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Experimental Stress Analysis and Fatigue Tests of Five 12-in. NPS ANSI Standard B16.9 Tees

S. E. Moore S. C. Grigory
R. A. Weed

OPERATED BY
UNION CARBIDE CORPORATION
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Engineering Technology Division

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FOREWORD

The work reported here was performed under the direction of the Oak Ridge National Laboratory (ORNL) in support of the ORNL Piping Program for the U.S. Atomic Energy Commission prior to formation of the U.S. Department of Energy. The experimental work was done at Southwest Research Institute (SwRI), and the data were analyzed and tabulated at ORNL. The material presented in this report was collected and summarized at Mechanics Research Institute (MRI) under subcontract to ORNL. Publication of the report was funded by the David W. Taylor Naval Ship Research and Development Center (DTNSRDC), Annapolis, Maryland, under contract No. 61533-80-G0-00016. L. M. Kaldor, Code 2744, DTNSRDC, is the project engineer. S. E. Moore, Engineering Technology Division, ORNL, is the program manager.

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ABSTRACT

Experimental stress analyses and low-cycle fatigue tests of five 12-in. ANSI Standard B16.9 forged tees are documented in this report. The tees, designated as Oak Ridge National Laboratory (ORNL) tees T-4, T-6, T-7, T-8, and T-15, were tested under subcontract at Southwest Research Institute, and the data were analyzed at ORNL.

Experimental stress analyses were conducted for 13 individual loadings on each tee, including internal pressure and 3 mutually perpendicular force and moment loads on the branch and on the run. Each test model was instrumented with ~220, 1/16-in. three-gage, 45° strain rosettes on the body of the tee, and ~10, 1/16-in. two-gage, strain rosettes on the pipe extensions. Dial indicators, mounted on a special nonflexible holding frame were used to measure deflections and rotations of the pipe extensions. Normalized maximum stress intensities for each loading condition on each tee are summarized in the text. Complete sets of strain-gage data, normalized stresses, and displacement measurements for each tee are given on microfiche in the appendixes.

Following completion of the strain-gage tests, each tee was tested to failure in a fully reversed displacement-controlled low-cycle fatigue test with an alternating transverse load applied to the branch pipe. The load was directed out of plane for T-4, T-6, T-8, and T-15; and in plane for T-7. A constant internal pressure equal to the nominal design pressure was maintained during the fatigue tests. Failure data from the fatigue tests are summarized in the text.

Keywords: experimental stress analysis, fatigue, nuclear piping, piping design, ANSI B16.9 tees.

1. INTRODUCTION

This report documents a series of experimental elastic-response stress analyses and subsequent low-cycle fatigue-to-failure tests of five

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†Mechanics Research Institute.

12-in. ANSI Standard B16.9 forged piping tees performed in support of the ORNL Piping Program.[1] The tests were conducted at Southwest Research Institute (SwRI), and the data were analyzed at Oak Ridge National Laboratory (ORNL). The material presented in this report was collected and summarized at Mechanics Research Institute (MRI).

The ANSI B16.9 tees are a class of commercially available butt-welding piping products fabricated in accordance with either the ANSI B16.9* or the MSS-SP48 manufacturing standard.[2,3] These standards include dimensional and basic strength requirements for the fittings (piping products) as well as controls for certain other manufacturing variables. Fabricated fittings employing intersection welds, however, are considered as "pipe fabrication" and, as such, are specifically excluded.

In the design rules for nuclear piping systems, ANSI B16.9 tees are recognized as a class of piping products distinct from other types of tee joints. They are characterized by a smooth transition region† between the branch and run outlets and are normally formed from a segment of straight pipe using an external surface die and some means for extruding the branch outlet. Ratios of the outside diameter of the branch to the outside diameter of the run (d_o/D_o) lie within the range of approximately 1/3 to 1, because the manufacturing standards do not include dimensions for smaller reductions.

The objective of this investigation on ANSI B16.9 tees was essentially to provide sufficient baseline structural response-to-load information to evaluate and/or improve the adequacy of current design rules and criteria for nuclear power plant piping systems as defined in Sect. III, Div. 1, of the ASME Boiler and Pressure Vessel Code (hereinafter referred to as the Code).[4] However, because of the fundamental nature of the investigations, the information obtained will be useful in a much broader range of piping system design applications.

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*The American National Standards Institute (ANSI) was formerly the American Standards Association (ASA).

†Dimensional details describing the geometry of the transition region are not included in the standard, and it is only because of established practice of the major suppliers that we may claim that a smooth transition is characteristic of B16.9 tees.

Specifically, the objectives of the tests described in this report were to obtain sufficient experimental elastic stress-strain-deflection data and fatigue-to-failure results from each tee to make it possible to:

1. experimentally describe the elastic-stress distributions over the body of each tee for internal pressure and for a complete set of direct force and moment loading conditions (13 different loadings);
2. locate the maximum stresses and determine their magnitudes for each loading condition;
3. determine differences in stress distributions and magnitudes for nominally identical tees supplied by different manufacturers;
4. determine the relative importance of transverse shear force and bending moment loads on tees in a piping system;
5. provide experimental benchmark data for comparison with analytical solutions and photoelastic model studies;
6. determine experimental values for the stress indices and flexibility factors for individual and combined loading conditions for comparison with Code values; and
7. provide component fatigue-to-failure data for comparison with Code design criteria and analysis procedures.

The experimental stress analyses and low-cycle fatigue tests were performed at SwRI on the five 12-in. tees listed in Table 1.1, including two full-outlet sched-80 carbon steel tees, one full-outlet sched-160 stainless steel tee, and two reducing-outlet sched-40 stainless steel tees obtained from three different manufacturers as indicated. The tees were off-the-shelf products selected by the manufacturers to represent products that would normally be supplied to the builder of a nuclear power plant. When the tees were received, they were inspected, weighed, and measured in the ORNL Inspection Engineering Department. As far as could be determined, there was nothing unusual about the tees, which were, in fact, representative of "standard" products.

Plastic model replicas of the two sched-40 and two sched-80 tees were made in the Laboratory Division, Oak Ridge Gaseous Diffusion Plant, to provide hard model records of the shape of the tees and for uses such as laying out strain gages and demonstration. Attempts to make a plastic

Table 1.1. ORNL tee designations

Tee No.	Nominal size	Material[a]	Manufacturer
T-4	12 x 12 x 12 in. sched 80	C	I
T-6	12 x 12 x 12 in. sched 80	C	III
T-7	12 x 12 x 12 in. sched 160	SS	II
T-8	12 x 12 x 6 in. sched 40	SS	II
T-15	12 x 12 x 6 in. sched 40	SS	I

[a]C = A106 Grade B carbon steel; SS = type 304L stainless steel.

model of the sched-160 tee were unsuccessful because of the heavier wall thickness and excessive shrinkage of the plastic during curing.

The tests were conducted at SwRI in accordance with Union Carbide Job Specifications JS-115-229 and JS-115-235, which are included in Appendix I. All the design, fabrication, and test work was conducted at SwRI in accordance with rather detailed instructions and guidelines specified by ORNL. Prior approval was required for all critical operations, including welding procedures and welder qualifications for the pipe-to-tee joints, strain-gage and dial indicator layout and placement, loading fixtures and application, strain-gage readings and data reduction, and loading conditions and operation of the fatigue tests. SwRI was responsible for the design and construction of the load frames, fabrication of the test assemblies, instrumentation and operation of the tests, reduction of the raw data to engineering strains and stresses, and transmittal of the data to ORNL for further evaluation and analysis.

Chapter 2 of this report includes a detailed description of the test setup and the test procedures used by SwRI. The series of tests performed on each tee included a preliminary brittle lacquer test to establish the adequacy of the strain-gage coverage, a series of elastic-response strain-gage tests, and a low-cycle fatigue-to-failure test. The bulk of the content of Chap. 2 was abstracted from SwRI test reports.[5-9]

Chapter 3 contains a complete discussion of the results from the elastic-response strain-gage tests. The elastic strain-gage data reduction and analysis procedure is described in Sect. 3.1. In general, the procedure was as follows. The computer code NOSEY[10] was used to check the data for linear elastic behavior. Data points that deviated excessively from linearity were rejected, and appropriate notations were made in the computer program output. Stresses were then calculated and tabulated (in normalized form) from the data that passed the screening tests. Stresses calculated using strain data from gages where part of the data had been rejected were then checked by the analyst for anomalous behavior and adjusted if necessary. The adjustments were based on comparison with results from load cases and geometries known to give comparable stress solutions.

The final adjusted results from the elastic-response tests were then tabulated, summarized in the form of normalized stress intensities and experimental stress indices, and used to construct graphical contour plots for easier interpretation. Experimental values for the individual-load stress indices are tabulated and discussed in the body of the text. Because of the large amount of data obtained from the tests, the majority of these data are presented in the appendixes on microfiche at the end of the report for those readers needing benchmark information. Results from the initial data reduction, screened and tabulated by NOSEY, are given in Appendix VI. Listings of the final adjusted normalized stress intensities for each gage site and each load condition are given in Appendix VII. Comparable information is presented graphically in Appendix VIII. Materials given in Appendix VIII include plots of normalized stress intensity vs projected distance along strain-gage lines, stress intensity vs angular distance around the branch, and stress-intensity contour maps. Except for the contour maps, all the adjusted data points are identified in the figures. A representative set of the data (for internal pressure) given on microfiche in Appendixes VI, VII, and VIII is included in Chap. 3. Complete sets of dial indicator displacement data are given on microfiche in Appendix IX.

Results from the fatigue-to-failure tests are discussed in Chap. 4. The fatigue tests were intended to provide component failure data within the range of 500 to 100,000 cycles using the most severe applied bending mode (on the branch) as determined from the experimental stress analysis tests. The target failure point selected for all five tees was 7,000 fully reversed displacement-controlled bending cycles, which corresponds to the logarithmic mean between 500 and 100,000 cycles. The tests were run with a constant hydrostatic internal pressure equal to the maximum Code-allowable design pressure for the pipe extensions and a cyclic bending load based on the maximum stresses obtained from the experimental stress analyses. Failure was defined as a through-the-wall crack in the tee (or in one of the pipe-to-tee welds) as evidenced by a pressure leak. Results from the fatigue tests are tabulated and discussed in the text.

Results from both the elastic-response and fatigue tests, along with similar data from 24-in. ANSI B16.9 tees, will be used in a separate report to discuss the adequacy of current ASME Code procedures for the design of nuclear power plant piping systems.

2. TEST DESCRIPTION

The test work description given in this chapter is divided into three general categories: preparation of the test assemblies (models) and loading frames, performance of the static elastic-response tests, and performance of the low-cycle fatigue tests. Each subject is discussed in detail in the following sections.

2.1 Test Assembly and Loading Frame Preparation

General preparations for conducting the tests included fabrication of two test frames and construction and instrumentation of each of the test models. Each step was carried out as carefully and precisely as possible.

Logistics for testing the five tees listed earlier in Table 1.1 required setting up both the test facility and a separate facility for model fabrication. The test work was actually conducted at SwRI under two separate subcontracts, the first of which called for fabricating and testing four tees (T-4, T-6, T-8, and T-15) within one year. The experimental analysis for T-7 was added later under the second subcontract. The test program for each of the 5 tees was to include experimental stress analyses for 13 loading conditions and a low-cycle fatigue test to failure. To meet the time requirements, two test frames were constructed so that experimental stress analysis and fatigue testing could be conducted simultaneously. When all the experimental stress analyses were completed, both test frames were used for fatigue testing.

When it was decided to add T-7, the sched-160 tee, to the test program, work for the other tees had been in progress for nearly 10 months. The two test frames that had been constructed earlier were sufficiently overdesigned so that only minor modifications were needed to provide the higher loads required to test the heavier tee. However, there were other unique problems that had to be overcome. One of these was the unavailability of sched-160, type 304L stainless steel pipe because of long delivery quotations and minimum quantity requirements. Consequently, the T-7 test assembly was fabricated using 6-in.-long stainless steel pipe stubs welded to the tee, with the remainder of the branch and run pipe

extensions fabricated from carbon steel pipe. The 6-in.-long pipe stubs (also needed for other reasons described later) were made from 1.5-in.-thick, type 304L stainless steel plate. There was a sufficient quantity of this material on hand at SwRI to fabricate five 6-in.-long pipe stubs, two of which were used to qualify the welder and welding procedures. Full details of the fabrication and testing schedule are given in Appendix II. In some cases it was possible to carry out some of the tasks simultaneously.

2.1.1 Strain-gage layout

A general scheme was established for strain-gage layout that would give ample coverage of two quadrants of each tee with matching gages on the inside and outside surfaces to determine the maximum stresses for any one of the 13 different loading conditions and for both the membrane and bending stress distributions. Particular attention was given to the instrumentation of the branch-run transition region and to the problem of locating gages on the inside surface "back to back" with the gages on the outside.

Two terms must be defined here to adequately describe the gage layout. The term "crotch line" is used to denote a line lying along the approximate root of the transition region between the branch and run of the tee. The term "gage line," or "ϕ line," is used to denote a line on the outside surface of the tee formed by the intersection of a diametrical plane through the branch at an angle of ϕ degrees from the longitudinal plane of the tee. At the crotch line, the gage line changes direction so that it intersects circumferential lines on the run at an angle of $\psi = (90 - \phi)$ degrees, as shown schematically in Fig. 2.1. For each tee, gage lines were located in the $\phi = 0°$ to 90° quadrant and in the 180° to 270° quadrant at 22.5° intervals. Ten three-gage strain rosettes were spaced more or less uniformly along each gage line with one of the rosettes always located on the intersection of the ϕ line with the crotch line. The crotch line was also instrumented with an extra rosette midway between each ϕ line. Isometric views of the gage layout for the 0° to 90° quadrant of the full-outlet tee T-4 and the reducing-outlet tee T-15 are shown

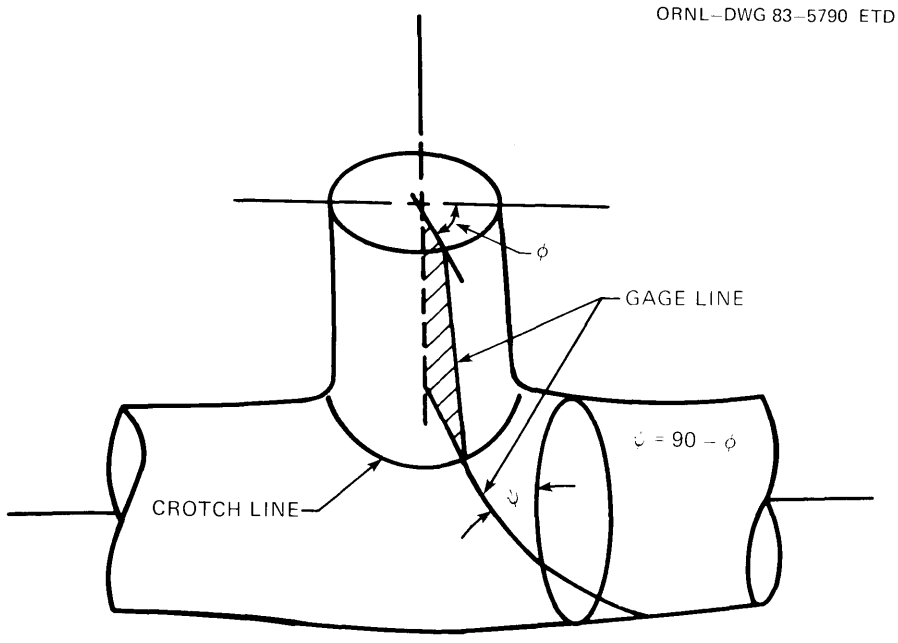

Fig. 2.1. Strain-gage line nomenclature.

in Figs. 2.2 and 2.3, respectively. A complete set for each tee is given in Appendix III.

Strain-gage positions for the inside surface were located by passing a line through each outside gage position normal to the midplane of the shell (tee). For the models containing T-4, T-6, T-8, and T-15, cross sections of the tee at the 0° ϕ line and the 45° ϕ line were outlined by sectioning plastic models of the respective tees. For T-7, the cross sections at the 0° ϕ line and the 45° ϕ line were outlined by trimming cardboard until a good fit was obtained on the inside and outside surfaces and then spacing the cardboard pieces to match thickness measurements on the cylinder walls. Although this procedure gave adequate results, a plastic model would have made the job easier. This procedure was necessary to establish the "normal to the midplane" in the crotch area where the geometry was too complicated to be treated analytically.

After the strain-gage positions were determined, their locations were measured in three-dimensional XYZ coordinates and recorded. These "exact" locations are given for each tee in Appendix III. For accurate determination of the XYZ coordinates at each gage site, the tees were placed on a precision plane table, as shown in Fig. 2.4, and the elevation of each

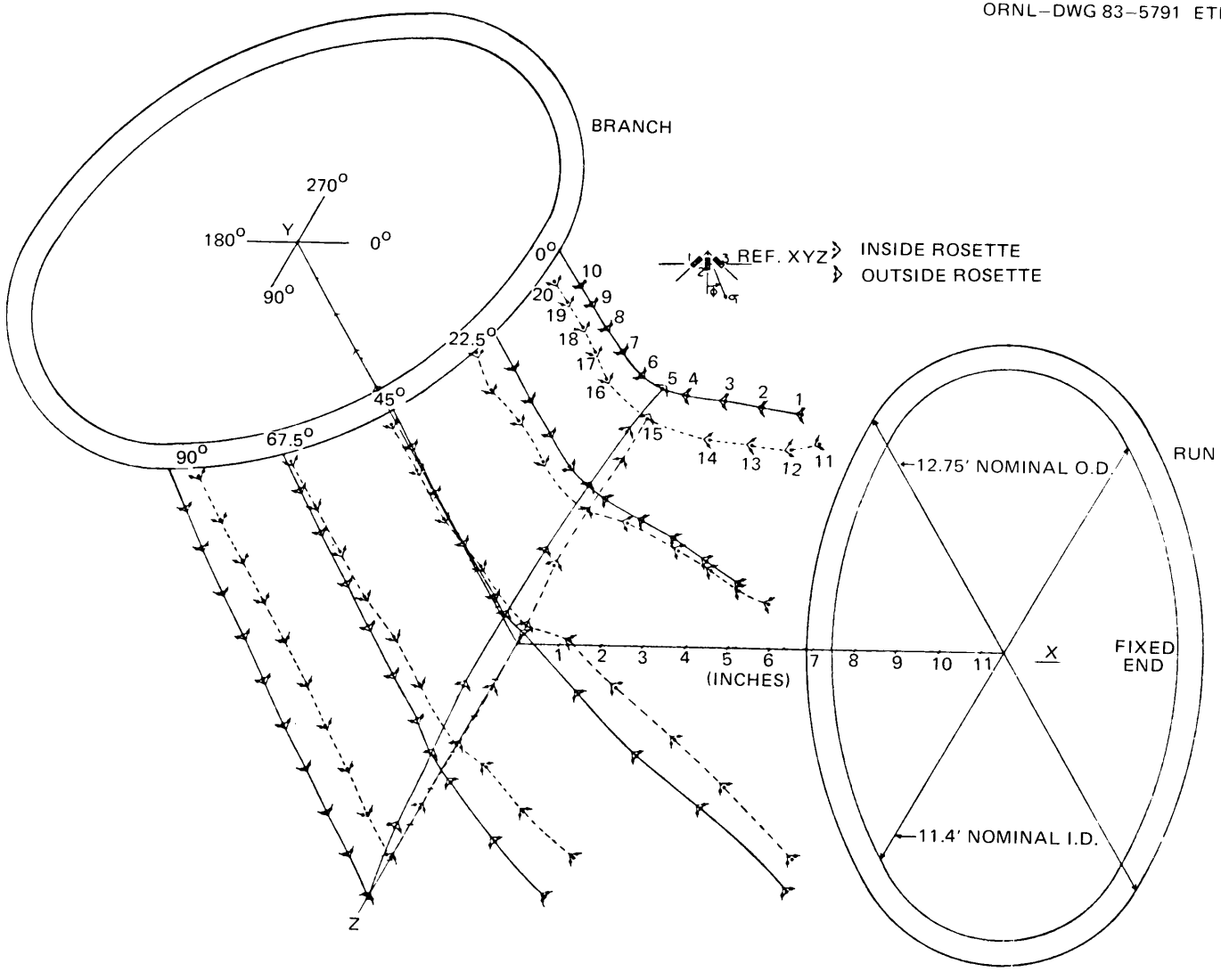

Fig. 2.2. Strain-gage rosette locations for 0° to 90° quadrant of T-4.

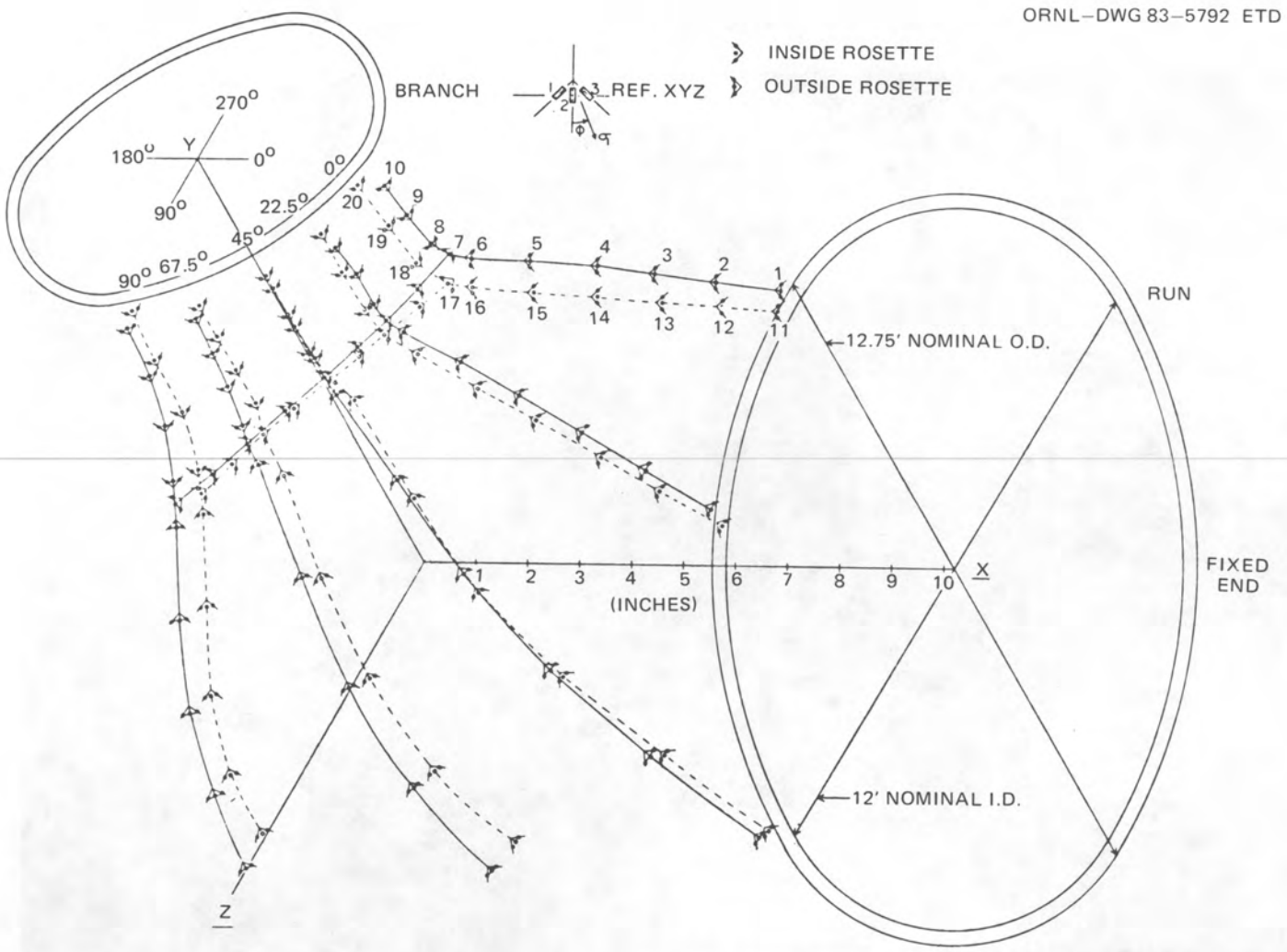

Fig. 2.3. Strain-gage rosette locations for 0° to 90° quadrant of T-15.

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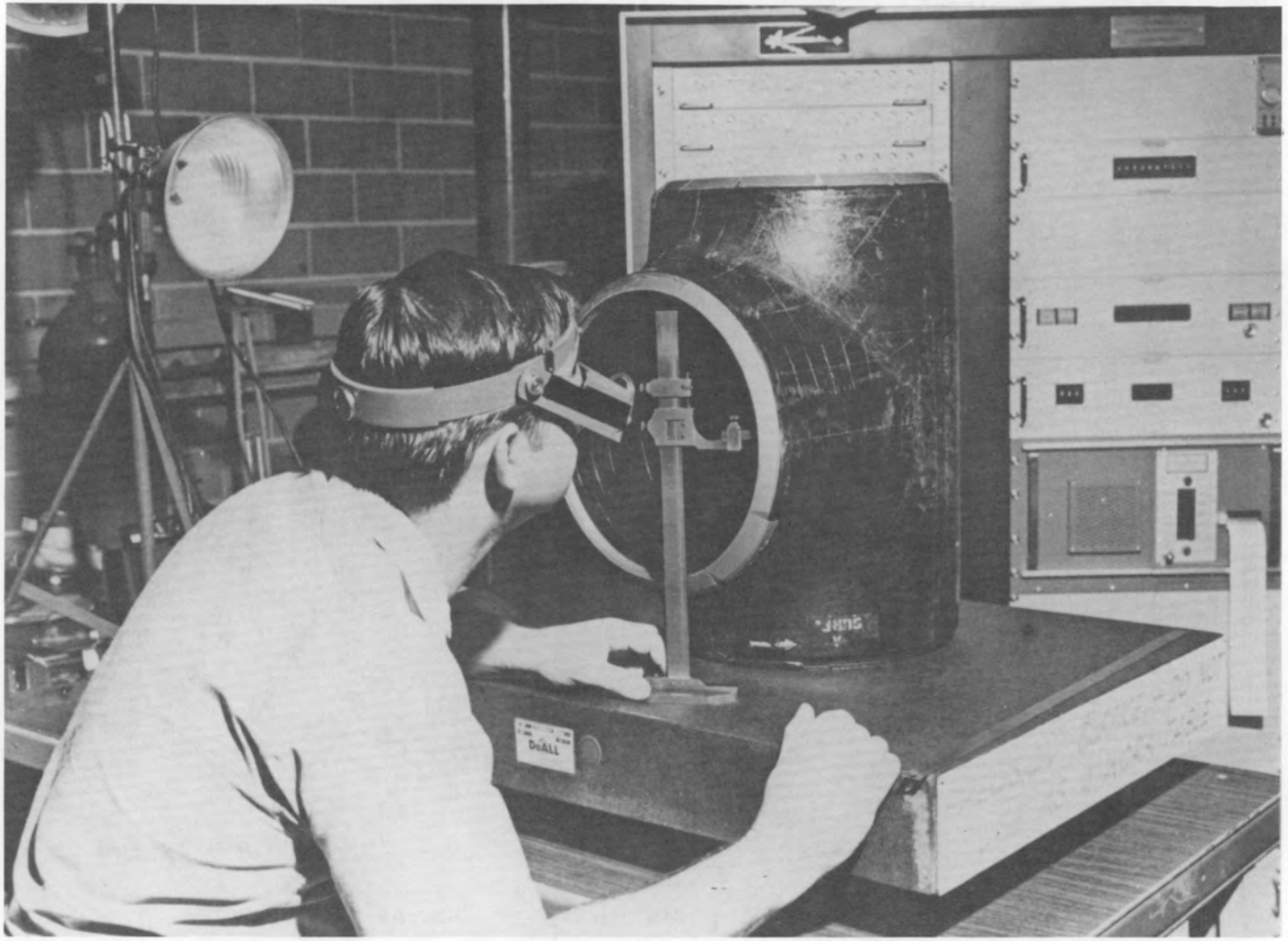

Fig. 2.4. Determination of XYZ coordinates of strain-gage rosette locations on a B16.9 tee.

gage position was measured relative to a reference point on the tee with a vernier height gage. A simple but time-consuming procedure accurately located the rosettes on the inside surface relative to those on the outside surface and also established the XYZ coordinates. Reference marks at 0°, 90°, 180°, and 270° around the branch outlet plus three marks in a straight line across the bottom, as shown in Fig. 2.5, had previously been stamped on the tees. Combinations of these seven reference points were used to define planes passing through the intersection of the axes of the branch and run.

The strain-gage rosettes used throughout the test program were Micro-Measurement type EA-06-062RP-120, option W for the carbon steel tees (T-4 and T-6) and type EA-09-062RP-120, option W for the stainless steel tees (T-7, T-8, T-15). Each strain rosette consists of three 1/16-in.-long temperature-compensated gages oriented at 45° angles and numbered counterclockwise (for these tests). Gage 2 (the center gage) was positioned to measure strain in the direction of the ϕ line or the crotch line on which

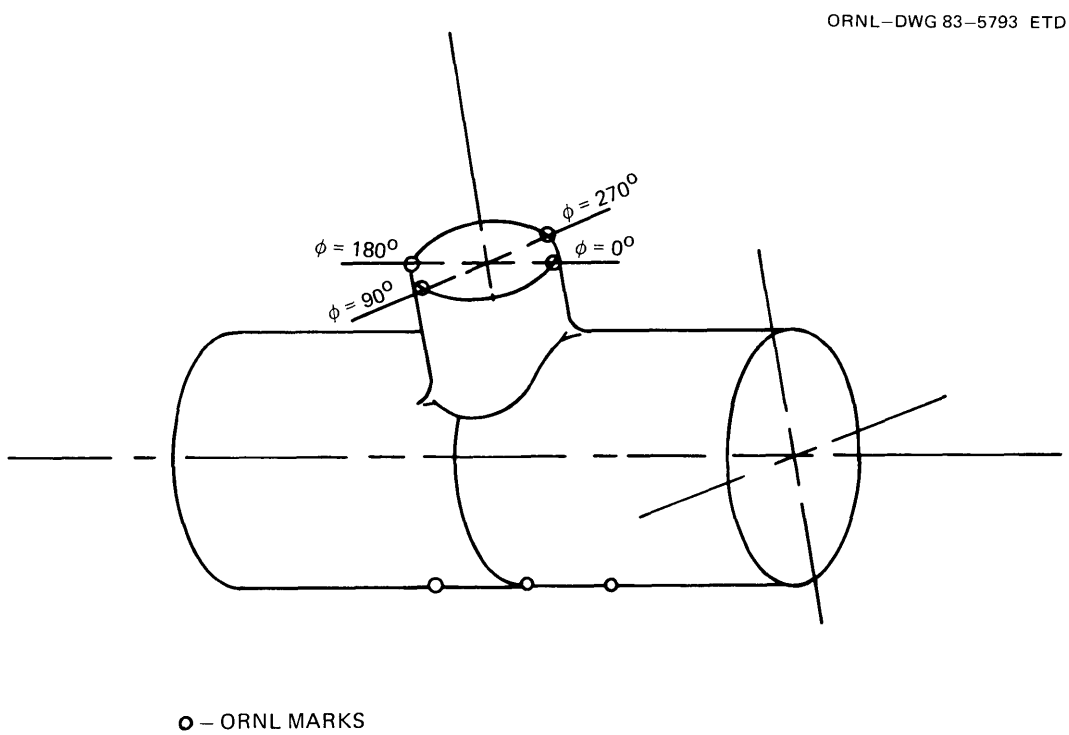

Fig. 2.5. Location of marks used for identifying reference planes.

it was placed. The gages were bonded to the surface with Eastman 910 cement. The XYZ coordinates for each rosette are referenced to the center of gage 2.

The direction of the principal stresses that are presented later in this report is given relative to the direction of gage 2 (i.e., along a ϕ line or crotch line) with a positive angle being counterclockwise. The orientation, the numbering system used for identification, and the XYZ coordinates of each rosette are given for all five tees in Appendix III. Photographs of the gage installation (both inside and outside) in the 0° to 90° quadrant of T-4 are shown in Fig. 2.6. As a final check on the accuracy of the strain-gage locations, a set of computer plots was made for each tee using the reported coordinates as input. On the basis of the results of this computer check, a few minor adjustments in the recorded gage positions were made.

2.1.2 Test model fabrication

Each test assembly consisted of a 12-in. NPS forged ANSI B16.9 piping tee, three pieces of 54-in.-long pipe, three 6-in.-long pipe stubs, and three 1-ft^2 by 3/4-in.-thick carbon steel plates for end fixtures to which loads could be applied. Except for the end plates, the models containing T-4 and T-6 were made entirely of sched-80 A106 Grade B carbon steel, and the T-8 and T-15 models were made entirely of sched-40 type 304L stainless steel. As mentioned earlier, the 54-in. pipes used in the T-7 model were made of sched-160 A106 Grade B carbon steel. Because T-4, T-6, and T-7 are full-outlet tees, 12-in. pipe was used for the branch as well as for the run pipe extensions. The minimum and maximum inside diameters, outside diameters, wall thicknesses, and the weights of the 6-in. pipe stubs are presented in Table 2.1. Also given are the weights of the tees before and after welding and grinding had been completed. Table 2.2 gives the corresponding ANSI B36.10 standard nominal dimensions and section properties of the branch and run pipe extensions.[11,12]

The fabrication of the model had to be performed in a manner that would permit the installation of strain gages on the inside surface of the tee and on the pipe-to-tee weldment. According to the test specifications, the pipe-to-tee weld was to be ground flush with the pipe surface

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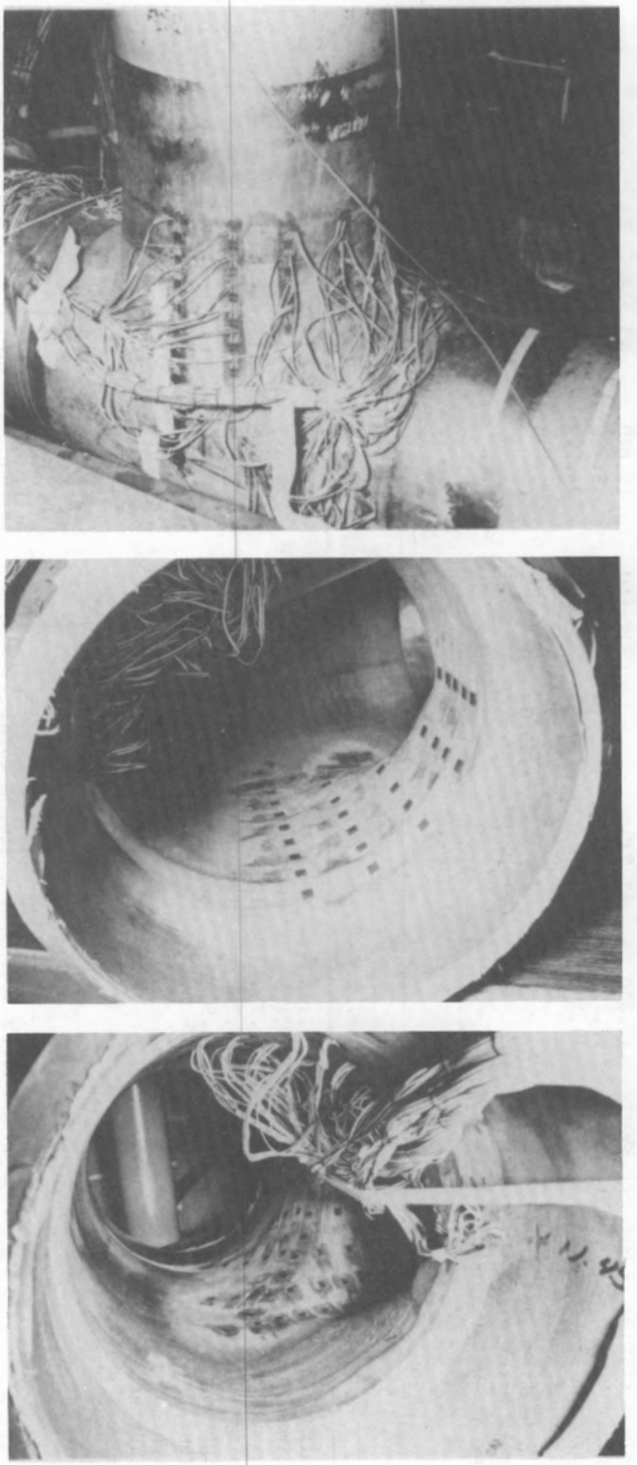

Fig. 2.6. Strain gages in the 0° to 90° quadrant of T-4.

Table 2.1. Weight and measurement of tees

	T-4				T-6			
	Pipe stub No. 1	Pipe stub No. 2	Pipe stub No. 3	Total weight	Pipe stub No. 1	Pipe stub No. 2	Pipe stub No. 3	Total weight
Maximum ID, in.	11.455	11.464	11.450		11.459	11.482	11.449	
Minimum ID, in.	11.351	11.348	11.360		10.871	11.383	11.336	
Maximum OD, in.	12.850	12.850	12.830		12.840	12.840	12.840	
Minimum OD, in.	12.800	12.790	12.830		12.810	12.790	12.800	
Weight of stubs, lb	38.25	38.50	39.10	115.85	38.50	38.50	38.50	115.5
Weight of tee, lb				248.5				227.5
Weight of tee and stubs after grinding and welding, lb				385.0				343.0

	T-7				T-8			
	Pipe stub No. 1	Pipe stub No. 2	Pipe stub No. 3	Total weight	Pipe stub No. 1	Pipe stub No. 2	Pipe stub No. 3	Total weight
Maximum ID, in.	10.126	10.128	10.127		12.005	6.091	11.989	
Minimum ID, in.	10.125	10.125	10.125		11.969	6.052	11.964	
Maximum OD, in.	12.750	12.750	12.750		12.840	6.641	12.840	
Minimum OD, in.	12.748	12.747	12.748		12.810	6.625	12.800	
Weight of stubs, lb	66.50	66.5	66.5	199.55	24.00	9.0	24.5	57.5
Weight of tee, lb				497.5				155.0
Weight of tee and stubs after grinding and welding, lb				737.5				215.0

	T-15			
	Pipe stub No. 1	Pipe stub No. 2	Pipe stub No. 3	Total weight
Maximum ID, in.	12.021	6.087	12.029	
Minimum ID, in.	11.931	6.067	11.929	
Maximum OD, in.	12.740	6.643	12.760	
Minimum OD, in.	12.680	6.623	12.680	
Weight of stubs, lb	23.50	9.00	23.50	56.0
Weight of tee, lb				143.5
Weight of tee and stubs after grinding and welding, lb				202.0

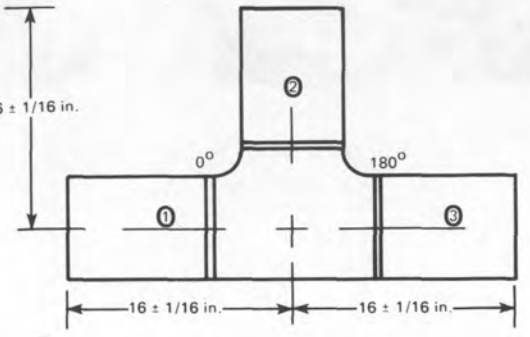

Table 2.2. Nominal dimensions[a] of branch and run pipe extensions

Tee	Outside diameter (in.)		Wall thickness (in.)	
	Run (D_o)	Branch (d_o)	Run (T_r)	Branch (T_b)
T-4	12.750	12.750	0.687	0.687
T-6	12.750	12.750	0.687	0.687
T-7	12.750	12.750	1.312	1.312
T-8	12.750	6.625	0.406	0.280
T-15	12.750	6.625	0.406	0.280

Tee	Moment of inertia ($in.^4$)		Cross section area ($in.^2$)	
	Run (I_r)	Branch (I_b)	Run (A_r)	Branch (A_b)
T-4	475.0	475.0	26.04	26.04
T-6	475.0	475.0	26.04	26.04
T-7	781.0	781.0	47.14	47.14
T-8	300.0	28.14	15.74	5.58
T-15	300.0	28.14	15.74	5.58

[a]Nominal pipe dimensions taken from Ref. 12.

in order to install strain gages at the weld joints and to ensure that no discontinuity would remain that might cause a fatigue crack to be initiated prematurely during the fatigue test. To accomplish these objectives, 6-in.-long pipe stubs were welded to the tee. These extensions permitted access to the inside surface of the tee for strain-gage installation and grinding. They also removed the pipe-to-pipe weld far enough from the gages so that, with minimum care, the instrumentation would not be damaged by the heat from welding.

Exceptional weld quality was specified for the pipe-to-tee weldment to minimize the possibility of a fatigue crack initiating at the weld rather than in the tee during the low-cycle fatigue test. The procedures for welding and nondestructive inspection developed to meet these requirements are presented in Appendix IV. Note in the welding procedures that the metal preparation conforms with Fig. NB-4250-1 of the Code.[4] A welder was successfully qualified using these acceptance criteria and welding procedures, and nondestructive inspections of the pipe-to-tee weldments were performed prior to the strain-gage installation. A photograph of T-8 during the tungsten-inert gas (TIG) welding is shown in Fig. 2.7.

After the 6-in.-long pipe stubs were attached, the tee was placed on the precision plane table so that XYZ coordinates for the gage locations on the pipe-to-tee weldment could be determined. Strain gages were then installed on the inside surface of the tee. When this was completed, the 4.5-ft-long pipe legs were welded to the tee, and the loading fixtures were welded to the pipe. Care was taken to keep the interpass temperature of the pipe-to-pipe weld down to prevent damage to the strain gages. The temperature of the pipe stub 3 in. from the weld was checked after each welding pass with a Tempilstik wax pencil and was not allowed to exceed 250°F.

2.1.3 Test setup

The model was installed for testing in a large test frame specifically designed and constructed for this program. The 12 moment, shear, and thrust loads that were to be applied are shown schematically in Fig. 2.8. It should be noted that for these loading cases one end of the run was fixed (i.e., bolted to the load frame), while the branch and the other end of the run were free. The loads were applied one at a time to either the branch or the free end of the run with the model supported only at the fixed end. For the internal-pressure case, the model was fixed at the load frame, and the free end was supported by bearings to counteract the weight of the pressurizing fluid.

The test frame was designed so that 8-in.-bore, 12-in.-stroke hydraulic jacks could be bolted in the various positions required to apply torsion, bending, thrust, and in-plane shear loads. Hydraulic jacks with a

ORNL—PHOTO 6404—83

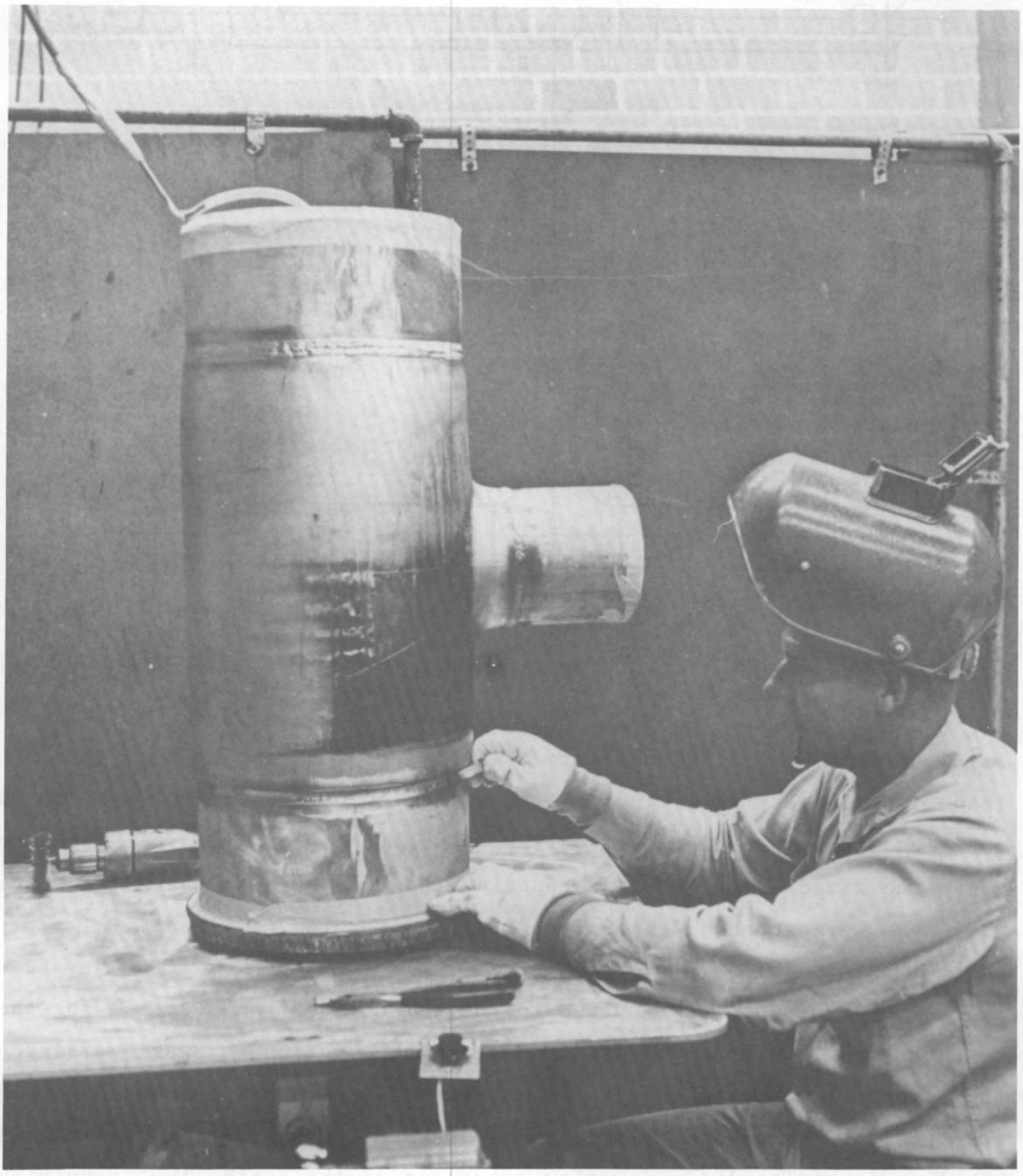

Fig. 2.7. T-8 during TIG welding of third pipe stub.

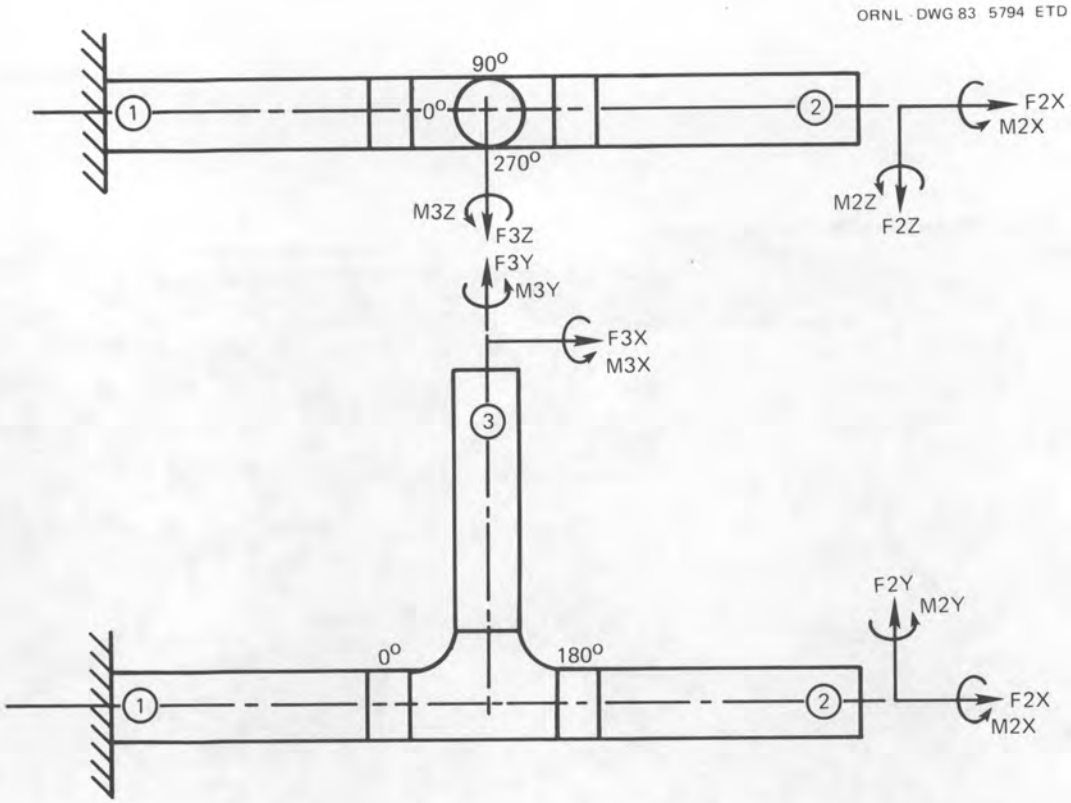

Fig. 2.8. Loading nomenclature (all loads positive as shown).

5-in. bore and 12-in. stroke were used to apply the out-of-plane shear loads. Figure 2.9 shows T-4 in place with two hydraulic jacks set up for applying out-of-plane bending on the branch (load case M3X). The channel above the fixed end of the run contains the hole pattern where the hydraulic jacks were attached to apply either the torsion (M3Y) or in-plane shear (F3X) loads.

A moment-couple was applied to the end of the branch or run for the bending- and torsion-load cases. Because the piston area was smaller on the side of the piston rod, a higher pressure was applied to the jack that was "pulling" than was applied to the jack that was "pushing" to achieve equal and opposite loads. During operation of the tests, two technicians were required to manually control the two high-pressure needle valves in order to carefully maintain a constant load on the model while a third technician recorded the data. For the direct-force-load cases, the loads could be applied using the same pressure level for both hydraulic jacks; consequently, only two technicians were required.

ORNL–PHOTO 4029–74

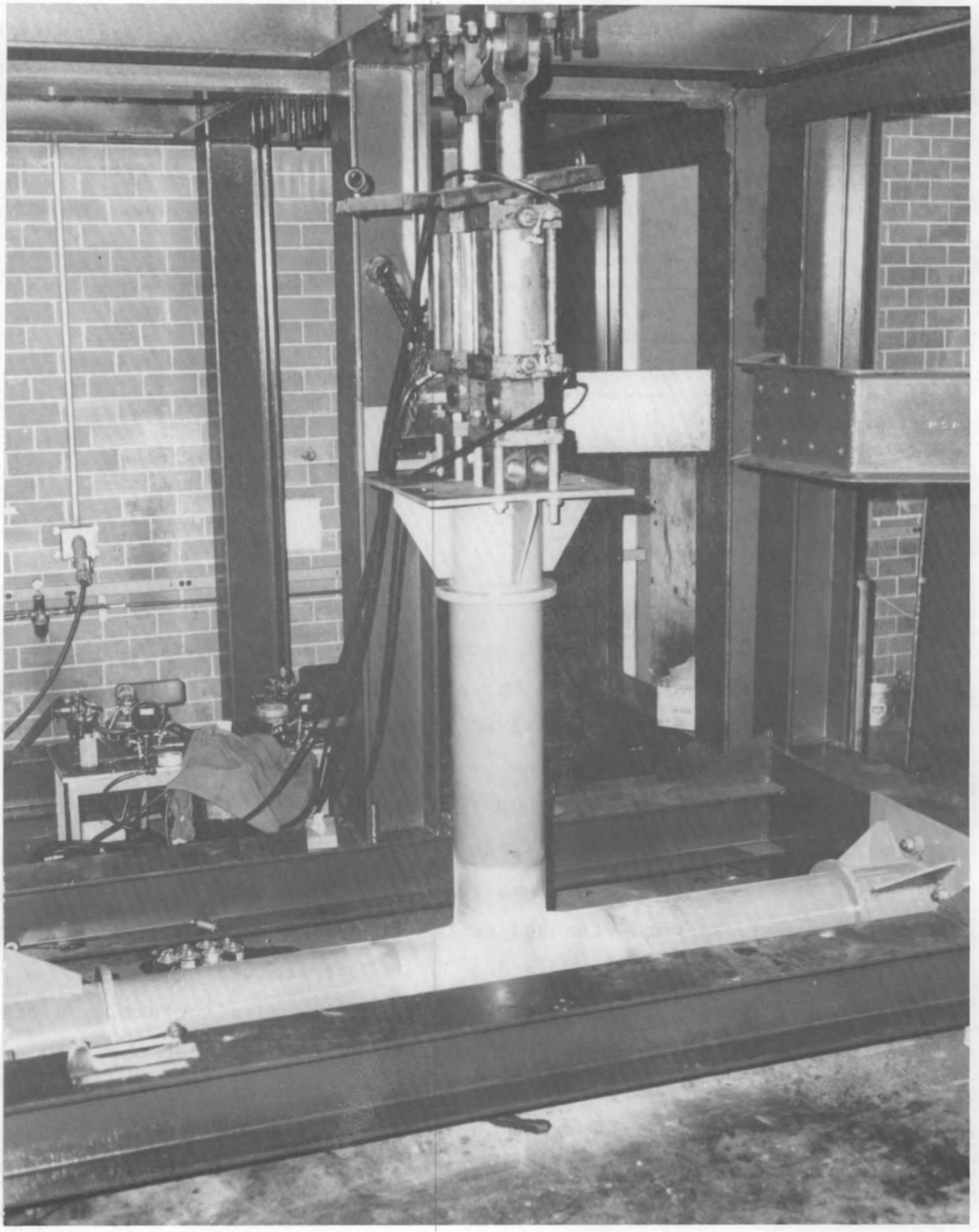

Fig. 2.9. T-4 prior to brittle coating analysis.

The location of the shear vector for applying the transverse-force loads F2X, F2Z, F3X, and F3Z was determined by the position of the hydraulic jack attachments, as shown in Fig. 2.9 for T-4. The distance of these vectors from the center of each tee is given in Table 2.3.

Table 2.3. Distance "L" of the transverse shear vectors from the center of each tee[a]

Moment arm	Tee No.				
	T-4	T-6	T-7	T-8	T-15
Branch (L_b)	77-1/8	79-3/8	77-13/16	77-3/8	76-3/16
Run (L_r)	77-7/8	77-7/8	78-7/8	77-7/8	77-7/8

[a]Distances are in inches.

To accommodate the hydraulic jacks and tee models, the overall dimensions of the test frames were 25 ft long x 13.5 ft high x 7 ft wide. The main load-carrying members were 12 WF 85 beams. Approximately 19 tons of steel was used in each frame. The frames were capable of withstanding 500,000 lb in the F2X mode, 200,000 lb in the F3Y mode, 300,000 ft-lb in bending, 200,000 ft-lb in torsion, and 100,000 lb in shear. The loading frame that was used to test T-7 was reinforced at the positions where the torsional-load jacks were attached to the frame. With this modification, the structure was able to withstand a 300,000 ft-lb torsional load — a 100,000 ft-lb capacity increase over the unreinforced structure. No other changes were made for the T-7 tests. A photograph of one of the test frames is shown in Fig. 2.10; fabrication had just been completed when the photograph was made, and the frame is lying on its side.

For each load case, displacements (and rotations) of the pipe extensions were measured for use in determining flexibility factors. Displacements were measured using circular dial indicators, accurate to the nearest 0.0005 in. A sketch of the mounting frame for the dial indicators on T-7 may be seen in Fig. 2.11. Similar figures for the dial indicator

ORNL–PHOTO 6426–83

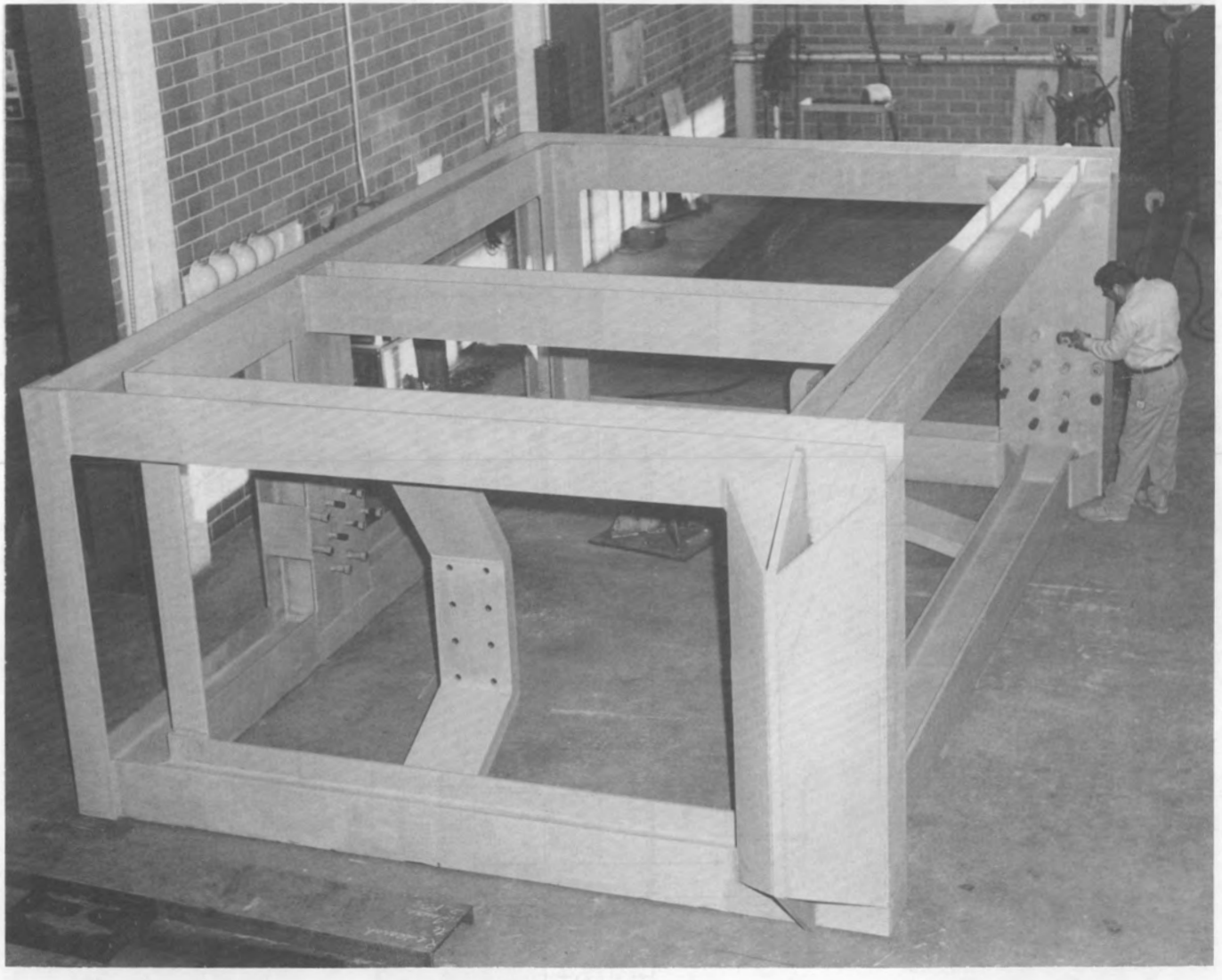

Fig. 2.10. Load frame for testing 12-in. NPS ANSI Standard B16.9 tees.

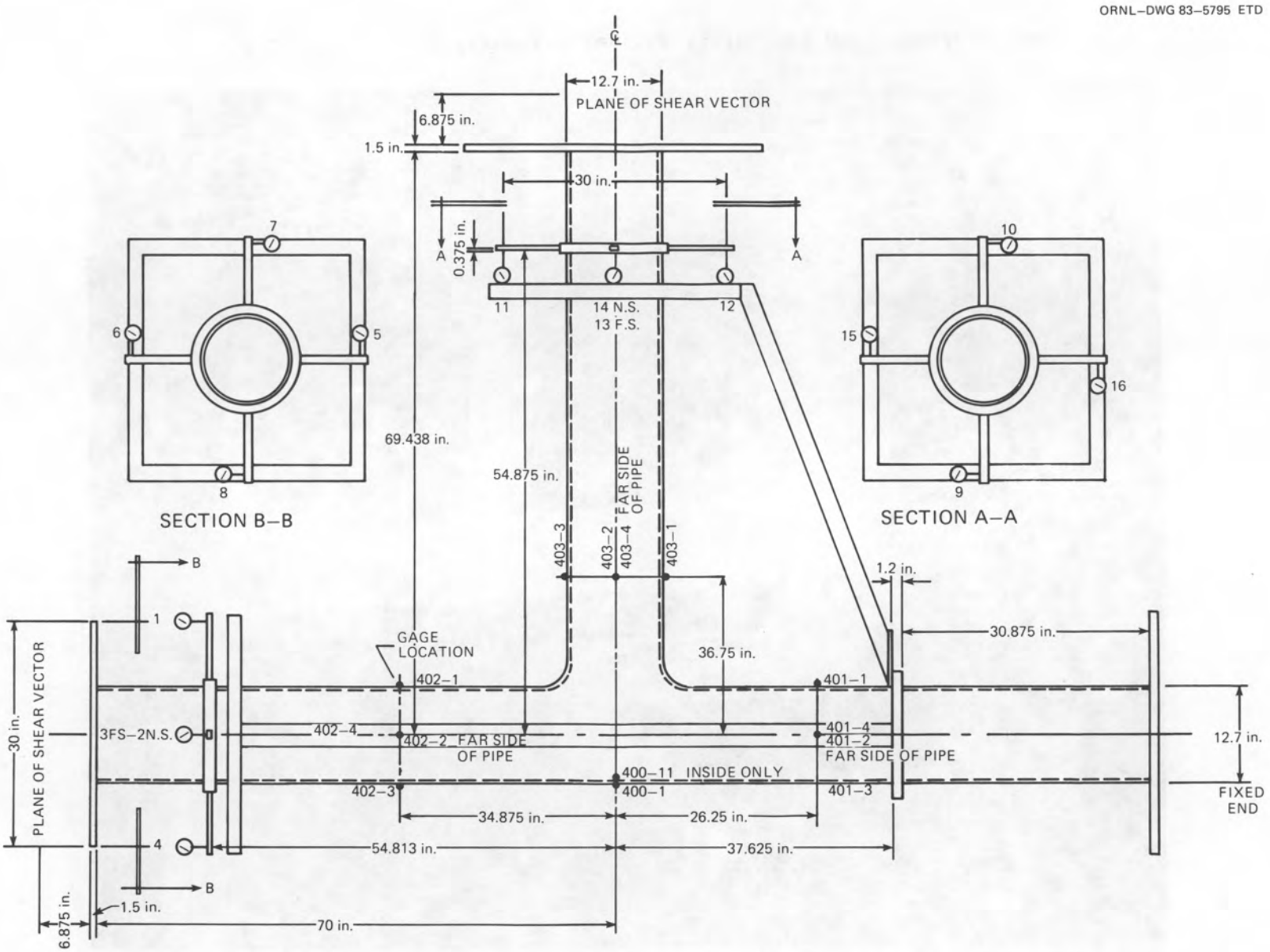

Fig. 2.11. Location of dial indicators and pipe-leg rosettes for T-7.

frames for all five tees are given in Appendix IX. Note that the dial indicator frame is mounted only at the steel ring near the fixed end so that all deflections were measured relative to a point on the model. Sixteen dial indicators were monitored. The numbering system used for the dial indicators, their exact locations, and the location of the point at which the mounting frame is attached to the model are also shown in Fig. 2.11. The dial indicators were carefully and consistently mounted with their pointers 15 in. from the center of the pipe. A template was used to locate these instruments in lieu of measuring from the outside surface of the pipe. Dial indicator readings were, of course, obtained manually and are listed in Appendix IX.

Strain-gage rosettes were also mounted on the three pipe legs of the model to monitor the loads. Figure 2.11 shows the location and identification of these rosettes for T-7. Note that two additional rosettes were mounted on the bottom of the tee on both the inside and outside surfaces. The rosette locations on the pipe legs and on the bottom of the tee were given a 400 series designation (i.e., 400-1, 401-2) to distinguish them from rosettes in the main array on the tee.

The strain-gage data were recorded on a B & F Model SY 156 data acquisition system. To speed up reduction of the data, a high-speed paper-tape punch was installed on the B & F so that data were simultaneously printed on adding-machine-type paper and punched on teletype paper tape. The printer information was used for on-line review of the strain data and for the permanent record. The teletype paper tape was fed into an IBM paper-tape-to-card converter, which quickly transferred the data to IBM cards.

The data acquisition system was only capable of handling 100 strain gages at one time, recording data at a rate of five channels per second, and printing gage readings directly in strain to the nearest microinch per inch. Because each model contained 681 individual strain gages, it was necessary to perform the test for each load condition seven times to obtain a complete set of data.

The tests were conducted in an air-conditioned laboratory where the temperature is maintained at 75°F. The temperature normally does not fluctuate more than ± 2°F there, except when large doors are opened once or

twice each day to transfer large equipment. The doors do not remain open more than a few minutes at a time, and the air-conditioning system returns the laboratory temperature to normal within 15 min after the doors are shut. Because the strain gages and wiring were temperature compensated, these occasional temperature fluctuations were not expected to cause apparent readings of more than ± 5 μin./in. During the early part of the testing program, however, NOSEY analysis of the data indicated that the effects of temperature variations could be detected. Therefore, the tests were rerun with the laboratory doors kept closed, and the doors were not opened during all the subsequent tests.

2.2 Static Load Test Procedure

Two experimental stress analysis techniques were used in carrying out the static load test portions of the program. The first was a qualitative test using a brittle lacquer coating to determine if the outside strain-gage layout was adequate. The second was a quantitative test during which data were acquired from electrical resistance strain gages located on two quadrants of the tee and dial indicators located on the branch and run of the test model.

The brittle lacquer tests were performed on all tees except T-6 and T-15. Because T-6 and T-15 were nominally the same as T-4 and T-8, respectively, it was felt that no new information would be obtained by duplicating these efforts. A general description of these tests is given in the following paragraphs. A more detailed discussion of the test results is given in Appendix V.

The quantitative tests were performed on each tee and constituted the primary portion of the static load test program. The procedure followed in performing these tests is described in Sect. 2.2.2.

2.2.1 Investigation of strain-gage layout adequacy

The brittle coating test was performed on T-4, T-7, and T-8 primarily to determine if the strain-gage layout was adequate. For these tests, a Stresscoat-brand brittle lacquer was sprayed on the outer surface of the tee. The lacquer sensitivity was 450 μin./in. for the T-4 test and

600 μin./in. for the other two tees. Several different loads were applied to each tee starting with an out-of-plane bending load on the branch (M3X), because it was expected that this loading would produce the highest stresses. The loads were applied until cracking was observed, and photographs were taken before moving to the next load condition.

Out-of-plane bending loads were applied to the branch in small increments to a maximum load of 41,000 ft-lb on T-4, 100,000 ft-lb on T-7, and 14,000 ft-lb on T-8. An out-of-plane shear load was applied in the same manner to a maximum of 12,000 lb for T-4, 20,000 lb for T-7, and 12,000 lb for T-8. The out-of-plane shear force (F3Z) was applied in a direction that gave an effective bending moment (M3X) with an opposite sign from that of the applied moment tests indicated in Fig. 2.8. The T-4 tests also included application of out-of-plane bending and shear loads (M2Y and F2Z) on the run pipe. These loads were not applied to T-7 and T-8 during the brittle lacquer tests.

An evaluation of the results of each test showed that the strain-gage coverage was adequate. Photographs and significant comments relative to the brittle lacquer tests are presented in Appendix V.

2.2.2 Elastic load tests

Following completion of the brittle coating tests for each tee and subsequent review of the test data, strain gages were installed on the external surface of the tees. These gages, together with the gages previously installed on the internal surface, and the dial indicators constituted the primary sources of data for the elastic load tests.

The elastic load tests performed on each tee consisted of a series of 13 load conditions as illustrated schematically in Fig. 2.8. Prior to any of the tests, a loading schedule was established to limit the maximum load for any load condition to a value that would generate a nominal stress of 20,000 psi in the pipe. The maximum load that was actually applied, however, was limited by the requirement that strains not exceed 1000 μin./in. during any test to preclude the possibility of inadvertent yielding. The scheduled loads and the maximum loads that were applied are given in Table 2.4. Each loading was applied to one-half of the programmed maximum load, and then the strain gages were read. If the readings showed that

Table 2.4. Maximum loads for elastic-response strain-gage tests

Load condition	T-4		T-6		T-7		T-8		T-15	
	Scheduled maximum[a]	Actual maximum[b]	Scheduled maximum[a]	Actual maximum[b]	Scheduled maximum[a]	Actual maximum[b]	Scheduled maximum[a]	Actual maximum[b]	Scheduled maximum[a]	Actual maximum[b]
Pressure, psig	2200	1000	2200	1000	3750	1000	950	600	950	600
M3X, 1000 ft-lb	123	61.5	123	61.5	202	150	14	7	14	7
M3Y, 1000 ft-lb	246	123	246	92.25	404	150	28[c]	21	28	21
M3Z, 1000 ft-lb	123	64	123	64	202	150	14	18	14	18
F3X, 1000 lb	20	12	20	12	33.9	20	4	3.5	4	3.5
F3Y, 1000 lb	20[c]	53	20[c]	53	33.6[c]	100	10	24	10[c]	24
F3Z, 1000 lb	20	17	20	17	33.9	33.2	4	2	4	2
M2X, 1000 ft-lb	246	123	246	123	404	150	146	80	146	80
M2Y, 1000 ft-lb	123	150	123	150	202	200	73	91.25	73	91.25
M2Z, 1000 ft-lb	123	61.5	123	61.5	202	150	73	73	73	73
F2X, 1000 lb	520	260	520	260	945	400	292	200	292	200
F2Y, 1000 lb	20	12	20	12	33.25	33.2	10	12	10	8
F2Z, 1000 lb	20	12	20	12	33.25	33.2	10	12	10	12

[a]Based on a nominal pipe stress of 20 ksi in the pipe.

[b]Needed to attain a maximum strain on the tee near 1000 μin./in.

[c]Limited by the maximum stress in the pipe at the fixed end.

the strain would exceed the upper limit of 1000 μin./in., the maximum load was adjusted accordingly. After determining the allowable maximum load for a particular load condition, the tee was loaded to the maximum load and unloaded until linear elastic behavior was observed. For most of the gages, linear elastic response was attained on the first cycle. Three cycles were applied for good measure because only the gages in the high-stress regions were actually monitored during the test.

Figure 2.12 shows T-7 in the loading frame during the experimental stress analysis. Two hydraulic jacks are set up for applying either a torsional moment M3Y or an in-plane transverse force F3X on the branch. The loading clevises for appling out-of-plane bending M3X or axial thrust F3Y on the branch can be seen in the upper part of the photograph.

When recording data, the tees were loaded in four incremental steps to the maximum load. The steps were then repeated during unloading, giving a total of nine strain readings for each gage for each load case. These data were recorded and retained for later use. Two runs were made for each loading condition, and the data were reviewed before going on to the next loading condition.

As noted earlier, the strain data were recorded on a B & F Model SY 156 data acquisition system equipped with a high-speed paper-tape punch. An IBM paper-tape-to-card converter transferred the data to IBM cards, and the data were reviewed at SwRI using the computer program NOSEY before the cards were sent to ORNL for more extensive analysis. Destructive fatigue tests were not started until after it had been established that the strain-gage tests were satisfactory and that all the required elastic-response data had been obtained.

2.3 Fatigue Test Procedure

The procedure planned for the fatigue tests was to select the branch-pipe bending mode that produced the highest stress index in the tee and then to estimate the magnitude of the load that would cause failure in ~7000 cycles of completely reversed displacement. The target value of 7,000 cycles is the logarithmic mean of 500 and 10^5 cycles, and for carbon steel, corresponds to a maximum equivalent elastic-stress amplitude of

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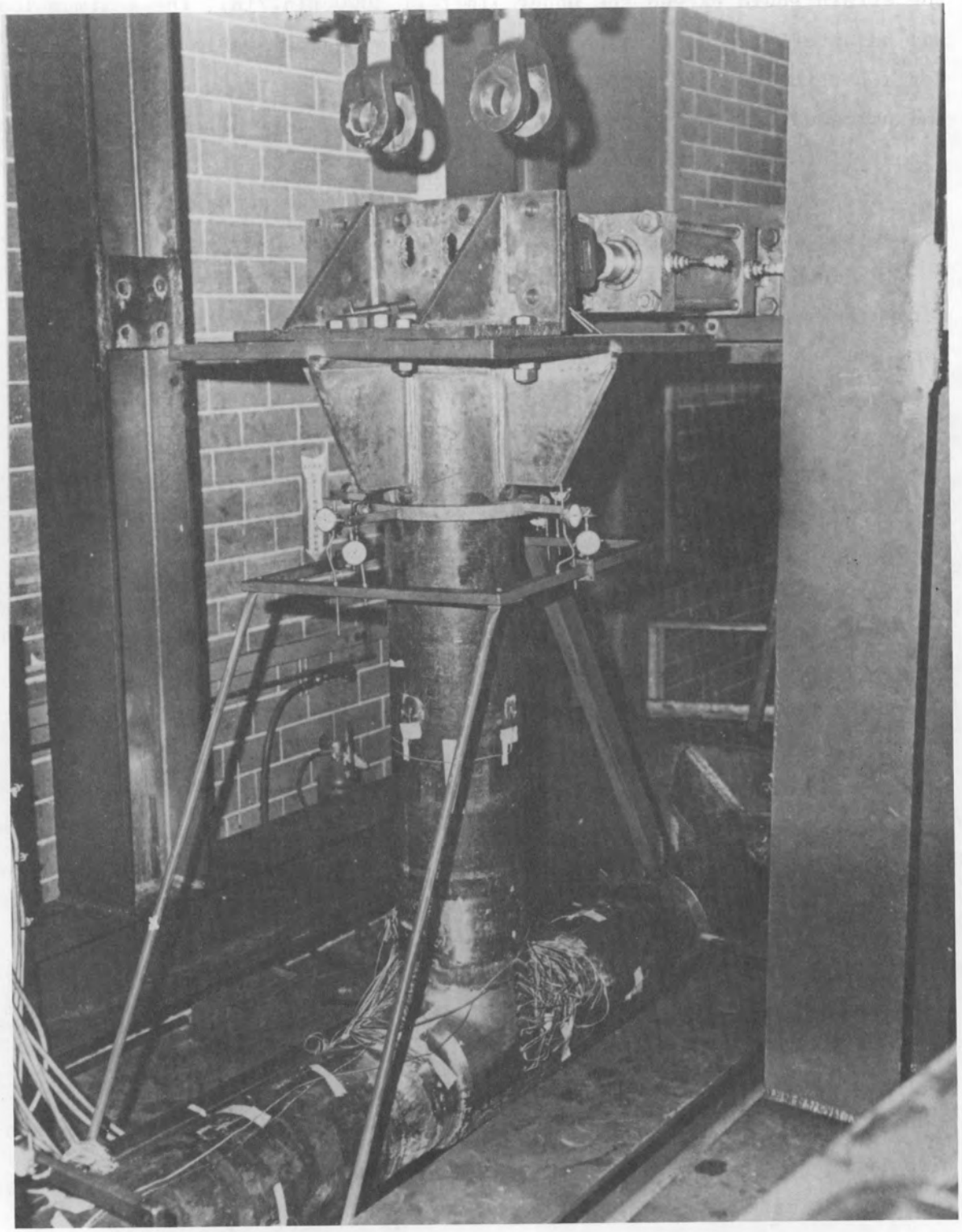

Fig. 2.12. T-7 in loading frame for experimental stress analysis.

~83,400 psi. During the fatigue tests, the internal pressure was maintained at the maximum design pressure of 1925 psig for T-4 and T-6, 3240 psig for T-7, and 950 psig for T-8 and T-15, all of which were calculated in accordance with the Code-allowable pressure equations of NB-3641.1, using 85% of the nominal wall thickness, i.e.,

$$p = \frac{2\ S_m t}{D_o - 0.8t}\ , \qquad (2.1)$$

where

$t = 0.85 t_{nom}$,

S_m = Code design stress intensity.

At the time these fatigue tests were being performed, the simplified elastic-plastic analysis method now contained in paragraph NB-3653.6 of the ASME Code was not available. Therefore, to select a loading that would give fatigue failure data for stress ranges exceeding twice the yield strength (or 3 S_m), Markl's empirical fatigue-life relationship[13,14] for piping components was extrapolated into the low-cycle range. For carbon steel, the relationship is

$$S_a = 490{,}000\ N^{-0.2}\ ,$$

where

S_a = alternating stress,

N = number of cycles to failure.

Remember that the fatigue tests were not performed to investigate the adequacy of this equation. Rather, the equation served only a supporting role in that it was used to identify stress ranges that would cause the models to fail in a reasonable number of cycles. Also note that, although Markl's relationship was used to form the basis for some of the fatigue analysis procedures of the ASME Code, it is not used directly in the more current editions.

An alternating out-of-plane shear load on the branch (F3Z) was selected for T-4, T-6, T-8, and T-15 based on results from the elastic-response tests, while an in-plane shear load on the branch (F3X) was used

for T-7. For each load case, the stress data were scanned to find the rosette at which the highest stress-to-load ratio occurred. Table 2.5 summarizes these ratios and the resulting initial fatigue load amplitudes. For those models where more than one gage is listed, the first gage in the list corresponds to the location of the maximum stress-to-load ratio, and the other gages listed gave ratios almost as high. All the gages listed were considered potential sites for fatigue failure.

Because the minimum allowable yield strength of A106b Grade B carbon steel (T-4 and T-6) is 35,000 psi and that of type 304L stainless steel (T-7, T-8, and T-15) is 30,000 psi, a stress value of 83,400 psi is fictitious because local plastic deformation will occur before this value is reached. The value of 83,400 psi is based on empirical fatigue data that is presented in the Code as equivalent elastic stress vs cycles to failure, where the stress values are assumed to be proportional to the strains.

A constant maximum displacement was maintained during the fatigue test instead of a constant maximum load to better simulate the type of loading that would occur in a piping system. The experimental procedure used to establish the limiting branch pipe displacements was as follows. A dial gage was mounted on a reference frame to measure the displacements of the branch pipe at an arbitrary point about 3 ft below the loading fixture, as shown in Fig. 2.13. A linear load-displacement relation was then established by loading the test assembly in the appropriate fatigue testing mode in small increments well within the linear elastic-response range. The strain-gage rosette identified earlier as giving the maximum stress-to-load ratio was also read at each loading increment. The linear load-displacement and load-strain relations were then extrapolated to the appropriate load value (Table 2.5). The corresponding displacement was determined, and the cycling facility was set to maintain this displacement. The load was then fully reversed so that the maximum displacements in both directions were determined prior to applying the full load in either direction. Microswitches were mounted on each side of the branch in line with the shear vector. A screw adjustment on one of the microswitches was slowly turned while the proper dial indicator reading was maintained. When the microswitch was tripped, the load was reversed. The

Table 2.5. Gage locations for maximum alternating stresses and corresponding fatigue test loads

Model	Strain gage	Load direction	Stress/load ratio (ksi/1000 lb)	Alternating load amplitude (lb)	Alternating elastic-stress amplitude (psi)	Constant internal pressure (psig)
T-4	67-05	±F3Z	2.77	30,000	±83,100	1,925
T-6	56-01, 45-05, -06, -07, 67-05, -06, -07	±F3Z	2.833	29,460	±83,460	1,925
T-7	0-02, 0-07, -08; 22-02	±F3X	1.568	53,800	±85,358	3,240
T-8	90-07, 67-06, -07; 78-01, 90-05, -06, -08; 258-01, 270-06, -07, -08	±F3Z	17.030	4,744	±80,790	950
T-15	270-07, 67-05, -06, -07; 78-01, 90-05, -06, -07, -08, 247-05, -06, -07; 258-01 270-06	±F3Z	19.892	4,255	±84,640	950

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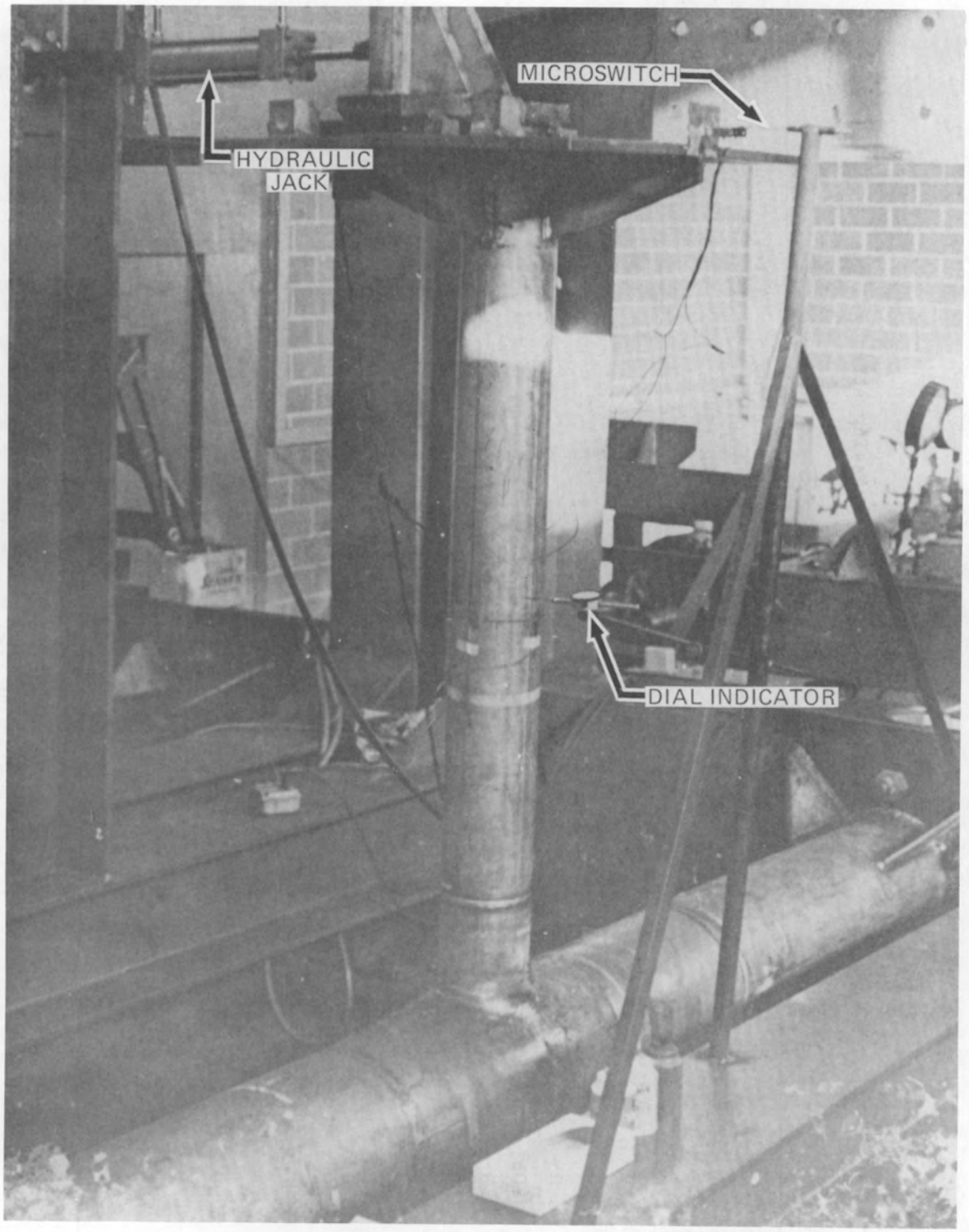

Fig. 2.13. T-8 in loading frame set up for ±F3Z fatigue test.

microswitch was then fixed so that the maximum displacement could not be exceeded in that direction on subsequent cycles. The procedure was then repeated for the second microswitch.

As may be seen from the values given in Table 2.5, this experimental procedure resulted in alternating equivalent elastic principal stress amplitudes that were very nearly equal to the intended value of 83,400 psi. One of the microswitches, the dial indicator, and the hydraulic jack may be seen in Fig. 2.13, which is a photograph of T-8 during the fatigue test. The total strain ranges after a shakedown of ten cycles are shown in Table 2.6. After ten cycles, no additional strain readings were taken.

Table 2.6. Strain ranges after shakedown[a]

Model	Gage	Strain range (μin./in.)
T-4	67-05	8,750[b]
T-6	56-01	11,500
	67-05	10,000
T-7	0-02	4,980
	0-07	4,360
	0-08	4,230
	22-03	4,060
	22-07	3,580
T-8	90-07	7,996
	270-07	7,880
	78-01	6,670
T-15	270-07	5,680
	90-07	4,955
	90-06	4,560

[a]Measured after ten cycles on leg 2 of the strain rosette.

[b]The initial strain range for T-4 was 14,350 μin./in. Initial strain ranges were not recorded for the other tees.

3. DISCUSSION OF ELASTIC-RESPONSE TEST RESULTS

In addition to the initial examinations conducted at the test site, the strain-gage data were screened by two processes prior to final acceptance. The first was a computerized check based on the assumption of linear elastic response. The second was more subjective, involving visual comparisons and the judgment of an analyst. After the data analysis was complete, normalized principal stresses and stress intensities (according to the Code definition) were computed, tabulated, and plotted in three different graphical forms for further analysis. Complete sets of these data are given in Appendixes VI, VII, and VIII. A summary of the maximum values is given in this chapter.

3.1 Reduction of Strain-Gage Data

As part of the experimental stress analysis, a concurrent reduction of data was performed using the computer program LINDA and subroutine NOSEY. This initial reduction was done to monitor the data acquisition process so that faulty strain gages could be identified and corrected if possible. The data were re-reduced later, using an updated version of NOSEY. The diagnostic procedure implemented by NOSEY is summarized in Sect. 3.1.1. A detailed description of the program appears in Ref. 10. The output from the NOSEY runs were plotted on graphs of stress vs strain-gage location. These plots were then checked for anomalous data points and adjusted if necessary. This final adjustment is discussed in detail in Sect. 3.1.2.

3.1.1 Evaluation of strain-gage data

The computer code NOSEY implements a diagnostic procedure for identifying and separating errors in strain measurement and load application. The procedure depends on the hypothesis that the strains obtained from the tests are proportional to the loads. In this analysis, the data are subjected to three separate tests: the linearity test, the variability test, and the load-adjustment test.

In the linearity test, the nine data points acquired for each gage under each loading condition are fitted to a straight line by the method of least squares. The program identifies and eliminates data that deviate excessively from linear behavior, leaving only data lying within a specified tolerance band. Because the procedure depends only on the assumption of linear behavior, any nonlinearity identified in this test must be due to either an error in the strain data acquisition or to the recorded value of the applied loads.

The width of the tolerance band is dictated by the accuracy required, but it is also limited by the resolution of the strain data acquisition system. For these tests, the larger of two values — 8 μin./in. or 15% of the maximum strain at a given gage — was used as the tolerance limit. Any gage for which more than 30% of the data was lost was flagged in the computer output with an asterisk, and a double asterisk was used to indicate complete failure of the gage.

The variability test compares the response of all the strain gages in the structure. This is done by normalizing the data from each gage to the maximum load and strain recorded for that gage. After normalizing, all the data for a given loading vary between a minimum of 0 and a maximum of 1.0. In the ideal case, the normalized data points will all lie on the line passing through the origin and the point (1, 1). If there is a large amount of scatter in the data for a given load case but the mean values of the data lie on the ideal response line, then the variations are due to inaccuracies in the strain data acquisition (i.e., strain gages, wiring, and/or data acquisition system). If, however, there is little variation in the values of the normalized strain, but the mean for a given load case is not on the ideal response line, then an error in the recorded loading is indicated.

The load-adjustment test selects the most consistent set of normalized strains and uses these data to mathematically adjust the value of the applied loads. If the adjustments are large, all three of the tests are performed again using the new estimates for the loads.

Computer program LINDA,[10] which uses NOSEY as a subroutine, was used to reduce the strain data to calculated stresses in both local and

principal coordinates. A complete tabulation of these data is presented in Appendix VI. There is a separate table for each load condition on each model. Each table presents measured strains, maximum and minimum principal surface stresses, shear stresses, stresses along and normal to the ϕ lines, and the angle in the counterclockwise direction from either the ϕ line or the crotch line (depending on the orientation of gage 2) to the maximum principal stress. The value of the load for which LINDA computes and prints the strains and stresses is controlled by the user. In the tabulations of Appendix VI, the indicated pressures and moments correspond to those loads that will give a maximum principal stress of 1000 psi using the nominal dimensions of the piping. The nominal force loads in the transverse directions are equal to the value that will produce a bending stress of 1000 psi for the nominal dimensions. Specifically, the nominal stresses are defined by the following relations for the different loadings:

$$
\begin{aligned}
\sigma_{nom} &= 1000 \text{ psi}, \\
&= p\, D_o/2I_r \text{ (internal pressure)}, \\
&= M\, D_o/2I_r \text{ (moment on run)}, \\
&= M\, d_o/2I_b \text{ (moment on branch)}, \\
&= FL_r\, D_o/2I_r \text{ (transverse force on run)}, \\
&= FL_b\, d_o/2I_b \text{ (transverse force on branch)}, \\
&= F/A_r \text{ (axial force on run)}, \\
&= F/A_b \text{ (axial force on branch)}.
\end{aligned}
$$

The nominal values for the geometric parameters D_o, d_o, T_r, T_b, I_r, I_b, L_r, L_b, A_r, and A_b were given earlier in Tables 2.2 and 2.3. For the full-outlet tees T-4, T-6, and T-7, the branch pipe and the run pipes have the same nominal dimensions, and thus the values for the nominal stresses are independent of whether the moment loadings were applied on the branch or run. However, for the reducing-outlet tees T-8 and T-15, the nominal dimensions of the branch and run are different. For these, the nominal stresses were calculated using the dimensional properties of the pipe on which the loading was applied. For internal pressure, the

section properties of the run pipe were used for all the tees. An elastic modulus of $E = 30 \times 10^6$ psi and Poisson's ratio of $\nu = 0.3$ were used in these calculations (i.e., those given in Appendix VI).

Note that if a moment couple is applied in bending and then in torsion to a circular beam, classical beam theory predicts that the maximum normal stress in the bending case will be twice the maximum shear stress in the torsion case. However, for ASME Code-related work, this study is concerned with stress intensity, which is defined as the absolute value of the largest principal stress difference or twice the maximum shear stress at a point. Therefore, a given couple will produce the same stress intensity regardless of whether it is applied in bending or in torsion.

There are two advantages to this normalizing scheme. First, it provides an easy means for comparing the stress intensification effect of different loads on the same tee and identical loads on different tees. Second, by scanning the tabulations for maxima, one can obtain specialized stress indices, and comparing these values would be a first step toward the development of generalized indices for use in design codes and standards.

3.1.2 Final screening and reduction

The data reduction performed by NOSEY is geared to establishing a constant strain-to-load ratio for each gage and hence for each rosette. If some of the data obtained from any one of the gages do not pass all the tests of NOSEY, the confidence in the value of the ratio for that gage is diminished. Therefore, the data were subjected to a final screening in which the response of each rosette whose data had been partially rejected by the linearity test was compared by the analyst with the responses of adjacent rosettes. This was done by studying computer graphs of the maximum and minimum principal stresses plotted as a function of gage location. If an excessively steep stress gradient occurred at a gage whose data had been partially rejected, the plot was compared with other cases for which similar stress solutions could be expected.

The questionable data points were then adjusted as necessary. These comparisons were based on certain similarities in loading and on symmetries in the test setup that could be exploited in predicting trends of the stress plots for identification of questionable data points. These comparison tests are discussed more fully in the following paragraphs.

In this test series, the transverse forces were applied near the ends of the branch and the run pipe at distances ranging from 76.1875 to 78.375 in. from the center of the tee (Table 2.3). If one conservatively assumes that the maximum nominal shear stress is equal to twice the applied shear force divided by the cross-sectional area, then the ratio of the maximum bending stress to the maximum shear stress will range from about 13.0 on the T-8 and T-15 run pipes to about 25.4 on the branches for the same models. The factor of 2 comes from thin-shell theory and represents the highest shear stress solution for a beam with a circular cross section. Also, if the usual assumptions of beam theory are imposed, the value of the shear stress will be zero at the point of maximum bending stress. Therefore, the stress solutions due to F2Y and -M2Z should be very similar, and the maximum principal stress in each case will be due entirely to bending. The same holds for F2Z and M2Y, F3X and -M3Z, and F3Z and M3X.

The models are essentially symmetric about the plane formed by the intersection of the axes of the run and the branch (the longitudinal plane). There is also geometric symmetry about the plane perpendicular to the run and containing the branch axis (the transverse plane). Because the 0° end of the run was fixed while the 180° end was free, the boundary conditions are not symmetric about this plane. However, these ends are sufficiently removed from the tee that the constraint effects can be expected to be negligible in the region of the tee. Therefore, the elastic response of each model to internal pressure and to loads applied at the free end of the run should be similar for the two opposing quadrants on which the strain gages are placed. Loadings on the branch, however, cannot be expected to give similar responses in the opposing quadrants because there was no reaction force at the free end, and the symmetry conditions thus break down.

Because the nominal dimensions of T-4 and T-6 are the same and those of T-8 and T-15 are also the same (Table 2.2), similar elastic responses should be anticipated for each pair. This expected similarity was the third and final basis for comparison. It was not used extensively, however, because differences in stress plots were in some cases due to real differences in the shape of the tees, resulting from different manufacturing techniques rather than from irregularities in the testing equipment or procedure.

The results of the final strain-gage data screening are shown in Appendix VII, Table VII.1. A total of 143 stress values were adjusted, or about 1% of the 14,365 solutions that were obtained. Of the stresses that were adjusted, 116 (81%) were for the inside surface, reflecting the greater difficulty of installing strain gages on the inside of the tee. At the time that the adjustments were made, however, no graphs were available for the M3X loading on T-6, and these values were adjusted by scanning the tabulated values in the computer output. The -M3Y loading on T-4 had so many questionable data points that no basis could be found for making adjustments, and the curves were simply left alone.

Special mention is required for two of the adjusted strain-gage results — for the internal pressure loading on T-7 and for the out-of-plane bending on the branch (-M3X) of T-4. They are the only two cases in which the *maximum* values anywhere on the tee were adjusted. The values shown in Table 3.1 were abstracted from Table VII.1 of Appendix VII.

For T-7 under internal pressure, the test data (NOSEY) indicated that the largest maximum principal stress (35.33 psi/psi pressure) occurred on the inside surface in the longitudinal plane near the crotch line — at strain rosette O-17. Although the possibility that the data were good was not ruled out,* both the maximum and minimum principal

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*Several possible reasons for the anomalous behavior were postulated, such as the possibility of a surface flaw in the tee or an air bubble under the gage; however, because this particular gage gave consistent results for the other loadings and because the gage was on the inside surface where it could not be examined until after the fatigue test was completed, it cannot be positively determined that the data were inaccurate.

Table 3.1. Adjustments in maximum stress values for T-4 and T-7

Tee	Load	Rosette No.	Normalized[a] principal stresses (ksi)			
			NOSEY		Adjusted values	
			Maximum	Minimum	Maximum	Minimum
T-7	P	0-17	35.33	8.39	17.0	4.0
		0-16	24.63	−4.81	20.5	3.5
T-4	(-M3X)	67-5	0.485	0.087	0.44	0.14

[a]For this comparison, the stresses are normalized to the loads, P_{nom} = 1000 psi and $M3X_{nom}$ = 1000 ft-lb.

stresses were adjusted after comparing them with data from the opposite quadrant (180° ϕ line). The maximum normalized stress intensity on the 180° ϕ line was 18.10. Further justification for the adjustments is based on a comparison with data from the photoelastic model studies of T-7 under internal pressure (see Ref. 15). The photoelastic studies indicated that the maximum stresses occurred at the same locations (i.e., in the longitudinal plane) but had a maximum normalized value of 14.0. Thus, both the data from the opposite quadrant of the steel model and the data from the photoelastic model indicate that the adjusted maximum value for T-7 (i.e., 20.5) is reasonable and conservative.

The relatively small adjustments in the principal stress values shown for the -M3X loading on T-4 were based on a comparison with results from the F3Z (out-of-plane transverse force) loading. These adjustments were considered necessary because of the erratic behavior of gage 2 in rosette 67-5.

3.2 Presentation and Discussion of Strain-Gage Data

The strain-gage data are presented in Appendixes VI—VIII for two different stages of reduction. The values tabulated in Appendix VI, which are from the LINDA output, were all calculated using a modulus of

elasticity of $E = 30 \times 10^6$ and Poisson's ratio of $\nu = 0.3$. Note also that the data have not been screened by the procedure described in Sect. 3.1.2. Appendixes VII and VIII contain computer plots and tabulations of the data after the final adjustments were made. All the data in these appendixes are normalized to 1000-psi nominal stress, as discussed in Sect. 3.1.1.

During the course of this test series, the data reduction subroutine NOSEY was updated several times, and the data presented in Appendixes VI—VIII represent the output from several different revisions. Therefore, there are some minor inconsistencies in the data that are primarily caused by small variations in the diagnostic parameters used in NOSEY at different stages in the development of the program.

The data given in Appendixes VII and VIII have been checked and adjusted. The presentation includes a summary of the adjustments, tabulations of stress intensities, contour plots of stress intensities, plots of stress intensity vs projected gage line distance, and maximum stress intensity vs angular displacement of the gage line. The adjusted data points have been flagged in both the tabulations and the plots, with the exception of the contour plots. Because Appendixes I—IX are on microfiche and thus may be somewhat less accessible than full-size printed material, a representative sampling of the data from Appendixes VII and VIII has been abstracted for full-size presentation in Sect. 3.3. For the pressure-loading case, this study has included tabulations of the normalized stresses and strains, and gage-line, circumferential-line, and contour plots of the normalized stress intensity for the quadrant of the tee in which the maximum value occurred.

In general, the data given in the appendixes show clearly that the stress distributions over the body of the tees for *all* the loadings were smooth, that is, without steep gradients or sharp discontinuities. In addition, the gage-line plots (Appendix VIII.2) show that the maximum values always occurred either at or very near strain-gage locations. This reinforces the conclusion from the brittle lacquer tests that the strain-gage coverage was adequate for every model.

A quick scan of the stress-intensity tabulations of Appendix VIII shows that for internal pressure (see full-size representative samples

in Sect. 3.3), the maximum stress for all five tees occurred on the inside surface near, but not necessarily in, the longitudinal plane. For bending-moment and transverse-force loadings on the branch, the maximum stresses occurred on the outside surface at various angular locations around the branch. Such generalizations, however, cannot be made for the other loading cases.

The highest normalized maximum stress intensities resulted from axial loads on the branch. Although nuclear piping systems are designed so that tees should not be subjected to large axial loads, the relatively high stresses measured in these experiments suggest that axial loads, as well as pressure and moment loads, should be considered in design.

Table 3.2 gives a summary of the locations (by gage number) and magnitudes of the maximum stress intensities for each of the 13 loadings on each of the 5 tees. The table is arranged so that results from the bending-moment and corresponding transverse-force loadings (e.g., M3Z and F3X) can be easily compared, and the maximum stresses for each pair can be verified as approximately equal for all five tees. The largest difference between stress intensities in such a pair was for the in-plane bending applied to the run of T-7. In this case, the two maximum stress intensities differed by about 35% and did not occur at the same location. Of the remaining 19 pairs of bending and shearing loads, all gave maximum stresses within 15% of each other, and 16 gave maximum stresses within 10% of each other.

The above differences are due to at least three factors. First, even though the effect of shear is small, it is not negligible and an influence of a few percent may be expected. Second, the nominal bending stress for the applied transverse force was calculated using a moment arm equal in length to the distance from the intersection of the pipe and run axes to the point of load application. This will introduce some errors, since the maximum bending will not always occur at this point. Third, errors may be caused by faulty data that survived all the screening procedures.

Because the maximum stress intensities given in Table 3.2 are normalized in the same fashion as the stress indices given in Table NB-3681(a)-1

Table 3.2. Location and value of maximum normalized stress intensities

		Internal-pressure load, P	Branch[a]					
			In-plane moment, M3Z	In-plane shear, F3X	Out-of-plane moment, M3X	Out-of-plane shear, F3Z	Torsion, M3Y	Axial force, F3Y
T-4	Gage[b]	0-15	0-6	0-6	67-5	67-5	56-1[c]	0-6
	SI[d]	4.417	2.250	2.191	2.732	2.762	2.738	7.513
T-6	Gage	202-16	67-16	67-16	56-1[c]	56-1[c]	56-1[c]	22-9
	SI	3.310	2.268	2.095	2.709	2.640	2.662	6.276
T-7	Gage	0-16	0-8	0-2	56-1[c]	56-1[c]	56-1[c]	0-8
	SI	4.425	2.189	2.444	2.002	1.882	1.730	5.063
T-8	Gage	11-11[c]	202-7	202-7	90-7	90-7	180-10	22-6
	SI	2.700	1.206	1.158	2.241	1.961	1.165	5.917
T-15	Gage	180-18	202-8	0-8	270-7	270-7	0-10	11-1[c]
	SI	3.654	1.610	1.547	2.307	2.178	1.110	7.607

		Run[a]					
		In-plane moment, M2Z	In-plane shear, F2Y	Out-of-plane moment, M2Y	Out-of-plane shear, F2Z	Torsion, M2X	Axial force, F2X
T-4	Gage[b]	270-14	90-14	90-14	90-14	247-5	90-14
	SI[d]	2.013	2.146	1.231	1.288	2.322	4.031
T-6	Gage	270-15	90-15	90-14	90-14	45-18	270-14
	SI	2.250	2.424	1.216	1.087	2.244	3.841
T-7	Gage	202-1	22-2	225-1	45-1	180-1	270-15
	SI	1.425	1.920	1.450	1.486	1.737	2.569
T-8	Gage	90-17	90-17	225-1	45-1	236-11[c]	90-17
	SI	2.006	1.991	1.369	1.377	1.824	2.377
T-15	Gage	270-17	90-18	45-1	45-1	236-11[c]	270-17
	SI	1.893	1.927	1.367	1.485	1.979	2.265

[a]See Fig. 2.8 for load direction convention.

[b]Gage = location of gage where maximum stress intensity occurred.

[c]Cases where maximum stress intensity occurred on the crotch line rather than on one of the ϕ gage lines.

[d]SI = maximum normalized stress intensity. See Sect. 3.1.1 for the normalizing convention.

of the ASME Code,* a direct comparison of the two can be made. It must be emphasized, however, that the Code indices are intended to represent maximum stress intensities resulting from any admissible combination of loadings. Thus, firm conclusions regarding the adequacy of the Code indices cannot be made until the experimental data are studied in the proper context. A separate report on that subject is being prepared.

*Normalization is the same except for use of the nominal section modulus rather than the approximate modulus used by the Code.

3.3 Representative Data for Pressure Loads

For those readers who may not have ready access to a microfiche reader or who may not be interested in all the strain-gage data given in the appendixes, a portion of the data for the internal pressure loading case has been abstracted for full-size presentation and further discussion. Figures 3.1 and 3.2 are computer-generated contour plots of normalized stress intensities for the inside and outside surfaces of T-4. Figure 3.1 shows the 0° to 90° quadrant, whereas Fig. 3.2 shows the 180° to 270° quadrant. As may be seen, the maximum values occurred on the inside surface on the longitudinal plane. The stress patterns, however, are not entirely symmetrical because somewhat higher stresses occurred in the 0° to 90° quadrant than in the 180° to 270° quadrant. Similar contour plots for the other tees and for the other loading conditions are given in Appendix VIII.

Figure 3.3 is a schematic illustration of the technique used to develop the gage-line plots shown in Fig. 3.4 for T-6 and T-7 for internal pressure. Complete sets of gage-line plots are also given in Appendix VIII. These figures show the normalized stress intensities for the gage line (i.e., same ϕ angle) in which the *maximum* value was located, as a function of projected distance. As shown in Fig. 3.4, the maximum value for both T-6 and T-7 was on the run side of the crotch. The maximum values for T-15 was also on the run side, whereas for T-4 it was on the branch side and for T-8 it was located on the crotch.

Figure 3.5 shows the maximum stress index values from each ϕ line of T-4 plotted as a function of the diametral plane angle ϕ. For all of the tees except T-6, the absolute maximum was located in the longitudinal plane (ϕ = 0°, 180°) on the inside surface. For T-6, it was displaced about 20° to the side.

Numerical values for the stress intensity measured at each gage site in each of the two quadrants for both inside and outside surfaces are listed in Tables 3.3—3.7. The data in the tables are arranged in four sets, one set for each quadrant surface, and the maximum value in each set is circled. The largest of these, along with the identifying gage number, was given earlier in Table 3.2. A few of the values given

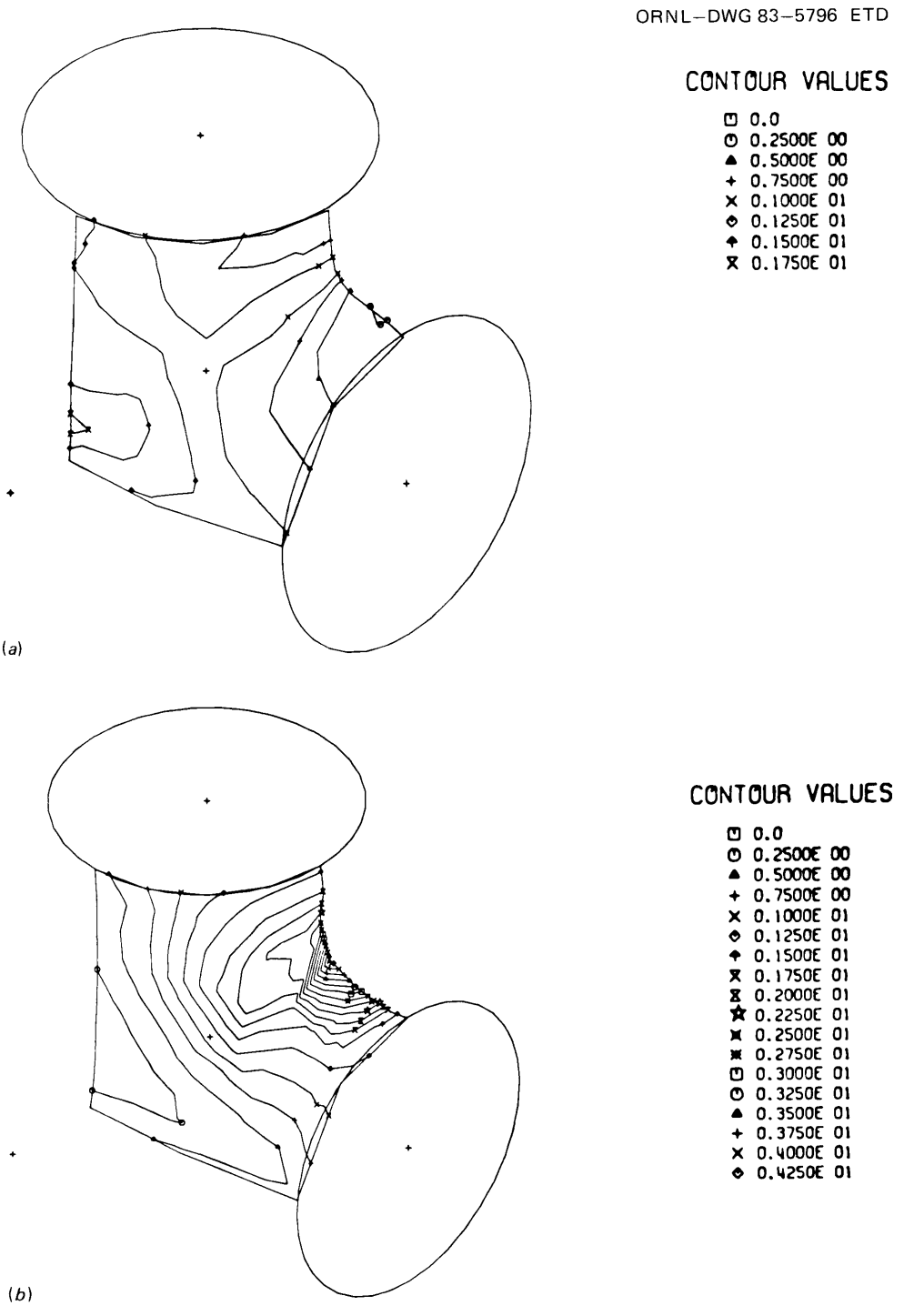

Fig. 3.1. Internal pressure stress index contour plot for 0° to 90° quadrant of T-4. (a) Outside surface and (b) inside surface.

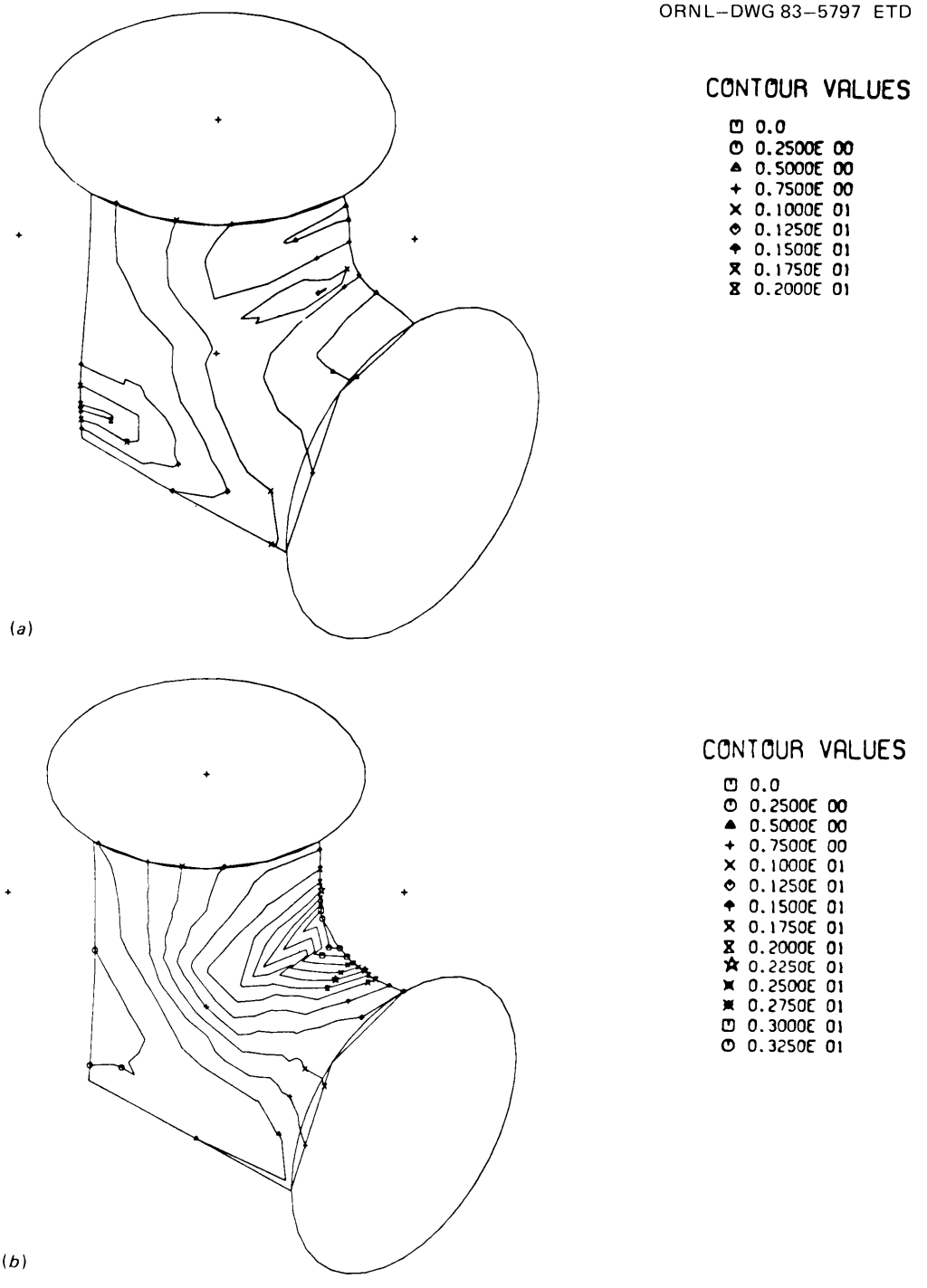

Fig. 3.2. Internal pressure stress index contour plot for 180° to 270° quadrant of T-4. (*a*) Outside surface and (*b*) inside surface.

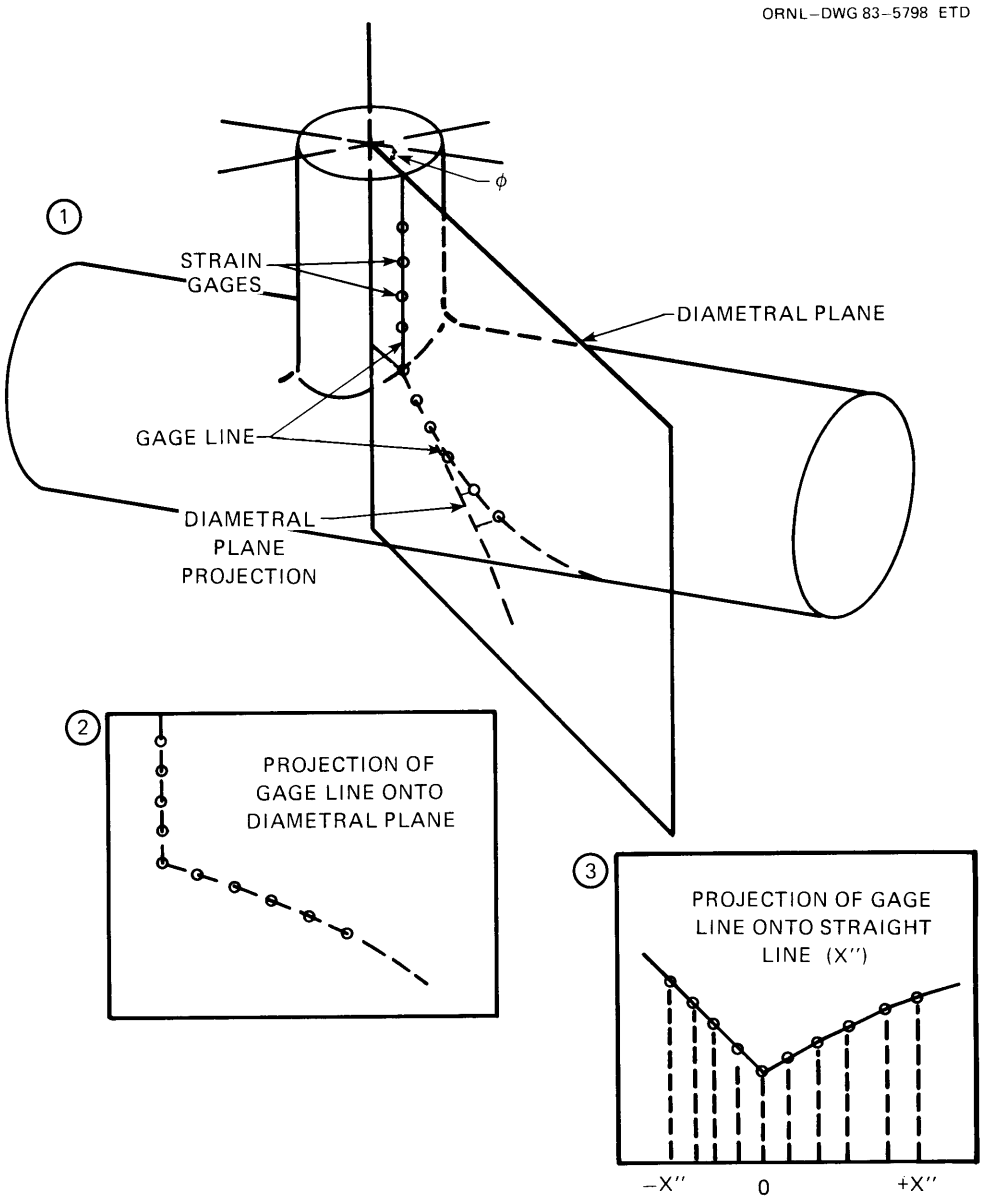

Fig. 3.3. Schematic illustration of technique used to develop gage-line projection plots.

in Tables 3.3—3.7 have been adjusted, as discussed in Sect. 3.1, and are identified by a solid triangle (▲). Values for the stress intensities for all the gage sites, together with the XYZ coordinate location data given in Appendix III, should provide valuable sets of experimental benchmark data for comparison with analytical solutions and/or photoelastic model studies.

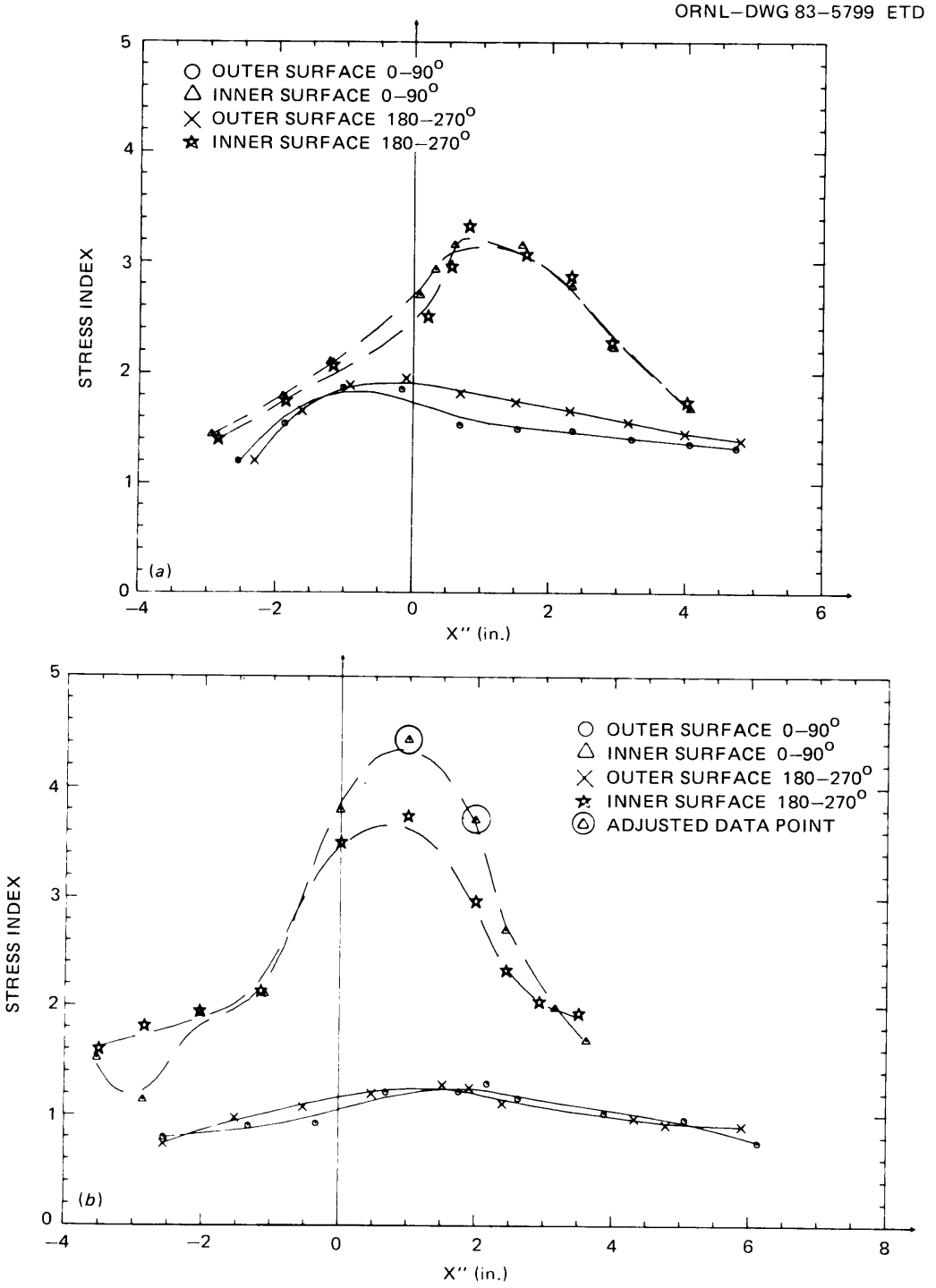

Fig. 3.4. Gage-line projection plots for (*a*) T-6 and (*b*) T-7 (internal pressure).

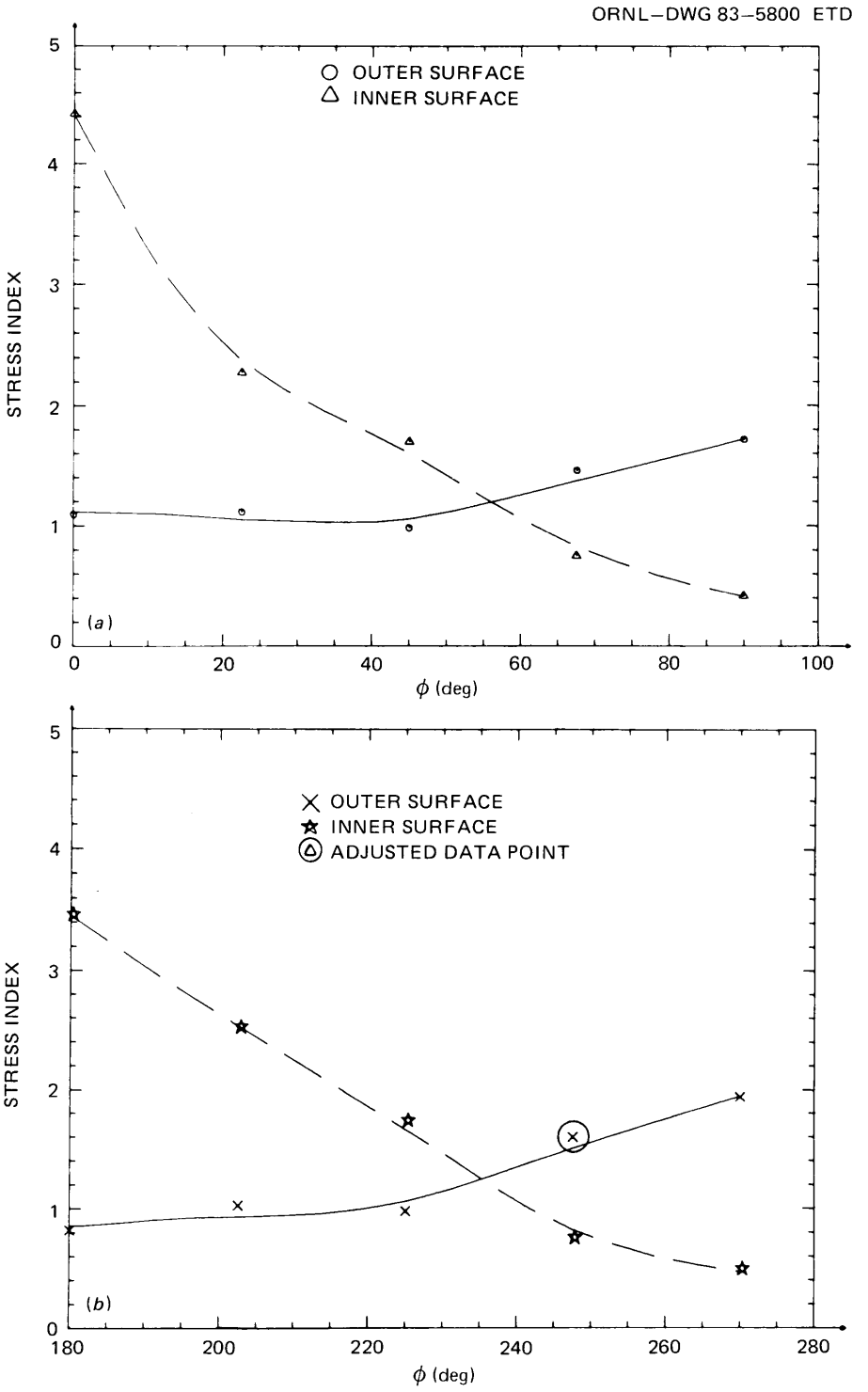

Fig. 3.5. Maximum normalized stress intensities from each gage line as a function of diametral angle for T-4 (internal pressure). (*a*) 0° to 90° quadrant and (*b*) 180° to 270° quadrant.

Table 3.3. Normalized stress intensities for T-4 loaded with internal pressure

T-4. P, normalized stress intensity on outside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
1	0.346	0.488	0.937	1.105	1.237	0-5	0.612
2	0.108	0.508	0.908	1.342	(1.715)	11-1	1.073
3	0.147	0.547	0.935	1.454	1.596	22-6	1.111
4	0.372	0.713	0.977	1.420	1.323	33-1	0.897
5	0.612	0.926	0.912	1.268	1.329	45-6	0.938
6	1.089	1.111	0.938	1.254	1.295	56-1	1.133
7	0.782	1.047	0.902	1.040	1.208	67-4	1.420
8	0.595	0.693	0.765	1.004	1.138	78-1	1.595
9	0.618	0.599	0.652	0.982	1.172	90-1	1.237
10	0.615	0.608	0.695	0.929	1.238		0.0

T-4. P, normalized stress intensity on inside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
11	1.357	1.171	0.559	0.548	0.391	0-15	4.417
12	1.588	1.261	0.403	0.229	0.157	11-11	2.361
13	2.553	1.330	0.580	0.220	0.164	22-16	2.128
14	3.272	1.407	0.854	0.255	0.059	33-11	2.117
15	(4.417)	1.774	1.305	0.405	0.130	45-16	1.285
16	2.622	2.128	1.285	0.588	0.241	56-11	0.600
17	2.182	2.270	1.693	0.693	0.311	67-14	0.255
18	1.813	1.821	1.526	0.707	0.323▲	78-11	0.172
19	1.607	1.612	1.365	0.662	0.260	90-11	0.391
20	1.421	1.397	1.199	0.747	0.413		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
1	0.284	0.501	0.854	1.184	1.191	180-5	0.617
2	0.162	0.507	0.970	1.543	(1.940)	191-1	1.169
3	0.279	0.491	0.975	1.595▲	1.592	202-6	1.023
4	0.491	0.549	0.919	1.428	1.292	213-1	0.869
5	0.617	0.726	0.886	1.351	1.354	225-6	0.891
6	0.816	1.023	0.891	1.325	1.385	236-1	1.148
7	0.695	0.959	0.853	1.114	1.382	247-4	1.428
8	0.416	0.552	0.749	1.007	1.260	258-1	1.943
9	0.371	0.381	0.594	1.004	1.240	270-1	1.191
10	0.423	0.489	0.682	1.033	1.226		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
11	1.245	1.103	0.561	0.483	0.401	180-15	3.446
12	1.439	1.153	0.351	0.284	0.148	191-11	2.326
13	1.809	1.346	0.471	0.305	0.099	202-16	2.507
14	2.868	1.621	0.964	0.269	0.073	213-11	2.017
15	(3.446)	2.090	1.548	0.337	0.160	225-16	1.521
16	3.234	2.507	1.521	0.488	0.258	236-11	0.586
17	2.120	2.066	1.722	0.649	0.333	247-14	0.269
18	1.779	1.772	1.510	0.701	0.307	258-11	0.227
19	1.562	1.611	1.277	0.717	0.364	270-11	0.401
20	1.396	1.429	1.177	0.735	0.476		0.0

Table 3.4. Normalized stress intensities for T-6 loaded with internal pressure

T-6. P, normalized stress intensity on outside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
1	0.615	0.461	0.992	1.249	1.196	0-5	0.786
2	0.795	0.534	1.035▲	1.574	1.535	11-1	0.665
3	0.712	0.470	1.159	1.739	(1.866)	22-6	0.480
4	0.816	0.580	1.209	1.843	1.851	33-1	0.740
5	0.786	0.531	1.139	1.809	1.526	45-6	1.004
6	0.784	0.480	1.004	1.738	1.489	56-1	1.544
7	0.696	0.545	0.984	1.586	1.476	67-4	1.843
8	0.672	0.405	0.936	1.451	1.401	78-1	1.632
9	0.601	0.425	0.773	1.175	1.356	90-1	1.196
10	0.458	0.405	0.697	1.155	1.318		0.0

T-6. P, normalized stress intensity on inside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
11	1.467	1.433	0.448	0.471	0.604	0-15	1.767
12	1.895	1.786	0.519	0.314	0.186	11-11	2.566
13	1.946	2.097	1.009	0.204	0.159	22-16	3.155
14	1.787	2.694	1.485	0.260	0.286	33-11	2.333
15	1.767	2.928	1.359	0.248	0.086	45-16	1.279
16	1.872	(3.155)	1.279	0.306	0.260	56-11	0.366
17	1.933	3.152	1.350	0.419	0.634	67-14	0.260
18	2.068	2.776	1.715	0.487	0.311	78-11	0.198
19	2.194	2.225	1.512	0.569	0.202	90-11	0.604
20	1.715	1.678	1.244	0.607	0.246		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
1	0.686	0.640	1.102	1.223	1.197	180-5	0.794
2	0.777	0.581	1.117	1.583	1.649	191-1	0.622
3	0.707	0.579	1.243	1.709	1.887	202-6	0.493
4	0.759	0.490	1.245	1.849	(1.951)	213-1	0.725
5	0.794	0.519	1.168	1.862	1.813	225-6	1.029
6	0.820	0.493	1.029	1.807	1.733	236-1	1.526
7	0.744	0.497	0.981	1.605	1.656	247-4	1.849
8	0.657	0.435	0.876	1.498	1.550	258-1	1.752
9	0.558	0.333	0.744	1.127	1.447	270-1	1.197
10	0.478	0.369	0.574	1.121	1.384		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
11	1.447	1.377	0.826	0.560	0.184	180-15	1.618
12	1.781	1.726	0.563	0.377▲	0.071	191-11	3.306
13	1.905	2.047	1.187	0.239	0.258	202-16	3.310
14	1.778▲	2.486	1.550	0.347	0.444	213-11	2.319
15	1.618	2.938	2.292	0.323▲	0.267	225-16	1.562
16	1.479	(3.310)	1.562	0.348	0.175	236-11	0.595
17	1.554	3.051	1.564	0.488	0.406▲	247-14	0.347
18	1.885	2.850	1.833	0.635	0.247	258-11	0.171
19	2.028	2.256	1.661	0.835	0.259	270-11	0.184
20	1.642	1.720	1.299	0.685	0.221		0.0

Table 3.5. Normalized stress intensities for T-7 loaded with internal pressure

T-7. P, normalized stress intensity on outside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
1	0.569	0.594	0.898	0.788	0.701	0-5	0.268
2	0.543	0.556	0.740	0.894	1.020	11-1	0.268
3	0.281	0.557	0.795	0.917	1.013	22-6	0.500
4	0.267	0.601	0.812	1.209	1.243	33-1	0.687
5	0.268	0.506	0.860	1.213	1.164	45-6	0.893
6	0.230	0.500	0.893	(1.285)	1.199	56-1	1.174
7	0.319	0.501	0.856	1.151	1.132	67-4	1.209
8	0.444	0.541	0.772	1.010	1.076	78-1	1.218
9	0.560	0.501	0.751	0.956	1.033	90-1	0.701
10	0.366	0.529	0.629	0.746	1.073		0.0

T-7. P, normalized stress intensity on inside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
11	1.511	1.426	0.882	0.754	0.639	0-15	3.793
12	1.129	1.478	0.892	0.443	0.279	11-11	2.978
13	1.914	1.544▲	0.883	0.437	0.257	22-16	2.280
14	2.101	1.900	1.094	0.567	0.257▲	33-11	1.883
15	3.793	2.250	1.470	0.617▲	0.371	45-16	1.559
16	(4.425▲)	2.280	1.559	0.672	0.538	56-11	1.070
17	3.704▲	2.249	1.531	0.874	0.668	67-14	0.567
18	2.693	1.967	1.538	0.987	0.702	78-11	0.268
19	1.974	1.777	1.475	1.001	0.812	90-11	0.639
20	1.675	1.732	1.433	1.006	0.879		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
1	0.618	0.607	0.897	0.728	0.773	180-5	0.285
2	0.413	0.579	0.753	0.967	0.821	191-1	0.380
3	0.284	0.573	0.800	1.069	1.038	202-6	0.580
4	0.269	0.573	0.790	1.194	1.268	213-1	0.723
5	0.285	0.505	0.939	(1.274)	1.241	225-6	0.947
6	0.232	0.580	0.947	1.245	1.131	236-1	1.136
7	0.377	0.639	0.907	1.103	1.080	247-4	1.194
8	0.498	0.591	0.828	0.963	1.033	258-1	1.254
9	0.474	0.549	0.729	0.904	0.997	270-1	0.773
10	0.365	0.617	0.721	0.893	0.922		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
11	1.578	1.624	0.951	0.745	0.662	180-15	3.480
12	1.787	1.467	0.911	0.479	0.192	191-11	2.964
13	1.923	1.621	0.879	0.294	0.226	202-16	2.292
14	2.109	1.952	1.072	0.566▲	0.265	213-11	1.805
15	3.480	2.511▲	1.492	0.630	0.370▲	225-16	1.532
16	(3.724)	2.292	1.532	0.582	0.563	236-11	0.975
17	2.953	2.131	1.506	0.823▲	0.682	247-14	0.520
18	2.306	1.907	1.516	0.994	0.765	258-11	0.327
19	2.016	1.766	1.482▲	1.015	0.789	270-11	0.662
20	1.911	1.660	1.358	0.928	0.888		0.0

Table 3.6. Normalized stress intensities for T-8 loaded with internal pressure

T-8. P, normalized stress intensity on outside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
1	0.824	0.880	(1.223)	0.745	0.631	0-7	0.744
2	0.446	0.413	0.812	0.715	0.604	11-1	0.697
3	0.380	0.442	0.536	0.723	0.640	22-6	0.680
4	0.321	0.402	0.603	0.853	0.862	33-1	0.694
5	0.379	0.753	0.793	0.793	0.848	45-6	0.639
6	0.657	0.680	0.639	0.819	0.854	56-1	0.747
7	0.744	0.570	0.559	0.722	0.835	67-6	0.819
8	0.648	0.468	0.633	0.778	0.720	78-1	0.851
9	0.387	0.379	0.646	0.784	0.855	90-6	0.854
10	0.409	0.460	0.539	0.756	0.788		0.0

T-8. P, normalized stress intensity on inside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
11	0.985	1.125	0.783	0.524	0.554	0-17	2.257
12	0.938	1.024	0.773	0.578	0.633	11-11	(2.700)
13	0.886	0.981	0.717	0.548	0.529	22-16	2.043
14	1.015	1.344	0.980	0.502	0.208	33-11	1.620
15	1.321	2.115	1.452	0.679	0.235	45-16	1.293
16	1.834	2.043	1.293	0.509	0.223	56-11	0.880
17	2.257	1.672	1.144	0.378	0.188	67-16	0.509
18	1.978	1.273	0.999	0.558	0.276	78-11	0.268
19	1.363	0.933	0.807	0.588	0.444	90-16	0.223
20	1.398	1.211	0.764	0.739	0.587		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
1	0.988	0.888	(1.338)	0.677	0.691	180-7	0.764
2	0.428	0.449	1.135	0.945	0.886	191-1	0.743
3	0.376	0.446	0.745	0.858	0.780	202-6	0.817
4	0.317	0.404	0.617	1.112	1.024	213-1	0.854
5	0.398	0.881	0.847	0.881	0.943	225-6	0.780
6	0.757	0.817	0.780	0.860	0.944	236-1	0.731
7	0.764	0.717	0.633	0.789	0.953	247-6	0.860
8	0.624	0.507	0.566	0.759	0.751	258-1	0.887
9	0.442	0.462	0.544	0.789	0.930	270-6	0.944
10	0.493	0.516	0.555	0.695	0.937		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
11	1.119	1.178	0.758	0.537	0.611	180-17	2.473
12	1.024	1.010	0.577	0.449	0.371	191-11	2.374
13	0.937	0.977	0.550	0.374	0.437	202-16	2.429
14	1.048	1.273	0.926	0.344	0.250▲	213-11	1.771
15	1.342	2.040	1.627	0.730	0.245	225-16	1.510
16	1.955	2.429	1.510	0.577	0.237	236-11	1.064
17	(2.473)	1.816	1.243	0.412	0.217	247-16	0.577
18	2.098	1.417	1.064	0.522	0.301▲	258-11	0.388
19	1.248	1.054	0.855	0.568	0.398	270-16	0.237
20	1.000	0.923	0.812	0.751	0.578		0.0

Table 3.7. Normalized stress intensities for T-15 loaded with internal pressure

T-15. P, normalized stress intensity on outside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
1	0.988	1.162	1.224	0.813	0.973	0-7	1.162
2	0.740	0.802	0.897	0.476	0.572	11-1	1.252
3	0.404	0.559	0.495	0.598	0.568	22-6	1.159
4	0.191	0.435	0.652	1.032	0.913	33-1	1.054
5	0.335	0.516	0.728	1.037	(1.297)	45-6	0.993
6	0.952	1.159	0.993	1.001	1.213	56-1	0.866
7	1.162	1.136	0.907	0.834	1.214	67-6	1.001
8	1.149	0.877	0.801	0.739	0.928	78-1	1.130
9	0.623	0.499	0.584	0.782	0.970	90-6	1.213
10	0.538	0.599	0.573	0.750	0.917		0.0

T-15. P, normalized stress intensity on inside surface load corresponds to nominal stress intensity of 1000 psi

Gage	PHI line					Crotch line	
	0	22.5	45	67.5	90	Gage	Index
11	1.273	1.418	1.021	0.497	0.627	0-17	2.406
12	1.153	1.095	0.866	0.771	0.976	11-11	2.311
13	1.172▲	0.972	0.904	0.854	1.103	22-16	1.822
14	1.196	0.995	0.621	0.488	0.341	33-11	1.920
15	1.476	1.337	0.921	0.742	0.373	45-16	1.475
16	2.111	1.822	1.475	0.778	0.338	56-11	1.176
17	2.406	2.175	1.595	0.703	0.290	67-16	0.778
18	(2.596)	2.047	1.428	0.656	0.150	78-11	0.381
19	1.603	1.361	1.164	0.755	0.388	90-16	0.338
20	0.979	0.820	0.950	0.902	0.738		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
1	0.997	1.215	1.184	0.701	0.777	180-7	1.223
2	0.702	0.839	1.111	0.774	1.019	191-1	(1.344)
3	0.614	0.693	0.645	0.651	0.613	202-6	1.197
4	0.316	0.344	0.650	1.070	1.004	213-1	1.000
5	0.339	0.471	0.731	0.987	1.153	225-6	1.000
6	0.912	1.197	1.000	0.891	1.183	236-1	0.806
7	1.223	1.273	0.892	0.763	1.203	247-6	0.891
8	1.198	0.993	0.703	0.757	0.903	258-1	1.107
9	0.579	0.518	0.534	0.783	0.950	270-6	1.183
10	0.477	0.539	0.576	0.737	0.903		0.0

Gage	PHI line					Crotch line	
	180	202.5	225	247.5	270	Gage	Index
11	1.440	1.106	1.019▲	0.571	0.522	180-17	2.202
12	1.253	1.073	0.805	0.496	0.424	191-11	2.237
13	1.127	0.957	0.677	0.702	0.964	202-16	1.826
14	1.136	0.987▲	0.605	0.425	0.299	213-11	1.962
15	1.362	1.407	0.852	0.598	0.215	225-16	1.391
16	3.013	1.826	1.391	0.787	0.294	236-11	1.209
17	3.566▲	2.102▲	1.644	1.073	0.317	247-16	0.787
18	(3.654)	1.794	1.406	0.719	0.125	258-11	0.391
19	1.603	1.372	1.086	0.731	0.445	270-16	0.294
20	1.187	1.001	0.972	0.684	1.143		0.0

There are interesting aspects of the contour plots and the ϕ-line and circumferential-line plots that cannot be easily seen by looking at the tabulated data. For example, the contour plots show that the elastic response for all five tees was essentially symmetric about the transverse (90°, 270°) plane for internal-pressure loading. The behavior of T-6 and T-8 was more symmetric than that of T-4, T-7, or T-15, which, in general, reflects a more uniformly symmetric geometry. None of the models, however, were perfectly symmetric, as was evidenced by the fact that the *maximum* stress values were not symmetric. The stress gradients were reasonably smooth for all the tees, and there is a notable lack of stress discontinuities or isolated regions of extremely high stresses, which tends to confirm the advantage of having a contoured outer surface that is free of geometric discontinuities.

When one compares the behavior of T-4 with T-6 and T-8 with T-15, which were nominally the same size and material but made by different manufacturers, somewhat different response characteristics are apparent from the contour and line plots. These figures (see Appendix VIII) show that the maximum stresses from internal pressure for T-4 and T-15, made by manufacturer I, were located in the longitudinal (0°, 180°) plane as one would intuitively expect, whereas the location of the maximum stresses for T-6 and T-8, made by manufacturers III and II, respectively, were located to the side of the longitudinal plane. For tees T-6 and T-8, the largest stress intensities in the longitudinal plane were substantially less than the maximum values. Nevertheless, both T-4 and T-15 had higher maximum stress indices for internal pressure than did T-6 and T-8 — 4.417 vs 3.310 and 3.654 vs 2.700, respectively.

These maximum stress differences can be attributed to differences in geometrical details, because all the tees conformed to the same overall dimensional requirements of ANSI B16.9. A visual examination of the tees showed that T-4 had generally thicker walls than T-6 (T-4 weighed 21 lb more than T-6); it also had more reinforcement material on the inside in the longitudinal plane at the crotch and a shorter transition radius on the outside surface. The external surface transition for T-4 was essentially a circular fillet with a radius of about 1.1 in., whereas the transition region for T-6 extended essentially from the branch outlet

to the run outlet (i.e., from weld prep to weld prep) in the longitudinal plane and had a variable radius that ranged from a minimum of ~2.3 to ~3.0 in.

The two stainless steel tees T-8 and T-15 were more nearly alike than the carbon steel tees T-4 and T-6. They weighed more nearly the same (155 and 143.5 lb, respectively) and had very little excess reinforcing material on the inside of the crotch. The transition radius was somewhat larger for T-8 than for T-15 (about 0.75 and 0.65 in., respectively), and the overall shape of T-8 was more symmetrical and streamlined than that of T-15. The diameter of T-15 appeared to have been made "oversize" and then reduced at the welding ends to meet the B16.9 standard dimensional requirements.

These limited comparisons tend to support the conclusion that the radius of the transition has a more important influence on the maximum stress intensity than does the overall wall thickness or the amount of reinforcing material on the inside corner of the crotch. This conclusion is consistent with results from theoretical studies by Rodabaugh and Gwaltney[16] and by Gwaltney and Corum[17] on the effects of reinforcement design for nozzles in spherical pressure vessel heads. Their studies showed that reinforcement material placed entirely on the inside surface has essentially no influence in reducing the maximum stresses and that, to be most effective, at least half of the reinforcement should be on the outside surface.

The comparisons also seem to indicate that overall shape and model symmetry contribute to the magnitude of the maximum stress intensity. The summary of maximum normalized stress intensities in Table 3.2 tends to support these conclusions for most of the force and moment loadings as well as for internal pressure. The exceptions are for T-8 and T-15 force and moment loadings on the run where the maximum values are slightly higher for T-8 than for T-15.

4. DISCUSSION OF FATIGUE TEST RESULTS

As stated in Sect. 2.3, fatigue failure for each of the tees was expected in about 7000 cycles of moment loading on the branch, with failure being defined as a leak. For the fatigue test of T-4, which was the first to be tested, the first dye-penetrant inspection was made after 1500 cycles. It was felt that this would be early enough to detect crack initiation. However, a number of surface cracks had already appeared in the vicinity of gage 67-05 and at a symmetrical location at about ϕ = 239°. Apparently, these cracks were initiated several hundred cycles before the first inspection. For this reason, the inspections were performed every 500 cycles on subsequent tests.

At the end of each test, the pipe extensions were cut off, and the inside surfaces were inspected using liquid dye penetrant, after which the tees were returned to ORNL.

Fatigue test results for each of the tees are discussed individually in the following paragraphs. In Sect. 4.2, an attempt is made to evaluate all the data and draw some general conclusions.

4.1 Fatigue Crack Initiation and Failure

The dye-penetrant tests showed that for every model except T-6, crack initiation and eventual failure occurred as expected in the vicinity of the most highly stressed region. For T-6, which failed sooner than any of the other tees, the location and orientation of the failure appeared to be somewhat anomalous. Cracks also appeared on the outside surface of every tee at various locations other than the failure point prior to eventual failure. No cracks were found on the inside surfaces of T-7, T-8, and T-15 other than the failure cracks, whereas T-4 experienced some inside surface crack initiation.

In Subsections 4.1.1 to 4.1.5, the results from each test are discussed individually.

4.1.1 Results for T-4

Photographs of the fatigue cracks were taken at various cycle intervals until failure occurred after 2062 cycles. The crack that first appeared at $\phi = 67°$ propagated along the crotch line until a leak ultimately occurred at $\phi = 90°$, as shown in Figs. 4.1—4.5. The internal pressure in the tee was 1925 psig at the time of failure, and a high-pressure stream of water was expected. However, due to the size of the failure crack, the flow of water was similar to the flow from a faucet under low pressure.

After the tee had failed, the pipe extensions were cut off and the inside surface was inspected with a dye penetrant. Additional fatigue cracks were found on the inside surface at $\phi = 45°$ and $\phi = 315°$ lying in directions normal to the fatigue cracks on the outside surface. These cracks may be seen in Fig. 4.6 along with the fatigue crack that propagated from the outside surface and eventually resulted in the leak. (The cracks were filled with a white lacquer to make them stand out in the photograph.) The principal stress in the vicinity of these cracks was 2.09 ksi/1000 lb_f as compared with 2.77 ksi/1000 lb_f at gage site 67-05.

4.1.2 Results for T-6

The area within 22° on either side of the 56° ϕ line was given a dye-penetrant inspection every 500 cycles to detect crack initiation. No cracks were found during dye-penetrant inspections at the 500- and 1000-cycle intervals; however, after 1309 cycles, a considerable amount of water was noted on the floor near T-6. Investigation revealed the existence of a large crack about 1 ft long between the 90° and 22° ϕ lines, as shown in Fig. 4.7. Internal pressure was lost, and most of the water in the tee had drained out. The facility was shut down, and a complete inspection of the outside surface was made.

The only other cracks on the outside surface were a series of small cracks between the 270° and 0° ϕ lines running parallel to the direction of principal stress, perpendicular to the expected directions. On the inside surface, fatigue cracks, shown in Figs. 4.8 and 4.9, were located

ORNL–PHOTO 6407–83

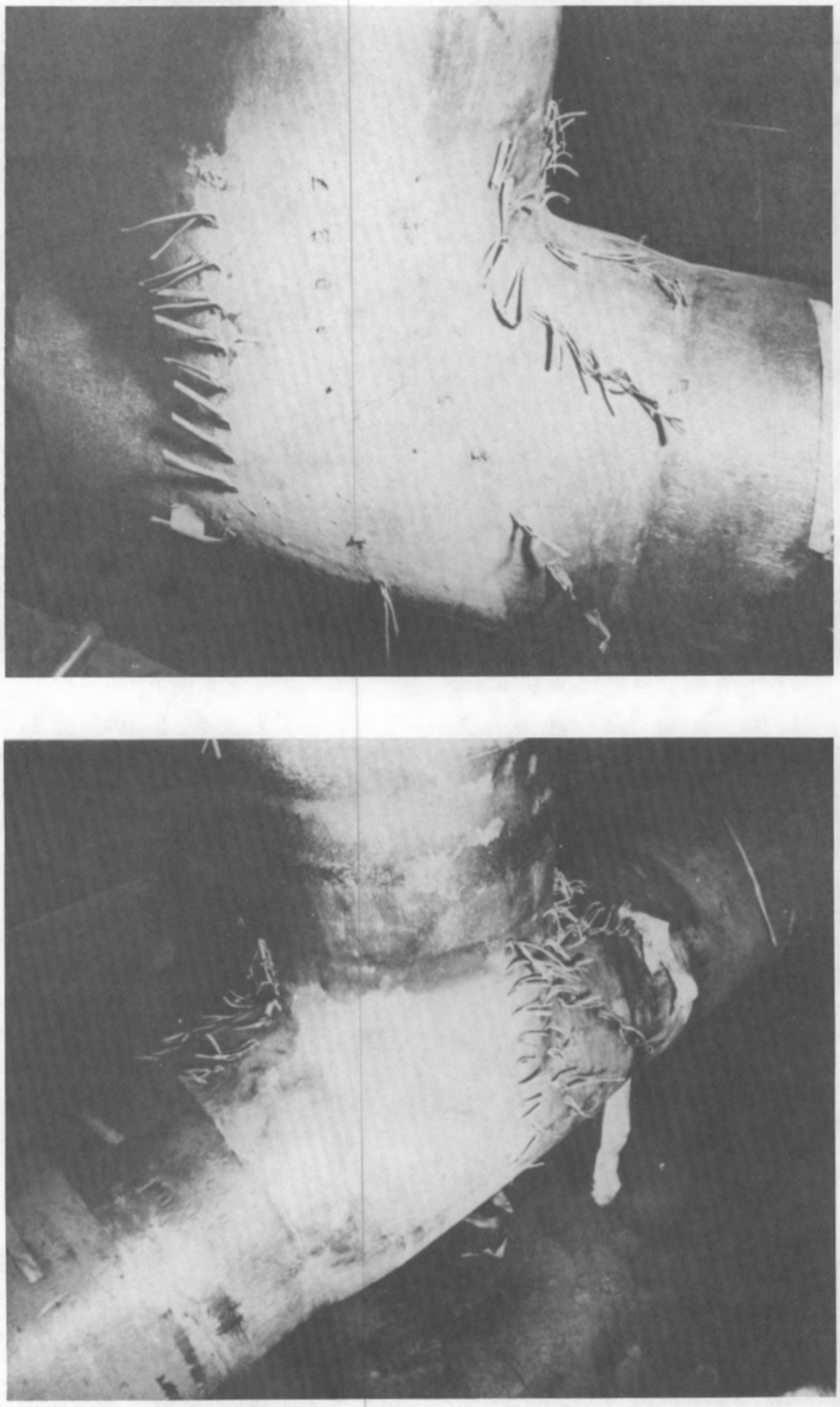

Fig. 4.1. Fatigue cracks in T-4 after 1651 cycles.

ORNL–PHOTO 6408–83

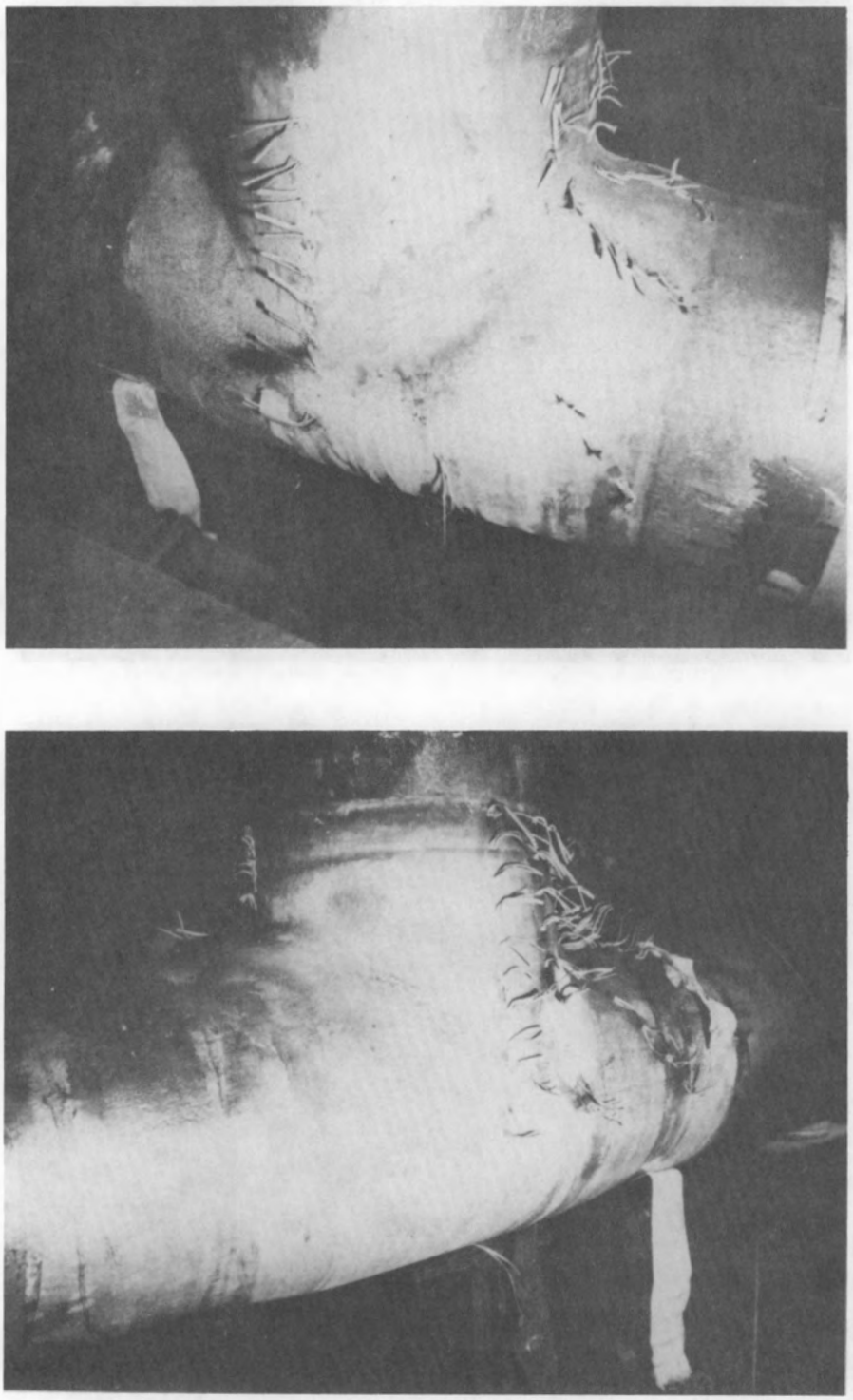

Fig. 4.2. Fatigue cracks in T-4 after 1760 cycles.

