000	55150.000	36910.000
12.	25:14:14:11	23170.000	38470.000	63360.000	94710.000	100660.000	87270.000	60810.000	40160.000
13.	25:14:21: 2	24580.000	42360.000	71350.000	104130.000	110050.000	95660.000	68310.000	44280.000
14.	25:14:22:19	27550.000	46100.000	76350.000	113180.000	119310.000	104150.000	73410.000	48250.000
15.	25:14:23:23	29570.000	49160.000	82680.000	121000.000	128290.000	111080.000	80070.000	51720.000
16.	25:14:24: 7	31470.000	52440.000	88550.000	130270.000	136920.000	119440.000	86430.000	55050.000
17.	25:14:24:46	33850.000	55560.000	94010.000	139170.000	146640.000	127460.000	92370.000	58580.000
18.	25:14:25:28	35580.000	59060.000	100070.000	147440.000	156870.000	134920.000	98470.000	61950.000
19.	25:14:26: 0	37480.000	61750.000	105260.000	155920.000	167590.000	142310.000	103280.000	65350.000
20.	25:14:26:15	37310.000	62290.000	105420.000	156450.000	165680.000	142940.000	104300.000	65360.000
21.	25:14:26:31	37190.000	62610.000	105420.000	156600.000	165770.000	142960.000	104460.000	65670.000
22.	25:14:26:46	37460.000	62450.000	105430.000	156620.000	165740.000	142870.000	104560.000	65660.000
23.	24:14:27: 2	37460.000	62470.000	105360.000	156490.000	165840.000	142640.000	104550.000	65670.000
24.	25:14:27:18	37280.000	62740.000	105360.000	156580.000	165870.000	142690.000	104620.000	65870.000
25.	25:14:27:33	37320.000	62820.000	105420.000	156680.000	165920.000	142760.000	104640.000	65950.000
26.	25:14:27:49	37280.000	63050.000	105400.000	156740.000	165950.000	142780.000	104620.000	66210.000
27.	25:14:28: 5	37710.000	62580.000	105290.000	156580.000	165940.000	142530.000	104660.000	65720.000
28.	25:14:28:20	37570.000	62910.000	105280.000	156660.000	166010.000	142600.000	104650.000	65980.000
29.	25:14:28:36	37620.000	62780.000	105370.000	156670.000	165960.000	142580.000	104720.000	65960.000
30.	25:14:28:52	37360.000	63180.000	105420.000	156850.000	166040.000	142660.000	104760.000	66200.000
31.	25:14:29: 7	39920.000	66160.000	109520.000	165380.000	174470.000	150990.000	108290.000	69840.000
32.	25:14:29:23	40070.000	65760.000	110100.000	165310.000	174530.000	150830.000	109180.000	69180.000
33.	25:14:29:39	39780.000	66300.000	110300.000	165620.000	174750.000	151010.000	109340.000	69560.000
34.	25:14:29:54	39850.000	66310.000	110430.000	165640.000	174880.000	150920.000	109590.000	69330.000
35.	25:14:30:10	39810.000	66420.000	110460.000	165720.000	174940.000	150890.000	109660.000	69480.000
36.	25:14:30:26	39970.000	66240.000	110530.000	165630.000	174910.000	150770.000	109720.000	69510.000
37.	25:14:30:42	39950.000	66350.000	110570.000	165940.000	174910.000	150710.000	109840.000	69430.000
38.	25:14:30:57	40170.000	66160.000	110600.000	165660.000	174860.000	150730.000	109360.000	69470.000
39.	25:14:31:13	39960.000	66620.000	110470.000	165720.000	175030.000	150730.000	109780.000	69720.000
40.	25:14:31:29	41550.000	67420.000	111310.000	166880.000	176930.000	150450.000	109920.000	69660.000
41.	25:14:32:14	42180.000	70060.000	116070.000	173750.000	185080.000	158270.000	115160.000	73210.000
42.	25:14:32:30	42460.000	69940.000	116010.000	173720.000	185300.000	158150.000	115310.000	72910.000
43.	25:14:32:45	44260.000	74120.000	119380.000	182010.000	196330.000	166510.000	117530.000	76530.000
44.	25:14:33: 1	44190.000	72970.000	122340.000	182970.000	193800.000	166930.000	121670.000	75400.000
45.	25:14:33:17	44130.000	73290.000	122160.000	183060.000	194010.000	166820.000	121990.000	75770.000
46.	25:14:33:33	44250.000	73240.000	121990.000	183070.000	194160.000	166710.000	122110.000	75610.000
47.	25:14:33:48	43820.000	73560.000	121990.000	183290.000	194300.000	166860.000	122300.000	75790.000
48.	25:14:34: 4	44420.000	73310.000	121960.000	183290.000	194210.000	166700.000	122620.000	75530.000
49.	25:14:34:20	44410.000	73370.000	121820.000	183220.000	194340.000	166560.000	122880.000	75610.000
50.	25:14:34:35	44490.000	43360.000	121760.000	183450.000	194380.000	166800.000	122870.000	75420.000
51.	25:14:34:51	44020.000	73770.000	121670.000	183520.000	194460.000	166790.000	122980.000	75660.000
52.	25:14:35: 7	44430.000	73620.000	121750.000	183630.000	194460.000	166830.000	123100.000	75490.000
53.	25:14:35:22	44080.000	73920.000	121720.000	183560.000	194430.000	166690.000	123150.000	75800.000
54.	25:14:35:38	44440.000	73640.000	121460.000	183500.000	194500.000	166610.000	123110.000	75030.000

55.	25:14:35:54	44260.000	73820.000	121540.000	183650.000	194530.000	166780.000	123250.000	75120.000
56.	25:14:36:10	44320.000	73450.000	121570.000	183490.000	194420.000	166600.000	123370.000	75180.000
57.	25:14:36:25	43810.000	73900.000	121610.000	183610.000	194460.000	166630.000	123300.000	75610.000
58.	25:14:36:41	44100.000	73730.000	121410.000	183520.000	194530.000	166490.000	123290.000	75230.000
59.	25:14:36:57	43990.000	74030.000	121450.000	183660.000	194590.000	166650.000	123310.000	75390.000
60.	25:14:37:12	43820.000	74280.000	121440.000	183760.000	194630.000	166770.000	123440.000	75350.000
61.	25:14:37:28	44130.000	74100.000	121360.000	183700.000	194650.000	166730.000	123420.000	75260.000
62.	25:14:39: 4	37230.000	62810.000	104030.000	160510.000	174740.000	147910.000	109420.000	64330.000
63.	25:14:39:55	33230.000	55920.000	92570.000	144090.000	157820.000	139160.000	97010.000	55760.000
64.	25:14:39:55	33230.000	55920.000	92570.000	144090.000	157820.000	139160.000	97010.000	55760.000
65.	25:14:40:46	29550.000	48320.000	81170.000	126410.000	140530.000	127580.000	84610.000	45960.000
66.	25:14:41:25	23470.000	40000.000	69910.000	108950.000	121150.000	111850.000	72860.000	37030.000
67.	25:14:42: 6	19310.000	32410.000	57930.000	92190.000	101940.000	95070.000	60730.000	30530.000
68.	25:14:42:44	15370.000	24640.000	45790.000	73810.000	81940.000	76010.000	48070.000	23180.000
69.	25:14:43:23	11270.000	18310.000	34740.000	55950.000	61830.000	57950.000	36050.000	17260.000
70.	25:14:44:15	7490.000	11910.000	23110.000	38380.000	41580.000	40180.000	23740.000	1300.005
71.	25:14:45: 8	3950.000	6000.000	11730.000	19830.000	22160.000	21240.000	12270.000	810.000
72.	25:14:45:57	1060.000	1770.000	2980.000	6230.000	6940.000	7190.000	3810.000	560.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	25:14: 1: 0	0.0	12.812	12.812	25.624	0.0	-12.812	12.812	0.0
2.	25:14: 2: 9	0.0	51.247	25.624	89.683	38.435	25.624	140.930	76.871
3.	25:14: 3:25	12.812	140.930	51.247	230.612	115.306	51.247	371.542	179.365
4.	25:14: 4:17	-12.812	140.930	51.247	307.483	153.742	64.059	538.095	256.236
5.	25:14: 5: 4	0.0	140.930	89.683	371.542	153.742	76.871	666.213	333.107
6.	25:14: 5:46	0.0	128.118	12.812	371.542	140.930	89.683	807.143	397.166
7.	25:14: 6:35	-12.812	102.494	-38.435	345.918	153.742	89.683	871.202	320.295
8.	25:14: 7:17	0.0	25.624	-12.812	397.166	128.118	76.871	1012.132	358.730
9.	25:14: 7:56	-12.812	0.0	-64.059	409.978	115.306	89.683	1101.814	358.730
10.	25:14: 8:38	-12.812	0.0	-166.553	409.978	115.306	89.683	1101.814	269.048
11.	25:14:11:57	0.0	-12.812	-345.918	371.542	128.118	115.306	1204.309	192.177
12.	25:14:14:11	0.0	-12.812	-499.660	345.918	166.553	140.930	1293.991	140.930
13.	25:14:21: 2	-12.812	-12.812	-614.966	294.671	115.306	115.306	1306.803	51.247
14.	25:14:22:19	0.0	-12.812	-730.272	320.295	115.306	115.306	1370.862	-25.624
15.	25:14:23:23	0.0	-12.812	-832.767	307.483	89.683	128.118	1383.674	-102.494
16.	25:14:24: 7	0.0	-12.812	-960.885	281.859	51.247	102.494	1396.486	-192.177
17.	25:14:24:46	-12.812	0.0	-1089.003	269.048	25.624	102.494	1383.674	-281.859
18.	25:14:25:28	-12.812	-12.812	-1165.874	192.177	-25.624	64.059	1370.862	-358.730
19.	25:14:26: 0	0.0	-12.812	-1242.744	115.306	-38.435	51.247	1345.239	-448.413
20.	25:14:26:15	0.0	-12.812	-1255.556	76.871	-51.247	64.059	1345.239	-448.413
21.	25:14:26:31	-12.812	-12.812	-1255.556	64.059	-51.247	51.247	1319.615	-448.413
22.	25:14:26:46	-12.812	-12.812	-1255.556	51.247	-51.247	51.247	1332.427	-461.225
23.	24:14:27: 2	0.0	-12.812	-1255.556	38.435	-51.247	51.247	1332.427	-461.225
24.	25:14:27:18	-12.812	-12.812	-1268.368	38.435	-64.059	51.247	1332.427	-461.225
25.	25:14:27:33	-12.812	-12.812	-1268.368	25.624	-64.059	51.247	1319.615	-461.225
26.	25:14:27:49	0.0	-12.812	-1255.556	25.624	-51.247	51.247	1319.615	-461.225
27.	25:14:28: 5	0.0	-12.812	-1268.368	12.812	-64.059	51.247	1332.427	-461.225
28.	25:14:28:20	0.0	0.0	-1268.368	12.812	-64.059	51.247	1332.427	-461.225
29.	25:14:28:36	-12.812	-12.812	-1268.368	0.0	-64.059	51.247	1319.615	-461.225
30.	25:14:28:52	0.0	-12.812	-1281.180	38.435	-64.059	25.624	1332.427	-525.284
31.	25:14:29: 7	0.0	-12.812	-1268.368	-25.624	-76.871	25.624	1319.615	-550.907
32.	25:14:29:23	0.0	-12.812	-1268.368	-38.435	-76.871	12.812	1319.615	-550.907
33.	25:14:29:39	-12.812	-12.812	-1255.556	-51.247	-64.059	12.812	1319.615	-538.095
34.	25:14:29:54	-12.812	-12.812	-1255.556	-51.247	-64.059	25.624	1319.615	-550.907
35.	25:14:30:10	-12.812	-12.812	-1242.744	-64.059	-64.059	25.624	1319.615	-538.095
36.	25:14:30:26	-12.812	0.0	-1242.744	-64.059	-64.059	12.812	1319.615	-550.907
37.	25:14:30:42	-12.812	-12.812	-1255.556	-64.059	-64.059	12.812	1332.427	-550.907
38.	25:14:30:57	0.0	-12.812	-1242.744	-76.871	-76.871	12.812	1332.427	-538.095
39.	25:14:31:13	-12.812	-12.812	-1242.744	-76.871	-64.059	12.812	1332.427	-538.095
40.	25:14:31:29	-12.812	-12.812	-1293.991	-89.683	-64.059	-12.812	1358.051	-589.343
41.	25:14:32:14	0.0	0.0	-1268.368	-166.553	-64.059	-25.624	1345.239	-614.966
42.	25:14:32:30	0.0	-12.812	-1255.556	-179.365	-64.059	-25.624	1319.615	-653.402
43.	25:14:32:45	-12.812	-12.812	-1281.180	-243.424	-64.059	-38.435	1345.239	-691.837
44.	25:14:33: 1	-12.812	-12.812	-1281.180	-307.483	-64.059	-25.624	1383.674	-679.025
45.	25:14:33:17	-12.812	0.0	-1319.615	-345.918	-64.059	-12.812	1422.109	-679.025
46.	25:14:33:33	0.0	-12.812	-1293.991	-358.730	-64.059	-12.812	1486.168	-653.402
47.	25:14:33:48	-12.812	0.0	-1293.991	-384.354	-64.059	0.0	-1511.792	-640.590
48.	25:14:34: 4	-12.812	12.812	-1293.991	-397.166	-64.059	25.624	1550.228	-627.778
49.	25:14:34:20	-12.812	-12.812	-1255.556	-384.354	-64.059	51.247	1575.851	-640.590
50.	25:14:34:35	-12.812	-12.812	-1217.121	-384.354	-64.059	64.059	1601.475	-640.590
51.	25:14:34:51	-12.812	0.0	-1204.309	-384.354	-64.059	76.871	1614.286	-653.402
52.	25:14:35: 7	0.0	0.0	-1204.309	-384.354	-64.059	76.871	1627.098	-640.590
53.	25:14:35:22	-12.812	0.0	-1178.685	-384.354	-64.059	89.683	1627.098	-640.590
54.	25:14:35:38	-12.812	0.0	-1153.062	-371.542	-76.871	102.494	1639.910	-666.213

55.	25:14:35:54	-12.812	12.812	-1153.062	-371.542	-64.059	102.494	1639.910	-666.213
56.	25:14:36:10	-12.812	0.0	-1140.250	-371.542	-64.059	115.306	1652.722	-666.213
57.	25:14:36:25	-12.812	0.0	-1127.438	-358.730	-64.059	115.306	1652.722	-691.837
58.	25:14:36:41	-12.812	0.0	-1114.626	-358.730	-64.059	115.306	1665.534	-691.837
59.	25:14:36:57	-12.812	0.0	-1114.626	-358.730	-51.247	128.118	1652.722	-691.837
60.	25:14:37:12	-12.812	0.0	-1101.814	-358.730	-64.059	115.306	1652.722	-704.649
61.	25:14:37:28	0.0	0.0	-1089.003	-358.730	-64.059	128.118	1665.534	-704.649
62.	25:14:39: 4	0.0	12.812	-896.826	-230.612	-25.624	256.236	1716.781	-525.284
63.	25:14:39:55	-12.812	0.0	-730.272	-38.435	102.494	358.730	1575.851	-525.284
64.	25:14:39:55	-12.812	0.0	-730.272	-38.435	102.494	358.730	1575.851	-525.284
65.	25:14:40:46	-12.812	0.0	-397.166	371.542	179.365	422.789	1101.814	-679.025
66.	25:14:41:25	-51.247	12.812	-102.494	538.095	256.236	499.660	768.708	-768.708
67.	25:14:42: 6	-102.494	12.812	76.871	525.284	371.542	627.778	614.966	-717.461
68.	25:14:42:44	-192.177	12.812	115.306	435.601	461.225	743.084	550.907	-627.778
69.	25:14:43:23	-345.918	12.812	128.118	307.483	550.907	832.767	474.036	-499.660
70.	25:14:44:15	-538.095	12.812	140.930	192.177	602.154	858.390	320.295	-384.354
71.	25:14:45: 8	-614.966	-64.059	76.871	76.871	550.907	743.084	140.930	-294.671
72.	25:14:45:57	-397.166	-179.365	25.624	-64.059	371.542	461.225	-12.812	-166.553

AVERAGE LOAD

1.	3606.250
2.	6232.500
3.	11798.750
4.	17406.250
5.	23302.500
6.	29296.250
7.	35181.250
8.	41017.500
9.	46550.000
10.	52042.500
11.	58061.250
12.	63576.250
13.	70090.000
14.	76037.500
15.	81696.250
16.	87571.250
17.	93455.000
18.	99295.000
19.	104867.500
20.	104968.750
21.	105085.000
22.	105098.750
23.	105060.000
24.	105126.250
25.	105188.750
26.	105253.750
27.	105126.250
28.	105207.500
29.	105207.500
30.	105308.750
31.	110571.250
32.	110620.000
33.	110832.500
34.	110868.750
35.	110922.500
36.	110910.000
37.	110962.500
38.	110938.750
39.	111003.750
40.	111765.000
41.	116722.500
42.	116725.000
43.	122083.750
44.	122533.750
45.	122653.750
46.	122642.500
47.	122738.750
48.	122755.000
49.	122776.250
50.	119066.250
51.	122858.750
52.	122913.750
53.	122918.750
54.	122786.250
55.	122870.000
56.	122800.000
57.	122866.250

58.	122787.500
59.	122883.750
60.	122936.250
61.	122918.750
62.	107622.500
63.	96945.000
64.	96945.000
65.	85516.250
66.	73152.500
67.	61263.750
68.	48601.250
69.	36670.000
70.	23461.250
71.	12248.750
72.	3817.500

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 43

3.4.6 SPECIMEN #9

TEST NO. 37

COMPOSITE INTEGRAL LINER

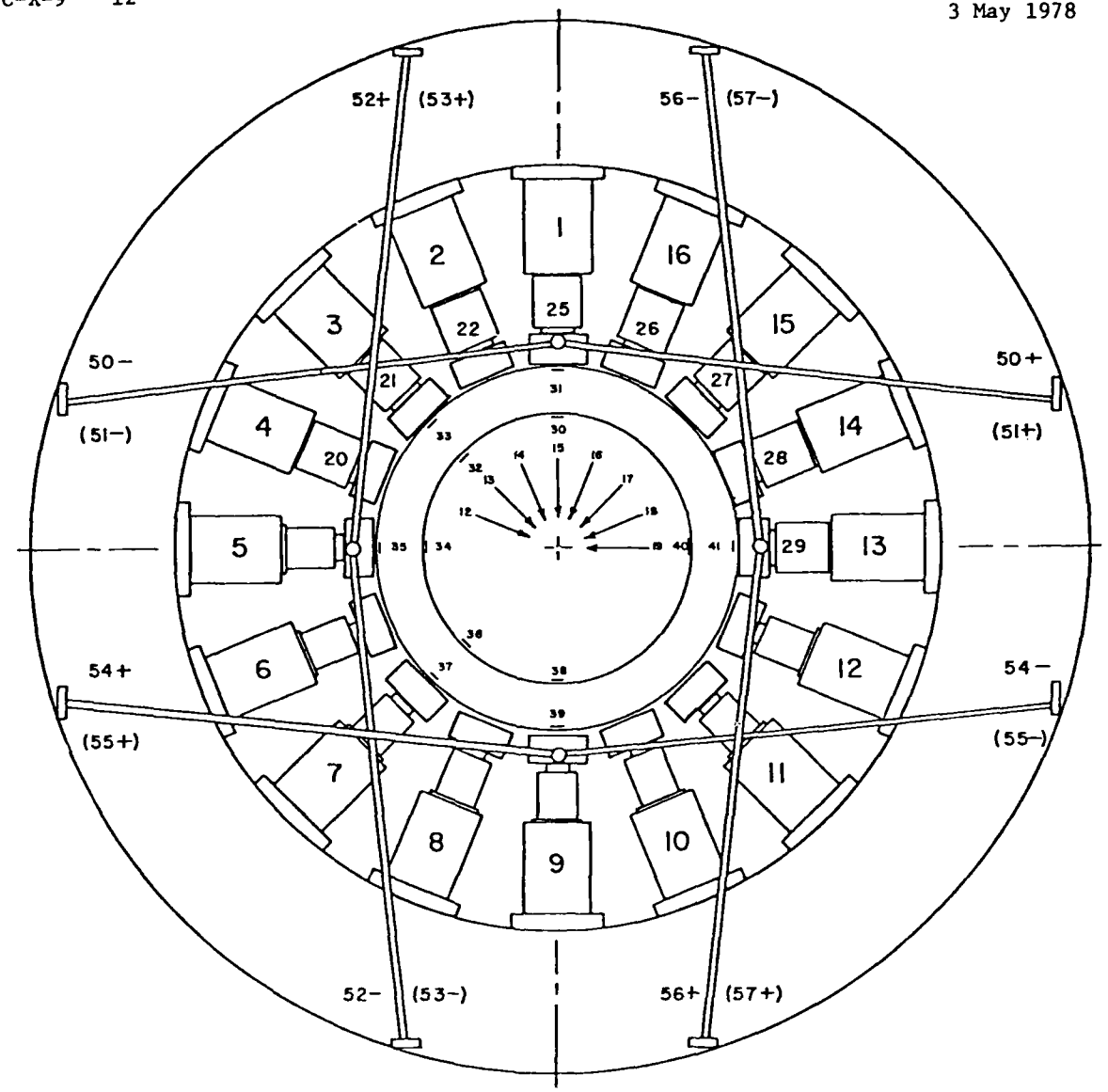
1:4 LOADING RATIO

TESTED 3 MAY 1978

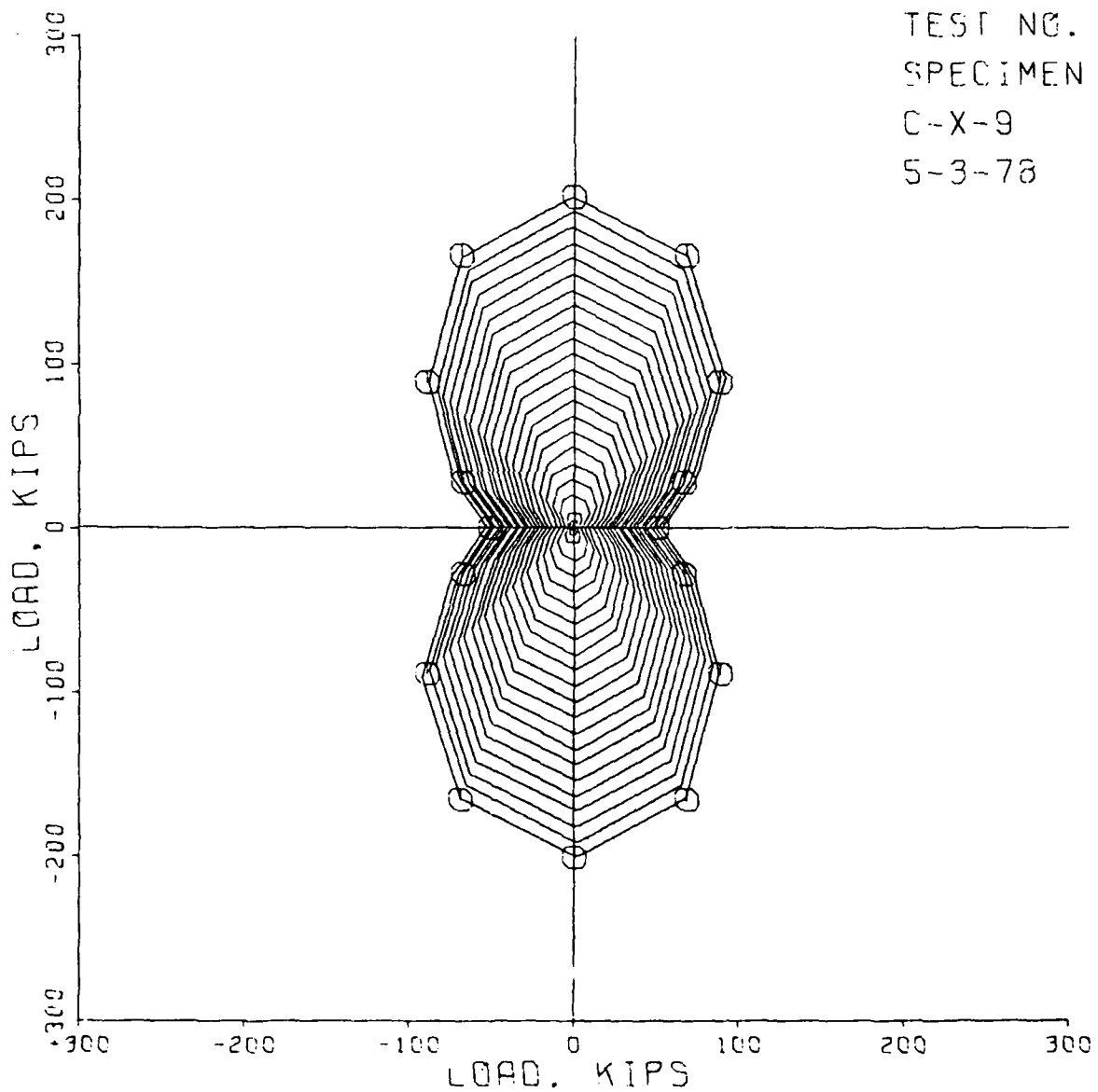
REACTION FRAME TEST SET-UP

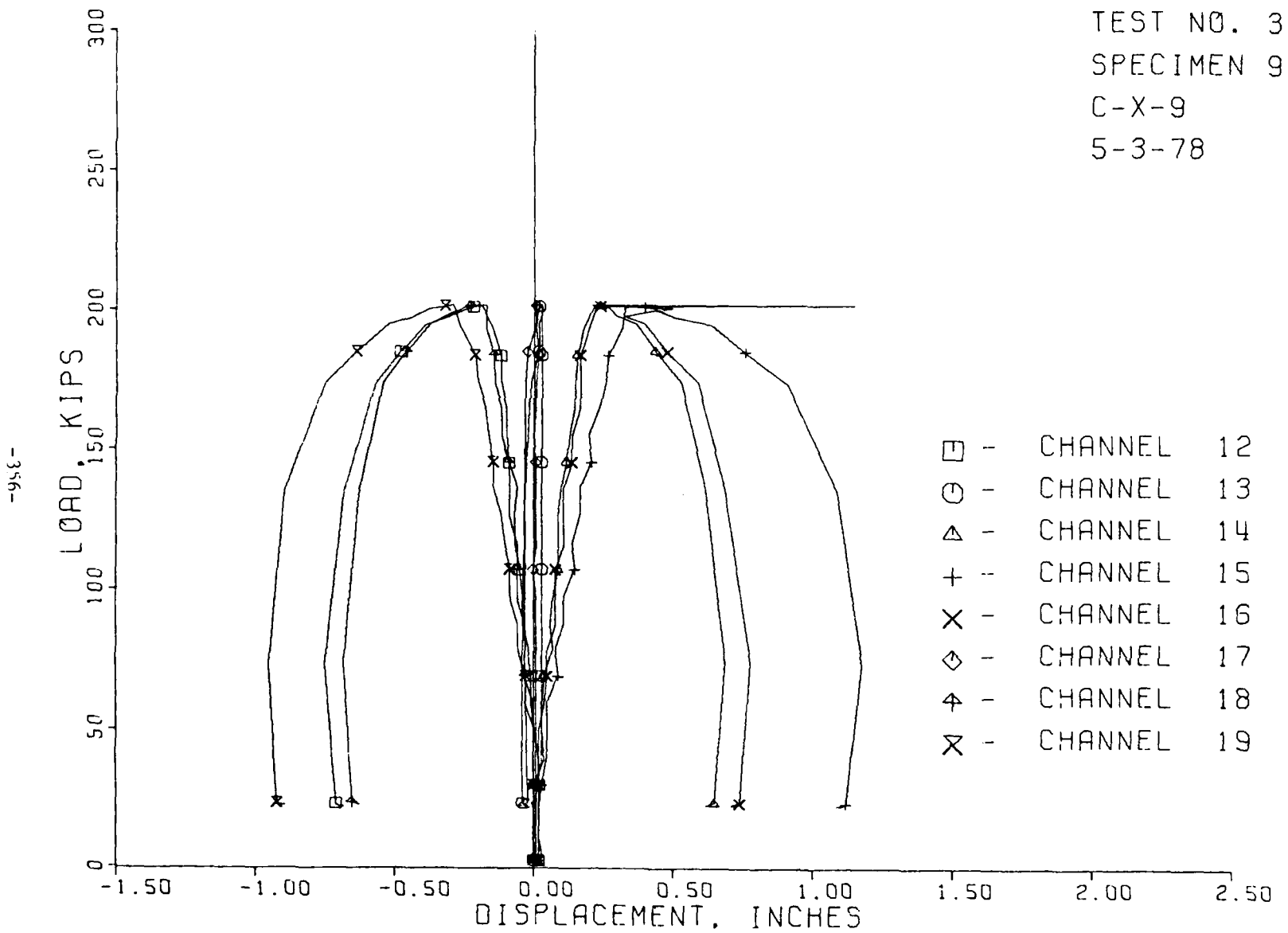
Specimen #9
C-X-9 12"

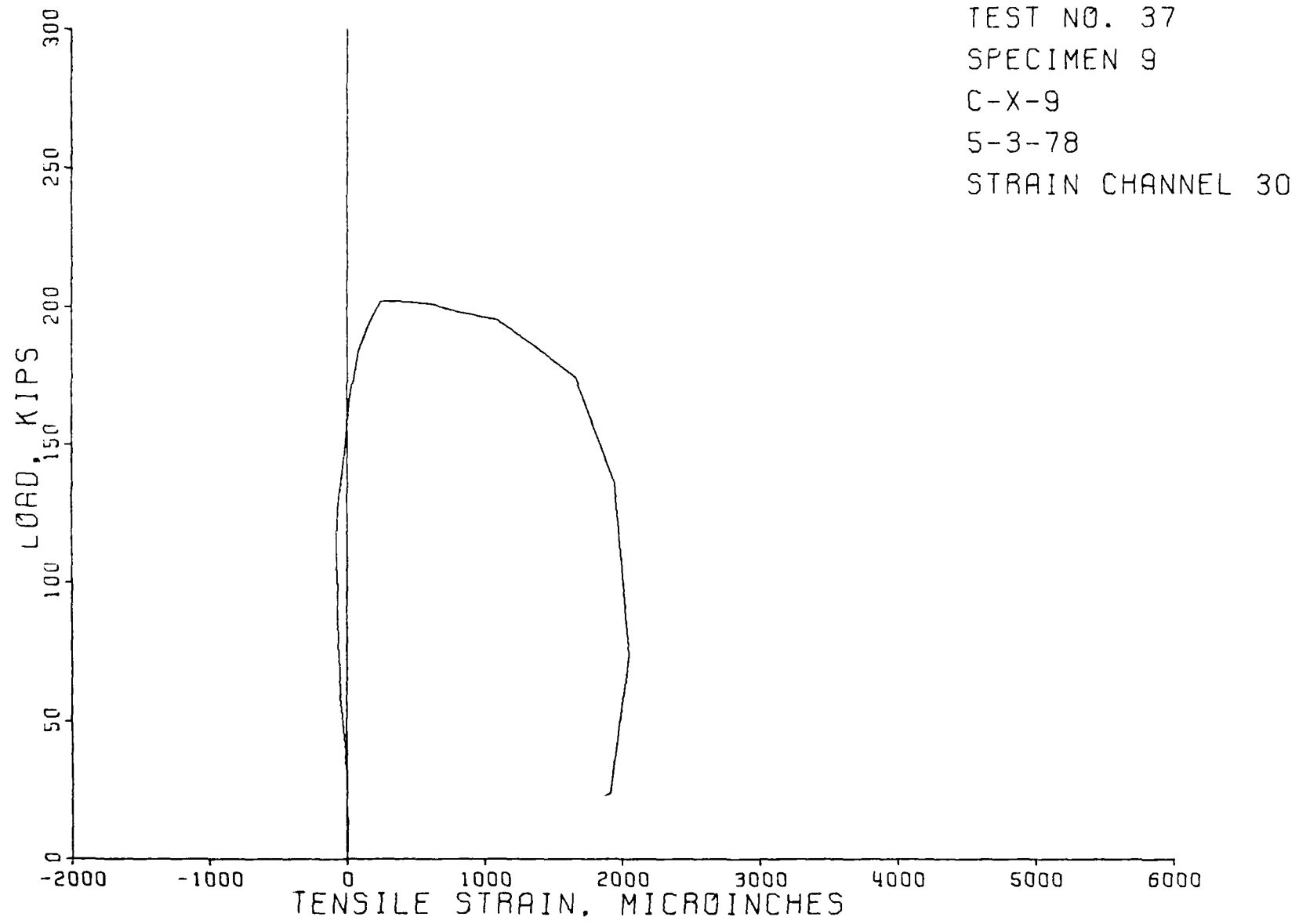
Test #37
1:4 Load
3 May 1978

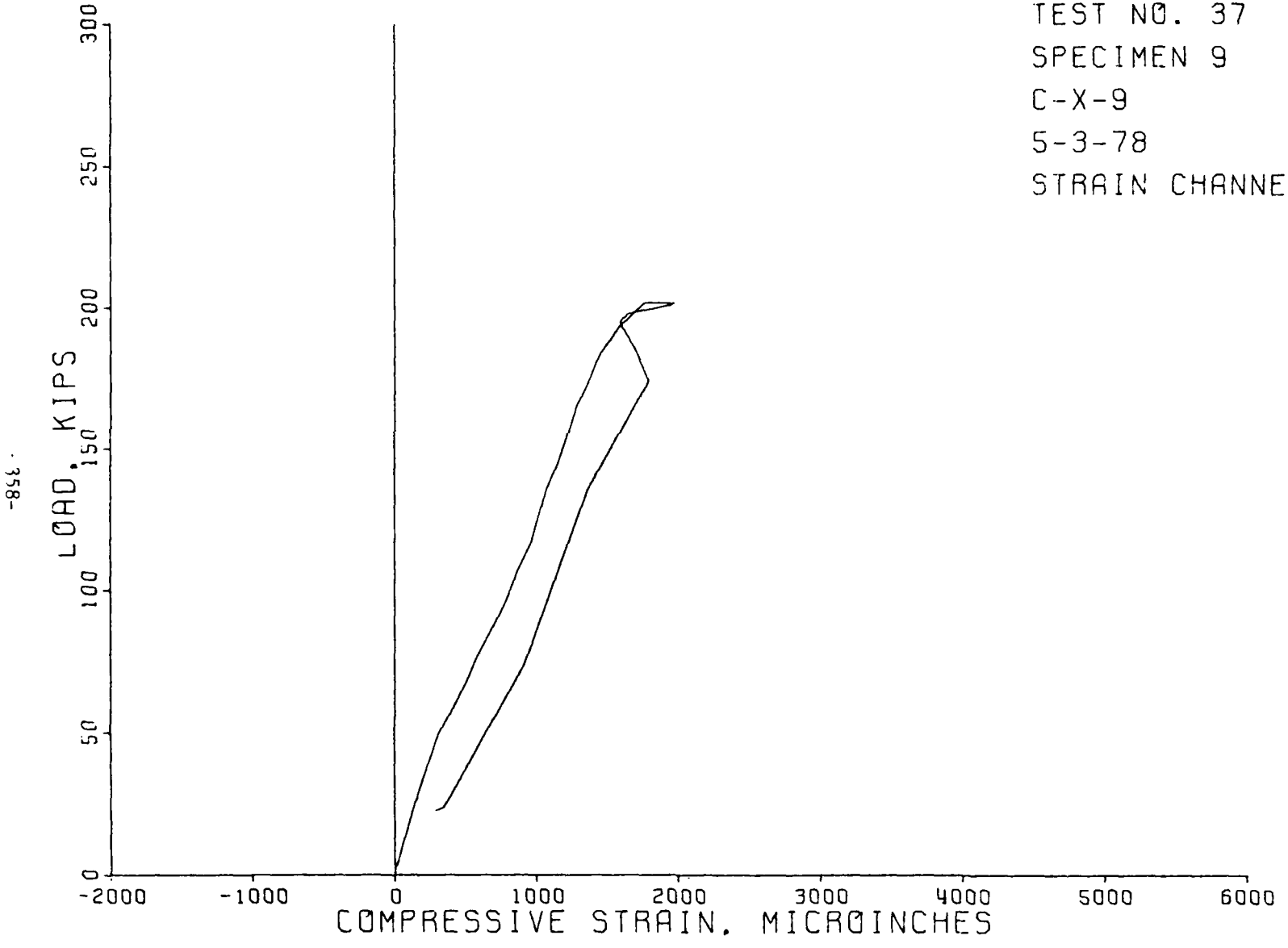


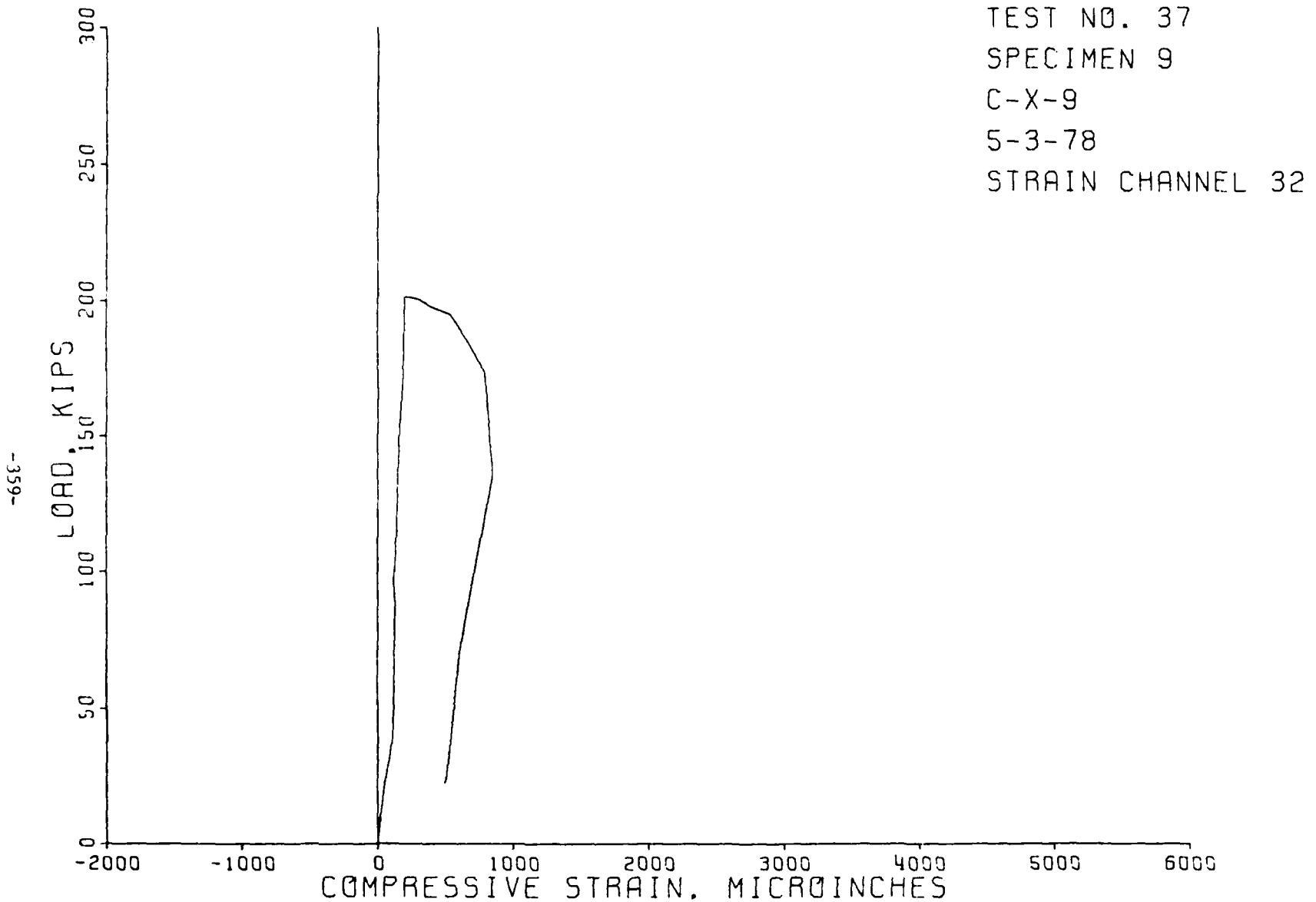
CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41 (Ailtech SG 129-6S) Radial pairs 3" from top. Odd gages on Rebar.
CH 50-57 (Ailtech SG 129-6S) Polarity indicates rod under tension.
Lower rod shown (XX).

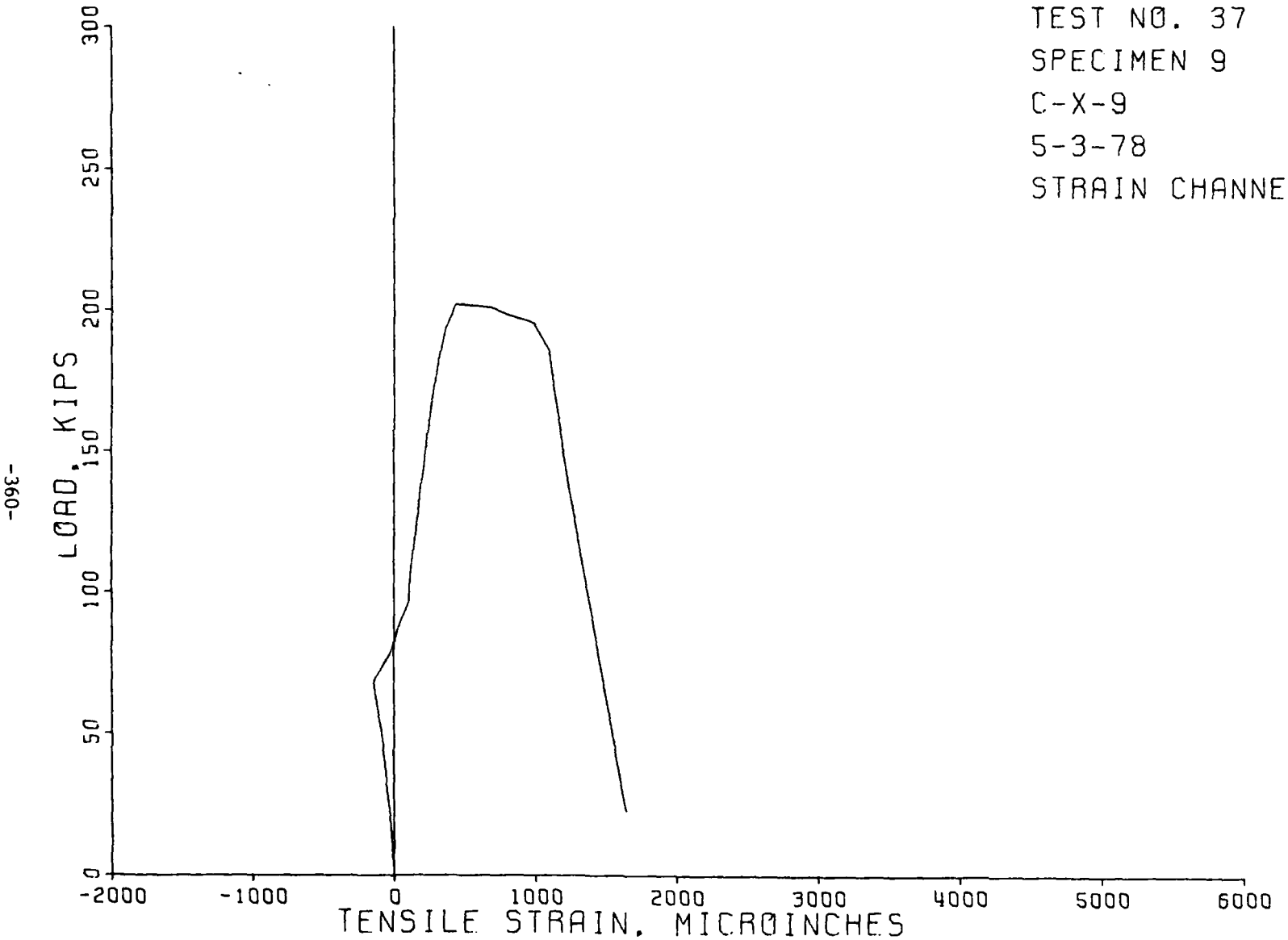

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
LOAD, KIPS
300
200
100
0
-100
-200
-300
-300
-200
-100
0
100
200
300
LOAD, KIPS

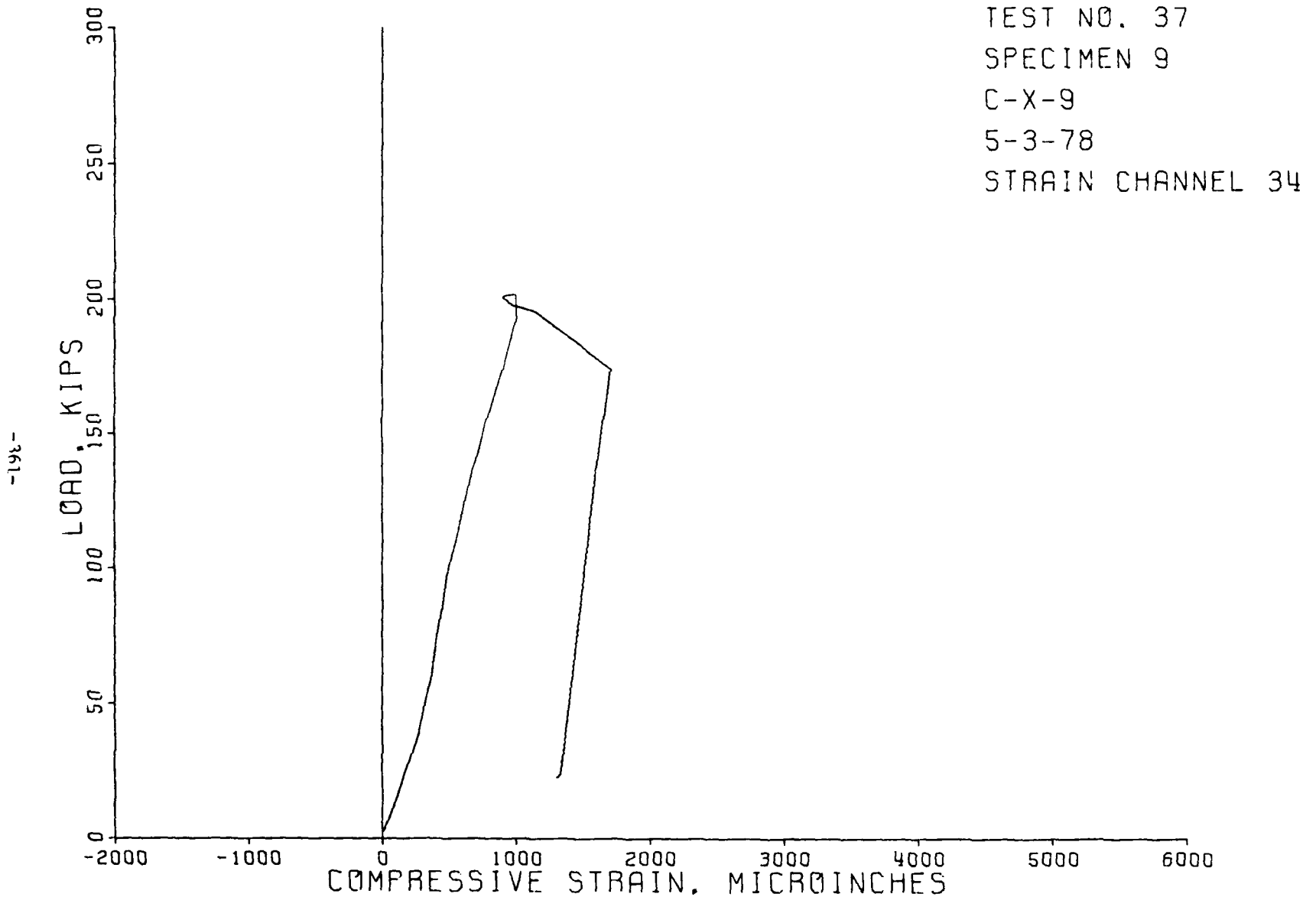

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
LOAD, KIPS
0
50
100
150
200
250
300
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
DISPLACEMENT, INCHES
- CHANNEL 12
- CHANNEL 13
- CHANNEL 14
- CHANNEL 15
- CHANNEL 16
- CHANNEL 17
- CHANNEL 18
- CHANNEL 19