ORNL–PHOTO 6409–83

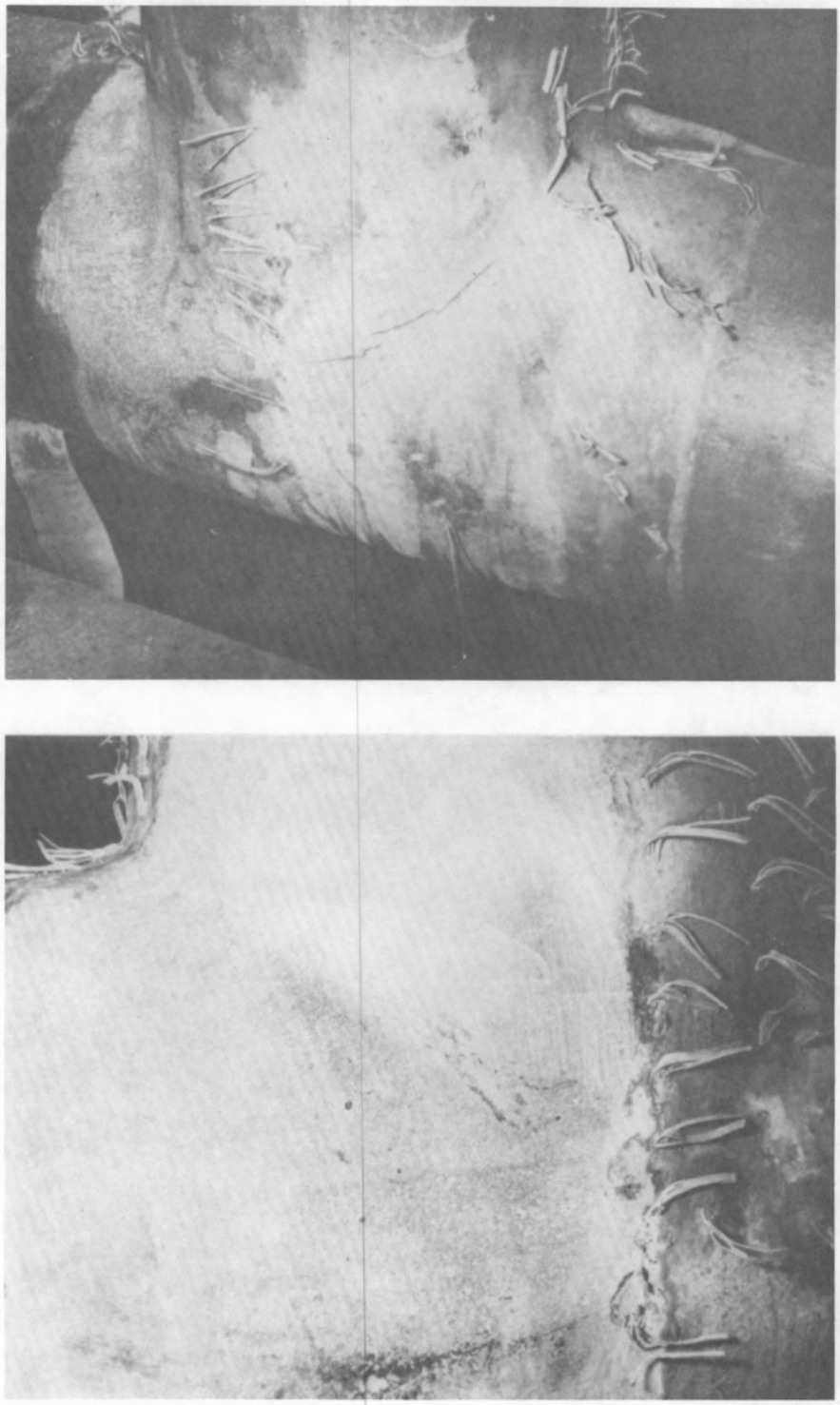

Fig. 4.3. Fatigue cracks in T-4 after 1970 cycles.

ORNL–PHOTO 6410–83

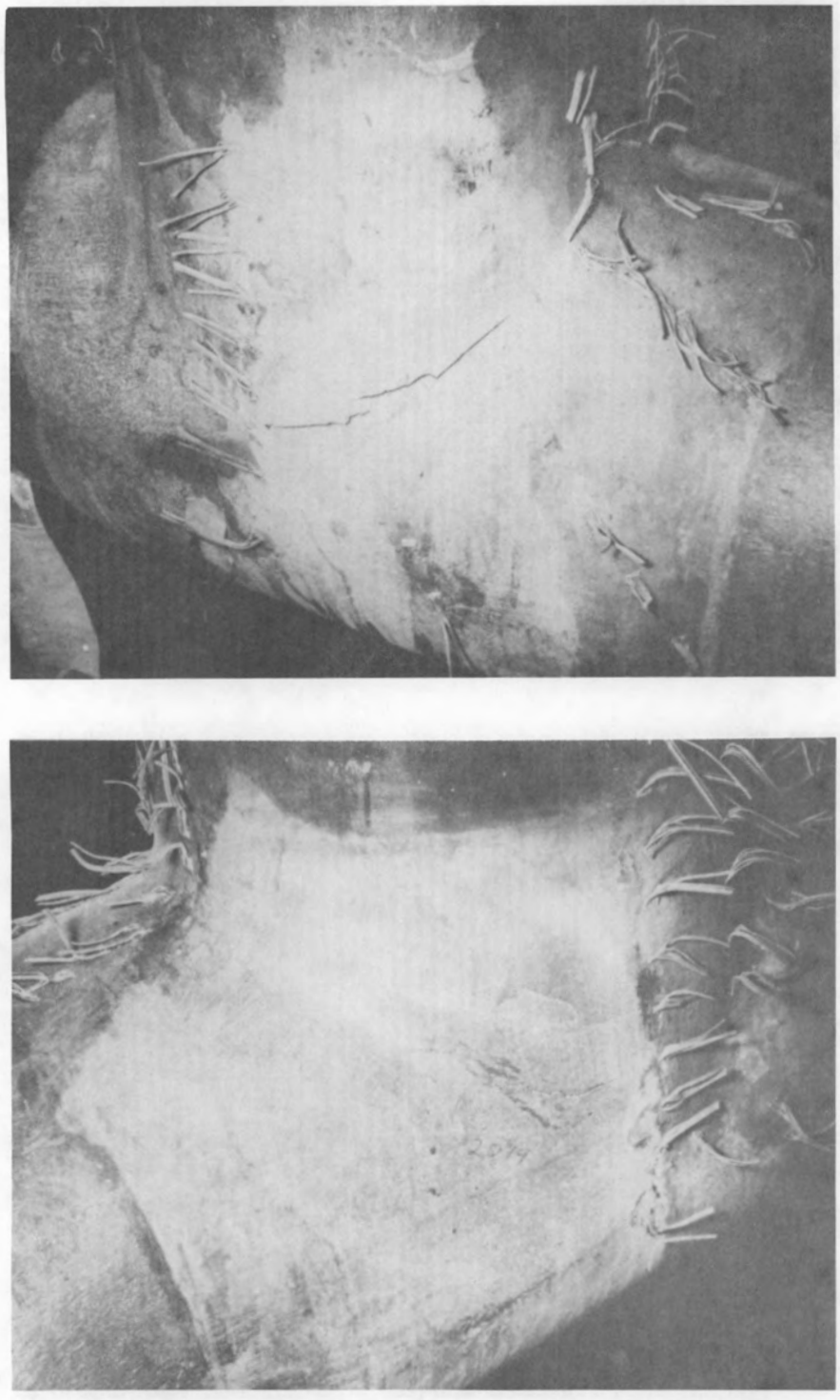

Fig. 4.4. Fatigue cracks in T-4 after 2019 cycles.

ORNL–PHOTO 6411–83

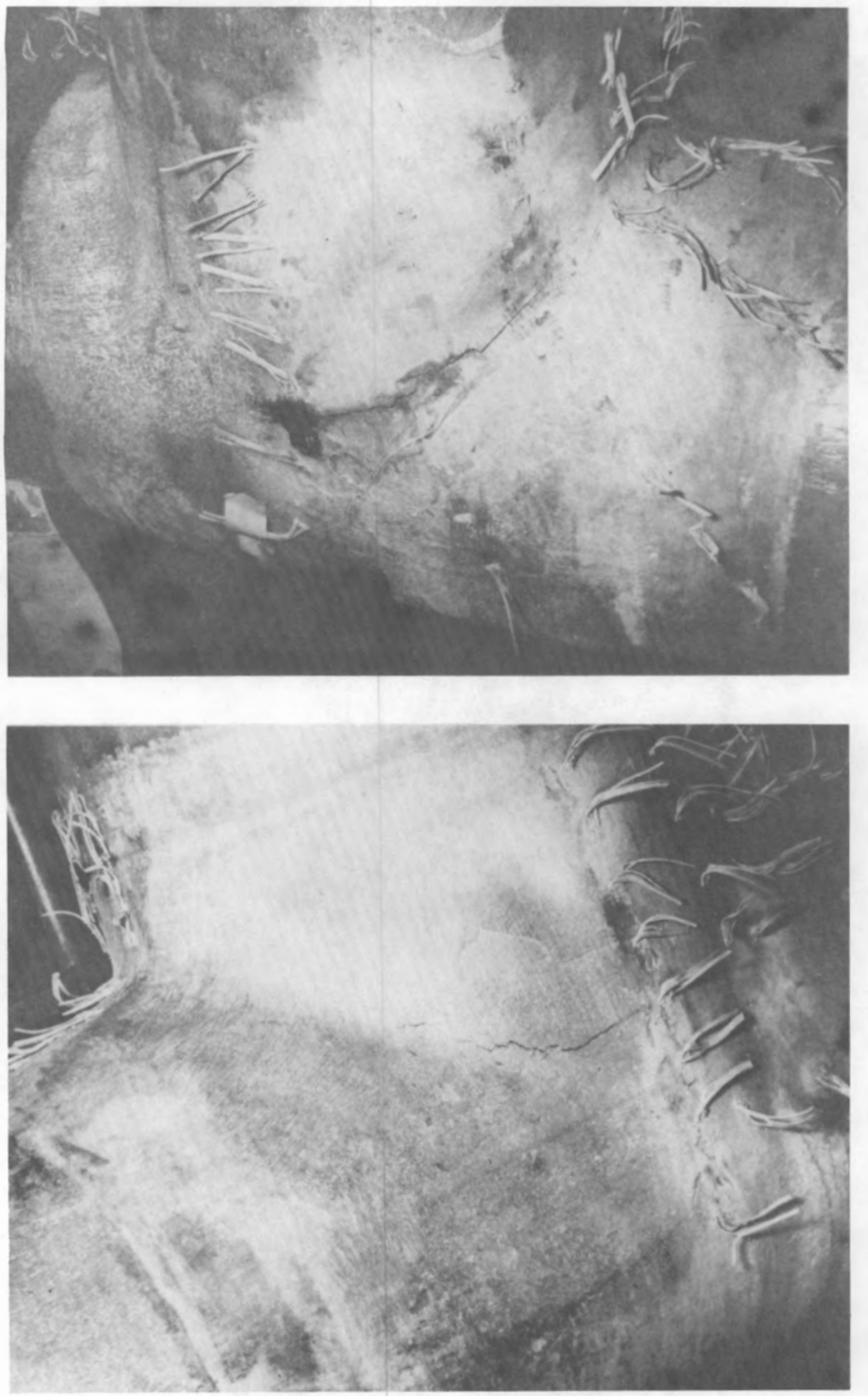

Fig. 4.5. Fatigue cracks in T-4 after failure at 2062 cycles.

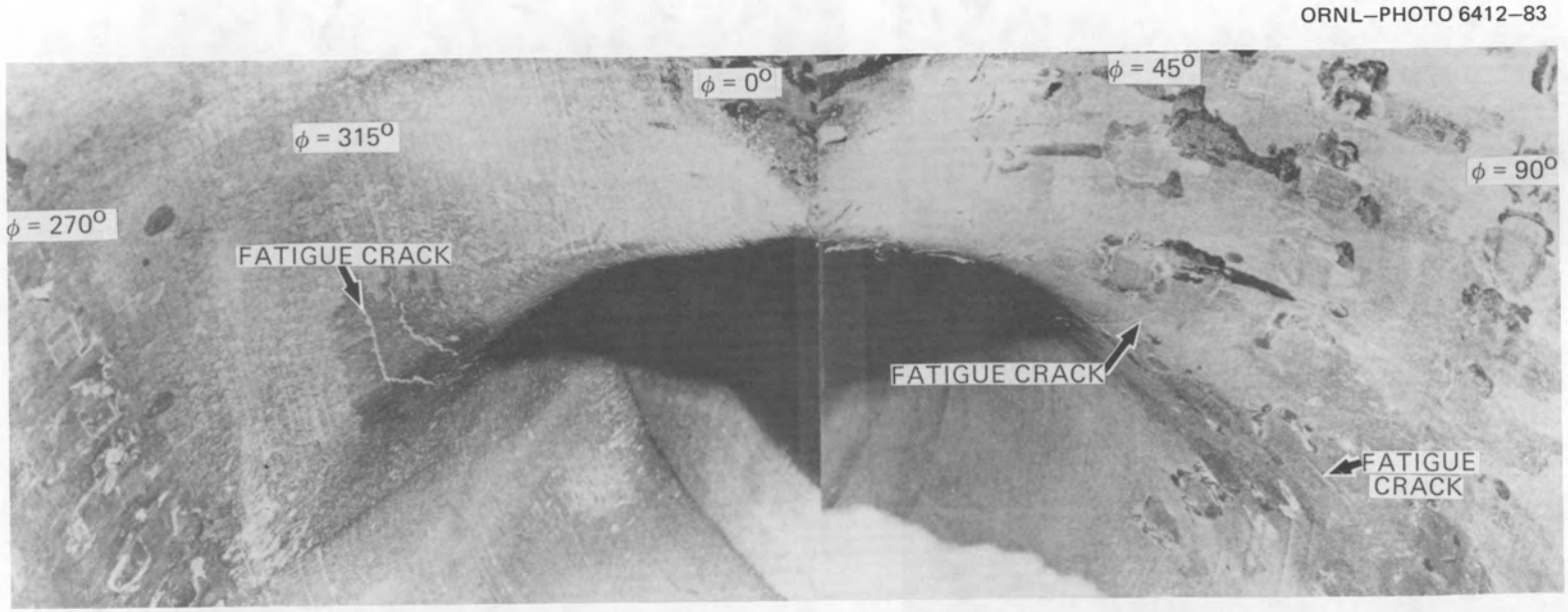

Fig. 4.6. View of inside surface of T-4 after fatigue testing.

M&C PHOTO Y114162

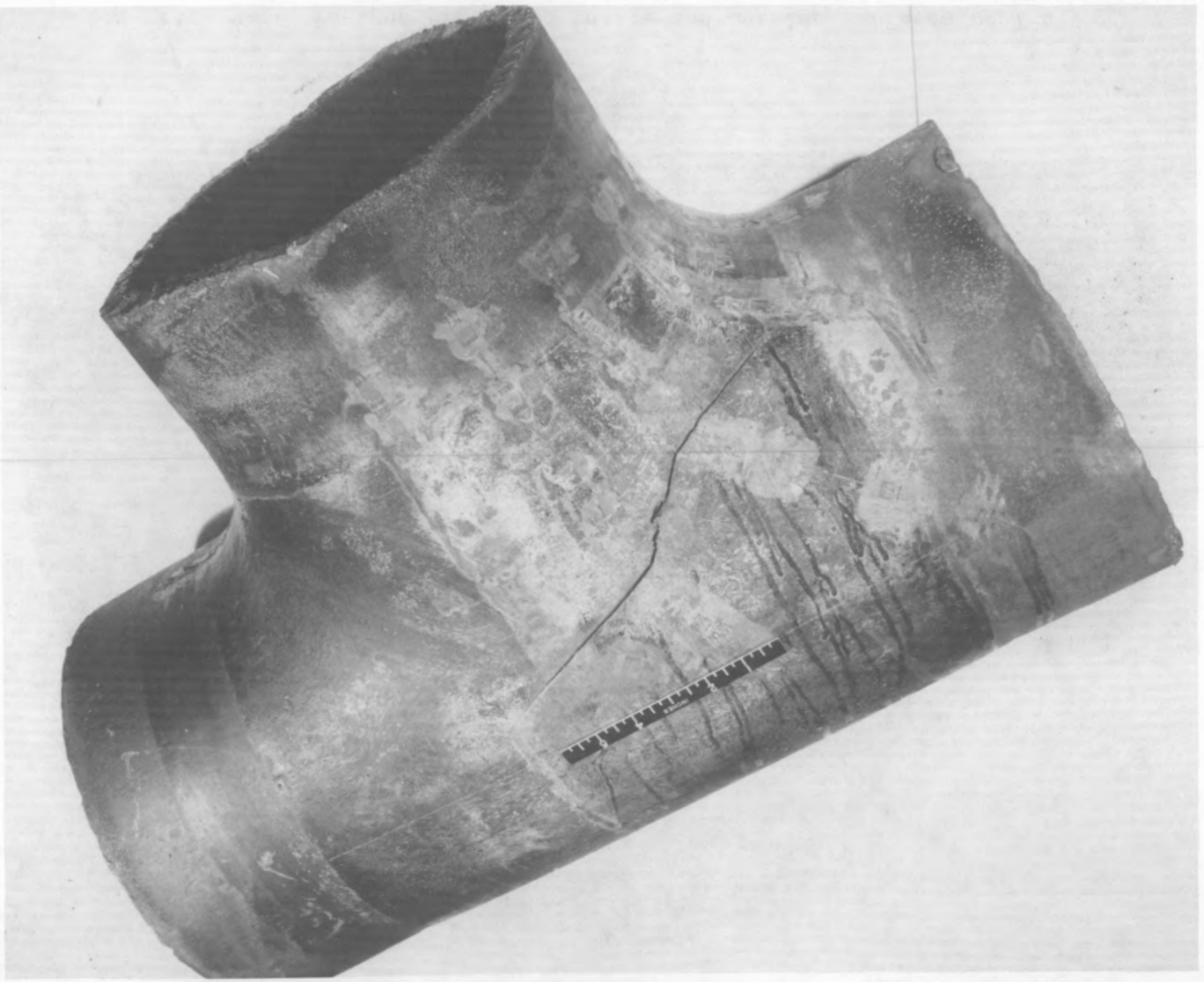

Fig. 4.7. Fatigue crack in T-6 after failure at 1309 cycles (from $\phi = 90°$ to $\phi = 22°$).

M&C PHOTO Y114158A

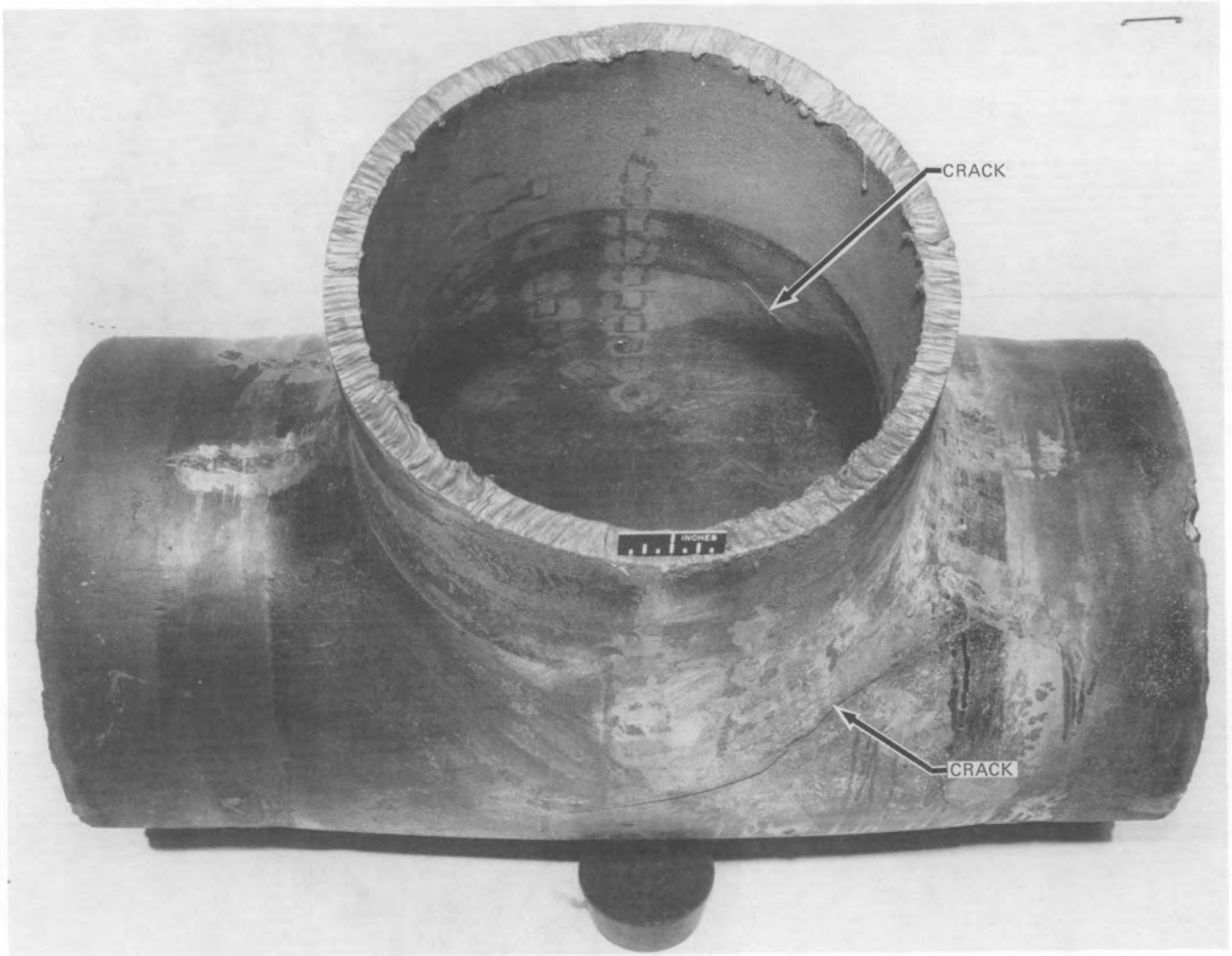

Fig. 4.8. Fatigue cracks on inside and outside surfaces of T-6 after failure.

M&C PHOTO Y114163

Fig. 4.9. Fatigue cracks on inside surface of T-6 after failure at 1309 cycles (ϕ = 335°).

at about ϕ = 335°. Although these cracks had not propagated through the wall, they were of sufficient length and orientation to indicate the potential for eventual failure had the tee not already failed.

After T-6 was returned to ORNL, a rather extensive posttest examination was conducted. The cracked areas were removed from the tee with a cutting torch, and the failure crack surfaces were exposed. Figure 4.10 shows an elliptically shaped crack that apparently initiated at the outside surface of the tee and propagated inward at a rapid rate causing instantaneous structural failure. The chevron pattern on the fracture surface and the absence of any striation morphology supports the conclusion of fast fracture. An extensive visual examination of the fracture surface indicated that failure could have propagated from small surface cracks that were about 0.3 in. deep and perhaps 0.6 in. long, although such surface flaws were not in evidence when the tee was purchased.

Room temperature tensile and Charpy-V notch (C_v) properties of the steel, obtained from samples taken from the bottom of T-6, are summarized in Table 4.1. Although the Charpy energy is somewhat low, there is nothing unusual in the data to suggest that the material was not fully acceptable for ASME Class 1 construction.

Table 4.1. Room-temperature mechanical properties of T-6

	Tensile yield strength (ksi)	Ultimate tensile strength (ksi)	Tensile elongation (% in 2 in.)	Area reduction (%)	Charpy energy (ft-lb)
Minimum	40.7	65.3	34	59.1	42
Average	43.1	71.0	36	63.9	71
Maximum	46.1	72.8	38	68.1	122

4.1.3 Results for T-7

The area within 22° on either side of the 0° ϕ line was given a dye-penetrant inspection every 500 cycles to detect crack initiation.

M&C PHOTO Y116781

Fig. 4.10. Fracture surface of T-6 failure crack.

The first crack started near the 0-02 rosette in the root radius of the transition weld from the run pipe to the tee after 3528 cycles. Several small cracks then appeared in this root radius at about 10° on either side of the 0° ϕ line and propagated until one continuous crack was formed. These cracks did not grow to any significant depth and did not influence the final failure.

At 3843 cycles, a 3/8-in.-long crack was noted on the tee at the 0-07 gage site, and a 1-1/2-in.-long crack was noted at the 0-08 gage site. The crack close to the 0-08 rosette eventually propagated through the tee wall after 11,475 cycles. Before failure occurred, however, many small cracks had appeared in the area within 22° on either side of the 0° ϕ line, and two cracks were fairly deep at symmetrical locations at the 0-07 level at ϕ = 20° and ϕ = 340°. The crack growth described may be seen in Figs. 4.11—4.15. Final inspection of the inside surface revealed no crack other than the one that propagated from the outside surface.

4.1.4 Results for T-8

The initial cracks were found during an inspection at 2035 cycles at the 78° and 90° ϕ lines just above the crotch line. Cracks were also found at symmetrical locations at the 270° and 282° ϕ positions after 3033 cycles. Figures 4.16—4.20 show the growth of the two sets of cracks from 3763 cycles to failure. The tee failed after 8979 cycles when leaks occurred at both 90° and 270°.

The pipe extensions were cut off, and the inside surface was inspected using liquid dye penetrant. No cracks were found other than the crack that propagated from the outside surface.

4.1.5 Results for T-15

The first cracks were found during an inspection at 3200 cycles at both the 90° and 270° ϕ lines. Figures 4.21—4.23 show the growth of the cracks from 7450 cycles to failure. The tee failed after 10,200 cycles when a leak occurred in the crotch region at 270°.

ORNL–PHOTO 6413–83

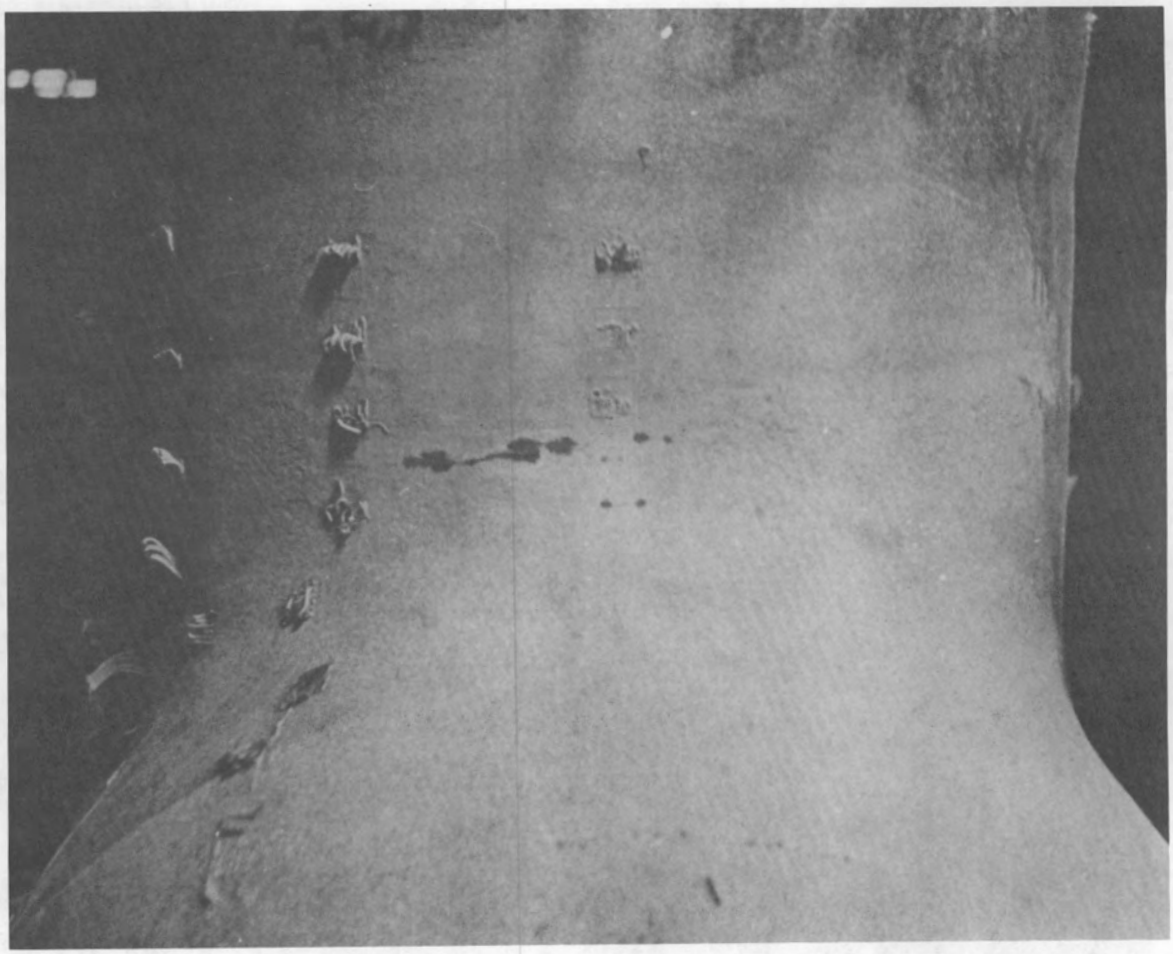

Fig. 4.11. Fatigue cracks in T-7 after 5024 cycles.

ORNL–PHOTO 6414–83

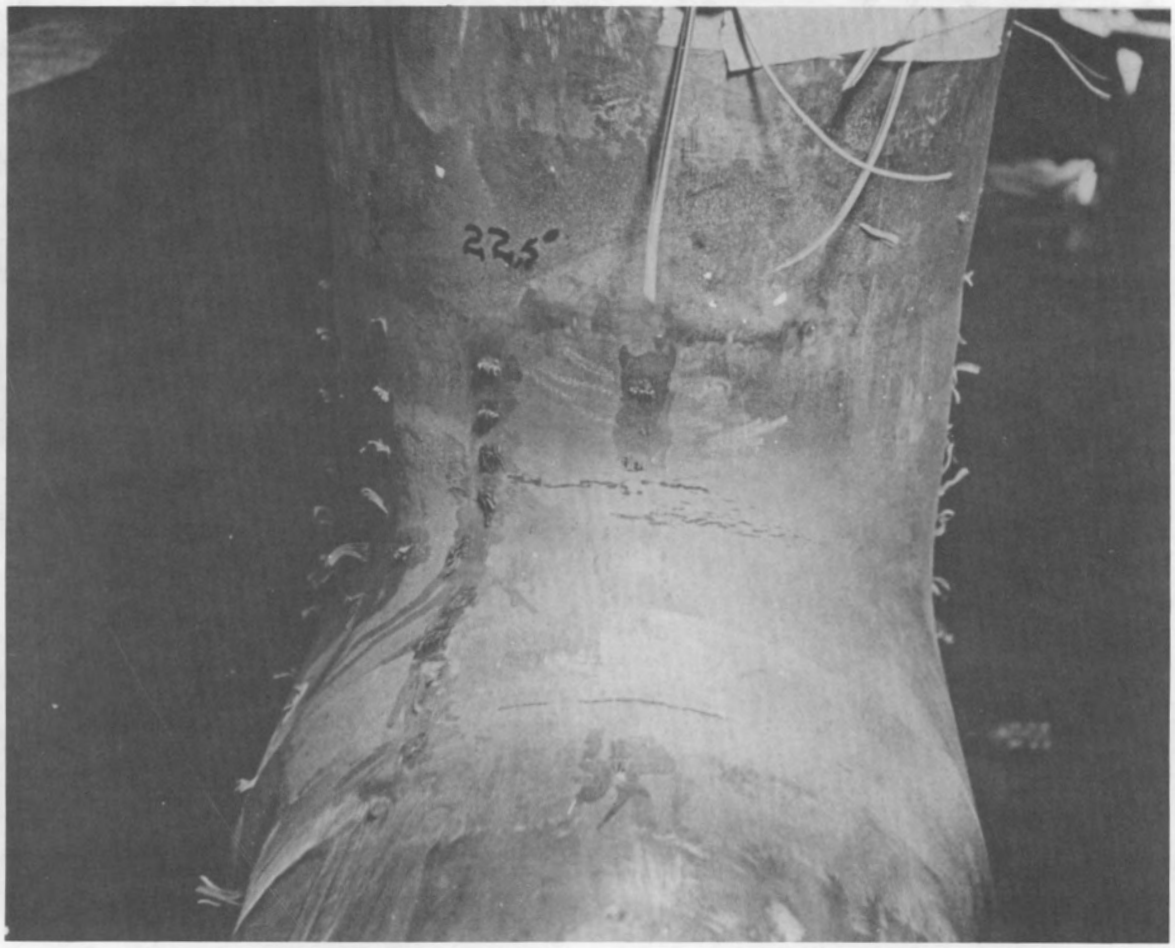

Fig. 4.12. Fatigue cracks in T-7 after 6372 cycles.

ORNL–PHOTO 6415–83

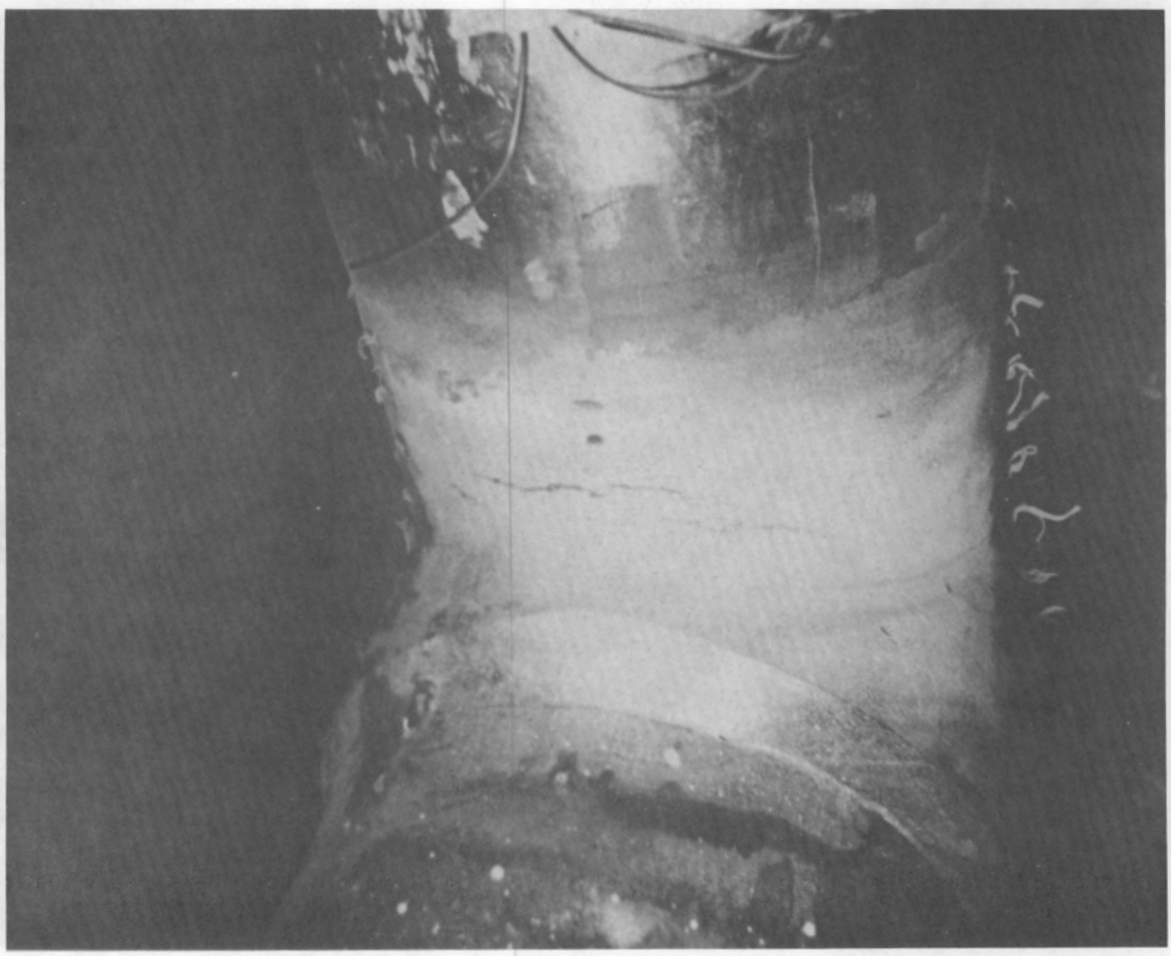

Fig. 4.13. Fatigue cracks in T-7 after 8465 cycles.

ORNL–PHOTO 6416–83

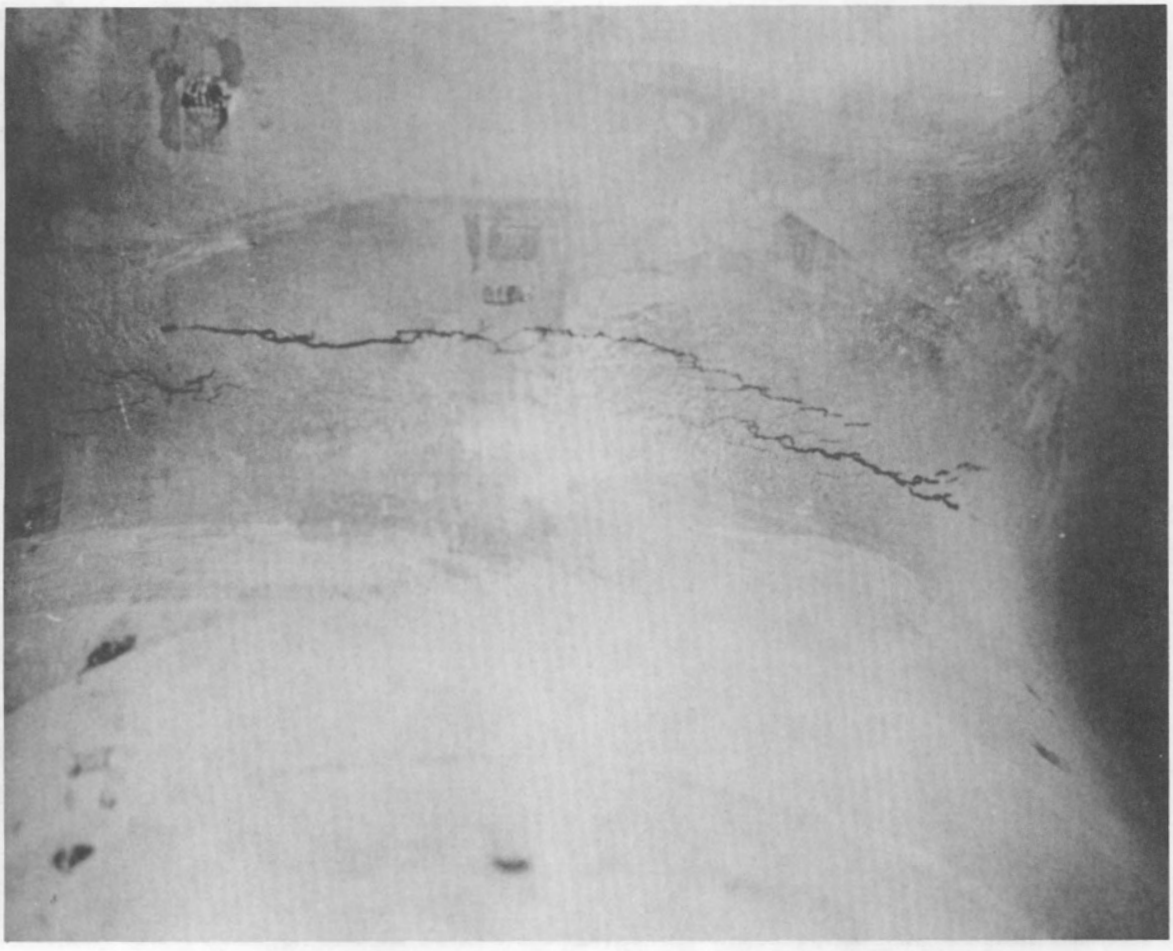

Fig. 4.14. Fatigue cracks in T-7 after 9947 cycles.

ORNL–PHOTO 6417–83

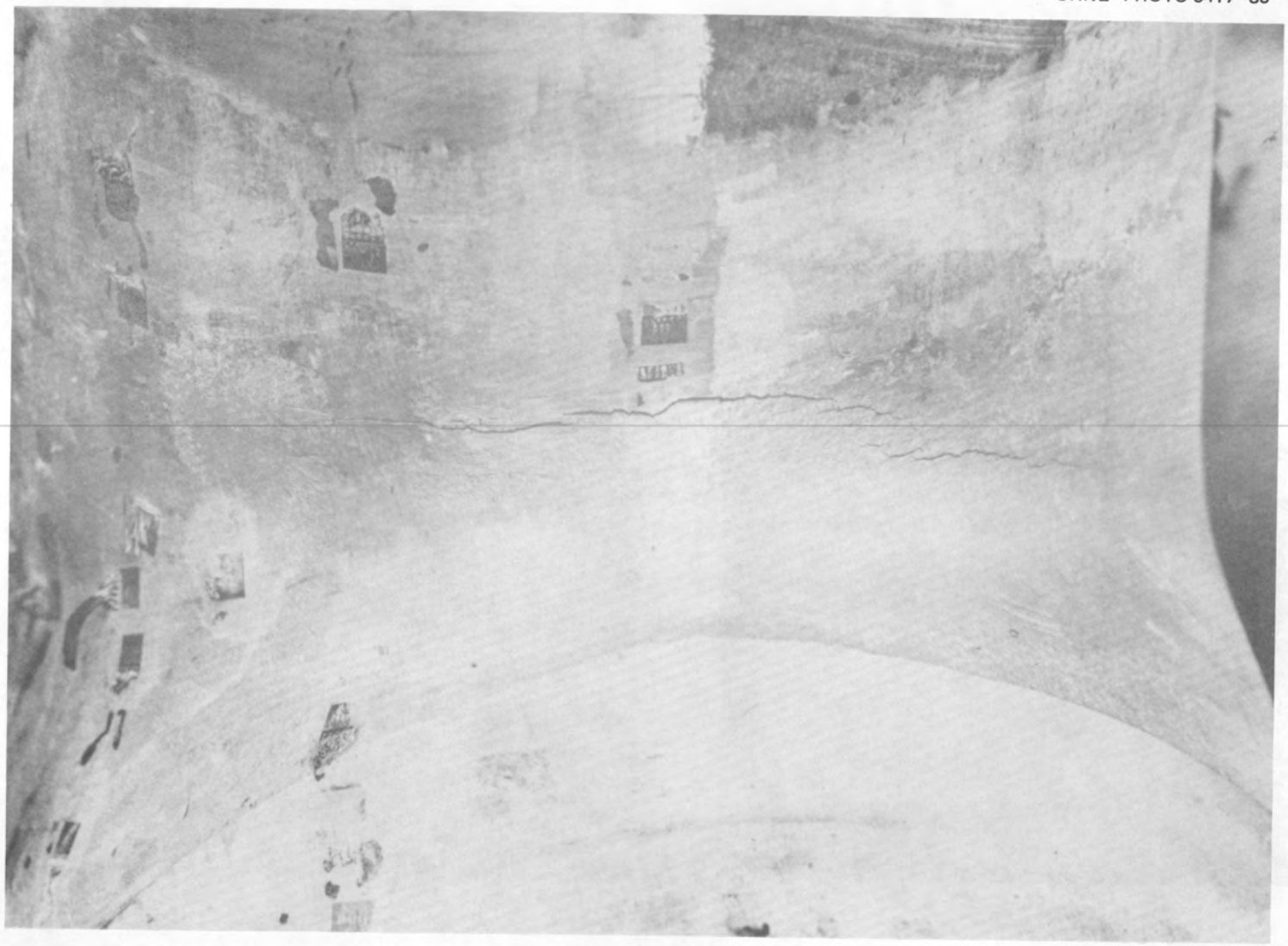

Fig. 4.15. Fatigue cracks in T-7 after failure at 11,475 cycles.

ORNL–PHOTO 6418–83

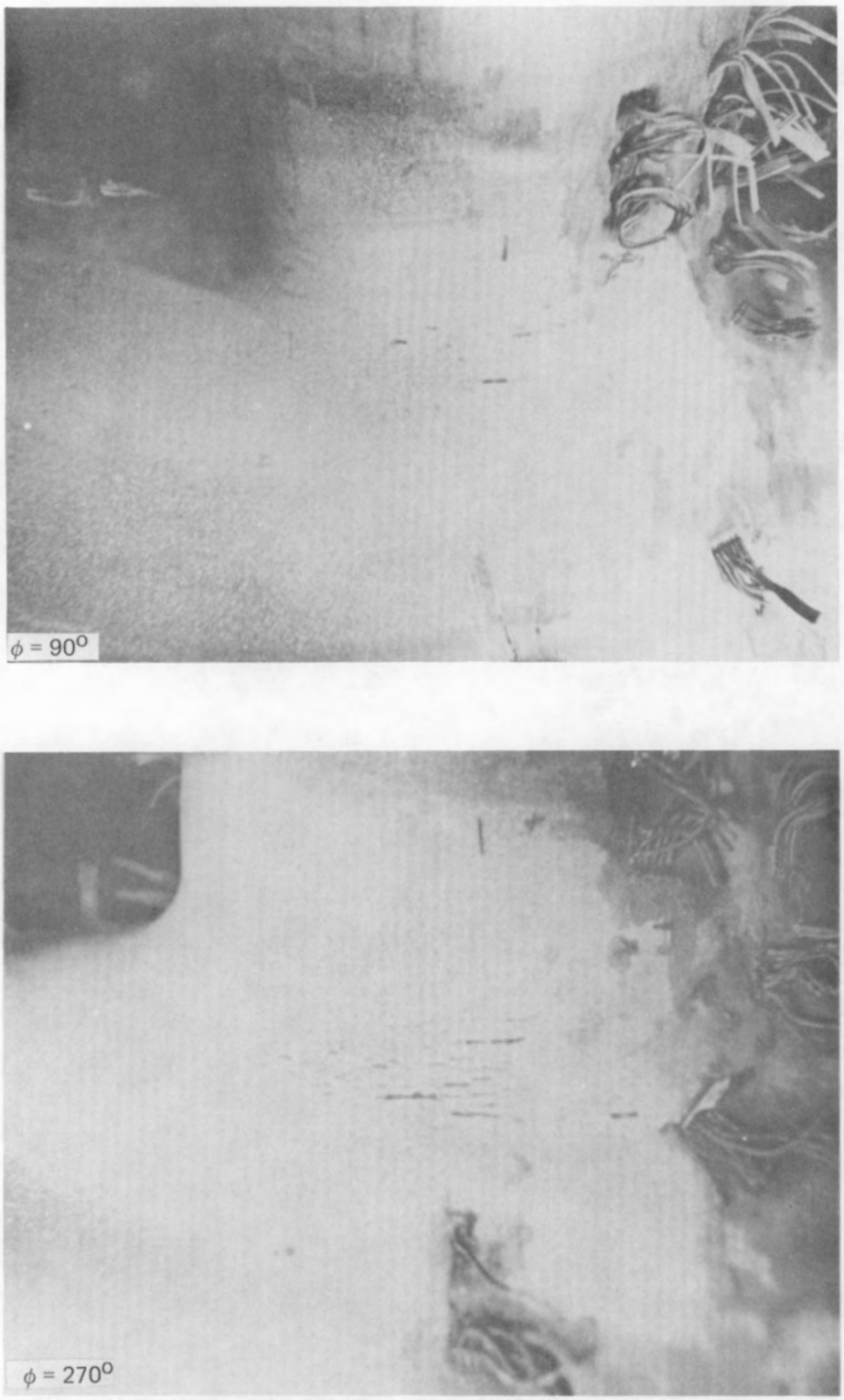

Fig. 4.16. Fatigue cracks in T-8 after 3763 cycles.

ORNL–PHOTO 6419–83

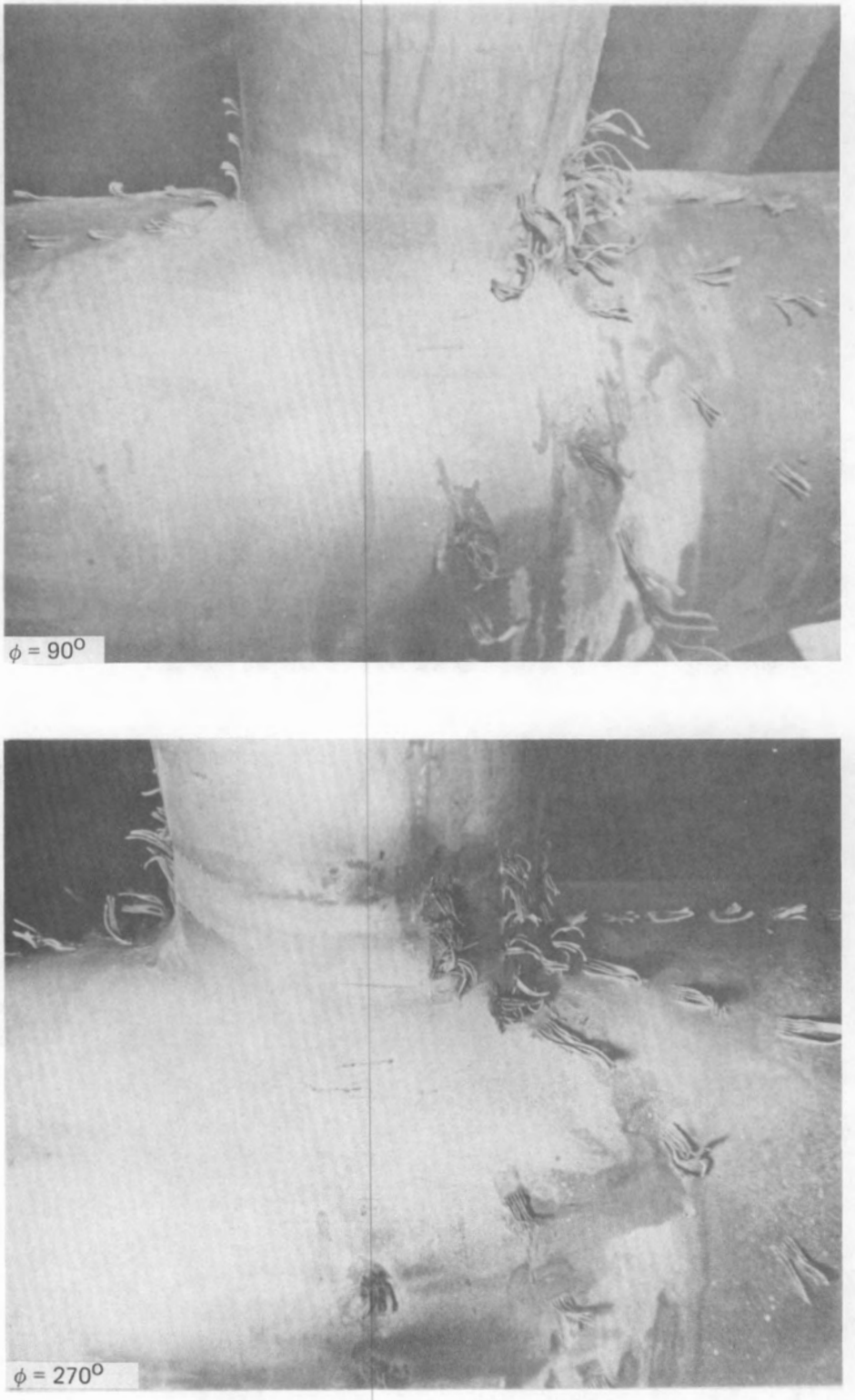

Fig. 4.17. Fatigue cracks in T-8 after 5830 cycles.

ORNL–PHOTO 6420–83

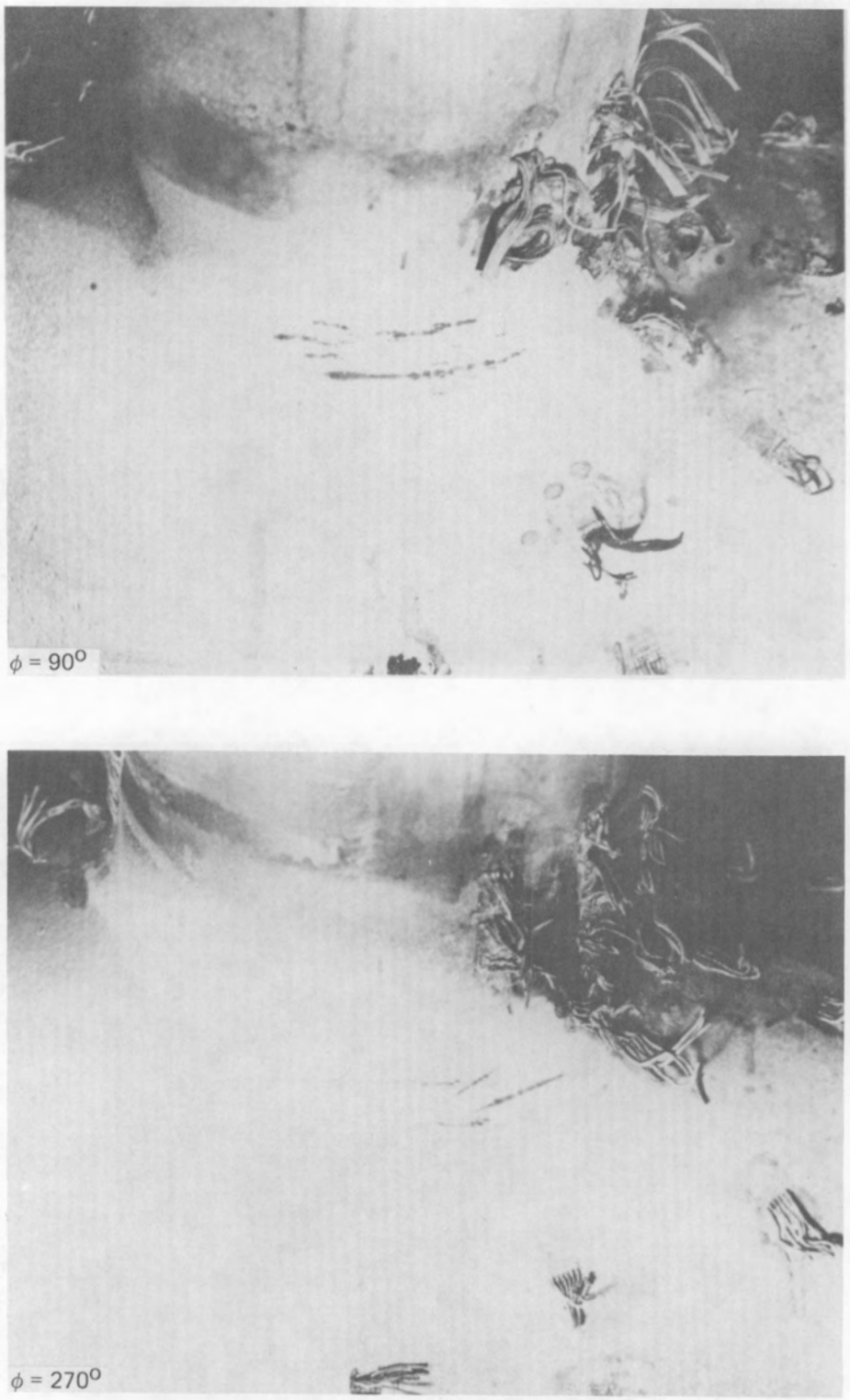

Fig. 4.18. Fatigue cracks in T-8 after 6920 cycles.

ORNL–PHOTO 6421–83

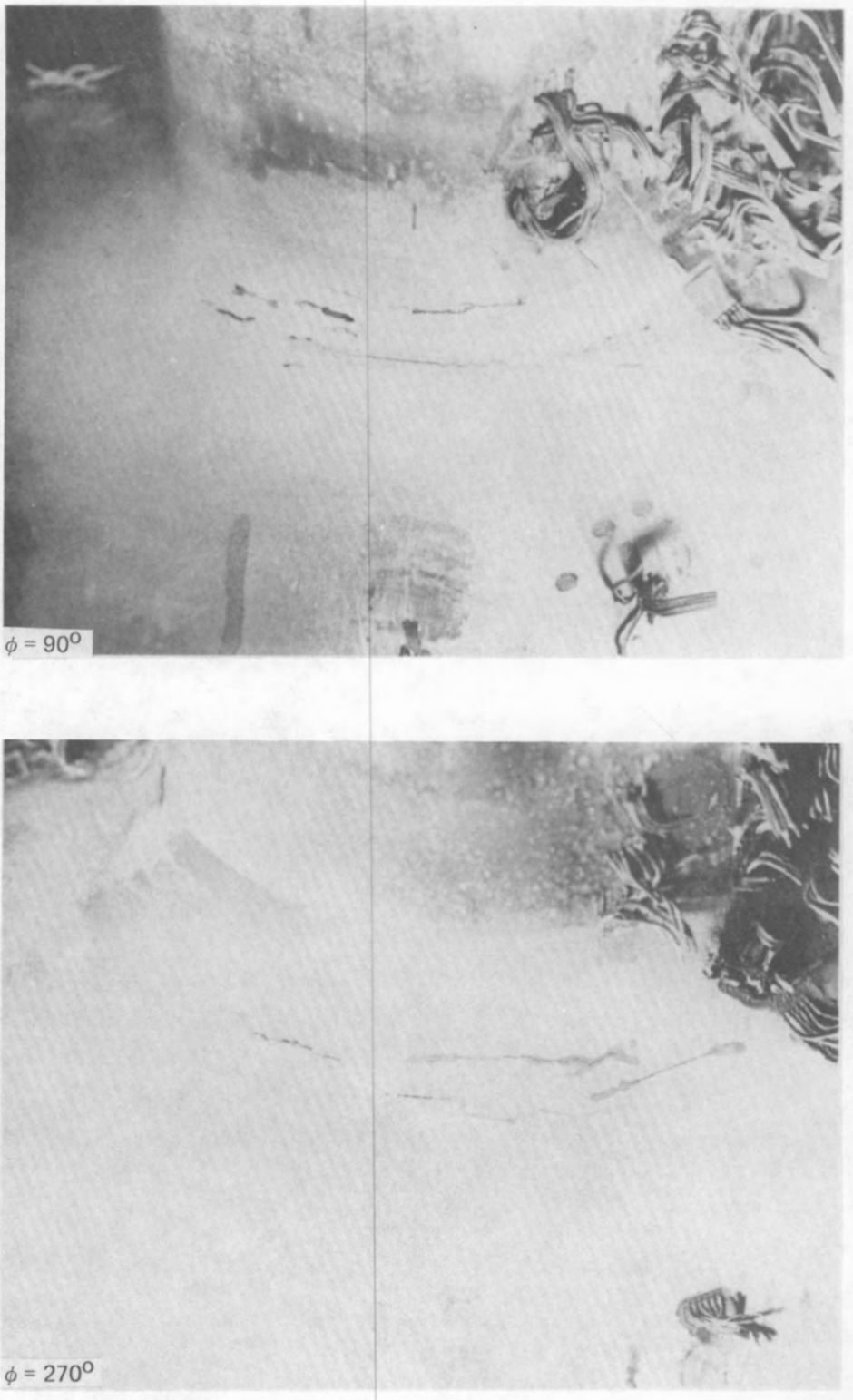

Fig. 4.19. Fatigue cracks in T-8 after failure at 8979 cycles.

ORNL–PHOTO 6422–83

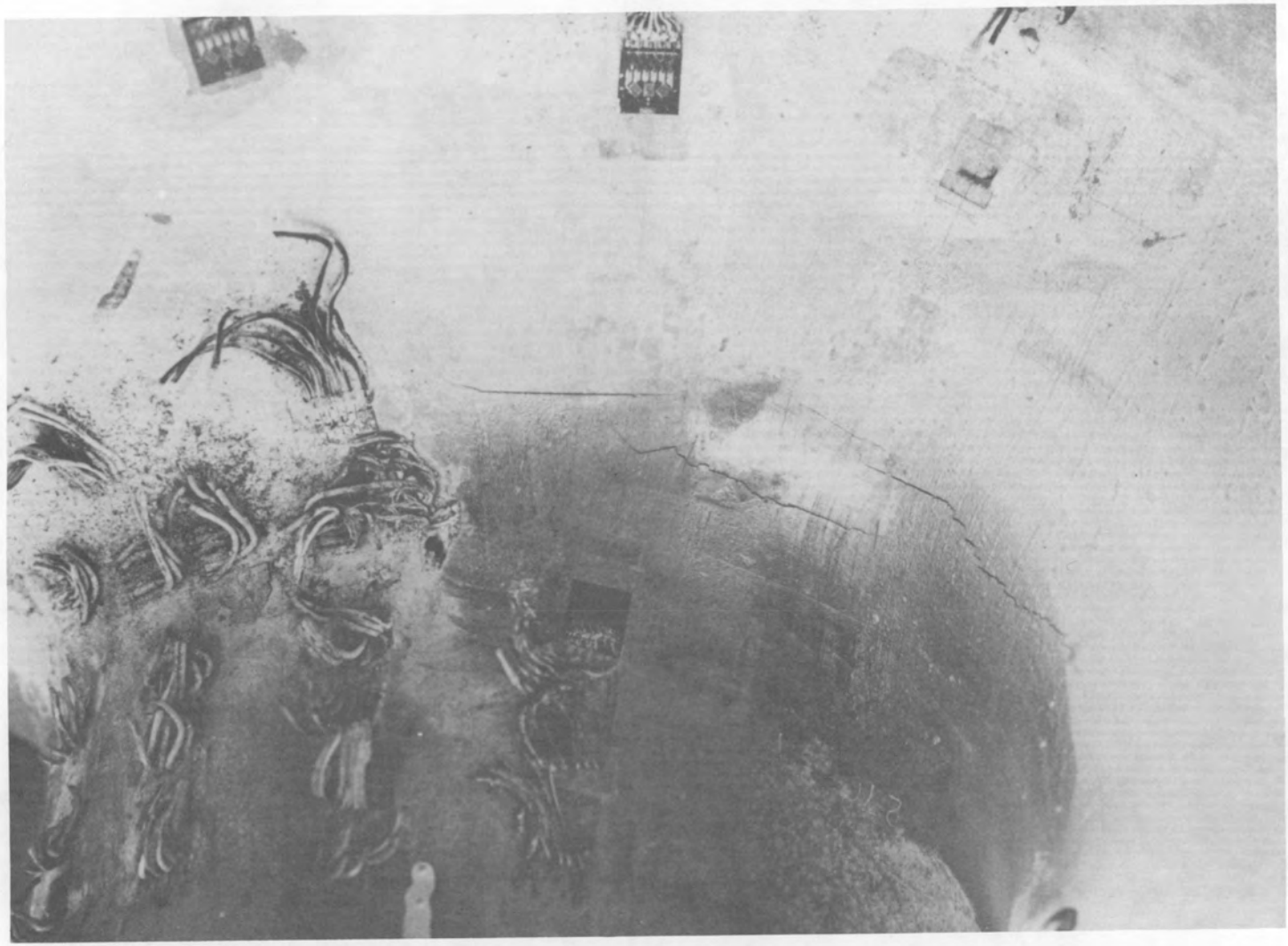

Fig. 4.20. Fatigue cracks on inside surface of T-8 at 270° after failure (without dye penetrant).

ORNL–PHOTO 6423–83

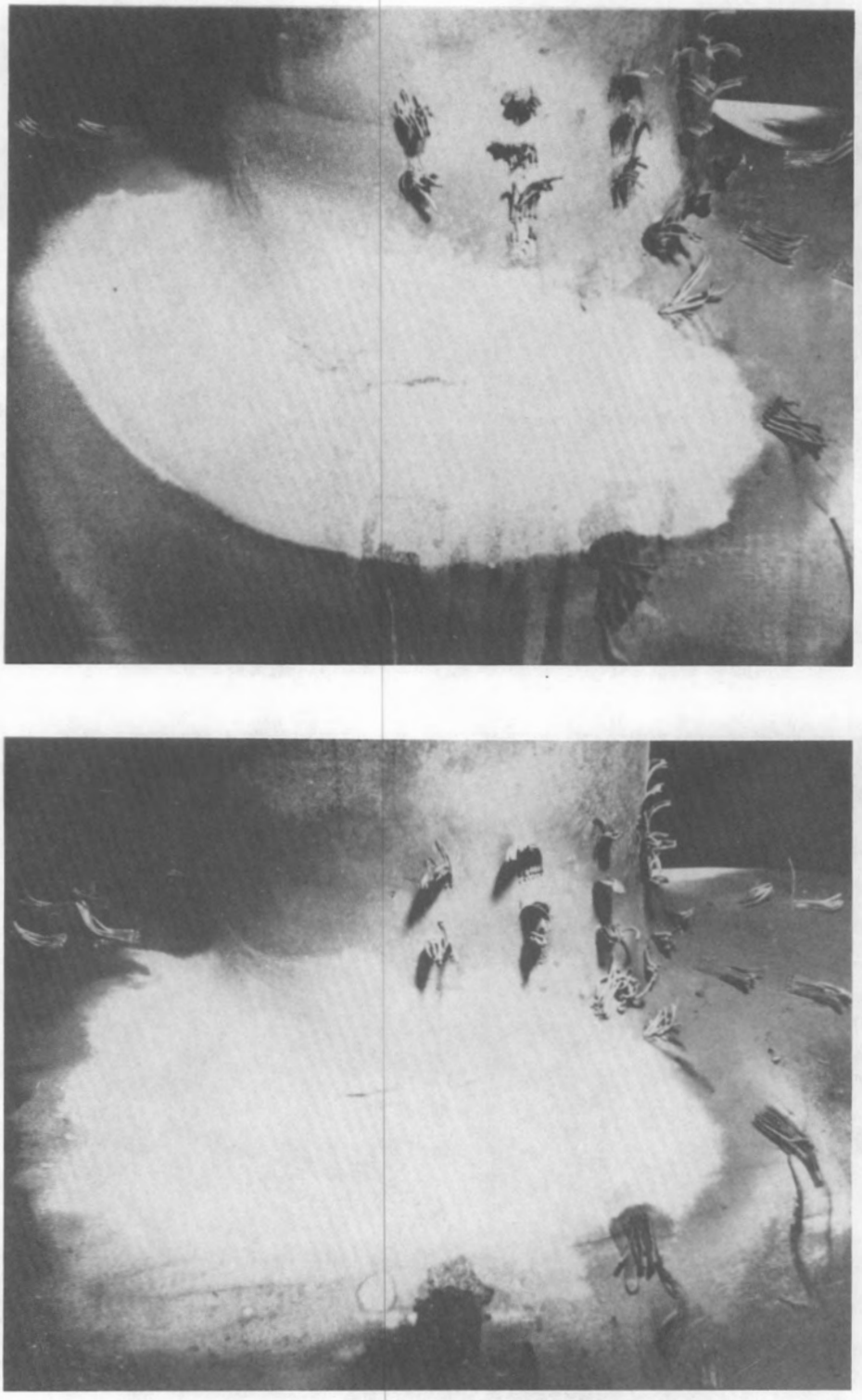

Fig. 4.21. Fatigue cracks in T-15 after 7450 cycles.

ORNL–PHOTO 6424–83

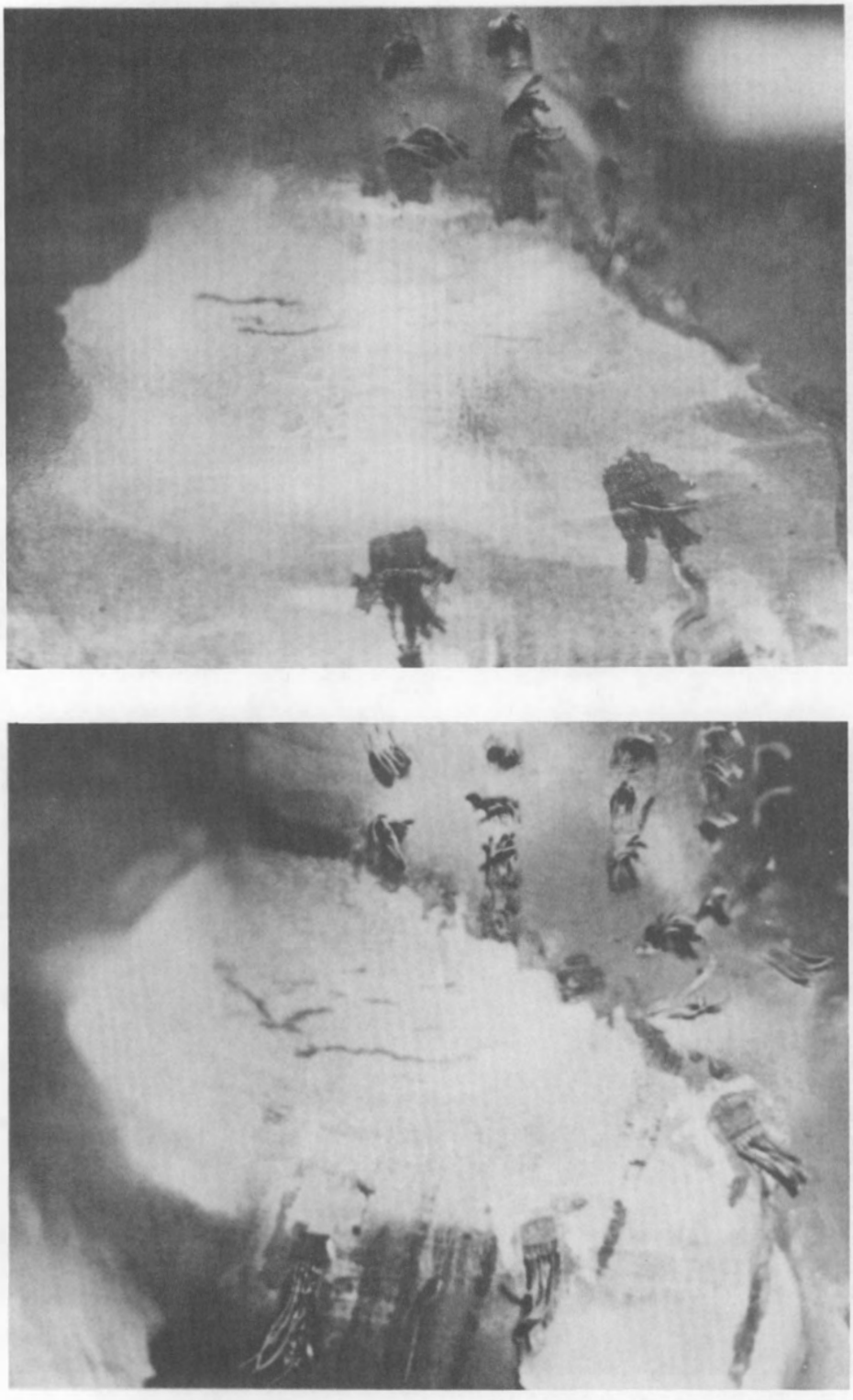

Fig. 4.22. Fatigue cracks in T-15 after 9550 cycles.

ORNL–PHOTO 6425–83

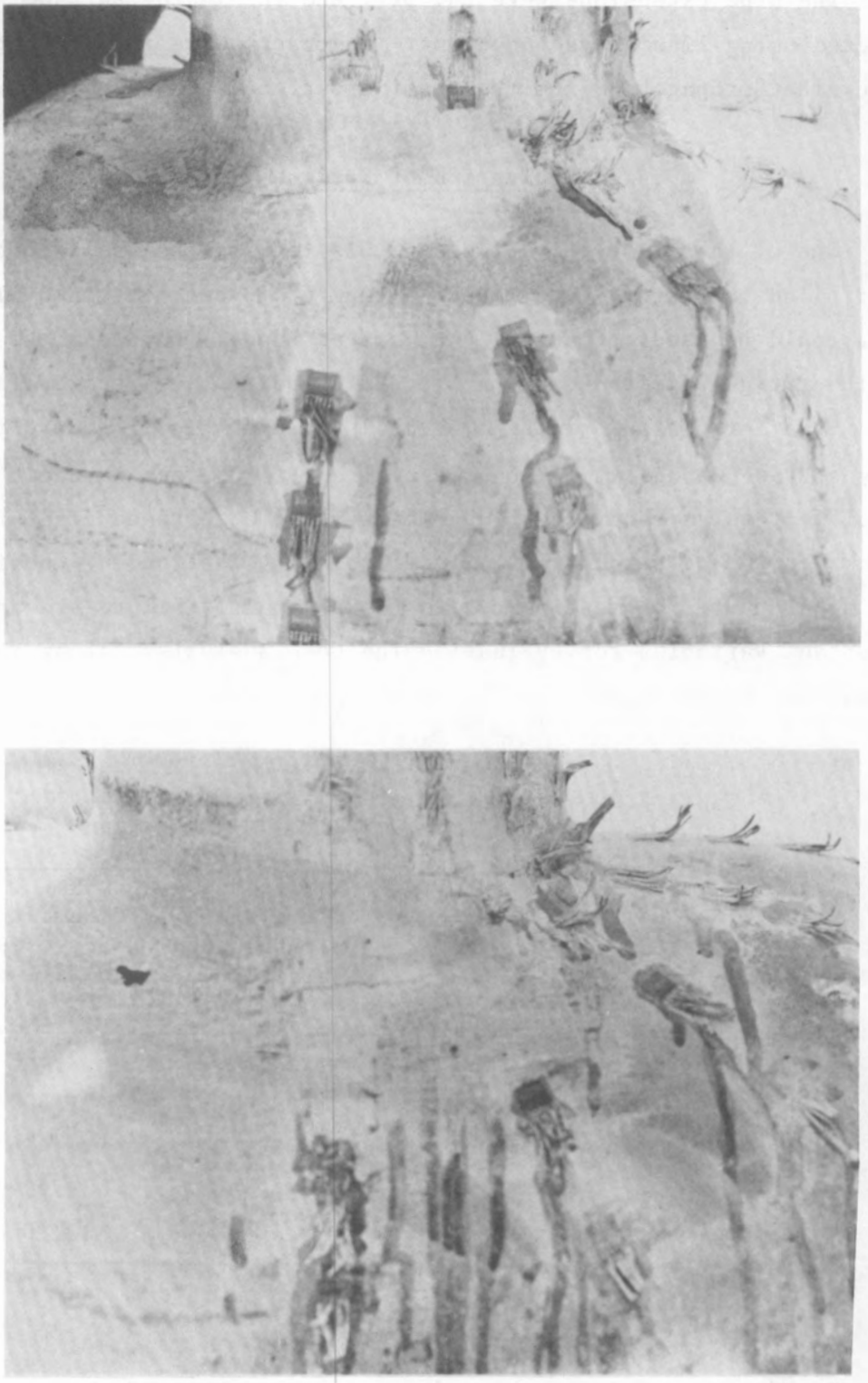

Fig. 4.23. Fatigue cracks in T-15 after failure at 10,200 cycles.

The pipe extensions were cut off, and the inside surface was inspected using liquid dye penetrant. No cracks were found other than the crack that propagated from the outside surface.

4.2 Evaluation of Fatigue Test Data

One of the major objectives of this test series was to obtain, under controlled laboratory conditions, piping component fatigue failure data that could be used, at least in a limited sense, to assess the adequacy of the fatigue design analysis procedures currently specified in the ASME Code for Class 1 piping systems. Because this procedure provides only a "lower-bound limit" on the cyclic life of the component under specified design conditions, no differentiation between crack initiation, crack growth, or structural failure is made. The loading conditions and the total number of loading cycles to structural failure are therefore the important variables for evaluating the Code analysis. These results are summarized in Table 4.2.

Table 4.2. Results from displacement-controlled fatigue tests of 12-in. NPS ANSI B16.9 tees

Tee No.	Constant internal pressure (psi)	Applied branch moment	Equivalent elastic alternating stress, S_a (psi)	Number of cycles to failure
T-4	1925	M_o(±F3Z)	±83,100	2,062
T-6	1925	M_o(±F3Z)	±83,460	1,309
T-7	3240	M_i(±F3X)	±85,358	11,475
T-8	950	M_o(±F3Z)	±80,790	8,979
T-15	950	M_o(±F3Z)	±84,640	10,200

However, some additional information was obtained on crack initiation and shakedown strain range, which may be of value for further study. Crack initiation data are summarized in Table 4.3.

Table 4.3. Summary of crack initiation data

Tee No.	Cycles to crack initiation	Cycles to failure	Percent to initiation
T-4	<1,500	2,062	<72.8
T-6	>1,000	1,309	>76.3
T-7	<3,528	11,475	<30.8
T-8	<2,035	8,979	<22.6
T-15	<3,200	10,200	<31.4

It may be noted that for the three stainless steel tees (T-7, T-8, and T-15), crack initiation occurred at 20% to 30% of the total cycles to failure, whereas for the carbon steel tees (T-4 and T-6), crack initiation occurred in the neighborhood of 75% of the test life. In the case of T-4, the number of cycles to initiation is not known other than that it was <1500 cycles (73%). It appeared that crack initiation occurred several hundred cycles earlier, but this may not have been the case, because T-6 went from no detectable crack to failure within 300 cycles. Although crack initiation data from the carbon steel models is very limited and perhaps of doubtful significance, it appears that there is a significant difference in crack initiation behavior between the carbon and the stainless steel models. This is probably due to a difference in the crack-growth-rate characteristics of the two materials, because stainless steel is recognized as being less notch sensitive in fatigue than carbon steel. It does not seem likely that the difference is due to any major differences in the stress distributions in the respective tees, in the sense of "membrane" and "bending stresses," although redistribution of maximum stresses in localized regions may have been an important factor.

The strain range after shakedown (10 cycles) for each of the tees was also measured, but only at selected gage sites where the maximum stresses would occur, and then only for the No. 2 leg of the strain rosettes. These data, given earlier in Table 2.6, are summarized in Table 4.4.

Table 4.4. Maximum strain range after shakedown[a]

Tee No.	Strain range (μin./in.)
T-4[b]	8,750
T-6	11,500
T-7	4,980
T-8	7,996
T-15	5,680

[a]Measured after 10 cycles on leg 2 of the strain rosette.

[b]Initial strain range for T-4 was 14,350 μin./in.

The only apparent observation that can be made from these data is that the shakedown strain range for the stainless steel models T-7, T-8, and T-15 tends to be lower than that for the carbon steel tees. Because each model was loaded to approximately the same maximum stress,* this seems to indicate that the stainless steel structures deformed plastically over a larger region than did the carbon steel models, thus redistributing the maximum stresses in a somewhat different and more favorable fashion. If so, both crack initiation and crack growth could be expected to take longer for the stainless steel tees because of the lower maximum stresses after the initial plastic deformations.

From these limited data, it seems apparent that further studies designed specifically to investigate crack initiation and growth, as well as the stress redistributions caused by high initial loadings, should be undertaken. One could then expect to develop improved correlations for the design of piping systems that are expected to operate in the "low-cycle" fatigue range, that is, 10^3 to 10^6 cycles to failure.

*Presumably, the maximum initial strains were also approximately equal. Unfortunately, the maximum initial strain was recorded only for T-4.

A comparison between the present fatigue qualification requirements of the Code and the observed fatigue life of the tees will be developed in a separate report.

5. SUMMARY AND CONCLUSIONS

This report, along with the materials contained in the appendixes, is a complete documentation of a series of experimental elastic-response stress analyses and low-cycle fatigue-to-failure tests of five 12-in. ANSI Standard B16.9 forged piping tees that were made by three of the major suppliers of piping products to the U.S. nuclear power industry. The objectives of the study were to provide sufficient baseline structural response-to-load information to enable evaluation and/or improvements to the current ASME Code design rules and criteria for nuclear power plant piping system tees.

The test assemblies for each of the five tees, which were constructed by attaching segments of standard-size pipe to the tees with nuclear-quality welds, were instrumented with about 220 three-gage strain rosettes and loaded with 13 different loadings in the elastic-response range, including internal-pressure and direct force and bending-moment loads applied to the ends of the pipe extensions. An attempt has been made to present the experimental results in a manner that will serve the needs of research workers with various interests. For those interested primarily in experimental techniques, complete sets of specifications for constructing and testing the assemblies as well as complete documentation of the materials and procedures used in the tests have been included in the appendixes.

For those readers needing experimental benchmark data for comparison with either theoretical or other experimental stress analysis studies, detailed listings of the measured strains and calculated principal stresses, directed stress components, and stress intensities, as well as precise strain gage location data, have been included in the appendixes. The strain gage location data may also be used to provide a rather detailed description of the model geometry.

Results from the elastic-response tests are also presented graphically in the form of stress-intensity contour plots and selected line plots of the stress intensity as a function of gage position. These figures give a detailed description of the elastic-stress distributions over the body of each tee as well as showing the locations and magnitudes of the maximum stresses for each of the 13 different loadings.

For those readers concerned primarily with stress indices and flexibility factors for Code-related design calculations, this study has normalized and summarized the maximum stress-intensity data for comparison with the Code indices and has included in the appendixes detailed load-displacement measurements from 16 dial indicators that were located on the pipe extensions during the elastic-response tests.

Results from the elastic-response tests of these particular five 12-in. ANSI B16.9 tees support the following observations. In general, the stress distributions for all the loadings were smooth and without steep gradients or sharp discontinuities, and the maximum stresses were located either at or very near one of the strain gages. These facts, in addition to the detailed analyses and numerous tests of the data, justify a very high confidence in the accuracy of the reported results.

As expected, the elastic response to internal pressure was essentially symmetric with respect to the transverse plane for all the tees, but different response characteristics were observed, due primarily to local differences in the shape of the tees. Although geometric symmetry is important, the most important geometric variable appears to be the external surface radius of curvature at the transition between the branch and the run outlets. This was manifested by the higher maximum stresses for the tees made by manufacturer I as compared with those made by the other two manufacturers.

The highest maximum normalized stress intensities for all the tees resulted from axial loads on the branch. A direct comparison between the numbers for axial loads and bending loads is misleading, however, because of the different normalizing factors. Transverse-force loads and bending-moment loads gave comparable results for both the branch and run loadings to within 10% to 15% except for in-plane loadings on the run of T-7, for which the difference was about 35%. These results support the current design practice of ignoring transverse shear but suggest that perhaps axial thrust loads should be considered. Firm conclusions regarding the adequacy of the stress indices for Class 1 piping system tees given in the Code cannot be made until the experimental data are studied further and data from other tests are included. This will be done in a separate report.

After the elastic-response tests were completed and the data were reduced and examined for acceptability, each tee assembly was fatigue tested to failure with either an in-plane or an out-of-plane bending-type force load on the branch pipe, depending on which produced the highest maximum stresses. Tee No. T-7 was fatigue tested with an in-plane loading, and the other tees were fatigue tested with an out-of-plane loading. Each test assembly was pressurized to its nominal design pressure, and the maximum branch-pipe displacements were fixed throughout the tests.

During the fatigue tests, each test assembly was loaded with an alternating bending stress nominally equal to about ±83,400 psi (elastic equivalent) for an expected fatigue life of about 7,000 cycles, based on Markl's correlation. The maximum strain ranges were measured for the first 10 cycles to ensure shakedown, and the test assemblies were periodically examined with a liquid dye penetrant to determine the approximate number of cycles for crack initiation. Numerous photographs of the developing fatigue cracks were taken until the tee failed. After failure, the pipe extensions were cut off, and the inside surface of the tees was inspected using a dye penetrant and then photographed, after which the tees were returned to ORNL.

The dye-penetrant examinations showed that for every model except T-6, crack initiation and eventual failure occurred as expected in the vicinity of the most highly stressed region. The fatigue behavior of T-6 was anomalous in several respects, and therefore the tee and crack surface were metallurgically examined at ORNL. No apparent reasons for the anomalous fatigue behavior were discovered.

In addition to the fatigue failure data, some information was obtained on crack initiation and shakedown strain range that may be of value for further study. The fatigue test results as well as the elastic-response test results will be used in a separate study to assess the current ASME Code design procedures for nuclear power plant piping systems.

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APPENDIX I

UNION CARBIDE SPECIFICATIONS JS-115-235 AND JS-115-229

JOB SPECIFICATION

Number: JS-115-229
Date: Jan. 17, 1969
Revised:
Page 1 of 8

UNION CARBIDE NUCLEAR COMPANY
DIVISION OF UNION CARBIDE CORPORATION

ORNL, Oak Ridge, Tennessee

Subject: Experimental Stress Analysis of ASA Standard B16.9 Tees
Project: Design Criteria for Nuclear Service Piping, Pumps, and Valves
(AEC Activity No. 04 60 80 03 1)

1. SCOPE:

This specification covers the experimental stress analysis (strain-gage tests and brittle lacquer tests) and fatigue-to-failure tests that are to be conducted on two ASA standard B16.9 tees. Two tees, a 12 x 12 x 12-in. Sch. 80 ASA B16.9 tee fabricated from ASTM 106 Grade B carbon steel and a 12 x 12 x 6-in. Sch. 40 ASA B16.9 tee fabricated from type 304L stainless steel, will be supplied by the company for testing.

The required tests are a portion of the joint AEC (ORNL) – PVRC program to develop stress indices and flexibility factors for piping components. Task No. 1 of the PVRC report, "Program and Request for Proposals for Development of Stress Indices and Methods for Analysis for Piping, Valves, and Pumps," dated July 1, 1967, is included for reference and information.

Two quadrants of each tee shall be extensively strain gaged on both inside and outside surfaces to obtain the surface strain data necessary for the analysis. The seller is also to weld pipe stubs on each of the three connections to transmit force and moment loadings to the tee and to provide end closures for each of the three pipe stubs. Deflection or angular rotation measuring devices are to be installed in sufficient quantity and positions to determine the flexibility of the tee relative to a pipe of the same schedule and length as the tee. The brittle lacquer tests will be conducted prior to the strain-gage tests. Strain measurements will be taken with internal pressure loading and with 12 different moment and force loadings, as shown in Fig. 1 of the PVRC task description. The results of the strain-gage tests will be the basis of selection of the loading to produce fatigue failure in the low-cycle range (500 to 100,000 cycles).

All strain-gage readings, deflection measurements, load or force measurements, and an analysis of the data shall be submitted to the company.

2. APPLICABLE SPECIFICATIONS, STANDARDS, AND OTHER PUBLICATIONS:

2-1. General

The latest revision of the following documents shall form a part of this specification to the extent stated in subsequent sections.

2-1-1. Unnumbered PVRC report, "Program and Request for Proposals for the Development of Stress Indices and Methods for Analysis for Piping, Valves, and Pumps," dated July 1, 1967.

2-1-2. USAS B31.7, "Nuclear Power Piping," dated Feb. 1968.

2-1-3. "Section IX, ASME Boiler and Pressure Vessel Code."

3. REQUIREMENTS:

3-1. It is the intent of this specification to describe work to be done to achieve the objectives of Phase A, Task No. 1, outlined in the reference under Section 2-1-1. A copy of Task No. 1 is included in Section 6-2 for reference information only. Where specific differences and requirements exist between this specification and those indicated in Task No. 1, considerations shall be given to this specification only.

3-2. Specimen and Test Assembly

3-2-1. Materials. Two tees – a 12 x 12 x 12-in. Sch. 80 ASA B16.9 tee fabricated from ASTM 106 Grade B carbon steel and a 12 x 12 x 6-in. Sch. 40 ASA B16.9 tee fabricated from type 304L stainless steel – will be supplied by the company. Pipe extensions of the same materials and of sufficient length to meet loading requirements shall be welded to the tees and the ends shall be closed for pressure containment. All end closures may be of carbon steel. Pipe legs shall be purchased to A106 Grade B and A312 TP 304L with a certified mill test report. The minimum and maximum inside diameter, outside diameter, and wall thickness at both ends of each leg and the weight of each leg shall be measured, recorded, and submitted as part of the data.

3-2-2. Alignment. Proper alignment limited only by irregularities in the geometry of the tee and pipe legs shall be maintained during welding of test assembly.

3-2-3. Welded Joints. The gas tungsten arc welding method shall be used for all welds in the fabrication and assembly of the test piece; that is, the tee-to-pipe stub welds and the attachment of the end closures. Materials shall comply with Chapter 1-III of USAS B31.7, Nuclear Power Piping, dated February 1968. The requirements of Chapter 1-V, USAS B31.7 for Class I Piping Systems, shall apply in the fabrication and assembly of the test piece.

Qualification of the welding procedures to be used and of the performance of the welders and welding operators shall comply with the requirements of Section 9 of the ASME Boiler and Pressure Vessel Code. These procedures are to be inspected and approved by qualified representatives of the company. Radiographic, dyepenetrant, ultrasonic, and metallographic examination of welds shall be performed in addition to the requirements of Section 9 of the ASME Boiler and Pressure Vessel Code, in the qualification of the weld procedures and in the qualification of the welders. The type and

extent of the weld examination and the test of the welds in the test assembly shall conform to Table A.7 (a), A.7 (b), and A.7 (c) of Appendix A of USAS B31.7. The inclusions and porosity allowed shall not be greater than one-half in size and one-half in number of those amounts listed in Appendix B, Paragraph B-1-140, USAS B31.7 The three pipe-to-tee welds of the test assembly shall be ground smooth with the walls on the inside of the assembly and also on the outside so as to produce no surface discontinuities. Undercutting resulting from these welds will not be permitted.

3-3. Loadings and Loading Fixtures

3-3-1. Fixtures and Frame. It shall be the responsibility of the seller to design and provide adequate loading facilities to properly apply loads as specified herein.

3-3-2. Loadings. Thirteen different loadings shall be applied to each test assembly as indicated in Fig. 1 of Task No. 1 (Section 6.2). All forces to accomplish these loadings (except internal pressure) shall be applied at a distance of four pipe diameters from the pipe-to-tee weld. The magnitude of the loadings shall be proposed by the seller and approved by the company. Strain shall be limited to 1000 μin./in. at any gage point. The order of the loadings is discussed under test procedures (Section 3.9).

3-4. Instrumentation

Two full quadrants of the tee plus other discrete points on the assembly shall be instrumented, inside and outside, with a total of 225 three-gage strain rosettes. The company will supply the gage layout based upon the objectives of the program and the requirements dictated by other analyses with which the data will be compared. The type of gage may be chosen by the seller with approval of the company. Since gages may be required on or very close to the welds at the ends of the tee, the seller shall be prepared to weld short stubs to one or more of the tee outlets if necessary, prior to final placement of these inside gages.

3-5. Dial Gage Locations

Minimum requirements for dial gage locations are shown schematically in Section 6-3. Eight deflection measurements at each of two ends (Nos. 2 and 3) of the assembly shall be measured for each loading with respect to the fixed end (No. 1).

3-5-1. The lever arm, length L, should be such that with expected dial gage accuracy, the expected rotation can be measured with reasonable accuracy (±10%).

3-5-2. The reference frame to which the gages shall be attached should be connected to the pipe near end No. 1. The frame should be sufficiently rigid so that changes in dial and gage forces do not significantly affect the readings. While this force change may be only a few ounces, the frame will necessarily be quite long and, unless sufficiently rigid, may deflect significantly.

3-5-3. The measurement cross bars should be attached to the pipe at locations where local deformations of the pipe cross section are negligible. These attachments to the pipe should be as short as feasible (distance A, Fig. 6-3) because in evaluating the tee flexibility it will be necessary to subtract out the displacements due to the pipe; therefore it is necessary to know the pipe lengths accurately.

3-6. Brittle Coating Tests

After installation of inside gages and completion of the test assembly, a brittle coating test shall be performed to determine the location and orientation of outside principal stresses. The location and number of the outside gages will then be subject to review and possible adjustment. The procedure for the brittle coating tests shall generally conform to the following outline.

3-6-1. Each loading shall be applied successively to one-third the maximum scheduled loading to minimize the effects of residual stresses.

3-6-2. Brittle lacquer with a sensitivity of approximately 500 μin./in. shall be applied to at least one-half of the tee.

3-6-3. Branch moments and branch forces shall be applied in succession beginning with M_{3x}. Each load shall be applied in increments until cracks occur in the brittle coating or until a previous crack pattern is intensified. Under no circumstances shall the load exceed one-half of the maximum scheduled loading level.

3-6-4. The second half of the tee shall then be coated and the run moments and run forces applied in the same manner beginning with M_{2x}.

3-6-5. The above procedure may be adjusted during testing if mutually agreed on by the seller and company representative.

3-7. Data Requirements

The following data and data analysis shall be submitted as indicated in Section 5.

3-7-1. The linear response of each gage in units of inches per inch per unit load determined by least squares fitting the data from each of the loading increments.

3-7-2. Elastically-calculated stresses and strains in the direction, and transverse to the direction, of a row of gages.

3-7-3. Elastically-calculated principal stresses and strains and their directions, ϕ_p, relative to a row of gages.

3-7-4. Graphical plots of the above quantities as a function of gage position.

3-8. Data Acquisition

3-8-1. Strain readings shall be taken from all gages and dial indicators at the beginning of each run and after each loading and unloading increment.

3-8-2. Strain readings at successive zero loads shall not differ from each other by more than ±25 μin./in. or ±10% of the maximum strain reading for that gage during that loading, whichever is smaller. In the event this requirement is not met for specific gages during the required number of loadings, additional loadings shall be run for these gages until compliance is met. If internal unrepairable gages persist in erratic or unsatisfactory behavior, a company representative will determine when a maximum effort has been made to obtain data from these gages.

3-9. Test Procedures

Following the brittle coating tests and the attachment of external instrumentation, each tee shall be tested with the prescribed loadings. The first load to be applied shall be M_{3x} followed by the remaining branch moments and branch forces. The same order shall apply for the run moments and run forces, beginning with M_{1x}. The internal pressure test may be interjected into the above order at any convenient time. For each loading the procedure used shall be as follows.

3-9-1. Each loading shall be applied to one-half of the programmed maximum load and a set of data taken. This data shall be scanned for points of maximum strain. In the event any strains indicate that, on maximum loading, the value of strain at that point will exceed the 1000 μin./in. limit, the programmed maximum load shall be adjusted accordingly.

3-9-2. After confirming the adequacy of the maximum load, the test piece shall be loaded and unloaded until linear elastic behavior is achieved. Complete data need not be taken during this shakedown process; however, it provides ample opportunity to evaluate the stability of instrumentation.

3-9-3. The test piece shall then be loaded to the maximum load in four incremental steps. These steps shall be repeated on the unloading process making a total of nine sets of data for each loading, taken as indicated in Section 3-8.

3-9-4. The above test (3-9-3) shall be repeated and data for the two runs examined for compliance with requirements described in this specification.

3-10. Fatigue Tests

Each tee shall finally be tested to failure by fatigue loading. The company will select the loading to be used in the fatigue test upon completion of the elastic testing of each tee. The loading will be a moment applied to the branch; however, a decision on the direction, M_{3x} or M_{3z}, will not be made until sufficient data are received from the elastic tests.

In any event, the loading shall be made in a fully reversed cycle, maintaining a constant maximum displacement in each direction. The tee shall be hydraulically pressurized to 2250 psi internal pressure in the 12 x 12 x 12-in. Sch. 80 carbon steel tee test and to 1090 psi internal pressure in the 12 x 12 x 6-in. Sch. 40 type 304L stainless steel tee test. This pressure shall be held constant during the entire fatigue test.

The magnitude of the loading shall be proposed by the seller and approved by the company, and should be sufficient to cause a fatigue failure in the range between 500 and 100,000 cycles. Failure in this instance is defined as the first indication of a leak and shall cause the test to be terminated.

The test shall be interrupted at frequent intervals and inspected for signs of a developing fatigue crack. Dye-penetrant or fluorescent-magnetic particle inspections as applicable will be made to detect cracks on the outside surface. Suspected areas are to be photographed during each inspection and these photographs are to be considered a portion of the records of the test.

4. INSPECTIONS:

4-1. The company shall have access to the test site as necessary for observation of test preparations and tests.

4-2. The company shall be advised of the schedule of preparations and tests in sufficient time to allow an observer to be present for activities of interest.

5. REPORTING OF RESULTS AND RETURN OF SPECIMENS:

5-1. The following reports shall be submitted covering the work described herein.

5-1-1. Monthly Status Reports. These reports are due at the company on the first day of each month. They should cover the month's activities in sufficient detail so that portions can be abstracted by the company for inclusion in a program report to the AEC. Three copies of 8 1/2 x 11 in. glossy print photographs should be included as appropriate. A projection of the planned activities for the next month is to be included. The format for the report may be a letter or memorandum.

5-1-2. Quarterly Progress Reports. These reports are due at the company on the 10th day of each quarter, that is, January 10, April 10, July 10, and October 10. Fifteen copies are required. They are to be a general summary report covering the preceding three-month period; the first report may necessarily cover a shorter period. They need not contain all the specific details contained in the monthly reports but should present a clear description of the work, since these reports will be passed on unedited to AEC Headquarters and others on a limited, official use only, distribution. The format of the report is left to the discretion of the seller, but should contain an introduction and conclusions.

5-1-3. Final Topical Reports. Formal summary reports shall be submitted upon completing the elastic strain-gage analysis of each tee and upon completing each fatigue test. Data shall be included as both tabulated summaries and graphical plots. Fifty (50) copies of each are required. Drafts of the final reports shall be submitted to the company for approval and comment. The work shall be deemed completed upon receipt by the company of the final reports.

5-1-4. Informal Submission of Data. Data for each of the described loadings, including data obtained during test setup, shall be made available to the company immediately upon completion of acquisition and processing. The company is to be notified, in writing, that such data are available. However, transmittal to the company shall be made only upon request.

5-2. Following the completion of the fatigue tests, the extensions of the tees shall be cut and removed approximately 3 in. from the weld leaving the weld and tee intact. Gages and a portion of the lead wires shall be left on the specimen. The tees shall then be returned to the company for final disposition.

6. NOTES AND REFERENCES:

6-1. Suggested Contractual Features

6-1-1. Revised Loadings. It is anticipated that certain loadings may be repeated with combinations of moments and forces, for example, $F_{2y} \pm M_{2y}$; $F_{2z} \pm M_{2z}$; $F_{3z} \pm M_{3z}$; and $F_{3x} \pm M_{3x}$. The seller shall be prepared to perform these additional tasks if required. This shall be considered additional work and the additional cost negotiated with the company.

6-1-2. Addition or Deletion of Gages. The seller shall be prepared to add or delete as many as 25 three-gage rosettes from the number indicated in this specification. The quotation shall include the incremental cost increase or decrease for each rosette added or deleted.

6-2. Reference

Task No. 1 from reference listed in Section 2.1.1 (attachment).

6-3. Reference

Schematic sketch of dial indicator requirements (attachment).

TASK NO. 1

MEASUREMENTS OF SURFACE STRAINS AND
FATIGUE TESTS OF ASA B16.9 TEES

Scope

Table 1 lists the specific tee test specimens and fatigue test loading conditions.

Phase A consists of a thorough investigation of Items 4, 6, 8, and 15 of table. Phase B includes the remainder of the items of Table 1. Detailed test procedures for Phase B will be guided by the results of Phase A tests and possibly by the results of the theoretical analysis of tees performed under Task 4.

Table 1. ASA B16.9 Tee Test Specimens and Fatigue Test Loadings

Item No.	Nominal Size	Nominal Wall	Material	Fatigue Test Loading	Manufacturer	Phase
1	6x6x6	Sch 40	TP 304 or 304L	Moment	I	B
2	6x6x6	Sch 160	A-106-B	Pressure	I	B
3	6x6x6	Sch 40	TP 304 or 304L	Moment	I	B
4	12x12x12	Sch 80	A-106-B	Moment	I	A
5	12x12x12	Sch 80	A-106-B	Pressure	II	B
6	12x12x12	Sch 80	A-106-B	Moment	III	A
7	12x12x12	Sch 160	TP 304 or 304L	Moment	II	B
8	12x12x6	Sch 40	TP 304 or 304L	Moment	II	A
9	12x12x6	Sch 160	TP 304 or 304L	Pressure	II	B
10	24x24x24	Sch 40	A-106-B	Moment	III	B
11	24x24x24	Sch 160	A-106-B	Pressure	III	B
12	24x24x10	Sch 40	A-106-B	Moment	III	B
13	24x24x10	Sch 160	A-106-B	Pressure	III	B
14	12x12x6	Sch 40	TP 304 or 304L	Undecided	I	B
15	12x12x6	Sch 40	TP 304 or 304L	Moment	III	A

Part of the objective of this program is to determine the extent of the differences in stresses in tees of different manufacturers. Tees from three different manufacturers are to be included, indicated by I, II, and III of Table 1. The bidder shall specify the specific manufacturers. The tees purchased for the program should be typical of the manufacturers' products.

Strain measurements are to be taken with internal pressure and with the moment and force* loadings shown in Fig. 1.

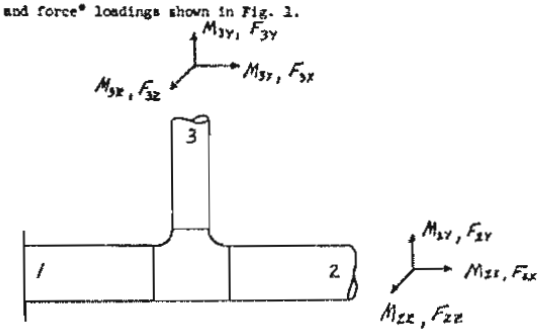

Fig. 1. Test Loadings for Strain-Gage Tests

Pressure and each of the six indicated moments are to be applied separately (seven separate loadings). Each test shall include strain-gage readings at a minimum of three load increments up and down through at least three cycles to insure that elastic states of strain are obtained. The bidder shall indicate what maximum loads he proposed to apply. Items 4 and 8 of Table 1 (Phase A) shall be thoroughly strain-gage instrumented and subjected to all indicated test loads to determine the critical areas where

*Force loadings are to be applied to Items 4 and 8 of Table 1. If stresses due to force loads are small compared to those due to moment loads, subsequent test models do not need to include force loads.

stresses due to the possible independent loadings can combine. It is expected that several hundred strain-gage elements will be required on each model, but the specific number and location of gages are to be specified by the bidder. The results of this investigation shall be used to locate critical regions on the other 11 models so that a smaller number of strain gages may be used.

For pressure fatigue tests, the pressure range will be determined on the basis of the strain-gage results. For moment-loading fatigue tests, both the moment (whether M_x, M_y, M_z, or some combination thereof and whether applied to branch or run) and its magnitude will also be determined from the strain-gage results. The aim point will be between 500 to 100,000 cycles to failure. The fatigue tests shall be interrupted periodically for visual inspection to attempt to identify any crack initiation on the outside surface. All moment-loading fatigue tests shall be pressurized to the nominal design pressure, except Item 3 which shall be pressurized about 2 to 5 psig. All fatigue tests shall terminate upon the beginning of leakage.

All tests shall be run at room temperature.

DESIRED RESULTS

(1) Inspection data on test specimens.

(2) Strain-gage data converted to principal stresses, tabulated against load steps.

(3) Fatigue test loadings and cycles-to-failure.

(4) Description of the fatigue failure and crack initiation, if the crack initiation is detected on the outside surface.

(5) Description of test procedures and discussion of accuracy of the test results.

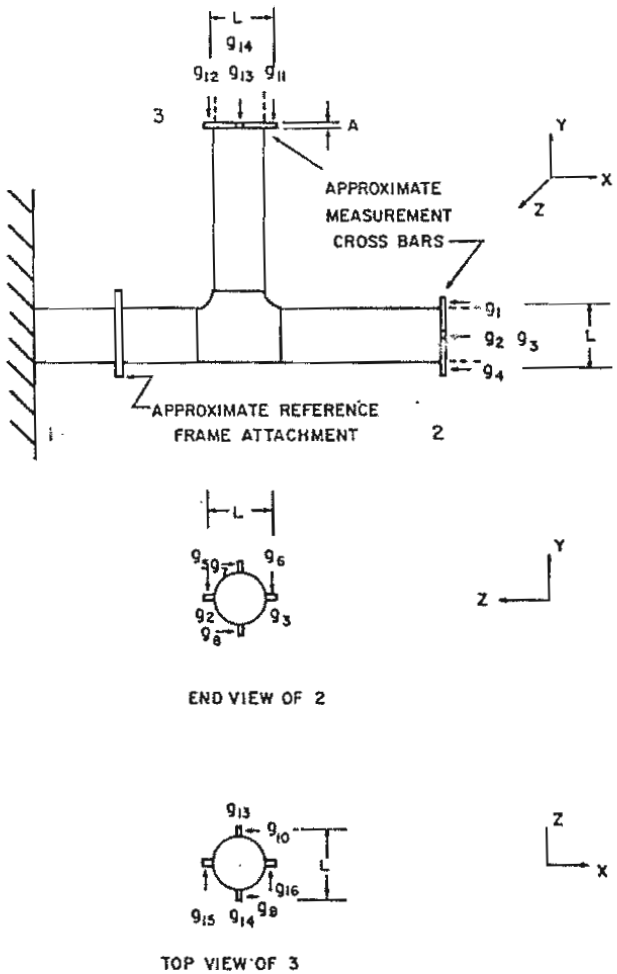

FIG. 7-3 DIAL GAGE LOCATIONS

ORNL, Oak Ridge, Tennessee

Subject: Experimental Stress Analysis of ASA Standard B16.9 Tees
Project: Design Criteria for Nuclear Service Piping, Pumps, and Valves
(AEC Activity No. 04 60 80 03 1)

1. SCOPE:

This specification covers the experimental stress analysis (strain-gage tests and brittle lacquer tests) and fatigue-to-failure tests that are to be conducted on one ASA standard B16.9 tee. This tee, a 12 x 12 x 12-in. schedule 160 ASA B16.9 tee fabricated from type 304L stainless steel, will be supplied by the Company for testing.

The required tests are a portion of the Joint AEC (ORNL) – PVRC program to develop stress indices and flexibility factors for piping components. Task No. 1 of the PVRC report, "Program and Request for Proposals for Development of Stress Indices and Methods for Analysis for Piping, Valves, and Pumps," dated July 1, 1967, is included for reference and information.

Two quadrants of the tee shall be extensively strain gaged on both inside and outside surfaces to obtain the surface strain data necessary for the analysis. The Seller is also to weld pipe stubs on each of the three connections to transmit force and moment loadings to the tee and to provide end closures for each of the three pipe stubs. Deflection or angular rotation measuring devices are to be installed in sufficient quantity and positions to determine the flexibility of the tee relative to a pipe of the same schedule and length as the tee. The brittle lacquer tests will be conducted prior to the strain-gage tests. Strain measurements will be taken with internal pressure loading and with 12 different moment and force loadings, as shown in Fig. 1 of the PVRC task description. The results of the strain-gage tests will be the basis of selection of the loading to produce fatigue failure in the low-cycle range (500 to 100,000 cycles).

All strain-gage readings, deflection measurements, load or force measurements, and an analysis of the data shall be submitted to the Company.

2. APPLICABLE SPECIFICATIONS, STANDARDS, AND OTHER PUBLICATIONS:

2-1. General

The latest revision of the following documents shall form a part of this specification to the extent stated in subsequent sections.

2-1-1. Unnumbered PVRC report, "Program and Request for Proposals for the Development of Stress Indices and Methods for Analysis for Piping, Valves, and Pumps," dated July 1, 1967.

2-1-2. USAS B31.7, "Nuclear Power Piping," dated January 1969.

2-1-3. "Section IX, ASME Boiler and Pressure Vessel Code."

3. REQUIREMENTS:

3-1. It is the intent of this specification to describe work to be done to achieve the objectives of Task No. 1, outlined in the reference under Section 2-1-1. A copy of Task No. 1 is included in Section 6-2 for reference information only. Where specific differences and requirements exist between this specification and those indicated in Task No. 1, consideration shall be given to this specification only.

3-2. Specimen and Test Assembly

3-2-1. Materials. One tee – a 12 x 12 x 12-in. schedule 160 B16.9 tee fabricated from type 304L stainless steel – will be supplied by the Company. Pipe extensions of the same material and of sufficient length to meet loading requirements, to be supplied by the Seller, shall be welded to the tees and the ends shall be closed for pressure containment. At the Seller's option, end closures may be of carbon steel. Pipe legs shall be purchased to A312 TP-304L with a certified mill test report. The minimum and maximum inside diameter, outside diameter, and wall thickness at both ends of each leg and the weight of each leg shall be measured, recorded, and submitted as part of the data.

3-2-2. Alignment. Proper alignment limited only by irregularities in the geometry of the tee and pipe legs shall be maintained during welding of the test assembly.

3-2-3. Welded Joints. The gas tungsten arc welding method shall be used for all welds in the fabrication and assembly of the test piece; that is, the tee-to-pipe stub welds and the attachment of the end closures. Materials shall comply with Chapter I-III of USAS B31.7, Nuclear Power Piping, dated January 1969. The requirements of Chapter I-V, USAS B31.7 for Class I Piping Systems, shall apply in the fabrication and assembly of the test piece.

Qualification of the welding procedures to be used and of the performance of the welders and welding operators shall comply with the requirements of Section 9 of the ASME Boiler and Pressure Vessel Code. These procedures are to be inspected and approved by qualified representatives of the Company. Radiographic, dyepenetrant, ultrasonic, and metallographic examination of welds shall be performed in addition to the requirements of Section 9 of the ASME Boiler and Pressure Vessel Code, in the qualification of the weld procedures, and in the qualification of the welders. The type and extent of the weld examination and the test of the welds in the test assembly shall conform to Table A.7 (a), A.7 (b), and A.7 (c) of Appendix A of USAS B31.7. The three pipe-to-tee welds of the test assembly shall be ground smooth with the walls on the inside of the assembly and also on the outside so as to produce no surface discontinuities. Undercutting resulting from these welds will not be permitted.

3-3. Loadings and Loading Fixtures

3-3-1. Fixtures and Frame. It shall be the responsibility of the Seller to design and provide adequate loading facilities to properly apply loads as specified herein.

3-3-2. Loadings. Thirteen different loadings shall be applied to the test assembly as indicated in Fig. 1 of Task No. 1 (Section 7-2). All forces to accomplish these loadings (except internal pressure) shall be applied at a distance of four pipe diameters from the pipe-to-tee weld. The magnitude of the loadings shall be proposed by the Seller and approved by the Company. Strain shall be limited to 1000 μin./in. at any gage point. The order of the loadings is discussed under Test Procedures (Section 3-9).

3-3-3. Boundary Conditions. In order to provide boundary conditions for theoretical analyses (not a part of this specification), stiffening rings, or other means, of sufficient rigidity to maintain pipe circularity during application of the loads shall be fixed to the pipe extensions at the point of load application (four pipe diameters from the pipe-to-tee weld). They may be welded in place for the elastic strain-gage tests but should be removed, and any damage to the pipe extensions repaired before fatigue testing.

3-4. Instrumentation

Two full quadrants of the tee plus other discrete points on the assembly shall be instrumented, inside and outside, with a total of 225 three-gage strain rosettes. Reference marks (-) and (+) will have been placed on the tee by the Company to be used by the Seller in making the gage layouts according to the general guideline contained in Section 7-4. Gage positions shall be approved by the Company prior to installation. The type of gage may be chosen by the Seller with approval of the Company. Since gages may be required on or very close to the welds at the ends of the tee, the Seller shall be prepared to weld short stubs to one or more of the tee outlets if necessary, prior to final placement of these inside gages.

3-5. Dial Gage Locations

Minimum requirements for dial gage locations are shown schematically in Section 7-3. Eight deflection measurements at each of two ends (Nos. 2 and 3) of the assembly shall be measured for each loading with respect to the fixed end (No. 1).

3-5-1. The lever arm, length L, should be such that with expected dial gage accuracy, the expected rotation can be measured with reasonable accuracy (±10%).

3-5-2. The reference frame to which the gages shall be attached should be connected to the pipe near end No. 1. The frame should be sufficiently rigid so that changes in dial and gage forces do

not significantly affect the readings. While this force change may be only a few ounces, the frame will necessarily be quite long and, unless sufficiently rigid, may deflect significantly.

3-5-3. The measurement cross bars should be attached to the pipe at locations where local deformations of the pipe cross section are negligible. These attachments to the pipe should be as short as feasible (distance A, Fig. 7-5) because in evaluating the tee flexibility it will be necessary to subtract out the displacements due to the pipe; it is therefore necessary to know the pipe lengths accurately.

3-6. Brittle Coating Tests

After installation of inside gages and completion of the test assembly, a brittle coating test may be performed at the discretion of the Company to determine the location and orientation of outside principal stresses. The location and number of the outside gages will then be subject to review and possible adjustment. The procedure for the brittle coating tests shall generally conform to the following outline.

3-6-1. Each loading shall be applied successively to one-third the maximum scheduled loading to minimize the effects of residual stresses.

3-6-2. Brittle lacquer with a sensitivity of approximately 500 μin./in. shall be applied to at least one-half of the tee.

3-6-3. Branch moments and branch forces shall be applied in succession beginning with M_{ox}. Each load shall be applied in increments until cracks occur in the brittle coating or until a previous crack pattern is intensified. Under no circumstances shall the load exceed one-half of the maximum scheduled loading level.

3-6-4. The second half of the tee shall then be coated and the run moments and run forces applied in the same manner beginning with M_{ox}.

3-6-5. The above procedure may be adjusted during testing if mutually agreed on by the Seller and Company representative.

3-7. Data Requirements

The following data and data analysis shall be submitted as indicated in Section 6. The methods and formulas used in the data analysis are to be approved by qualified representatives of the Company.

3-7-1. The linear response of each gage in units of inches per inch per unit load determined by least squares fitting the data from each of the loading increments.

3-7-2. Elastically-calculated stresses and strains, including shear terms, in the direction, and transverse to the direction, of a row of gages.

3-7-3. Elastically-calculated principal stresses and strains and their directions, ϕ_p, relative to a row of gages, and the maximum shear stresses and strains.

3-7-4. Graphical plots of the above quantities (3-7-2 and 3-7-3) as a function of gage position.

3-7-5. The data analyses required in Sections 3-7-1, 3-7-2, and 3-7-3 shall be made available to the Company in machine readable form, either punched cards or magnetic tape, in addition to the submissions required in Section 6.

3-8. Data Acquisition

3-8-1. Strain readings shall be taken from all gages and dial indicators at the beginning of each run and after each loading and unloading increment.

3-8-2. Strain readings at successive zero loads shall not differ from each other by more than ±15 μin./in. or 5% of the maximum strain reading for that gage during that loading, whichever is smaller. In the event this requirement is not met for specific gages during the required number of loadings, additional loadings shall be run for these gages until compliance is met. If internal unrepairable gages persist in erratic or unsatisfactory behavior, a Company representative will determine when a maximum effort has been made to obtain data from these gages.

3-9. Test Procedures

Following the brittle coating tests and the attachment of external instrumentation, the tee shall be tested with the prescribed loadings. The first load to be applied shall be M_{3x} followed by the remaining branch moments and branch forces. The same order shall apply for the run moments and run forces, beginning with M_{2x}. The internal pressure test may be interjected into the above order at any convenient time. For each loading the procedure used shall be as follows.

3-9-1. Each loading shall be applied to one-half of the programmed maximum load and a set of data taken. This data shall be scanned for points of maximum strain. In the event any strains indicate that, on maximum loading, the value of strain at that point will exceed the 1000 μin./in. limit, the programmed maximum load shall be adjusted accordingly.

3-9-2. After confirming the adequacy of the maximum load, the test piece shall be loaded and unloaded until linear elastic behavior is achieved. Complete data need not be taken during this shakedown process; however, it provides ample opportunity to evaluate the stability of instrumentation.

3-9-3. The test piece shall then be loaded to the maximum load in four incremental steps. These steps shall be repeated on the unloading process making a total of nine sets of data for each loading, taken as indicated in Section 3-8.

3-9-4. The above test (3-9-3) shall be repeated and data for the two runs examined for compliance with requirements described in this specification.

4. FATIGUE TESTS:

The tee shall finally be tested to failure by fatigue loading. The Company will select the loading to be used in the fatigue test upon completion of the elastic testing. The loading will probably be a moment applied to the branch; however, a decision will not be made until sufficient data are received from the elastic tests. In any event, the loading shall be made in a fully reversed cycle, maintaining a constant maximum displacement in each direction. The tee shall be hydraulically pressurized to 3750 psi internal pressure. This pressure shall be held constant during the entire fatigue test.

The magnitude of the loading shall be proposed by the Seller and approved by the Company, and should be sufficient to cause a fatigue failure in the range between 500 and 100,000 cycles. Failure in this instance is defined as the first indication of a leak and shall cause the test to be terminated.

The test shall be interrupted at frequent intervals and inspected for signs of a developing fatigue crack. Dyepenetrant or fluorescent-magnetic particle inspections as applicable will be made to detect cracks on the outside surface. Suspected areas are to be photographed during each inspection and these photographs are to be considered a portion of the records of the test.

5. INSPECTIONS:

5-1. The Company shall have access to the test site as necessary for observation of test preparations and tests.

5-2. The Company shall be advised of the schedule of preparations and tests in sufficient time to allow an observer to be present for activities of interest.

6. REPORTING OF RESULTS AND RETURN OF SPECIMENS:

6-1. The following reports shall be submitted covering the work described herein.

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6-1-2. Quarterly Progress Reports. These reports are due at the Company on the 10th day of each quarter, that is, January 10, April 10, July 10, and October 10. Twenty copies are required. They are to be a general summary report covering the preceding three-month period; the first report may necessarily cover a shorter period. They need not contain all the specific details contained in the monthly reports but should present a clear description of the work, since these reports will be passed on unedited to AEC Headquarters and others on a limited, official use only, distribution. The format of the report is left to the discretion of the Seller, but should contain an introduction and conclusions.

6-1-3. Final Topical Reports. Formal summary reports shall be submitted upon completing the elastic strain-gage analysis of the tee and upon completing the fatigue test. Data shall be included as both tabulated summaries and graphical plots. Fifty (50) copies of each are required. Drafts of the final reports shall be submitted to the Company for approval and comment. The work shall be deemed completed upon receipt by the Company of the final reports.

6-1-4. Informal Submission of Data. Data for each of the described loadings, including data obtained during test setup, shall be made available to the Company immediately upon completion of acquisition and processing. The Company is to be notified, in writing, that such data are available. However, transmittal to the Company shall be made only upon request.

6-2. Following the completion of the fatigue tests, the extensions of the tees shall be cut and removed approximately 3 in. from the weld leaving the weld and tee intact. Gages and a portion of the lead wires shall be left on the specimen. The tees shall then be returned to the Company for final disposition.

7. NOTES AND REFERENCES:

7-1. Suggested Contractual Features

7-1-1. Revised Loadings. It is anticipated that certain loadings may be repeated with combinations of moments and forces, for example, $F_{2y} \pm M_{2y}$; $F_{2z} \pm M_{2z}$; $F_{3z} \pm M_{3z}$; and $F_{3x} \pm M_{3x}$. The Seller shall be prepared to perform these additional tasks if required.

7-1-2. Addition or Deletion of Gages. The Seller shall be prepared to add or delete three-gage rosettes from the number indicated in this specification, up to a maximum of ±25.

7-1-3. Optional Fatigue Test. Upon completion of the elastic strain-gage test the Company may elect as an option to have the Seller conduct the fatigue test as specified herein unless indicated otherwise by the Seller.

7-1-4. Optional Brittle Coating Tests. The brittle coating tests may be deleted at the Company's discretion if information from other portions of the program should indicate that they are unnecessary. The Seller shall be prepared to delete these tests if required.

7-2. Reference

Task No. 1 from reference listed in Section 2-1-1 (attachment).

7-3. Reference

Schematic sketch of dial indicator requirements (attachment).

7-4. Reference

Strain-gage layout guidelines (attachment).

TASK NO. 1

MEASUREMENTS OF SURFACE STRAINS AND
FATIGUE TESTS OF ASA B16.9 TEES

Scope

Table 1 lists the specific tee test specimens and fatigue test loading conditions.

Phase A consists of a thorough investigation of Items 4, 6, 8, and 15 of table. Phase B includes the remainder of the items of Table 1. Detailed test procedures for Phase B will be guided by the results of Phase A tests, and possibly by the results of the theoretical analysis of tees performed under Task 4.

Table 1. ASA B16.9 Tee Test Specimens and Fatigue Test Loadings

Item No.	Nominal Size	Nominal Wall	Material	Fatigue Test Loading	Manufacturer	Phase
1	6x6x6	Sch 40	TP 304 or 304L	Moment	I	B
2	6x6x6	Sch 160	A-106-B	Pressure	I	B
3	6x6x6	Sch 40	TP 304 or 304L	Moment	I	B
4	12x12x12	Sch 80	A-106-B	Moment	I	A
5	12x12x12	Sch 80	A-106-B	Pressure	II	B
6	12x12x12	Sch 80	A-106-B	Moment	III	A
7	12x12x12	Sch 160	TP 304 or 304L	Moment	II	B
8	12x12x6	Sch 40	TP 304 or 304L	Moment	II	A
9	12x12x6	Sch 160	TP 304 or 304L	Pressure	II	B
10	24x24x24	Sch 40	A-106-B	Moment	III	B
11	24x24x24	Sch 160	A-106-B	Pressure	III	B
12	24x24x10	Sch 40	A-106-B	Moment	III	B
13	24x24x10	Sch 160	A-106-B	Pressure	III	B
14	12x12x6	Sch 40	TP 304 or 304L	Undecided	I	B
15	12x12x6	Sch 40	TP 304 or 304L	Moment	III	A

Part of the objective of this program is to determine the extent of the differences in stresses in tees of different manufacturers. Tees from three different manufacturers are to be included, indicated by I, II, and III of Table 1. The bidder shall specify the specific manufacturers. The tees purchased for the program should be typical of the manufacturers' products.

Strain measurements are to be taken with internal pressure and with the moment and force* loadings shown in Fig. 1.

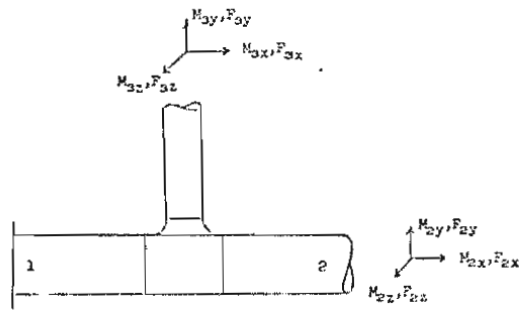


Fig. 1. Test Loadings for Strain-Gage Tests

Pressure and each of the six indicated moments are to be applied separately (seven separate loadings). Each test shall include strain-gage readings at a minimum of three load increments up and down through at least three cycles to insure that elastic states of strain are obtained. The bidder shall indicate what maximum loads he proposed to apply. Items 4 and 8 of Table 1 (Phase A) shall be thoroughly strain-gage instrumented and subjected to all indicated test loads to determine the critical areas where stresses due to the possible independent loadings

*Force loadings are to be applied to Items 4 and 8 of Table 1. If stresses due to force loads are small compared to those due to moment loads, subsequent test models do not need to include force loads.

can combine. It is expected that several hundred strain-gage elements will be required on each model, but the specific number and location of gages are to be specified by the bidder. The results of this investigation shall be used to locate critical regions on the other 11 models so that a smaller number of strain gages may be used.

For pressure fatigue tests, the pressure range will be determined on the basis of the strain-gage results. For moment-loading fatigue tests, both the moment (whether M_x, M_y, M_z, or some combination thereof and whether applied to branch or run) and its magnitude will also be determined from the strain-gage results. The aim point will be between 500 to 100,000 cycles to failure. The fatigue tests shall be interrupted periodically for visual inspection to attempt to identify any crack initiation on the outside surface. All moment-loading fatigue tests shall be pressurized to the nominal design pressure, except Item 3 which shall be pressurized about 2 to 5 psig. All fatigue tests shall terminate upon the beginning of leakage.

All tests shall be run at room temperature.

DESIRED RESULTS

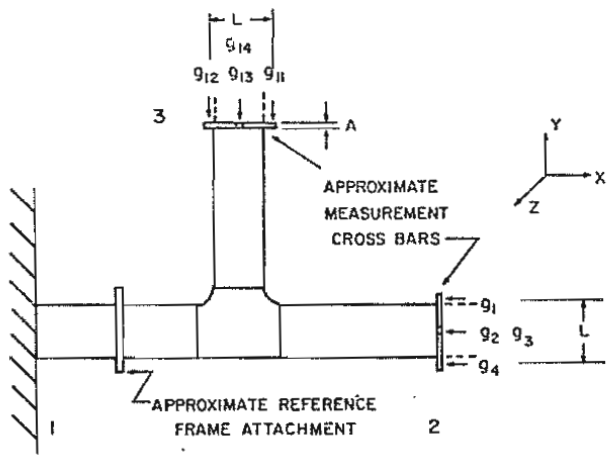
(1) Inspection data on test specimens.

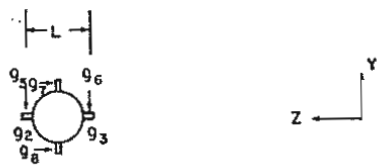
(2) Strain-gage data converted to principal stresses, tabulated against load steps.

(3) Fatigue test loadings and cycles-to-failure.

(4) Description of the fatigue failure and crack initiation, if the crack initiation is detected on the outside surface.

(5) Description of test procedures and discussion of accuracy of the test results.





END VIEW OF 2

TOP VIEW OF 3

FIG. 7-3 DIAL GAGE LOCATIONS

STRAIN-GAGE LAYOUT GUIDELINES

1. Marks (–) have been made on the tee that establish the geometric axis of the run and of the outlet. Three cross marks (+) establish the intersection of the run and the nozzle as best as possible and the location of "bottom-dead-center" of the tee, and two cross marks (+) locate the root of the crotch (45° above the intersection of the centerlines of the run and branch).

2. An X-Y-Z coordinate system must be established with the identification cross marks (+) described in Item 1 above, clearly and accurately located in said system.

3. The center of each strain-gage rosette on the outside surface of the tee must be located in X-Y-Z coordinates. The lines along which the outside gages are located are also to be located in X-Y-Z coordinates.

4. The inside rosettes are to be located diametrically opposite the outside rosettes so that both rosettes at each location are normal to the "midplane surface" and aligned in the same direction to the best extent possible. The X-Y-Z coordinates of the inside rosettes are to be determined.

5. Two quadrants of the tee, (+X, +Y, +Z) and (–X, +Y, –Z) referenced to the coordinate system of Fig. 7-3, are to be strain gaged. Each of these quadrants is to be divided into 22 1/2° segments from the nozzle. The ϕ lines are located at 0°, 22 1/2°, 45°, 67 1/2°, and 90° from the centerline of the run of the tee as viewed from the nozzle. The crotch line is established by stretching a line between the cross mark (+) that marks the intersection of the nozzle and the run on the run horizontal midplane and the cross mark (+) that marks the crotch root. From the crotch line intersection the ϕ line is to be extended so that it crosses all run-circumferential lines at a constant angle. In the case of the 67 1/2° ϕ line this angle is 22 1/2°; the 45° ϕ line, it is 45°; and the 22 1/2° ϕ line, it is 67 1/2°.

6. Ten three-gage rosettes are to be placed along each ϕ line. They will be backed up by ten rosettes on the inside of the tee directly opposite them and aligned in the same direction. The first rosette on each ϕ line shall be placed over the center of the tee-to-nozzle stub weld. The ϕ lines are not to extend past the run midplane or past the run-to-tee weld. Exercise your judgement in spacing the rosettes along the ϕ lines with emphasis on the crotch region.

7. Along the crotch line, additional rosettes are to be placed inside and outside midway between the ϕ line intersections. These rosettes should be aligned along imaginary ϕ lines at these locations.

8. Inside and outside rosettes should be placed at the "bottom-dead-center" of the tee.

9. At approximate midpoints along each of the three stubs, gages should be placed at top-dead-center, bottom-dead-center, and at 90° to these gages. Two-gage, 90° rosettes can be used at these sites, provided that the gages are aligned along the axial and circumferential directions.

APPENDIX II

SwRI SCHEDULE FOR PREPARING AND CONDUCTING THE B16.9 STRESS ANALYSIS AND FATIGUE TESTS

The following general work schedule was adhered to although many of the tasks were performed simultaneously.

1. The test frames were designed.

2. Welding procedures and nondestructive inspection procedures were written and submitted to ORNL for approval.

3. Materials were ordered which were not readily available from stock in the quantities required. These included:

(a) Strain gages - 900 three-gage 45° rosettes (MicroMeasurements EA-06-062RB-120, Option W for carbon steel and EA-09-062RB-120, Option W for stainless steel.)

(b) Piping - 42 feet of 12-inch Schedule 80, A106 Grade B seamless, 30 feet of 12-inch Schedule 40 A312 TP 304L stainless, 19 feet of 6-inch Schedule 40 A312 TP 304L stainless.

(c) Structural Steel - 20 tons of structural steel including: 336 feet of W12 x 85 beams; 48 feet of 15 x 3-1/2 channel; 56 feet of 8 x 8 x 1 angle; 280 square feet of 1-1/4 inch plate, and 654 square feet of 3/4 inch plate.

(d) Welding supplies - including: 150 pounds each carbon steel and stainless steel rod for TIG welding and 50 feet each material EB consumable insert. All other rod and welding supplies used from stock in unknown quantities.

(The following items were ordered to make the T-7 modifications.)

(e) 225 three-gage rosettes (MicroMeasurements EA-09-062RB-120, Option W).

(f) A 14-foot length of A106 Grade B schedule 160 pipe.

(g) 500 pounds of 308L stainless steel welding rod.

(h) 2 tons of carbon steel plate for model end fixtures and frame modification.

4. Welders were qualified for model fabrication according to the approved procedures.

5. Test frame construction was completed and/or modified as necessary.

6. Strain gage rosette locations were established for the tee being tested, and XYZ coordinates were measured for each rosette.

7. Six-inch long pipe stubs were welded to the tee.

8. Strain rosettes were installed on the inside surface of the tee.

9. Model fabrication was completed.

10. The model was placed in a test frame and hydraulic jacks were arranged for the first loading mode to be applied.

11. A brittle lacquer test was conducted for selected loadings. (This test was not performed on T-6 and T-15.)

12. Strain rosettes were laid on the outside surface and dial indicators were installed.

13. Thirteen different loads were applied to the model in the order scheduled and deflection and strain data were recorded.

14. Strain data were transferred to IBM cards and transmitted to ORNL. Data were scanned concurrently using a duplicate set of IBM cards and the ORNL supplied computer program NOSEY (Reference 4) as a quality control measure.

15. After all data had been accepted by virtue of the acceptance criteria in the ORNL computer program for data scanning, a low-cycle fatigue test was conducted.

16. The model was removed from the test frame, the run and branch pipe were cut from the tee and the fabricated tee was returned to ORNL.

APPENDIX III

STRAIN GAGE LOCATIONS

This appendix presents graphical illustrations and tabulations of all strain gage locations. Figures III.1 through III.10 are computer displays showing the positioning and orientation of all rosettes. Tables III.1 through III.5 give the XYZ coordinates of the center of the number 2 gage on each rosette.

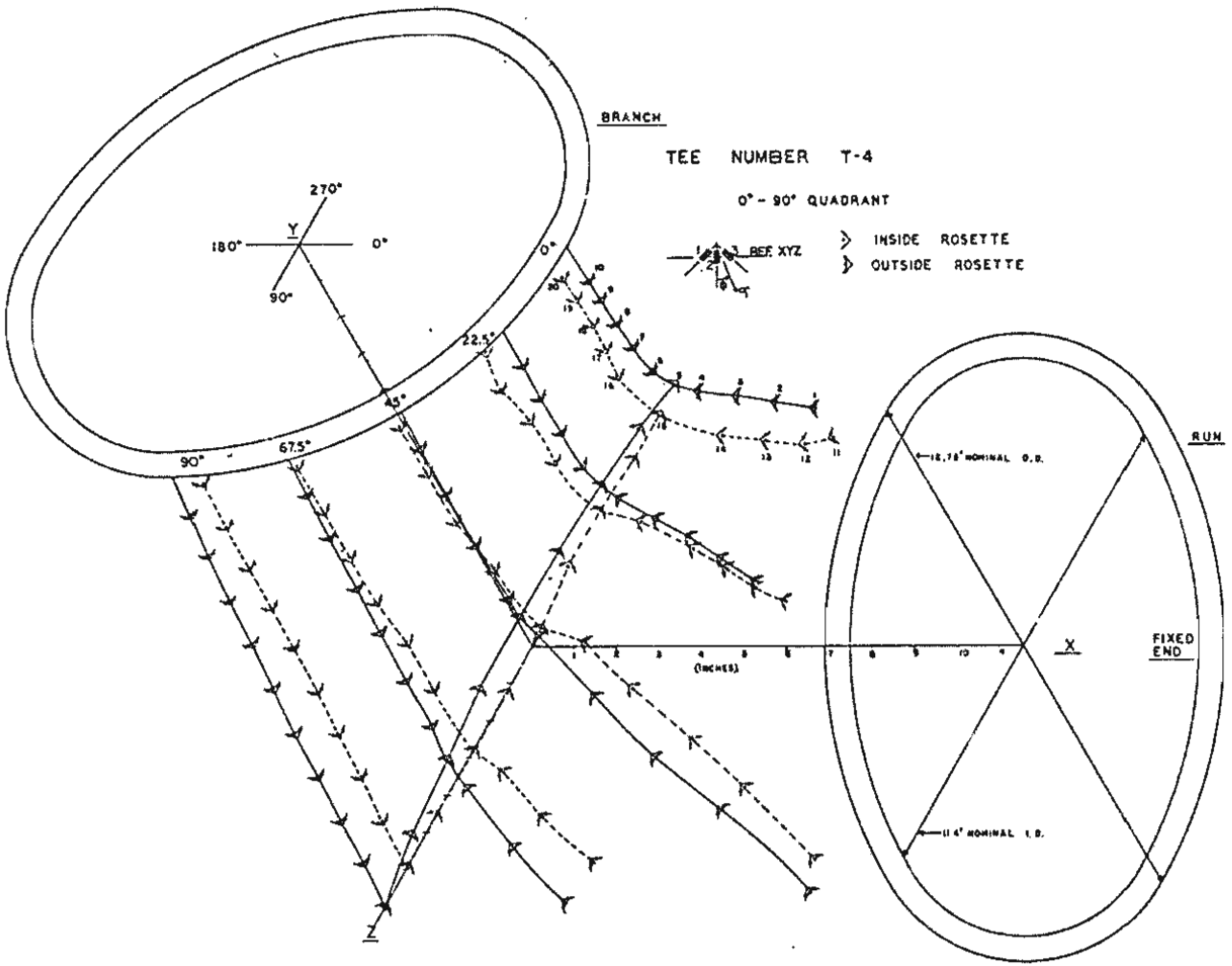


Figure III.1. Strain Gage Rosette Locations for the 0° - 90° Quadrant of A106B Steel Tee Number T-4

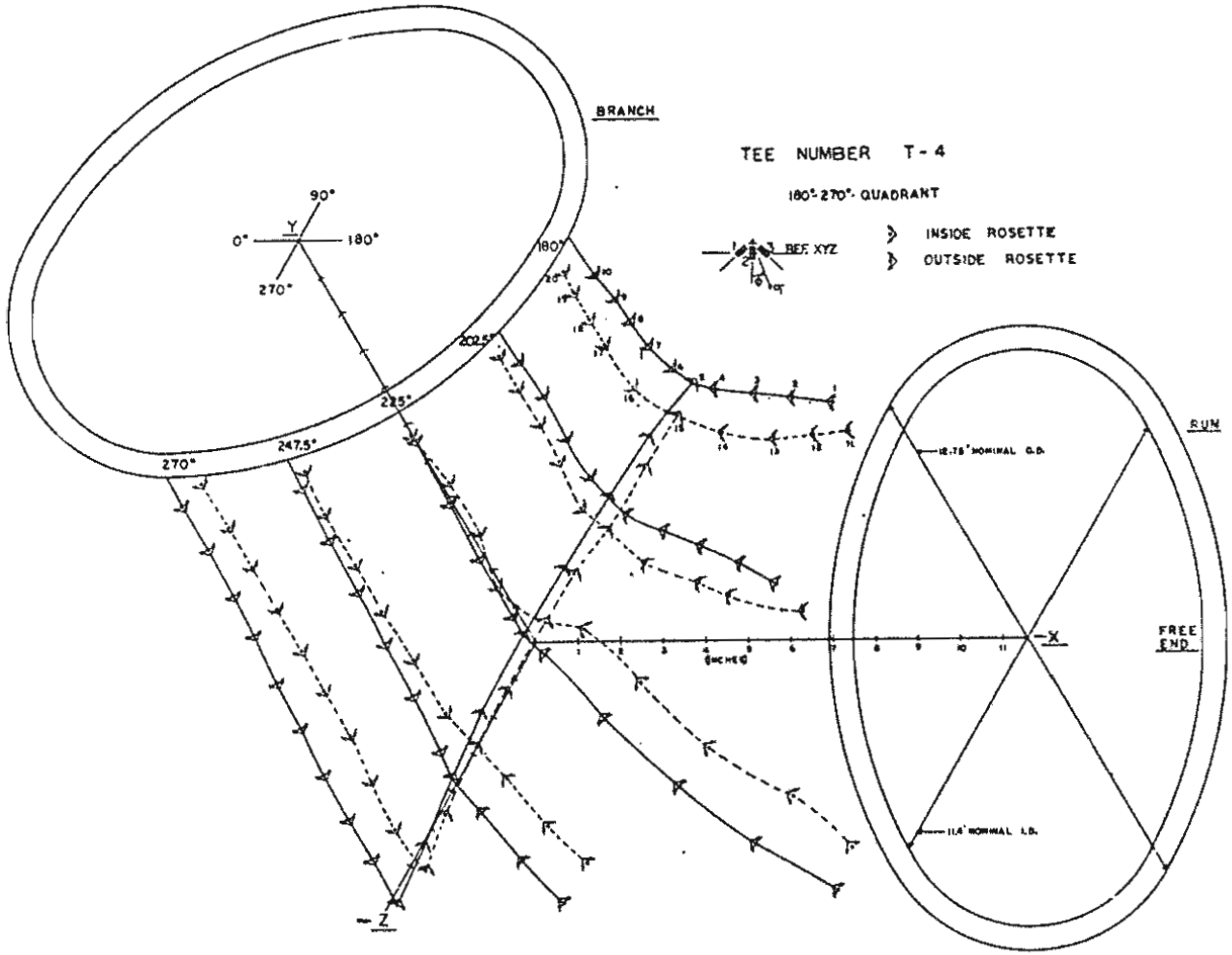


Figure III.2. Strain Gage Rosette Locations for the 180° - 270° Quadrant of A106B Steel Tee Number T-4

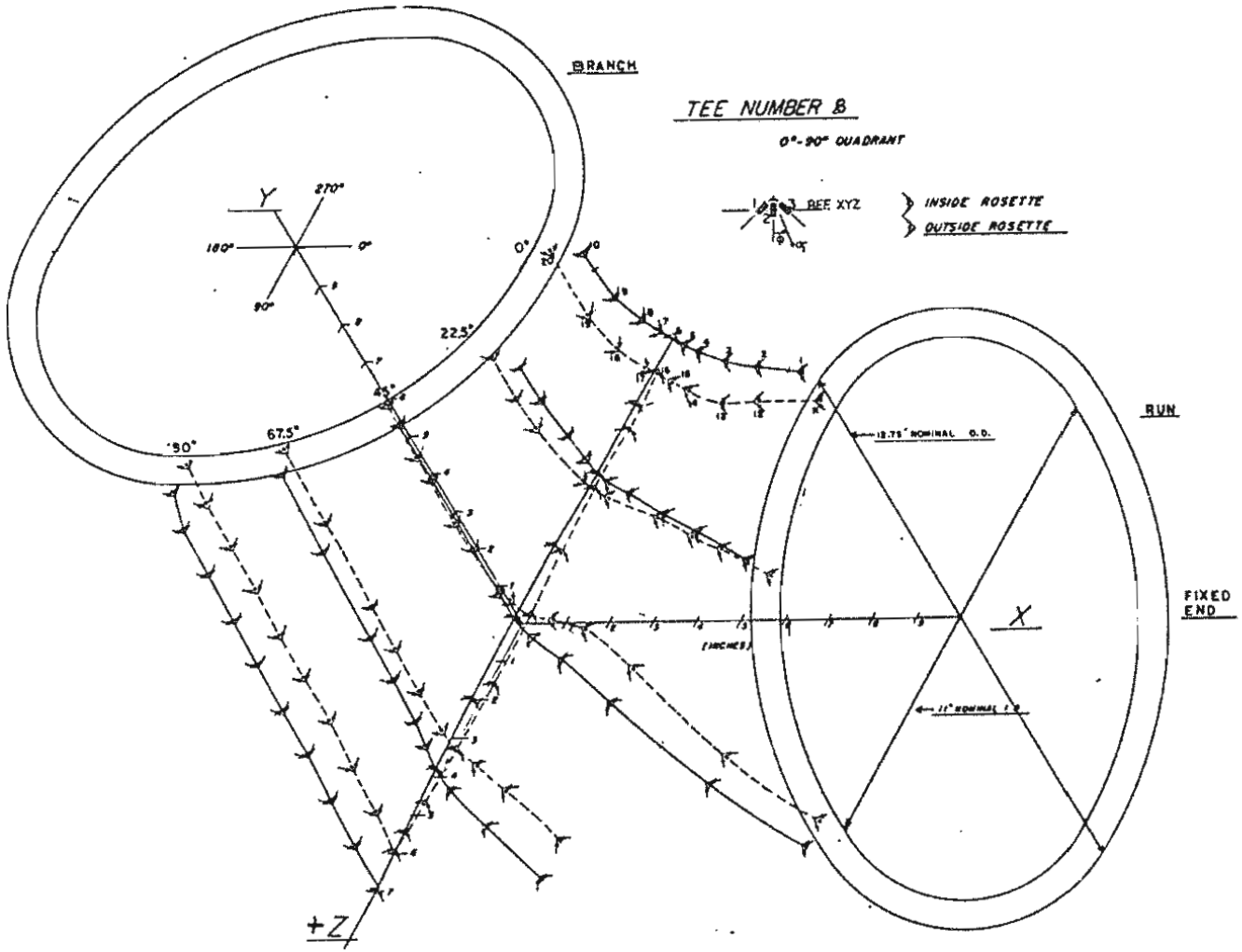


Figure III.3. Strain Gage Rosette Locations for the 0^{o} - 90^{o} Quadrant of T-6

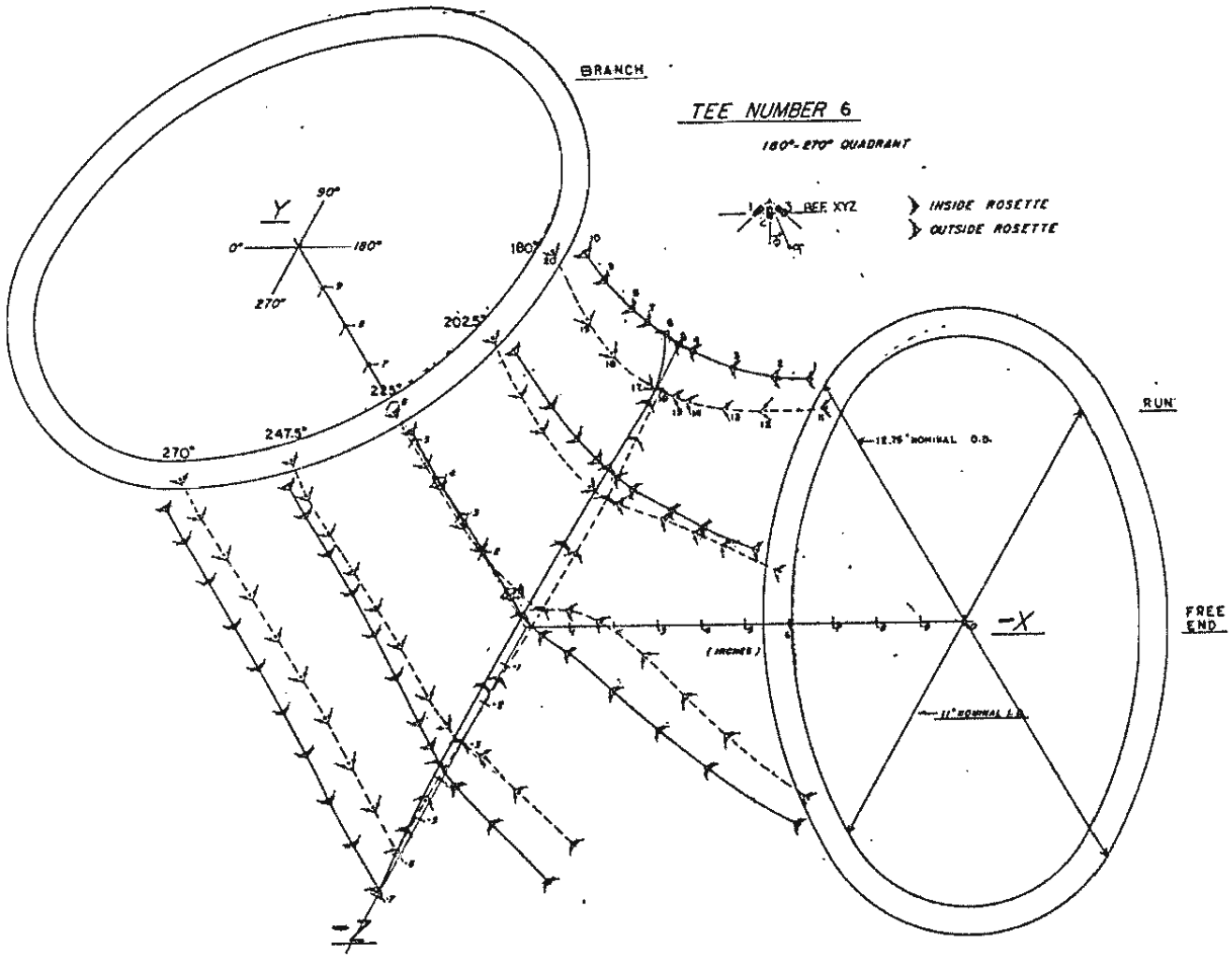


Figure III.4. Strain Gage Rosette Locations for the 180° - 270° Quadrant of T-6

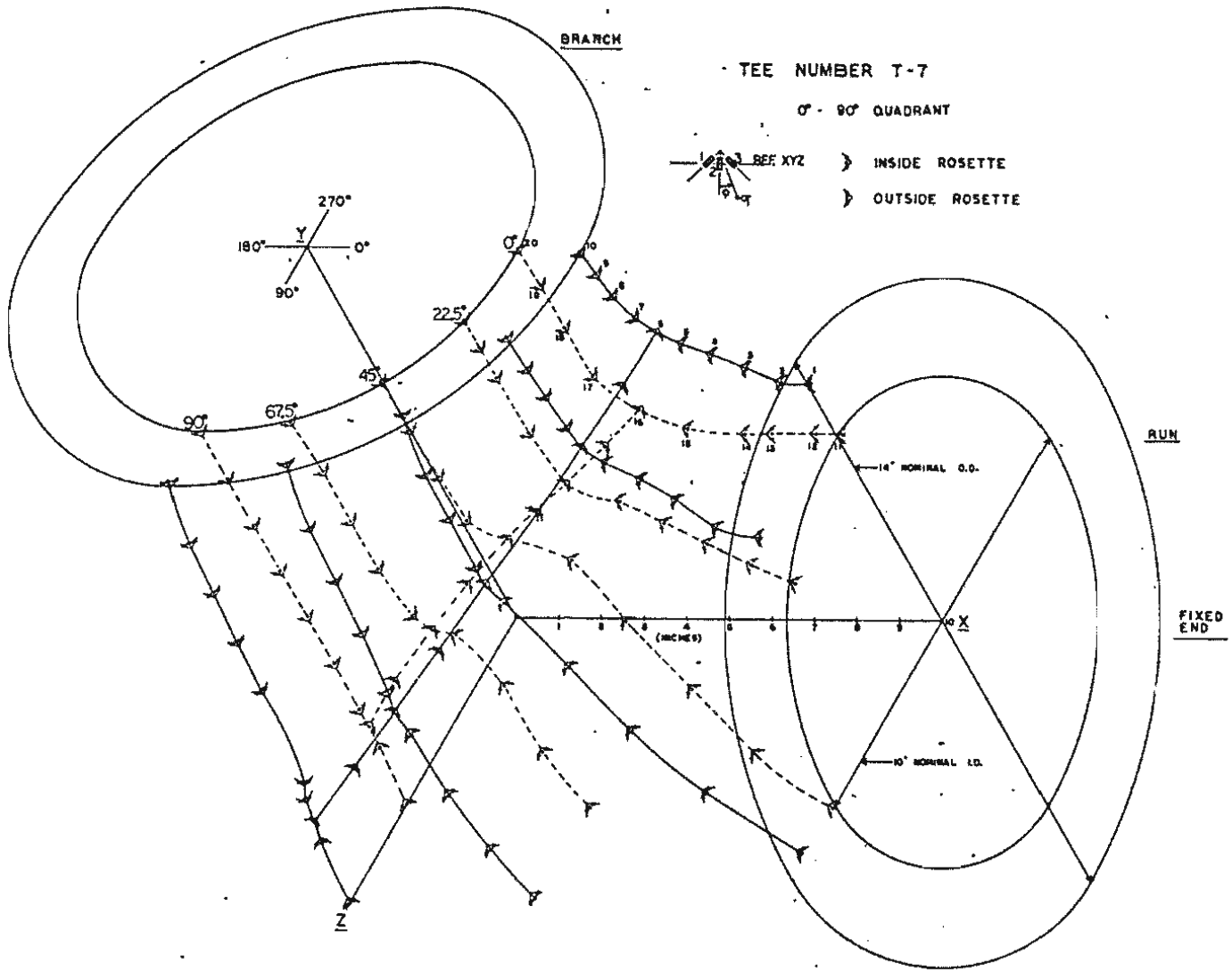


Figure III.5. Strain Gage Rosette Locations for the 0° - 90° Quadrant of T-7

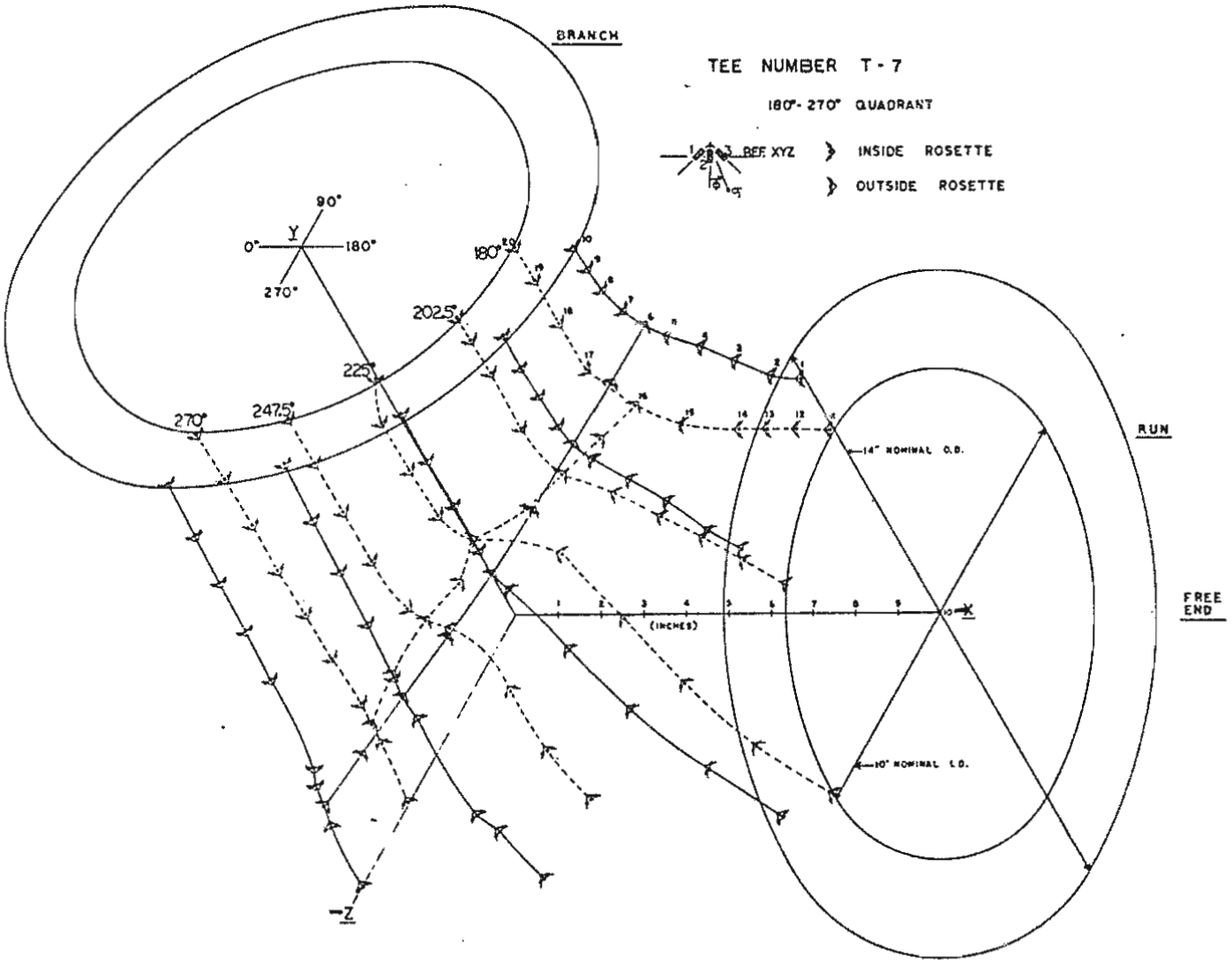


Figure III.6. Strain Gage Rosette Locations for the 180° - 270° Quadrant of T-7

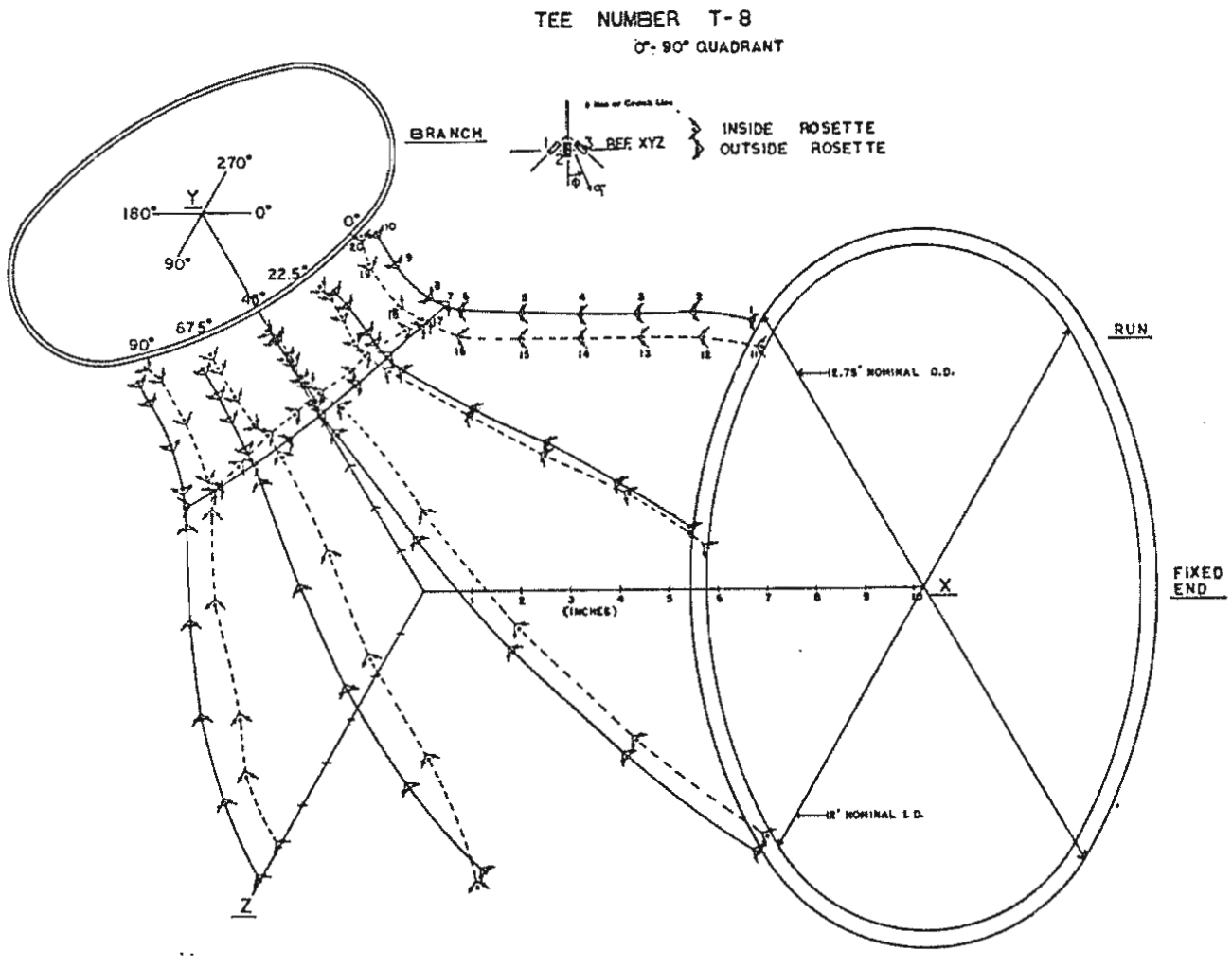


Figure III.7. Strain Gage Rosette Locations for the 0^{o} - 90^{o} Quadrant of T-8

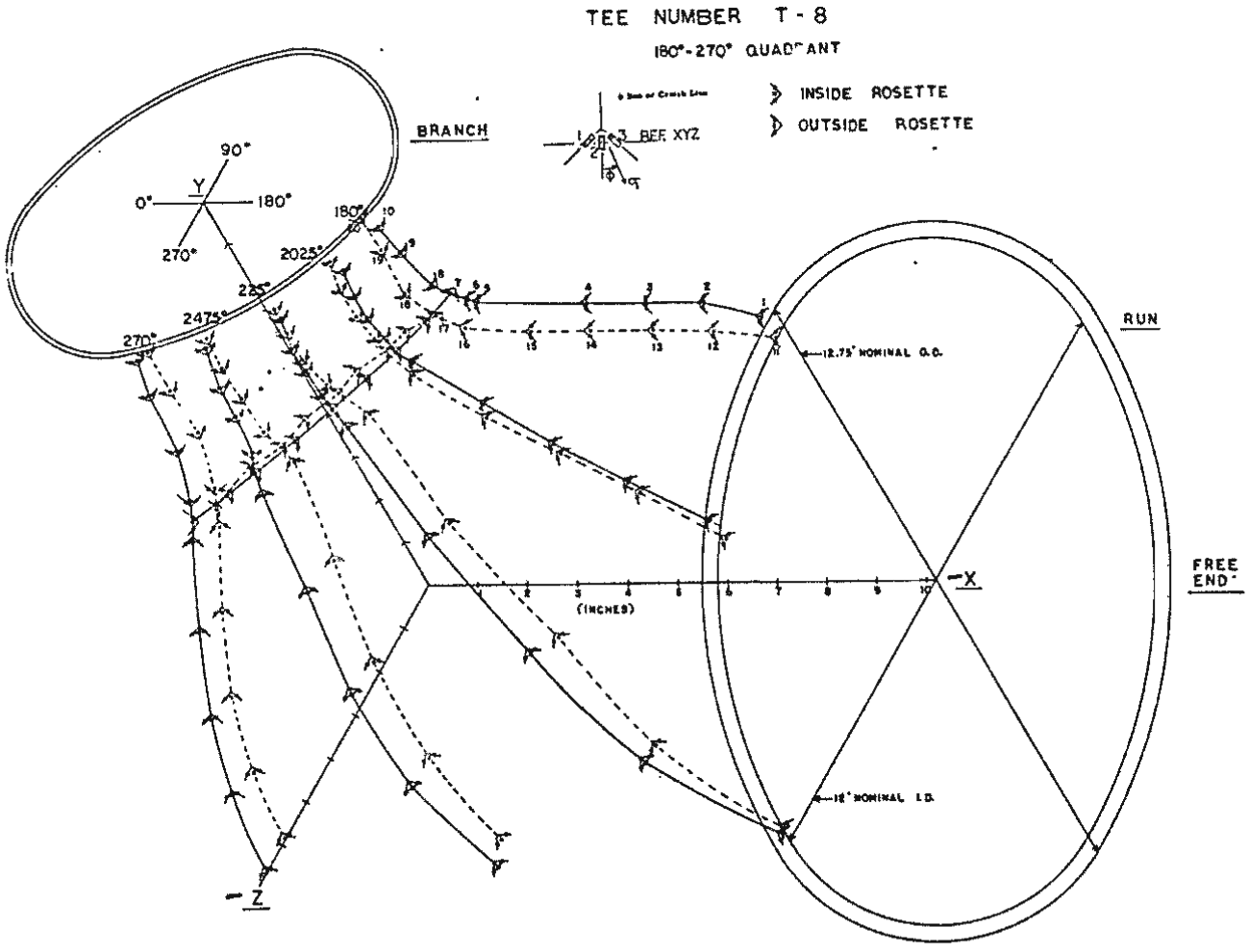


Figure III.8. Strain Gage Rosette Locations for the 180° - 270° Quadrant of T-8

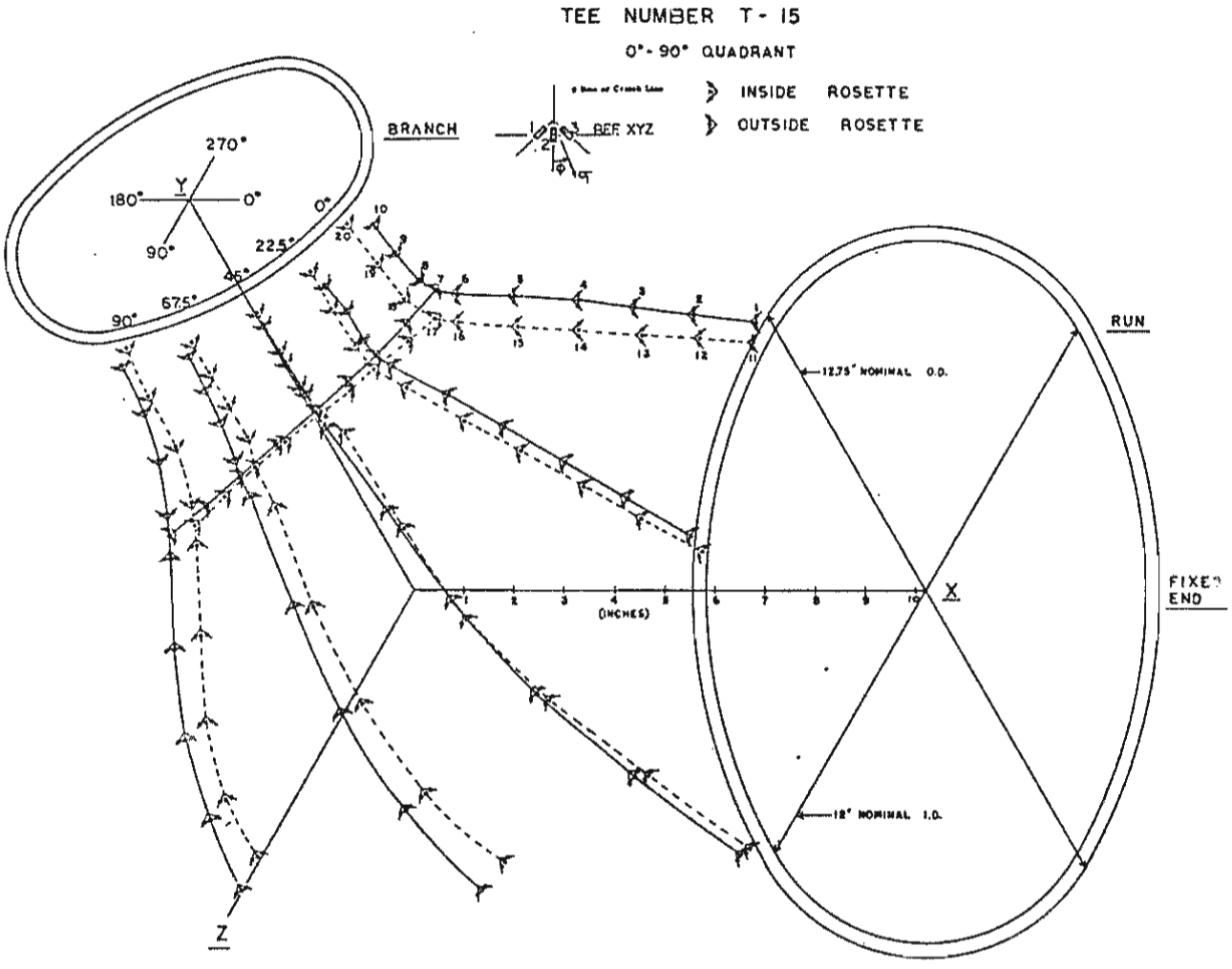


Figure III.9. Strain Gage Rosette Locations for the 0^{o} - 90^{o} Quadrant of T-15

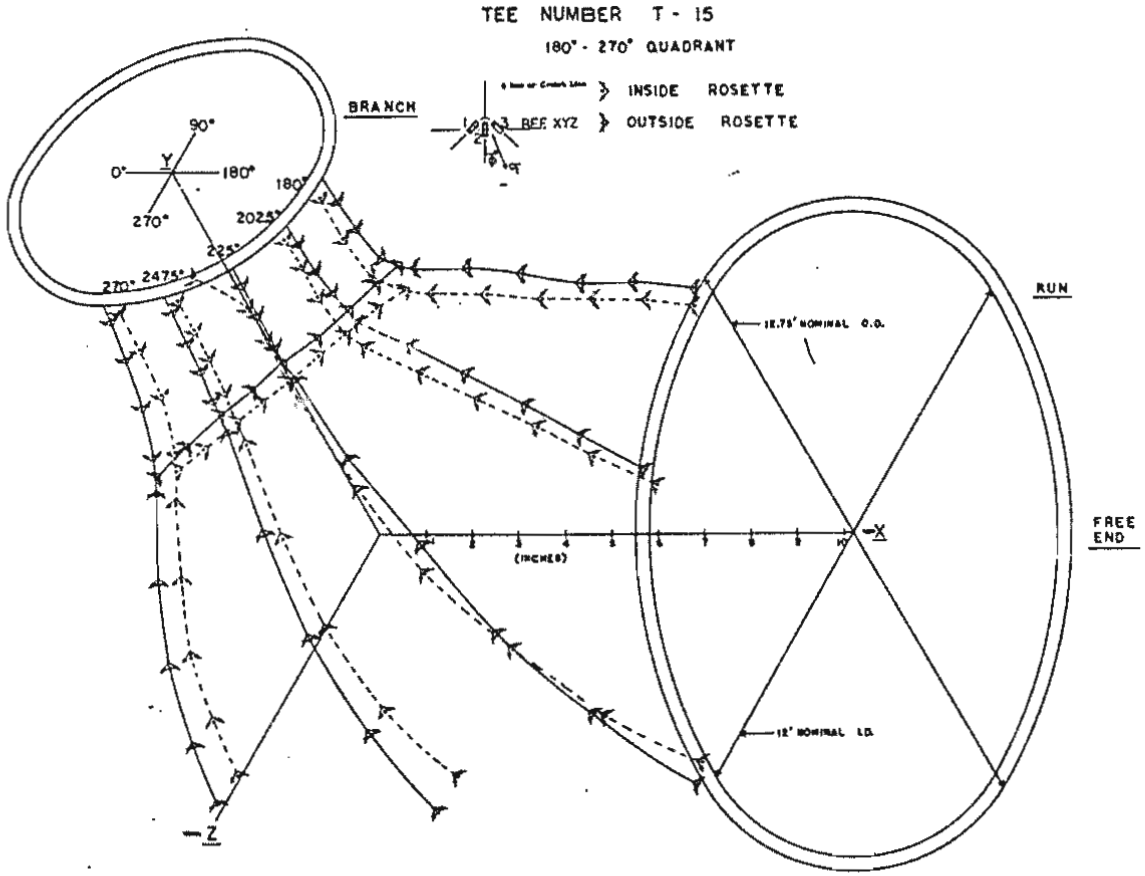


Figure III.10. Strain Gage Rosette Locations for the 180° - 270° Quadrant of T-15

Table III.1. XYZ Coordinates for Strain Gage Rosette Locations on A106B Tee #4

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
0	1	9.903	6.470	0.019	11	9.867	5.588	-0.075
	2	9.084	6.655	0.012	12	9.156	5.496	-0.038
	3	8.263	6.805	0.009	13	8.274	5.582	-0.005
	4	7.405	6.914	-0.009	14	7.373	5.713	0.007
	*5	6.921	7.105	-0.060	*15	6.145	6.265	0.008
	6	6.583	7.483	-0.038	16	5.702	7.384	0.009
	7	6.445	8.134	-0.028	17	5.676	8.087	0.008
	8	6.409	8.781	-0.019	18	5.836	8.768	0.014
	9	6.364	9.460	-0.004	19	5.799	9.444	0.014
	10	6.356	9.973	0.013	20	5.770	10.036	0.014
22.5	1	9.851	5.482	3.743	11	9.922	4.601	3.405
	2	9.073	5.799	3.491	12	9.071	4.676	3.056
	3	8.304	6.071	3.190	13	8.294	4.788	2.682
	4	7.500	6.270	2.862	14	7.543	4.987	2.370
	5	6.430	6.557	2.584	15	6.270	5.393	2.043
	*6	6.276	6.817	2.486	*16	5.605	5.772	2.110
	7	6.054	7.310	2.424	17	5.122	7.086	2.075
	8	6.003	8.200	2.399	18	5.022	8.179	2.090
	9	5.956	9.117	2.390	19	4.996	9.089	2.102
	10	5.944	9.952	2.323	20	4.992	10.099	2.065
45	1	9.830	0.759	6.679	11	9.536	0.619	5.808
	2	8.698	1.984	6.461	12	8.425	1.577	5.359
	3	7.540	3.179	6.174	13	7.572	2.507	5.051
	4	6.347	4.212	5.576	14	6.365	3.429	4.564
	5	5.155	5.195	4.893	15	5.384	4.152	4.080
	*6	4.821	5.529	4.792	*16	4.476	4.540	4.075
	7	4.718	5.998	4.681	17	4.086	6.036	3.964
	8	4.648	7.353	4.615	18	3.809	7.317	3.940
	9	4.625	8.716	4.548	19	3.817	8.692	3.940
	10	4.612	9.946	4.548	20	3.806	9.922	3.940

*Indicates Rosettes on the Crotch Line

Table III.1 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
67.5	1	4.210	0.016	6.910	11	4.375	0.040	5.877
	2	3.647	1.377	6.796	12	3.660	1.169	5.741
	3	3.090	2.703	6.525	13	3.086	2.112	5.502
	*4	2.806	3.361	6.354	*14	2.533	2.520	5.389
	5	2.755	4.094	6.197	15	2.254	4.026	5.179
	6	2.704	5.274	6.117	16	2.254	5.290	5.168
	7	2.667	6.459	6.050	17	2.067	6.352	5.163
	8	2.645	7.594	6.003	18	2.063	7.572	5.166
	9	2.621	8.841	-5.909	19	2.065	8.838	5.179
	10	2.618	9.964	-5.843	20	2.065	10.069	5.139
90	*1	-0.082	-0.130	6.918	*11	-0.160	-0.126	5.918
	2	0.012	1.107	6.909	12	-0.016	1.142	5.877
	3	0.017	2.210	6.891	13	-0.016	2.251	5.786
	4	0.024	3.332	6.860	14	-0.016	3.385	5.746
	5	0.030	4.464	6.781	15	0.012	4.496	5.698
	6	0.040	5.595	6.692	16	0.032	5.626	5.678
	7	0.040	6.711	6.630	17	0.050	6.749	5.672
	8	0.040	7.828	6.569	18	0.050	7.801	5.676
	9	0.080	8.949	6.497	19	0.050	8.933	5.671
	10	0.102	9.981	6.392	20	0.065	10.052	5.631
78	*1	1.432	1.720	6.826	*11	1.270	1.259	5.797
56	*1	3.870	4.525	5.720	*11	3.622	3.577	4.846
33	*1	5.616	6.266	3.740	*11	5.095	5.316	3.171
11	*1	6.681	7.127	1.240	*11	5.935	6.094	1.007
180	1	-10.232	6.425	-0.030	11	-10.193	5.639	0.049
	2	-9.381	6.585	-0.012	12	-9.365	5.535	0.058
	3	-8.531	6.694	0.005	13	-8.358	5.434	0.055
	4	-7.670	6.777	0.025	14	-7.269	5.645	0.036
	*5	-7.196	6.972	0.039	*15	-6.414	6.077	0.054
	6	-6.864	7.363	0.039	16	-5.792	6.881	0.010
	7	-6.666	8.047	0.036	17	-5.711	8.031	0.023
	8	-6.643	8.747	0.039	18	-5.711	8.710	0.033
	9	-6.571	9.365	0.025	19	-5.711	9.403	0.042
	10	-6.557	10.064	0.019	20	5.740	9.993	0.051

*Indicates Rosettes on the Crotch Line

Table III.1 -- Continued

Location φ Degrees	Rosette Number	Outside Surface X	Y	Z	Rosette Number	Inside Surface X	Y	Z
202.5	1	-10.187	5.254	-3.729	11	-10.222	4.360	-3.610
	2	-9.339	5.584	-3.515	12	-8.408	4.468	-3.277
	3	-8.495	5.837	-3.298	13	-7.624	4.564	-2.950
	4	-7.616	6.071	-3.113	14	-6.279	4.767	-2.676
	5	-6.773	6.314	-2.897	15	-5.648	5.215	-2.372
	*6	-6.340	6.553	-2.647	*16	-5.264	5.598	-2.377
	7	-6.124	7.051	-2.558	17	-5.227	7.083	-2.198
	8	-6.080	8.057	-2.533	18	-5.253	8.056	-2.196
	9	-6.043	9.126	-2.493	19	-5.253	9.039	-2.184
	10	-5.998	10.095	-2.493	20	-5.304	9.963	-2.208
225	1	-10.074	-0.354	-6.460	11	-10.156	-0.048	-6.618
	2	-8.954	1.052	-6.610	12	-8.937	0.082	-5.581
	3	-7.699	2.387	-6.324	13	-7.632	2.149	-5.083
	4	-6.445	3.655	-5.848	14	-6.387	3.353	-4.509
	5	-5.148	4.762	-5.110	15	-5.218	4.204	-3.866
	*6	-4.817	5.121	-5.004	*16	-4.394	4.484	-3.942
	7	-4.685	5.567	-4.842	17	-3.942	5.632	-4.102
	8	-4.592	7.029	-4.733	18	-4.242	7.038	-4.088
	9	-4.551	8.468	-4.651	19	-4.242	8.419	-4.060
	10	-4.522	10.146	-4.605	20	-4.029	9.766	-4.106
247.5	1	-3.881	-0.233	-6.841	11	-3.976	-0.191	-5.804
	2	-3.406	0.898	-6.758	12	-3.461	0.751	-5.740
	3	-2.933	1.989	-6.574	13	-2.999	1.840	-5.529
	*4	-2.631	2.704	-6.492	*14	-2.582	2.363	-5.389
	5	-2.592	3.424	-6.351	15	-2.134	3.332	-5.299
	6	-2.571	4.749	-6.206	16	-2.137	4.797	-5.263
	7	-2.542	6.094	-6.119	17	-2.073	6.092	-5.244
	8	-2.545	7.428	-6.024	18	-2.073	7.374	-5.233
	9	-2.528	8.808	-5.965	19	-2.073	8.750	-5.223
	10	-2.537	10.172	-5.891	20	-2.235	9.967	-5.265
270	*1	-0.140	-0.216	-6.858	*11	0.093	-0.321	-5.828
	2	-0.003	0.952	-6.812	12	-0.006	0.817	-5.841
	3	-0.009	2.096	-6.838	13	-0.006	2.024	-5.779
	4	-0.009	3.235	-6.794	14	0.019	3.168	-5.682
	5	-0.009	4.399	-6.691	15	-0.019	4.355	-5.656

*Indicates Rosettes on the Crotch Line

Table III.1 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
270	6	-0.009	5.540	-6.590	16	-0.019	5.436	-5.637
	7	-0.012	6.705	-6.499	17	-0.019	6.597	-5.632
	8	-0.012	7.782	-6.438	18	-0.019	7.726	-5.631
	9	-0.002	8.993	-6.375	19	-0.019	8.824	-5.636
	10	-0.002	10.196	-6.380	20	-0.019	10.050	-5.658
258	*1	-1.320	1.249	-6.769	*11	-1.281	1.136	-5.791
236	*1	-3.643	3.977	-5.904	*11	-3.467	3.504	-4.838
213	*1	-5.630	5.951	-3.951	*11	-5.103	5.116	-3.275
191	*1	-6.823	6.916	-1.384	*11	-6.092	5.850	-1.224

*Indicates Rosettes on the Crotch Line

All X and Y measurements referenced to 90^{o} + mark.

All Z measurements referenced to 0^{o} - mark.

Table III.2. XYZ Coordinates for Strain Gage Rosette Locations on A106B Tee #6

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
0	1	9.749	6.519	0.000	11	9.773	5.736	0.002
	2	8.953	6.601	0.080	12	8.377	5.742	-0.003
	3	8.274	6.848	0.013	13	7.591	5.760	-0.028
	4	7.773	7.117	0.017	14	6.892	6.028	-0.024
	5	7.510	7.312	0.025	15	6.615	6.263	-0.027
	*6	7.307	7.509	0.031	*16	6.371	6.493	-0.032
	7	7.118	7.738	0.039	17	6.192	6.681	0.038
	8	6.894	8.070	0.045	18	5.826	7.252	-0.013
	9	6.575	8.792	0.045	19	5.650	8.150	0.022
	10	6.472	9.825	0.028	20	5.712	9.853	0.035
22.5	1	9.712	5.322	3.784	11	9.772	4.613	3.470
	2	8.780	5.644	3.475	12	8.518	4.874	3.019
	3	7.918	5.977	3.213	13	7.821	5.013	2.768
	4	7.247	6.390	3.046	14	7.088	5.309	2.594
	5	6.864	6.683	2.988	15	6.244	5.893	2.514
	*6	6.668	6.870	2.967	*16	6.007	6.084	2.551
	7	6.497	7.159	2.864	17	5.853	6.242	2.512
	8	6.262	7.641	2.715	18	5.256	7.445	2.245
	9	6.029	8.477	2.571	19	5.157	8.319	2.201
	10	5.913	9.833	2.506	20	5.225	9.840	2.207
45	1	9.793	0.516	6.488	11	9.778	0.340	5.746
	2	8.366	1.992	6.322	12	8.256	1.865	5.438
	3	6.663	3.590	5.753	13	6.534	3.387	4.670
	4	5.790	4.386	5.380	14	5.697	4.162	4.361
	5	5.292	4.861	5.207	15	5.071	4.409	4.309
	*6	4.966	5.224	5.142	*16	4.663	4.582	4.393
	7	4.738	5.734	4.965	17	4.340	4.952	4.333
	8	4.682	6.806	4.786	18	3.915	6.771	4.096
	9	4.525	8.469	4.627	19	3.884	8.462	4.001
	10	4.427	9.846	4.548	20	3.900	9.840	4.006

*Indicates Rosettes on the Crotch Line

Table III.2 -- Continued

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
67.5	1	3.707	0.029	6.749	11	3.660	0.019	5.776
	2	3.148	1.407	6.702	12	3.081	1.353	5.736
	3	2.771	2.294	6.614	13	2.727	1.990	5.736
	*4	2.582	2.749	6.528	*14	2.394	2.325	5.641
	5	2.538	3.270	6.431	15	2.231	2.778	5.580
	6	2.523	3.771	6.353	16	2.139	3.681	5.455
	7	2.491	4.801	6.191	17	2.104	4.717	5.340
	8	2.463	5.819	6.116	18	2.089	5.789	5.290
	9	2.413	7.962	5.971	19	2.072	7.917	5.187
	10	2.365	9.850	5.808	20	2.080	9.844	5.137
90	*1	-0.130	-0.130	6.823	*11	-0.219	-0.121	5.855
	2	0.000	1.129	6.859	12	-0.089	1.088	5.907
	3	0.024	2.250	6.779	13	-0.089	2.213	5.831
	4	0.015	3.365	6.669	14	-0.076	3.319	5.739
	5	-0.005	4.478	6.639	15	-0.076	4.436	5.712
	6	-0.027	5.622	6.594	16	-0.067	5.544	5.682
	7	-0.022	6.729	6.494	17	-0.060	6.672	5.608
	8	-0.061	7.857	6.405	18	-0.054	7.783	5.580
	9	-0.078	8.968	6.310	19	-0.052	8.891	5.550
	10	-0.068	9.821	6.208	20	-0.079	9.839	5.535
78	*1	1.294	1.377	6.824	*11	1.181	1.195	5.887
56	*1	3.781	4.002	5.969	*11	3.588	3.507	5.130
33	*1	5.913	6.167	4.150	*11	5.394	5.421	3.590
11	*1	7.128	7.332	1.577	*11	6.312	6.402	1.278
180	1	-9.826	6.454	-0.031	11	-9.828	5.738	-0.077
	2	-9.058	6.473	-0.030	12	-8.442	5.713	-0.078
	3	-8.283	6.732	-0.038	13	-7.585	5.737	-0.063
	4	-7.536	7.203	-0.058	14	-6.864	5.945	-0.061
	5	-7.328	7.394	-0.058	15	-6.588	6.091	-0.058
	*6	-7.132	7.619	-0.055	*16	-6.348	6.289	-0.068
	7	-6.882	7.989	-0.040	17	-6.199	6.465	-0.056
	8	-6.723	8.362	-0.040	18	-5.723	7.255	-0.057
	9	-6.489	9.101	-0.041	19	-5.634	8.137	-0.057
	10	-6.415	9.826	-0.041	20	-5.676	9.865	-0.056

*Indicates Rosettes on the Crotch Line

Table III.2 -- Continued

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Number	X	Y	Z
202.5	1	-9.709	5.482	-3.616	11	-9.824	4.752	-3.379
	2	-8.674	5.796	-3.260	12	-8.571	4.998	-2.954
	3	-7.976	6.053	-3.075	13	-7.883	5.117	-2.711
	4	-7.183	6.436	-2.904	14	-7.186	5.337	-2.529
	5	-6.983	6.726	-2.865	15	-6.448	5.813	-2.486
	6	-6.785	6.917	-2.858	16	-6.162	5.933	-2.551
	*7	-6.627	7.189	-2.783	*17	-5.957	6.221	-2.543
	8	-6.388	7.642	-2.686	18	-5.349	7.518	-2.283
	9	-6.153	8.431	-2.581	19	-5.284	8.427	-2.251
	10	-6.001	9.833	-2.540	20	-5.309	9.836	-2.255
225	1	-9.807	1.006	-6.334	11	-9.757	1.113	-5.705
	2	-8.420	2.373	-6.186	12	-8.408	2.357	-5.317
	3	-6.748	3.854	-5.624	13	-6.832	3.670	-4.307
	4	-5.916	4.552	-5.284	14	-5.956	4.310	-4.196
	5	-5.485	4.967	-5.182	15	-5.422	4.601	-4.200
	*6	-5.128	5.333	-5.114	*16	-4.898	4.761	-4.302
	7	-5.010	5.836	-4.769	17	-4.580	5.153	-4.271
	8	-4.813	6.870	-4.764	18	-4.058	6.863	-4.108
	9	-4.683	8.376	-4.674	19	-4.058	8.493	-4.141
	10	-4.640	9.841	-4.630	20	-4.080	9.845	-4.145
247.5	1	-3.891	0.102	-6.801	11	-3.996	0.121	-5.847
	2	-3.300	1.523	-6.736	12	-3.392	1.448	-5.786
	3	-2.916	2.459	-6.638	13	-2.957	2.254	-5.656
	*4	-2.700	2.912	-6.532	*14	-2.588	2.598	-5.632
	5	-2.690	3.397	-6.460	15	-2.431	3.036	-5.560
	6	-2.637	3.898	-6.352	16	-2.300	3.693	-5.478
	7	-2.594	4.927	-6.207	17	-2.247	4.933	-5.345
	8	-2.555	5.973	-6.101	18	-2.240	5.964	-5.359
	9	-2.528	8.035	-6.077	19	-2.240	7.985	-5.396
	10	-2.530	9.840	-6.020	20	-2.257	9.843	-5.390
270	*1	0.119	-0.033	-6.829	*11	0.089	0.006	-5.863
	2	0.006	1.224	-6.859	12	-0.032	1.239	-5.913
	3	-0.008	2.335	-6.791	13	-0.032	2.353	-5.847
	4	-0.008	3.435	-6.685	14	-0.032	3.464	-5.770
	5	-0.008	4.502	-6.628	15	-0.026	4.557	-5.785

*Indicates Rosettes on the Crotch Line

Table III.2 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
270	6	-0.008	5.639	-6.617	16	-0.018	5.673	-5.805
	7	-0.008	6.720	-6.574	17	-0.018	6.773	-5.830
	8	-0.008	7.862	-6.552	18	-0.018	7.888	-5.854
	9	-0.008	8.850	-6.552	19	-0.012	8.980	-5.867
	10	-0.027	9.829	-6.552	20	-0.022	9.837	-5.842
258	*1	-1.363	1.515	-6.829	*11	-1.306	1.365	-5.884
236	*1	-3.953	4.179	-5.944	*11	-3.772	3.687	-5.113
213	*1	-6.054	6.234	-4.062	*11	-5.612	5.402	-3.515
191	*1	-7.274	7.293	-1.451	*11	-6.440	6.305	-1.400

*Indicates Rosettes on the Crotch Line

All X and Y measurements referenced to 90^{o} + mark.

All Z measurements referenced to 0^{o} - mark.

Table III.3. XYZ Coordinates for Strain Gage Rosette Locations 304L Tee #7

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
0	1	10.092	6.446	0.024	11	10.173	5.056	0.019
	2	9.395	6.411	0.011	12	9.521	5.056	0.023
	3	8.751	6.813	0.011	13	8.484	5.052	0.037
	4	8.123	7.191	0.008	14	7.850	5.054	0.038
	5	7.505	7.466	0.002	15	6.582	5.185	0.039
	*6	7.119	7.759	0.003	*16	5.684	5.692	0.023
	7	6.770	8.116	0.000	17	5.038	6.592	0.024
	8	6.545	8.766	0.000	18	5.036	7.895	0.025
	9	6.514	9.387	0.033	19	5.037	9.084	0.018
	10	6.451	10.006	0.037	20	4.995	9.992	-0.008
22.5	1	10.139	5.579	3.343	11	10.064	4.025	3.073
	2	9.100	5.700	3.213	12	8.976	4.239	2.757
	3	8.400	6.327	3.082	13	7.879	4.454	2.407
	4	7.613	6.641	2.877	14	6.780	4.630	2.036
	5	6.839	6.962	2.667	15	5.753	4.953	1.776
	*6	6.440	7.278	2.637	*16	4.836	5.567	1.907
	7	6.236	7.709	2.528	17	4.662	6.972	1.929
	8	6.061	8.461	2.462	18	4.664	8.438	1.917
	9	6.016	9.209	2.460	19	4.662	9.213	1.917
	10	5.951	10.038	2.440	20	4.647	9.993	1.919
45	1	10.183	0.188	6.436	11	9.973	-0.005	5.087
	2	8.881	2.047	6.740	12	8.707	1.301	4.913
	3	7.764	3.488	6.565	13	7.406	2.511	4.409
	4	6.471	4.557	5.901	14	6.138	3.544	3.632
	5	5.186	5.632	5.247	15	4.932	4.441	2.871
	*6	4.844	6.016	5.182	*16	3.966	5.217	3.100
	7	4.746	6.462	5.048	17	3.622	6.137	3.507
	8	4.647	7.618	4.939	18	3.557	7.369	3.565
	9	4.606	8.783	4.891	19	3.557	8.645	3.565
	10	4.561	10.038	4.550	20	3.562	9.995	3.598

*Indicates Rosettes on the Crotch Line

Table III.3 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
67.5	1	4.288	0.010	7.580	11	4.308	-0.012	5.112
	2	3.792	1.223	7.480	12	3.748	1.309	4.911
	3	3.291	2.441	7.226	13	3.184	2.525	4.412
	4	2.761	3.647	6.832	14	2.586	3.791	4.275
	*5	2.572	4.120	6.724	*15	2.279	4.140	4.442
	6	2.552	4.592	6.606	16	2.088	4.586	4.558
	7	2.526	5.937	6.435	17	1.969	5.937	4.639
	8	2.526	7.301	6.356	18	1.982	7.278	4.637
	9	2.526	8.642	6.284	19	1.977	8.589	4.637
	10	2.522	10.038	5.898	20	1.965	9.991	4.708
90	1	0.000	0.000	7.734	11	-0.019	-0.009	5.070
	2	0.007	1.495	7.576	12	0.003	1.441	4.967
	*3	0.007	0.969	7.481	*13	0.003	0.957	4.967
	4	0.016	2.480	7.375	14	0.008	2.426	4.967
	5	0.021	2.703	7.182	15	0.007	3.685	4.963
	6	0.021	4.951	6.999	16	0.012	4.943	4.982
	7	0.034	6.210	6.913	17	0.012	6.205	5.002
	8	0.029	7.452	6.847	18	0.012	7.467	5.008
	9	0.029	8.700	6.777	19	0,028	8.719	5.013
	10	0.025	10.036	6.398	20	0.017	9.990	5.006
11	*1	6.932	7.624	1.363	*11	5.381	5.687	1.027
33	*1	5.740	6.721	3.869	*11	4.364	5.402	2.518
56	*1	3.754	5.108	6.057	*11	3.162	4.789	3.908
78	*1	1.317	3.071	7.181	*11	1.100	3.098	4.844
180	1	-9.914	6.397	0.001	11	-9.946	5.031	-0.043
	2	-9.281	6.490	-0.012	12	-9.130	5.032	-0.045
	3	-8.639	6.859	-0.012	13	-8.442	5.036	-0.039
	4	-8.007	7.228	-0.012	14	-7.805	5.036	-0.032
	5	-7.379	7.511	-0.015	15	-6.509	5.160	-0.014
	*6	-6.954	7.822	-0.015	*16	-5.642	5.686	-0.019
	7	-6.632	8.229	-0.034	17	-4.960	6.637	-0.019
	8	-6.448	8.810	-0.031	18	-4.960	7.895	-0.012
	9	-6.407	9.413	0.027	19	-4.964	9.031	-0.005
	10	-6.406	10.013	0.040	20	-4.994	9.994	-0.006

*Indicates Rosettes on the Crotch Line

Table III.3 -- Continued

Location								
		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
202.5	1	-9.835	5.339	-3.558	11	-9.888	3.912	-3.132
	2	-9.148	5.624	-3.359	12	-8.860	4.189	-2.741
	3	-8.319	6.269	-3.200	13	-7.806	4.418	-2.381
	4	-7.491	6.602	-2.953	14	-6.709	4.611	-1.979
	5	-6.661	6.938	-2.709	15	-5.648	4.965	-1.669
	*6	-6.290	7.226	-2.668	*16	-4.769	5.582	-1.772
	7	-6.089	7.669	-2.553	17	-4.568	6.983	-1.899
	8	-5.961	8.422	-2.493	18	-4.568	8.461	-1.899
	9	-5.928	9.184	-2.472	19	-4.562	9.357	-1.899
	10	-5.916	10.018	-2.440	20	-4.588	9.995	-1.904
225	1	-9.838	-0.860	-6.346	11	-9.965	-0.022	-4.981
	2	-8.807	2.190	-6.384	12	-8.680	1.274	-4.831
	3	-7.583	3.580	-6.178	13	-7.373	2.467	-4.354
	4	-6.343	4.598	-5.559	14	-6.072	3.485	-3.602
	5	-5.081	5.580	-4.881	15	-4.750	4.457	-2.794
	*6	-4.798	5.954	-4.808	*16	-3.204	5.207	-3.205
	7	-4.689	6.429	-4.676	17	-2.970	6.189	-3.479
	8	-4.613	7.606	-4.596	18	-2.952	7.451	-3.503
	9	-4.562	8.795	-4.559	19	-2.952	8.709	-3.503
	10	-4.540	10.018	-4.524	20	-3.498	9.993	-3.564
247.5	1	-4.289	0.000	-7.196	11	-4.238	-0.007	-4.985
	2	-3.778	1.230	-7.064	12	-3.748	1.194	-4.849
	3	-3.258	1.457	-6.840	13	-3.266	2.369	-4.411
	4	-2.735	3.621	-6.458	14	-2.496	3.896	-4.224
	*5	-2.531	4.114	-6.343	*15	-2.177	4.253	-4.389
	6	-2.503	4.574	-6.249	16	-2.010	4.686	-4.489
	7	-2.489	5.915	-6.108	17	-1.907	6.037	-4.574
	8	-2.489	7.267	-6.045	18	-1.908	7.387	-4.572
	9	-2.489	8.630	-5.983	19	-1.917	8.726	-4.585
	10	-2.497	10.018	-5.894	20	-1.930	9.991	-4.647
270	1	0.010	0.000	-7.287	11	0.002	0.022	-5.033
	2	0.010	1.495	-7.196	12	0.008	1.469	-4.874
	*3	0.013	1.985	-7.094	*13	0.009	1.954	-4.874
	4	0.013	2.469	-6.997	14	0.027	2.491	-4.872
	5	0.007	2.714	-6.810	15	0.027	3.784	-4.920

*Indicates Rosettes on the Crotch Line

Table III.3 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
270	6	0.007	4.963	-6.665	16	0.027	4.990	-4.955
	7	0.007	6.196	-6.573	17	0.027	6.234	-4.994
	8	0.007	7.473	-6.550	18	0.023	7.485	-4.994
	9	0.006	8.719	-6.492	19	0.019	8.729	-5.003
	10	-0.017	10.008	-6.402	20	-0.012	9.990	-5.055
191	*1	-6.734	7.630	-1.379	*11	-5.291	5.693	-0.935
213	*1	-5.622	6.656	-3.827	*11	-4.256	5.408	-2.539
256	*1	-3.716	5.070	-5.672	*11	-2.992	4.786	-3.910
258	*1	-1.291	3.062	-6.790	*11	-1.049	3.193	-4.759

*Indicates Rosettes on the Crotch Line

All X and Y measurements referenced to 90^{o} + mark.

All Z measurements referenced to 0^{o} - mark.

Table III.4. XYZ Coordinates for Strain Gage Rosette Locations on TP 304L Tee #8

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
0	1	9.966	6.373	0.011	11	9.967	5.878	0.098
	2	8.863	6.580	0.046	12	8.746	5.973	0.081
	3	7.742	6.577	0.039	13	7.506	5.977	0.069
	4	6.608	6.606	0.073	14	6.288	5.978	0.031
	5	5.437	6.650	0.090	15	5.073	5.977	0.010
	6	4.290	6.743	0.112	16	3.864	6.044	0.068
	*7	3.951	6.840	0.112	*17	3.310	6.388	0.050
	8	3.705	7.071	0.112	18	2.972	6.821	0.085
	9	3.459	7.851	0.128	19	2.924	7.838	0.037
	10	3.331	8.450	0.128	20	3.006	8.409	0.038
22.5	1	9.982	5.178	3.645	11	9.991	4.646	3.676
	2	8.449	5.718	3.210	12	8.262	5.201	3.026
	3	6.870	6.024	2.593	13	6.483	5.538	2.372
	4	5.298	6.338	2.049	14	4.694	5.793	1.657
	5	3.718	6.661	1.455	15	3.032	6.329	1.150
	*6	3.415	6.896	1.376	*16	2.732	6.708	1.106
	7	3.285	7.211	1.316	17	2.699	7.026	1.101
	8	3.196	7.368	1.255	18	2.691	7.551	1.085
	9	3.175	8.073	1.291	19	2.707	8.098	1.165
	10	3.080	8.408	1.262	20	2.755	8.414	1.229
45	1	10.070	0.212	6.327	11	10.034	0.167	6.001
	2	8.281	2.195	6.119	12	8.140	2.031	5.615
	3	6.471	3.914	5.371	13	6.172	3.744	4.681
	4	4.624	5.295	4.118	14	4.218	5.060	3.265
	5	2.752	6.388	2.666	15	2.537	6.356	1.983
	*6	2.535	6.707	2.568	*16	2.154	6.670	1.931
	7	2.514	7.008	2.480	17	2.097	6.938	1.986
	8	2.411	7.494	2.408	18	2.070	7.479	2.000
	9	2.411	8.002	2.381	19	2.081	8.055	2.132
	10	2.343	8.402	2.340	20	2.114	8.393	2.162

*Indicates Rosettes on the Crotch Line

Table III.4 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
67.5	1	4.585	0.005	6.664	11	4.567	0.029	5.951
	2	3.809	1.803	6.450	12	3.804	1.775	5.705
	3	3.053	3.431	5.798	13	3.047	3.335	4.962
	4	2.285	4.822	4.762	14	2.310	4.662	3.826
	5	1.488	6.055	3.495	15	1.500	5.962	2.766
	*6	1.361	6.355	3.347	*16	1.265	6.293	2.578
	7	1.321	6.658	3.241	17	1.183	6.617	2.630
	8	1.276	7.274	3.143	18	1.120	7.277	2.639
	9	1.308	7.868	3.108	19	1.107	7.922	2.632
	10	1.291	8.402	3.047	20	1.167	8.384	2.828
90	1	0.000	0.000	6.779	11	0.019	0.000	5.998
	2	0.010	1.614	6.600	12	0.012	1.504	5.831
	3	0.012	3.085	6.050	13	0.004	2.892	5.295
	4	0.022	4.415	5.199	14	0.014	4.135	4.444
	5	0.002	5.579	4.083	15	0.015	5.252	3.412
	*6	0.002	5.859	3.859	*16	0.023	5.529	3.191
	7	0.009	6.149	3.690	17	0.007	5.832	3.091
	8	0.010	6.924	3.427	18	0.023	6.963	2.863
	9	0.010	7.895	3.341	19	0.020	7.968	2.858
	10	0.533	8.398	3.327	20	0.040	8.398	3.066
78	*1	0.710	6.115	3.610	*11	0.646	5.920	2.924
56	*1	1.968	6.516	2.953	*11	1.857	6.535	2.307
33	*1	3.005	6.814	1.988	*11	2.668	6.713	1.544
11	*1	3.760	6.920	0.620	*11	3.134	6.591	0.394
180	1	-10.043	6.366	-0.032	11	-10.006	5.863	-0.099
	2	-8.866	6.562	-0.004	12	-8.788	5.931	-0.002
	3	-7.705	6.548	-0.010	13	-7.532	5.936	-0.015
	4	-6.521	6.553	-0.010	14	-6.280	5.958	-0.015
	5	-4.376	6.619	-0.012	15	-5.035	5.954	-0.015
	6	-4.215	6.700	-0.017	16	-3.781	6.041	-0.001
	*7	-3.900	6.823	-0.023	*17	-3.320	6.336	-0.007
	8	-3.666	7.062	-0.051	18	-2.996	6.829	-0.015
	9	-3.434	7.827	-0.063	19	-3.029	7.889	-0.030
	10	-3.343	8.487	-0.096	20	-3.018	8.647	-0.046

*Indicates Rosettes on the Crotch Line

Table III.4 -- Continued

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
202.5	1	-10.016	5.088	-3.778	11	-10.035	4.555	-3.588
	2	-8.451	5.638	-3.263	12	-8.359	5.152	-3.097
	3	-6.893	5.989	-2.644	13	-6.648	5.483	-2.478
	4	-5.308	6.306	-2.013	14	-4.964	5.738	-1.824
	5	-3.714	6.641	-1.384	15	-3.315	6.074	-1.135
	*6	-3.468	6.841	-1.321	*16	-2.923	6.504	-1.037
	7	-3.304	7.103	-1.258	17	-2.808	6.774	-0.999
	8	-3.223	7.585	-1.257	18	-2.781	7.361	-1.028
	9	-3.193	8.024	-1.281	19	-2.768	8.003	-1.072
	10	-3.118	8.497	-1.128	20	-2.791	8.585	-1.018
225	1	-10.021	0.046	-6.269	11	-9.954	0.088	-5.767
	2	-8.311	1.916	-6.110	12	-8.284	1.838	-5.643
	3	-6.591	3.718	-5.378	13	-6.795	3.530	-4.823
	4	-4.687	5.192	-4.124	14	-4.571	4.903	-3.458
	5	-2.835	6.342	-2.613	15	-2.736	5.975	-1.912
	*6	-2.614	6.646	-2.492	*16	-2.327	6.400	-1.868
	7	-2.528	6.951	-2.438	17	-2.214	6.652	-1.917
	8	-2.472	7.461	-2.415	18	-2.139	7.305	-2.018
	9	-2.444	8.004	-2.407	19	-2.130	7.963	-2.020
	10	-2.389	8.500	-2.392	20	-2.143	8.501	-1.987
247.5	1	-4.621	0.025	-6.572	11	-4.371	0.028	-5.919
	2	-3.619	1.634	-6.329	12	-3.666	1.705	-5.683
	3	-2.937	3.229	-5.764	13	-2.985	3.220	-4.970
	4	-2.213	4.589	-4.759	14	-2.300	4.508	-3.918
	5	-1.488	5.860	-3.573	15	-1.558	5.714	-2.804
	*6	-1.350	6.178	-3.491	*16	-1.360	5.970	-2.709
	7	-1.309	6.466	-3.324	17	-1.174	6.289	-2.681
	8	-1.266	7.145	-3.185	18	-1.099	7.058	-2.688
	9	-1.287	7.834	-3.178	19	-1.114	7.810	-2.702
	10	-1.281	8.539	-3.196	20	-1.124	8.485	-2.661
270	1	-0.068	0.002	-6.630	11	-0.016	0.066	-5.913
	2	-0.053	1.596	-6.425	12	-0.026	1.424	-5.721
	3	-0.034	2.926	-5.972	13	-0.040	2.752	-5.291
	4	-0.018	4.156	-5.189	14	-0.052	3.904	-4.514
	5	-0.009	5.305	-4.250	15	-0.063	4.987	-3.629

*Indicates Rosettes on the Crotch Line

Table III.4 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
270	*6	-0.007	5.571	-4.020	*16	-0.063	5.247	-3.436
	7	-0.007	5.833	-3.833	17	-0.062	5.539	-3.226
	8	-0.013	6.690	-3.487	18	-0.055	6.520	-2.902
	9	-0.012	7.915	-3.383	19	-0.030	7.564	-2.925
	10	-0.020	8.551	-3.196	20	-0.001	8.425	-2.885
258	*1	-0.737	5.890	-3.772	*11	-0.628	5.695	-2.904
236	*1	-2.031	6.435	-3.021	*11	-1.757	6.221	-2.344
213	*1	-3.084	6.767	-1.924	*11	-2.472	6.465	-1.431
191	*1	-3.742	6.876	-0.693	*11	-3.062	6.464	-0.531

*Indicates Rosettes on the Crotch Line

All X and Y measurements referenced to 90° + mark.

All Z measurements references to 0° - mark.

Table III.5. XYZ Coordinates for Strain Gage Rosette Locations on TP 304L Tee #15

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
0	1	10.010	6.315	0.154	11	9.764	5.873	0.152
	2	8.820	6.447	0.120	12	8.759	6.006	0.182
	3	7.688	6.581	0.080	13	7.585	5.999	0.152
	4	6.548	6.740	0.062	14	6.383	6.111	0.121
	5	5.403	6.807	0.030	15	5.182	6.153	0.104
	6	4.254	6.811	0.000	16	3.996	6.224	0.074
	*7	3.869	6.893	0.014	*17	3.641	6.286	0.060
	8	3.628	7.130	0.014	18	3.110	6.711	0.029
	9	3.488	7.759	0.023	19	3.029	7.554	0.029
	10	3.356	8.422	0.012	20	2.871	8.427	0.009
22.5	1	9.943	5.060	3.809	11	9.894	4.608	3.693
	2	8.699	5.501	3.428	12	8.654	4.987	3.345
	3	7.450	5.918	3.002	13	7.394	5.267	2.882
	4	6.186	6.289	2.559	14	6.116	5.591	2.426
	5	4.923	6.515	2.055	15	4.842	5.811	1.935
	6	3.688	6.705	1.574	16	3.576	6.046	1.444
	*7	3.410	6.911	1.501	*17	3.029	6.386	1.311
	8	3.265	7.187	1.418	18	2.806	6.860	1.230
	9	3.222	7.832	1.384	19	2.796	7.687	1.216
	10	3.106	8.436	1.306	20	2.742	8.494	1.183
45	1	9.858	0.316	6.415	11	9.692	0.216	5.972
	2	8.477	1.927	6.247	12	8.371	1.567	5.855
	3	7.087	3.450	5.854	13	6.828	2.887	5.445
	4	5.654	4.714	4.986	14	5.397	4.033	4.700
	5	4.193	5.679	3.865	15	4.052	5.021	3.595
	6	2.838	6.451	2.753	16	2.732	5.934	2.326
	*7	2.646	6.724	2.638	*17	2.358	6.280	2.207
	8	2.562	7.031	2.541	18	2.183	6.844	2.163
	9	2.496	7.743	2.478	19	2.171	7.671	2.158
	10	2.390	8.466	2.379	20	2.131	8.496	2.107

*Indicates Rosettes on the Crotch Line

Table III.5 -- Continued

Location		Outside Surface				Inside Surface		
ϕ Degrees	Rosette Number	X	Y	Z	Rosette Number	X	Y	Z
67.5	1	4.840	-0.035	6.928	11	4.927	-0.069	6.274
	2	4.044	1.667	6.778	12	4.019	1.462	6.178
	3	3.228	3.283	6.140	13	3.158	2.920	5.558
	4	2.423	4.665	5.058	14	2.357	4.196	4.598
	5	1.598	5.935	3.809	15	1.596	5.341	3.464
	*6	1.433	6.240	3.652	*16	1.299	5.895	3.099
	7	1.391	6.571	3.506	17	1.235	6.370	2.862
	8	1.355	7.213	3.307	18	1.199	7.078	2.810
	9	1.323	7.859	3.228	19	1.190	7.789	2.809
	10	1.274	8.493	3.110	20	1.218	8.447	2.765
90	1	0.000	0.000	6.910	11	0.000	0.895	6.204
	2	0.005	1.477	6.768	12	-0.038	1.335	6.157
	3	0.016	2.893	6.351	13	-0.046	2.666	5.718
	4	0.020	4.137	5.519	14	-0.046	3.853	4.889
	5	0.036	5.250	4.535	15	-0.034	4.948	3.923
	*6	0.037	5.524	4.314	*16	-0.026	5.101	3.713
	7	0.043	5.826	4.106	17	-0.025	5.506	3.496
	8	0.060	6.605	3.688	18	-0.010	6.415	3.153
	9	0.071	7.573	3.488	19	-0.004	7.540	3.094
	10	0.061	8.508	3.339	20	-0.003	8.507	2.990
11	*1	3.678	6.934	0.833	*11	3.384	6.368	0.684
33	*1	3.080	6.855	2.050	*11	2.749	6.349	1.785
56	*1	2.070	6.532	3.183	*11	1.826	6.130	2.731
78	*1	0.716	5.907	4.004	*11	0.674	5.576	3.435
180	1	-9.983	6.267	-0.124	11	-9.778	5.798	-0.143
	2	-8.770	6.400	-0.124	12	-8.798	5.935	-0.124
	3	-7.626	6.379	-0.129	13	-7.632	5.939	-0.114
	4	-6.484	6.609	-0.122	14	-6.512	5.953	-0.114
	5	-5.344	6.710	-0.118	15	-5.375	6.044	-0.113
	6	-4.195	6.723	-0.124	16	-4.211	6.047	-0.105
	*7	-3.842	.801	-0.125	*17	-3.639	6.177	-0.102
	8	-3.555	7.031	-0.134	18	-3.100	6.530	-0.095
	9	-3.398	7.729	-0.130	19	-2.936	7.484	-0.094
	10	-3.305	8.397	-0.124	20	-2.920	8.429	-0.072

*Indicates Rosettes on the Crotch Line

Table III.5 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
202.5	1	-9.997	5.085	-3.506	11	-9.978	4.598	-3.408
	2	-8.680	5.534	-3.111	12	-8.640	5.031	-3.055
	3	-7.404	5.829	-2.672	13	-7.331	5.277	-2.636
	4	-6.149	6.254	-2.301	14	-6.008	5.540	-2.225
	5	-4.870	6.499	-1.844	15	-4.703	5.789	-1.813
	6	-3.585	6.651	-1.398	16	-3.395	5.993	-1.381
	*7	-3.344	6.819	-1.296	*17	-2.991	6.233	-1.298
	8	-3.173	7.227	-1.252	18	-2.689	6.990	-1.102
	9	-3.121	7.810	-1.263	19	-2.709	7.749	-1.102
	10	-3.037	8.425	-1.214	20	-2.885	8.407	-1.110
225	1	-9.946	0.034	-6.235	11	-9.870	0.109	-5.774
	2	-8.532	1.706	-6.193	12	-8.356	1.246	-5.771
	3	-7.133	3.237	-5.737	13	-6.797	2.515	5.352
	4	-5.663	4.587	-4.886	14	-5.226	3.778	-4.758
	5	-4.160	5.606	-3.773	15	-3.808	4.821	-3.732
	6	-2.742	6.432	-2.596	16	-2.457	5.781	-2.496
	*7	-2.519	6.738	-2.506	*17	-2.216	6.068	-2.321
	8	-2.455	7.057	-2.407	18	-2.057	6.966	-2.096
	9	-2.391	7.790	-2.326	19	-2.056	7.725	-2.096
	10	-2.322	8.446	-2.272	20	-1.171	8.397	-2.041
247.5	1	-4.779	0.076	-6.864	11	-4.715	0.054	-6.111
	2	-3.976	0.681	-6.629	12	-3.868	1.535	-5.932
	3	-3.176	3.365	-5.975	13	-3.008	3.004	-5.368
	4	-2.374	4.796	-4.845	14	-2.231	4.275	-4.388
	5	-1.586	6.049	-3.587	15	-1.482	5.440	-3.263
	*6	-1.456	6.350	-3.448	*16	-1.288	5.795	-3.026
	7	-1.396	6.654	-3.338	17	-1.202	6.316	-2.788
	8	-1.337	7.243	-3.167	18	-1.175	7.069	-2.695
	9	-1.295	7.855	-3.100	19	-1.181	7.744	-2.694
	10	-1.223	8.479	-2.961	20	-1.231	8.379	-2.634
270	1	-0.002	0.124	-6.820	11	-0.062	0.079	-6.096
	2	-0.022	1.377	-6.627	12	-0.065	1.241	-5.940
	3	-0.028	2.867	-6.221	13	-0.051	2.532	-5.608
	4	-0.046	4.140	-5.397	14	-0.058	3.687	-4.882
	5	-0.054	6.313	-4.404	15	-0.046	4.739	-4.024

*Indicates Rosettes on the Crotch Line

Table III.5 -- Continued

Location								
ϕ	Rosette	Outside Surface			Rosette	Inside Surface		
Degrees	Number	X	Y	Z	Number	X	Y	Z
270	*6	-0.059	5.551	-4.100	*16	-0.046	5.137	-3.618
	7	-0.059	5.640	-3.962	17	-0.044	5.438	-3.435
	8	-0.040	6.699	-3.594	18	-0.030	6.418	-3.015
	9	-0.015	7.572	-3.378	19	-0.041	7.476	-2.931
	10	-0.068	8.489	-3.233	20	-0.053	8.386	-2.879
191	*1	-3.611	6.854	-0.620	*11	-3.348	6.234	-0.590
213	*1	-2.988	6.820	-1.940	*11	-2.658	6.195	-1.808
236	*1	-2.037	6.578	-3.023	*11	-1.761	5.959	-2.702
258	*1	-0.720	5.968	-3.814	*11	-0.608	5.464	-3.371

*Indicates Rosettes on the Crotch Line

All X and Y measurements referenced to 90° + mark.

All Z measurements references to 0° - mark.

APPENDIX IV

WELDING PROCEDURE SPECIFICATION

SwRI PROCEDURE FOR LIQUID PENETRANT INSPECTION OF CLASS I NUCLEAR PIPING (PROCEDURE NO. P-1)

Scope

This procedure shall satisfy Paragraph 1-727.4.2.(c) 2 of USAS B31.7 for the penetrant inspection of critical circumferential welds in the scheduled test models. Acceptance standards shall be in accordance with Appendix B-4 of USAS B31.7.

This procedure shall also satisfy Paragraph 1-724.2.1 of USAS B31.7 for the penetrant inspection of welded base material in the scheduled test models. Acceptance standards shall be in accordance with Paragraph 1-724.1.4 of USAS B31.7.

Procedure

The test procedure shall be performed in accordance with Appendix B-4 of USAS B31.7 with penetration and development times as recommended in Procedure B-3 of ASTM E 165.

1. Method - A visible red dye penetrant method utilizing a solvent-removable penetrant free of chlorine and sulfur will be used with a volatile liquid suspended developer.

2. Surface Preparation - The surface to be inspected shall be ground flush with the surrounding material contour and shall be cleaned with Spotcheck Cleaner, Type SKC-S applied from a pressurized container. This cleaning will be completed when the surface to be inspected no longer contains dirt, lint, grease, scale, oil, or any other extraneous matter that would interfere with the test.

3. Drying - Prior to the application of the penetrant, the surface must be dry. After cleaning the surface with the volatile solvent cleaner, a period of five minutes shall elapse before applying the penetrant to allow for the evaporation of the cleaner. Should it be necessary to facilitate evaporation, a heat gun (set on "cold") may be utilized.

4. Penetrant Application - The penetrant, Spotcheck Penetrant, Type SKL-HF shall be sprayed or brushed on the area being inspected. In either case, the penetrant will be taken from a pressurized container to insure its purity. The penetrant will be allowed to "dwell" on the inspection surface for a period of twenty minutes at room temperature surface conditions (maximum temperature range of 60° to 125°F).

5. Excess Penetrant Removal - After the specified penetrant dwell time, the excess penetrant shall be removed by wiping the area with dry lint-free wipes until the majority of the excess penetrant has been removed. Then an absorbent wipe will be moistened with the Spotcheck Cleaner, Type SKC-S and gently wiped across the inspection surface to remove the remaining traces of excess penetrant. Care shall be taken to not use an excessive amount of solvent cleaner, as it will remove penetrant from possible shallow open defect areas.

6. Drying - After the excess penetrant has been removed with the volatile solvent cleaner (Spotcheck Cleaner, Type SKC-S), the surface is allowed to dry for a period of five minutes.

7. Developing - The application of a liquid developer (Spotcheck Developer, Type SKD-S) shall follow the drying process. This developer will be applied by spraying from a pressurized container. After sufficient agitation of the pressurized container to insure a proper suspension of the developer powder, a smooth uniform

layer of the volatile suspended powder shall be applied to the test area.

8. Examination - The examination shall be performed by personnel with a minimum of three years' dye penetrant experience and in a well-lighted area. This examination will be performed within twenty minutes after application of the developer.

9. Acceptance Criteria

(a) Base Materials - The acceptance criteria for the inspected areas shall be the same as Paragraph 1-724.1.4 (b) in USAS B31.7 which states:

"Cracks and other linear discontinuities or aligned indications are unacceptable."

Aligned indications are those in which the average of the center-to-center distance between any one indication and the two adjacent indications in a straight line is less than 3/16 inch. Individual pit defects to a depth exceeding the greater of 0.004 inch or 5 percent of the section thickness are also unacceptable.

(b) Welds - Acceptance criteria for inspecting Class I piping welds constructed in accordance with sub-Section 1-727 of USAS B31.7 shall be as stated in Appendix B-4-170. The following relevant indications are unacceptable:

(1) any cracks and linear indications

(2) rounded indications with dimensions greater than 3/32 inch

(3) four or more rounded indications in a line separated by 1/16 inch or less, edge to edge

(4) ten or more rounded indications in any six square inches of surface whose minor dimension is no less than one inch with these dimensions taken in the most unfavorable location relative to the indications being evaluated.

10. Repair of Defects - When a repair is to be made according to the particular product form involving grinding with or without subsequent rewelding, that area shall be subjected to a repeat penetrant inspection utilizing the same procedure as previously outlined.

11. Post-Inspection Cleaning - The inspection areas shall be cleaned after the completed inspection by wiping the excess developer from the surface with a rag, and then gently scrubbing the region with an acetone-saturated wipe to remove the remaining developer and penetrant.

12. Records - Permanent records of the penetrant inspections shall be maintained in the file for the life of the component. These forms shall indicate the results and parameters for each test. A sample of the form to be used is shown in Appendix A. These forms shall be available for review upon request to the Department of Structural Engineering.

LIQUID PENETRANT INSPECTION DATA SHEET

Project No._____

Component No._____ Cycles_____ Date_____

Component Material_____ Surface Condition_____

Cleaner: Brand Name-_____
Type-_____

Penetrant: Brand Name- _____
Type-_____

Emulsifier: Brand Name-_____
Type-_____

Remover: Brand Name-_____
Type-_____ _____

Developer: Brand Name-_____
Type-_____

Type of Penetrant Used - ☐ Water Washable ☐ Visible Red Dye
☐ Post-Emulsifiable ☐ Fluorescent
☐ Solvent-Removable Sensitivity Rating_____

Penetrant Application - ☐ Dipping ☐ Spraying ☐ Brushing

Penetrant Dwell Time - _____minutes; _____temperature

Emulsifier Dwell Time - _____minutes

Removal Technique for Excess Penetrant - ☐ Dip Cleaning
☐ Flowing Water
☐ Sprayed Solvent
☐ Wiped Solvent

Drying Time:_____ Temperature:_____

Developer Application - ☐ Dipping ☐ Spraying ☐ Brushing

Developing Time - _____minutes; _____temperature

PENETRANT INDICATIONS:

Location	Orientation	Magnitude	Acceptable*	Rejectable*	Remarks

*Reference Paragraph 1-724.2.1. Paragraph 1-724.1.4 of USAS B31.7. and also SwRI Procedure No. P-1.

Performed by:_____ Reviewed by:_____

WELDER AND WELDING PROCEDURE QUALIFICATION
SPECIFICATION NUMBER Q-1

A Scope

The qualification procedures herein are in accordance with Section IX of the ASME Code and Union Carbide Job Specification JS-115-229. Welders and procedures will be qualified for the 2G positions for both A106 Grade B pipe and A312 TP 304L pipe. The welder and procedures shall be qualified simultaneously. Qualifications in the 2G position qualifies the 1G position.

B. Types of Tests

1. Tensile Tests
Turned tensile specimens per Figure A-6 (c) of Section IX shall be used. The number of specimens shall be two (2) for each position and material per Table Q-13.1 of Section IX. The minimum allowable tensile strength shall be the minimum allowable for the base metal.

2. Bend Tests
Two (2) each face bend and root bend tests shall be performed for each position and material. The specimen design shall conform to Figure Q-7.2 of Section IX. Completed tests shall meet the requirements of Paragraph Q-8 (c) of Section IX except that allowable cracks in the carbon steel shall be limited to a single crack 3/32" long or a series of small cracks, the sum of the lengths not exceeding 3/32" and allowable cracks in the stainless steel shall be limited to a single crack 1/16" long or a series of small cracks, the sum of the lengths not exceeding 1/16".

3. Supplemental Tests
The qualification weld for a welder or welding procedure shall be 100% inspected by radiographs, dye penetrant or magnetic particle and ultrasonics. Inspection requirements shall be those specified in the welding procedures. In addition, two metallographic samples shall be cut from the weld.

4. Sampling
Test Specimens shall be cut from the qualification weld as shown in the attached figure.

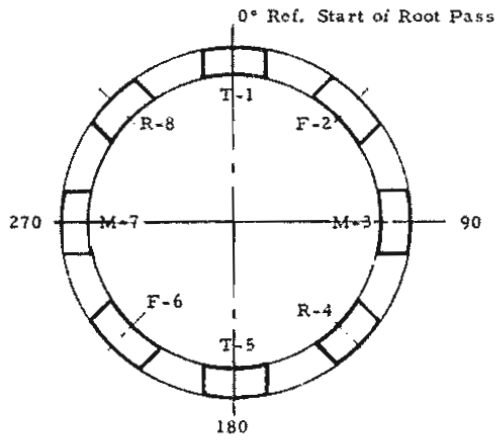
QUALIFICATION WELD SAMPLING PROCEDURE

T = Tensile Test

F = Transverse Face Bend

M = Metallographic Sample

R = Transverse Root Bend



SwRI PROCEDURE FOR RADIOGRAPHIC INSPECTION OF 6-INCH AND 12-INCH DIAMETER CIRCUMFERENTIAL PIPE WELDS TO MEET CLASS I NUCLEAR PIPING REQUIREMENTS (PROCEDURE NO. R-1)

1. Scope

This procedure shall satisfy Paragraph 1-724.2.1 of Specification USAS B31.7 and also Paragraph 1-727.4.2.(e). The methods for radiographic examination shall be in accordance with Appendix B-1 of USAS B31.7. The radiographic quality level shall satisfy Sub-Paragraph B-1-120.2.(e).

2. Personnel

a. Personnel shall be trained and certified radiographers with a minimum of one year's experience.

b. Isotope handling and radiation safety shall be in accordance with requirements of the AEC or appropriate State authority.

3. Equipment

a. Isotope handling equipment will be approved by the AEC or appropriate State authority.

b. Isotope used shall be Iridium 192; source dimensions not to exceed 1/8 inch by 1/16 inch.

c. X-ray source shall have focal spot size not to exceed 1.3mm by 1.3mm.

d. Processing darkroom shall be of adequate size for loading, processing, viewing, and storing film.

e. Processing tanks shall have a minimum capacity of 5 gallons developer and fixer and 2-1/2 gallons short-stop solution.

f. Clean running water shall be supplied to and flow around processing tanks and be used for washing films after development and fixing.

g. A high-intensity viewer shall be available to analyze radiographs.

h. Penetrameters shall be according to the applicable requirements listed in Table B-1-110 of Specification USAS B31.7. Material may be carbon steel or stainless steel.

i. Shim material shall be carbon steel or stainless steel as necessary.

j. Letters and numbers for film identification, weld identification, etc., shall be as per Paragraph B-1-120.5 of Specification USAS B31.7.

4. Materials and Supplies

a. Film shall be Kodak, Type M or finer grain as requested to attain required sensitivity.

b. Intensifying screens shall be X-ray quality .005 - .010 inch lead, backed, and be free of scratches or other defects.

c. Developer and fixer shall be Kodak X-ray or equal.

d. Short stop shall be acetic acid-water bath of 1-200 concentration.

e. Photoflo or equal shall be used as final film treatment before drying.

5. Processing Procedure

a. Solution shall be between 68°F and 72°F and maintained at its temperature for 30 minutes before and during development, short stop, fixing, and washing.

b. Film to be totally immersed and agitated continuously for the first minute in each solution and at least once a minute for the time recommended by the film and/or solution manufacturer.

c. Film shall be kept on hangers until dry in lint and dust-free area. After drying, film shall be placed in protective packets.

d. Dry film shall be handled with lint-free gloves only -- never with bare hands.

e. Exposure conditions -- source-to-film distance, penetrameter placement, source information, number of film per shot, etc., shall be written on outside of packet or on an accompanying sheet identical to the one located in Appendix A of this procedure. A sketch of the radiographic setup shall be presented at the time of film interpretation.

6. Weld Surface Condition

The weld-ripples or weld-surface irregularities shall be removed on both inside and outside surfaces by any suitable mechanical process to such a

degree that the resulting radiographic contrast due to any irregularities cannot mask or be confused with the image of any objectionable defect. The weld surface shall merge smoothly into the base metal surface. The finished surface of the reinforcement of all butt-welded joints may be flush with the base metal or may have a reinforcement height compatible with that listed in Paragraph B-1-120.1, Appendix B, Specification USAS B31.7.

7. Number and Penetrameter Placement

a. Penetrameters shall be in accordance with ASTM E 142.

b. Identification letters shall be placed on external surface of pipe to identify film location. This identification shall be permanently located on pipe surface and identifiable on the film. The distance between adjacent letters is to be governed by the extreme source side penetrameter placement as determined by the location of the source as indicated in Table B-1-120 (Penetrameter Placement For Welds) of Specification USAS B31.7.

c. A penetrameter of the nominal wall thickness and a properly shimmed penetrameter of the estimated total weld thickness shall be placed on each end of the area to be examined per exposure setup (3 penetrameters equally spaced in the case of panoramic exposure). If a dissimilar thickness exists across the weld joint, penetrameters applicable to both thicknesses shall be employed and shimmed to corresponding thickness. Penetrameters shall have their major axis parallel to the weld centerline and shall not interfere with location of identifying markers or weld image. Shim thickness shall be equal to the difference between the thickness represented by the penetrameter and the thickness of the material upon which the penetrameter is placed. The shim shall in all cases be of the same or a radiographically similar material to that being inspected.

d. Weld identification and other information as required by Paragraph B-1-120.5 of Specification USAS B31.7 shall be present on each film in an area not covered by the weld image.

e. Identifying letters and numbers and penetrameters are not to be fastened to film cassette.

8. Film and Source Placement

a. Film cassettes shall be loaded with two films with "sandwich" construction of lead-film-lead-film-lead. Each film shall be in contact with lead screens on both surfaces.

b. The film cassette shall be as close to the surface of the weld as practicable but in no case greater than 1/8 inch without qualifying extra distance from weld surface to film.

c. The cassette shall be firmly fixed and maintained to surface of pipe by any suitable mechanical means.

d. Source during exposure shall be maintained free of movement during exposure of film. For single wall exposures, source shall be positioned equidistant from all points of the weldment and in the plane of the weldment. For double wall exposures, the source shall be placed as close to the weld surface as possible and diametrically opposite to the center of the area to be viewed.

9. Film Quality Requirements

All radiographs shall be free from mechanical, chemical, or other processing defects that could interfere with proper interpretation of the radiograph, such as:

a. Fogging

b. Processing defects such as streaking or water marks

c. Scratches, finger marks, crimps, dirtiness, static marks, smudges, or tears

d. Loss of detail due to poor screen to film contact, false indications due to defective screens or artifacts caused by defective film.

10. Exposure

The exposure time shall be such as to produce a film density of 2.0 to 2.6 for each film in the region to be viewed. This density shall be evaluated by using a ASA density comparison strip.

11. Acceptance Standards

Any one of the following will be used as a basis for rejection of a weld.

a. Any type of crack or zone of incomplete fusion or penetration

b. Any elongated inclusion, such as slag or tungsten, that has a length greater than 1/8 inch for t up to 3/4 inch inclusive

c. Any group of inclusions in line that have an aggregate length greater than 1/2t in a length of 12t except when the distance between the

successive imperfections exceeds 6 L where L is the length of the longest imperfection in the group

d. Porosity in excess of 1/2 that shown as acceptable by the porosity standards given in Appendix IV in Section III of the ASME Boiler and Pressure Vessel Code.

12. Re-Examination After Repairs

Welds showing unacceptable defects shall be repaired as per the welding repair procedure and then reinspected by the same radiographic technique and procedure as was used originally. All resulting film records shall be permanently identified as subsequent repair radiographs and placed as a permanent part of the record.

13. Records

The film shall remain on file in the Department of Structural Engineering until final disposition has been made of the part, unless specified otherwise by the Department of Structural Engineering. All film shall remain under full control of the Department of Structural Engineering and shall be available for examiner review upon request.

Appendix A

RADIOGRAPHIC INSPECTION REPORT

Weld No._____ Piece Mark_____ to Piece Mark_____ Date_____

Fabrication Code_____ System_____

Equipment Betatron or

X-Ray Make_____ Linac Make_____ Isotope_____ Curies____

Rating_____ KV Rated Size_____ Physical Size_____ x _____

Film

Make_____ Size_____ Cassette Loading ☐ Lead Thickness____

Identification on Film_____ ☐ Film Type_____

Developer Type_____ Temp._____ Time_____ ☐ Lead Thickness____

Short Stop Type_____ Temp._____ Time_____ ☐ Film Type_____

Fixer Type_____ Temp._____ Time_____ ☐ Lead Thickness____

Material

Type_____ Base Metal Thickness_____

Technique

Penetrameter_____ Shim Thickness_____

Penetrameter Location: Source Side_____ Film Side_____

Focal Distance Source-to-Film_____ Single Wall____ Double Wall____

KV_____ MA_____ Time_____ Density: First Film_____ Second Film_____

Film Evaluation

Reading: Single Film_____ Double Film_____

One Wall on Film_____ Both Walls on Film_____

Sketch Showing Setup

Film Ident.	Accept	Reject	Porosity	Sand Inclusions	Slag/Oxide Inclusions	Internal Shrinkage	Hot Tears	Cracks	Tungsten	Incomplete Fusion	Inadequate Penetration	Undercut	Burn Through	Comments or Recommendations

Certified to USAS B31.7 and SwRI Procedure No. R-1.

Prepared by (Signature)

Review by (Signature)

SwRI PROCEDURE FOR ULTRASONIC INSPECTION OF 6-INCH AND 12-INCH DIAMETER SEAMLESS AND WELDED (WITHOUT FILLER METAL) PIPE TO MEET CLASS I NUCLEAR PIPING REQUIREMENTS (PROCEDURE NO. UT-2)

1. Scope

This procedure shall satisfy Table A.7 (a) of Appendix A in Specification USAS B31.7. Additionally, this procedure shall satisfy Paragraph 1-724.1.1 of the same specification.

2 Personnel

Personnel utilized for this inspection shall be qualified ultrasonic inspectors having a minimum of 3 year's ultrasonic experience.

3. Equipment

Ultrasonic inspection equipment shall consist of the following.

a. A commercially available pulse-echo ultrasonic unit such as a Sperry UM 721 or a Branson 301 A instrument

b. Ultrasonic transducers having a cross section of 1/2 x 3/4 piezo-electric fabricated from polycrystalline ceramic material with a frequency of 2.25 mHz

c. Required ultrasonic sensitivity standards

d. Associated cables and couplant necessary for a manual ultrasonic inspection.

4. Basic Calibration

Machined notches on both the ID and OD surfaces of reference specimens with geometry and material similar to that scheduled for examination shall be utilized for standard reflectors. The size of the machined notches shall conform to Paragraph 1.724.1.1 (b) in which case the grooves placed on the ID and OD surfaces of the product shall not exceed one inch in length, have a width greater than one 1/16 inch or a depth greater than the larger of .004 inches or 5 percent of the wall thickness. The reference specimen shall be long enough to eliminate edge effects during the inspection.

5. Surface Preparation

The surface to be inspected shall be maintained free of excess buildup of any nature that might hinder the incident sound as well as unnecessary roughness arising from pitted conditions etc. The reference specimen shall have surface conditions similar to the specimen to be inspected.

6. Angle-Beam Method

An angle beam or shear wave inspection utilizing a 2.25 mHz polycrystalline ceramic transducer operated in a pulse-echo mode will be applied with the prime beam orientation propagating circumferentially around the pipe wall. The shear wave inspection will be applied from the OD surface utilizing a lucite wedge to generate a 45-degree shear wave within the material. This wedge will be coupled to the surface of the pipe by utilizing a contact technique and a commercially-available, water-soluable, couplant, (Hamikleer).

a. Calibration

Instrumentation calibration shall be accomplished by utilizing the reference specimen previously mentioned and establishing an amplitude of reflection from the respective longitudinally oriented notches on both the ID and OD surfaces. The magnitude of the amplitude of these reflections will be noted on the CRT screen presentation.

b. Examination Procedure

The examination of the base material of these components will be carried out by placing the shear wave transducer with the prime beam orientation circumferential around the piping and indexing laterally along the piping and circumferentially around the piping so as to cover all areas of base material with the shear wave, pulse-echo technique.

7. Acceptance-Rejection Criteria

The criteria utilized for rejection during this inspection shall be: all defects with greater indicated magnitude than the reference specimen shall be considered cause for rejection.

8. Repairs

All areas considered unacceptable on the basis of the reference specimen will be eliminated or repaired in accordance with Paragraph 1-724.1.6 and Paragraph 1-724.1.7 of Specification USAS B31.7.

9. Records

Permanent records of the inspection shall be kept on file by the

Department of Structural Engineering for the duration and life of the component. These forms shall reflect the results of the inspection as well as the parameters of the inspection. A sample of a typical form to be utilized is shown in the attached Appendix A. These records will be available for examination upon requesting permission from the Department of Structural Engineering.

ULTRASONIC INSPECTION STANDARDIZATION DATA
FOR FLAW DETECTION

Date _____ Inspector _____

Project No _____ Location _____

Job

Inspection Area Identification _____ ____

DETAILS OF JOB

Material _____ Longitudinal Weldments ☐
Inspection of Circumferential Weldments ☐
Base Material ☐
Clad Surfaces ☐
Surface Condition _____ Other (describe on back) ☐

Technique used:		Contact	Immersed
	Surface wave	☐	☐
	Shear wave	☐	☐
	Longitudinal wave	☐	☐

EQUIPMENT

Type of flaw detector _____

Transducers used:

Size						
Angle						
Frequency						
Material						
Calibration sheet reference no.						

CALIBRATION FOR SENSITIVITY

	Calibration Db/slide switch	Inspection Db/slide switch
Sensitivity level		
Reference block		

ULTRASONIC INSPECTION DATA SHEET
(Form 1)

Project No._____ Date_____

Component No._____ Cycles_____ Standard:_____

_____ Area Inspected:_____

Location* or Degrees	Scope	Rider	Lines of Intensity	Accept-able**	Reject-able**	Information Only	Remarks

*See attached form.
**Reference Specification USAS B31.7 and SwRI Procedure No. UT-1.
Certified to USAS B31.7 and SwRI Procedure No. UT-1.

Prepared by:_____ Reviewed by:_____

ULTRASONIC INSPECTION DATA SHEET
(Form 1 Attachment)

Project No._____

Component No._____ Date_____

Prepared by:_____ Reviewed by:_____

_____
Sketch of Component and Inspection Parameters:

SOUTHWEST RESEARCH INSTITUTE
WELDING PROCEDURE SPECIFICATION NO. W-1

This procedure specification covers Scope and Carbon Steel Pipe-to-Tee and Pipe-to-Pipe Joint Weldments of the ASA Standard B16.9 Tee Test Specimens.

A. Base Metal

1. Tees - A-234 WPB Supplied by ORNL
2. Pipe - A106 Grade B

B. Filler Metal

1. Consumable Insert - EB Type "A" or "J", 1/8", 131
2. Bare Electrode - Linde Ox-Weld 65

C. Process

The closure pass shall be made by the Inert Gas-Tungsten Arc process, incorporating a consumable insert. All subsequent passes shall also be by the Inert Gas-Tungsten Arc process. All welding will be manual.

D. Gas for Inert Gas Welding

The shielding gas for the torch and backup shall be Argon, 99.995% pure.

E. Position

All pipe-to-tee weldments shall be made in the 2G position.

Pipe-to-pipe weldments shall be made in either the 1G or 2G position.

F. Preheat

No preheat will be used for carbon steel or stainless steel weldments.

Room temperature will be 70°F minimum.

G. Interpass Temperature

Due to possible thermal damage to the strain gages interpass temperature shall not exceed 350°F.

H. Post-Heat Treatment

None

I. Weld Finish

Pipe-to-tee weldment shall be ground flush on inside and outside surfaces to a 125 RMS finish. Pipe-to-pipe weldments will be ground flush on the outside surface.

J. Joint Design

The joint design at all joints will be a "V" groove with each bevel machined 37.5° to a diametral plane and contain a 1/32" maximum land. Pipe, weld caps and tees will be counterbored to obtain a round section and tapered to the original dimensions at a 4:1 slope. Mismatch at any point will be less than ± 1/32 inch at the I.D. See enclosed drawing. Ref: USAS B31.7 Fig. 1-727.3.1(a).

K. Joint Preparation

1. Cleaning
All surfaces of the base metal, all filler wire, and the parts of any jigs or fixtures in contact with the joint or joint area shall be free of foreign materials. Immediately prior to fit-up and welding, an area 4 inches wide adjacent to the joint, and the joint edges shall be cleaned by brushing.

The base metal and backing bars shall be cleaned with Methyl Ethyl Ketone immediately prior to any tacking or welding operation. After cleaning, the joint area must not be touched by bare hands prior to welding.

2. Fit-up
The consumable insert shall be tacked into place in accordance with manufacturers recommended procedures. Tacks shall be cleaned by wire brushing. Additional tack welding utilizing the E.B. insert will be used to provide joint rigidity. All tacks must be back purged and cleaned (wire brushed) in accordance with the joint welding requirements.

L. Assembly and Fixtures

No temporary welded supports shall be attached to the pipe or tee. Pieces may be assembled and tack welded in the 2G position then placed in the 1G position for welding. The necessary fixtures will be provided to assure proper alignment and prevent undue stresses during welding.

M. Joint Welding Procedure

The closure pass and all subsequent passes shall be performed using the Inert Gas-Tungsten Arc process. The backside of the joint shall be shielded with Argon gas. Pre-purge shall be sufficient to eliminate excessive oxidation of the root passes. The consumable insert shall provide the filler metal for the root pass. Hand fed bare wire shall be used for all subsequent passes. See particulars in Table 1. To prevent cracking in the crater, fill crater and reduce weld pool to smallest possible size by down sloping current with auxiliary foot control.

All oxide (particles and film) from crater, weld beads, and base metal in the line of arc travel shall be removed before depositing each section of bead and from each completed weld bead.

Any cracks or blowholes that appear on the surface of any tack weld or bead of welding shall be removed by grinding.

All surface oxides must be removed by wire brushing or grinding before depositing the next successive bead of welding.

No peening or chipping of weld or base metal shall be allowed.

N. Welding Equipment

Current Source
Linde AC/DC High Frequency Welder, 500 amp. The current will be DC, straight polarity with electrode negative.

Welding Torch
Linde Model HW-20 (water cooled)

Current Control
Foot Control

O. Inspection

The Welding Inspector shall be the Research Assistant in charge of laboratory operation, the cognizant engineer or ORNL representative.

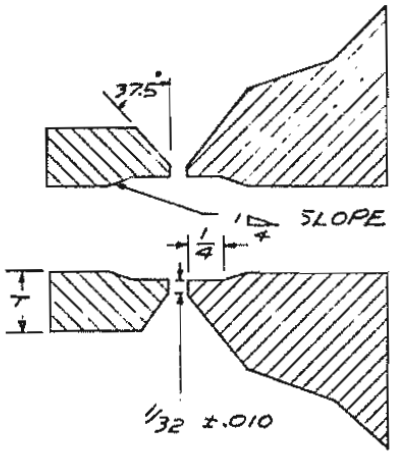
When the Welding Inspector believes inspection necessary, he will examine base metal or welds at any stage of fabrication, and when he has reason to question that this Procedure is being followed, the ability of the welder, or weld quality, he may require supplemental inspection, corrective action, or requalification of the welder.

P. Non-destructive Testing

The extent of the weld examination and the test of the welds in the test assembly shall conform to Table A. 7 (a), A. 7 (b), and A. 7 (c) of Appendix A of the USAS B31. 7. This examination includes 100% radiography, ultrasonic and dye penetrant or magnetic particle inspection. Procedures for radiographic, ultrasonic and penetrant inspection of the weldments shall conform to SwRI Specifications R-1, UT-1 and P-1 respectively.

TABLE 1

JOINT DETAIL



Alignment Tolerance: ± 1/32" offset or mismatch

WELDING SCHEDULE

T (inches)	Layer	Current Amps	Rod Diameter	Tungsten Diameter	Flow - CFH Gas Torch	Flow - CFH Backpurge Gas
.687	Tacks		EB Insert 1/8"	1/16	20	30
	1	115	EB Insert	1/16	20	30
	2,3	115	1/16	1/16	20	20
	4-10	170	3/32	3/32	25	20
	11+	170-200	1/8	1/8	25	10

SOUTHWEST RESEARCH INSTITUTE
WELDING PROCEDURE SPECIFICATION NO W-2

This procedure specification covers Scope and Stainless Steel Pipe-to-Tee and Pipe-to-Pipe Joint Weldments of the ASA Standard B16.9 Tee Test Specimens.

A. Base Metal

1. Tees - A-403 TP 304L
2. Pipe - A312 TP 304L

B. Filler Metal

1. Consumable Insert - EB Type "A" or "J", 1/8", 308L
2. Bare Electrode - ASME-SA-371, Type 308L

C. Process

The closure pass shall be made by the Inert Gas-Tungsten Arc process, incorporating a consumable insert. All subsequent passes shall also be by the Inert Gas-Tungsten Arc process. All welding will be manual.

D. Gas for Inert Gas Welding

The shielding gas for the torch and backup shall be Argon, 99.995% pure.

E. Position

All pipe-to-tee weldments shall be made in the 2G position.

Pipe-to-pipe weldments shall be made in either the 1G or 2G position.

F. Preheat

No preheat will be used.

G. Interpass Temperature

Due to possible thermal damage to the strain gages interpass temperature shall not exceed 350°F.

H. Post-Heat Treatment

None

I. Weld Finish

Pipe-to-tee weldment shall be ground flush on inside and outside surfaces to a 125 RMS finish. Pipe-to-pipe weldments will be ground flush on the outside surface.

J. Joint Design

The joint design at all joints will be a "V" groove with each bevel machined 37.5° to a diametral plane and contain a 1/32" maximum land. Pipe, weld caps and tees will be counterbored to obtain a round section and tapered to the original dimensions at a 4:1 slope. Mismatch at any point will be less than ± 1/32 inch at the I.D. See Table 1. Ref: USAS B31.7 Fig. 1-727.3.1(a).

K. Joint Preparation

1. Cleaning
All surfaces of the base metal, all filler wire, and the parts of any jugs or fixtures in contact with the joint or joint area shall be free of foreign materials. Immediately prior to fit-up and welding, an area 4 inches wide adjacent to the joint, and the joint edges shall be cleaned by brushing.

The base metal and backing bars shall be cleaned with Methyl Ethyl Ketone immediately prior to any tacking or welding operation. After cleaning, the joint area must not be touched by bare hands prior to welding.

2. Fit-up
The consumable insert shall be tacked into place in accordance with manufacturers recommended procedures. Tacks shall be cleaned by wire brushing. Additional tack welding utilizing the E.B. insert will be used to provide joint rigidity. All tacks must be back purged and cleaned (wire brushed) in accordance with the joint welding requirements.

L. Assembly and Fixtures

No temporary welded supports shall be attached to the pipe or tee. Pieces may be assembled and tack welded in the 2G posi-

tion then placed in the 1G position for welding. The necessary fixtures will be provided to assure proper alignment and prevent undue stresses during welding.

M. Joint Welding Procedure

The closure pass and all subsequent passes shall be performed using the Inert Gas-Tungsten Arc process. The backside of the joint shall be shielded with Argon gas. Pre-purge shall be sufficient to eliminate excessive oxidation of the root passes. The consumable insert shall provide the filler metal for the root pass. Hand fed bare wire shall be used for all subsequent passes. See particulars in Table 1. To prevent cracking in the crater, fill crater and reduce weld pool to smallest possible size by down sloping current with auxiliary foot control.

All oxide (particles and film) from crater, weld beads, and base metal in the line of arc travel shall be removed before depositing each section of bead and from each completed weld bead.

Any cracks or blowholes that appear on the surface of any tack weld or bead of welding shall be removed by grinding.

All surface oxides must be removed by wire brushing or grinding before depositing the next successive bead of welding.

No peening or chipping of weld or base metal shall be allowed.

N. Welding Equipment

Current Source
Linde AC/DC High Frequency Welder, 500 amp. The current will be DC, straight polarity with electrode negative.

Welding Torch
Linde Model HW-20 (water cooled)

Current Control
Foot Control

O. Inspection

The Welding Inspector shall be the Research Assistant in charge of laboratory operation, the cognizant engineer or ORNL representative.

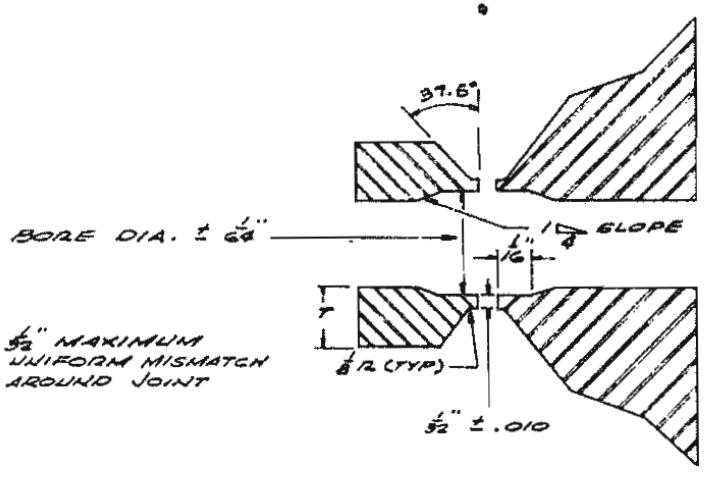
When the Welding Inspector believes inspection necessary, he will examine base metal or welds at any stage of fabrication; and when he has reason to question that this Procedure is being followed, the ability of the welder, or weld quality, he may require supplemental inspection, corrective action, or requalification of the welder.

P. Non-destructive Testing

The extent of the weld examination and the test of the welds in the test assembly shall conform to Table A. 7 (a), A. 7 (b), and A. 7 (c) of Appendix A of the USAS B31. 7. This examination includes 100% radiography, ultrasonic and dye penetrant or magnetic particle inspection. Procedures for radiographic, ultrasonic and penetrant inspection of the weldments shall conform to SwRI Specifications R-1, UT-1 and P-1 respectively.

TABLE 1
JOINT DETAIL AND WELDING SCHEDULE
STAINLESS STEEL TEES

JOINT DETAIL



Alignment Tolerance: ± 1/32" offset or mismatch

WELDING SCHEDULE
312 TP 304L

T (inches)	Layer	Current Amps	Rod Diameter	Tungsten Diameter	Flow - CFH Gas Torch	Flow - CFH Backpurge Gas
.280	Tacks	60	EB Insert 1/8"	1/16	20	Local
	1	90	EB Insert	1/16	20	25
	2,3	110	1/16	1/16	20	20
	4-8	115	3/32	3/32	20	20
.406	Tacks	60	1/16"	1/16"	20	Local
	1	90	1/8" Insert	1/16	20	25
	2,3	110	1/8"	1/16	20	20
	4-10	125	3/32	3/32	20	20
	11+	145	1/8"	1/8	20	10

SOUTHWEST RESEARCH INSTITUTE
WELDING PROCEDURE SPECIFICATION NO. W-3

This procedure specification covers Scope and Stainless Steel Pipe-to-Tee Joint Weldments of an ASA Standard B16.9 Tee Test Specimen, 12" x 12" x 12" Schedule 160.

A. Base Metal

1. Tee - A-403 TP 304L
2. Pipe - A312 TP 304

B. Filler Metal

1. Consumable Insert - EB Type "A" or "J", 1/8", 308L
2. Bare Electrode - ASME-SA-371, Type 308L
3. Covered Electrode - ASME-SA-298, Type 308L-16

C. Process

The closure pass shall be made by the Inert Gas-Tungsten Arc process, incorporating a consumable insert. A minimum of three subsequent passes shall be by the Inert Gas-Tungsten Arc process. Remaining passes shall be Metal Arc welding. All welding will be manual.

D. Gas for Inert Gas Welding

The shielding gas for the torch and backup shall be Argon, 99.995% pure.

E. Position

All pipe-to-tee weldments shall be made in the 2G position.

F. Preheat

No preheat will be used.

G. Interpass Temperature

Due to possible thermal damage to the strain gages interpass temperature shall not exceed 350°F.

H. Post-Heat Treatment

None

I. Weld Finish

Pipe-to-tee weldment shall be ground flush on inside and outside surfaces to a 125 RMS finish.

J. Joint Design

The joint design at all joints will be a "V" groove with each bevel machined 37.5° to a diametral plane and contain a 1/32" maximum land. Pipe, weld caps and tees will be counterbored to obtain a round section and tapered to the original dimensions at a 4:1 slope. Mismatch at any point will be less than ± 1/32 inch at the I.D. See Table 1. Ref: USAS B31.7 Fig. 1-727.3. 1(a).

K. Joint Preparation

1. Cleaning
All surfaces of the base metal, all bare filler wire, and the parts of any jigs or fixtures in contact with the joint or joint area shall be free of foreign materials. Immediately prior to fit-up and welding, an area 4 inches wide adjacent to the joint, and the joint edges shall be cleaned by brushing.

The base metal and backing bars shall be cleaned with Methyl Ethyl Ketone immediately prior to any tacking or welding operation. After cleaning, the joint area must not be touched by bare hands prior to welding.

2. Fit-up
The consumable insert shall be tacked into place in accordance with manufacturer's recommended procedures. Tacks shall be cleaned by wire brushing. Additional tack welding utilizing the E.B. insert will be used to provide joint rigidity. All tacks must be back purged and cleaned (wire brushed) in accordance with the joint welding requirements.

L. Assembly and Fixtures

No temporary welded supports shall be attached to the pipe or tee.

M. Joint Welding Procedure

The closure pass and a minimum of three subsequent passes shall be performed using the Inert Gas-Tungsten Arc process. The backside of the joint shall be shielded with Argon gas. Pre-purge shall be sufficient to eliminate excessive oxidation of the root passes. The consumable insert shall provide the filler metal for the root pass.

Hand fed bare wire shall be used for subsequent passes incorporating the Inert Gas-Tungsten Arc process. When the TIG process is used, cracking in the crater will be prevented by filling the crater while down sloping the current with the auxiliary foot control in order to maintain the smallest possible weld pool. Particulars of rod size and amperage requirements are given in Table 1.

All remaining passes shall be made using covered electrode. Electrode size, number of passes and amperage requirements are given in Table 1.

All oxide (particles and film) from crater, weld beads, and base metal in the line of arc travel shall be removed before depositing each section of bead and from each completed weld bead.

Any cracks or blowholes that appear on the surface of any tack weld or bead of welding shall be removed by grinding.

All surface oxides must be removed by wire brushing or grinding before depositing the next successive bead of welding.

No peening or chipping of weld or base metal shall be allowed.

N. Welding Equipment

1. Inert Gas-Tungsten Arc Welding

Current Source
Linde AC/DC High Frequency Welder, 500 amp. The current will be DC, straight polarity.

Welding Torch
Linde Model HW-20 (water cooled)

Current Control
Foot Control

2. Metal Arc Welding

Current Source
Linde AC/DC High Frequency Welder, 500 amp. The current will be DC, reversed polarity.

O. Inspection

The Welding Inspector shall be the Research Assistant in charge of laboratory operation, the cognizant engineer or ORNL representative.

When the Welding Inspector believes inspection necessary, he will examine base metal or welds at any stage of fabrication, and when he has reason to question that this Procedure is being followed, the ability of the welder, or weld quality, he may require supplemental inspection, corrective action, or requalification of the welder.

P. Non-destructive Testing

The extent of the weld examination and the test of the welds in the test assembly shall conform to Table A. 7 (b) of Appendix A of the USAS B31. 7. This examination includes 100% radiography and dye penetrant inspection. Procedures for radiographic and penetrant inspection of the welds shall conform to SwRI Specifications R-1* and P-1,* respectively.

In addition, a radiographic inspection shall be made after completion of the root pass.

Q. Qualification

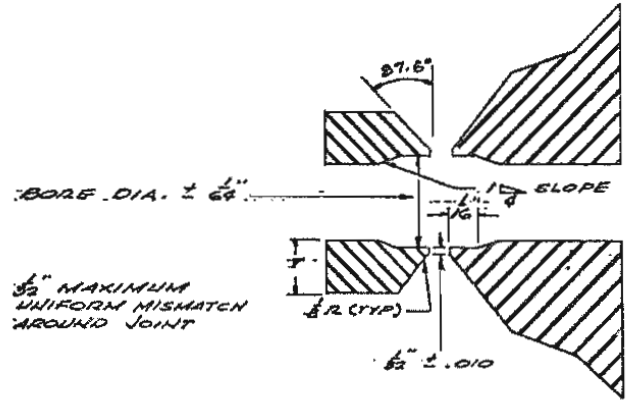
The welding procedure specification shall be qualified in accordance with requirements of ASME Band PV Code, Section IX. Prior to the removal of coupons for destructive examination,

*These specifications shall meet the requirements of Paragraphs B-1 and B-3 (respectively) of Appendix B, B31. 7.

the test weld shall be nondestructively examined as required for production welds in P. above.

TABLE 1
JOINT DETAIL AND WELDING SCHEDULE
STAINLESS STEEL TEES

JOINT DETAIL



Alignment Tolerance: ± 1/32" offset or mismatch

WELDING SCHEDULE

T (inches)	Layer	Current Amps	Rod Diameter	Tungsten Diameter	Flow - CFH Gas Torch	Flow - CFH Backpurge Gas
1.312	*Tacks	60	EB Insert 1/8"	1/16	20	Local
	*1	90	EB Insert	1/16	20	25
	*2, 3	110	1/16	1/16	20	20
	*4-8	115	3/32	3/32	20	20
	**9-15	95	1/8"	NA	NA	10
	**16 1/4	130	5/32"	NA	NA	0

*TIG
**Metal Arc

SOUTHWEST RESEARCH INSTITUTE
WELDING PROCEDURE SPECIFICATION NO. W-4

This procedure specification covers Scope and Stainless Steel to Carbon Steel Pipe-to-Pipe Joint Weldments of the ASA Standard B16.9 Tee Test Specimen.

A. Base Metal

1. Carbon Steel Pipe - A106B
2. Stainless Steel Pipe - A312 TP 304L

B. Filler Metal

1. Comsumable Insert - EB Type "A" or "J", 1/8", 308L
2. Bare Electrode - ASME-SA-371, Type 308L
3. Covered Electrode - ASME-SA-298, Type 309-16
4. Covered Electrode - ASME-SA-298, Type 308L-16

C. Process

The carbon steel pipe shall be overlaid using metal arc welding.

The closure pass shall be made by the Inert Gas-Tungsten Arc process, incorporating a comsumable insert. A minimum of three subsequent passes shall be by the Inert Gas-Tungsten Arc process. Remaining passes shall be Metal Arc welding. All welding will be manual.

D. Gas for Inert Gas Welding

The shielding gas for the torch and backup shall be Argon, 99.995% pure.

E. Position

Pipe-to-pipe weldments shall be made in either the 1G or 2G position.

F. Preheat

No preheat will be used.

G. Interpass Temperature

Due to possible thermal damage to the strain gages interpass temperature shall not exceed 350°F.

H. Post-Heat Treatment

None

I. Weld Finish

Pipe-to-pipe weldments will be ground flush on the outside surface.

J. Joint Design

The initial joint design for the carbon steel pipe is shown in Table 1. After overlay is accomplished the joint design shall be as designated below.

The joint design at all joints will be a "V" groove with each bevel machined 37.5° to a diametral plane and contain a 1/32" maximum land. Pipe and tees will be counterbored to obtain a round section and tapered to the original dimensions at a 4:1 slope. Mismatch at any point will be less than ± 1/32 inch at the I.D. See Table 2. Ref: USAS B31.7 Fig. 1-727.3. 1(a).

K. Joint Preparation

1. Cleaning
All surfaces of the base metal, all filler wire, and the parts of any jigs or fixtures in contact with the joint or joint area shall be free of foreigh materials. Immediately prior to fit-up and welding, an area 4 inches wide adjacent to the joint, and the joint edges shall be cleaned by brushing.

The base metal and backing bars shall be cleaned with Methyl Ethyl Ketone immediately prior to any tacking or welding operation. After cleaning, the joint area must not be touched by bare hands prior to welding.

2. Fit-up
The consumable insert shall be tacked into place in accordance with manufacturers recommended procedures. Tacks shall be cleaned by wire brushing. Additional tack welding utilizing the E.B. insert will be used to provide joint rigidity. All tacks must be back purged and cleaned (wire brushed) in accordance with the joint welding requirements.

L. Assembly and Fixtures

No temporary welded supports shall be attached to the pipe or tee. Pieces may be assembled and tack welded in the 2G position then placed in the 1G position for welding. The necessary fixtures will be provided to assure proper alignment and prevent undue stresses during welding.

M. Joint Welding Procedure

1. Stainless Overlay
The carbon steel pipe shall be machined as shown in Table 1 and overlaid in the prescribed areas. Overlay shall be one pass of 309-16 rod and remaining passes with 308L-16 rod. A minimum of one pass shall be made with 308L-16. Rod size and amperage requirements are given in Table 1. The stainless weld deposit will then be machined to the requirements of Table 2.

2. Pipe-to-Pipe Weld
The closure pass and a minimum of three subsequent passes shall be performed using the Inert Gas-Tungsten Arc process. The backside of the joint shall be shielded with Argon gas. Pre-purge shall be sufficient to eliminate excessive oxidation of the root passes. The consumable insert shall provide the filler metal for the root pass.

Hand fed bare wire shall be used for subsequent passes incorporating the Inert Gas-Tungsten Arc process. When the TIG process is used, cracking in the crater will be prevented by filling the crater while down sloping the current with the auxiliary foot control in order to maintain the smallest possible weld pool. Particulars of rod size and amperage requirements are given in Table 2.

All remaining passes shall be made using 308L-16 covered electrode. Electrode size, number of passes and amperage requirements are given in Table 2.

All oxide (particles and film) from crater, weld beads, and base metal in the line of arc travel shall be removed before depositing each section of bead and from each completed weld bead.

Any cracks or blowholes that appear on the surface of any tack weld or bead of welding shall be removed by grinding.

All surface oxides must be removed by wire brushing or grinding before depositing the next successive bead of welding.

No peening or chipping of weld or base metal shall be allowed.

N. Welding Equipment

1. Inert Gas-Tungsten Arc Welding

Current Source
Linde AC/DC High Frequency Welder, 500 amp. The current will be DC, straight polarity.

Welding Torch
Linde Model HW-20 (water cooled)

Current Control
Foot Control

2. Metal Arc Welding

Current Source
Linde AC/DC High Frequency Welder, 500 amp. The current will be DC, reversed polarity.

O. Inspection

The Welding Inspector shall be the Research Assistant in charge of laboratory operation, the cognizant engineer or ORNL representative.

When the Welding Inspector believes inspection necessary, he will examine base metal or welds at any stage of fabrication; and when he has reason to question that this Procedure is being followed, the ability of the welder, or weld quality, he may require supplemental inspection, corrective action, or requalification of the welder.

P. Non-destructive Testing

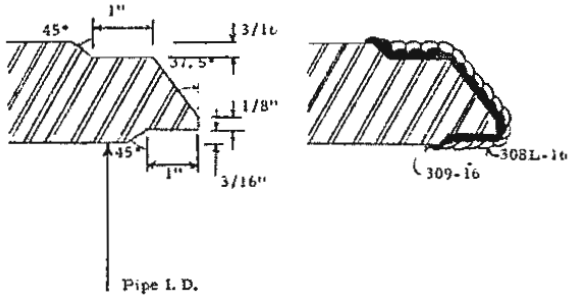
The finished weld will be radiographed in accordance with SwRI Specification R-1.*

Q. Qualification

The welding procedure specification shall be qualified in accordance with requirements of ASME Band PV Code, Section IX. Prior to removal of coupons for destructive examination, the test weld shall be nondestructively examined as required for production welds in P. above.

*These specifications shall meet the requirements of Paragraphs B-1 and B-3 (respectively) of Appendix B, B31.7.

TABLE 1. WELD PREPARATION AND WELDING SCHEDULE
FOR OVERLAY OF 12" DIAMETER SCHEDULE
160 CARBON STEEL PIPE

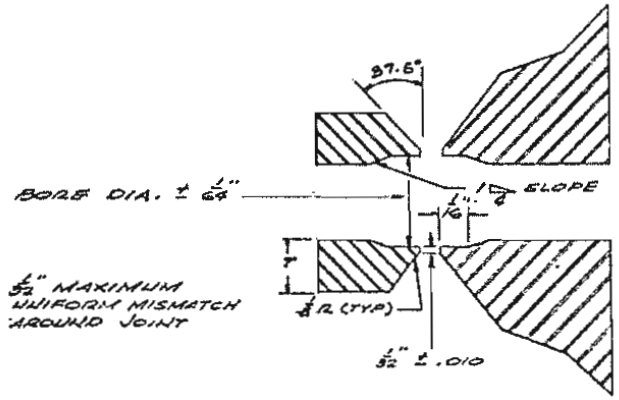


WELDING SCHEDULE

Layer	Current Amps	Rod Diameter
1	95	1/8"
2	95	1/8"

TABLE 2
JOINT DETAIL AND WELDING SCHEDULE
STAINLESS STEEL TEES

JOINT DETAIL



Alignment Tolerance: ± 1/32" offset or mismatch

WELDING SCHEDULE

T (inches)	Layer	Current Amps	Rod Diameter	Tungsten Diameter	Flow - CFH Gas Torch	Flow - CFH Backpurge Gas
1.312	*Tacks	60	EB Insert 1/8"	1/16	20	Local
	*1	90	EB Insert	1/16	20	25
	*2, 3	110	1/16	1/16	20	20
	*4-8	115	3/32	3/32	20	20
	**9-15	95	1/8"	NA	NA	10
	**16	130	5/32"	NA	NA	0

*TIG
**Metal Arc

APPENDIX V

RESULTS OF BRITTLE LACQUER TESTS

The brittle lacquer tests were performed to investigate the adequacy of the strain gage coverage. The tests were performed on models T-4, T-7 and T-8. The results of each test are detailed below.

V.1 Brittle Coating Analysis of T-4

The first stress coat cracks were noted in the crotch area at $\phi = 45^{o}$ when M3X = 13.6 foot-kips was applied to the branch. The sketchy crack pattern shown in Figure V.1 was photographed after a load of 41 foot-kips was applied. The same results were obtained when negative F3Z was applied with the first cracks appearing at $\phi = 315^{o}$ at a negative load of 4.8 kips. The pattern in Figure V.2 was photographed after a negative load of 12 kips had been applied.

When negative loads of M2Y and F2Z were applied, no significant crack patterns were obtained in the other two quadrants and the patterns in Figures V.1 and V.2 were essentially unchanged. However, some brittle coating cracks were obtained at the pipe-to-tee weld joints on the run.

The load M3X was applied a second time to a maximum load of 61.5 foot-kips and the crack pattern obtained is shown in Figure V.3.

The brittle coating test results indicated that no sharp stress gradients would occur in the crotch area when the model was subjected to out-of-plane bending and shear loads (assumed at this point to be the most severe loadings). The crotch area was adequately covered by a preplanned distribution of strain gage rosettes and no additional rosettes were needed.

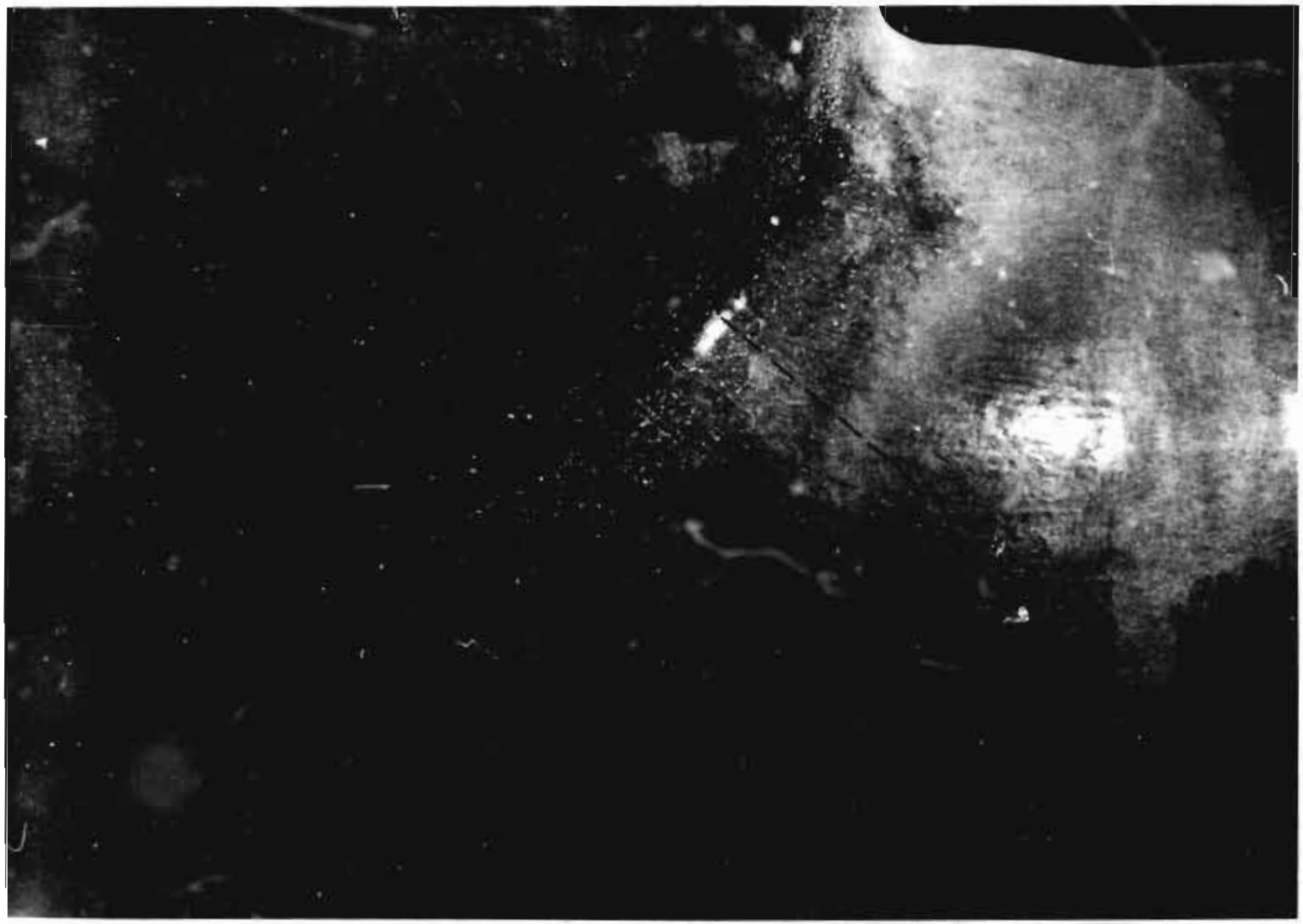


Figure V.1. Brittle Coating Pattern in the First Quadrant at M3X = 41 Foot-Kips, Tee Number T-4

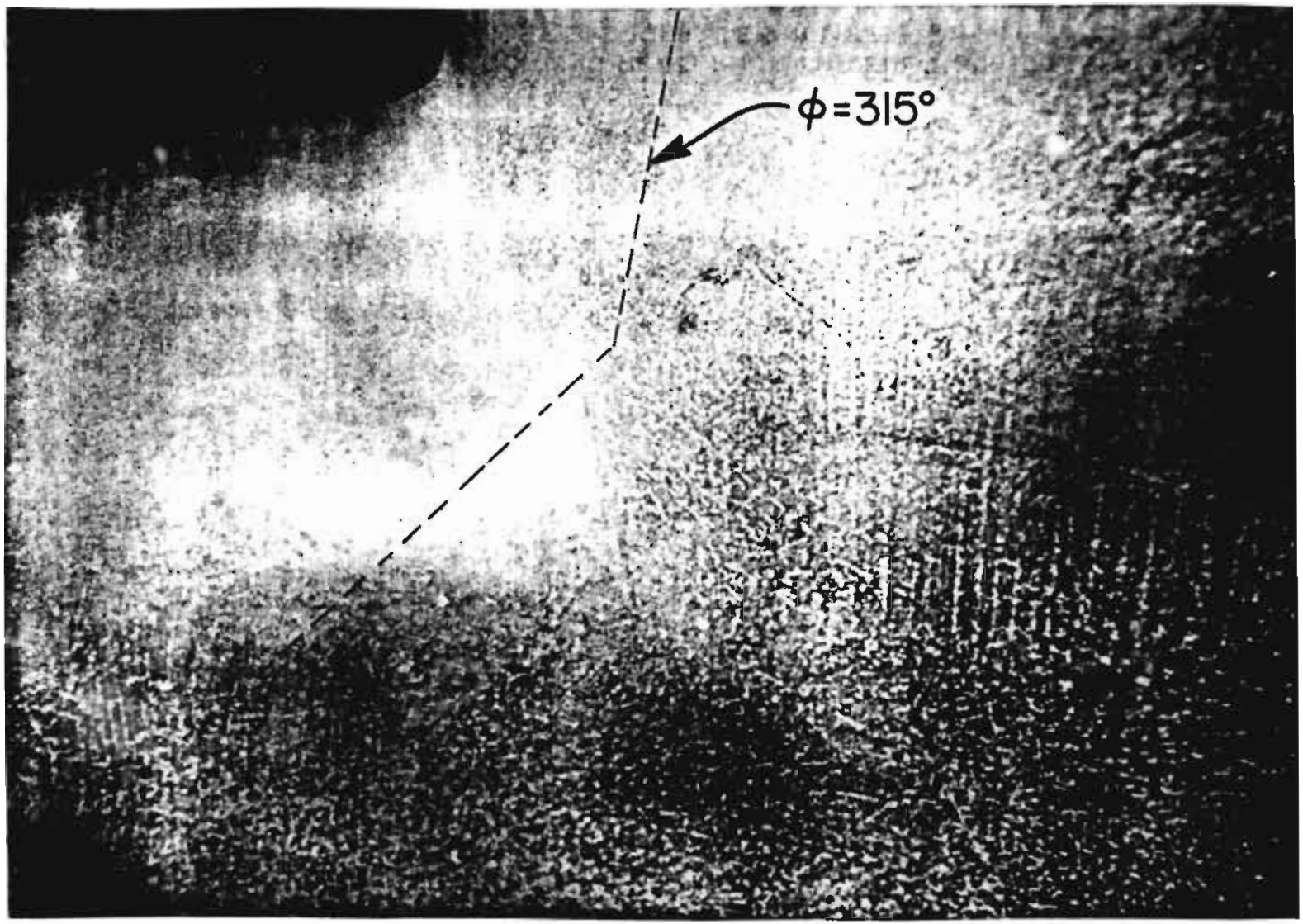


Figure V.2. Brittle Coating Pattern in the Fourth Quadrant at F3Z = -12 Kips, Tee Number T-4

Figure V.3. Brittle Coating Pattern in the First Quadrant at M3X = 61.5 Foot-Kips, Tee Number T-4

V.2 Brittle Coating Analysis of T-7

Brittle coating cracking occurred only after the last increment had been applied in each case. The M3X loading produced cracks in the area of the 67^{o} ϕ line in the crotch. There were no sharp gradients indicated. The same results were obtained when the F3Z loading was applied except that the coating cracks were at a symmetrical location on the opposite side of the tee.

No other loads were applied as it was expected that M3X or F3Z would produce greater stresses than the other loads. This did not prove to be the case but it was, in the opinion of the experimenters, inconsequential. The rosette locations proved to give adequate coverage.

V.3 Brittle Coating Analysis of T-8

Slight brittle coating cracking occurred after the third increment had been applied in each case of bending moment. After the fourth increment fairly general cracking occurred as shown in Figure V.4. The M3X loading produced cracks in the area of the 270^{o} ϕ line above the crotch and M3Z produced cracks at the 0^{o} ϕ line above the crotch. There were no sharp gradients indicated. The same results were obtained when the F3Z loading was applied except that the coating cracks were at a symmetrical location on the opposite side of the tee. A maximum load of 2 kips was thought by a technician to be an increment. The brittle coating pattern at 4 kips is shown in Figure V.5.

No other loads were applied as it was expected that M3X, M3Z or F3Z would produce greater stresses than the other loadings. This proved to be the case and the brittle coating test indicated that the rosette locations were adequate for the load conditions applied.

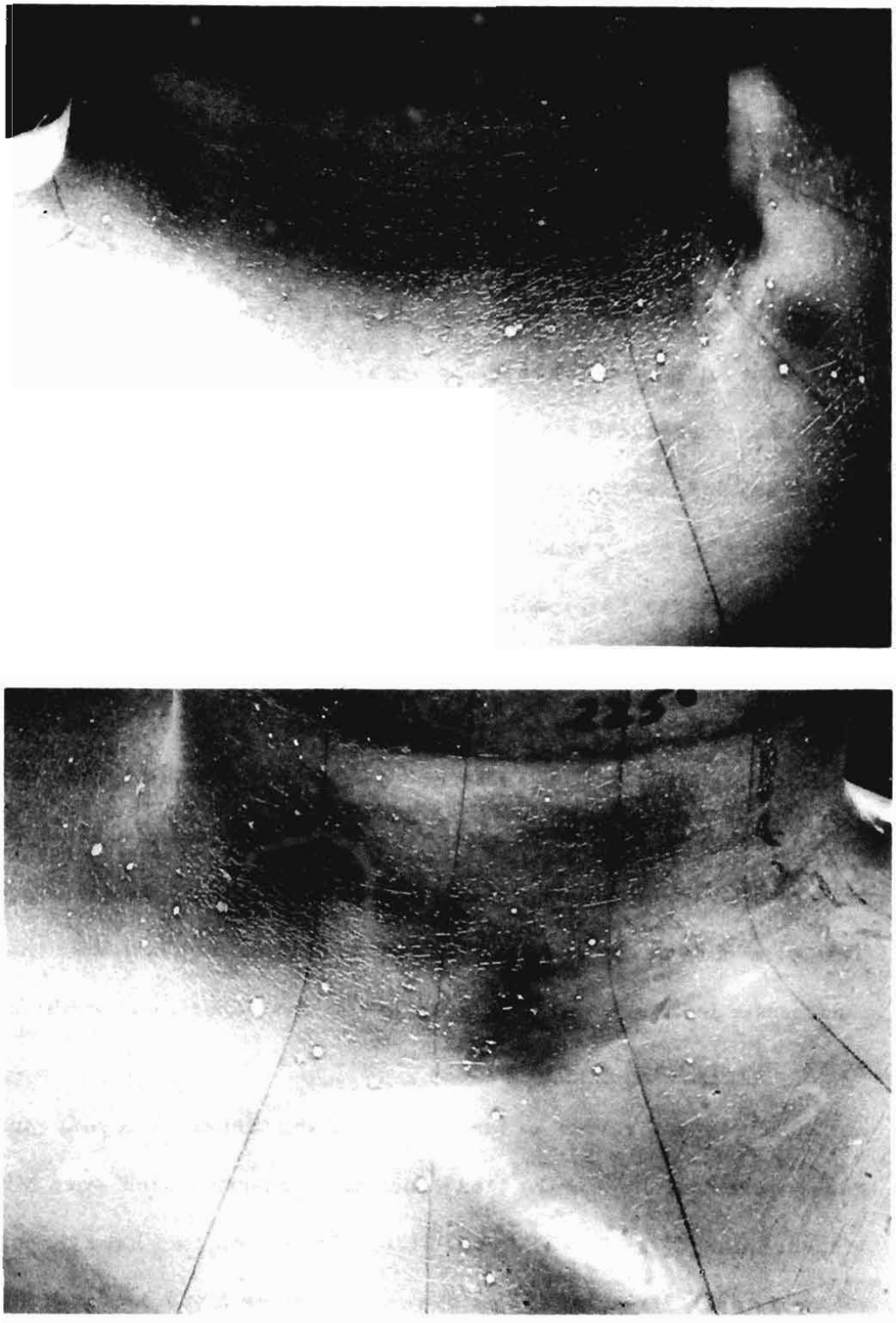


Figure V.4. Brittle Coating Cracks on T-8 After 14,000 Foot-Pounds Out-of-Plane and In-Plane Bending Applied to the Branch

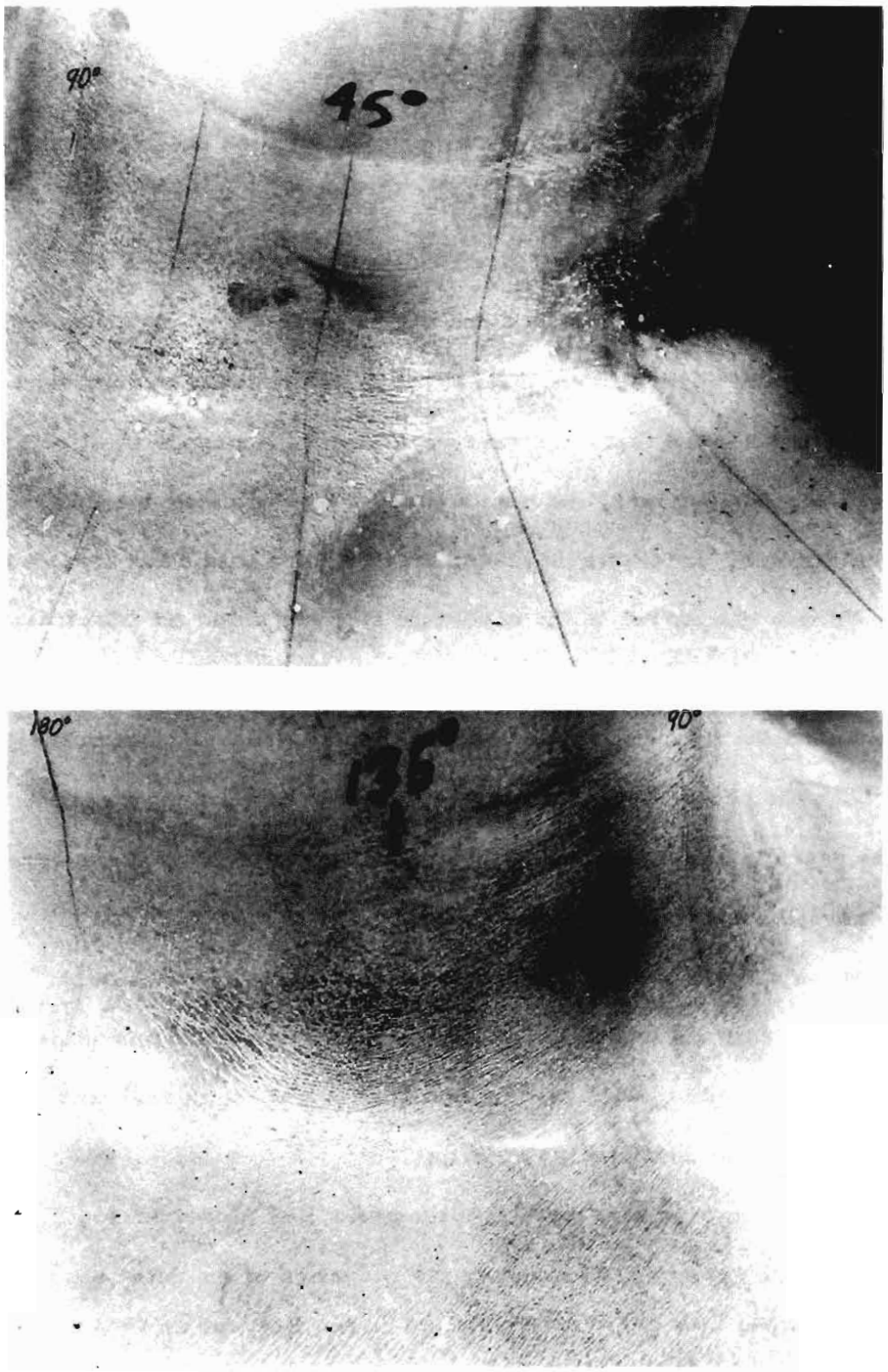


Figure V.5. Brittle Coating Cracks on 304L Stainless Steel Tee Number T-8 After 4 Kips Out-of-Plane Shear Applied to the Branch

APPENDIX VI

TABULATION OF STRAINS AND STRESSES AFTER BEING SUBJECTED TO THE DIAGNOSTIC TESTS OF COMPUTER CODE NOSEY

The tabulations in this appendix are the output of computer program LINDA which uses the diagnostic procedures of subroutine NOSEY for identifying questionable data. The strains and stresses correspond to the load specified in each case. Except for the axial case, these loads have been chosen to give a nominal stress of 1000 psi in the pipe section to which the load was applied. For the axial load cases, the specified loads are the same as the transverse shear loads for the corresponding models. The nominal dimensions for the pressure case are those of the run pipe. Strain data from gages where more than 30% of the data were rejected are flagged with asterisks. A double asterisk indicates complete failure of the gage. The three columns showing principal stress information use "PHI" to specify the angle between the orientations of the number 2 gage of the rosette and the maximum principal stress. It should not be mistaken for the PHI used in this report to specify the orientation of the gage lines.

The data are arranged sequentially by model number. Specifically, T-4, T-6, T-7, T-8, and T-15. Under each model the loads are arranged in the following order; Pressure, M2X, -M2Y, -M2Z, F2X, -F2Y, F2Z, M3X, -M3Y, -M3Z, F3X, F3Y, F3Z.

T-4, INTERNAL PRESSURE LOADING

NOMINAL LOAD = 1.078E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	6.7	8.8	8.0	0.35	0.28	12.4	0.35	0.28	0.02
0- 2	2.8	2.3	2.6	0.11	0.10	73.7	0.10	0.11	0.00
0- 3	1.0	-1.1	2.6	0.15	0.01	82.6	0.01	0.15	0.02
0- 4	3.4	-2.4	6.3	0.38	0.04	84.3	0.04	0.37	0.03
0- 5	8.1	18.1	11.8	0.62	0.23	86.4	0.24	0.62	0.02
0- 6	24.4	17.6	21.1	1.10	0.85	-81.2	0.86	1.10	-0.04
0- 7	16.4	9.3	18.0	0.79	0.51	-84.2	0.51	0.79	-0.03
0- 8	12.7	7.2	10.6	0.60	0.39	-83.5	0.40	0.60	-0.02
0- 9	13.0	10.5	13.6	0.64	0.51	87.0	0.51	0.64	0.01
0-10	14.9	14.4	13.4	0.63	0.59	-36.7	0.61	0.60	-0.02
0-11	29.5	27.1	27.8	1.27	1.19	-75.3	1.19	1.26	-0.02
0-12	28.5	12.1	25.3	1.50	0.81	-86.9	0.81	1.50	-0.04
0-13	41.8	18.9	46.3	2.47	1.31	87.5	1.31	2.47	0.05
0-14	53.1	18.9	54.2	3.20	1.40	89.6	1.40	3.20	0.01
0-15	62.9	132.2	67.3	4.34	1.24	-89.1	1.24	4.34	-0.05
0-16	44.9	5.8	35.8	2.54	0.93	-86.3	0.93	2.53	-0.10
0-17	45.3	27.4	37.0	2.10	1.43	-81.6	1.45	2.08	-0.10
0-18	37.1	28.8	35.4	1.73	1.38	-86.8	1.38	1.73	-0.02
0-19	33.1	26.4	31.5	1.52	1.25	-86.2	1.25	1.52	-0.02
0-20	26.6	17.1	25.6	1.33	0.91	-88.5	0.91	1.33	-0.01
22- 1	13.9	3.4	-7.1	0.39	-0.10	-45.0	0.14	0.15	-0.24
22- 2	14.1	1.6	-7.5	0.39	-0.11	-49.5	0.10	0.18	-0.25
22- 3	14.5	-1.1	-6.9	0.44	-0.11	-57.3	0.05	0.28	-0.25
22- 4	18.0	-3.7	-3.8	0.66	-0.05	-67.5	0.05	0.55	-0.25
22- 5	19.2	-3.9	5.4	0.93	0.12	-78.5	0.15	0.90	-0.16
22- 6	18.4	32.5	19.2	1.12	0.49	-79.2	0.51	1.10	-0.12
22- 7	19.1	-0.3	12.6	1.06	0.30	-84.3	0.31	1.05	-0.08
22- 8	6.7	-4.4	11.2	0.70	0.07	85.2	0.08	0.69	0.05
22- 9	4.7	1.2	13.7	0.61	0.18	75.3	0.21	0.58	0.10
22-10	6.1	7.5	16.0	0.61	0.33	62.7	0.39	0.56	0.12
22-11	17.8	16.2	25.4	1.08	0.77	72.3	0.80	1.05	0.09
22-12	15.0	13.6	28.2	1.17	0.69	70.2	0.78	1.11	0.15
22-13	11.8	11.8	31.1	1.23	0.60	67.5	0.70	1.14	0.22
22-14	17.8	8.4	27.4	1.31	0.62	80.6	0.64	1.29	0.11
22-15	32.7	-0.9	16.8	1.68	0.44	-81.4	0.47	1.65	-0.10
22-16	17.5	62.3	38.7	2.03	0.38	-86.4	0.39	2.03	-0.10
22-17	20.2	0.2	44.8	2.19	0.60	79.6	0.65	2.14	0.28
22-18	32.5	17.5	32.2	1.73	1.04	-89.8	1.04	1.73	-0.00
22-19	30.0	18.6	29.2	1.52	1.02	-88.9	1.02	1.52	-0.01
22-20	23.9	14.2	25.6	1.30	0.82	87.7	0.82	1.30	0.02
45- 1	29.2	12.1	-2.2	0.94	0.22	-47.6	0.55	0.61	-0.36
45- 2	30.1	8.9	-8.3	0.91	0.02	-48.0	0.42	0.51	-0.44
45- 3	25.7	1.3	-13.4	0.73	-0.20	-52.0	0.15	0.37	-0.45
45- 4	25.7	-1.1	-13.8	0.74	-0.23	-54.9	0.09	0.42	-0.46
45- 5	22.6	-4.4	-10.6	0.92	0.03	-71.5	0.12	0.83	-0.27
45- 6	14.7	29.1	12.8	0.94	0.24	-71.8	0.31	0.87	-0.21
45- 7	21.4	-1.9	2.8	0.91	0.13	-73.3	0.19	0.84	-0.21
45- 8	13.0	-7.6	3.4	0.73	-0.01	-81.6	-0.01	0.71	-0.11
45- 9	6.3	-5.4	9.7	0.65	0.03	86.3	0.03	0.65	0.04
45-10	6.0	1.2	15.3	0.70	0.21	76.9	0.24	0.67	0.11
45-11	2.9	10.3	12.5	0.46	0.20	30.5	0.39	0.27	0.11
45-12	3.2	7.8	7.1	0.30	0.14	17.8	0.28	0.16	0.04
45-13	10.8	10.3	10.9	0.48	0.45	88.1	0.45	0.48	0.00
45-14	10.9	6.9	16.4	0.75	0.42	79.0	0.43	0.74	0.06
45-15	13.9	0.3	22.9	1.22	0.36	83.0	0.37	1.21	0.10
45-16	7.9	36.8	22.9	1.18	0.14	84.7	0.15	1.17	0.10
45-17	2.2	-2.0	40.1	1.60	0.21	70.3	0.37	1.48	0.48
45-18	18.2	7.5	29.8	1.43	0.63	80.3	0.65	1.41	0.13
45-19	18.0	11.6	27.9	1.27	0.70	78.2	0.72	1.25	0.11
45-20	16.1	5.5	21.0	1.10	0.49	84.8	0.49	1.10	0.06
67- 1	32.7	17.2	3.5	1.11	0.44	-46.7	0.76	0.80	-0.38

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PSI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	39.3	24.7	5.5	1.35	0.57	-41.1	1.01	0.91	-0.39
67- 3	40.7	22.9	12.0	1.47	0.79	-51.7	1.05	1.21	-0.33
67- 4	28.5	38.0	28.0	1.44	0.99	-55.7	1.13	1.29	-0.21
67- 5	33.6	22.3	16.7	1.28	0.87	-54.2	1.01	1.14	-0.20
67- 6	32.3	7.2	7.6	1.27	0.44	-68.0	0.56	1.15	-0.29
67- 7	21.0	-2.5	8.2	1.05	0.20	-79.7	0.23	1.02	-0.15
67- 8	17.7	-5.7	8.6	1.01	0.12	-83.2	0.13	1.00	-0.11
67- 9	13.4	-4.6	13.4	0.99	0.16	-90.0	0.16	0.99	-0.00
67-10	11.0	-0.9	16.4	0.93	0.25	84.8	0.25	0.92	0.06
67-11	11.9	11.6	0.1	0.44	0.07	-23.2	0.39	0.13	-0.14
67-12	4.6	0.2	-5.2	0.10	-0.13	-42.0	-0.00	-0.02	-0.11
67-13	-1.2	-7.9	-7.9	-0.08	-0.30	-67.6	-0.27	-0.12	-0.08
67-14	-8.0	-2.9	-5.0	-0.19	-0.37	86.2	-0.37	-0.19	0.01
67-15	-12.5	-7.2	3.9	0.02	-0.39	54.8	-0.25	-0.12	0.19
67-16	-7.6	-1.5	15.3	0.46	-0.13	57.4	0.04	0.29	0.26
67-17	-0.2	3.4	17.1	0.59	0.13	60.2	0.24	0.48	0.20
67-18	3.9	5.7	16.3	0.61	0.26	62.6	0.33	0.53	0.14
67-19	5.4	10.8	15.4	0.56	0.33	42.6	0.46	0.44	0.12
67-20	5.2	1.7	14.7	0.65	0.21	75.0	0.24	0.62	0.11
90- 1	21.3	27.3	31.6	1.25	1.01	-4.4	1.25	1.01	-0.02
90- 2	34.3	45.2	36.0	1.74	1.27	2.4	1.74	1.27	0.02
90- 3	33.0	41.5	33.7	1.62	1.24	1.3	1.62	1.24	0.01
90- 4	28.4	32.1	31.4	1.34	1.22	17.2	1.33	1.23	0.03
90- 5	26.2	21.1	29.3	1.35	1.03	83.4	1.04	1.34	0.04
90- 6	23.7	10.8	23.6	1.31	0.72	-89.8	0.72	1.31	-0.00
90- 7	19.6	1.7	18.6	1.22	0.42	-89.2	0.42	1.22	-0.01
90- 8	15.0	-2.9	17.7	1.15	0.26	88.0	0.26	1.14	0.03
90- 9	17.6	-1.3	17.4	1.18	0.32	-89.8	0.32	1.18	-0.00
90-10	19.0	-0.4	18.5	1.25	0.36	-89.7	0.36	1.25	-0.01
90-11	8.6	4.3	0.2	0.29	0.09	-5.9	0.28	0.09	-0.02
90-12	-5.4	-7.1	-5.0	-0.18	-0.27	87.6	-0.27	-0.18	0.00
90-13	-5.9	-7.2	-4.9	-0.19	-0.27	82.2	-0.27	-0.19	0.01
90-14	-3.2	-2.8	-1.0	-0.06	-0.12	62.1	-0.11	-0.07	0.02
90-15	-0.4	0.8	0.6	0.02	-0.02	17.1	0.02	-0.01	0.01
90-16	0.8	4.5	2.0	0.13	-0.01	5.2	0.13	-0.01	0.01
90-17	2.1	6.7	3.0	0.20	0.01	3.0	0.20	0.01	0.01
90-18	9.9	7.3	31.5	1.28	0.49	70.6	0.58	1.20	0.25
90-19	2.8	3.5	3.8	0.15	0.13	36.6	0.15	0.14	0.01
90-20	5.2	-0.2	4.0	0.31	0.09	-86.2	0.09	0.31	-0.01
180- 1	7.1	6.7	5.3	0.29	0.24	-30.0	0.28	0.25	-0.02
180- 2	4.2	1.4	1.4	0.17	0.07	-67.1	0.09	0.15	-0.03
180- 3	7.0	1.2	1.8	0.28	0.09	-70.4	0.11	0.26	-0.06
180- 4	11.3	0.0	3.0	0.50	0.12	-74.8	0.14	0.47	-0.10
180- 5	5.0	16.7	15.1	0.62	0.24	-81.4	0.25	0.62	-0.06
180- 6	12.5	7.2	17.3	0.83	0.4_	81.4	0.46	0.82	0.06
180- 7	9.3	3.7	14.3	0.70	0.31	81.4	0.32	0.69	0.06
180- 8	4.3	0.7	8.7	0.42	0.13	79.6	0.14	0.41	0.05
180- 9	5.8	4.8	8.7	0.58	0.24	75.1	0.25	0.37	0.03
180-10	8.6	9.4	10.5	0.43	0.39	49.9	0.40	0.41	0.12
180-11	26.7	27.2	26.8	1.16	1.14	0.6	1.16	1.14	0.00
180-12	27.4	20.5	27.9	1.35	1.02	88.9	1.02	1.35	0.01
180-13	37.7	12.2	21.9	1.72	0.83	-77.9	0.87	1.68	-0.18
180-14	56.0	7.0	32.0	2.78	0.99	-81.0	1.03	2.74	-0.28
180-15	57.7	103.3	39.7	3.36	0.81	-89.7	0.81	3.36	-0.02
180-16	30.4	-5.7	59.8	3.15	0.71	81.9	0.76	3.10	0.38
180-17	38.7	21.0	37.9	2.04	1.24	-89.3	1.24	2.04	-0.01
180-18	37.1	26.9	33.0	1.70	1.31	-83.0	1.31	1.69	-0.05
180-19	32.0	25.8	30.8	1.48	1.22	-87.0	1.22	1.48	-0.01
180-20	28.2	16.6	22.8	1.31	0.88	-81.6	0.89	1.30	-0.06
202- 1	14.8	2.9	-6.6	0.42	-0.07	-48.2	0.15	0.20	-0.25
202- 2	12.3	-1.3	-8.6	0.33	-0.17	-53.4	0.01	0.15	-0.24
202- 3	11.2	-3.3	-6.9	0.34	-0.15	-60.7	-0.03	0.22	-0.21
202- 4	11.1	-5.5	-3.3	0.44	-0.10	-71.3	-0.05	0.39	-0.17
202- 5	13.7	-5.0	4.5	0.73	0.05	-80.9	0.06	0.71	-0.11
202- 6	14.8	30.5	18.4	1.03	0.39	-76.3	0.43	1.00	-0.15
202- 7	20.6	1.4	9.0	0.97	0.30	-78.3	0.32	0.94	-0.13

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	7.4	-5.9	4.6	0.53	-0.02	-86.6	-0.02	0.53	-0.03
202- 9	1.5	-2.3	8.1	0.38	0.03	77.5	0.04	0.37	0.08
202-10	3.5	4.7	13.2	0.50	0.22	63.2	0.27	0.44	0.11
202-11	16.4	15.3	24.0	1.01	0.72	71.2	0.75	0.98	0.09
202-12	17.9	15.9	24.7	1.06	0.77	73.8	0.79	1.04	0.08
202-13	11.9	12.5	31.8	1.25	0.62	66.7	0.72	1.16	0.23
202-14	20.2	10.3	32.6	1.53	0.73	79.4	0.76	1.50	0.14
202-15	25.5	-2.2	33.4	2.00	0.53	86.4	0.53	1.99	0.09
202-16	30.7	75.7	37.0	2.42	0.48	87.1	0.49	2.41	0.10
202-17	24.4	4.0	37.8	1.98	0.69	83.1	0.71	1.96	0.15
202-18	30.8	16.5	32.0	1.69	1.00	88.9	1.00	1.69	0.01
202-19	29.6	19.1	29.9	1.52	1.03	89.6	1.03	1.52	0.00
202-20	22.9	12.0	26.0	1.34	0.76	86.4	0.76	1.33	0.04
225- 1	26.7	10.3	-2.3	0.86	0.19	-88.7	0.88	0.57	-0.33
225- 2	32.0	10.2	-7.9	0.98	0.05	-87.6	0.87	0.56	-0.46
225- 3	27.6	4.7	-14.2	0.77	-0.20	-87.8	0.24	0.33	-0.48
225- 4	21.7	-3.7	-15.5	0.59	-0.32	-55.1	-0.02	0.29	-0.43
225- 5	21.0	-5.9	-3.8	0.81	-0.07	-69.7	0.03	0.70	-0.29
225- 6	11.0	28.4	13.4	0.90	0.15	-67.9	0.26	0.79	-0.26
225- 7	23.9	0.1	-2.0	0.86	0.08	-65.0	0 22	0.72	-0.30
225- 8	12.1	-8.8	0.5	0.64	-0.10	-79.4	-0.08	0.62	-0.13
225- 9	6.3	-6.1	7.0	0.58	-0.01	89.2	-0.01	0.58	0.01
225-10	5.0	-0.3	14.9	0.69	0.16	77.2	0.19	0.66	0.11
225-11	3.4	11.3	11.9	0.46	0.20	28.7	0.41	0.24	0.10
225-12	4.5	6.9	4.4	0.25	0.13	-0.3	0.25	0.13	-0.00
225-13	8.6	7.0	7.4	0.37	0.32	-74.6	0.32	0.37	-0.01
225-14	13.0	7.2	18.1	0.87	0.47	81.6	0.47	0.86	0.06
225-15	28.2	-2.2	13.5	1.45	0.38	-81.2	0.36	1.43	-0.17
225-16	12.	44.9	24.8	1.42	0.18	86.6	0.18	1.42	0.07
225-17	11.5	1.5	36.6	1.63	0.44	75.5	0.51	1.55	0.29
225-18	16.0	7.7	31.2	1.42	0.61	77.2	0.65	1.38	0.18
225-19	17.1	9.5	25.0	1.18	0.62	80.6	0.64	1.17	0.09
225-20	13.9	5.6	22.3	1 08	0.47	80.8	0.49	1.07	0.10
247- 1	34.9	16.5	4.0	1.20	0.47	-50.4	0.76	0.90	-0.36
247- 2	45.0	26.7	8.1	1.56	0.71	-44.8	1.14	1.13	-0.43
247- 3	40.6	-0.5**	13.0	1.86	0.44	-76.6	0.52	1.78	-0.32
247- 4	29.3	38.5	27.4	1.45	0.98	-57.6	1.11	1.31	-0.21
247- 5	35.6	24.7	19.0	1.37	0.97	-53.6	1.11	1.23	-0.19
247- 6	35.4	10.6	8.3	1.34	0.53	-64.8	0.68	1.19	-0.31
247- 7	23.0	-1.2	9.4	1.12	0.26	-79.3	0.29	1.09	-0.16
247- 8	16.2	-4.9	11.1	1.02	0.15	-86.1	0.16	1.01	-0.06
247- 9	13.6	-2.9	15.2	1.02	0.22	88.7	0.22	1.02	0.02
247-10	12.2	-1.9	18.0	1.04	0.25	85.1	0.26	1.04	0.07
247-11	11.3	9.0	-3.2	0.38	-0.03	-28.0	0.29	0.06	-0.17
247-12	3.8	-2.1	-8.3	0.04	-0.24	-44.2	-0.09	-0.10	-0.14
247-13	0.0	0.1**	-9.2	-0.05	-0.35	-22.2	-0.09	-0.30	-0.11
247-14	-8.5	-2.6	-4.7	-0.18	-0.38	87.9	-0.38	-0.18	0.01
247-15	-10.9	-5.2	3.3	0.00	-0.33	50.4	-0.19	-0.13	0.16
247-16	-5.6	-0.9	12.5	0.38	-0.08	58.0	0.05	0.25	0.21
247-17	0.3	4.8	16.0	0.55	0.15	56.6	0.27	0.43	0.18
247-18	3.2	7.2	16.8	0.60	0.26	56.3	0.36	0.49	0.16
247-19	3.9	8.4	16.0	0.62	0.24	66.2	0.30	0.55	0.14
247-20	4.3	1.8	15.0	0.63	0.19	72.9	0.23	0.60	0.12
270- 1	21.9	25.7	30.1	1.21	1.02	1.9	1.21	1.02	0.01
270- 2	39.0	52.6	37.2	1.97	1.30	-1.8	1.97	1.30	-0.02
270- 3	34.6	40.6	34.2	1.62	1.33	-1.1	1.62	1.33	-0.01
270- 4	30.2	28.3	29.4	1.31	1.24	-81.9	1.24	1.31	-0.01
270- 5	25.9	19.5	29.3	1.37	0.99	84.1	1.00	1.37	0.04
270- 6	23.4	9.4	25.7	1.40	0.70	87.8	0.70	1.40	0.03
270- 7	21.6	2.3	22.4	1.39	0.49	89.4	0.49	1.39	0.01
270- 8	19.8	-0.7	18.3	1.27	0.36	-88.9	0.36	1.27	-0.02
270- 9	18.8	-0.5	18.8	1.25	0.36	90.0	0.36	1.25	0.00
270-10	19.0	-1.2	17.7	1.24	0.34	-89.1	0.34	1.24	-0.01
270-11	9.5	5.0	-2.1	0.30	0.02	1.1	0.30	0.02	0.01
270-12	-5.4	-6.7	-5.1	-0.19	-0.26	87.5	-0.26	-0.19	0.00
270-13	-4.0	-5.3	-4.7	-0.16	-0.21	-80.2	-0.21	-0.16	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-2.5	-1.4	-3.3	-0.09	-0.16	-7.8	-0.09	-0.16	-0.01
270-15	-1.2	2.5	-0.7	0.04	-0.12	2.3	0.04	-0.12	0.01
270-16	0.3	5.4	2.0	0.15	-0.05	5.7	0.15	-0.05	0.02
270-17	2.9	7.1	3.4	0.23	0.05	2.0	0.23	0.05	0.01
270-18	4.0	5.0	4.6	0.20	0.17	12.1	0.20	0.17	0.01
270-19	5.2	4.2	5.6	0.26	0.20	85.5	0.20	0.26	0.00
270-20	5.9	1.1	6.1	0.37	0.14	89.4	0.14	0.37	0.00
0- 5	8.1	18.1	11.8	0.62	0.23	6.4	0.61	0.24	0.04
11- 1	18.2	31.1	19.0	1.08	0.51	0.8	1.08	0.51	0.01
22- 6	18.4	32.5	19.2	1.12	0.49	0.8	1.12	0.49	0.01
33- 1	15.9	27.2	11.8	0.91	0.28	-8.3	0.90	0.28	-0.05
45- 6	14.7	29.1	12.8	0.94	0.24	-1.8	0.94	0.24	-0.02
56- 1	19.6	33.2	18.6	1.15	0.49	-1.0	1.14	0.49	-0.0.
67- 4	28.5	38.0	28.0	1.44	0.99	-0.7	1.44	0.99	-0.01
78- 1	28.8	36.7	40.1	1.62	1.34	34.4	1.53	1.43	0.13
90- 1	21.3	27.3	31.6	1.25	1.01	40.6	1.15	1.12	0.12
0-15	62.9	132.2	67.3	4.34	1.24	0.9	4.34	1.24	0.05
11-11	26.0	70.0	39.0	2.27	0.52	4.9	2.26	0.53	0.15
22-16	17.5	62.3	38.7	2.03	0.38	8.6	2.00	0.42	0.24
33-11	24.3	63.4	31.9	2.02	0.39	3.1	2.02	0.39	0.09
45-16	7.9	36.8	22.9	1.18	0.14	9.7	1.15	0.17	0.17
56-11	-0.4	15.2	5.7	0.41	-0.18	6.8	0.40	-0.18	0.07
67-14	-8.0	-2.9	-5.0	-0.19	-0.37	11.2	-0.20	-0.36	0.03
78-11	-7.5	-6.2	-3.5	-0.19	-0.28	54.7	-0.25	-0.22	0.05
90-11	8.6	8.3	0.2	0.29	0.09	-45.9	0.19	0.19	-0.10
180- 5	5.0	16.7	15.1	0.62	0.24	18.6	0.59	0.28	0.12
191- 1	16.2	34.6	21.9	1.18	0.45	5.2	1.18	0.46	0.07
202- 6	14.8	30.5	18.4	1.03	0.39	3.7	1.03	0.39	0.04
213- 1	12.2	27.1	13.4	0.88	0.22	1.1	0.88	0.22	0.01
225- 6	11.0	28.4	13.4	0.90	0.15	2.1	0.90	0.15	0.03
236- 1	17.3	34.3	19.9	1.16	0.43	2.4	1.16	0.43	0.03
247- 4	29.3	38.5	27.4	1.45	0.98	-2.6	1.45	0.98	-0.02
258- 1	26.6	43.8	51.1	1.97	1.36	34.1	1.78	1.55	0.28
270- 1	21.9	25.7	30.1	1.21	1.02	46.9	1.11	1.12	0.10
180-15	57.7	103.3	39.7	3.36	0.81	-8.7	3.35	0.83	-0.21
191-11	32.7	70.4	28.3	2.23	0.38	-1.3	2.23	0.39	-0.05
202-16	30.7	75.7	37.0	2.42	0.48	2.1	2.42	0.49	0.07
213-11	21.0	59.9	32.1	1.92	0.36	4.7	1.91	0.37	0.13
225-16	12.6	44.9	24.8	1.42	0.18	6.6	1.41	0.19	0.14
236-11	1.3	16.0	6.0	0.45	-0.13	5.4	0.44	-0.13	0.05
247-14	-8.5	-2.6	-4.7	-0.18	-0.38	12.9	-0.19	-0.37	0.08
258-11	-8.7	-7.7	-4.2	-0.22	-0.34	60.0	-0.31	-0.25	0.05
270-11	9.5	5.0	-2.1	0.30	0.02	-38.9	0.12	0.13	-0.13
400-01	-0.6	2.6	5.4	0.17	0.03	88.1	0.03	0.17	0.00
400-11	32.5	16.4	4.0	1.11	0.45	86.4	0.45	1.11	0.04
401-01	15.5	8.0	15.9	0.85	0.50	89.2	0.50	0.85	0.01
401-02	24.2	3.3					0.83	0.35	
401-03	22.4	9.3					0.83	0.53	
401-04	23.5	3.5					0.81	0.35	
402-01	17.0	10.5	17.7	0.90	0.59	88.5	0.59	0.90	0.01
402-02	21.6	2.9					0.74	0.31	
402-03	22.4	9.3					0.83	0.53	
402-04	21.3	2.1					0.72	0.28	
403-01	15.7	7.8	14.2	0.81	0.48	-87.0	0.48	0.81	-0.02
403-02	24.5	4.4					0.85	0.39	
403-03	22.8	8.4					0.83	0.50	
403-04	21.8	3.9					0.76	0.34	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, TORSIONAL MOMENT LOADING ON BOW, M2X

NOMINAL LOAD = 6.188E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	28.6	-2.9	-29.6	0.65	-0.69	-47.4	-0.08	0.04	-0.67
0- 2	25.0	-1.1	-24.8	0.58	-0.57	-46.4	-0.02	0.03	-0.57
0- 3	25.8	-2.6	-25.8	0.60	-0.60	-47.9	-0.06	0.06	-0.60
0- 4	27.4	-2.9	-31.0	0.60	-0.75	-46.1	-0.10	-0.05	-0.67
0- 5	-26.9	-10.7	25.7	0.62	-0.68	-44.5	-0.01	-0.04	-0.65
0- 6	15.4	-2.0*	-19.0	0.32	-0.48	-45.2	-0.08	-0.08	-0.40
0- 7	2.7	-0.8	-4.1	0.05	-0.11	-45.8	-0.03	-0.03	-0.08
0- 8	-0.2	-0.1	-0.5	-0.01	-0.02	-15.2	-0.01	-0.02	-0.00
0- 9	-2.4	0.2	2.0	0.04	-0.06	40.8	0.00	-0.01	0.05
0-10	-3.3	0.1	3.1	0.07	-0.08	43.7	-0.00	-0.01	0.07
0-11	-12.7	0.2	12.4	0.28	-0.30	44.1	0.00	-0.02	0.29
0-12	-6.1	-0.4	5.9	0.13	-0.14	46.3	-0.01	0.00	0.14
0-13	-6.1	0.2	6.4	0.15	-0.14	44.9	0.01	0.01	0.14
0-14	-4.1	0.3	6.1	0.16	-0.08	48.6	0.03	0.06	0.12
0-15	2.4*	3.9*	1.5	0.13	0.04	82.9	0.04	0.13	0.01
0-16	5.9	0.9	-3.9	0.15	-0.07	-45.2	0.04	0.04	-0.11
0-17	1.7	1.2*	-1.2*	0.05	-0.03	-27.6	0.03	-0.01	-0.03
0-18	-1.2	0.0	0.9	0.02	-0.03	39.7	-0.00	-0.01	0.02
0-19	-3.4	-0.5	3.5	0.08	-0.08	49.2	-0.01	0.01	0.08
0-20	-4.3	-0.3	4.7	0.11	-0.09	48.6	-0.00	0.02	0.10
22- 1	16.3	2.5	-21.5	0.34	-0.56	-37.4	0.01	-0.23	-0.44
22- 2	18.4	3.8	-18.9	0.43	-0.45	-38.9	0.08	-0.10	-0.43
22- 3	19.3	3.7	-20.3	0.44	-0.49	-38.9	0.08	-0.12	-0.46
22- 4	21.3	2.6	-25.0	0.46	-0.62	-39.6	0.02	-0.18	-0.53
22- 5	19.9	1.9	-25.7	0.41	-0.66	-39.1	-0.02	-0.24	-0.53
22- 6	-18.6	-2.6	19.3	0.46	-0.43	-30.6	0.23	-0.20	-0.39
22- 7	10.7	9.1	-1.3	0.37	0.03	-26.9	0.30	0.10	-0.14
22- 8	7.6	5.7	7.2	0.36	0.20	-87.0	0.28	0.36	-0.00
22- 9	6.3	3.9	8.6	0.40	0.23	81.0	0.24	0.40	0.03
22-10	4.0	1.2	-0.0**	0.13	0.03	-55.6	0.07	0.10	-0.05
22-11	-17.7	-1.7	7.0	0.07	-0.52	36.9	-0.14	-0.31	0.29
22-12	-12.3	-2.8	0.6	-0.09	-0.42	32.2	-0.18	-0.32	0.15
22-13	-7.6	-4.2	-3.9	-0.19	-0.30	25.3	-0.21	-0.28	0.04
22-14	-9.3	-4.7	-5.9	-0.25	-0.40	14.9	-0.26	-0.39	0.04
22-15	-13.8	-3.4	-6.6	-0.26	-0.61	13.8	-0.28	-0.59	0.08
22-16	-8.8	-26.3	-18.8	-0.28	-0.90	5.8	-0.28	-0.90	0.06
22-17	-11.3	-7.4	-16.0	-0.43	-0.74	-10.3	-0.44	-0.73	-0.05
22-18	-16.5	-11.3	-8.9	-0.45	-0.64	35.3	-0.51	-0.58	0.09
22-19	-16.9	-9.0	-5.3	-0.33	-0.62	34.9	-0.43	-0.52	0.13
22-20	-13.9	-4.8	0.1**	-0.13	-0.46	36.6	-0.25	-0.34	0.16
45- 1	-0.5	13.5	6.5	0.38	-0.13	9.1	0.37	-0.11	0.08
45- 2	6.7	11.7	4.9	0.39	0.11	-4.5	0.39	0.11	-0.02
45- 3	11.7	8.3	3.3	0.42	0.22	-39.8	0.34	0.30	-0.10
45- 4	16.2	12.6	4.7	0.59	0.31	-34.8	0.50	0.40	-0.13
45- 5	20.3	22.0	8.7	0.84	0.40	-18.8	0.79	0.45	-0.13
45- 6	14.2	6.5	21.0	1.02	0.49	11.6	1.00	0.51	0.11
45- 7	11.5	25.2	28.2	1.08	0.62	28.6	0.98	0.73	0.19
45- 8	19.0	16.0	23.1	1.03	0.78	78.9	0.79	1.02	0.05
45- 9	17.6	8.5	18.6	1.00	0.55	88.5	0.55	1.00	0.01
45-10	13.0	3.2	14.6	0.84	0.34	87.8	0.35	0.84	0.02
45-11	-0.3	17.8	-0.9	0.40	-0.45	-0.5	0.40	-0.45	-0.01
45-12	0.6	9.6	-9.5	0.15	-0.53	-9.9	0.13	-0.51	-0.12
45-13	-4.2	4.7	-13.0	-0.05	-0.69	-9.1	-0.06	-0.68	-0.10
45-14	-12.9	-6.0	-19.0	-0.44	-0.92	-8.4	-0.45	-0.91	-0.07
45-15	-28.5	-10.8	-23.3	-0.76	-1.46	5.0	-0.76	-1.46	0.06
45-16	-16.4	-46.9	-89.9	-0.92	-1.92	10.2	-0.95	-1.89	0.18
45-17	-32.8	-6.4	-41.7	-0.87	-2.30	-4.3	-0.88	-2.29	-0.11
45-18	-40.6	-13.5	-20.3	-0.85	-1.76	15.4	-0.91	-1.70	0.23
45-19	-29.4	-10.2	-16.0	-0.64	-1.30	14.1	-0.68	-1.26	0.15
45-20	-21.5	-3.6	-11.8	-0.39	-1.03	10.3	-0.41	-1.01	0.11
67- 1	-12.5	13.9	25.4	0.75	-0.19	34.2	0.45	0.10	0.44