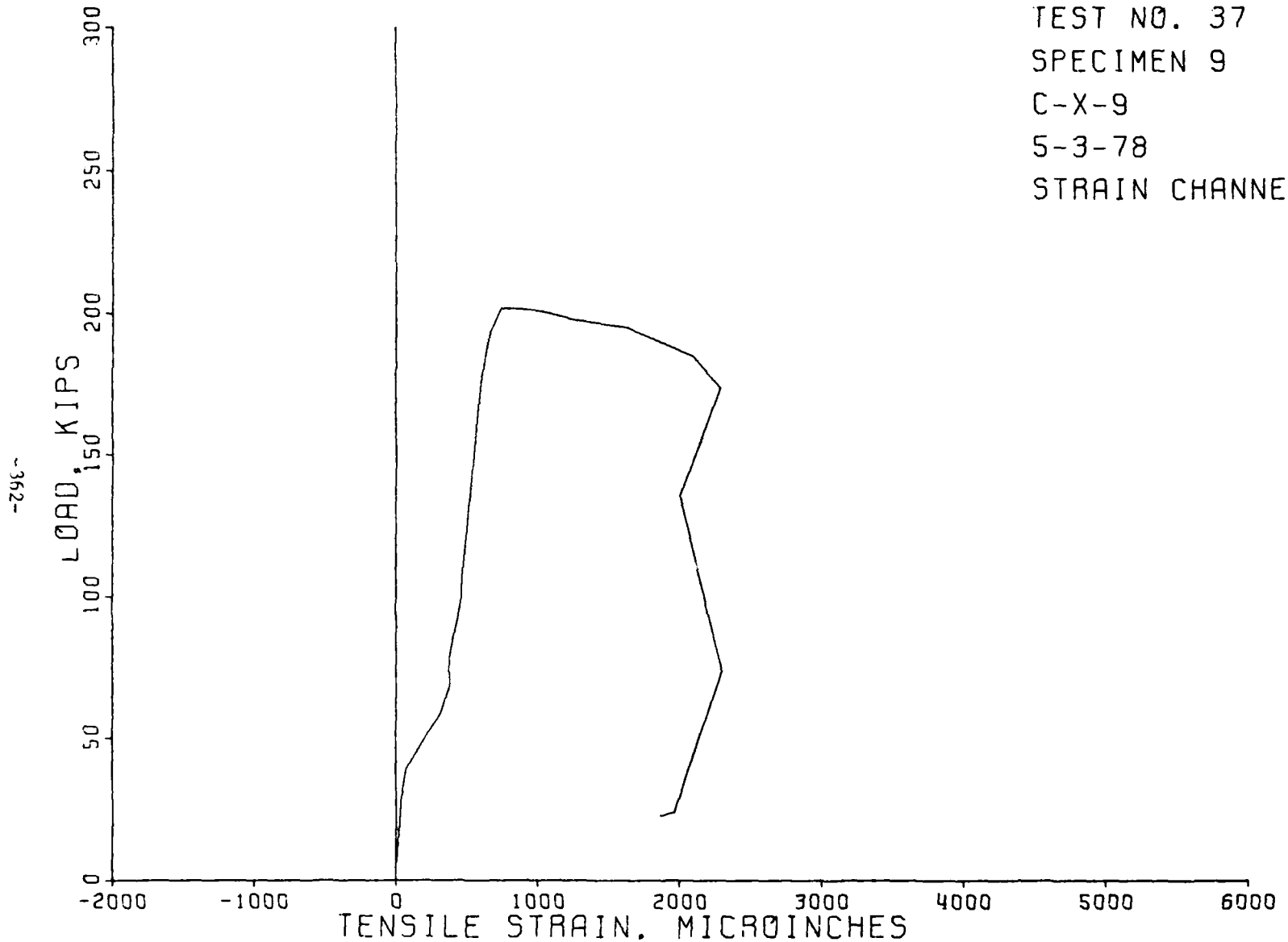

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
TENSILE STRAIN, MICROINCHES

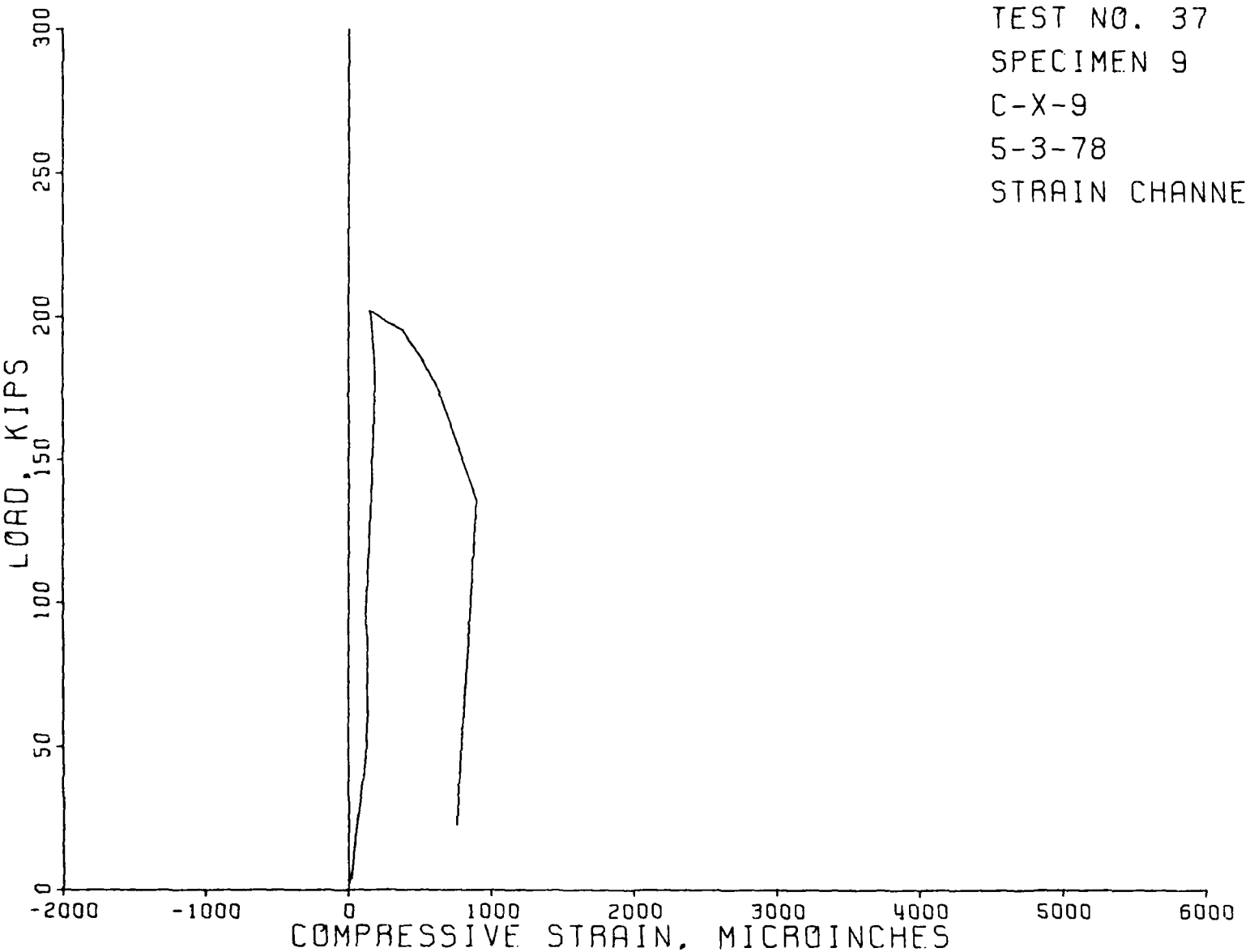

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
COMPRESSIVE STRAIN, MICROINCHES

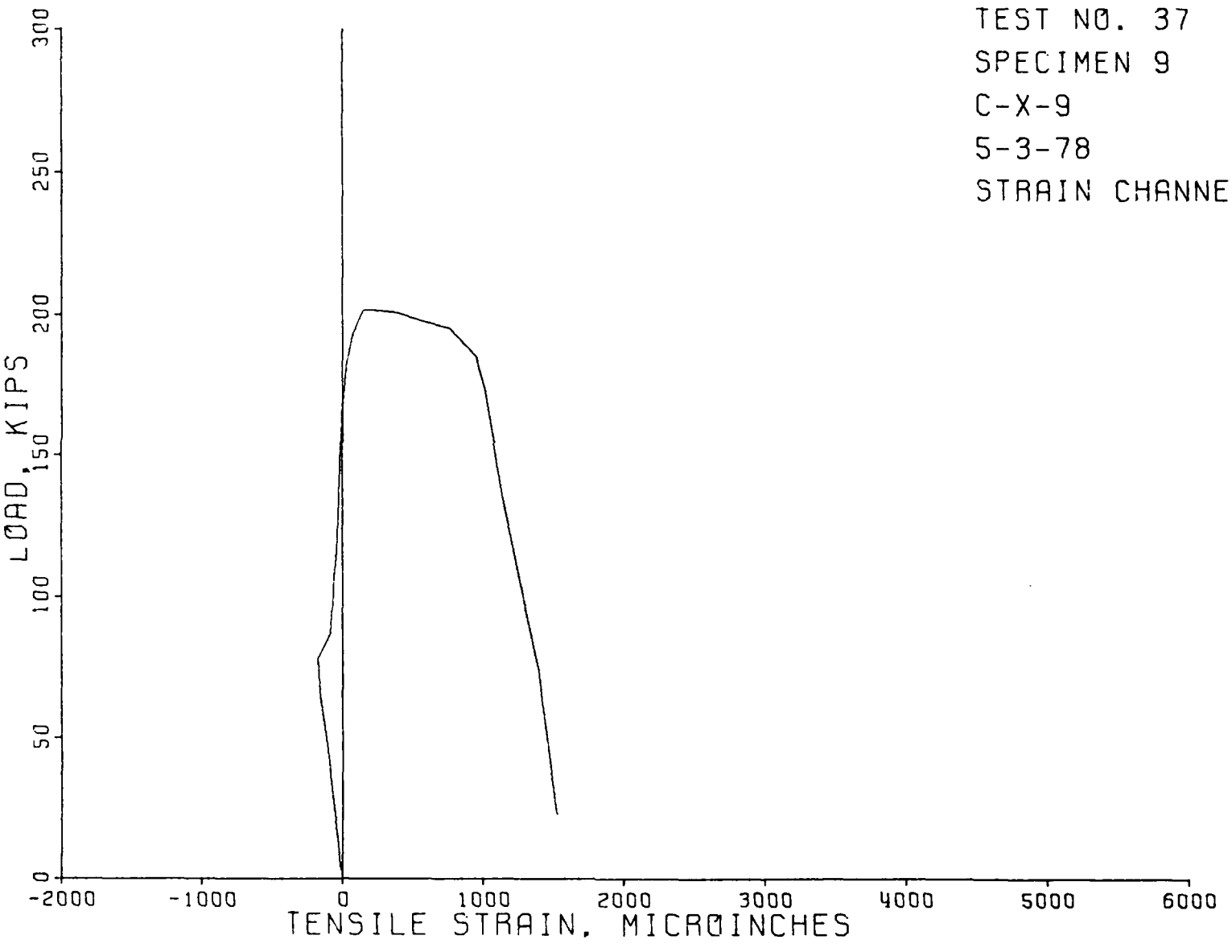

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
COMPRESSIVE STRAIN, MICROINCHES

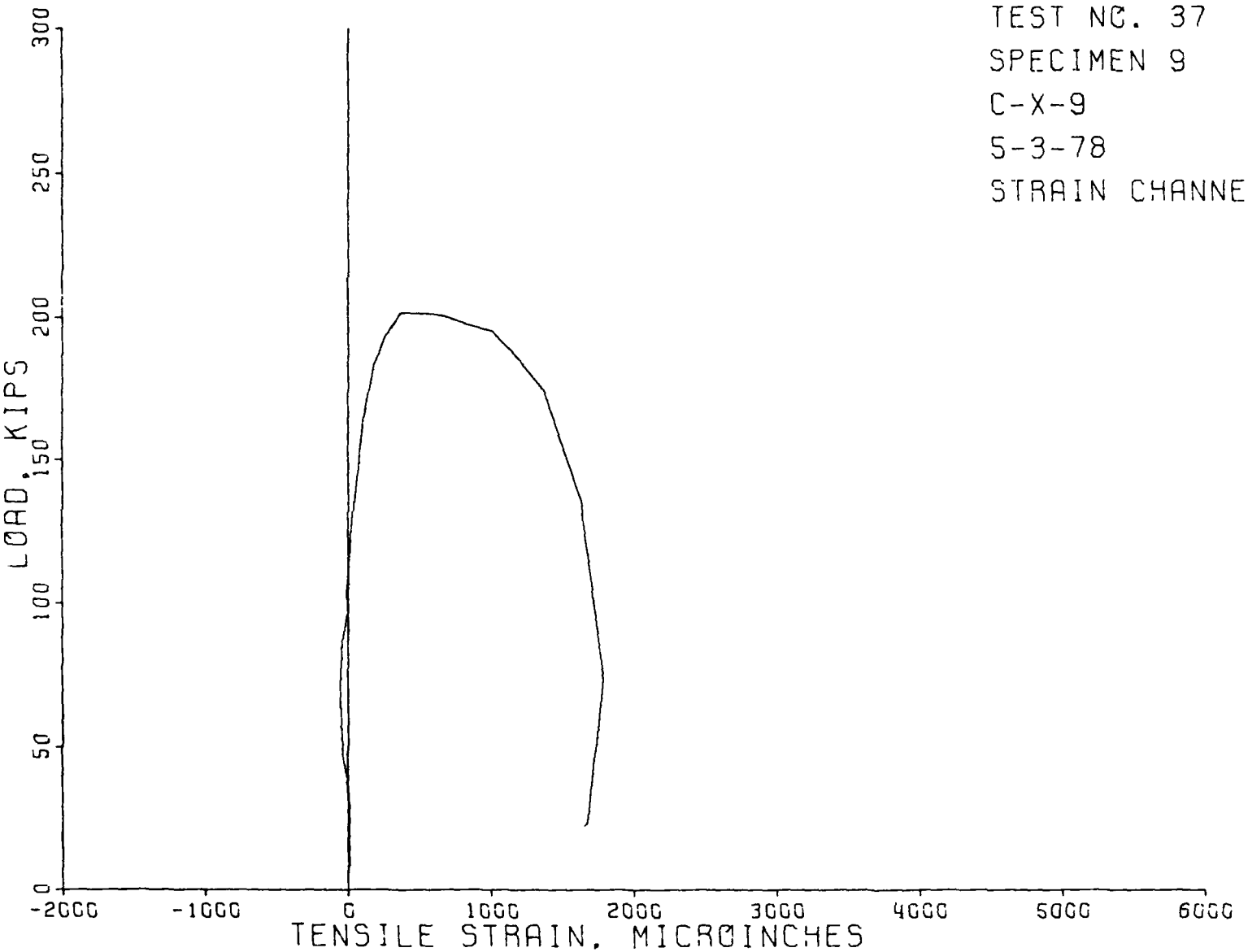

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
TENSILE STRAIN, MICROINCHES

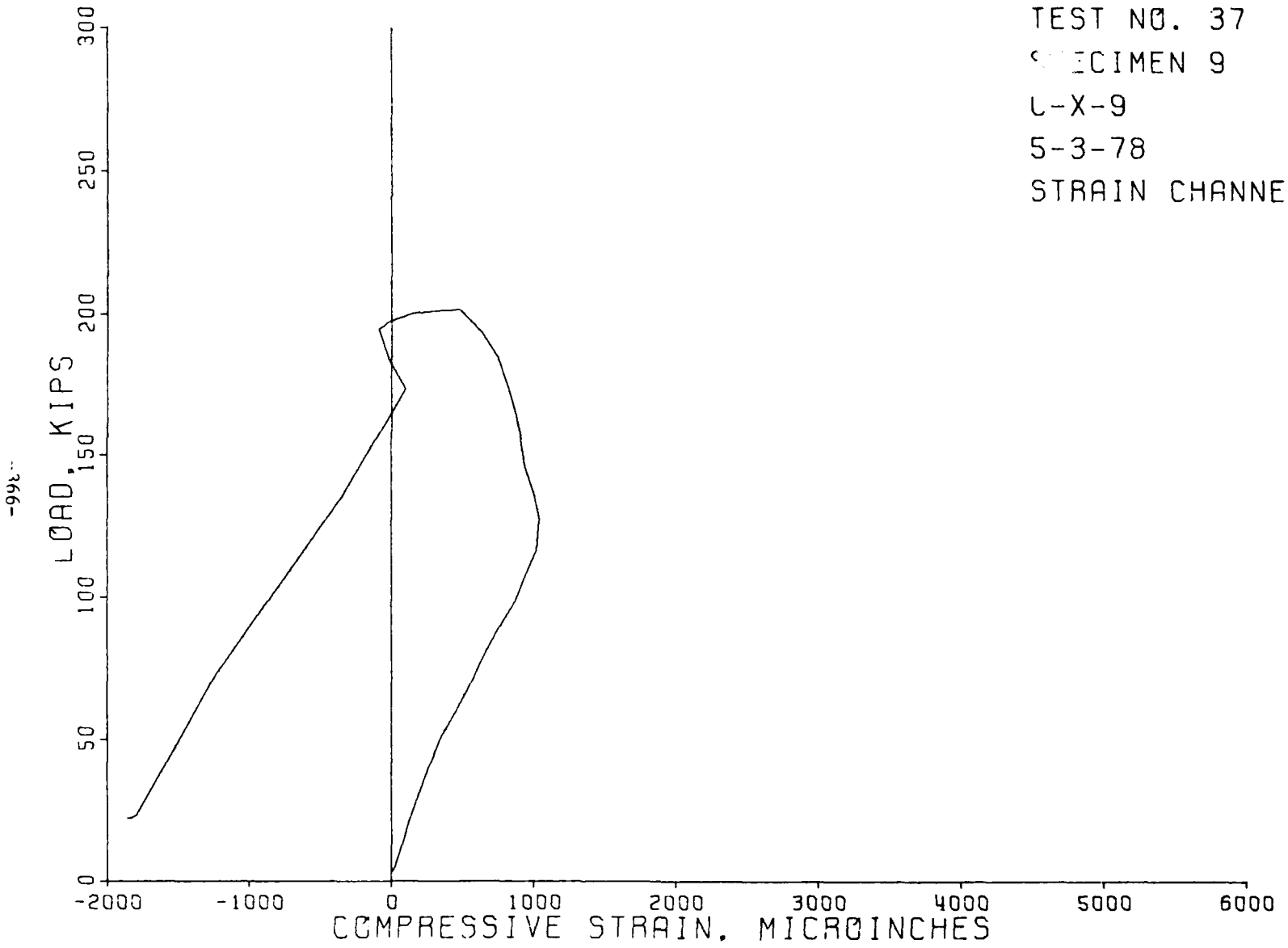

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
TENSILE STRAIN, MICROINCHES

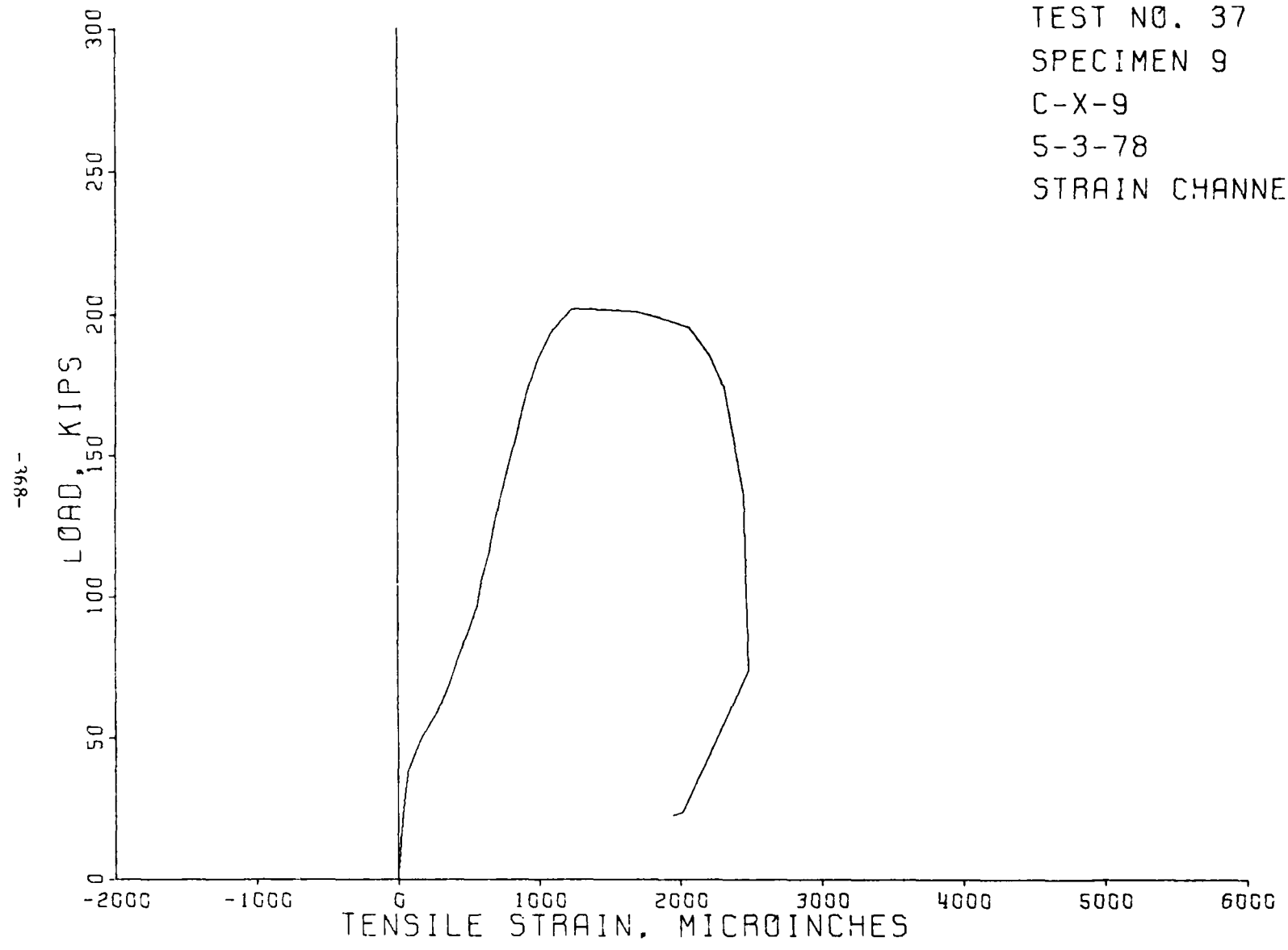

TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
TENSILE STRAIN, MICROINCHES


TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
TENSILE STRAIN, MICROINCHES


TEST NO. 37
SPECIMEN 9
L-X-9
5-3-78
STRAIN CHANNEL 39
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 37
SPECIMEN 9
C-X-9
5-3-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-2000
-1000
0
1000
2000
3000
4000
5000
6000
TENSILE STRAIN, MICROINCHES

NUMBER OF INCREMENTS= 36
NUMBER OF CHANNELS= 36
NUMBER OF STRAIN CHANNELS= 12
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION
30	1.000
31	1.000
32	1.000
33	1.000
34	1.000
35	1.000

36	1.000
37	1.000
38	1.000
39	1.000
40	1.000
41	1.000

DISPLACEMENT CHANNEL	CALIBRATION
12	0.010
13	0.010
14	0.010
15	0.010
16	0.010
17	0.010
18	0.001
19	0.001

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
50	1.000
51	1.000
52	1.000
53	1.000
54	1.000
55	1.000
56	1.000
57	1.000