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-7.1	21.9	37.3	1.18	0.11	36.4	0.80	0.49	0.51
67- 3	-3.2	35.0	52.8	1.75	0.37	34.9	1.30	0.83	0.65
67- 4	42.1	-2.5	20.7	2.17	0.53	43.7	1.38	1.31	0.82
67- 5	-0.2	34.7	69.0	2.27	0.67	44.8	1.48	1.47	0.80
67- 6	11.9	29.7	45.0	1.60	0.84	42.8	1.25	1.19	0.38
67- 7	16.5	23.3	35.9	1.35	0.89	53.3	1.05	1.19	0.22
67- 8	21.3	14.7	24.1	1.16	0.79	84.9	0.79	1.16	0.03
67- 9	19.9	9.1	17.3	1.02	0.58	-86.2	0.58	1.02	-0.03
67-10	16.5	4.4	11.4	0.83	0.37	-82.6	0.38	0.82	-0.06
67-11	3.3	16.4	5.7	0.47	-0.08	2.9	0.47	-0.08	0.03
67-12	-9.1	3.6	-2.1	-0.01	-0.47	10.3	-0.03	-0.45	0.08
67-13	-27.9	-11.9	-6.2	-0.45	-1.01	32.3	-0.61	-0.85	0.25
67-14	-3.3	-21.4	-36.7	-0.47	-1.24	27.6	-0.64	-1.08	0.32
67-15	-22.4	-6.0	-32.2	-0.66	-1.67	-6.5	-0.68	-1.66	-0.11
67-16	-31.6	-3.6	-35.3	-0.74	-2.12	-1.8	-0.74	-2.12	-0.04
67-17	-29.2	-2.7	-28.9	-0.64	-1.85	0.2	-0.64	-1.85	0.00
67-18	-22.1	-1.0	-24.4	-0.48	-1.51	-1.5	-0.48	-1.51	-0.03
67-19	-18.8	-1.7	-23.0	-0.80	-1.22	-6.7	-0.41	-1.21	-0.09
67-20	-10.4	-1.0	-21.0	-0.31	-1.03	-10.0	-0.34	-1.01	-0.12
90- 1	-5.4	-29.2	6.5	0.72	-0.68	39.4	0.16	-0.11	0.69
90- 2	-35.8	2.0	40.7	0.99	-0.78	45.3	0.10	0.11	0.88
90- 3	-36.8	2.5	42.2	1.03	-0.80	45.1	0.11	0.12	0.91
90- 4	-33.2	1.7	41.3	1.04	-0.69	46.8	0.12	0.23	0.86
90- 5	-26.2	5.0	34.0	0.86	-0.53	44.0	0.19	0.14	0.69
90- 6	-16.1	3.8	22.3	0.58	-0.31	43.9	0.15	0.12	0.44
90- 7	-6.7	2.2	12.0	0.33	-0.10	46.6	0.10	0.13	0.22
90- 8	-1.1	1.5	5.7	0.18	0.02	51.7	0.08	0.12	0.08
90- 9	2.2	0.8	1.8	0.11	0.06	-84.8	0.06	0.11	-0.00
90-10	5.5	0.8	-2.4	0.16	-0.03	-50.1	0.05	0.08	-0.09
90-11	-0.4	16.6	1.5	0.39	-0.35	41.7	0.06	-0.02	0.37
90-12	-16.6	0.5	14.1	0.30	-0.41	41.7	-0.01	-0.10	0.35
90-13	-12.8	1.0	7.6	0.18	-0.36	35.1	-0.03	-0.20	0.24
90-14	-7.0	-0.3	1.5	-0.00	-0.23	30.2	-0.06	-0.17	0.10
90-15	-0.4	-0.2	-3.5	-0.03	-0.14	-20.9	-0.04	-0.12	-0.04
90-16	3.6	-0.2	-8.1	0.05	-0.24	-35.3	-0.05	-0.14	-0.13
90-17	5.9	0.3	-9.8	0.11	-0.27	-37.0	-0.03	-0.14	-0.18
90-18	9.4	0.5	-12.8	0.19	-0.33	-39.3	-0.02	-0.12	-0.26
90-19	11.2	0.5	-13.5	0.24	-0.34	-41.2	-0.01	-0.09	-0.28
90-20	9.6	0.5	-12.1	0.20	-0.31	-40.5	-0.01	-0.09	-0.25
180- 1	29.5	2.2	-27.6	0.70	-0.62	-43.7	0.07	0.01	-0.66
180- 2	26.1	1.0	-24.9	0.62	-0.56	-44.5	0.04	0.02	-0.59
180- 3	26.6	1.2	-26.6	0.61	-0.62	-43.7	0.03	-0.03	-0.61
180- 4	29.7	4.5	-28.0	0.71	-0.63	-41.5	0.12	-0.05	-0.67
180- 5	-25.4	-13.3	26.3	0.69	-0.66	-41.0	0.11	-0.08	-0.67
180- 6	16.6	-1.1	-21.1	0.34	-0.53	-43.3	-0.07	-0.12	-0.44
180- 7	1.5	-3.2	-6.2	-0.01	-0.19	-51.0	-0.12	-0.08	-0.09
180- 8	-2.0	-2.4	-2.6	-0.09	-0.11	-56.6	-0.10	-0.09	-0.01
180- 9	-3.8	-2.4	-0.6	-0.06	-0.13	47.7	-0.10	-0.09	0.08
180-10	-4.4	-1.3	0.9	-0.01	-0.14	40.6	-0.06	-0.08	0.06
180-11	-15.2	-0.2	14.1	0.32	-0.36	88.3	-0.01	-0.03	0.34
180-12	-8.3	1.0	8.0	0.19	-0.20	41.0	0.02	-0.03	0.19
180-13	-5.4	-0.1	4.2	0.08	-0.14	42.2	-0.01	-0.04	0.11
180-14	-1.6	0.8	1.2	0.03	-0.05	27.6	0.02	-0.03	0.03
180-15	-1.3	-0.8	2.0	0.06	-0.03	-22.2	0.05	-0.02	-0.03
180-16	5.2	0.2	-2.2	0.16	-0.03	-54.9	0.03	0.10	-0.09
180-17	5.1	2.1	0.5	0.17	0.06	-52.8	0.10	0.13	-0.05
180-18	1.4	1.6	2.5	0.10	0.07	59.8	0.08	0.09	0.01
180-19	-1.2	1.6	4.5	0.13	0.00	45.3	0.07	0.07	0.07
180-20	-2.8	0.6	5.3	0.15	-0.09	89.9	0.04	0.07	0.09
202- 1	17.8	1.2	-23.8	0.36	-0.62	-39.2	-0.03	-0.23	-0.48
202- 2	19.4	2.2	-18.8	0.45	-0.43	-42.1	0.06	-0.03	-0.44
202- 3	19.2	0.1	-21.7	0.42	-0.53	-43.1	-0.02	-0.08	-0.47
202- 4	19.8	-0.3	-22.9	0.43	-0.56	-43.3	-0.04	-0.10	-0.49
202- 5	21.8	1.3	-25.0	0.47	-0.61	-41.5	-0.00	-0.14	-0.54
202- 6	-18.7	-2.8	21.0	0.52	-0.42	-29.4	0.29	-0.19	-0.40
202- 7	10.1	9.0	-2.1	0.35	-0.01	-25.4	0.29	0.06	-0.14

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	6.2	4.5	6.5	0.32	0.23	88.2	0.23	0.32	0.00
202- 9	4.0	1.7	8.4	0.38	0.15	77.0	0.16	0.37	0.05
202-10	3.0	-0.3	8.0	0.38	0.09	78.5	0.10	0.37	0.06
202-11	-18.4	-1.9	9.3	0.13	-0.52	39.6	-0.13	-0.26	0.32
202-12	-15.5	-4.9	3.6	-0.03	-0.48	42.1	-0.23	-0.28	0.22
202-13	-9.3	-2.6	-3.2	-0.16	-0.37	20.2	-0.18	-0.35	0.07
202-14	-11.1	-4.7	-6.4	-0.27	-0.48	15.5	-0.28	-0.47	0.06
202-15	-13.2	-3.3	-11.9	-0.32	-0.75	2.1	-0.32	-0.75	0.02
202-16	-14.6	-31.8	-17.9	-0.33	-1.06	-2.0	-0.34	-1.06	-0.02
202-17	-11.5	-9.6	-14.9	-0.47	-0.66	-12.8	-0.48	-0.65	-0.04
202-18	-14.6	-9.8	-7.8	-0.40	-0.56	33.7	-0.45	-0.51	0.08
202-19	-14.9	-6.9	-3.8	-0.26	-0.54	33.0	-0.34	-0.46	0.13
202-20	-13.7	-3.0	-1.6	-0.15	-0.50	26.4	-0.22	-0.43	0.14
225- 1	-3.1	12.7	5.2	0.33	-0.24	9.8	0.31	-0.22	0.10
225- 2	2.8	10.8	3.5	0.31	-0.04	1.4	0.31	-0.04	0.01
225- 3	9.2	9.7	3.5	0.37	0.17	-20.1	0.35	0.19	-0.07
225- 4	12.8	9.8	4.9	0.47	0.28	-37.9	0.40	0.35	-0.09
225- 5	19.4	22.2	8.2	0.83	0.36	-16.9	0.79	0.40	-0.13
225- 6	13.7	8.7	23.0	1.03	0.54	7.2	1.03	0.55	0.06
225- 7	12.6	27.0	29.3	1.14	0.66	27.0	1.04	0.76	0.19
225- 8	19.3	16.5	23.9	1.06	0.80	78.0	0.81	1.05	0.05
225- 9	18.1	9.2	17.9	0.97	0.57	-89.6	0.57	0.97	-0.00
225-10	11.2	0.9	14.3	0.82	0.27	86.3	0.27	0.82	0.04
225-11	3.1	16.7	-1.7	0.40	-0.34	-4.3	0.40	-0.34	-0.05
225-12	1.9	10.9	-6.5	0.22	-0.42	-8.8	0.20	-0.40	-0.10
225-13	-1.9	3.7	-14.4	-0.04	-0.66	-13.9	-0.07	-0.62	-0.14
225-14	-15.5	-5.3	-17.8	-0.45	-0.97	-2.9	-0.45	-0.97	-0.03
225-15	-37.0	-12.8	-15.2	-0.72	-1.52	19.7	-0.81	-1.43	0.25
225-16	-18.3	-57.2	-50.4	-0.83	-2.12	7.6	-0.85	-2.10	0.17
225-17	-29.2	-9.9	-37.0	-0.88	-1.96	-4.8	-0.88	-1.96	-0.09
225-18	-34.1	-10.3	-21.5	-0.76	-1.62	10.0	-0.79	-1.59	0.15
225-19	-26.5	-7.0	-14.8	-0.54	-1.23	11.6	-0.57	-1.20	0.13
225-20	-19.3	-1.3	-11.2	-0.32	-0.99	8.1	-0.33	-0.97	0.09
247- 1	-15.6	13.6	24.5	0.70	-0.32	32.7	0.40	-0.02	0.46
247- 2	-8.9	25.7	36.1	1.17	-0.01	30.9	0.86	0.30	0.52
247- 3	-4.3	-0.4**	47.6	1.71	0.14	65.2	0.42	1.44	0.60
247- 4	34.2	-6.3	17.5	1.87	0.34	42.3	1.18	1.03	0.76
247- 5	-3.7	30.7	71.7	2.33	0.59	47.5	1.38	1.53	0.87
247- 6	9.2	29.7	49.4	1.72	0.79	44.4	1.26	1.25	0.46
247- 7	17.0	23.2	38.6	1.46	0.92	56.6	1.08	1.30	0.25
247- 8	20.0	16.1	25.2	1.13	0.81	79.2	0.82	1.12	0.06
247- 9	18.1	9.6	17.1	0.94	0.57	-88.2	0.57	0.94	-0.01
247-10	14.5	1.4	9.9	0.77	0.27	-84.0	0.27	0.77	-0.05
247-11	1.8	17.4	8.4	0.51	-0.07	7.5	0.50	-0.06	0.08
247-12	-6.0	8.2	0.4	0.14	-0.38	8.1	0.13	-0.37	0.07
247-13	-30.1	0.3**	-4.5	-0.24	-1.25	18.0	-0.33	-1.15	0.30
247-14	-3.3	-19.5	-40.0	-0.50	-1.35	33.3	-0.76	-1.10	0.39
247-15	-27.0	-1.7	-29.2	-0.59	-1.82	-1.2	-0.59	-1.82	-0.03
247-16	-30.9	-2.5	-29.5	-0.66	-1.93	0.7	-0.66	-1.93	0.02
247-17	-28.5	-1.9	-29.0	-0.57	-1.72	-2.6	-0.57	-1.72	-0.05
247-18	-16.9	-2.4	-27.7	-0.48	-1.43	-7.6	-0.50	-1.42	-0.12
247-19	-12.3	-1.8	-22.4	-0.37	-1.12	-9.0	-0.39	-1.10	-0.12
247-20	-7.7	0.8	-20.0	-0.23	-0.96	-11.4	-0.26	-0.93	-0.14
270- 1	-4.3	-33.0	3.1	0.73	-0.78	41.7	0.06	-0.11	0.75
270- 2	-39.0	3.0	39.2	0.91	-0.90	42.9	0.07	-0.06	0.90
270- 3	-38.8	5.0	40.7	0.96	-0.88	42.1	0.13	-0.05	0.92
270- 4	-35.8	1.7*	36.7	0.86	-0.82	44.0	0.05	-0.01	0.84
270- 5	-26.8	1.1*	30.6	0.74	-0.58	45.8	0.06	0.10	0.66
270- 6	-16.3	0.7	19.6	0.49	-0.34	46.6	0.05	0.09	0.41
270- 7	-6.7	-0.3	10.3	0.28	-0.12	52.1	0.03	0.13	0.20
270- 8	-0.2	-0.1	3.6	0.14	0.01	67.0	0.03	0.12	0.04
270- 9	3.2	0.0	-0.2	0.12	0.01	-65.5	0.03	0.10	-0.04
270-10	5.7	0.0	-3.0	0.16	-0.05	-53.5	0.03	0.09	-0.10
270-11	-2.5	16.2	1.3	0.36	-0.42	43.3	-0.00	-0.05	0.39
270-12	-16.7	-0.2	13.7	0.29	-0.42	42.5	-0.03	-0.09	0.35
270-13	-11.0	0.6	6.5	0.12	-0.31	35.9	-0.03	-0.16	0.20

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-7.0	0.9	1.1*	0.00	-0.26	23.3	-0.04	-0.22	0.09
270-15	-2.8*	-0.0	-3.9	-0.06	-0.22	-4.8	-0.07	-0.22	-0.01
270-16	1.3*	-0.4	-7.8	-0.01	-0.26	-28.9	-0.07	-0.21	-0.11
270-17	5.8	-0.8	-11.5	0.08	-0.33	-38.3	-0.07	-0.17	-0.20
270-18	9.3	-0.3	-14.0	0.17	-0.37	-40.0	-0.05	-0.15	-0.27
270-19	11.8	-0.7	-16.0	0.23	-0.41	-42.1	-0.06	-0.12	-0.32
270-20	12.1	-0.4	-15.1	0.25	-0.38	-42.8	-0.04	-0.09	-0.31
0- 5	-26.9	-10.7	25.7	0.62	-0.68	55.5	-0.26	0.21	0.61
11- 1	-0.2**	-8.5	23.8	1.05	-0.04	74.7	0.04	0.97	0.28
22- 6	-18.6	-2.6	19.3	0.46	-0.43	49.4	-0.05	0.08	0.44
33- 1	-2.8	3.1	18.3	0.60	0.07	56.8	0.23	0.44	0.24
45- 6	14.2	6.5	21.0	1.02	0.49	81.6	0.50	1.01	0.08
56- 1	35.2	6.8	25.2	1.85	0.74	-84.0	0.75	1.84	-0.12
67- 4	42.1	-2.5	20.7	2.17	0.53	-81.3	0.56	2.13	-0.25
78- 1	18.6	-23.2	15.8	1.67	-0.20	-89.0	-0.20	1.67	-0.03
90- 1	-5.4	-29.2	6.5	0.72	-0.68	84.4	-0.66	0.71	0.14
0-15	2.4*	3.9*	1.5	0.13	0.04	-7.1	0.13	0.04	-0.01
11-11	-7.6	-16.7	-7.3	-0.11	-0.53	89.6	-0.53	-0.11	0.00
22-16	-8.8	-26.3	-18.8	-0.28	-0.90	-79.2	-0.88	-0.30	-0.12
33-11	-17.1	-47.2	-36.6	-0.63	-1.67	-77.3	-1.62	-0.68	-0.22
45-16	-16.4	-46.9	-49.9	-0.92	-1.92	-64.8	-1.74	-1.10	-0.39
56-11	-14.8	-42.9	-49.2	-0.90	-1.84	-61.1	-1.62	-1.12	-0.40
67-14	-3.3	-21.4	-36.7	-0.47	-1.24	-47.4	-0.89	-0.83	-0.39
78-11	0.1**	5.5	-13.7	0.03	-0.61	-14.7	-0.01	-0.57	-0.16
90-11	-0.4	16.6	1.5	0.39	-0.35	1.7	0.39	-0.35	0.02
180- 5	-25.4	-13.3	26.3	0.69	-0.66	59.0	-0.30	0.33	0.60
191- 1	-24.5	-6.9	24.8	0.60	-0.58	53.0	-0.16	0.17	0.57
202- 6	-18.7	-2.8	21.0	0.52	-0.42	50.6	-0.04	0.14	0.46
213- 1	-6.2	2.4	19.6	0.60	-0.03	54.2	0.19	0.39	0.30
225- 6	13.7	8.7	23.0	1.03	0.54	77.2	0.56	1.01	0.11
236- 1	34.5	6.0	21.8	1.74	0.67	-82.0	0.69	1.72	-0.15
247- 4	34.2	-6.3	17.5	1.87	0.34	-82.7	0.36	1.85	-0.19
258- 1	10.4	-26.9	15.8	1.48	-0.36	88.1	-0.36	1.48	0.06
270- 1	-4.3	-33.0	3.1	0.73	-0.78	86.7	-0.77	0.72	0.09
180-15	-1.3	-0.8	2.0	0.06	-0.03	62.8	-0.01	0.04	0.04
191-11	-9.6	-13.0	-2.7	-0.09	-0.44	76.7	-0.42	-0.11	0.08
202-16	-14.6	-31.8	-17.9	-0.33	-1.06	-87.0	-1.05	-0.34	-0.04
213-11	-16.3	-45.5	-34.6	-0.58	-1.60	-77.8	-1.55	-0.63	-0.21
225-16	-18.3	-57.2	-50.4	-0.83	-2.12	-72.4	-2.00	-0.95	-0.37
236-11	-12.8	-43.2	-49.8	-0.84	-1.85	-61.4	-1.62	-1.07	-0.43
247-14	-3.3	-19.5	-40.0	-0.50	-1.35	-41.7	-0.88	-0.98	-0.42
258-11	3.3	4.9	-13.9	0.08	-0.54	-20.0	0.01	-0.47	-0.20
270-11	-2.5	16.2	1.3	0.36	-0.42	3.3	0.36	-0.41	0.04
400-01	1.6	-7.5	-0.8	0.20	-0.17	-40.6	0.05	-0.01	-0.18
400-11	-1.9	-9.8	3.5	0.29	-0.22	37.8	0.10	-0.03	0.24
401-01	19.0	-4.2	-21.7	0.42	-0.53	-49.0	-0.12	0.01	-0.47
401-02	0.1	-1.0					-0.01	-0.03	
401-03	0.3	4.2*					0.05	0.14	
401-04	1.4	-0.7					0.04	-0.01	
402-01	-2.8	0.2	2.7	0.06	-0.07	42.9	0.00	-0.01	0.06
402-02	0.6	-0.9					0.01	-0.03	
402-03	-0.6	0.7					-0.01	0.02	
402-04	0.6	-0.4					0.02	-0.01	
403-01	20.3	-0.7	-20.0	0.47	-0.46	-46.2	-0.01	0.03	-0.46
403-02	-1.0	0.3					-0.03	-0.00	
403-03	-0.3	1.6					0,01	0.05	
403-04	0.4	0.1					0.01	0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '**' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, OUT-OF-PLANE MOMENT LOADING ON RUN, -M2Y

NOMINAL LOAD = 6.188E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	6.2	-0.5	-6.0	0.15	-0.14	-48.1	-0.01	0.02	-0.14
0- 2	6.2	-0.2	-5.6	0.15	-0.12	-47.3	0.00	0.02	-0.14
0- 3	6.8	-0.6	-6.4	0.16	-0.14	-48.4	-0.01	0.03	-0.15
0- 4	7.5	-0.8	-7.7	0.17	-0.18	-46.1	-0.01	0.00	-0.18
0- 5	-5.6	-2.2	6.6	0.18	-0.13	-43.2	0.03	0.01	-0.15
0- 6	2.5	0.3	-1.7	0.07	-0.03	-45.9	0.02	0.02	-0.05
0- 7	-1.0	0.4	2.1	0.06	-0.01	48.4	0.02	0.03	0.04
0- 8	-1.7	0.2	2.8	0.08	-0.03	49.7	0.01	0.03	0.05
0- 9	-2.2	0.1	3.1	0.08	-0.04	49.2	0.01	0.03	0.06
0-10	-2.4	-0.1	3.2	0.08	-0.05	50.3	0.00	0.03	0.06
0-11	-2.2	-0.1	1.9	0.04	-0.05	44.1	-0.01	-0.01	0.05
0-12	-1.9	-0.3	1.6	0.03	-0.05	46.6	-0.01	-0.00	0.04
0-13	-3.5	-0.2	3.1	0.07	-0.09	44.7	-0.01	-0.01	0.08
0-14	-4.6	-0.4	4.2	0.09	-0.11	46.4	-0.01	-0.00	0.10
0-15	4.3	-0.2	-4.6	0.10	-0.11	44.6	-0.01	-0.01	0.10
0-16	-3.3	-0.7	1.2	0.01	-0.10	40.0	-0.04	-0.05	0.05
0-17	-3.6	-1.1	1.4	0.01	-0.11	44.4	-0.05	-0.05	0.06
0-18	-3.3	-0.9	1.6	0.02	-0.09	45.6	-0.04	-0.04	0.06
0-19	-3.2	-0.7	1.8	0.03	-0.09	44.3	-0.03	-0.03	0.06
0-20	-2.6	-0.3	1.6	0.03	-0.07	42.1	-0.02	-0.03	0.05
22- 1	1.4	8.8	9.5	0.35	0.11	25.1	0.31	0.15	0.09
22- 2	2.6	6.1	5.8	0.28	0.12	19.6	0.22	0.13	0.04
22- 3	3.3	5.0	3.6	0.18	0.11	2.4	0.18	0.11	0.00
22- 4	4.3	5.8	2.8	0.21	0.09	-9.1	0.20	0.10	-0.02
22- 5	3.9	5.9	2.6	0.20	0.07	-6.8	0.20	0.08	-0.01
22- 6	4.6	1.2	3.6	0.25	0.11	14.7	0.24	0.12	0.03
22- 7	1.4	3.1	5.8	0.21	0.10	51.7	0.14	0.17	0.05
22- 8	1.2	0.0	4.7	0.20	0.05	74.5	0.06	0.19	0.04
22- 9	0.7	-1.4	3.3	0.17	0.00	79.4	0.01	0.16	0.03
22-10	-0.1	-2.3	2.3	0.13	-0.04	80.7	-0.03	0.13	0.03
22-11	6.0	5.8	0.7	0.23	0.06	-23.5	0.20	0.09	-0.06
22-12	2.8	2.4	-0.1	0.09	0.01	-22.3	0.08	0.01	-0.03
22-13	0.5	0.9	-1.2	0.02	-0.05	-17.5	0.01	-0.04	-0.02
22-14	-1.8	-0.9	-2.1	-0.06	-0.11	-4.1	-0.06	-0.11	-0.00
22-15	-7.0	-3.1	-2.4	-0.14	-0.27	27.3	-0.16	-0.24	0.05
22-16	-2.7	-10.3	-10.6	-0.16	-0.41	18.7	-0.19	-0.38	0.07
22-17	-8.5	-3.6	-6.1	-0.22	-0.40	8.9	-0.23	-0.40	0.03
22-18	-7.5	-3.6	-3.8	-0.17	-0.30	23.7	-0.19	-0.28	0.05
22-19	-5.9	-2.4	-2.4	-0.12	-0.24	22.3	-0.14	-0.22	0.04
22-20	-3.9	-1.2	-1.8	-0.08	-0.16	16.7	-0.08	-0.16	0.02
45- 1	-4.2	8.2	26.1	0.82	0.11	50.0	0.41	0.53	0.35
45- 2	-3.6	8.0	23.6	0.75	0.11	49.3	0.38	0.48	0.31
45- 3	-3.1	5.1	17.9	0.57	0.07	51.3	0.26	0.37	0.24
45- 4	-1.9	6.6	19.7	0.64	0.13	50.9	0.33	0.43	0.25
45- 5	-0.6	12.8	21.5	0.71	0.19	39.0	0.50	0.39	0.26
45- 6	20.9	4.3	1.0	0.75	0.19	48.2	0.44	0.50	0.27
45- 7	1.4	4.7	15.0	0.53	0.17	58.7	0.27	0.43	0.16
45- 8	4.4	0.9	4.3	0.27	0.11	-89.4	0.11	0.27	-0.00
45- 9	3.9	-1.2	0.7	0.19	0.01	-77.7	0.02	0.18	-0.04
45-10	2.9	-2.0	-0.7	0.13	-0.04	-75.0	-0.03	0.12	-0.04
45-11	16.6	11.8	-1.9	0.55	0.08	-32.1	0.42	0.21	-0.21
45-12	8.4	5.9	-3.5	0.26	-0.06	-29.7	0.18	0.02	-0.14
45-13	12.1	6.9	-4.8	0.37	-0.05	-34.3	0.23	0.08	-0.20
45-14	6.2	-0.2	-6.9	0.14	-0.16	-44.7	-0.01	-0.01	-0.15
45-15	-2.2	-5.1	-8.9	-0.16	-0.31	-41.5	-0.23	-0.25	-0.08
45-16	-8.1	-9.3	-6.9	-0.28	-0.36	-24.7	-0.29	-0.35	-0.03
45-17	-7.7	-3.8	-11.6	-0.27	-0.56	-9.1	-0.28	-0.55	-0.05
45-18	-5.5	-2.4	-7.1	-0.18	-0.36	-5.8	-0.18	-0.36	-0.02
45-19	-2.2	-1.2	-5.7	-0.10	-0.24	-16.1	-0.11	-0.23	-0.04
45-20	-1.2	-0.4	-3.7	-0.05	-0.16	-15.6	-0.06	-0.15	-0.03
67- 1	-6.7	-0.5	19.4	0.61	-0.07	58.9	0.11	0.43	0.30

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-5.7	-0.3	21.1	0.69	-0.03	60.5	0.14	0.52	0.31
67- 3	-6.4	2.7	25.0	0.79	0.01	56.4	0.25	0.55	0.36
67- 4	21.7	0.3	-4.2	0.73	0.02	63.4	0.16	0.59	0.29
67- 5	-1.8	-1.4	15.8	0.58	0.02	66.8	0.10	0.49	0.20
67- 6	-1.2	-0.8	4.2	0.15	-0.02	65.5	0.01	0.12	0.06
67- 7	0.4	-0.3	-0.5	0.01	-0.01	-57.4	-0.01	0.00	-0.01
67- 8	1.6	0.2	-2.8	0.03	-0.08	-34.5	-0.01	-0.05	-0.05
67- 9	2.3	0.3	-3.4	0.05	-0.09	-36.7	-0.00	-0.04	-0.07
67-10	2.9	0.6	-3.3	0.06	-0.08	-37.2	0.01	-0.03	-0.07
67-11	13.9	-0.2	0.5	0.54	0.08	-68.9	0.14	0.48	-0.15
67-12	10.7	-2.7	-0.5	0.44	-0.00	-72.1	0.04	0.40	-0.13
67-13	10.4	-2.0	-4.0	0.38	-0.07	-63.0	0.02	0.26	-0.17
67-14	-3.9	9.8	12.9	0.42	-0.04	-76.1	-0.01	0.39	-0.11
67-15	0.5	-4.2	6.8	0.35	-0.04	79.1	-0.02	0.34	0.07
67-16	6.6	-1.2	0.0	0.27	0.01	-72.0	0.04	0.24	-0.08
67-17	7.5	1.1	-1.7	0.24	0.01	-55.8	0.08	0.17	-0.11
67-18	6.6	1.2	-2.3	0.20	-0.01	-51.0	0.07	0.11	-0.10
67-19	5.5	1.0	-2.3	0.16	-0.02	-49.0	0.06	0.08	-0.09
67-20	3.6	0.6	-1.6	0.10	-0.02	-49.2	0.03	0.05	-0.06
90- 1	14.4	0.9	-6.2	0.42	-0.07	81.5	-0.06	0.41	0.07
90- 2	-1.4	-9.8	1.3	0.23	-0.23	86.2	-0.23	0.22	0.03
90- 3	-5.3	-11.5	-2.8	0.00	-0.35	85.4	-0.34	-0.00	0.03
90- 4	-7.3	-10.7	-6.0	-0.19	-0.38	85.5	-0.38	-0.19	0.01
90- 5	-8.4	-8.6	-7.6	-0.33	-0.36	72.5	-0.36	-0.33	0.01
90- 6	-7.9	-5.8	-7.3	-0.28	-0.37	4.7	-0.28	-0.37	0.01
90- 7	-6.1	-2.5	-6.2	-0.18	-0.35	-0.4	-0.18	-0.35	-0.00
90- 8	-3.9	-0.0	-5.0	-0.09	-0.29	-3.7	-0.09	-0.29	-0.01
90- 9	-2.6	1.5	-3.1	-0.02	-0.22	-1.3	-0.02	-0.22	-0.00
90-10	-1.5	2.6	-2.1	0.02	-0.18	-2.0	0.02	-0.18	-0.01
90-11	-8.2	6.9	22.1	0.65	-0.05	85.1	-0.05	0.64	0.06
90-12	10.2	-5.7	13.5	0.91	0.10	87.3	0.10	0.91	0.04
90-13	18.2	-4.9	18.6	1.20	0.21	87.1	0.21	1.19	0.05
90-14	17.5	-3.3	17.8	1.24	0.27	89.8	0.27	1.24	0.00
90-15	14.9	-0.7	14.6	0.99	0.28	-89.7	0.28	0.99	-0.00
90-16	12.4	1.2	11.9	0.77	0.27	-89.4	0.27	0.77	-0.01
90-17	9.3	1.1	8.2	0.55	0.20	-88.0	0.20	0.55	-0.01
90-18	7.7	2.2	6.7	0.42	0.19	-87.3	0.19	0.42	-0.01
90-19	6.1	1.5	4.7	0.32	0.14	-84.7	0.14	0.32	-0.02
90-20	4.2	1.1	3.4	0.23	0.10	-86.1	0.10	0.23	-0.01
180- 1	-4.9	-0.3	4.4	0.10	-0.12	45.7	-0.01	-0.01	0.11
180- 2	-5.5	-0.1	5.1	0.11	-0.13	44.7	-0.01	-0.01	0.12
180- 3	-6.3	-0.2	6.2	0.14	-0.15	45.9	-0.01	0.00	0.14
180- 4	-7.2	-0.9	6.9	0.16	-0.17	48.1	-0.03	0.01	0.16
180- 5	5.9	3.1	-5.8	0.15	-0.15	49.0	-0.02	0.02	0.15
180- 6	-1.4	1.3	3.5	0.10	-0.01	42.3	0.05	0.04	0.06
180- 7	3.1	1.1	-0.9	0.09	0.00	-44.4	0.05	0.05	-0.05
180- 8	3.5	0.8	-1.8	0.10	-0.02	-46.2	0.03	0.04	-0.06
180- 9	3.7	0.6	-2.1	0.10	-0.03	-47.0	0.03	0.04	-0.07
180-10	3.4	0.1	-2.1	0.09	-0.04	-50.7	0.01	0.04	-0.06
180-11	2.2	0.1	-0.9	0.06	-0.01	-55.0	0.01	0.04	-0.03
180-12	2.0	-0.3	-1.0	0.06	-0.02	-59.1	0.00	0.04	-0.04
180-13	2.9	0.1	-1.4	0.08	-0.02	-53.3	0.02	0.05	-0.05
180-14	4.5	0.3	-3.2	0.12	-0.06	-48.1	0.02	0.04	-0.09
180-15	-3.8	1.8	4.4	0.11	-0.09	-50.3	-0.01	0.03	-0.10
180-16	2.2	-1.0	-5.1	0.02	-0.15	-41.6	-0.05	-0.07	-0.08
180-17	1.1	-1.2	-4.3	-0.00	-0.13	-41.6	-0.06	-0.07	-0.06
180-18	1.5	-0.9	-3.6	0.01	-0.10	-43.1	-0.04	-0.05	-0.06
180-19	1.5	-0.8	-3.4	0.02	-0.10	-43.7	-0.04	-0.04	-0.06
180-20	1.2	-0.2	-2.6	0.02	-0.08	-37.9	-0.02	-0.04	-0.04
202- 1	-1.6	-10.3	-9.6	-0.10	-0.38	-69.6	-0.35	-0.13	-0.09
202- 2	-2.8	-6.9	-4.9	-0.09	-0.24	-80.6	-0.24	-0.09	-0.02
202- 3	-3.5	-6.0	-3.3	-0.09	-0.21	88.8	-0.21	-0.09	0.00
202- 4	-4.1	-5.2	-2.1	-0.08	-0.19	77.9	-0.18	-0.08	0.02
202- 5	-4.7	-5.9	-1.8	-0.07	-0.21	75.7	-0.20	-0.08	0.03
202- 6	-3.2	-1.6	-4.1	-0.11	-0.21	-86.2	-0.21	-0.11	-0.01
202- 7	-1.1	-1.7	-4.1	-0.07	-0.15	-28.5	-0.09	-0.13	-0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-0.4	1.4	-3.0	0.00	-0.15	-11.5	-0.00	-0.14	-0.03
202- 9	0.5	2.6	-2.0	0.05	-0.12	-10.4	0.04	-0.11	-0.03
202-10	0.9	2.7	-1.5	0.06	-0.09	-10.8	0.06	-0.08	-0.03
202-11	-7.5	-8.0	-0.5	-0.05	-0.29	69.2	-0.26	-0.08	0.08
202-12	-4.7	-4.8	-0.0	-0.02	-0.18	68.1	-0.16	-0.05	0.05
202-13	-1.5	-0.8	1.4	0.04	-0.04	57.8	-0.02	0.01	0.03
202-14	0.8	0.7	1.9	0.08	0.04	71.3	0.04	0.07	0.01
202-15	5.1	1.9	3.2	0.24	0.12	-78.6	0.13	0.23	-0.02
202-16	4.0	10.7	8.3	0.38	0.15	-82.4	0.15	0.38	-0.03
202-17	6.7	3.0	4.8	0.32	0.18	-80.7	0.18	0.31	-0.02
202-18	5.5	2.1	2.5	0.23	0.12	-70.9	0.13	0.21	-0.03
202-19	4.3	1.4	1.3	0.17	0.07	-66.4	0.09	0.15	-0.03
202-20	3.1	0.7	0.7	0.12	0.04	-67.1	0.05	0.11	-0.03
225- 1	5.5	-6.2	-26.4	-0.07	-0.83	-37.5	-0.35	-0.54	-0.37
225- 2	4.3	-7.7	-24.5	-0.10	-0.77	-40.3	-0.38	-0.49	-0.33
225- 3	3.0	-6.9	-21.6	-0.11	-0.69	-37.1	-0.32	-0.48	-0.28
225- 4	2.7	-6.3	-18.7	-0.09	-0.59	-40.4	-0.30	-0.38	-0.25
225- 5	1.1	-11.2	-20.6	-0.17	-0.67	-48.9	-0.45	-0.38	-0.25
225- 6	-19.0	-4.5	-0.3	-0.17	-0.66	-39.3	-0.36	-0.46	-0.24
225- 7	-1.7	-2.9	-13.7	-0.15	-0.51	-25.9	-0.22	-0.44	-0.14
225- 8	-4.3	-0.3	-3.1	-0.08	-0.24	4.9	-0.08	-0.24	0.01
225- 9	-4.0	1.1	0.2	0.00	-0.17	17.3	-0.01	-0.15	0.05
225-10	-2.4	1.7	1.2	0.04	-0.10	18.9	0.03	-0.08	0.04
225-11	-18.6	-7.6	3.2	-0.08	-0.58	44.7	-0.33	-0.33	0.25
225-12	-11.5	-4.7	3.2	-0.01	-0.35	47.4	-0.19	-0.16	0.17
225-13	-9.4	-3.2	4.9	0.07	-0.26	48.7	-0.12	-0.08	0.16
225-14	-5.9	0.2	6.3	0.15	-0.13	45.1	0.01	0.01	0.14
225-15	4.0	3.4	7.2	0.30	0.18	72.4	0.19	0.29	0.04
225-16	7.2	9.6	6.5	0.36	0.23	76.3	0.24	0.35	0.03
225-17	4.7	3.9	9.3	0.39	0.21	71.8	0.23	0.37	0.05
225-18	2.8	1.6	6.7	0.29	0.12	74.3	0.13	0.28	0.05
225-19	1.3	0.8	4.9	0.20	0.07	71.5	0.08	0.19	0.04
225-20	0.6	0.4	3.2	0.13	0.04	69.8	0.05	0.12	0.03
247- 1	5.5	0.1	-20.8	0.02	-0.68	-29.7	-0.15	-0.51	-0.30
247- 2	5.4	-1.0	-22.7	-0.00	-0.74	-30.7	-0.19	-0.55	-0.32
247- 3	6.0	22.9*	-22.8	0.43	-1.16	-12.3	0.36	-1.08	-0.33
247- 4	-18.4	-0.1	4.8	0.02	-0.60	-25.0	-0.09	-0.49	-0.24
247- 5	1.7	3.4	-12.8	0.03	-0.51	-19.4	-0.03	-0.45	-0.17
247- 6	1.5	2.5	-2.8	0.06	-0.12	-16.9	0.04	-0.10	-0.05
247- 7	-0.2	1.1	1.6	0.05	0.01	33.4	0.04	0.02	0.02
247- 8	-1.5	0.1	3.1	0.09	-0.02	54.3	0.02	0.05	0.05
247- 9	-2.2	-0.8	3.1	0.09	-0.05	57.8	-0.01	0.05	0.06
247-10	-2.2	-1.1	2.6	0.07	-0.06	58.9	-0.02	0.04	0.06
247-11	-9.7	4.1	-2.1	-0.01	-0.50	10.4	-0.02	-0.48	0.09
247-12	-8.3	5.4	-1.2	0.04	-0.45	9.7	0.03	-0.44	0.08
247-13	-12.0	-0.2	5.9	0.09	-0.35	36.2	-0.07	-0.20	0.21
247-14	5.3	-6.2	-14.0	0.04	-0.41	24.5	-0.04	-0.33	0.17
247-15	-4.1	4.2	-5.6	0.00	-0.42	-2.4	-0.00	-0.42	-0.02
247-16	-7.8	0.8	-1.0	-0.04	-0.33	16.6	-0.07	-0.31	0.08
247-17	-7.4	-1.0	0.6	-0.04	-0.25	29.6	-0.09	-0.[illegible]	0.09
247-18	-6.0	-1.0	1.5	-.01	-0.19	35.5	-0.07	-0.13	0.09
247-19	-4.4	-1.0	2.0	0.02	-0.13	42.8	-0.05	-0.06	0.07
247-20	-3.0	-0.3	1.5	0.02	-0.09	39.7	-0.02	-0.04	0.05
270- 1	-16.0	-5.5	5.3	0.01	-0.48	0.3	0.01	-0.48	0.00
270- 2	-0.9	9.2	-0.2	0.20	-0.25	1.1	0.20	-0.25	0.01
270- 3	3.4	10.1	3.7	0.30	0.00	0.6	0.30	0.00	0.00
270- 4	5.5	8.4	5.6	0.30	0.17	0.5	0.30	0.17	0.00
270- 5	6.5	6.9	6.8	0.29	0.28	13.7	0.29	0.28	0.00
270- 6	6.5	4.5	6.1	0.31	0.23	-86.8	0.23	0.31	-0.00
270- 7	5.5	1.8	5.0	0.30	0.18	-87.9	0.18	0.30	-0.01
270- 8	3.7	-0.5	2.9	0.23	0.05	-87.1	0.06	0.23	-0.01
270- 9	1.8	-2.0	1.6	0.16	-0.01	-89.5	-0.01	0.16	-0.00
270-10	0.9	-2.7	0.5	0.11	-0.05	-88.1	-0.05	0.11	-0.01
270-11	9.1	-3.7	-22.6	0.08	-0.66	0.4	0.08	-0.66	0.01
270-12	-10.6	7.3	-9.2	-0.03	-0.82	1.1	-0.03	-0.82	0.02
270-13	-13.3	4.9	-15.3	-0.17	-1.06	-1.5	-0.17	-1.05	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-12.9	3.1	-15.5	-0.21	-1.01	-2.1	-0.21	-1.01	-0.03
270-15	-11.4	0.5	-14.0	-0.24	-0.85	-2.8	-0.24	-0.85	-0.03
270-16	-10.0	-1.0	-10.4	-0.22	-0.65	-0.6	-0.22	-0.65	-0.00
270-17	-7.4	-1.9	-8.1	-0.20	-0.47	-1.8	-0.20	-0.47	-0.01
270-18	-5.2	-1.5	-5.4	-0.14	-0.31	-0.9	-0.14	-0.31	-0.00
270-19	-3.6	-1.5	-3.6	-0.11	-0.20	0.2	-0.11	-0.20	0.00
270-20	-2.3	-0.5	-2.3	-0.06	-0.14	-0.2	-0.06	-0.14	-0.00
0- 5	-5.6	-2.2	6.6	0.18	-0.13	56.8	-0.04	0.08	0.14
11- 1	-1.3	-0.8	6.2	0.21	-0.00	63.9	0.04	0.17	0.09
22- 6	4.6	1.2	3.6	0.25	0.11	-85.3	0.11	0.24	-0.01
33- 1	14.6	3.8	2.3	0.54	0.18	-63.6	0.25	0.47	-0.14
45- 6	20.9	4.3	1.0	0.75	0.19	-61.8	0.32	0.62	-0.23
56- 1	25.4	2.2	-0.2	0.92	0.16	-64.5	0.30	0.78	-0.30
67- 4	21.7	0.3	-4.2	0.73	0.02	-61.6	0.18	0.57	-0.30
78- 1	18.3	-4.0	-7.6	0.45	-0.16	-61.9	-0.03	0.31	-0.25
90- 1	14.4	0.9	-6.2	0.42	-0.07	-53.5	0.10	0.25	-0.24
0-15	4.3	-0.2	-4.6	0.10	-0.11	-45.4	-0.01	-0.01	-0.10
11-11	-0.6	-7.4	-8.0	-0.07	-0.30	-65.3	-0.26	-0.11	-0.08
22-16	-2.7	-10.3	-10.6	-0.16	-0.41	-66.3	-0.37	-0.20	-0.09
33-11	-7.6	-14.0	-11.0	-0.28	-0.51	-80.2	-0.51	-0.29	-0.04
45-16	-8.1	-9.3	-6.9	-0.28	-0.36	80.3	-0.36	-0.28	0.01
56-11	-6.5	-0.2	2.2	0.02	-0.20	32.8	-0.05	-0.14	0.10
67-14	-3.9	9.8	12.9	0.42	-0.04	28.9	0.31	0.07	0.19
78-11	-4.3	15.1	22.2	0.72	0.05	32.5	0.53	0.24	0.31
90-11	-8.2	6.9	22.1	0.65	-0.05	85.1	0.30	0.30	0.35
180- 5	5.9	3.1	-5.8	0.15	-0.15	-31.0	0.07	-0.07	-0.13
191- 1	2.4	0.4	-6.1	0.03	-0.19	-30.8	-0.03	-0.13	-0.10
202- 6	-3.2	-1.6	-4.1	-0.11	-0.21	6.2	-0.11	-0.21	-0.01
213- 1	-12.2	-3.7	-1.5	-0.15	-0.44	29.7	-0.22	-0.37	0.12
225- 6	-19.0	-8.5	-0.3	-0.17	-0.66	30.7	-0.30	-0.53	0.22
236- 1	-23.0	-3.0	2.2	-0.11	-0.78	29.8	-0.28	-0.62	0.29
247- 4	-18.4	-0.1	4.8	0.02	-0.60	30.0	-0.14	-0.45	0.27
258- 1	-12.6	2.8	8.6	0.18	-0.35	32.8	0.02	-0.20	0.24
270- 1	-16.0	-5.5	5.3	0.01	-0.48	45.3	-0.23	-0.23	0.25
180-15	-3.8	1.8	4.4	0.11	-0.09	34.7	0.05	-0.02	0.09
191-11	0.6	5.8	5.5	0.22	0.04	20.6	0.19	0.06	0.06
202-16	4.0	10.7	8.3	0.38	0.15	12.6	0.37	0.16	0.05
213-11	6.1	11.7	8.8	0.42	0.22	8.8	0.42	0.22	0.03
225-16	7.2	9.6	6.5	0.36	0.23	-3.7	0.36	0.23	-0.01
236-11	5.9	0.8	-1.2	0.19	0.01	-57.0	0.06	0.14	-0.08
247-14	5.3	-6.2	-14.0	0.04	-0.41	-50.5	-0.23	-0.14	-0.22
258-1?	6.4	-10.9	-24.2	-0.03	-0.74	-48.8	-0.43	-0.34	-0.35
270-11	9.1	-3.7	-22.6	0.08	-0.66	-39.6	-0.22	-0.36	-0.37
400-01	-0.3	-0.4	0.5	0.02	-0.01	-65.6	-0.01	0.01	-0.01
400-11	-0.2	-0.3	-0.4	-0.01	-0.01	87.9	-0.01	-0.01	0.00
401-01	0.6	1.2	0.2	0.04	0.00	-7.5	0.04	0.00	-0.00
401-02	8.2	-30.9					-0.03	-0.94	
401-03	0.4	-1.2					0.00	-0.04	
401-04	-8.0	30.9					0.04	0.94	
402-01	-0.0	-0.1	0.1	0.00	-0.00	78.7	-0.00	0.00	0.00
402-02	0.1	0.3					0.01	0.01	
402-03	0.1	-0.2					0.00	-0.00	
402-04	-0.2	0.1					-0.01	0.00	
403-01	0.6	0.6	-0.2	0.02	-0.00	-23.2	0.02	0.00	-0.01
403-02	8.0	-31.9					-0.05	-0.97	
403-03	0.7	-2.2					0.00	-0.06	
403-04	-8.1	30.5					0.03	0.93	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, IN-PLANE MOMENT LOADING ON RUN, -M2E

NOMINAL LOAD = 6.188E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PSI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	7.0	9.7	6.9	0.36	0.28	-0.5	0.36	0.28	-0.00
0- 2	6.4	5.9	5.9	0.27	0.26	-64.3	0.26	0.27	-0.01
0- 3	6.5	5.9	6.1	0.28	0.26	-77.1	0.26	0.28	-0.00
0- 4	9.0	12.7	9.4	0.48	0.31	1.7	0.47	0.31	0.00
0- 5	16.4	8.2	11.3	0.78	0.45	2.0	0.78	0.45	0.01
0- 6	17.1	23.6	17.7	0.89	0.60	1.5	0.89	0.60	0.01
0- 7	18.3	13.7	18.6	0.68	0.60	83.7	0.60	0.64	0.00
0- 8	13.4	8.4	12.3	0.65	0.45	-86.7	0.45	0.65	-0.01
0- 9	10.3	2.9	9.7	0.59	0.27	-88.9	0.27	0.59	-0.01
0-10	10.0	1.0	8.4	0.59	0.21	-87.2	0.21	0.58	-0.02
0-11	3.4	-1.6	2.8	0.24	0.03	-88.3	0.03	0.24	-0.01
0-12	1.2	-3.5	-0.5	0.11	-0.08	-84.1	-0.07	0.10	-0.02
0-13	-3.4	-5.4	-6.0	-0.17	-0.24	-59.5	-0.22	-0.18	-0.03
0-14	-10.8	-9.2	-13.9	-0.45	-0.61	-13.0	-0.46	-0.60	-0.04
0-15	-24.1	-38.1	-23.9	-0.70	-1.35	-0.2	-0.70	-1.35	-0.00
0-16	-22.5	-15.8	-19.1	-0.77	-1.01	9.5	-0.78	-1.01	0.04
0-17	-21.4	-20.9	-18.4	-0.81	-0.89	62.4	-0.87	-0.83	0.03
0-18	-15.6	-14.9	-15.4	-0.65	-0.68	5.6	-0.65	-0.68	0.00
0-19	-12.9	-10.0	-12.9	-0.48	-0.62	-0.2	-0.48	-0.62	-0.00
0-20	-10.2	-8.3	-10.8	-0.31	-0.59	-1.2	-0.31	-0.59	-0.01
22- 1	-4.7	6.2	23.8	0.75	0.07	51.6	0.33	0.49	0.33
22- 2	-4.3	2.6	20.2	0.65	0.03	56.9	0.22	0.46	0.28
22- 3	-4.4	2.5	20.6	0.67	0.03	57.2	0.22	0.48	0.29
22- 4	-5.0	7.4	24.7	0.77	0.07	59.7	0.37	0.48	0.34
22- 5	-4.0	14.4	27.5	0.87	0.14	60.4	0.57	0.45	0.36
22- 6	29.9	5.2	0.0	1.05	0.23	38.4	0.73	0.55	0.40
22- 7	5.9	20.0	27.2	0.97	0.45	36.2	0.79	0.63	0.25
22- 8	10.9	10.2	15.3	0.65	0.48	71.8	0.49	0.63	0.05
22- 9	11.2	5.7	9.7	0.56	0.34	-85.4	0.34	0.56	-0.02
22-10	10.2	1.5	5.9	0.50	0.18	-80.9	0.19	0.50	-0.05
22-11	6.6	5.9	-1.2	0.23	0.00	-25.4	0.19	0.04	-0.09
22-12	1.6	2.3	-1.2	0.07	-0.05	-16.9	0.06	-0.04	-0.03
22-13	-1.2	-0.4	-2.3	-0.04	-0.11	-11.0	-0.04	-0.11	-0.01
22-14	-5.4	-4.8	-4.8	-0.21	-0.23	24.3	-0.21	-0.23	0.01
22-15	-15.4	-19.0	-7.0	-0.38	-0.58	43.8	-0.48	-0.48	0.10
22-16	-6.3	-17.1	-22.5	-0.42	-0.81	31.0	-0.53	-0.71	0.17
22-17	-24.8	-14.0	-11.6	-0.60	-0.96	28.8	-0.68	-0.88	0.15
22-18	-17.6	-11.3	-9.9	-0.49	-0.70	28.6	-0.53	-0.65	0.09
22-19	-11.5	-6.8	-10.4	-0.37	-0.57	3.8	-0.37	-0.56	0.01
22-20	-6.7	-2.3	-10.3	-0.21	-0.51	-8.1	-0.22	-0.51	-0.04
45- 1	-4.8	3.7	10.3	0.29	-0.06	41.2	0.14	0.09	0.17
45- 2	-6.0	5.0	16.5	0.49	-0.03	45.6	0.22	0.23	0.26
45- 3	-6.8	4.1	19.7	0.59	-0.03	50.1	0.22	0.33	0.31
45- 4	-8.1	7.2	30.6	0.94	0.03	50.9	0.39	0.58	0.45
45- 5	-5.4	22.7	40.9	1.31	0.22	39.0	0.88	0.65	0.53
45- 6	39.4	4.8	0.1	1.41	0.28	46.4	0.82	0.87	0.57
45- 7	-0.2	13.0	32.2	1.07	0.31	50.3	0.62	0.76	0.37
45- 8	4.5	6.9	11.4	0.42	0.26	53.2	0.32	0.36	0.08
45-	4.6	2.3	3.2	0.21	0.13	-78.2	0.13	0.20	-0.02
45-10	4.7	0.2	-0.9	0.16	0.01	-60.4	0.04	0.12	-0.06
45-11	5.9	4.9	2.0	0.22	0.12	-31.8	0.19	0.15	-0.05
45-12	3.7	3.7	2.1	0.15	0.10	-22.3	0.14	0.11	-0.02
45-13	7.5	5.7	1.6	0.27	0.12	-34.1	0.22	0.17	-0.07
45-14	3.7	-0.1	0.2	0.15	0.02	-70.1	0.04	0.13	-0.04
45-15	-4.7	-8.8	-2.3	-0.03	-0.28	83.4	-0.27	-0.03	0.03
45-16	-4.7	3.6	-3.9	-0.00	-0.37	76.5	-0.35	-0.02	0.08
45-17	-15.6	-3.8	-2.0	-0.18	-0.57	27.1	-0.26	-0.49	0.16
45-18	-6.4	-1.9	-4.2	-0.14	-0.31	8.8	-0.15	-0.31	0.02
45-19	1.6	0.6	-6.8	0.01	-0.23	-26.2	-0.04	-0.18	-0.10
45-20	3.9	1.4	-7.1	0.08	-0.21	-30.9	0.00	-0.14	-0.13
67- 1	-10.0	0.1	5.5	0.09	-0.29	36.8	-0.04	-0.15	0.18

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-13.3	-1.8	12.7	0.29	-0.31	48.3	-0.05	0.02	0.30
67- 3	-15.0	1.1	21.3	0.56	-0.29	48.1	0.09	0.18	0.42
67- 4	15.1	-9.7	-8.6	0.54	-0.27	56.2	-0.01	0.29	0.37
67- 5	-10.8	-6.6	14.8	0.44	-0.27	62.0	-0.11	0.38	0.30
67- 6	-13.3	-6.1	1.2	-0.02	-0.41	48.5	-0.24	-0.19	0.19
67- 7	-10.7	-4.5	-3.3	-0.20	-0.40	28.3	-0.24	-0.36	0.09
67- 8	-9.7	-3.7	-6.8	-0.24	-0.47	8.8	-0.25	-0.46	0.03
67- 9	-7.5	-3.1	-8.5	-0.23	-0.45	-2.9	-0.23	-0.45	-0.01
67-10	-4.0	-1.9	-8.9	-0.16	-0.40	-14.2	-0.17	-0.38	-0.06
67-11	-0.4	1.4	13.3	0.47	0.08	63.2	0.16	0.39	0.16
67-12	3.6	0.0	18.6	0.64	0.15	74.5	0.18	0.60	0.13
67-13	12.8	-3.3	8.8	0.79	0.13	-86.0	0.14	0.79	-0.05
67-14	3.9	28.1	22.5	0.97	0.16	-89.1	0.16	0.97	-0.01
67-15	0.1	1.6	29.0	1.07	0.18	65.9	0.32	0.92	0.33
67-16	13.1	0.5	16.5	0.97	0.30	86.6	0.30	0.97	0.04
67-17	17.5	2.4	9.6	0.85	0.31	-80.3	0.32	0.84	-0.09
67-18	18.3	2.3	5.1	0.77	0.24	-72.4	0.28	0.72	-0.15
67-19	17.3	2.8	3.0	0.67	0.20	-67.9	0.27	0.61	-0.17
67-20	14.5	1.8	2.2	0.57	0.15	-68.4	0.21	0.51	-0.14
90- 1	-6.9	-6.2	-5.1	-0.24	-0.28	5.8	-0.24	-0.28	0.00
90- 2	-11.0	-14.1	-9.6	-0.35	-0.53	84.7	-0.53	-0.35	0.02
90- 3	-15.0	-19.7	-13.3	-0.48	-0.74	85.5	-0.73	-0.48	0.02
90- 4	-17.4	-21.3	-17.3	-0.65	-0.84	89.9	-0.84	-0.65	0.00
90- 5	-20.4	-21.2	-20.6	-0.86	-0.89	-86.3	-0.89	-0.86	-0.00
90- 6	-21.5	-18.9	-20.7	-0.85	-0.96	4.9	-0.85	-0.95	0.01
90- 7	-18.9	-13.3	-18.8	-0.68	-0.94	0.4	-0.68	-0.94	0.00
90- 8	-15.3	-8.4	-17.0	-0.51	-0.87	-3.2	-0.51	-0.87	-0.02
90- 9	-14.3	-7.2	-14.7	-0.45	-0.79	-0.8	-0.45	-0.79	-0.00
90-10	-12.1	-3.3	-12.4	-0.32	-0.73	-0.5	-0.32	-0.73	-0.00
90-11	-3.0	5.4	13.6	0.42	0.04	84.7	0.04	0.42	0.04
90-12	13.2	-0.6	18.1	1.05	0.29	85.8	0.30	1.05	0.06
90-13	20.8	-3.0	28.3	1.69	0.41	86.1	0.42	1.68	0.09
90-14	28.2	-2.2	30.5	1.99	0.53	89.0	0.53	1.99	0.03
90-15	27.3	-1.5	28.3	1.87	0.52	89.5	0.52	1.87	0.01
90-16	25.4	1.0	26.1	1.67	0.53	89.6	0.53	1.67	0.01
90-17	21.6	0.1	20.4	1.38	0.42	-89.2	0.42	1.38	-0.01
90-18	20.1	2.7	19.1	1.23	0.45	-89.1	0.45	1.23	-0.01
90-19	19.4	2.7	16.3	1.11	0.41	-87.0	0.42	1.11	-0.04
90-20	15.3	1.7	13.7	0.92	0.33	-88.3	0.33	0.92	-0.02
180- 1	7.1	10.1	6.6	0.37	0.22	-2.3	0.37	0.22	-0.01
180- 2	7.0	7.3	6.3	0.30	0.27	-16.2	0.30	0.27	-0.01
180- 3	6.8	7.8	7.5	0.32	0.29	12.1	0.32	0.29	0.01
180- 4	10.0	13.5	10.1	0.51	0.35	0.2	0.51	0.35	0.00
180- 5	17.9	8.6	11.7	0.80	0.47	3.3	0.80	0.40	0.02
180- 6	17.7	24.9	18.2	0.93	0.61	1.0	0.93	0.61	0.01
180- 7	16.5	14.8	15.4	0.71	0.65	-77.4	0.66	0.71	-0.01
180- 8	13.6	8.0	16.3	0.74	0.46	88.2	0.46	0.74	0.01
180- 9	12.1	5.2	11.7	0.67	0.36	-89.2	0.36	0.67	-0.00
180-10	9.9	1.0	9.5	0.62	0.21	-89.4	0.21	0.62	-0.00
180-11	5.9	1.8	4.9	0.31	0.15	-85.8	0.15	0.31	-0.01
180-12	1.5	-3.8	1.4	0.18	-0.06	-89.8	-0.06	0.18	-0.00
180-13	-3.1	-6.1	-1.8	-0.02	-0.19	84.8	-0.19	-0.02	0.02
180-14	-15.5	-8.9	-10.1	-0.44	-0.66	17.6	-0.46	-0.64	0.06
180-15	-19.6	-31.0	-18.9	-0.55	-1.10	4.1	-0.56	-1.09	0.04
180-16	-16.6	-10.1	-30.4	-0.66	-1.36	-13.6	-0.70	-1.32	-0.16
180-17	-20.8	-20.1	-21.7	-0.88	-0.94	-11.1	-0.88	-0.93	-0.01
180-18	-16.4	-12.7	-14.5	-0.60	-0.73	9.6	-0.60	-0.73	0.02
180-19	-13.4	-9.1	-12.9	-0.47	-0.66	1.8	-0.47	-0.66	0.01
180-20	-12.2	-4.2	-9.5	-0.31	-0.62	5.6	-0.31	-0.62	0.03
202- 1	-5.3	10.3	26.8	0.83	0.09	45.9	0.45	0.47	0.37
202- 2	-5.0	5.5	21.4	0.66	0.04	50.8	0.29	0.41	0.31
202- 3	-4.9	6.5	23.4	0.73	0.06	50.5	0.33	0.46	0.33
202- 4	-4.4	9.3	24.8	0.77	0.10	46.7	0.42	0.46	0.34
202- 5	-2.8	18.0	29.4	0.96	0.18	36.8	0.68	0.46	0.37
202- 6	32.1	8.7	0.2	1.10	0.29	42.5	0.73	0.66	0.40
202- 7	5.1	20.9	32.1	1.11	0.48	40.1	0.85	0.74	0.31

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	11.5	11.1	16.9	0.70	0.51	69.1	0.54	0.68	0.06
202- 9	11.0	5.2	10.2	0.58	0.33	-87.7	0.33	0.58	-0.01
202-10	9.8	1.5	6.7	0.51	0.19	-83.5	0.20	0.51	-0.04
202-11	10.5	10.1	-1.4	0.38	0.01	-23.5	0.32	0.07	-0.14
202-12	6.3	6.3	-0.9	0.23	-0.00	-22.3	0.20	0.03	-0.08
202-13	0.1	-0.5	-2.8	-0.02	-0.10	-29.6	-0.04	-0.08	-0.03
202-14	-4.7	-5.3	-5.9	-0.21	-0.24	-47.5	-0.23	-0.22	-0.01
202-15	-15.3	-9.7	-9.2	-0.43	-0.62	24.7	-0.47	-0.59	0.07
202-16	-9.8	-23.3	-23.2	-0.49	-0.93	17.3	-0.53	-0.89	0.12
202-17	-27.0	-16.4	-13.1	-0.68	-1.04	31.1	-0.78	-0.94	0.16
202-18	-18.1	-11.3	-10.9	-0.51	-0.73	24.0	-0.55	-0.69	0.08
202-19	-11.3	-6.0	-10.4	-0.35	-0.58	2.5	-0.35	-0.58	0.01
202-20	-7.0	-1.8	-10.5	-0.21	-0.54	-7.0	-0.21	-0.54	-0.04
225- 1	-5.3	3.1	9.3	0.26	-0.08	80.7	0.11	0.06	0.17
225- 2	-6.8	4.9	16.2	0.47	-0.06	84.5	0.21	0.20	0.27
225- 3	-7.4	5.2	23.8	0.72	-0.02	50.3	0.28	0.42	0.35
225- 4	-9.2	8.7	31.0	0.93	0.00	48.1	0.42	0.62	0.46
225- 5	-6.9	23.3	0.1**	0.48	-0.77	3.7	0.47	-0.76	0.08
225- 6	80.1	4.7	-1.7	1.41	0.24	47.6	0.77	0.88	0.58
225- 7	-0.5	10.5	35.7	1.20	0.31	55.7	0.59	0.92	0.42
225- 8	5.1	6.7	12.2	0.47	0.20	59.4	0.33	0.42	0.08
225- 9	6.0	3.3	3.4	0.24	0.16	-68.2	0.17	0.23	-0.03
225-10	4.6	0.5	-0.7	0.15	0.01	-59.1	0.05	0.12	-0.06
225-11	6.1	3.6	2.6	0.23	0.14	-56.2	0.17	0.20	-0.04
225-12	5.6	4.4	3.6	0.22	0.17	-51.8	0.19	0.20	-0.02
225-13	6.1	3.9	1.7	0.22	0.12	-45.0	0.17	0.17	-0.05
225-14	4.6	-0.8	-0.2	0.18	0.01	-70.7	0.03	0.16	-0.06
225-15	-5.3	-10.8	-6.3	-0.13	-0.36	-87.0	-0.36	-0.13	-0.01
225-16	-3.0	3.4	-6.3	-0.01	-0.39	74.2	-0.36	-0.04	0.10
225-17	-12.8	-4.5	-0.7	-0.14	-0.44	34.6	-0.24	-0.34	0.14
225-18	-4.7	-1.3	-5.0	-0.13	-0.29	-1.0	-0.13	-0.29	-0.00
225-19	1.9	0.2	-6.9	0.01	-0.23	-29.2	-0.04	-0.17	-0.10
225-20	5.5	0.8	-8.0	0.11	-0.22	-36.3	-0.01	-0.10	-0.16
247- 1	-10.1	1.0	7.8	0.16	-0.26	38.3	-0.00	-0.10	0.21
247- 2	-14.0	-0.9	14.3	0.33	-0.32	47.1	-0.02	0.03	0.33
247- 3	-15.9	-0.0**	19.7	0.49	-0.33	48.1	0.04	0.13	0.41
247- 4	11.9	-11.8	-10.2	0.42	-0.35	55.6	-0.11	0.18	0.36
247- 5	-13.0	-10.1	13.6	0.80	-0.38	64.1	-0.23	0.25	0.31
247- 6	-15.9	-10.0	2.8	-0.05	-0.51	55.2	-0.36	-0.20	0.22
247- 7	-12.2	-7.2	-5.0	-0.28	-0.46	34.5	-0.34	-0.40	0.08
247- 8	-9.2	-5.0	-8.6	-0.29	-0.47	2.1	-0.29	-0.47	0.01
247- 9	-6.2	-2.9	-9.3	-0.22	-0.45	-8.9	-0.22	-0.44	-0.04
247-10	-3.5	0.1	-8.6	-0.11	-0.41	-11.2	-0.12	-0.40	-0.06
247-11	-1.3	0.4	14.9	0.51	0.05	64.3	0.14	0.44	0.19
247-12	2.0	0.0	18.0	0.72	0.13	70.7	0.20	0.66	0.18
247-13	19.0	-0.2**	5.1	0.84	0.19	-75.3	0.23	0.80	-0.16
247-14	0.1	27.5	30.6	1.11	0.21	-79.3	0.24	1.08	-0.16
247-15	5.6	-1.6	29.9	1.29	0.23	74.0	0.31	1.21	0.28
247-16	15.9	-0.4	17.7	1.12	0.32	88.6	0.32	1.12	0.02
247-17	18.4	2.0	11.6	0.95	0.33	-82.7	0.34	0.94	-0.08
247-18	17.4	2.1	7.1	0.79	0.26	-76.5	0.29	0.76	-0.12
247-19	17.7	2.6	1.9	0.66	0.17	-66.1	0.25	0.58	-0.18
247-20	16.1	0.4	0.8	0.62	0.11	-68.3	0.18	0.55	-0.18
270- 1	-3.9	-2.6	-3.7	-0.14	-0.19	-42.9	-0.16	-0.16	-0.03
270- 2	-9.7	-16.7	-10.4	-0.28	-0.58	-88.4	-0.58	-0.28	-0.01
270- 3	-15.5	-21.3	-15.0	-0.52	-0.79	88.8	-0.79	-0.52	0.01
270- 4	-19.2	-21.2	-17.1	-0.70	-0.85	80.2	-0.85	-0.71	0.02
270- 5	-21.4	-22.2	-21.4	-0.90	-0.94	-88.9	-0.94	-0.90	-0.00
270- 6	-22.5	-19.9	-21.8	-0.90	-1.00	4.1	-0.90	-1.00	0.01
270- 7	-20.6	-14.8	-20.7	-0.75	-1.02	-0.3	-0.75	-1.02	-0.00
270- 8	-17.2	-9.1	-16.1	-0.54	-0.89	2.1	-0.54	-0.89	0.01
270- 9	-13.1	-5.1	-13.6	-0.38	-0.76	-0.9	-0.38	-0.76	-0.01
270-10	-10.8	-1.0	-10.4	-0.23	-0.68	0.5	-0.23	-0.68	0.00
270-11	-6.6	2.9	19.0	0.57	-0.04	-87.8	-0.04	0.57	-0.02
270-12	15.9	-3.8	13.8	1.07	0.21	-88.4	0.21	1.07	-0.02
270-13	23.9	-3.5	27.2	1.77	0.43	88.4	0.43	1.77	0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	26.1	-4.3	31.9	2.02	0.47	87.5	0.48	2.01	0.07
270-15	26.3	-2.0	32.8	2.00	0.54	87.1	0.54	1.99	0.07
270-16	26.0	0.2	27.4	1.76	0.53	89.2	0.53	1.76	0.02
270-17	21.9	2.1	24.8	1.49	0.51	88.1	0.51	1.49	0.03
270-18	18.4	1.4	19.2	1.21	0.40	89.4	0.40	1.21	0.01
270-19	15.4	2.5	15.9	0.97	0.37	89.4	0.37	0.97	0.01
270-20	12.8	-0.5	13.1	0.87	0.24	89.7	0.24	0.87	0.00
0- 5	16.4	8.2	11.3	0.74	0.45	-78.0	0.46	0.73	-0.06
11- 1	26.0	8.0	3.[illegible]	0.93	0.32	-59.9	0.47	0.77	-0.26
22- 6	29.9	5.2	0.0	1.05	0.23	-61.6	0.41	0.87	-0.34
33- 1	39.3	7.4	1.2	1.40	0.34	-62.0	0.57	1.16	-0.44
45- 6	39.4	4.8	0.1	1.41	0.28	-63.6	0.50	1.19	-0.45
56- 1	30.7	-3.4	-2.8	1.15	0.04	-68.0	0.20	1.00	-0.39
67- 4	15.1	-9.7	-8.6	0.54	-0.27	-68.8	-0.16	0.44	-0.27
78- 1	-1.6	-14.0	-12.5	-0.10	-0.51	-71.0	-0.46	-0.14	-0.13
90- 1	-6.9	-6.2	-5.1	-0.24	-0.28	50.8	-0.26	-0.25	0.02
0-15	-24.1	-38.1	-23.9	-0.70	-1.35	89.8	-1.35	-0.70	0.00
11-11	-9.7	-21.2	-20.9	-0.47	-0.84	-68.4	-0.79	-0.52	-0.13
22-16	-6.3	-17.1	-22.5	-0.42	-0.81	-54.0	-0.68	-0.56	-0.19
33-11	-7.0	-11.1	-17.2	-0.40	-0.64	-39.6	-0.50	-0.54	-0.12
45-16	-4.7	3.6	-3.9	-0.00	-0.37	1.5	-0.00	-0.37	0.01
56-11	2.1	19.1	10.4	0.58	-0.04	8.9	0.56	-0.03	0.10
67-14	3.9	28.1	22.5	0.97	0.16	15.9	0.91	0.22	0.21
78-11	3.5	24.5	24.2	0.94	0.25	22.1	0.84	0.35	0.24
90-11	-3.0	5.4	13.6	0.42	0.04	44.7	0.23	0.23	0.19
180- 5	17.9	8.6	11.7	0.80	0.47	-76.7	0.49	0.78	-0.07
191- 1	25.3	7.0	2.4	0.90	0.29	-60.4	0.44	0.75	-0.26
202- 6	32.1	8.7	0.2	1.10	0.29	-57.5	0.52	0.86	-0.37
213- 1	41.0	9.3	-1.1	1.40	0.31	-58.4	0.61	1.10	-0.49
225- 6	40.1	4.7	-1.7	1.41	0.24	-62.4	0.49	1.16	-0.48
236- 1	31.7	-4.0	-6.2	1.13	-0.04	-65.7	0.16	0.93	-0.44
247- 4	11.9	-11.8	-10.2	0.42	-0.35	-69.4	-0.26	0.33	-0.26
258- 1	-1.0	-15.3	-16.5	-0.14	-0.61	-65.1	-0.53	-0.22	-0.18
270- 1	-3.9	-2.6	-3.7	-0.14	-0.19	2.1	-0.14	-0.19	0.00
180-15	-19.6	-31.0	-18.9	-0.55	-1.10	89.1	-1.10	-0.55	0.01
191-11	-12.1	-24.9	-19.9	-0.46	-0.91	-78.1	-0.89	-0.48	-0.09
202-16	-9.8	-23.3	-23.2	-0.49	-0.93	-67.7	-0.86	-0.55	-0.15
213-11	-6.3	-11.4	-17.8	-0.38	-0.65	-41.8	-0.50	-0.53	-0.13
225-16	-3.0	3.4	-6.3	-0.01	-0.39	-5.8	-0.01	-0.38	-0.04
236-11	2.4	20.3	9.9	0.60	-0.07	7.5	0.59	-0.06	0.09
247-14	0.1	27.5	30.6	1.11	0.21	25.7	0.94	0.38	0.35
258-11	-1.0	24.0	33.6	1.14	0.26	33.1	0.88	0.52	0.40
270-11	-6.6	2.9	19.0	0.57	-0.04	52.2	0.19	0.34	0.30
400-01	-16.6	-2.8	10.7	0.19	-0.44	89.6	-0.44	0.19	0.00
400-11	-3.2	-10.5	-14.3	-0.24	-0.51	81.3	-0.50	-0.25	0.04
401-01	7.0	23.1	6.6	0.67	-0.09	-0.3	0.67	-0.09	-0.00
401-02	1.5	5.6					0.11	0.20	
401-03	4.2	-27.6					-0.13	-0.87	
401-04	2.5	1.2					0.09	0.06	
402-01	0.1	-3.6	0.1	0.09	-0.08	-89.9	-0.08	0.09	-0.00
402-02	-3.4	3.7					-0.07	0.09	
402-03	3.2	-3.4					0.07	-0.08	
402-04	-3.2	3.6					-0.07	0.09	
403-01	7.2	26.1	8.3	0.76	-0.09	0.8	0.76	-0.09	0.01
403-02	2.7	2.5					0.11	0.11	
403-03	4.8	-29.4					-0.13	-0.92	
403-04	2.8	1.6					0.11	0.08	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, AXIAL FORCE LOADING ON RUN, F2X

NOMINAL LOAD = 1.003E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	3.5	4.2	3.4	0.17	0.13	-1.2	0.17	0.13	-0.00
0- 2	3.4	2.6	3.1	0.16	0.12	-84.2	0.12	0.15	-0.00
0- 3	3.5	2.6	3.3	0.16	0.13	-85.7	0.13	0.16	-0.00
0- 4	4.9	6.6	4.9	0.25	0.17	0.4	0.25	0.17	0.00
0- 5	9.1	4.6	6.4	0.41	0.25	1.6	0.41	0.25	0.00
0- 6	9.5	13.2	9.9	0.50	0.34	1.8	0.50	0.34	0.01
0- 7	8.4	7.9	8.7	0.38	0.35	83.3	0.35	0.38	0.00
0- 8	8.0	4.9	7.4	0.40	0.26	-87.2	0.26	0.40	-0.01
0- 9	6.1	1.5	6.0	0.37	0.15	-89.7	0.15	0.37	-0.00
0-10	6.0	0.4	5.2	0.36	0.12	-88.0	0.12	0.36	-0.01
0-11	2.4	-0.8	2.3	0.17	0.03	-89.6	0.03	0.17	-0.00
0-12	1.0	-2.2	0.2	0.09	-0.04	-85.4	-0.04	0.09	-0.01
0-13	-1.9	-3.4	-3.0	-0.08	-0.13	-74.6	-0.13	-0.08	-0.01
0-14	-6.4	-5.5	-8.0	-0.27	-0.35	-11.9	-0.27	-0.35	-0.02
0-15	-14.4	-24.0	-14.7	-0.40	-0.84	0.5	-0.40	-0.84	0.00
0-16	-14.1	-9.2	-11.5	-0.86	-0.64	10.0	-0.86	-0.63	0.03
0-17	-13.3	-12.7	-11.3	-0.50	-0.55	54.7	-0.54	-0.52	0.02
0-18	-9.7	-9.4	-9.5	-0.41	-0.42	11.6	-0.41	-0.42	0.00
0-19	-8.1	-6.6	-8.2	-0.31	-0.39	-0.4	-0.31	-0.39	-0.00
0-20	-6.6	-3.1	-6.8	-0.20	-0.37	-0.9	-0.20	-0.37	-0.00
22- 1	-2.7	4.2	15.2	0.48	0.05	51.5	0.22	0.32	0.21
22- 2	-2.4	1.6	12.5	0.41	0.03	57.5	0.14	0.30	0.17
22- 3	-2.4	1.4	12.6	0.41	0.02	58.2	0.13	0.30	0.17
22- 4	-2.8	4.4	15.0	0.47	0.05	50.5	0.22	0.30	0.21
22- 5	-2.5	8.4	16.6	0.52	0.08	40.9	0.33	0.27	0.22
22- 6	18.3	3.1	-0.5	0.64	0.13	39.1	0.43	0.33	0.25
22- 7	3.0	11.3	16.6	0.58	0.26	39.0	0.45	0.39	0.16
22- 8	6.3	5.7	9.6	0.40	0.28	72.1	0.29	0.39	0.04
22- 9	6.7	3.1	6.0	0.35	0.20	-87.0	0.20	0.35	-0.01
22-10	5.9	0.4	3.5	0.31	0.10	-82.2	0.10	0.30	-0.03
22-11	5.8	5.1	-0.8	0.20	0.01	-25.9	0.17	0.05	-0.08
22-12	1.7	2.2	-0.1*	0.07	-0.01	-16.9	0.07	0.00	-0.02
22-13	-0.4	0.3	-1.3	-0.01	-0.06	-11.1	-0.01	-0.06	-0.01
22-14	-3.2	-2.7	-2.9	-0.12	-0.14	10.8	-0.12	-0.14	0.00
22-15	-9.9	-6.5	-8.1	-0.23	-0.37	40.4	-0.29	-0.31	0.07
22-16	-3.7	-11.5	-14.7	-0.26	-0.53	28.8	-0.32	-0.47	0.12
22-17	-15.9	-8.2	-7.6	-0.38	-0.63	24.8	-0.42	-0.58	0.10
22-18	-11.4	-7.1	-6.5	-0.31	-0.46	26.4	-0.34	-0.43	0.06
22-19	-7.7	-4.5	-6.8	-0.25	-0.37	5.0	-0.25	-0.37	0.01
22-20	-4.5	-1.8	-6.7	-0.15	-0.33	-7.9	-0.15	-0.33	-0.02
45- 1	-4.4	5.9	16.1	0.49	0.01	44.8	0.25	0.25	0.24
45- 2	-4.6	6.1	17.6	0.53	0.02	45.9	0.27	0.28	0.26
45- 3	-5.0	4.0	16.5	0.50	-0.00	49.7	0.21	0.29	0.25
45- 4	-5.2	5.7	22.6	0.70	0.04	51.1	0.30	0.44	0.32
45- 5	-3.5	15.7	28.6	0.91	0.16	39.4	0.61	0.46	0.37
45- 6	27.5	3.9	-0.0	0.98	0.20	47.2	0.56	0.62	0.39
45- 7	0.1	7.8	21.3	0.71	0.21	52.7	0.39	0.53	0.24
45- 8	3.4	3.7	7.0	0.28	0.17	64.6	0.19	0.26	0.04
45- 9	3.4	1.0	1.6	0.15	0.07	-74.5	0.07	0.14	-0.02
45-10	3.4	-0.1	-0.9	0.11	-0.01	-61.1	0.02	0.09	-0.05
45-11	11.1	8.0	0.3	0.38	0.11	-33.4	0.30	0.19	-0.12
45-12	5.5	5.0	-0.3	0.20	0.02	-24.9	0.17	0.06	-0.07
45-13	9.1	6.3	-0.8	0.30	0.05	-33.3	0.23	0.13	-0.11
45-14	5.1	0.6	-1.8	0.15	-0.01	-53.3	0.05	0.09	-0.08
45-15	-2.2	-5.6	-3.3	-0.05	-0.18	-84.6	-0.18	-0.05	-0.01
45-16	-4.4	0.3	-2.9	-0.06	-0.25	80.3	-0.25	-0.07	0.03
45-17	-10.1	-2.6	-3.4	-0.17	-0.41	19.5	-0.19	-0.38	0.08
45-18	-4.3	-1.0	-3.8	-0.10	-0.24	2.5	-0.10	-0.24	0.01
45-19	0.9	0.4	-5.0	0.00	-0.18	-24.8	-0.03	-0.15	-0.07
45-20	2.3	0.7	-4.8	0.04	-0.15	-30.6	-0.01	-0.10	-0.08
67- 1	-8.6	-0.2	11.2	0.29	-0.18	49.2	0.02	0.09	0.23

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-9.7	-1.4	14.6	0.80	-0.19	53.7	0.02	0.19	0.28
67- 3	-10.6	1.0	19.6	0.55	-0.17	51.5	0.11	0.27	0.35
67- 4	15.1	-5.4	-6.6	0.52	-0.15	59.2	0.02	0.34	0.29
67- 5	-6.7	-4.9	11.8	0.38	-0.16	64.4	-0.06	0.28	0.21
67- 6	-8.1	-4.3	1.9	-0.01	-0.25	51.7	-0.16	-0.11	0.12
67- 7	-6.3	-3.0	-3.0	-0.15	-0.25	22.7	-0.16	-0.24	0.04
67- 8	-5.5	-2.0	-5.4	-0.15	-0.31	0.6	-0.15	-0.31	0.00
67- 9	-3.9	-1.6	-6.1	-0.13	-0.30	-8.9	-0.14	-0.30	-0.03
67-10	-1.7	-0.7	-6.2	-0.08	-0.26	-17.3	-0.09	-0.24	-0.05
67-11	7.6	0.7	6.9	0.46	0.16	-88.5	0.16	0.46	-0.01
67-12	7.8	-0.4	8.0	0.53	0.15	89.7	0.15	0.53	0.00
67-13	12.5	-1.6	3.3	0.58	0.10	-77.2	0.12	0.56	-0.11
67-14	1.1	20.2	18.5	0.73	0.11	-84.9	0.11	0.73	-0.05
67-15	1.1	0.0	19.7	0.77	0.12	69.0	0.21	0.68	0.21
67-16	10.6	0.6	10.2	0.67	0.22	-89.4	0.22	0.67	-0.00
67-17	12.9	2.3	5.5	0.58	0.21	-75.8	0.24	0.55	-0.09
67-18	12.7	2.0	2.6	0.50	0.15	-69.1	0.20	0.46	-0.12
67-19	11.7	2.1	1.5	0.44	0.13	-65.7	0.18	0.39	-0.12
67-20	9.5	1.3	1.2	0.36	0.09	-67.0	0.14	0.32	-0.10
90- 1	3.1	-2.3	-5.9	0.04	-0.17	84.6	-0.16	0.04	0.02
90- 2	-6.0	-11.9	-5.6	-0.11	-0.39	89.2	-0.39	-0.11	0.00
90- 3	-9.9	-15.4	-9.2	-0.27	-0.55	88.3	-0.55	-0.27	0.01
90- 4	-12.2	-16.0	-12.7	-0.45	-0.62	-88.1	-0.62	-0.45	-0.01
90- 5	-14.4	-15.1	-14.9	-0.61	-0.64	-74.5	-0.64	-0.62	-0.01
90- 6	-14.5	-12.7	-14.5	-0.58	-0.66	-0.2	-0.58	-0.66	-0.00
90- 7	-12.9	-8.3	-12.9	-0.45	-0.66	0.1	-0.45	-0.66	0.00
90- 8	-10.0	-4.6	-11.3	-0.32	-0.60	-3.1	-0.32	-0.60	-0.02
90- 9	-9.2	-3.4	-9.5	-0.26	-0.54	-0.9	-0.26	-0.54	-0.00
90-10	-7.5	-0.9	-7.6	-0.17	-0.48	-0.1	-0.17	-0.48	-0.00
90-11	-4.9	6.7	18.3	0.56	0.02	85.0	0.02	0.55	0.05
90-12	11.9	-2.2	16.1	0.98	0.22	86.3	0.23	0.97	0.05
90-13	17.3	-3.1	23.4	1.42	0.33	86.3	0.33	1.41	0.07
90-14	22.4	-1.3	24.2	1.57	0.43	88.9	0.43	1.57	0.02
90-15	20.6	-0.5	21.4	1.40	0.40	89.5	0.40	1.40	0.01
90-16	17.8	1.5	19.1	1.18	0.40	88.9	0.40	1.18	0.01
90-17	15.0	0.8	14.5	0.95	0.31	-89.4	0.31	0.95	-0.01
90-18	13.7	2.6	13.3	0.83	0.33	-89.5	0.33	0.83	-0.00
90-19	12.8	2.3	10.9	0.73	0.28	-87.2	0.29	0.73	-0.02
90-20	9.9	1.4	9.0	0.59	0.22	-88.4	0.22	0.59	-0.01
180- 1	2.5	3.1	2.5	0.12	0.09	0.6	0.12	0.09	0.00
180- 2	2.8	2.6	2.9	0.13	0.11	82.5	0.11	0.13	0.00
180- 3	2.7	2.9	3.5	0.14	0.12	59.4	0.13	0.14	0.01
180- 4	4.3	6.1	5.2	0.24	0.17	8.5	0.23	0.17	0.01
180- 5	9.7	4.5	5.5	0.41	0.24	7.0	0.41	0.24	0.02
180- 6	9.5	13.7	10.1	0.51	0.33	2.3	0.51	0.33	0.01
180- 7	9.5	8.6	8.8	0.41	0.38	-73.6	0.38	0.41	-0.01
180- 8	8.0	4.7	8.3	0.43	0.27	88.8	0.27	0.43	0.00
180- 9	7.4	3.1	6.9	0.40	0.21	-88.4	0.21	0.40	-0.01
180-10	5.9	0.5	5.6	0.37	0.13	-89.0	0.13	0.37	-0.00
180-11	3.6	0.4	2.8	0.20	0.07	-86.1	0.07	0.20	-0.01
180-12	1.1	-2.8	1.1	0.14	-0.04	89.8	-0.04	0.14	0.00
180-13	-1.1	-3.9	-0.9	0.02	-0.11	88.7	-0.11	0.02	0.00
180-14	-8.3	-5.2	-5.5	-0.25	-0.35	19.9	-0.26	-0.33	0.03
180-15	-11.1	-17.6	-10.8	-0.32	-0.62	4.4	-0.32	-0.62	0.02
180-16	-9.7	-5.6	-18.0	-0.38	-0.81	-13.3	-0.40	-0.79	-0.10
180-17	-11.5	-11.8	-13.3	-0.51	-0.56	-28.6	-0.52	-0.54	-0.02
180-18	-10.1	-7.9	-9.3	-0.37	-0.46	6.6	-0.37	-0.46	0.01
180-19	-8.4	-6.0	-8.4	-0.30	-0.41	0.2	-0.30	-0.41	0.00
180-20	-7.8	-3.0	-6.3	-0.21	-0.40	5.1	-0.21	-0.40	0.02
202- 1	-3.0	5.7	15.3	0.47	0.05	46.4	0.25	0.27	0.21
202- 2	-2.9	2.8	12.1	0.37	0.02	51.9	0.15	0.24	0.17
202- 3	-2.8	3.2	13.2	0.41	0.03	52.0	0.18	0.27	0.18
202- 4	-2.6	4.8	14.0	0.44	0.05	48.2	0.22	0.27	0.19
202- 5	-2.0	9.7	16.7	0.54	0.09	38.1	0.37	0.26	0.22
202- 6	18.8	5.0	-0.7	0.63	0.14	43.8	0.40	0.38	0.24
202- 7	2.1	11.2	18.9	0.65	0.26	42.5	0.47	0.43	0.19

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	6.2	6.2	10.4	0.42	0.29	67.8	0.31	0.40	0.05
202- 9	6.2	2.9	6.4	0.35	0.19	89.4	0.19	0.35	0.00
202-10	5.7	0.6	4.3	0.31	0.11	-85.4	0.11	0.31	-0.02
202-11	6.7	7.2	-0.8	0.26	-0.01	-20.7	0.22	0.03	-0.09
202-12	3.7	4.5	-0.3	0.[illegible]5	-0.01	-17.8	0.14	0.01	-0.05
202-13	0.1	0.0	-1.4	-0.00	-0.05	-23.1	-0.01	-0.04	-0.02
202-14	-2.9	-2.7	-2.7	-0.12	-0.13	[illegible].5	-0.12	-0.12	0.00
202-15	-9.7	-5.4	-4.8	-0.24	-0.38	[illegible].2	-0.27	-0.35	0.06
202-16	-5.3	-14.6	-14.8	-0.28	-0.58	18.3	-0.31	-0.55	0.09
202-17	-16.3	-9.2	-7.7	-0.40	-0.63	28.2	-0.45	-0.58	0.10
202-18	-11.2	-6.7	-6.6	-0.31	-0.46	23.1	-0.33	-0.43	0.05
202-19	-7.2	-3.8	-6.6	-0.22	-0.37	3.1	-0.23	-0.37	0.01
202-20	-4.5	-1.4	-6.6	-0.14	-0.34	-7.0	-0.14	-0.33	-0.02
225- 1	-5.1	5.5	15.2	0.45	-0.02	43.8	0.23	0.21	0.23
225- 2	-5.0	6.8	17.1	0.51	0.00	43.1	0.28	0.24	0.25
225- 3	-4.6	5.5	19.0	0.59	0.03	49.1	0.27	0.35	0.27
225- 4	-5.4	6.8	21.6	0.66	0.03	47.7	0.32	0.37	0.31
225- 5	-4.2	15.2	29.3	0.93	0.14	40.5	0.60	0.47	0.39
225- 6	26.8	3.7	-0.9	0.94	0.17	48.2	0.51	0.60	0.38
225- 7	0.0	6.1	22.8	0.78	0.20	57.5	0.37	0.61	0.26
225- 8	3.5	3.5	7.3	0.30	0.17	67.8	0.19	0.28	0.04
225- 9	4.0	1.5	1.8	0.16	0.08	-70.7	0.09	0.16	-0.03
225-10	3.1	0.0	-0.7	0.10	0.00	-61.0	0.02	0.08	-0.04
225-11	11.8	5.9	-0.3	0.39	0.11	-44.3	0.25	0.24	-0.14
225-12	7.9	4.7	0.2	0.26	0.08	-40.1	0.19	0.16	-0.09
225-13	6.9	3.9	-1.2	0.22	0.02	-37.6	0.15	0.10	-0.09
225-14	4.6	0.3	-1.8	0.14	-0.02	-54.5	0.03	0.09	-0.07
225-15	-4.1	-6.5	-4.7	-0.14	-0.24	-85.9	-0.24	-0.14	-0.01
225-16	-2.9	-0.3	-5.2	-0.08	-0.26	71.3	-0.25	-0.10	0.06
225-17	-8.1	-2.7	-2.5	-0.14	-0.31	23.8	-0.17	-0.29	0.07
225-18	-3.2	-0.5	-4.2	-0.08	-0.23	-4.3	-0.08	-0.23	-0.01
225-19	0.9	0.2	-4.9	-0.00	-0.17	-26.5	-0.03	-0.13	-0.07
225-20	3.2	0.5	-5.1	0.06	-0.14	-35.7	-0.01	-0.07	-0.10
247- 1	-0.3	1.3	13.0	0.35	-0.15	47.7	0.08	0.12	0.25
247- 2	-10.2	0.7	16.5	0.45	-0.18	50.2	0.08	0.19	0.31
247- 3	-11.1	-0.1**	18.7	0.52	-0.19	52.3	0.07	0.25	0.34
247- 4	12.3	-6.9	-7.2	0.42	-0.20	57.9	-0.03	0.25	0.28
247- 5	-8.0	-6.6	11.6	0.37	-0.22	65.3	-0.12	0.27	0.23
247- 6	-9.4	-6.6	2.0	-0.01	-0.31	58.2	-0.22	-0.09	0.13
247- 7	-7.0	-4.6	-3.8	-0.19	-0.27	32.3	-0.21	-0.25	0.04
247- 8	-4.9	-3.0	-6.1	-0.18	-0.30	-6.4	-0.18	-0.30	-0.01
247- 9	-3.0	-1.4	-6.3	-0.12	-0.28	-13.1	-0.12	-0.28	-0.04
247-10	-1.6	0.4	-5.7	-0.05	-0.26	-13.3	-0.06	-0.25	-0.05
247-11	4.9	-1.0	8.3	0.46	0.10	83.7	0.11	0.46	0.04
247-12	5.5	-1.4	9.9	0.55	0.11	83.1	0.12	0.54	0.05
247-13	15.2	-0.2**	1.1	0.60	0.[illegible]	-69.8	0.16	0.54	-0.16
247-14	-1.4	17.3	22.0	0.76	0.13	-75.5	0.17	0.72	-0.15
247-15	5.2	-1.8	18.5	0.86	0.16	77.0	0.19	0.82	0.15
247-16	12.0	0.3	10.3	0.73	0.23	-87.7	0.23	0.73	-0.07
247-17	13.0	2.0	6.4	0.61	0.22	-78.3	0.24	0.59	-0.[illegible]8
247-18	11.9	1.9	3.7	0.50	0.17	-72.5	0.20	0.47	-0.10
247-19	11.6	2.0	0.7	0.42	0.11	-63.6	0.17	0.36	-0.12
247-20	10.4	0.5	0.3	0.39	0.07	-67.0	0.12	0.34	-0.12
270- 1	4.0	-0.2	-4.2	0.09	-0.10	89.5	-0.10	0.09	0.00
270- 2	-6.0	-12.6	-5.1	-0.08	-0.40	88.2	-0.40	-0.08	0.01
270- 3	-10.7	-15.6	-9.5	-0.31	-0.56	86.7	-0.56	-0.31	0.01
270- 4	-13.4	-14.8	-11.5	-0.47	-0.59	79.2	-0.59	-0.48	0.02
270- 5	-14.7	-14.9	-14.5	-0.62	-0.63	77.9	-0.63	-0.62	0.00
270- 6	-15.1	-12.7	-14.6	-0.59	-0.69	3.5	-0.59	-0.68	0.01
270- 7	-13.5	-8.9	-13.6	-0.47	-0.69	-0.2	-0.47	-0.69	-0.00
270- 8	-11.0	-4.9	-10.8	-0.32	-0.59	1.6	-0.32	-0.59	0.01
270- 9	-8.0	-2.1	-8.5	-0.21	-0.49	-1.0	-0.21	-0.49	-0.01
270-10	-6.3	0.4	-6.4	-0.12	-0.43	-0.2	-0.12	-0.43	-0.00
270-11	-7.0	3.6	20.7	0.62	-0.03	-88.4	-0.03	0.62	-0.02
270-12	13.8	-4.3	11.6	0.94	0.15	-88.1	0.15	0.94	-0.03
270-13	19.2	-3.0	20.9	1.39	0.33	88.9	0.33	1.39	0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	20.0	-3.1	23.3	1.50	0.36	88.1	0.36	1.50	0.04
270-15	19.4	-0.7	23.2	1.42	0.40	87.6	0.40	1.42	0.00
270-16	18.5	1.0	18.9	1.21	0.39	89.7	0.39	1.21	0.00
270-17	15.4	2.3	16.8	1.01	0.37	88.5	0.37	1.01	0.02
270-18	12.5	1.7	12.9	0.80	0.29	89.4	0.29	0.80	0.00
270-19	10.4	2.3	10.4	0.63	0.26	90.0	0.26	0.63	0.00
270-20	8.5	0.1	8.5	0.56	0.17	89.9	0.17	0.56	0.00
0- 5	9.1	4.6	6.4	0.41	0.25	-78.4	0.26	0.40	-0.03
11- 1	14.9	4.4	1.3	0.53	0.17	-59.2	0.26	0.43	-0.16
22- 6	18.3	3.1	-0.5	0.64	0.13	-60.9	0.25	0.52	-0.22
33- 1	25.6	5.0	0.5	0.90	0.21	-61.4	0.37	0.74	-0.29
45- 6	27.5	3.9	-0.0	0.98	0.20	-62.8	0.36	0.82	-0.32
56- 1	28.0	-1.4	-2.2	0.88	0.05	-66.7	0.18	0.75	-0.30
67- 6	15.1	-5.4	-6.6	0.52	-0.15	-65.8	-0.04	0.40	-0.25
78- 1	4.1	-9.0	-10.2	0.08	-0.35	-64.8	-0.27	0.00	-0.17
90- 1	3.1	-2.3	-5.9	0.04	-0.17	-50.4	-0.08	-0.04	-0.10
0-15	-14.4	-28.0	-14.7	-0.40	-0.84	-89.5	-0.84	-0.40	-0.00
11-11	-5.6	-13.6	-13.4	-0.27	-0.54	-68.5	-0.50	-0.31	-0.09
22-16	-3.7	-11.5	-14.7	-0.26	-0.53	-56.2	-0.45	-0.34	-0.13
33-11	-5.3	-9.1	-11.8	-0.29	-0.44	-49.7	-0.38	-0.35	-0.08
45-16	-4.4	0.3	-2.9	-0.06	-0.25	5.3	-0.07	-0.25	0.02
56-11	-0.4	11.8	8.0	0.37	-0.05	13.8	0.35	-0.02	0.10
67-14	1.1	20.2	18.5	0.73	0.11	20.1	0.66	0.18	0.20
78-11	0.7	20.3	23.1	0.83	0.19	26.7	0.70	0.32	0.26
90-11	-4.9	6.7	18.3	0.56	0.02	85.0	0.29	0.29	0.27
180- 5	9.7	4.5	5.5	0.41	0.24	-73.0	0.25	0.40	-0.05
191- 1	14.3	3.7	0.3	0.49	0.13	-58.4	0.23	0.39	-0.16
202- 6	18.8	5.0	-0.7	0.63	0.14	-56.2	0.29	0.48	-0.22
213- 1	25.4	6.0	-0.9	0.86	0.19	-57.8	0.38	0.67	-0.30
225- 6	26.8	3.7	-0.9	0.94	0.17	-61.8	0.34	0.77	-0.32
236- 1	23.9	-1.5	-3.9	0.84	0.01	-64.8	0.16	0.69	-0.32
247- 6	12.3	-6.9	-7.2	0.42	-0.20	-67.1	-0.11	0.33	-0.22
258- 1	3.7	-10.2	-12.0	0.05	-0.41	-63.8	-0.32	-0.04	-0.18
270- 1	4.0	-0.2	-4.2	0.09	-0.10	-85.5	-0.01	-0.00	-0.09
180-15	-11.1	-17.6	-10.8	-0.32	-0.62	89.4	-0.62	-0.32	0.00
191-11	-6.2	-14.1	-11.9	-0.25	-0.52	-75.3	-0.51	-0.27	-0.07
202-16	-5.3	-14.6	-14.8	-0.28	-0.58	-66.7	-0.54	-0.33	-0.11
213-11	-4.0	-8.6	-12.1	-0.25	-0.44	-49.1	-0.36	-0.33	-0.09
225-16	-2.9	-0.3	-5.2	-0.08	-0.26	-8.7	-0.09	-0.26	-0.03
236-11	-0.2	11.2	6.2	0.33	-0.07	10.6	0.32	-0.06	0.07
247-14	-1.4	17.3	22.0	0.76	0.13	29.5	0.60	0.28	0.27
258-11	-2.4	17.5	28.3	0.93	0.18	36.8	0.66	0.45	0.35
270-11	-7.0	3.6	20.7	0.62	-0.03	51.6	0.22	0.37	0.32
400-01	5.9	3.8	2.1	0.22	0.13	-2.4	0.22	0.13	-0.00
400-11	-6.1	0.3	4.4	0.09	-0.16	-6.4	0.08	-0.16	-0.03
401-01	4.4	14.3	3.9	0.41	-0.06	-0.6	0.41	-0.06	-0.00
401-02	-1.9	13.6					0.07	0.43	
401-03	-4.1*	8.0					-0.06	0.22	
401-04	-1.7	12.8					0.07	0.41	
402-01	-0.2	-2.4	-0.2	0.05	-0.06	-89.9	-0.06	0.05	-0.00
402-02	-1.9	2.4					-0.04	0.06	
402-03	1.9	-2.3					0.04	-0.06	
402-04	-1.9	2.3					-0.04	0.06	
403-01	3.0	11.7	3.5	0.33	-0.05	0.8	0.33	-0.05	0.01
403-02	-1.8	13.9					0.08	0.48	
403-03	-3.9	8.9					-0.04	0.25	
403-04	-2.1	14.2					0.07	0.45	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, IN-PLANE FORCE LOADING ON RUN, -F2Y

NOMINAL LOAD = 1.003E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	11.0	13.4	7.5	0.50	0.29	-11.3	0.49	0.30	-0.04
0- 2	9.5	7.9	6.0	0.37	0.29	-42.0	0.34	0.33	-0.04
0- 3	9.7	7.5	6.0	0.38	0.29	-51.4	0.33	0.35	-0.04
0- 4	12.4	15.1	9.5	0.57	0.37	-9.7	0.57	0.37	-0.03
0- 5	17.6	9.0	14.8	0.86	0.52	-4.5	0.86	0.53	-0.03
0- 6	19.3	25.9	19.1	0.98	0.67	-0.6	0.98	0.67	-0.00
0- 7	15.4	14.4	16.3	0.72	0.64	81.8	0.65	0.71	0.01
0- 8	14.3	8.6	13.7	0.73	0.47	-88.4	0.48	0.73	-0.01
0- 9	10.5	2.4	10.9	0.65	0.27	89.2	0.27	0.65	0.01
0-10	10.1	0.3	9.3	0.63	0.20	-88.8	0.20	0.63	-0.01
0-11	3.5	-0.5	4.2	0.26	0.06	87.7	0.06	0.26	0.01
0-12	0.7	-3.4	-0.1	0.10	-0.07	-86.7	-0.07	0.10	-0.01
0-13	-4.8	-5.6	-6.5	-0.22	-0.26	-42.6	-0.24	-0.24	-0.02
0-14	-13.6	-10.2	-15.4	-0.52	-0.72	-5.8	-0.52	-0.72	-0.02
0-15	-27.2	-45.6	-28.5	-0.78	-1.60	1.0	-0.78	-1.60	0.01
0-16	-26.5	-17.9	-21.6	-0.88	-1.18	10.8	-0.89	-1.17	0.06
0-17	-24.5	-23.7	-20.6	-0.91	-1.32	59.8	-0.99	-0.94	0.04
0-18	-17.7	-17.0	-16.8	-0.73	-0.75	30.7	-0.74	-0.75	0.01
0-19	-14.5	-11.4	-13.9	-0.54	-0.67	2.9	-0.54	-0.67	0.01
0-20	-11.6	-5.0	-11.9	-0.34	-0.64	0.5	-0.34	-0.64	0.00
22- 1	-5.5	8.6	29.7	0.93	0.10	50.6	0.44	0.60	0.41
22- 2	-4.7	4.1	24.3	0.78	0.06	55.7	0.29	0.55	0.33
22- 3	-4.6	3.7	24.6	0.79	0.06	56.6	0.28	0.57	0.34
22- 4	-5.3	9.7	29.3	0.92	0.11	48.8	0.46	0.57	0.40
22- 5	-4.0	17.2	31.9	1.02	0.18	39.8	0.67	0.52	0.41
22- 6	34.0	5.8	0.4	1.21	0.27	37.9	0.85	0.62	0.45
22- 7	7.1	22.5	30.6	1.09	0.52	36.4	0.89	0.72	0.27
22- 8	12.7	11.2	16.8	0.73	0.54	75.0	0.55	0.71	0.05
22- 9	12.8	5.8	10.3	0.63	0.36	-83.8	0.36	0.63	-0.03
22-10	11.0	0.8	5.7	0.54	0.17	-80.4	0.18	0.53	-0.06
22-11	10.1	7.4	-2.2	0.33	0.01	-30.4	0.25	0.09	-0.14
22-12	3.3	2.7	-2.1	0.10	-0.05	-26.2	0.07	-0.02	-0.06
22-13	-0.5	-0.7	-4.0	-0.04	-0.15	-24.1	-0.06	-0.13	-0.04
22-14	-5.4	-5.8	-7.1	-0.24	-0.29	-32.4	-0.26	-0.28	-0.02
22-15	-17.4	-12.4	-9.4	-0.48	-0.67	37.7	-0.55	-0.60	0.09
22-16	-8.6	-21.2	-25.6	-0.52	-0.95	27.2	-0.61	-0.86	0.18
22-17	-28.5	-16.5	-14.7	-0.73	-1.13	26.8	-0.81	-1.04	0.16
22-18	-20.1	-13.4	-12.1	-0.58	-0.80	27.9	-0.63	-0.75	0.09
22-19	-13.2	-8.1	-12.2	-0.44	-0.65	3.1	-0.44	-0.65	0.01
22-20	-7.8	-2.9	-11.7	-0.25	-0.58	-7.9	-0.26	-0.57	-0.04
45- 1	-5.6	2.8	14.2	0.42	-0.05	89.4	0.15	0.22	0.23
45- 2	-7.2	4.8	21.3	0.64	-0.03	89.5	0.25	0.35	0.33
45- 3	-8.7	4.0	24.5	0.73	-0.06	51.6	0.25	0.43	0.38
45- 4	-9.7	7.9	36.5	1.12	0.03	51.7	0.45	0.70	0.53
45- 5	-6.6	25.7	47.6	1.51	0.24	39.6	1.00	0.76	0.62
45- 6	45.3	5.9	-0.1	1.62	0.32	46.8	0.93	1.01	0.65
45- 7	-0.0	14.7	36.4	1.21	0.35	50.4	0.70	0.86	0.42
45- 8	5.9	8.2	12.6	0.48	0.31	53.4	0.37	0.42	0.08
45- 9	6.1	2.9	3.1	0.25	0.14	-69.3	0.16	0.24	-0.03
45-10	5.9	0.4	-1.2	0.19	0.01	-59.1	0.06	0.14	-0.08
45-11	9.1	3.9	1.4	0.32	0.13	-54.7	0.19	0.26	-0.09
45-12	4.6	3.6	1.6	0.17	0.10	-35.4	0.15	0.12	-0.03
45-13	10.0	5.5	1.0	0.34	0.13	-44.8	0.24	0.23	-0.10
45-14	5.5	-1.1	-0.8	0.21	-0.01	-69.0	0.02	0.18	-0.07
45-15	-3.9	-10.5	-3.9	-0.02	-0.32	-90.0	-0.32	-0.02	-0.00
45-16	-6.6	3.6	-3.3	-0.01	-0.41	80.5	-0.40	-0.02	0.07
45-17	-17.2	-5.1	-3.0	-0.23	-0.63	27.2	-0.32	-0.55	0.16
45-18	-7.0	-2.6	-5.3	-0.18	-0.35	6.7	-0.18	-0.35	0.02
45-19	1.9	0.5	-8.0	0.01	-0.27	-27.1	-0.05	-0.21	-0.11
45-20	8.0	1.3	-8.0	0.07	-0.25	-30.5	-0.01	-0.16	-0.14
67- 1	-10.7	-1.8	5.8	0.09	-0.30	82.7	-0.09	-0.12	0.19

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-14.3	-3.7	13.8	0.32	-0.34	52.0	-0.09	0.07	0.32
67- 3	-16.5	-0.3	23.3	0.61	-0.32	50.3	0.06	0.23	0.46
67- 4	17.6	-9.8	-10.1	0.61	-0.29	57.8	-0.09	0.35	0.40
67- 5	-11.3	-7.5	15.8	0.48	-0.29	63.0	-0.13	0.32	0.31
67- 6	-14.2	-6.1	3.5	-0.02	-0.43	47.4	-0.25	-0.21	0.20
67- 7	-11.3	-8.1	-3.5	-0.20	-0.43	24.8	-0.24	-0.39	0.09
67- 8	-10.1	-3.0	-7.3	-0.24	-0.51	7.0	-0.24	-0.50	0.03
67- 9	-7.5	-2.4	-8.8	-0.22	-0.48	-3.3	-0.22	-0.48	-0.02
67-10	-3.6	-1.1	-9.2	-0.14	-0.41	-13.9	-0.15	-0.40	-0.06
67-11	0.0	-0.6	15.3	0.59	0.07	68.6	0.14	0.52	0.18
67-12	5.1	-1.5	16.9	0.79	0.15	77.3	0.18	0.76	0.14
67-13	16.1	-4.5	8.7	0.93	0.13	-83.9	0.14	0.92	-0.08
67-14	4.2	33.8	26.6	1.15	0.17	-89.0	0.17	1.15	-0.02
67-15	-0.3	1.5	34.0	1.25	0.19	65.9	0.37	1.08	0.40
67-16	14.4	0.2	19.3	1.11	0.33	85.9	0.34	1.11	0.06
67-17	19.1	2.5	11.1	0.95	0.34	-81.2	0.36	0.94	-0.09
67-18	19.7	2.5	5.8	0.83	0.26	-73.0	0.31	0.78	-0.16
67-19	18.7	3.1	3.3	0.73	0.22	-67.9	0.29	0.65	-0.18
67-20	15.5	2.0	2.1	0.60	0.16	-67.8	0.22	0.53	-0.15
90- 1	-4.9	-3.5	-6.3	-0.19	-0.29	-54.0	-0.26	-0.23	-0.05
90- 2	-9.0	-15.4	-12.3	-0.34	-0.57	-80.4	-0.57	-0.35	-0.04
90- 3	-14.4	-21.4	-15.6	-0.49	-0.79	-87.2	-0.79	-0.49	-0.01
90- 4	-17.7	-23.2	-19.5	-0.69	-0.90	-84.6	-0.90	-0.69	-0.02
90- 5	-21.5	-22.7	-22.4	-0.92	-0.96	-78.6	-0.96	-0.92	-0.01
90- 6	-22.8	-20.1	-21.8	-0.90	-1.01	6.7	-0.91	-1.01	0.01
90- 7	-20.7	-19.0	-19.6	-0.72	-1.01	2.7	-0.72	-1.00	0.01
90- 8	-16.8	-8.7	-17.5	-0.54	-0.93	-1.2	-0.54	-0.93	-0.01
90- 9	-15.7	-7.2	-14.8	-0.47	-0.84	1.5	-0.47	-0.84	0.01
90-10	-13.2	-3.2	-12.5	-0.33	-0.77	1.0	-0.33	-0.77	0.01
90-11	-4.0	7.9	16.0	0.49	0.02	79.6	0.04	0.48	0.08
90-12	12.4	-1.2	22.1	1.18	0.30	82.6	0.31	1.16	0.11
90-13	20.4	-3.5	33.1	1.86	0.43	84.1	0.45	1.85	0.15
90-14	28.4	-2.5	35.6	2.17	0.57	87.0	0.57	2.17	0.08
90-15	27.6	-1.5	32.3	2.01	0.56	87.9	0.56	2.01	0.05
90-16	25.8	1.1	29.4	1.80	0.57	88.0	0.57	1.80	0.04
90-17	22.0	0.2	22.7	1.47	0.45	89.5	0.45	1.47	0.01
90-18	20.6	2.9	21.1	1.31	0.48	89.6	0.48	1.31	0.01
90-19	19.9	3.0	17.6	1.17	0.44	-87.9	0.44	1.17	-0.03
90-20	16.0	1.7	14.6	0.97	0.34	-88.6	0.34	0.97	-0.02
180- 1	6.1	7.7	5.0	0.29	0.18	-7.0	0.29	0.19	-0.01
180- 2	6.0	5.9	5.4	0.25	0.23	-26.2	0.25	0.24	-0.01
180- 3	6.0	6.5	6.3	0.27	0.26	12.8	0.27	0.26	0.00
180- 4	8.9	12.0	9.2	0.46	0.32	1.1	0.46	0.32	0.00
180- 5	17.0	8.0	10.8	0.75	0.44	3.9	0.75	0.44	0.02
180- 6	17.3	24.5	17.5	0.91	0.58	0.4	0.91	0.58	0.00
180- 7	16.5	15.3	15.1	0.70	0.66	-63.7	0.66	0.69	-0.02
180- 8	13.6	8.4	14.1	0.72	0.47	88.8	0.47	0.72	0.01
180- 9	12.5	6.0	11.8	0.66	0.38	-88.4	0.38	0.66	-0.01
180-10	10.1	1.8	9.5	0.60	0.24	-88.9	0.24	0.60	-0.01
180-11	4.4	-0.8	4.0	0.29	0.07	-88.9	0.07	0.29	-0.00
180-12	0.6	-5.0	1.2	0.18	-0.10	88.5	-0.10	0.18	0.01
180-13	-3.1	-6.7	-2.0	-0.01	-0.21	86.3	-0.21	-0.01	0.01
180-14	-14.8	-9.1	-9.7	-0.43	-0.60	19.3	-0.45	-0.58	0.05
180-15	-18.7	-28.6	-18.0	-0.55	-1.02	4.0	-0.55	-1.02	0.03
180-16	-16.0	-10.4	-29.5	-0.65	-1.30	-14.3	-0.69	-1.26	-0.16
180-17	-20.2	-19.7	-21.6	-0.86	-0.92	-15.6	-0.87	-0.92	-0.02
180-18	-16.1	-12.6	-14.8	-0.59	-0.73	6.7	-0.60	-0.73	0.02
180-19	-13.3	-9.1	-13.3	-0.47	-0.67	-0.0	-0.47	-0.67	-0.00
180-20	-12.5	-4.3	-10.1	-0.32	-0.65	5.0	-0.32	-0.64	0.03
202- 1	-3.9	8.4	22.0	0.69	0.09	46.5	0.37	0.40	0.30
202- 2	-4.2	8.4	18.2	0.57	0.04	51.6	0.24	0.36	0.26
202- 3	-3.9	5.2	20.3	0.64	0.06	51.9	0.28	0.42	0.28
202- 4	-3.7	8.1	21.8	0.68	0.09	47.2	0.37	0.41	0.29
202- 5	-2.2	16.5	26.7	0.87	0.18	36.7	0.62	0.42	0.33
202- 6	30.0	8.1	0.7	1.04	0.28	41.8	0.70	0.62	0.38
202- 7	4.9	20.6	31.1	1.08	0.46	39.5	0.83	0.71	0.30

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	10.8	11.2	17.1	0.70	0.50	65.5	0.54	0.66	0.07
202- 9	10.5	5.7	10.9	0.57	0.34	88.8	0.34	0.57	0.00
202-10	9.2	1.9	7.6	0.51	0.21	-86.5	0.21	0.51	-0.02
202-11	5.8	7.9	-0.3	0.26	-0.02	-15.3	0.24	0.00	-0.07
202-12	2.6	4.6	0.1	0.14	-0.02	-10.5	0.13	-0.02	-0.03
202-13	-1.8	-0.9	-1.4	-0.05	-0.08	7.1	-0.05	-0.08	0.00
202-14	-5.9	-5.0	-4.0	-0.19	-0.23	45.8	-0.21	-0.21	0.02
202-15	-15.9	-9.1	-7.5	-0.39	-0.62	29.0	-0.44	-0.56	0.10
202-16	-8.3	-22.4	-23.5	-0.45	-0.91	19.7	-0.50	-0.86	0.15
202-17	-26.6	-15.6	-11.8	-0.63	-1.01	32.2	-0.74	-0.90	0.17
202-18	-18.0	-10.9	-10.1	-0.49	-0.72	25.9	-0.53	-0.67	0.09
202-19	-11.4	-5.8	-10.0	-0.34	-0.57	4.1	-0.35	-0.57	0.02
202-20	-7.2	-1.7	-10.2	-0.21	-0.54	-6.0	-0.21	-0.53	-0.03
225- 1	-4.8	4.8	7.2	0.21	-0.11	29.3	0.13	-0.03	0.14
225- 2	-5.9	6.2	13.7	0.40	-0.06	38.5	0.22	0.12	0.23
225- 3	-5.9	6.2	21.1	0.64	0.01	48.0	0.29	0.36	0.31
225- 4	-7.6	9.1	28.6	0.87	0.03	47.3	0.42	0.49	0.42
225- 5	-5.8	22.9	41.9	1.34	0.21	39.2	0.89	0.66	0.55
225- 6	38.7	4.4	-0.5	1.38	0.25	46.6	0.79	0.85	0.56
225- 7	-0.3	11.1	35.7	1.20	0.32	55.0	0.61	0.91	0.42
225- 8	5.1	6.8	13.2	0.50	0.28	60.4	0.34	0.45	0.09
225- 9	5.9	2.9	4.8	0.27	0.17	-80.5	0.17	0.27	-0.02
225-10	4.4	0.1	0.2	0.17	0.03	-68.3	0.05	0.15	-0.05
225-11	4.6	5.5	2.5	0.20	0.10	-13.7	0.20	0.10	-0.02
225-12	4.7	5.7	3.0	0.21	0.12	-12.6	0.21	0.12	-0.02
225-13	4.7	4.9	1.0	0.19	0.06	-21.4	0.17	0.08	-0.04
225-14	2.3	-0.3	-0.1	0.09	0.01	-70.1	0.02	0.08	-0.03
225-15	-8.2	-11.0	-5.5	-0.19	-0.39	81.0	-0.39	-0.20	0.03
225-16	-2.9	0.2	-9.7	-0.10	-0.44	66.1	-0.38	-0.16	0.12
225-17	-14.1	-4.2	-2.4	-0.19	-0.52	27.7	-0.26	-0.45	0.13
225-18	-6.7	-1.6	-5.7	-0.16	-0.37	3.0	-0.16	-0.37	0.01
225-19	0.4	-0.1	-7.2	-0.03	-0.26	-24.4	-0.07	- .22	-0.09
225-20	4.5	0.7	-8.0	0.08	-0.23	-34.3	-0.02	-0.13	-0.14
247- 1	-10.9	3.1	8.5	0.19	-0.30	33.1	0.05	-0.15	0.22
247- 2	-14.5	2.3	16.0	0.39	-0.32	42.2	0.07	-0.00	0.35
247- 3	-15.9	3.2	22.1	0.57	-0.31	44.8	0.14	0.13	0.44
247- 4	13.2	-12.5	-8.6	0.52	-0.33	53.1	-0.02	0.22	0.41
247- 5	-13.5	-8.1	18.0	0.53	-0.34	61.6	-0.14	0.33	0.36
247- 6	-15.5	-8.7	5.6	0.05	-0.47	54.8	-0.30	-0.13	0.24
247- 7	-11.5	-6.6	-2.9	-0.21	-0.41	41.1	-0.30	-0.32	0.10
247- 8	-8.3	-5.0	-7.6	-0.27	-0.41	3.5	-0.27	-0.41	0.01
247- 9	-5.5	-3.8	-8.8	-0.21	-0.40	-12.0	-0.22	-0.39	-0.04
247-10	-3.3	-0.8	-8.5	-0.12	-0.39	-13.5	-0.13	-0.37	-0.06
247-11	-1.3	2.7	13.7	0.46	0.08	57.5	0.19	0.35	0.17
247-12	1.3	1.6	16.0	0.60	0.13	66.9	0.21	0.53	0.17
247-13	14.8	-0.5	4.6	0.68	0.15	-76.8	0.18	0.65	-0.12
247-14	0.1	23.5	25.3	0.93	0.16	-80.3	0.18	0.91	-0.13
247-15	4.2	-1.7	25.3	1.08	0.18	73.6	0.25	1.01	0.24
247-16	13.9	-0.4	14.3	0.94	0.27	89.6	0.27	0.94	0.00
247-17	16.6	1.8	8.9	0.81	0.28	-80.4	0.29	0.80	-0.09
247-18	16.7	1.7	4.9	0.71	0.21	-73.6	0.25	0.67	-0.14
247-19	16.9	2.2	0.5	0.62	0.13	-64.2	0.22	0.52	-0.19
247-20	15.7	0.3	-0.1	0.59	0.08	-66.8	0.16	0.51	-0.18
270- 1	-6.6	-7.7	-2.8	-0.12	-0.28	28.7	-0.16	-0.25	0.07
270- 2	-14.6	-15.9	-6.6	-0.30	-0.61	71.4	-0.58	-0.33	0.09
270- 3	-19.2	-20.6	-11.7	-0.52	-0.81	72.0	-0.78	-0.55	0.09
270- 4	-21.8	-21.0	-14.6	-0.68	-0.89	63.7	-0.84	-0.72	0.08
270- 5	-23.0	-22.4	-19.7	-0.87	-0.96	60.6	-0.94	-0.89	0.04
270- 6	-23.2	-20.0	-21.3	-0.90	-1.01	11.9	-0.90	-1.00	0.02
270- 7	-20.8	-15.2	-21.0	-0.76	-1.02	-0.5	-0.76	-1.02	-0.00
270- 8	-17.0	-9.5	-17.0	-0.56	-0.90	-0.0	-0.56	-0.90	-0.00
270- 9	-12.8	-5.6	-14.5	-0.40	-0.77	-2.9	-0.40	-0.77	-0.02
270-10	-10.1	-1.4	-11.7	-0.25	-0.69	-2.8	-0.25	-0.69	-0.02
270-11	-5.5	2.2	16.9	0.51	-0.03	-86.5	-0.03	0.51	-0.03
270-12	16.3	-2.8	12.3	1.01	0.21	-86.7	0.22	1.01	-0.05
270-13	24.9	-3.0	24.6	1.70	0.42	-89.8	0.42	1.70	-0.00

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	27.3	-0.1	29.3	1.96	0.46	89.1	0.46	1.96	0.02
270-15	27.3	-2.1	30.4	1.95	0.52	88.6	0.52	1.95	0.04
270-16	27.1	0.3	25.4	1.73	0.53	-89.0	0.53	1.72	-0.02
270-17	23.1	1.8	23.1	1.48	0.50	90.0	0.50	1.48	0.00
270-18	19.8	1.2	18.1	1.21	0.40	-89.0	0.40	1.21	-0.01
270-19	16.5	2.4	14.8	0.98	0.36	-88.2	0.36	0.98	-0.02
270-20	13.8	-0.8	12.5	0.89	0.28	-88.7	0.28	0.89	-0.01
0- 5	17.6	9.0	14.8	0.86	0.52	-84.5	0.53	0.86	-0.03
11- 1	28.3	8.7	4.8	1.04	0.38	-61.8	0.53	0.89	-0.27
22- 6	34.0	5.8	0.4	1.21	0.27	-62.1	0.48	1.00	-0.39
33- 1	44.8	8.7	1.5	1.59	0.39	-61.8	0.66	1.33	-0.50
45- 6	45.3	5.9	-0.1	1.62	0.32	-63.2	0.58	1.35	-0.52
56- 1	34.9	-3.3	-3.7	1.29	0.05	-67.3	0.23	1.11	-0.44
67- 4	17.6	-9.8	-10.1	0.61	-0.29	-67.2	-0.15	0.47	-0.32
78- 1	-1.1	-13.7	-14.5	-0.13	-0.54	-65.6	-0.47	-0.20	-0.15
90- 1	-4.9	-3.5	-6.3	-0.19	-0.29	-9.0	-0.19	-0.29	-0.02
0-15	-27.2	-45.6	-28.5	-0.78	-1.60	-89.0	-1.60	-0.78	-0.01
11-11	-12.1	-25.7	-23.9	-0.55	-1.00	-71.3	-0.95	-0.59	-0.14
22-16	-8.6	-21.2	-25.6	-0.52	-0.95	-57.8	-0.83	-0.64	-0.20
33-11	-9.7	-13.9	-18.6	-0.50	-0.71	-43.5	-0.60	-0.61	-0.10
45-16	-6.6	3.6	-3.3	-0.01	-0.41	5.5	-0.01	-0.41	0.04
56-11	1.8	22.5	13.2	0.69	-0.05	10.5	0.67	-0.02	0.13
67-14	4.2	33.4	26.6	1.15	0.17	16.0	1.08	0.25	0.26
78-11	3.7	29.7	27.9	1.10	0.25	20.6	1.00	0.36	0.28
90-11	-4.0	7.9	16.0	0.49	0.02	39.6	0.30	0.21	0.23
180- 5	17.0	8.0	10.8	0.75	0.44	-76.1	0.46	0.73	-0.07
191- 1	23.7	6.4	2.4	0.85	0.27	-61.0	0.41	0.71	-0.25
202- 6	30.0	8.1	0.7	1.04	0.28	-58.2	0.49	0.83	-0.34
213- 1	30.7	8.6	-0.3	1.34	0.31	-59.3	0.58	1.07	-0.45
225- 6	30.7	4.4	-0.5	1.38	0.25	-63.4	0.48	1.16	-0.45
236- 1	32.0	-4.1	-4.7	1.17	-0.00	-67.0	0.18	0.99	-0.42
247- 4	13.2	-12.5	-8.6	0.52	-0.33	-71.9	-0.24	0.44	-0.25
258- 1	-1.3	-18.4	-14.4	-0.05	-0.62	-74.1	-0.58	-0.09	-0.15
270- 1	-6.6	-7.7	-2.8	-0.12	-0.28	73.7	-0.27	-0.13	0.04
180-15	-18.7	-28.6	-18.0	-0.55	-1.02	89.0	-1.02	-0.55	0.01
191-11	-10.8	-22.8	-19.5	-0.45	-0.85	-75.2	-0.83	-0.47	-0.10
202-16	-8.3	-22.4	-23.5	-0.45	-0.91	-65.3	-0.83	-0.53	-0.17
213-11	-5.5	-12.7	-19.6	-0.38	-0.70	-45.6	-0.54	-0.53	-0.16
225-16	-2.9	0.2	-9.7	-0.10	-0.44	-13.9	-0.12	-0.42	-0.08
236-11	1.5	15.7	5.3	0.43	-0.14	4.3	0.43	-0.14	0.04
247-14	0.1	23.5	25.3	0.93	0.16	24.7	0.79	0.29	0.29
258-11	-0.8	20.8	29.6	1.00	0.24	33.7	0.77	0.47	0.35
270-11	-5.5	2.2	16.9	0.51	-0.03	53.5	0.16	0.32	0.26
400-01	-17.8	-2.9	11.3	0.20	-0.47	89.3	-0.47	0.20	0.01
400-11	-3.2	-11.0	-15.3	-0.25	-0.54	82.0	-0.54	-0.26	0.04
401-01	11.7	34.6	9.7	1.01	-0.09	-1.2	1.01	-0.09	-0.02
401-02	3.1	1.1*					0.11	0.07	
401-03	7.4*	-40.3					-0.15	-1.26	
401-04	1.0	6.8					0.10	0.23	
402-01	-0.0	-3.7	-0.0	0.08	-0.09	89.9	-0.09	0.08	0.00
402-02	-3.5	3.6					-0.08	0.08	
402-03	3.3	-3.6					0.07	-0.09	
402-04	-3.5	3.6					-0.08	0.08	
403-01	4.3	16.3	3.9	0.46	-0.11	-0.4	0.46	-0.11	-0.00
403-02	3.0	0.5					0.10	0.05	
403-03	2.4	-20.5					-0.12	-0.65	
403-04	2.0	3.5					0.10	0.14	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, OUT-OF-PLANE FORCE LOADING ON RUN, F2Z

NOMINAL LOAD = 1.003E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	11.4	-0.6	-11.0	0.27	-0.25	-47.1	-0.01	0.03	-0.26
0- 2	10.7	-0.2	-9.6	0.26	-0.21	-47.1	0.01	0.04	-0.24
0- 3	11.4	-0.8	-10.5	0.27	-0.24	-48.3	-0.01	0.05	-0.25
0- 4	12.5	-0.3	-12.5	0.29	-0.29	-45.7	-0.01	0.01	-0.29
0- 5	-9.2	-3.5	11.5	0.31	-0.21	-43.0	0.07	0.03	-0.26
0- 6	5.7	1.4	-3.6	0.15	-0.06	-43.1	0.05	0.04	-0.11
0- 7	-0.2	0.9	2.4	0.08	0.02	49.2	0.04	0.05	0.03
0- 8	-1.3	0.5	3.7	0.11	-0.01	52.3	0.04	0.07	0.06
0- 9	-2.5	0.1	4.2	0.12	-0.04	52.0	0.02	0.06	0.08
0-10	-2.8	-0.4	4.2	0.11	-0.05	53.7	0.00	0.05	0.08
0-11	-4.8	-0.1	4.8	0.11	-0.11	45.9	-0.00	0.00	0.11
0-12	-3.7	-0.6	3.2	0.07	-0.09	47.8	-0.02	-0.00	0.08
0-13	-5.6	-0.4	4.7	0.10	-0.14	44.8	-0.02	-0.02	0.12
0-14	-7.0	-1.1	5.3	0.11	-0.18	45.9	-0.04	-0.03	0.14
0-15	3.9	-2.2	-6.7	0.06	-0.18	40.4	-0.04	-0.08	0.12
0-16	-4.4	-1.5	-0.5	-0.06	-0.16	31.5	-0.08	-0.13	0.04
0-17	-4.9	-2.4	0.1	-0.04	-0.16	44.8	-0.10	-0.10	0.06
0-18	-4.7	-1.9	0.8	-0.02	-0.15	44.9	-0.08	-0.08	0.06
0-19	-4.8	-1.5	1.4	-0.00	-0.14	43.7	-0.07	-0.08	0.07
0-20	-4.1	-0.7	1.6	0.01	-0.12	39.5	-0.04	-0.07	0.07
22- 1	3.1	10.0	8.9	0.37	0.14	17.8	0.35	0.16	0.07
22- 2	4.9	7.1	3.0*	0.24	0.09	-8.4	0.24	0.09	-0.02
22- 3	5.8	5.9	2.3	0.23	0.11	-21.6	0.22	0.13	-0.04
22- 4	7.1	6.9	0.9	0.27	0.07	-23.2	0.24	0.10	-0.07
22- 5	6.5	7.4	0.7	0.26	0.04	-18.8	0.24	0.07	-0.07
22- 6	3.8	1.0	6.3	0.31	0.12	1.4	0.31	0.12	0.00
22- 7	3.1	5.4	7.2	0.27	0.17	42.0	0.23	0.22	0.05
22- 8	2.7	1.2	6.7	0.29	0.11	75.3	0.12	0.28	0.05
22- 9	2.1	-0.6	5.1	0.26	0.05	80.2	0.06	0.25	0.03
22-10	0.8	-2.6	4.0	0.22	-0.02	81.1	-0.01	0.22	0.04
22-11	4.7	6.9	2.1	0.23	0.06	-10.0	0.23	0.06	-0.03
22-12	0.8	2.6	0.4	0.07	-0.02	-2.2	0.07	-0.02	-0.00
22-13	-0.9	0.5	-1.6	-0.01	-0.10	-5.3	-0.01	-0.10	-0.01
22-14	-3.9	-1.8	-3.3	-0.11	-0.20	5.2	-0.11	-0.20	0.01
22-15	-10.9	-4.3	-3.8	-0.21	-0.43	24.6	-0.25	-0.39	0.08
22-16	-4.5	-16.6	-15.9	-0.24	-0.64	15.9	-0.27	-0.61	0.10
22-17	-12.2	-5.6	-9.9	-0.35	-0.60	6.0	-0.35	-0.60	0.03
22-18	-11.6	-6.4	-5.8	-0.29	-0.46	25.8	-0.32	-0.43	0.07
22-19	-9.5	-4.5	-4.2	-0.21	-0.38	24.2	-0.24	-0.35	0.06
22-20	-6.6	-2.3	-3.1	-0.14	-0.28	17.6	-0.15	-0.27	0.04
45- 1	-4.8	9.3	30.3	0.96	0.13	50.5	0.47	0.62	0.40
45- 2	-3.3	9.2	27.3	0.87	0.16	50.3	0.45	0.58	0.35
45- 3	-2.3	5.7	20.6	0.67	0.12	53.5	0.31	0.47	0.26
45- 4	-0.5	8.4	23.3	0.77	0.20	52.1	0.42	0.56	0.27
45- 5	1.2	17.3	25.9	0.88	0.28	36.6	0.67	0.49	0.29
45- 6	26.1	5.6	3.4	0.97	0.30	45.4	0.63	0.64	0.34
45- 7	2.8	8.7	21.4	0.75	0.29	55.1	0.48	0.60	0.22
45- 8	7.6	3.4	8.2	0.44	0.23	88.1	0.23	0.44	0.01
45- 9	6.9	-0.2	3.5	0.35	0.09	-81.4	0.10	0.35	-0.04
45-10	4.9	-2.2	1.0	0.25	-0.00	-79.5	0.01	0.24	-0.05
45-11	19.5	14.2	-3.0	0.65	0.06	-31.1	0.49	0.22	-0.26
45-12	8.9	8.0	-5.5	0.29	-0.15	-24.4	0.22	-0.07	-0.17
45-13	13.0	7.9	-7.2	0.38	-0.13	-31.8	0.24	0.01	-0.23
45-14	4.9	-1.6	-10.2	0.06	-0.29	-41.0	-0.09	-0.14	-0.17
45-15	-6.8	-7.5	-13.2	-0.34	-0.52	-25.9	-0.37	-0.49	-0.07
45-16	-11.6	-17.1	-15.2	-0.48	-0.67	-2.2	-0.48	-0.67	-0.01
45-17	-13.7	-5.3	-19.1	-0.44	-0.97	-6.9	-0.45	-0.96	-0.06
45-18	-12.1	-5.1	-11.0	-0.34	-0.64	2.5	-0.34	-0.64	0.01
45-19	-7.1	-3.1	-9.0	-0.23	-0.46	-5.5	-0.23	-0.46	-0.02
45-20	-4.5	-1.2	-6.2	-0.13	-0.33	-5.9	-0.13	-0.32	-0.02
67- 1	-9.0	-0.5	21.8	0.66	-0.12	57.1	0.11	0.43	0.36

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-7.3	1.4	27.0	0.86	-0.02	58.2	0.23	0.62	0.40
67- 3	-7.9	7.0	34.1	1.07	0.06	53.1	0.42	0.70	0.48
67- 4	29.2	-0.4	-2.0	1.07	0.10	59.1	0.35	0.81	0.43
67- 5	-2.3	2.8	26.1	0.90	0.12	61.4	0.30	0.72	0.33
67- 6	-0.1	3.0	11.0	0.37	0.09	56.6	0.18	0.29	0.13
67- 7	2.2	2.9	4.8	0.18	0.12	56.8	0.14	0.16	0.03
67- 8	4.3	2.2	0.5	0.15	0.06	-47.8	0.10	0.11	-0.04
67- 9	5.0	1.3	-1.2	0.15	0.01	-50.1	0.07	0.09	-0.07
67-10	5.1	1.0	-2.1	0.15	-0.02	-48.8	0.05	0.07	-0.08
67-11	14.4	0.8	2.7	0.59	0.14	-71.4	0.19	0.55	-0.14
67-12	9.7	-3.1	0.2	0.43	-0.00	-74.8	0.03	0.40	-0.11
67-13	7.5	-4.5	-4.7	0.26	-0.14	-67.1	-0.08	0.20	-0.14
67-14	-4.3	8.6	9.1	0.31	-0.11	-81.6	-0.10	0.30	-0.06
67-15	-3.0	-5.2	3.8	0.17	-0.13	74.2	-0.11	0.14	0.08
67-16	2.4	-1.9	-4.5	0.03	-0.13	-51.9	-0.07	-0.03	-0.08
67-17	3.7	0.5	-5.8	0.07	-0.16	-36.1	-0.01	-0.08	-0.11
67-18	4.0	1.0	-6.0	0.08	-0.17	-34.3	0.00	-0.09	-0.11
67-19	3.9	0.6	-5.8	0.08	-0.16	-36.3	-0.00	-0.08	-0.11
67-20	2.7	0.3	-4.9	0.05	-0.14	-34.9	-0.02	-0.08	-0.09
90- 1	12.8	-2.3	-5.5	0.41	-0.10	73.8	-0.05	0.37	0.14
90- 2	-6.1	-10.0	5.6	0.25	-0.27	74.4	-0.23	0.21	0.14
90- 3	-10.8	-11.7	2.2	0.08	-0.41	69.3	-0.35	-0.01	0.15
90- 4	-1[illegible].8	-11.2	-0.9	-0.12	-0.47	63.1	-0.39	-0.19	0.14
90- 5	-13.3	-8.8	-3.4	-0.24	-0.47	47.4	-0.37	-0.35	0.11
90- 6	-12.7	-6.2	-4.8	-0.27	-0.48	28.5	-0.32	-0.44	0.09
90- 7	-8.0	-3.0	-5.2	-0.19	-0.37	10.6	-0.20	-0.37	0.03
90- 8	-4.8	-0.4	-5.1	-0.11	-0.32	-0.8	-0.11	-0.32	-0.00
90- 9	-3.1	1.1	-3.7	-0.04	-0.25	-1.9	-0.04	-0.25	-0.01
90-10	-1.1	2.3	-3.3	0.01	-0.20	-6.7	0.01	-0.20	-0.02
90-11	-8.4	11.2	22.5	0.67	-0.07	77.5	-0.03	0.64	0.16
90-12	7.2	-5.6	17.7	0.97	0.10	81.9	0.12	0.95	0.12
90-13	12.2	-4.9	21.8	1.25	0.21	83.8	0.22	1.24	0.11
90-14	17.1	-2.4	19.9	1.28	0.31	88.1	0.31	1.28	0.03
90-15	15.7	-0.6	15.6	1.05	0.29	-90.0	0.29	1.05	-0.00
90-16	12.4	1.1	12.1	0.78	0.27	-89.7	0.27	0.78	-0.00
90-17	11.0	1.1	7.8	0.60	0.21	-84.5	0.21	0.59	-0.04
90-18	10.1	2.3	5.6	0.47	0.20	-78.8	0.21	0.46	-0.05
90-19	8.9	1.7	3.3	0.38	0.14	-73.8	0.16	0.36	-0.06
90-20	6.5	1.3	2.2	0.27	0.10	-72.5	0.11	0.26	-0.05
180- 1	0.9	0.6	-0.3	0.03	-0.00	-31.1	0.02	0.01	-0.01
180- 2	-0.2	0.4	0.9	0.03	0.00	40.2	0.02	0.01	0.01
180- 3	-0.8	0.5	1.7	0.05	-0.01	43.4	0.02	0.02	0.03
180- 4	-1.0	0.7	2.3	0.07	-0.01	44.6	0.03	0.03	0.04
180- 5	2.4	1.3	-0.3	0.08	0.01	40.3	0.05	0.04	0.03
180- 6	2.3	2.4	1.2	0.09	0.05	-21.5	0.09	0.06	-0.01
180- 7	3.8	1.4	-0.5	0.12	0.02	-47.4	0.07	0.07	-0.05
180- 8	3.4	0.8	-0.8	0.11	0.01	-51.5	0.04	0.07	-0.05
180- 9	3.3	0.6	-0.9	0.10	-0.00	-52.9	0.04	0.06	-0.05
180-10	2.7	-0.0	-1.0	0.08	-0.01	-58.2	0.02	0.06	-0.04
180-11	-0.9	-0.0	2.5	0.08	-0.01	57.8	0.02	0.05	0.04
180-12	-0.1	-0.4	1.2	0.05	-0.00	73.2	0.00	0.05	0.01
180-13	1.0	-0.3	-0.1	0.04	-0.00	-70.9	0.00	0.03	-0.01
180-14	2.2	-0.2	-2.6	0.05	-0.07	-85.0	-0.01	-0.01	-0.06
180-15	-4.2	-0.4	2.6	0.05	-0.11	-82.7	-0.03	-0.04	-0.08
180-16	1.7	-1.3	-6.2	-0.00	-0.19	-37.9	-0.07	-0.12	-0.09
180-17	0.7	-1.9	-4.9	-0.03	-0.15	-42.5	-0.08	-0.10	-0.06
180-18	0.6	-1.2	-3.6	-0.02	-0.11	-40.4	-0.06	-0.07	-0.05
180-19	0.4	-1.0	-3.1	-0.02	-0.10	-39.5	-0.05	-0.07	-0.04
180-20	0.1	-0.3	-2.1	-0.01	-0.07	-29.1	-0.03	-0.06	-0.03
202- 1	0.7	-7.9	-9.6	-0.05	-0.33	-61.8	-0.27	-0.11	-0.12
202- 2	0.0	-5.3	-5.5	-0.03	-0.21	-66.5	-0.18	-0.06	-0.06
202- 3	-0.7	-5.0	-4.6	-0.05	-0.18	-69.9	-0.17	-0.06	-0.04
202- 4	-1.1	-4.1	-3.7	-0.05	-0.15	-71.7	-0.14	-0.06	-0.03
202- 5	-1.3	-4.3	-3.7	-0.06	-0.16	-73.2	-0.15	-0.06	-0.03
202- 6	-3.8	-1.5	-0.8	-0.06	-0.14	-49.2	-0.10	-0.09	-0.04
202- 7	0.4	0.8	-2.3	0.01	-0.09	-19.4	-0.00	-0.08	-0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	1.1	2.3	-0.6	0.06	-0.04	-11.2	0.06	-0.04	-0.02
202- 9	1.6	2.6	0.1	0.08	-0.01	-10.9	0.08	-0.00	-0.02
202-10	1.6	2.2	0.4	0.07	0.01	-14.1	0.07	0.02	-0.01
202-11	-8.5	-6.1	1.2	-0.03	-0.28	58.5	-0.21	-0.10	0.11
202-12	-6.2	-4.2	0.9	-0.02	-0.20	56.8	-0.15	-0.08	0.08
202-13	-2.9	-0.6	1.2	0.01	-0.08	42.1	-0.03	-0.04	0.05
202-14	-1.5	-0.1	1.0	0.02	-0.04	41.3	-0.01	-0.01	0.03
202-15	1.4	0.9	0.8	0.06	0.04	-63.4	0.04	0.05	-0.01
202-16	0.6	2.8	3.0	0.11	0.04	-69.9	0.05	0.11	-0.02
202-17	2.6	0.4	1.2	0.12	0.04	-77.8	0.05	0.12	-0.02
202-18	1.5	-0.4	0.4	0.07	0.01	-78.4	0.01	0.07	-0.01
202-19	0.8	-0.1	-0.1	0.03	0.00	-69.9	0.00	0.03	-0.01
202-20	0.1	0.2	-0.2	0.00	-0.01	-20.9	0.00	-0.01	-0.00
225- 1	4.3	-5.1	-20.9	-0.06	-0.66	-37.9	-0.28	-0.43	-0.29
225- 2	3.8	-6.2	-19.4	-0.06	-0.61	-41.0	-0.30	-0.37	-0.27
225- 3	3.5	-4.2	-16.6	-0.04	-0.52	-38.5	-0.23	-0.33	-0.23
225- 4	3.6	-4.1	-13.6	-0.02	-0.41	-42.1	-0.19	-0.24	-0.20
225- 5	3.2	0.4*	-14.5	0.00	-0.49	-27.7	-0.10	-0.38	-0.20
225- 6	-12.4	-2.5	2.7	-0.03	-0.39	-33.5	-0.14	-0.28	-0.17
225- 7	0.3	1.6	-6.0	0.00	-0.25	-17.8	-0.02	-0.22	-0.07
225- 8	-0.7	2.5	1.7	0.07	-0.03	15.0	0.07	-0.03	0.03
225- 9	-0.4	2.4	3.1	0.11	0.01	30.3	0.08	0.04	0.04
225-10	-0.2	1.5	3.2	0.10	0.02	45.1	0.06	0.06	0.04
225-11	-14.4	-5.4	2.4	-0.06	-0.45	52.8	-0.24	-0.27	0.19
225-12	-8.9	-3.0	1.8	-0.03	-0.28	42.3	-0.14	-0.16	0.12
225-13	-8.0	-2.2	2.1	-0.01	-0.25	41.0	-0.11	-0.14	0.12
225-14	-7.0	-0.6	2.8	0.03	-0.21	36.5	-0.06	-0.13	0.11
225-15	-2.5	-3.6	3.6	0.14	-0.09	71.9	-0.07	0.12	0.07
225-16	3.3	-0.4	-2.3	0.09	-0.05	25.7	0.06	-0.02	0.05
225-17	-0.8	1.6	2.1	0.07	-0.01	28.3	0.05	0.01	0.03
225-18	-3.1	-0.5	2.2	0.04	-0.08	85.8	-0.02	-0.02	0.06
225-19	-3.1	-0.8	1.6	0.02	-0.09	85.5	-0.03	-0.03	0.05
225-20	-2.4	0.1	0.7	0.00	-0.08	29.8	-0.02	-0.06	0.04
247- 1	2.8	1.0	-15.1	0.00	-0.53	-25.5	-0.10	-0.43	-0.21
247- 2	3.2	2.0	-14.8	0.03	-0.52	-24.5	-0.07	-0.43	-0.21
247- 3	4.2	3.5	-12.6	0.08	-0.44	-23.8	-0.00	-0.36	-0.19
247- 4	-10.7	-1.3	6.5	0.11	-0.29	-12.5	0.09	-0.27	-0.08
247- 5	0.4	7.0	-0.2	0.16	-0.15	-1.2	0.16	-0.15	-0.01
247- 6	1.9	6.2	5.3	0.23	0.08	16.3	0.21	0.09	0.04
247- 7	1.9	8.3	7.4	0.26	0.13	48.4	0.19	0.21	0.06
247- 8	1.5	8.3	6.5	0.24	0.10	62.0	0.13	0.21	0.06
247- 9	0.5	7.5	4.9	0.19	0.04	67.8	0.06	0.17	0.05
247-10	0.1	-1.0	3.2	0.14	-0.00	74.4	0.01	0.13	0.04
247-11	-9.3	5.6	1.1	0.08	-0.43	14.1	0.05	-0.40	0.12
247-12	-8.8	5.5	0.5	0.07	-0.42	12.9	0.04	-0.40	0.11
247-13	-14.3	-0.3	8.9	0.04	-0.45	32.7	-0.10	-0.30	0.22
247-14	4.3	-7.1	-17.2	-0.03	-0.53	28.4	-0.14	-0.41	0.21
247-15	-7.7	3.5	-8.2	-0.08	-0.60	-0.6	-0.08	-0.60	-0.01
247-16	-11.2	0.2	-4.7	-0.14	-0.54	10.9	-0.15	-0.53	0.08
247-17	-9.9	-1.2	-3.5	-0.14	-0.44	15.2	-0.16	-0.42	0.07
247-18	-7.5	-1.3	-2.6	-0.11	-0.32	16.3	-0.13	-0.31	0.06
247-19	-5.2	-1.2	-1.8	-0.08	-0.21	18.4	-0.10	-0.20	0.04
247-20	-3.2	-0.3	-1.8	-0.05	-0.16	8.9	-0.06	-0.16	0.02
270- 1	-16.4	-9.3	5.2	0.02	-0.50	9.6	0.01	-0.49	0.09
270- 2	-6.9	8.2	4.6	0.20	-0.30	15.8	0.17	-0.26	0.13
270- 3	-3.5	9.1	8.7	0.32	-0.10	21.6	0.26	-0.04	0.14
270- 4	-1.6	6.9	9.9	0.33	0.03	32.6	0.24	0.12	0.13
270- 5	0.7	5.2	10.0	0.34	0.12	46.0	0.23	0.23	0.11
270- 6	2.2	3.1	7.6	0.29	0.14	62.3	0.17	0.25	0.06
270- 7	2.7	0.8	4.9	0.24	0.09	80.0	0.09	0.23	0.03
270- 8	2.6	-1.0	2.2	0.18	0.02	-88.4	0.02	0.18	-0.00
270- 9	1.5	-2.1	0.4	0.11	-0.03	-85.1	-0.03	0.11	-0.01
270-10	1.3	-2.6	-0.9	0.08	-0.06	-79.1	-0.06	0.07	-0.03
270-11	7.8	0.3	-2.1	0.09	-0.62	7.5	0.08	-0.61	0.09
270-12	-12.7	6.8	-5.0	-0.01	-0.75	6.9	-0.02	-0.74	0.09
270-13	-13.7	4.7	-11.2	-0.14	-0.93	2.0	-0.14	-0.93	0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-12.3	3.0	-12.7	-0.18	-0.89	-0.4	-0.18	-0.89	-0.00
270-15	-9.8	0.5	-12.0	-0.20	-0.73	-2.8	-0.20	-0.73	-0.03
270-16	-7.8	-0.9	-9.6	-0.19	-0.55	-3.3	-0.19	-0.55	-0.02
270-17	-4.9	-1.8	-8.5	-0.17	-0.41	-10.0	-0.17	-0.40	-0.04
270-18	-2.4	-1.3	-6.5	-0.10	-0.28	-16.3	-0.12	-0.26	-0.05
270-19	-0.7	-1.4	-5.2	-0.06	-0.19	-27.5	-0.09	-0.16	-0.05
270-20	0.5	-0.6	-4.0	-0.02	-0.13	-31.9	-0.05	-0.10	-0.05
0- 5	-9.2	-3.5	11.5	0.31	-0.21	57.0	-0.06	0.15	0.24
11- 1	-3.4	-1.1	9.9	0.32	-0.04	61.8	0.04	0.24	0.15
22- 6	3.8	1.0	6.3	0.31	0.12	81.4	0.12	0.31	0.03
33- 1	16.3	4.6	4.5	0.64	0.25	-67.3	0.31	0.58	-0.14
45- 6	26.1	5.6	3.4	0.97	0.30	-64.6	0.42	0.85	-0.26
56- 1	32.3	3.1	2.7	1.23	0.27	-67.1	0.42	1.08	-0.34
67- 4	29.2	-0.4	-3.0	1.07	0.10	-65.9	0.26	0.90	-0.36
78- 1	16.6	-7.5	-6.2	0.61	-0.17	-69.0	-0.07	0.51	-0.26
90- 1	12.8	-2.3	-5.5	0.41	-0.10	-61.6	0.02	0.29	-0.21
0-15	3.9	-2.2	-6.7	0.06	-0.18	-49.6	-0.08	-0.04	-0.12
11-11	-2.3	-12.2	-11.3	-0.13	-0.45	-70.0	-0.42	-0.17	-0.10
22-16	-4.5	-16.6	-15.9	-0.24	-0.64	-69.1	-0.59	-0.29	-0.13
33-11	-11.2	-23.2	-18.2	-0.42	-0.84	-78.9	-0.83	-0.43	-0.08
45-16	-11.6	-17.1	-15.2	-0.48	-0.67	-77.2	-0.66	-0.49	-0.04
56-11	-9.1	-5.8	-4.4	-0.23	-0.35	33.4	-0.27	-0.31	0.05
67-14	-4.3	8.6	9.1	0.31	-0.11	23.4	0.25	-0.04	0.15
78-11	-3.4	18.5	21.7	0.75	0.03	26.6	0.61	0.18	0.29
90-11	-8.4	11.2	22.5	0.67	-0.07	37.5	0.40	0.21	0.36
180- 5	2.4	1.3	-0.3	0.08	0.01	-39.7	0.05	0.04	-0.03
191- 1	-0.1	-0.3	-1.7	-0.02	-0.06	-25.7	-0.02	-0.05	-0.02
202- 6	-3.8	-1.5	-0.8	-0.06	-0.14	30.8	-0.08	-0.12	0.03
213- 1	-9.2	-2.4	1.0	-0.05	-0.30	36.1	-0.14	-0.21	0.12
225- 6	-12.4	-2.5	2.7	-0.03	-0.39	36.5	-0.15	-0.26	0.17
236- 1	-13.2	-1.8	4.4	0.02	-0.40	36.8	-0.13	-0.25	0.20
247- 4	-10.7	-1.3	6.5	0.11	-0.29	42.5	-0.07	-0.11	0.20
258- 1	-9.9	-1.9	8.8	0.20	-0.24	49.2	-0.05	0.01	0.22
270- 1	-16.4	-9.3	5.2	0.02	-0.50	58.6	-0.33	-0.15	0.25
180-15	-4.2	-0.4	2.6	0.05	-0.11	42.3	-0.03	-0.04	0.08
191-11	-1.5	1.4	2.8	0.08	-0.02	35.9	0.04	0.01	0.05
202-16	0.6	2.8	3.0	0.11	0.04	25.1	0.10	0.05	0.03
213-11	2.5	2.1	1.4	0.10	0.07	-36.1	0.09	0.08	-0.01
225-16	3.3	-0.4	-2.3	0.09	-0.05	-54.3	0.00	0.04	-0.07
236-11	3.3	-5.3	-8.3	0.04	-0.26	-57.8	-0.17	-0.04	-0.13
247-14	4.3	-7.1	-17.2	-0.03	-0.53	-46.6	-0.29	-0.26	-0.25
258-11	6.5	-7.5	-23.3	-0.01	-0.70	-43.3	-0.34	-0.38	-0.34
270-11	7.8	0.3	-20.3	0.09	-0.62	-32.5	-0.12	-0.42	-0.32
400-01	-1.1	1.7	0.8	0.04	-0.05	58.5	-0.03	0.01	0.04
400-11	0.0	1.0	-1.3	0.01	-0.07	-55.7	-0.04	-0.01	-0.04
401-01	4.4	2.7	-2.6	0.13	-0.05	-31.5	0.08	-0.00	-0.08
401-02	10.7	-38.9					-0.03	-1.18	
401-03	-2.2*	-2.1					-0.09	-0.09	
401-04	-10.1	39.7					0.06	1.21	
402-01	-0.5	-0.4	0.6	0.02	-0.02	62.7	-0.01	0.01	0.01
402-02	0.0	0.5					0.00	0.01	
402-03	0.2	-0.1					0.01	-0.00	
402-04	-0.3	0.3					-0.01	0.01	
403-01	4.0	1.6	-3.0	0.11	-0.06	-36.2	0.05	-0.00	-0.08
403-02	5.2	-19.3					-0.02	-0.58	
403-03	0.5	-2.1					-0.00	-0.07	
403-04	-4.6	19.1					0.04	0.58	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, OUT-OF-PLANE MOMENT LOADING ON BRANCH, M3X