STRAIN CHANNELS

	TIME	CH.30	CH.31	CH.32	CH.33	CH.34	CH.35	CH.36	CH.37
1.	3: 9:35:14	1.000	1.000	2.000	0.0	1.000	0.0	-2.000	-1.000
2.	3:10:32:42	-1.000	-21.000	-9.000	-5.000	-25.000	0.0	-14.000	-16.000
3.	3:10:33:34	4.000	-52.000	-22.000	-13.000	-71.000	9.000	-29.000	-27.000
4.	3:10:34:17	1.000	-113.000	-49.000	-31.000	-147.000	24.000	-51.000	-49.000
5.	3:10:34:56	-4.000	-170.000	-78.000	-49.000	-210.000	42.000	-74.000	-70.000
6.	3:10:35:34	-12.000	-234.000	-108.000	-67.000	-277.000	77.000	-106.000	-92.000
7.	3:10:36:23	-31.000	-311.000	-121.000	-92.000	-321.000	205.000	-124.000	-114.000
8.	3:10:37:11	-49.000	-411.000	-126.000	-119.000	-363.000	314.000	-130.000	-141.000
9.	3:10:38:14	-57.000	-511.000	-124.000	-143.000	-389.000	330.000	-129.000	-165.000
10.	3:10:39:28	-64.000	-595.000	-127.000	-26.000	-420.000	375.000	-130.000	-173.000
11.	3:10:40:27	-72.000	-688.000	-128.000	24.000	-453.000	408.000	-128.000	-87.000
12.	3:10:44:53	-72.000	-792.000	-119.000	103.000	-487.000	458.000	-117.000	-69.000
13.	3:10:47: 0	-80.000	-867.000	-133.000	113.000	-534.000	471.000	-131.000	-62.000
14.	3:10:47:48	-79.000	-956.000	-139.000	142.000	-578.000	492.000	-137.000	-39.000
15.	3:10:48:51	-68.000	-1017.000	-146.000	166.000	-626.000	510.000	-144.000	-31.000
16.	3:10:49:43	-51.000	-1073.000	-151.000	187.000	-674.000	529.000	-153.000	-26.000
17.	3:10:50:59	-25.000	-1154.000	-158.000	214.000	-731.000	547.000	-158.000	-16.000
18.	3:10:51:43	-6.000	-1219.000	-164.000	234.000	-780.000	566.000	-166.000	-10.000
19.	3:10:52:29	10.000	-1278.000	-178.000	256.000	-838.000	584.000	-175.000	-5.000
20.	3:10:53:19	43.000	-1367.000	-190.000	287.000	-900.000	603.000	-178.000	13.000
21.	3:10:54: 2	82.000	-1443.000	-196.000	318.000	-951.000	629.000	-178.000	34.000
22.	3:10:54:49	155.000	-1581.000	-200.000	367.000	-1003.000	672.000	-167.000	74.000
23.	0: 0: 0: 0	244.000	-1758.000	-200.000	429.000	-1004.000	749.000	-146.000	148.000
24.	3:10:55:39	343.000	-1861.000	-208.000	486.000	-959.000	818.000	-137.000	204.000
25.	3:10:55:55	438.000	-1968.000	-233.000	552.000	-935.000	880.000	-148.000	266.000
26.	3:10:56:10	604.000	-1933.000	-299.000	674.000	-904.000	1024.000	-192.000	384.000
27.	3:10:56:26	814.000	-1645.000	-402.000	818.000	-973.000	1251.000	-267.000	560.000
28.	3:10:56:42	1088.000	-1585.000	-540.000	991.000	-1152.000	1631.000	-376.000	767.000
29.	3:10:56:57	1377.000	-1694.000	-671.000	1101.000	-1426.000	2096.000	-508.000	949.000
30.	3:10:57:13	1658.000	-1791.000	-789.000	1123.000	-1708.000	2294.000	-629.000	1015.000
31.	3:10:57:29	1939.000	-1361.000	-852.000	1247.000	-1595.000	2004.000	-890.000	1138.000
32.	3:10:57:45	2050.000	-912.000	-616.000	1463.000	-1454.000	2300.000	-819.000	1394.000
33.	3:10:58: 0	1908.000	-347.000	-504.000	1640.000	-1334.000	1959.000	-756.000	1521.000
34.	3:10:58:16	1875.000	-305.000	-500.000	1645.000	-1314.000	1876.000	-753.000	1526.000
35.	3:10:58:32	1872.000	-294.000	-496.000	1647.000	-1313.000	1867.000	-752.000	1529.000
36.	3:10:58:47	1869.000	-289.000	-495.000	1648.000	-1312.000	1860.000	-752.000	1530.000

S T R A I N C H A N N E L S

	TIME	CH.38	CH.39	CH.40	CH.41	CH.
1.	3: 9:35:14	0.0	1.000	-1.000	1.000	
2.	3:10:32:42	1.000	-25.000	-20.000	7.000	
3.	3:10:33:36	10.000	-59.000	-54.000	15.000	
4.	3:10:34:17	10.000	-126.000	-130.000	31.000	
5.	3:10:34:56	11.000	-190.000	-206.000	50.000	
6.	3:10:35:34	-7.000	-259.000	-275.000	77.000	
7.	3:10:36:23	-40.000	-346.000	-346.000	163.000	
8.	3:10:37:11	-51.000	-452.000	-373.000	277.000	
9.	3:10:38:14	-53.000	-554.000	-406.000	362.000	
10.	3:10:39:28	-50.000	-646.000	-437.000	424.000	
11.	3:10:40:27	-40.000	-742.000	-472.000	496.000	
12.	3:10:44:53	-6.000	-862.000	-512.000	565.000	
13.	3:10:47: 0	-8.000	-942.000	-564.000	602.000	
14.	3:10:47:48	9.000	-1021.000	-608.000	649.000	
15.	3:10:48:51	27.000	-1042.000	-660.000	692.000	
16.	3:10:49:43	47.000	-1000.000	-709.000	736.000	
17.	3:10:50:59	71.000	-940.000	-764.000	787.000	
18.	3:10:51:43	92.000	-908.000	-812.000	833.000	
19.	3:10:52:29	111.000	-871.000	-871.000	878.000	
20.	3:10:53:19	143.000	-818.000	-938.000	932.000	
21.	3:10:54: 2	186.000	-756.000	-997.000	993.000	
22.	3:10:54:49	259.000	-637.000	-1062.000	1090.000	
23.	0: 0: 0: 0	368.000	-475.000	-1105.000	1234.000	
24.	3:10:55:39	457.000	-377.000	-1074.000	1345.000	
25.	3:10:55:55	546.000	-289.000	-1018.000	1476.000	
26.	3:10:56:10	672.000	-152.000	-942.000	1690.000	
27.	3:10:56:26	826.000	21.000	-985.000	1912.000	
28.	3:10:56:42	1014.000	89.000	-1184.000	2070.000	
29.	3:10:56:57	1207.000	27.000	-1519.000	2210.000	
30.	3:10:57:13	1377.000	-99.000	-1911.000	2309.000	
31.	3:10:57:29	1630.000	350.000	-2361.000	2447.000	
32.	3:10:57:45	1790.000	1231.000	-2007.000	2480.000	
33.	3:10:58: 0	1676.000	1793.000	-1857.000	2015.000	
34.	3:10:58:16	1661.000	1839.000	-1842.000	1966.000	
35.	3:10:58:32	1658.000	1855.000	-1838.000	1954.000	
36.	3:10:58:47	1657.000	1862.000	-1835.000	1946.000	

DISPLACEMENT CHANNELS

	TIME	CH.12	CH.13	CH.14	CH.15	CH.16	CH.17	CH.18	CH.19
1.	3: 9:35:14	0.020	0.0	0.0	0.020	0.020	0.010	-0.001	0.001
2.	3:10:32:42	0.030	0.010	0.010	0.020	0.020	0.010	0.0	0.0
3.	3:10:33:34	0.020	0.0	0.0	0.020	0.020	0.010	-0.001	0.001
4.	3:10:34:17	0.020	0.010	0.010	0.020	0.020	0.010	0.0	0.001
5.	3:10:34:56	0.020	0.010	0.0	0.030	0.020	0.010	-0.001	0.001
6.	3:10:35:34	0.020	0.030	0.040	0.050	0.020	0.010	0.0	0.0
7.	3:10:36:23	0.0	0.030	0.030	0.050	0.020	0.010	0.0	0.0
8.	3:10:37:11	-0.010	0.030	0.030	0.050	0.040	0.010	0.0	-0.029
9.	3:10:38:14	-0.010	0.030	0.040	0.090	0.050	0.010	-0.029	-0.028
10.	3:10:39:28	-0.020	0.030	0.070	0.080	0.050	0.010	-0.029	-0.057
11.	3:10:40:27	-0.040	0.030	0.060	0.110	0.080	0.010	-0.029	-0.057
12.	3:10:44:53	-0.040	0.030	0.070	0.110	0.080	0.010	-0.057	-0.086
13.	3:10:47: 0	-0.050	0.030	0.090	0.150	0.080	0.0	-0.057	-0.086
14.	3:10:47:48	-0.070	0.030	0.090	0.140	0.110	0.010	-0.057	-0.103
15.	3:10:48:51	-0.070	0.030	0.090	0.170	0.110	0.010	-0.086	-0.115
16.	3:10:49:43	-0.060	0.030	0.100	0.170	0.110	0.010	-0.085	-0.144
17.	3:10:50:59	-0.090	0.030	0.120	0.210	0.140	0.010	-0.087	-0.144
18.	3:10:51:43	-0.100	0.030	0.130	0.200	0.140	0.0	-0.114	-0.102
19.	3:10:52:29	-0.100	0.030	0.150	0.240	0.170	0.010	-0.114	-0.173
20.	3:10:53:19	-0.120	0.030	0.150	0.260	0.170	0.010	-0.140	-0.201
21.	3:10:54: 2	-0.120	0.030	0.160	0.270	0.179	0.020	-0.143	-0.210
22.	3:10:54:49	-0.150	0.030	0.180	0.320	0.200	0.010	-0.171	-0.259
23.	0: 0: 0: 0	-0.190	0.030	0.220	0.330	0.230	0.020	-0.171	-0.288
24.	3:10:55:39	-0.200	0.020	0.210	0.380	1.150	0.0	-0.199	-0.304
25.	3:10:55:55	-0.220	0.020	0.240	0.400	0.240	0.010	-0.228	-0.317
26.	3:10:56:10	-0.250	0.030	0.270	0.440	0.500	0.010	-0.256	-0.374
27.	3:10:56:26	-0.310	0.030	0.300	0.510	0.330	0.010	-0.312	-0.433
28.	3:10:56:42	-0.390	0.020	0.370	0.640	0.400	0.010	-0.370	-0.519
29.	3:10:56:57	-0.480	0.020	0.440	0.760	0.480	-0.020	-0.455	-0.634
30.	3:10:57:13	-0.570	-0.010	0.530	0.910	0.590	-0.030	-0.540	-0.749
31.	3:10:57:29	-0.680	-0.030	0.620	1.090	0.690	-0.030	-0.625	-0.893
32.	3:10:57:45	-0.750	-0.040	0.690	1.180	0.780	-0.030	-0.682	-0.551
33.	3:10:58: 0	-0.710	-0.040	0.650	1.120	0.740	-0.020	-0.653	-0.922
34.	3:10:58:16	-0.690	-0.050	0.630	1.090	0.710	-0.030	-0.625	-0.893
35.	3:10:58:32	-0.680	-0.050	0.620	1.090	0.720	-0.030	-0.625	-0.893
36.	3:10:58:47	-0.690	-0.040	0.620	1.090	0.720	-0.020	-0.625	-0.893

L O A D C H A N N E L S

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	3: 9:35:14	1050.000	960.000	1450.000	1810.000	2600.000	1810.000	1240.000	770.000
2.	3:10:32:42	1560.000	2020.000	3100.000	4930.000	4620.000	4510.000	2720.000	1780.000
3.	3:10:33:34	2620.000	3610.000	6630.000	9980.000	9690.000	9500.000	5650.000	3100.000
4.	3:10:34:17	4970.000	7280.000	13590.000	18530.000	20640.000	17590.000	12090.000	6410.000
5.	3:10:34:56	7460.000	10860.000	19750.000	26940.000	29830.000	25350.000	17920.000	9200.000
6.	3:10:35:34	10170.000	14890.000	25550.000	35960.000	39250.000	34150.000	23390.000	12580.000
7.	3:10:36:23	13240.000	19300.000	32120.000	43970.000	50100.000	41910.000	29310.000	17140.000
8.	3:10:37:11	15270.000	23400.000	39320.000	53000.000	58990.000	50630.000	35420.000	22050.000
9.	3:10:38:14	18010.000	27110.000	45510.000	61900.000	68680.000	59300.000	40850.000	26350.000
10.	3:10:39:28	20540.000	30670.000	51830.000	69520.000	78540.000	66730.000	46710.000	30030.000
11.	3:10:40:27	22300.000	34170.000	58210.000	78050.000	87200.000	75200.000	52770.000	33800.000
12.	3:10:44:53	25140.000	37950.000	62970.000	87340.000	96920.000	84540.000	58580.000	36910.000
13.	3:10:47: 0	28180.000	41710.000	69790.000	95350.000	106990.000	92520.000	64900.000	40940.000
14.	3:10:47:48	29530.000	45600.000	76530.000	104470.000	116090.000	101720.000	71220.000	45230.000
15.	3:10:48:51	33000.000	49290.000	82290.000	113200.000	126390.000	110460.000	76920.000	49140.000
16.	3:10:49:43	34950.000	52990.000	88640.000	120950.000	136270.000	118360.000	83180.000	52900.000
17.	3:10:50:59	37640.000	56780.000	94330.000	129910.000	145150.000	127430.000	89040.000	56710.000
18.	3:10:51:43	39930.000	60980.000	99850.000	138640.000	155090.000	136330.000	94780.000	60810.000
19.	3:10:52:29	42570.000	64670.000	106300.000	146400.000	164850.000	144230.000	101340.000	64550.000
20.	3:10:53:19	44850.000	68820.000	112440.000	155390.000	173660.000	153370.000	107170.000	68630.000
21.	3:10:54: 2	47850.000	72630.000	117870.000	163670.000	183400.000	161710.000	112580.000	72270.000
22.	3:10:54:49	50380.000	76460.000	124110.000	170970.000	193210.000	169340.000	118640.000	75950.000
23.	0: 0: 0: 0	53220.000	79860.000	130420.000	179560.000	201700.000	178250.000	124700.000	79340.000
24.	3:10:55:39	53230.000	80440.000	130630.000	179300.000	201530.000	178590.000	124090.000	79410.000
25.	3:10:55:55	53370.000	80900.000	130770.000	178680.000	201220.000	178610.000	123820.000	79680.000
26.	3:10:56:10	53800.000	80660.000	130560.000	175930.000	200500.000	177080.000	123420.000	79140.000
27.	3:10:56:26	54590.000	80920.000	130000.000	174270.000	197400.000	176850.000	122890.000	78970.000
28.	3:10:56:42	54530.000	79620.000	127430.000	168600.000	194630.000	172690.000	122130.000	78460.000
29.	3:10:56:57	52670.000	76840.000	121310.000	157220.000	184630.000	162980.000	117430.000	74620.000
30.	3:10:57:13	50910.000	73000.000	115070.000	147390.000	173440.000	154660.000	113970.000	70970.000
31.	3:10:57:29	37670.000	54340.000	86170.000	113560.000	135350.000	123230.000	87320.000	56660.000
32.	3:10:57:45	14930.000	25570.000	41830.000	56810.000	73170.000	67870.000	49430.000	29660.000
33.	3:10:58: 0	3830.000	7300.000	13040.000	19110.000	23240.000	23730.000	15970.000	6240.000
34.	3:10:58:16	4950.000	7260.000	12050.000	17980.000	22300.000	22580.000	14740.000	6520.000
35.	3:10:58:32	4910.000	7270.000	11940.000	17970.000	22190.000	22630.000	14690.000	6470.000
36.	3:10:58:47	4920.000	7270.000	11970.000	17960.000	22170.000	22660.000	14690.000	6470.000

ROD CHANNELS

	TIME	CH.50	CH.51	CH.52	CH.53	CH.54	CH.55	CH.56	CH.57
1.	3: 9:35:14	-12.812	12.812	25.624	-12.812	0.0	0.0	25.624	25.624
2.	3:10:32:42	-64.059	0.0	25.624	-12.812	-12.812	-76.871	38.435	38.435
3.	3:10:33:34	-166.553	12.812	51.247	-12.812	-51.247	-128.118	-76.871	-25.624
4.	3:10:34:17	-204.989	12.812	115.306	-25.624	-38.435	-102.494	-281.859	-115.306
5.	3:10:34:56	-192.177	0.0	140.930	-89.683	-12.812	-51.247	-320.295	-89.683
6.	3:10:35:34	-166.553	0.0	51.247	-166.553	-12.812	25.624	-166.553	-12.812
7.	3:10:36:23	-179.365	-12.812	38.435	-230.612	0.0	76.871	-38.435	128.118
8.	3:10:37:11	-307.483	-12.812	38.435	-269.048	-38.435	76.871	51.247	281.859
9.	3:10:38:14	-397.166	-12.812	-89.683	-371.542	-76.871	89.683	115.306	486.848
10.	3:10:39:28	-512.472	-25.624	-140.930	-435.601	-128.118	140.930	153.742	563.719
11.	3:10:40:27	-653.402	-12.812	-179.365	-499.660	-179.365	217.801	192.177	679.025
12.	3:10:44:53	-948.073	-25.624	-294.671	-602.154	-243.424	345.913	333.107	935.261
13.	3:10:47: 0	-999.320	-25.624	-256.236	-627.778	-281.859	422.789	358.730	1024.944
14.	3:10:47:48	-1101.814	-38.435	-243.424	-666.213	-320.295	512.472	371.542	1127.438
15.	3:10:48:51	-1153.062	-38.435	-256.236	-704.649	-333.107	614.966	461.225	1229.933
16.	3:10:49:43	-1204.309	-51.247	-281.859	-755.896	-358.730	704.649	525.284	1332.427
17.	3:10:50:59	-1268.368	-38.435	-294.671	-807.143	-384.354	807.143	614.966	1434.921
18.	3:10:51:43	-1281.180	-38.435	-307.483	-858.390	-397.166	871.202	704.649	1524.604
19.	3:10:52:29	-1319.615	-38.435	-320.295	-896.826	-409.978	960.885	781.520	1601.475
20.	3:10:53:19	-1268.368	-51.247	-320.295	-935.261	-422.789	1037.756	884.014	1678.345
21.	3:10:54: 2	-1255.556	-38.435	-333.107	-999.320	-422.789	1101.814	999.320	1793.652
22.	3:10:54:49	-1319.615	-64.059	-397.166	-1114.626	-435.601	1204.309	1204.309	1921.770
23.	0: 0: 0: 0	-1370.862	-64.059	-627.778	-1332.427	-435.601	1345.239	1473.357	2152.382
24.	3:10:55:39	-1537.416	-76.871	-743.084	-1498.980	-474.036	1486.168	1627.098	2242.064
25.	3:10:55:55	-1768.028	-115.306	-781.520	-1665.534	-486.843	1639.910	1947.393	2485.489
26.	3:10:56:10	-2178.006	-243.424	-640.590	-1806.463	-499.660	1908.958	2267.688	2728.913
27.	3:10:56:26	-2511.112	-474.036	-371.542	-1985.829	-499.660	2216.441	2344.559	2869.843
28.	3:10:56:42	-2869.843	-935.261	153.742	-1960.205	-538.095	2677.666	2152.382	2741.725
29.	3:10:56:57	-2959.525	-1614.286	909.637	-1908.958	-640.590	3356.691	1396.486	2293.312
30.	3:10:57:13	-2857.031	-2139.570	1639.910	-2216.441	-717.461	4010.093	704.649	1755.216
31.	3:10:57:29	-2780.160	-2318.935	794.331	-2267.688	-999.320	4932.539	115.306	1024.944
32.	3:10:57:45	-3536.056	-2754.536	845.579	-1089.003	-1101.814	4304.762	0.0	486.848
33.	3:10:58: 0	-2280.500	-1601.475	409.978	-743.084	-512.472	3074.832	-179.365	166.553
34.	3:10:58:16	-2190.817	-1537.416	448.413	-691.837	-499.660	3010.772	-204.989	153.742
35.	3:10:58:32	-2165.194	-1524.604	461.225	-691.837	-486.848	2997.961	-204.989	140.930
36.	3:10:58:47	-2165.194	-1511.792	461.225	-691.837	-486.848	2972.337	-204.989	140.930

A V E R A G E L O A D

1.	1461.250
2.	3155.000
3.	6347.500
4.	12637.500
5.	18413.750
6.	24492.500
7.	30886.250
8.	37260.000
9.	43463.750
10.	49321.250
11.	55212.500
12.	61293.750
13.	67547.500
14.	73798.750
15.	80086.250
16.	86030.000
17.	92123.750
18.	98301.250
19.	104363.750
20.	110541.250
21.	116497.500
22.	122382.500
23.	128381.250
24.	128402.500
25.	128381.250
26.	127636.250
27.	126986.250
28.	124761.250
29.	118462.500
30.	112426.250
31.	86787.500
32.	44908.750
33.	14057.500
34.	13547.500
35.	13508.750
36.	13513.750

MAXIMUM LOAD CHANNEL, 25 REACHES A MAXIMUM VALUE AT STEP NUMBER 23

3.5 VOUSSOIR BLOCK LINER

3.5.1 SPECIMEN #7

TEST NO. 38

VOUSSOIR BLOCK LINER

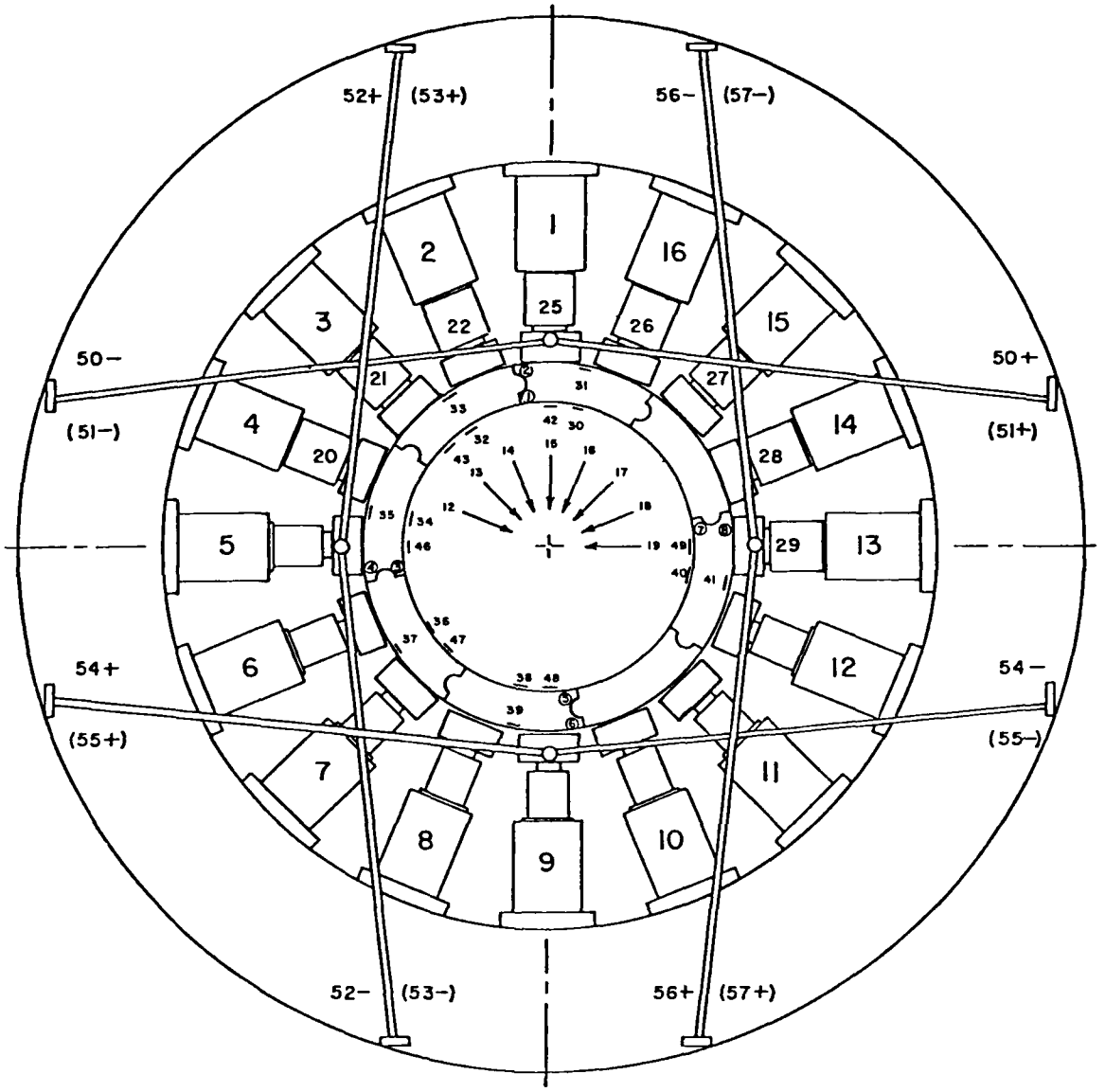
1:1 LOADING RATIO

TESTED 31 MAY 1978

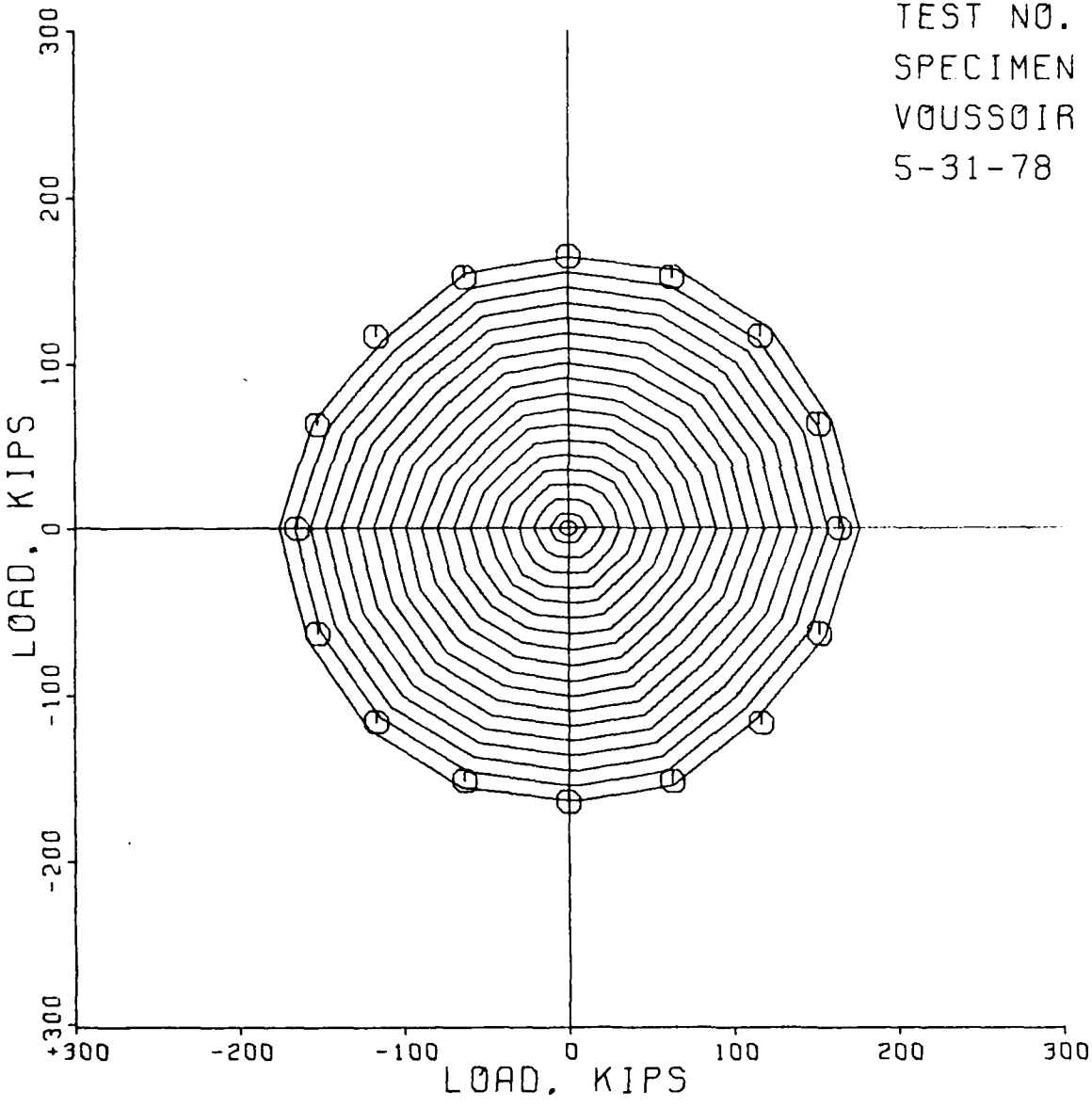
REACTION FRAME TEST SET-UP

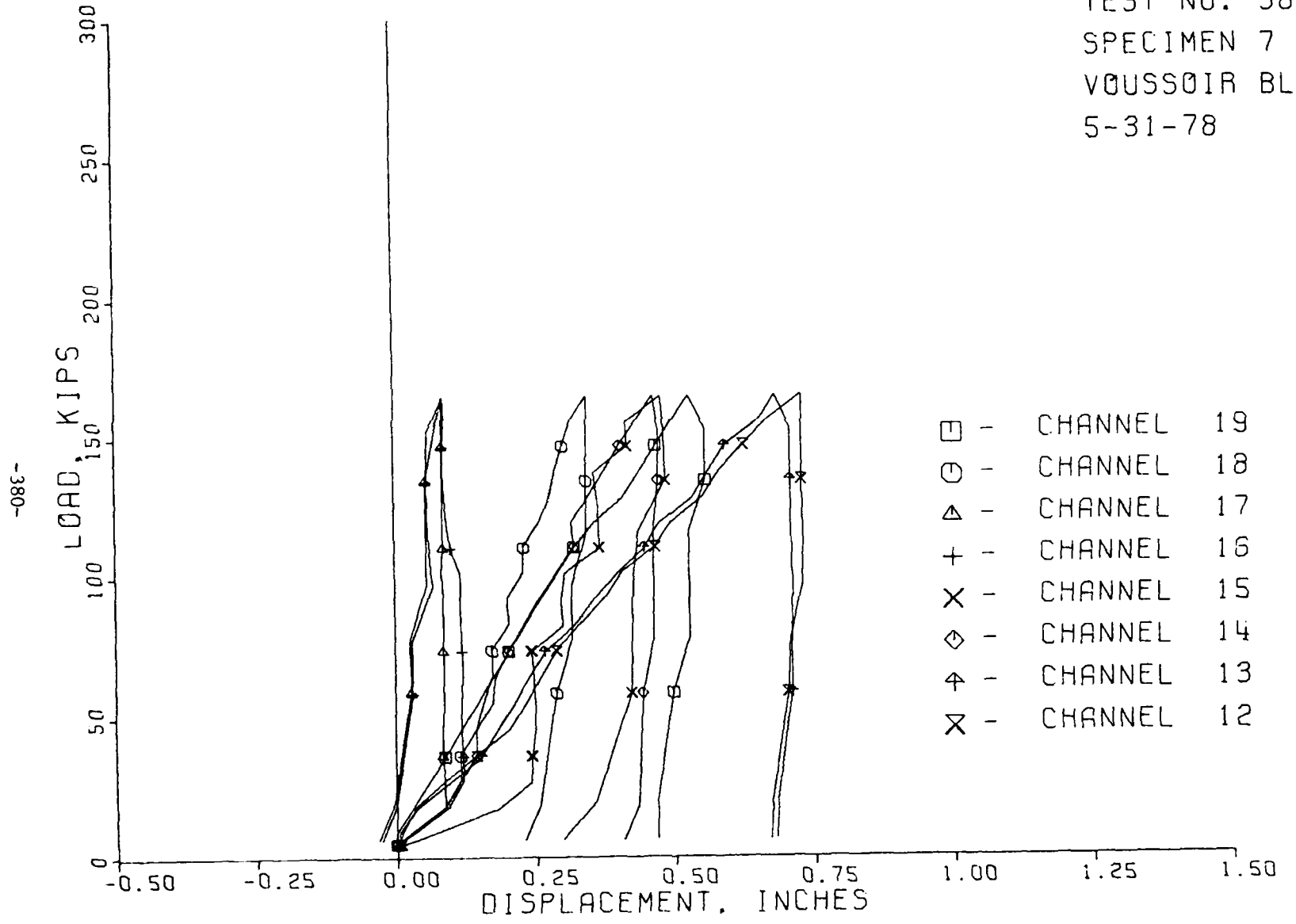
Specimen #7
Voussoir Block

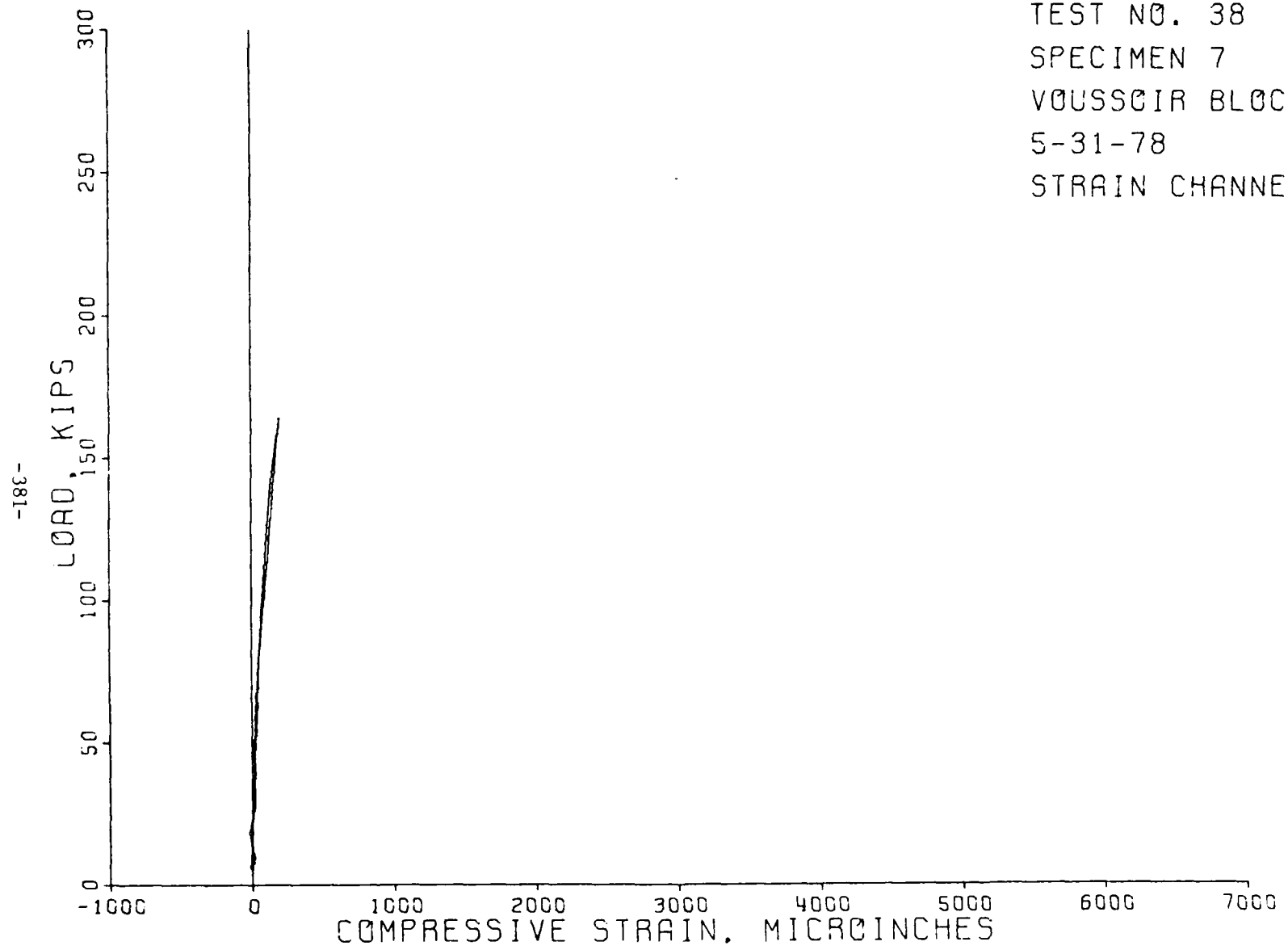
Test #38
1:1 Load
31 May 1978

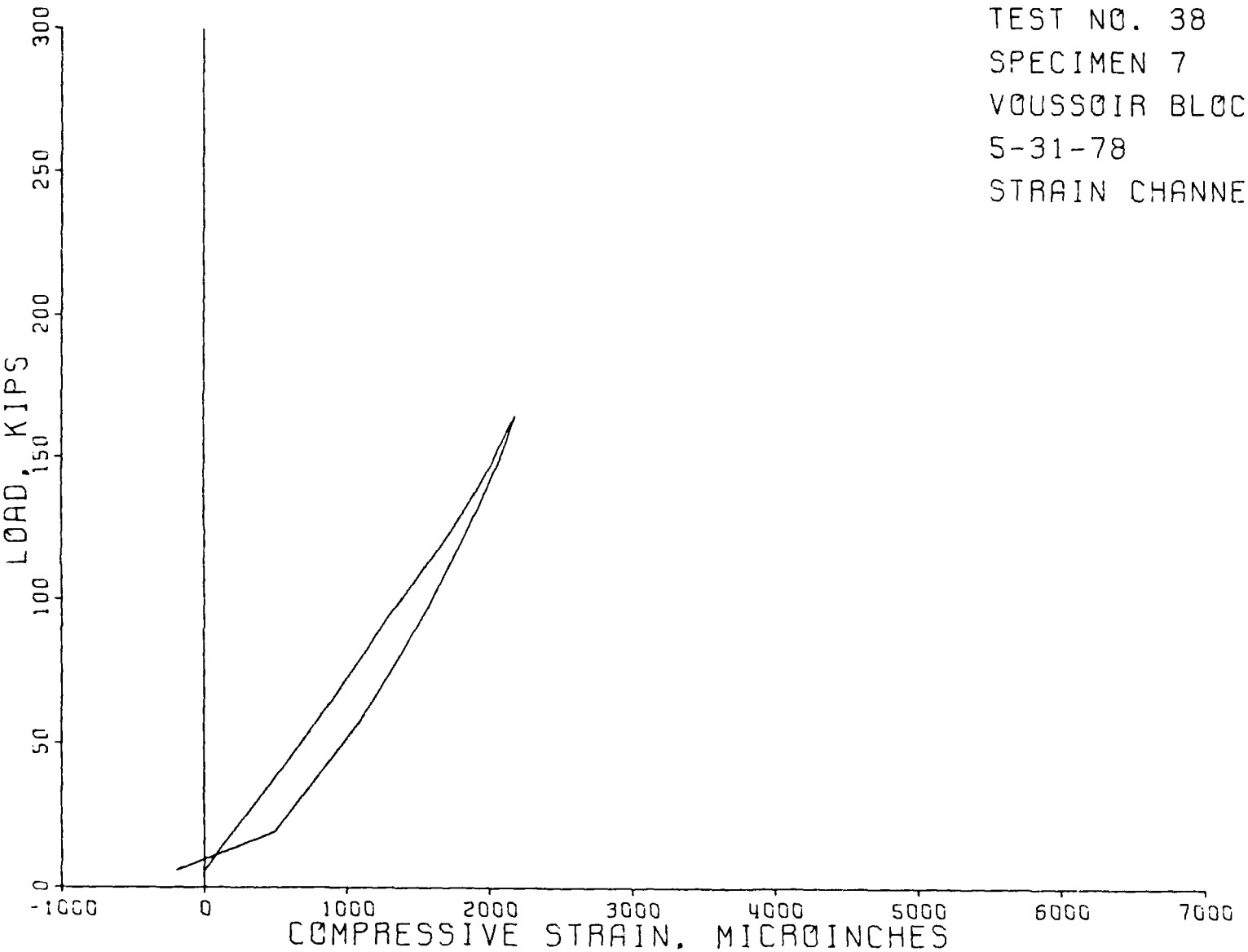


CH 12-19 Load axis I.D. (Research, Inc. Model 4040).
CH 20-22, 25-29 Axial load (Transducers, Inc. Model 693-300K).
CH 30-41, (Ailtech SG 129-6S) Radial pairs between axes 2-1/2" from top. Odd gages on rebar.
CH 42-43, 46-49, (Ailtech SG 129-6S) on load axes 2-1/2" from top.
CH 50-57, (Ailtech SG 129-6S) Polarity indicates rod under tension. Lower rod shown (XX).
Dial Gages ① - ⑧ measure circumferential gap width at the top.


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
LOAD, KIPS
300
200
100
0
-100
-200
-300
+300
-200
-100
0
100
200
300
LOAD, KIPS


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
LOAD, KIPS
0
50
100
150
200
250
300
-0.50
-0.25
0.00
0.25
0.50
0.75
1.00
1.25
1.50
DISPLACEMENT, INCHES
CHANNEL 19
CHANNEL 18
CHANNEL 17
CHANNEL 16
CHANNEL 15
CHANNEL 14
CHANNEL 13
CHANNEL 12


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 30
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 31
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

AD-A083 453 MERRITT CASES INC REDLANDS CA F/G 18/3
STATIC TESTS OF SEGMENTS OF TUNNEL LININGS, VOLUME II. DATA.(U)
JUN 79 H C DAVIS, K B MORRILL, J L MERRITT DNA001-77-C-0143
UNCLASSIFIED 78-004-T1 DNA-4976F-2 NL