NOMINAL LOAD = 6.188E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	23.8	-1.8	-24.0	0.55	-0.56	-47.1	-0.04	0.04	-0.55
0- 2	19.8	-0.2	-18.8	0.47	-0.42	-46.1	0.01	0.04	-0.45
0- 3	19.2	-1.1	-18.6	0.45	-0.43	-47.1	-0.02	0.04	-0.44
0- 4	16.1	-0.9	-17.4	0.36	-0.41	-45.4	-0.03	-0.02	-0.39
0- 5	-7.6	-3.7	9.6	0.27	-0.18	-40.6	0.08	0.01	-0.22
0- 6	-8.9	-3.3*	5.1	0.08	-0.25	50.8	-0.11	-0.05	0.16
0- 7	-14.2	-1.1	11.6	0.24	-0.35	44.6	-0.05	-0.06	0.30
0- 8	-13.7	-1.7	11.8	0.25	-0.33	46.7	-0.06	-0.02	0.29
0- 9	-12.4	-1.3	10.6	0.23	-0.30	45.9	-0.05	-0.03	0.27
0-10	-12.1	-1.8	9.7	0.20	-0.30	46.6	-0.06	-0.04	0.25
0-11	-9.0	-0.0	9.3	0.22	-0.20	45.6	0.00	0.01	0.21
0-12	-4.1	-0.7	4.2	0.10	-0.10	50.0	-0.02	0.02	0.10
0-13	-1.5	-0.5	1.4	0.03	-0.04	52.6	-0.01	0.01	0.03
0-14	2.1	-0.5	-0.9	0.07	-0.02	-63.9	-0.00	0.05	-0.03
0-15	-4.9	1.7	7.2	0.19	-0.09	-47.9	0.03	0.06	-0.14
0-16	8.1	1.1	-7.8	0.19	-0.18	-41.5	0.03	-0.02	-0.18
0-17	5.5	-0.1	-5.5	0.13	-0.13	-45.6	-0.00	0.00	-0.13
0-18	2.1	-1.0	-2.6	0.05	-0.07	-53.7	-0.03	0.01	-0.05
0-19	-0.1	-1.1	0.0	0.02	-0.03	88.0	-0.03	0.02	0.00
0-20	-1.2	-0.9	1.6	0.05	-0.03	63.1	-0.02	0.03	0.03
22- 1	26.1	8.3	-12.7	0.74	-0.16	-42.7	0.32	0.25	-0.45
22- 2	30.5	8.4	-12.5	0.88	-0.11	-45.9	0.37	0.40	-0.50
22- 3	29.9	7.8	-13.5	0.85	-0.15	-45.6	0.34	0.36	-0.50
22- 4	28.3	8.7	-14.4	0.79	-0.20	-42.7	0.34	0.26	-0.49
22- 5	20.7	10.3	-9.6	0.60	-0.13	-36.2	0.35	0.13	-0.35
22- 6	2.0	0.8	15.5	0.61	0.13	-10.3	0.60	0.15	-0.08
22- 7	1.1	8.9	13.2	0.45	0.16	37.1	0.35	0.27	0.14
22- 8	-1.9	1.6	13.6	0.45	0.05	59.4	0.15	0.35	0.18
22- 9	-2.7	-0.9	11.0	0.37	-0.02	63.1	0.06	0.29	0.16
22-10	-3.6	-1.7	8.5	0.27	-0.06	62.3	0.01	0.20	0.14
22-11	-19.8	-5.7	-10.1	-0.40	-0.88	13.9	-0.43	-0.85	0.11
22-12	-12.4	-5.6	-22.1	-0.45	-1.03	-11.3	-0.47	-1.01	-0.11
22-13	-5.8	-7.4	-28.2	-0.39	-1.07	-24.7	-0.51	-0.95	-0.26
22-14	-8.2	-8.2	-26.2	-0.44	-1.03	-22.6	-0.53	-0.95	-0.21
22-15	-14.2	-5.6	-21.6	-0.47	-1.06	-8.4	-0.48	-1.05	-0.09
22-16	-21.4	-33.8	-16.8	-0.48	-1.16	-9.5	-0.50	-1.14	-0.11
22-17	-10.5	-18.0	-19.6	-0.52	-0.77	-61.8	-0.71	-0.57	-0.10
22-18	-8.5	-12.2	-8.3	-0.27	-0.45	89.3	-0.45	-0.27	0.00
22-19	-6.2	-5.3	-2.5	-0.14	-0.24	58.7	-0.21	-0.17	0.04
22-20	-4.0	0.1	1.6	0.02	-0.12	32.5	-0.02	-0.08	0.06
45- 1	1.9	14.5	6.5	0.42	-0.06	6.4	0.42	-0.06	0.05
45- 2	15.9	19.8	6.3	0.71	0.24	-14.4	0.68	0.27	-0.11
45- 3	21.6	17.9	4.7	0.87	0.39	-36.1	0.70	0.55	-0.23
45- 4	31.6	26.9	8.5	1.17	0.55	-29.8	1.02	0.70	-0.27
45- 5	38.5	42.9	15.7	1.61	0.71	-17.8	1.53	0.79	-0.26
45- 6	20.8	13.7	41.9	1.82	0.87	8.5	1.81	0.87	0.07
45- 7	21.6	41.5	35.5	1.56	0.88	14.1	1.52	0.92	0.16
45- 8	23.9	20.4	17.9	0.97	0.83	-49.8	0.88	0.91	-0.07
45- 9	19.5	11.8	9.6	0.76	0.49	-61.0	0.55	0.69	-0.11
45-10	14.8	10.1	6.7	0.56	0.37	-49.5	0.45	0.48	-0.09
45-11	-1.7	16.7	-1.9	0.35	-0.50	-0.1	0.35	-0.50	-0.00
45-12	1.8	5.2	-21.9	0.01	-0.88	-18.9	-0.08	-0.78	-0.27
45-13	-2.0	0.1	-32.0	-0.20	-1.25	-20.7	-0.33	-1.12	-0.35
45-14	-7.9	-14.3	-44.8	-0.62	-1.62	-28.5	-0.85	-1.39	-0.42
45-15	-22.1	-20.2	-52.0	-1.07	-2.11	-20.8	-1.20	-1.98	-0.35
45-16	-40.8	-59.8	-40.7	-1.31	-2.19	-15.1	-1.37	-2.13	-0.22
45-17	-29.7	-21.9	-44.7	-1.20	-1.99	-13.1	-1.24	-1.95	-0.17
45-18	-23.6	-11.7	-14.7	-0.62	-1.02	15.4	-0.65	-0.99	0.10
45-19	-9.7	1.9	-4.5	-0.09	-0.52	8.1	-0.10	-0.51	0.06
45-20	-5.3	0.0	0.5	0.15	-0.35	7.8	0.14	-0.34	0.07
67- 1	-13.8	13.9	20.2	0.60	-0.33	28.9	0.38	-0.11	0.39

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-1.7	30.9	34.0	1.23	0.16	25.2	1.03	0.35	0.41
67- 3	11.3	53.3	49.4	1.99	0.61	19.9	1.83	0.77	0.48
67- 4	27.9	3.3	45.8	2.38	0.78	27.6	2.04	1.12	0.66
67- 5	10.7	-0.8**	73.0	3.01	0.57	72.0	0.81	2.78	0.72
67- 6	27.8	54.7	40.0	1.95	0.95	8.2	1.93	0.97	0.14
67- 7	29.9	43.1	24.9	1.54	0.81	-4.5	1.54	0.81	-0.06
67- 8	31.5	32.3	13.5	1.27	0.66	-21.3	1.19	0.74	-0.21
67- 9	30.4	20.8	9.0	1.17	0.52	-24.8	1.05	0.64	-0.25
67-10	26.6	29.1	9.8	1.10	0.46	-18.8	1.03	0.53	-0.19
67-11	5.1	25.0	7.0	0.70	-0.18	1.4	0.70	-0.18	0.02
67-12	-1.3	8.2	-10.7	0.09	-0.60	-9.1	0.07	-0.59	-0.11
67-13	-15.7	-5.0	-19.1	-0.46	-1.04	-3.9	-0.46	-1.03	-0.04
67-14	-15.8	-29.3	-21.0	-0.53	-1.05	-8.2	-0.54	-1.04	-0.07
67-15	-14.5	-21.8	-34.8	-0.81	-1.30	-37.1	-0.99	-1.12	-0.23
67-16	-14.3	-10.5	-26.6	-0.61	-1.15	-15.7	-0.65	-1.11	-0.14
67-17	-6.8	2.7	-15.1	-0.14	-0.80	-8.4	-0.15	-0.78	-0.10
67-18	0.1	12.8	-8.1	0.23	-0.57	-6.8	0.22	-0.56	-0.09
67-19	3.6	16.4	-5.2	0.38	-0.44	-7.2	0.36	-0.43	-0.10
67-20	1.4	17.0	-2.8	0.38	-0.44	-3.3	0.38	-0.44	-0.05
90- 1	-18.6	-18.1	5.7	0.11	-0.67	21.9	0.01	-0.56	0.27
90- 2	-14.7	24.4	23.1	0.82	-0.46	21.6	0.64	-0.29	0.44
90- 3	-8.7	37.5	29.8	1.22	-0.31	17.8	1.07	-0.17	0.44
90- 4	-4.7	43.0	32.8	1.40	-0.19	16.5	1.27	-0.07	0.43
90- 5	3.0	46.5	28.7	1.45	-0.09	11.4	1.39	-0.03	0.30
90- 6	8.2	44.8	23.3	1.37	-0.02	7.3	1.35	0.00	0.17
90- 7	8.9	38.0	17.1	1.14	-0.03	4.7	1.13	-0.02	0.10
90- 8	11.8	33.4	11.4	1.00	-0.01	-0.3	1.00	-0.01	-0.00
90- 9	17.2	41.3	17.0	1.29	0.17	-0.1	1.29	0.17	-0.00
90-10	19.1	40.5	15.2	1.28	0.20	-2.4	1.27	0.20	-0.05
90-11	20.2	17.1	0.5	0.72	0.17	12.2	0.69	0.19	0.11
90-12	-1.1	8.3	9.6	0.30	0.06	44.6	0.18	0.18	0.12
90-13	1.4	-3.7	8.3	0.42	-0.01	79.0	0.01	0.40	0.08
90-14	8.8	-4.0	8.4	0.66	0.08	-89.5	0.08	0.66	-0.01
90-15	12.7	-0.8	8.6	0.73	0.19	-84.9	0.19	0.72	-0.05
90-16	16.1	7.2	8.6	0.67	0.38	-71.8	0.41	0.65	-0.09
90-17	17.2	15.4	7.7	0.66	0.41	-29.3	0.60	0.47	-0.11
90-18	20.0	26.0	8.5	0.91	0.31	-13.2	0.88	0.34	-0.13
90-19	15.8	22.6	8.4	0.75	0.12	-12.3	0.72	0.14	-0.13
90-20	11.1	22.0	3.0	0.66	-0.06	-7.6	0.65	-0.04	-0.09
180- 1	1.6	1.3	-0.1	0.06	0.01	-30.0	0.04	0.03	-0.02
180- 2	2.4	0.7	-1.5	0.07	-0.03	-42.0	0.02	0.01	-0.05
180- 3	3.9	0.9	-2.8	0.10	-0.05	-42.2	0.03	0.02	-0.08
180- 4	9.7	2.2	-7.9	0.24	-0.17	-40.7	0.07	0.01	-0.20
180- 5	-14.7	-6.8	13.8	0.34	-0.38	-43.0	0.01	-0.05	-0.36
180- 6	20.3	0.6	-21.7	0.46	-0.51	-43.2	0.00	-0.06	-0.48
180- 7	15.5	-0.9	-16.9	0.34	-0.40	-45.4	-0.03	-0.02	-0.37
180- 8	11.2	-0.4	-13.7	0.24	-0.34	-43.2	-0.03	-0.07	-0.29
180- 9	9.8	-0.3	-11.3	0.21	-0.28	-43.8	-0.02	-0.04	-0.24
180-10	7.0	-0.5	-8.3	0.15	-0.20	-44.4	-0.02	-0.03	-0.18
180-11	-2.6	0.8	1.6	0.04	-0.08	29.4	0.01	-0.05	0.05
180-12	-2.1	0.8	0.2	0.01	-0.09	16.4	-0.00	-0.08	0.03
180-13	-1.9	0.1	0.9	0.01	-0.06	32.5	-0.01	-0.04	0.03
180-14	-2.8	-0.7	3.9	0.11	-0.06	55.1	-0.00	0.05	0.08
180-15	5.9	3.2	-2.3	0.18	-0.02	59.2	0.03	0.12	0.09
180-16	-1.7	0.4	5.4	0.17	-0.01	56.5	0.05	0.11	0.08
180-17	-2.1	1.2	5.1	0.15	-0.02	47.7	0.06	0.07	0.08
180-18	-1.6	1.6	4.5	0.13	-0.01	43.9	0.06	0.06	0.07
180-19	-1.8	1.6	4.6	0.13	-0.01	42.7	0.06	0.05	0.07
180-20	-1.7	0.9	4.0	0.12	-0.02	47.7	0.04	0.06	0.07
202- 1	-11.4	-6.1	-7.1	-0.31	-0.48	17.3	-0.32	-0.47	0.05
202- 2	-14.3	-5.0	-4.7	-0.26	-0.56	23.4	-0.30	-0.51	0.11
202- 3	-12.1	-4.5	-5.0	-0.24	-0.49	20.5	-0.27	-0.46	0.08
202- 4	-8.9	-5.5	-6.7	-0.28	-0.39	12.9	-0.28	-0.39	0.03
202- 5	-5.3	-9.6	-11.8	-0.29	-0.45	-53.8	-0.39	-0.34	-0.07
202- 6	-16.1	-4.7	-0.4	-0.15	-0.55	-47.2	-0.37	-0.34	-0.20
202- 7	6.4	-1.0*	-15.1	0.07	-0.44	-36.5	-0.11	-0.26	-0.25

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	7.6	2.9	-6.1	0.20	-0.13	-36.4	0.08	-0.02	-0.16
202- 9	6.8	2.5	-2.2	0.19	-0.01	-82.3	0.10	0.08	-0.10
202-10	5.0	-0.2	-0.7	0.18	0.01	-65.0	0.08	0.15	-0.07
202-11	5.0	8.6	15.1	0.60	0.26	68.8	0.30	0.56	0.12
202-12	8.5	2.3	18.1	0.75	0.22	71.4	0.28	0.69	0.16
202-13	1.0	8.0	26.9	0.97	0.22	63.8	0.37	0.83	0.30
202-14	2.5	8.2	25.1	0.93	0.25	65.2	0.37	0.81	0.26
202-15	1.9	6.2	20.3	0.72	0.24	59.1	0.36	0.59	0.21
202-16	16.8	13.4	1.7	0.59	0.20	58.4	0.33	0.46	0.19
202-17	0.7	10.4	4.7	0.30	-0.07	7.3	0.29	-0.06	0.15
202-18	-4.5	1.8	-0.8	-0.00	-0.23	11.0	-0.01	-0.22	0.08
202-19	-7.7	-3.0	-3.1	-0.16	-0.31	22.2	-0.18	-0.29	0.05
202-20	-8.3	-4.3	-4.0	-0.20	-0.33	24.9	-0.22	-0.31	0.05
225- 1	2.3	0.1	-0.6	0.08	0.00	-59.3	0.02	0.06	-0.03
225- 2	-4.3	-5.3	-2.6	-0.10	-0.19	77.8	-0.19	-0.10	0.02
225- 3	-11.0	-11.0	-4.7	-0.23	-0.44	67.9	-0.41	-0.26	0.07
225- 4	-14.3	-12.5	-4.7	-0.28	-0.54	61.0	-0.47	-0.34	0.11
225- 5	-22.5	-24.1	-8.0	-0.39	-0.92	70.3	-0.86	-0.45	0.17
225- 6	-5.0	-9.1	-26.6	-0.38	-0.97	81.0	-0.96	-0.40	0.09
225- 7	-13.8	-25.4	-13.6	-0.32	-0.86	89.8	-0.86	-0.32	0.00
225- 8	-9.9	-9.5	3.0	0.06	-0.35	66.7	-0.29	-0.01	0.15
225- 9	-6.4	-7.4	6.9	0.25	-0.22	69.6	-0.17	0.19	0.15
225-10	-3.3	-10.2	5.8	0.34	-0.23	79.2	-0.21	0.32	0.10
225-11	-0.3	-3.7	-3.4	-0.02	-0.13	-70.2	-0.12	-0.03	-0.04
225-12	-0.6	1.8	7.2	0.24	0.04	55.5	0.11	0.18	0.09
225-13	-1.9	6.5	20.9	0.68	0.14	52.5	0.34	0.48	0.26
225-14	-2.9	7.8	28.5	0.93	0.17	53.8	0.43	0.66	0.36
225-15	1.8	2.7	27.1	1.02	0.22	66.4	0.35	0.89	0.29
225-16	26.5	18.0	-3.5	0.87	0.12	46.8	0.47	0.52	0.38
225-17	1.8	15.9	6.3	0.45	-0.11	5.4	0.45	-0.10	0.05
225-18	-8.4	-1.4	-5.6	-0.17	-0.43	7.0	-0.17	-0.43	0.03
225-19	-13.6	-11.2	-10.2	-0.47	-0.55	33.9	-0.49	-0.53	0.04
225-20	-13.4	-13.8	-11.9	-0.51	-0.57	73.5	-0.57	-0.51	0.02
247- 1	5.5	0.4	3.3	0.28	0.09	-82.4	0.10	0.28	-0.02
247- 2	-3.1	-8.4	2.2	0.17	-0.21	80.9	-0.20	0.16	0.06
247- 3	-13.0	0.1**	3.6	0.02	-0.42	30.0	-0.09	-0.31	0.19
247- 4	14.0	-6.2	-24.3	0.22	-0.66	78.5	-0.63	0.19	0.17
247- 5	-10.4	-34.0	-7.9	0.18	-0.97	88.5	-0.97	0.18	0.03
247- 6	-17.8	-33.6	-1.1	0.18	-0.99	80.5	-0.96	0.15	0.19
247- 7	-15.8	-27.3	6.3	0.38	-0.78	77.0	-0.72	0.32	0.26
247- 8	-14.3	-23.9	7.2	0.38	-0.68	76.1	-0.62	0.32	0.25
247- 9	-12.3	-26.5	2.8	0.33	-0.73	80.4	-0.70	0.30	0.17
247-10	-9.3	-25.6	-0.0	0.29	-0.70	83.7	-0.68	0.28	0.11
247-11	-6.7	-12.1	-2.5	-0.02	-0.38	82.2	-0.37	-0.02	0.05
247-12	-8.5	-6.0	6.0	0.15	-0.25	61.8	-0.16	0.06	0.17
247-13	-7.9	-0.0**	9.8	0.25	-0.17	48.0	0.02	0.06	0.20
247-14	9.9	7.3	-13.7	0.26	-0.43	48.9	-0.13	-0.03	0.34
247-15	-10.5	10.9	-0.8	0.16	-0.64	8.1	0.14	-0.63	0.11
247-16	-16.7	4.2	-8.2	-0.14	-0.93	7.1	-0.15	-0.92	0.10
247-17	-19.3	-8.0	-15.4	-0.52	-0.97	5.9	-0.53	-0.96	0.05
247-18	-19.7	-18.2	-18.7	-0.80	-0.85	13.6	-0.80	-0.85	0.01
247-19	-17.1	-25.3	-19.7	-0.63	-0.95	-84.7	-0.95	-0.63	-0.03
247-20	-12.8	-22.9	-17.1	-0.85	-0.83	-82.5	-0.82	-0.85	-0.05
270- 1	13.0	-9.2	1.2	0.70	-0.10	58.9	0.17	0.44	0.38
270- 2	-21.4	-21.0	16.1	0.49	-0.72	67.2	-0.54	0.31	0.43
270- 3	-27.6	-31.4	13.6	0.44	-1.08	69.9	-0.86	0.26	0.47
270- 4	-28.4	-38.8	8.4	0.36	-1.22	73.7	-1.09	0.24	0.42
270- 5	-26.1	-44.9	-0.1	0.23	-1.35	78.9	-1.30	0.17	0.30
270- 6	-22.0	-44.7	-5.4	0.15	-1.33	82.5	-1.30	0.13	0.19
270- 7	-15.0	-40.6	-10.1	0.11	-1.19	87.5	-1.19	0.11	0.06
270- 8	-10.6	-35.9	-11.8	0.09	-1.05	-89.3	-1.05	0.09	-0.01
270- 9	-11.8	-36.6	-13.3	0.02	-1.09	-89.1	-1.09	0.02	-0.02
270-10	-10.1	-35.9	-15.6	-0.02	-1.09	-86.6	-1.08	-0.02	-0.06
270-11	-22.1	-5.7	-2.2	-0.25	-0.79	68.5	-0.72	-0.32	0.19
270-12	-15.8	-10.4	-2.1	-0.22	-0.54	51.0	-0.42	-0.35	0.16
270-13	-13.7	-1.5	-5.7	-0.21	-0.63	12.9	-0.23	-0.61	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-13.7	2.8	-10.4	-0.17	-0.86	3.2	-0.17	-0.86	0.04
270-15	-13.5	-1.3	-16.5	-0.32	-0.96	-3.2	-0.33	-0.96	-0.03
270-16	-14.3	-9.4	-19.6	-0.54	-0.91	-9.7	-0.55	-0.90	-0.06
270-17	-13.5	-20.2	-22.1	-0.65	-0.88	-59.7	-0.82	-0.71	-0.10
270-18	-10.5	-26.3	-22.6	-0.85	-0.97	-74.0	-0.93	-0.49	-0.14
270-19	-9.3	-31.8	-22.1	-0.28	-1.07	-79.1	-1.04	-0.30	-0.15
270-20	-4.9	-26.9	-16.7	-0.07	-0.86	-80.0	-0.83	-0.09	-0.14
0- 5	-7.6	-3.7	9.6	0.27	-0.18	59.4	-0.07	-0.15	0.20
11- 1	-1.4*	-0.6	10.4	0.37	0.01	65.5	0.08	0.31	0.14
22- 6	2.0	0.8	15.5	0.61	0.13	69.7	0.19	0.56	0.16
33- 1	9.8	9.2	28.3	1.13	0.50	68.4	0.59	1.08	0.21
45- 6	20.8	13.7	41.9	1.82	0.87	74.5	0.94	1.75	0.24
56-	32.1	18.4	50.8	2.44	1.12	80.5	1.15	2.40	0.22
67- 4	27.9	3.3	45.8	2.38	0.78	82.6	0.81	2.35	0.21
78- 1	-1.2	-11.7	34.9	1.50	-0.06	73.8	0.06	1.38	0.42
90- 1	-18.6	-18.1	5.7	0.11	-0.67	66.9	-0.55	-0.01	0.26
0-15	-4.9	1.7	7.2	0.19	-0.09	42.1	0.06	0.03	0.14
11-11	-15.5	-20.6	-5.3	-0.18	-0.71	76.8	-0.68	-0.21	0.12
22-16	-21.4	-33.8	-16.8	-0.48	-1.16	85.5	-1.16	-0.48	0.05
33-11	-39.6	-58.7	-30.7	-0.95	-2.06	84.6	-2.05	-0.96	0.10
45-16	-40.8	-59.8	-40.7	-1.31	-2.19	89.9	-2.19	-1.31	0.00
56-11	-37.1	-58.5	-36.1	-1.15	-1.98	89.1	-1.98	-1.16	0.01
67-14	-15.8	-29.3	-21.0	-0.53	-1.05	-83.2	-1.04	-0.58	-0.06
78-11	3.2	-2.7	-3.6	0.09	-0.11	-63.3	-0.07	0.05	-0.08
90-11	20.2	17.1	0.5	0.72	0.17	-27.8	0.60	0.29	-0.23
180- 5	-14.7	-6.8	13.8	0.34	-0.38	57.0	-0.17	0.13	0.33
191- 1	-20.3	-5.2	11.1	0.17	-0.56	46.1	-0.21	-0.18	0.36
202- 6	-16.1	-8.7	-0.8	-0.15	-0.55	32.8	-0.27	-0.48	0.18
213- 1	-11.1	-7.3	-15.1	-0.42	-0.70	-9.5	-0.43	-0.70	-0.05
225- 6	-5.0	-9.1	-26.6	-0.38	-0.97	-29.0	-0.52	-0.83	-0.25
236- 1	2.2	-7.1	-28.1	-0.18	-0.93	-34.5	-0.42	-0.69	-0.35
247- 4	18.0	-6.2	-24.3	0.22	-0.66	-46.5	-0.24	-0.20	-0.44
258- 1	17.0	-10.9	-19.5	0.42	-0.53	-59.0	-0.28	0.17	-0.42
270- 1	13.0	-9.2	1.2	0.70	-0.10	-80.1	-0.07	0.68	-0.14
180-15	5.9	3.2	-2.3	0.18	-0.02	-35.8	0.11	0.05	-0.09
191-11	8.9	7.7	1.7	0.33	0.13	-28.3	0.28	0.17	-0.08
202-16	16.8	13.4	1.7	0.59	0.20	-30.6	0.49	0.30	-0.17
213-11	22.9	16.4	-0.3	0.78	0.19	-33.1	0.60	0.37	-0.27
225-16	26.5	18.0	-3.5	0.87	0.12	-33.2	0.64	0.34	-0.35
236-11	20.9	10.5	-10.0	0.61	-0.14	-36.0	0.35	0.12	-0.36
247-14	9.9	7.3	-13.7	0.26	-0.43	-26.1	0.13	-0.29	-0.27
258-11	-4.5	0.9	-10.8	-0.12	-0.58	-10.0	-0.13	-0.53	-0.07
270-11	-22.1	-5.7	-2.2	-0.25	-0.79	28.5	-0.37	-0.67	0.23
400-01	0.6	-2.2	2.1	0.14	-0.03	-50.8	0.04	0.07	-0.08
400-11	-1.9	-5.5	1.1	0.11	-0.14	36.8	0.02	-0.05	0.12
401-01	18.4	-2.6	-20.2	0.41	-0.49	-47.5	-0.08	-0.00	-0.45
401-02	-0.4	1.0					-0.00	0.03	
401-03	0.4	1.7					0.03	0.06	
401-04	2.1	-2.6					0.05	-0.06	
402-01	-1.3	0.0	1.0	0.02	-0.03	39.9	-0.00	-0.01	0.03
402-02	-6.7	29.5					0.07	0.91	
402-03	-0.7	2.0					-0.00	0.06	
402-04	7.4	-27.8					-0.03	-0.84	
403-01	-1.2	-0.1	1.5	0.04	-0.02	50.4	0.00	0.01	0.03
403-02	-0.4	-0.1					-0.01	-0.01	
403-03	0.2	-0.0					0.01	0.00	
403-04	-0.1	-0.1					-0.01	-0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

/

T-4, TORSIONAL MOMENT LOADING ON BRANCH, -M3Y

NOMINAL LOAD = 6.188E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MID	MIN	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	16.3	1.2*	-10.6	0.84	-0.19	-48.4	0.08	0.16	-0.31
0- 2	15.8	0.8*	-9.8	0.83	-0.16	-50.2	0.08	0.19	-0.29
0- 3	16.1	0.5*	-9.3	0.85	-0.16	-51.8	0.08	0.21	-0.29
0- 4	12.8	3.2*	-5.7*	0.37	-0.06	-45.9	0.14	0.16	-0.21
0- 5	8.7*	4.1*	5.4*	0.38	0.22	4.4	0.38	0.22	0.01
0- 6	-16.5	6.8*	27.6	0.75	-0.27	43.4	0.27	0.21	0.51
0- 7	-22.9	5.2*	31.9	0.83	-0.44	44.2	0.21	0.18	0.63
0- 8	-24.3	2.7*	31.3	0.79	-0.49	45.8	0.13	0.17	0.64
0- 9	-25.4	2.2*	30.9	0.77	-0.53	45.6	0.10	0.13	0.65
0-10	-26.8	1.4*	30.5	0.78	-0.58	45.5	0.07	0.09	0.66
0-11	-2.4	-0.3	1.0	0.01	-0.07	38.2	-0.02	-0.04	0.04
0-12	-2.2	-0.3	-0.8	-0.03	-0.10	15.1	-0.04	-0.09	0.02
0-13	-2.8	-0.9	-2.4*	-0.07	-0.15	3.4	-0.07	-0.15	0.00
0-14	-1.5*	-2.1	-4.1*	-0.09	-0.16	-29.6	-0.10	-0.14	-0.03
0-15	-9.2	-5.2*	2.9*	0.01	-0.28	-35.5	-0.09	-0.18	-0.14
0-16	10.0	-1.8*	-16.2	0.17	-0.44	-42.1	-0.10	-0.16	-0.30
0-17	13.3	-2.9*	-17.3	0.27	-0.44	-46.8	-0.11	-0.06	-0.35
0-18	11.5	-1.9	-14.8	0.23	-0.38	-45.4	-0.08	-0.07	-0.30
0-19	10.5	-1.2	-12.3	0.22	-0.30	-45.8	-0.05	-0.03	-0.26
0-20	9.1	-0.1	-9.8	0.20	-0.23	-44.4	-0.01	-0.02	-0.22
22- 1	12.9	9.2	9.9*	0.55	0.43	-73.1	0.44	0.54	-0.03
22- 2	18.1	7.1	4.4*	0.67	0.30	-60.5	0.39	0.58	-0.16
22- 3	18.5	6.6	1.8*	0.64	0.23	-56.5	0.35	0.52	-0.19
22- 4	16.9	8.9	1.8*	0.57	0.23	-46.9	0.39	0.41	-0.17
22- 5	8.7	11.5*	7.4*	0.43	0.27	-5.5	0.42	0.27	-0.02
22- 6	23.5	1.5*	1.4*	0.89	0.17	32.6	0.69	0.38	0.33
22- 7	-10.2*	9.0*	33.9	1.02	-0.01	48.7	0.44	0.57	0.51
22- 8	-11.2*	1.5*	32.4	1.00	-0.09	56.3	0.24	0.66	0.50
22- 9	-18.4	-3.3*	30.4	0.92	-0.24	58.4	0.08	0.61	0.52
22-10	-17.3	-6.1*	27.7	0.80	-0.36	58.3	-0.04	0.46	0.52
22-11	-1.3	-2.8	-10.2	-0.12	-0.37	-28.3	-0.18	-0.31	-0.10
22-12	-3.3	-5.2	-16.6	-0.24	-0.61	-27.2	-0.32	-0.54	-0.15
22-13	-2.6	-7.4	-21.5	-0.27	-0.76	-31.9	-0.41	-0.62	-0.22
22-14	-7.4	-9.2	-21.3	-0.42	-0.82	-26.7	-0.50	-0.74	-0.16
22-15	-18.4	-8.7	-19.1	-0.57	-1.04	-1.0	-0.57	-1.04	-0.01
22-16	-19.7	-30.8	-25.8	-0.60	-1.35	0.3	-0.60	-1.35	0.00
22-17	-14.7	-21.2	-30.2	-0.78	-1.14	-40.4	-0.93	-0.99	-0.18
22-18	-9.2	-19.7	-28.5	-0.53	-0.91	-55.3	-0.79	-0.65	-0.18
22-19	-4.3	-13.2	-20.8	-0.35	-0.73	-47.3	-0.55	-0.52	-0.19
22-20	-0.2	-6.6	-18.1	-0.18	-0.61	-37.1	-0.33	-0.45	-0.21
45- 1	-2.9*	10.2	32.2	1.04	0.21	52.0	0.52	0.73	0.41
45- 2	5.3*	13.9	31.4	1.11	0.47	54.4	0.69	0.89	0.30
45- 3	10.4	11.7	26.8	1.04	0.55	65.1	0.64	0.96	0.19
45- 4	15.0	20.0	33.7	1.28	0.81	57.4	0.94	1.14	0.22
45- 5	17.2	41.4	43.7	1.70	0.91	25.2	1.56	1.05	0.31
45- 6	51.3	12.6	20.8	2.19	0.90	36.5	1.73	1.35	0.62
45- 7	8.4	30.2	56.5	1.95	0.83	47.6	1.34	1.44	0.55
45- 8	10.7	10.8*	36.0	1.41	0.59	67.4	0.71	1.29	0.29
45- 9	3.1*	0.7*	28.8	1.14	0.24	69.9	0.33	1.03	0.30
45-10	-5.5*	-4.6*	28.3	0.88	-0.07	66.6	0.08	0.73	0.34
45-11	17.5	14.3	-5.2*	0.59	-0.06	-27.2	0.45	0.08	-0.26
45-12	9.7	8.0	-17.6	0.19	-0.53	-29.9	0.01	-0.35	-0.31
45-13	10.1	0.8*	-24.8	0.13	-0.76	-32.4	-0.13	-0.50	-0.40
45-14	-3.3	-15.7	-34.3	-0.44	-1.17	-39.4	-0.73	-0.88	-0.36
45-15	-24.1	-23.2	-42.9	-1.11	-1.76	-21.2	-1.20	-1.68	-0.22
45-16	-35.5	-56.1	-46.8	-1.40	-2.13	-8.7	-1.40	-2.13	-0.06
45-17	-35.1	-20.1	-53.9	-1.30	-2.51	-10.5	-1.34	-2.47	-0.22
45-18	-29.3	-21.1	-34.0	-1.11	-1.61	-6.2	-1.11	-1.60	-0.05
45-19	-12.1	-13.5	-31.6	-0.64	-1.23	-24.7	-0.74	-1.13	-0.23
45-20	-3.4*	-8.7	-26.0	-0.28	-0.98	-24.2	-0.40	-0.86	-0.26
67- 1	-16.1	6.5	34.9	0.99	-0.19	48.2	0.34	0.47	0.59

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-10.0	17.9	50.3	1.56	0.16	47.1	0.81	0.91	0.70
67- 3	-7.4	36.7	72.1	2.31	0.46	41.9	1.49	1.29	0.92
67- 4	59.0	-1.8	18.5	2.71	0.62	48.3	1.54	1.78	1.04
67- 5	-2.4	34.9	83.4	2.73	0.74	48.7	1.61	1.86	0.99
67- 6	6.5	28.3	51.1	1.75	0.72	45.6	1.22	1.25	0.51
67- 7	8.4	20.1	39.6	1.40	0.66	52.0	0.94	1.12	0.36
67- 8	9.1	9.8	27.6	1.08	0.50	66.4	0.59	0.98	0.21
67- 9	3.8	4.0*	22.7	0.87	0.26	67.3	0.35	0.78	0.27
67-10	-1.2	-0.6*	19.5	0.72	0.06	66.5	0.17	0.62	0.24
67-11	8.8	7.7	14.4	0.61	0.39	72.1	0.41	0.59	0.06
67-12	-1.9	-6.3	1.5*	0.14	-0.15	82.2	-0.15	0.13	0.04
67-13	-14.3	-18.6	-10.4	-0.38	-0.68	81.4	-0.67	-0.38	0.04
67-14	-8.1	-13.3*	-21.5	-0.48	-0.79	36.3	-0.59	-0.68	0.15
67-15	-22.2	-14.7	-24.6	-0.80	-1.21	-3.9	-0.80	-1.21	-0.03
67-16	-18.7	-11.3	-38.5	-0.76	-1.69	-14.8	-0.83	-1.63	-0.23
67-17	-10.3	-6.0	-37.5	-0.51	-1.54	-18.5	-0.61	-1.44	-0.31
67-18	-0.8*	-2.7	-35.5	-0.24	-1.31	-24.1	-0.42	-1.13	-0.40
67-19	6.2	-2.1*	-35.7	-0.07	-1.20	-29.4	-0.34	-0.92	-0.48
67-20	8.6	-2.6	-34.0	-0.00	-1.09	-32.3	-0.31	-0.78	-0.49
90- 1	1.5	-22.8	2.3	0.65	-0.49	44.6	0.09	0.07	0.57
90- 2	-32.8	-2.3	36.2	0.88	-0.73	48.3	-0.02	0.17	0.80
90- 3	-38.5	-2.7*	38.1	0.88	-0.90	46.9	-0.07	0.05	0.88
90- 4	-38.2	-3.3*	37.6	0.86	-0.89	47.3	-0.08	0.06	0.87
90- 5	-34.0	-0.0*	31.3	0.69	-0.81	43.8	-0.03	-0.09	0.75
90- 6	-26.7	-0.1	22.0	0.46	-0.66	42.4	-0.05	-0.15	0.56
90- 7	-18.5	-0.4	14.8	0.31	-0.47	42.5	-0.04	-0.11	0.39
90- 8	-13.6	1.2	11.2	0.24	-0.34	39.5	0.00	-0.11	0.29
90- 9	-13.1	1.6	12.3	0.28	-0.32	40.5	0.03	-0.07	0.29
90-10	-11.2	2.5	11.3	0.27	-0.26	38.9	0.06	-0.06	0.26
90-11	-4.7	30.0	11.9	0.79	-0.49	48.7	0.07	0.24	0.63
90-12	-17.8	-2.2	29.2	0.81	-0.33	54.3	0.06	0.43	0.54
90-13	-8.3	-1.5	22.9	0.73	-0.10	59.7	0.11	0.52	0.36
90-14	4.0	-2.5	12.4*	0.62	0.09	79.2	0.10	0.60	0.10
90-15	13.2	-1.2	0.9*	0.54	0.07	-71.6	0.11	0.49	-0.14
90-16	19.9	-0.0	-8.7	0.59	-0.11	-55.7	0.11	0.37	-0.33
90-17	23.4	1.1	-15.4	0.62	-0.28	-49.3	0.10	0.28	-0.45
90-18	28.6	2.5	-22.2	0.73	-0.45	-45.8	0.12	0.16	-0.59
90-19	29.8	1.9	-24.2	0.74	-0.50	-46.0	0.10	0.14	-0.62
90-20	26.1	1.7	-23.1	0.63	-0.50	-44.8	0.07	0.06	-0.57
180- 1	6.3	0.2	-6.7	0.14	-0.16	-43.5	0.00	-0.02	-0.15
180- 2	6.1	0.2	-6.5	0.14	-0.16	-43.0	0.00	-0.02	-0.15
180- 3	5.1	0.3	-6.6	0.11	-0.17	-40.1	-0.01	-0.05	-0.14
180- 4	1.0*	-0.1*	-2.3*	0.01	-0.07	-36.2	-0.02	-0.04	-0.04
180- 5	6.1*	2.0*	-4.8*	0.16	-0.10	42.1	0.04	0.01	0.13
180- 6	-18.6	-2.7*	18.3	0.42	-0.48	48.9	-0.07	0.05	0.43
180- 7	-25.0	-2.5*	23.0	0.51	-0.60	46.8	-0.08	-0.01	0.55
180- 8	-22.4	-2.4	22.4	0.52	-0.52	48.1	-0.06	0.06	0.52
180- 9	-25.2	-3.2	23.3	0.52	-0.60	47.7	-0.09	0.01	0.56
180-10	-24.4	-1.6	22.4	0.50	-0.58	45.8	-0.06	-0.03	0.54
180-11	0.8	0.2	0.1	0.03	0.01	-59.5	0.01	0.02	-0.01
180-12	1.0	0.1	0.1	0.04	0.01	-65.9	0.01	0.03	-0.01
180-13	2.7*	0.3	-0.7	0.08	0.00	-56.4	0.03	0.06	-0.04
180-14	5.1	1.3	-4.5	0.13	-0.10	-39.3	0.04	-0.01	-0.11
180-15	-8.3	-1.4	7.0	0.15	-0.20	-37.0	0.02	-0.08	-0.17
180-16	9.8	-1.0*	-13.4	0.19	-0.35	-42.9	-0.06	-0.10	-0.27
180-17	16.0	-0.4	-15.4	0.37	-0.35	-46.3	-0.00	0.03	-0.36
180-18	14.0	-1.1	-13.4	0.33	-0.31	-47.9	-0.02	0.04	-0.32
180-19	12.3	-0.7*	-12.4	0.28	-0.29	-46.6	-0.02	0.01	-0.29
180-20	10.9	1.7*	-10.6	0.26	-0.24	-41.0	0.04	-0.03	-0.25
202- 1	9.7	-2.3	-2.1	0.36	-0.03	-67.9	0.02	0.30	-0.14
202- 2	13.1	-1.1	-2.6	0.46	-0.01	-64.5	0.08	0.37	-0.18
202- 3	11.9	-1.5	-4.1	0.39	-0.06	-62.2	0.04	0.29	-0.18
202- 4	9.6	0.0	-3.6	0.30	-0.04	-57.3	0.06	0.20	-0.15
202- 5	4.8*	2.6*	1.1	0.17	0.08	-50.2	0.12	0.13	-0.04
202- 6	12.1	-1.0	-5.6*	0.36	-0.09	42.3	0.16	0.12	0.23
202- 7	-16.8	-0.9*	21.4	0.55	-0.35	49.8	0.02	0.17	0.44

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-17.8	-5.0	23.4	0.63	-0.39	55.3	-0.06	0.30	0.48
202- 9	-19.5	-7.4	24.6	0.67	-0.45	57.2	-0.12	0.38	0.51
202-10	-20.5	-7.4	23.8	0.62	-0.48	56.1	-0.14	0.28	0.51
202-11	-6.3	-9.3	-9.9	-0.30	-0.40	-61.2	-0.27	-0.32	-0.04
202-12	-6.8	-8.6	-12.9	-0.35	-0.50	-33.7	-0.39	-0.45	-0.07
202-13	-8.1	-8.0	-19.7	-0.31	-0.71	-31.6	-0.42	-0.60	-0.18
202-14	-6.7	-8.9	-20.7	-0.39	-0.78	-27.6	-0.48	-0.70	-0.16
202-15	-8.7	-6.8	-21.3	-0.40	-0.88	-18.8	-0.45	-0.83	-0.19
202-16	-21.9	-31.7	-12.7	-0.39	-1.09	-13.9	-0.43	-1.05	-0.16
202-17	-2.1	-16.6	-23.3	-0.28	-0.81	-55.0	-0.63	-0.46	-0.25
202-18	-0.6	-15.0	-19.2	-0.18	-0.67	-59.4	-0.54	-0.31	-0.21
202-19	1.3*	-11.1	-18.4	-0.13	-0.60	-52.2	-0.43	-0.31	-0.23
202-20	2.6	-6.9	-16.5	-0.08	-0.52	-45.0	-0.30	-0.30	-0.22
225- 1	-1.5	-0.2	8.2	0.13	-0.02	59.8	0.02	0.09	0.07
225- 2	5.0	2.8	5.7	0.30	0.16	86.6	0.16	0.30	0.01
225- 3	12.1	6.7	8.6	0.54	0.35	-76.9	0.36	0.53	-0.04
225- 4	13.9	9.8	11.9	0.63	0.48	-81.2	0.48	0.62	-0.02
225- 5	16.8	24.3	18.1	0.91	0.59	2.7	0.91	0.59	0.01
225- 6	23.9	8.8	18.0	1.19	0.61	26.8	1.07	0.73	0.23
225- 7	6.2	19.9	36.8	1.28	0.57	48.0	0.88	0.96	0.35
225- 8	8.0	6.5	31.1	1.15	0.35	68.6	0.50	1.00	0.31
225- 9	-8.2	-3.3*	27.0	0.98	-0.01	66.7	0.15	0.83	0.36
225-10	-10.7	-8.8	24.8	0.85	-0.24	65.5	-0.05	0.66	0.41
225-11	2.3	3.2	-0.2*	0.10	-0.01	-15.1	0.10	-0.00	-0.03
225-12	1.2	-2.0*	-9.6	-0.04	-0.31	-34.1	-0.13	-0.23	-0.12
225-13	-1.5	-8.3	-21.5	-0.25	-0.74	-36.1	-0.42	-0.57	-0.23
225-14	-11.5	-15.3	-29.1	-0.64	-1.10	-30.2	-0.75	-0.99	-0.20
225-15	-30.2	-14.2	-27.9	-0.90	-1.59	2.2	-0.90	-1.59	0.03
225-16	-29.9	-59.2	-42.4	-1.00	-2.10	-2.8	-1.00	-2.10	-0.05
225-17	-23.2	-20.2	-43.2	-1.05	-1.80	-18.8	-1.12	-1.72	-0.23
225-18	-21.1	-10.4	-29.8	-0.90	-1.28	-16.0	-0.93	-1.25	-0.10
225-19	-11.0	-12.6	-25.0	-0.57	-0.98	-26.2	-0.65	-0.90	-0.16
225-20	-2.6	-7.8	-23.3	-0.28	-0.83	-31.0	-0.43	-0.68	-0.24
247- 1	-12.0	8.9	18.5	0.51	-0.24	34.9	0.27	0.01	0.35
247- 2	-5.6	22.5	31.3	1.03	0.07	31.2	0.77	0.33	0.43
247- 3	-1.9	-0.1*	44.8	1.65	0.19	66.3	0.42	1.41	0.54
247- 4	32.9	-5.4	18.6	1.84	0.37	41.5	1.19	1.01	0.73
247- 5	-3.8	31.6	72.7	2.36	0.59	47.2	1.41	1.54	0.88
247- 6	5.2	28.3	53.1	1.80	0.70	46.0	1.23	1.27	0.55
247- 7	7.9	18.5	45.0	1.60	0.67	56.6	0.95	1.32	0.43
247- 8	5.0	9.6	33.6	1.23	0.43	62.1	0.60	1.05	0.33
247- 9	-1.8	0.7*	27.6	0.99	0.11	64.8	0.27	0.83	0.34
247-10	-6.2	-6.5	21.0	0.77	-0.13	67.8	-0.00	0.64	0.31
247-11	-6.7	11.5	15.2	0.49	-0.12	28.3	0.35	0.02	0.25
247-12	-11.8	1.9*	4.8*	0.08	-0.38	28.4	-0.03	-0.28	0.19
247-13	-28.9	0.6	-8.7	-0.30	-1.31	13.8	-0.36	-1.25	0.23
247-14	-7.6	-20.8	-39.4	-0.63	-1.38	38.8	-0.88	-1.14	0.35
247-15	-26.9	-6.5	-33.4	-0.74	-1.84	-3.9	-0.75	-1.84	-0.07
247-16	-24.9	-8.1	-37.8	-0.79	-1.90	-7.7	-0.81	-1.88	-0.15
247-17	-18.3	-7.3	-40.1	-0.62	-1.71	-10.5	-0.71	-1.62	-0.30
247-18	-3.8	-8.4	-40.4	-0.42	-1.47	-26.6	-0.63	-1.26	-0.42
247-19	3.6	-5.5	-36.9	-0.18	-1.25	-30.5	-0.45	-0.97	-0.47
247-20	8.2	-3.4	-33.2	-0.01	-1.06	-33.1	-0.33	-0.75	-0.48
270- 1	-11.2	-31.3	5.5	0.56	-0.81	36.8	0.07	-0.32	0.66
270- 2	-38.5	5.3	37.2	0.86	-0.91	40.5	0.11	-0.17	0.87
270- 3	-39.5	6.9	42.2	1.01	-0.89	41.1	0.19	-0.07	0.94
270- 4	-37.2	2.3	39.9	0.95	-0.83	44.3	0.08	0.03	0.89
270- 5	-29.6	0.9	35.5	0.88	-0.63	46.8	0.08	0.17	0.75
270- 6	-21.6	0.1	26.7	0.67	-0.45	47.9	0.05	0.17	0.56
270- 7	-14.9	-2.1	19.8	0.52	-0.31	52.3	0.00	0.21	0.40
270- 8	-11.1	-2.2	14.9	0.39	-0.23	53.7	-0.01	0.17	0.30
270- 9	-11.1	-1.9	13.1	0.33	-0.24	51.9	-0.02	0.11	0.28
270-10	-10.0	-2.7	10.9	0.27	-0.23	53.4	-0.05	0.09	0.24
270-11	-1.1	22.8	-7.0	0.45	-0.80	36.9	0.00	-0.35	0.60
270-12	-27.3	2.2	16.1	0.29	-0.77	35.1	-0.06	-0.42	0.50
270-13	-17.8	2.7	3.3	0.03	-0.64	23.3	-0.08	-0.54	0.24

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-9.8*	2.1	-6.8	-0.11	-0.60	4.2	-0.12	-0.60	0.04
270-15	1.2*	-0.4	-16.7	-0.07	-0.60	-25.5	-0.16	-0.50	-0.21
270-16	8.9*	-0.2	-23.5	0.09	-0.72	-33.2	-0.15	-0.68	-0.37
270-17	19.4	-2.3	-28.7	0.36	-0.76	-42.2	-0.14	-0.25	-0.56
270-18	24.6	-1.1	-31.6	0.50	-0.80	-42.6	-0.09	-0.21	-0.65
270-19	28.9	-2.0	-33.8	0.62	-0.83	-44.6	-0.09	-0.11	-0.72
270-20	27.8	-1.7	-30.0	0.62	-0.72	-45.6	-0.06	-0.04	-0.67
0- 5	8.7*	4.1*	5.4*	0.38	0.22	-75.6	0.23	0.37	-0.04
11- 1	14.8*	3.3*	-1.0*	0.49	0.09	-57.3	0.21	0.38	-0.18
22- 6	23.5	1.5*	1.4*	0.89	0.17	-67.4	0.28	0.79	-0.26
33- 1	32.8	7.4	7.6*	1.28	0.45	-67.7	0.57	1.16	-0.29
45- 6	51.3	12.6	20.8	2.19	0.90	-73.5	1.00	2.08	-0.35
56- 1	61.0	8.7	25.1	2.74	0.95	-76.2	1.05	2.64	-0.41
67- 4	59.0	-1.8	18.5	2.71	0.62	-76.7	0.73	2.60	-0.47
78- 1	25.7	-23.6	10.7	1.76	-0.20	-84.9	-0.18	1.74	-0.17
90- 1	1.5	-22.8	2.3	0.55	-0.49	89.6	-0.49	0.65	0.01
0-15	-9.2	-5.2*	2.9*	0.01	-0.28	54.5	-0.18	-0.09	0.14
11-11	-15.4	-25.8	-11.7	-0.29	-0.87	85.8	-0.86	-0.30	0.04
22-16	-19.7	-38.8	-25.8	-0.60	-1.35	-84.7	-1.35	-0.60	-0.07
33-11	-36.3	-61.2	-38.8	-1.06	-2.16	-88.5	-2.15	-1.07	-0.03
45-16	-35.5	-56.1	-46.8	-1.40	-2.13	-79.7	-2.11	-1.42	-0.13
56-11	-28.5	-41.5	-39.3	-1.24	-1.67	-72.2	-1.63	-1.28	-0.12
67-14	-8.1	-13.3*	-21.5	-0.48	-0.79	-38.7	-0.60	-0.67	-0.15
78-11	2.8*	22.8	2.8*	0.58	-0.34	0.0	0.58	-0.34	0.00
90-11	-4.7	30.0	11.9	0.79	-0.49	8.7	0.76	-0.46	0.19
180- 5	6.1*	2.0*	-4.8*	0.16	-0.10	-37.9	0.06	-0.01	-0.13
191- 1	12.6	0.1	-10.3	0.31	-0.21	-47.6	0.03	0.07	-0.26
202- 6	12.1	-1.0	-5.6*	0.36	-0.09	-57.7	0.04	0.24	-0.20
213- 1	14.5	2.6	4.1*	0.59	0.20	-71.0	0.24	0.55	-0.12
225- 6	23.9	8.8	18.0	1.19	0.61	-83.2	0.62	1.18	-0.07
236- 1	37.1	6.2	21.4	1.81	0.69	-80.6	0.72	1.78	-0.18
247- 4	32.9	-5.4	18.6	1.84	0.37	-83.5	0.39	1.82	-0.17
258- 1	7.2	-25.2	17.4	1.40	-0.34	86.1	-0.34	1.39	0.12
270- 1	-11.2	-31.3	5.5	0.56	-0.81	81.8	-0.78	0.53	0.19
180-15	-8.3	-1.4	7.0	0.15	-0.20	88.0	-0.05	-0.01	0.18
191-11	-12.8	-13.0	-0.5	-0.08	-0.49	67.8	-0.43	-0.14	0.14
202-16	-21.9	-31.7	-12.7	-0.39	-1.09	81.1	-1.07	-0.41	0.11
213-11	-26.5	-47.1	-27.6	-0.70	-1.62	-89.2	-1.62	-0.70	-0.01
225-16	-29.9	-59.2	-42.4	-1.00	-2.10	-82.4	-2.08	-1.02	-0.14
236-11	-22.4	-46.8	-45.4	-1.05	-1.85	-69.2	-1.75	-1.15	-0.26
247-14	-7.6	-20.8	-39.4	-0.63	-1.38	-40.2	-0.95	-1.07	-0.37
258-11	2.6	6.3	-18.9	0.06	-0.76	-18.3	-0.02	-0.68	-0.25
270-11	-1.1	22.8	-7.0	0.45	-0.80	-3.1	0.45	-0.79	-0.07
400-01	-0.6	7.8	-0.3	0.17	-0.21	45.6	-0.02	-0.01	0.19
400-11	0.6	-0.3	-0.5	0.02	-0.01	73.0	-0.01	0.02	0.01
401-01	2.9	2.5*	-1.2	0.10	-0.03	-25.2	0.07	-0.00	-0.05
401-02	7.6	-29.7					-0.04	-0.90	
401-03	0.4	-2.0*					-0.01	-0.06	
401-04	-7.5	30.3					0.05	0.93	
402-01	-22.2	1.8*	22.8	0.53	-0.51	43.1	0.05	-0.02	0.52
402-02	0.6	-0.9					0.01	-0.02	
402-03	-0.3	-0.4*					-0.01	-0.02	
402-04	-0.4	0.6					-0.01	0.02	
403-01	1.2	0.1	-1.1	0.03	-0.02	-43.6	0.00	0.00	-0.03
403-02	0.5	-0.2					0.01	-0.00	
403-03	-0.2	0.2					-0.00	0.00	
403-04	-0.2	0.2					-0.00	0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, IN-PLANE MOMENT LOADING ON BRANCH, -M3%

NOMINAL LOAD = 6.188E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	19.4	19.2	19.1	0.83	0.82	-57.4	0.82	0.83	-0.00
0- 2	18.9	10.6	17.6	0.96	0.61	-87.7	0.61	0.96	-0.01
0- 3	20.0	11.8	19.5	1.03	0.66	-89.1	0.66	1.03	-0.01
0- 4	25.6	28.9	27.9	1.20	1.09	13.6	1.20	1.09	0.03
0- 5	41.3	26.1	30.7	1.80	1.28	4.1	1.80	1.28	0.04
0- 6	40.8	60.0	43.1	2.22	1.38	1.8	2.21	1.38	0.03
0- 7	28.2	33.9	29.1	1.35	1.11	2.6	1.35	1.11	0.01
0- 8	23.6	23.2	22.1	1.00	0.96	-32.7	0.99	0.97	-0.02
0- 9	16.6	15.0	16.0	0.73	0.67	-82.8	0.67	0.73	-0.01
0-10	15.6	15.1	13.4	0.65	0.59	-30.2	0.63	0.61	-0.02
0-11	-6.4	-0.8	-8.5	-0.17	-0.47	-4.4	-0.17	-0.47	-0.02
0-12	-11.6	0.5	-12.2	-0.22	-0.80	-0.7	-0.22	-0.80	-0.01
0-13	-17.2	-3.1	-21.9	-0.45	-1.22	-4.1	-0.46	-1.22	-0.05
0-14	-25.8	-12.6	-28.3	-0.82	-1.49	-2.5	-0.83	-1.49	-0.03
0-15	-34.0	-47.1	-32.8	-1.12	-1.75	-1.3	-1.12	-1.75	-0.01
0-16	-24.4	-33.7	-22.2	-0.76	-1.24	86.9	-1.24	-0.76	0.03
0-17	-16.5	-26.0	-16.2	-0.48	-0.92	89.5	-0.92	-0.48	0.00
0-18	-5.0*	-8.1	-6.5	-0.19	-0.30	-81.3	-0.30	-0.19	-0.02
0-19	0.7	5.9	-0.3	0.14	-0.13	-2.6	0.14	-0.13	-0.01
0-20	2.4	11.7	1.1	0.30	-0.15	-1.9	0.30	-0.15	-0.01
22- 1	1.1	12.9	25.4	0.85	0.29	85.9	0.56	0.58	0.28
22- 2	5.0	9.8	21.7	0.78	0.36	56.5	0.49	0.66	0.19
22- 3	8.1	10.0	22.3	0.86	0.45	63.3	0.53	0.77	0.16
22- 4	12.4	19.1	28.4	1.06	0.69	49.7	0.84	0.90	0.18
22- 5	22.3	34.4	33.1	1.39	0.99	19.4	1.34	1.03	0.12
22- 6	35.7	17.0	39.6	2.09	1.13	7.3	2.08	1.15	0.12
22- 7	41.3	60.4	37.4	2.18	1.20	-2.7	2.17	1.20	-0.05
22- 8	34.0	29.6	15.6	1.30	0.82	-31.4	1.17	0.95	-0.21
22- 9	30.3	23.9	8.3	1.10	0.55	-33.6	0.93	0.72	-0.25
22-10	24.1	19.4	4.7	0.87	0.37	-31.2	0.73	0.50	-0.22
22-11	6.9*	7.8	-4.2	0.26	-0.14	-20.3	0.21	-0.09	-0.13
22-12	2.9	3.1	-9.0	0.07	-0.33	-21.9	0.01	-0.27	-0.14
22-13	-0.0	0.2	-12.9	-0.06	-0.49	-21.9	-0.12	-0.43	-0.15
22-14	-5.4	-5.9	-16.0	-0.29	-0.62	-24.1	-0.35	-0.57	-0.12
22-15	-17.0	-16.7	-18.4	-0.73	-0.79	-17.0	-0.74	-0.78	-0.02
22-16	-16.4	-17.4	-21.8	-0.74	-0.89	55.5	-0.84	-0.79	0.07
22-17	-34.9	-29.4	-7.4	-0.54	-1.28	60.5	-1.10	-0.72	0.32
22-18	-12.1	-6.6	-0.1	-0.12	-0.40	47.3	-0.27	-0.25	0.14
22-19	-0.8	7.1	1.6	0.18	-0.14	5.1	0.17	-0.14	0.03
22-20	3.7	15.1	2.7	0.41	-0.14	-1.2	0.41	-0.14	-0.01
45- 1	-17.6	-5.4	0.2	-0.15	-0.59	35.0	-0.30	-0.45	0.21
45- 2	-19.4	-1.8	9.1	0.12	-0.56	38.2	-0.33	-0.30	0.33
45- 3	-16.2	2.2	14.3	0.32	-0.40	39.1	0.03	-0.11	0.35
45- 4	-10.0	9.1	25.5	0.74	-0.08	42.8	0.36	0.30	0.41
45- 5	13.5	36.6	36.2	1.44	0.69	21.9	1.34	0.79	0.26
45- 6	30.9	11.0	29.5	1.74	0.85	21.0	1.62	0.96	0.30
45- 7	23.5	51.1	37.8	1.82	0.81	9.7	1.79	0.84	0.17
45- 8	29.3	38.1	11.8	1.33	0.43	-13.2	1.29	0.47	-0.20
45- 9	24.6	27.9	2.3	1.00	0.16	-18.9	0.91	0.25	-0.26
45-10	22.0	26.0	1.5	0.91	0.10	-17.9	0.83	0.18	-0.24
45-11	8.1	13.3	23.7	0.82	0.37	46.8	0.58	0.61	0.23
45-12	3.8	9.7	27.6	0.98	0.36	58.3	0.54	0.81	0.28
45-13	5.6	14.5	21.3	0.76	0.39	41.2	0.60	0.55	0.18
45-14	5.5	9.1	16.0	0.59	0.33	53.7	0.42	0.50	0.12
45-15	-0.7	-6.1	10.3	0.49	-0.08	76.6	-0.05	0.46	0.13
45-16	2.8	24.5	7.8	0.67	-0.22	78.8	-0.19	0.64	0.17
45-17	-19.9	-4.3	18.2	0.41	-0.48	50.1	-0.12	0.04	0.44
45-18	0.3	6.3	10.3	0.35	0.11	39.6	0.25	0.21	0.12
45-19	12.2	18.3	7.2	0.62	0.21	-8.0	0.61	0.22	-0.06
45-20	11.9	18.2	2.7	0.58	0.04	-11.4	0.56	0.06	-0.11
67- 1	-11.4	-15.3	-17.8	-0.55	-0.70	-50.8	-0.64	-0.61	-0.07

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-13.6	-15.4	-14.0	-0.55	-0.63	-86.7	-0.63	-0.55	-0.00
67- 3	-9.7	-6.6	-6.9	-0.30	-0.41	19.9	-0.32	-0.39	0.03
67- 4	-9.6	-8.0	-2.3	-0.16	-0.35	5.0	-0.16	-0.35	0.02
67- 5	-4.5	7.4	2.5	0.17	-0.25	11.2	0.15	-0.24	0.08
67- 6	-2.6	15.8	2.5	0.37	-0.37	4.6	0.36	-0.37	0.06
67- 7	0.1	18.6	-0.6	0.42	-0.45	-0.5	0.42	-0.45	-0.01
67- 8	0.6	18.1	-1.1	0.41	-0.43	-1.3	0.41	-0.43	-0.02
67- 9	3.4	18.7	-0.4	0.46	-0.34	-3.2	0.46	-0.33	-0.04
67-10	6.1	20.8	2.6	0.57	-0.19	-3.1	0.57	-0.19	-0.04
67-11	-3.1	10.2	30.7	0.99	0.19	51.1	0.51	0.68	0.39
67-12	2.4	10.7	40.9	1.44	0.42	59.8	0.68	1.18	0.44
67-13	17.2	-0.3	32.0	1.65	0.45	81.7	0.48	1.63	0.17
67-14	21.2	55.6	30.7	1.81	0.42	79.6	0.47	1.76	0.25
67-15	-5.7	17.3	61.3	2.00	0.38	53.7	0.95	1.44	0.77
67-16	5.9	7.5	44.0	1.67	0.47	66.3	0.67	1.47	0.44
67-17	13.2	8.4	30.7	1.31	0.57	73.7	0.63	1.25	0.20
67-18	17.0	11.4	19.3	0.94	0.62	85.0	0.62	0.93	0.03
67-19	16.9	13.9	12.7	0.69	0.58	-56.3	0.61	0.65	-0.05
67-20	14.1	12.8	7.0	0.55	0.35	-28.6	0.50	0.40	-0.08
90- 1	2.0	20.4	-8.1	0.42	-0.68	-51.1	-0.25	-0.01	-0.54
90- 2	16.1	-8.3	-29.6	0.24	-0.82	-46.9	-0.32	-0.25	-0.53
90- 3	7.1	-10.2	-23.6	0.00	-0.71	-48.5	-0.40	-0.31	-0.35
90- 4	-0.2	-11.6	-18.9	-0.19	-0.63	-51.3	-0.46	-0.36	-0.22
90- 5	-6.2	-9.8	-14.5	-0.35	-0.54	-40.9	-0.43	-0.46	-0.10
90- 6	-10.8	-7.6	-9.9	-0.38	-0.51	4.9	-0.38	-0.51	0.01
90- 7	-12.7	-4.9	-5.9	-0.27	-0.53	18.9	-0.30	-0.50	0.08
90- 8	-12.1	-2.1	-3.4	-0.17	-0.50	18.9	-0.20	-0.46	0.10
90- 9	-12.3	-1.0	-0.6	-0.09	-0.46	23.5	-0.15	-0.40	0.14
90-10	-10.6	0.9	0.4	-0.03	-0.40	21.4	-0.08	-0.36	0.13
90-11	-0.7	11.3	6.8	0.34	-0.08	52.1	0.08	0.18	0.20
90-12	-11.8	2.6	31.4	0.94	-0.11	54.2	0.25	0.59	0.50
90-13	-13.5	2.1	42.4	1.32	-0.09	56.9	0.33	0.90	0.64
90-14	-13.4	-0.6	46.9	1.52	-0.09	60.0	0.32	1.12	0.70
90-15	-10.2	1.0	39.7	1.29	-0.02	59.4	0.32	0.95	0.58
90-16	-5.2	1.8	33.9	1.15	0.08	61.3	0.33	0.90	0.45
90-17	-1.0	1.0	24.3	0.88	0.12	65.1	0.25	0.75	0.29
90-18	1.5	2.8	20.4	0.76	0.13	65.3	0.28	0.66	0.22
90-19	4.4	2.9	14.5	0.60	0.21	71.2	0.25	0.56	0.12
90-20	6.5	1.9	8.8	0.46	0.19	84.2	0.19	0.46	0.03
180- 1	-11.8	-9.0	-11.5	-0.44	-0.56	1.4	-0.44	-0.56	0.00
180- 2	-11.7	-5.4	-11.7	-0.36	-0.65	-0.1	-0.36	-0.65	-0.00
180- 3	-12.7	-7.1	-13.6	-0.42	-0.70	-2.1	-0.42	-0.70	-0.01
180- 4	-18.0	-15.8	-16.1	-0.69	-0.77	18.2	-0.70	-0.76	0.02
180- 5	-23.6	-16.0	-19.4	-0.79	-1.06	-89.5	-1.06	-0.79	-0.00
180- 6	-20.6	-31.5	-22.9	-0.71	-1.16	-86.6	-1.16	-0.71	-0.03
180- 7	-13.0	-18.6	-13.8	-0.46	-0.69	-87.9	-0.69	-0.46	-0.01
180- 8	-6.7	-11.1	-8.7	-0.25	-0.41	-81.8	-0.41	-0.25	-0.02
180- 9	-4.8	-11.8	-6.8	-0.11	-0.39	-85.3	-0.39	-0.11	-0.02
180-10	-3.6	-12.4	-4.6	0.02	-0.37	-88.3	-0.37	0.02	-0.01
180-11	8.6	-1.3	7.7	0.57	0.13	-88.6	0.13	0.57	-0.01
180-12	9.5	-2.6	11.1	0.74	0.14	88.2	0.14	0.74	0.02
180-13	15.7	-1.8	9.7	0.89	0.20	-84.1	0.21	0.88	-0.07
180-14	16.5	4.1	13.4	0.89	0.39	-85.9	0.39	0.89	-0.04
180-15	13.8	13.5	9.8	0.57	0.44	70.6	0.46	0.55	0.04
180-16	3.8	15.8	4.7	0.45	-0.09	1.1	0.45	-0.09	0.01
180-17	-0.5	8.9	-2.5	0.18	-0.30	-2.7	0.17	-0.30	-0.02
180-18	-8.3	-6.6	-9.3	-0.32	-0.43	-6.1	-0.33	-0.43	-0.01
180-19	-11.5	-13.3	-11.4	-0.45	-0.53	89.4	-0.53	-0.45	0.00
180-20	-12.1	-14.2	-11.0	-0.43	-0.56	83.9	-0.56	-0.43	0.01
202- 1	-4.5	-5.8	-2.2	-0.08	-0.20	77.6	-0.20	-0.09	0.03
202- 2	-7.7	-6.0	-1.7	-0.13	-0.28	56.8	-0.23	-0.17	0.07
202- 3	-10.3	-6.8	-2.9	-0.20	-0.37	46.5	-0.29	-0.28	0.09
202- 4	-14.9	-10.1	-3.1	-0.25	-0.53	50.1	-0.41	-0.36	0.14
202- 5	-27.5	-20.9	-3.6	-0.37	-0.97	57.0	-0.79	-0.54	0.28
202- 6	-3.4	-12.8	-39.6	-0.46	-1.39	67.8	-1.25	-0.59	0.32
202- 7	-35.5	-41.2	-11.0	-0.49	-1.50	72.8	-1.41	-0.58	0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-23.8	-21.2	1.0	-0.12	-0.85	64.2	-0.72	-0.26	0.29
202- 9	-16.1	-16.3	3.5	0.05	-0.59	67.8	-0.50	-0.04	0.23
202-10	-12.2	-16.8	2.6	0.12	-0.53	74.1	-0.48	0.07	0.17
202-11	0.6	-3.0	-0.2	0.08	-0.07	-86.5	-0.07	0.08	-0.01
202-12	-1.0	-2.4	3.3	0.15	-0.05	74.5	-0.03	0.13	0.05
202-13	-1.7	-0.3	8.2	0.28	0.00	62.9	0.06	0.22	0.11
202-14	-0.6	0.2	10.1	0.37	0.04	65.2	0.10	0.31	0.12
202-15	0.8	7.6	10.0	0.35	0.12	32.6	0.28	0.18	0.11
202-16	8.5	-2.6	-1.3	0.34	-0.03	14.0	0.32	-0.01	0.09
202-17	8.9	13.4	-5.4	0.39	-0.24	-15.8	0.34	-0.19	-0.16
202-18	-3.9	-4.3	-10.6	-0.21	-0.41	-24.5	-0.24	-0.38	-0.08
202-19	-10.2	-15.1	-14.1	-0.44	-0.60	-73.1	-0.59	-0.45	-0.05
202-20	-10.0	-16.8	-13.7	-0.38	-0.63	-79.8	-0.62	-0.39	-0.04
225- 1	10.3	9.5	11.0	0.48	0.43	80.7	0.43	0.48	0.01
225- 2	14.4	10.0	10.0	0.59	0.45	-67.5	0.47	0.57	-0.05
225- 3	11.2	5.9	9.3	0.54	0.34	-83.6	0.34	0.54	-0.02
225- 4	4.1	1.6	8.9	0.41	0.15	76.8	0.17	0.39	0.06
225- 5	-13.1	-8.7	8.6	0.19	-0.39	60.4	-0.25	0.05	0.25
225- 6	12.5	-3.7	-23.1	0.19	-0.64	67.5	-0.52	0.06	0.29
225- 7	-18.5	-36.5	-5.8	0.06	-1.10	82.7	-1.08	0.04	0.15
225- 8	-20.2	-29.7	0.7	0.10	-0.94	76.2	-0.88	0.04	0.24
225- 9	-17.4	-25.4	0.9	0.10	-0.80	76.0	-0.75	0.04	0.21
225-10	-10.2	-20.8	-2.1	0.09	-0.61	82.2	-0.60	0.07	0.09
225-11	3.9	-6.9	-18.4	-0.05	-0.57	-44.1	-0.30	-0.32	-0.26
225-12	3.6	-12.7	-27.2	-0.15	-0.86	-46.6	-0.53	-0.49	-0.36
225-13	1.6	-10.5	-22.7	-0.17	-0.73	-44.8	-0.45	-0.45	-0.28
225-14	-3.0	-8.8	-18.0	-0.27	-0.63	-38.7	-0.41	-0.49	-0.17
225-15	-9.9	0.1	-7.1	-0.16	-0.56	4.5	-0.17	-0.56	0.03
225-16	-10.6	-20.4	-15.2	-0.19	-0.92	-5.7	-0.20	-0.91	-0.07
225-17	1.5	-2.1	-23.1	-0.12	-0.81	-27.2	-0.26	-0.67	-0.28
225-18	-6.8	-9.0	-16.3	-0.37	-0.62	-30.9	-0.48	-0.55	-0.11
225-19	-10.2	-15.2	2.9	-0.41	-0.58	-79.6	-0.58	-0.41	-0.03
225-20	-8.4	-17.6	10.6	-0.22	-0.60	-86.0	-0.59	-0.22	-0.03
247- 1	-3.8	16.0	27.1	0.87	0.13	37.2	0.60	0.40	0.36
247- 2	-2.7	19.1	33.5	1.09	0.23	39.2	0.74	0.57	0.42
247- 3	-6.1	15.5	35.8	1.12	0.15	44.1	0.65	0.62	0.48
247- 4	27.5	-3.0	-2.5	1.03	0.08	57.1	0.34	0.74	0.45
247- 5	-5.7	-7.5	23.6	0.89	-0.12	69.2	0.00	0.76	0.34
247- 6	-8.0	-17.3	5.4	0.34	-0.46	78.6	-0.42	0.31	0.16
247- 7	-7.6	-20.0	-1.1	0.18	-0.56	84.1	-0.55	0.17	0.08
247- 8	-7.4	-19.7	-5.7	0.03	-0.59	88.1	-0.58	0.02	0.02
247- 9	-6.2	-19.5	-9.8	-0.07	-0.61	-85.6	-0.61	-0.08	-0.04
247-10	-4.5	-15.8	-9.9	-0.10	-0.52	-81.2	-0.51	-0.11	-0.06
247-11	1.2	-8.2	-14.3	-0.10	-0.46	-51.1	-0.32	-0.24	-0.18
247-12	1.1	-13.1	-25.6	-0.22	-0.84	-46.7	-0.54	-0.51	-0.31
247-13	-8.4	-0.3	-24.3	-0.29	-1.12	-13.1	-0.33	-1.07	-0.18
247-14	-15.4	-31.2	-13.9	-0.25	-1.01	-16.3	-0.31	-0.95	-0.21
247-15	7.1	-11.8	-34.0	-0.10	-1.05	-42.7	-0.54	-0.61	-0.48
247-16	8.2	-4.9	-27.2	0.02	-0.83	-37.8	-0.30	-0.51	-0.41
247-17	5.1	-5.4	-20.4	-0.03	-0.63	-40.0	-0.28	-0.38	-0.29
247-18	1.8	-8.6	-14.8	-0.08	-0.48	-51.9	-0.33	-0.23	-0.19
247-19	0.6	-10.4	-9.7	-0.02	-0.38	-69.3	-0.33	-0.06	-0.12
247-20	0.8	-10.2	-5.3	0.10	-0.29	-79.7	-0.28	0.09	-0.07
270- 1	-8.6	-31.3	0.2	0.45	-0.81	40.4	-0.08	-0.28	0.62
270- 2	-32.3	-6.8	20.4	0.35	-0.86	45.9	-0.27	-0.24	0.61
270- 3	-24.5	-8.1	9.1	0.06	-0.72	45.7	-0.34	-0.32	0.39
270- 4	-18,5	-9,2	1.0	-0.15	-0.60	46.2	-0.39	-0.37	0.22
270- 5	-13.8	-10.0	-5.6	-0.32	-0.51	46.6	-0.42	-0.41	0.19
270- 6	-10.7	-8.6	-10.4	-0.41	-0.50	2.1	-0.41	-0.50	0.00
270- 7	-6.6	-5.9	-12.7	-0.30	-0.53	-19.3	-0.33	-0.50	-0.07
270- 8	-3.0	-2.7	-10.3	-0.16	-0.41	-21.4	-0.19	-0.38	-0.08
270- 9	0.1	-0.8	-11.7	-0.07	-0.43	-24.9	-0.13	-0.36	-0.14
270-10	1.3	1.6	-10.1	0.00	-0.38	-21.9	-0.05	-0.32	-0.13
270-11	-1.0	-2.8	9.4	0.38	-0.02	-68.3	0.03	0.33	-0.14
270-12	25.3	0.2	-8.1	0.80	-0.06	-58.4	0.17	0.56	-0.39
270-13	38.4	-2.7	-13.1	1.24	-0.15	-60.4	0.19	0.90	-0.59

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	39.9	-3.6	-11.6	1.33	-0.11	-62.3	0.20	1.02	-0.59
270-15	36.0	-2.4	-7.1	1.25	-0.01	-64.0	0.23	1.01	-0.50
270-16	31.1	2.2	-4.8	1.05	0.08	-60.7	0.31	0.82	-0.41
270-17	23.9	2.1	0.3	0.87	0.16	-64.8	0.28	0.74	-0.28
270-18	17.4	2.5	2.5	0.67	0.18	-67.6	0.26	0.60	-0.17
270-19	12.9	3.1	4.1	0.53	0.20	-70.4	0.24	0.49	-0.10
270-20	8.7	1.2	5.3	0.44	0.16	-82.0	0.16	0.43	-0.04
0- 5	41.3	26.1	30.7	1.80	1.28	-75.9	1.31	1.77	-0.12
11- 1	42.8	20.1	34.7	2.10	1.22	-83.9	1.23	2.09	-0.09
22- 6	35.7	17.0	39.6	2.09	1.13	87.3	1.18	2.09	0.04
33- 1	38.1	19.4	39.8	2.12	1.22	88.7	1.22	2.12	0.02
45- 6	30.9	11.0	29.5	1.74	0.85	-89.0	0.85	1.74	-0.02
56- 1	12.1	-0.6	12.1	0.81	0.23	-89.9	0.23	0.81	-0.00
67- 4	-9.6	-8.0	-2.3	-0.16	-0.35	60.0	-0.30	-0.21	0.08
78- 1	-16.8	0.5	-13.5	-0.29	-1.01	3.0	-0.29	-1.01	0.04
90- 1	2.0	20.4	-8.1	0.42	-0.68	-6.1	0.41	-0.67	-0.12
0 15	-38.0	-47.1	-32.8	-1.12	-1.75	88.7	-1.75	-1.12	0.01
11-11	-22.0	-24.9	-22.8	-0.90	-1.02	-85.9	-1.02	-0.90	-0.01
22-16	-16.4	-17.4	-21.8	-0.78	-0.89	-29.5	-0.78	-0.85	-0.06
33-11	-8.1	-0.0	-12.2	-0.20	-0.67	-5.7	-0.20	-0.67	-0.05
45-16	2.8	24.5	7.8	0.67	-0.22	3.8	0.67	-0.22	0.06
56-11	21.1	48.8	23.4	1.57	0.34	1.2	1.57	0.34	0.03
67-14	21.2	55.6	30.7	1.81	0.42	4.6	1.80	0.43	0.11
78-11	18.3	43.6	20.3	1.39	0.27	1.2	1.39	0.27	0.02
90-11	-0.7	11.3	6.8	0.34	-0.08	12.1	0.32	-0.06	0.09
180- 5	-23.6	-16.0	-19.4	-0.79	-1.06	10.5	-0.79	-1.05	0.05
191- 1	-12.0	-12.1	-31.0	-0.61	-1.23	-22.7	-0.70	-1.14	-0.22
202- 6	-3.4	-12.8	-39.6	-0.46	-1.39	-32.2	-0.72	-1.12	-0.42
213- 1	2.5	-9.0	-34.3	-0.23	-1.14	-34.7	-0.52	-0.84	-0.43
225- 6	12.5	-3.7	-23.1	0.19	-0.64	-42.5	-0.19	-0.26	-0.41
236- 1	24.4	0.8	-10.2	0.73	-0.12	-55.0	0.16	0.45	-0.40
247- 4	27.5	-3.0	-2.5	1.03	0.04	-67.9	0.18	0.89	-0.35
258- 1	11.1	-20.6	2.0	0.92	-0.35	-85.2	-0.35	0.91	-0.11
270- 1	-8.6	-31.3	0.2	0.85	-0.81	85.4	-0.81	0.44	0.10
180-15	13.8	13.5	9.8	0.57	0.44	-24.4	0.55	0.47	-0.05
191-11	12.1	5.1	8.3	0.47	0.24	-64.3	0.28	0.42	-0.09
202-16	8.5	-2.6	-1.3	0.34	-0.03	-71.0	0.01	0.30	-0.11
213-11	0.0	-14.8	-8.5	0.08	-0.44	-79.1	-0.43	0.06	-0.10
225-16	-10.6	-28.4	-15.2	-0.19	-0.92	-85.7	-0.91	-0.19	-0.05
236-11	-19.8	-33.6	-16.3	-0.41	-1.14	86.8	-1.13	-0.41	0.04
247-14	-15.4	-31.2	-13.9	-0.25	-1.01	88.7	-1.01	-0.25	0.02
258-11	-11.1	-20.4	2.3	0.21	-0.59	78.6	-0.56	0.18	0.15
270-11	-1.0	-2.8	9.4	0.38	-0.02	71.7	0.02	0.34	0.12
400-01	-8.2	-1.2	6.0	0.12	-0.21	-89.6	-0.21	0.12	-0.00
400-11	-2.7	-5.5	-7.5	-0.16	-0.27	85.5	-0.27	-0.16	0.0
401-01	7.3	18.5	7.5	0.57	0.06	0.2	0.57	0.06	0.00
401-02	-2.8	3.9					-0.05	0.10	
401-03	8.1	-24.1					0.03	-0.71	
401-04	-2.7	2.9					-0.06	0.07	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE *** INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, IN-PLANE FORCE LOADING ON BRANCH, P3I

NOMINAL LOAD = 9.992E 02 YOUNG'S MODULUS = 30.00E 0
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	19.0	21.2	19.8	0.87	0.79	5.9	0.87	0.79	0.01
0- 2	18.3	11.9	17.6	0.91	0.63	-88.4	0.63	0.91	-0.01
0- 3	19.7	12.8	19.6	1.00	0.68	-89.8	0.68	1.00	-0.00
0- 4	25.3	30.1	28.1	1.23	1.06	11.4	1.22	1.07	0.03
0- 5	42.2	25.8	30.5	1.84	1.28	4.5	1.83	1.28	0.04
0- 6	41.0	59.8	43.4	2.22	1.40	1.9	2.21	1.40	0.03
0- 7	28.4	33.1	29.5	1.34	1.15	3.8	1.34	1.15	0.01
0- 8	22.8	21.0	21.7	0.98	0.92	-78.0	0.92	0.98	-0.01
0- 9	15.8	12.5	15.5	0.74	0.60	-88.6	0.60	0.74	-0.00
0-10	14.5	12.0	12.7	0.62	0.58	-75.1	0.55	0.62	-0.02
0-11	-4.0	0.9	-6.4	-0.08	-0.37	-5.7	-0.08	-0.36	-0.03
0-12	-9.5	1.1	-10.4	-0.17	-0.68	-1.2	-0.17	-0.68	-0.01
0-13	-15.1	-2.6	-19.5	-0.40	-1.09	-4.3	-0.40	-1.08	-0.05
0-14	-24.6	-12.3	-26.6	-0.79	-1.41	-2.2	-0.79	-1.40	-0.02
0-15	-33.9	-46.8	-33.0	-1.12	-1.74	-0.9	-1.12	-1.74	-0.01
0-16	-25.3	-33.2	-22.6	-0.81	-1.24	85.9	-1.24	-0.81	0.03
0-17	-17.0	-27.7	-17.4	-0.49	-0.98	-89.5	-0.98	-0.50	-0.00
0-18	-6.4	-9.5	-8.2	-0.26	-0.37	-78.3	-0.36	-0.26	-0.02
0-19	-1.0	3.3	-2.6	0.04	-0.20	-4.4	0.04	-0.20	-0.02
0-20	0.8	9.3	-0.8	0.22	-0.21	-2.5	0.21	-0.21	-0.02
22- 1	-0.4	13.4	28.9	0.95	0.27	46.7	0.59	0.63	0.34
22- 2	3.2	9.9	24.1	0.84	0.33	54.9	0.50	0.67	0.24
22- 3	6.1	10.0	24.5	0.90	0.41	59.8	0.53	0.78	0.21
22- 4	9.9	19.2	30.9	1.12	0.63	48.3	0.85	0.90	0.24
22- 5	18.9	34.9	36.1	1.44	0.92	24.7	1.35	1.01	0.20
22- 6	39.7	16.4	35.7	2.11	1.12	12.6	2.06	1.17	0.21
22- 7	38.1	57.7	40.5	2.11	1.26	1.9	2.11	1.26	0.03
22- 8	31.9	27.9	16.8	1.24	0.85	-32.4	1.13	0.96	-0.17
22- 9	27.2	20.8	9.4	1.00	0.57	-37.2	0.84	0.73	-0.21
22-10	21.3	16.0	-0.2**	0.73	0.17	-31.6	0.58	0.33	-0.25
22-11	9.2	9.2	-4.2	0.33	-0.11	-22.4	0.26	-0.05	-0.15
22-12	4.7	3.7	-8.1	0.12	-0.27	-25.0	0.05	-0.20	-0.15
22-13	1.2	0.5	-11.8	-0.03	-0.43	-24.2	-0.09	-0.36	-0.15
22-14	-4.1	-5.9	-15.0	-0.26	-0.56	-28.0	-0.32	-0.49	-0.13
22-15	-15.7	-16.6	-18.0	-0.70	-0.75	-37.7	-0.72	-0.73	-0.03
22-16	-16.3	-16.9	-21.0	-0.73	-0.87	58.6	-0.83	-0.77	0.06
22-17	-33.8	-29.5	-9.2	-0.58	-1.26	61.5	-1.11	-0.74	0.28
22-18	-11.6	-8.2	-3.0	-0.21	-0.41	50.7	-0.33	-0.29	0.10
22-19	-0.5	4.6	-1.6	0.09	-0.18	-2.7	0.09	-0.18	-0.01
22-20	3.7	12.3	-0.0**	0.32	-0.17	-5.0	0.32	-0.16	-0.04
45- 1	-16.3	-5.3	2.6	-0.07	-0.51	40.3	-0.26	-0.33	0.22
45- 2	-18.5	-1.7	11.4	0.20	-0.50	41.6	-0.11	-0.19	0.34
45- 3	-16.2	2.0	16.4	0.38	-0.37	41.7	0.05	-0.04	0.38
45- 4	-10.9	8.6	28.1	0.82	-0.08	44.9	0.37	0.37	0.45
45- 5	10.1	36.6	40.3	1.52	0.68	26.5	1.34	0.82	0.35
45- 6	35.7	11.2	25.2	1.77	0.84	27.6	1.57	1.04	0.38
45- 7	19.8	47.6	40.1	1.75	0.81	14.9	1.69	0.88	0.23
45- 8	24.9	3[illegible].5	13.0	1.20	0.43	-10.5	1.17	0.45	-0.14
45- 9	20.1	23.9	3.6	0.85	0.17	-17.2	0.79	0.23	-0.19
45-10	17.3	21.5	2.4	0.74	0.10	-16.3	0.69	0.15	-0.17
45-11	5.8	11.2	21.0	0.76	0.39	53.2	0.52	0.63	0.18
45-12	1.0	12.1	25.3	0.85	0.28	47.5	0.58	0.59	0.28
45-13	7.4	13.2	19.6	0.72	0.44	46.3	0.57	0.59	0.14
45-14	6.8	7.8	15.0	0.58	0.35	63.5	0.40	0.58	0.09
45-15	0.6	-6.8	9.1	0.50	-0.08	80.0	-0.06	0.48	0.10
45-16	1.4	24.3	9.5	0.68	-0.21	81.0	-0.19	0.66	0.14
45-17	-18.4	-5.3	16.7	0.38	-0.46	52.1	-0.14	0.07	0.40
45-18	2.3	8.6	7.2	0.26	0.15	87.1	0.20	0.21	0.06
45-19	13.8	15.4	3.2	0.56	0.16	-18.8	0.52	0.21	-0.12
45-20	13.3	15.3	-1.0	0.53	-0.00	-19.0	0.48	0.05	-0.16
67- 1	-10.6	-14.8	-15.9	-0.49	-0.64	-60.2	-0.60	-0.53	-0.06

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-13.4	-15.3	-11.7	-0.47	-0.60	81.7	-0.60	-0.47	0.02
67- 3	-10.6	-7.4	-4.3	-0.25	-0.39	45.3	-0.32	-0.32	0.07
67- 4	-6.5	-8.0	-4.7	-0.18	-0.30	24.9	-0.20	-0.28	0.05
67- 5	-5.6	4.1	2.4	0.09	-0.23	17.6	0.06	-0.20	0.09
67- 6	-5.6	11.7	2.6	0.25	-0.38	8.6	0.24	-0.37	0.09
67- 7	-3.3	14.4	-0.3	0.30	-0.45	2.7	0.30	-0.45	0.03
67- 8	-3.5	14.0	-0.5	0.28	-0.46	2.7	0.28	-0.46	0.03
67- 9	-1.4	14.6	0.2	0.33	-0.38	1.6	0.33	-0.38	0.02
67-10	1.1	16.3	3.3	0.42	-0.23	2.2	0.42	-0.23	0.02
67-11	-2.7	7.1	29.3	0.96	0.17	55.5	0.43	0.71	0.37
67-12	3.0	8.2	38.9	1.41	0.39	62.8	0.60	1.20	0.41
67-13	18.4	-1.6	29.8	1.64	0.43	83.8	0.44	1.63	0.13
67-14	19.6	55.7	31.7	1.81	0.39	80.7	0.43	1.77	0.23
67-15	-5.1	15.8	61.3	2.02	0.39	55.2	0.92	1.49	0.77
67-16	8.3	6.1	42.2	1.67	0.49	69.2	0.64	1.52	0.39
67-17	16.2	7.0	27.7	1.31	0.57	79.5	0.60	1.28	0.13
67-18	19.8	9.6	16.1	0.97	0.57	-83.8	0.58	0.96	-0.04
67-19	19.7	11.7	9.2	0.76	0.48	-58.6	0.56	0.68	-0.12
67-20	16.9	10.5	3.6	0.59	0.29	-44.0	0.44	0.43	-0.15
90- 1	2.5	19.1	-7.7	0.80	-0.62	-51.7	-0.23	0.01	-0.50
90- 2	14.5	-9.6	-28.2	0.20	-0.79	-48.7	-0.36	-0.23	-0.49
90- 3	5.0	-12.6	-23.2	-0.06	-0.73	-51.9	-0.47	-0.31	-0.32
90- 4	-2.5	-12.9	-19.3	-0.27	-0.67	-51.9	-0.51	-0.42	-0.19
90- 5	-8.9	-12.8	-15.4	-0.44	-0.60	-50.5	-0.54	-0.51	-0.07
90- 6	-13.6	-11.0	-10.6	-0.48	-0.56	26.1	-0.49	-0.55	0.03
90- 7	-15.2	-7.8	-6.4	-0.34	-0.59	27.8	-0.39	-0.53	0.10
90- 8	-14.8	-4.3	-3.2	-0.21	-0.56	25.5	-0.28	-0.49	0.13
90- 9	-15.8	-3.6	-0.0	-0.13	-0.55	30.7	-0.24	-0.44	0.18
90-10	-14.5	-1.4	1.5	-0.06	-0.50	28.7	-0.16	-0.40	0.19
90-11	-2.5	11.4	8.2	0.35	-0.11	56.1	0.04	0.21	0.21
90-12	-10.6	1.4	31.2	0.96	-0.08	56.5	0.24	0.65	0.48
90-13	-11.1	1.5	42.5	1.37	-0.03	58.9	0.35	1.00	0.62
90-14	-9.9	-0.9	46.4	1.57	-0.00	62.1	0.34	1.23	0.65
90-15	-6.3	0.6	38.5	1.32	0.06	62.3	0.33	1.05	0.52
90-16	-1.4	1.4	31.5	1.14	0.15	64.9	0.33	0.96	0.38
90-17	2.6	0.1	21.6	0.87	0.16	70.8	0.24	0.80	0.22
90-18	5.1	1.7	17.2	0.73	0.22	73.6	0.26	0.69	0.14
90-19	8.0	1.8	11.6	0.61	0.23	83.7	0.24	0.61	0.04
90-20	9.7	0.9	6.1	0.51	0.17	-82.8	0.18	0.50	-0.04
180- 1	-11.2	-9.5	-11.0	-0.44	-0.51	1.0	-0.44	-0.51	0.00
180- 2	-11.0	-5.8	-11.0	-0.35	-0.59	-0.1	-0.35	-0.59	-0.00
180- 3	-12.0	-7.5	-12.7	-0.42	-0.64	-1.9	-0.42	-0.64	-0.01
180- 4	-17.2	-15.6	-15.0	-0.66	-0.72	31.6	-0.68	-0.70	0.02
180- 5	-21.6	-18.4	-18.5	-0.72	-0.99	87.6	-0.99	-0.73	0.01
180- 6	-19.7	-20.7	-20.2	-0.65	-1.06	-89.1	-1.06	-0.65	-0.01
180- 7	-12.0	-16.2	-11.2	-0.39	-0.60	87.5	-0.60	-0.39	0.01
180- 8	-5.9	-9.1	-6.4	-0.20	-0.33	-87.7	-0.33	-0.20	-0.01
180- 9	-4.0	-9.3	-4.8	-0.06	-0.30	-88.9	-0.30	-0.06	-0.00
180-10	-2.8	-9.8	-2.5	0.05	-0.28	89.5	-0.28	0.05	0.00
180-11	8.0	-2.5	6.9	0.55	0.09	-88.4	0.09	0.55	-0.01
180-12	8.4	-3.5	10.2	0.70	0.10	88.1	0.10	0.70	0.02
180-13	14.1	-2.4	8.6	0.81	0.16	-84.4	0.17	0.80	-0.06
180-14	13.9	4.0	10.8	0.72	0.33	-84.6	0.34	0.72	-0.04
180-15	10.7	8.6	7.9	0.43	0.36	37.5	0.41	0.39	0.03
180-16	2.6	15.2	1.6	0.39	-0.21	-1.0	0.39	-0.21	-0.01
180-17	-1.4	7.8	-4.0	0.13	-0.36	-3.6	0.13	-0.36	-0.03
180-18	-8.3	-6.3	-9.8	-0.32	-0.45	-7.3	-0.33	-0.45	-0.02
180-19	-11.0	-12.3	-11.6	-0.46	-0.51	-81.3	-0.51	-0.46	-0.01
180-20	-11.5	-12.7	-10.8	-0.44	-0.51	83.0	-0.51	-0.44	0.01
202- 1	-4.2	-5.6	-1.2	-0.04	-0.19	76.3	-0.18	-0.05	0.04
202- 2	-7.1	-6.0	-0.8	-0.08	-0.26	61.3	-0.22	-0.12	0.07
202- 3	-10.2	-6.8	-1.8	-0.16	-0.36	50.1	-0.28	-0.24	0.10
202- 4	-14.3	-9.8	-2.2	-0.21	-0.50	52.1	-0.39	-0.32	0.14
202- 5	-26.2	-19.9	-3.0	-0.33	-0.92	57.2	-0.75	-0.50	0.27
202- 6	-3.1	-11.7	-38.0	-0.43	-1.33	68.4	-1.21	-0.55	0.31
202- 7	-32.6	-38.7	-10.1	-0.44	-1.39	73.5	-1.31	-0.51	0.26

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-20.8	-18.9	1.3	-0.09	-0.75	64.7	-0.63	-0.21	0.26
202- 9	-13.3	-13.6	3.7	0.08	-0.49	68.0	-0.41	-0.00	0.20
202-10	-9.7	-14.0	2.8	0.13	-0.43	74.7	-0.39	0.10	0.14
202-11	0.2	-3.3	-0.8	0.06	-0.08	-85.0	-0.08	0.06	-0.01
202-12	-1.6	-2.5	2.4	0.10	-0.06	73.1	-0.05	0.09	0.05
202-13	-2.1	-0.7	6.6	0.22	-0.02	62.1	0.03	0.16	0.10
202-14	-1.8	-0.2	8.4	0.28	-0.00	62.3	0.06	0.22	0.12
202-15	-1.4	6.8	8.4	0.29	0.01	27.8	0.23	0.07	0.11
202-16	7.4	-5.7	-4.0	0.29	-0.14	13.8	0.26	-0.12	0.10
202-17	5.7	12.1	-5.3	0.31	-0.29	-12.4	0.28	-0.27	-0.13
202-18	-6.0	-4.3	-9.6	-0.24	-0.42	-13.9	-0.25	-0.41	-0.04
202-19	-11.2	-13.8	-12.4	-0.46	-0.55	-81.8	-0.55	-0.46	-0.01
202-20	-10.4	-14.7	-11.7	-0.39	-0.56	-85.1	-0.56	-0.39	-0.01
225- 1	9.4	9.5	11.1	0.47	0.41	66.5	0.42	0.46	0.02
225- 2	13.4	10.3	10.5	0.56	0.46	-69.0	0.47	0.55	-0.03
225- 3	10.5	6.5	10.2	0.53	0.35	-88.6	0.35	0.53	-0.00
225- 4	3.6	2.6	10.2	0.42	0.17	71.2	0.20	0.39	0.08
225- 5	-12.3	-7.1	9.6	0.23	-0.34	58.8	-0.19	0.07	0.25
225- 6	12.9	-3.0	-22.2	0.21	-0.61	67.7	-0.49	0.09	0.29
225- 7	-16.7	-33.2	-4.6	0.08	-1.00	82.5	-0.98	0.06	0.14
225- 8	-16.9	-26.5	0.3	0.11	-0.82	77.3	-0.78	0.06	0.20
225- 9	-13.5	-22.2	0.0	0.10	-0.68	78.1	-0.65	0.07	0.16
225-10	-7.1	-17.9	-2.9	0.09	-0.52	85.3	-0.51	0.08	0.05
225-11	3.9	-6.2	-17.1	-0.04	-0.53	-43.9	-0.27	-0.29	-0.24
225-12	3.5	-11.9	-25.6	-0.14	-0.81	-46.6	-0.69	-0.45	-0.34
225-13	1.6	-10.0	-21.8	-0.16	-0.70	-48.8	-0.63	-0.43	-0.27
225-14	-3.1	-8.5	-17.3	-0.27	-0.61	-38.1	-0.40	-0.48	-0.16
225-15	-10.6	-0.7	-6.9	-0.18	-0.5	6.5	-0.19	-0.56	0.04
225-16	-9.6	-26.9	-15.4	-0.20	-0.87	-4.2	-0.20	-0.87	-0.05
225-17	-0.2	-1.2	-21.2	-0.13	-0.78	-24.0	-0.24	-0.68	-0.24
225-18	-8.7	-7.7	-14.4	-0.38	-0.61	-18.1	-0.41	-0.58	-0.07
225-19	-11.6	-13.5	-10.7	-0.42	-0.53	88.3	-0.53	-0.42	0.01
225-20	-9.4	-15.1	-8.3	-0.23	-0.52	87.6	-0.52	-0.24	0.01
247- 1	-4.4	15.6	26.4	0.84	0.10	36.7	0.58	0.37	0.35
247- 2	-3.4	18.7	32.9	1.06	0.20	38.8	0.72	0.54	0.42
247- 3	-6.6	-0.3**	34.9	1.19	0.02	62.4	0.27	0.94	0.48
247- 4	26.3	-3.8	-2.7	1.00	0.01	56.5	0.31	0.70	0.45
247- 5	-6.1	-7.3	23.0	0.85	-0.13	68.6	-0.00	0.72	0.34
247- 6	-7.9	-16.2	4.8	0.30	-0.44	78.2	-0.41	0.27	0.15
247- 7	-6.4	-18.5	-2.3	0.14	-0.52	85.8	-0.51	0.14	0.05
247- 8	-5.5	-17.7	-7.1	-0.01	-0.54	-88.0	-0.53	-0.01	-0.02
247- 9	-3.3	-17.2	-11.4	-0.07	-0.56	-78.9	-0.54	-0.09	-0.09
247-10	-1.5	-13.5	-11.6	-0.08	-0.48	-72.1	-0.44	-0.12	-0.12
247-11	1.1	-8.0	-12.8	-0.08	-0.42	-53.4	-0.30	-0.20	-0.16
247-12	1.0	-12.6	-23.2	-0.19	-0.76	-48.5	-0.51	-0.44	-0.28
247-13	-6.7	0.3**	-22.6	-0.24	-1.02	-14.0	-0.28	-0.97	-0.18
247-14	-14.5	-27.0	-11.0	-0.21	-0.88	-18.5	-0.28	-0.81	-0.20
247-15	6.5	-11.0	-29.4	-0.08	-0.91	-44.3	-0.48	-0.50	-0.41
247-16	7.4	-4.3	-23.2	0.02	-0.70	-38.3	-0.26	-0.42	-0.35
247-17	3.8	-5.3	-16.6	-0.03	-0.52	-39.2	-0.23	-0.32	-0.24
247-18	0.5	-7.1	-11.5	-0.09	-0.38	-52.7	-0.27	-0.20	-0.14
247-19	-0.9	-9.0	6.7	-0.02	-0.30	-75.6	-0.28	-0.04	-0.07
247-20	-0.7	-8.7	-2.8	0.09	-0.24	-85.9	-0.24	0.09	-0.02
270- 1	-8.4	-29.4	0.3	0.42	-0.77	40.1	-0.07	-0.27	0.59
270- 2	-30.9	-7.1	18.8	0.31	-0.83	46.1	-0.28	-0.24	0.57
270- 3	-24.0	-8.6	7.6	0.01	-0.72	45.7	-0.36	-0.34	0.36
270- 4	-18.7	-9.7	-0.3	-0.20	-0.62	85.5	-0.41	-0.40	0.21
270- 5	-14.2	-10.4	-7.2	-0.38	-0.54	42.7	-0.45	-0.46	0.08
270- 6	-10.7	-9.2	-12.1	-0.44	-0.54	-8.9	-0.44	-0.54	-0.02
270- 7	-6.1	-6.1	-14.5	-0.30	-0.58	-22.4	-0.34	-0.54	-0.10
270- 8	-2.0	-2.8	-14.4	-0.16	-0.54	-24.8	-0.23	-0.48	-0.14
270- 9	1.5	-0.8	-14.3	-0.05	-0.50	-27.3	-0.14	-0.40	-0.18
270-10	3.1	1.8	-12.7	0.03	-0.44	-25.0	-0.05	-0.36	-0.18
270-11	-1.9	-3.0	10.3	0.40	-0.04	-70.1	0.01	0.35	-0.14
270-12	24.3	-0.9	-6.8	0.80	-0.05	-60.8	0.15	0.60	-0.36
270-13	37.6	-3.3	-9.8	1.27	-0.08	-62.9	0.20	0.99	-0.55

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	38.7	-4.0	-7.5	1.37	-0.03	-65.1	0.22	1.12	-0.53
270-15	34.4	-2.7	-2.8	1.28	0.07	-67.4	0.25	1.10	-0.43
270-16	28.9	1.5	-0.6	1.05	0.16	-65.2	0.31	0.90	-0.34
270-17	22.1	2.2	4.3	0.89	0.24	-70.4	0.31	0.82	-0.21
270-18	15.5	2.6	6.4	0.69	0.25	-75.7	0.28	0.66	-0.11
270-19	10.7	3.3	7.7	0.53	0.25	-83.0	0.26	0.53	-0.03
270-20	6.7	1.3	8.5	0.47	0.18	[illegible] 8	0.18	0.47	0.02
0- 5	42.2	25.8	30.5	1.84	1.28	-75.5	1.31	1.80	-0.14
11- 1	-0.3**	20.2	31.9	1.06	0.29	37.4	0.78	0.58	0.37
22- 6	39.7	16.4	35.7	2.11	1.12	-87.4	1.12	2.11	-0.05
33- 1	42.8	18.1	34.7	2.14	1.17	-84.4	1.18	2.13	-0.09
45- 6	35.7	11.2	25.2	1.77	0.84	-82.3	0.86	1.75	-0.12
56- 1	15.3	-1.1	8.9	0.83	0.20	-83.2	0.21	0.82	-0.07
67- 6	-6.5	-8.0	-4.7	-0.18	-0.30	79.9	-0.30	-0.18	0.02
78- 1	-14.6	-0.3	-14.5	-0.29	-0.95	-0.1	-0.29	-0.95	-0.00
90- 1	2.5	19.1	-7.7	0.40	-0.62	-6.7	0.39	-0.61	-0.12
0-15	-33.9	-46.8	-33.0	-1.12	-1.74	89.1	-1.74	-1.12	0.01
11-11	-21.6	-28.0	-22.2	-0.89	-0.99	-85.9	-0.99	-0.89	-0.01
22-16	-16.3	-16.9	-21.0	-0.73	-0.87	-26.4	-0.76	-0.84	-0.05
33-11	-8.8	0.3	-11.0	-0.19	-0.66	-3.0	-0.19	-0.66	-0.02
45-16	1.4	24.3	9.5	0.68	-0.21	6.0	0.67	-0.20	0.09
56-11	19.4	89.1	24.3	1.57	0.31	2.6	1.56	0.31	0.06
67-14	19.6	55.7	31.7	1.81	0.39	5.7	1.79	0.41	0.14
78-11	-0.2**	44.3	22.1	1.28	-0.30	9.3	1.24	-0.30	0.26
90-11	-2.5	11.4	8.2	0.35	-0.11	16.1	0.32	-0.07	0.12
180- 5	-21.6	-14.4	-18.5	-0.72	-0.99	7.6	-0.73	-0.99	0.04
191- 1	-10.9	-11.7	-29.8	-0.58	-1.17	-23.8	-0.67	-1.07	-0.22
202- 6	-3.1	-11.7	-38.0	-0.43	-1.33	-31.6	-0.68	-1.08	-0.40
213- 1	2.9	-7.9	-32.8	-0.20	-1.08	-34.3	-0.48	-0.80	-0.41
225- 6	12.9	-3.0	-22.2	0.21	-0.61	-42.3	-0.16	-0.24	-0.40
236- 1	20.7	0.6	-9.6	0.75	-0.10	-56.0	0.16	0.49	-0.40
247- 4	26.3	-3.8	-2.7	1.00	0.01	-68.5	0.14	0.86	-0.33
258- 1	10.6	-20.4	1.5	0.88	-0.36	-85.1	-0.35	0.87	-0.10
270- 1	-8.4	-29.4	0.3	0.42	-0.77	85.1	-0.76	0.41	0.10
180-15	10.7	8.6	7.9	0.43	0.36	-57.5	0.38	0.41	-0.03
191-11	10.4	1.4	2.0	0.41	0.12	-69.3	0.15	0.38	-0.10
202-16	7.4	-5.7	-4.0	0.29	-0.18	-71.2	-0.10	0.24	-0.13
213-11	-0.1	-15.9	-9.8	0.07	-0.49	-78.1	-0.47	0.04	-0.11
225-16	-9.6	-26.9	-15.4	-0.20	-0.87	-84.2	-0.87	-0.21	-0.07
236-11	-18.3	-30.6	-15.2	-0.39	-1.04	86.8	-1.04	-0.40	0.04
247-14	-14.5	-27.0	-11.0	-0.21	-0.88	86.5	-0.87	-0.22	0.04
258-11	-10.8	-17.6	4.8	0.25	-0.[illegible]1	75.9	-0.47	0.21	0.18
270-11	-1.9	-3.0	10.3	0.40	-0.[illegible]4	69.9	0.01	0.35	0.14
400-01	-8.6	-1.3	5.5	0.10	-0.23	88.9	-0.23	0.10	0.01
400-11	-2.0	-5.1	-7.6	-0.14	-0.27	86.9	-0.27	-0.14	0.01
401-01	9.2	25.7	10.2	0.79	0.05	0.8	0.79	0.05	0.01
401-02	-2.7	4.6					-0.04	0.13	
401-03	8.8	-30.3					-0.01	-0.91	
401-04	-2.9	5.1					-0.04	0.14	
402-01	6.5	16.8	6.7	0.52	0.05	0.3	0.52	0.05	0.00
402-02	-2.0	2.9					-0.04	0.08	
402-03	7.0	-19.6					0.04	-0.58	
402-04	-2.1	2.8					-0.04	0.07	
403-01	-2.3	0.8	-2.1	-0.03	-0.16	0.9	-0.03	-0.16	0.00
403-02	5.1	-0.3					0.16	0.04	
403-03	-5.0	0.4					-0.16	-0.04	
403-04	4.7	-0.5					0.15	0.03	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, AXIAL FORCE LOADING ON BRANCH, F3Y

NOMINAL LOAD = 9.992E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	13.3	7.1	22.1	1.02	0.49	78.7	0.51	1.00	0.10
0- 2	14.4	2.8	22.9	1.18	0.42	82.5	0.43	1.17	0.10
0- 3	17.6	7.4	28.0	1.35	0.60	80.7	0.62	1.33	0.12
0- 4	25.2	30.2	39.0	1.54	1.21	52.5	1.33	1.42	0.16
0- 5	55.3	35.1	33.3	2.23	1.57	15.0	2.18	1.61	0.17
0- 6	52.4	81.5	57.9	2.98	1.75	3.0	2.97	1.75	0.06
0- 7	36.6	48.9	36.9	1.86	1.29	0.4	1.86	1.29	0.00
0- 8	28.1	34.2	25.6	1.32	0.98	-4.9	1.32	0.98	-0.03
0- 9	20.6	25.5	18.2	0.98	0.69	-5.4	0.97	0.69	-0.03
0-10	19.8	26.8	15.5	0.96	0.51	-5.0	0.96	0.51	-0.04
0-11	-14.4	-10.5	-23.1	-0.59	-1.02	-13.7	-0.61	-0.99	-0.10
0-12	-18.5	-0.4	-21.4	-0.40	-1.31	-2.1	-0.40	-1.30	-0.03
0-13	-21.7	-4.6	-29.1	-0.60	-1.58	-5.1	-0.61	-1.57	-0.09
0-14	-26.1	-13.7	-29.2	-0.86	-1.51	-3.2	-0.86	-1.50	-0.04
0-15	-26.1	-28.5	-22.2	-0.93	-1.15	-11.9	-0.94	-1.14	-0.04
0-16	-16.2	-40.1	-17.0	-0.17	-1.25	-89.5	-1.25	-0.17	-0.01
0-17	-4.1	-22.4	-6.6	0.16	-0.62	-87.9	-0.62	0.16	-0.03
0-18	8.9	2.9	4.3	0.38	0.18	-74.0	0.20	0.37	-0.05
0-19	14.0	19.8	9.8	0.70	0.32	-7.4	0.69	0.33	-0.05
0-20	13.6	23.8	9.3	0.78	0.20	-5.0	0.78	0.21	-0.05
22- 1	10.8	11.0	-0.5	0.41	0.03	-21.9	0.36	0.08	-0.13
22- 2	15.6	10.6	6.4	0.58	0.36	-47.3	0.46	0.48	-0.11
22- 3	20.9	11.7	4.0	0.73	0.34	-47.7	0.52	0.55	-0.19
22- 4	29.1	21.6	9.5	1.06	0.60	-38.4	0.88	0.78	-0.23
22- 5	43.7	42.8	21.7	1.75	1.05	-23.6	1.63	1.17	-0.25
22- 6	32.4	22.5	67.6	2.90	1.39	-6.3	2.88	1.41	-0.17
22- 7	60.1	81.9	44.0	2.95	1.52	-7.5	2.92	1.54	-0.19
22- 8	41.2	39.8	18.6	1.63	0.94	-24.4	1.51	1.05	-0.26
22- 9	33.3	33.2	11.9	1.32	0.62	-22.7	1.21	0.73	-0.25
22-10	25.3	29.3	8.8	1.07	0.39	-17.0	1.01	0.45	-0.19
22-11	-13.0	6.7	3.2	0.12	-0.54	17.4	0.06	-0.48	0.19
22-12	-7.3	4.3	-5.8	-0.03	-0.53	2.0	-0.03	-0.53	0.02
22-13	-5.5	2.4	-9.8	-0.09	-0.56	-6.1	-0.10	-0.56	-0.05
22-14	-9.8	-4.2	-12.0	-0.31	-0.62	-4.8	-0.31	-0.62	-0.03
22-15	-17.3	-20.5	-15.1	-0.59	-0.80	82.8	-0.79	-0.60	0.03
22-16	-13.0	-10.1	-19.6	-0.54	-0.86	70.9	-0.82	-0.57	0.10
22-17	-37.6	-34.6	4.3	-0.08	-1.35	65.3	-1.13	-0.30	0.48
22-18	-5.2	0.4	11.0	0.32	-0.07	53.5	0.07	0.18	0.19
22-19	8.9	18.3	11.6	0.63	0.25	4.6	0.63	0.25	0.03
22-20	12.1	27.1	10.6	0.85	0.12	-1.4	0.85	0.12	-0.02
45- 1	-30.6	2.8	-6.6	-0.23	-1.37	14.6	-0.30	-1.29	0.28
45- 2	-28.5	3.3	-1.4	-0.12	-1.16	18.3	-0.22	-1.06	0.31
45- 3	-18.6	6.7	5.1	0.12	-0.70	20.7	0.02	-0.60	0.27
45- 4	-4.3	16.3	15.7	0.58	-0.09	21.6	0.49	-0.00	0.23
45- 5	32.4	52.8	29.0	1.83	0.81	-2.2	1.83	0.81	-0.04
45- 6	27.8	14.8	53.7	2.42	1.08	6.7	2.40	1.10	0.16
45- 7	36.7	77.8	89.3	2.66	1.03	5.1	2.65	1.04	0.15
45- 8	39.7	53.1	17.5	1.85	0.60	-12.1	1.79	0.66	-0.26
45- 9	29.8	36.8	6.9	1.29	0.28	-15.9	1.21	0.36	-0.26
45-10	25.0	35.3	6.5	1.17	0.18	-12.6	1.13	0.22	-0.21
45-11	-1.1	93.4	85.8	1.69	0.23	24.0	1.44	0.47	0.54
45-12	-5.4	38.3	48.9	1.67	0.20	29.4	1.31	0.55	0.63
45-13	-1.1	34.0	36.7	1.34	0.19	28.7	1.14	0.39	0.44
45-14	-0.4	23.5	26.3	0.95	0.16	25.8	0.80	0.31	0.31
45-15	-10.2	-0.6	18.2	0.52	-0.17	54.0	0.06	0.28	0.33
45-16	8.2	22.6	-2.7	0.59	-0.36	67.3	-0.21	0.45	0.34
45-17	-28.5	-3.9	20.2	0.38	-0.74	44.8	-0.17	-0.18	0.56
45-18	1.0	11.6	14.9	0.52	0.16	31.0	0.43	0.25	0.16
45-19	18.7	29.3	12.1	0.99	0.33	-6.7	0.98	0.34	-0.08
45-20	18.6	28.6	5.4	0.93	0.10	-10.8	0.90	0.13	-0.15
67- 1	-23.9	-16.6	-17.1	-0.76	-1.00	20.3	-0.79	-0.97	0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-21.2	-13.6	-12.1	-0.59	-0.84	28.1	-0.64	-0.78	0.11
67- 3	-9.6	4.0	-1.6	-0.00	-0.48	11.4	-0.02	-0.46	0.09
67- 4	-8.2	-9.3	9.2	0.32	-0.28	14.3	0.29	-0.24	0.14
67- 5	-1.8	26.7	19.2	0.85	-0.11	15.1	0.79	-0.04	0.24
67- 6	5.3	33.6	13.1	0.96	-0.17	4.6	0.96	-0.17	0.09
67- 7	8.5	32.4	7.0	0.90	-0.24	-0.9	0.90	-0.24	-0.02
67- 8	8.1	28.3	4.3	0.78	-0.25	-2.4	0.77	-0.25	-0.04
67- 9	9.3	28.3	4.9	0.80	-0.19	-3.0	0.79	-0.19	-0.05
67-10	10.3	31.7	9.7	0.93	-0.07	-0.4	0.93	-0.07	-0.01
67-11	2.9	38.4	40.8	1.52	0.35	24.4	1.32	0.55	0.44
67-12	1.6	33.8	52.4	1.76	0.55	37.5	1.31	1.00	0.59
67-13	6.3	8.8	43.7	1.64	0.50	65.5	0.70	1.45	0.43
67-14	29.8	49.4	17.7	1.63	0.41	68.4	0.57	1.46	0.42
67-15	-6.9	23.2	56.0	1.78	0.33	46.2	1.02	1.08	0.73
67-16	3.6	11.3	40.8	1.45	0.45	60.2	0.70	1.20	0.43
67-17	15.0	14.0	28.7	1.18	0.69	69.4	0.75	1.12	0.16
67-18	22.5	19.8	18.2	0.92	0.82	-52.7	0.86	0.89	-0.05
67-19	24.0	23.6	11.4	0.96	0.56	-23.3	0.89	0.62	-0.14
67-20	20.4	21.9	5.4	0.82	0.28	-19.8	0.76	0.34	-0.17
90- 1	-1.7	9.6	-14.1	0.09	-0.77	-54.8	-0.48	-0.19	-0.40
90- 2	8.2	-9.8	-25.2	0.02	-0.75	-47.2	-0.39	-0.33	-0.39
90- 3	3.5	-5.4	-17.1	-0.05	-0.53	-41.2	-0.26	-0.32	-0.24
90- 4	-0.7	-1.9	-11.7	-0.10	-0.42	-26.2	-0.17	-0.36	-0.13
90- 5	-3.6	0.8	-7.8	-0.09	-0.40	-9.0	-0.09	-0.39	-0.05
90- 6	-6.4	3.0	-3.6	-0.03	-0.40	4.8	-0.03	-0.40	0.03
90- 7	-8.5	4.3	-0.5	0.03	-0.42	12.2	0.01	-0.40	0.09
90- 8	-8.4	6.2	1.7	0.11	-0.39	14.0	0.08	-0.36	0.12
90- 9	-8.3	10.1	7.4	0.28	-0.33	18.2	0.22	-0.27	0.18
90-10	-7.0	12.4	9.1	0.37	-0.28	17.8	0.31	-0.22	0.19
90-11	18.5	14.7	3.1	0.66	0.26	8.3	0.65	0.27	0.06
90-12	-4.6	16.2	31.6	1.00	0.15	40.8	0.64	0.52	0.42
90-13	-9.8	10.3	40.4	1.25	0.06	50.6	0.54	0.77	0.58
90-14	-10.2	6.4	45.4	1.45	0.06	55.9	0.50	1.01	0.64
90-15	-6.0	5.6	38.0	1.25	0.12	57.7	0.44	0.93	0.51
90-16	0.3	6.9	31.8	1.11	0.27	60.0	0.48	0.90	0.36
90-17	5.3	7.4	22.6	0.85	0.35	63.5	0.45	0.75	0.20
90-18	9.4	12.2	19.0	0.73	0.49	56.1	0.56	0.65	0.11
90-19	11.1	10.9	12.4	0.53	0.48	71.4	0.48	0.52	0.02
90-20	11.8	9.8	6.3	0.45	0.32	-37.0	0.41	0.37	-0.06
180- 1	-9.5	-8.2	-8.5	-0.36	-0.41	16.5	-0.37	-0.40	0.01
180- 2	-9.3	-5.0	-8.5	-0.29	-0.47	2.8	-0.29	-0.47	0.01
180- 3	-10.5	-6.1	-9.8	-0.34	-0.53	2.5	-0.34	-0.53	0.01
180- 4	-16.1	-13.4	-11.7	-0.54	-0.65	38.2	-0.58	-0.61	0.05
180- 5	-18.1	-12.4	-18.2	-0.65	-0.91	79.7	-0.90	-0.65	0.05
180- 6	-21.0	-28.3	-17.9	-0.62	-1.04	85.0	-1.04	-0.63	0.04
180- 7	-13.9	-17.8	-10.8	-0.40	-0.66	82.0	-0.65	-0.40	0.04
180- 8	-7.7	-11.1	-6.5	-0.21	-0.40	85.9	-0.40	-0.21	0.01
180- 9	-5.8	-12.1	-5.4	-0.09	-0.39	89.2	-0.39	-0.09	0.00
180-10	-4.7	-12.3	-3.8	0.00	-0.37	88.4	-0.37	0.00	0.01
180-11	6.0	-3.3	4.9	0.44	0.03	-88.1	0.03	0.44	-0.01
180-12	6.4	-3.6	7.8	0.55	0.06	88.1	0.06	0.55	0.02
180-13	10.8	-2.6	6.6	0.64	0.11	-84.7	0.11	0.63	-0.05
180-14	11.2	3.4	8.0	0.56	0.26	-82.8	0.27	0.55	-0.04
180-15	7.8	5.9	6.7	0.34	0.28	15.9	0.34	0.28	0.02
180-16	2.7	13.3	1.4	0.35	-0.17	-1.6	0.35	-0.17	-0.01
180-17	-1.0	6.6	-3.1	0.11	-0.29	-3.6	0.11	-0.29	-0.03
180-18	-7.4	-6.7	-8.6	-0.31	-0.37	-12.7	-0.31	-0.37	-0.01
180-19	-9.5	-12.0	-9.9	-0.36	-0.47	-87.5	-0.47	-0.37	-0.00
180-20	-9.5	-12.2	-9.2	-0.33	-0.47	88.1	-0.47	-0.33	0.00
202- 1	-1.2	-4.1	-0.1	0.05	-0.11	85.7	-0.11	0.05	0.01
202- 2	-2.8	-4.3	-0.3	0.00	-0.14	77.8	-0.13	-0.00	0.03
202- 3	-5.3	-4.9	-1.4	-0.09	-0.20	64.8	-0.18	-0.11	0.04
202- 4	-9.3	-7.2	-1.7	-0.14	-0.33	57.0	-0.27	-0.20	0.09
202- 5	-20.3	-15.3	-2.0	-0.25	-0.71	57.1	-0.57	-0.38	0.21
202- 6	-1.7	-9.9	-32.2	-0.34	-1.11	67.5	-1.00	-0.45	0.27
202- 7	-29.8	-35.7	-8.7	-0.38	-1.28	73.6	-1.20	-0.45	0.24

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-19.7	-19.1	-0.4	-0.12	-0.74	66.7	-0.64	-0.22	0.22
202- 9	-12.5	-14.9	0.5	-0.01	-0.51	77.8	-0.46	-0.06	0.15
202-10	-9.1	-14.7	-0.8	0.03	-0.46	78.5	-0.44	0.01	0.09
202-11	-1.2	-3.9	-3.2	-0.05	-0.14	-74.6	-0.13	-0.06	-0.02
202-12	-2.6	-3.1	-1.5	-0.06	-0.11	76.4	-0.11	-0.06	0.01
202-13	-2.0	-1.6	-0.4	-0.03	-0.07	56.0	-0.06	-0.05	0.02
202-14	-1.8	-1.1	0.8	0.01	-0.06	57.9	-0.04	-0.01	0.03
202-15	-0.5	4.7	1.4	0.12	-0.08	6.2	0.12	-0.08	0.02
202-16	1.1	-8.9	-2.6	0.16	-0.23	1.3	0.16	-0.22	0.01
202-17	6.4	8.7	-6.5	0.25	-0.25	-18.2	0.20	-0.20	-0.15
202-18	-3.7	-4.0	-8.2	-0.19	-0.32	-24.9	-0.21	-0.30	-0.05
202-19	-8.0	-11.7	-10.0	-0.32	-0.45	-79.6	-0.45	-0.32	-0.02
202-20	-7.4	-12.4	-8.7	-0.24	-0.45	-86.0	-0.44	-0.25	-0.01
225- 1	4.6	6.4	11.0	0.41	0.25	56.9	0.30	0.37	0.07
225- 2	8.7	7.2	10.6	0.47	0.35	79.3	0.36	0.47	0.02
225- 3	9.2	5.3	10.0	0.51	0.31	87.3	0.31	0.51	0.01
225- 4	5.8	3.2	9.4	0.44	0.22	79.1	0.22	0.43	0.04
225- 5	-4.0	-0.5	9.2	0.28	-0.06	57.6	0.04	0.18	0.15
225- 6	11.9	0.0	-15.1	0.24	-0.38	68.5	-0.30	0.16	0.21
225- 7	-12.7	-21.1	-0.6	0.08	-0.65	78.6	-0.62	0.05	0.14
225- 8	-11.2	-20.5	-1.5	0.07	-0.62	80.5	-0.60	0.05	0.11
225- 9	-8.4	-17.1	-3.3	0.02	-0.52	83.7	-0.51	0.01	0.06
225-10	-3.2	-12.3	-5.8	-0.01	-0.38	-85.3	-0.37	-0.01	-0.03
225-11	4.3	-2.3	-10.8	0.04	-0.31	-81.4	-0.12	-0.16	-0.17
225-12	3.4	-6.6	-18.4	-0.07	-0.58	-42.6	-0.30	-0.34	-0.25
225-13	1.9	-6.7	-20.7	-0.14	-0.67	-38.1	-0.34	-0.47	-0.26
225-14	-2.0	-7.4	-21.5	-0.26	-0.75	-33.0	-0.40	-0.60	-0.22
225-15	-10.5	-0.2	-13.3	-0.24	-0.78	-3.4	-0.24	-0.78	-0.03
225-16	-16.3	-31.6	-13.9	-0.26	-1.03	-12.1	-0.30	-0.99	-0.16
225-17	0.3	-5.1	-21.9	-0.17	-0.75	-31.4	-0.33	-0.60	-0.26
225-18	-4.1	-5.0	-11.3	-0.23	-0.43	-26.2	-0.27	-0.39	-0.08
225-19	-5.9	-7.0	-6.0	-0.23	-0.28	-89.4	-0.28	-0.23	-0.00
225-20	-4.7	-10.3	-3.0	-0.01	-0.32	86.4	-0.31	-0.02	0.02
247- 1	-10.2	7.5	20.8	0.59	-0.13	81.0	0.28	0.18	0.36
247- 2	-5.7	13.0	25.7	0.80	0.06	39.6	0.50	0.36	0.36
247- 3	-2.3	1500.9*	27.5	34.89	-33.81	0.3	34.89	-33.81	0.34
247- 4	18.0	-0.5	5.4	0.82	0.18	48.6	0.46	0.54	0.31
247- 5	-0.9	4.1	22.9	0.79	0.15	59.9	0.31	0.63	0.27
247- 6	0.5	-3.9	5.7	0.31	-0.04	79.8	-0.03	0.29	0.06
247- 7	1.3	-7.6	-3.0	0.13	-0.20	-81.1	-0.19	0.12	-0.05
247- 8	2.3	-8.1	-7.8	0.05	-0.29	-68.5	-0.24	0.01	-0.12
247- 9	4.2	-6.2	-10.1	0.05	-0.31	-57.4	-0.20	-0.05	-0.16
247-10	5.0	-2.6	-9.5	0.07	-0.26	-46.5	-0.11	-0.09	-0.17
247-11	3.9	5.6	-2.5	0.16	-0.10	-16.6	0.14	-0.08	-0.07
247-12	4.7	0.3	-14.3	0.05	-0.45	-30.9	-0.09	-0.32	-0.22
247-13	-5.9	0.2*	-16.2	-0.19	-0.76	-12.3	-0.21	-0.73	-0.12
247-14	-10.9	-27.6	-8.9	-0.02	-0.83	-16.6	-0.09	-0.77	-0.22
247-15	11.5	-9.6	-28.2	0.10	-0.82	-46.8	-0.39	-0.33	-0.46
247-16	13.6	-2.1	-18.8	0.26	-0.49	-44.1	-0.10	-0.12	-0.37
247-17	10.9	2.2	-12.4	0.25	-0.31	-38.0	0.04	-0.10	-0.27
247-18	8.1	3.6	-2.9	0.24	-0.02	-40.1	0.13	0.09	-0.13
247-19	5.3	5.0	2.8	0.21	0.14	-26.3	0.19	0.15	-0.03
247-20	3.2	4.0	5.2	0.20	0.16	50.2	0.18	0.18	0.02
270- 1	-14.0	-26.0	-7.5	-0.10	-0.82	39.0	-0.38	-0.53	0.35
270- 2	-21.3	-3.2	9.5	0.11	-0.61	40.1	-0.19	-0.31	0.36
270- 3	-14.1	1.8	-0.3	-0.05	-0.57	18.8	-0.10	-0.52	0.16
270- 4	-6.9	6.7	-3.1	0.06	-0.49	4.6	0.06	-0.48	0.04
270- 5	-2.3	10.4	-3.9	0.18	-0.45	-1.7	0.18	-0.45	-0.02
270- 6	0.2	15.9	-5.0	0.32	-0.53	-4.0	0.32	-0.53	-0.06
270- 7	3.8	16.7	-5.2	0.38	-0.45	-7.3	0.37	-0.43	-0.10
270- 8	5.4	17.4	-6.9	0.41	-0.48	-9.3	0.39	-0.45	-0.14
270- 9	9.7	20.1	-7.0	0.53	-0.41	-12.1	0.49	-0.37	-0.15
270-10	10.5	22.1	-4.6	0.60	-0.35	-10.8	0.57	-0.31	-0.18
270-11	21.8	10.6	6.1	0.79	0.30	-16.5	0.76	0.43	-0.11
270-12	30.7	18.5	0.5	1.02	0.31	-39.6	0.78	0.60	-0.35
270-13	41.6	8.8	-6.7	1.34	0.15	-54.9	0.55	0.95	-0.56

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	42.2	2.4	-5.8	1.44	0.12	-61.7	0.41	1.14	-0.55
270-15	38.0	3.2	1.2	1.41	0.27	-65.8	0.46	1.22	-0.43
270-16	32.3	10.4	6.4	1.19	0.47	-62.4	0.62	1.04	-0.30
270-17	26.2	15.6	13.8	1.03	0.68	-62.6	0.76	0.96	-0.14
270-18	18.8	19.2	17.1	0.80	0.73	-16.6	0.80	0.74	-0.02
270-19	14.1	22.9	18.5	0.86	0.54	9.2	0.85	0.55	0.05
270-20	7.8	18.4	16.3	0.69	0.34	16.9	0.66	0.37	0.10
0- 5	55.3	35.1	33.3	2.23	1.57	-65.0	1.68	2.11	-0.25
11- 1	47.8	24.8	52.9	2.75	1.57	87.2	1.57	2.75	0.06
22- 6	32.4	22.5	67.6	2.90	1.39	73.7	1.51	2.78	0.41
33- 1	33.4	24.5	68.2	2.91	1.45	73.2	1.57	2.78	0.40
45- 6	27.8	14.8	53.7	2.42	1.08	76.7	1.15	2.35	0.30
56- 1	15.6	1.3	30.1	1.50	0.46	80.7	0.48	1.48	0.17
67- 4	-8.2	-9.3	9.2	0.32	-0.28	69.3	-0.21	0.25	0.20
78- 1	-17.8	-5.3	-9.9	-0.38	-0.81	12.5	-0.40	-0.79	0.09
90- 1	-1.7	9.6	-14.1	0.09	-0.77	-9.8	0.07	-0.74	-0.14
0-15	-26.1	-28.5	-22.2	-0.93	-1.15	78.1	-1.14	-0.94	0.04
11-11	-18.3	-13.0	-15.7	-0.63	-0.82	9.2	-0.64	-0.82	0.03
22-16	-13.0	-10.1	-19.6	-0.54	-0.85	-14.1	-0.56	-0.84	-0.08
33-11	-5.0	1.1	-18.2	-0.17	-0.83	-13.7	-0.20	-0.79	-0.15
45-16	8.2	22.6	-2.7	0.59	-0.36	-7.7	0.58	-0.34	-0.13
56-11	28.7	42.8	9.0	1.40	0.21	-11.2	1.36	0.25	-0.23
67-14	29.8	49.4	17.7	1.63	0.41	-6.6	1.61	0.42	-0.14
78-11	33.8	41.3	12.1	1.48	0.49	-15.3	1.41	0.56	-0.25
90-11	18.5	14.7	3.1	0.66	0.26	-31.7	0.55	0.37	-0.18
180- 5	-18.1	-12.4	-18.2	-0.65	-0.91	-0.3	-0.65	-0.91	-0.00
191- 1	-8.8	-9.6	-27.6	-0.49	-1.08	-23.7	-0.58	-0.98	-0.22
202- 6	-1.7	-9.9	-32.2	-0.34	-1.11	-32.5	-0.56	-0.89	-0.35
213- 1	3.7	-5.5	-24.0	-0.10	-0.77	-35.7	-0.33	-0.54	-0.32
225- 6	11.9	0.0	-15.1	0.24	-0.38	-41.5	-0.03	-0.11	-0.31
236- 1	20.0	3.3	0.8	0.72	0.17	-63.1	0.28	0.61	-0.22
247- 4	18.0	-0.5	5.4	0.82	0.18	-76.4	0.22	0.78	-0.15
258- 1	2.0	-15.1	3.5	0.53	-0.29	88.8	-0.29	0.53	0.02
270- 1	-14.0	-26.0	-7.5	-0.10	-0.82	84.0	-0.81	-0.11	0.08
180-15	7.8	5.9	6.7	0.34	0.28	-79.1	0.28	0.34	-0.01
191-11	5.9	-0.4	2.6	0.30	0.07	-79.9	0.08	0.29	-0.04
202-16	1.1	-8.9	-2.6	0.16	-0.23	-83.7	-0.22	0.16	-0.04
213-11	-7.1	-19.9	-8.0	-0.04	-0.61	-89.0	-0.61	-0.04	-0.01
225-16	-16.3	-31.6	-13.9	-0.26	-1.03	87.9	-1.03	-0.27	0.03
236-11	-20.5	-32.4	-12.3	-0.32	-1.08	82.8	-1.07	-0.33	0.10
247-14	-10.9	-27.6	-8.9	-0.02	-0.83	88.4	-0.83	-0.02	0.02
258-11	4.6	-11.3	3.2	0.52	-0.18	-88.6	-0.18	0.52	-0.02
270-11	21.8	10.6	6.1	0.79	0.40	-56.5	0.52	0.67	-0.18
400-01	-2.7	5.6	13.7	0.42	0.05	89.5	0.05	0.42	0.00
400-11	-18.0	-8.4	-3.1	-0.27	-0.63	-8.0	-0.28	-0.62	-0.05
401-01	-27.9	-65.5	-14.9	0.11	-1.94	85.8	-1.93	0.10	0.15
401-02	-6.6	4.6					-0.17	0.09	
401-03	-11.4	66.5					0.28	2.08	
401-04	-1.9	-3.9					-0.10	-0.15	
402-01	13.1	37.3	13.3	1.12	0.01	0.1	1.12	0.01	0.00
402-02	-3.1	13.9					0.04	0.43	
402-03	3.8	-16.6					-0.04	-0.51	
402-04	-3.9	16.5					0.03	0.50	
403-01	-2.0	-0.1	-2.3	-0.05	-0.14	-1.9	-0.05	-0.14	-0.00
403-02	4.3	0.1					0.14	0.05	
403-03	-4.2	-0.3					-0.14	-0.05	
403-04	4.1	0.0					0.14	0.04	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-4, OUT-OF-PLANE FORCE LOADING ON BRANCH, F3Z

NOMINAL LOAD = 9.992E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	32.1	1.6	-25.6	0.81	-0.53	-46.7	0.10	0.18	-0.67
0- 2	27.0	1.8	-19.8	0.70	-0.39	-47.2	0.11	0.20	-0.54
0- 3	26.9	0.8	-19.6	0.70	-0.39	-48.5	0.09	0.22	-0.54
0- 4	26.1	3.7	-19.1	0.67	-0.37	-44.7	0.16	0.14	-0.52
0- 5	-8.3	-2.5	21.4	0.68	-0.12	-39.4	0.36	0.20	-0.39
0- 6	6.9	6.9	3.6	0.28	0.17	-22.1	0.26	0.18	-0.04
0- 7	-2.9	3.9	10.6	0.32	0.01	44.6	0.17	0.16	0.16
0- 8	-4.4	2.1	10.2	0.29	-0.05	48.1	0.11	0.14	0.17
0- 9	-5.1	0.8	8.8	0.24	-0.08	49.4	0.05	0.10	0.16
0-10	-4.9	0.4	7.8	0.21	-0.09	49.9	0.04	0.09	0.15
0-11	-13.2	0.4	12.5	0.28	-0.31	43.3	0.00	-0.04	0.30
0-12	-7.9	-0.6	5.1	0.09	-0.21	41.6	-0.04	-0.08	0.15
0-13	-7.0	-0.8	1.9	-0.00	-0.22	34.4	-0.07	-0.15	0.10
0-14	-5.5	-2.5	-1.0	-0.08	-0.19	35.5	-0.12	-0.16	0.05
0-15	-6.1	-5.6	-1.7	-0.10	-0.23	-25.7	-0.13	-0.21	-0.05
0-16	0.2	-4.4	-8.2	-0.07	-0.27	-47.3	-0.18	-0.16	-0.10
0-17	-2.2	-5.0	-4.2	-0.09	-0.19	-75.7	-0.18	-0.10	-0.02
0-18	-3.8	-2.9	0.0	-0.03	-0.13	58.7	-0.10	-0.06	0.04
0-19	-5.4	-1.1	3.9	0.07	-0.14	46.7	-0.04	-0.03	0.11
0-20	-5.8	0.3	5.4	0.12	-0.14	42.4	0.00	-0.02	0.13
22- 1	26.4	12.0	-9.8	0.78	-0.07	-39.1	0.44	0.27	-0.42
22- 2	31.1	11.1	-10.1	0.93	-0.02	-44.2	0.47	0.44	-0.48
22- 3	31.2	10.6	-11.5	0.92	-0.07	-44.0	0.44	0.41	-0.49
22- 4	31.6	12.7	-12.4	0.92	-0.10	-41.0	0.48	0.34	-0.51
22- 5	26.8	16.5	-8.1	0.84	-0.03	-33.8	0.57	0.24	-0.40
22- 6	2.6	3.3	26.0	0.98	0.24	-13.4	0.94	0.28	-0.17
22- 7	12.6	20.3	15.5	0.75	0.46	6.4	0.75	0.46	0.03
22- 8	8.1	7.7	13.3	0.55	0.37	69.4	0.39	0.53	0.06
22- 9	6.6	3.8	9.8	0.46	0.24	80.1	0.25	0.45	0.04
22-10	4.5	1.4	6.7	0.34	0.14	82.4	0.14	0.34	0.03
22-11	-19.2	-1.6	-6.6	-0.25	-0.85	14.6	-0.29	-0.81	0.15
22-12	-12.7	-3.3	-19.2	-0.38	-0.99	-7.1	-0.39	-0.98	-0.07
22-13	-6.7	-6.0	-25.8	-0.37	-1.02	-21.4	-0.46	-0.93	-0.22
22-14	-10.3	-8.4	-25.4	-0.49	-1.04	-19.2	-0.55	-0.98	-0.17
22-15	-18.8	-8.6	-22.1	-0.60	-1.15	-3.9	-0.60	-1.15	-0.04
22-16	-22.0	-37.3	-23.4	-0.64	-1.31	-3.7	-0.64	-1.31	-0.04
22-17	-19.2	-21.2	-20.1	-0.81	-0.88	-82.1	-0.88	-0.81	-0.01
22-18	-15.8	-13.8	-6.8	-0.37	-0.60	59.2	-0.54	-0.43	0.10
22-19	-12.1	-5.4	-0.4	-0.13	-0.40	40.8	-0.25	-0.29	0.13
22-20	-8.7	1.0	3.7	0.06	-0.27	30.4	-0.03	-0.19	0.14
45- 1	-1.3	15.2	9.5	0.46	-0.11	13.0	0.43	-0.08	0.12
45- 2	11.7	20.0	9.9	0.68	0.25	-2.8	0.68	0.25	-0.02
45- 3	20.7	17.9	8.5	0.78	0.47	-30.6	0.70	0.55	-0.14
45- 4	28.4	27.9	13.9	1.14	0.68	-23.6	1.06	0.75	-0.17
45- 5	39.3	48.7	22.3	1.78	0.86	-12.7	1.73	0.91	-0.20
45- 6	26.8	15.4	45.8	2.08	1.03	7.8	2.06	1.04	0.14
45- 7	25.5	49.9	42.3	1.87	1.03	13.8	1.82	1.08	0.19
45- 8	30.5	27.4	20.3	1.21	0.96	-33.9	1.14	1.04	-0.12
45- 9	25.9	15.9	9.8	0.95	0.57	-51.5	0.72	0.81	-0.19
45-10	21.0	13.1	5.9	0.75	0.40	-46.4	0.57	0.59	-0.17
45-11	1.1	20.5	0.8	0.49	-0.41	-0.2	0.49	-0.41	-0.00
45-12	4.3	7.0	-17.0	0.12	-0.67	-19.3	0.03	-0.58	-0.25
45-13	-0.2	4.2	-27.2	-0.07	-1.11	-18.4	-0.17	-1.00	-0.31
45-14	-7.2	-11.4	-40.0	-0.54	-1.48	-26.6	-0.73	-1.29	-0.38
45-15	-23.8	-20.5	-48.2	-1.09	-2.00	-19.0	-1.18	-1.90	-0.28
45-16	-38.6	-57.1	-42.2	-1.34	-2.12	-11.9	-1.38	-2.09	-0.16
45-17	-34.8	-21.0	-43.0	-1.24	-2.09	-6.4	-1.26	-2.08	-0.09
45-18	-28.2	-11.4	-13.6	-0.62	-1.17	18.8	-0.68	-1.11	0.17
45-19	-12.8	2.9	-3.7	-0.08	-0.63	11.1	-0.10	-0.61	0.11
45-20	-8.2	8.9	0.8	0.15	-0.47	9.8	0.13	-0.45	0.10
67- 1	-15.7	11.5	19.2	0.54	-0.39	30.4	0.30	-0.15	0.40

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-4.8	27.7	33.6	1.16	0.08	27.7	0.92	0.31	0.44
67- 3	7.9	50.3	49.9	1.93	0.55	22.2	1.73	0.74	0.48
67- 4	29.8	1.5	43.7	2.40	0.75	29.4	2.00	1.15	0.71
67- 5	8.9	66.6	77.0	2.80	0.88	27.6	2.39	1.29	0.79
67- 6	26.2	56.9	42.2	2.02	0.91	9.7	1.99	0.94	0.18
67- 7	29.4	45.3	26.5	1.60	0.80	-2.4	1.60	0.80	-0.03
67- 8	31.9	38.5	14.0	1.32	0.64	-18.8	1.25	0.71	-0.21
67- 9	31.5	30.2	8.7	1.21	0.51	-24.3	1.09	0.63	-0.26
67-10	28.2	29.9	8.7	1.14	0.44	-20.3	1.05	0.53	-0.23
67-11	5.4	25.6	11.6	0.76	-0.04	5.1	0.76	-0.03	0.07
67-12	-1.1	9.4	-3.9	0.17	-0.38	-3.4	0.17	-0.38	-0.03
67-13	-13.9	-5.9	-13.5	-0.41	-0.77	0.7	-0.41	-0.77	0.00
67-14	-11.6	-16.6	-15.6	-0.50	-0.67	1.7	-0.50	-0.67	0.00
67-15	-16.4	-16.8	-21.4	-0.73	-0.88	-24.9	-0.76	-0.86	-0.06
67-16	-14.6	-8.2	-18.2	-0.51	-0.90	-6.1	-0.51	-0.89	-0.04
67-17	-6.3	3.9	-9.8	-0.07	-0.63	-4.1	-0.07	-0.62	-0.04
67-18	1.2	13.7	-5.3	0.28	-0.46	-5.8	0.28	-0.45	-0.07
67-19	4.8	17.3	-3.6	0.42	-0.37	-7.1	0.41	-0.36	-0.10
67-20	2.4	17.4	-2.1	0.41	-0.39	-3.7	0.40	-0.39	-0.05
90- 1	-17.1	-15.8	4.4	0.06	-0.60	20.7	-0.03	-0.52	0.22
90- 2	-14.3	20.8	19.9	0.69	-0.46	21.7	0.54	-0.30	0.39
90- 3	-10.8	32.9	27.2	1.07	-0.37	18.8	0.92	-0.22	0.44
90- 4	-8.2	37.7	30.7	1.24	-0.28	18.1	1.09	-0.13	0.45
90- 5	-1.5	41.3	26.6	1.28	-0.20	13.0	1.20	-0.13	0.32
90- 6	3.4	40.0	21.4	1.20	-0.14	9.0	1.17	-0.10	0.21
90- 7	4.9	34.2	15.5	1.00	-0.13	6.3	0.99	-0.12	0.12
90- 8	8.4	30.5	9.6	0.88	-0.11	0.8	0.88	-0.11	0.01
90- 9	13.5	37.2	14.6	1.14	0.07	0.6	1.14	0.07	0.01
90-10	16.0	36.6	12.7	1.13	0.10	-2.1	1.13	0.10	-0.04
90-11	18.2	20.2	3.0	0.74	0.17	20.8	0.67	0.24	0.19
90-12	-4.2	4.6	17.6	0.54	0.03	50.3	0.24	0.33	0.25
90-13	-1.6	-2.8	18.2	0.70	0.01	69.0	0.10	0.61	0.23
90-14	6.3	-3.6	18.7	0.93	0.14	79.4	0.16	0.91	0.14
90-15	10.9	-0.6	16.7	0.93	0.25	84.3	0.26	0.92	0.07
90-16	15.1	6.8	15.0	0.83	0.45	-89.8	0.45	0.83	-0.00
90-17	17.1	14.1	11.8	0.68	0.56	-49.0	0.61	0.63	-0.06
90-18	20.5	24.3	11.5	0.90	0.47	-14.2	0.88	0.49	-0.10
90-19	17.4	20.9	6.4	0.75	0.26	-15.6	0.72	0.30	-0.13
90-20	13.1	19.8	3.8	0.65	0.08	-11.1	0.62	0.10	-0.11
180- 1	0.8	-0.3	-3.2	-0.00	-0.10	-33.4	-0.03	-0.07	-0.05
180- 2	1.6	-0.2	-4.3	0.01	-0.13	-33.7	-0.03	-0.09	-0.07
180- 3	2.6	-0.4	-5.8	0.03	-0.17	-37.0	-0.04	-0.10	-0.10
180- 4	7.1	-0.3	-10.7	0.13	-0.29	-40.1	-0.04	-0.11	-0.21
180- 5	-16.9	-8.8	10.1	0.19	-0.48	-44.1	-0.14	-0.16	-0.34
180- 6	14.4	-4.2	-22.2	0.25	-0.59	-45.4	-0.17	-0.16	-0.42
180- 7	10.4	-3.3	-15.5	0.19	-0.41	-46.7	-0.13	-0.09	-0.30
180- 8	7.5	-2.0	-11.7	0.13	-0.31	-44.7	-0.09	-0.09	-0.22
180- 9	6.0	-2.1	-9.1	0.11	-0.24	-46.9	-0.08	-0.05	-0.17
180-10	3.7	-2.2	-5.9	0.06	-0.16	-51.4	-0.07	-0.02	-0.11
180-11	-0.7	0.3	2.9	0.09	0.00	57.7	0.03	0.07	0.04
180-12	0.9	0.0	2.0	0.10	0.03	79.4	0.03	0.10	0.01
180-13	1.6	-0.1	2.2	0.13	0.03	85.2	0.03	0.13	0.01
180-14	1.2	0.3	4.8	0.20	0.05	72.9	0.07	0.19	0.04
180-15	5.8	4.5	0.7	0.20	0.07	63.5	0.10	0.18	0.05
180-16	0.7	2.9	2.6	0.11	0.04	19.6	0.10	0.04	0.02
180-17	0.4	2.2	1.1	0.07	-0.00	6.7	0.07	-0.00	0.01
180-18	-0.6	-0.1	-0.4	-0.01	-0.03	9.1	-0.01	-0.03	0.00
180-19	-1.4	-1.2	-0.4	-0.02	-0.05	60.6	-0.05	-0.03	0.01
180-20	-1.6	-1.5	-0.6	-0.03	-0.06	64.6	-0.06	-0.04	0.01
202- 1	-10.7	-7.5	-7.5	-0.34	-0.44	22.0	-0.35	-0.43	0.04
202- 2	-13.5	-6.1	-5.2	-0.28	-0.52	26.0	-0.32	-0.47	0.10
202- 3	-12.0	-6.0	-6.0	-0.29	-0.48	22.6	-0.32	-0.45	0.07
202- 4	-9.6	-7.1	-7.7	-0.33	-0.41	16.5	-0.34	-0.40	0.02
202- 5	-8.4	-12.2	-12.3	-0.38	-0.51	-67.4	-0.49	-0.40	-0.04
202- 6	-15.4	-6.4	-6.3	-0.32	-0.61	-57.0	-0.52	-0.40	-0.13
202- 7	0.0	-7.1	-14.2	-0.14	-0.47	-44.9	-0.30	-0.30	-0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	2.3	-0.2	-3.9	0.04	-0.11	-39.9	-0.02	-0.05	-0.07
202- 9	2.6	0.3	0.7	0.11	0.03	-71.5	0.04	0.10	-0.02
202-10	1.7	-2.2	2.2	0.18	-0.01	88.5	-0.01	0.18	0.00
202-11	3.9	2.5	13.2	0.54	0.19	71.3	0.23	0.51	0.11
202-12	3.1	0.6	16.4	0.68	0.16	71.9	0.21	0.63	0.15
202-13	0.1	2.7	24.8	0.89	0.17	64.1	0.31	0.76	0.28
202-14	1.5	3.2	23.0	0.85	0.20	65.0	0.32	0.73	0.25
202-15	1.0	6.6	18.2	0.62	0.20	54.6	0.34	0.48	0.20
202-16	14.5	8.0	-0.2	0.48	0.14	43.0	0.32	0.30	0.17
202-17	2.2	10.3	0.7	0.27	-0.14	-2.4	0.27	-0.14	-0.02
202-18	-4.3	-0.1	-4.7	-0.09	-0.29	-1.1	-0.09	-0.29	-0.00
202-19	-7.9	-5.6	-7.1	-0.2[illegible]	-0.36	5.7	-0.28	-0.36	0.01
202-20	-8.3	-6.5	-7.6	-0.31	-0.38	6.9	-0.31	-0.38	0.01
225- 1	3.3	1.1	1.5	0.14	0.07	-72.6	0.07	0.13	-0.02
225- 2	-1.7	-3.7	-0.6	0.01	-0.11	84.0	-0.11	0.01	0.01
225- 3	-7.8	-9.5	-2.5	-0.10	-0.34	74.4	-0.32	-0.12	0.06
225- 4	-11.7	-11.0	-2.3	-0.16	-0.44	65.2	-0.39	-0.21	0.11
225- 5	-21.7	-22.4	-5.4	-0.30	-0.86	68.7	-0.78	-0.38	0.19
225- 6	-1.8	-8.2	-26.8	-0.29	-0.93	77.9	-0.90	-0.32	0.13
225- 7	-14.6	-27.0	-11.4	-0.23	-0.88	86.8	-0.88	-0.23	0.04
225- 8	-10.6	-11.8	4.9	0.15	-0.39	69.5	-0.33	0.08	0.18
225- 9	-7.3	-9.3	8.6	0.32	-0.27	70.8	-0.20	0.26	0.18
225-10	-4.1	-11.5	7.5	0.40	-0.26	78.2	-0.23	0.38	0.13
225-11	0.7	-4.0	-5.9	-0.03	-0.19	-57.0	-0.14	-0.08	-0.08
225-12	0.2	-0.1	2.0	0.08	0.01	71.8	0.02	0.07	0.02
225-13	-1.9	3.8	14.5	0.47	0.07	53.4	0.21	0.33	0.19
225-14	-4.3	6.8	21.7	0.69	0.06	53.4	0.28	0.46	0.30
225-15	-3.1	1.3	22.2	0.76	0.06	61.4	0.22	0.60	0.29
225-16	21.1	7.0	-10.0	0.60	-0.12	37.7	0.33	0.15	0.35
225-17	-0.4	13.6	-1.3	0.30	-0.37	-0.8	0.30	-0.37	-0.01
225-18	-12.0	-3.6	-10.2	-0.30	-0.65	3.5	-0.30	-0.65	0.02
225-19	-15.8	-13.1	-13.2	-0.58	-0.67	20.9	-0.59	-0.65	0.03
225-20	-14.2	-15.0	-14.2	-0.59	-0.63	89.1	-0.63	-0.59	0.00
247- 1	3.4	3.1	8.4	0.34	0.17	69.1	0.19	0.32	0.06
247- 2	-4.0	-3.5	9.3	0.32	-0.09	66.4	-0.03	0.26	0.15
247- 3	-13.9	0.0**	12.1	0.26	-0.34	43.0	-0.02	-0.06	0.30
247- 4	19.5	-6.9	-21.9	0.44	-0.55	72.3	-0.46	0.35	0.29
247- 5	-11.4	-30.5	1.5	0.40	-0.82	83.0	-0.80	0.38	0.15
247- 6	-16.9	-31.4	3.5	0.33	-0.90	78.8	-0.86	0.28	0.23
247- 7	-14.1	-26.2	8.6	0.48	-0.72	77.0	-0.66	0.42	0.26
247- 8	-12.3	-23.4	8.0	0.45	-0.63	77.2	-0.58	0.40	0.23
247- 9	-10.2	-25.5	2.9	0.37	-0.68	81.6	-0.66	0.35	0.15
247-10	-7.5	-25.0	-0.2	0.33	-0.66	85.1	-0.65	0.32	0.08
247-11	-6.4	-11.5	-3.1	-0.04	-0.36	83.2	-0.36	-0.05	0.04
247-12	-8.5	-7.5	1.6	0.00	-0.30	64.3	-0.24	-0.05	0.12
247-13	-11.1	-0.4	5.0	0.07	-0.33	36.1	-0.07	-0.19	0.19
247-14	6.6	0.8	-18.1	0.08	-0.57	44.0	-0.23	-0.26	0.32
247-15	-11.3	8.4	-8.2	0.00	-0.84	2.9	0.00	-0.84	0.04
247-16	-17.5	3.2	-14.2	-0.24	-1.12	2.5	-0.24	-1.12	0.04
247-17	-20.0	-8.0	-19.7	-0.58	-1.13	0.3	-0.58	-1.13	0.00
247-18	-20.1	-18.0	-21.9	-0.83	-0.97	-8.6	-0.83	-0.9[illegible]	-0.02
247-19	-17.1	-24.8	-21.6	-0.69	-0.96	-78.8	-0.95	-0.70	-0.05
247-20	-12.4	-21.8	-18.5	-0.50	-0.83	-77.3	-0.81	-0.52	-0.07
270- 1	10.1	-15.6	1.4	0.75	-0.26	50.8	0.14	0.35	0.49
270- 2	-27.7	-20.3	20.7	0.53	-0.83	62.4	-0.58	0.24	0.56
270- 3	-32.6	-30.0	17.1	0.44	-1.10	65.9	-0.85	0.18	0.57
270- 4	-32.3	-37.8	10.9	0.34	-1.26	70.7	-1.09	0.17	0.50
270- 5	-28.9	-43.6	1.4	0.18	-1.36	76.5	-1.28	0.10	0.35
270- 6	-23.3	-43.3	-5.5	0.08	-1.31	81.4	-1.28	0.05	0.21
270- 7	-18.9	-39.2	-11.2	0.05	-1.16	87.9	-1.16	0.04	0.04
270- 8	-9.4	-34.0	-13.3	0.04	-1.01	-87.5	-1.01	0.03	-0.05
270- 9	-9.3	-34.0	-15.0	-0.01	-1.03	-86.3	-1.02	-0.02	-0.07
270-10	-7.1	-32.4	-17.0	-0.03	-1.00	-83.1	-0.99	-0.05	-0.11
270-11	-21.1	-8.3	-0.6	-0.19	-0.75	68.7	-0.67	-0.26	0.19
270-12	-12.9	-10.0	-1.8	-0.17	-0.46	57.9	-0.38	-0.25	0.13
270-13	-8.6	-1.9	-6.3	-0.19	-0.45	5.8	-0.19	-0.45	0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-8.2	2.0	-10.8	-0.14	-0.67	-3.2	-0.14	-0.67	-0.03
270-15	-8.4	-1.5	-16.1	-0.26	-0.79	-9.9	-0.28	-0.77	-0.09
270-16	-8.9	-8.5	-18.8	-0.43	-0.76	-21.6	-0.47	-0.72	-0.11
270-17	-9.7	-18.1	-21.0	-0.51	-0.80	-58.2	-0.72	-0.59	-0.13
270-18	-7.6	-24.1	-21.2	-0.35	-0.89	-72.5	-0.84	-0.39	-0.16
270-19	-7.1	-28.9	-20.6	-0.21	-0.98	-77.9	-0.94	-0.25	-0.16
270-20	-3.3	-24.3	-15.3	-0.02	-0.77	-79.1	-0.75	-0.05	-0.14
0- 5	-8.3	-2.5	21.4	0.68	-0.12	60.6	0.07	0.49	0.34
11- 1	-1.4	0.8	22.6	0.82	0.09	65.3	0.22	0.69	0.28
22- 6	2.6	3.3	26.0	0.98	0.24	66.6	0.36	0.87	0.27
33- 1	14.6	12.4	36.2	1.48	0.70	70.1	0.79	1.39	0.25
45- 6	26.8	15.4	45.8	2.08	1.03	77.8	1.07	2.04	0.22
56- 1	36.8	13.8	51.8	2.63	1.17	83.1	1.19	2.60	0.17
67- 4	29.8	1.5	43.7	2.40	0.75	84.4	0.76	2.39	0.16
78- 1	-1.5	-12.9	31.2	1.38	-0.11	74.8	-0.00	1.28	0.38
90- 1	-17.1	-15.8	4.4	0.06	-0.60	65.7	-0.49	-0.06	0.25
0-15	-6.1	-5.6	-1.7	-0.10	-0.23	64.3	-0.21	-0.13	0.05
11-11	-17.5	-25.8	-12.4	-0.38	-0.90	83.3	-0.89	-0.39	0.06
22-16	-22.0	-37.3	-23.4	-0.64	-1.31	-88.7	-1.31	-0.64	-0.02
33-11	-38.8	-58.9	-35.8	-1.10	-2.10	88.0	-2.10	-1.10	0.03
45-16	-38.6	-57.1	-42.2	-1.34	-2.12	-86.9	-2.12	-1.34	-0.04
56-11	-30.9	-43.4	-33.1	-1.10	-1.64	-87.2	-1.63	-1.11	-0.03
67-14	-11.6	-16.6	-15.6	-0.50	-0.67	-73.3	-0.65	-0.51	-0.05
78-11	7.0	8.5	0.9	0.29	0.04	-16.9	0.27	0.06	-0.07
90-11	18.2	20.2	3.0	0.74	0.17	-19.2	0.68	0.23	-0.18
180- 5	-16.9	-8.8	10.1	0.19	-0.48	55.9	-0.27	-0.02	0.31
191- 1	-19.9	-6.7	5.4	-0.02	-0.60	43.7	-0.30	-0.33	0.29
202- 6	-15.4	-6.4	-6.3	-0.32	-0.61	23.0	-0.36	-0.56	0.11
213- 1	-9.8	-7.8	-18.7	-0.43	-0.79	-17.4	-0.46	-0.76	-0.10
225- 6	-1.8	-8.2	-26.8	-0.29	-0.93	-32.1	-0.47	-0.75	-0.29
236- 1	8.5	-5.9	-26.3	0.02	-0.79	-40.0	-0.31	-0.85	-0.40
247- 4	19.5	-6.9	-21.9	0.44	-0.55	-52.7	-0.18	0.08	-0.48
258- 1	18.5	-15.4	-16.7	0.59	-0.52	-66.4	-0.34	0.42	-0.41
270- 1	10.1	-15.6	1.4	0.75	-0.26	-84.2	-0.25	0.74	-0.10
180-15	5.8	4.5	0.7	0.20	0.07	-31.5	0.17	0.11	-0.06
191-11	7.9	5.6	2.3	0.28	0.15	-39.8	0.23	0.21	-0.06
202-16	14.5	8.0	-0.2	0.48	0.14	-42.0	0.33	0.29	-0.17
213-11	19.1	7.9	-4.7	0.58	0.03	-43.5	0.32	0.29	-0.27
225-16	21.1	7.0	-10.0	0.60	-0.12	-42.3	0.27	0.20	-0.36
236-11	15.9	0.8	-16.2	0.37	-0.38	-43.4	0.02	-0.03	-0.37
247-14	6.6	0.8	-18.1	0.08	-0.57	-31.0	-0.09	-0.40	-0.29
258-11	-5.8	-1.5	-10.9	-0.19	-0.52	-10.2	-0.20	-0.51	-0.06
270-11	-21.1	-4.3	-0.6	-0.19	-0.75	28.7	-0.32	-0.62	0.24
400-01	-0.8	-1.8	2.8	0.12	-0.03	-61.0	0.00	0.08	-0.07
400-11	-1.8	-5.4	-0.2	0.06	-0.15	80 0	-0.02	-0.06	0.10
401-01	24.4	2.5	-22.5	0.58	-0.50	-43.1	0.08	0.01	-0.54
401-02	2.1	-8.0					-0.01	-0.24	
401-03	2.0	-3.8					0.03	-0.11	
401-04	-0.8	8.0					0.05	0.26	
402-01	3.3	2.2	-1.9	0.10	-0.04	-30.1	0.07	-0.00	-0.06
402-02	-4.5	20.1					0.05	0.62	
402-03	0.2	-1.3					-0.01	-0.04	
402-04	4.8	-18.5					-0.03	-0.56	
403-01	-1.3	0.1	1.0	0.02	-0.03	37.9	0.00	-0.01	0.03
403-02	0.3	-0.0					0.01	0.00	
403-03	-0.4	0.1					-0.01	-0.00	
403-04	0.6	-0.0					0.02	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, INTERNAL PRESSURE LOADING

NOMINAL LOAD = 1.078E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

	STRAIN (MICROINCHES/INCH)			STRESS (KSI) PRINCIPLE STRESSES			RELATIVE TO REF. DIR.		
LOCATION	E(1)	E(2)	E(3)	MAX	MIN	PHI	ALONG	NORMAL	SHEAR
0- 1	13.4	7.3	10.0	0.61	0.39	-79.1	0.40	0.60	-0.04
0- 2	12.6	2.7	12.3	0.76	0.31	-89.6	0.31	0.76	-0.00
0- 3	11.6	-3.6	7.5	0.71	0.10	-85.5	0.11	0.71	-0.05
0- 4	11.2	-4.9	8.6	0.77	0.08	-87.6	0.08	0.77	-0.03
0- 5	10.2	-7.5	8.2	0.78	0.01	-88.3	0.01	0.78	-0.02
0- 6	8.2	25.7	9.6	0.77	-0.01	-88.8	-0.01	0.77	-0.02
0- 7	6.7	-7.3	9.2	0.69	-0.01	87.6	-0.01	0.69	0.03
0- 8	6.6*	-7.1	8.7	0.67	-0.01	88.0	-0.01	0.67	0.02
0- 9	5.6	-2.0	10.2	0.57	0.10	83.5	0.11	0.57	0.05
0-10	6.7	4.4	9.9	0.45	0.26	78.8	0.27	0.44	0.04
0-11	29.5	22.6	27.0	1.34	1.08	-83.5	1.08	1.34	-0.03
0-12	34.2	13.5	28.8	1.77	0.93	-85.7	0.93	1.77	-0.06
0-13	34.9	1.3	20.7	1.82	0.56	-82.5	0.58	1.80	-0.16
0-14	28.4	-2.1	20.5	1.67	0.43	-85.8	0.44	1.66	-0.09
0-15	27.6	2.8	24.2	1.64	0.58	-87.9	0.58	1.64	-0.04
0-16	27.0	51.9	28.9	1.75	0.65	-88.9	0.65	1.75	-0.02
0-17	30.3	4.0	27.4	1.81	0.66	-88.4	0.66	1.81	-0.03
0-18	29.7	1.4	30.3	1.94	0.62	89.7	0.62	1.94	0.01
0-19	33.1	7.9	35.2	2.07	0.86	88.8	0.86	2.07	0.02
0-20	31.9	24.2	33.2	1.59	1.20	87.8	1.20	1.59	0.02
22- 1	15.3	5.9*	-4.6	0.46	0.00	-43.6	0.24	0.22	-0.23
22- 2	15.4	0.7	-5.7*	0.47	-0.05	-55.7	0.11	0.30	-0.24
22- 3	12.6	0.2*	-6.8	0.36	-0.11	-52.8	0.06	0.19	-0.22
22- 4	7.7	-9.3	-4.2*	0.36	-0.21	-75.8	-0.18	0.33	-0.14
22- 5	3.1	-12.5	-5.4	0.23	-0.33	-79.7	-0.31	0.21	-0.10
22- 6	-2.9	9.2	1.5	0.20	-0.27	-73.7	-0.23	0.17	-0.13
22- 7	8.0	-8.8	-8.0	0.27	-0.27	-68.8	-0.20	0.20	-0.19
22- 8	8.1	-4.3*	-2.4	0.33	-0.08	-72.0	-0.08	0.29	-0.12
22- 9	8.0	1.1*	5.2*	0.41	0.15	-82.8	0.16	0.41	-0.03
22-10	4.4	3.7	9.6	0.40	0.20	70.6	0.22	0.38	0.06
22-11	17.7	16.2	31.7	1.31	0.80	70.2	0.86	1.25	0.16
22-12	24.9	17.5	36.9	1.66	0.99	77.9	1.02	1.63	0.14
22-13	25.3	9.4	40.3	1.97	0.84	81.1	0.87	1.95	0.17
22-14	39.6	1.1	38.3	2.54	0.80	-89.5	0.80	2.54	-0.01
22-15	46.9	8.1	43.7	2.80	1.08	-88.8	1.08	2.80	-0.04
22-16	47.9	87.9	52.6	3.02	1.29	-83.2	1.31	3.00	-0.20
22-17	32.9	14.1	66.0	3.02	1.22	77.4	1.30	2.93	0.38
22-18	27.1	5.3	55.0	2.64	0.87	79.3	0.94	2.58	0.32
22-19	35.7	15.4	38.7	2.10	1.09	88.1	1.09	2.10	0.03
22 20	33.4	21.1	28.2	1.55	1.09	-82.4	1.10	1.54	0.06
45- 1	30.8	11.4	-2.9	0.99	0.21	-49.4	0.54	0.66	-0.[illegible]
45- 2	33.9	6.0*	-12.0	1.01	-0.07	-51.1	0.36	0.59	-0.53
45- 3	28.2	-5.4	-18.4	0.80	-0.38	-56.9	-0.03	0.45	-0.54
45- 4	26.4	-10.5	-11.4	0.92	-0.28	-66.8	-0.09	0.74	-0.44
45- 5	21.1	-12.7	-3.2	0.96	-0.19	-75.3	-0.11	0.88	-0.28
45- 6	7.7	32.6	14.0	0.97	-0.04	-70.9	0.07	0.86	-0.31
45- 7	26.6	-2.7	-10.7	0.83	-0.[illegible]	-59.9	0.09	0.58	-0.43
45- 8	14.3	-12.9	-3.5	0.70	-0.24	-77.1	-0.19	0.66	-0.21
45- 9	2.2	-11.6	7.7	0.60	0.17	85.3	-0.17	0.60	0.06
45-10	2.4	-3.1	15.2	0.69	0.07	75.8	0.10	0.65	0.15
45-11	1.7	6.4	9.9	0.35	0.15	41.2	0.26	0.24	0.09
45-12	6.6	6.6	9.8	0.41	0.30	68.0	0.31	0.39	0.04
45-13	11.7	4.2	18.0	0.89	0.38	81.7	0.39	0.88	0.07
45-14	30.6	2.6	10.9	1.36	0.41	-75.7	0.47	1.31	-0.23
45-15	32.9	2.8	2.2	1.[illegible]	0.26	-66.9	0.41	1.09	-0.35
45-16	8.6	35.3	23.4	1.16	0.21	-64.6	0.38	0.99	-0.37
45-17	10.3	-5.1	23.0	1.23	0.19	81.8	0.21	1.21	0.15
45-18	3.6	11.7	44.8	1.59	0.48	60.6	0.75	1.33	0.48
45-19	17.6	11.9	31.7	1.39	0.72	75.5	0.76	1.35	0.16
45-20	18.1	10.9	23.4	1.13	0.65	82.4	0.66	1.12	0.06
67- 1	34.5	20.5	10.0	1.24	0.67	-49.1	0.91	0.99	-0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	43.6	23.9	11.6	1.56	0.80	-51.4	1.10	1.27	-0.37
67- 3	47.3	26.8	15.1	1.72	0.95	-52.7	1.24	1.44	-0.37
67- 4	28.6	48.8	39.8	1.83	1.11	-44.5	1.47	1.46	-0.36
67- 5	48.4	36.5	19.2	1.79	1.11	-39.9	1.51	1.39	-0.34
67- 6	47.2	32.9	16.8	1.72	1.02	-43.4	1.39	1.35	-0.35
67- 7	41.2	16.2	13.0	1.57	0.75	-63.8	0.91	1.41	-0.33
67- 8	33.9	1.3	8.1	1.44	0.36	-73.4	0.44	1.35	-0.30
67- 9	17.0	-10.2	11.2	1.17	0.04	-86.6	0.04	1.17	-0.07
67-10	11.4	-4.8	19.9	1.15	0.19	84.1	0.20	1.14	0.10
67-11	9.6	10.4	-2.4	0.36	-0.06	-20.6	0.31	-0.00	-0.14
67-12	3.9	-0.5	-9.0	0.05	-0.27	-36.0	-0.06	-0.16	-0.15
67-13	-1.8	-1.8	-7.9	-0.11	-0.31	-22.8	-0.14	-0.28	-0.07
67-14	-9.0	-9.1	-4.5	-0.22	-0.36	-37.1	-0.27	-0.31	-0.07
67-15	-4.7	-8.0	-9.1	-0.24	-0.35	-58.4	-0.32	-0.27	-0.05
67-16	-11.3	-9.6	-1.9	-0.15	-0.41	61.2	-0.35	-0.21	0.11
67-17	-10.8	-1.8	7.4	0.14	-0.28	45.4	-0.08	-0.07	0.21
67-18	-6.2	3.9	13.4	0.38	-0.07	43.9	0.16	0.14	0.23
67-19	-0.3	7.5	14.0	0.46	0.13	42.4	0.31	0.28	0.16
67-20	1.6	2.0	13.1	0.50	0.13	66.4	0.19	0.44	0.13
90- 1	20.3	24.8	29.8	1.18	0.96	1.5	1.18	0.96	0.01
90- 2	31.3	38.1	33.1	1.52	1.24	4.4	1.52	1.24	0.02
90- 3	38.3	46.7	39.2	1.85	1.48	1.6	1.85	1.48	0.01
90- 4	39.2	44.9	40.9	1.83	1.60	5.0	1.83	1.61	0.02
90- 5	31.5	26.9	33.1	1.51	1.26	85.8	1.26	1.51	0.02
90- 6	25.6	10.7	26.7	1.48	0.76	89.0	0.76	1.48	0.01
90- 7	22.3	1.6	23.3	1.47	0.49	89.3	0.49	1.47	0.01
90- 8	19.0	-4.1	20.4	1.39	0.30	89.1	0.30	1.39	0.02
90- 9	18.3	-4.2	19.7	1.35	0.28	89.1	0.28	1.35	0.02
90-10	18.6	-2.2	19.7	1.31	0.33	89.2	0.33	1.31	0.01
90-11	14.0	9.7	3.0	0.49	0.23	6.3	0.49	0.24	0.03
90-12	0.4	2.7	1.3	0.08	-0.01	6.5	0.08	-0.01	0.01
90-13	-5.4	-7.1	-4.5	-0.16	-0.26	84.1	-0.26	-0.16	0.01
90-14	-7.5	-9.9	-8.5	-0.30	-0.39	-82.6	-0.39	-0.30	-0.01
90-15	-2.4	-2.2	-4.7	-0.11	-0.19	-19.9	-0.12	-0.18	-0.03
90-16	0.9	6.2	0.0	0.15	-0.11	-2.3	0.15	-0.11	-0.01
90-17	0.7	8.3	15.4	0.52	0.17	44.2	0.35	0.34	0.17
90-18	0.6	7.0	-0.2	0.17	-0.15	-1.6	0.17	-0.15	-0.01
90-19	0.1	3.7	0.7	0.09	-0.06	2.9	0.09	-0.06	0.01
90-20	0.8	-0.6	2.8	0.14	0.02	78.7	0.02	0.13	0.02
180- 1	13.6	12.0	15.4	0.68	0.56	79.6	0.56	0.68	0.02
180- 2	13.0	7.1	15.3	0.77	0.44	85.5	0.44	0.77	0.03
180- 3	8.5	-4.3	9.8	0.70	0.08	88.6	0.08	0.70	0.02
180- 4	9.1	-6.7	9.2	0.76	0.03	90.0	0.03	0.76	0.00
180- 5	8.9	-7.2	10.1	0.79	0.02	89.0	0.02	0.79	0.01
180- 6	10.3	27.0	9.3	0.82	0.03	89.2	0.03	0.82	0.01
180- 7	9.0	-7.5	8.3	0.74	-0.00	-89.4	-0.00	0.74	-0.01
180- 8	7.5	-7.0	7.2	0.65	-0.02	-89.7	-0.02	0.65	-0.00
180- 9	8.4	0.2	8.5	0.55	0.17	89.7	0.17	0.55	0.00
180-10	9.3	6.4	9.5	0.47	0.33	88.8	0.33	0.47	0.00
180-11	29.0	21.5	26.1	1.33	1.04	-83.1	1.04	1.32	-0.03
180-12	30.9	17.7	31.7	1.66	1.03	89.2	1.03	1.66	0.01
180-13	26.2	4.3	30.9	1.78	0.66	87.2	0.66	1.78	0.05
180-14	25.9	6.0	23.3	1.48	0.62	-88.1	0.63	1.48	-0.03
180-15	21.2	0.2	24.4	1.50	0.45	88.0	0.46	1.50	0.04
180-16	21.7	41.3	19.7	1.36	0.41	88.6	0.41	1.36	0.02
180-17	21.3	2.1	23.7	1.44	0.49	88.7	0.49	1.44	0.03
180-18	26.5	-0.4	26.7	1.77	0.52	89.9	0.52	1.77	0.00
180-19	32.7	11.2	32.9	1.90	0.91	89.9	0.91	1.90	0.00
180-20	29.8	24.3	33.1	1.52	1.18	83.6	1.18	1.51	0.04
202- 1	19.	11.7	0.2	0.64	0.19	-38.7	0.46	0.36	-0.22
202- 2	18.5	8.1	-3.0	0.58	0.08	-44.1	0.34	0.32	-0.25
202- 3	18.3	5.5	-3.2	0.58	0.07	-50.6	0.28	0.37	-0.25
202- 4	11.6	-3.5	-4.1	0.41	-0.09	-66.3	-0.01	0.33	-0.18
202- 5	5.1	-9.6	-3.2	0.30	-0.22	-79.2	-0.20	0.28	-0.10
202- 6	0.3	11.7	1.6	0.29	-0.21	-78.2	-0.19	0.27	-0.10
202- 7	6.0	-9.1	-6.1	0.25	-0.25	-73.0	-0.21	0.21	-0.14

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	5.1	-7.1	-1.6	0.29	-0.14	-79.7	-0.13	0.28	-0.08
202- 9	5.2	-0.7	4.4	0.33	0.08	-87.9	0.08	0.33	-0.01
202-10	4.9	6.5	9.5	0.36	0.25	53.4	0.29	0.33	0.05
202-11	16.3	15.4	30.8	1.26	0.76	69.1	0.82	1.20	0.17
202-12	24.2	19.4	36.8	1.60	1.01	75.2	1.05	1.56	0.15
202-13	30.4	13.7	37.4	1.92	0.98	85.1	0.99	1.92	0.08
202-14	35.4	3.0	38.4	2.36	0.80	88.7	0.80	2.36	0.03
202-15	51.4	8.1	39.2	2.81	1.07	-85.3	1.08	2.80	-0.14
202-16	48.4	93.3	55.2	3.18	1.26	-82.7	1.29	3.15	-0.24
202-17	53.4	12.7	43.7	2.92	1.25	-86.1	1.25	2.91	-0.11
202-18	34.7	9.1	53.5	2.73	1.05	82.5	1.08	2.70	0.22
202-19	34.6	18.2	42.6	2.13	1.17	84.5	1.18	2.13	0.09
202-20	32.9	21.9	30.9	1.60	1.13	-87.1	1.13	1.60	-0.02
225- 1	34.4	11.2	-4.6	1.10	0.18	-50.3	0.55	0.72	-0.45
225- 2	34.2	4.5	-13.0	1.02	-0.11	-52.2	0.31	0.59	-0.54
225- 3	31.5	-5.1	-16.6	0.95	-0.31	-58.7	0.03	0.61	-0.56
225- 4	29.5	-8.7	-12.5	0.99	-0.26	-60.7	-0.03	0.76	-0.48
225- 5	23.8	-11.8	-5.8	0.97	-0.20	-72.3	-0.09	0.86	-0.34
225- 6	3.2	31.6	17.4	0.96	-0.08	-65.7	0.10	0.78	-0.39
225- 7	27.5	-1.0	-11.5	0.84	-0.15	-57.4	0.14	0.55	-0.45
225- 8	15.3	-11.0	-4.8	0.67	-0.22	-74.2	-0.15	0.60	-0.23
225- 9	0.3	-13.6	4.7	0.48	-0.27	86.1	-0.26	0.48	0.05
225-10	-0.2	-2.9	13.8	0.57	0.02	72.1	0.07	0.52	0.16
225-11	4.9	11.5	19.9	0.71	0.36	48.6	0.51	0.55	0.17
225-12	4.7	11.0	11.7	0.46	0.25	25.9	0.42	0.29	0.08
225-13	8.5	5.6	25.9	1.07	0.40	71.5	0.47	1.00	0.20
225-14	15.8	2.3	28.6	1.43	0.47	81.1	0.49	1.41	0.15
225-15	57.7	12.9	8.8	2.16	0.69	-64.9	0.96	1.90	-0.56
225-16	12.7	44.1	28.2	1.45	0.30	-65.9	0.49	1.26	-0.43
225-17	26.9	-3.6	14.1	1.45	0.30	-82.5	0.32	1.43	-0.15
225-18	8.0	7.4	44.1	1.72	0.52	68.0	0.69	1.55	0.42
225-19	21.4	13.1	33.6	1.54	0.82	78.6	0.85	1.51	0.14
225-20	18.8	9.8	23.8	1.18	0.64	83.8	0.65	1.18	0.06
247- 1	35.8	18.4	3.5	1.22	0.47	-47.1	0.81	0.87	-0.37
247- 2	45.8	22.6	5.5	1.57	0.63	-49.4	1.03	1.17	-0.47
247- 3	48.1	23.6	9.5	1.70	0.77	-52.6	1.11	1.36	-0.45
247- 4	24.5	49.7	40.7	1.83	0.96	-42.4	1.44	1.36	-0.44
247- 5	51.2	39.1	13.5	1.85	0.92	-35.1	1.54	1.23	-0.43
247- 6	50.8	33.2	11.8	1.79	0.89	-42.2	1.38	1.30	-0.45
247- 7	44.4	19.0	9.1	1.59	0.70	-57.0	0.97	1.33	-0.41
247- 8	37.0	4.7	7.8	1.49	0.43	-70.2	0.5	1.37	-0.34
247- 9	14.8	-10.9	11.6	1.12	0.01	-88.1	0 1	1.12	-0.04
247-10	10.9	-6.7	18.2	1.12	0.13	85.1	0.13	1.11	0.08
247-11	13.4	11.4	-4.5	0.45	-0.07	-26.2	0.35	0.03	-0.21
247-12	38.6	19.4	0.1*	1.27	0.39	-45.0	0.83	0.83	-0.44
247-13	-0.1	-3.5	-10.0	-0.10	-0.34	-36.2	-0.18	-0.25	-0.11
247-14	-12.9	-8.8	-2.2	-0.20	-0.45	-53.6	-0.36	-0.29	-0.12
247-15	-1.4	-12.4	-10.6	-0.07	-0.44	-72.2	-0.40	-0.11	-0.11
247-16	-10.8	-12.6	-2.8	-0.13	-0.45	72.8	-0.43	-0.16	0.09
247-17	-10.0	-7.3	7.6	0.19	-0.30	62.2	-0.19	0.09	0.20
247-18	-7.2	-2.7	16.4	0.52	-0.12	60.8	0.03	0.36	0.27
247-19	0.0	6.3	21.3	0.72	0.19	56.2	0.36	0.56	0.25
247-20	1.2	1.9	15.4	0.58	0.14	65.9	0.21	0.50	0.16
270- 1	22.4	25.8	29.2	1.18	1.03	-0.1	1.18	1.03	-0.00
270- 2	35.8	40.2	35.3	1.63	1.42	-1.4	1.63	1.42	-0.01
270- 3	40.4	45.9	41.0	1.87	1.62	1.8	1.87	1.62	0.01
270- 4	43.7	46.3	43.3	1.93	1.80	-2.1	1.93	1.80	-0.00
270- 5	39.6	36.4	40.2	1.79	1.63	87.8	1.63	1.79	0.01
270- 6	31.1	15.6	31.9	1.72	0.98	89.2	0.98	1.72	0.01
270- 7	26.6	4.3	26.2	1.64	0.62	-89.7	0.62	1.64	-0.00
270- 8	22.4	-3.6	21.9	1.54	0.35	-89.7	0.35	1.54	-0.01
270- 9	19.1	-6.0	20.4	1.44	0.25	89.3	0.25	1.44	0.01
270-10	18.9	-5.2	19.2	1.38	0.26	89.8	0.26	1.38	0.00
270-11	1.2	1.6	1.5	0.06	0.05	58.9	0.06	0.05	0.00
270-12	-2.3	-0.4	-1.4	-0.04	-0.11	[illegible] 4	-0.05	-0.11	0.01
270-13	-9.4	-8.2	-4.8	-0.24	-0.36	58.5	-0.33	-0.28	0.05

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-13.0	-12.0	-11.6	-0.51	-0.54	33.4	-0.52	-0.53	0.02
270-15	-9.0	-8.0	-7.4	-0.33	-0.37	36.0	-0.35	-0.36	0.02
270-16	-3.9	0.9	-1.6	-0.03	-0.21	8.9	-0.04	-0.20	0.03
270-17	-1.8	13.3	1.2	0.30	-0.33	3.2	0.30	-0.32	0.03
270-18	0.6	4.8	1.8	0.14	-0.03	4.6	0.13	-0.03	0.01
270-19	-0.0	5.4*	2.4	0.15	-0.05	8.3	0.15	-0.05	0.03
270-20	0.9	1.5	2.9	0.11	0.06	56.7	0.07	0.09	0.02
0- 6	8.2	25.7	9.6	0.77	-0.01	1.2	0.77	-0.01	0.02
11- 1	2.6	19.7	8.2	0.57	-0.11	5.5	0.56	-0.10	0.06
22- 6	-2.9	9.2	1.5	0.20	-0.27	6.3	0.20	-0.26	0.05
33- 1	-1.1	18.5	6.4	0.49	-0.26	6.6	0.48	-0.25	0.09
45- 6	7.7	32.6	14.0	0.97	-0.04	4.1	0.97	-0.03	0.07
56- 1	19.7	45.2	28.8	1.53	0.54	6.2	1.52	0.56	0.11
67- 4	28.6	48.8	39.8	1.83	1.11	10.5	1.80	1.13	0.13
78- 1	26.4	39.0	39 3	1.61	1.20	23.2	1.55	1.27	0.15
90- 1	20.3	24.8	29.8	1.18	0.96	46.5	1.07	1.09	0.11
0-16	27.0	51.9	28.9	1.75	0.65	1.1	1.75	0.65	0.02
11-11	34.5	71.6	44.4	2.48	0.94	4.8	2.43	0.95	0.11
22-16	47.9	87.9	52.6	3.02	1.29	1.8	3.02	1.29	0.05
33-11	26.6	60.0	49.8	2.21	1.07	14.1	2.14	1.13	0.27
45-16	8.6	35.3	23.4	1.16	0.21	10.4	1.13	0.24	0.17
56-11	-5.8	5.0	1.4	0.09	-0.28	13.3	0.07	-0.26	0.08
67-14	-9.0	-9.1	-4.5	-0.22	-0.36	67.9	-0.34	-0.24	0.05
78-11	1.0	-3.2	-0.6	0.09	-0.07	-65.1	-0.07	0.09	-0.02
90-11	14.0	9.7	3.0	0.49	0.23	-38.7	0.39	0.34	-0.13
180- 6	10.3	27.0	9.3	0.82	0.03	-0.8	0.82	0.03	-0.01
191- 1	2.7	17.5	5.2	0.48	-0.14	2.7	0.48	-0.14	0.03
202- 6	0.3	11.7	1.6	0.29	-0.21	1.8	0.29	-0.21	0.02
213- 1	-0.8	19.1	8.7	0.54	-0.20	8.7	0.52	-0.18	0.11
225- 6	3.2	31.6	17.4	0.96	-0.08	9.3	0.93	-0.05	0.16
236- 1	13.2	45.3	30.9	1.52	0.37	10.4	1.48	0.41	0.20
247- 4	24.5	49.7	40.7	1.83	0.96	12.6	1.79	1.00	0.19
258- 1	28.0	43.2	41.3	1.73	1.23	18.8	1.68	1.29	0.15
270- 1	22.4	25.8	29.2	1.18	1.03	44.9	1.10	1.10	0.08
180-16	21.7	41.3	19.7	1.36	0.41	-1.4	1.36	0.41	-0.02
191-11	52.2	95.0	47.9	3.18	1.11	-1.4	3.18	1.11	-0.05
202-16	48.4	93.3	55.2	3.18	1.26	2.3	3.18	1.26	0.08
213-11	28.6	65.3	40.0	2.20	0.74	5.2	2.19	0.75	0.13
225-16	12.7	44.1	28.2	1.45	0.30	9.1	1.42	0.33	0.18
236-11	-5.2*	12 5	8.7	0.37	-0.22	16.3	0.32	-0.17	0.16
247-14	-12.9	-8.8	-2.2	-0.20	-0.45	51.4	-0.35	-0.30	0.12
258-11	-3.0	-6.9	-2.6*	-0.03	-0.21	88.3	-0.21	-0.03	0.01
270-11	1.2	1.6	1.5	0.06	0.05	13.9	0.06	0.05	0.00
400-01	-0.9	-0.1	0.8	0.02	-0.02	-89.1	-0.02	0.02	-0.00
400-11	45.8	25.2	6.4	1.57	0.66	88.7	0.67	1.57	0.02
401-01	17.6	9.7	17.1	0.92	0.57	-89.0	0.57	0.92	-0.01
401-02	22.8	2.6					0.78	0.31	
401-03	24.3	9.3					0.89	0.55	
401-04	23.1	2.7					0.79	0.32	
402-01	16.0	6.4	17.0	0.94	0.47	83.7	0.47	0.94	0.01
402-02	22.5	4.7					0.79	0.38	
402-03	26.6	6.9					0.95	0.49	
402-04	22.7	4.3					0.79	0.37	
403-01	14.6	6.9	15.5	0.83	0.46	88.4	0.46	0.83	0.01
403-02	20.0	5.3					0.71	0.37	
403-03	23.4	7.0					0.84	0.46	
403-04	19.0	4.6					0.67	0.34	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, TORSIONAL MOMENT LOADING ON RUN, M2X

NOMINAL LOAD = 6.208E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO SEP. PLANE ALONG	NORMAL	DIP. SHEAR
0- 1	29.8	-1.4	-29.0	0.70	-0.66	-46.8	-0.03	0.06	-0.68
0- 2	32.5	-2.5*	-30.6	0.73	-0.82	-46.2	-0.08	-0.01	-0.77
0- 3	31.5	-2.7*	-30.6	0.74	-0.70	-47.9	-0.05	0.09	-0.72
0- 4	27.2	-0.7	-26.6	0.63	-0.61	-46.0	-0.01	0.03	-0.62
0- 5	26.0	-0.0	-24.1	0.62	-0.54	-46.1	0.02	0.06	-0.58
0- 6	-20.1	2.8	24.4	0.61	-0.42	-45.8	0.08	0.11	-0.51
0- 7	19.4	-0.3	-17.1	0.47	-0.37	-47.3	0.02	0.08	-0.42
0- 8	14.6	0.2	-12.2	0.36	-0.26	-47.1	0.03	0.07	-0.31
0- 9	6.0	0.5	-3.1	0.17	-0.04	-51.3	0.04	0.09	-0.11
0-10	-1.8	1.0	4.6	0.14	-0.01	88.9	0.05	0.07	0.07
0-11	-11.5	-1.0	13.7	0.34	-0.25	49.7	-0.00	0.09	0.29
0-12	-4.1	0.1	4.5	0.11	-0.09	45.8	0.01	0.01	0.10
0-13	1.9	0.3	-1.6	0.05	-0.04	-42.8	0.01	0.00	-0.04
0-14	3.2	0.4	-3.7	0.07	-0.09	-39.7	0.00	-0.03	-0.08
0-15	3.2	0.3	-5.1	0.06	-0.14	-36.7	-0.01	-0.07	-0.09
0-16	-4.8	-1.7	3.0	0.05	-0.13	-39.0	-0.02	-0.06	-0.09
0-17	2.2	0.8	-4.1	0.04	-0.12	-30.4	0.00	-0.08	-0.07
0-18	1.9	0.3	-4.3	0.03	-0.13	-32.0	-0.02	-0.09	-0.07
0-19	1.9	-0.5	-3.4	0.03	-0.09	-43.0	-0.03	-0.04	-0.06
0-20	-1.9	-0.9	1.6	0.04	-0.05	55.9	-0.02	0.01	0.0.
22- 1	17.9	0.3	-20.4	0.39	-0.50	-42.7	-0.02	-0.09	-0.44
22- 2	21.2	0.0	-20.0	0.50	-0.45	-45.9	0.01	0.04	-0.48
22- 3	23.5	0.4	-18.6	0.59	-0.38	-47.8	0.05	0.15	-0.49
22- 4	23.3	4.9	-12.7	0.64	-0.19	-45.7	0.22	0.24	-0.42
22- 5	21.3	7.1	-7.4	0.63	-0.03	-44.7	0.30	0.30	-0.33
22- 6	-2.6*	10.5	20.3	0.65	0.11	-39.0	0.43	0.32	-0.26
22- 7	18.1	14.6	1.1*	0.64	0.18	-29.9	0.53	0.30	-0.20
22- 8	13.6	10.2	5.1	0.50	0.30	-39.8	0.42	0.38	-0.10
22- 9	10.2	6.4	9.6	0.51	0.34	-87.7	0.33	0.51	-0.01
22-10	8.1	3.0	13.6	0.65	0.27	80.3	0.28	0.64	0.06
22-11	-17.8	-3.0	4.7	-0.01	-0.55	36.4	-0.20	-0.36	0.26
22-12	-18.8	-8.1	-1.3	-0.22	-0.64	38.6	-0.39	-0.48	0.20
22-13	-16.5	-6.6	-6.5	-0.33	-0.66	22.7	-0.38	-0.61	0.1_
22-14	-20.0	0.4	-10.0	-0.27	-1.02	9.0	-0.2_	-1.00	0.12
22-15	-23.5	-11.5	-14.9	-0.62	-1.03	14.6	-0.55	-1.00	0.10
22-16	-15.9	-32.2	-30.0	-0.71	-1.25	23.7	-0.80	-1.17	0.20
22-17	-26.2	-11.3	-21.3	-0.73	-1.31	5.5	-0.73	-1.31	0.06
22-18	-21.0	-5.0	-20.3	-0.52	-1.25	0.7	-0.52	-1.25	0.01
22-19	-23.8	-11.2	-15.5	-0.62	-1.06	13.2	-0.55	-1.04	0.10
22-20	-20.9	-11.6	-8.3	-0.47	-0.79	32.2	-0.56	-0.70	0.15
45- 1	3.2	18.1	8.8	0.54	-0.03	6.6	0.54	-0.02	0.07
45- 2	9.5	15.5	9.0	0.54	0.25	-1.0	0.54	0.25	-0.00
45- 3	17.3	19.1	15.8	0.77	0.65	-8.4	0.77	0.65	-0.02
45- 4	23.0	27.2	19.9	1.06	0.78	-7.7	1.05	0.79	-0.04
45- 5	26.9	33.2	22.8	1.26	0.87	-6.8	1.26	0.87	-0.05
45- 6	26.8	17.5	26.7	1.36	0.93	15.2	1.33	0.96	0.11
45- 7	17.8	32.0	38.8	1.47	0.96	35.2	1.30	1.13	0.24
45- 8	19.5	19.3	30.7	1.26	0.89	67.9	0.94	1.21	0.13
45- 9	22.1	11.8	25.1	1.29	0.74	86.4	0.74	1.29	0.03
45-10	20.1	7.3	19.4	1.13	0.56	-89.1	0.56	1.13	-0.01
45-11	3.2	18.5	-5.8	0.41	-0.52	-6.5	0.40	-0.51	-0.10
45-12	-0.4	11.0	-13.3	0.14	-0.73	-9.9	0.12	-0.71	-0.15
45-13	-17.5	-5.1	-22.3	-0.51	-1.20	-9.6	-0.51	-1.19	-0.06
45-14	-20.0	-18.5	-17.0	-0.87	-1.57	24.5	-0.99	-1.45	0.27
45-15	-47.1	-25.2	-14.0	-0.91	-1.71	36.0	-1.19	-1.43	0.38
45-16	-19.0	-47.2	-52.8	-1.07	-2.01	43.1	-1.51	-1.57	0.47
45-17	-47.6	-16.1	-26.0	-1.04	-2.12	13.7	-1.10	-2.06	0.25
45-18	-31.1	-10.2	-43.1	-0.95	-2.23	-6.3	-0.97	-2.21	-0.14
45-19	-37.1	-10.5	-25.9	-0.85	-1.85	7.5	-0.87	-1.84	0.13
45-20	-29.0	-11.5	-18.3	-0.71	- 32	11.9	-0.73	-1.29	0.12
67- 1	-18.1	20.0	30.1	0.90	-0 39	29.9	0.58	-0.37	0.56

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-14.8	30.3	42.7	1.36	-0.16	30.2	0.98	0.22	0.66
67- 3	-11.2	40.9	51.5	1.73	-0.01	28.2	1.34	0.38	0.72
67- 4	31.0	-15.2	17.1	1.95	0.11	40.0	1.19	0.87	0.91
67- 5	-10.5	28.9	67.3	2.11	0.32	44.6	1.23	1.21	0.90
67- 6	-6.7	28.9	66.1	2.11	0.43	45.6	1.25	1.29	0.84
67- 7	1.6	33.3	61.0	2.03	0.65	43.0	1.39	1.29	0.69
67- 8	9.8	27.4	47.1	1.65	0.79	46.6	1.19	1.24	0.43
67- 9	19.3	15.8	26.6	1.17	0.80	76.5	0.82	1.15	0.08
67-10	19.8	8.6	13.4	0.91	0.51	-79.2	0.53	0.90	-0.07
67-11	-2.9	12.6	16.3	0.55	0.03	29.2	0.42	0.15	0.22
67-12	-12.3	4.8	8.8	0.21	-0.36	29.0	0.09	-0.23	0.24
67-13	-21.3	-9.2	6.3	0.00	-0.64	48.5	-0.36	-0.28	0.32
67-14	2.5	-6.6	-26.6	-0.16	-0.87	40.3	-0.36	-0.57	0.35
67-15	-26.7	-5.2	-5.5	-0.34	-1.04	22.0	-0.44	-0.94	0.24
67-16	-24.5	-4.8	-22.7	-0.58	-1.45	1.4	-0.58	-1.45	0.02
67-17	-24.5	-4.6	-32.5	-0.66	-1.78	-4.7	-0.67	-1.77	-0.09
67-18	-24.8	-2.3	-36.3	-0.64	-1.97	-5.7	-0.65	-1.96	-0.13
67-19	-18.9	-1.9	-31.3	-0.52	-1.63	-7.5	-0.54	-1.61	-0.14
67-20	-11.5	-4.5	-24.3	-0.42	-1.11	-12.7	-0.45	-1.09	-0.15
90- 1	-1.9	-33.6	0.8	0.74	-0.79	43.8	0.01	-0.06	0.76
90- 2	-41.0	-0.1	39.8	0.91	-0.96	44.7	-0.01	-0.03	0.93
90- 3	-47.1	-0.4	44.7	1.01	-1.11	44.5	-0.03	-0.07	1.06
90- 4	-45.8	-0.9*	42.9	0.96	-1.08	44.7	-0.05	-0.07	1.02
90- 5	-35.1	-0.2	32.7	0.73	-0.84	44.2	-0.03	-0.08	0.78
90- 6	-25.4	-1.1	22.7	0.50	-0.61	44.6	-0.05	-0.07	0.55
90- 7	-16.6	-0.7	13.2	0.27	-0.42	43.1	-0.05	-0.10	0.34
90- 8	-7.3	-0.4	4.5	0.08	-0.20	40.4	-0.04	-0.08	0.14
90- 9	-2.2	-0.7	-0.5	-0.03	-0.08	26.8	-0.04	-0.07	0.02
90-10	1.9	-0.7	-4.1	0.02	-0.12	-41.3	-0.04	-0.06	-0.07
90-11	-2.7	19.5	1.5	0.44	0.50	48.0	-0.09	0.02	0.47
90-12	-21.6	-0.7	20.6	0.47	-0.51	45.2	-0.03	-0.02	0.49
90-13	-16.4	0.8	16.3	0.37	-0.38	43.4	0.02	-0.02	0.38
90-14	-8.3	0.2	9.5	0.23	-0.18	46.4	0.02	0.04	0.21
90-15	1.3*	0.2	1.1*	0.07	0.03	-86.3	0.03	0.07	-0.30
90-16	7.5	0.1	-6.5	0.18	-0.14	-46.6	0.01	0.03	-0.16
90-17	10.4	-1.0	-8.7	0.26	-0.19	-50.5	-0.01	0.08	-0.22
90-18	12.7	-0.4	-10.6	0.32	-0.23	-48.7	0.01	0.08	-0.27
90-19	14.0	0.1	-11.9	0.35	-0.25	-47.1	0.02	0.07	-0.30
90-20	14.0	0.1	-13.1	0.33	-0.29	-45.7	0.01	0.03	-0.31
180- 1	31.5	3.1	-29.3	0.75	-0.66	-43.1	0.09	0.00	-0.70
180- 2	36.1	0.9	-33.6	0.86	-0.75	-45.3	0.05	0.06	-0.80
180- 3	32.8	2.0	-31.0	0.78	-0.70	-44.0	0.07	0.01	-0.74
180- 4	28.5	2.1	-27.0	0.67	-0.61	-43.5	0.06	-0.00	-0.64
180- 5	27.0	1.4	-25.1	0.64	-0.56	-44.5	0.05	0.03	-0.60
180- 6	-21.1	-0.1	24.4	0.60	-0.46	-42.9	0.11	0.03	-0.52
180- 7	19.6	1.9	-18.7	0.46	-0.42	-42.9	0.05	-0.01	-0.44
180- 8	13.6	1.0	-13.1	0.32	-0.30	-43.4	0.03	-0.01	-0.31
180- 9	1.3	-0.1	-1.7*	0.03	-0.04	-43.0	-0.01	-0.01	-0.03
180-10	-3.1	-0.2	2.0	0.04	-0.08	41.5	-0.02	-0.03	0.06
180-11	-17.1	-0.4	15.9	0.35	-0.41	44.6	-0.02	-0.03	0.38
180-12	-7.7	1.5	8.2	0.20	-0.18	40.6	0.04	-0.02	0.18
180-13	0.2	1.0	0.8	0.04	0.01	14.1	0.03	0.01	0.01
180-14	3.1	0.6	-2.0	0.08	-0.03	-44.8	0.02	0.02	-0.06
180-15	4.3	0.3	-3.3	0.11	-0.07	-46.4	0.02	0.03	-0.09
180-16	-2.9	1.2	4.5	0.12	-0.05	-48.4	0.02	0.03	-0.09
180-17	4.4	0.0	-2.8	0.12	-0.05	-51.0	0.02	0.05	-0.08
180-18	4.5	0.1	-2.6*	0.12	-0.04	-52.0	0.02	0.06	-0.08
180-19	4.4	0.6	-0.6*	0.15	0.02	-59.2	0.05	0.11	-0.06
180-20	-0.9	2.2	4.7	0.15	0.02	42.0	0.09	0.07	0.07
202- 1	20.0	1.3	-26.4	0.41	-0.68	-39.4	-0.03	-0.24	-0.53
202- 2	24.6	3.8	-25.5	0.57	-0.61	-40.2	0.08	-0.12	-0.58
202- 3	25.8	5.8	-22.8	0.63	-0.50	-39.9	0.16	-0.04	-0.56
202- 4	25.5	6.9	-17.3	0.67	-0.32	-41.3	0.24	0.11	-0.49
202- 5	23.3	8.2	-12.4	0.65	-0.18	-40.7	0.30	0.17	-0.41
202- 6	-5.9	8.9	23.3	0.71	0.04	-35.3	0.48	0.26	-0.32
202- 7	16.7	13.8	-0.5*	0.59	0.11	-28.2	0.48	0.22	-0.20

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	13.9	10.2	2.7*	0.49	0.22	-35.5	0.40	0.31	-0.13
202- 9	9.6	4.5	7.1	0.45	0.26	-81.3	0.27	0.45	-0.03
202-10	7.0	1.5	10.6	0.55	0.20	83.1	0.21	0.55	0.04
202-11	-17.2	-1.6	6.6	0.06	-0.51	36.4	-0.14	-0.31	0.27
202-12	-19.5	-6.6	1.9	-0.13	-0.63	39.2	-0.33	-0.43	0.25
202-13	-19.0	-9.1	-3.8	-0.30	-0.67	36.8	-0.44	-0.54	0.18
202-14	-16.0	-5.8	-9.0	-0.36	-0.71	13.8	-0.38	-0.69	0.08
202-15	-20.3	-9.4	-12.2	-0.51	-0.88	15.2	-0.54	-0.86	0.09
202-16	-13.5	-26.1	-22.1	-0.55	-0.98	18.8	-0.59	-0.93	0.13
202-17	-23.1	-9.9	-12.8	-0.55	-0.99	16.3	-0.58	-0.96	0.12
202-18	-16.7	-6.5	-14.7	-0.46	-0.89	3.2	-0.46	-0.88	0.02
202-19	-16.0	-8.3	-12.1	-0.46	-0.74	9.5	-0.47	-0.73	0.05
202-20	-16.4	-8.3	-5.8	-0.34	-0.61	31.3	-0.41	-0.54	0.12
225- 1	2.7	16.7	7.7	0.49	-0.05	6.2	0.49	-0.04	0.06
225- 2	9.6	14.2	7.1	0.50	0.22	-6.0	0.49	0.23	-0.03
225- 3	19.0	15.3	9.3	0.72	0.49	-38.3	0.63	0.58	-0.11
225- 4	23.9	23.0	12.8	0.95	0.62	-25.1	0.89	0.68	-0.13
225- 5	27.1	29.5	17.7	1.16	0.77	-16.8	1.12	0.80	-0.11
225- 6	22.4	17.3	27.1	1.28	0.88	6.3	1.29	0.85	0.04
225- 7	19.6	28.3	29.8	1.20	0.91	27.4	1.14	0.98	0.12
225- 8	19.9	19.8	26.0	1.09	0.88	67.9	0.91	1.06	0.07
225- 9	20.2	12.2	25.4	1.23	0.72	83.1	0.73	1.22	0.06
225-10	17.4	4.9	18.3	1.06	0.47	89.0	0.47	1.06	0.01
225-11	2.2	16.4	-8.0	0.34	-0.58	-7.4	0.32	-0.57	-0.12
225-12	-5.3	8.6	-11.4	0.04	-0.75	-5.2	0.03	-0.75	-0.07
225-13	-14.1	-6.0	-26.5	-0.51	-1.23	-11.8	-0.54	-1.20	-0.14
225-14	-25.6	-12.1	-27.7	-0.80	-1.48	-2.1	-0.81	-1.48	-0.02
225-15	-48.5	-28.3	-12.9	-0.90	-1.73	41.1	-1.26	-1.37	0.41
225-16	-21.7	-48.8	-47.0	-1.03	-1.92	35.6	-1.33	-1.61	0.42
225-17	-51.4	-20.5	-21.3	-1.05	-2.06	21.7	-1.19	-1.93	0.35
225-18	-28.7	-10.5	-36.0	-0.88	-1.90	-4.8	-0.88	-1.89	-0.08
225-19	-36.3	-11.0	-19.6	-0.76	-1.63	13.1	-0.81	-1.59	0.19
225-20	-27.9	-7.2	-13.7	-0.54	-1.25	13.8	-0.58	-1.21	0.16
247- 1	-21.3	12.5	29.7	0.80	-0.44	35.9	0.37	-0.01	0.59
247- 2	-16.2	26.3	43.9	1.35	-0.16	33.7	0.88	0.31	0.69
247- 3	-10.9	38.9	52.6	1.74	0.05	30.2	1.31	0.48	0.73
247- 4	32.0	-14.0	16.0	1.93	0.13	40.9	1.15	0.90	0.89
247- 5	-8.7	22.3	63.5	2.02	0.33	49.0	1.06	1.29	0.83
247- 6	-4.8	26.1	63.1	2.04	0.46	47.6	1.18	1.32	0.78
247- 7	4.9	28.5	58.8	1.99	0.74	48.6	1.29	1.44	0.62
247- 8	15.6	32.7	50.9	1.83	1.02	45.9	1.41	1.44	0.41
247- 9	23.0	16.0	26.4	1.26	0.85	84.4	0.86	1.26	0.04
247-10	19.2	5.4	13.4	0.96	0.44	82.5	0.45	0.95	-0.07
247-11	1.8	17.5	13.5	0.59	0.06	15.4	0.56	0.10	0.14
247-12	-9.2	5.5	5.4	0.16	-0.32	22.3	0.09	-0.25	0.17
247-13	-24.7	-9.9	2.9	-0.15	-0.79	42.9	-0.44	-0.49	0.32
247-14	0.9	-13.8	-29.6	-0.26	-0.97	31.1	-0.45	-0.78	0.31
247-15	-29.0	-6.0	-9.0	-0.48	-1.19	18.8	-0.52	-1.11	0.23
247-16	-24.5	-3.4	-24.9	-0.57	-1.55	-0.3	-0.57	-1.55	-0.00
247-17	-26.3	-3.3	-36.4	-0.69	-2.00	-5.1	-0.70	-1.99	-0.12
247-18	-35.8	-6.4	-35.4	-0.85	-2.20	0.2	-0.85	-2.20	0.00
247-19	-21.8	-1.9	-27.7	-0.53	-1.59	-3.7	-0.53	-1.59	-0.07
247-20	-14.2	-1.1	-22.6	-0.38	-1.20	-6.8	-0.39	-1.19	-0.10
270- 1	-1.9	-33.7	1.1	0.75	-0.79	43.7	0.02	-0.05	0.77
270- 2	-42.2	0.3	42.8	0.99	-0.97	45.0	0.01	0.01	0.98
270- 3	-46.7	0.2	48.4	1.13	-1.06	45.4	0.02	0.05	1.10
270- 4	-48.0	-2.0	48.0	1.11	-1.11	46.2	-0.05	0.04	1.11
270- 5	-39.4	-0.0*	39.1	0.90	-0.91	44.9	-0.00	-0.01	0.90
270- 6	-25.6	0.2	24.5	0.55	-0.60	44.2	-0.01	-0.04	0.58
270- 7	-14.1	-1.2	13.1	0.29	-0.33	46.5	-0.04	-0.00	0.31
270- 8	-4.1	-1.5	3.0	0.06	-0.11	52.2	-0.04	-0.00	0.08
270- 9	0.6	-1.5	-1.5	0.01	-0.05	-67.2	-0.04	0.00	-0.02
270-10	4.2	-0.5	-4.2	0.10	-0.10	-48.7	-0.01	0.01	-0.10
270-11	-0.9	0.8*	0.1*	0.01	-0.05	56.3	-0.03	-0.01	0.03
270-12	-20.8	-0.4	20.4	0.47	-0.48	45.3	-0.01	-0.00	0.48
270-13	-18.2	-0.5	15.7	0.34	-0.44	43.7	-0.04	-0.07	0.39

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-13.4	0.6	9.6	0.19	-0.35	39.0	-0.02	-0.14	0.27
270-15	-4.2*	-0.0	0.4*	-0.01	-0.15	25.5	-0.04	-0.12	0.05
270-16	3.7*	0.1	-6.2	0.07	-0.17	-37.2	-0.02	-0.09	-0.11
270-17	12.6	0.5	-8.1	0.34	-0.15	-49.7	0.06	0.14	-0.24
270-18	15.9	0.8	-12.0	0.41	-0.24	-47.3	0.06	0.11	-0.32
270-19	16.9	0.4	-13.6	0.42	-0.28	-47.4	0.04	0.10	-0.35
270-20	16.2	-0.8	-14.3	0.39	-0.31	-48.2	0.00	0.08	-0.35
0- 6	-20.1	2.8	24.4	0.61	-0.42	44.2	0.11	0.08	0.51
11- 1	-16.0	1.3	21.7	0.56	-0.31	47.3	0.09	0.16	0.44
22- 6	-2.6*	10.5	20.3	0.65	0.11	41.0	0.42	0.34	0.26
33- 1	11.8	15.5	23.5	0.90	0.61	55.1	0.71	0.80	0.13
45- 6	26.8	17.5	26.7	1.36	0.93	-89.8	0.93	1.36	-0.00
56- 1	38.9	6.7	27.9	2.06	0.80	-84.2	0.81	2.05	-0.13
67- 4	31.0	-15.2	17.1	1.95	0.11	-85.0	0.12	1.94	-0.16
78- 1	8.6	-34.0	5.4	1.25	-0.65	-88.9	-0.65	1.25	-0.04
90- 1	-1.9	-33.6	0.8	0.74	-0.79	88.8	-0.79	0.74	0.03
0-16	-4.8	-1.7	3.0	0.05	-0.13	51.0	-0.06	-0.02	0.09
11-11	-7.5	-10.7	-8.1	-0.27	-0.40	-86.9	-0.40	-0.27	-0.01
22-16	-15.9	-32.2	-30.0	-0.71	-1.25	-71.3	-1.20	-0.77	-0.16
33-11	-19.0	-44.6	-46.1	-0.98	-1.81	-65.8	-1.67	-1.12	-0.31
45-16	-19.0	-47.2	-52.8	-1.07	-2.01	-61.9	-1.80	-1.28	-0.39
56-11	-12.4	-36.7	-44.1	-0.79	-1.62	-59.1	-1.41	-1.01	-0.37
67-14	2.5	-6.6	-26.6	-0.16	-0.87	-34.7	-0.39	-0.64	-0.34
78-11	9.7	17.0	-8.9	0.46	-0.42	-14.6	0.40	-0.37	-0.21
90-11	-2.7	19.5	1.5	0.44	-0.50	3.0	0.44	-0.49	0.05
180- 6	-21.1	-0.1	24.4	0.60	-0.46	47.1	0.03	0.11	0.52
191- 1	-18.9	-1.0	23.3	0.59	-0.40	49.4	0.02	0.17	0.49
202- 6	-5.9	8.9	23.3	0.71	0.04	44.7	0.38	0.37	0.34
213- 1	4.7	11.7	22.6	0.80	0.37	51.1	0.54	0.63	0.21
225- 6	22.4	17.3	27.1	1.24	0.88	81.3	0.89	1.23	0.05
236- 1	37.2	10.4	26.6	1.88	0.86	-83.1	0.87	1.86	-0.12
247- 4	32.0	-14.0	16.0	1.93	0.13	-84.1	0.15	1.91	-0.18
258- 1	12.3	-34.4	4.1	1.34	-0.64	-87.2	-0.63	1.33	-0.09
270- 1	-1.9	-33.7	1.1	0.75	-0.79	88.7	-0.79	0.75	0.03
180-16	-2.9	1.2	4.5	0.12	-0.05	41.6	0.04	0.02	0.09
191-11	-8.6	-11.5	-7.8	-0.27	-0.43	86.7	-0.43	-0.27	0.01
202-16	-13.5	-26.1	-22.1	-0.55	-0.98	-76.2	-0.95	-0.57	-0.10
213-11	-19.8	-42.3	-38.3	-0.87	-1.62	-72.6	-1.55	-0.94	-0.21
225-16	-21.7	-48.8	-47.0	-1.03	-1.92	-69.4	-1.81	-1.14	-0.29
236-11	-14.6	-40.0	-44.8	-0.85	-1.70	-67.2	-1.51	-1.03	-0.35
247-14	0.9	-13.8	-29.6	-0.26	-0.97	-43.9	-0.60	-0.63	-0.35
258-11	7.7	18.1	-4.6	0.47	-0.34	-10.2	0.45	-0.32	-0.14
270-11	-0.9	0.8*	0.1*	0.01	-0.05	11.3	0.01	-0.04	0.01
400-01	-0.1	-7.4	0.0	0.17	-0.17	-45.4	-0.00	-0.00	-0.17
400-11	-1.5	-16.5	0.6*	0.35	-0.39	43.1	0.01	-0.04	0.37
401-01	19.3	1.4*	-19.4	0.45	-0.45	-45.9	0.03	-0.03	-0.45
401-02	0.0	0.6					0.01	0.02	
401-03	-1.5	2.1*					-0.03	0.05	
401-04	0.2	-0.1					0.00	-0.03	
402-01	18.2	-0.0	-18.0	0.42	-0.42	-45.1	0.00	0.00	-0.42
402-02	1.4	-2.1					0.03	-0.05	
402-03	0.7	-0.4					0.02	-0.00	
402-04	0.4	-0.0					0.01	0.03	
403-01	-1.2	0.2	1.3	0.03	-0.03	42.7	0.00	0.00	0.03
403-02	0.0	-0.1					-0.00	-0.00	
403-03	0.1	0.1					0.00	0.00	
403-04	-0.0	-0.0					-0.00	-0.03	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, OUT-OF-PLANE MOMENT LOADING ON RUN, -M2Y

NOMINAL LOAD = 6.208E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.303

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	6.2	-0.0	-5.7	0.15	-0.13	-46.5	0.01	0.02	-0.14
0- 2	7.3	0.1	-7.0	0.17	-0.16	-45.1	0.01	0.01	-0.16
0- 3	6.4	-0.0	-5.5	0.16	-0.12	-47.3	0.01	0.03	-0.14
0- 4	4.9	0.0	-4.3	0.12	-0.09	-46.6	0.01	0.02	-0.11
0- 5	4.2	0.2	-3.5	0.10	-0.07	-46.4	0.01	0.02	-0.09
0- 6	-2.1	0.7	3.4	0.09	-0.04	-46.2	0.02	0.03	-0.06
0- 7	1.6	-0.1	-1.2	0.04	-0.02	-51.1	0.00	0.02	-0.03
0- 8	0.1	-0.1	0.2	0.01	-0.00	84.4	-0.00	0.01	0.00
0- 9	-2.4	-0.1	2.7	0.06	-0.05	47.1	0.00	0.01	0.06
0-10	-3.6	-0.3	3.9	0.09	-0.08	48.6	-0.01	0.02	0.09
0-11	-2.1	-0.4	1.8	0.04	-0.05	48.3	-0.01	-0.00	0.05
0-12	-5.3	-0.9	4.3	0.09	-0.13	47.2	-0.03	-0.01	0.11
0-13	-5.9	-0.8	3.9	0.07	-0.16	43.8	-0.04	-0.05	0.11
0-14	-5.5	-0.1	3.7	0.07	-0.15	40.1	-0.02	-0.06	0.11
0-15	-5.9	-0.1	4.4	0.09	-0.15	41.6	-0.02	-0.05	0.12
0-16	4.8	-1.2	-6.2	0.10	-0.16	42.6	-0.02	-0.04	0.13
0-17	-6.4	-0.5	5.5	0.12	-0.16	45.3	-0.02	-0.02	0.14
0-18	-5.7	0.0	4.7	0.10	-0.14	41.9	-0.01	-0.03	0.12
0-19	-4.3	-0.1	3.4	0.07	-0.11	41.8	-0.01	-0.03	0.09
0-20	-1.7	-0.5	1.0	0.02	-0.05	48.0	-0.02	-0.01	0.03
22- 1	3.4	11.2	13.4	0.49	0.23	30.4	0.42	0.29	0.12
22- 2	5.5	9.7	10.2	0.41	0.27	26.5	0.38	0.30	0.05
22- 3	6.5	8.7	8.3	0.35	0.28	17.1	0.35	0.29	0.02
22- 4	5.4	7.1	7.4	0.30	0.25	27.0	0.29	0.26	0.02
22- 5	4.1	6.0	7.8	0.30	0.21	44.1	0.26	0.25	0.04
22- 6	8.4	6.8	3.6	0.32	0.20	64.5	0.22	0.29	0.05
22- 7	4.4	2.4	6.2	0.30	0.16	81.2	0.16	0.29	0.02
22- 8	2.5	0.1	4.9	0.24	0.07	80.4	0.08	0.24	0.03
22- 9	1.0	-2.3	3.0	0.19	-0.02	83.4	-0.01	0.19	0.02
22-10	-0.2	-3.4	2.5	0.16	-0.06	81.8	-0.05	0.15	0.03
22-11	6.0	6.9	-1.0	0.24	-0.02	-19.2	0.21	0.01	-0.08
22-12	0.3	0.8	-3.1	0.00	-0.12	-19.4	-0.01	-0.11	-0.04
22-13	-2.7	-1.6	-4.5	-0.10	-0.20	-11.6	-0.11	-0.20	-0.02
22-14	-6.3	0.5	-4.9	-0.10	-0.38	3.4	-0.10	-0.38	0.02
22-15	-9.6	-3.3	-5.6	-0.22	-0.43	12.6	-0.23	-0.42	0.05
22-16	-5.7	-13.5	-11.9	-0.25	-0.51	21.9	-0.28	-0.47	0.09
22-17	-9.5	-2.6	-8.2	-0.23	-0.52	3.0	-0.23	-0.52	0.01
22-18	-8.3	-0.0	-8.1	-0.16	-0.54	0.3	-0.16	-0.54	0.00
22-19	-9.0	-2.7	-5.5	-0.20	-0.42	10.6	-0.21	-0.42	0.04
22-20	-5.7	-3.8	-3.2	-0.16	-0.22	31.1	-0.18	-0.21	0.03
45- 1	-5.9	13.0	32.2	1.00	0.12	45.3	0.56	0.57	0.44
45- 2	-4.7	9.3	25.9	0.81	0.10	47.5	0.42	0.49	0.35
45- 3	-1.5	12.4	27.4	0.89	0.22	45.9	0.54	0.56	0.33
45- 4	-0.3	15.1	25.8	0.85	0.24	39.9	0.60	0.49	0.30
45- 5	0.3	15.5	24.6	0.82	0.25	37.9	0.61	0.46	0.28
45- 6	21.3	7.6	0.6	0.72	0.22	51.0	0.42	0.52	0.24
45- 7	3.6	3.3	15.9	0.63	0.21	68.3	0.27	0.57	0.14
45- 8	4.7	1.1	7.9	0.39	0.14	81.4	0.15	0.39	0.04
45- 9	5.2	-0.5	1.4	0.24	0.04	-76.6	0.05	0.23	-0.04
45-10	4.7	-1.4	-1.3	0.17	-0.03	-67.8	0.00	0.14	-0.07
45-11	23.2	8.5	-4.7	0.72	0.08	-46.6	0.38	0.42	-0.32
45-12	20.7	7.6	-5.5	0.63	0.02	-45.0	0.33	0.33	-0.30
45-13	6.3	-2.4	-8.3	0.13	-0.21	-50.4	-0.07	-0.01	-0.17
45-14	-1.8	-1.3	-8.8	-0.10	-0.35	-20.5	-0.13	-0.32	-0.08
45-15	-5.1	-1.2	-6.9	-0.14	-0.37	-5.3	-0.15	-0.37	-0.02
45-16	-8.5	-10.2	-4.3	-0.18	-0.37	0.5	-0.18	-0.37	0.00
45-17	-3.0	-3.2	-9.6	-0.17	-0.38	-23.2	-0.20	-0.34	-0.08
45-18	-1.0	-3.4	-13.9	-0.14	-0.50	-28.8	-0.23	-0.42	-0.15
45-19	-2.4	-1.8	-8.6	-0.12	-0.35	-20.0	-0.15	-0.32	-0.07
45-20	-1.7	-2.1	-5.0	-0.10	-0.19	-25.8	-0.11	-0.17	-0.04
67- 1	-7.9	0.8	23.8	0.74	-0.06	57.2	0.18	0.51	0.37

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REP. DIR. ALONG	NORMAL	SHEAR
67- 2	-9.3	1.0	23.3	0.70	-0.10	55.2	0.15	0.44	0.38
67- 3	-10.6	1.1	21.8	0.63	-0.15	52.8	0.14	0.35	0.37
67- 4	17.2	-4.3	-8.8	0.54	-0.18	63.4	-0.09	0.39	0.29
67- 5	-5.6	-7.3	11.4	0.43	-0.18	70.1	-0.11	0.36	0.20
67- 6	-4.7	-7.0	8.1	0.32	-0.18	71.9	-0.13	0.28	0.15
67- 7	-3.9	-3.7	4.2	0.14	-0.12	67.0	-0.08	0.10	0.09
67- 8	-2.1	-1.2	-0.3	-0.03	-0.07	46.8	-0.05	-0.05	0.02
67- 9	1.6	1.6	-3.6	0.04	-0.13	-22.6	0.02	-0.10	-0.06
67-10	3.4	2.0	-3.8	0.09	-0.11	-29.1	0.04	-0.06	-0.08
67-11	11.3	-5.4	5.1	0.67	0.03	-83.6	0.04	0.66	-0.07
67-12	10.8	-5.6	4.5	0.64	0.01	-83.2	0.02	0.63	-0.07
67-13	19.1	1.4	-3.9	0.63	0.02	-59.2	0.18	0.47	-0.27
67-14	-4.7	12.2	23.9	0.75	0.08	-65.0	0.20	0.63	-0.26
67-15	15.5	-3.4	3.6	0.74	0.08	-77.7	0.11	0.71	-0.14
67-16	10.6	-3.0	6.9	0.65	0.10	-85.5	0.10	0.64	-0.04
67-17	10.3	-1.7	3.3	0.50	0.08	-78.9	0.10	0.49	-0.08
67-18	11.1	-0.3	-0.2	0.42	0.05	-67.7	0.10	0.37	-0.13
67-19	8.2	0.6	-2.0	0.27	0.00	-58.0	0.08	0.19	-0.12
67-20	5.0	1.3	-1.4	0.15	0.00	-49.9	0.07	0.09	-0.07
90- 1	16.9	3.9	-9.4	0.46	-0.14	-89.8	-0.14	0.46	-0.00
90- 2	-0.1	-11.4	-0.2	0.25	-0.27	-89.9	-0.27	0.25	-0.00
90- 3	-4.1	-13.5	-3.9	0.05	-0.39	89.7	-0.39	0.05	0.00
90- 4	-7.3	-13.6	-7.1	-0.16	-0.46	89.6	-0.46	-0.16	0.00
90- 5	-8.7	-10.1	-8.5	-0.33	-0.40	88.1	-0.40	-0.33	0.00
90- 6	-8.2	-5.5	-8.1	-0.29	-0.41	0.5	-0.29	-0.41	0.00
90- 7	-6.7	-1.5	-6.4	-0.16	-0.40	0.8	-0.17	-0.40	0.00
90- 8	-4.7	1.5	-4.6	-0.06	-0.34	0.3	-0.05	-0.34	0.00
90- 9	-3.0	2.9	-2.7	0.01	-0.25	0.6	0.01	-0.25	0.00
90-10	-1.7	3.7	-1.4	0.05	-0.19	0.6	0.05	-0.19	0.00
90-11	-9.6	6.5	25.7	0.75	-0.07	-87.6	-0.06	0.75	-0.03
90-12	11.1	-8.0	11.1	0.91	0.04	90.0	0.04	0.91	0.00
90-13	13.5	-4.9	16.0	1.09	0.18	88.2	0.18	1.08	0.03
90-14	18.1	-1.8	17.2	1.21	0.31	-89.3	0.31	1.21	-0.01
90-15	16.0	-0.4	18.4	1.14	0.33	88.0	0.33	1.14	0.03
90-16	13.7	0.6	12.6	0.85	0.27	-88.8	0.27	0.85	-0.01
90-17	9.1	0.9	11.6	0.67	0.22	86.2	0.22	0.66	0.03
90-18	8.0	1.2	8.9	0.53	0.20	88.2	0.20	0.53	0.01
90-19	6.2	1.4	6.5	0.39	0.16	89.1	0.16	0.39	0.00
90-20	4.5	2.1	4.9	0.26	0.14	88.1	0.14	0.26	0.00
180- 1	-6.0	0.2	6.6	0.16	-0.13	45.4	0.01	0.02	0.15
180- 2	-7.1	0.9	8.0	0.19	-0.16	43.4	0.03	0.01	0.17
180- 3	-6.0	0.2	6.6	0.16	-0.13	45.4	0.01	0.02	0.15
180- 4	-4.6	-0.1	4.8	0.11	-0.10	46.7	-0.00	0.01	0.11
180- 5	-3.7	0.2	4.2	0.10	-0.08	45.2	0.01	0.01	0.09
180- 6	2.7	0.5	-2.8	0.06	-0.06	49.8	-0.01	0.01	0.06
180- 7	-1.2	0.1	1.8	0.05	-0.02	49.2	0.01	0.02	0.03
180- 8	0.6	0.1	-0.1	0.02	0.00	-54.3	0.01	0.01	-0.01
180- 9	3.8	0.1	-3.2	0.09	-0.07	-46.7	0.01	0.02	-0.08
180-10	4.2	-0.1	-3.6	0.10	-0.08	-47.9	0.00	0.02	-0.09
180-11	1.6	0.2	-1.1	0.04	-0.02	-45.0	0.01	0.01	-0.03
180-12	4.4	-0.4	-4.6	0.10	-0.11	-46.9	-0.01	0.00	-0.10
180-13	4.8	-0.7	-5.2	0.11	-0.13	-48.0	-0.02	0.00	-0.12
180-14	4.2	0.2	-4.8	0.09	-0.12	-42.0	-0.00	-0.02	-0.10
180-15	4.5	-0.1	-5.4	0.09	-0.13	-43.0	-0.01	-0.03	0.11
180-16	-5.1	-0.5	4.5	0.10	-0.12	-83.7	-0.01	-0.02	-0.11
180-17	5.0	-0.2	-5.8	0.11	-0.14	-44.2	-0.01	-0.02	-0.12
180-18	4.3	0.1	-5.2	0.09	-0.13	-41.6	-0.01	-0.03	-0.11
180-19	3.0	-0.1	-4.4	0.06	-0.12	-40.7	-0.02	-0.04	-0.08
180-20	1.0	-0.6	-2.4	0.01	-0.07	-43.7	-0.03	-0.03	-0.04
202- 1	-4.0	-10.9	-10.5	-0.20	-0.43	-69.2	-0.40	-0.23	-0.08
202- 2	-6.8	-10.1	-8.0	-0.25	-0.38	-84.0	-0.39	-0.25	-0.01
202- 3	-7.0	-8.5	-5.6	-0.22	-0.32	81.6	-0.32	-0.22	0.02
202- 4	-5.5	-6.5	-5.2	-0.20	-0.26	86.3	-0.25	-0.20	0.00
202- 5	-4.0	-5.1	-5.7	-0.19	-0.23	-52.3	-0.21	-0.20	-0.02
202- 6	-6.5	-5.4	-3.7	-0.19	-0.25	-29.5	-0.20	-0.24	-0.03
202- 7	-3.1	-1.8	-5.1	-0.12	-0.23	-11.2	-0.12	-0.23	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-2.1	0.2	-4.0	-0.05	-0.21	-8.2	-0.06	-0.21	-0.02
202- 9	-0.5	2.5	-2.7	0.03	-0.17	-7.8	0.03	-0.16	-0.03
202-10	0.8	3.8	-1.9	0.08	-0.13	-8.7	0.08	-0.12	-0.03
202-11	-5.2	-5.7	0.1	-0.02	-0.21	69.7	-0.18	-0.04	0.06
202-12	0.8	-0.2	1.1	0.07	0.01	86.3	0.01	0.07	0.00
202-13	4.1	2.1	2.2	0.17	0.10	-68.7	0.11	0.16	-0.02
202-14	6.6	2.0	3.3	0.29	0.13	-74.9	0.15	0.28	-0.04
202-15	10.4	3.2	3.4	0.41	0.18	-68.3	0.21	0.38	-0.08
202-16	3.5	11.9	11.8	0.46	0.19	-62.9	0.25	0.41	-0.11
202-17	11.9	3.0	2.7	0.46	0.17	-66.6	0.21	0.41	-0.11
202-18	8.7	0.5	5.2	0.45	0.14	-82.5	0.15	0.45	-0.04
202-19	7.4	2.1	4.4	0.35	0.16	-79.1	0.17	0.34	-0.04
202-20	4.8	3.1	2.4	0.18	0.13	-56.9	0.14	0.17	-0.03
225- 1	5.5	-11.9	-32.5	-0.14	-1.02	-42.6	-0.54	-0.61	-0.44
225- 2	3.3	-10.3	-27.2	-0.16	-0.86	-41.9	-0.47	-0.55	-0.35
225- 3	0.7	-12.1	-25.1	-0.22	-0.82	-44.8	-0.52	-0.52	-0.30
225- 4	-0.0	-13.4	-23.6	-0.23	-0.78	-48.9	-0.54	-0.47	-0.27
225- 5	-0.4	-13.4	-22.0	-0.22	-0.73	-50.8	-0.53	-0.43	-0.25
225- 6	-18.5	-7.6	-0.5	-0.19	-0.62	-36.1	-0.34	-0.47	-0.20
225- 7	-4.2	-1.6	-12.0	-0.17	-0.52	-15.4	-0.20	-0.50	-0.39
225- 8	-4.6	-0.3	-5.6	-0.11	-0.33	-2.9	-0.11	-0.33	-0.01
225- 9	-4.8	0.9	-1.2	-0.03	-0.23	12.5	-0.04	-0.22	0.04
225-10	-3.8	2.3	1.1	0.04	-0.16	17.0	0.03	-0.14	0.06
225-11	-23.6	-10.0	5.7	-0.04	-0.72	47.0	-0.41	-0.36	0.34
225-12	-17.6	-7.4	6.3	0.04	-0.52	49.3	-0.28	-0.20	0.28
225-13	-4.0	3.3	10.2	0.30	-0.03	44.1	0.14	0.13	0.16
225-14	1.4	5.6	10.9	0.37	0.15	48.3	0.25	0.28	0.11
225-15	7.8	2.2	6.0	0.41	0.19	-84.7	0.19	0.41	-0.02
225-16	9.4	11.0	4.8	0.41	0.20	89.6	0.20	0.41	0.00
225-17	5.3	2.3	8.4	0.41	0.18	80.7	0.19	0.40	0.04
225-18	2.3	2.6	12.5	0.48	0.15	66.6	0.21	0.43	0.12
225-19	3.3	2.2	7.7	0.33	0.15	73.3	0.16	0.31	0.05
225-20	2.1	1.8	4.5	0.18	0.10	70.5	0.11	0.17	0.03
247- 1	6.9	2.4	-20.9	0.09	-0.69	-28.0	-0.08	-0.52	-0.32
247- 2	8.9	-0.4	-22.8	0.10	-0.69	-33.7	-0.15	-0.45	-0.37
247- 3	10.0	-2.0	-21.7	0.13	-0.63	-38.2	-0.15	-0.34	-0.37
247- 4	-16.5	4.4	7.8	0.16	-0.53	-27.8	0.01	-0.38	-0.28
247- 5	4.6	7.3	-11.5	0.16	-0.46	-18.4	0.10	-0.40	-0.19
247- 6	4.7	6.1	-9.9	0.15	-0.37	-20.1	0.09	-0.31	-0.17
247- 7	2.9	3.5	-5.8	0.09	-0.21	-20.9	0.05	-0.18	-0.10
247- 8	1.1	1.2	-1.0	0.04	-0.03	-20.9	0.03	-0.03	-0.02
247- 9	-2.9	-1.7	3.5	0.10	-0.08	60.5	-0.03	0.05	0.07
247-10	-3.5	-2.1	3.4	0.09	-0.09	60.5	-0.05	0.05	0.08
247-11	-12.4	4.1	-3.8	-0.05	-0.64	9.7	-0.07	-0.63	0.10
247-12	-8.7	5.3	-2.3	0.02	-0.49	8.3	0.01	-0.48	0.07
247-13	-17.6	-0.8	4.5	0.01	-0.57	31.4	-0.15	-0.41	0.26
247-14	4.6	-12.8	-20.1	-0.02	-0.64	19.0	-0.09	-0.58	0.19
247-15	-13.9	3.4	-2.0	-0.05	-0.64	13.8	-0.08	-0.60	0.14
247-16	-7.9	3.5	-7.0	-0.06	-0.57	1.1	-0.07	-0.57	0.01
247-17	-6.7	1.5	-1.7	-0.04	-0.33	11.8	-0.05	-0.31	0.06
247-18	-8.7	-0.7	1.9	-0.01	-0.28	31.2	-0.08	-0.21	0.12
247-19	-6.6	-0.9	3.3	0.05	-0.18	40.8	-0.05	-0.09	0.11
247-20	-4.2	-0.9	2.5	0.04	-0.12	44.9	-0.04	-0.04	0.08
270- 1	-17.8	-4.8	7.8	0.08	-0.51	-0.3	0.09	-0.51	-0.00
270- 2	-1.7	9.9	-1.3	0.20	-0.33	0.6	0.20	-0.33	0.01
270- 3	2.0	11.0	2.5	0.30	-0.11	0.7	0.30	-0.11	0.00
270- 4	4.9	11.5	6.2	0.38	0.10	3.1	0.38	0.10	0.01
270- 5	7.5	10.6	8.3	0.40	0.27	4.1	0.40	0.28	0.01
270- 6	7.4	5.5	7.7	0.37	0.28	87.9	0.28	0.37	0.00
270- 7	6.1	1.7	6.1	0.36	0.16	89.9	0.15	0.36	0.00
270- 8	4.0	-1.9	3.8	0.30	0.03	-89.5	0.03	0.30	-0.00
270- 9	2.4	-3.5	2.5	0.24	-0.03	89.7	-0.03	0.24	0.00
270-10	1.3	-4.2	0.8	0.17	-0.08	-88.8	-0.08	0.17	-0.01
270-11	-0.6	-0.3	-0.3	-0.02	-0.03	65.7	-0.02	-0.02	0.00
270-12	-10.5	7.5	-10.4	-0.03	-0.86	0.1	-0.03	-0.86	0.00
270-13	-14.0	4.5	-12.6	-0.16	-0.98	1.1	-0.16	-0.98	0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	DIR. SHEAR
270-14	-15.6	2.6	-16.2	-0.25	-1.11	-0.5	-0.25	-1.11	-0.01
270-15	-15.2	-0.9	-15.4	-0.32	-0.99	-0.2	-0.32	-0.99	-0.00
270-16	-13.9	-2.1	-11.3	-0.29	-0.78	3.5	-0.30	-0.78	0.03
270-17	-9.9	-2.3	-9.0	-0.24	-0.57	1.8	-0.24	-0.57	0.01
270-18	-7.1	-1.8	-6.5	-0.18	-0.41	1.6	-0.18	-0.41	0.01
270-19	-5.0	-1.3	-4.8	-0.13	-0.29	0.9	-0.13	-0.29	0.00
270-20	-3.6	-1.2	-3.9	-0.10	-0.22	-1.4	-0.10	-0.22	-0.00
0- 6	-2.1	0.7	3.4	0.09	-0.04	43.8	0.03	0.02	0.06
11- 1	1.2	2.5	3.9	0.14	0.08	45.5	0.11	0.11	0.03
22- 6	8.4	6.8	3.6	0.32	0.20	-35.5	0.28	0.24	-0.06
33- 1	16.0	8.2	2.9	0.56	0.25	-50.2	0.38	0.43	-0.15
45- 6	21.3	7.6	0.6	0.72	0.22	-54.0	0.39	0.55	-0.24
56- 1	22.9	2.5	-3.5	0.76	0.07	-59.3	0.25	0.58	-0.31
67- 4	17.2	-4.3	-8.8	0.54	-0.18	-61.6	-0.02	0.38	-0.30
78- 1	12.6	-4.1	-10.8	0.33	-0.26	-56.6	-0.09	0.15	-0.27
90- 1	16.9	3.9	-9.4	0.46	-0.14	-44.8	0.16	0.16	-0.30
0-16	4.8	-1.2	-6.2	0.10	-0.16	-47.4	-0.04	-0.02	-0.13
11-11	1.5	-6.5	-10.0	-0.04	-0.32	-55.7	-0.23	-0.13	-0.13
22-16	-5.7	-13.5	-11.9	-0.25	-0.51	-73.1	-0.49	-0.27	-0.07
33-11	-8.4	-13.3	-9.6	-0.29	-0.49	-85.8	-0.48	-0.29	-0.01
45-16	-8.5	-10.2	-4.3	-0.18	-0.37	75.5	-0.36	-0.19	0.05
56-11	-6.2	1.8	8.4	0.21	-0.12	42.3	0.06	0.03	0.17
67-14	-4.7	12.2	23.9	0.75	0.08	40.0	0.47	0.35	0.33
78-11	-6.5	16.5	29.1	0.91	0.00	36.9	0.60	0.37	0.41
90-11	-9.6	6.5	25.7	0.75	-0.07	47.4	0.31	0.38	0.41
180- 6	2.7	0.5	-2.8	0.06	-0.06	-40.2	0.01	-0.01	-0.06
191- 1	-0.1	-1.4	-3.8	-0.04	-0.13	-37.1	-0.07	-0.10	-0.04
202- 6	-6.5	-5.4	-3.7	-0.19	-0.25	50.5	-0.23	-0.21	0.03
213- 1	-12.0	-7.0	-2.2	-0.19	-0.42	44.2	-0.30	-0.31	0.11
225- 6	-18.5	-7.6	-0.5	-0.19	-0.62	38.9	-0.36	-0.45	0.21
236- 1	-21.7	-3.1	3.7	-0.06	-0.71	32.4	-0.25	-0.53	0.29
247- 4	-16.5	4.4	7.8	0.16	-0.53	27.2	0.01	-0.39	0.28
258- 1	-13.9	2.9	9.7	0.20	-0.39	33.4	0.03	-0.21	0.27
270- 1	-17.	-4.8	7.8	0.08	-0.51	44.7	-0.21	-0.22	0.30
180-16	-5.1	-0.5	4.5	0.10	-0.12	46.3	-0.02	-0.01	0.11
191-11	-3.0	5.5	9.4	0.29	-0.02	34.7	0.19	0.08	0.14
202-16	3.5	11.9	11.8	0.46	0.19	22.1	0.43	0.23	0.10
213-11	7.9	13.5	9.2	0.48	0.25	3.7	0.48	0.25	0.01
225-16	9.4	11.0	4.8	0.41	0.20	-15.4	0.39	0.22	-0.05
236-11	7.1	0.1	-6.8	0.17	-0.16	-45.3	0.00	0.01	-0.16
247-14	4.6	-12.8	-20.1	-0.02	-0.64	-56.0	-0.45	-0.22	-0.29
258-11	6.6	-13.1	-25.4	-0.02	-0.78	-51.5	-0.49	-0.32	-0.37
270-11	-0.6	-0.3	-0.3	-0.02	-0.03	20.7	-0.02	-0.02	0.00
400-01	0.1	0.2	-0.2	0.00	-0.01	26.1	0.00	-0.01	0.01
400-11	0.0	0.3	0.3	0.01	0.00	-18.9	0.01	0.00	-0.00
401-01	0.1	0.1	-0.0	0.01	0.00	-24.4	0.00	0.00	-0.00
401-02	7.7	-31.1					-0.06	-0.95	
401-03	0.1	-0.2					0.00	-0.01	
401-04	-8.5	30.0					0.02	0.91	
402-01	1.3	1.8	1.2	0.07	0.04	-3.0	0.07	0.04	-0.00
402-02	6.9	-30.1					-0.07	-0.92	
402-03	2.1	-3.3					0.04	-0.09	
402-04	-9.9	30.8					-0.02	0.92	
403-01	0.0	-0.0	-0.0	0.00	-0.00	-66.9	-0.00	0.00	-0.00
403-02	0.0	-0.0					0.00	-0.00	
403-03	-0.0	-0.0					-0.00	-0.00	
403-04	-0.0	0.0					0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, IN-PLANE MOMENT LOADING ON RUN, -822

NOMINAL LOAD = 6.208E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	9.2	13.3	12.1	0.53	0.39	14.0	0.52	0.39	0.03
0- 2	12.5	20.2	18.8	0.80	0.54	17.1	0.78	0.57	0.07
0- 3	11.8	17.8	16.1	0.70	0.50	14.7	0.69	0.51	0.05
0- 4	10.1	15.1	14.4	0.61	0.44	18.7	0.59	0.46	0.05
0- 5	11.2	16.7	13.7	0.64	0.43	8.3	0.53	0.44	0.03
0- 6	13.7	10.3	11.9	0.61	0.49	9.4	0.61	0.49	0.02
0- 7	12.7	15.4	13.8	0.62	0.52	7.2	0.52	0.52	0.01
0- 8	13.8	15.5	13.6	0.63	0.54	-1.9	0.63	0.54	-0.00
0- 9	16.6	17.2	16.0	0.72	0.68	-8.5	0.72	0.68	-0.01
0-10	15.4	10.4	14.7	0.75	0.54	-87.8	0.54	0.75	-0.01
0-11	3.3	-2.6	1.8	0.23	-0.01	-85.7	-0.01	0.23	-0.02
0-12	-7.5	-15.2	-6.4	-0.11	-0.49	88.2	-0.49	-0.11	0.01
0-13	-11.4	-10.4	-6.1	-0.30	-0.45	61.1	-0.41	-0.34	0.06
0-14	-12.3	-7.1	-7.1	-0.33	-0.50	22.6	-0.36	-0.47	0.06
0-15	-13.8	-9.2	-11.2	-0.45	-0.62	11.0	-0.46	-0.61	0.03
0-16	-13.1	-19.4	-15.5	-0.49	-0.73	6.6	-0.49	-0.73	0.03
0-17	-16.6	-9.0	-16.0	-0.53	-0.87	1.3	-0.53	-0.87	0.01
0-18	-18.0	-6.4	-18.7	-0.51	-1.06	-0.8	-0.51	-1.06	-0.01
0-19	-19.9	-9.3	-21.6	-0.62	-1.16	-2.1	-0.53	-1.16	-0.02
0-20	-16.5	-15.6	-17.1	-0.69	-0.75	-7.2	-0.69	-0.75	-0.01
22- 1	-1.9	11.3	30.7	1.00	0.23	50.4	0.55	0.59	0.38
22- 2	-1.2	12.7	32.9	1.08	0.28	50.2	0.61	0.75	0.39
22- 3	-0.8	15.9	35.0	1.14	0.32	46.9	0.70	0.76	0.41
22- 4	-0.4	18.2	35.2	1.16	0.33	43.7	0.76	0.73	0.41
22- 5	0.5	20.6	36.5	1.21	0.38	41.7	0.84	0.75	0.42
22- 6	36.3	17.0	1.1	1.21	0.39	52.2	0.70	0.90	0.40
22- 7	6.8	10.2	31.1	1.16	0.47	62.9	0.61	1.02	0.28
22- 8	6.4	11.7	29.2	1.06	0.46	59.0	0.62	0.90	0.26
22- 9	10.1	12.4	21.2	0.82	0.52	60.2	0.60	0.75	0.13
22-10	13.6	7.3	12.3	0.69	0.43	-86.7	0.43	0.69	-0.01
22-11	7.2	6.9	-2.4	0.25	-0.05	-23.4	0.21	-0.00	-0.11
22-12	1.0	-3.8	-7.7	-0.04	-0.24	-47.8	-0.15	-0.13	-0.10
22-13	-3.4	-7.3	-10.2	-0.21	-0.37	-49.3	-0.30	-0.28	-0.08
22-14	-8.7	4.1*	-12.0	-0.11	-0.78	-3.3	-0.11	-0.77	-0.04
22-15	-14.7	-11.0	-14.3	-0.54	-0.70	1.5	-0.54	-0.70	0.00
22-16	-14.8	-21.6	-19.5	-0.62	-0.85	19.0	-0.65	-0.83	0.07
22-17	-18.4	-11.4	-18.6	-0.63	-0.96	-0.5	-0.63	-0.96	-0.00
22-18	-21.9	-4.5	-20.4	-0.52	-1.29	1.3	-0.52	-1.29	0.02
22-19	-26.3	-11.4	-14.6	-0.63	-1.12	16.4	-0.67	-1.08	0.13
22-20	-14.6	-9.8	-11.5	-0.48	-0.64	12.6	-0.48	-0.63	0.04
45- 1	-6.6	4.3	9.8	0.27	-0.13	35.7	0.13	0.00	0.19
45- 2	-9.4	6.2	18.4	0.52	-0.13	41.5	0.23	0.15	0.32
45- 3	-9.0	14.8	34.9	1.06	0.05	42.7	0.60	0.51	0.51
45- 4	-8.0	23.3	39.8	1.26	0.11	36.4	0.95	0.51	0.55
45- 5	-5.6	28.0	40.9	1.34	0.17	33.1	0.99	0.52	0.54
45- 6	35.7	3.7	-3.3	1.23	0.16	43.7	0.72	0.67	0.53
45- 7	-1.6	7.3	35.8	1.22	0.25	58.8	0.51	0.96	0.43
45- 8	0.9	7.5	24.1	0.83	0.24	56.7	0.42	0.65	0.27
45- 9	5.1	7.3	8.9	0.35	0.26	41.1	0.31	0.30	0.04
45-10	6.9	3.4	0.5	0.23	0.08	-47.2	0.15	0.16	-0.07
45-11	6.1	6.8	7.3	0.30	0.27	41.4	0.29	0.29	0.01
45-12	11.3	7.2	5.4	0.43	0.29	-55.7	0.33	0.38	-0.07
45-13	4.9	-2.5	1.9	0.28	0.00	-82.8	0.01	0.28	-0.04
45-14	3.1	-4.9	-5.5	0.08	-0.18	-65.5	-0.14	0.03	-0.10
45-15	3.8	-4.5	-5.7	0.09	-0.18	-63.5	-0.12	0.04	-0.11
45-16	-3.0	7.3	3.5	0.19	-0.17	-62.7	-0.09	0.11	-0.15
45-17	-1.6	-6.8	1.0	0.14	-0.17	84.3	-0.16	0.14	0.03
45-18	-3.6	-1.0	-5.9	-0.11	-0.29	-8.4	-0.12	-0.29	-0.03
45-19	-0.6	-1.0	-7.8	-0.07	-0.29	-24.0	-0.11	-0.26	-0.08
45-20	5.0	-0.2	-7.4	0.09	-0.20	-40.3	-0.03	-0.08	-0.14
67- 1	-11.3	-0.4	4.3	0.04	-0.34	34.2	-0.09	-0.22	0.18

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-17.0	-0.8	11.7	0.22	-0.45	41.4	-0.07	-0.16	0.33
67- 3	-21.0	-2.1	14.4	0.27	-0.55	43.1	-0.11	-0.17	0.41
67- 4	6.6	-18.8	-16.5	0.21	-0.63	54.8	-0.35	-0.07	0.39
67- 5	-20.3	-16.5	7.7	0.13	-0.67	63.1	-0.51	-0.03	0.32
67- 6	-20.0	-18.0	5.0	0.05	-0.70	65.0	-0.56	-0.08	0.29
67- 7	-20.2	-14.2	1.2	-0.14	-0.68	57.0	-0.52	-0.30	0.25
67- 8	-19.8	-10.3	-3.6	-0.31	-0.69	40.3	-0.47	-0.53	0.19
67- 9	-13.9	-4.3	-9.6	-0.32	-0.68	7.9	-0.33	-0.68	0.05
67-10	-7.1	-3.1	-12.8	-0.26	-0.60	-11.1	-0.27	-0.59	-0.07
67-11	-2.5	-2.7	16.5	0.61	-0.02	67.8	0.07	0.52	0.22
67-12	3.0	-3.6	20.0	0.89	0.09	75.3	0.15	0.84	0.20
67-13	20.4	-3.6	6.4	1.00	0.15	-78.7	0.18	0.96	-0.16
67-14	1.9	31.1	33.3	1.23	0.28	-80.3	0.30	1.21	-0.16
67-15	16.9	-3.3	21.2	1.33	0.30	87.3	0.30	1.33	0.05
67-16	12.7	1.1	30.1	1.43	0.41	78.5	0.45	1.39	0.20
67-17	15.3	2.0	26.4	1.35	0.44	81.8	0.46	1.33	0.13
67-18	20.2	1.8	19.5	1.27	0.43	-89.4	0.43	1.27	-0.01
67-19	22.1	1.5	10.4	1.06	0.33	-79.2	0.36	1.04	-0.13
67-20	21.2	4.2	4.1	0.82	0.26	-67.3	0.35	0.74	-0.20
90- 1	-4.4	-4.9	-5.7	-0.20	-0.23	-83.8	-0.23	-0.20	-0.00
90- 2	-8.7	-13.1	-9.5	-0.29	-0.48	-87.3	-0.48	-0.29	-0.01
90- 3	-14.2	-22.5	-15.0	-0.44	-0.81	-88.5	-0.81	-0.44	-0.01
90- 4	-20.1	-30.2	-21.3	-0.67	-1.11	-88.2	-1.11	-0.67	-0.01
90- 5	-23.3	-28.5	-24.6	-0.92	-1.13	-86.1	-1.13	-0.92	-0.01
90- 6	-24.0	-22.6	-25.9	-1.01	-1.13	-11.0	-1.01	-1.12	-0.02
90- 7	-23.7	-17.2	-24.7	-0.88	-1.20	-2.2	-0.88	-1.20	-0.01
90- 8	-20.4	-10.0	-21.6	-0.65	-1.15	-1.6	-0.65	-1.15	-0.01
90- 9	-18.0	-7.4	-18.8	-0.54	-1.04	-1.1	-0.54	-1.04	-0.01
90-10	-16.0	-6.5	-16.6	-0.47	-0.93	-0.7	-0.47	-0.93	-0.01
90-11	-6.8	-0.0	11.5	0.32	-0.12	-82.8	-0.11	0.31	-0.05
90-12	11.1	-6.2	9.1	0.81	0.06	-88.3	0.06	0.81	-0.02
90-13	19.4	-3.3	20.1	1.38	0.31	89.6	0.31	1.38	0.01
90-14	31.0	-0.2	27.8	1.95	0.58	-88.5	0.58	1.95	-0.04
90-15	31.0	-0.7	33.7	2.15	0.62	88.8	0.62	2.15	0.03
90-16	30.4	-0.7	26.8	1.90	0.55	-88.2	0.55	1.90	-0.04
90-17	24.2	-0.4	30.2	1.81	0.52	86.9	0.53	1.80	0.07
90-18	24.4	0.4	26.7	1.68	0.51	88.7	0.51	1.68	0.03
90-19	22.5	1.3	22.9	1.47	0.48	89.7	0.48	1.47	0.00
90-20	18.6	4.1	20.0	1.18	0.48	88.6	0.48	1.18	0.02
180- 1	10.5	13.3	9.7	0.51	0.36	-3.5	0.51	0.36	-0.01
180- 2	18.0	22.9	16.0	0.87	0.59	-4.9	0.87	0.59	-0.02
180- 3	16.7	20.1	14.3	0.77	0.55	-7.2	0.77	0.56	-0.03
180- 4	14.0	16.5	11.3	0.64	0.45	-9.6	0.63	0.45	-0.03
180- 5	14.1	16.8	11.5	0.65	0.45	-8.9	0.64	0.46	-0.03
180- 6	11.9	10.1	13.9	0.62	0.48	-10.1	0.62	0.49	-0.02
180- 7	14.3	15.7	12.6	0.63	0.52	-10.4	0.63	0.53	-0.02
180- 8	14.5	15.2	13.0	0.63	0.55	-14.0	0.62	0.55	-0.02
180- 9	17.6	15.9	16.8	0.77	0.71	-80.5	0.71	0.77	-0.01
180-10	15.6	10.4	15.3	0.78	0.55	-89.3	0.55	0.78	-0.00
180-11	3.5	-0.6	3.6	0.25	0.06	89.6	0.06	0.25	0.00
180-12	-7.1	-17.1	-5.7	-0.03	-0.52	88.1	-0.52	-0.03	0.02
180-13	-9.6	-12.1	-8.6	-0.32	-0.46	85.5	-0.46	-0.32	0.01
180-14	-9.9	-7.7	-9.5	-0.37	-0.46	2.3	-0.37	-0.46	0.00
180-15	-10.7	-8.4	-12.5	-0.42	-0.58	-7.7	-0.42	-0.57	-0.02
180-16	-11.6	-16.1	-11.7	-0.40	-0.60	0.3	-0.40	-0.50	0.00
180-17	-13.4	-8.7	-14.2	-0.47	-0.71	-2.2	-0.47	-0.71	-0.01
180-18	-17.7	-5.0	-18.1	-0.47	-1.07	-0.5	-0.47	-1.07	-0.01
180-19	-20.8	-11.5	-21.6	-0.68	-1.13	-1.2	-0.68	-1.13	-0.01
180-20	-16.4	-16.2	-18.4	-0.71	-0.78	-20.6	-0.72	-0.77	-0.02
202- 1	-2.2	11.3	31.9	1.04	0.23	50.9	0.55	0.72	0.39
202- 2	-0.5	13.4	35.1	1.16	0.32	51.2	0.65	0.83	0.41
202- 3	0.0	13.4	33.5	1.11	0.32	50.6	0.64	0.80	0.39
202- 4	-0.3	16.5	34.7	1.14	0.33	46.2	0.72	0.75	0.40
202- 5	0.9	19.6	37.1	1.23	0.40	44.1	0.83	0.80	0.42
202- 6	36.1	16.5	2.7	1.22	0.44	50.1	0.76	0.90	0.39
202- 7	6.2	10.8	32.2	1.18	0.46	61.4	0.63	1.01	0.30

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	8.4	11.5	28.5	1.07	0.51	62.4	0.63	0.95	0.23
202- 9	11.8	10.6	19.9	0.83	0.53	71.2	0.56	0.80	0.09
202-10	14.7	6.4	11.7	0.73	0.40	-83.9	0.41	0.72	-0.03
202-11	8.5	6.8	-2.0	0.28	-0.01	-28.1	0.22	0.06	-0.12
202-12	0.2	-5.9	-6.4	-0.03	-0.23	-65.3	-0.20	-0.07	-0.08
202-13	-4.6	-10.1	-10.3	-0.23	-0.41	-66.6	-0.38	-0.26	-0.07
202-14	-10.1	-9.1	-11.6	-0.42	-0.51	-11.6	-0.42	-0.50	-0.02
202-15	-18.4	-11.9	-14.1	-0.59	-0.81	13.0	-0.60	-0.80	0.05
202-16	-16.7	-26.7	-22.9	-0.67	-1.02	17.1	-0.70	-0.99	0.10
202-17	-23.5	-12.5	-15.8	-0.65	-1.03	14.1	-0.68	-1.01	0.09
202-18	-25.4	-7.7	-21.8	-0.64	-1.38	3.2	-0.64	-1.38	0.04
202-19	-25.8	-11.7	-17.9	-0.68	-1.19	10.7	-0.70	-1.17	0.09
202-20	-15.4	-11.3	-14.3	-0.55	-0.72	4.3	-0.55	-0.72	0.01
225- 1	-8.1	6.3	17.8	0.51	-0.09	41.9	0.24	0.17	0.30
225- 2	-9.8	8.4	25.8	0.76	-0.07	44.4	0.35	0.34	0.41
225- 3	-10.3	16.5	39.0	1.18	0.04	42.5	0.66	0.56	0.57
225- 4	-9.6	23.3	43.9	1.37	0.10	38.5	0.88	0.59	0.62
225- 5	-7.4	27.2	44.1	1.41	0.16	35.5	0.99	0.58	0.59
225- 6	37.8	5.7	-5.3	1.25	0.14	47.0	0.66	0.74	0.55
225- 7	-0.1	4.0	32.6	1.17	0.22	63.5	0.41	0.98	0.38
225- 8	3.4	7.3	23.0	0.83	0.30	60.5	0.43	0.70	0.23
225- 9	8.2	9.1	11.1	0.45	0.38	55.0	0.40	0.43	0.03
225-10	8.5	4.3	2.4	0.31	0.16	-55.4	0.21	0.26	-0.07
225-11	13.4	9.2	3.3	0.47	0.26	-39.9	0.39	0.34	-0.12
225-12	14.8	8.1	2.3	0.51	0.22	-47.0	0.36	0.38	-0.14
225-13	4.0	-4.4	-1.9	0.19	-0.10	-75.9	-0.08	0.17	-0.07
225-14	-3.0	-9.0	-4.3	-0.03	-0.28	-86.5	-0.26	-0.03	-0.01
225-15	0.1	-5.4	-7.8	-0.07	-0.26	-55.9	-0.20	-0.13	-0.09
225-16	-3.6	2.7	-2.2	0.01	-0.26	-71.6	-0.23	-0.02	-0.08
225-17	-2.9	-7.5	-2.4	-0.00	-0.22	88.4	-0.22	-0.00	0.01
225-18	-7.0	-1.3	-8.5	-0.18	-0.48	-3.4	-0.18	-0.48	-0.02
225-19	-4.2	-2.1	-9.8	-0.17	-0.43	-14.7	-0.19	-0.42	-0.06
225-20	2.8	-1.0	-9.3	0.01	-0.29	-34.6	-0.09	-0.19	-0.14
247- 1	-12.8	-1.4	7.4	0.12	-0.35	41.5	-0.09	-0.14	0.23
247- 2	-18.9	-1.1	15.5	0.33	-0.47	44.1	-0.06	-0.08	0.40
247- 3	-22.6	-0.9	18.9	0.40	-0.56	43.6	-0.06	-0.10	0.48
247- 4	9.6	-20.4	-17.4	0.33	-0.66	54.7	-0.33	-0.00	0.46
247- 5	-21.4	-19.0	11.7	0.29	-0.71	65.2	-0.53	0.12	0.38
247- 6	-22.6	-18.2	10.8	0.23	-0.73	63.2	-0.54	0.03	0.39
247- 7	-21.0	-15.5	6.5	0.06	-0.68	60.5	-0.50	-0.12	0.32
247- 8	-19.0	-12.3	-1.3	-0.23	-0.65	51.6	-0.48	-0.39	0.20
247- 9	-10.0	-2.8	-9.5	-0.26	-0.58	1.1	-0.26	-0.58	0.01
247-10	-5.4	0.0	-10.3	-0.15	-0.53	-8.7	-0.16	-0.52	-0.06
247-11	-1.9	-1.7	18.4	0.68	0.03	67.3	0.12	0.58	0.23
247-12	4.5	-3.2	20.9	0.96	0.13	76.4	0.18	0.91	0.19
247-13	24.0	-3.2	7.9	1.16	0.20	-78.5	0.24	1.12	-0.19
247-14	6.6	38.6	32.8	1.38	0.31	-87.6	0.31	1.37	-0.04
247-15	19.2	-2.7	23.8	1.48	0.36	87.3	0.36	1.48	0.05
247-16	10.8	2.5	35.0	1.53	0.43	74.7	0.51	1.45	0.28
247-17	11.8	3.4	28.6	1.30	0.43	76.7	0.49	1.25	0.19
247-18	20.7	5.2	17.2	1.13	0.49	-86.3	0.49	1.13	-0.04
247-19	22.1	2.9	4.6	0.89	0.26	-70.1	0.33	0.82	-0.20
247-20	21.9	3.6	0.4	0.78	0.17	-62.6	0.30	0.65	-0.25
270- 1	-2.6	-2.7	-5.1	-0.13	-0.20	-68.7	-0.19	-0.14	-0.03
270- 2	-7.5	-12.8	-9.5	-0.26	-0.47	-83.4	-0.46	-0.26	-0.02
270- 3	-12.1	-20.5	-14.6	-0.40	-0.74	-84.9	-0.74	-0.41	-0.03
270- 4	-18.6	-28.4	-21.3	-0.66	-1.05	-85.4	-1.05	-0.66	-0.03
270- 5	-24.7	-33.7	-27.0	-0.92	-1.29	-85.9	-1.29	-0.93	-0.03
270- 6	-26.5	-25.6	-26.5	-1.11	-1.16	-0.5	-1.11	-1.16	-0.00
270- 7	-25.8	-19.9	-25.2	-0.96	-1.22	1.5	-0.98	-1.22	0.01
270- 8	-22.6	-11.9	-21.3	-0.71	-1.17	1.9	-0.71	-1.17	0.02
270- 9	-18.8	-6.3	-17.7	-0.51	-1.06	1.3	-0.51	-1.06	0.01
270-10	-15.6	-3.2	-14.7	-0.37	-0.92	1.1	-0.37	-0.92	0.01
270-11	1.4*	3.3*	3.3*	0.13	0.07	67.6	0.09	0.12	0.02
270-12	13.0	-6.2	13.2	1.01	0.12	89.9	0.12	1.01	0.00
270-13	23.3	-3.0	21.9	1.56	0.38	-89.2	0.38	1.56	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	31.8	-1.8	33.3	2.19	0.60	89.4	0.60	2.19	0.02
270-15	34.5	3.0	35.5	2.24	0.76	89.6	0.76	2.24	0.01
270-16	35.3	3.2	29.5	2.06	0.71	-87.1	0.72	2.06	-0.07
270-17	28.9	3.3	27.6	1.79	0.63	-89.2	0.63	1.79	-0.02
270-18	24.2	2.0	23.7	1.53	0.52	-89.6	0.52	1.53	-0.01
270-19	20.4	0.7	20.4	1.33	0.42	90.0	0.42	1.33	0.00
270-20	16.9	1.1	19.5	1.17	0.38	87.9	0.38	1.17	0.03
0- 6	13.7	10.3	11.9	0.61	0.49	-80.6	0.49	0.61	-0.02
11- 1	24.1	1.3	3.9	0.84	0.36	-49.6	0.56	0.64	-0.23
22- 6	36.3	17.0	1.1	1.21	0.39	-47.8	0.76	0.84	-0.41
33- 1	40.6	12.4	0.5	1.38	0.38	-56.1	0.69	1.07	-0.46
45- 6	35.7	3.7	-3.3	1.23	0.16	-61.3	0.41	0.98	-0.45
56- 1	23.9	-9.9	-10.8	0.83	-0.27	-66.8	-0.10	0.66	-0.40
67- 4	6.6	-18.8	-16.5	0.21	-0.63	-70.2	-0.53	0.11	-0.27
78- 1	-3.0	-14.7	-13.5	-0.16	-0.54	-70.4	-0.50	-0.20	-0.12
90- 1	-4.4	-4.9	-5.7	-0.20	-0.23	-38.8	-0.21	-0.22	-0.02
0-16	-13.1	-19.4	-15.5	-0.49	-0.73	-83.4	-0.73	-0.49	-0.03
11-11	-14.7	-25.3	-21.8	-0.60	-0.96	-76.7	-0.94	-0.62	-0.08
22-16	-14.8	-21.6	-19.5	-0.62	-0.85	-76.0	-0.84	-0.63	-0.05
33-11	-8.0	-7.7	-11.6	-0.36	-0.48	-20.6	-0.37	-0.47	-0.04
45-16	-3.0	7.3	3.5	0.19	-0.17	12.3	0.17	-0.15	0.07
56-11	4.6	26.1	18.9	0.87	0.13	13.3	0.83	0.17	0.17
67-14	1.9	31.1	33.3	1.23	0.28	24.7	1.07	0.44	0.36
78-11	-2.9	20.9	25.6	0.88	0.09	28.1	0.71	0.27	0.33
90-11	-6.8	-0.0	11.5	0.32	-0.12	52.2	0.05	0.15	0.21
180- 6	11.9	10.1	13.9	0.62	0.48	79.9	0.49	0.62	0.02
191- 1	24.7	15.4	7.4	0.89	0.49	-47.0	0.57	0.70	-0.20
202- 6	36.1	16.5	2.7	1.22	0.44	-49.9	0.76	0.90	-0.39
213- 1	36.8	12.3	-1.1	1.22	0.31	-53.1	0.64	0.89	-0.44
225- 6	37.8	5.7	-5.3	1.25	0.14	-58.0	0.45	0.94	-0.50
236- 1	28.5	-9.2	-13.2	0.95	-0.29	-64.5	-0.06	0.72	-0.48
247- 4	9.6	-20.4	-17.4	0.33	-0.66	-70.3	-0.55	0.21	-0.31
258- 1	-1.0	-14.6	-13.7	-0.09	-0.54	-69.5	-0.48	-0.1	-0.15
270- 1	-2.6	-2.7	-5.1	-0.13	-0.20	-23.7	-0.14	-0.19	-0.03
180-16	-11.6	-16.1	-11.7	-0.40	-0.60	-89.7	-0.60	-0.40	-0.00
191-11	-20.3	-32.3	-21.7	-0.64	-1.16	-88.2	-1.16	-0.64	-0.02
202-16	-16.7	-26.7	-22.9	-0.67	-1.02	-77.9	-1.01	-0.69	-0.07
213-11	-8.9	-12.1	-14.5	-0.44	-0.57	-49.2	-0.51	-0.49	-0.06
225-16	-3.6	2.7	-2.2	0.01	-0.26	3.4	0.01	-0.26	0.02
236-11	5.3	27.2	19.0	0.90	0.14	12.3	0.87	0.18	0.16
247-14	6.6	38.6	32.8	1.38	0.31	17.4	1.29	0.41	0.30
258-11	-2.9	23.2	29.6	1.01	0.13	29.4	0.80	0.34	0.38
270-11	1.4*	3.3*	3.3*	0.13	0.07	22.6	0.12	0.08	0.02
400-01	-23.6	-3.7	14.6	0.25	-0.63	88.8	-0.63	0.25	0.02
400-11	-2.7	-13.2	-23.0	-0.32	-0.78	88.9	-0.78	-0.32	0.01
401-01	7.2	25.1	8.6	0.74	-0.06	1.2	0.73	-0.06	0.02
401-02	1.5	3.3					0.08	0.12	
401-03	5.5	-28.7					-0.10	-0.89	
401-04	1.8	1.6					0.08	0.07	
402-01	8.9	27.6	8.9	0.81	-0.05	-0.0	0.81	-0.05	-0.00
402-02	1.1	3.7					0.07	0.13	
402-03	5.5	-27.5					-0.09	-0.85	
402-04	2.8	-2.3					0.07	-0.05	
403-01	-1.1	-2.2	-1.1	-0.02	-0.07	-89.5	-0.07	-0.02	-0.00
403-02	0.0	2.1					0.02	0.07	
403-03	-0.1	-2.0					-0.02	-0.07	
403-04	-0.1	1.9					0.02	0.06	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, AXIAL FORCE LOADING ON RUB, F2X

NOMINAL LOAD = 9.566E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIP. SHEAR
0- 1	1.8	3.6	4.8	0.18	0.11	39.2	0.15	0.13	0.03
0- 2	3.3	6.7	7.9	0.30	0.18	31.8	0.27	0.21	0.05
0- 3	3.4	6.6	7.1	0.28	0.17	26.9	0.26	0.19	0.04
0- 4	3.1	5.9	6.5	0.25	0.16	27.9	0.23	0.18	0.04
0- 5	3.7	6.9	6.2	0.26	0.16	16.4	0.26	0.17	0.03
0- 6	6.2	4.1	4.4	0.26	0.19	18.9	0.25	0.20	0.02
0- 7	5.1	6.7	6.2	0.27	0.22	14.2	0.27	0.22	0.01
0- 8	5.9	6.9	6.1	0.28	0.24	2.9	0.28	0.24	0.00
0- 9	7.5	7.8	7.1	0.33	0.30	-11.4	0.32	0.30	-0.00
0-10	7.4	4.7	6.5	0.35	0.24	-84.0	0.25	0.35	-0.01
0-11	2.9	-0.9	1.2	0.16	0.02	-82.1	0.02	0.16	-0.02
0-12	-2.1	-6.9	-2.6	0.00	-0.21	-88.5	-0.21	0.00	-0.01
0-13	-4.2	-4.9	-2.6	-0.11	-0.19	76.3	-0.18	-0.11	0.02
0-14	-4.9	-3.4	-3.1	-0.15	-0.20	28.7	-0.16	-0.18	0.02
0-15	-5.8	-4.2	-5.0	-0.20	-0.26	8.6	-0.20	-0.26	0.01
0-16	-6.1	-8.7	-6.7	-0.22	-0.33	3.9	-0.22	-0.33	0.01
0-17	-7.4	-4.1	-7.7	-0.24	-0.40	-1.1	-0.25	-0.40	0.00
0-18	-8.3	-2.8	-9.2	-0.24	-0.51	-2.1	-0.24	-0.51	-0.01
0-19	-9.4	-4.2	-10.7	-0.30	-0.57	-3.1	-0.30	-0.56	-0.01
0-20	-8.2	-7.8	-8.7	-0.35	-0.38	-9.8	-0.35	-0.38	-0.01
22- 1	-1.5	4.5	14.3	0.46	0.09	52.0	0.23	0.32	0.18
22- 2	-1.3	4.6	15.0	0.49	0.10	52.6	0.24	0.34	0.19
22- 3	-1.5	5.9	15.9	0.51	0.11	49.4	0.28	0.34	0.20
22- 4	-1.5	7.0	16.2	0.52	0.11	46.1	0.31	0.32	0.20
22- 5	-1.0	8.4	17.0	0.55	0.13	43.6	0.35	0.33	0.21
22- 6	17.1	7.8	-0.8	0.55	0.14	53.9	0.29	0.41	0.20
22- 7	2.1	3.4	14.3	0.53	0.17	64.1	0.24	0.46	0.14
22- 8	2.1	4.5	13.5	0.49	0.18	60.1	0.26	0.41	0.13
22- 9	4.1	5.2	9.8	0.37	0.22	60.7	0.26	0.34	0.07
22-10	6.1	3.2	5.6	0.31	0.19	-87.1	0.19	0.31	-0.01
22-11	4.3	4.3	-1.0	0.16	-0.02	-22.4	0.13	0.01	-0.06
22-12	0.8	-0.7	-2.8	-0.00	-0.09	-40.8	-0.04	-0.05	-0.04
22-13	-1.6	-2.6	-3.8	-0.09	-0.14	-42.7	-0.11	-0.12	-0.02
22-14	-4.2	0.3	-4.5	-0.08	-0.30	-0.9	-0.08	-0.30	-0.00
22-15	-7.3	-4.7	-5.8	-0.23	-0.33	11.3	-0.24	-0.32	0.02
22-16	-6.1	-1 .3	-9.8	-0.27	-0.41	24.5	-0.30	-0.39	0.05
22-17	-9.0	-4.7	-8.2	-0.28	-0.46	2.9	-0.28	-0.46	0.01
22-18	-10.3	-1.8	-9.6	-0.24	-0.62	1.2	-0.24	-0.52	0.01
22-19	-12.4	-5.2	-7.1	-0.30	-0.54	15.2	-0.31	-0.52	0.06
22-20	-6.9	-4.8	-5.7	-0.23	-0.31	10.7	-0.24	-0.31	0.01
45- 1	-4.5	6.1	13.7	0.41	-0.01	40.3	0.23	0.16	0.21
45- 2	-5.4	4.8	13.5	0.39	-0.04	43.0	0.19	0.16	0.22
45- 3	-4.6	8.1	19.4	0.59	0.04	43.3	0.33	0.30	0.28
45- 4	-4.1	11.7	20.8	0.66	0.06	37.6	0.41	0.28	0.29
45- 5	-3.1	13.5	21.1	0.69	0.09	34.8	0.49	0.28	0.28
45- 6	18.3	2.6	-2.1	0.61	0.08	45.8	0.34	0.35	0.27
45- 7	-0.5	2.5	16.9	0.59	0.11	61.6	0.22	0.48	0.20
45- 8	0.6	2.7	10.8	0.38	0.11	60.2	0.18	0.31	0.12
45- 9	2.5	3.0	3.6	0.14	0.12	49.5	0.13	0.13	0.01
45-10	3.4	1.6	-0.4	0.11	0.02	-44.1	0.07	0.06	-0.04
45-11	10.5	5.5	1.1	0.36	0.14	-46.5	0.24	0.25	-0.11
45-12	10.8	5.7	0.8	0.36	0.13	-45.3	0.25	0.25	-0.12
45-13	4.2	-0.4	-0.3	0.16	0.01	-68.2	0.03	0.14	-0.05
45-14	1.4	-1.3	-2.6	0.02	-0.07	-54.9	-0.04	-0.01	-0.05
45-15	1.3	-1.3	-2.5	0.02	-0.07	-55.5	-0.04	-0.01	-0.04
45-16	-1.5	2.3	0.9	0.05	-0.08	-62.5	-0.05	0.03	-0.05
45-17	-0.4	-2.4	-0.1	0.04	-0.06	87.8	-0.06	0.04	0.00
45-18	-0.9	-0.2	-3.6	-0.04	-0.16	-16.3	-0.05	-0.15	-0.03
45-19	0.2	-0.2	-4.1	-0.02	-0.15	-25.5	-0.04	-0.13	-0.05
45-20	2.7	0.0	-3.6	0.05	-0.09	-40.7	-0.01	-0.03	-0.07
67- 1	-7.4	-0.3	8.7	0.21	-0.16	48.5	0.01	0.05	0.19

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-9.9	-0.8	10.1	0.24	-0.23	47.7	-0.02	0.03	0.23
67- 3	-11.7	-1.7	10.1	0.22	-0.29	47.2	-0.05	-0.02	0.25
67- 4	5.8	-9.2	-9.6	0.16	-0.33	58.4	-0.19	0.03	0.22
67- 5	-10.0	-9.4	4.2	0.10	-0.35	66.2	-0.28	0.03	0.16
67- 6	-9.7	-9.9	2.9	0.06	-0.35	68.0	-0.30	0.00	0.14
67- 7	-9.6	-7.6	-0.3	-0.09	-0.34	59.6	-0.27	-0.15	0.11
67- 8	-9.2	-5.2	-3.0	-0.19	-0.34	37.0	-0.24	-0.28	0.07
67- 9	-6.2	-1.7	-5.6	-0.15	-0.35	1.8	-0.16	-0.35	0.01
67-10	-3.0	-0.8	-6.6	-0.10	-0.30	-12.3	-0.11	-0.30	-0.04
67-11	4.2	-2.1	8.2	0.46	0.07	83.3	0.07	0.46	0.05
67-12	5.8	-1.9	9.9	0.57	0.11	84.0	0.11	0.56	0.05
67-13	14.8	0.4	2.3	0.61	0.13	-71.3	0.18	0.56	-0.14
67-14	0.4	16.7	21.4	0.74	0.19	-74.5	0.23	0.71	-0.14
67-15	12.6	-1.0	10.5	0.79	0.20	-87.7	0.20	0.79	-0.02
67-16	9.4	0.8	15.1	0.80	0.25	82.9	0.26	0.79	0.07
67-17	10.1	1.4	12.9	0.73	0.26	86.1	0.26	0.73	0.03
67-18	12.2	1.5	9.3	0.68	0.24	-85.5	0.25	0.67	-0.03
67-19	12.0	1.2	5.1	0.55	0.18	-77.3	0.20	0.53	-0.08
67-20	10.8	2.6	2.3	0.41	0.15	-66.5	0.19	0.37	-0.10
90- 1	3.4	-0.9	-6.0	0.05	-0.16	-87.6	-0.16	0.05	-0.01
90- 2	-3.7	-9.3	-8.9	-0.07	-0.30	-86.5	-0.30	-0.07	-0.01
90- 3	-7.1	-13.5	-8.4	-0.20	-0.46	-86.7	-0.46	-0.20	-0.02
90- 4	-10.2	-16.4	-11.8	-0.35	-0.60	-85.9	-0.60	-0.35	-0.02
90- 5	-12.0	-14.6	-13.3	-0.49	-0.59	-80.4	-0.59	-0.50	-0.02
90- 6	-12.1	-10.8	-13.6	-0.50	-0.60	-9.9	-0.50	-0.60	-0.02
90- 7	-11.7	-7.6	-12.6	-0.42	-0.62	-2.8	-0.42	-0.62	-0.01
90- 8	-9.9	-3.9	-10.6	-0.29	-0.59	-1.5	-0.29	-0.59	-0.01
90- 9	-8.6	-2.4	-8.9	-0.23	-0.52	-0.7	-0.23	-0.52	-0.00
90-10	-7.5	-1.8	-7.6	-0.19	-0.45	-0.3	-0.19	-0.45	-0.00
90-11	-4.9	3.0	14.5	0.43	-0.02	-84.9	-0.02	0.43	-0.04
90-12	9.3	-3.8	7.8	0.65	0.08	-88.2	0.08	0.65	-0.02
90-13	13.0	-1.8	13.4	0.91	0.22	89.7	0.22	0.91	0.00
90-14	18.7	0.3	16.6	1.16	0.36	-88.2	0.36	1.16	-0.02
90-15	17.8	0.4	19.3	1.22	0.37	88.8	0.38	1.22	0.02
90-16	16.6	0.4	14.8	1.03	0.32	-88.4	0.32	1.02	-0.02
90-17	12.7	0.5	15.9	0.93	0.29	86.7	0.30	0.93	0.04
90-18	12.6	0.8	13.9	0.86	0.28	88.4	0.28	0.85	0.02
90-19	11.3	1.2	11.8	0.73	0.26	89.2	0.26	0.73	0.01
90-20	9.2	2.6	10.3	0.58	0.25	87.7	0.25	0.58	0.01
180- 1	3.4	3.5	2.8	0.14	0.12	-21.7	0.14	0.13	-0.01
180- 2	6.6	7.7	5.7	0.30	0.23	-9.0	0.30	0.23	-0.01
180- 3	6.6	7.7	5.5	0.30	0.22	-9.5	0.30	0.22	-0.01
180- 4	5.8	6.9	4.7	0.27	0.19	-9.5	0.26	0.19	-0.01
180- 5	5.8	7.0	4.7	0.27	0.18	-8.7	0.27	0.19	-0.01
180- 6	5.0	4.2	5.9	0.26	0.20	-9.4	0.26	0.20	-0.01
180- 7	6.1	6.9	5.5	0.27	0.22	-7.2	0.27	0.22	-0.01
180- 8	6.4	6.8	5.9	0.28	0.25	-9.9	0.28	0.25	-0.01
180- 9	7.9	7.3	7.9	0.35	0.32	-88.2	0.32	0.35	-0.00
180-10	7.1	4.7	7.3	0.37	0.25	89.0	0.25	0.37	0.00
180-11	2.8	0.1	2.2	0.16	0.05	-86.6	0.05	0.16	-0.01
180-12	-2.4	-7.6	-1.9	0.03	-0.22	88.6	-0.22	0.03	0.01
180-13	-4.0	-5.7	-3.2	-0.11	-0.20	84.7	-0.20	-0.11	0.01
180-14	-4.1	-3.6	-3.8	-0.16	-0.18	11.5	-0.16	-0.18	0.00
180-15	-4.8	-3.9	-5.2	-0.19	-0.24	-4.2	-0.19	-0.24	-0.00
180-16	-5.0	-7.1	-5.5	-0.18	-0.27	3.6	-0.18	-0.27	0.01
180-17	-6.3	-3.8	-6.3	-0.21	-0.33	-0.3	-0.21	-0.33	-0.00
180-18	-8.6	-2.2	-8.3	-0.22	-0.51	0.6	-0.22	-0.51	0.00
180-19	-10.2	-5.3	-10.3	-0.32	-0.55	-0.4	-0.32	-0.55	-0.00
180-20	-8.3	-8.2	-9.2	-0.36	-0.39	-18.9	-0.36	-0.39	-0.01
202- 1	-1.0	5.7	15.9	0.52	0.12	50.7	0.28	0.36	0.19
202- 2	-0.1	6.1	16.9	0.56	0.16	52.5	0.31	0.41	0.20
202- 3	-0.0	5.8	16.0	0.53	0.15	52.5	0.29	0.39	0.19
202- 4	-0.7	7.3	16.9	0.55	0.14	47.7	0.33	0.37	0.20
202- 5	-0.4	8.7	18.3	0.60	0.17	45.8	0.38	0.39	0.22
202- 6	18.1	8.2	0.3	0.60	0.19	51.8	0.35	0.44	0.20
202- 7	2.4	4.2	15.7	0.58	0.20	63.1	0.28	0.50	0.15

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	3.3	4.4	13.9	0.52	0.21	64.2	0.27	0.47	0.12
202- 9	4.9	4.1	9.8	0.41	0.22	71.5	0.24	0.39	0.06
202-10	6.6	2.2	5.6	0.35	0.17	-86.2	0.17	0.35	-0.01
202-11	5.7	4.5	-1.0	0.19	0.01	-28.3	0.15	0.05	-0.08
202-12	0.5	-1.9	-2.6	-0.00	-0.09	-60.0	-0.07	-0.03	-0.04
202-13	-2.7	-4.3	-4.2	-0.12	-0.17	-69.4	-0.17	-0.13	-0.02
202-14	-5.7	-4.0	-5.0	-0.20	-0.26	8.1	-0.20	-0.26	0.01
202-15	-10.2	-5.6	-6.2	-0.27	-0.43	88.8	-0.29	-0.41	0.05
202-16	-7.4	-13.9	-12.6	-0.32	-0.54	21.6	-0.35	-0.51	0.07
202-17	-12.9	-5.8	-7.1	-0.31	-0.55	17.5	-0.33	-0.52	0.07
202-18	-13.0	-3.4	-10.9	-0.31	-0.71	3.5	-0.31	-0.71	0.02
202-19	-13.0	-5.6	-9.2	-0.34	-0.61	9.5	-0.35	-0.60	0.04
202-20	-7.9	-6.0	-7.4	-0.29	-0.37	4.2	-0.29	-0.37	0.01
225- 1	-5.8	7.6	20.3	0.61	0.01	44.3	0.32	0.31	0.30
225- 2	-5.6	7.4	20.3	0.61	0.02	44.8	0.32	0.31	0.30
225- 3	-5.0	10.6	24.3	0.75	0.08	43.1	0.44	0.39	0.34
225- 4	-4.6	13.5	25.8	0.81	0.10	39.6	0.52	0.39	0.35
225- 5	-3.8	15.0	25.4	0.81	0.11	36.9	0.56	0.37	0.34
225- 6	21.5	4.5	-2.9	0.70	0.10	49.2	0.36	0.44	0.30
225- 7	0.8	1.3	16.9	0.64	0.13	66.7	0.21	0.56	0.19
225- 8	2.3	2.7	11.0	0.42	0.15	66.4	0.19	0.38	0.10
225- 9	4.5	3.7	4.8	0.22	0.18	86.7	0.18	0.22	0.00
225-10	4.6	1.5	0.4	0.16	0.05	-57.8	0.09	0.13	-0.05
225-11	16.2	8.4	-1.1	0.52	0.12	-82.1	0.34	0.30	-0.20
225-12	13.5	7.0	-1.4	0.43	0.09	-81.5	0.28	0.24	-0.17
225-13	3.7	-2.0	-3.7	0.10	-0.10	-59.5	-0.05	0.05	-0.09
225-14	-1.0	-4.6	-4.4	-0.06	-0.17	-68.8	-0.16	-0.07	-0.04
225-15	-1.7	-2.2	-4.3	-0.09	-0.16	-29.4	-0.11	-0.15	-0.03
225-16	-3.4	-1.3	-1.6	-0.07	-0.14	-56.1	-0.12	-0.09	-0.03
225-17	-1.9	-3.0	-2.6	-0.08	-0.11	-77.9	-0.11	-0.08	-0.01
225-18	-3.1	-0.6	-6.3	-0.10	-0.30	-10.8	-0.11	-0.30	-0.04
225-19	-1.9	-1.0	-5.9	-0.09	-0.25	-17.0	0.10	-0.24	-0.05
225-20	1.5	-0.7	-5.0	0.00	-0.16	-35.4	-0.05	-0.10	-0.07
247- 1	-8.7	-1.8	11.6	0.31	-0.18	54.0	-0.01	0.14	0.23
247- 2	-11.7	-0.8	14.6	0.37	-0.25	49.9	0.01	0.11	0.33
247- 3	-13.5	-0.3	14.9	0.36	-0.30	47.0	0.01	0.05	0.33
247- 4	9.0	-10.5	-10.7	0.28	-0.35	57.7	-0.17	0.10	0.29
247- 5	-11.1	-11.1	7.8	0.24	-0.38	67.6	-0.29	0.15	0.22
247- 6	-11.6	-10.5	6.7	0.18	-0.39	65.7	-0.29	0.09	0.21
247- 7	-10.3	-8.4	3.4	0.05	-0.34	62.8	-0.26	-0.03	0.16
247- 8	-9.0	-6.2	-1.6	-0.14	-0.32	51.9	-0.25	-0.21	0.09
247- 9	-4.0	-0.8	-6.0	-0.11	-0.31	-6.8	-0.12	-0.31	-0.02
247-10	-1.7	0.9	-5.9	-0.04	-0.28	-11.8	-0.05	-0.27	-0.05
247-11	6.7	-1.9	8.9	0.56	0.11	86.7	0.11	0.56	0.03
247-12	6.0	-2.6	9.9	0.59	0.09	84.6	0.10	0.58	0.04
247-13	18.5	0.3	2.0	0.74	0.14	-70.2	0.21	0.67	-0.19
247-14	1.6	22.1	23.1	0.86	0.19	-81.1	0.21	0.85	-0.13
247-15	14.9	-1.6	11.6	0.91	0.22	-86.8	0.22	0.91	-0.04
247-16	8.7	0.4	18.6	0.91	0.26	79.8	0.28	0.89	0.11
247-17	8.4	1.6	14.1	0.72	0.25	81.8	0.26	0.71	0.07
247-18	13.1	3.3	7.9	0.63	0.27	-80.1	0.28	0.62	-0.06
247-19	12.5	2.1	1.8	0.48	0.14	-66.7	0.19	0.42	-0.12
247-20	11.5	2.1	0.1	0.41	0.09	-61.5	0.17	0.38	-0.13
270- 1	6.5	1.1	-5.9	0.16	-0.13	-86.4	-0.13	0.16	-0.02
270- 2	-2.3	-9.7	-4.4	0.00	-0.29	-85.4	-0.29	0.00	-0.02
270- 3	-5.7	-13.1	-8.2	-0.15	-0.44	-84.4	-0.44	-0.16	-0.03
270- 4	-9.6	-16.5	-12.4	-0.34	-0.60	-82.9	-0.60	-0.35	-0.03
270- 5	-13.2	-18.4	-15.5	-0.52	-0.71	-82.1	-0.71	-0.52	-0.03
270- 6	-14.2	-13.0	-14.9	-0.59	-0.66	-6.5	-0.59	-0.66	-0.01
270- 7	-13.6	-9.1	-13.6	-0.48	-0.68	-0.0	-0.48	-0.58	-0.03
270- 8	-11.5	-4.4	-10.8	-0.32	-0.64	1.4	-0.32	-0.64	0.01
270- 9	-9.3	-1.3	-8.7	-0.21	-0.56	1.0	-0.21	-0.55	0.01
270-10	-7.6	0.2	-6.8	-0.14	-0.48	1.4	-0.14	-0.48	0.01
270-11	-0.2	-0.4	0.1	0.01	-0.01	-57.1	-0.03	0.00	-0.01
270-12	11.0	-4.9	10.6	0.83	0.10	-89.6	0.10	0.83	-0.00
270-13	16.5	-2.3	14.9	1.09	0.26	-88.7	0.26	1.09	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	20.4	-1.2	21.1	1.39	0.38	89.6	0.38	1.39	0.01
270-15	21.1	2.2	21.7	1.38	0.47	89.5	0.47	1.36	0.01
270-16	20.6	2.7	17.5	1.19	0.44	-87.2	0.44	1.19	-0.04
270-17	16.4	2.7	15.7	1.00	0.38	-89.3	0.38	1.00	-0.01
270-18	13.2	1.8	13.1	0.82	0.30	-90.0	0.30	0.82	-0.00
270-19	10.7	1.0	11.1	0.70	0.24	89.4	0.24	0.70	0.00
270-20	8.7	1.1	10.4	0.61	0.21	87.1	0.21	0.50	0.02
0- 6	6.2	4.1	4.4	0.26	0.19	-71.1	0.20	0.25	-0.02
11- 1	11.2	5.3	0.5	0.38	0 13	-48.1	0.24	0.25	-0.12
22- 6	17.1	7.8	-0.8	0.55	0.14	-46.1	0.34	0.36	-0.21
33- 1	19.7	6.2	-0.7	0.66	0.16	-54.1	0.33	0.48	-0.24
45- 6	18.3	2.6	-2.1	0.61	0.08	-59.2	0.22	0.47	-0.24
56- 1	13.7	-4.0	-5.9	0.46	-0.12	-64.3	-0.01	0.35	-0.23
67- 4	5.8	-9.2	-9.6	0.16	-0.33	-66.6	-0.25	0.08	-0.18
78- 1	2.0	-7.3	-9.2	0.00	-0.31	-61.7	-0.24	-0.07	-0.13
90- 1	3.4	-0.9	-6.0	0.05	-0.16	-42.6	-0.04	-0.06	-0.11
0-16	-6.1	-8.7	-6.7	-0.22	-0.33	-86.1	-0.33	-0.22	-0.01
11-11	-6.1	-11.0	-9.8	-0.26	-0.42	-74.1	-0.41	-0.27	-0.04
22-16	-6.1	-10.3	-9.8	-0.27	-0.41	-70.5	-0.39	-0.29	-0.04
33-11	-3.3	-4.4	-6.0	-0.17	-0.23	-40.0	-0.19	-0.20	-0.03
45-16	-1.5	2.3	0.9	0.05	-0.08	12.5	0.05	-0.07	0.03
56-11	1.7	12.3	11.2	0.45	0.10	19.4	0.41	0.14	0.11
67-14	0.4	16.7	21.4	0.74	0.19	30.5	0.60	0.33	0.24
78-11	-2.2	13.9	20.3	0.67	0.10	33.2	0.50	0.27	0.26
90-11	-4.9	3.0	14.5	0.43	-0.02	50.1	0.16	0.25	0.22
180- 6	5.0	4.2	5.9	0.26	0.20	80.6	0.20	0.26	0.01
191- 1	11.6	7.0	2.6	0.41	0.20	-45.8	0.30	0.31	-0.10
202- 6	18.1	8.2	0.3	0.60	0.19	-48.2	0.37	0.42	-0.20
213- 1	19.6	7.1	-1.2	0.64	0.15	-50.7	0.34	0.44	-0.24
225- 6	21.5	4.5	-2.9	0.70	0.10	-55.8	0.29	0.51	-0.28
236- 1	18.6	-3.3	-7.4	0.60	-0.12	-62.2	0.03	0.45	-0.30
247- 4	9.0	-10.5	-10.7	0.28	-0.35	-67.3	-0.26	0.19	-0.23
258- 1	4.4	-7.3	-9.9	0.08	-0.31	-61.3	-0.22	-0.01	-0.17
270- 1	6.5	1.1	-5.9	0.16	-0.13	-41.4	0.03	-0.01	-0.14
180-16	-5.0	-7.1	-5.5	-0.18	-0.27	-86.4	-0.27	-0.18	-0.01
191-11	-8.6	-15.2	-11.1	-0.30	-0.55	-83.5	-0.54	-0.30	-0.03
202-16	-7.4	-13.9	-12.6	-0.32	-0.54	-73.4	-0.52	-0.34	-0.06
213-11	-5.2	-8.3	-8.5	-0.24	-0.34	-65.6	-0.33	-0.26	-0.04
225-16	-3.4	-1.3	-1.6	-0.07	-0.14	18.9	-0.09	-0.13	0.02
236-11	0.6	12.6	11.9	0.46	0.07	20.8	0.41	0.12	0.13
247-1*	1.6	22.1	23.1	0.86	0.19	23.9	0.75	0.30	0.25
258-11	-3.4	15.6	24.2	0.79	0.10	34.7	0.57	0.32	0.32
270-11	-0.2	-0.4	0.1	0.01	-0.01	77.9	-0.01	0.01	0.00
400-01	8.2	4.9	2.0	0.29	0.15	-1.6	0.29	0.15	-0.00
400-11	-6.8	0.9	7.9	0.19	-0.15	-1.6	0.19	-0.15	-0.01
401-01	2.6	10.9	3.9	0.32	-0.04	2.4	0.32	-0.04	0.01
401-02	-2.7	15.9					0.07	0.50	
401-03	-4.1	10.4					-0.03	0.30	
401-04	-1.0	8.9					0.05	0.28	
402-01	3.2	13.1	3.6	0.37	-0.08	0.6	0.37	-0.08	0.00
402-02	-0.5	12.0					0.10	0.39	
402-03	-5.7	11.3					-0.07	0.32	
402-04	0.2	8.7					0.09	0.29	
403-01	-0.6	-0.9	-0.5	-0.02	-0.03	88.5	-0.03	-0.02	0.00
403-02	0.2	1.0					0.02	0.03	
403-03	-0.2	-0.9					-0.01	-0.03	
403-04	0.2	1.0					0.02	0.03	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, IN-PLANE FORCE LOADING ON RUN, -F2Y

NOMINAL LOAD = 9.566E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	14.2	18.3	14.3	0.70	0.52	0.5	0.70	0.52	0.00
0- 2	18.1	26.4	21.9	1.01	0.70	8.2	1.00	0.71	0.04
0- 3	16.4	22.1	18.2	0.85	0.63	5.2	0.85	0.63	0.02
0- 4	13.7	18.1	15.8	0.71	0.55	8.9	0.71	0.56	0.02
0- 5	14.0	19.6	15.0	0.74	0.50	2.8	0.74	0.50	0.01
0- 6	14.9	12.3	15.2	0.71	0.58	-1.6	0.71	0.58	-0.00
0- 7	15.5	17.1	15.0	0.70	0.61	-4.0	0.70	0.61	-0.01
0- 8	16.2	16.8	14.8	0.70	0.63	-14.1	0.69	0.63	-0.02
0- 9	18.2	18.3	17.7	0.78	0.76	-17.5	0.78	0.76	-0.01
0-10	16.5	10.4	16.1	0.84	0.56	-89.3	0.56	0.84	-0.00
0-11	3.4	-2.2	2.6	0.25	0.01	-87.9	0.01	0.25	-0.01
0-12	-10.0	-17.7	-7.7	-0.18	-0.59	86.3	-0.58	-0.18	0.03
0-13	-14.7	-11.9	-7.7	-0.40	-0.56	50.6	-0.50	-0.46	0.08
0-14	-15.4	-8.0	-9.1	-0.40	-0.65	18.3	-0.43	-0.62	0.07
0-15	-17.0	-10.3	-13.6	-0.53	-0.78	9.5	-0.54	-0.77	0.04
0-16	-15.9	-24.4	-18.9	-0.58	-0.91	6.1	-0.58	-0.91	0.03
0-17	-20.2	-10.2	-18.8	-0.62	-1.05	2.2	-0.62	-1.05	0.02
0-18	-21.6	-7.0	-21.9	-0.59	-1.27	-0.3	-0.59	-1.27	-0.00
0-19	-23.2	-10.8	-25.2	-0.73	-1.35	-2.1	-0.73	-1.35	-0.02
0-20	-19.1	-18.2	-19.4	-0.80	-0.85	-3.2	-0.80	-0.85	-0.00
22- 1	-2.3	14.6	38.8	1.26	0.30	50.1	0.70	0.87	0.47
22- 2	-1.0	16.3	40.8	1.34	0.36	49.8	0.77	0.93	0.48
22- 3	-0.0	19.9	42.3	1.40	0.42	46.7	0.88	0.94	0.49
22- 4	0.7	22.0	41.5	1.38	0.43	43.8	0.92	0.88	0.47
22- 5	1.7	24.4	42.5	1.42	0.47	41.8	1.00	0.90	0.47
22- 6	41.8	20.7	2.5	1.41	0.49	52.9	0.83	1.07	0.44
22- 7	9.2	12.3	35.5	1.34	0.58	63.7	0.73	1.19	0.30
22- 8	8.6	13.7	32.8	1.21	0.56	60.1	0.73	1.05	0.28
22- 9	12.6	13.8	23.2	0.92	0.61	63.8	0.57	0.86	0.12
22-10	16.1	7.8	13.3	0.79	0.47	-84.4	0.47	0.79	-0.03
22-11	10.4	8.4	-4.2	0.34	-0.08	-26.9	0.26	0.31	-0.17
22-12	2.4	-4.9	-11.2	-0.03	-0.35	-47.1	-0.20	-0.18	-0.16
22-13	-2.9	-9.1	-14.6	-0.24	-0.51	-46.7	-0.38	-0.37	-0.14
22-14	-9.3	0.6	-16.9	-0.23	-0.89	-7.7	-0.25	-0.88	-0.09
22-15	-16.8	-12.9	-19.9	-0.65	-0.92	-8.0	-0.66	-0.91	-0.04
22-16	-20.6	-27.6	-22.8	-0.79	-1.07	10.2	-0.80	-1.06	0.05
22-17	-20.8	-14.7	-25.2	-0.79	-1.18	-7.3	-0.79	-1.18	-0.05
22-18	-24.9	-5.9	-26.0	-0.64	-1.54	-0.8	-0.64	-1.54	-0.01
22-19	-30.2	-13.7	-18.6	-0.77	-1.33	14.3	-0.80	-1.29	0.13
22-20	-17.3	-11.9	-13.5	-0.57	-0.75	14.2	-0.58	-0.74	0.04
45- 1	-8.7	3.4	13.4	0.36	-0.16	42.1	0.13	0.07	0.25
45- 2	-12.0	5.9	23.1	0.64	-0.17	44.5	0.25	0.23	0.41
45- 3	-11.3	16.5	41.8	1.27	0.04	43.6	0.58	0.62	0.51
45- 4	-9.8	26.7	47.0	1.48	0.12	37.0	0.98	0.61	0.65
45- 5	-6.9	32.2	48.1	1.57	0.19	33.6	1.15	0.62	0.63
45- 6	41.6	4.9	-3.9	1.42	0.19	44.2	0.82	0.79	0.62
45- 7	-1.2	9.0	41.5	1.42	0.31	58.8	0.61	1.12	0.49
45- 8	2.1	9.7	27.7	0.96	0.32	56.2	0.52	0.76	0.30
45- 9	7.4	9.4	10.1	0.41	0.34	33.1	0.39	0.36	0.03
45-10	9.2	5.3	0.5	0.31	0.11	-42.2	0.22	0.20	-0.10
45-11	8.5	6.1	8.9	0.44	0.31	87.8	0.31	0.43	0.00
45-12	14.7	7.0	6.3	0.58	0.32	-65.0	0.37	0.53	-0.10
45-13	7.2	-4.1	1.5	0.39	-0.02	-80.6	-0.01	0.38	-0.07
45-14	5.5	-5.3	-7.9	0.13	-0.23	-60.7	-0.15	0.04	-0.16
45-15	5.9	-4.3	-7.9	0.13	-0.22	-57.9	-0.12	0.03	-0.16
45-16	-4.7	8.9	5.5	0.25	-0.21	-59.4	-0.09	0.13	-0.20
45-17	-0.7	-8.5	0.3	0.18	-0.20	88.2	-0.20	0.18	0.01
45-18	-4.0	-2.1	-7.1	-0.15	-0.33	-12.1	-0.16	-0.32	-0.04
45-19	-1.0	-1.5	-9.8	-0.10	-0.37	-24.0	-0.14	-0.32	-0.10
45-20	5.2	-0.2	-8.8	0.09	-0.24	-38.7	-0.04	-0.11	-0.16
67- 1	-12.6	-2.4	4.1	0.02	-0.38	38.9	-0.14	-0.22	0.19

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-19.1	-2.8	12.3	0.22	-0.51	43.8	-0.13	-0.16	0.36
67- 3	-23.5	-4.1	15.1	0.27	-0.63	44.9	-0.19	-0.18	0.45
67- 4	7.3	-20.7	-19.2	0.20	-0.71	56.0	-0.43	-0.09	0.42
67- 5	-22.4	-19.3	7.4	0.12	-0.76	68.2	-0.50	-0.05	0.34
67- 6	-22.1	-20.4	4.9	0.04	-0.78	65.6	-0.64	-0.10	0.31
67- 7	-22.6	-15.5	1.4	-0.15	-0.75	56.1	-0.57	-0.38	0.28
67- 8	-21.9	-10.5	-3.5	-0.33	-0.76	38.2	-0.49	-0.60	0.21
67- 9	-15.1	-3.3	-9.9	-0.31	-0.76	7.9	-0.32	-0.75	0.06
67-10	-7.4	-1.9	-13.1	-0.23	-0.64	-9.4	-0.25	-0.63	-0.07
67-11	-2.9	-4.3	20.6	0.79	-0.03	69.2	0.08	0.69	0.27
67-12	3.6	-5.1	25.1	1.13	0.10	75.6	0.17	1.06	0.25
67-13	25.3	-5.2	7.7	1.25	0.17	-79.0	0.21	1.21	-0.20
67-14	2.2	38.8	40.5	1.51	0.32	-81.1	0.34	1.48	-0.18
67-15	19.4	-4.4	26.6	1.63	0.35	86.3	0.35	1.62	0.08
67-16	14.0	1.3	37.1	1.71	0.47	77.3	0.53	1.65	0.27
67-17	16.9	2.4	32.4	1.60	0.51	80.4	0.54	1.57	0.18
67-18	22.5	2.1	23.7	1.47	0.51	89.1	0.51	1.47	0.01
67-19	24.5	1.8	12.3	1.20	0.38	-79.9	0.40	1.17	-0.14
67-20	23.6	5.0	4.4	0.90	0.30	-66.5	0.39	0.81	-0.22
90- 1	-3.2	-2.3	-6.6	-0.14	-0.28	-61.8	-0.25	-0.17	-0.06
90- 2	-6.9	-14.8	-12.3	-0.28	-0.55	-76.1	-0.53	-0.29	-0.06
90- 3	-13.6	-25.1	-18.2	-0.46	-0.90	-82.9	-0.89	-0.47	-0.05
90- 4	-21.0	-33.4	-28.4	-0.72	-1.22	-85.5	-1.22	-0.72	-0.04
90- 5	-25.6	-31.3	-27.0	-1.01	-1.24	-86.1	-1.24	-1.01	-0.02
90- 6	-27.0	-24.6	-27.5	-1.11	-1.23	-2.8	-1.11	-1.23	-0.01
90- 7	-26.8	-18.6	-26.2	-0.95	-1.32	1.2	-0.95	-1.32	0.01
90- 8	-23.4	-10.9	-22.6	-0.71	-1.27	0.9	-0.71	-1.27	0.01
90- 9	-20.6	-8.0	-19.5	-0.58	-1.14	1.2	-0.58	-1.14	0.01
90-10	-18.2	-6.8	-17.1	-0.51	-1.01	1.5	-0.51	-1.01	0.01
90-11	-8.1	2.3	14.1	0.39	-0.13	-88.2	-0.13	0.39	-0.02
90-12	10.3	-7.2	13.0	0.93	0.06	88.0	0.06	0.93	0.03
90-13	19.0	-3.8	25.5	1.56	0.35	86.5	0.35	1.56	0.07
90-14	31.8	-0.5	34.0	2.18	0.64	89.1	0.64	2.18	0.03
90-15	31.9	-0.7	40.3	2.40	0.69	86.7	0.70	2.39	0.10
90-16	31.6	-0.9	31.9	2.11	0.61	89.9	0.61	2.11	0.00
90-17	25.2	-0.3	34.9	2.00	0.58	85.5	0.59	1.99	0.11
90-18	26.0	0.6	30.6	1.85	0.57	87.6	0.57	1.85	0.05
90-19	24.1	1.5	25.9	1.61	0.53	88.9	0.53	1.61	0.02
90-20	20.3	4.6	22.4	1.30	0.53	88.2	0.53	1.30	0.02
180- 1	9.3	10.0	7.3	0.40	0.31	-15.3	0.40	0.32	-0.02
180- 2	16.5	19.5	13.4	0.75	0.53	-9.6	0.75	0.54	-0.04
180- 3	16.0	18.5	12.5	0.72	0.50	-11.2	0.71	0.51	-0.04
180- 4	14.3	16.1	10.2	0.63	0.42	-13.9	0.61	0.44	-0.05
180- 5	14.4	16.5	10.5	0.64	0.43	-12.7	0.63	0.44	-0.04
180- 6	11.1	9.7	14.4	0.63	0.47	-14.2	0.62	0.48	-0.04
180- 7	14.9	16.4	12.1	0.65	0.51	-13.2	0.65	0.52	-0.03
180- 8	15.5	15.2	12.9	0.66	0.55	-15.9	0.66	0.56	-0.03
180- 9	19.0	17.8	17.5	0.80	0.76	-61.2	0.77	0.79	-0.02
180-10	18.9	12.2	16.1	0.81	0.61	-87.5	0.61	0.81	-0.01
180-11	3.1	-1.5	4.1	0.27	0.04	87.3	0.04	0.27	0.01
180-12	-6.2	-17.1	-5.2	0.02	-0.51	88.8	-0.51	0.02	0.01
180-13	-8.5	-12.4	-8.2	-0.26	-0.45	88.8	-0.45	-0.26	0.00
180-14	-8.4	-8.0	-9.4	-0.36	-0.41	-13.5	-0.36	-0.41	-0.01
180-15	-9.6	-8.8	-12.3	-0.41	-0.53	-16.1	-0.42	-0.52	-0.03
180-16	-11.6	-14.7	-10.7	-0.40	-0.56	-4.0	-0.40	-0.56	-0.01
180-17	-12.2	-8.8	-14.3	-0.46	-0.67	-6.6	-0.47	-0.57	-0.02
180-18	-17.0	-5.2	-18.4	-0.47	-1.05	-1.6	-0.47	-1.05	-0.02
180-19	-20.3	-11.6	-22.1	-0.69	-1.13	-2.7	-0.69	-1.13	-0.02
180-20	-16.7	-16.2	-19.0	-0.72	-0.81	-16.9	-0.73	-0.80	-0.03
202- 1	-0.7	9.9	26.9	0.89	0.23	51.5	0.49	0.64	0.32
202- 2	0.7	12.0	30.9	1.04	0.32	52.1	0.59	0.77	0.35
202- 3	0.9	12.3	30.4	1.02	0.32	51.3	0.59	0.75	0.34
202- 4	0.3	16.2	33.0	1.09	0.34	45.9	0.70	0.73	0.38
202- 5	1.4	19.7	36.3	1.21	0.40	43.5	0.83	0.79	0.40
202- 6	36.0	16.3	3.1	1.22	0.45	49.3	0.78	0.90	0.38
202- 7	6.2	11.4	32.9	1.20	0.48	60.6	0.65	1.03	0.31

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	8.3	12.3	29.9	1.11	0.52	61.1	0.66	0.98	0.25
202- 9	11.8	11.6	22.0	0.89	0.55	67.8	0.50	0.84	0.12
202-10	15.0	7.5	13.7	0.77	0.46	-87.3	0.46	0.77	-0.02
202-11	5.4	6.4	-0.1	0.22	0.01	-18.3	0.20	0.03	-0.06
202-12	-2.4	-5.7	-4.3	-0.08	-0.20	-79.3	-0.20	-0.09	-0.02
202-13	-7.0	-10.2	-8.0	-0.26	-0.38	-84.7	-0.38	-0.26	-0.01
202-14	-11.9	-9.1	-9.6	-0.41	-0.51	18.1	-0.42	-0.50	0.03
202-15	-20.2	-12.5	-12.2	-0.57	-0.82	23.9	-0.61	-0.78	0.09
202-16	-14.7	-26.2	-25.0	-0.66	-1.04	24.4	-0.73	-0.97	0.14
202-17	-25.8	-13.2	-14.1	-0.65	-1.06	20.4	-0.70	-1.01	0.14
202-18	-27.2	-7.8	-21.0	-0.65	-1.42	5.4	-0.66	-1.41	0.07
202-19	-27.3	-11.9	-17.6	-0.69	-1.23	12.3	-0.72	-1.21	0.11
202-20	-16.6	-11.6	-14.7	-0.57	-0.77	6.5	-0.58	-0.76	0.02
225- 1	-7.1	9.1	16.6	0.50	-0.09	34.9	0.31	0.10	0.27
225- 2	-8.2	10.7	24.6	0.74	-0.03	40.7	0.41	0.29	0.38
225- 3	-8.2	18.1	38.3	1.19	0.10	41.3	0.72	0.58	0.54
225- 4	-7.4	25.2	44.2	1.40	0.17	37.6	0.95	0.63	0.59
225- 5	-5.3	29.6	45.1	1.48	0.23	34.4	1.08	0.63	0.58
225- 6	39.7	6.5	-3.6	1.34	0.21	46.0	0.75	0.79	0.57
225- 7	0.7	5.3	35.1	1.26	0.27	63.1	0.48	1.06	0.40
225- 8	3.8	7.7	25.2	0.91	0.33	61.3	0.46	0.78	0.25
225- 9	8.4	9.1	13.4	0.54	0.40	62.9	0.43	0.51	0.06
225-10	8.7	3.9	4.0	0.35	0.19	-68.2	0.22	0.33	-0.05
225-11	12.1	12.0	2.3	0.47	0.15	-23.0	0.42	0.20	-0.11
225-12	12.7	9.9	1.6	0.45	0.16	-31.9	0.37	0.24	-0.13
225-13	1.7	-3.7	-2.8	0.07	-0.11	-72.5	-0.10	0.05	-0.05
225-14	-6.3	-8.8	-4.9	-0.16	-0.31	83.8	-0.31	-0.17	0.02
225-15	-4.7	-8.8	-7.7	-0.20	-0.33	-75.3	-0.33	-0.21	-0.03
225-16	-3.8	-1.1	-7.1	-0.13	-0.34	-85.3	-0.34	-0.13	-0.02
225-17	-8.2	-9.0	-2.8	-0.14	-0.34	71.1	-0.32	-0.16	0.06
225-18	-9.6	-1.4	-10.4	-0.23	-0.62	-1.4	-0.23	-0.62	-0.01
225-19	-6.9	-2.7	-10.7	-0.23	-0.53	-8.8	-0.24	-0.52	-0.04
225-20	1.2	-1.5	-10.3	-0.04	-0.34	-31.4	-0.12	-0.26	-0.13
247- 1	-15.1	1.3	10.8	0.22	-0.40	37.6	-0.01	-0.17	0.30
247- 2	-20.7	2.6	20.6	0.48	-0.48	41.4	0.06	-0.06	0.48
247- 3	-23.9	3.6	24.4	0.57	-0.55	41.0	0.09	-0.37	0.56
247- 4	12.8	-22.4	-16.0	0.51	-0.65	52.4	-0.22	0.08	0.56
247- 5	-22.9	-17.4	17.9	0.47	-0.69	63.1	-0.45	0.24	0.47
247- 6	-23.7	-16.7	16.6	0.40	-0.71	61.5	-0.46	0.15	0.47
247- 7	-21.3	-14.6	11.2	0.22	-0.65	60.2	-0.43	0.00	0.37
247- 8	-18.6	-11.5	1.8	-0.11	-0.61	53.7	-0.43	-0.28	0.24
247- 9	-9.2	-3.3	-8.8	-0.26	-0.52	1.0	-0.26	-0.52	0.00
247-10	-4.9	-0.9	-10.7	-0.16	-0.51	-11.5	-0.18	-0.49	-0.07
247-11	-1.6	0.7	17.7	0.63	0.06	63.6	0.19	0.51	0.22
247-12	3.9	-2.2	19.7	0.88	0.14	75.3	0.18	0.83	0.18
247-13	20.7	-3.4	7.3	1.03	0.17	-79.5	0.20	1.00	-0.15
247-14	6.0	34.8	29.1	1.23	0.27	-88.1	0.27	1.23	-0.03
247-15	17.1	-2.8	21.3	1.33	0.31	87.3	0.32	1.33	0.05
247-16	9.5	2.0	31.0	1.36	0.38	74.8	0.45	1.29	0.25
247-17	10.3	3.0	24.3	1.11	0.37	77.1	0.41	1.07	0.16
247-18	18.7	4.7	13.5	0.96	0.42	-83.5	0.43	0.95	-0.06
247-19	21.4	2.4	2.2	0.82	0.20	-67.2	0.29	0.72	-0.22
247-20	21.8	3.0	-1.3	0.75	0.13	-61.0	0.27	0.61	-0.27
270- 1	-4.3	-8.2	-4.6	-0.11	-0.28	46.2	-0.19	-0.19	0.09
270- 2	-13.3	-13.0	-4.8	-0.25	-0.52	66.4	-0.49	-0.30	0.10
270- 3	-18.2	-21.2	-10.2	-0.42	-0.79	75.2	-0.77	-0.44	0.09
270- 4	-24.3	-30.2	-18.0	-0.68	-1.13	80.4	-1.11	-0.70	0.07
270- 5	-29.3	-35.9	-25.6	-0.98	-1.37	83.9	-1.37	-0.98	0.04
270- 6	-29.5	-27.4	-27.0	-1.18	-1.24	28.2	-1.19	-1.23	0.03
270- 7	-27.6	-21.5	-26.9	-1.03	-1.30	1.6	-1.03	-1.30	0.01
270- 8	-23.4	-13.1	-23.5	-0.77	-1.25	-0.1	-0.77	-1.25	-0.00
270- 9	-19.2	-7.0	-20.0	-0.55	-1.13	-0.9	-0.55	-1.13	-0.01
270-10	-15.6	-3.7	-17.0	-0.41	-0.99	-1.5	-0.41	-0.99	-0.02
270-11	0.8*	0.9*	1.2*	0.05	0.04	-78.6	0.04	0.05	-0.00
270-12	13.8	-6.2	12.3	1.00	0.12	-88.9	0.12	1.00	-0.02
270-13	25.3	-3.0	20.8	1.59	0.38	-87.6	0.39	1.59	-0.05