5 OF 5
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5 80
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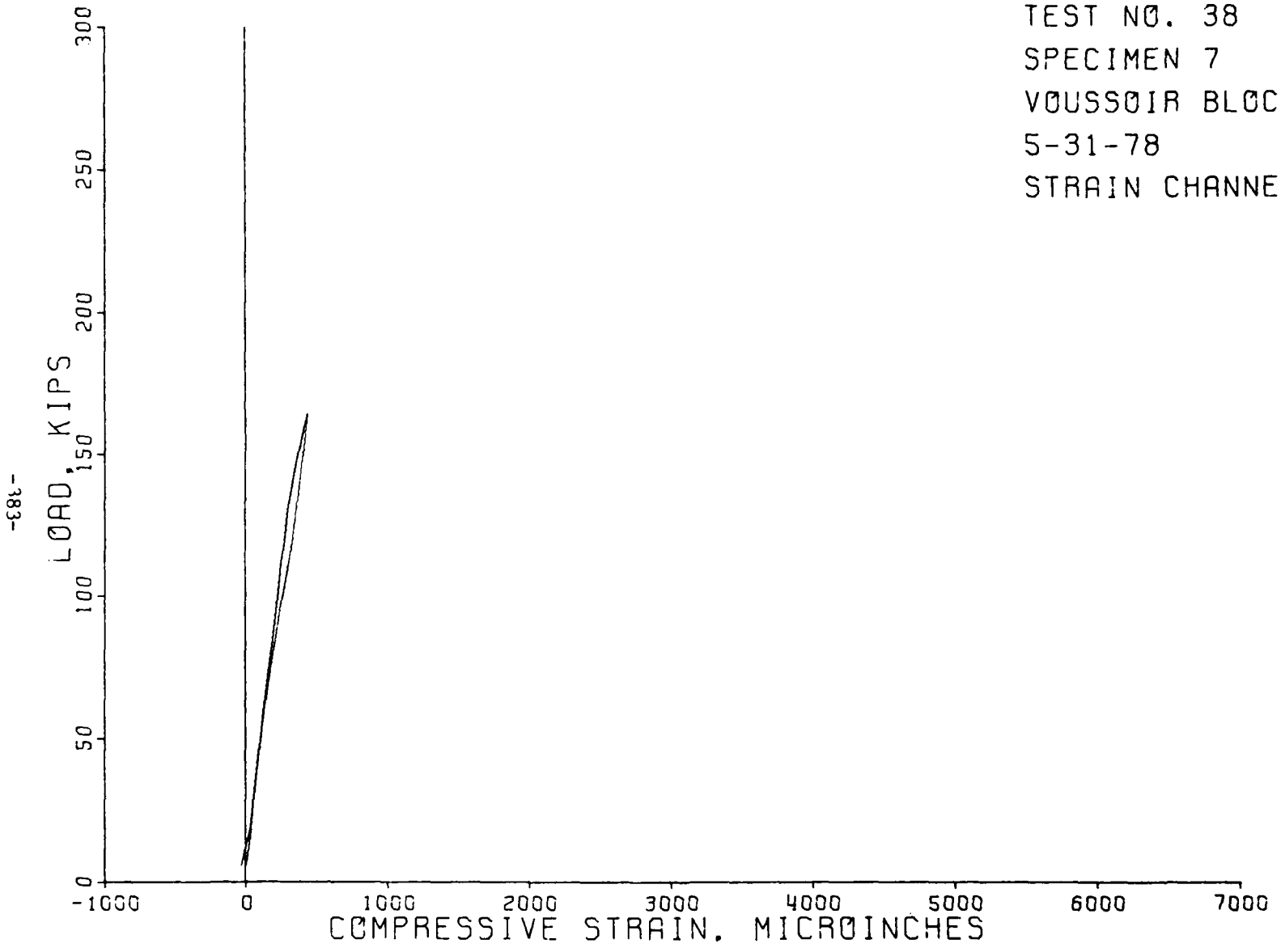
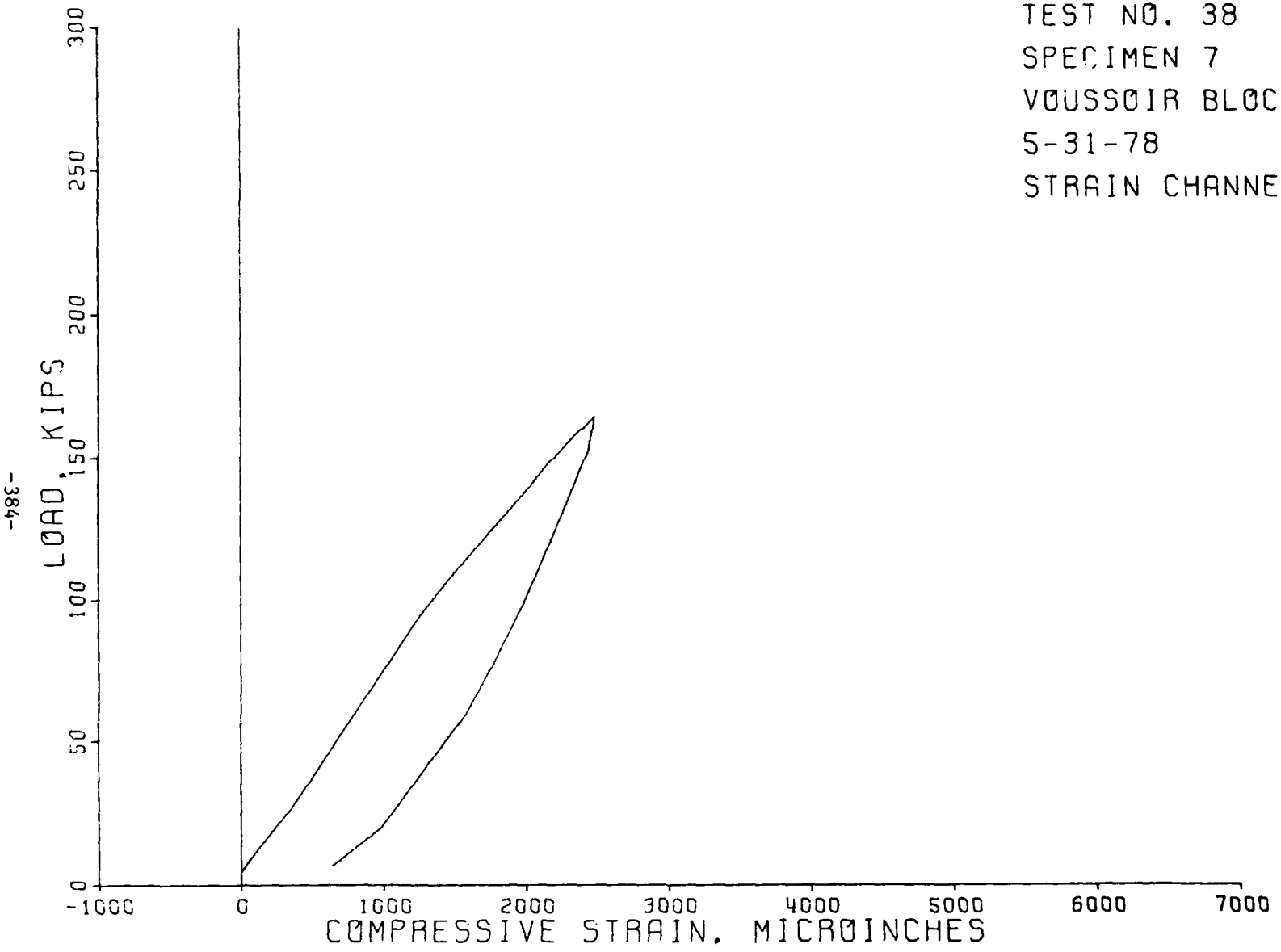
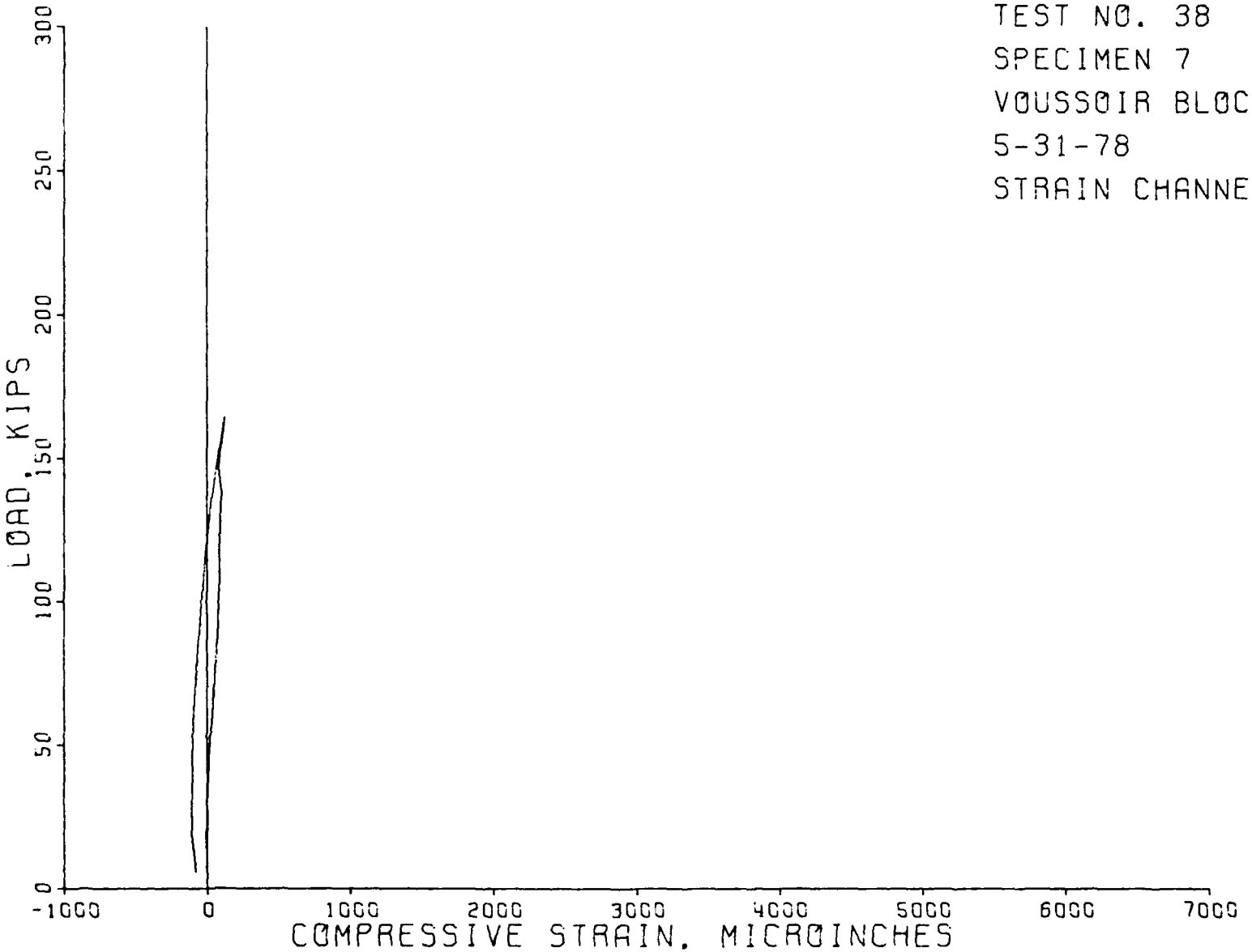
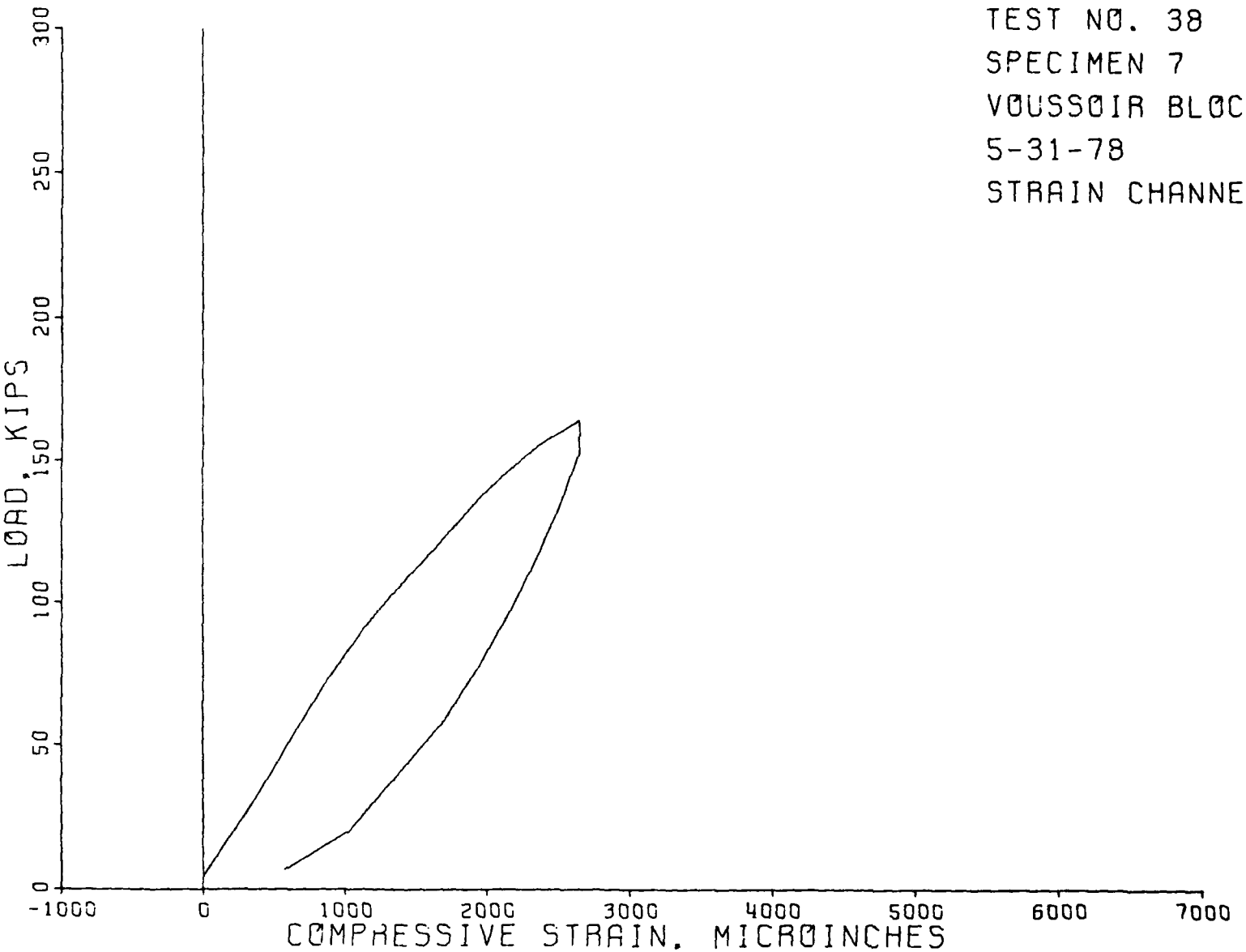
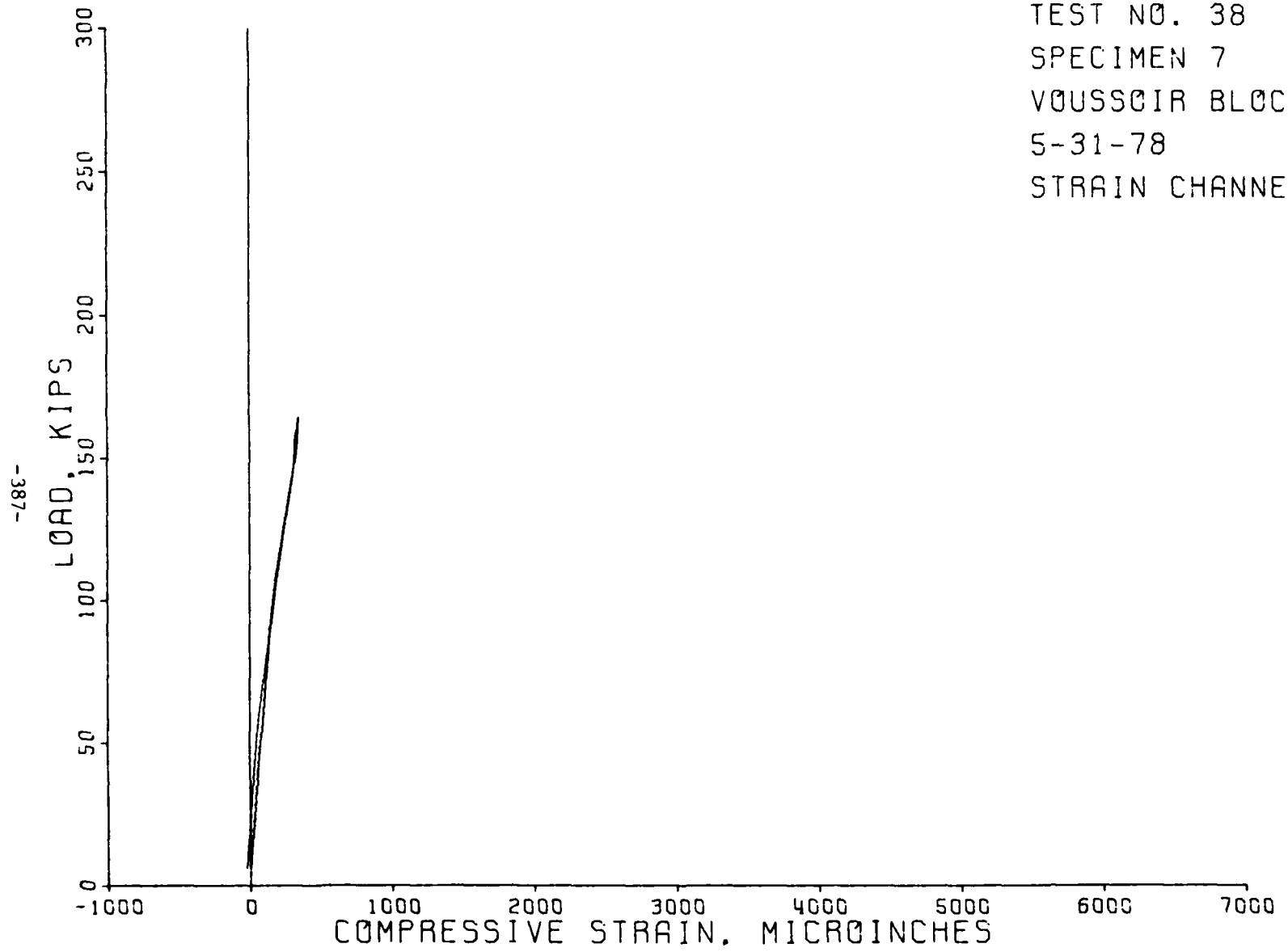
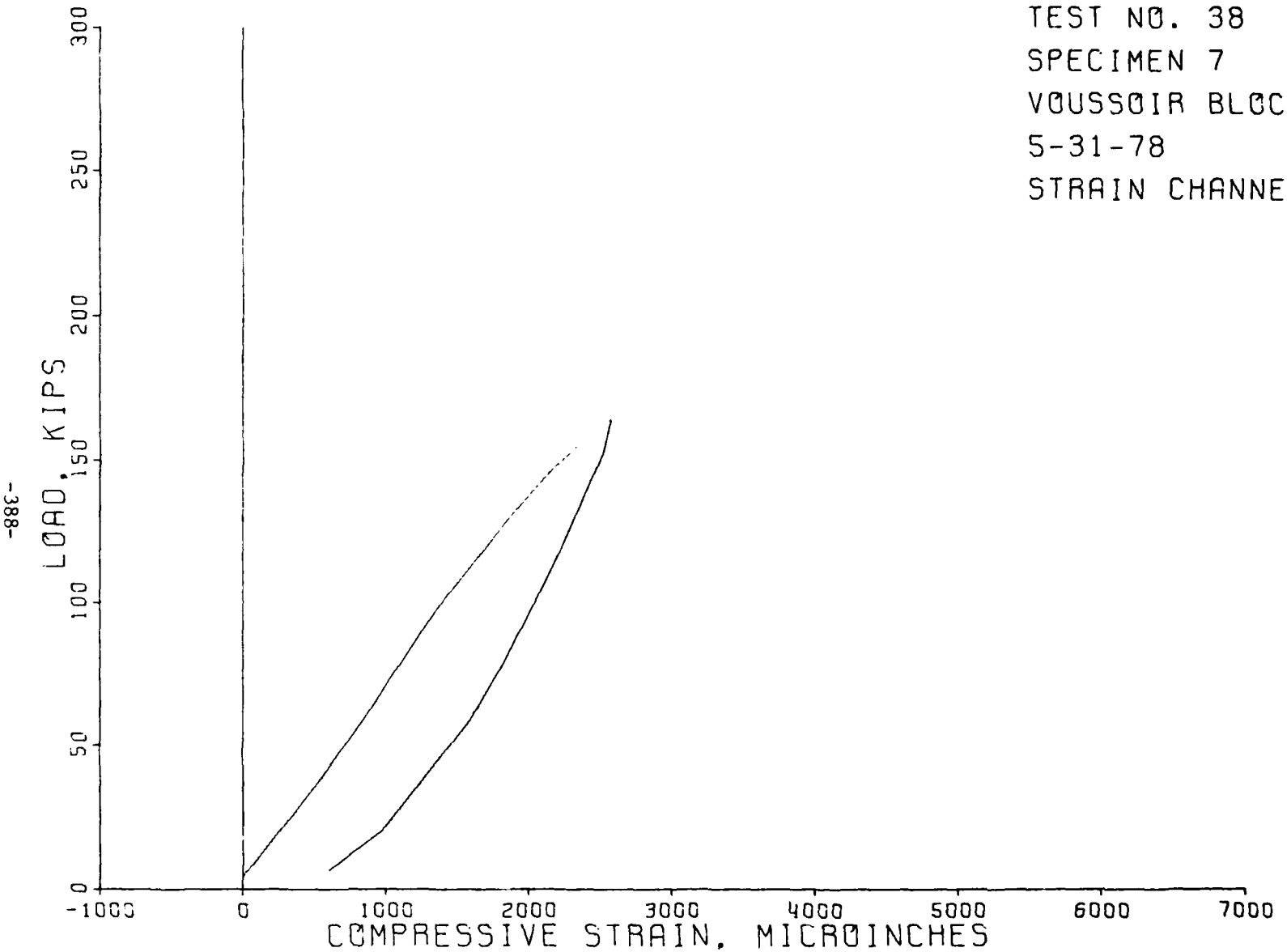

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 32
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

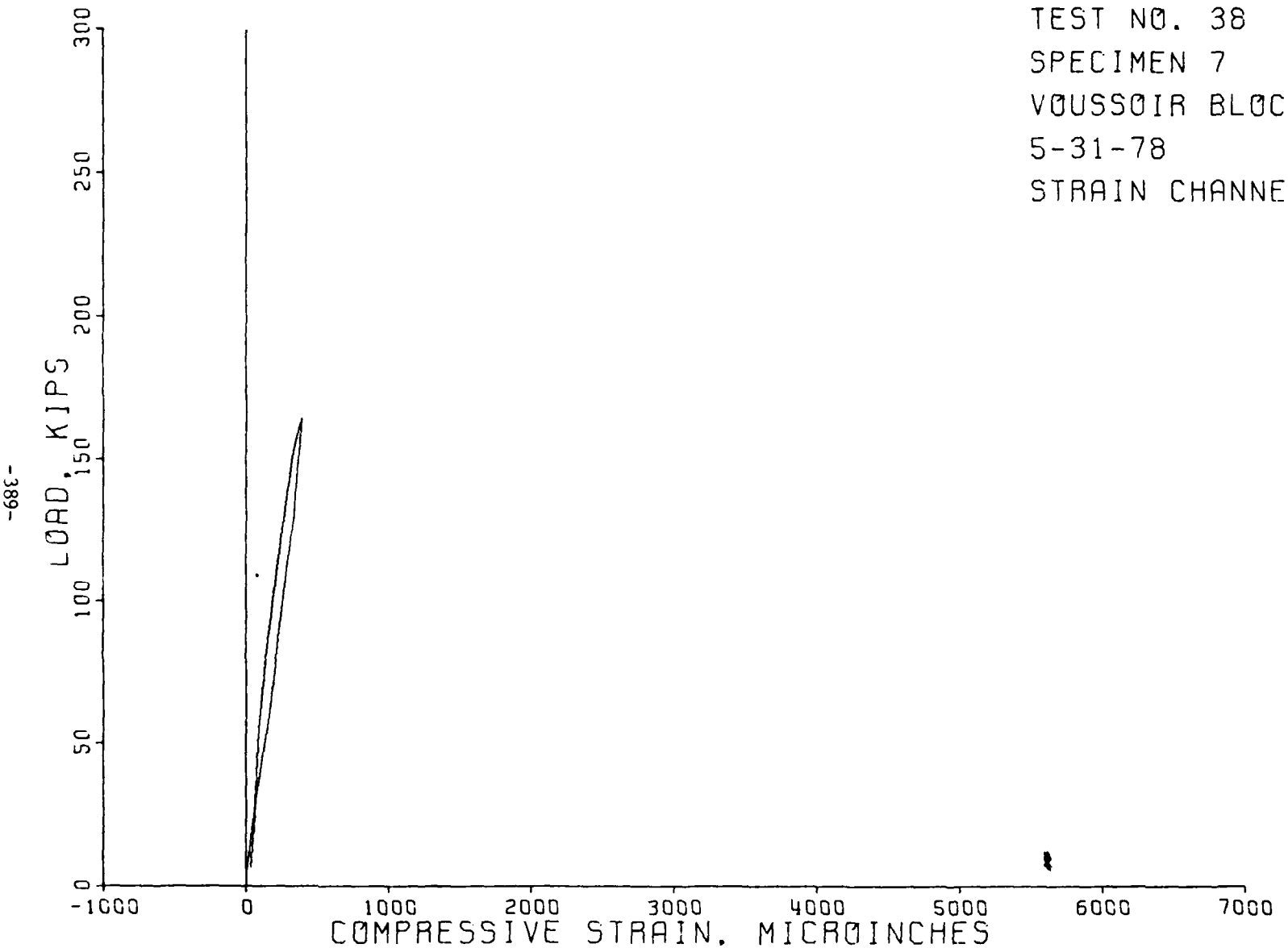

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 33
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

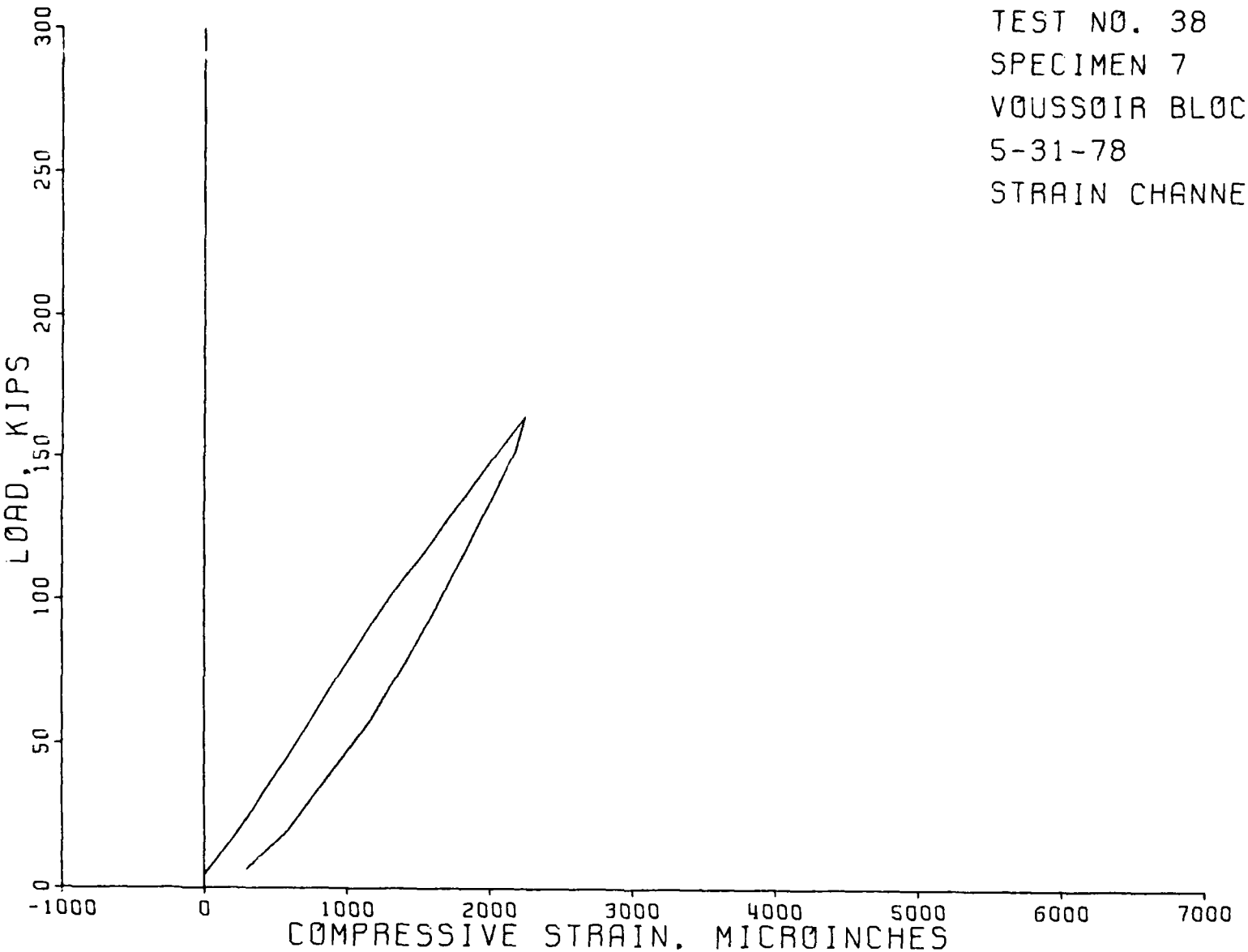

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 34
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

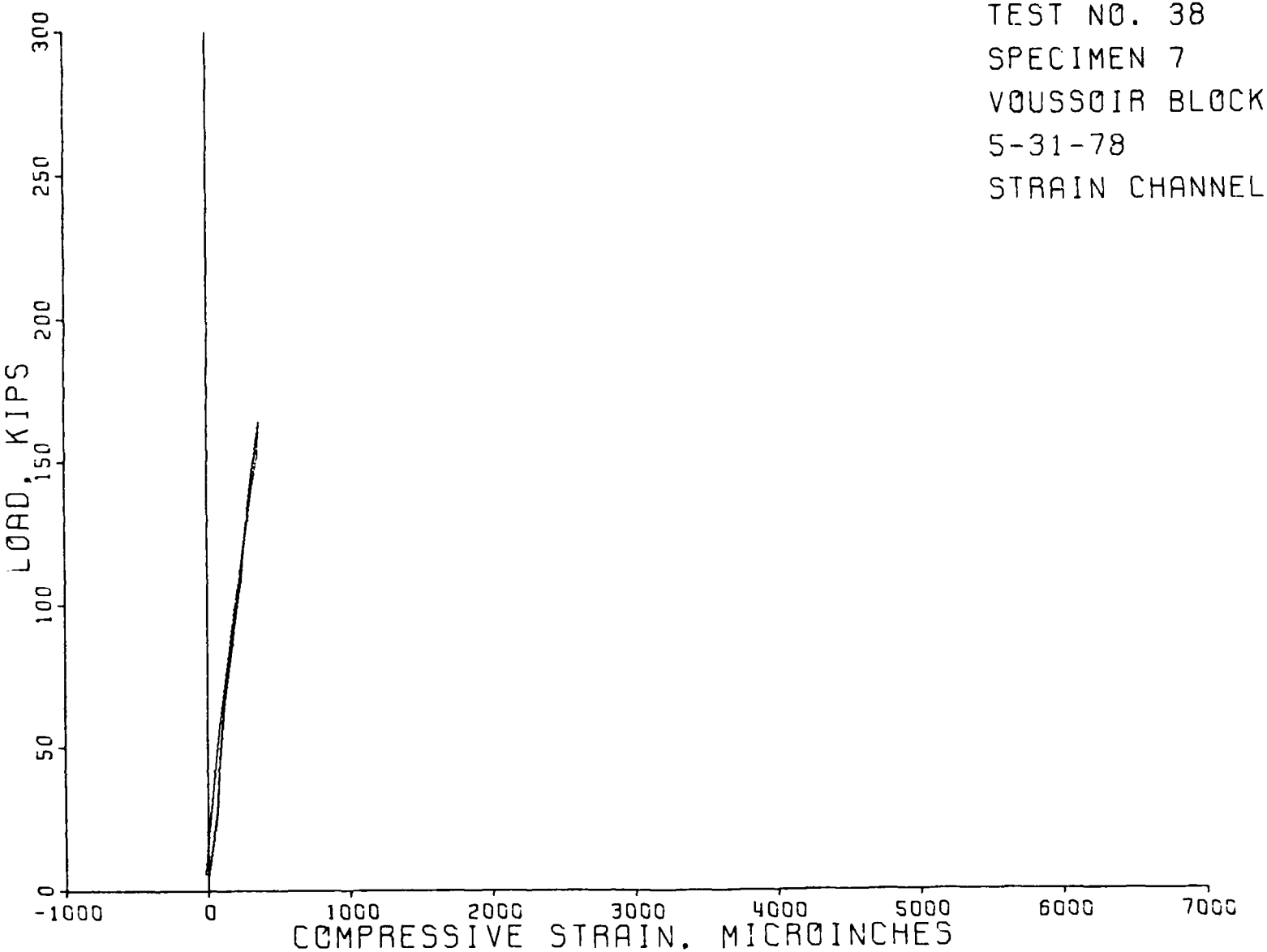

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 35
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

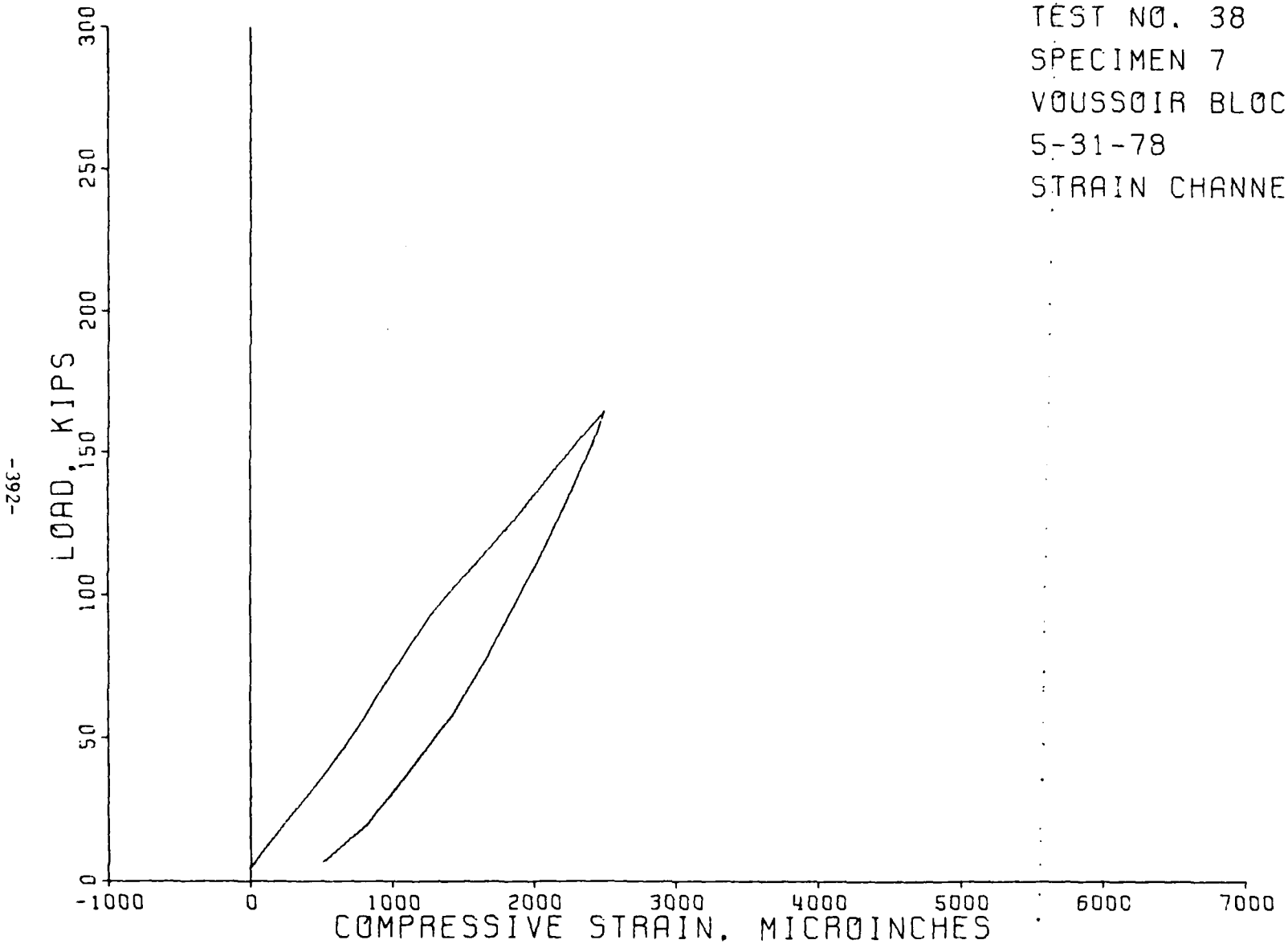

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 36
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

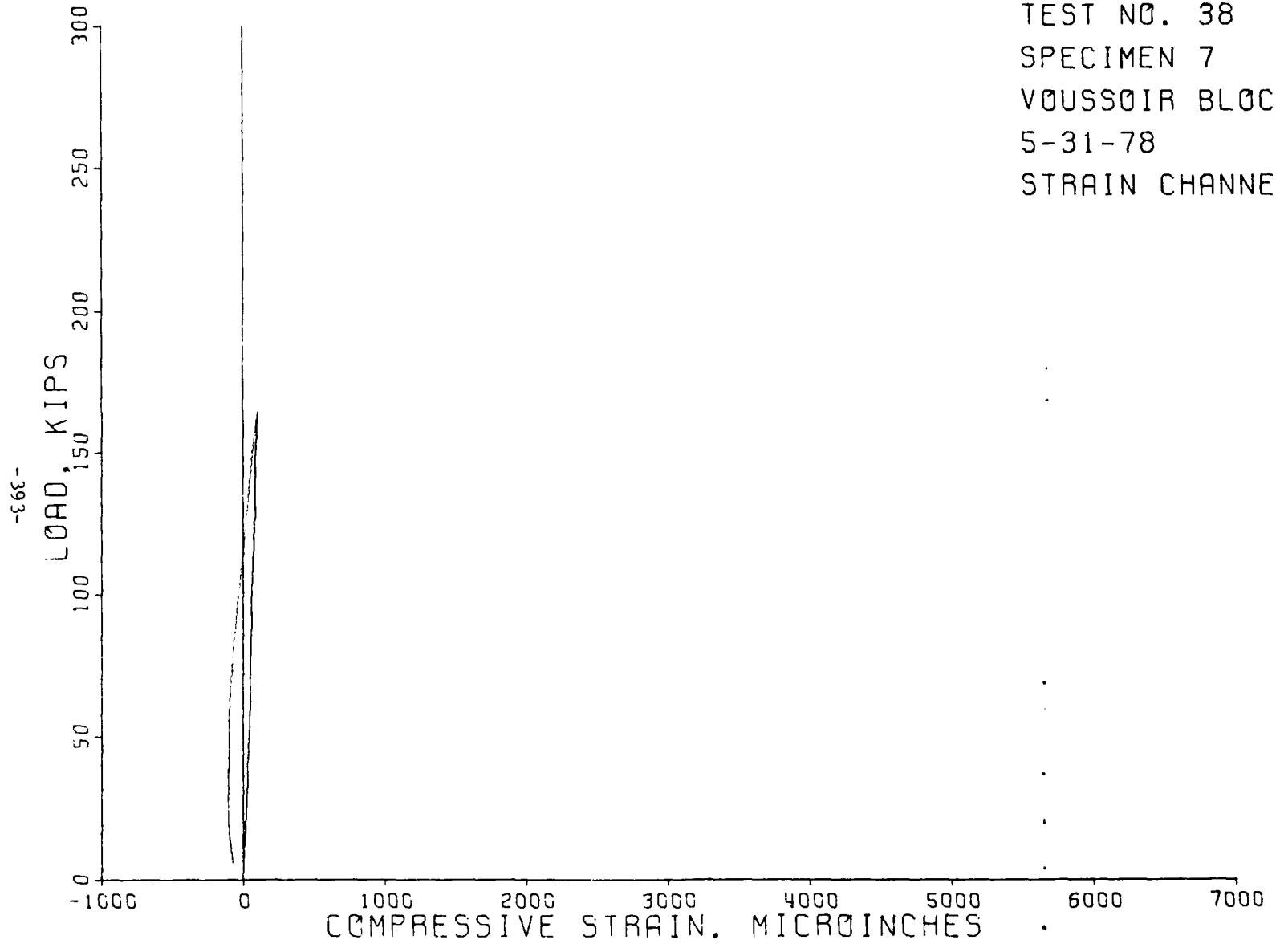

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 37
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

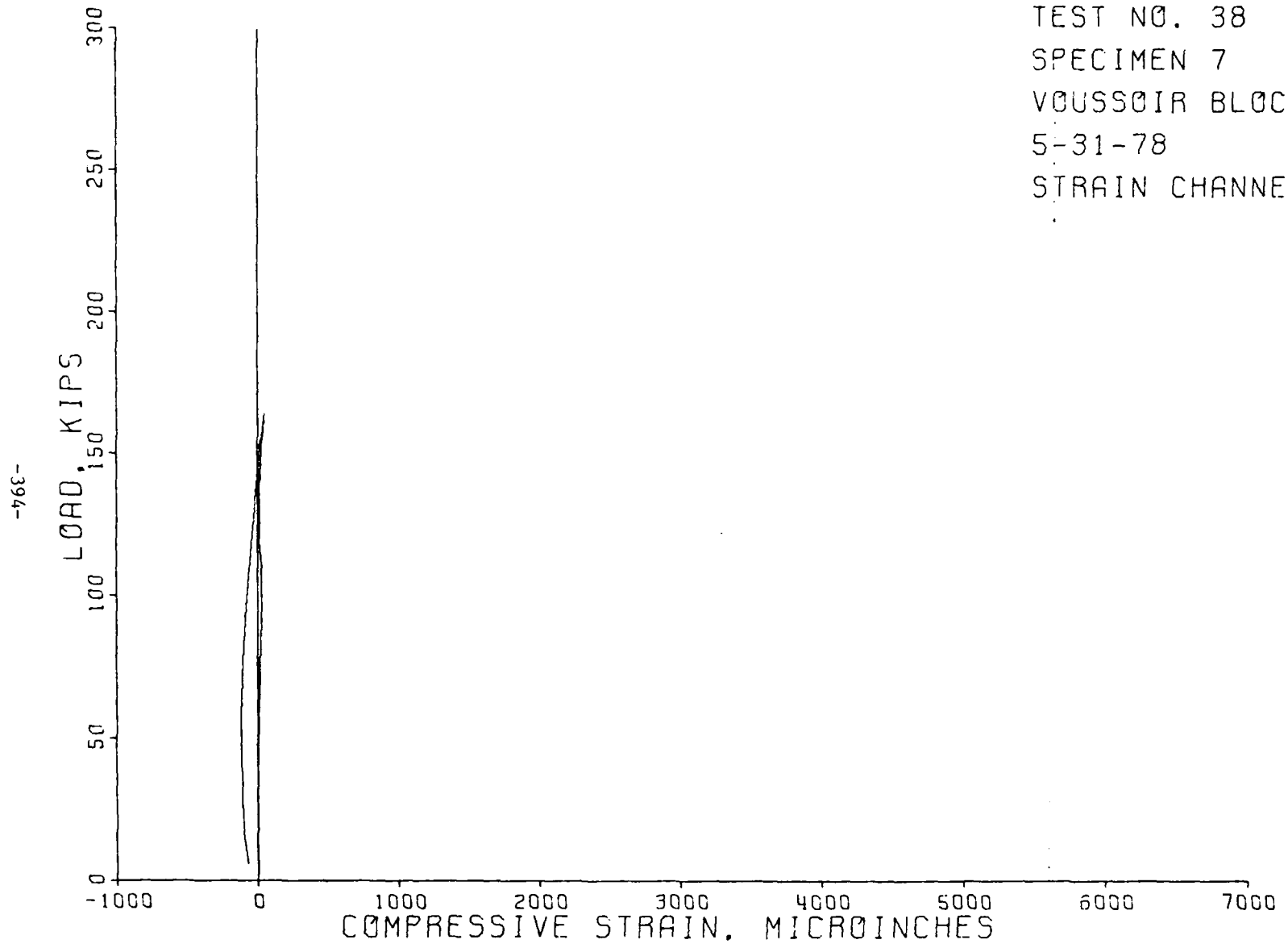

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 38
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

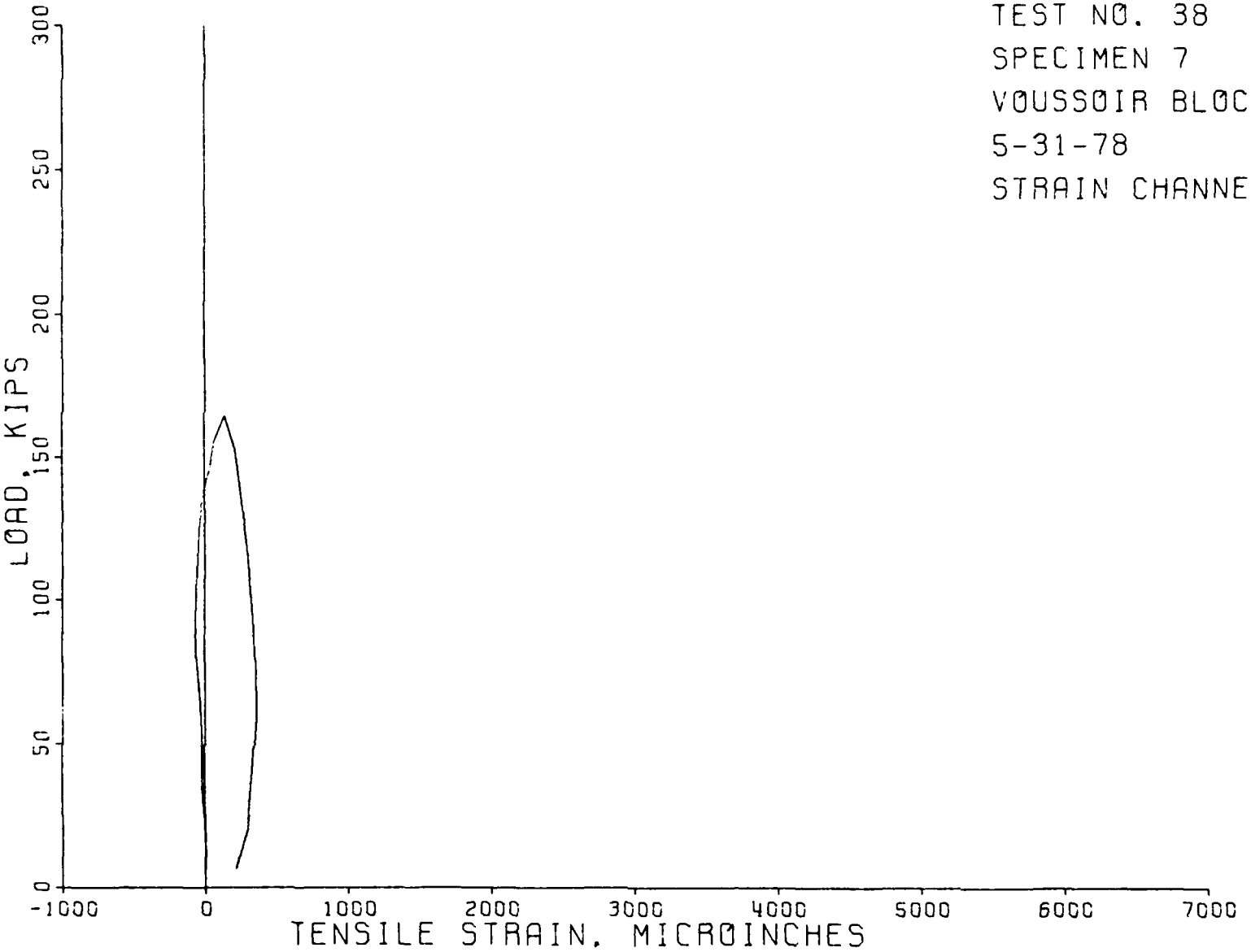

TEST NØ. 38
SPECIMEN 7
VØUSSØIR BLØCK
5-31-78
STRAIN CHANNEL 39
LØAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICRØINCHES

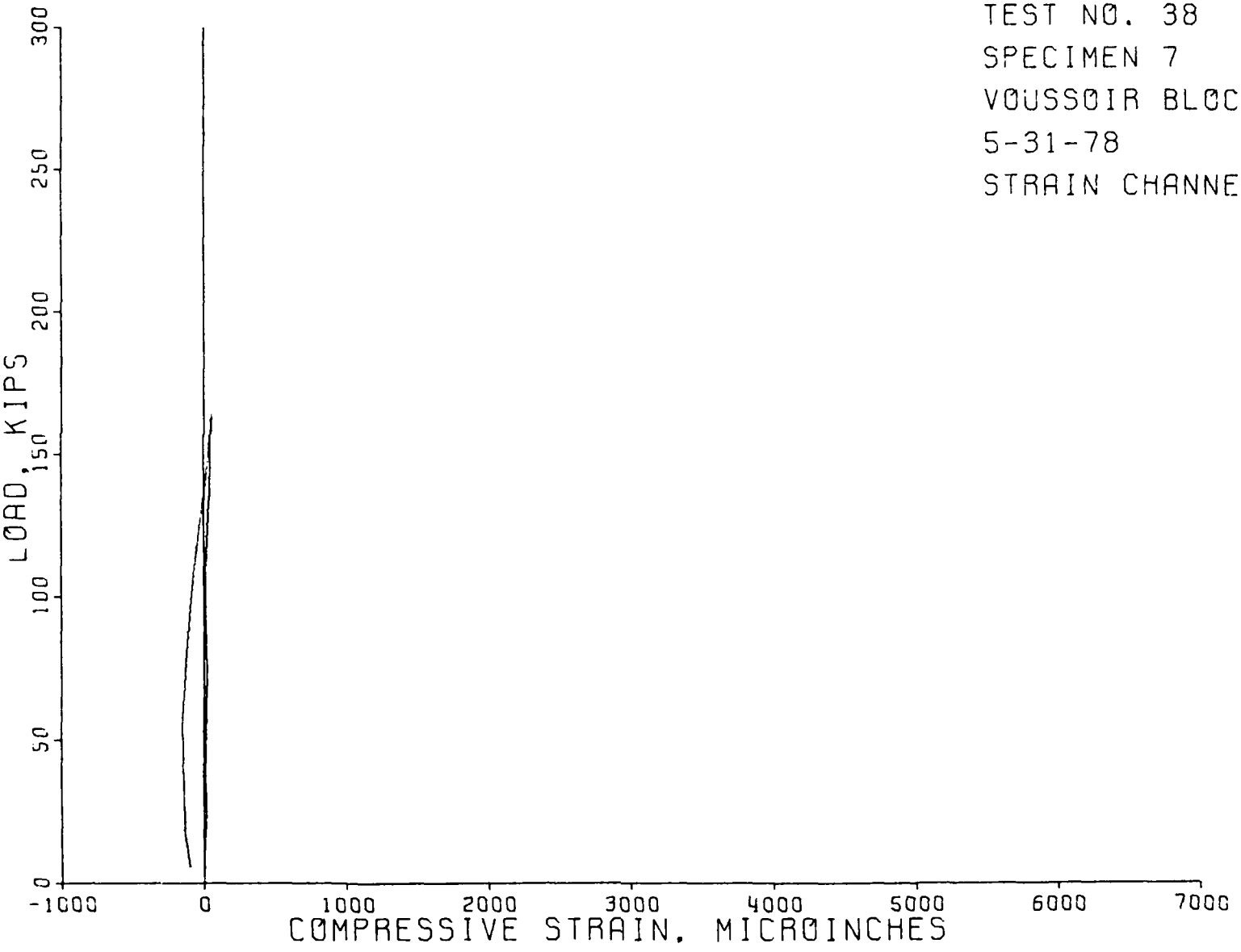

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 40
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

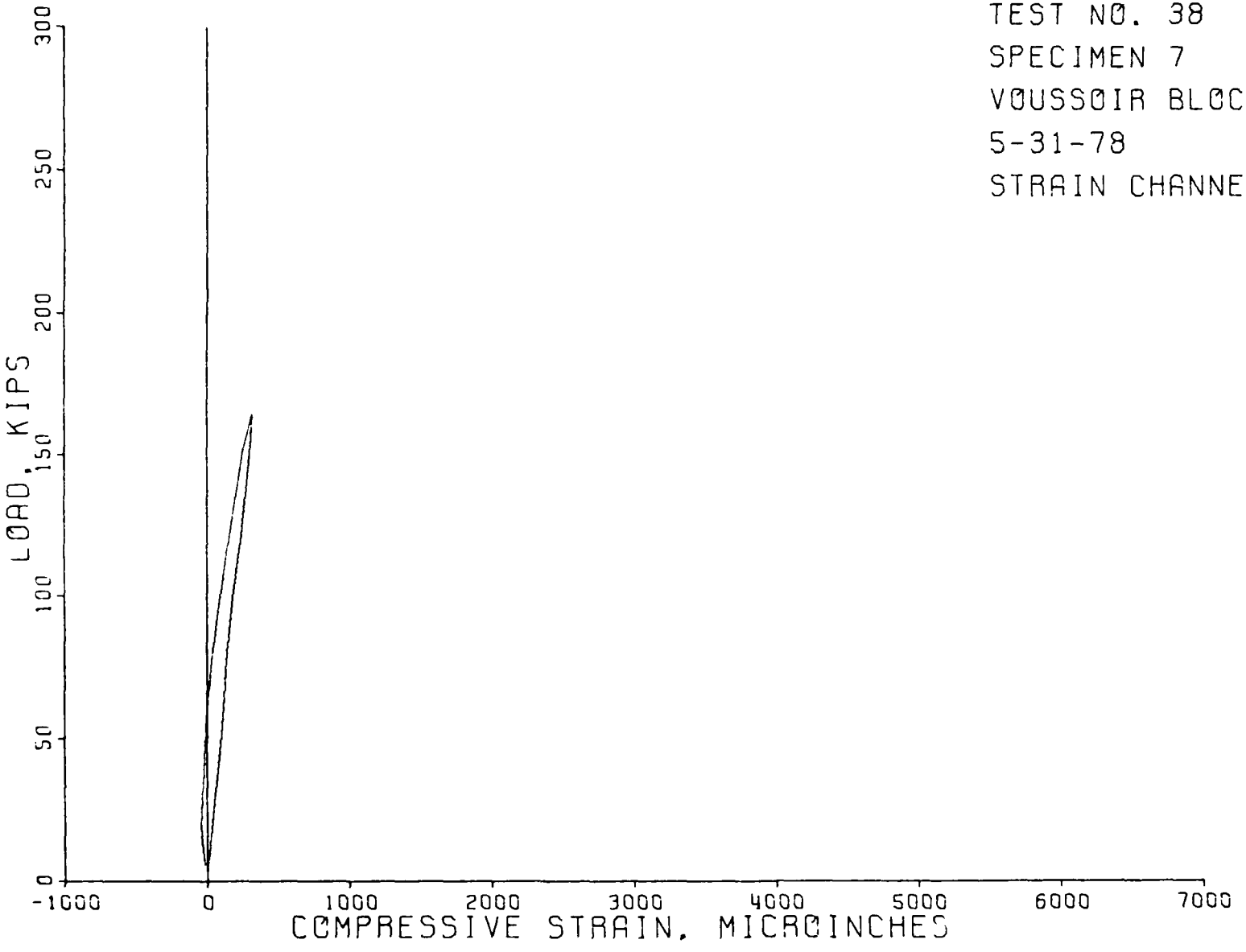

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 41
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