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	34.5	-1.9	32.5	2.25	0.62	-89.2	0.62	2.25	-0.02
270-15	37.9	3.0	34.6	2.33	0.78	-88.6	0.79	2.32	-0.04
270-16	39.1	3.5	28.3	2.15	0.74	-85.0	0.75	2.14	-0.12
270-17	32.8	3.3	26.8	1.89	0.66	-86.8	0.67	1.89	-0.07
270-18	27.4	1.9	22.9	1.62	0.54	-87.3	0.54	1.62	-0.05
270-19	23.2	0.6	20.0	1.41	0.44	-87.8	0.44	1.41	-0.04
270-20	19.2	0.9	19.3	1.25	0.40	89.9	0.40	1.25	0.00
11- 6	14.9	12.3	15.2	0.71	0.58	88.4	0.58	0.71	0.00
11- 1	27.3	15.1	6.1	0.96	0.47	-49.4	0.68	0.75	-0.24
22- 6	41.8	20.7	2.5	1.41	0.49	-47.1	0.92	0.98	-0.45
33- 1	47.3	15.0	1.2	1.61	0.47	-55.9	0.83	1.25	-0.53
45- 6	41.6	4.9	-3.9	1.42	0.19	-60.8	0.49	1.13	-0.53
56- 1	27.5	-10.8	-12.7	0.94	-0.31	-66.1	-0.10	0.74	-0.46
67- 4	7.3	-20.7	-19.2	0.20	-0.71	-69.0	-0.60	0.09	-0.31
78- 1	-3.1	-14.7	-15.8	-0.22	-0.59	-64.6	-0.52	-0.28	-0.15
90- 1	-3.2	-2.3	-6.6	-0.14	-0.28	-16.8	-0.15	-0.27	-0.04
0-16	-15.9	-24.4	-18.9	-0.58	-0.91	-83.9	-0.91	-0.58	-0.03
11-11	-19.1	-31.6	-25.6	-0.73	-1.18	-80.3	-1.17	-0.74	-0.08
22-16	-20.6	-27.6	-22.8	-0.79	-1.07	-84.8	-1.07	-0.79	-0.03
33-11	-11.3	-9.7	-12.1	-0.45	-0.55	-5.5	-0.46	-0.55	-0.01
45-16	-4.7	8.9	5.5	0.25	-0.21	15.6	0.21	-0.18	0.12
56-11	5.3	32.3	24.0	1.09	0.17	13.9	1.03	0.22	0.22
67-14	2.2	38.8	40.5	1.51	0.32	23.9	1.32	0.51	0.44
78-11	-3.0	27.0	30.6	1.08	0.10	25.9	0.90	0.28	0.39
90-11	-8.1	2.3	14.1	0.39	-0.13	46.8	0.11	0.15	0.26
180- 6	11.1	9.7	14.4	0.63	0.47	75.8	0.48	0.62	0.04
191- 1	24.0	14.9	7.7	0.87	0.49	-48.2	0.66	0.70	-0.19
202- 6	36.0	16.3	3.1	1.22	0.45	-50.7	0.76	0.91	-0.38
213- 1	37.5	12.6	-0.2	1.26	0.34	-53.9	0.66	0.94	-0.44
225- 6	39.7	6.5	-3.6	1.34	0.21	-59.0	0.51	1.04	-0.50
236- 1	32.1	-8.8	-11.4	1.11	-0.23	-65.7	0.00	0.89	-0.50
247- 4	12.8	-22.4	-16.0	0.51	-0.65	-72.6	-0.55	0.41	-0.33
258- 1	-0.2	-19.3	-13.2	0.04	-0.61	-76.4	-0.58	0.00	-0.15
270- 1	-4.3	-8.2	-4.6	-0.11	-0.28	-88.8	-0.28	-0.11	-0.10
180-16	-11.6	-14.7	-10.7	-0.40	-0.56	86.0	-0.56	-0.40	0.01
191-11	-18.7	-30.3	-21.9	-0.64	-1.10	-85.6	-1.10	-0.64	-0.04
202-16	-14.7	-26.2	-25.0	-0.66	-1.04	-70.6	-1.00	-0.70	-0.12
213-11	-8.2	-14.4	-18.6	-0.45	-0.70	-50.4	-0.60	-0.55	-0.12
225-16	-3.8	-1.1	-7.1	-0.13	-0.34	-10.3	-0.13	-0.33	-0.04
236-11	4.3	22.2	13.7	0.71	0.06	9.8	0.69	0.08	0.11
247-14	6.0	34.8	29.1	1.23	0.27	16.9	1.15	0.35	0.27
258-11	-2.5	22.0	28.2	0.96	0.14	29.6	0.75	0.34	0.35
270-11	0.8*	0.9*	1.2*	0.05	0.04	56.4	0.04	0.05	0.00
400-01	-25.4	-4.0	15.8	0.27	-0.68	88.8	-0.68	0.27	0.02
400-11	-3.0	14.5	-24.8	-0.34	-0.85	88.4	-0.85	-0.34	0.01
401-01	12.8	39.2	13.2	1.16	-0.05	0.3	1.16	-0.05	0.01
401-02	2.5	1.1					0.09	0.06	
401-03	9.1	-42.6					-0.12	-1.31	
401-04	1.3	4.5					0.09	0.16	
402-01	5.0	15.2	4.6	0.44	-0.04	-0.6	0.44	-0.04	-0.00
402-02	1.7	1.0					0.06	0.05	
402-03	2.7	-15.3					-0.06	-0.48	
402-04	1.7	0.2					0.06	0.02	
403-01	-1.1	-2.2	-1.0	-0.02	-0.07	88.2	-0.07	-0.02	0.00
403-02	0.2	2.4					0.03	0.08	
403-03	0.0	-2.0					-0.02	-0.07	
403-04	0.2	2.3					0.03	0.08	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, OUT-OF-PLANE FORCE LOADING ON BOM, P2Z

NOMINAL LOAD = 9.566E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	11.3	-0.2	-10.6	0.27	-0.24	-46.4	0.00	0.03	-0.25
0- 2	12.6	-0.2	-12.6	0.29	-0.29	-45.3	-0.00	0.00	-0.29
0- 3	11.2	-0.4	-10.3	0.27	-0.23	-47.3	-0.00	0.04	-0.25
0- 4	9.1	-0.2	-8.5	0.21	-0.19	-46.6	0.00	0.02	-0.20
0- 5	7.9	0.1	-7.2	0.19	-0.16	-45.9	0.01	0.02	-0.17
0- 6	-5.1	1.0	6.9	0.18	-0.10	-45.7	0.03	0.04	-0.14
0- 7	4.4	-0.1	-3.8	0.11	-0.08	-47.9	0.00	0.02	-0.09
0- 8	2.0	-0.2	-1.5	0.05	-0.03	-52.2	-0.00	0.02	-0.04
0- 9	-1.9	0.1	2.3	0.06	-0.04	46.6	0.01	0.01	0.05
0-10	-3.9	-0.3	4.5	0.11	-0.09	49.0	-0.00	0.02	0.10
0-11	-5.0	-0.5	4.7	0.11	-0.12	47.3	-0.02	0.00	0.11
0-12	-6.7	-1.1	5.6	0.12	-0.17	47.2	-0.04	-0.01	0.14
0-13	-6.2	-0.8	4.1	0.07	-0.16	43.3	-0.04	-0.05	0.12
0-14	-5.5	-0.0	3.5	0.06	-0.15	38.8	-0.02	-0.07	0.10
0-15	-5.8	-0.1	4.0	0.08	-0.15	40.0	-0.02	-0.06	0.11
0-16	4.5	-1.7	-6.2	0.09	-0.16	40.8	-0.02	-0.06	0.12
0-17	-6.5	-0.4	5.0	0.10	-0.16	43.5	-0.02	-0.04	0.13
0-18	-5.8	0.2	4.2	0.08	-0.15	39.7	-0.01	-0.05	0.12
0-19	-4.3	-0.1	2.7	0.05	-0.12	39.2	-0.02	-0.05	0.08
0-20	-2.1	-0.8	1.1	0.01	-0.06	50.0	-0.03	-0.02	0.04
22- 1	6.0	10.9	10.0	0.42	0.26	17.6	0.41	0.28	0.05
22- 2	8.5	9.3	6.8	0.37	0.29	-13.3	0.37	0.29	-0.02
22- 3	9.9	8.4	5.0	0.38	0.26	-34.8	0.34	0.30	-0.06
22- 4	8.8	7.2	4.9	0.34	0.25	-39.0	0.30	0.28	-0.05
22- 5	7.1	6.6	6.2	0.30	0.28	-49.5	0.28	0.29	-0.01
22- 6	7.7	8.1	6.4	0.33	0.28	84.2	0.28	0.33	0.01
22- 7	7.0	4.2	5.9	0.33	0.22	-83.1	0.22	0.33	-0.01
22- 8	4.3	1.3	5.1	0.28	0.12	86.6	0.12	0.28	0.01
22- 9	2.2	-1.8	4.1	0.25	0.02	84.7	0.02	0.25	0.02
22-10	0.7	-3.2	4.4	0.25	-0.03	81.1	-0.02	0.24	0.04
22-11	3.3	6.5	-0.0	0.19	-0.05	-9.3	0.18	-0.04	-0.04
22-12	-2.9	-0.4	-2.8	-0.07	-0.18	0.1	-0.07	-0.18	0.00
22-13	-5.6	-2.3	-5.3	-0.16	-0.30	1.4	-0.16	-0.30	0.00
22-14	-9.7	-0.6*	-6.3	-0.17	-0.52	6.6	-0.17	-0.51	0.04
22-15	-13.5	-4.8	-7.9	-0.31	-0.61	12.6	-0.32	-0.59	0.06
22-16	-8.3	-18.8	-16.6	-0.36	-0.71	21.8	-0.41	-0.66	0.12
22-17	-13.4	-4.3	-11.6	-0.35	-0.73	3.1	-0.35	-0.73	0.02
22-18	-11.5	-0.8	-11.3	-0.24	-0.73	0.2	-0.24	-0.73	0.00
22-19	-12.6	-4.6	-7.9	-0.30	-0.58	11.2	-0.31	-0.57	0.05
22-20	-8.9	-5.9	-4.5	-0.23	-0.34	34.7	-0.27	-0.31	0.05
45- 1	-5.5	13.7	33.4	1.05	0.15	45.4	0.59	0.60	0.45
45- 2	-3.2	10.0	26.6	0.85	0.16	48.3	0.46	0.54	0.34
45- 3	1.2	13.9	28.6	0.95	0.32	47.1	0.61	0.66	0.32
45- 4	3.0	17.7	27.3	0.94	0.36	39.1	0.71	0.59	0.28
45- 5	4.2	19.5	27.0	0.95	0.39	35.7	0.76	0.58	0.26
45- 6	24.4	10.1	4.5	0.87	0.37	48.1	0.59	0.65	0.25
45- 7	6.3	7.8	21.0	0.80	0.37	64.3	0.45	0.72	0.17
45- 8	7.6	4.0	12.2	0.57	0.28	79.5	0.29	0.56	0.05
45- 9	8.5	1.3	5.3	0.43	0.16	-82.1	0.17	0.43	-0.04
45-10	7.7	-0.5	1.8	0.34	0.06	-75.3	0.08	0.33	-0.07
45-11	23.8	9.5	-5.6	0.73	0.05	-44.1	0.40	0.38	-0.34
45-12	20.3	8.2	-7.6	0.60	-0.05	-41.2	0.31	0.23	-0.32
45-13	3.5	-3.5	-11.8	-0.00	-0.36	-42.4	-0.16	-0.19	-0.18
45-14	-8.1	-4.2	-11.6	-0.29	-0.55	-8.8	-0.29	-0.55	-0.04
45-15	-12.4	-5.0	-9.0	-0.32	-0.60	8.2	-0.33	-0.59	0.04
45-16	-11.6	-17.7	-12.4	-0.38	-0.65	17.2	-0.41	-0.62	0.07
45-17	-10.4	-5.7	-13.9	-0.37	-0.67	-7.5	-0.37	-0.67	-0.04
45-18	-6.2	-5.1	-20.6	-0.32	-0.83	-20.5	-0.38	-0.77	-0.17
45-19	-8.6	-3.8	-12.5	-0.29	-0.62	-8.0	-0.30	-0.61	-0.04
45-20	-6.7	-4.3	-7.8	-0.24	-0.38	-5.1	-0.24	-0.38	-0.01
67- 1	-9.6	2.5	25.8	0.78	-0.08	53.8	0.22	0.48	0.41

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-10.5	4.7	27.6	0.81	-0.08	50.7	0.29	0.45	0.44
67- 3	-11.1	6.8	27.7	0.81	-0.09	47.2	0.32	0.39	0.45
67- 4	20.7	-5.9	-5.6	0.76	-0.11	57.2	0.15	0.50	0.40
67- 5	-6.5	-2.3	20.8	0.69	-0.08	62.4	0.09	0.52	0.31
67- 6	-5.1	-1.9	17.8	0.60	-0.06	62.9	0.09	0.46	0.26
67- 7	-3.3	1.9	13.7	0.43	0.01	55.6	0.15	0.30	0.20
67- 8	-0.3	3.3	7.5	0.24	0.06	47.1	0.15	0.16	0.09
67- 9	4.6	3.9	1.0	0.17	0.07	-29.2	0.15	0.10	-0.04
67-10	6.5	3.0	-1.3	0.20	0.02	-41.7	0.12	0.10	-0.09
67-11	9.3	-4.0	8.4	0.68	0.08	-89.0	0.08	0.68	-0.01
67-12	7.7	-5.3	6.0	0.57	0.01	-88.0	0.01	0.57	-0.02
67-13	14.5	-0.9	-2.7	0.51	-0.00	-64.2	0.09	0.41	-0.20
67-14	-4.0	10.7	18.1	0.57	0.03	-69.1	0.10	0.53	-0.18
67-15	9.7	-4.5	2.7	0.52	0.01	-81.0	0.02	0.51	-0.08
67-16	5.4	-3.7	2.8	0.36	-0.01	-85.3	-0.00	0.36	-0.03
67-17	5.1	-2.5	-2.0	0.19	-0.06	-69.2	-0.03	0.16	-0.08
67-18	6.0	-0.9	-6.1	0.14	-0.14	-89.0	-0.02	0.02	-0.14
67-19	4.3	-0.1	-7.2	0.08	-0.20	-38.5	-0.03	-0.09	-0.13
67-20	2.5	0.2	-5.4	0.04	-0.16	-34.2	-0.02	-0.10	-0.09
90- 1	14.5	-0.6	-8.1	0.41	-0.14	80.8	-0.12	0.40	0.09
90- 2	-5.8	-10.1	5.4	0.25	-0.27	75.3	-0.23	0.22	0.13
90- 3	-10.7	-12.1	3.3	0.09	-0.41	70.0	-0.35	0.03	0.16
90- 4	-13.7	-12.3	0.5	-0.07	-0.49	64.2	-0.41	-0.15	0.16
90- 5	-13.6	-9.0	-2.1	-0.20	-0.47	50.5	-0.36	-0.31	0.13
90- 6	-11.6	-5.0	-3.4	-0.21	-0.43	29.6	-0.25	-0.38	0.09
90- 7	-8.8	-1.5	-3.5	-0.18	-0.39	14.6	-0.16	-0.37	0.06
90- 8	-5.4	1.3	-3.3	-0.06	-0.32	5.3	-0.06	-0.32	0.02
90- 9	-3.0	2.5	-2.7	0.00	-0.24	0.8	0.00	-0.24	0.00
90-10	-1.0	3.1	-2.2	0.04	-0.18	-3.6	0.03	-0.17	-0.01
90-11	-9.0	10.5	22.9	0.67	-0.08	83.6	-0.07	0.66	0.08
90-12	5.2	-7.1	14.4	0.82	0.01	82.3	0.03	0.81	0.11
90-13	8.5	-4.1	17.8	0.98	0.15	82.4	0.16	0.96	0.11
90-14	14.2	-1.6	17.5	1.09	0.28	87.3	0.29	1.08	0.04
90-15	14.1	-0.2	17.1	1.03	0.30	87.3	0.30	1.03	0.03
90-16	13.4	0.6	10.5	0.78	0.25	-86.4	0.25	0.77	-0.03
90-17	10.0	0.6	9.3	0.62	0.20	-88.9	0.20	0.62	-0.01
90-18	9.4	1.0	6.4	0.50	0.18	-83.8	0.19	0.50	-0.03
90-19	8.1	1.4	3.9	0.37	0.14	-77.7	0.15	0.36	-0.05
90-20	6.7	2.0	2.3	0.27	0.11	-69.2	0.13	0.25	-0.05
180- 1	0.7	0.8	0.4	0.03	0.02	-18.1	0.03	0.02	-0.00
180- 2	0.6	1.0	0.8	0.04	0.02	13.0	0.04	0.03	0.00
180- 3	0.7	0.7	0.3	0.03	0.02	-19.9	0.03	0.02	-0.00
180- 4	1.0	0.8	0.1	0.04	0.01	-35.0	0.03	0.02	-0.01
180- 5	1.2	0.4	-0.4	0.04	-0.00	-44.0	0.02	0.02	-0.02
180- 6	-0.9	0.4	1.6	0.04	-0.01	-47.7	0.01	0.02	-0.03
180- 7	2.0	0.4	-1.3	0.05	-0.02	-43.8	0.02	0.01	-0.04
180- 8	2.6	0.3	-1.8	0.07	-0.03	-46.8	0.01	0.02	-0.05
180- 9	3.1	0.2	-2.4	0.08	-0.05	-46.1	0.01	0.02	-0.06
180-10	2.8	-0.0	-2.2	0.07	-0.04	-48.9	0.01	0.02	-0.06
180-11	-2.1	0.2	2.6	0.06	-0.04	45.1	0.01	0.01	0.05
180-12	1.7	-0.2	-1.6	0.04	-0.04	-49.4	-0.00	0.01	-0.04
180-13	3.2	-0.4	-3.3	0.07	-0.08	-47.8	-0.01	0.01	-0.08
180-14	3.4	0.2	-3.6	0.08	-0.09	-42.2	0.00	-0.01	-0.08
180-15	3.8	-0.1	-4.3	0.08	-0.11	-43.5	-0.01	-0.02	-0.09
180-16	-4.1	-0.1	4.0	0.09	-0.10	-44.7	-0.00	-0.00	-0.09
180-17	4.4	-0.1	-4.6	0.10	-0.11	-44.6	-0.00	-0.01	-0.10
180-18	3.8	0.2	-4.3	0.08	-0.10	-42.3	-0.00	-0.02	-0.09
180-19	2.8	0.3	-3.6	0.06	-0.09	-41.2	-0.01	-0.03	-0.07
180-20	0.7	-0.2	-1.4	0.01	-0.04	-41.3	-0.01	-0.02	-0.02
202- 1	-0.2	-8.3	-12.0	-0.12	-0.41	-55.2	-0.31	-0.21	-0.14
202- 2	-1.7	-7.4	-10.1	-0.15	-0.35	-54.9	-0.29	-0.22	-0.10
202- 3	-1.6	-5.9	-7.9	-0.13	-0.28	-55.0	-0.23	-0.18	-0.07
202- 4	-0.6	-4.3	-6.7	-0.08	-0.23	-50.6	-0.17	-0.14	-0.07
202- 5	0.1	-3.0	-6.3	-0.06	-0.21	-44.8	-0.13	-0.13	-0.07
202- 6	-6.0	-2.9	0.3	-0.05	-0.19	-34.6	-0.10	-0.15	-0.07
202- 7	-0.1	0.5	-4.2	-0.01	-0.17	-19.0	-0.03	-0.15	-0.05

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	0.3	1.4	-2.8	0.02	-0.13	-14.7	0.01	-0.12	-0.04
202- 9	0.8	2.3	-1.0	0.05	-0.08	-10.7	0.05	-0.06	-0.02
202-10	1.5	3.0	0.1	0.09	-0.02	-9.1	0.09	-0.01	-0.02
202-11	-6.8	-4.2	1.7	-0.00	-0.21	55.6	-0.15	-0.07	0.10
202-12	-2.8	-0.7	1.6	0.03	-0.08	47.2	-0.03	-0.02	0.05
202-13	-0.2	0.4	1.6	0.05	0.01	55.1	0.02	0.04	0.02
202-14	2.1	0.8	1.2	0.09	0.05	-76.4	0.05	0.09	-0.01
202-15	4.2	1.0	0.8	0.16	0.06	-66.3	0.07	0.14	-0.04
202-16	0.5	4.6	5.1	0.19	0.05	-59.0	0.09	0.15	-0.06
202-17	5.0	0.7	0.1	0.18	0.04	-62.9	0.07	0.15	-0.06
202-18	3.7	-0.7	1.4	0.19	0.03	-80.3	0.04	0.19	-0.03
202-19	2.8	0.1	1.3	0.14	0.04	-79.3	0.04	0.13	-0.02
202-20	1.1	0.9	.9	0.04	0.04	-62.5	0.04	0.04	-0.00
225- 1	4.7	-8.4	-23.6	-0.08	-0.73	-42.9	-0.38	-0.43	-0.33
225- 2	3.9	-7.3	-19.9	-0.07	-0.62	-43.4	-0.33	-0.36	-0.28
225- 3	3.2	-8.2	-18.5	-0.08	-0.58	-46.5	-0.34	-0.31	-0.25
225- 4	3.4	-8.0	-16.9	-0.05	-0.53	-48.4	-0.32	-0.25	-0.24
225- 5	3.5	-7.0	-15.1	-0.03	-0.47	-48.5	-0.28	-0.22	-0.22
225- 6	-11.6	-3.4	3.5	0.00	-0.35	-32.7	-0.10	-0.25	-0.16
225- 7	-0.4	2.7	-5.4	0.02	-0.27	-12.0	0.00	-0.26	-0.06
225- 8	-0.7	2.6	-0.7	0.05	-0.11	0.1	0.05	-0.11	0.00
225- 9	-0.8	2.3	3.0	0.10	-0.01	28.7	0.08	0.02	0.04
225-10	-0.4	2.3	3.8	0.12	0.02	36.6	0.09	0.06	0.05
225-11	-17.6	-6.5	2.9	-0.08	-0.55	42.6	-0.30	-0.34	0.24
225-12	-14.2	-5.1	2.9	-0.05	-0.44	43.0	-0.23	-0.26	0.20
225-13	-5.4	1.6	3.7	0.08	-0.16	31.0	0.02	-0.09	0.11
225-14	-3.0	2.4	4.0	0.11	-0.07	30.5	0.06	-0.02	0.08
225-15	-1.7	-2.8	2.6	0.11	-0.07	73.5	-0.06	0.10	0.05
225-16	3.8	0.7	-3.7	0.09	-0.08	64.6	-0.05	0.05	0.07
225-17	-4.0	-1.5	3.1	0.07	-0.10	53.5	-0.04	0.01	0.08
225-18	-2.9	0.1	4.0	0.10	-0.06	48.0	0.01	0.03	0.08
225-19	-3.4	-0.5	2.8	0.06	-0.08	46.9	-0.02	-0.01	0.07
225-20	-3.2	-0.2	1.2	0.01	-0.10	35.3	-0.02	-0.05	0.05
247- 1	3.2	2.9	-13.6	0.05	-0.49	-23.1	-0.04	-0.41	-0.19
247- 2	5.3	3.0	-12.7	0.10	-0.42	-26.7	-0.00	-0.31	-0.21
247- 3	6.9	4.0	-10.3	0.17	-0.31	-28.4	0.06	-0.20	-0.20
247- 4	-8.7	1.8	8.9	0.21	-0.20	-15.6	0.18	-0.17	-0.11
247- 5	2.8	9.6	0.0	0.25	-0.13	-4.9	0.25	-0.13	-0.03
247- 6	3.5	9.2	1.6	0.26	-0.05	-4.2	0.26	-0.04	-0.02
247- 7	3.4	7.4	4.4	0.25	0.09	4.2	0.25	0.09	0.01
247- 8	3.4	6.1	7.6	0.28	0.18	36.3	0.25	0.22	0.05
247- 9	1.3	1.0	7.1	0.28	0.08	69.1	0.11	0.25	0.07
247-10	0.4	-1.1	4.9	0.22	0.01	74.4	0.03	0.20	0.05
247-11	-10.9	4.8	-0.2	0.03	-0.51	13.6	0.00	-0.48	0.12
247-12	-10.1	4.4	-0.7	0.02	-0.48	12.9	-0.01	-0.46	0.11
247-13	-18.4	-2.9	4.0	-0.03	-0.58	34.5	-0.21	-0.41	0.26
247-14	3.8	-12.5	-21.3	-0.07	-0.68	21.8	-0.16	-0.59	0.21
247-15	-16.5	1.4	-3.0	-0.12	-0.72	15.5	-0.16	-0.68	0.16
247-16	-10.8	2.1	-9.7	-0.15	-0.72	1.4	-0.15	-0.72	0.01
247-17	-10.1	0.5	-7.4	-0.16	-0.59	4.2	-0.16	-0.59	0.03
247-18	-13.2	-1.9	-4.3	-0.19	-0.56	16.4	-0.22	-0.53	0.10
247-19	-9.2	-1.5	-1.9	-0.11	-0.36	20.8	-0.14	-0.33	0.08
247-20	-6.0	-1.3	-1.8	-0.09	-0.25	19.3	-0.11	-0.23	0.05
270- 1	-15.9	-8.4	6.9	0.09	-0.47	9.5	0.07	-0.46	0.09
270- 2	-7.5	8.6	4.9	0.21	-0.33	16.1	0.17	-0.28	0.14
270- 3	-5.5	9.6	9.4	0.33	-0.16	22.1	0.26	-0.09	0.17
270- 4	-3.5	9.5	12.9	0.42	-0.02	29.8	0.31	0.09	0.19
270- 5	-0.1	8.9	13.3	0.45	0.12	35.8	0.34	0.23	0.15
270- 6	2.1	8.6	10.6	0.38	0.17	56.0	0.23	0.31	0.10
270- 7	2.9	1.2	7.3	0.32	0.11	75.2	0.13	0.31	0.05
270- 8	2.8	-2.0	3.5	0.26	0.02	88.0	0.02	0.25	0.01
270- 9	2.1	-3.3	1.6	0.20	-0.04	-88.5	-0.04	0.20	-0.01
270-10	1.9	-3.7	-0.3	0.14	-0.07	-83.3	-0.07	0.14	-0.02
270-11	0.1*	0.0*	1.2*	0.05	0.01	-66.8	0.01	0.04	-0.01
270-12	-13.3	6.3	-4.9	-0.02	-0.76	7.6	-0.04	-0.75	0.10
270-13	-15.7	3.7	-7.8	-0.13	-0.87	7.2	-0.15	-0.86	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-15.9	2.3	-12.1	-0.22	-0.98	3.3	-0.22	-0.98	0.04
270-15	-13.8	-0.8	-13.0	-0.28	-0.86	1.0	-0.28	-0.86	0.01
270-16	-11.3	-1.8	-10.6	-0.26	-0.68	1.0	-0.26	-0.68	0.01
270-17	-6.9	-2.0	-9.7	-0.21	-0.51	-6.2	-0.21	-0.50	-0.03
270-18	-3.8	-1.6	-8.0	-0.14	-0.37	-12.8	-0.15	-0.36	-0.05
270-19	-1.7	-1.1	-6.8	-0.09	-0.28	-19.5	-0.11	-0.25	-0.06
270-20	-0.5	-1.2	-6.0	-0.06	-0.22	-26.4	-0.09	-0.19	-0.06
0- 6	-5.1	1.0	6.9	0.18	-0.10	44.3	0.04	0.03	0.14
11- 1	-1.1	2.7	7.0	0.22	0.03	47.1	0.12	0.13	0.09
22- 6	7.7	8.1	6.4	0.33	0.28	-15.8	0.33	0.29	-0.09
33- 1	17.1	10.4	6.2	0.63	0.37	-51.3	0.47	0.53	-0.13
45- 6	24.4	10.1	4.5	0.87	0.37	-56.9	0.52	0.72	-0.23
56- 1	27.6	3.7	0.8	1.00	0.22	-64.0	0.37	0.85	-0.31
67- 6	20.7	-5.9	-5.6	0.76	-0.11	-67.8	0.01	0.63	-0.30
78- 1	12.7	-8.3	-9.0	0.42	-0.26	-66.6	-0.16	0.31	-0.25
90- 1	14.5	-0.6	-8.1	0.41	-0.14	-54.2	0.05	0.22	-0.26
0-16	4.5	-1.7	-6.2	0.09	-0.16	-49.2	-0.06	-0.02	-0.12
11-11	0.4	-8.5	-11.6	-0.09	-0.39	-58.0	-0.31	-0.17	-0.14
22-16	-8.3	-18.8	-16.6	-0.36	-0.71	-73.2	-0.68	-0.39	-0.10
33-11	-11.4	-20.2	-16.5	-0.44	-0.75	-78.9	-0.74	-0.45	-0.06
45-16	-11.6	-17.7	-12.4	-0.38	-0.65	-87.8	-0.65	-0.38	-0.01
56-11	-8.1	-4.0	1.1	-0.04	-0.26	48.1	-0.16	-0.14	0.11
67-16	-4.0	10.7	18.1	0.57	0.03	35.9	0.39	0.22	0.26
78-11	-4.2	19.1	25.1	0.84	0.06	29.6	0.65	0.25	0.34
90-11	-9.0	10.5	22.9	0.67	-0.08	38.6	0.38	0.21	0.37
180- 6	-0.9	0.4	1.6	0.04	-0.01	42.3	0.02	0.01	0.03
191- 1	-2.7	-1.2	0.5	-0.01	-0.08	46.5	-0.05	-0.04	0.01
202- 6	-6.0	-2.9	0.3	-0.05	-0.19	45.4	-0.12	-0.12	0.0
213- 1	-8.7	-3.6	1.4	-0.04	-0.27	44.5	-0.16	-0.16	0.12
225- 6	-11.6	-3.4	3.5	0.00	-0.35	42.3	-0.16	-0.19	0.17
236- 1	-11.9	-0.6	6.8	0.11	-0.33	39.2	-0.06	-0.15	0.22
247- 4	-8.7	1.8	8.9	0.21	-0.20	39.4	0.03	-0.04	0.20
258- 1	-9.9	-2.4	8.6	0.19	-0.25	50.3	-0.07	0.01	0.21
270- 1	-15.9	-8.4	6.9	0.09	-0.47	54.5	-0.28	-0.10	0.26
180-16	-4.1	-0.1	4.0	0.09	0.10	45.3	-0.00	-0.00	0.09
191-11	-3.4	2.3	5.7	0.16	-0.06	37.8	0.08	0.02	0.11
202-16	0.5	4.6	5.1	0.19	0.05	26.0	0.16	0.08	0.05
213-11	3.0	3.5	1.1	0.13	0.05	-16.3	0.12	0.05	-0.02
225-16	3.8	0.7	-3.7	0.09	-0.08	-40.4	0.02	-0.01	-0.09
236-11	3.0	-7.0	-13.2	-0.03	-0.41	-51.7	-0.25	-0.17	-0.19
247-14	3.8	-12.5	-21.3	-0.07	-0.68	-53.2	-0.46	-0.29	-0.29
258-11	6.9	-7.6	-23.0	-0.00	-0.69	-68.2	-0.34	-0.35	-0.34
270-11	0.1*	0.0*	1.2*	0.05	0.01	68.2	0.01	0.04	0.01
400-01	-0.1	2.8	-0.1	0.06	-0.07	44.9	-0.00	-0.00	0.07
400-11	0.2	1.8	-0.2	0.04	-0.04	-47.7	-0.00	0.00	-0.04
401-01	3.6	0.7	-3.0	0.09	-0.06	-41.2	0.02	0.00	-0.08
401-02	9.5	-37.1					-0.05	-1.13	
401-03	0.2	-0.5					0.00	-0.02	
401-04	-9.9	36.2					0.03	1.10	
402-01	3.6	1.1	-2.6	0.09	-0.05	-39.3	0.04	0.01	-0.07
402-02	3.5	-14.0					-0.02	-0.43	
402-03	0.6	-1.5					0.01	-0.04	
402-04	-4.2	13.9					-0.00	0.42	
403-01	-0.1	0.0	0.1	0.00	-0.00	34.3	-0.00	-0.00	0.00
403-02	0.0	0.1					0.00	0.00	
403-03	-0.0	-0.0					-0.00	-0.00	
403-04	0.0	0.2					0.00	0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6. OUT-OF-PLANE MOMENT LOADING ON BRANCH, M3X

NOMINAL LOAD = 6.208E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. D ALONG	NORMAL	SH
0- 1	33.7	6.2	-16.7	0.95	-0.22	-47.5	0.31	0.41	-0
0- 2	33.4	10.1	-12.7	0.98	-0.09	-45.3	0.44	0.45	-0
0- 3	28.9	11.7	-7.1	0.88	0.05	-43.8	0.49	0.45	-0
0- 4	20.4	10.7	-0.9	0.67	0.17	-42.4	0.44	0.40	-0
0- 5	16.9	12.6	3.0	0.60	0.26	-34.7	0.39	0.37	-0
0- 6	10.0	10.0	14.4	0.59	0.45	-22.5	0.57	0.47	-0
0- 7	6.5	12.3	12.3	0.50	0.31	22.6	0.47	0.34	0
0- 8	3.1	13.5	16.7	0.60	0.25	31.0	0.51	0.34	0
0- 9	-1.6	16.3	22.8	0.77	0.14	32.6	0.59	0.32	0
0-10	-5.0	9.9	23.3	0.72	0.06	43.4	0.41	0.37	0
0-11	-13.2	-4.8	6.8	0.10	-0.37	49.5	-0.17	-0.10	0
0-12	-12.4	-9.5	-3.9	-0.25	-0.45	53.9	-0.38	-0.32	0
0-13	-10.1	-5.3	-7.0	-0.28	-0.45	12.6	-0.29	-0.44	0
0-14	-9.0	-2.8	-9.5	-0.25	-0.54	-1.0	-0.25	-0.54	-0
0-15	-8.0	-4.0	-10.6	-0.27	-0.53	-7.0	-0.28	-0.52	-0
0-16	-10.0	-12.4	-6.2	-0.24	-0.46	-11.8	-0.25	-0.45	-0
0-17	-9.0	-6.6	-9.6	-0.34	-0.46	-3.4	-0.34	-0.46	-0
0-18	-6.3	-5.8	-9.0	-0.28	-0.38	-17.7	-0.29	-0.37	-0
0-19	-5.2	-8.8	-9.2	-0.25	-0.37	-64.3	-0.35	-0.27	-0
0-20	-2.5	-4.1	-3.4	-0.10	-0.16	-79.8	-0.15	-0.10	-0
22- 1	36.9	16.1	-3.4	1.18	0.25	-45.8	0.70	0.73	-0
22- 2	40.0	17.3	-1.0	1.31	0.36	-48.2	0.78	0.89	-0
22- 3	42.1	20.7	1.6	1.40	0.47	-46.6	0.91	0.96	-0
22- 4	38.7	23.9	7.7	1.35	0.64	-43.7	1.01	0.98	-0
22- 5	34.3	25.9	15.2	1.28	0.84	-41.6	1.09	1.03	-0
22- 6	19.0	24.1	31.7	1.24	0.94	-29.3	1.16	1.01	-0
22- 7	27.2	26.4	20.0	1.12	0.90	-25.9	1.08	0.94	-0
22- 8	19.4	19.8	21.4	0.90	0.85	61.2	0.86	0.89	0
22- 9	13.5	14.4	20.3	0.82	0.63	63.1	0.57	0.78	0
22-10	11.6	9.8	17.2	0.74	0.49	74.4	0.51	0.72	0
22-11	-22.7	-8.1	-19.6	-0.60	-1.21	3.3	-0.60	-1.21	0
22-12	-24.4	-19.2	-34.2	-1.00	-1.52	-12.9	-1.02	-1.49	-0
22-13	-21.8	-15.2	-42.6	-0.92	-1.84	-15.7	-0.99	-1.77	-0
22-14	-28.6	1.2	-42.7	-0.66	-2.40	-5.4	-0.68	-2.38	-0
22-15	-29.0	-20.3	-42.5	-1.16	-1.92	-11.9	-1.18	-1.89	-0
22-16	-41.9	-52.3	-34.8	-1.31	-1.98	-2.2	-1.31	-1.98	-0
22-17	-29.0	-24.4	-42.5	-1.23	-1.84	-15.4	-1.27	-1.79	-0
22-18	-23.6	-11.2	-24.0	-0.73	-1.31	-0.4	-0.73	-1.31	-0
22-19	-24.1	-17.6	-14.9	-0.72	-0.95	34.1	-0.79	-0.88	0
22-20	-10.6	-5.2	-3.0	-0.20	-0.39	33.8	-0.26	-0.33	0
45- 1	-1.9	18.2	9.0	0.51	-0.21	10.3	0.49	-0.18	0
45- 2	13.1	26.3	16.2	0.90	0.36	3.7	0.90	0.36	0
45- 3	32.1	42.0	28.3	1.57	1.02	-8.6	1.57	1.02	-0
45- 4	47.3	56.9	31.1	2.13	1.23	-12.3	2.09	1.27	-0
45- 5	55.5	64.6	35.0	2.44	1.43	-14.0	2.39	1.49	-0
45- 6	32.2	28.4	56.9	2.38	1.44	-3.7	2.37	1.44	-0
45- 7	34.0	67.4	58.4	2.54	1.42	15.0	2.47	1.49	0
45- 8	35.3	42.5	40.3	1.74	1.50	13.9	1.73	1.51	0
45- 9	35	26.4	17.4	1.34	0.93	-45.2	1.13	1.13	-0
45-10	9.8	25.9	10.8	1.12	0.62	-29.6	1.00	0.74	-0
45-11	3.3	28.7	4.8*	0.74	-0.39	0.8	0.74	-0.39	0
45-12	1.8	12.2	-17.8	0.18	-0.86	-12.9	0.12	-0.81	-0
45-13	-13.3	-15.5	-50.2	-0.79	-1.93	-24.3	-0.98	-1.73	-0
45-14	-39.8	-19.5	-45.9	-1.29	-2.38	-3.8	-1.30	-2.37	-0
45-15	-45.5	-20.3	-35.4	-1.25	-2.21	7.0	-1.27	-2.20	0
45-16	-44.9	-59.2	-39.2	-1.40	-2.20	10.3	-1.42	-2.18	0
45-17	-32.7	-27.6	-45.4	-1.37	-1.98	-14.4	-1.41	-1.94	-0
45-18	-20.7	-14.8	-35.1	-0.85	-1.54	-14.4	-0.89	-1.50	-0
45-19	-14.2	0.7	-14.2	-0.26	-0.95	-0.0	-0.26	-0.95	-0
45-20	-3.0	12.8	-2.7	0.24	-0.49	0.3	0.24	-0.49	0
67- 1	-23.3	14.9	14.6	0.44	-0.81	22.3	0.26	-0.63	0

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-11.4	35.7	28.4	1.14	-0.41	18.1	0.99	-0.26	0.46
67- 3	0.8	53.5	36.5	1.70	-0.10	13.6	1.60	-0.00	0.41
67- 4	6.3	-13.6	39.9	1.92	0.06	22.7	1.64	0.34	0.66
67- 5	-3.3	57.1	63.5	2.28	0.30	25.6	1.91	0.67	0.77
67- 6	1.0	60.8	65.1	2.40	0.44	24.5	2.06	0.78	0.74
67- 7	15.2	68.0	54.6	2.39	0.61	15.4	2.26	0.72	0.45
67- 8	24.2	59.8	35.5	1.98	0.58	5.3	1.97	0.59	0.13
67- 9	32.0	44.3	14.5	1.52	0.47	-11.3	1.48	0.51	-0.20
67-10	30.7	40.7	10.9	1.40	0.38	-13.2	1.35	0.43	-0.23
67-11	1.4	24.7	24.8	0.94	0.18	22.6	0.83	0.29	0.27
67-12	1.8	9.7	8.4	0.35	0.08	17.7	0.32	0.11	0.08
67-13	0.2*	0.8	2.7*	0.10	.03	59.3	0.05	0.08	0.03
67-14	-2.9	1.3*	4.1*	0.11	-0.06	-65.5	-0.03	0.08	-0.06
67-15	1.1	-10.0	-5.4*	0.10	-0.29	-78 8	-0.27	0.09	-0.07
67-16	-5.7	-15.2	-5.5*	-0.02	-0.46	89.8	-0.46	-0.02	0.00
67-17	-5.6	-10.0	-2.9*	-0.05	-0.32	83.6	-0.32	-0.05	0.03
67-18	2.3	1.6	-0.6*	0.05	-0.15	-25.9	0.02	-0.11	-0.08
67-19	12.4	18.5	-2.3	0.57	-0.14	-14.3	0.53	-0.09	-0.17
67-20	14.4	26.5	2.6	0.80	-0.07	-9.0	0.78	-0.05	-0.14
90- 1	-23.0	-16.0	1.1	-0.17	-0.77	11.4	-0.19	-0.75	0.12
90- 2	-14.0	16.4	5.6*	0.35	-0.71	12.7	0.30	-0.66	0.23
90- 3	-8.4	32.4	17.1	0.90	-0.53	12.2	0.83	-0.46	0.29
90- 4	-3.3	45.4	25.5	1.33	-0.38	11.4	1.27	-0.32	0.33
90- 5	-.6	43.8	22.3	1.24	-0.48	10.5	1.19	-0.43	0.31
90- 6	-6.3	39.8	18.8	1.09	-0.56	10.3	1.04	-0.50	0.29
90- 7	-2.2	39.3	16.0	1.07	-0.48	7.9	1.04	-0.45	0.21
90- 8	1.4	35.4	11.9	0.96	-0.39	5.2	0.95	-0.38	0.12
90- 9	6.5	37.2	13.4	1.06	-0.21	3.6	1.05	-0.20	0.08
90-10	11.2	41.1	15.1	1.21	-0.08	2.0	1.21	-0.08	0.05
90-11	16.4	23.0	6.1	0.78	0.19	33.2	0.60	0.36	0.27
90-12	-4.9	6.9	25.1	0.79	0.08	50.9	0.36	0.50	0.35
90-13	-5.8	-2.9	26.2	0.92	-0.04	64.7	0.14	0.74	0.37
90-14	2.2	-10.3	27.7	1.29	-0.01	76.6	0.06	1.22	0.29
90-15	11.5	-2.8	32.0	1.55	0.32	78.7	0.37	1.50	0.24
90-16	20.6	9.0	27.1	1.37	0.67	83.8	0.68	1.36	0.08
90-17	20.5	15.6	26.9	1.22	0.81	79.2	0.83	1.20	0.07
90-18	23.6	22.0	21.8	1.00	0.95	-62.2	0.96	0.99	-0.02
90-19	22.8	25.0	15.5	0.98	0.66	-16.1	0.96	0.69	-0.08
90-20	22.1	29.7	11.7	1.04	0.41	-11.1	1.02	0.43	-0.12
180- 1	-5.7	-8.7	-4.8	-0.21	-0.24	18.6	-0.21	-0.24	0.01
180- 2	-0.7	-8.6	-11.0	-0.12	-0.38	-59.0	-0.31	-0.19	-0.12
180- 3	6.1	-5.5	-16.5	0.04	-0.48	-45.9	-0.23	-0.21	-0.26
180- 4	11.9	-3.3	-17.4	0.22	-0.45	-46.1	-0.13	-0.10	-0.34
180- 5	10.3	-3.9	-22.6	0.25	-0.60	-44.6	-0.17	-0.18	-0.43
180- 6	-24.4	-8.6	15.7	0.28	-0.65	-44.6	-0.18	-0.19	-0.46
180- 7	17.0	-2.8	-24.6	0.32	-0.64	-43.6	-0.14	-0.19	-0.48
180- 8	16.8	-3.6	-24.3	0.31	-0.64	-44.8	-0.16	-0.16	-0.47
180- 9	11.9	-6.1	-20.1	0.20	-0.55	-48.5	-0.22	-0.13	-0.37
180-10	8.3	-5.9	-14.2	0.14	-0.40	-52.2	-0.19	-0.06	-0.26
180-11	-0.2	1.2	6.4	0.22	0.05	60.4	0.09	0.18	0.08
180-12	2.9	1.9	3.3	0.16	0.10	85.5	0.10	0.16	0.00
180-13	5.9	0.2	0.9	0.24	0.05	-71.0	0.07	0.22	-0.06
180-14	5.5	0.3	-0.1	0.20	0.03	-64.9	0.06	0.17	-0.07
180-15	4.9	0.8	-0.6	0.16	0.02	-58.3	0.06	0.12	-0.06
180-16	-1.3	2.2	4.6	0.14	0.00	-49.9	0.06	0.08	-0.07
180-17	4.6	1.3	-1.9	0.13	-0.02	-45.5	0.06	0.06	-0.08
180-18	3.3	2.0	-2.9	0.09	-0.07	-30.2	0.05	-0.03	-0.07
180-19	0.0	1.9	-1.8	0.03	-0.11	-9.0	0.03	-0.10	-0.02
180-20	-5.8	-3.2	-0.5	-0.07	-0.20	45.5	-0.14	-0.13	0.06
202- 1	-19.0	-12.7	-10.8	-0.53	-0.75	31.0	-0.59	-0.69	0.10
202- 2	-19.9	-16.4	-13.1	-0.63	-0.79	44.5	-0.71	-0.71	0.08
202- 3	-17.3	-15.7	-12.3	-0.57	-0.70	55.0	-0.66	-0.61	0.06
202- 4	-13.1	-14.1	-13.2	-0.54	-0.59	-89.4	-0.59	-0.54	-0 00
202- 5	-10.1	-12.5	-14.0	-0.47	-0.56	-52.4	-0.53	-0.50	-0.04
202- 6	-12.2	-9.7	-6.3	-0.33	-0.47	-30.9	-0.36	-0.43	-0.06
202- 7	-3.1	-8.4	-10.6	-0.19	-0.40	-28.3	-0.24	-0.35	-0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-0.8	-2.1	-9.3	-0.10	-0.34	-27.5	-0.15	-0.28	-0.10
202- 9	1.7	-1.2	-5.5	0.00	-0.17	-39.4	-0.07	-0.10	-0.08
202-10	2.8	-1.7	-0.2	0.13	-0.02	-76.6	-0.01	0.13	-0.03
202-11	6.7	7.4	22.1	0.86	0.18	66.1	0.46	0.78	0.18
202-12	6.2	11.7	28.3	1.02	0.45	58.4	0.61	0.87	0.25
202-13	5.7	7.9	29.2	1.10	0.40	64.6	0.53	0.97	0.27
202-14	4.5	5.0	28.0	1.07	0.32	66.8	0.44	0.95	0.27
202-15	2.4	5.0	22.5	0.82	0.24	63.4	0.36	0.71	0.23
202-16	20.4	15.6	-0.3	0.70	0.16	64.2	0.26	0.60	0.21
202-17	-2.1	5.4	16.2	0.52	0.09	50.3	0.26	0.34	0.21
202-18	-4.7	5.1	-1.8	0.06	-0.33	4.9	0.05	-0.33	0.03
202-19	-6.3	1.9	-6.5	-0.08	-0.46	-0.4	-0.08	-0.46	-0.00
202-20	-14.4	-9.8	-9.6	-0.43	-0.59	21.6	-0.45	-0.57	0.06
225- 1	0.9	-0.0	2.0	0.10	0.03	79.2	0.03	0.10	0.01
225- 2	-8.4	-9.7	-2.4	-0.11	-0.35	72.6	-0.33	-0.13	0.07
225- 3	-21.5	-21.0	-4.2	-0.27	-0.82	66.7	-0.74	-0.36	0.20
225- 4	-27.6	-24.3	-3.1	-0.30	-1.01	63.2	-0.86	-0.45	0.28
225- 5	-31.8	-24.4	-0.9	-0.30	-1.10	58.7	-0.89	-0.52	0.36
225- 6	3.1	-10.7	-31.8	-0.20	-1.03	66.0	-0.89	-0.34	0.31
225- 7	-18.4	-30.2	-8.7	-0.18	-0.98	81.9	-0.95	-0.20	0.11
225- 8	-16.7	-20.7	0.6	0.01	-0.70	72.7	-0.64	-0.05	0.20
225- 9	-12.0	-12.6	10.2	0.33	-0.41	68.3	-0.31	0.23	0.26
225-10	-8.9	-14.4	9.2	0.40	-0.39	74.0	-0.33	0.34	0.21
225-11	2.4	-5.7	-0.9	0.18	-0.12	-82.7	-0.12	0.18	-0.04
225-12	2.8	2.7	10.9	0.43	0.16	68.0	0.20	0.39	0.09
225-13	-3.4	13.7	38.5	1.24	0.26	50.1	0.65	0.84	0.48
225-14	-4.7	17.2	36.6	1.18	0.21	43.2	0.71	0.65	0.48
225-15	4.9	-6.8	18.7	0.96	0.05	77.8	0.09	0.93	0.16
225-16	28.5	13.2	-11.9	0.84	-0.12	66.8	0.03	0.69	0.35
225-17	-16.2	3.5	33.6	0.62	-0.30	45.4	0.15	0.17	0.46
225-18	-7.4	5.6	-7.9	-0.02	-0.63	-0.6	-0.02	-0.63	-0.01
225-19	-19.1	-12.3	-14.7	-0.61	-0.84	12.8	-0.62	-0.83	0.05
225-20	-21.3	-19.3	-14.8	-0.69	-0.85	55.1	-0.80	-0.75	0.07
247- 1	3.6	2.8	14.9	0.59	0.[illegible]	69.4	0.25	0.55	0.13
247- 2	-8.0	-6.9	16.0	0.55	-0.20	66.1	-0.08	0.42	0.28
247- 3	-20.5	-15.3	15.3	0.39	-0.62	62.6	-0.40	0.18	0.41
247- 4	21.0	-9.5	-28.8	0.42	-0.76	73.7	-0.66	0.33	0.32
247- 5	-13.7	-37.0	-0.5	0.41	-1.01	83.8	-0.99	0.39	0.15
247- 6	-18.5	-40.8	-0.9	0.33	-1.16	82.1	-1.13	0.30	0.20
247- 7	-20.5	-43.6	-2.5	0.27	-1.26	82.2	-1.23	0.25	0.21
247- 8	-23.0	-40.8	0.5	0.25	-1.22	79.2	-1.16	0.20	0.27
247- 9	-16.2	-27.2	8.0	0.43	-0.78	76.2	-0.71	0.36	0.28
247-10	-11.3	-29.3	-1.0	0.28	-0.81	83.7	-0.80	0.27	0.12
247-11	-3.7	-15.2	-7.5	-0.01	-0.46	-84.4	-0.46	-0.02	-0.04
247-12	-6.1	-7.6	4.4	0.16	-0.24	71.1	-0.19	0.12	0.12
247-13	-13.8	-10.0	6.4	0.12	-0.43	60.9	-0.30	-0.01	0.23
247-14	6.6	1.4	-19.0	0.08	-0.61	45.3	-0.27	-0.26	0.34
247-15	-20.4	3.5	8.8	0.15	-0.65	28.8	-0.03	-0.46	0.34
247-16	-12.7	12.1	-4.0	0.12	-0.84	6.0	0.11	-0.83	0.10
247-17	-11.3	9.5	-15.5	-0.04	-1.11	-2.6	-0.05	-1.10	-0.05
247-18	-18.9	-2.6	-19.9	-0.44	-1.22	-0.9	-0.44	-1.22	-0.01
247-19	-22.5	-23.6	-24.1	-0.98	-1.02	-53.7	-1.00	-0.99	-0.02
247-20	-14.6	-25.9	-24.0	-0.68	-1.01	-72.1	-0.98	-0.68	-0.11
270- 1	19.6	-16.8	0.6	1.09	-0.22	58.7	0.21	0.65	0.62
270- 2	-24.4	-18.7	28.9	0.88	-0.69	64.1	-0.39	0.58	0.62
270- 3	-35.5	-34.8	21.0	0.60	-1.22	67.1	-0.95	0.32	0.65
270- 4	-43.3	-53.7	7.5	0.28	-1.78	72.3	-1.59	0.06	0.59
270- 5	-42.7	-60.8	-4.3	-0.04	-1.98	76.4	-1.87	-0.15	0.44
270- 6	-32.7	-50.7	-7.8	-0.11	-1.63	78.9	-1.5	-0.17	0.29
270- 7	-23.6	-48.3	-15.3	-0.16	-1.51	85.9	-1.50	-0.17	0.10
270- 8	-17.2	-43.0	-19.4	-0.21	-1.35	-88.7	-1.35	-0.21	-0.02
270- 9	-14.3	-39.3	-16.8	-0.12	-1.22	-88.5	-1.21	-0.12	-0.03
270-10	-11.1	-39.2	-21.8	-0.16	-1.24	-83.4	-1.23	-0.18	-0.12
270-11	0.7	0.2	0.7*	0.04	0.02	-44.9	0.03	0.03	-0.01
270-12	-10.2	-10.8	-3.2	-0.16	-0.41	69.9	-0.38	-0.19	0.08
270-13	-5.9*	1.2	-5.2	-0.08	-0.40	1.4	-0.08	-0.39	0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-2.4*	8.9	-9.2	0.10	-0.60	-6.5	0.09	-0.59	-0.08
270-15	-1.5*	4.7	-16.8	-0.03	-0.76	-14.5	-0.07	-0.71	-0.18
270-16	-5.0*	-7.1	-21.5	-0.33	-0.80	-26.8	-0.43	-0.71	-0.19
270-17	-4.7	-18.4	-23.6	-0.37	-0.85	-57.2	-0.71	-0.51	-0.22
270-18	-2.9	-26.0	-22.1	-0.15	-0.92	-72.3	-0.85	-0.22	-0.22
270-19	-0.7	-27.1	-20.0	0.00	-0.89	-75.0	-0.83	-0.06	-0.22
270-20	0.1	-26.2	-17.6	0.08	-0.83	-76.6	-0.78	0.03	-0.20
0- 6	10.0	10.0	14.4	0.59	0.45	67.5	0.47	0.57	0.05
11- 1	12.2	13.2	21.1	0.80	0.58	63.8	0.63	0.79	0.10
22- 6	19.0	24.1	31.7	1.24	0.94	50.7	1.06	1.12	0.15
33- 1	27.3	29.7	48.8	1.94	1.32	63.9	1.44	1.82	0.25
45- 6	32.2	28.4	56.9	2.38	1.44	71.3	1.53	2.28	0.28
56- 1	29.7	9.2	56.4	2.69	1.01	79.3	1.06	2.63	0.31
67- 4	6.3	-13.6	39.9	1.92	0.06	77.7	0.14	1.84	0.39
78- 1	-19.0	-22.9	18.7	0.68	-0.69	70.2	-0.53	0.52	0.43
90- 1	-23.0	-16.0	1.1	-0.17	-0.77	56.4	-0.59	-0.35	0.28
0-16	-10.0	-12.4	-6.2	-0.24	-0.46	78.2	-0.45	-0.25	0.04
11-11	-22.2	-25.4	-20.7	-0.83	-1.01	84.6	-1.01	-0.83	0.02
22-16	-41.9	-52.3	-34.8	-1.31	-1.98	82.8	-1.97	-1.32	0.08
33-11	-47.0	-60.1	-41.8	-1.53	-2.27	85.4	-2.27	-1.54	0.06
45-16	-44.9	-59.2	-39.2	-1.40	-2.20	85.3	-2.20	-1.40	0.07
56-11	-28.8	-30.2	-16.6	-0.75	-1.20	70.3	-1.15	-0.80	0.14
67-14	-2.9	1.3*	4.1*	0.11	-0.06	39.5	0.04	0.01	0.08
78-11	14.6	25.0	12.6	0.85	0.32	-2.6	0.84	0.32	-0.02
90-11	16.4	23.0	6.1	0.78	0.19	-11.8	0.75	0.21	-0.12
180- 6	-24.4	-4.6	15.7	0.28	-0.65	45.4	-0.19	-0.18	0.46
191- 1	-20.6	-7.2	7.2	0.03	-0.61	46.0	-0.30	-0.28	0.32
202- 6	-12.2	-9.7	-6.3	-0.33	-0.47	49.1	-0.41	-0.39	0.07
213- 1	-3.2	-10.4	-20.2	-0.30	-0.70	-40.7	-0.47	-0.53	-0.20
225- 6	3.1	-10.7	-31.8	-0.20	-1.03	-39.0	-0.53	-0.70	-0.40
236- 1	13.4	-7.6	-37.5	0.08	-1.11	-40.1	-0.41	-0.62	-0.59
247- 4	21.0	-9.5	-28.8	0.42	-0.76	-51.3	-0.30	-0.04	-0.57
258- 1	25.4	-15.2	-18.0	0.82	-0.51	-65.5	-0.29	0.59	-0.50
270- 1	19.6	-16.8	0.6	1.09	-0.22	-80.3	-0.19	1.05	-0.22
180-16	-1.3	2.2	4.6	0.14	0.00	40.1	0.08	0.06	0.07
191-11	10.4	10.5	3.7	0.41	0.19	-22.1	0.38	0.22	-0.08
202-16	20.4	15.6	-0.3	0.70	0.16	-30.8	0.56	0.30	-0.24
213-11	26.4	14.1	-6.6	0.82	0.03	-37.8	0.52	0.33	-0.38
225-16	28.5	13.2	-11.9	0.84	-0.12	-38.2	0.47	0.24	-0.47
236-11	20.6	7.1	-18.8	0.52	-0.44	-36.3	0.18	-0.10	-0.45
247-14	6.6	1.4	-19.0	0.08	-0.61	-29.7	-0.09	-0.44	-0.30
258-11	-8.1	-0.7	-8.9	-0.18	-0.54	-1.3	-0.18	-0.54	-0.01
270-11	0.7	0.2	0.7*	0.04	0.02	-89.9	0.02	0.04	-0.00
400-01	-4.6	-2.8	6.0	0.18	-0.12	-73.5	-0.09	0.15	-0.09
400-11	-4.0	-11.7	-3.8	0.01	-0.35	44.8	-0.17	-0.17	0.18
401-01	20.5	3.2	-17.6	0.50	-0.38	-42.4	0.10	0.02	-0.44
401-02	-1.2	1.8					-0.02	0.05	
401-03	1.6	-2.4					0.03	-0.06	
401-04	-1.1	1.8					-0.02	0.05	
402-01	-1.2	0.3	0.8	0.02	-0.04	30.8	0.00	-0.02	0.02
402-02	0.7	-0.3					0.02	-0.00	
402-03	-0.6	0.3					-0.02	0.00	
402-04	0.8	-0.3					0.02	-0.00	
403-01	2.0	6.3	3.2	0.20	0.03	4.7	0.20	0.03	0.01
403-02	-6.4	29.0					0.01	0.87	
403-03	2.6	-6.5					0.02	-0.19	
403-04	6.7	-25.6					-0.03	-0.78	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, TORSIONAL MOMENT LOADING ON BRANCH, -M3Y

NOMINAL LOAD = 6.208E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	7.1	-7.8	-20.2	0.04	-0.60	-47.6	-0.31	-0.25	-0.32
0- 2	6.1	-10.9	-23.5	-0.03	-0.72	-49.2	-0.42	-0.32	-0.34
0- 3	2.6*	-8.9	-15.9	-0.07	-0.50	-51.8	-0.34	-0.23	-0.21
0- 4	-2.5	-7.1	-9.1	-0.17	-0.33	-56.3	-0.28	-0.22	-0.08
0- 5	-7.9	-7.9	-4.4	-0.21	-0.32	67.5	-0.31	-0.22	0.04
0- 6	2.0*	-4.8	-10.3	-0.04	-0.34	43.6	-0.18	-0.20	0.15
0- 7	-16.2	-7.1	4.9	0.00	-0.49	48.8	-0.28	-0.21	0.24
0- 8	-21.8	-6.3	9.9	0.11	-0.62	45.5	-0.26	-0.25	0.37
0- 9	-32.7	-7.1	19.4	0.32	-0.89	45.5	-0.29	-0.27	0.60
0-10	-33.6	-6.5	25.3	0.50	-0.86	47.3	-0.23	-0.12	0.68
0-11	-1.0	-0.5	1.6	0.05	-0.02	60.4	-0.00	0.03	0.03
0-12	-1.3	0.1	2.7	0.08	-0.02	53.5	0.02	0.04	0.05
0-13	-0.7	-0.3	0.4	0.01	-0.02	50.9	-0.01	-0.00	0.01
0-14	-0.2	0.5	0.1	0.01	-0.01	8.0	0.01	-0.01	0.00
0-15	-0.2	0.4	-0.6	0.00	-0.04	-6.7	0.00	-0.04	-0.00
0-16	-0.1	-2.3	-1.1	0.02	-0.07	7.9	0.02	-0.07	0.01
0-17	-1.8	0.4	0.8	0.02	-0.06	27.3	-0.00	-0.04	0.03
0-18	-1.1	0.3	-0.2	-0.00	-0.05	12.5	-0.01	-0.05	0.01
0-19	2.3	0.3	-5.7	0.03	-0.18	-31.3	-0.03	-0.12	-0.09
0-20	11.5	-1.4	-14.3	0.24	-0.36	-45.0	-0.05	-0.06	-0.30
22- 1	15.1	2.0*	1.3*	0.57	0.14	-66.1	0.21	0.50	-0.16
22- 2	16.0	0.0*	-2.7*	0.55	0.02	-62.6	0.13	0.44	-0.22
22- 3	13.0	-1.5*	-4.6*	0.42	-0.06	-61.4	0.05	0.31	-0.20
22- 4	7.3	0.7*	1.9*	0.31	0.09	-72.8	0.11	0.29	-0.06
22- 5	2.9*	2.3*	8.4	0.34	0.14	70.5	0.16	0.32	0.06
22- 6	15.6	9.1	0.7*	0.52	0.18	58.7	0.27	0.43	0.15
22- 7	-3.4*	-4.1*	13.0	0.49	-0.08	69.1	-0.01	0.42	0.19
22- 8	-12.1	-11.4	17.1	0.57	-0.36	66.8	-0.21	0.43	0.34
22- 9	-22.1	-17.7	20.9	0.61	-0.66	64.2	-0.42	0.37	0.50
22-10	-27.7	-16.2	27.4	0.73	-0.74	60.1	-0.38	0.36	0.64
22-11	-2.6	-6.4	-17.0	-0.24	-0.60	-32.3	-0.34	-0.50	-0.17
22-12	-10.6	-13.0	-23.4	-0.56	-0.90	-28.9	-0.64	-0.82	-0.15
22-13	-12.7	-11.0	-27.2	-0.59	-1.12	-19.6	-0.65	-1.06	-0.17
22-14	-19.4	0.0*	-28.8	-0.47	-1.60	-5.5	-0.48	-1.59	-0.11
22-15	-24.3	-14.8	-32.9	-0.89	-1.56	-8.6	-0.91	-1.55	-0.10
22-16	-33.7	-46.3	-31.1	-1.06	-1.71	2.3	-1.07	-1.71	0.03
22-17	-25.6	-19.8	-38.4	-1.05	-1.69	-13.9	-1.09	-1.65	-0.15
22-18	-20.0	-9.9	-29.3	-0.70	-1.41	-8.8	-0.72	-1.39	-0.11
22-19	-18.6	-17.0	-26.1	-0.81	-1.11	-17.6	-0.83	-1.08	-0.09
22-20	-6.2	-16.9	-23.5	-0.43	-0.84	-51.6	-0.68	-0.59	-0.20
45- 1	1.2	18.5	40.2	1.34	0.43	48.3	0.84	0.94	0.45
45- 2	12.8	16.9	33.6	1.27	0.71	60.6	0.85	1.14	0.24
45- 3	21.3	23.7	36.9	1.47	1.03	62.3	1.12	1.37	0.18
45- 4	23.6	32.2	38.0	1.49	1.15	39.6	1.35	1.29	0.17
45- 5	23.9	41.9	45.6	1.79	1.19	28.3	1.66	1.32	0.25
45- 6	47.6	24.5	22.0	1.87	1.11	40.6	1.55	1.43	0.37
45- 7	16.2	24.7	51.6	1.91	0.99	58.8	1.24	1.67	0.41
45- 8	13.9	8.8	40.3	1.68	0.64	72.0	0.74	1.58	0.30
45- 9	5.8	-1.3	32.7	1.39	0.26	73.4	0.35	1.30	0.31
45-10	-3.1*	-10.4	27.3	1.15	-0.11	73.0	-0.00	1.04	0.35
45-11	24.4	12.0	-9.6	0.72	-0.09	-37.5	0.42	0.21	-0.39
45-12	19.2	1.7	-24.2	0.40	-0.62	-39.5	-0.01	-0.21	-0.50
45-13	-7.0	-17.7	-42.3	-0.62	-1.49	-34.2	-0.89	-1.22	-0.41
45-14	-35.0	-19.2	-38.7	-1.17	-1.99	-3.0	-1.17	-1.99	-0.04
45-15	-46.9	-22.3	-30.6	-1.24	-2.09	13.2	-1.28	-2.04	0.19
45-16	-38.8	-62.2	-49.9	-1.47	-2.33	23.6	-1.61	-2.19	0.32
45-17	-43.1	-23.8	-45.8	-1.43	-2.38	-1.9	-1.43	-2.38	-0.03
45-18	-26.0	-23.3	-60.8	-1.25	-2.47	-20.5	-1.40	-2.32	-0.40
45-19	-24.0	-17.5	-42.0	-1.00	-1.83	-15.1	-1.06	-1.77	-0.21
45-20	-12.1	-16.6	-35.2	-0.70	-1.32	-29.3	-0.85	-1.18	-0.27
67- 1	-20.4	17.5	46.8	1.35	-0.22	41.3	0.66	0.47	0.78

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-17.6	31.4	60.4	1.85	-0.01	37.8	1.15	0.69	0.90
67- 3	-15.0	44.1	69.4	2.22	0.12	34.1	1.56	0.78	0.97
67- 4	46.4	-14.7	14.3	2.40	0.20	44.8	1.31	1.29	1.10
67- 5	-11.3	27.5	80.0	2.54	0.41	49.3	1.31	1.63	1.05
67- 6	-7.1	27.4	76.6	2.47	0.51	50.0	1.32	1.66	0.97
67- 7	-0.3	32.3	70.1	2.31	0.68	47.1	1.44	1.55	0.81
67- 8	6.4	24.7	52.8	1.82	0.72	50.9	1.16	1.38	0.54
67- 9	10.2	9.1	31.0	1.24	0.53	68.9	0.62	1.15	0.24
67-10	3.3	0.8	22.1	0.90	0.19	71.3	0.26	0.83	0.22
67-11	0.1	1.6	27.1	1.00	0.17	65.8	0.31	0.86	0.31
67-12	-7.7	-6.7	14.0	0.47	-0.20	66.0	-0.09	0.36	0.25
67-13	-6.1	-14.4	-1.4	0.09	-0.41	83.8	-0.31	0.08	0.05
67-14	-5.7	1.4*	-9.1	-0.11	-0.52	69.5	-0.47	-0.16	0.14
67-15	-17.3	-12.6	-7.8	-0.41	-0.64	46.8	-0.54	-0.52	0.11
67-16	-17.3	-13.2	-24.0	-0.70	-1.07	-12.3	-0.71	-1.06	-0.08
67-17	-14.6	-13.3	-39.0	-0.73	-1.57	-21.0	-0.84	-1.46	-0.28
67-18	-10.0	-9.6	-46.8	-0.61	-1.82	-22.2	-0.78	-1.65	-0.43
67-19	0.3	-6.2	-46.3	-0.32	-1.65	-27.2	-0.60	-1.37	-0.54
67-20	8.0	-6.3	-41.2	-0.10	-1.33	-33.7	-0.37	-0.95	-0.57
90- 1	6.3	-31.5	-3.2	0.84	-0.71	49.1	-0.04	0.18	0.76
90- 2	-42.5	-8.9	43.0	1.00	-0.98	48.5	-0.11	0.13	0.99
90- 3	-52.0	-5.4	48.0	1.07	-1.24	46.9	-0.17	-0.01	1.15
90- 4	-52.9	-5.4	46.1	1.00	-1.29	46.1	-0.19	-0.10	1.14
90- 5	-42.3	-2.9	35.1	0.78	-1.05	44.5	-0.14	-0.17	0.89
90- 6	-32.4	-2.2	25.6	0.52	-0.82	43.8	-0.12	-0.18	0.67
90- 7	-24.4	-0.2	18.5	0.37	-0.62	41.4	-0.06	-0.19	0.49
90- 8	-16.0	1.1	12.0	0.24	-0.42	38.8	-0.01	-0.16	0.32
90- 9	-12.3	1.4	10.3	0.22	-0.31	39.0	0.01	-0.10	0.26
90-10	-10.4	2.5	10.5	0.25	-0.25	38.5	0.05	-0.05	0.24
90-11	-7.6	33.6	13.1	0.87	-0.63	54.3	-0.12	0.36	0.71
90-12	-24.1	-3.7	33.6	0.90	-0.49	53.2	0.01	0.40	0.67
90-13	-13.7	-0.6	27.2	0.79	-0.21	54.9	0.12	0.46	0.47
90-14	1.4	-0.1	15.8	0.63	0.11	70.2	0.17	0.57	0.17
90-15	15.1	0.3	2.7*	0.63	0.14	-72.2	0.18	0.58	-0.14
90-16	24.5	1.2	-11.3	0.71	-0.15	-53.3	0.16	0.41	-0.41
90-17	27.5	-1.8	-17.2	0.76	-0.32	-53.7	0.06	0.38	-0.52
90-18	31.2	-0.1	-22.0	0.82	-0.42	-50.1	0.09	0.31	-0.61
90-19	32.2	1.2	-25.2	0.82	-0.51	-47.3	0.10	0.20	-0.66
90-20	31.7	0.8	-28.0	0.77	-0.61	-45.9	0.06	0.10	-0.69
180- 1	10.6	4.2	-4.8	0.30	-0.06	-40.2	0.15	0.09	-0.18
180- 2	11.2	5.3	-3.9	0.34	-0.02	-39.0	0.19	0.12	-0.17
180- 3	6.3	3.8	-0.5	0.20	0.04	-37.1	0.14	0.10	-0.08
180- 4	0.4	2.4	3.8	0.13	0.05	39.6	0.10	0.08	0.04
180- 5	-2.5	2.9	7.8	0.23	-0.01	43.3	0.12	0.11	0.12
180- 6	11.9	2.5	-5.5	0.34	-0.06	42.5	0.16	0.12	0.20
180- 7	-10.1	1.5	13.9	0.36	-0.20	46.0	0.07	0.09	0.28
180- 8	-15.0	1.2	18.2	0.45	-0.31	45.7	0.06	0.08	0.38
180- 9	-25.5	1.8	27.9	0.67	-0.56	44.4	0.06	0.04	0.62
180-10	-26.9	2.4	28.1	0.66	-0.61	43.1	0.07	-0.02	0.63
180-11	-0.3	0.1	-0.7	-0.01	-0.04	-8.1	-0.01	-0.04	-0.00
180-12	1.6	0.4	-1.9	0.03	-0.05	-35.7	0.01	-0.02	-0.04
180-13	3.1	-0.0	-2.7	0.08	-0.06	-47.2	0.00	0.01	-0.07
180-14	3.7	0.3	-3.3	0.09	-0.07	-48.3	0.01	0.01	-0.08
180-15	4.4	-0.1	-4.2	0.10	-0.10	-46.1	-0.00	0.01	-0.10
180-16	-3.2	1.0	4.5	0.12	-0.06	-48.2	0.02	0.04	-0.09
180-17	4.6	-0.3	-3.5	0.12	-0.07	-50.8	0.00	0.04	-0.09
180-18	5.8	-0.1	-3.9	0.16	-0.07	-51.2	0.02	0.07	-0.11
180-19	10.2	0.8	-7.2	0.26	-0.14	-47.3	0.05	0.08	-0.20
180-20	15.4	1.5	-12.4	0.38	-0.26	-45.0	0.06	0.06	-0.32
202- 1	14.2	-1.9	-4.5	0.47	-0.06	-62.9	0.05	0.36	-0.22
202- 2	16.3	1.8	-3.7	0.52	0.02	-57.1	0.17	0.37	-0.23
202- 3	15.2	3.5	-3.2	0.48	0.04	-52.5	0.20	0.31	-0.21
202- 4	12.0	6.3	2.0	0.42	0.19	-49.0	0.29	0.32	-0.12
202- 5	9.2	8.7	8.2	0.39	0.36	-44.9	0.37	0.37	-0.01
202- 6	13.1	8.1	7.8	0.53	0.37	34.2	0.48	0.42	0.08
202- 7	2.6*	6.1	15.7	0.56	0.23	57.3	0.32	0.46	0.15

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-3.2*	1.9*	19.8	0.66	0.05	59.5	0.21	0.50	0.26
202- 9	-11.9	-2.8*	23.3	0.70	-0.21	57.9	0.05	0.44	0.41
202-10	-19.1	-6.4	25.7	0.71	-0.42	56.7	-0.08	0.37	0.52
202-11	-7.3	-11.7	-12.8	-0.36	-0.51	-60.7	-0.47	-0.39	-0.06
202-12	-10.9	-14.2	-17.7	-0.53	-0.69	-44.2	-0.61	-0.62	-0.08
202-13	-11.2	-12.0	-22.4	-0.55	-0.89	-24.9	-0.61	-0.83	-0.13
202-14	-9.9	-6.9	-24.3	-0.44	-1.02	-17.5	-0.50	-0.97	-0.17
202-15	-12.6	-9.0	-24.5	-0.54	-1.06	-15.9	-0.57	-1.02	-0.14
202-16	-26.0	-29.1	-13.1	-0.57	-1.10	-12.2	-0.60	-1.08	-0.11
202-17	-13.7	-10.2	-23.9	-0.57	-1.04	-15.3	-0.61	-1.00	-0.12
202-18	-7.1	-11.2	-19.9	-0.42	-0.73	-35.3	-0.52	-0.63	-0.15
202-19	-4.0	-13.2	-18.2	-0.30	-0.65	-53.3	-0.52	-0.43	-0.16
202-20	4.4	-10.1	-18.7	-0.03	-0.58	-52.2	-0.37	-0.24	-0.27
225- 1	1.7	1.3	6.7	0.27	0.09	69.3	0.11	0.25	0.06
225- 2	10.3	5.3	9.1	0.52	0.31	-86.2	0.31	0.52	-0.01
225- 3	20.1	12.5	11.3	0.80	0.55	-63.1	0.60	0.75	-0.10
225- 4	24.6	21.1	13.4	0.95	0.68	-34.8	0.86	0.77	-0.13
225- 5	27.6	28.4	17.9	1.15	0.81	-20.4	1.11	0.85	-0.11
225- 6	22.5	17.2	27.2	1.25	0.88	6.4	1.25	0.88	0.04
225- 7	17.6	27.6	31.9	1.24	0.88	34.1	1.13	1.00	0.17
225- 8	13.1	17.2	31.6	1.20	0.71	59.6	0.84	1.08	0.21
225- 9	4.4	5.8	33.2	1.25	0.36	66.0	0.51	1.10	0.33
225-10	-5.4	-2.4*	28.9	1.02	-0.01	64.8	0.18	0.83	0.40
225-11	1.2	-0.5*	-6.7	-0.01	-0.22	-29.7	-0.07	-0.17	-0.09
225-12	-3.2	-7.0	-16.1	-0.25	-0.57	-34.0	-0.35	-0.47	-0.15
225-13	-9.0	-17.2	-40.8	-0.66	-1.48	-32.0	-0.89	-1.25	-0.37
225-14	-18.5	-20.6	-40.3	-0.94	-1.58	-25.6	-1.06	-1.46	-0.25
225-15	-43.1	-22.0	-21.5	-1.04	-1.73	23.2	-1.15	-1.62	0.25
225-16	-33.4	-50.4	-37.7	-1.18	-1.87	19.2	-1.25	-1.80	0.21
225-17	-41.4	-20.9	-32.3	-1.20	-1.96	7.9	-1.21	-1.95	0.10
225-18	-21.2	-19.0	-40.3	-0.97	-1.67	-19.5	-1.05	-1.59	-0.22
225-19	-20.3	-16.5	-27.6	-0.84	-1.22	-13.0	-0.86	-1.20	-0.08
225-20	-8.6	-9.5	-24.4	-0.46	-0.95	-24.1	-0.55	-0.87	-0.18
247- 1	-15.7	5.9	16.5	0.41	-0.37	35.6	0.15	-0.11	0.37
247- 2	-9.7	22.0	30.8	0.99	-0.09	30.2	0.72	0.19	0.47
247- 3	-3.7	36.6	40.9	1.46	0.13	25.5	1.21	0.38	0.51
247- 4	24.6	-9.0	20.1	1.68	0.23	37.0	1.16	0.76	0.70
247- 5	-3.9	28.9	59.1	1.91	0.45	43.8	1.21	1.15	0.73
247- 6	-0.3	33.3	60.9	2.01	0.59	42.3	1.37	1.23	0.71
247- 7	7.1	35.3	61.4	2.10	0.84	44.0	1.49	1.45	0.63
247- 8	12.4	35.0	58.3	2.05	0.98	45.4	1.51	1.52	0.53
247- 9	10.3	12.2	36.6	1.41	0.60	65.3	0.74	1.27	0.30
247-10	1.1	-1.5	26.9	1.07	0.14	70.1	0.24	0.96	0.30
247-11	-7.2	10.6	20.4	0.61	-0.05	36.9	0.37	0.19	0.32
247-12	-12.4	-2.6*	8.9	0.17	-0.32	47.3	-0.10	-0.06	0.25
247-13	-25.8	-15.2	3.0*	-0.15	-0.83	52.4	-0.58	-0.40	0.33
247-14	0.1*	-12.1	-31.4	-0.30	-1.04	36.4	-0.56	-0.78	0.36
247-15	-31.9	-10.2	-10.2	-0.55	-1.26	22.5	-0.65	-1.15	0.25
247-16	-26.3	-8.4	-26.7	-0.72	-1.55	-0.3	-0.72	-1.55	-0.00
247-17	-24.1	-9.5	-39.6	-0.82	-1.91	-9.5	-0.85	-1.88	-0.18
247-18	-29.1	-12.9	-41.6	-0.98	-2.05	-7.8	-1.00	-2.03	-0.14
247-19	-7.8	-5.5	-39.5	-0.46	-1.57	-20.6	-0.59	-1.43	-0.37
247-20	1.9	-0.4	-36.6	-0.15	-1.34	-24.3	-0.35	-1.14	-0.44
270- 1	-9.9	-28.7	5.0	0.53	-0.74	37.1	0.07	-0.28	0.61
270- 2	-37.9	6.1	38.7	0.91	-0.88	40.7	0.15	-0.12	0.88
270- 3	-42.8	7.4	49.2	1.20	-0.93	42.4	0.23	0.04	1.06
270- 4	-44.7	6.2	53.8	1.33	-0.94	44.0	0.23	0.15	1.14
270- 5	-36.7	7.8	48.9	1.25	-0.73	43.9	0.30	0.22	0.99
270- 6	-25.1	5.5	36.3	0.95	-0.47	45.1	0.24	0.24	0.71
270- 7	-17.2	1.3	27.0	0.73	-0.31	49.7	0.13	0.30	0.51
270- 8	-11.4	-1.1	18.7	0.52	-0.21	53.8	0.05	0.27	0.35
270- 9	-9.2	-1.7	14.9	0.42	-0.18	55.4	0.02	0.23	0.28
270-10	-7.7	-1.4	14.1	0.41	-0.13	56.4	0.03	0.24	0.25
270-11	-0.6	-0.6	-0.6	-0.02	-0.03	-77.8	-0.03	-0.02	-0.00
270-12	-36.3	2.7	23.4	0.45	-1.00	36.5	-0.06	-0.49	0.69
270-13	-33.8	1.4	14.0	0.19	-1.03	32.3	-0.16	-0.69	0.55

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-25.7	1.8	2.9	-0.04	-0.94	23.7	-0.18	-0.79	0.33
270-15	-11.0	-0.4	-12.0	-0.24	-0.75	-1.2	-0.24	-0.75	-0.01
270-16	1.1*	0.4	-21.6	-0.08	-0.80	-23.3	-0.19	-0.69	-0.26
270-17	12.7	-0.5	-29.9	0.16	-0.89	-34.7	-0.18	-0.55	-0.49
270-18	21.0	0.1	-33.7	0.38	-0.92	-38.4	-0.12	-0.42	-0.63
270-19	24.8	0.1	-35.6	0.48	-0.94	-39.8	-0.10	-0.36	-0.70
270-20	25.9	-2.2	-36.4	0.50	-0.95	-42.2	-0.16	-0.30	-0.72
0- 6	2.0*	-4.8	-10.9	-0.04	-0.34	-46.4	-0.20	-0.18	-0.15
11- 1	6.6	0.6*	-4.1	0.18	-0.07	-48.5	0.04	0.07	-0.12
22- 6	15.6	9.1	0.7*	0.52	0.18	-41.3	0.37	0.33	-0.17
33- 1	32.6	20.0	11.4	1.19	0.69	-50.5	0.90	0.99	-0.24
45- 6	47.6	24.5	22.0	1.87	1.11	-64.4	1.26	1.73	-0.30
56- 1	59.4	12.2	26.2	2.64	1.03	-75.8	1.13	2.54	-0.38
67- 6	46.4	-14.7	14.3	2.40	0.20	-80.2	0.26	2.34	-0.37
78- 1	18.1	-35.7	1.0	1.47	-0.65	-84.7	-0.64	1.45	-0.20
90- 1	6.3	-31.5	-3.2	0.84	-0.71	-85.9	-0.70	0.83	-0.11
0-16	-0.1	-2.3	-1.1	0.02	-0.07	-82.1	-0.07	0.02	-0.01
11-11	-10.1	-15.1	-11.8	-0.37	-0.57	-84.2	-0.56	-0.37	-0.02
22-16	-33.7	-46.3	-31.1	-1.06	-1.71	87.3	-1.71	-1.07	0.03
33-11	-38.9	-58.7	-40.6	-1.39	-2.18	-85.2	-2.18	-1.40	-0.07
45-16	-38.8	-62.2	-49.9	-1.47	-2.33	-81.4	-2.31	-1.49	-0.13
56-11	-27.6	-39.9	-34.3	-1.11	-1.55	-79.7	-1.53	-1.12	-0.08
67-14	-5.7	1.4*	-9.1	-0.11	-0.52	-5.5	-0.11	-0.52	-0.04
78-11	5.6	33.3	7.4	0.90	-0.34	1.0	0.90	-0.34	0.02
90-11	-7.6	33.6	13.1	0.87	-0.63	9.3	0.83	-0.59	0.24
180- 6	11.9	2.5	-5.5	0.34	-0.06	-47.5	0.12	0.16	-0.20
191- 1	10.9	2.3	-3.6	0.33	-0.01	-50.4	0.13	0.19	-0.17
202- 6	13.1	8.1	7.8	0.53	0.37	-65.8	0.39	0.50	-0.06
213- 1	14.5	11.8	14.7	0.69	0.56	89.1	0.56	0.69	0.00
225- 6	22.5	17.2	27.2	1.25	0.88	81.4	0.89	1.24	0.05
236- 1	33.0	11.7	29.7	1.80	0.89	-87.6	0.99	1.80	-0.04
247- 6	24.6	-9.0	20.1	1.68	0.23	-88.0	0.23	1.68	-0.05
258- 1	5.9	-29.1	8.3	1.14	-0.53	89.1	-0.53	1.14	0.03
270- 1	-9.9	-28.7	5.0	0.53	-0.74	82.1	-0.71	0.50	0.17
180-16	-3.2	1.0	4.5	0.12	-0.06	81.8	0.04	0.02	0.09
191-11	-18.1	-12.8	-0.6	-0.19	-0.62	55.7	-0.48	-0.32	0.20
202-16	-26.0	-29.1	-13.1	-0.57	-1.10	72.8	-1.06	-0.62	0.15
213-11	-32.4	-40.3	-24.8	-0.94	-1.51	81.1	-1.50	-0.96	0.09
225-16	-33.4	-50.4	-37.7	-1.18	-1.87	-85.8	-1.87	-1.18	-0.05
236-11	-20.2	-38.4	-39.2	-0.98	-1.57	-66.2	-1.47	-1.07	-0.22
247-14	0.1*	-12.1	-31.4	-0.30	-1.04	-38.6	-0.59	-0.75	-0.36
258-11	11.4	21.8	-16.3	0.54	-0.75	-14.8	0.45	-0.66	-0.32
270-11	-0.6	-0.6	-0.6	-0.02	-0.03	57.2	-0.03	-0.03	0.00
400-01	2.5	12.4	-1.5	0.30	-0.26	40.2	0.07	-0.02	0.27
400-11	0.5	-0.7	2.9	0.13	0.01	31.6	0.10	0.04	0.05
401-01	0.3	-1.3	-3.0	-0.02	-0.09	-45.4	-0.06	-0.06	-0.04
401-02	8.0	-30.2					-0.04	-0.92	
401-03	-1.5	2.0					-0.03	0.05	
401-04	-6.9	28.2					0.05	0.86	
402-01	1.0	-0.0	-0.6	0.03	-0.01	-53.5	0.00	0.01	-0.02
402-02	-0.3	0.1					-0.01	0.00	
402-03	0.5	0.1					0.02	0.01	
402-04	-0.3	0.3					-0.01	0.01	
403-01	-19.6	-1.5	18.7	0.42	-0.46	46.6	-0.04	0.01	0.44
403-02	-0.4	-1.0					-0.02	-0.04	
403-03	-0.8	1.9					-0.01	0.05	
403-04	-0.4	1.0					-0.00	0.03	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, IN-PLANE MOMENT LOADING ON BRANCH, -M3Z

NOMINAL LOAD = 6.208E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	19.0	24.4	28.5	1.13	0.91	41.2	1.03	1.00	0.11
0- 2	23.6	35.5	37.6	1.51	1.12	27.6	1.42	1.20	0.16
0- 3	22.3	29.6	30.3	1.25	1.01	25.3	1.20	1.05	0.09
0- 4	20.2	24.5	26.1	1.07	0.92	33.2	1.02	0.96	0.07
0- 5	22.2	28.0	24.6	1.11	0.89	7.3	1.11	0.90	0.03
0- 6	23.4	20.5	23.4	1.07	0.93	0.1	1.07	0.93	0.00
0- 7	23.7	27.2	22.2	1.08	0.88	-5.0	1.08	0.89	-0.02
0- 8	26.0	28.6	21.7	1.14	0.90	-12.0	1.13	0.91	-0.05
0- 9	30.3	34.5	25.1	1.36	1.02	-10.4	1.34	1.03	-0.06
0-10	23.0	24.2	19.3	0.99	0.82	-15.3	0.98	0.83	-0.04
0-11	-8.7	-9.2	-12.4	-0.40	-0.50	-27.0	-0.42	-0.48	-0.04
0-12	-23.1	-20.7	-21.9	-0.92	-1.01	8.7	-0.92	-1.01	0.01
0-13	-26.5	-11.8	-17.6	-0.69	-1.20	11.7	-0.71	-1.18	0.10
0-14	-23.2	-8.5	-17.5	-0.59	-1.16	6.7	-0.60	-1.15	0.07
0-15	-21.3	-13.5	-21.1	-0.73	-1.09	0.4	-0.73	-1.09	0.00
0-16	-22.3	-27.8	-20.3	-0.76	-1.06	-4.4	-0.76	-1.06	-0.02
0-17	-19.6	-16.0	-23.2	-0.78	-1.05	-9.1	-0.79	-1.04	-0.04
0-18	-17.5	-14.2	-22.3	-0.71	-1.00	-11.4	-0.72	-0.99	-0.06
0-19	-16.9	-19.1	-20.3	-0.76	-0.84	-52.0	-0.81	-0.79	-0.04
0-20	-5.5	-5.6	-5.3	-0.23	-0.24	77.4	-0.23	-0.23	0.00
22- 1	2.9	7.4	32.5	1.10	0.42	45.5	0.75	0.76	0.34
22- 2	7.1	22.8	35.6	1.25	0.59	42.1	0.95	0.88	0.33
22- 3	15.8	29.7	35.5	1.34	0.85	33.8	1.19	1.00	0.23
22- 4	22.4	32.2	31.1	1.31	0.98	19.3	1.27	1.02	0.10
22- 5	25.8	32.9	28.8	1.30	1.04	7.6	1.30	1.04	0.04
22- 6	25.8	23.2	27.2	1.21	1.06	3.8	1.21	1.06	0.01
22- 7	31.0	34.5	26.4	1.37	1.08	-10.9	1.36	1.10	-0.05
22- 8	30.8	36.1	24.2	1.39	0.97	-10.5	1.38	0.98	-0.08
22- 9	34.0	36.9	18.9	1.43	0.84	-17.9	1.38	0.89	-0.17
22-10	30.3	26.3	8.4	1.13	0.53	-28.8	0.99	0.67	-0.25
22-11	7.3	9.5	-1.2	0.31	-0.05	-16.7	0.28	-0.02	-0.10
22-12	3.7	-4.2	-13.9	-0.01	-0.42	-42.0	-0.20	-0.24	-0.20
22-13	0.4	-9.5	-20.5	-0.19	-0.67	-43.6	-0.42	-0.44	-0.24
22-14	-4.7	-0.7	-20.2	-0.21	-0.86	-16.7	-0.25	-0.80	-0.18
22-15	-8.3	-11.6	-17.7	-0.45	-0.67	-36.6	-0.53	-0.59	-0.11
22-16	-16.7	-13.4	-10.4	-0.51	-0.65	-40.8	-0.57	-0.59	-0.07
22-17	-11.5	-13.6	-15.5	-0.53	-0.63	-46.2	-0.58	-0.58	-0.05
22-18	-16.6	-7.7	-11.2	-0.44	-0.75	11.8	-0.45	-0.74	0.06
22-19	-18.9	-11.1	-4.2	-0.33	-0.67	43.1	-0.48	-0.51	0.17
22-20	-0.6	6.8	2.2	0.18	-0.11	6.4	0.17	-0.10	0.03
45- 1	-18.1	-6.1	-5.5	-0.31	-0.70	23.9	-0.37	-0.64	0.15
45- 2	-23.4	-2.2	4.6	-0.04	-0.77	31.5	-0.24	-0.57	0.32
45- 3	-15.8	8.5	17.9	0.47	-0.38	33.1	0.22	-0.13	0.39
45- 4	-3.3	18.4	20.3	0.72	0.01	25.0	0.59	0.14	0.27
45- 5	5.5	25.8	19.2	0.88	0.18	13.6	0.84	0.22	0.16
45- 6	12.5	0.2	13.1	0.84	0.26	14.2	0.80	0.29	0.14
45- 7	8.8	32.3	28.8	1.19	0.42	18.2	1.12	0.49	0.23
45- 8	14.1	33.3	17.9	1.09	0.28	3.1	1.08	0.29	0.04
45- 9	20.7	30.6	4.9	1.00	0.10	-12.0	0.96	0.14	-0.18
45-10	19.5	27.8	2.2	0.90	0.03	-13.5	0.86	0.07	-0.20
45-11	0.0	14.4	33.0	1.09	0.32	48.6	0.66	0.75	0.38
45-12	6.1	17.5	36.0	1.26	0.55	51.7	0.82	0.98	0.34
45-13	10.6	8.2	30.4	1.24	0.51	70.6	0.59	1.16	0.23
45-14	22.8	1.9	12.3	1.13	0.37	-80.7	0.39	1.11	-0.12
45-15	30.5	3.7	6.6	1.24	0.36	-70.6	0.45	1.14	-0.28
45-16	15.0	45.4	30.0	1.52	0.41	-66.0	0.59	1.33	-0.41
45-17	16.3	-2.9	24.6	1.42	0.33	85.0	0.34	1.42	0.10
45-18	2.5	8.2	24.2	0.85	0.30	57.6	0.45	0.69	0.25
45-19	11.5	11.2	10.6	0.49	0.46	-36.1	0.48	0.47	-0.01
45-20	17.5	19.3	7.1	0.73	0.33	-18.5	0.69	0.37	-0.12
67- 1	-6.6	-21.6	-26.8	-0.46	-0.97	-57.9	-0.83	-0.60	-0.23

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-9.8	-22.0	-24.7	-0.54	-0.94	-61.2	-0.85	-0.63	-0.17
67- 3	-11.1	-22.3	-23.4	-0.56	-0.92	-64.8	-0.86	-0.62	-0.14
67- 4	-19.4	-10.1	-16.4	-0.58	-0.95	-49.6	-0.80	-0.74	-0.18
67- 5	-11.2	-15.7	-23.0	-0.59	-0.87	-38.4	-0.70	-0.77	-0.14
67- 6	-12.2	-12.3	-18.5	-0.56	-0.76	-22.7	-0.59	-0.73	-0.07
67- 7	-11.8	-1.8*	-12.6	-0.28	-0.76	-1.1	-0.28	-0.76	-0.01
67- 8	-11.2	5.6	-5.2	-0.03	-0.68	6.1	-0.03	-0.67	0.07
67- 9	-7.3	12.9	-2.7	0.20	-0.63	3.6	0.20	-0.63	0.05
67-10	-1.8	14.6	-0.5	0.31	-0.41	1.2	0.31	-0.41	0.02
67-11	-2.7	5.2	27.7	0.93	0.15	57.8	0.37	0.71	0.35
67-12	2.2	7.4	44.9	1.63	0.39	63.5	0.64	1.38	0.49
67-13	24.9	-3.4	27.8	1.82	0.44	88.6	0.44	1.82	0.03
67-14	17.7	56.4	38.5	1.90	0.51	85.1	0.52	1.89	0.12
67-15	9.7	2.7	49.6	2.05	0.50	71.7	0.65	1.89	0.46
67-16	2.7	13.7	62.3	2.20	0.58	61.1	0.96	1.83	0.69
67-17	4.1	13.2	58.5	2.10	0.59	61.8	0.92	1.76	0.63
67-18	9.0	9.1	47.4	1.83	0.58	67.4	0.77	1.65	0.44
67-19	14.0	7.1	27.0	1.22	0.53	77.1	0.57	1.19	0.15
67-20	17.1	12.0	12.8	0.72	0.56	-72.2	0.57	0.71	-0.05
90- 1	2.4	20.9	-3.6	0.57	-0.62	-48.4	-0.10	0.04	-0.59
90- 2	22.0	-7.4	-29.2	0.44	-0.75	-49.2	-0.24	-0.06	-0.59
90- 3	17.4	-12.5	-29.9	0.29	-0.83	-52.3	-0.41	-0.13	-0.55
90- 4	7.8	-16.4	-26.8	0.02	-0.84	-55.9	-0.57	-0.25	-0.40
90- 5	-3.6	-15.4	-18.0	-0.27	-0.66	-61.4	-0.57	-0.36	-0.17
90- 6	-9.9	-12.6	-12.2	-0.43	-0.52	-71.5	-0.51	-0.44	-0.03
90- 7	-13.5	-10.5	-8.4	-0.41	-0.53	39.6	-0.46	-0.48	0.06
90- 8	-14.4	-7.5	-4.9	-0.29	-0.53	32.9	-0.37	-0.46	0.11
90- 9	-14.7	-7.0	-3.4	-0.25	-0.53	35.0	-0.34	-0.43	0.13
90-10	-14.5	-7.0	-2.6	-0.22	-0.51	38.0	-0.33	-0.40	0.14
90-11	-3.4	0.7	3.5	0.08	-0.08	84.8	-0.08	0.08	0.01
90-12	-8.8	-3.1	14.5	0.42	-0.18	58.5	-0.02	0.26	0.27
90-13	-14.5	-0.2	27.1	0.77	-0.23	53.7	0.12	0.42	0.48
90-14	-16.5	0.7	35.6	1.05	-0.22	54.4	0.20	0.62	0.60
90-15	-18.0	1.1	37.9	1.10	-0.25	53.8	0.22	0.63	0.64
90-16	-14.7	-2.9	32.0	0.97	-0.23	58.1	0.11	0.64	0.54
90-17	-10.8	-0.5	28.2	0.87	-0.12	57.7	0.16	0.59	0.45
90-18	-4.6	-2.5	22.5	0.79	-0.03	65.1	0.12	0.65	0.31
90-19	-1.5	-2.9	16.7	0.65	0.01	69.6	0.08	0.57	0.21
90-20	1.7	-2.0	11.7	0.52	0.06	75.2	0.09	0.49	0.11
180- 1	-14.3	-14.4	-14.8	-0.62	-0.63	-28.7	-0.62	-0.63	-0.01
180- 2	-17.9	-21.4	-17.4	-0.67	-0.84	87.9	-0.84	-0.67	0.01
180- 3	-15.3	-15.7	-14.0	-0.60	-0.66	74.7	-0.65	-0.60	0.01
180- 4	-13.2	-12.4	-11.2	-0.50	-0.54	50.8	-0.53	-0.52	0.02
180- 5	-13.2	-12.4	-11.0	-0.49	-0.55	52.7	-0.53	-0.51	0.03
180- 6	-10.4	-10.8	-12.4	-0.46	-0.52	59.8	-0.50	-0.47	0.02
180- 7	-11.5	-13.1	-10.0	-0.40	-0.52	81.3	-0.52	-0.40	0.02
180- 8	-11.5	-14.2	-10.2	-0.39	-0.54	84.7	-0.54	-0.39	0.01
180- 9	-11.7	-17.5	-11.5	-0.36	-0.63	89.4	-0.63	-0.36	0.00
180-10	-7.5	-14.2	-7.6	-0.17	-0.48	-89.8	-0.48	-0.17	-0.00
180-11	11.7	5.3	9.2	0.57	0.33	-83.2	0.33	0.56	-0.03
180-12	14.0	7.8	13.5	0.73	0.45	-88.6	0.45	0.73	-0.01
180-13	11.9	2.2	13.0	0.77	0.30	88.4	0.30	0.77	0.01
180-14	11.0	0.8	9.8	0.67	0.22	-88.1	0.22	0.67	-0.01
180-15	8.2	3.2	9.3	0.50	0.25	87.1	0.25	0.50	0.01
180-16	7.2	9.7	6.1	0.36	0.21	85.3	0.21	0.36	0.01
180-17	5.8	5.4	6.3	0.28	0.24	81.8	0.24	0.28	0.00
180-18	2.3	6.7	2.9	0.21	0.02	2.1	0.21	0.02	0.01
180-19	-1.2	8.0	-0.0	0.17	-0.22	1.9	0.17	-0.22	0.01
180-20	-9.3	-9.8	-10.1	-0.41	-0.43	-48.5	-0.42	-0.42	-0.01
202- 1	-5.8	-8.3	-7.0	-0.23	-0.32	-81.4	-0.32	-0.23	-0.01
202- 2	-12.3	-14.3	-8.2	-0.34	-0.55	76.6	-0.53	-0.35	0.05
202- 3	-17.9	-17.4	-5.9	-0.32	-0.70	66.3	-0.64	-0.38	0.14
202- 4	-24.5	-18.3	-1.7	-0.27	-0.85	57.2	-0.68	-0.44	0.26
202- 5	-27.3	-17.6	1.3	-0.21	-0.90	54.0	-0.66	-0.45	0.33
202- 6	4.1	-12.2	-29.8	-0.16	-0.94	56.1	-0.70	-0.40	0.36
202- 7	-24.3	-23.3	0.4	-0.13	-0.90	66.2	-0.77	-0.25	0.29

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-25.4	-23.5	0.9	-0.13	-0.92	65.2	-0.78	-0.27	0.30
202- 9	-24.3	-21.7	0.4	-0.15	-0.87	64.1	-0.74	-0.29	0.28
202-10	-17.7	-18.9	0.6	-0.05	-0.69	69.3	-0.61	-0.13	0.21
202-11	1.9	-2.5	0.5	0.14	-0.04	-84.8	-0.03	0.14	-0.02
202-12	0.4	3.6	9.2	0.31	0.10	52.6	0.19	0.23	0.10
202-13	-0.8	4.8	14.7	0.49	0.11	52.8	0.25	0.35	0.18
202-14	-0.5	4.2	14.3	0.48	0.11	55.1	0.23	0.36	0.17
202-15	-0.8	3.9	10.7	0.35	0.08	50.2	0.19	0.23	0.13
202-16	10.5	3.8	-1.5	0.33	0.05	47.1	0.18	0.20	0.14
202-17	-2.5	4.3	7.5	0.23	-0.02	35.1	0.15	0.07	0.12
202-18	-0.9	4.0	-3.2	0.05	-0.23	-5.3	0.05	-0.23	-0.03
202-19	-1.3	1.0	-6.7	-0.04	-0.30	-14.3	-0.06	-0.28	-0.06
202-20	-8.5	-11.6	-10.5	-0.35	-0.46	-76.8	-0.45	-0.36	-0.02
225- 1	11.8	9.5	13.0	0.60	0.46	84.2	0.46	0.60	0.01
225- 2	13.3	6.8	10.0	0.62	0.38	-80.4	0.39	0.61	-0.04
225- 3	5.9	0.4	7.8	0.44	0.14	85.8	0.14	0.44	0.02
225- 4	-4.4	-4.4	8.5	0.30	-0.12	67.6	-0.06	0.24	0.15
225- 5	-13.1	-7.0	10.6	0.25	-0.36	58.0	-0.19	0.08	0.27
225- 6	12.8	0.6	-18.6	0.25	-0.49	66.2	-0.37	0.13	0.27
225- 7	-11.9	-26.6	-1.5	0.19	-0.76	82.7	-0.75	0.17	0.12
225- 8	-17.0	-29.4	-1.2	0.11	-0.89	79.4	-0.86	0.08	0.18
225- 9	-17.3	-24.6	0.5	0.06	-0.79	75.6	-0.73	0.01	0.20
225-10	-15.4	-22.5	-1.5	-0.00	-0.72	76.8	-0.69	-0.04	0.16
225-11	3.0	-8.6	-19.6	-0.10	-0.62	-85.7	-0.36	-0.35	-0.26
225-12	1.6	-9.2	-22.2	-0.17	-0.72	-82.4	-0.42	-0.47	-0.27
225-13	-2.2	-5.4	-18.6	-0.22	-0.67	-89.5	-0.33	-0.56	-0.19
225-14	-4.9	-1.6	-11.4	-0.18	-0.52	-13.4	-0.20	-0.50	-0.08
225-15	-16.4	-4.3	-2.8	-0.21	-0.61	26.2	-0.29	-0.53	0.16
225-16	-9.6	-21.4	-12.6	-0.24	-0.72	19.1	-0.29	-0.67	0.15
225-17	-13.2	0.3	-8.4	-0.20	-0.73	6.0	-0.21	-0.72	0.05
225-18	-1.0	-2.8	-15.5	-0.14	-0.56	-26.6	-0.23	-0.48	-0.17
225-19	-6.2	-10.4	-12.7	-0.33	-0.48	-53.5	-0.43	-0.38	-0.08
225-20	-7.4	-13.6	-8.5	-0.21	-0.47	-87.1	-0.47	-0.21	-0.01
247- 1	-3.3	14.1	26.1	0.83	0.14	39.8	0.55	0.43	0.34
247- 2	-3.3	16.9	30.2	0.97	0.18	39.2	0.66	0.50	0.39
247- 3	-5.2	16.2	30.0	0.95	0.12	39.0	0.62	0.44	0.41
247- 4	21.1	-3.8	1.6	0.90	0.07	51.3	0.39	0.58	0.41
247- 5	-3.3	-1.4	21.9	0.78	0.02	65.3	0.15	0.65	0.29
247- 6	-3.7	-4.5	17.6	0.66	-0.06	68.5	0.04	0.56	0.25
247- 7	-3.9	-11.5	8.1	0.43	-0.25	78.1	-0.22	0.40	0.14
247- 8	-6.7	-18.3	-1.1	0.17	-0.51	84.5	-0.50	0.17	0.07
247- 9	-5.6	-17.3	-7.7	-0.04	-0.53	-87.3	-0.53	-0.04	-0.02
247-10	-4.1	-15.0	-10.7	-0.13	-0.51	-78.2	-0.49	-0.14	-0.08
247-11	3.0	-7.0	-14.2	-0.04	-0.44	-49.9	-0.27	-0.20	-0.20
247-12	2.5	-9.0	-24.5	-0.16	-0.79	-40.8	-0.43	-0.52	-0.31
247-13	-3.4	1.6	-21.2	-0.15	-0.91	-16.3	-0.21	-0.85	-0.21
247-14	-20.5	-29.2	-4.3	-0.10	-0.96	-27.9	-0.29	-0.77	-0.36
247-15	6.8	-3.9	-30.1	-0.04	-0.96	-33.6	-0.32	-0.68	-0.43
247-16	9.3	-12.2	-31.3	-0.00	-0.94	-46.7	-0.50	-0.44	-0.47
247-17	8.1	-7.9	-29.4	-0.02	-0.89	-40.9	-0.39	-0.52	-0.43
247-18	7.3	-5.3	-23.2	0.02	-0.70	-40.0	-0.28	-0.40	-0.35
247-19	3.8	-7.3	-13.0	0.01	-0.40	-53.7	-0.26	-0.14	-0.19
247-20	3.5	-7.7	-7.4	0.10	-0.27	-68.3	-0.22	0.05	-0.13
270- 1	-5.9	-24.7	-1.9	0.32	-0.65	42.3	-0.12	-0.21	0.48
270- 2	-24.9	-3.2	17.4	0.33	-0.65	44.3	-0.15	-0.17	0.49
270- 3	-22.6	-4.4	13.6	0.23	-0.61	44.9	-0.19	-0.19	0.42
270- 4	-19.4	-6.6	6.3	0.02	-0.58	45.2	-0.24	-0.28	0.30
270- 5	-14.0	-7.7	-3.3	-0.25	-0.50	40.0	-0.35	-0.39	0.12
270- 6	-8.5	-5.4	-10.6	-0.31	-0.51	-7.3	-0.31	-0.50	-0.02
270- 7	-5.5	-3.4	-13.0	-0.24	-0.56	-16.3	-0.26	-0.53	-0.09
270- 8	-2.7	-0.5	-13.2	-0.13	-0.55	-17.8	-0.17	-0.51	-0.12
270- 9	-0.2	1.6	-12.3	-0.04	-0.50	-18.7	-0.09	-0.45	-0.14
270-10	0.9	3.6	-10.5	0.03	-0.44	-17.0	-0.01	-0.40	-0.13
270-11	1.6	1.1	0.1	0.06	0.02	8.7	0.05	0.02	0.01
270-12	22.2	-0.5	-11.1	0.65	-0.17	-55.1	0.10	0.38	-0.38
270-13	33.8	-0.2	-14.6	1.01	-0.19	-56.0	0.19	0.64	-0.56

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	39.8	-2.0	-11.6	1.30	-0.10	-61.0	0.23	0.98	-0.59
270-15	41.4	0.4	-9.9	1.37	-0.01	-60.5	0.32	1.03	-0.59
270-16	37.9	4.3	-7.0	1.24	0.08	-58.2	0.40	0.92	-0.52
270-17	29.8	8.2	-1.1	1.04	0.19	-61.6	0.38	0.85	-0.36
270-18	22.2	4.0	2.4	0.83	0.23	-64.9	0.34	0.72	-0.23
270-19	16.3	3.7	5.0	0.66	0.25	-70.5	0.29	0.62	-0.13
270-20	11.6	3.6	6.8	0.53	0.25	-78.4	0.26	0.52	-0.08
0- 6	23.4	20.5	23.4	1.07	0.93	-89.9	0.93	1.07	-0.00
11- 1	23.0	22.8	27.4	1.16	1.00	68.8	1.02	1.14	0.05
22- 6	25.8	23.2	27.2	1.21	1.06	83.8	1.06	1.21	0.02
33- 1	23.7	15.2	28.9	1.39	0.86	83.4	0.87	1.39	0.06
45- 6	12.5	0.2	13.1	0.84	0.26	89.2	0.26	0.84	0.01
56- 1	-5.9	-12.7	-5.9	-0.09	-0.41	-89.9	-0.41	-0.09	-0.00
67- 4	-19.4	-10.1	-16.4	-0.58	-0.95	5.4	-0.59	-0.95	0.03
78- 1	-11.6	8.9	-13.0	-0.04	-1.02	-0.9	-0.04	-1.02	-0.02
90- 1	2.4	24.9	-3.6	0.57	-0.62	-3.4	0.55	-0.61	-0.07
0-16	-22.3	-27.8	-20.3	-0.76	-1.06	85.6	-1.06	-0.76	0.02
11-11	-21.9	-28.9	-20.8	-0.74	-1.09	87.9	-1.09	-0.74	0.01
22-16	-16.7	-13.4	-10.4	-0.51	-0.65	44.2	-0.58	-0.58	0.07
33-11	0.3	11.2	5.3*	0.32	-0.08	8.4	0.31	-0.07	0.06
45-16	15.0	45.4	30.0	1.52	0.41	9.0	1.49	0.43	0.17
56-11	28.8	63.1	36.2	2.10	0.68	3.5	2.10	0.69	0.09
67-14	17.7	56.4	38.5	1.90	0.51	10.1	1.86	0.55	0.24
78-11	6.6	29.7	16.3	0.93	0.05	7.4	0.91	0.07	0.11
90-11	-3.4	0.7	3.5	0.08	-0.08	39.8	0.02	-0.01	0.08
180- 6	-10.4	-10.8	-12.4	-0.46	-0.52	-30.2	-0.47	-0.50	-0.02
191- 1	-2.9	-11.7	-21.9	-0.31	-0.75	-42.9	-0.52	-0.55	-0.22
202- 6	4.1	-12.2	-29.8	-0.16	-0.94	-43.9	-0.54	-0.56	-0.39
213- 1	8.1	-5.9	-27.8	0.00	-0.85	-38.9	-0.33	-0.51	-0.41
225- 6	12.8	0.6	-18.6	0.25	-0.49	-38.8	-0.04	-0.20	-0.36
236- 1	21.3	4.5	-5.7	0.66	0.01	-52.0	0.25	0.41	-0.31
247- 4	21.1	-3.8	1.6	0.90	0.07	-73.7	0.14	0.84	-0.22
258- 1	9.6	-17.6	0.8	0.76	-0.31	-84.5	-0.30	0.75	-0.10
270- 1	-5.9	-24.7	-1.9	0.32	-0.65	87.3	-0.65	0.32	0.05
180-16	7.2	9.7	6.1	0.36	0.21	-4.7	0.36	0.21	-0.01
191-11	13.1	13.5	5.4	0.53	0.26	-21.1	0.49	0.30	-0.09
202-16	10.5	3.8	-1.5	0.33	0.05	-47.9	0.18	0.20	-0.14
213-11	1.0	-9.8	-8.1	0.03	-0.33	-72.0	-0.30	-0.01	-0.11
225-16	-9.6	-21.4	-12.6	-0.24	-0.72	-85.9	-0.71	-0.24	-0.03
236-11	-21.5	-33.4	-13.1	-0.35	-1.13	82.7	-1.11	-0.37	0.10
247-14	-20.5	-29.2	-4.3	-0.10	-0.96	77.1	-0.92	-0.14	0.19
258-11	-8.8	-15.6	3.6	0.22	-0.44	77.3	-0.41	0.19	0.14
270-11	1.6	1.1	0.1	0.06	0.02	-36.3	0.04	0.03	-0.02
400-01	-9.7	-1.5	6.5	0.12	-0.26	89.5	-0.26	0.12	0.00
400-11	-1.5	-8.5	-9.6	-0.14	-0.33	-83.0	-0.33	-0.14	-0.02
401-01	3.9	15.1	9.5	0.49	0.08	9.1	0.48	0.09	0.06
401-02	-3.5	4.3					-0.07	0.11	
401-03	8.2	-20.1					0.07	-0.58	
401-04	-3.1	1.9					-0.08	0.03	
402-01	-0.1	1.6	-0.2	0.03	-0.05	-0.8	0.03	-0.05	-0.00
402-02	1.8	-1.3					0.05	-0.02	
402-03	-1.7	1.5					-0.04	0.03	
402-04	1.9	-1.5					0.05	-0.03	
403-01	9.6	26.4	9.1	0.79	0.01	-0.4	0.79	0.01	-0.01
403-02	0.3	1.1					0.02	0.04	
403-03	6.5	-25.8					-0.04	-0.79	
403-04	-0.2	2.3					0.02	0.07	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

7-6. IN-PLANE FORCE LOADING ON BRANCH, P3X

NOMINAL LOAD = 9.327E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	24.4	27.5	26.3	1.14	1.03	12.4	1.14	1.04	0.02
0- 2	29.4	39.3	36.0	1.57	1.23	13.1	1.55	1.25	0.08
0- 3	26.8	32.2	29.4	1.30	1.10	8.6	1.30	1.11	0.03
0- 4	23.3	26.4	25.4	1.10	0.99	14.0	1.09	1.00	0.02
0- 5	24.6	29.6	24.2	1.16	0.93	-1.0	1.16	0.93	-0.00
0- 6	23.5	21.3	25.2	1.12	0.97	-7.9	1.11	0.97	-0.02
0- 7	24.7	27.6	22.5	1.11	0.92	-7.9	1.10	0.92	-0.03
0- 8	26.1	28.4	22.1	1.14	0.92	-12.4	1.13	0.93	-0.05
0- 9	28.8	33.2	26.0	1.31	1.04	-6.7	1.31	1.04	-0.03
0-10	21.4	22.1	20.2	0.92	0.86	-12.6	0.92	0.86	-0.01
0-11	-8.8	-7.0	-7.6	-0.32	-0.38	12.6	-0.32	-0.38	0.01
0-12	-21.9	-20.1	-18.4	-0.82	-0.91	43.6	-0.86	-0.87	0.04
0-13	-24.8	-11.9	-15.7	-0.65	-1.09	14.2	-0.68	-1.06	0.10
0-14	-21.9	-8.4	-16.3	-0.56	-1.07	7.3	-0.57	-1.07	0.06
0-15	-20.3	-13.4	-20.1	-0.71	-1.02	0.3	-0.71	-1.02	0.00
0-16	-21.3	-26.9	-19.8	-0.73	-1.03	-3.5	-0.73	-1.03	-0.02
0-17	-19.5	-15.0	-22.1	-0.75	-1.03	-6.4	-0.76	-1.02	-0.03
0-18	-17.9	-13.2	-21.5	-0.69	-1.00	-7.6	-0.69	-1.00	-0.04
0-19	-17.5	-17.8	-20.6	-0.77	-0.86	-25.8	-0.79	-0.84	-0.04
0-20	-7.5	-8.0	-7.1	-0.30	-0.33	82.8	-0.33	-0.30	0.00
22- 1	4.7	20.3	35.2	1.21	0.50	44.3	0.86	0.85	0.35
22- 2	10.8	25.8	38.4	1.37	0.74	42.6	1.08	1.03	0.32
22- 3	19.2	32.8	38.5	1.48	0.99	33.8	1.33	1.14	0.22
22- 4	24.7	35.3	34.6	1.44	1.10	20.8	1.40	1.14	0.11
22- 5	27.1	36.1	33.2	1.45	1.14	13.6	1.43	1.16	0.07
22- 6	30.8	25.8	28.2	1.35	1.17	19.9	1.33	1.19	0.06
22- 7	31.8	35.6	30.7	1.44	1.24	-3.7	1.44	1.24	-0.01
22- 8	30.3	36.0	28.4	1.41	1.10	-4.2	1.41	1.11	-0.02
22- 9	32.6	35.3	22.0	1.39	0.95	-16.8	1.35	0.99	-0.12
22-10	28.7	23.9	10.7	1.07	0.61	-32.5	0.94	0.75	-0.21
22-11	5.5	8.6	-4.4	0.24	-0.19	-15.8	0.21	-0.16	-0.11
22-12	1.1	-6.3	-18.3	-0.14	-0.60	-38.4	-0.32	-0.42	-0.22
22-13	-1.8	-11.3	-25.6	-0.31	-0.87	-39.2	-0.53	-0.64	-0.27
22-14	-7.2	-0.1	-26.1	-0.27	-1.15	-14.8	-0.33	-1.10	-0.22
22-15	-11.2	-14.1	-24.7	-0.59	-0.95	-30.2	-0.68	-0.86	-0.16
22-16	-23.9	-21.5	-14.2	-0.69	-0.94	-26.3	-0.74	-0.89	-0.10
22-17	-14.3	-17.4	-23.4	-0.70	-0.92	-36.4	-0.78	-0.84	-0.11
22-18	-18.6	-9.5	-17.1	-0.57	-0.96	2.5	-0.57	-0.96	0.02
22-19	-21.3	-13.6	-9.3	-0.51	-0.80	37.2	-0.62	-0.69	0.14
22-20	-3.5	2.0	-1.9	-0.01	-0.23	4.8	-0.01	-0.23	0.02
45- 1	-17.8	-5.8	-1.7	-0.21	-0.62	32.1	-0.33	-0.51	0.19
45- 2	-21.6	-0.7	9.1	0.11	-0.65	35.0	-0.14	-0.40	0.35
45- 3	-12.5	13.6	24.5	0.72	-0.20	33.9	0.43	0.08	0.43
45- 4	-1.9	25.4	27.7	1.00	0.11	25.0	0.84	0.27	0.34
45- 5	8.3	32.6	27.3	1.17	0.36	16.3	1.10	0.42	0.22
45- 6	20.3	3.4	15.5	1.11	0.43	19.7	1.03	0.50	0.22
45- 7	10.3	35.1	36.7	1.41	0.60	24.3	1.27	0.74	0.30
45- 8	15.2	34.0	23.3	1.18	0.47	7.7	1.17	0.48	0.09
45- 9	20.7	29.7	8.0	1.00	0.23	-11.2	0.97	0.26	-0.15
45-10	18.7	25.8	4.0	0.86	0.11	-13.5	0.82	0.15	-0.17
45-11	2.7	15.0	27.6	0.94	0.36	45.5	0.65	0.66	0.29
45-12	8.2	15.5	26.7	0.97	0.53	50.7	0.70	0.79	0.21
45-13	8.8	2.9	17.1	0.80	0.30	78.8	0.32	0.79	0.10
45-14	15.3	-1.5	0.6	0.62	0.06	-71.1	0.12	0.56	-0.17
45-15	20.4	0.1	-2.2	0.72	0.06	-64.4	0.18	0.60	-0.26
45-16	3.6	29.1	20.6	0.96	0.08	-61.7	0.29	0.76	-0.37
45-17	9.1	-8.0	12.2	0.89	0.02	87.6	0.03	0.88	0.04
45-18	-0.8	2.5	12.1	0.41	0.07	58.1	0.17	0.31	0.15
45-19	8.5	7.5	3.3	0.32	0.18	-29.2	0.29	0.21	-0.06
45-20	15.2	15.4	1.7	0.59	0.14	-22.0	0.52	0.20	-0.16
67- 1	-8.3	-18.6	-22.2	-0.48	-0.83	-57.9	-0.73	-0.58	-0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-11.1	-17.3	-18.3	-0.53	-0.73	-62.8	-0.69	-0.57	-0.08
67- 3	-11.8	-16.1	-15.9	-0.53	-0.67	-68.6	-0.65	-0.54	-0.05
67- 4	-15.3	-11.7	-13.4	-0.55	-0.68	-45.3	-0.62	-0.62	-0.07
67- 5	-12.3	-11.4	-14.2	-0.52	-0.62	-13.9	-0.52	-0.61	-0.02
67- 6	-12.9	-8.1	-10.1	-0.41	-0.58	11.0	-0.41	-0.57	0.03
67- 7	-11.9	1.0	-5.6	-0.14	-0.61	9.0	-0.15	-0.60	0.07
67- 8	-11.2	8.8	-2.6	0.08	-0.67	7.6	0.07	-0.66	0.10
67- 9	-7.4	14.3	-0.8	0.26	-0.61	5.1	0.25	-0.60	0.08
67-10	-2.6	15.1	1.2	0.34	-0.40	3.4	0.30	-0.39	0.04
67-11	-2.1	5.4	28.4	0.96	0.17	58.4	0.38	0.74	0.35
67-12	2.0	5.0	40.5	1.49	0.33	65.1	0.50	1.28	0.44
67-13	23.5	-4.4	22.8	1.63	0.36	-89.6	0.36	1.63	-0.01
67-14	14.7	55.0	39.5	1.87	0.46	87.0	0.46	1.86	0.07
67-15	10.3	-0.5	45.9	1.98	0.43	74.0	0.55	1.86	0.41
67-16	2.5	9.3	57.9	2.10	0.49	63.5	0.81	1.78	0.64
67-17	4.7	9.6	53.2	1.96	0.53	64.3	0.79	1.69	0.56
67-18	10.8	7.2	41.9	1.70	0.56	70.4	0.69	1.57	0.36
67-19	17.7	8.1	22.1	1.13	0.58	84.8	0.58	1.13	0.05
67-20	21.1	13.9	8.6	0.78	0.49	-89.5	0.61	0.66	-0.14
90- 1	0.7	21.9	-3.2	0.48	-0.59	-47.4	-0.10	-0.01	-0.54
90- 2	18.7	-6.3	-26.6	0.36	-0.69	-47.9	-0.22	-0.12	-0.52
90- 3	13.7	-10.7	-26.7	0.20	-0.76	-50.9	-0.38	-0.19	-0.47
90- 4	4.4	-14.3	-23.5	-0.07	-0.75	-54.4	-0.52	-0.30	-0.32
90- 5	-6.8	-13.6	-16.0	-0.37	-0.61	-57.8	-0.54	-0.44	-0.11
90- 6	-13.2	-10.8	-10.7	-0.47	-0.55	23.4	-0.48	-0.54	0.03
90- 7	-16.4	-8.4	-7.1	-0.37	-0.64	27.1	-0.43	-0.58	0.11
90- 8	-17.0	-5.3	-3.7	-0.25	-0.64	26.4	-0.33	-0.56	0.15
90- 9	-16.9	-4.6	-1.6	-0.19	-0.60	29.3	-0.29	-0.51	0.18
90-10	-16.7	-4.2	-0.1	-0.15	-0.57	31.6	-0.26	-0.46	0.19
90-11	-4.0	4.9	5.9	0.19	-0.11	70.8	-0.08	0.15	0.09
90-12	-9.4	-3.6	18.8	0.58	-0.18	60.2	0.01	0.39	0.33
90-13	-13.5	-1.5	31.2	0.95	-0.19	57.4	0.13	0.62	0.52
90-14	-12.4	-1.3	38.8	1.24	-0.11	59.7	0.23	0.90	0.59
90-15	-11.7	0.2	41.1	1.32	-0.07	59.3	0.30	0.96	0.61
90-16	-6.9	-1.8	33.5	1.15	-0.01	63.3	0.22	0.91	0.47
90-17	-3.4	1.0	29.3	1.02	0.09	63.1	0.28	0.83	0.38
90-18	1.9	0.1	22.5	0.89	0.16	69.7	0.24	0.80	0.24
90-19	6.0	0.3	15.8	0.74	0.20	77.6	0.22	0.71	0.11
90-20	8.7	1.7	10.1	0.58	0.23	87.5	0.23	0.58	0.02
180- 1	-14.4	-15.7	-15.4	-0.62	-0.66	-74.1	-0.66	-0.62	-0.01
180- 2	-17.7	-22.7	-18.5	-0.67	-0.88	-87.6	-0.88	-0.67	-0.01
180- 3	-14.0	-16.1	-15.3	-0.59	-0.66	-77.6	-0.65	-0.60	-0.02
180- 4	-11.5	-12.5	-12.7	-0.50	-0.54	-60.5	-0.53	-0.51	-0.01
180- 5	-11.3	-12.5	-13.0	-0.50	-0.54	-57.8	-0.53	-0.51	-0.02
180- 6	-12.2	-10.5	-10.2	-0.45	-0.51	-61.3	-0.49	-0.46	-0.02
180- 7	-9.1	-12.5	-11.7	-0.39	-0.50	-74.3	-0.49	-0.40	-0.03
180- 8	-8.9	-12.9	-11.4	-0.36	-0.50	-77.8	-0.50	-0.37	-0.03
180- 9	-9.0	-15.0	-10.6	-0.30	-0.54	-85.3	-0.54	-0.30	-0.02
180-10	-5.4	-11.7	-6.5	-0.12	-0.39	-87.3	-0.39	-0.12	-0.01
180-11	10.4	4.2	9.2	0.55	0.29	-86.9	0.29	0.55	-0.01
180-12	13.2	6.8	12.2	0.68	0.41	-87.4	0.41	0.68	-0.01
180-13	11.3	1.9	11.2	0.70	0.26	-89.9	0.26	0.70	-0.00
180-14	10.4	0.9	8.0	0.59	0.20	-85.7	0.20	0.59	-0.03
180-15	7.7	3.0	7.3	0.43	0.22	-88.6	0.22	0.43	-0.01
180-16	5.4	7.5	5.9	0.29	0.20	-86.3	0.20	0.29	-0.01
180-17	5.4	5.2	4.2	0.22	0.19	-28.0	0.21	0.20	-0.01
180-18	1.8	6.6	0.8	0.18	-0.07	-2.7	0.18	-0.07	-0.01
180-19	-1.7	7.4	-2.1	0.13	-0.30	-0.7	0.13	-0.30	-0.01
180-20	-9.4	-9.3	-10.9	-0.41	-0.46	-19.8	-0.42	-0.46	-0.02
202- 1	-7.8	-10.0	-7.5	-0.27	-0.38	88.1	-0.38	-0.27	0.00
202- 2	-14.4	-16.3	-8.9	-0.37	-0.62	74.8	-0.61	-0.39	0.06
202- 3	-19.4	-19.1	-6.7	-0.36	-0.76	66.6	-0.70	-0.42	0.15
202- 4	-25.0	-19.3	-2.5	-0.30	-0.88	58.1	-0.72	-0.46	0.26
202- 5	-26.9	-18.1	0.6	-0.23	-0.90	55.0	-0.69	-0.45	0.32
202- 6	3.5	-11.8	-29.1	-0.17	-0.92	56.8	-0.70	-0.40	0.34
202- 7	-22.9	-22.4	-0.0	-0.13	-0.86	66.9	-0.74	-0.24	0.26

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-23.3	-21.9	0.6	-0.12	-0.85	65.7	-0.73	-0.24	0.28
202- 9	-21.3	-19.5	0.5	-0.12	-0.77	65.0	-0.65	-0.23	0.25
202-10	-14.2	-16.3	1.3	0.01	-0.57	70.9	-0.50	-0.05	0.18
202-11	2.2	-1.9	3.2	0.22	0.01	87.1	0.01	.22	0.01
202-12	0.1	4.3	12.7	0.43	0.12	54.1	0.23	.32	0.15
202-13	-1.7	4.9	17.2	0.56	0.10	53.5	0.27	0.40	0.22
202-14	-2.0	4.3	16.0	0.52	0.08	53.3	0.24	0.36	0.21
202-15	-3.4	3.6	12.3	0.37	0.01	48.2	0.17	0.21	0.18
202-16	11.5	2.2	-4.8	0.33	-0.05	46.1	0.14	0.15	0.19
202-17	-5.8	3.9	8.3	0.23	-0.12	34.7	0.12	-0.01	0.16
202-18	-4.0	4.2	-3.9	0.02	-0.36	0.2	0.02	-0.36	0.00
202-19	-4.5	0.8	-7.3	-0.10	-0.41	-6.1	-0.10	-0.41	-0.03
202-20	-10.7	-11.7	-10.6	-0.43	-0.48	88.5	-0.48	-0.43	0.00
225- 1	11.3	9.7	13.8	0.61	0.47	78.2	0.47	0.60	0.03
225- 2	11.8	6.3	10.6	0.59	0.37	-86.5	0.37	0.59	-0.01
225- 3	2.8	-1.0	8.7	0.42	0.08	78.3	0.09	0.40	0.07
225- 4	-7.8	-6.2	9.4	0.29	-0.22	64.6	-0.13	0.20	0.20
225- 5	-16.5	-8.8	11.4	0.24	-0.46	57.1	-0.25	0.04	0.32
225- 6	13.5	-0.4	-21.6	0.24	-0.59	65.9	-0.45	0.10	0.31
225- 7	-13.2	-28.6	-1.8	0.18	-0.83	82.4	-0.81	0.17	0.13
225- 8	-17.1	-29.7	-1.1	0.12	-0.90	79.4	-0.85	0.09	0.18
225- 9	-15.4	-23.0	1.3	0.12	-0.72	76.2	-0.67	0.07	0.19
225-10	-12.8	-21.1	-0.9	0.06	-0.65	78.7	-0.62	0.03	0.14
225-11	3.5	-8.4	-18.8	-0.07	-0.59	-46.9	-0.35	-0.31	-0.26
225-12	2.1	-8.2	-20.2	-0.13	-0.64	-42.9	-0.37	-0.41	-0.26
225-13	-2.6	-3.9	-14.0	-0.19	-0.52	-26.0	-0.25	-0.46	-0.13
225-14	-6.1	0.1	-7.2	-0.13	-0.44	-2.4	-0.13	-0.44	-0.01
225-15	-16.2	-6.0	-0.7	-0.17	-0.55	36.2	-0.31	-0.42	0.18
225-16	-5.7	-19.2	-14.6	-0.20	-0.67	28.1	-0.30	-0.56	0.19
225-17	-15.5	0.1	-4.6	-0.16	-0.70	14.0	-0.20	-0.67	0.12
225-18	-3.3	-1.3	-15.0	-0.17	-0.62	-18.3	-0.21	-0.58	-0.14
225-19	-10.1	-10.5	-12.4	-0.45	-0.51	-29.0	-0.46	-0.50	-0.03
225-20	-10.9	-14.2	-8.5	-0.31	-0.52	82.4	-0.52	-0.31	0.03
247- 1	-3.4	14.5	27.2	0.87	0.15	40.2	0.57	0.45	0.35
247- 2	-5.1	15.8	31.7	1.00	0.14	41.2	0.63	0.51	0.42
247- 3	-8.5	14.0	31.6	0.96	0.03	41.5	0.55	0.44	0.46
247- 4	23.3	-6.1	-2.7	0.92	-0.04	54.2	0.29	0.59	0.46
247- 5	-5.9	-6.7	21.5	0.80	-0.13	68.4	-0.00	0.67	0.32
247- 6	-6.8	-10.0	17.1	0.67	-0.23	70.9	-0.13	0.57	0.28
247- 7	-7.0	-17.0	7.1	0.43	-0.42	78.7	-0.39	0.40	0.16
247- 8	-9.3	-22.9	-2.0	0.17	-0.65	84.0	-0.64	0.16	0.08
247- 9	-5.6	-19.3	-8.1	-0.00	-0.58	-87.2	-0.58	-0.01	-0.03
247-10	-2.9	-16.9	-12.3	-0.09	-0.57	-76.5	-0.54	-0.11	-0.11
247-11	2.5	-8.7	-13.6	-0.04	-0.44	-55.7	-0.31	-0.17	-0.19
247-12	3.1	-10.0	-13.5	-0.12	-0.69	-46.2	-0.42	-0.39	-0.29
247-13	-3.3	0.0	-19.2	-0.16	-0.80	-17.6	-0.22	-0.74	-0.18
247-14	-18.4	-25.1	-4.2	-0.13	-0.84	-28.6	-0.29	-0.68	-0.30
247-15	5.0	-3.7	-25.9	-0.06	-0.84	-33.1	-0.29	-0.61	-0.36
247-16	7.6	-9.7	-27.4	-0.02	-0.83	-44.7	-0.42	-0.43	-0.40
247-17	6.1	-5.7	-26.7	-0.05	-0.83	-37.2	-0.33	-0.55	-0.38
247-18	4.2	-4.6	-21.9	-0.06	-0.70	-35.9	-0.28	-0.48	-0.30
247-19	-0.1	-8.9	-12.8	-0.12	-0.43	-55.6	-0.33	-0.22	-0.15
247-20	0.5	-9.8	-7.3	0.03	-0.32	-74.3	-0.29	0.03	-0.09
270- 1	-3.1	-25.6	-1.4	0.44	-0.64	44.0	-0.08	-0.12	0.54
270- 2	-27.3	-5.5	20.3	0.40	-0.70	47.4	-0.20	-0.10	0.55
270- 3	-26.7	-9.6	15.1	0.24	-0.74	50.1	-0.34	-0.16	0.48
270- 4	-25.1	-14.8	5.6	-0.04	-0.79	54.1	-0.53	-0.30	0.35
270- 5	-20.1	-17.3	-5.6	-0.36	-0.75	60.6	-0.65	-0.45	0.17
270- 6	-13.3	-13.3	-13.4	-0.57	-0.57	-22.6	-0.57	-0.57	-0.00
270- 7	-8.8	-10.8	-17.0	-0.45	-0.66	-31.3	-0.50	-0.60	-0.09
270- 8	-4.3	-6.9	-18.1	-0.29	-0.67	-28.9	-0.38	-0.58	-0.16
270- 9	-1.2	-4.0	-17.3	-0.17	-0.62	-28.5	-0.28	-0.52	-0.19
270-10	0.8	-2.0	-16.4	-0.10	-0.58	-27.9	-0.20	-0.47	-0.20
270-11	-0.2	-0.3	-0.4	-0.01	-0.01	-12.0	-0.01	-0.01	-0.00
270-12	20.2	-3.0	-10.2	0.61	-0.18	-58.8	0.03	0.40	-0.35
270-13	32.1	-1.2	-12.8	0.99	-0.16	-57.8	0.16	0.66	-0.52

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	38.3	-1.6	-9.2	1.29	-0.04	62.1	0.25	1.00	-0.55
270-15	39.6	0.7	-7.6	1.34	0.00	-61.5	0.33	1.04	-0.54
270-16	35.5	3.1	-5.4	1.19	0.10	-60.1	0.37	0.92	-0.47
270-17	27.1	1.8	-0.1	0.99	0.16	-65.4	0.31	0.85	-0.31
270-18	19.8	0.6	3.2	0.81	0.18	-71.3	0.24	0.74	-0.19
270-19	14.1	-0.2	5.7	0.67	0.17	-78.7	0.19	0.65	-0.10
270-20	9.6	0.3	8.0	0.57	0.18	-87.3	0.18	0.57	-0.02
0- 6	23.5	21.3	[illegible]	1.12	0.97	82.1	0.97	1.11	0.02
11- 1	25.2	23.4	27.2	1.19	1.05	80.2	1.06	1.19	0.02
22- 6	30.8	25.8	28.2	1.35	1.17	-80.1	1.18	1.35	-0.03
33- 1	30.7	17.9	29.5	1.57	1.01	-88.6	1.01	1.57	-0.01
45- 6	20.3	3.4	15.5	1.11	0.43	-85.3	0.43	1.10	-0.06
56- 1	1.4	-11.3	-2.2	0.24	-0.27	-85.3	-0.27	0.23	-0.04
67- 4	-15.3	-11.7	-13.4	-0.55	-0.68	9.7	-0.55	-0.69	0.02
78- 1	-11.7	5.5	-11.5	-0.10	-0.89	0.2	-0.10	-0.89	0.00
90- 1	0.7	21.9	-3.2	0.48	-0.59	-2.4	0.48	-0.59	-0.04
0-16	-21.3	-26.9	-19.8	-0.73	-1.03	86.5	-1.03	-0.73	.02
11-11	-25.1	-32.3	-23.0	-0.84	-1.22	86.3	-1.22	-0.84	0.02
22-16	-23.9	-21.5	-14.2	-0.69	-0.94	58.7	-0.87	-0.76	0.11
33-11	-9.7	3.2	1.0	0.03	-0.40	17.7	-0.01	-0.36	0.12
45-16	3.6	29.1	20.6	0.96	0.08	13.3	0.91	0.13	0.20
56-11	20.7	54.7	32.6	1.80	0.48	6.0	1.79	0.49	0.14
67-14	14.7	55.0	39.5	1.87	0.46	12.0	1.80	0.52	0.29
78-11	6.6	33.4	19.5	1.05	0.07	8.8	1.03	0.09	0.15
90-11	-4.0	4.9	5.9	0.19	-0.11	25.8	0.13	-0.05	0.11
180- 6	-12.2	-10.5	-10.2	-0.45	-0.51	28.7	-0.46	-0.49	0.02
191- 1	-4.3	-11.3	-20.0	-0.34	-0.70	-41.9	-0.50	-0.54	-0.18
202- 6	3.5	-11.8	-29.1	-0.17	-0.92	-43.2	-0.52	-0.57	-0.38
213- 1	8.0	-6.1	-28.8	-0.01	-0.88	-38.5	-0.35	-0.54	-0.42
225- 6	13.5	-0.4	-21.6	0.24	-0.59	-39.1	-0.09	-0.26	-0.40
236- 1	22.7	2.8	-10.1	0.66	-0.12	-51.1	0.19	0.35	-0.38
247- 4	23.3	-6.1	-2.7	0.92	-0.04	-70.8	0.06	0.82	-0.30
258- 1	12.1	-19.5	-1.5	0.82	-0.37	-82.3	-0.34	0.80	-0.16
270- 1	-3.1	-25.6	-1.4	0.44	-0.64	89.0	-0.64	0.44	0.02
180-16	5.4	7.5	5.9	0.29	0.20	3.7	0.29	0.20	0.01
191-11	12.3	10.4	3.0	0.45	0.20	-29.8	0.39	0.27	-0.11
202-16	11.5	2.2	-4.8	0.33	-0.05	-48.9	0.12	0.17	-0.19
213-11	4.1	-9.6	-11.1	0.08	-0.37	-64.4	-0.29	-0.01	-0.18
225-16	-5.7	-19.2	-14.6	-0.20	-0.67	-76.9	-0.64	-0.23	-0.10
236-11	-17.6	-29.8	-14.3	-0.36	-1.00	86.6	-1.01	-0.36	0.04
247-14	-18.4	-25.1	-4.2	-0.13	-0.84	76.4	-0.80	-0.17	0.16
258-11	-10.1	-13.7	4.5	0.18	-0.42	73.1	-0.37	0.13	0.17
270-11	-0.2	-0.3	-0.4	-0.01	-0.01	-57.0	-0.01	-0.01	-0.00
400-01	-10.5	-1.9	6.6	0.11	-0.28	-89.9	-0.28	0.11	-0.00
400-11	-1.1	-5.7	-10.3	-0.14	-0.35	-89.5	-0.35	-0.14	-0.00
401-01	9.8	24.7	9.9	0.77	0.08	0.1	0.77	0.08	0.00
401-02	-2.9	3.9					-0.06	0.10	
401-03	9.8	-27.8					0.05	-0.82	
401-04	-3.5	4.8					-0.07	0.12	
402-01	-0.4	1.4	-0.2	0.03	-0.05	2.0	0.03	-0.05	0.00
402-02	1.9	-1.5					0.05	-0.03	
402-03	-1.9	1.4					-0.05	0.03	
402-04	1.9	-1.4					0.05	-0.03	
403-01	4.5	12.0	4.0	0.36	0.00	-0.9	0.36	0.00	-0.01
403-02	-0.3	1.4					0.00	0.00	
403-03	3.7	-14.0					-0.02	-0.42	
403-04	-0.2	0.7					0.00	0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, AXIAL FORCE LOADING ON BRANCH, P3Y

NOMINAL LOAD = 9.327E 03 YOUNG'S MODULUS = 30.00? 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	19.3	17.0	35.0	1.46	0.87	71.1	0.93	1.40	0.18
0- 2	22.2	33.3	46.1	1.78	1.19	47.2	1.44	1.49	0.28
0- 3	24.3	32.6	39.1	1.53	1.19	41.7	1.38	1.34	0.17
0- 4	25.4	31.5	35.7	1.43	1.19	39.6	1.33	1.29	0.12
0- 5	30.2	39.3	34.1	1.55	1.21	7.7	1.54	1.21	0.05
0- 6	33.9	26.9	32.4	1.57	1.27	3.6	1.57	1.28	0.02
0- 7	34.5	43.3	32.5	1.66	1.21	-2.9	1.66	1.21	-0.02
0- 8	39.6	47.8	32.4	1.83	1.26	-8.4	1.81	1.27	-0.08
0- 9	47.9	59.6	38.7	2.25	1.47	-7.8	2.23	1.48	-0.11
0-10	34.7	43.8	29.5	1.65	1.10	-6.4	1.64	1.11	-0.06
0-11	-18.1	-16.7	-21.0	-0.80	-0.88	-30.1	-0.82	-0.85	-0.03
0-12	-27.1	-22.9	-25.6	-1.05	-1.21	6.3	-1.05	-1.21	0.02
0-13	-28.1	-13.6	-18.6	-0.75	-1.25	13.0	-0.77	-1.23	0.11
0-14	-22.4	-11.0	-17.0	-0.63	-1.06	8.6	-0.64	-1.05	0.06
0-15	-19.1	-18.3	-19.2	-0.80	-0.84	-1.1	-0.80	-0.84	-0.03
0-16	-20.4	-21.3	-16.8	-0.72	-0.87	-16.5	-0.73	-0.86	-0.04
0-17	-15.1	-21.8	-21.2	-0.67	-0.89	-69.7	-0.85	-0.70	-0.07
0-18	-12.0	-21.2	-17.9	-0.48	-0.80	-77.4	-0.79	-0.49	-0.07
0-19	-8.2	-22.9	-14.2	-0.20	-0.76	-82.9	-0.75	-0.21	-0.07
0-20	3.1	2.7	2.6	0.13	0.12	-62.7	0.12	0.13	-0.01
22- 1	12.1	20.2	11.7	0.70	0.32	-0.6	0.70	0.32	-0.00
22- 2	21.8	29.0	22.8	1.11	0.80	2.2	1.11	0.80	0.01
22- 3	36.4	40.6	26.1	1.59	1.09	-14.4	1.56	1.12	-0.12
22- 4	45.9	47.0	25.3	1.88	1.17	-21.2	1.79	1.27	-0.24
22- 5	49.5	48.7	25.7	1.99	1.24	-23.5	1.87	1.35	-0.27
22- 6	24.5	29.0	50.3	1.96	1.25	-18.4	1.89	1.32	-0.21
22- 7	50.1	58.9	32.6	2.22	1.32	-13.3	2.19	1.37	-0.20
22- 8	48.6	60.3	33.6	2.24	1.29	-10.7	2.20	1.32	-0.17
22- 9	50.8	61.3	31.0	2.28	1.23	-13.0	2.22	1.28	-0.23
22-10	41.6	44.4	15.9	1.70	0.77	-19.7	1.59	0.87	-0.30
22-11	-11.6	10.0	9.0	0.30	-0.41	21.3	0.20	-0.32	0.24
22-12	-10.5	-3.4	-11.1	-0.29	-0.63	-1.2	-0.29	-0.63	-0.01
22-13	-9.9	-8.6	-21.2	-0.46	-0.87	-19.7	-0.51	-0.82	-0.13
22-14	-14.3	0.2	-19.5	-0.33	-1.13	-4.3	-0.33	-1.12	-0.04
22-15	-14.2	-15.4	-14.2	-0.58	-0.64	-89.7	-0.64	-0.58	-0.00
22-16	-11.8	-11.3	-16.6	-0.52	-0.70	75.3	-0.69	-0.53	0.08
22-17	-19.5	-12.9	-3.5*	-0.30	-0.68	50.1	-0.52	-0.45	0.11
22-18	-21.2	-8.8	-2.0	-0.27	-0.73	36.8	-0.43	-0.56	0.22
22-19	-20.2	-12.4	4.5	-0.03	-0.64	55.2	-0.44	-0.23	0.28
22-20	7.2	16.9	8.6	0.55	0.13	2.1	0.55	0.13	0.02
45- 1	-28.4	1.5	-13.1	-0.35	-1.43	9.5	-0.37	-1.40	0.18
45- 2	-33.2	2.6	-9.2	-0.21	-1.39	17.1	-0.31	-1.29	0.33
45- 3	-13.8	18.5	8.7	0.44	-0.66	14.0	0.38	-0.60	0.26
45- 4	6.8	34.0	20.6	1.08	0.09	9.4	1.06	0.12	0.16
45- 5	23.6	43.9	20.9	1.45	0.45	-1.8	1.45	0.45	-0.03
45- 6	14.2	..2	34.4	1.60	0.48	2.7	1.60	0.49	0.05
45- 7	19.3	61.1	44.2	2.10	0.62	11.5	2.04	0.68	0.29
45- 8	24.8	54.3	27.8	1.77	0.48	1.5	1.77	0.48	0.03
45- 9	30.1	45.6	10.6	1.50	0.25	-10.6	1.45	0.29	-0.22
45-10	25.5	41.5	7.7	1.32	0.10	-9.8	1.29	0.13	-0.20
45-11	0.1	45.6	46.6	1.74	0.26	23.1	1.51	0.49	0.54
45-12	1.3	44.1	49.5	1.79	0.38	26.1	1.52	0.66	0.56
45-13	1.0	20.8	38.4	1.28	0.41	43.4	0.87	0.82	0.43
45-14	7.3	-0.8	20.1	0.95	0.22	78.1	0.25	0.92	0.15
45-15	16.7	-4.0	11.7	1.03	0.19	-86.1	0.19	1.03	-0.06
45-16	19.1	39.4	15.6	1.25	0.23	-77.3	0.28	1.20	-0.22
45-17	3.3	-3.7	25.8	1.12	0.13	74.2	0.20	1.05	0.26
45-18	-1.8	12.2	25.2	0.81	0.19	43.9	0.51	0.49	0.31
45-19	14.6	18.2	13.4	0.70	0.50	-4.2	0.70	0.50	-0.01
45-20	26.0	31.1	9.3	1.12	0.39	-15.9	1.07	0.45	-0.19
67- 1	-18.6	-26.7	-30.4	-0.91	-1.20	-55.3	-1.10	-1.00	-0.14

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-18.7	-24.0	-27.1	-0.88	-1.08	-52.2	-1.01	-0.95	-0.10
67- 3	-16.2	-20.5	-24.2	-0.77	-0.96	-47.5	-0.87	-0.86	-0.09
67- 4	-24.1	-16.3	-14.7	-0.70	-0.96	-26.7	-0.75	-0.91	-0.10
67- 5	-14.8	-8.7	-17.5	-0.52	-0.87	-5.1	-0.52	-0.96	-0.03
67- 6	-14.5	-2.8	-10.9	-0.31	-0.78	5.1	-0.32	-0.77	0.04
67- 7	-10.2	10.5	-4.9	0.10	-0.74	4.2	0.09	-0.74	0.06
67- 8	-7.3	19.5	-1.6	0.37	-0.75	3.4	0.36	-0.74	0.07
67- 9	-3.7	23.6	0.2	0.51	-0.66	2.2	0.51	-0.66	0.04
67-10	-0.1	25.2	4.5	0.63	-0.44	2.8	0.62	-0.44	0.05
67-11	2.9	30.8	38.8	1.37	0.42	30.5	1.12	0.66	0.41
67-12	4.3	28.8	54.8	1.85	0.68	45.9	1.25	1.29	0.58
67-13	16.8	7.6	43.3	1.89	0.69	74.7	0.77	1.81	0.31
67-14	32.6	61.5	33.4	2.07	0.76	75.4	0.84	1.99	0.32
67-15	7.9	12.4	59.5	2.18	0.67	64.7	0.94	1.90	0.58
67-16	2.2	20.8	66.5	2.28	0.67	56.4	1.16	1.78	0.74
67-17	4.6	18.6	61.6	2.16	0.68	58.5	1.08	1.75	0.66
67-18	12.2	14.9	49.6	1.89	0.76	65.2	0.96	1.69	0.43
67-19	22.6	16.2	28.5	1.32	0.87	81.2	0.88	1.31	0.07
67-20	28.3	25.5	10.0	1.10	0.71	-29.3	1.01	0.81	-0.16
90- 1	0.5	20.2	-11.8	0.37	-0.85	-51.7	-0.38	-0.10	-0.60
90- 2	18.4	-13.2	-33.9	0.28	-0.95	-50.9	-0.45	-0.21	-0.60
90- 3	15.3	-14.3	-32.7	0.20	-0.94	-51.6	-0.50	-0.24	-0.55
90- 4	8.0	-13.6	-27.5	0.00	-0.84	-51.1	-0.51	-0.33	-0.41
90- 5	-2.8	-11.0	-18.0	-0.27	-0.62	-47.4	-0.46	-0.43	-0.18
90- 6	-9.3	-7.5	-11.5	-0.37	-0.52	-10.1	-0.38	-0.51	-0.03
90- 7	-13.0	-4.6	-6.7	-0.28	-0.56	15.5	-0.30	-0.54	0.07
90- 8	-14.5	-1.7	-2.3	-0.15	-0.57	21.0	-0.20	-0.52	0.14
90- 9	-15.2	-0.2	0.9	-0.06	-0.55	24.7	-0.15	-0.46	0.19
90-10	-15.3	0.7	3.6	0.01	-0.52	27.5	-0.13	-0.40	0.22
90-11	11.3	5.9	1.9	0.39	0.17	-4.3	0.39	0.17	-0.02
90-12	-2.2	11.4	21.1	0.68	0.13	40.3	0.45	0.35	0.27
90-13	-10.8	9.8	33.2	0.99	-0.03	46.8	0.45	0.51	0.51
90-14	-14.3	6.0	41.3	1.24	-0.09	52.6	0.41	0.75	0.64
90-15	-14.0	5.4	43.6	1.33	-0.06	54.0	0.42	0.85	0.66
90-16	-8.8	2.6	37.0	1.19	0.01	58.3	0.34	0.97	0.53
90-17	-3.9	5.2	31.9	1.06	0.14	58.1	0.40	0.80	0.41
90-18	2.3	4.4	25.0	0.92	0.25	64.5	0.37	0.80	0.26
90-19	7.0	5.0	17.8	0.74	0.32	71.8	0.36	0.70	0.13
90-20	10.4	7.3	11.9	0.57	0.39	84.6	0.39	0.57	0.02
180- 1	-15.4	-16.5	-15.6	-0.64	-0.69	-86.8	-0.69	-0.64	-0.00
180- 2	-20.1	-23.6	-17.8	-0.70	-0.92	83.0	-0.92	-0.70	0.03
180- 3	-18.2	-17.0	-13.2	-0.61	-0.74	58.2	-0.70	-0.64	0.06
180- 4	-17.0	-14.1	-10.7	-0.52	-0.67	47.3	-0.60	-0.59	0.07
180- 5	-17.1	-13.7	-9.9	-0.50	-0.66	46.8	-0.58	-0.57	0.08
180- 6	-9.2	-11.0	-16.4	-0.46	-0.63	51.7	-0.57	-0.53	0.08
180- 7	-15.7	-15.1	-9.4	-0.44	-0.63	64.6	-0.60	-0.48	0.07
180- 8	-15.6	-16.4	-9.2	-0.41	-0.65	70.8	-0.62	-0.44	0.07
180- 9	-15.0	-20.7	-11.2	-0.38	-0.74	82.8	-0.74	-0.39	0.04
180-10	-9.9	-17.0	-7.7	-0.19	-0.57	86.3	-0.57	-0.19	0.02
180-11	10.4	2.7	7.3	0.53	0.23	-83.1	0.24	0.52	-0.04
180-12	12.2	5.9	11.9	0.66	0.38	-89.2	0.38	0.65	-0.00
180-13	10.3	1.7	11.8	0.69	0.26	87.7	0.26	0.69	0.02
180-14	9.2	0.6	8.9	0.58	0.19	-89.3	0.19	0.58	-0.00
180-15	6.5	2.9	8.3	0.42	0.21	84.5	0.21	0.42	0.02
180-16	6.4	7.4	4.8	0.28	0.20	78.2	0.20	0.28	0.02
180-17	4.2	5.5	5.4	0.23	0.19	21.6	0.22	0.19	0.01
180-18	0.8	6.8	1.9	0.18	-0.07	3.0	0.18	-0.07	0.01
180-19	-2.6	7.5	-1.1	0.14	-0.29	2.4	0.14	-0.29	0.02
180-20	-10.0	-10.5	-11.4	-0.44	-0.48	-34.7	-0.45	-0.47	-0.02
202- 1	-2.7	-8.0	-5.7	-0.08	-0.27	-79.5	-0.27	-0.09	-0.03
202- 2	-9.9	-14.0	-6.7	-0.22	-0.49	82.3	-0.49	-0.23	0.04
202- 3	-17.0	-17.5	-4.6	-0.25	-0.67	68.6	-0.62	-0.31	0.14
202- 4	-25.1	-18.6	0.6	-0.19	-0.85	58.1	-0.67	-0.38	0.30
202- 5	-28.7	-18.1	4.2	-0.12	-0.93	54.8	-0.66	-0.39	0.38
202- 6	7.1	-11.1	-31.8	-0.08	-0.98	56.9	-0.71	-0.35	0.31
202- 7	-25.7	-25.6	2.0	-0.06	-0.96	67.4	-0.82	-0.19	0.32