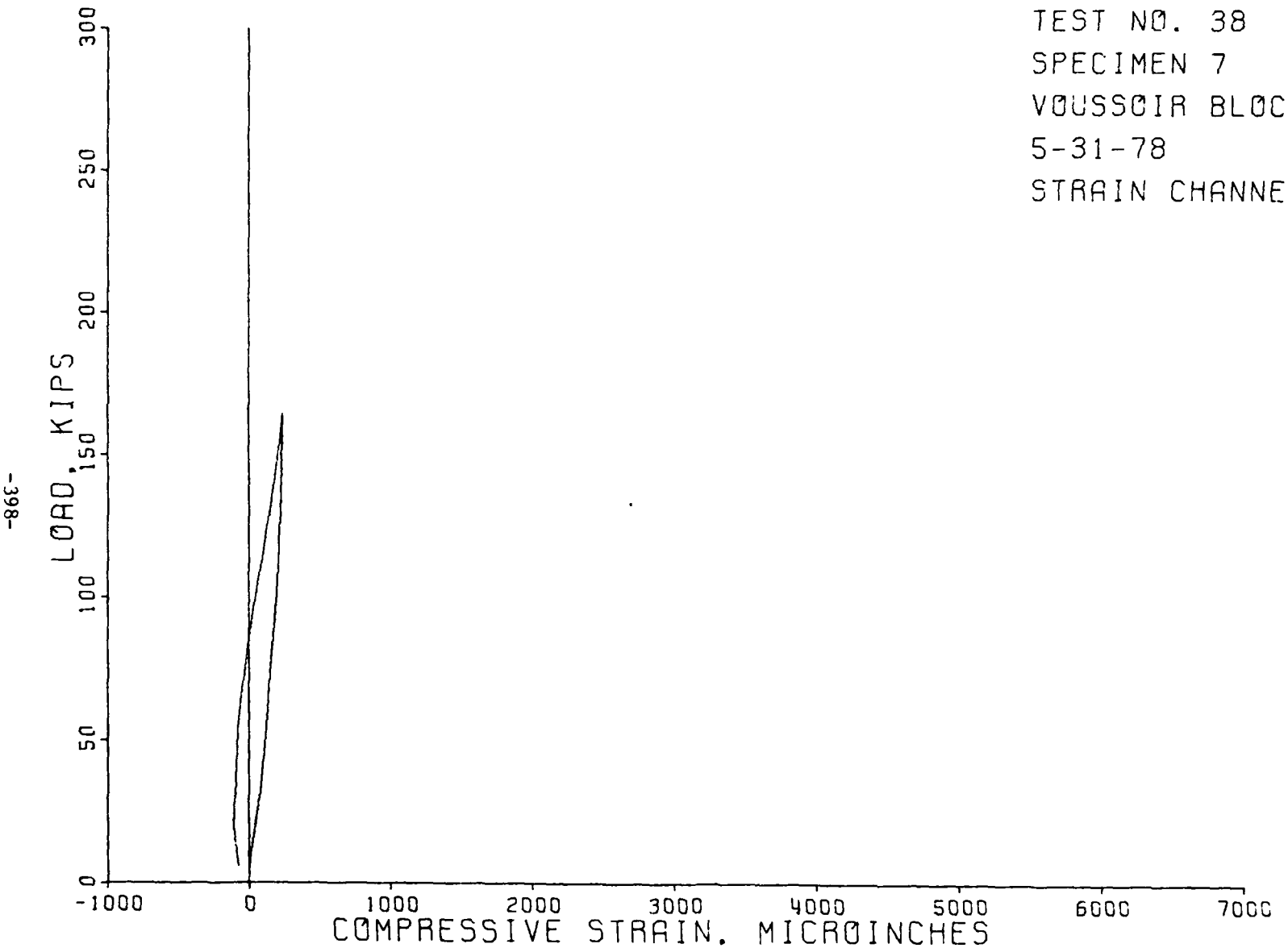

TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 42
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 43
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 46
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
TENSILE STRAIN, MICROINCHES


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 47
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 48
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES


TEST NO. 38
SPECIMEN 7
VOUSSOIR BLOCK
5-31-78
STRAIN CHANNEL 49
LOAD, KIPS
0
50
100
150
200
250
300
-1000
0
1000
2000
3000
4000
5000
6000
7000
COMPRESSIVE STRAIN, MICROINCHES

TEST NO. 38 SPECIMEN 7 VOUSSOIR BLOCK 5-31-78

NUMBER OF INCREMENTS= 27
NUMBER OF CHANNELS= 42
NUMBER OF STRAIN CHANNELS= 18
NUMBER OF DISPLACEMENT CHANNELS= 8
NUMBER OF LOAD CHANNELS= 8
NUMBER OF PRESSURE CHANNELS= 0
NUMBER OF RODS= 8

CHANNEL	ZEROSHIFT
57	0.0
56	0.0
55	0.0
54	0.0
53	0.0
52	0.0
51	0.0
50	0.0
49	0.0
48	0.0
47	0.0
46	0.0
43	0.0
42	0.0
41	0.0
40	0.0
39	0.0
38	0.0
37	0.0
36	0.0
35	0.0
34	0.0
33	0.0
32	0.0
31	0.0
30	0.0
29	0.0
28	0.0
27	0.0
26	0.0
25	0.0
22	0.0
21	0.0
20	0.0
19	0.0
18	0.0
17	0.0
16	0.0
15	0.0
14	0.0
13	0.0
12	0.0

STRAIN CHANNEL	CALIBRATION

49	1.000
48	1.000
47	1.000
46	1.000
43	1.000
42	1.000
41	1.000
40	1.000
39	1.000
38	1.000
37	1.000
36	1.000
35	1.000
34	1.000
33	1.000
32	1.000
31	1.000
30	1.000

DISPLACEMENT CHANNEL	CALIBRATION
19	0.000
18	0.000
17	0.002
16	0.002
15	0.002
14	0.002
13	0.002
12	0.002

LOAD CHANNEL	CALIBRATION
29	10.000
28	10.000
27	10.000
26	10.000
25	10.000
22	10.000
21	10.000
20	10.000

ROD CHANNEL	CALIBRATION
57	1.000
56	1.000
55	1.000
54	1.000
53	1.000
52	1.000
51	1.000
50	1.000

STRAIN CHANNELS

	TIME	CH.49	CH.48	CH.47	CH.46	CH.43	CH.42	CH.41	CH.40
1.	31:10:18:18	-1.000	-1.000	-1.000	1.000	0.0	-1.000	-2.000	0.0
2.	31:10:19:49	-12.000	-13.000	-2.000	3.000	3.000	-5.000	-62.000	-17.000
3.	31:10:23:30	-34.000	-30.000	-10.000	2.000	4.000	-15.000	-199.000	-41.000
4.	31:10:28:24	-66.000	-48.000	-13.000	-11.000	4.000	-24.000	-350.000	-65.000
5.	31:10:32:59	-86.000	-72.000	-12.000	-20.000	-1.000	-30.000	-497.000	-75.000
6.	31:10:37:29	-104.000	-89.000	-10.000	-21.000	-5.000	-37.000	-631.000	-87.000
7.	31:10:41:40	-120.000	-105.000	-13.000	-27.000	-7.000	-45.000	-756.000	-100.000
8.	31:10:46:14	-133.000	-119.000	-16.000	-37.000	-11.000	-51.000	-877.000	-117.000
9.	31:10:51: 1	-147.000	-131.000	-18.000	-48.000	-15.000	-52.000	-994.000	-140.000
10.	31:10:56:11	-164.000	-146.000	-17.000	-58.000	-20.000	-54.000	-1120.000	-167.000
11.	31:11: 0:48	-181.000	-163.000	-12.000	-63.000	-25.000	-58.000	-1256.000	-191.000
12.	31:11: 6: 2	-196.000	-184.000	-8.000	-61.000	-25.000	-62.000	-1406.000	-216.000
13.	31:11:12: 6	-206.000	-209.000	-8.000	-54.000	-23.000	-69.000	-1571.000	-238.000
14.	31:11:18:43	-212.000	-236.000	-19.000	-45.000	-12.000	-77.000	-1730.000	-257.000
15.	31:11:24:12	-218.000	-257.000	-29.000	-35.000	-8.000	-85.000	-1889.000	-276.000
16.	31:11:29:16	-223.000	-277.000	-38.000	-15.000	-12.000	-84.000	-2041.000	-297.000
17.	31:11:33:55	-228.000	-295.000	-47.000	36.000	-21.000	-87.000	-2188.000	-319.000
18.	31:11:37:46	-233.000	-311.000	-46.000	66.000	-31.000	-94.000	-2341.000	-343.000
19.	31:11:43:22	-242.000	-320.000	-56.000	142.000	-45.000	-98.000	-2493.000	-371.000
20.	31:11:47:30	-210.000	-255.000	-41.000	213.000	-14.000	-69.000	-2409.000	-355.000
21.	31:11:51:14	-153.000	-196.000	7.000	260.000	21.000	-34.000	-2245.000	-296.000
22.	31:11:53:15	-93.000	-137.000	56.000	302.000	52.000	2.000	-2064.000	-240.000
23.	31:11:55:26	-30.000	-81.000	95.000	332.000	83.000	42.000	-1872.000	-186.000
24.	31:11:58:29	27.000	-32.000	127.000	354.000	107.000	74.000	-1664.000	-133.000
25.	31:12: 0:55	76.000	7.000	148.000	359.000	121.000	98.000	-1433.000	-83.000
26.	31:12: 6:18	109.000	44.000	134.000	295.000	107.000	105.000	-827.000	-3.000
27.	31:12: 8:59	73.000	21.000	98.000	216.000	72.000	77.000	-503.000	18.000

S T R A I N C H A N N E L S

	TIME	CH.39	CH.38	CH.37	CH.36	CH.35	CH.34	CH.33	CH.32
1.	31:10:18:18	-2.000	1.000	0.0	-1.000	-1.000	-1.000	1.000	-1.000
2.	31:10:19:49	-71.000	-16.000	-74.000	-5.000	-60.000	3.000	-58.000	-15.000
3.	31:10:23:30	-206.000	-35.000	-216.000	-20.000	-179.000	10.000	-200.000	-34.000
4.	31:10:28:24	-335.000	-57.000	-366.000	-35.000	-309.000	2.000	-353.000	-49.000
5.	31:10:32:59	-450.000	-87.000	-506.000	-50.000	-426.000	-3.000	-481.000	-68.000
6.	31:10:37:29	-573.000	-115.000	-634.000	-66.000	-534.000	-12.000	-598.000	-91.000
7.	31:10:41:40	-691.000	-143.000	-768.000	-83.000	-642.000	-26.000	-719.000	-114.000
8.	31:10:46:14	-810.000	-169.000	-903.000	-100.000	-758.000	-39.000	-844.000	-137.000
9.	31:10:51: 1	-926.000	-193.000	-1026.000	-115.000	-876.000	-52.000	-969.000	-161.000
10.	31:10:56:11	-1047.000	-216.000	-1151.000	-130.000	-1007.000	-64.000	-1094.000	-185.000
11.	31:11: 0:48	-1168.000	-236.000	-1278.000	-145.000	-1145.000	-74.000	-1220.000	-209.000
12.	31:11: 6: 2	-1297.000	-258.000	-1407.000	-167.000	-1295.000	-80.000	-1354.000	-229.000
13.	31:11:12: 6	-1431.000	-282.000	-1549.000	-192.000	-1456.000	-83.000	-1499.000	-249.000
14.	31:11:18:43	-1563.000	-304.000	-1688.000	-222.000	-1622.000	-83.000	-1656.000	-273.000
15.	31:11:24:12	-1696.000	-328.000	-1836.000	-252.000	-1784.000	-90.000	-1817.000	-297.000
16.	31:11:29:16	-1830.000	-345.000	-1993.000	-281.000	-1946.000	-100.000	-1978.000	-325.000
17.	31:11:33:55	-1967.000	-361.000	-2161.000	-313.000	-2145.000	-79.000	-2132.000	-361.000
18.	31:11:37:46	-2100.000	-378.000	-2349.000	-321.000	-2351.000	-98.000	-2296.000	-399.000
19.	31:11:43:22	-2240.000	-392.000	-2579.000	-350.000	-2647.000	-125.000	-2480.000	-442.000
20.	31:11:47:30	-2169.000	-329.000	-2518.000	-336.000	-2640.000	-32.000	-2434.000	-415.000
21.	31:11:51:14	-1994.000	-274.000	-2362.000	-276.000	-2504.000	-26.000	-2287.000	-369.000
22.	31:11:53:15	-1807.000	-223.000	-2194.000	-216.000	-2341.000	16.000	-2126.000	-319.000
23.	31:11:55:26	-1611.000	-174.000	-2010.000	-163.000	-2149.000	47.000	-1958.000	-251.000
24.	31:11:58:29	-1396.000	-129.000	-1809.000	-111.000	-1936.000	75.000	-1771.000	-183.000
25.	31:12: 0:55	-1162.000	-91.000	-1587.000	-61.000	-1695.000	99.000	-1560.000	-126.000
26.	31:12: 6:18	-587.000	-51.000	-970.000	7.000	-1023.000	112.000	-985.000	-36.000
27.	31:12: 8:59	-295.000	-31.000	-600.000	25.000	-572.000	81.000	-635.000	31.000

STRAIN CHANNELS

	TIME	CH.31	CH.30	CH.
1.	31:10:18:18	0.0	-1.000	
2.	31:10:19:49	-53.000	-13.000	
3.	31:10:23:30	-187.000	21.000	
4.	31:10:28:24	-333.000	-21.000	
5.	31:10:32:59	-471.000	-20.000	
6.	31:10:37:29	-608.000	-21.000	
7.	31:10:41:40	-746.000	-30.000	
8.	31:10:46:14	-883.000	-39.000	
9.	31:10:51: 1	-1016.000	-45.000	
10.	31:10:56:11	-1146.000	-53.000	
11.	31:11: 0:48	-1264.000	-65.000	
12.	31:11: 6: 2	-1398.000	-74.000	
13.	31:11:12: 6	-1531.000	-88.000	
14.	31:11:18:43	-1659.000	-100.000	
15.	31:11:24:12	-1780.000	-114.000	
16.	31:11:29:16	-1895.000	-130.000	
17.	31:11:33:55	-1998.000	-151.000	
18.	31:11:37:46	-2083.000	-175.000	
19.	31:11:43:22	-2177.000	-200.000	
20.	31:11:47:30	-2089.000	-177.000	
21.	31:11:51:14	-1928.000	-145.000	
22.	31:11:53:15	-1750.000	-114.000	
23.	31:11:55:26	-1555.000	-79.000	
24.	31:11:58:29	-1336.000	-47.000	
25.	31:12: 0:55	-1096.000	-21.000	
26.	31:12: 6:18	-494.000	-7.000	
27.	31:12: 8:59	193.000	16.000	

DISPLACEMENT CHANNELS

	TIME	CH.19	CH.18	CH.17	CH.16	CH.15	CH.14	CH.13	CH.12
1.	31:10:18:18	-0.001	0.0	-0.002	0.0	0.006	-0.002	0.006	0.004
2.	31:10:19:49	-0.001	0.029	0.028	0.034	0.066	0.032	0.004	0.010
3.	31:10:23:30	0.028	0.086	0.088	0.092	0.182	0.086	0.034	0.034
4.	31:10:28:24	0.057	0.115	0.086	0.120	0.242	0.114	0.094	0.086
5.	31:10:32:59	0.087	0.115	0.084	0.120	0.244	0.144	0.152	0.144
6.	31:10:37:29	0.115	0.144	0.084	0.118	0.250	0.144	0.180	0.202
7.	31:10:41:40	0.144	0.156	0.086	0.118	0.250	0.172	0.210	0.232
8.	31:10:46:14	0.173	0.173	0.086	0.120	0.248	0.178	0.238	0.260
9.	31:10:51: 1	0.202	0.173	0.086	0.120	0.244	0.202	0.268	0.288
10.	31:10:56:11	0.231	0.202	0.086	0.118	0.300	0.230	0.320	0.330
11.	31:11: 0:48	0.261	0.201	0.086	0.118	0.298	0.260	0.358	0.378
12.	31:11: 6: 2	0.290	0.230	0.084	0.118	0.304	0.290	0.400	0.408
13.	31:11:12: 6	0.320	0.230	0.086	0.100	0.366	0.320	0.446	0.466
14.	31:11:18:43	0.355	0.259	0.086	0.094	0.366	0.316	0.474	0.496
15.	31:11:24:12	0.409	0.277	0.086	0.090	0.364	0.346	0.534	0.554
16.	31:11:29:16	0.439	0.288	0.086	0.088	0.358	0.376	0.562	0.582
17.	31:11:33:55	0.469	0.301	0.086	0.088	0.418	0.404	0.592	0.626
18.	31:11:37:46	0.498	0.316	0.086	0.090	0.416	0.434	0.654	0.670
19.	31:11:43:22	0.528	0.345	0.086	0.088	0.478	0.464	0.682	0.730
20.	31:11:47:30	0.558	0.345	0.074	0.060	0.484	0.474	0.710	0.730
21.	31:11:51:14	0.558	0.344	0.056	0.058	0.486	0.472	0.710	0.730
22.	31:11:53:15	0.528	0.344	0.056	0.060	0.436	0.464	0.710	0.732
23.	31:11:55:26	0.527	0.316	0.056	0.068	0.426	0.464	0.712	0.730
24.	31:11:58:29	0.527	0.316	0.026	0.030	0.424	0.462	0.710	0.708
25.	31:12: 0:55	0.497	0.287	0.028	0.030	0.422	0.442	0.710	0.702
26.	31:12: 6:18	0.468	0.258	-0.004	0.0	0.358	0.434	0.682	0.672
27.	31:12: 8:59	0.468	0.229	-0.032	-0.028	0.298	0.406	0.680	0.670

LOAD CHANNELS

	TIME	CH.29	CH.28	CH.27	CH.26	CH.25	CH.22	CH.21	CH.20
1.	31:10:18:18	5540.000	5510.000	4970.000	5020.000	4630.000	5110.000	4250.000	4930.000
2.	31:10:19:49	11200.000	10190.000	10260.000	9570.000	9100.000	9730.000	9490.000	9180.000
3.	31:10:23:30	21620.000	19410.000	19520.000	19000.000	17840.000	18880.000	18070.000	19170.000
4.	31:10:28:24	30590.000	29810.000	29350.000	28470.000	27060.000	28490.000	27120.000	28410.000
5.	31:10:32:59	40450.000	38650.000	39250.000	37640.000	36060.000	37510.000	34660.000	37630.000
6.	31:10:37:29	50210.000	47830.000	48280.000	46800.000	45010.000	46020.000	42790.000	46450.000
7.	31:10:41:40	60180.000	57760.000	57400.000	56540.000	53980.000	55380.000	51570.000	55610.000
8.	31:10:46:14	70230.000	67830.000	66810.000	65710.000	63570.000	64790.000	60500.000	64780.000
9.	31:10:51: 1	79780.000	77590.000	76230.000	74790.000	73070.000	73540.000	69220.000	73760.000
10.	31:10:56:11	89410.000	87080.000	85880.000	84040.000	82360.000	82730.000	78110.000	82950.000
11.	31:11: 0:48	98980.000	97230.000	95180.000	93380.000	92050.000	91980.000	87310.000	92340.000
12.	31:11: 6: 2	108450.000	106420.000	105040.000	102920.000	101080.000	101310.000	96490.000	101830.000
13.	31:11:12: 6	118490.000	116060.000	114670.000	112450.000	110090.000	110930.000	105590.000	111300.000
14.	31:11:18:43	128180.000	125330.000	123890.000	122190.000	118860.000	120200.000	114800.000	120740.000
15.	31:11:24:12	137850.000	134780.000	133520.000	131530.000	127880.000	129580.000	124090.000	130150.000
16.	31:11:29:16	147300.000	144150.000	142820.000	140870.000	137170.000	138630.000	133110.000	139440.000
17.	31:11:33:55	156910.000	153500.000	152510.000	150020.000	146570.000	147820.000	142250.000	148690.000
18.	31:11:37:46	166330.000	162810.000	162110.000	159820.000	155530.000	157110.000	151560.000	158170.000
19.	31:11:43:22	175850.000	172210.000	171790.000	169800.000	164540.000	166500.000	160760.000	167800.000
20.	31:11:47:30	163200.000	162460.000	159950.000	157870.000	152340.000	154630.000	148090.000	160160.000
21.	31:11:51:14	143010.000	145180.000	141940.000	138880.000	134120.000	136560.000	130450.000	144200.000
22.	31:11:53:15	123340.000	125540.000	124500.000	119420.000	115250.000	118550.000	113080.000	125800.000
23.	31:11:55:26	103460.000	105430.000	104900.000	99790.000	96400.000	101110.000	95190.000	105980.000
24.	31:11:58:29	83090.000	84640.000	84810.000	79670.000	77170.000	83190.000	76490.000	85710.000
25.	31:12: 0:55	62550.000	63780.000	64710.000	59710.000	58000.000	64860.000	57970.000	65120.000
26.	31:12: 6:18	21250.000	22350.000	23860.000	20410.000	19600.000	24690.000	22520.000	22550.000
27.	31:12: 8:59	6190.000	7280.000	7600.000	6210.000	6030.000	8220.000	7770.000	7560.000

ROD CHANNELS

	TIME	CH.57	CH.56	CH.55	CH.54	CH.53	CH.52	CH.51	CH.50
1.	31:10:18:18	0.0	12.812	12.812	-12.812	0.0	0.0	12.812	0.0
2.	31:10:19:49	-89.683	-204.989	204.989	-102.494	166.553	166.553	-38.435	12.812
3.	31:10:23:30	-12.812	-486.848	281.859	-102.494	269.048	448.413	25.624	12.812
4.	31:10:28:24	294.671	-307.483	51.247	192.177	320.295	589.343	269.048	102.494
5.	31:10:32:59	755.896	-38.435	-499.660	1537.416	281.859	550.907	819.955	448.413
6.	31:10:37:29	1204.309	0.0	-884.014	2434.241	281.859	717.461	1037.756	589.343
7.	31:10:41:40	1627.098	102.494	-1076.191	2959.525	333.107	884.014	1178.685	666.213
8.	31:10:46:14	1998.640	345.918	-1165.874	3484.809	358.730	986.508	1370.862	717.461
9.	31:10:51: 1	2254.876	627.778	-1293.991	4022.905	371.542	1101.814	1563.039	717.461
10.	31:10:56:11	2485.489	948.073	-1358.051	4535.375	397.166	1268.368	1691.157	704.649
11.	31:11: 0:48	2728.913	1319.615	-1306.803	4932.539	448.413	1511.792	1780.840	679.025
12.	31:11: 6: 2	3074.832	1716.781	-1217.121	5265.648	499.660	1832.087	1793.652	576.531
13.	31:11:12: 6	3471.997	2139.570	-1140.250	5496.258	550.907	2139.570	1755.216	512.472
14.	31:11:18:43	3869.163	2587.983	-1114.626	5650.000	614.966	2472.677	1703.969	448.413
15.	31:11:24:12	4240.703	3074.832	-973.697	5765.309	679.025	2831.407	1665.534	384.354
16.	31:11:29:16	4599.434	3574.491	-781.520	5778.117	807.143	3190.138	1563.039	333.107
17.	31:11:33:55	4945.352	4086.963	-589.343	5688.438	935.261	3510.433	1434.921	230.612
18.	31:11:37:46	5342.520	4637.867	-422.789	5521.833	1140.250	3869.163	1255.556	128.118
19.	31:11:43:22	5739.684	5201.590	-294.671	5252.836	1383.674	4151.020	1050.567	38.435
20.	31:11:47:30	5496.258	4919.730	-358.730	5368.141	1460.545	4420.070	1024.944	25.624
21.	31:11:51:14	4778.797	4061.340	-384.354	5342.520	1755.216	5022.223	973.697	12.812
22.	31:11:53:15	4048.528	3202.949	-307.483	4958.164	2037.076	5585.941	768.708	12.812
23.	31:11:55:26	3664.174	2754.536	-153.742	4291.949	2139.570	5816.555	448.413	12.812
24.	31:11:58:29	3343.879	2344.559	-51.247	3536.056	2126.758	5919.047	166.553	12.812
25.	31:12: 0:55	2997.961	1921.770	-25.624	2767.348	2049.888	5957.484	0.0	-25.624
26.	31:12: 6:18	2293.312	1114.626	-12.812	1447.733	1345.239	4842.859	-204.989	-1178.685
27.	31:12: 8:59	1985.829	1012.132	-25.624	1652.722	807.143	2895.466	-640.590	-1844.899

A V E R A G E L O A D

1.	4995.000
2.	9840.000
3.	19188.750
4.	28662.500
5.	37731.250
6.	46673.750
7.	56052.500
8.	65527.500
9.	74747.500
10.	84070.000
11.	93556.250
12.	102942.500
13.	112447.500
14.	121773.750
15.	131172.500
16.	140436.250
17.	149783.750
18.	159180.000
19.	168656.250
20.	157337.500
21.	139292.500
22.	120685.000
23.	101532.500
24.	81846.250
25.	62087.500
26.	22153.750
27.	7107.500

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