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRT	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-27.2	-26.5	1.4	-0.10	-1.01	66.8	-0.87	-0.24	0.33
202- 9	-25.9	-25.2	-0.6	-0.17	-0.97	66.7	-0.84	-0.29	0.29
202-10	-17.7	-21.6	-1.7	-0.09	-0.79	73.1	-0.69	-0.14	0.18
202-11	-0.2	-5.0	-3.5	0.00	-0.16	-75.9	-0.15	-0.01	-0.04
202-12	-2.3	0.6	3.9	0.11	-0.04	47.3	0.03	0.04	0.07
202-13	-3.9	3.0	11.6	0.34	-0.01	48.0	0.15	0.18	0.18
202-14	-3.4	3.4	5.9	0.17	-0.07	32.5	0.10	0.00	0.11
202-15	-4.3	2.9	5.1	0.14	-0.10	30.8	0.08	-0.04	0.11
202-16	5.0	-3.6	-4.9	0.14	-0.14	31.8	0.07	-0.06	0.13
202-17	-5.7	3.0	3.1	0.09	-0.20	23.0	0.04	-0.15	0.10
202-18	-2.1	3.5	-5.1	0.01	-0.32	-5.9	0.01	-0.32	-0.03
202-19	-2.5	0.5	-7.1	-0.07	-0.34	-11.7	-0.08	-0.33	-0.05
202-20	-9.1	-11.3	-9.0	-0.34	-0.44	89.1	-0.44	-0.34	0.00
225- 1	10.2	10.2	17.2	0.70	0.47	67.8	0.51	0.57	0.38
225- 2	14.3	9.0	14.5	0.74	0.49	89.6	0.49	0.74	0.00
225- 3	10.2	5.1	12.3	0.63	0.34	85.3	0.34	0.62	0.02
225- 4	1.4	1.9	12.8	0.48	0.13	66.2	0.19	0.43	0.13
225- 5	-9.1	-0.2	14.8	0.40	-0.16	52.1	0.05	0.19	0.28
225- 6	16.	4.1	-15.5	0.39	-0.36	66.7	-0.24	0.27	0.27
225- 7	-7.8	-21.4	1.9	0.32	-0.56	8..8	-0.55	0.31	0.11
225- 8	-13.0	-26.9	-1.1	0.18	-0.78	81.7	-0.76	0.16	0.15
225- 9	-13.1	-24.0	-3.1	0.04	-0.73	81.3	-0.72	0.02	0.12
225-10	-10.4	-20.7	-6.2	-0.07	-0.65	85.2	-0.64	-0.07	0.05
225-11	4.7	-5.3	-18.6	-0.03	-0.57	-40.9	-0.26	-0.34	-0.27
225-12	2.0	-8.2	-25.3	-0.18	-0.82	-38.0	-0.42	-0.58	-0.31
225-13	-2.1	-8.3	-31.0	-0.33	-1.09	-30.1	-0.52	-0.90	-0.33
225-14	-5.4	-5.6	-23.7	-0.33	-0.92	-22.9	-0.42	-0.83	-0.21
225-15	-23.5	-4.2	-7.3	-0.34	-0.98	17.9	-0.43	-0.92	0.19
225-16	-18.6	-31.1	-18.0	-0.35	-1.04	10.6	-0.38	-1.02	0.13
225-17	-13.5	-0.3	-15.8	-0.30	-0.96	-2.3	-0.30	-0.95	-0.03
225-18	-0.8	-3.6	-16.7	-0.16	-0.59	-26.3	-0.26	-0.50	-0.18
225-19	-5.0	-6.9	-9.8	-0.26	-0.37	-39.1	-0.31	-0.33	-0.05
225-20	-5.9	-9.0	-4.0	-0.12	-0.31	83.5	-0.31	-0.12	0.02
247- 1	-11.1	9.8	26.9	0.78	-0.10	42.1	0.38	0.29	0.44
247- 2	-6.7	17.2	31.1	0.97	0.07	37.7	0.64	0.41	0.44
247- 3	-3.9	20.7	30.8	1.01	0.14	33.7	0.75	0.41	0.43
247- 4	18.3	-3.7	7.9	0.97	0.15	43.6	0.58	0.54	0.41
247- 5	-1.3	8.5	26.9	0.89	0.21	53.4	0.45	0.65	0.33
247- 6	-0.1	5.2	22.7	0.78	0.19	59.4	0.34	0.63	0.26
247- 7	1.5	-1.3	12.4	0.53	0.07	73.3	0.11	0.39	0.13
247- 8	-0.5	-9.7	0.2	0.21	-0.23	89.0	-0.23	0.21	0.01
247- 9	1.7	-11.5	-12.4	-0.01	-0.48	-65.7	-0.37	-0.09	-0.16
247-10	3.8	-7.3	-14.6	-0.01	-0.45	-50.9	-0.28	-0.19	-0.21
247-11	5.3	4.3	-4.4	0.16	-0.13	-25.6	0.11	-0.07	-0.11
247-12	8.3	-0.6	-21.3	0.09	-0.65	-34.1	-0.14	-0.41	-0.34
247-13	-0.2	9.6	-18.7	0.08	-0.89	-12.9	0.03	-0.84	-0.21
247-14	-19.1	-31.6	0.3	0.16	-0.96	-26.8	-0.07	-0.73	-0.45
247-15	15.6	-0.3	-33.4	0.22	-0.98	-35.2	-0.18	-0.58	-0.57
247-16	17.5	-13.6	-33.1	0.26	-0.93	-51.4	-0.47	-0.20	-0.58
247-17	13.8	-9.3	-27.9	0.18	-0.79	-48.1	-0.35	-0.25	-0.48
247-18	14.7	-2.1	-18.5	0.30	-0.46	-45.3	-0.08	-0.08	-0.38
247-19	10.5	3.1	-5.8	0.29	-0.09	-42.5	0.12	0.09	-0.19
247-20	6.8	3.2	3.2	0.27	0.15	-67.5	0.17	0.26	-0.04
270- 1	-15.1	-28.9	-10.4	-0.17	-0.92	40.8	-0.49	-0.50	0.37
270- 2	-25.0	-7.4	3.0	-0.11	-0.83	32.5	-0.32	-0.62	0.32
270- 3	-20.5	1.3	8.1	0.11	-0.64	31.2	-0.09	-0.44	0.33
270- 4	-12.6	7.9	3.8	0.15	-0.53	16.9	0.10	-0.37	0.19
270- 5	-5.2	11.1	-2.8	0.18	-0.52	2.3	0.19	-0.52	0.33
270- 6	-0.6	14.7	-10.0	0.25	-0.70	-6.7	0.23	-0.69	-0.11
270- 7	2.6	16.7	-10.7	0.33	-0.68	-8.9	0.31	-0.66	-0.15
270- 8	4.5	18.8	-13.0	0.39	-0.75	-10.4	0.35	-0.71	-0.20
270- 9	7.6	20.2	-12.5	0.47	-0.68	-12.0	0.42	-0.63	-0.23
270-10	8.9	23.1	-8.8	0.57	-0.57	-10.5	0.53	-0.53	-0.21
270-11	0.9	0.7	0.5	0.03	0.03	7.8	0.03	0.03	0.00
270-12	34.6	17.4	-4.2	1.10	0.20	-41.9	0.70	0.60	-0.45
270-13	46.2	10.2	-14.5*	1.39	-0.03	-50.3	0.55	0.81	-0.70

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	51.5	1.2	-9.1	1.74	0.07	-61.7	0.25	1.37	-0.70
270-15	52.8	4.0	-2.9	1.87	0.26	-63.4	0.59	1.55	-0.64
270-16	48.7	11.9	4.2	1.75	0.52	-61.6	0.80	1.47	-0.51
270-17	39.2	16.1	12.9	1.50	0.74	-63.5	0.89	1.35	-0.30
270-18	28.6	19.3	18.0	1.15	0.85	-63.4	0.91	1.09	-0.12
270-19	19.6	19.8	20.5	0.87	0.85	58.1	0.85	0.86	0.01
270-20	13.2	19.5	21.6	0.85	0.64	31.8	0.79	0.70	0.10
0- 6	33.9	26.9	32.4	1.57	1.27	-86.4	1.28	1.57	-0.02
11- 1	24.9	28.8	44.4	1.75	1.22	60.3	1.35	1.62	0.22
22- 6	24.5	29.0	50.3	1.96	1.25	61.6	1.41	1.80	0.30
33- 1	22.1	20.4	55.8	2.25	1.09	68.9	1.24	2.10	0.39
45- 6	14.2	2.2	34.4	1.60	0.48	77.7	0.53	1.55	0.23
55- 1	-8.4	-16.0	6.4	0.34	-0.43	76.9	-0.39	0.30	0.17
67- 4	-20.1	-16.3	-14.7	-0.70	-0.96	28.3	-0.76	-0.90	0.11
78- 1	-16.0	2.9	-18.3	-0.27	-1.20	-1.7	-0.27	-1.20	-0.03
90- 1	0.5	20.2	-11.8	0.37	-0.85	-6.7	0.35	-0.84	-0.14
0-16	-20.4	-21.3	-16.6	-0.72	-0.87	73.5	-0.85	-0.73	0.04
11-11	-17.7	-16.1	-23.8	-0.76	-1.02	16.9	-0.78	-1.00	-0.07
22-16	-11.8	-11.3	-16.6	-0.52	-0.70	-19.7	-0.54	-0.68	-0.06
33-11	1.5	12.3	-4.3	0.26	-0.38	-6.0	0.26	-0.37	-0.07
45-16	19.1	39.4	15.6	1.25	0.23	-2.3	1.25	0.23	-0.04
56-11	38.8	63.3	27.7	2.13	0.72	-5.2	2.12	0.73	-0.13
67-16	32.6	61.5	33.4	2.07	0.76	0.4	2.07	0.76	0.01
78-11	24.6	35.2	13.4	1.21	0.42	-9.5	1.19	0.44	-0.13
90-11	11.3	5.9	1.9	0.39	0.17	-49.3	0.27	0.30	-0.11
180- 6	-9.2	-11.9	-16.4	-0.46	-0.63	-38.3	-0.53	-0.57	-0.08
191- 1	-0.8	-12.0	-25.9	-0.28	-0.86	-42.0	-0.54	-0.60	-0.29
202- 6	7.1	-11.1	-31.8	-0.08	-0.98	-43.1	-0.50	-0.56	-0.45
213- 1	10.8	-3.2	-26.6	0.11	-0.78	-37.9	-0.23	-0.45	-0.43
225- 6	16.2	4.1	-15.5	0.39	-0.36	-38.3	0.10	-0.07	-0.37
236- 1	23.3	6.9	2.8	0.84	0.28	-60.6	0.42	0.70	-0.24
247- 4	18.3	-3.7	7.9	0.97	0.15	-81.4	0.17	0.95	-0.12
258- 1	2.2	-19.9	0.4	0.55	-0.43	-88.7	-0.43	0.54	-0.32
270- 1	-15.1	-28.9	-10.4	-0.17	-0.92	85.8	-0.92	-0.17	0.05
180-16	6.4	7.4	4.8	0.28	0.20	-11.8	0.29	0.20	-0.02
191-11	10.3	8.2	2.6	0.37	0.18	-32.9	0.32	0.24	-0.09
202-16	5.0	-3.6	-4.9	0.14	-0.14	-63.2	-0.08	0.09	-0.11
213-11	-7.1	-19.0	-11.0	-0.15	-0.62	-84.4	-0.62	-0.16	-0.05
225-16	-18.6	-31.1	-14.0	-0.35	-1.04	85.6	-1.03	-0.36	0.05
236-11	-28.5	-42.0	-11.8	-0.32	-1.40	79.6	-1.37	-0.36	0.19
247-14	-19.1	-31.6	0.3	0.16	-0.96	78.2	-0.91	0.11	0.22
258-11	4.0	-12.2	6.0	0.61	-0.18	88.3	-0.18	0.61	0.02
270-11	0.9	0.7	0.5	0.03	0.03	-37.2	0.03	0.03	-0.00
400-01	-6.7	6.3	17.4	0.51	-0.05	87.9	-0.05	0.51	0.02
400-11	-19.0	-10.4	-7.5	-0.42	-0.71	-12.9	-0.43	-0.70	-0.06
401-01	-25.6	-61.5	-15.5	0.07	-1.83	86.5	-1.83	0.07	0.12
401-02	-7.2	10.1					-0.14	0.26	
401-03	-8.7	52.7					0.23	1.65	
401-04	-5.9	3.4					-0.16	0.05	
402-01	-0.2	1.7	-0.5	0.03	-0.06	-2.0	0.03	-0.06	-0.00
402-02	2.6	-1.1					0.07	-0.01	
402-03	-2.1	1.5					-0.06	0.03	
402-04	2.5	-1.2					0.07	-0.02	
403-01	11.5	33.0	11.5	0.99	-3.00	0.0	0.99	-0.00	0.00
403-02	-1.4	8.9					0.03	0.28	
403-03	2.6	-12.4					-0.04	-0.38	
403-04	-2.9	14.5					0.05	0.45	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-6, OUT-OF-PLANE FORCE LOADING ON BRANCH, F3Z

NOMINAL LOAD = 9.327F 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. SEC. ALONG	NORMAL	SHEAR
0- 1	31.8	-0.8	-30.2	0.75	-0.68	-46.4	-0.00	0.07	-0.72
0- 2	31.0	-0.5	-31.1	0.72	-0.72	-45.4	-0.01	0.01	-0.72
0- 3	24.3	-0.8	-21.5	0.59	-0.47	-47.3	0.02	0.10	-0.53
0- 4	17.0	0.5	-14.6	0.42	-0.31	-46.4	0.04	0.07	-0.36
0- 5	13.5	1.4	-10.4	0.34	-0.21	-45.5	[illegible]06	0.07	0.28
0- 6	-5.0	2.4	10.8	0.31	-0.06	-43.1	0.14	0.11	-0.18
0- 7	5.1	1.3	-2.1	0.15	-0.02	-46.3	0.06	0.07	-0.08
0- 8	0.6	1.7	2.4	0.09	0.04	38.6	0.07	0.06	0.02
0- 9	-5.8	2.4	9.6	0.26	-0.10	43.0	0.09	0.07	0.18
0-10	-7.9	0.7	11.0	0.29	-0.15	47.5	0.05	0.09	0.22
0-11	-14.4	-1.8	13.1	0.29	-0.35	47.5	-0.06	-0.00	0.32
0-12	-8.8	-2.2	5.9	0.11	-0.23	48.1	-0.08	-0.04	0.17
0-13	-4.2	-0.9	0.4	-0.02	-0.14	32.9	-0.06	-0.11	0.05
0-14	-2.1	0.0	-2.1	-0.04	-0.14	-0.5	-0.04	-0.14	-0.00
0-15	-1.9	-0.4	-3.2	-0.06	-0.16	-8.1	-0.06	-0.16	-0.11
0-16	-2.6	-4.7	-2.9	-0.07	-0.16	2.7	-0.07	-0.16	0.00
0-17	-3.7	-0.6	-1.2	-0.05	-0.16	17.1	-0.06	-0.15	0.03
0-18	-3.9	-0.7	-1.0	-0.05	-0.16	19.4	-0.06	-0.15	0.03
0-19	-3.2	-1.9	-1.3	-0.07	-0.12	35.7	-0.09	-0.10	0.02
0-20	-4.0	-2.1	2.1	0.03	-0.12	54.8	-0.07	-0.02	0.07
22- 1	33.5	9.7	-13.8	0.97	-0.12	-45.2	0.42	0.43	-0.55
22- 2	37.3	10.4	-13.1	1.10	-0.06	-46.9	0.48	0.56	-0.58
22- 3	37.1	11.6	-10.9	1.12	0.01	-46.8	0.53	0.60	-0.55
22- 4	32.7	14.3	-4.0	1.04	0.19	-45.1	0.61	0.62	-0.42
22- 5	27.5	15.2	2.9	0.90	0.37	-45.1	0.65	0.65	-0.28
22- 6	8.3	17.0	24.6	0.89	0.52	-36.9	0.76	0.65	-0.18
22- 7	20.2	17.0	10.0	0.77	0.52	-34.8	0.69	0.60	-0.12
22- 8	12.3	9.5	11.4	0.56	0.45	-85.0	0.45	0.56	-0.01
22- 9	6.9	3.6	12.2	[illegible]56	0.26	77.9	0.27	0.54	0.06
22-10	4.4	0.4	10.8	[illegible]51	0.14	77.8	0.16	0.49	0.07
22-11	-24.0	-7.6	-12.8	-[illegible]51	-1.07	13.7	-0.53	-1.04	0.13
22-12	-25.7	-10.7	-24.4	-0.83	-1.31	1.9	-0.83	-1.31	0.02
22-13	-22.8	-11.7	-31.5	-0.79	-1.53	-7.8	-0.81	-1.52	-0.10
22-14	-27.5	0.6	-32.3	-0.57	-1.99	-2.2	-0.58	-1.99	-0.05
22-15	-28.6	-16.2	-33.3	-0.98	-1.67	-4.6	-0.99	-1.67	-0.06
22-16	-32.9	-47.1	-34.0	-1.12	-1.75	6.2	-1.13	-1.74	0.07
22-17	-27.8	-19.2	-34.9	-1.05	-1.64	-8.2	-1.06	-1.62	-0.08
22-18	-21.5	-8.3	-21.1	-0.61	-1.21	0.4	-0.61	-1.21	0.00
22-19	-22.3	-13.8	-12.8	-0.61	-0.89	25.9	-0.67	-0.84	0.11
22-20	-15.1	-8.0	-1.7	-0.20	-0.51	83.2	-0.35	-0.37	0.15
45- 1	4.1	21.0	13.5	0.68	0.07	10.6	0.66	0.09	0.11
45- 2	19.3	25.7	14.9	0.94	0.53	-7.2	0.93	0.53	-0.05
45- 3	34.6	37.2	23.7	1.47	1.02	-17.1	1.44	1.05	-0.13
45- 4	45.1	48.5	25.9	1.89	1.15	-18.2	1.82	1.22	-0.22
45- 5	50.2	54.6	28.9	2.12	1.27	-17.7	2.01	1.35	-0.25
45- 6	28.9	26.2	49.8	2.07	1.30	-4.2	2.07	1.30	-0.06
45- 7	30.8	54.8	48.4	2.10	1.29	15.0	2.05	1.35	0.20
45- 8	30.9	31.5	28.6	1.32	1.22	-16.8	1.31	1.23	-0.03
45- 9	30.5	17.2	14.7	1.19	0.75	-62.2	0.89	1.09	-0.18
45-10	26.3	14.4	8.7	0.96	0.53	-54.5	0.68	0.82	-0.20
45-11	5.5	23.4	-5.0	0.56	-0.53	-6.4	0.54	-0.52	-0.12
45-12	1.3	8.8	-26.7	0.05	-1.14	-16.5	-0.05	-1.04	-0.32
45-13	-16.1	-14.8	-52.1	-0.85	-2.07	-21.5	-1.02	-1.91	-0.42
45-14	-44.7	-18.9	-42.6	-1.30	-2.44	1.2	-1.30	-2.44	0.02
45-15	-52.4	-20.8	-32.8	-1.27	-2.38	12.1	-1.32	-2.33	0.23
45-16	-43.3	-67.3	-47.8	-1.44	-2.46	18.0	-1.54	-2.36	0.30
45-17	-37.6	-24.3	-48.4	-1.39	-2.29	-8.1	-1.41	-2.27	-0.13
45-18	-23.5	-15.6	-42.1	-0.95	-1.86	-14.2	-1.01	-1.80	-0.21
45-19	-22.0	-3.8	-16.7	-0.46	-1.19	4.8	-0.47	-1.19	0.06
45-20	-14.4	3.2	-4.6	-0.09	-0.72	10.5	-0.11	-0.70	0.11
67- 1	-19 7	20.8	24.4	0.76	-0.56	25.1	0.53	-0.32	0.51

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-8.5	39.6	36.7	1.39	-0.18	20.7	1.19	0.01	0.52
67- 3	2.5	55.9	53.9	1.89	0.10	16.2	1.75	0.24	0.48
67- 4	15.1	-10.1	39.9	2.09	0.26	25.9	1.75	0.61	0.72
67- 5	-0.6	56.8	69.0	2.42	0.51	28.5	1.99	0.94	0.80
67- 6	3.7	59.6	69.0	2.48	0.63	27.2	2.10	1.02	0.75
67- 7	16.6	63.8	57.4	2.36	0.81	18.7	2.20	0.97	0.47
67- 8	25.2	53.8	37.6	1.88	0.81	7.7	1.86	0.83	0.14
67- 9	32.7	37.9	15.5	1.41	0.66	-16.0	1.35	0.71	-0.20
67-10	31.5	32.8	9.1	1.26	0.48	-21.0	1.16	0.58	-0.26
67-11	1.8	20.3	17.4	0.72	0.10	18.1	0.66	0.16	0.18
67-12	-0.1	6.2	-0.8	0.13	-0.18	-1.4	0.13	-0.17	-0.01
67-13	-6.8	0.6	-3.3	-0.08	-0.35	8.7	-0.08	-0.34	0.04
67-14	-6.8	-10.9	-6.2	-0.18	-0.38	-17.0	-0.20	-0.36	-0.06
67-15	-3.9	-9.4	-15.8	-0.28	-0.56	-42.9	-0.41	-0.43	-0.14
67-16	-7.7	-16.2	-20.2	-0.45	-0.75	-54.9	-0.65	-0.55	-0.14
67-17	-8.2	-11.8	-21.7	-0.47	-0.81	-32.6	-0.57	-0.71	-0.16
67-18	-3.3	-0.9	-20.4	-0.19	-0.83	-19.0	-0.26	-0.76	-0.20
67-19	3.5	13.1	-11.7	0.26	-0.61	-11.9	0.22	-0.57	-0.18
67-20	4.4	20.2	-2.6	0.49	-0.41	-5.1	0.48	-0.40	-0.08
90- 1	-19.8	-23.9	2.0	0.04	-0.81	27.0	-0.13	-0.63	0.35
90- 2	-22.4	15.7	17.5	0.52	-0.73	23.9	0.31	-0.52	0.46
90- 3	-17.3	31.1	27.8	1.02	-0.57	20.6	0.82	-0.37	0.52
90- 4	-10.1	43.5	33.8	1.40	-0.38	17.4	1.24	-0.22	0.51
90- 5	-6.7	42.3	27.7	1.28	-0.39	14.2	1.18	-0.29	0.40
90- 6	-5.1	38.1	21.8	1.11	-0.40	12.2	1.04	-0.33	0.31
90- 7	0.5	37.3	17.1	1.06	-0.31	8.1	1.03	-0.28	0.19
90- 8	5.2	33.6	11.6	0.95	-0.23	3.6	0.94	-0.22	0.07
90- 9	10.0	34.3	11.3	1.00	-0.09	0.8	1.00	-0.09	0.01
90-10	14.5	37.2	11.8	1.12	0.01	-1.6	1.12	0.01	-0.03
90-11	14.3	21.9	5.1	0.72	0.11	34.7	0.52	0.31	0.28
90-12	-4.1	6.5	21.3	0.67	0.07	89.8	0.32	0.42	0.29
90-13	-2.6	-2.2	19.9	0.73	0.01	67.0	0.12	0.62	0.26
90-14	5.5	-8.6	17.6	0.98	0.01	81.7	0.03	0.96	0.14
90-15	14.5	-2.4	20.1	1.20	0.28	86.0	0.29	1.20	0.06
90-16	21.8	8.1	16.5	1.08	0.56	-83.2	0.57	1.07	-0.06
90-17	20.8	12.8	14.8	0.90	0.63	-74.5	0.65	0.88	-0.07
90-18	22.3	18.5	12.1	0.86	0.62	-38.1	0.77	0.71	-0.12
90-19	20.5	21.0	8.2	0.82	0.41	-21.5	0.77	0.46	-0.14
90-20	18.9	24.4	6.1	0.85	0.23	-14.2	0.81	0.26	-0.15
180- 1	1.0	-0.0	-0.5	0.03	-0.01	-54.3	0.00	0.02	-0.02
180- 2	5.4	-0.2	-5.0	0.13	-0.11	-47.1	0.00	0.02	-0.12
180- 3	11.1	0.5	-10.6	0.26	-0.24	-44.3	0.02	0.01	-0.25
180- 4	14.8	1.3	-13.8	0.35	-0.31	-43.3	0.04	0.00	-0.33
180- 5	16.5	0.8	-15.7	0.39	-0.35	-44.3	0.03	0.01	-0.37
180- 6	-16.8	-0.4	17.0	0.40	-0.39	-44.2	0.01	-0.01	-0.39
180- 7	17.4	1.7	-16.9	0.41	-0.39	-42.6	0.04	-0.02	-0.40
180- 8	16.4	1.2	-16.0	0.38	-0.37	-43.2	0.03	-0.01	-0.37
180- 9	10.7	-0.0	-10.9	0.25	-0.25	-44.8	-0.00	-0.01	-0.25
180-10	6.1	-0.7	-6.8	0.13	-0.16	-46.6	-0.02	-0.01	-0.15
180-11	-3.3	-0.2	3.1	0.07	-0.08	46.0	-0.01	-0.00	0.07
180-12	0.4	-0.4	-1.1	0.00	-0.03	-44.0	-0.02	-0.02	-0.02
180-13	2.6	-0.6	-3.2	0.05	-0.08	-47.3	-0.02	-0.01	-0.07
180-14	2.9	0.1	-3.5	0.06	-0.09	-41.3	-0.00	-0.02	-0.07
180-15	3.4	-0.2	-3.9	0.07	-0.10	-44.6	-0.01	-0.01	-0.08
180-16	-3.8	-0.1	3.5	0.08	-0.09	-45.4	-0.01	-0.01	-0.09
180-17	3.8	-0.4	-4.3	0.08	-0.10	-45.8	-0.01	-0.01	-0.09
180-18	3.8	-0.2	-4.2	0.08	-0.10	-44.9	-0.01	-0.01	-0.09
180-19	2.7	-0.4	-3.3	0.06	-0.08	-45.8	-0.01	-0.01	-0.07
180-20	0.2	-0.2	0.1	0.01	-0.00	-87.4	-0.00	0.01	-0.00
202- 1	-13.0	-9.0	-8.4	-0.39	-0.52	27.2	-0.42	-0.50	0.05
202- 2	-11.5	-9.8	-9.8	-0.43	-0.48	23.5	-0.44	-0.47	0.02
202- 3	-7.6	-8.1	-9.7	-0.38	-0.40	-32.1	-0.36	-0.38	-0.02
202- 4	-2.3	-6.2	-11.2	-0.19	-0.39	-41.4	-0.28	-0.30	-0.10
202- 5	0.7	-4.7	-12.2	-0.10	-0.40	-40.5	-0.22	-0.27	-0.15
202- 6	-10.9	-3.8	2.4	-0.03	-0.34	-36.9	-0.14	-0.23	-0.15
202- 7	3.3	2.1	-8.1	0.07	-0.27	-25.8	0.00	-0.21	-0.13

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	5.2	3.9	-6.3	0.14	-0.19	-26.1	0.08	-0.13	-0.13
202- 9	6.0	3.9	-2.4	0.19	-0.03	-31.6	0.13	0.03	-0.10
202-10	5.4	2.6	2.6	0.22	0.13	-67.3	0.14	0.20	-0.03
202-11	4.3	5.4	17.3	0.66	0.27	64.8	0.34	0.59	0.15
202-12	4.0	7.2	21.8	0.80	0.31	61.2	0.42	0.68	0.21
202-13	4.3	4.0	20.7	0.81	0.26	68.0	0.34	0.73	0.19
202-14	3.3	2.1	18.4	0.73	0.20	69.6	0.26	0.67	0.17
202-15	1.6	2.1	18.0	0.53	0.14	66.0	0.20	0.47	0.14
202-16	11.9	8.8	-0.3	0.41	0.09	63.0	0.16	0.34	0.13
202-17	-1.6	2.3	8.3	0.26	0.03	50.9	0.12	0.17	0.11
202-18	-3.4	1.7	-3.3	-0.03	-0.26	0.1	-0.03	-0.26	0.00
202-19	-4.1	-0.1	-6.1	-0.10	-0.34	-5.5	-0.10	-0.33	0.02
202-20	-7.9	-5.0	-7.5	-0.27	-0.39	2.1	-0.27	-0.39	0.00
225- 1	-2.4	-3.0	-1.7	-0.07	-0.11	80.0	-0.11	-0.07	0.01
225- 2	-9.8	-10.1	-4.6	-0.22	-0.40	69.0	-0.38	-0.24	0.06
225- 3	-17.7	-17.3	-5.3	-0.30	-0.69	66.3	-0.63	-0.36	0.14
225- 4	-20.6	-19.8	-4.4	-0.29	-0.79	65.9	-0.70	-0.37	0.19
225- 5	-22.2	-18.3	-2.8	-0.27	-0.80	60.3	-0.67	-0.40	0.22
225- 6	0.6	-7.3	-21.1	-0.18	-0.70	67.6	-0.62	-0.25	0.18
225- 7	-11.9	-17.7	-4.2	-0.10	-0.58	79.3	-0.57	-0.12	0.39
225- 8	-9.4	-9.5	3.8	0.10	-0.34	67.7	-0.28	0.03	0.15
225- 9	-4.1	-2.5	11.9	0.40	-0.07	64.2	0.02	0.31	0.18
225-10	-3.1	-5.1	11.7	0.46	-0.09	70.9	-0.03	0.40	0.17
225-11	0.9	-2.1	3.0	0.18	-0.01	82.7	-0.01	0.18	0.32
225-12	1.2	4.4	14.5	0.51	0.16	58.5	0.26	0.41	0.15
225-13	-3.4	11.8	34.8	1.12	0.22	50.7	0.58	0.76	0.44
225-14	-4.5	13.2	30.8	0.97	0.16	44.9	0.56	0.56	0.41
225-15	4.7	-6.6	14.7	0.81	0.02	81.5	0.04	0.79	0.12
225-16	23.9	12.6	-10.3	0.71	-0.12	69.4	-0.02	0.61	0.27
225-17	-14.1	0.7	19.4	0.50	-0.28	48.3	0.07	0.16	0.39
225-18	-8.1	3.7	-6.3	-0.06	-0.56	2.3	-0.06	-0.56	0.02
225-19	-16.1	-8.6	-11.6	-0.46	-0.73	11.6	-0.47	-0.72	0.05
225-20	-16.2	-12.4	-12.6	-0.56	-0.68	20.9	-0.57	-0.67	0.04
247- 1	2.7	-0.1	6.5	0.31	0.08	79.0	0.09	0.30	0.04
247- 2	-6.4	-8.6	7.7	0.30	-0.24	71.3	-0.19	0.24	0.16
247- 3	-15.9	-13.9	10.4	0.28	-0.51	65.2	-0.37	0.14	0.30
247- 4	17.3	-7.4	-24.2	0.34	-0.64	74.6	-0.57	0.27	0.25
247- 5	-10.6	-29.7	-1.0	0.32	-0.81	84.3	-0.80	0.30	0.11
247- 6	-14.0	-31.8	-0.1	0.29	-0.90	82.1	-0.87	0.27	0.16
247- 7	-16.1	-32.3	1.6	0.30	-0.93	80.3	-0.89	0.27	0.20
247- 8	-16.8	-28.4	6.8	0.39	-0.82	76.6	-0.75	0.33	0.27
247- 9	-9.9	-18.7	12.9	0.60	-0.47	75.3	-0.40	0.53	0.26
247-10	-7.1	-21.9	5.4	0.47	-0.54	81.7	-0.52	0.45	0.14
247-11	-4.7	-9.5	-0.1	0.07	-0.28	81.0	-0.27	0.05	0.05
247-12	-8.9	-3.6	10.2	0.27	-0.21	57.1	-0.07	0.13	0.22
247-13	-13.8	-10.6	10.8	0.29	-0.42	63.2	-0.27	0.14	0.28
247-14	12.1	6.7	-18.7	0.28	-0.57	46.5	-0.16	-0.12	0.42
247-15	-23.4	3.3	14.0	0.27	-0.67	33.4	-0.02	-0.39	0.43
247-16	-17.0	13.4	1.3	0.20	-0.87	11.7	0.15	-0.83	0.21
247-17	-15.4	9.9	-8.4	-0.00	-1.02	4.6	-0.01	-1.01	0.08
247-18	-22.5	-1.7	-15.3	-0.41	-1.22	5.9	-0.41	-1.21	0.08
247-19	-22.3	-19.1	-21.6	-0.87	-1.01	3.6	-0.87	-1.01	0.01
247-20	-14.3	-21.0	-21.6	-0.66	-0.88	-64.7	-0.84	-0.70	-0.08
270- 1	17.5	-9.8	1.6	0.89	-0.07	56.2	0.23	0.59	0.45
270- 2	-19.5	-13.9	25.9	0.79	-0.52	63.5	-0.26	0.53	0.52
270- 3	-30.8	-29.5	20.6	0.60	-1.04	66.7	-0.78	0.34	0.59
270- 4	-38.6	-45.6	10.6	0.32	-1.53	71.1	-1.33	0.13	0.57
270- 5	-38.5	-51.3	2.9	0.14	-1.67	74.1	-1.54	0.01	0.48
270- 6	-29.0	-43.6	0.4	0.14	-1.37	76.7	-1.29	0.06	0.34
270- 7	-20.4	-42.0	-6.5	0.10	-1.25	83.1	-1.23	0.08	0.16
270- 8	-13.6	-38.7	-11.1	0.08	-1.14	88.6	-1.14	0.08	0.03
270- 9	-11.5	-35.6	-11.6	0.06	-1.05	-89.9	-1.05	0.05	-0.00
270-10	-8.7	-35.5	-16.7	-0.01	-1.08	-85.0	-1.07	-0.02	-0.09
270-11	0.1	-0.1	-0.1	0.00	-0.00	-15.8	0.00	-0.00	-0.00
270-12	-19.6	-9.2	1.9	-0.13	-0.63	45.9	-0.39	-0.37	0.25
270-13	-17.1	0.7	1.4	-0.05	-0.63	23.6	-0.13	-0.53	0.21

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-15.0	8.1	-4.0	0.02	-0.83	8.7	-0.00	-0.81	0.13
270-15	-13.6	3.5	-12.3	-0.18	-0.94	1.1	-0.18	-0.94	0.01
270-16	-14.8	-7.7	-18.6	-0.50	-0.93	-5.9	-0.51	-0.92	-0.04
270-17	-11.8	-17.2	-22.2	-0.61	-0.85	-45.8	-0.73	-0.73	-0.12
270-18	-8.4	-24.1	-23.5	-0.42	-0.94	-68.7	-0.87	-0.49	-0.17
270-19	-4.1	-25.3	-22.3	-0.22	-0.91	-71.6	-0.84	-0.29	-0.21
270-20	-1.8	-24.4	-20.1	-0.09	-0.85	-72.9	-0.78	-0.16	-0.21
0- 6	-5.0	2.4	10.8	0.31	-0.06	46.9	0.11	0.14	0.18
11- 1	-1.6	4.4	14.8	0.48	0.09	52.5	0.23	0.33	0.19
22- 6	8.3	17.0	24.6	0.89	0.52	43.1	0.72	0.69	0.19
33- 1	18.8	24.5	39.1	1.50	0.99	56.9	1.14	1.35	0.23
45- 6	28.9	26.2	49.8	2.07	1.30	70.8	1.38	1.99	0.24
56- 1	33.1	12.6	54.1	2.62	1.11	80.6	1.15	2.58	0.24
67- 4	15.1	-10.1	39.9	2.09	0.26	80.9	0.31	2.05	0.29
78- 1	-11.1	-25.5	19.8	0.96	-0.59	76.3	-0.50	0.88	0.36
90- 1	-19.8	-23.9	2.0	0.04	-0.81	72.0	-0.73	-0.04	0.25
0-16	-2.6	-4.7	-2.9	-0.07	-0.16	-87.3	-0.16	-0.07	-0.00
11-11	-11.3	-17.7	-15.1	-0.46	-0.68	-78.4	-0.67	-0.47	-0.04
22-16	-32.9	-47.1	-34.0	-1.12	-1.75	-88.8	-1.75	-1.12	-0.01
33-11	-42.4	-61.7	-44.9	-1.45	-2.29	-88.0	-2.29	-1.45	-0.03
45-16	-43.3	-67.3	-47.8	-1.44	-2.46	-87.0	-2.45	-1.45	-0.05
56-11	-32.5	-45.1	-27.8	-0.94	-1.64	85.5	-1.64	-0.95	0.05
67-14	-6.8	-10.9	-6.2	-0.18	-0.38	88.0	-0.39	-0.18	0.01
78-11	11.4	15.9	6.3	0.55	0.21	-9.8	0.54	0.22	-0.06
90-11	14.3	21.9	5.1	0.72	0.11	-10.3	0.70	0.13	-0.11
180- 6	-16.8	-0.4	17.0	0.40	-0.39	45.8	-0.01	0.01	0.39
191- 1	-16.1	-2.6	12.7	0.26	-0.41	46.7	-0.09	-0.05	0.33
202- 6	-10.9	-3.8	2.4	-0.03	-0.34	43.1	-0.17	-0.19	0.15
213- 1	-4.1	-5.9	-9.7	-0.23	-0.37	-34.7	-0.27	-0.32	-0.06
225- 6	0.6	-7.3	-21.1	-0.18	-0.70	-37.4	-0.37	-0.51	-0.25
236- 1	8.3	-6.1	-26.8	0.01	-0.81	-39.9	-0.32	-0.47	-0.30
247- 4	17.3	-7.4	-24.2	0.34	-0.64	-50.4	-0.24	-0.06	-0.48
258- 1	21.0	-10.4	-14.4	0.66	-0.37	-63.9	-0.17	0.46	-0.41
270- 1	17.5	-9.8	1.6	0.89	-0.07	-78.8	-0.04	0.85	-0.18
180-16	-3.8	-0.1	3.5	0.08	-0.09	44.6	-0.01	-0.01	0.09
191-11	2.3	4.0	2.7	0.14	0.07	4.3	0.14	0.07	0.01
202-16	11.9	8.8	-0.3	0.41	0.09	-32.0	0.32	0.19	-0.14
213-11	20.0	10.3	-6.0	0.61	-0.01	-38.0	0.38	0.23	-0.30
225-16	23.9	12.6	-10.3	0.71	-0.12	-35.6	0.43	0.16	-0.39
236-11	21.6	9.6	-17.2	0.57	-0.39	-34.6	0.27	-0.08	-0.45
247-14	12.1	6.7	-18.7	0.28	-0.57	-28.5	0.09	-0.37	-0.35
258-11	-3.7	5.7	-10.7	-0.00	-0.62	-7.7	-0.01	-0.60	-0.08
270-11	0.1	-0.1	-0.1	0.00	-0.00	-60.8	-0.00	0.00	-0.00
400-01	-0.7	-0.9	2.7	0.10	-0.02	-65.5	0.00	0.08	-0.05
400-11	-2.5	-8.1	-0.2	0.10	-0.22	40.2	-0.03	-0.03	0.15
401-01	22.8	2.2	-22.1	0.53	-0.51	-42.6	0.06	-0.03	-0.52
401-02	2.8	-9.5					-0.00	-0.29	
401-03	-1.0	0.1					-0.03	-0.01	
401-04	-2.4	9.9					0.02	0.30	
402-01	-0.8	-0.1	0.8	0.02	-0.02	49.1	-0.00	0.00	0.02
402-02	0.0	0.1					0.00	0.00	
402-03	0.1	-0.1					0.00	-0.00	
402-04	0.0	0.1					0.00	0.00	
403-01	2.5	0.1	-2.0	0.06	-0.04	-46.4	0.01	0.01	-0.05
403-02	-3.9	13.9					0.01	0.42	
403-03	0.4	-0.3					0.01	-0.00	
403-04	3.3	-13.3					-0.02	-0.40	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, INTERNAL PRESSURE LOADING

NOMINAL LOAD = 2.058E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

	STRAIN (MICROINCHES/INCH)			STRESS (KSI) PRINCIPLE STRESSES			RELATIVE TO REF. DIR.		
LOCATION	E(1)	E(2)	E(3)	MAX	MIN	PHI	ALONG	NORMAL	SHEAR
0- 1	12.5	11.3	12.6	0.57	0.51	89.6	0.51	0.57	0.00
0- 2	12.7	10.9	10.9	0.54	0.48	-67.0	0.49	0.53	-0.02
0- 3	2.3	-3.4	3.0	0.26	-0.03	88.4	-0.03	0.26	0.01
0- 4	1.0	-4.5	1.6	0.19	-0.08	88.6	-0.08	0.19	0.01
0- 5	0.9	-4.2	2.1	0.19	-0.07	87.0	-0.07	0.19	0.01
0- 6	2.9	7.1	1.7	0.21	-0.02	86.5	-0.02	0.21	0.01
0- 7	5.6	1.5	5.1	0.32	0.14	-87.8	0.14	0.32	-0.01
0- 8	9.3	6.2	8.4	0.44	0.32	-84.9	0.32	0.44	-0.01
0- 9	12.6	7.4	9.3	0.56	0.38	-77.3	0.39	0.55	-0.04
0-10	7.0	7.3	8.9	0.37	0.31	61.1	0.33	0.35	0.02
0-11	27.6	13.6	21.0	1.30	0.78	-81.4	0.79	1.29	-0.08
0-12	-1.4	15.3	28.2	0.92	0.23	41.4	0.62	0.53	0.34
0-13	31.9	17.1	31.7	1.70	1.02	-89.8	1.02	1.70	-0.00
0-14	34.5	13.8	32.3	1.88	0.98	-88.4	0.98	1.88	-0.02
0-15	62.2	-10.4	39.1	3.60	0.74	-84.6	0.76	3.58	-0.27
0-16	61.4	175.2	32.9	5.00	-0.95	86.8	-0.93	4.98	0.33
0-17	53.7	13.1	157.3	6.97	2.08	75.4	2.39	6.65	1.20
0-18	37.0	11.4	45.3	2.45	1.07	86.0	1.08	2.45	0.10
0-19	32.5	14.7	31.1	1.76	0.97	-88.8	0.97	1.76	-0.02
0-20	27.5	16.1	27.9	1.45	0.92	89.6	0.92	1.45	0.00
22- 1	15.8	6.7	4.6	0.59	0.28	-60.9	0.36	0.52	-0.13
22- 2	17.0	2.7	-2.7	0.56	0.06	-57.2	0.20	0.41	-0.23
22- 3	13.4	-3.8	-5.8	0.45	-0.12	-64.2	-0.01	0.34	-0.22
22- 4	14.9	-3.4	-6.7	0.48	-0.13	-62.4	0.00	0.35	-0.25
22- 5	11.1	-4.2	-0.4	0.48	-0.03	-74.4	0.01	0.45	-0.13
22- 6	5.4	15.4	8.6	0.50	0.10	-81.5	0.11	0.49	-0.06
22- 7	6.6	-3.3	6.3	0.50	0.05	-89.6	0.05	0.50	-0.00
22- 8	4.8	-1.1	10.4	0.54	0.12	81.2	0.13	0.53	0.06
22- 9	6.1	2.7	10.6	0.50	0.22	79.1	0.23	0.49	0.05
22-10	3.2	3.0	13.5	0.53	0.19	67.9	0.23	0.48	0.12
22-11	15.1	7.8	26.4	1.22	0.56	78.2	0.59	1.19	0.13
22-12	17.6	14.5	29.6	1.26	0.76	73.4	0.80	1.22	0.14
22-13	1.5	14.0	0.7	0.35	-0.25	-0.9	0.35	-0.25	-0.01
22-14	21.3	4.9	32.7	1.69	0.63	82.8	0.65	1.67	0.13
22-15	48.7	-1.2	7.5	2.03	0.38	-72.4	0.53	1.88	-0.48
22-16	42.1	63.4	12.2	2.07	0.26	-89.2	0.26	2.07	-0.02
22-17	25.2	0.7	36.6	2.03	0.61	84.7	0.63	2.02	0.13
22-18	28.8	10.4	31.5	1.75	0.84	88.1	0.84	1.75	0.03
22-19	28.1	11.2	27.2	1.57	0.00	-89.2	0.80	1.57	-0.01
22-20	17.1	8.5	33.5	1.52	0.65	77.0	0.70	1.47	0.19
45- 1	25.0	16.5	6.8	0.89	0.47	-43.0	0.70	0.67	-0.21
45- 2	24.3	9.1	-6.2	0.74	0.04	-45.0	0.39	0.39	-0.35
45- 3	24.1	2.3	-8.8	0.73	-0.07	-54.0	0.20	0.45	-0.38
45- 4	23.8	0.1	-8.1	0.75	-0.07	-58.0	0.16	0.51	-0.37
45- 5	21.1	0.7	3.3	0.86	0.19	-71.1	0.26	0.79	-0.21
45- 6	13.9	26.1	15.0	0.89	0.35	-71.6	0.40	0.83	-0.16
45- 7	20.7	1.9	4.4	0.85	0.23	-71.2	0.29	0.78	-0.19
45- 8	12.7	-4.9	7.0	0.77	0.08	-84.6	0.08	0.76	-0.07
45- 9	8.8	-3.9	11.1	0.75	0.11	87.7	0.11	0.74	0.03
45-10	3.7	-3.2	12.2	0.62	0.06	79.6	0.08	0.60	0.10
45-11	0.0	10.8	20.4	0.67	0.20	43.3	0.45	0.42	0.24
45-12	9.2	16.0	17.3	0.68	0.46	28.0	0.63	0.51	0.09
45-13	11.8	14.8	16.7	0.67	0.55	39.5	0.62	0.60	0.06
45-14	7.8	8.5	22.6	0.88	0.42	66.1	0.50	0.81	0.17
45-15	27.4	-4.7	5.7	1.26	0.16	-76.5	0.22	1.20	-0.25
45-16	17.0	43.5	18.1	1.35	0.15	-76.4	0.22	1.28	-0.27
45-17	25.8	-3.7	10.6	1.31	0.25	-80.4	0.28	1.28	-0.18
45-18	13.4	4.2	28.7	1.33	0.48	77.8	0.52	1.29	0.18
45-19	16.1	7.3	26.7	1.27	0.57	79.7	0.59	1.24	0.12
45-20	16.2	9.2	26.4	1.22	0.61	78.6	0.64	1.19	0.12
67- 1	22.6	9.9	2.8	0.78	0.31	-52.9	0.48	0.61	-0.23

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	24.7	10.3	5.1	0.89	0.39	-57.6	0.53	0.74	-0.23
67- 3	23.9	10.3	8.1	0.91	0.46	-62.8	0.55	0.82	-0.18
67- 4	31.0	19.4	15.8	1.20	0.80	-58.8	0.91	1.09	-0.18
67- 5	24.7	30.9	24.8	1.20	0.92	-59.7	0.99	1.13	-0.12
67- 6	32.9	23.6	18.4	1.27	0.92	-52.8	1.05	1.15	-0.17
67- 7	28.6	12.5	12.6	1.14	0.62	-67.6	0.70	1.07	-0.18
67- 8	20.6	1.2	10.2	1.01	0.31	-79.9	0.33	0.99	-0.12
67- 9	16.0	-1.1	11.9	0.95	0.25	-86.0	0.25	0.94	-0.05
67-10	9.3	-4.1	10.3	0.74	0.10	89.0	0.10	0.74	0.01
67-11	11.1	15.4	7.1	0.54	0.24	-8.9	0.54	0.25	-0.05
67-12	5.7	5.7	2.9	0.23	0.14	-22.7	0.22	0.15	-0.03
67-13	-0.8	-4.6	2.7*	0.18	-0.09	81.4	-0.09	0.17	0.04
67-14	7.8	-7.6	-3.0	0.37	-0.16	-75.8	-0.13	0.34	-0.12
67-15	151.1*	21.5	8.8	5.55	1.30	25.3	4.77	2.08	1.64
67-16	6.1	-8.6	1.8	0.47	-0.12	-85.2	-0.12	0.46	-0.05
67-17	2.4	-1.6	15.4	0.67	0.10	74.1	0.14	0.62	0.15
67-18	6.9	5.0	18.7	0.77	0.32	71.5	0.37	0.73	0.14
67-19	9.5	7.8	19.0	0.79	0.42	71.8	0.46	0.76	0.11
67-20	11.7	6.5	16.7	0.79	0.42	81.0	0.43	0.78	0.06
90- 1	15.4	15.9	16.4	0.69	0.67	46.1	0.68	0.68	0.01
90- 2	21.2	25.1	22.3	1.01	0.85	4.6	1.01	0.86	0.01
90- 3	21.8	21.7	23.6	1.00	0.94	20.6	0.99	0.95	0.02
90- 4	27.6	30.2	26.2	1.23	1.07	-6.2	1.23	1.08	-0.02
90- 5	26.4	28.0	24.3	1.15	1.02	-10.4	1.15	1.02	-0.02
90- 6	27.1	23.8	25.5	1.19	1.06	-81.1	1.07	1.18	-0.02
90- 7	21.7	12.5	21.1	1.12	0.71	-89.0	0.71	1.12	-0.01
90- 8	17.0	5.0	19.0	1.07	0.47	87.8	0.47	1.07	0.02
90- 9	16.5	1.5	15.6	1.02	0.35	-89.1	0.35	1.02	-0.01
90-10	14.3	-0.3	17.9	1.07	0.31	86.9	0.31	1.07	0.04
90-11	6.3	12.7	7.8	0.43	0.17	3.9	0.43	0.17	0.02
90-12	0.9	2.4	1.2	0.08	0.01	2.8	0.08	0.01	0.00
90-13	0.4	0.5	1.3	0.05	0.02	-71.1	0.03	0.05	-0.01
90-14	1.0	-147.2*	-0.6	3.41	-3.39	-89.8	-3.39	3.41	-0.02
90-15	1.8	-4.2	0.2	0.16	-0.08	-85.5	-0.08	0.16	-0.02
90-16	5.0	-2.2	3.7	0.34	0.03	-87.1	0.03	0.34	-0.02
90-17	8.1	3.2	8.0	0.46	0.23	-89.8	0.23	0.46	-0.00
90 18	0.1*	7.6	10.9	0.37	0.10	34.2	0.28	0.19	0.12
90-19	12.2	8.0	11.5	0.60	0.42	-87.3	0.42	0.60	-0.01
90-20	12.2	6.5	12.7	0.67	0.40	88.7	0.40	0.67	0.01
180- 1	14.1	13.6	13.9	0.61	0.59	-83.9	0.59	0.61	-0.00
180- 2	7.8	2.7	6.5	0.41	0.20	-86.0	0.20	0.41	-0.01
180- 3	3.1	-3.7	1.8	0.25	-0.04	-87.1	-0.04	0.25	-0.01
180- 4	2.1	-4.2	0.7	0.19	-0.07	-86.6	-0.07	0.19	-0.02
180- 5	2.6	-4.4	0.8	0.22	-0.07	-85.8	-0.07	0.21	-0.02
180- 6	2.6	7.5	2.8	0.23	0.01	-89.5	0.01	0.23	-0.00
180- 7	6.5	2.5	6.2	0.36	0.18	-88.7	0.18	0.36	-0.00
180- 8	10.5	8.2	10.1	0.49	0.39	-87.3	0.39	0.49	-0.00
180- 9	11.8	6.3	5.7	0.47	0.28	-64.6	0.32	0.43	-0.07
180-10	6.3	4.6	7.8	0.36	0.24	81.4	0.25	0.36	0.02
180-11	24.6	11.6	24.8	1.36	0.76	89.8	0.76	1.36	0.00
180-12	30.1	17.1	29.7	1.58	0.99	-89.5	0.99	1.58	-0.00
180-13	32.1	17.0	31.5	1.70	1.02	-89.3	1.02	1.70	-0.01
180-14	34.3	15.8	34.2	1.89	1.04	-89.9	1.04	1.89	-0.00
180-15	66.3	-3.1	27.4	3.24	0.77	-79.4	0.86	3.16	-0.45
180-16	83.8	98.0	17.2	3.50	0.83	87.5	0.83	3.50	0.12
180-17	34.3	-8.0	42.9	2.73	0.57	87.4	0.58	2.73	0.10
180-18	34.2	10.1	36.1	2.09	0.93	88.9	0.93	2.09	0.02
180-19	32.3	13.2	31.5	1.80	0.94	-89.4	0.94	1.80	-0.01
180-20	35.3	23.2	32.2	1.69	1.20	-85.8	1.20	1.69	-0.04
202- 1	17.7	7.5	1.5	0.61	0.22	-52.5	0.36	0.46	-0.19
202- 2	17.1	-0.0	-5.3	0.55	-0.04	-59.1	0.12	0.39	-0.26
202- 3	15.0	-2.2	-7.1	0.46	-0.12	-59.4	0.03	0.31	-0.25
202- 4	15.1	-2.1	-6.3	0.48	-0.10	-60.6	0.04	0.34	-0.25
202- 5	12.6	-2.9	-1.5	0.49	-0.02	-70.2	0.04	0.43	-0.16
202- 6	8.3	17.4	9.2	0.58	0.18	-78.5	0.19	0.56	-0.08
202- 7	8.9	-2.1	8.8	0.63	0.13	-89.8	0.13	0.63	-0.00

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	6.1	-1.0	10.6	0.58	0.14	83.3	0.14	0.58	0.05
202- 9	8.2	3.4	10.5	0.54	0.26	84.6	0.26	0.54	0.03
202-10	4.1	-0.0	13.8	0.62	0.15	75.8	0.18	0.59	0.11
202-11	20.9	13.8	31.1	1.42	0.81	78.7	0.83	1.39	0.12
202-12	17.6	15.3	29.7	1.25	0.78	72.1	0.82	1.21	0.14
202-13	18.3	14.4	33.0	1.41	0.79	73.5	0.84	1.36	0.17
202-14	21.6	3.8	33.4	1.74	0.61	83.0	0.63	1.73	0.14
202-15	49.6	-8.7	22.5	2.62	0.47	-81.6	0.51	2.58	-0.31
202-16	47.1	60.7	10.3	2.08	0.38	88.0	0.38	2.08	0.06
202-17	23.6	1.5	35.4	1.92	0.60	84.1	0.62	1.91	0.14
202-18	27.6	9.0	29.9	1.69	0.78	88.4	0.78	1.69	0.03
202-19	27.4	9.1	26.0	1.55	0.74	-88.8	0.74	1.55	-0.02
202-20	29.2	16.3	26.1	1.45	0.92	-86.1	0.92	1.44	-0.04
225- 1	24.6	13.8	7.3	0.89	0.48	-52.1	0.63	0.73	-0.20
225- 2	24.7	6.5	-6.7	0.75	0.02	-49.6	0.33	0.44	-0.36
225- 3	24.6	3.0	-9.3	0.74	-0.08	-52.7	0.22	0.44	-0.39
225- 4	24.6	2.0	-7.2	0.77	-0.03	-56.5	0.22	0.53	-0.37
225- 5	22.4	1.6	5.2	0.94	0.25	-72.4	0.31	0.87	-0.20
225- 6	14.8	27.6	16.2	0.94	0.39	-73.4	0.43	0.90	-0.15
225- 7	20.7	2.5	7.0	0.90	0.29	-74.5	0.33	0.86	-0.16
225- 8	14.5	-5.1	6.6	0.83	0.08	-82.9	0.09	0.81	-0.09
225- 9	9.5	-3.3	10.1	0.72	0.12	89.4	0.12	0.72	0.01
225-10	6.1	-2.3	13.5	0.71	0.13	81.5	0.14	0.70	0.09
225-11	0.7	11.0	22.4	0.74	0.24	46.4	0.48	0.51	0.25
225-12	9.9	16.8	17.6	0.70	0.48	26.0	0.66	0.52	0.09
225-13	12.1	14.4	16.6	0.67	0.56	43.8	0.62	0.61	0.05
225-14	8.9	7.0	20.8	0.86	0.41	71.4	0.45	0.82	0.14
225-15	33.4	-1.5	-0.1	1.29	0.14	-68.6	0.29	1.13	-0.39
225-16	12.2	42.8	20.9	1.32	0.10	-69.3	0.25	1.17	-0.41
225-17	11.5	-5.1	23.6	1.29	0.21	82.5	0.23	1.27	0.14
225-18	14.0	4.0	27.6	1.31	0.47	79.0	0.50	1.28	0.16
225-19	32.1	5.6	32.1	1.96	0.79	-90.0	0.79	1.96	-0.00
225-20	17.2	9.3	23.9	1.15	0.61	81.7	0.62	1.14	0.08
247- 1	21.2	10.7	2.5	0.72	0.29	-48.5	0.48	0.53	-0.22
247- 2	27.7	15.0	4.8	0.96	0.43	-48.2	0.67	0.73	-0.26
247- 3	28.8	14.0	8.6	1.06	0.54	-57.5	0.69	0.91	-0.23
247- 4	30.6	20.4	16.4	1.19	0.83	-56.8	0.94	1.08	-0.16
247- 5	23.5	32.2	28.2	1.26	0.95	-55.0	1.05	1.16	-0.15
247- 6	31.7	23.3	18.7	1.24	0.92	-53.1	1.04	1.12	-0.15
247- 7	26.8	11.5	12.8	1.10	0.60	-69.8	0.66	1.04	-0.16
247- 8	19.4	0.9	9.9	0.96	0.29	-80.5	0.31	0.95	-0.11
247- 9	15.4	-1.5	10.9	0.91	0.22	-85.6	0.23	0.90	-0.05
247-10	9.4	-3.2	15.0	0.88	0.16	84.9	0.17	0.88	0.06
247-11	11.2	15.3	6.8	0.54	0.23	-9.8	0.53	0.24	-0.05
247-12	6.7	7.0	2.8	0.27	0.14	-20.4	0.25	0.15	-0.04
247-13	-0.5	-3.1	1.0	0.09	-0.07	83.4	-0.07	0.09	0.02
247-14	10.2	-0.4	-10.7	0.23	-0.25	-45.4	-0.01	-0.01	-0.24
247-15	-3.4	13.9	9.7	0.42	-0.16	-74.4	-0.12	0.38	-0.15
247-16	7.9	-4.3	0.1	0.38	-0.04	-77.4	-0.02	0.36	-0.09
247-17	36.1*	-0.1	-2.5*	1.31	0.13	-65.6	0.33	1.11	-0.45
247-18	7.7	5.9	19.0	0.79	0.36	71.4	0.40	0.75	0.13
247-19	10.5	12.3	20.6	0.81	0.53	61.3	0.59	0.74	0.12
247-20	11.8	19.5	16.1	0.73	0.46	10.6	0.72	0.47	0.05
270- 1	16.7	18.6	17.2	0.76	0.69	4.7	0.76	0.69	0.01
270- 2	18.5	19.4	18.5	0.81	0.77	-0.1	0.81	0.77	-0.00
270- 3	19.8	23.3	25.2	1.03	0.90	-13.5	1.02	0.91	-0.03
270- 4	26.8	31.6	26.7	1.26	1.03	-0.4	1.26	1.03	-0.00
270- 5	26.4	30.3	27.3	1.23	1.07	3.8	1.23	1.07	0.01
270- 6	24.5	21.3	24.4	1.12	0.98	-89.4	0.98	1.12	-0.00
270- 7	20.4	11.2	19.9	1.07	0.66	-89.2	0.66	1.07	-0.01
270- 8	16.9	2.8	16.4	1.03	0.39	-89.5	0.39	1.03	-0.01
270- 9	15.4	0.6	15.1	0.99	0.32	-89.7	0.32	0.99	-0.00
270-10	9.2	-3.6	15.9	0.92	0.16	84.1	0.16	0.91	0.08
270-11	7.7	13.3	7.1	0.45	0.18	-1.4	0.45	0.18	-0.01
270-12	-0.1	-0.3	-0.7	-0.01	-0.02	-37.2	-0.02	-0.02	-0.01
270-13	-1.6	-1.0	0.8	0.01	-0.05	-80.4	-0.05	0.01	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-0.1	-3.6	-0.9	0.05	-0.09	-86.4	-0.09	0.05	-0.01
270-15	-1.5*	2.2	2.8*	0.09	-0.03	27.1	0.06	-0.01	0.05
270-16	3.9	-2.5	4.9	0.35	0.03	87.9	0.03	0.35	0.01
270-17	8.0	3.3	8.6	0.47	0.24	88.2	0.24	0.47	0.01
270-18	10.6	8.2	11.9	0.56	0.41	84.1	0.41	0.55	0.02
270-19	11.2	7.4	11.5	0.58	0.40	89.0	0.40	0.58	0.00
270-20	12.7	7.8	13.3	0.68	0.44	88.3	0.44	0.68	0.01
0- 6	2.9	7..	1.7	0.21	-0.02	-3.5	0.21	-0.02	-0.01
11- 1	2.4	8.6	4.5	0.27	0.03	5.9	0.27	0.03	0.02
22- 6	5.4	15.4	8.6	0.50	0.10	5.5	0.49	0.11	0.04
33- 1	8.8	21.1	11.1	0.68	0.17	3.0	0.68	0.17	0.03
45- 6	13.9	26.1	15.0	0.89	0.35	1.4	0.89	0.35	0.01
56- 1	20.1	32.1	22.8	1.17	0.67	3.5	1.16	0.67	0.03
67- 5	24.7	30.9	24.8	1.20	0.92	0.3	1.20	0.92	0.00
78- 1	24.1	29.3	28.1	1.21	1.03	15.9	1.19	1.04	0.05
90- 3	21.8	21.7	23.6	1.00	0.94	68.6	0.95	0.99	0.02
0-16	61.4	175.2	32.9	5.00	-0.95	-3.2	4.98	-0.93	-0.33
11-11	55.2	84.5	19.9	2.77	0.45	-10.3	2.69	0.53	-0.41
22-16	42.1	63.4	12.2	2.07	0.26	-11.2	2.00	0.33	-0.35
33-11	35.8	50.1	9.6	1.67	0.27	-12.7	1.61	0.34	-0.30
45-16	17.0	43.5	18.1	1.35	0.15	0.6	1.35	0.15	0.01
56-11	2.0	27.2	18.0	0.87	-0.01	12.5	0.82	0.03	0.19
67-15	151.1*	21.5	8.8	5.55	1.30	-64.7	2.08	4.77	-1.64
78-11	-4.3	0.4	3.0	0.06	-0.12	37.0	-0.00	-0.05	0.08
90-13	0.4	0.5	1.3	0.05	0.02	64.9	0.03	0.04	0.01
180- 6	2.6	7.5	2.8	0.23	0.01	0.5	0.23	0.01	0.00
19[illegible]- 1	5.2	11.5	6.2	0.38	0.11	2.4	0.38	0.11	0.01
202- 6	8.3	17.4	9.2	0.58	0.18	1.5	0.58	0.18	0.01
213- 1	11.4	21.6	11.2	0.72	0.25	-0.2	0.72	0.25	-0.00
225- 6	14.8	27.6	16.2	0.94	0.39	1.6	0.94	0.39	0.02
236- 1	18.9	30.1	24.1	1.13	0.71	8.3	1.12	0.72	0.06
247- 5	23.5	32.2	28.2	1.26	0.95	10.0	1.25	0.96	0.05
258- 1	23.6	29.2	30.1	1.24	1.06	27.4	1.20	1.10	0.08
270- 3	19.8	23.3	25.2	1.03	0.90	36.5	0.98	0.94	0.06
180-16	83.8	98.0	17.2	3.30	0.83	-17.5	3.26	1.07	-0.77
191-[illegible]	60.9	77.0	26.9	2.74	1.02	-13.6	2.65	1.12	-0.39
202-16	47.1	60.7	10.3	2.08	0.38	-15.0	1.97	0.49	-0.43
213-11	32.2	48.8	10.5	1.60	0.23	-1[illegible].8	1.55	0.28	-0.25
225-16	12.2	42.8	20.9	1.32	0.10	4.7	1.32	0.10	0.10
236-11	0.7	25.1	15.2	0.77	-0.09	11.5	0.74	-0.05	0.17
247-[illegible]	-3.4	13.9	9.7	0.44	-0.16	15.6	0.38	-0.12	0.15
258-11	-4.8	1.5	4.8	0.12	-0.12	36.2	0.03	-0.03	0.11
270-13	-1.6	-1.0	0.8	0.01	-0.05	57.6	-0.03	-0.01	0.03
400-01	-2.0	1.0	5.0	0.15	-0.02	-86.1	-0.02	0.15	-0.01
400-11	35.5	18.1	4.2	1.21	0.49	86.9	0.49	1.21	0.04
401-01	14.4	6.0	14.9	0.83	0.43	89.1	0.43	0.83	0.01
401-02	20.6	5.0					0.73	0.37	
401-03	24.1	6.4					0.86	0.45	
401-04	17.8	4.0					0.63	0.31	
402-01	11.4	5.0	11.6	0.64	0.34	89.4	0.34	0.64	0.00
402-02	22.1	6.0					0.79	0.42	
402-03	20.6	5.5					0.73	0.38	
402-04	24.6	5.2					0.86	0.41	
403-01	11.9	5.7	12.5	0.67	0.37	88.6	0.37	0.67	0.01
403-02	24.2	5.4					0.85	0.42	
403-03	16.6	4.8					0.59	0.32	
403-04	21.6	5.0					0.76	0.38	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, TORSIONAL MOMENT LOADING ON RUN, M2X

NOMINAL LOAD = 1.022E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	34.2	0.1	-27.9	0.85	-0.59	-47.8	0.06	0.20	-0.72
0- 2	33.2	2.1	-31.2	0.79	-0.70	-44.0	0.07	0.02	-0.74
0- 3	21.7	0.1	-23.1	0.49	-0.55	-43.9	-0.01	-0.05	-0.52
0- 4	20.2	-0.0	-20.5	0.46	-0.48	-44.8	-0.00	-0.01	-0.47
0- 5	24.0	-0.8	-24.3	0.55	-0.56	-45.8	-0.02	0.01	-0.56
0- 6	-19.2	0.8	20.5	0.48	-0.43	-45.2	0.02	0.03	-0.46
0- 7	11.9	-0.2	-13.7	0.32	-0.32	-45.5	-0.00	0.01	-0.32
0- 8	7.1	0.1	-7.0	0.16	-0.16	-44.5	0.00	-0.00	-0.16
0- 9	1.7	0.3	-2.3	0.04	-0.06	-37.1	0.00	-0.03	-0.05
0-10	-0.9	0.0	0.5	0.01	-0.03	36.7	-0.00	-0.01	0.02
0-11	-15.8	-1.5	14.5	0.32	-0.38	46.8	-0.05	-0.00	0.35
0-12	-1.4	-0.6	13.5	0.49	0.03	65.9	0.11	0.41	0.17
0-13	-11.3	-0.3	11.7	0.27	-0.26	46.1	-0.00	0.02	0.26
0-14	-10.0	-0.4	10.6	0.25	-0.22	47.1	-0.00	0.03	0.24
0-15	-4.5	-0.0	5.7	0.14	-0.09	48.6	0.01	0.04	0.12
0-16	4.7	2.6	-0.9	0.15	0.02	51.9	0.07	0.10	0.06
0-17	4.3	0.1	-3.4	0.11	-0.07	-47.3	0.01	0.03	-0.09
0-18	0.5	0.1	0.6	0.03	0.02	80.8	0.02	0.03	0.00
0-19	-4.2	0.0	4.7	0.11	-0.09	46.5	0.01	0.02	0.10
0-20	-4.7	0.4	5.3	0.13	-0.10	44.4	0.02	0.01	0.12
22- 1	17.9	8.5	-19.5	0.45	-0.52	-31.8	0.18	-0.25	-0.43
22- 2	27.1	11.2	-25.5	0.69	-0.62	-34.2	0.27	-0.21	-0.61
22- 3	20.1	5.8	-11.4	0.55	-0.18	-42.4	0.22	0.15	-0.36
22- 4	22.8	7.0	-12.2	0.62	-0.18	-41.8	0.26	0.17	-0.40
22- 5	23.9	6.5	-13.5	0.65	-0.21	-42.9	0.25	0.19	-0.43
22- 6	-8.0	3.6	21.8	0.65	-0.06	-35.7	0.41	0.18	-0.33
22- 7	15.1	11.8	-1.7	0.51	0.06	-29.4	0.40	0.17	-0.19
22- 8	10.3	8.3	4.9	0.39	0.26	-37.6	0.34	0.31	-0.06
22- 9	8.5	6.5	5.9	0.34	0.27	-59.1	0.29	0.32	-0.03
22-10	4.9	2.3	7.6	0.36	0.17	80.3	0.18	0.36	0.03
22-11	-17.8	9.0	11.0	0.29	-0.58	24.6	0.14	-0.43	0.33
22-12	-15.3	2.3	6.0	0.10	-0.49	28.5	-0.04	-0.36	0.25
22-13	-1.2	-2.6	-1.1	-0.02	-0.08	88.7	-0.08	-0.02	0.00
22-14	-16.3	-3.7	-4.9	-0.25	-0.66	19.9	-0.30	-0.61	0.13
22-15	-22.1	-4.1	-2.6	-0.23	-0.82	24.9	-0.34	-0.72	0.23
22-16	-22.1	-32.0	-7.5	-0.20	-1.07	0.6	-0.20	-1.07	0.01
22-17	-11.2	-4.4	-18.6	-0.35	-0.76	-5.6	-0.36	-0.75	-0.04
22-18	-15.9	-4.3	- .7	-0.29	-0.68	16.7	-0.32	-0.65	0.11
22-19	-15.7	-2.9	-6.3	-0.26	-0.68	15.2	-0.28	-0.66	0.11
22-20	-10.8	-0.8	-5.3	-0.17	-0.52	10.4	-0.18	-0.51	0.06
45- 1	-13.4	18.5	14.4	0.55	-0.51	18.8	0.44	-0.40	0.32
45- 2	-1.3	14.7	6.2	0.40	-0.19	8.5	0.39	-0.18	0.09
45- 3	6.2	9.9	1.2	0.31	0.00	-10.8	0.30	0.01	-0.06
45- 4	8.9	13.0	4.8	0.44	0.14	-9.4	0.44	0.15	-0.05
45- 5	16.6	22.3	9.1	0.79	0.32	-10.7	0.77	0.33	-0.09
45- 6	14.5	6.5	17.0	0.89	0.46	13.3	0.87	0.48	0.10
45- 7	10.2	22.5	25.0	0.96	0.55	28.4	0.87	0.64	0.17
45- 8	12.9	15.6	16.7	0.68	0.59	33.5	0.65	0.62	0.04
45- 9	12.1	9.7	13.9	0.64	0.48	82.8	0.48	0.64	0.02
45-10	8.6	3.6	9.5	0.51	0.26	87.6	0.26	0.51	0.01
45-11	0.8	16.0	0.2	0.39	-0.31	0.1	0.39	-0.31	0.00
45-12	-1.4	12.9	-1.5	0.27	-0.39	-0.1	0.27	-0.39	-0.00
45-13	-5.2	4.9	-5.0	0.01	-0.45	0.2	0.01	-0.45	0.00
45-14	-11.9	- 5	-13.0	-0.35	-0.72	-1.9	-0.35	-0.72	-0.01
45-15	-27.3	-3.6	-7.6	-0.36	-1.14	17.7	-0.43	-1.07	0.23
45-16	-19.4	-38.1	-20.2	-0.43	-1.27	13.6	-0.47	-1.23	0.19
45-17	-33.5	-9.2	-10.6	-0.55	-1.34	20.8	-0.65	-1.24	0.26
45-18	-22.4	-5.0	-17.8	-0.51	-1.21	4.8	-0.51	-1.21	0.05
45-19	-18.0	-2.6	-14.4	-0.38	-1.01	3.7	-0.38	-1.01	0.04
45-20	-13.5	-1.7	-12.9	-0.30	-0.83	0.9	-0.30	-0.83	0.01
67- 1	-11.3	10.8	15.6	0.46	-0.28	28.6	0.29	-0.11	0.31

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-10.8	11.6	18.4	0.55	-0.22	30.9	0.34	-0.02	0.34
67- 3	-8.8	15.0	24.6	0.76	-0.08	33.5	0.50	0.17	0.39
67- 4	-7.7	22.8	33.3	1.08	0.02	32.1	0.78	0.32	0.47
67- 5	20.6	-8.6	7.6	1.15	0.06	38.0	0.73	0.47	0.53
67- 6	-6.7	16.7	37.4	1.17	0.15	43.3	0.69	0.63	0.51
67- 7	1.3	15.8	28.4	0.95	0.32	43.0	0.66	0.62	0.31
67- 8	6.8	11.8	18.0	0.66	0.40	47.9	0.52	0.54	0.13
67- 9	9.2	8.9	12.2	0.51	0.40	70.1	0.42	0.50	0.03
67-10	7.8	2.5	4.9	0.37	0.18	-79.8	0.18	0.36	-0.03
67-11	-0.9	8.9	4.0	0.24	-0.11	9.2	0.24	-0.11	0.06
67-12	-6.6	2.8	-0.9	0.00	-0.33	11.8	-0.01	-0.31	0.07
67-13	-12.0	0.2	-0.9	-0.08	-0.48	19.9	-0.12	-0.43	0.13
67-14	-28.4	-4.3	-1.8	-0.25	-1.04	25.4	-0.40	-0.90	0.31
67-15	-0.9	-24.5	-34.1	-0.33	-1.16	33.6	-0.59	-0.91	0.38
67-16	-29.9	-6.1	-5.0	-0.36	-1.14	23.8	-0.48	-1.01	0.29
67-17	-15.1	-1.8	-16.7	-0.35	-1.01	-1.6	-0.35	-1.01	-0.02
67-18	-9.7	-0.8	-17.3	-0.27	-0.88	-8.3	-0.28	-0.87	-0.09
67-19	-5.8	-0.6	-16.9	-0.21	-0.77	-13.6	-0.24	-0.74	-0.13
67-20	-4.6	0.3	-13.3	-0.15	-0.62	-12.6	-0.17	-0.60	-0.10
90- 1	-20.3	0.9	20.4	0.47	-0.47	43.7	0.02	-0.02	0.47
90- 2	-24.8	-0.5	25.3	0.59	-0.57	45.9	-0.01	0.03	0.58
90- 3	4.4	-24.6	-5.1	0.55	-0.59	47.5	-0.07	0.03	0.57
90- 4	-27.8	0.7	26.3	0.59	-0.66	43.5	0.00	-0.06	0.62
90- 5	-25.4	-0.7	23.1	0.51	-0.61	44.5	-0.04	-0.06	0.56
90- 6	-20.6	-0.1	19.8	0.45	-0.48	44.6	-0.01	-0.02	0.47
90- 7	-12.2	-0.3	12.1	0.28	-0.28	45.7	-0.01	0.01	0.28
90- 8	-6.0	0.5	6.5	0.16	-0.13	44.1	0.02	0.01	0.14
90- 9	-2.1	0.0	2.6	0.07	-0.04	48.0	0.01	0.02	0.05
90-10	1.5	0.0	-1.0	0.04	-0.02	-49.6	0.00	0.01	-0.03
90-11	-6.4	-0.3	6.1	0.14	-0.15	45.6	-0.01	-0.00	0.14
90-12	-7.5	0.4	7.3	0.17	-0.17	43.1	0.01	-0.01	0.17
90-13	-0.5	7.2	1.2	0.18	-0.14	47.6	0.00	0.03	0.16
90-14	-6.4	-0.4	6.2	0.14	-0.15	46.4	-0.01	0.00	0.14
90-15	-4.3	-0.2	4.4	0.10	-0.10	46.7	-0.00	0.01	0.10
90-16	-0.0	0.2	-0.1	0.00	-0.01	-3.8	0.00	-0.01	-0.00
90-17	4.5	-0.1	-4.8	0.10	-0.11	-44.4	-0.00	-0.01	-0.11
90-18	7.4	-0.0	-7.7	0.17	-0.18	-44.6	-0.00	-0.01	-0.17
90-19	8.9	-0.3	-9.3	0.20	-0.22	-45.4	-0.01	-0.01	-0.21
90-20	8.2	-0.6	-8.1	0.19	-0.19	-47.2	-0.01	0.02	-0.19
180- 1	38.1	-0.4	-37.4	0.89	-0.86	-45.3	0.01	0.02	-0.87
180- 2	30.9	1.2	-29.6	0.73	-0.67	-44.5	0.04	0.01	-0.70
180- 3	23.0	0.8	-23.2	0.53	-0.54	-43.9	0.02	-0.03	-0.53
180- 4	21.1	0.4	-20.3	0.49	-0.46	-45.0	0.02	0.02	-0.48
180- 5	24.4	0.6	-24.5	0.56	-0.57	-44.3	0.01	-0.02	-0.56
180- 6	-19.6	-1.2	21.0	0.50	-0.44	-42.4	0.07	-0.01	-0.47
180- 7	13.3	-0.2	-14.3	0.30	-0.34	-44.3	-0.01	-0.03	-0.32
180- 8	5.3	-0.4	-5.7	0.12	-0.14	-46.0	-0.01	-0.00	-0.13
180- 9	1.0	-0.1	-1.3	0.02	-0.03	-43.5	-0.01	-0.01	-0.03
180-10	-1.0	0.2	1.2	0.03	-0.02	42.1	0.01	0.00	0.02
180-11	-17.6	0.8	16.1	0.36	-0.42	42.4	0.00	-0.07	0.39
180-12	-13.1	-0.1	12.9	0.29	-0.31	45.0	-0.01	-0.01	0.30
180-13	-11.3	0.0	11.1	0.26	-0.26	44.8	-0.00	-0.00	0.26
180-14	-10.0	-0.1	10.0	0.23	-0.23	45.3	-0.00	0.00	0.23
180-15	-4.5	-1.5	5.0	0.13	-0.11	55.3	-0.03	0.05	0.11
180-16	1.3	-2.2	-1.8	0.05	-0.07	34.7	0.01	-0.03	0.05
180-17	4.9	-0.5	-5.1	0.11	-0.12	-47.3	-0.01	0.00	-0.12
180-18	-0.2	0.2	-0.1	0.00	-0.01	3.3	0.00	-0.01	0.00
180-19	-5.0	-0.0	5.4	0.09	-0.12	43.3	-0.01	-0.02	0.11
180-20	-6.3	-0.2	5.8	0.13	-0.15	44.6	-0.01	-0.01	0.14
202- 1	16.5	16.5	-24.8	0.50	-0.85	-22.5	0.30	-0.66	-0.48
202- 2	19.5	12.0	-15.0	0.55	-0.36	-30.3	0.32	-0.13	-0.40
202- 3	19.2	8.5	-9.9	0.55	-0.15	-37.5	0.29	0.11	-0.34
202- 4	21.1	8.4	-10.7	0.60	-0.15	-39.4	0.30	0.15	-0.37
202- 5	22.9	7.4	-13.4	0.63	-0.22	-40.7	0.27	0.14	-0.42
202- 6	-7.7	4.0	22.8	0.69	-0.04	-28.4	0.52	0.13	-0.30
202- 7	15.7	14.3	0.6	0.57	0.12	-25.6	0.49	0.21	-0.17

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	10.6	7.9	5.0	0.40	0.27	-44.2	0.34	0.33	-0.06
202- 9	9.9	6.6	6.0	0.40	0.29	-62.4	0.31	0.37	-0.04
202-10	5.2	1.2	7.9	0.41	0.15	82.9	0.16	0.40	0.03
202-11	-13.2	8.7	7.7	0.24	-0.48	21.2	0.15	-0.38	0.24
202-12	-14.6	1.7	4.8	0.06	-0.48	28.0	-0.06	-0.36	0.22
202-13	-13.6	-1.7	-0.8	-0.11	-0.50	24.8	-0.18	-0.44	0.15
202-14	-15.0	-3.5	-5.8	-0.25	-0.64	16.8	-0.28	-0.60	0.11
202-15	-15.6	0.1	-8.7	-0.23	-0.81	7.8	-0.24	-0.80	0.08
202-16	-23.9	-29.3	-3.6	-0.16	-1.02	-3.6	-0.17	-1.01	-0.05
202-17	-12.7	-5.2	-14.8	-0.39	-0.79	-3.5	-0.39	-0.78	-0.02
202-18	-17.1	-4.9	-7.2	-0.32	-0.72	17.1	-0.35	-0.69	0.11
202-19	-16.4	-3.1	-4.0	-0.22	-0.65	20.7	-0.27	-0.60	0.14
202-20	-15.0	-3.1	-3.4	-0.20	-0.59	21.7	-0.25	-0.53	0.13
225- 1	-5.9	20.0	6.7	0.49	-0.46	8.9	0.47	-0.44	0.14
225- 2	1.0	14.2	4.2	0.38	-0.16	4.0	0.38	-0.15	0.04
225- 3	6.4	11.3	2.7	0.36	0.03	-7.6	0.35	0.04	-0.04
225- 4	8.6	14.0	3.8	0.47	0.15	-5.8	0.47	0.15	-0.03
225- 5	17.0	25.5	1.2	0.87	0.33	-7.2	0.87	0.34	-0.07
225- 6	17.0	5.4	6.8	0.99	0.46	15.2	0.95	0.49	0.13
225- 7	10.6	26.2	8.3	1.09	0.58	26.5	0.99	0.68	0.20
225- 8	13.4	15.3	16.7	0.68	0.61	40.5	0.65	0.64	0.04
225- 9	12.7	10.0	13.2	0.62	0.49	87.9	0.49	0.62	0.00
225-10	9.6	3.7	9.7	0.55	0.28	89.8	0.28	0.55	0.00
225-11	1.7	17.3	0.9	0.42	-0.31	-0.7	0.42	-0.31	-0.01
225-12	-0.5	13.2	-1.3	0.29	-0.36	-0.9	0.29	-0.36	-0.01
225-13	-4.9	5.3	-4.2	0.03	-0.43	1.0	0.03	-0.43	0.01
225-14	-12.3	-4.4	-11.8	-0.34	-0.69	1.0	-0.34	-0.69	0.01
225-15	-30.8	-6.7	-3.9	-0.35	-1.14	25.8	-0.50	-0.99	0.31
225-16	-16.1	-39.2	-25.1	-0.44	-1.33	22.8	-0.57	-1.19	0.32
225-17	-26.5	-5.6	-18.0	-0.56	-1.35	7.2	-0.57	-1.34	0.10
225-18	-22.5	-4.3	-16.9	-0.48	-1.20	5.2	-0.49	-1.20	0.06
225-19	-17.4	-2.2	-14.1	-0.36	-0.99	3.6	-0.36	-0.99	0.04
225-20	-14.0	-2.0	-11.5	-0.30	-0.79	3.3	-0.30	-0.79	0.03
247- 1	-11.8	8.0	17.1	0.47	-0.24	34.8	0.24	-0.01	0.33
247- 2	-11.7	10.8	21.6	0.62	-0.20	35.3	0.35	0.08	0.38
247- 3	-10.3	14.7	25.5	0.77	-0.12	34.3	0.49	0.16	0.41
247- 4	-7.2	26.8	34.3	1.15	0.01	28.7	0.89	0.27	0.48
247- 5	22.9	-8.1	8.4	1.24	0.10	33.5	0.89	0.45	0.53
247- 6	-6.9	16.5	38.4	1.20	0.15	44.0	0.69	0.66	0.52
247- 7	0.7	15.5	26.7	0.89	0.28	41.0	0.63	0.55	0.30
247- 8	6.5	12.3	17.1	0.63	0.38	42.3	0.52	0.49	0.12
247- 9	8.3	8.3	11.2	0.47	0.37	68.2	0.38	0.45	0.03
247-10	7.8	2.9	6.7	0.41	0.21	-86.5	0.21	0.41	-0.01
247-11	-0.5	9.2	4.0	0.25	-0.10	8.5	0.25	-0.10	0.05
247-12	-4.9	3.8	-0.7	0.04	-0.28	8.7	0.03	-0.27	0.05
247-13	-11.6	-2.8	-7.3	-0.24	-0.57	8.9	-0.25	-0.56	0.05
247-14	-32.5	-0.3	-0.4	-0.18	-1.23	22.4	-0.33	-1.08	0.37
247-15	-1.6	-24.5	-33.3	-0.35	-1.15	33.1	-0.59	-0.91	0.37
247-16	-30.2	-9.4	-3.4	-0.37	-1.07	30.5	-0.55	-0.89	0.31
247-17	-14.0	-1.8	-16.7	-0.34	-0.97	-2.8	-0.34	-0.97	-0.03
247-18	-8.6	-0.5	-17.4	-0.25	-0.86	-9.7	-0.27	-0.84	-0.10
247-19	-6.2	-0.0	-16.0	-0.20	-0.76	-11.9	-0.22	-0.73	-0.11
247-20	-3.4	-0.3	-13.2	-0.14	-0.57	-15.7	-0.17	-0.54	-0.11
270- 1	-20.5	-0.3	20.9	0.49	-0.47	45.6	-0.00	0.02	0.48
270- 2	-22.6	0.4	22.4	0.51	-0.53	44.3	0.01	-0.02	0.52
270- 3	3.1	-25.7	-4.0	0.57	-0.61	44.0	0.00	-0.04	0.59
270- 4	-26.8	0.5	26.6	0.61	-0.62	44.4	0.01	-0.02	0.62
270- 5	-24.2	0.1	24.8	0.58	-0.55	45.2	0.01	0.02	0.56
270- 6	-18.3	0.2	18.6	0.43	-0.42	44.9	0.01	0.00	0.43
270- 7	-11.6	-0.0	11.1	0.25	-0.27	44.4	-0.00	-0.02	0.26
270- 8	-5.8	0.2	6.1	0.15	-0.13	44.8	0.01	0.01	0.14
270- 9	-2.6	-0.0	2.7	0.06	-0.06	46.2	0.00	0.01	0.06
270-10	0.6	-0.2	-0.6	0.02	-0.01	-54.3	-0.00	0.01	-0.01
270-11	-6.1	0.3	6.0	0.14	-0.14	43.6	0.01	-0.01	0.14
270-12	-7.3	0.8	7.4	0.17	-0.17	42.0	0.02	-0.02	0.17
270-13	-2.0	7.3	3.4	0.20	-0.13	53.1	-0.02	0.08	0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-6.5	-0.1	6.5	0.15	-0.15	45.6	-0.00	0.00	0.15
270-15	-3.7	0.1	4.1	0.10	-0.08	45.8	0.01	0.01	0.09
270-16	0.4	-0.0	-0.3	0.01	-0.01	-48.8	0.00	0.00	-0.01
270-17	5.2	-0.4	-4.5	0.13	-0.10	-49.2	-0.00	0.03	-0.11
270-18	7.7	-0.5	-6.8	0.19	-0.15	-48.7	-0.00	0.04	-0.17
270-19	9.1	-0.1	-8.6	0.21	-0.19	-45.9	0.00	0.02	-0.20
270-20	8.7	0.6	-7.9	0.21	-0.17	-44.4	0.02	0.01	-0.19
0- 6	-19.2	0.8	20.5	0.48	-0.43	44.8	0.03	0.02	0.46
11- 1	-16.4	0.3	22.1	0.57	-0.32	48.8	0.06	0.18	0.44
22- 6	-8.0	3.6	21.8	0.65	-0.06	51.3	0.22	0.37	0.34
33- 1	3.5	7.5	20.0	0.72	0.29	58.7	0.41	0.60	0.19
45- 6	14.5	6.5	17.0	0 89	0.46	86.3	0.46	0.89	0.03
56- 1	23.5	1.1	13.1	1.20	0.37	-81.6	0.39	1.18	-0.12
67- 5	20.6	-8.6	7.6	1.15	0.06	-82.0	0.08	1.13	-0.15
78- 1	15.3	-18.8	-1.5	0.92	-0.33	-81.0	-0.30	0.89	-0.19
90- 3	4.4	-24.6	-5.1	0.55	-0.59	-84.5	-0.58	0.54	-0.11
0-16	4.7	2.6	-0.9	0.15	0 02	-38.1	0.10	0.07	-0.06
11-11	-12.9	-21.5	-6.3	-0.13	-0.70	82.2	-0.69	-0.14	0.08
22-16	-22.1	-32.0	-7.5	-0.20	-1.07	78.6	-1.03	-0.23	0.17
33-11	-27.0	-34.1	-7.8	-0.30	-1.19	75.1	-1.13	-0.36	0.22
45-16	-19.4	-38.1	-20.2	-0.43	-1.27	-89.4	-1.27	-0.43	-0.01
56-11	-7.5	-35.7	-35.1	-0.45	-1.37	-68.1	-1.24	-0.58	-0.32
67-15	-0.9	-24.5	-34.1	-0.33	-1.16	-56.4	-0.91	-0.59	-0.38
78-11	1.4	-2.1	-15.9	-0.08	-0.54	-29.7	-0.19	-0.43	-0.20
90-13	-0.5	7.2	1.2	0.18	-0.14	3.6	0.17	-0.14	0.02
180- 6	-19.6	1.2	21.0	0.50	-0.44	47.6	-0.01	0.07	0.47
191- 1	-15.8	2.4	23.4	0.61	-0.29	47.0	0.13	0.19	0.45
202- 6	-7.7	4.0	22.8	0.69	-0.04	51.6	0.24	0.41	0.35
213- 1	4.6	6.0	19.3	0.73	0 29	64.6	0.38	0.65	0.17
225- 6	17.0	5.4	16.8	0.99	0.46	-89.8	0.46	0.99	-0.00
236- 1	25.3	1.0	12.0	1.23	0.37	-79.7	0.39	1.21	-0.15
247- 5	22.9	-0.1	8.4	1.24	0.10	-81.5	0.12	1.22	-0.17
258- 1	15.5	-19.3	-1.7	0.93	-0.34	-80.9	-0.31	0.90	-0.20
270- 3	3.1	-25.7	-4.0	0.57	-0.61	-86.0	-0.60	0.56	-0.08
180-16	1.3	-2.2	-1.8	0.05	-0.07	-70.3	-0.05	0.03	-0.04
191-11	-15.5	-19.9	-3.3	-0.12	-0.68	74.9	-0.65	-0.16	0.14
202-16	-23.9	-29.3	-3.6	-0.16	-1.02	73.4	-0.95	-0.23	0.23
213-11	-26.5	-35.0	-10.3	-0.36	-1.22	77.0	-1.17	-0.40	0.19
225-16	-16.1	-39.2	-25.1	-0.44	-1.33	-83.2	-1.31	-0.45	-0.10
236-11	-5.7	-34.1	-34.9	-0.40	-1.33	-66.7	-1.19	-0.55	-0.34
247-15	-1.6	-24.5	-33.3	-0.35	-1.15	-56.9	-0.91	-0.59	-0.37
258-11	1.5	-2.6	-15.6	-0.08	-0.53	-31.1	-0.20	-0.41	-0.20
270-13	-2.0	7.3	3.4	0.20	-0.13	11.1	0.18	-0.12	0.06
400-01	1.4	-9.0	-0.6	0.23	-0.20	-41.8	0.04	-0.01	-0.22
400-11	-0.6	-5.8	0.5	0.13	-0.14	42.2	0.01	-0.02	0.13
401-01	20.7	0.1	-21.0	0.47	-0.49	-44.7	-0.00	-0.01	-0.48
401-02	-0.9	1.3					-0.02	0.03	
401-03	-0.2	-0.1					-0.01	-0.01	
401-04	-0.8	0.1					-0.03	-0.00	
402-01	19.6	0.1	-19.9	0.45	-0.46	-44.6	-0.00	-0.01	-0.46
402-02	-0.3	0.1					-0.01	-0.00	
402-03	0.4	-0.8					0.01	-0.02	
402-04	0.3	-0.6					0.00	-0.02	
403-01	-0.2	0.0	0.4	0.01	-0.00	52.8	0.00	0.01	0.01
403-02	0.0	-0.1					0.00	-0.00	
403-03	-0.0	-0.0					-0.00	-0.00	
403-04	0.0	0.0					0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, OUT-OF-PLANE MOMENT LOADING ON RUN, -B2Y

NOMINAL LOAD = 1.022E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	5.9	0.0	-4.6	0.15	-0.10	-48.1	0.01	0.04	-0.12
0- 2	5.4	0.4	-4.8	0.13	-0.10	-44.3	0.02	0.01	-0.12
0- 3	2.7	0.0	-2.7	0.06	-0.06	-44.9	0.00	-0.00	-0.06
0- 4	2.3	0.0	-2.2	0.06	-0.05	-45.3	0.00	0.00	-0.05
0- 5	2.5	-0.0	-2.4	0.06	-0.05	-46.2	0.00	0.00	-0.06
0- 6	-0.8	0.2	1.5	0.04	-0.01	-41.7	0.02	0.01	-0.03
0- 7	-0.4	0.2	0.7	0.02	-0.00	46.4	0.01	0.01	0.01
0- 8	-1.5	0.1	1.9	0.05	-0.03	45.8	0.01	0.01	0.04
0- 9	-2.1	0.1	2.7	0.07	-0.04	48.2	0.01	0.02	0.05
0-10	-1.9	0.0	2.0	0.05	-0.04	45.0	0.00	0.00	0.04
0-11	-2.5	-0.1	2.4	0.05	-0.06	45.8	-0.00	-0.00	0.06
0-12	-0.2	-0.3	5.1	0.19	0.02	68.1	0.04	0.17	0.06
0-13	-6.4	-0.2	6.4	0.15	-0.15	46.0	-0.00	0.01	0.15
0-14	-7.1	-0.4	7.1	0.17	-0.16	46.8	-0.01	0.01	0.16
0-15	-6.4	-0.1	6.5	0.15	-0.15	45.7	-0.00	0.01	0.15
0-16	6.2	-2.0	-6.0	0.15	-0.14	35.2	0.06	-0.04	0.14
0-17	-2.7	0.0	2.5	0.0	-0.06	43.7	-0.00	-0.01	0.06
0-18	-3.4	-0.2	2.9	0.06	-0.08	44.0	-0.01	-0.01	0.07
0-19	-3.3	-0.1	2.8	0.06	-0.08	43.7	-0.01	-0.01	0.07
0-20	-2.5	-0.1	2.1	0.05	-0.06	43.4	-0.00	-0.01	0.05
22- 1	5.0	19.3	15.4	0.68	0.19	14.8	0.65	0.23	0.12
22- 2	6.9	22.5	15.7	0.76	0.21	10.8	0.74	0.23	0.10
22- 3	2.8	4.8	3.6	0.18	0.10	7.0	0.1.	0.10	0.01
22- 4	3.0	5.6	3.9	0.20	0.10	5.9	0.20	0.10	0.01
22- 5	3.6	7.2	5.6	0.26	0.13	10.5	0.26	0.13	0.02
22- 6	6.5	3.2	2.6	0.25	0.14	30.9	0.22	0.17	0.05
22- 7	1.5	2.9	6.0	0.21	0.10	55.0	0.14	0.18	0.05
22- 8	0.8	0.2	4.1	0.17	0.04	72.1	0.05	0.16	0.04
22- 9	0.5	-0.9	2.5	0.12	0.00	78.8	0.01	0.12	0.02
22-10	0.0	-1.4	2.0	0.10	-0.02	78.7	-0.01	0.10	0.02
22-11	4.5	7.3	1.6	0.24	0.03	-9.3	0.23	0.03	-0.03
22-12	2.1	7.7	1.9	0.22	-0.05	-0.7	0.22	-0.05	-0.00
22-13	0.1	6.6	0.5	0.16	-0.13	1.0	0.16	-0.13	0.01
22-14	-2.9	1.9	-0.8	0.01	-0.17	7.9	0.01	-0.17	0.02
22-15	-8.2	-1.5	0.5	-0.05	-0.28	31.0	-0.11	-0.22	0.10
22-16	-5.9	-11.4	-9.0	-0.06	-0.36	7.8	-0.07	-0.36	0.04
22-17	-6.3	-1.0	-4.1	-0.12	-0.32	7.1	-0.13	-0.32	0.02
22-18	-5.4	-0.6	-1.8	-0.07	-0.24	15.5	-0.09	-0.23	0.04
22-19	-4.3	-0.1	-1.3	-0.05	-0.19	14.7	-0.06	-0.18	0.03
22-20	-2.5	0.5	-1.4	-0.03	-0.14	6.3	-0.03	-0.14	0.01
45- 1	0.3	6.2	38.2	1.36	0.29	62.3	0.52	1.13	0.44
45- 2	-4.0	5.3	21.4	0.67	0.07	52.4	0.29	0.45	0.29
45- 3	-4.6	3.3	10.2	0.29	-0.05	43.2	0.13	0.11	0.17
45- 4	-3.9	7.0	15.5	0.47	0.02	41.6	0.28	0.22	0.22
45- 5	-1.8	11.4	16.6	0.55	0.09	33.4	0.41	0.23	0.21
45- 6	15.5	3.8	-1.0	0.52	0.10	50.6	0.27	0.35	0.20
45- 7	1.0	2.0	11.8	0.44	0.11	64.5	0.17	0.38	0.13
45- 8	2.2	0.4	3.8	0.19	0.07	81.3	0.07	0.19	0.02
45- 9	2.2	-0.8	1.0	0.13	0.01	-83.0	0.01	0.12	-0.01
45-10	1.9	-1.2	-0.6	0.08	-0.02	-73.0	-0.01	0.07	-0.03
45-11	12.5	3.6	-2.3	0.39	0.04	-50.7	0.18	0.25	-0.17
45-12	16.8	8.0	-2.5	0.53	0.08	-42.5	0.33	0.29	-0.22
45-13	15.3	5.4	-4.8	0.46	-0.01	-44.7	0.23	0.22	-0.23
45-14	5.9	-1.3	-6.0	0.14	-0.14	-50.6	-0.03	0.02	-0.14
45-15	-3.7	-0.5	-3.8	-0.09	-0.24	-0.4	-0.09	-0.24	-0.00
45-16	-5.2	-8.4	-4.5	-0.13	-0.29	10.2	-0.13	-0.29	0.03
45-17	-5.0	-2.4	-3.8	-0.14	-0.23	8.9	-0.14	-0.23	0.01
45-18	-1.4	-1.0	-4.6	-0.07	-0.19	-19.4	-0.08	-0.17	-0.04
45-19	0.0	0.5	-3.6	-0.01	-0.14	-19.3	-0.02	-0.13	-0.04
45-20	0.5	0.6	-2.7	0.01	-0.10	-21.2	-0.01	-0.09	-0.04
67- 1	-5.0	-0.7	17.2	0.56	-0.04	60.8	0.10	0.42	0.26

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-4.6	-1.0	17.5	0.58	-0.03	61.9	0.10	0.45	0.25
67- 3	-4.9	0.9	18.4	0.59	-0.01	58.5	0.15	0.43	0.27
67- 4	-5.9	0.5	17.0	0.53	-0.05	56.8	0.12	0.35	0.26
67- 5	13.4	-0.0	-5.5	0.41	-0.07	63.6	0.03	0.31	0.19
67- 6	-2.3	-4.2	7.6	0.31	-0.08	72.1	-0.04	0.27	0.11
67- 7	-1.7	-3.3	1.9	0.09	-0.08	75.9	-0.07	0.08	0.04
67- 8	-0.5	-1.7	-1.0	-0.01	-0.06	-82.4	-0.06	-0.01	-0.01
67- 9	0.2	-0.9	-2.0	-0.01	-0.06	-45.3	-0.04	-0.04	-0.03
67-10	1.0	-0.1	-2.0	0.01	-0.06	-36.1	-0.01	-0.03	-0.03
67-11	8.9	-3.0	-0.2	0.38	-0.01	-74.1	0.02	0.35	-0.11
67-12	7.1	-4.7	-0.2	0.35	-0.06	-77.9	-0.04	0.33	-0.08
67-13	4.5	-4.1	0.1	0.26	-0.06	-80.5	-0.05	0.25	-0.05
67-14	4.6	-2.6	-2.5	0.16	-0.07	-67.7	-0.04	0.13	-0.08
67-15	-2.9	5.5	7.5	0.24	-0.04	-60.9	0.02	0.17	-0.12
67-16	8.0	-2.2	-1.5	0.31	-0.03	-69.4	0.01	0.27	-0.11
67-17	6.0	-1.3	1.3	0.28	0.03	-77.3	0.04	0.27	-0.05
67-18	6.1	0.4	0.0	0.22	0.04	-65.9	0.07	0.19	-0.07
67-19	5.2	0.9	-0.6	0.17	0.03	-57.7	0.07	0.13	-0.07
67-20	3.7	1.0	-0.5	0.12	0.02	-53.1	0.05	0.08	-0.05
90- 1	3.4	-5.3	4.7	0.39	-0.04	88.0	-0.04	0.39	0.02
90- 2	2.8	-6.0	3.0	0.33	-0.08	89.7	-0.08	0.33	0.00
90- 3	10.2	3.6	-5.5	0.28	-0.08	-88.5	-0.08	0.28	-0.01
90- 4	0.8	-6.9	1.5	0.24	-0.18	88.8	-0.18	0.24	0.01
90- 5	-1.1	-7.0	-1.0	0.09	-0.18	89.7	-0.18	0.09	0.00
90- 6	-3.0	-6.8	-2.9	-0.04	-0.21	89.6	-0.21	-0.04	0.00
90- 7	-3.4	-4.9	-3.3	-0.11	-0.18	89.2	-0.18	-0.11	0.00
90- 8	-2.9	-2.8	-3.2	-0.13	-0.14	-13.0	-0.13	-0.14	-0.00
90- 9	-2.4	-1.0	-2.2	-0.07	-0.13	2.0	-0.07	-0.13	0.00
90-10	-1.5	0.3	-1.7	-0.03	-0.11	-0.9	-0.03	-0.11	-0.00
90-11	4.8	-5.6	4.5	0.44	-0.04	-89.5	-0.04	0.44	-0.00
90-12	6.3	-6.0	8.5	0.63	0.01	87.7	0.01	0.63	0.03
90-13	-6.0	6.9	22.3	0.68	0.02	-88.4	0.02	0.68	-0.02
90-14	10.2	-5.9	8.4	0.75	0.05	-88.4	0.05	0.75	-0.02
90-15	11.5	-4.6	8.3	0.76	0.09	-86.9	0.09	0.76	-0.04
90-16	9.7	-2.2	8.8	0.66	0.13	-88.8	0.13	0.66	-0.01
90-17	7.5	-0.2	8.1	0.52	0.15	89.0	0.15	0.52	0.01
90-18	6.0	0.7	6.1	0.38	0.14	89.6	0.14	0.38	0.00
90-19	4.2	1.0	4.3	0.26	0.11	89.5	0.11	0.26	0.00
90-20	3.1	0.9	3.0	0.18	0.08	-89.7	0.08	0.18	-0.00
180- 1	-5.2	0.3	5.9	0.14	-0.11	45.5	0.01	0.02	0.13
180- 2	-3.5	0.2	3.8	0.09	-0.08	44.9	0.01	0.01	0.08
180- 3	-2.1	0.0	2.5	0.06	-0.05	47.0	0.00	0.01	0.05
180- 4	-1.8	0.0	2.0	0.05	-0.04	45.8	0.00	0.00	0.04
180- 5	-2.0	0.1	2.2	0.05	-0.04	45.5	0.01	0.01	0.05
180- 6	0.7	0.2	-0.9	0.02	-0.02	56.2	-0.01	0.00	0.02
180- 7	0.9	0.2	-0.6	0.02	-0.01	-42.8	0.01	0.00	-0.02
180- 8	2.2	0.1	-1.9	0.05	-0.04	-44.8	0.01	0.01	-0.05
180- 9	2.2	-0.1	-2.0	0.05	-0.04	-47.7	0.00	0.01	-0.05
180-10	2.0	-0.1	-2.0	0.05	-0.04	-47.5	-0.00	0.01	-0.05
180-11	3.7	0.0	-3.2	0.09	-0.07	-46.8	0.00	0.01	-0.08
180-12	5.9	0.0	-5.8	0.14	-0.13	-45.0	0.00	0.00	-0.14
180-13	7.0	-0.0	-7.0	0.16	-0.16	-45.1	-0.00	-0.00	-0.16
180-14	7.5	-0.0	-7.7	0.17	-0.18	-44.8	-0.00	-0.01	-0.17
180-15	6.2	2.0	-6.7	0.15	-0.17	-35.3	0.04	-0.06	-0.15
180-16	-5.9	3.4	5.4	0.14	-0.17	-46.5	-0.02	-0.00	-0.16
180-17	2.8	-0.2	-3.6	0.06	-0.09	-43.4	-0.01	-0.02	-0.07
180-18	3.0	-0.4	-3.5	0.06	-0.08	-46.1	-0.01	-0.01	-0.07
180-19	2.9	-0.2	-3.2	0.06	-0.08	-45.5	-0.01	-0.00	-0.07
180-20	2.4	-0.1	-2.7	0.05	-0.07	-44.4	-0.01	-0.01	-0.06
202- 1	-0.9	-17.8	-21.9	-0.21	-0.77	-60.7	-0.64	-0.34	-0.24
202- 2	-2.6	-11.5	-11.8	-0.16	-0.45	-66.5	-0.41	-0.21	-0.11
202- 3	-1.9	-4.0	-3.9	-0.09	-0.16	-69.9	-0.15	-0.10	-0.02
202- 4	-2.2	-4.6	-3.2	-0.07	-0.16	-82.5	-0.16	-0.07	-0.01
202- 5	-2.8	-6.4	-5.3	-0.11	-0.23	-75.4	-0.23	-0.12	-0.03
202- 6	-6.5	-2.8	-2.4	-0.13	-0.25	-54.2	-0.21	-0.17	-0.06
202- 7	-1.2	-2.4	-6.2	-0.09	-0.22	-31.2	-0.13	-0.19	-0.06

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-0.5	0.5	-3.3	-0.02	-0.15	-15.3	-0.03	-0.14	-0.03
202- 9	-0.1	1.4	-2.0	0.02	-0.11	-10.6	0.01	-0.10	-0.02
202-10	-0.0	1.5	-1.9	0.02	-0.10	-10.7	0.01	-0.10	-0.02
202-11	-4.6	-7.6	-1.2	-0.01	-0.24	80.0	-0.23	-0.01	0.04
202-12	-2.5	-8.5	-1.9	0.05	-0.24	88.5	-0.24	0.05	0.01
202-13	-2.0	-7.1	-0.3	0.09	-0.19	85.7	-0.19	0.09	0.02
202-14	2.7	-2.3	0.7	0.17	-0.02	-82.8	-0.02	0.16	-0.02
202-15	6.1	-0.7	0.9	0.26	0.04	-74.0	0.05	0.25	-0.06
202-16	5.8	10.2	2.8	0.32	0.05	-84.3	0.05	0.32	-0.03
202-17	5.8	1.1	3.6	0.29	0.11	-81.4	0.12	0.29	-0.03
202-18	5.1	0.5	1.4	0.22	0.06	-73.1	0.08	0.20	-0.04
202-19	3.9	-0.1	0.6	0.16	0.03	-72.0	0.04	0.15	-0.04
202-20	3.2	0.1	0.5	0.13	0.03	-70.4	0.04	0.12	-0.03
225- 1	5.0	-11.3	-44.4	-0.24	-1.45	-35.6	-0.65	-1.04	-0.57
225- 2	4.1	-4.9	-17.2	-0.03	-0.53	-40.6	-0.24	-0.32	-0.25
225- 3	4.8	-3.4	-11.4	0.04	-0.33	-45.2	-0.14	-0.14	-0.19
225- 4	3.7	-5.5	-15.0	-0.03	-0.46	-44.4	-0.24	-0.25	-0.22
225- 5	2.0	-12.6	-17.7	-0.08	-0.59	-57.9	-0.44	-0.23	-0.23
225- 6	-15.9	-4.1	1.6	-0.09	-0.52	-39.6	-0.27	-0.35	-0.21
225- 7	-0.4	-2.5	-12.0	-0.11	-0.42	-28.9	-0.18	-0.35	-0.13
225- 8	-2.2	0.2	-2.9	-0.04	-0.17	-3.6	-0.04	-0.17	-0.01
225- 9	-1.9	1.1	-0.3	0.01	-0.10	9.5	0.00	-0.10	0.02
225-10	-1.8	1.4	0.7	0.03	-0.08	16.1	0.02	-0.07	0.03
225-11	-12.6	-3.6	1.3	-0.07	-0.41	36.9	-0.19	-0.29	0.16
225-12	-17.8	-7.7	2.8	-0.08	-0.56	45.6	-0.33	-0.32	0.24
225-13	-15.4	-5.9	5.0	0.01	-0.46	46.9	-0.24	-0.21	0.24
225-14	-6.4	-0.1	6.0	0.13	-0.15	44.4	-0.01	-0.01	0.14
225-15	4.8	0.5	2.6	0.24	0.08	-80.3	0.09	0.23	-0.03
225-16	4.7	7.9	4.8	0.28	0.13	-73.7	0.14	0.26	-0.04
225-17	3.2	2.4	4.9	0.22	0.13	76.6	0.13	0.21	0.02
225-18	0.8	0.5	4.2	0.17	0.05	69.8	0.06	0.15	0.04
225-19	-0.1	-0.6	3.2	0.13	0.00	71.3	0.02	0.12	0.04
225-20	-0.0	-0.4	2.3	0.09	0.00	71.1	0.01	0.08	0.03
247- 1	2.7	2.7	-15.6	0.02	-0.58	-22.5	-0.07	-0.49	-0.21
247- 2	3.7	2.0	-16.4	0.03	-0.57	-25.1	-0.08	-0.47	-0.23
247- 3	4.6	0.4	-16.5	0.03	-0.54	-29.4	-0.11	-0.40	-0.24
247- 4	5.8	-1.7	-17.1	0.04	-0.52	-35.5	-0.15	-0.33	-0.26
247- 5	-13.2	-0.1	5.5	0.06	-0.39	-28.7	-0.04	-0.29	-0.19
247- 6	1.8	4.5	-6.9	0.08	-0.30	-15.8	0.05	-0.27	-0.10
247- 7	1.4	3.2	-1.1	0.08	-0.07	-11.3	0.08	-0.07	-0.03
247- 8	0.4	1.9	1.2	0.06	0.01	10.3	0.06	0.01	0.01
247- 9	-0.2	1.0	2.1	0.07	0.01	44.1	0.04	0.04	0.03
247-10	-0.7	0.1	2.2	0.07	-0.00	56.9	0.02	0.05	0.03
247-11	-8.6	3.7	0.3	0.03	-0.38	14.9	0.00	-0.36	0.10
247-12	-6.5	4.7	-0.3	0.05	-0.35	10.5	0.04	-0.33	0.07
247-13	-4.7	5.1	0.3	0.08	-0.27	9.6	0.07	-0.26	0.06
247-14	-5.4	0.3	3.4	0.06	-0.15	36.7	-0.01	-0.07	0.10
247-15	3.2	-5.6	-7.9	0.05	-0.25	29.9	-0.03	-0.17	0.13
247-16	-9.0	0.7	2.4	0.02	-0.30	27.5	-0.05	-0.23	0.13
247-17	-5.9	1.1	-1.0	-0.03	-0.27	14.0	-0.04	-0.25	0.06
247-18	-5.5	-0.3	0.1	-0.03	-0.20	24.6	-0.06	-0.17	0.06
247-19	-4.5	-0.9	0.7	-0.02	-0.15	34.1	-0.06	-0.11	0.06
247-20	-3.0	-0.9	0.5	-0.01	-0.10	39.0	-0.05	-0.06	0.04
270- 1	-4.8	5.6	-3.8	0.04	-0.41	1.6	0.04	-0.41	0.01
270- 2	-3.1	5.2	-3.1	0.06	-0.32	-0.1	0.06	-0.32	-0.00
270- 3	-10.2	-3.8	5.7	0.09	-0.28	0.4	0.09	-0.28	0.00
270- 4	-1.3	6.6	-1.0	0.13	-0.23	0.5	0.13	-0.23	0.00
270- 5	0.7	6.9	1.4	0.18	-0.09	1.7	0.18	-0.09	0.01
270- 6	2.4	6.1	2.6	0.19	0.03	0.7	0.19	0.03	0.00
270- 7	3.1	4.5	3.2	0.17	0.10	1.0	0.17	0.10	0.00
270- 8	2.7	2.4	2.8	0.13	0.11	86.9	0.11	0.13	0.00
270- 9	2.2	1.0	2.2	0.12	0.07	-90.0	0.07	0.12	-0.00
270-10	1.0	-0.5	1.5	0.09	0.01	85.9	0.01	0.09	0.01
270-11	-3.5	5.9	-4.8	0.05	-0.41	-1.8	0.05	-0.41	-0.01
270-12	-5.2	5.4	-7.9	-0.00	-0.56	-3.3	-0.01	-0.56	-0.03
270-13	5.3	-3.4	-20.7	-0.01	-0.65	6.2	-0.02	-0.64	0.07

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-9.3	5.9	-7.7	-0.03	-0.70	1.6	-0.03	-0.70	0.02
270-15	-8.8	4.2	-9.3	-0.08	-0.69	-0.6	-0.08	-0.69	-0.01
270-16	-7.6	1.7	-8.8	-0.12	-0.58	-1.6	-0.12	-0.58	-0.01
270-17	-6.7	0.2	-7.8	-0.14	-0.48	-2.2	-0.14	-0.48	-0.01
270-18	-4.9	-0.6	-5.4	-0.12	-0.33	-1.6	-0.12	-0.33	-0.01
270-19	-3.7	-0.8	-4.0	-0.09	-0.23	-1.4	-0.09	-0.23	-0.00
270-20	-2.5	-1.1	-2.9	-0.08	-0.15	-3.3	-0.08	-0.15	-0.00
0- 6	-0.8	0.2	1.5	0.04	-0.01	48.3	0.01	0.02	0.03
11- 1	1.8	1.3	2.6	0.12	0.07	78.6	0.07	0.12	0.01
22- 6	6.5	3.2	2.6	0.25	0.14	-62.1	0.16	0.22	-0.05
33- 1	11.6	4.0	1.2	0.41	0.14	-57.3	0.22	0.33	-0.12
45- 6	15.5	3.8	-1.0	0.52	0.10	-56.4	0.23	0.39	-0.19
56- 1	16.5	2.6	-3.9	0.52	0.02	-55.0	0.19	0.36	-0.23
67- 5	13.4	-0.0	-5.5	0.41	-0.07	-56.4	0.08	0.26	-0.22
78- 1	10.4	1.2	-6.7	0.28	-0.12	-47.2	0.06	0.09	-0.20
90- 3	10.2	3.6	-5.5	0.28	-0.08	-40.5	0.13	0.07	-0.18
0-16	6.2	-2.0	-6.0	0.15	-0.14	-54.8	-0.04	0.06	-0.14
11-11	-1.3	-9.8	-6.2	-0.01	-0.31	-79.0	-0.30	-0.02	-0.06
22-16	-5.9	-11.4	-4.0	-0.06	-0.36	85.8	-0.36	-0.07	0.02
33-11	-7.7	-10.[illegible]	-3.1	-0.10	-0.36	77.6	-0.35	-0.12	0.05
45-16	-5.2	-8.4	-4.5	-0.13	-0.29	87.2	-0.29	-0.13	0.01
56-11	-3.[illegible]	-1.4	-0.9	-0.06	-0.11	31.8	-0.07	-0.10	0.03
67-15	-2.9	5.5	7.5	0.24	-0.04	29.1	0.17	0.02	0.12
78-11	-5.2	7.8	19.9	0.61	0.03	88.0	0 33	0.31	0.29
90-13	-6.0	6.9	22.3	0.68	0.02	87.6	0.32	0.38	0.33
180- 6	0.7	0.2	-0.9	0.02	-0.02	-33.8	0.00	-0.01	-0.02
191- 1	-1.9	-1.2	-2.4	-0.07	-0.12	-6.1	-0.07	-0.11	-0.00
202- 6	-6.5	-2.8	-2.4	-0.13	-0.25	25.8	-0.15	-0.23	0.05
213- 1	-11.7	-3.4	-0.6	-0.12	-0.41	31.7	-0.20	-0.33	0.13
225- 6	-15.9	-4.1	1.6	-0.09	-0.52	35.4	-0.24	-0.38	0.20
236- 1	-16.5	-3.4	4.2	-0.02	-0.51	37.6	-0.20	-0.33	0.24
247- 5	-13.2	-0.9	5.5	0.06	-0.39	36.3	-0.10	-0.23	0.22
258- 1	-10.1	-1.3	6.6	0.12	-0.27	43.7	-0.07	-0.08	0.19
270- 3	-10.2	-3.8	5.7	0.09	-0.28	50.4	-0.13	-0.06	0.18
180-16	-5.9	3.4	5.4	0.14	-0.17	28.5	0.07	-0.10	0.13
191-11	1.6	8.9	4.5	0.27	-0.01	7.0	0.27	-0.00	0.03
202-16	5.8	10.2	2.8	0.32	0.05	-7.3	0.32	0.05	-0.04
213-11	7.4	9.9	3.4	0.35	0.12	-11.7	0.34	0.13	-0.05
225-16	4.7	7.9	4.8	0.28	0.13	0.3	0.28	0.13	0.00
236-11	3.1	0.6	-0.2	0.10	0.02	-57.6	0.04	0.08	-0.04
247-15	3.2	-5.[illegible]	-7.9	0.05	-0.25	-60.1	-0.17	-0.03	-0.13
258-11	5.0	-8.7	-20.0	-0.03	-0.61	-47.7	-0.35	-0.29	-0.29
270-13	5.3	-3.4	-20.7	-0.01	-0.65	-35.8	-0.23	-0.43	-0.30
400-01	-0.0	-0.2	0.2	0.01	-0.00	-54.1	0.00	0.01	-0.01
400-11	-0.2	-0.2	0.2	0.01	-0.01	25.6	0.01	-0.00	0.01
401-01	0.1	0.1	0.1	0.00	0.00	-43.1	0.00	0.00	-0.00
401-02	8.5	-32.4					-0.04	-0.99	
401-03	0.8	-2.8					-0.00	-0.09	
401-04	-8.5	30.6					0.02	0.92	
402-01	0.7	0.9	-0.1	0.03	-0.00	-16.9	0.03	0.00	-0.01
402-02	8.7	-33.9					-0.05	-1.03	
402-03	0.4	-1.0					0.00	-0.03	
402-04	-9.1	32.2					0.02	0.97	
403-01	-0.0	0.0	0.0	0.00	-0.00	15.9	-0.00	-0.00	0.00
403-02	0.0	-0.0					0.00	-0.00	
403-03	-0.0	-0.1					-0.00	-0.00	
403-04	-0.0	0.1					-0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '**' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, IN-PLANE MOMENT LOADING ON RUN, -M2Z

NOMINAL LOAD = 1.022E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PSI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	17.4	28.6	14.3	0.98	0.39	-3.5	0.97	0.39	-0.04
0- 2	23.2	36.3	20.8	1.27	0.61	-2.4	1.27	0.61	-0.03
0- 3	11.1	14.1	11.5	0.55	0.42	2.5	0.55	0.42	0.01
0- 4	9.2	9.7	9.6	0.41	0.39	16.7	0.41	0.39	0.00
0- 5	12.1	16.0	12.0	0.61	0.42	-0.4	0.61	0.42	-0.00
0- 6	12.5	9.7	12.8	0.61	0.47	-1.3	0.61	0.47	-0.00
0- 7	14.8	16.8	13.8	0.67	0.55	-5.8	0.67	0.55	-0.01
0- 8	14.2	14.2	14.0	0.61	0.60	-13.0	0.61	0.60	-0.00
0- 9	13.6	8.3	12.3	0.67	0.45	-86.0	0.45	0.66	-0.02
0-10	8.1	4.7	9.0	0.46	0.28	86.9	0.28	0.46	0.01
0-11	4.8	0.1	3.2	0.19	0.15	-42.6	0.17	0.17	-0.02
0-12	-0.9	-1.8	0.2	0.02	-0.05	79.4	-0.05	0.02	0.01
0-13	-0.7	-2.3	-1.5	-0.02	-0.08	-80.7	-0.08	-0.02	-0.01
0-14	-3.2	-2.8	-3.8	-0.13	-0.17	-11.3	-0.13	-0.17	-0.01
0-15	-10.4	-0.9	-10.6	-0.23	-0.67	-0.4	-0.23	-0.67	-0.00
0-16	-20.2	-32.8	-12.7	-0.32	-1.09	-6.4	-0.32	-1.08	-0.09
0-17	-12.4	1.8	-14.1	-0.22	-0.91	-1.6	-0.22	-0.91	-0.02
0-18	-15.9	-10.1	-15.9	-0.55	-0.82	-0.0	-0.55	-0.82	-0.00
0-19	-13.3	-8.3	-14.2	-0.46	-0.72	-2.4	-0.46	-0.72	-0.01
0-20	-10.2	-4.9	-11.0	-0.32	-0.59	-2.0	-0.32	-0.59	-0.01
22- 1	0.7	21.0	29.0	0.99	0.28	33.3	0.78	0.50	0.33
22- 2	1.5	32.4	40.0	1.41	0.37	29.3	1.16	0.62	0.44
22- 3	-0.9	7.0	14.1	0.46	0.11	43.6	0.29	0.28	0.17
22- 4	-2.7	8.4	17.2	0.54	0.08	41.7	0.34	0.29	0.23
22- 5	-0.2	17.2	24.6	0.83	0.22	34.0	0.64	0.41	0.29
22- 6	25.2	10.1	1.4	0.86	0.29	40.3	0.62	0.52	0.28
22- 7	4.4	13.7	22.7	0.79	0.37	44.4	0.58	0.58	0.21
22- 8	7.2	9.9	15.4	0.58	0.38	54.5	0.45	0.52	0.09
22- 9	8.3	7.6	9.5	0.42	0.35	78.2	0.35	0.41	0.01
22-10	7.1	1.8	6.1	0.39	0.17	-86.9	0.17	0.39	-0.01
22-11	7.1	2.6	-0.6	0.23	0.05	-49.6	0.12	0.15	-0.09
22-12	6.3	0.8	-2.2	0.19	-0.01	-52.9	0.06	0.12	-0.10
22-13	-0.0	-0.2	-0.2	-0.00	-0.01	-61.2	-0.01	-0.00	-0.00
22-14	3.1	-5.2	-10.6	0.00	-0.32	-50.8	-0.19	-0.13	-0.16
22-15	-7.2	-2.2	-7.1	-0.19	-0.42	0.2	-0.19	-0.42	0.00
22-16	-9.9	-13.9	-5.5	-0.18	-0.48	2.2	-0.18	-0.48	0.01
22-17	-14.3	-5.8	-10.6	-0.37	-0.69	7.7	-0.38	-0.69	0.04
22-18	-11.1	-7.3	-11.2	-0.39	-0.57	-0.2	-0.39	-0.57	-0.00
22-19	-7.4	-8.5	-11.1	-0.28	-0.51	-10.4	-0.29	-0.51	-0.04
22-20	-2.3	-1.8	-12.1	-0.14	-0.48	-21.1	-0.18	-0.43	-0.11
45- 1	-0.9	-0.7	3.6	0.13	-0.01	66.3	0.01	0.11	0.05
45- 2	-4.3	1.0	9.9	0.29	-0.05	52.2	0.08	0.16	0.16
45- 3	-6.6	1.2	9.2	0.24	-0.13	45.5	0.05	0.06	0.18
45- 4	-8.2	5.6	18.9	0.54	-0.08	44.5	0.23	0.22	0.31
45- 5	-7.9	16.0	26.5	0.82	-0.03	34.4	0.55	0.24	0.40
45- 6	24.6	1.5	-5.9	0.80	0.00	48.3	0.35	0.45	0.39
45- 7	-3.4	2.6	21.7	0.72	0.07	58.7	0.24	0.54	0.29
45- 8	-0.3	3.2	9.1	0.30	0.08	51.9	0.16	0.21	0.11
45- 9	1.3	1.8	3.8	0.14	0.07	60.4	0.09	0.13	0.03
45-10	2.5	0.1	-0.7	0.08	-0.00	-57.5	0.02	0.06	-0.04
45-11	-0.1	-1.0	2.5	0.11	-0.0.	74.7	0.00	0.10	0.03
45-12	3.9	-1.6	3.0	0.26	0.03	-87.4	0.03	0.26	-0.01
45-13	7.4	-1.1	2.2	0.35	0.06	-78.2	0.07	0.34	-0.06
45-14	3.8	-6.7	-0.9	0.26	-0.13	-82.0	-0.13	0.25	-0.05
45-15	2.0	-4.6	-4.0	0.06	-0.15	-69.8	-0.13	0.04	-0.07
45-16	2.9	0.9	-6.1	0.05	-0.19	72.3	-0.17	0.03	0.07
45-17	-3.6	-6.5	-0.6	0.02	-0.20	80.6	-0.19	0.01	0.03
45-18	-0.3	-3.4	-1.8	0.01	-0.10	-81.0	-0.10	0.01	-0.02
45-19	4.9	-1.1	-4.7	0.12	-0.11	-52.0	-0.02	0.03	-0.11
45-20	7.0	0.4	-5.3	0.18	-0.11	-47.0	0.03	0.05	-0.14
67- 1	-4.6	0.9	2.5	0.05	-0.14	30.6	0.00	-0.09	0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-6.3	0.4	5.9	0.13	-0.15	41.9	0.01	-0.02	0.14
67- 3	-7.5	0.9	10.0	0.26	-0.15	46.4	0.05	0.06	0.20
67- 4	-11.2	-1.7	12.4	0.30	-0.25	50.4	-0.03	0.08	0.27
67- 5	7.7	-7.3	-9.9	0.20	-0.30	57.3	-0.15	0.06	0.23
67- 6	-10.2	-9.8	4.6	0.11	-0.36	66.7	-0.28	0.04	0.17
67- 7	-11.0	-10.2	-0.8	-0.10	-0.41	65.2	-0.35	-0.15	0.12
67- 8	-9.5	-7.3	-4.2	-0.23	-0.36	49.3	-0.30	-0.28	0.06
67- 9	-7.9	-5.4	-5.5	-0.25	-0.33	21.2	-0.26	-0.32	0.03
67-10	-4.0	-2.1	-5.3	-0.14	-0.26	-6.8	-0.14	-0.26	-0.01
67-11	-1.6	-0.8	7.1	0.25	-0.01	64.7	0.04	0.20	0.10
67-12	0.8	-1.7	9.5	0.41	0.03	73.8	0.06	0.38	0.10
67-13	3.9	-4.6	-0.2	0.23	-0.08	-81.2	-0.07	0.23	-0.05
67-14	11.0	-6.1	4.2	0.65	0.00	-83.0	0.01	0.64	-0.08
67-15	1.8	21.2	17.0	0.73	0.08	-73.6	0.13	0.68	-0.18
67-16	15.8	-4.1	5.3	0.81	0.09	-80.1	0.11	0.79	-0.12
67-17	11.1	-1.9	11.3	0.78	0.18	89.8	0.18	0.78	0.00
67-18	13.6	-0.6	7.8	0.73	0.19	-82.8	0.20	0.72	-0.07
67-19	14.5	0.5	5.2	0.66	0.18	-76.7	0.21	0.64	-0.11
67-20	13.3	0.9	2.6	0.55	0.14	-71.4	0.18	0.51	-0.12
90- 1	-2.8	-1.1	-2.3	-0.08	-0.14	4.7	-0.08	-0.14	0.01
90- 2	-3.5	-4.8	-3.0	-0.10	-0.17	84.5	-0.17	-0.13	0.01
90- 3	-1.8	-3.7	-5.5	-0.12	-0.20	86.5	-0.20	-0.12	0.01
90- 4	-5.9	-8.6	-4.8	-0.15	-0.30	84.9	-0.30	-0.15	0.01
90- 5	-7.8	-12.3	-6.9	-0.20	-0.43	87.2	-0.43	-0.20	0.01
90- 6	-11.2	-15.6	-10.6	-0.36	-0.58	88.2	-0.58	-0.36	0.01
90- 7	-12.0	-14.2	-11.8	-0.46	-0.56	88.4	-0.56	-0.46	0.00
90- 8	-11.3	-11.7	-12.1	-0.49	-0.51	-44.7	-0.50	-0.50	-0.01
90- 9	-10.8	-8.3	-10.3	-0.40	-0.50	3.4	-0.40	-0.50	0.01
90-10	-8.6	-4.1	-9.3	-0.27	-0.49	-1.9	-0.27	-0.49	-0.01
90-11	3.6	-1.7	2.8	0.25	0.02	-87.7	0.02	0.25	-0.01
90-12	7.9	-3.7	9.5	0.66	0.09	88.1	0.09	0.66	0.02
90-13	-4.0	9.5	26.4	0.83	0.13	-87.8	0.13	0.83	-0.03
90-14	14.8	-4.8	12.2	1.00	0.16	-88.0	0.16	1.00	-0.03
90-15	19.1	-4.7	14.2	1.21	0.22	-86.7	0.22	1.20	-0.06
90-16	18.6	-3.0	16.5	1.23	0.28	-88.6	0.28	1.23	-0.02
90-17	16.5	-0.9	17.5	1.14	0.32	89.2	0.32	1.14	0.01
90-18	15.5	0.1	15.7	1.03	0.31	89.8	0.31	1.03	0.00
90-19	13.3	0.9	14.0	0.88	0.29	89.3	0.29	0 88	0.01
90-20	11.5	0.4	11.6	0.75	0.24	89.8	0.24	0.75	0.00
180- 1	21.4	38.4	23.2	1.33	0.58	1.6	1.33	0.59	0.02
180- 2	18.0	29.6	17.3	1.03	0.48	-0.8	1.03	0.48	-0.01
180- 3	12.0	14.4	11.9	0.57	0.46	-0.6	0.57	0.46	-0.00
180- 4	10.3	10.2	9.6	0.44	0.42	-30.9	0.43	0.42	-0.01
180- 5	12.7	15.6	12.0	0.61	0.46	-3.1	0.61	0.46	-0.01
180- 6	13.7	9.7	13.6	0.68	0.49	0.6	0.68	0.49	0.00
180- 7	15.1	17.7	15.6	0.71	0.60	2.9	0.71	0.60	0.01
180- 8	13.8	14.0	14.4	0.61	0.60	57.8	0.60	0.61	0.01
180- 9	13.6	6.7	8.2	0.59	0.35	-73.8	0.37	0.57	-0.06
180-10	7.6	2.3	7.7	0.45	0.21	89.9	0.21	0.45	0.00
180-11	2.3	0.9	2.9	0.15	0.07	84.9	0.07	0.15	0.01
180-12	0.5	-1.2	1.1	0.08	-0.01	85.4	-0.01	0.08	0.01
180-13	-1.0	-1.0	-0.5	-0.02	-0.04	67.3	-0.04	-0.03	0.01
180-14	-3.5	-1.9	-3.1	-0.11	-0.18	3.7	-0.11	-0.18	0.00
180-15	-13.8	-1.2	-7.4	-0.23	-0.68	9.4	-0.24	-0.67	0.07
180-16	-25.6	-30.5	-8.1	-0.35	-1.10	-1.3	-0.35	-1.10	-0.02
180-17	-15.0	-0.2	-17.5	-0.32	-1.07	-2.2	-0.32	-1.07	-0.03
180-18	-16.9	-10.5	-16.2	-0.57	-0.85	1.6	-0.57	-0.85	0.01
180-19	-14.2	-8.4	-13.5	-0.47	-0.72	1.8	-0.47	-0.72	0.01
180-20	-12.6	-7.9	-12.1	-0.43	-0.63	1.5	-0.43	-0.63	0.01
202- 1	-3.3	18.6	43.9	1.42	0.33	47.1	0.83	0.91	0.54
202- 2	-1.2	16.6	30.8	1.01	0.26	41.9	0.67	0.59	0.37
202- 3	-1.9	5.3	14.9	0.48	0.08	49.2	0.25	0.31	0.19
202- 4	-3.1	7.0	16.3	0.51	0.06	43.7	0.29	0.27	0.22
202- 5	-1.4	17.2	26.8	0.89	0.20	36.1	0.65	0.44	0.33
202- 6	28.6	9.8	1.6	0.98	0.31	44.4	0.66	0.64	0.38
202- 7	4.7	15.4	28.4	0.98	0.43	47.7	0.68	0.74	0.27

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	8.0	9.2	14.8	0.58	0.39	61.3	0.44	0.54	0.08
202- 9	10.5	7.3	8.9	0.47	0.36	-80.7	0.36	0.47	-0.02
202-10	7.4	0.4	6.4	0.45	0.14	-87.7	0.14	0.45	-0.01
202-11	7.2	2.5	-0.7	0.23	0.05	-50.3	0.12	0.16	-0.09
202-12	8.5	2.6	-2.6	0.25	-0.00	-46.5	0.12	0.13	-0.13
202-13	8.9	0.1	-6.6	0.23	-0.13	-48.8	0.03	0.07	-0.18
202-14	3.3	-4.8	-11.3	-0.00	-0.34	-47.9	-0.19	-0.15	-0.17
202-15	-4.8	-2.9	-9.3	-0.19	-0.41	-18.5	-0.21	-0.40	-0.05
202-16	-13.1	-16.6	-4.5	-0.17	-0.58	-1.4	-0.17	-0.58	-0.01
202-17	-15.4	-7.3	-11.0	-0.42	-0.71	10.2	-0.43	-0.70	0.05
202-18	-12.1	-7.9	-11.0	-0.41	-0.58	4.3	-0.41	-0.58	0.01
202-19	-7.3	-3.4	-10.4	-0.25	-0.51	-8.0	-0.25	-0.51	-0.04
202-20	-6.1	-3.3	-9.8	-0.23	-0.46	-10.9	-0.23	-0.45	-0.04
225- 1	-2.3	1.5	13.8	0.46	0.04	59.0	0.15	0.35	0.19
225- 2	-5.5	1.6	11.5	0.33	-0.07	49.6	0.10	0.16	0.20
225- 3	-8.1	1.4	12.8	0.34	-0.14	47.6	0.08	0.12	0.24
225- 4	-9.3	4.8	22.5	0.65	-0.09	48.3	0.24	0.33	0.37
225- 5	-8.7	20.6	32.4	1.02	-0.01	33.4	0.71	0.31	0.47
225- 6	29.3	3.1	-7.0	0.94	0.02	48.0	0.43	0.53	0.46
225- 7	-4.1	5.2	25.5	0.82	0.10	55.2	0.33	0.59	0.34
225- 8	-0.1	3.0	8.8	0.29	0.08	53.3	0.16	0.22	0.10
225- 9	1.4	1.6	3.0	0.12	0.07	63.6	0.08	0.11	0.02
225-10	2.4	-0.2	-1.1	0.07	-0.02	-57.7	0.01	0.05	-0.04
225-11	1.3	-1.3	2.5	0.16	0.01	85.1	0.01	0.16	0.01
225-12	6.2	-1.3	3.0	0.34	0.06	-82.5	0.06	0.34	-0.04
225-13	9.9	-0.7	1.4	0.42	0.06	-73.1	0.09	0.39	-0.10
225-14	6.1	-6.0	-2.2	0.29	-0.12	-76.3	-0.10	0.27	-0.10
225-15	1.4	-3.5	-5.6	-0.00	-0.18	-56.3	-0.12	-0.06	-0.08
225-16	2.5	2.1	-5.9	0.06	-0.20	81.9	-0.20	0.05	0.04
225-17	-5.0	-5.7	0.9	0.02	-0.20	70.2	-0.17	-0.01	0.07
225-18	1.1	-3.2	-2.5	0.04	-0.10	-71.9	-0.09	0.03	-0.04
225-19	5.9	-0.8	-5.1	0.15	-0.11	-51.0	-0.01	0.04	-0.13
225-20	6.6	0.1	-5.6	0.16	-0.12	-46.9	0.01	0.03	-0.14
247- 1	-4.7	-0.4	4.1	0.09	-0.11	45.7	-0.02	-0.01	0.10
247- 2	-7.1	-1.3	7.7	0.19	-0.16	51.2	-0.02	0.05	0.17
247- 3	-8.9	-0.6	11.1	0.28	-0.19	50.0	0.01	0.09	0.23
247- 4	-12.2	-0.5	14.8	0.37	-0.26	48.6	0.01	0.09	0.31
247- 5	9.9	-6.6	-11.5	0.25	-0.32	55.9	-0.14	0.07	0.26
247- 6	-10.0	-10.8	4.9	0.15	-0.37	68.9	-0.30	0.08	0.17
247- 7	-10.8	-10.1	-1.2	-0.11	-0.40	65.3	-0.35	-0.16	0.11
247- 8	-9.2	-7.0	-4.1	-0.22	-0.34	49.5	-0.29	-0.28	0.06
247- 9	-7.6	-5.2	-5.7	-0.24	-0.32	16.8	-0.25	-0.32	0.02
247-10	-4.3	-2.0	-6.6	-0.15	-0.32	-9.1	-0.15	-0.31	-0.03
247-11	-1.1	-1.2	7.9	0.29	-0.00	67.9	0.04	0.25	0.10
247-12	0.7	-1.5	10.4	0.44	0.04	72.6	0.08	0.40	0.11
247-13	2.9	-3.6	12.9	0.63	0.05	78.2	0.07	0.60	0.12
247-14	16.2	-0.1	0.7	0.63	0.10	-68.8	0.17	0.56	-0.18
247-15	1.6	24.1	20.0	0.84	0.09	-72.7	0.16	0.77	-0.21
247-16	21.2	-2.2	2.4	0.89	0.12	-73.1	0.18	0.83	-0.22
247-17	12.7	-1.7	12.2	0.86	0.21	-89.5	0.21	0.86	-0.01
247-18	14.9	-0.4	8.2	0.78	0.21	-82.2	0.22	0.77	-0.08
247-19	16.0	0.7	4.8	0.70	0.19	-75.0	0.22	0.67	-0.13
247-20	13.3	1.3	3.0	0.55	0.15	-71.7	0.19	0.51	-0.12
270- 1	-1.8	-2.0	-2.3	-0.08	-0.09	-83.6	-0.09	-0.09	-0.01
270- 2	-2.4	-4.4	-2.5	-0.06	-0.15	-89.3	-0.15	-0.06	-0.00
270- 3	-0.4	-3.1	-6.5	-0.08	-0.22	88.4	-0.22	-0.08	0.00
270- 4	-5.1	-9.7	-5.3	-0.12	-0.33	-89.2	-0.33	-0.12	-0.00
270- 5	-7.8	-14.0	-8.5	-0.21	-0.48	-88.3	-0.48	-0.22	-0.01
270- 6	-10.6	-15.2	-10.5	-0.34	-0.56	89.5	-0.56	-0.34	0.00
270- 7	-12.2	-14.3	-11.6	-0.46	-0.57	86.5	-0.57	-0.46	0.01
270- 8	-11.8	-10.4	-11.2	-0.47	-0.52	6.9	-0.47	-0.52	0.01
270- 9	-10.9	-7.9	-10.4	-0.39	-0.52	2.7	-0.39	-0.52	0.01
270-10	-6.8	-2.7	-8.2	-0.21	-0.43	-4.4	-0.21	-0.43	-0.02
270-11	3.0	-2.3	4.2	0.29	0.02	87.0	0.02	0.29	0.01
270-12	7.6	-4.1	11.2	0.72	0.09	86.2	0.09	0.71	0.04
270-13	-4.3	7.0	29.2	0.94	0.13	-84.1	0.14	0.93	-0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. AXIAL	NORMAL	SHEAR
270-14	15.8	-5.7	14.3	1.12	0.17	-89.0	0.17	1.12	-0.02
270-15	17.2	-4.7	19.0	1.30	0.25	88.9	0.25	1.30	0.02
270-16	16.8	-2.3	19.9	1.26	0.31	87.8	0.31	1.26	0.04
270-17	15.9	-1.1	18.8	1.17	0.32	87.7	0.32	1.17	0.03
270-18	14.1	-0.1	15.7	0.99	0.29	88.6	0.29	0.98	0.02
270-19	13.2	0.6	14.0	0.88	0.28	89.0	0.28	0.88	0.01
270-20	11.1	1.2	12.7	0.76	0.26	87.9	0.26	0.76	0.02
0- 6	12.5	9.7	12.8	0.61	0.47	88.7	0.47	0.61	0.00
11- 1	21.9	10.4	6.9	0.81	0.42	-59.1	0.52	0.71	-0.17
22- 6	25.2	10.1	1.4	0.86	0.29	-52.7	0.50	0.65	-0.27
33- 1	27.0	5.5	-2.6	0.90	0.15	-57.3	0.37	0.68	-0.34
45- 6	24.6	1.5	-5.9	0.80	0.00	-58.7	0.22	0.58	-0.35
56- 1	17.5	-3.3	-9.4	0.53	-0.18	-59.3	0.00	0.34	-0.31
67- 5	7.7	-7.3	-9.9	0.20	-0.30	-62.7	-0.19	0.10	-0.20
78- 1	1.2	-6.8	-9.4	-0.04	-0.31	-58.4	-0.24	-0.12	-0.12
90- 3	-1.8	-3.7	-5.5	-0.12	-0.20	-45.5	-0.16	-0.16	-0.04
0-16	-20.2	-32.8	-12.7	-0.32	-1.09	83.6	-1.08	-0.32	0.09
11-11	-17.6	-23.6	-7.5	-0.26	-0.82	77.7	-0.79	-0.28	0.12
22-16	-9.9	-13.9	-5.5	-0.18	-0.48	80.2	-0.47	-0.19	0.05
33-11	-2.9	-6.5	5.5	-0.12	-0.24	-75.2	-0.23	-0.13	-0.03
45-16	2.9	0.9	-6.1	0.05	-0.19	-30.7	-0.01	-0.13	-0.10
56-11	8.5	18.0	8.2	0.41	-0.04	-0.8	0.41	-0.04	-0.00
67-15	1.8	21.2	17.0	0.73	0.08	16.4	0.68	0.13	0.18
78-11	-4.5	16.9	30.6	0.97	0.18	38.8	0.65	0.47	0.40
90-13	-4.0	9.5	26.8	0.83	0.13	48.2	0.44	0.52	0.35
180- 6	13.7	9.7	13.6	0.68	0.49	-89.8	0.49	0.68	-0.00
191- 1	22.8	10.7	7.2	0.85	0.44	-59.7	0.54	0.74	-0.18
202- 6	28.6	9.8	1.6	0.98	0.31	-55.6	0.53	0.77	-0.31
213- 1	30.2	5.5	-3.3	1.01	0.15	-57.8	0.39	0.76	-0.39
225- 6	29.3	3.1	-7.0	0.94	0.02	-57.0	0.29	0.66	-0.42
236- 1	20.5	-1.2	-10.3	0.60	-0.17	-56.2	0.07	0.37	-0.36
247- 5	9.9	-6.6	-11.5	0.25	-0.32	-59.1	-0.17	0.10	-0.25
258- 1	2.2	-6.5	-10.7	-0.03	-0.34	-54.5	-0.23	-0.13	-0.15
270- 3	-0.8	-3.1	-6.5	-0.08	-0.22	-41.6	-0.14	-0.16	-0.07
180-16	-25.6	-30.5	-8.1	-0.35	-1.10	73.7	-1.04	-0.41	0.20
191-11	-19.9	-23.8	-5.2	-0.23	-0.85	73.4	-0.80	-0.28	0.17
202-16	-13.1	-16.6	-4.5	-0.17	-0.58	75.6	-0.56	-0.20	0.10
213-11	-2.3	-6.8	-6.7	-0.13	-0.26	-65.6	-0.24	-0.15	-0.05
225-16	2.5	2.1	-5.9	0.06	-0.20	-24.1	0.02	-0.16	-0.10
236-11	3.7	15.6	5.7	0.45	-0.05	2.6	0.45	-0.05	0.02
247-15	1.6	24.1	20.0	0.84	0.09	17.3	0.77	0.16	0.21
258-11	-0.3	20.1	33.3	1.07	0.17	36.8	0.75	0.49	0.43
270-13	-4.3	7.0	29.2	0.94	0.13	53.9	0.41	0.66	0.39
400-01	-14.4	-4.0	9.1	0.16	-0.39	-86.7	-0.39	0.16	-0.03
400-11	-3.2	-7.2	-9.9	-0.20	-0.36	84.5	-0.36	-0.20	0.01
401-01	9.1	25.9	8.7	0.77	-0.01	-0.3	0.77	-0.01	-0.00
401-02	0.2	2.1					0.03	0.07	
401-03	6.8	-26.5					-0.05	-0.81	
401-04	1.0	-0.0					0.03	0.01	
402-01	10.7	30.2	10.7	0.91	0.01	0.0	0.91	0.01	0.00
402-02	-0.3	2.7					0.02	0.08	
402-03	7.6	-29.8					-0.04	-0.90	
402-04	1.0	-1.3					0.02	-0.03	
403-01	-0.3	-0.5	-0.2	-0.01	-0.02	87.4	-0.02	-0.01	0.00
403-02	0.1	0.5					0.01	0.02	
403-03	-0.1	-0.4					-0.01	-0.01	
403-04	0.2	0.4					0.01	0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, AXIAL FORCE LOADING ON RUN, F2X

NOMINAL LOAD = 1.5602 04 YOUNG'S MODULUS = 30.002 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	7.1	11.2	5.9	0.39	0.17	-3.7	0.39	0.17	-0.01
0- 2	10.1	15.1	8.9	0.54	0.28	-3.1	0.54	0.28	-0.01
0- 3	5.1	5.8	5.2	0.23	0.21	3.0	0.23	0.21	0.00
0- 4	4.3	3.9	4.4	0.20	0.18	87.7	0.18	0.20	0.00
0- 5	5.5	6.7	5.4	0.26	0.21	-1.8	0.26	0.21	-0.00
0- 6	5.7	5.1	6.0	0.27	0.23	-4.9	0.27	0.23	-0.00
0- 7	6.8	7.0	6.3	0.29	0.27	-16.9	0.29	0.27	-0.01
0- 8	6.5	5.7	6.3	0.29	0.26	-85.9	0.26	0.29	-0.00
0- 9	6.4	3.1	5.8	0.33	0.19	-86.8	0.19	0.33	-0.01
0-10	3.9	1.5	4.2	0.23	0.12	88.3	0.12	0.23	0.00
0-11	3.5	3.0	2.3	0.14	0.11	-42.3	0.13	0.12	-0.01
12	-0.1	-0.3	0.8	0.03	-0.00	73.2	0.00	0.03	0.01
0-13	0.2	-0.9	-0.3	0.02	-0.02	-82.0	-0.02	0.02	-0.01
0-14	-1.2	-1.3	-1.5	-0.05	-0.06	-39.4	-0.06	-0.06	-0.00
0-15	-4.9	-0.3	-5.0	-0.11	-0.32	-0.4	-0.11	-0.32	-0.00
0-16	-10.0	-16.5	-6.2	-0.15	-0.55	-6.5	-0.15	-0.54	-0.04
0-17	-6.2	1.1	-7.1	-0.11	-0.46	-1.6	-0.11	-0.46	-0.01
0-18	-7.8	-4.5	-7.8	-0.26	-0.41	0.2	-0.26	-0.41	0.00
0-19	-6.7	-4.0	-7.0	-0.23	-0.36	-1.8	-0.23	-0.36	-0.00
0-20	-5.2	-2.6	-5.6	-0.17	-0.29	-2.3	-0.17	-0.29	-0.01
22- 1	0.5	10.6	14.5	0.50	0.15	33.1	0.39	0.25	0.16
22- 2	0.5	15.9	20.1	0.70	0.18	30.2	0.57	0.31	0.23
22- 3	-0.6	3.1	7.3	0.24	0.05	47.1	0.14	0.15	0.09
22- 4	-1.5	3.9	8.8	0.27	0.04	43.7	0.16	0.15	0.12
22- 5	-0.5	8.1	12.6	0.42	0.10	36.3	0.31	0.21	0.15
22- 6	12.9	5.5	0.4	0.43	0.14	42.9	0.30	0.27	0.15
22- 7	1.9	6.0	11.3	0.39	0.17	48.6	0.27	0.30	0.11
22- 8	3.5	4.1	7.4	0.29	0.18	62.1	0.20	0.26	0.05
22- 9	4.2	2.9	4.4	0.21	0.15	88.1	0.15	0.21	0.00
22-10	3.7	0.3	2.7	0.21	0.07	-85.4	0.07	0.21	-0.01
22-11	5.2	3.5	0.2	0.18	0.05	-36.2	0.13	0.10	-0.06
22-12	4.0	2.6	-0.5	0.13	0.02	-35.5	0.09	0.06	-0.05
22-13	0.2	1.4	0.1	0.04	-0.02	-0.3	0.04	-0.02	-0.00
22-14	1.6	-1.8	-5.2	0.00	-0.15	-45.4	-0.08	-0.08	-0.08
22-15	-4.3	-0.7	-3.3	-0.09	-0.23	4.5	-0.09	-0.23	0.01
22-16	-5.7	-8.0	-2.7	-0.09	-0.27	1.3	-0.09	-0.27	0.00
22-17	-6.9	-2.5	-5.8	-0.18	-0.36	3.9	-0.18	-0.36	0.01
22-18	-5.5	-3.2	-5.7	-0.18	-0.29	-1.4	-0.19	-0.29	-0.00
22-19	-3.9	-2.0	-5.6	-0.14	-0.27	-8.9	-0.14	-0.27	-0.02
22-20	-1.3	-1.0	-6.1	-0.08	-0.24	-20.7	-0.10	-0.22	-0.06
45- 1	-0.7	2.8	15.4	0.53	0.10	59.8	0.21	0.42	0.19
45- 2	-3.4	2.0	10.4	0.31	-0.01	51.1	0.12	0.19	0.16
45- 3	-4.3	1.2	6.6	0.17	-0.08	44.4	0.05	0.04	0.13
45- 4	-4.9	4.0	12.2	0.35	-0.04	43.9	0.16	0.15	0.20
45- 5	-4.2	9.3	15.5	0.48	-0.00	34.8	0.32	0.16	0.23
45- 6	14.2	1.3	-3.2	0.46	0.01	49.3	0.20	0.27	0.22
45- 7	-1.5	1.1	11.7	0.40	0.04	60.5	0.13	0.31	0.15
45- 8	0.2	1.3	4.3	0.15	0.04	58.1	0.07	0.12	0.05
45- 9	1.0	0.6	1.4	0.07	0.04	81.9	0.04	0.07	0.00
45-10	1.7	-0.1	-0.9	0.05	-0.01	-54.7	0.01	0.03	-0.03
45-11	6.6	2.1	-0.6	0.21	0.04	-52.1	0.11	0.15	-0.08
45-12	8.9	3.6	-0.2	0.29	0.08	-49.5	0.17	0.20	-0.11
45-13	8.8	2.0	-1.1	0.29	0.04	-55.1	0.12	0.21	-0.11
45-14	4.2	-2.8	-2.1	0.16	-0.07	-70.3	-0.04	0.13	-0.07
45-15	0.8	-1.7	-2.7	0.01	-0.08	-57.0	-0.06	-0.02	-0.04
45-16	0.3	-0.7	-3.0	-0.02	-0.10	67.9	-0.09	-0.03	0.03
45-17	-1.9	-2.8	-0.9	-0.02	-0.09	80.3	-0.09	-0.03	0.01
45-18	0.4	-1.2	-1.6	0.00	-0.05	-60.7	-0.04	-0.01	-0.02
45-19	2.7	-0.1	-2.7	0.06	-0.06	-45.9	-0.00	0.00	-0.06
45-20	3.6	0.5	-2.8	0.09	-0.06	-44.0	0.02	0.01	-0.07
67- 1	-4.2	0.4	7.7	0.22	-0.07	51.5	0.04	0.11	0.14

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-4.6	0.0	8.4	0.24	-0.07	52.9	0.04	0.12	0.15
67- 3	-4.9	0.8	9.8	0.28	-0.07	51.4	0.07	0.14	0.17
67- 4	-5.7	-0.5	9.9	0.27	-0.13	52.3	0.02	0.12	0.19
67- 5	6.6	-3.4	-5.9	0.18	-0.15	59.3	-0.07	0.10	0.15
67- 6	-5.3	-5.6	3.5	0.11	-0.19	68.4	-0.15	0.07	0.10
67- 7	-5.5	-5.5	-0.5	-0.05	-0.21	67.3	-0.19	-0.07	0.06
67- 8	-4.5	-3.6	-2.6	-0.13	-0.18	45.7	-0.15	-0.15	0.02
67- 9	-3.5	-2.3	-3.4	-0.12	-0.17	2.3	-0.12	-0.17	0.00
67-10	-1.6	-0.5	-3.0	-0.05	-0.14	-10.7	-0.06	-0.14	-0.02
67-11	4.7	-1.5	2.3	0.27	0.03	-83.3	0.04	0.27	-0.03
67-12	4.4	-2.1	3.8	0.32	0.03	-88.7	0.03	0.32	-0.01
67-13	4.0	-3.3	-0.0	0.22	-0.04	-79.5	-0.04	0.21	-0.05
67-14	7.4	-3.0	1.3	0.37	0.00	-78.7	0.02	0.36	-0.07
67-15	0.2	11.9	11.0	0.43	0.05	-69.6	0.09	0.38	-0.12
67-16	-.5	-1.7	2.4	0.49	0.07	-76.7	0.09	0.46	-0.09
67-17	7.4	-0.5	5.9	0.45	0.12	-87.1	0.12	0.45	-0.02
67-18	8.2	0.4	4.0	0.40	0.12	-79.8	0.13	0.39	-0.05
67-19	8.2	0.8	2.6	0.35	0.11	-74.3	0.12	0.34	-0.06
67-20	7.2	1.0	1.4	0.29	0.08	-69.5	0.11	0.26	-0.07
90- 1	0.2	-2.3	0.6	0.08	-0.05	88.1	-0.05	0.08	0.00
90- 2	-0.5	-3.9	-0.6	0.06	-0.10	-89.8	-0.10	0.06	-0.00
90- 3	1.9	-0.5	-4.0	0.03	-0.11	-87.7	-0.11	0.03	-0.01
90- 4	-2.3	-5.7	-2.0	-0.01	-0.17	88.5	-0.17	-0.01	0.00
90- 5	-3.9	-7.5	-3.7	-0.08	-0.25	89.4	-0.25	-0.08	0.00
90- 6	-6.1	-8.8	-6.0	-0.20	-0.32	89.2	-0.32	-0.20	0.00
90- 7	-6.6	-7.5	-6.5	-0.26	-0.30	89.1	-0.30	-0.26	0.00
90- 8	-6.1	-5.7	-6.5	-0.25	-0.29	-9.6	-0.26	-0.28	-0.01
90- 9	-5.6	-3.5	-5.3	-0.19	-0.28	2.1	-0.19	-0.28	0.00
90-10	-4.3	-1.3	-4.6	-0.12	-0.27	-1.2	-0.12	-0.27	-0.00
90-11	4.2	-3.0	3.9	0.34	0.01	-89.3	0.01	0.34	-0.00
90-12	6.3	-3.7	8.1	0.56	0.06	87.7	0.06	0.56	0.02
90-13	-3.6	7.4	20.6	0.65	0.08	-88.3	0.08	0.65	-0.02
90-14	10.7	-3.8	9.0	0.74	0.11	-88.3	0.11	0.74	-0.02
90-15	12.7	-3.1	9.6	0.81	0.15	-86.9	0.15	0.80	-0.04
90-16	11.7	-1.3	10.6	0.77	0.19	-88.8	0.19	0.77	-0.01
90-17	9.9	0.3	10.7	0.67	0.21	88.9	0.21	0.67	0.01
90-18	8.8	0.8	9.1	0.57	0.20	89.5	0.20	0.57	0.00
90-19	7.3	1.2	7.7	0.47	0.18	89.0	0.18	0.47	0.01
90-20	6.1	0.8	6.3	0.39	0.14	89.5	0.14	0.39	0.00
180- 1	8.2	13.9	8.8	0.49	0.24	1.5	0.49	0.24	0.01
180- 2	7.3	11.1	7.0	0.40	0.22	-1.1	0.40	0.22	-0.00
180- 3	5.1	5.4	5.0	0.22	0.21	-4.1	0.22	0.21	-0.00
180- 4	4.6	3.9	4.2	0.20	0.18	-80.9	0.18	0.20	-0.00
180- 5	5.5	6.2	5.2	0.25	0.21	-5.8	0.25	0.21	-0.00
180- 6	6.0	6.8	6.0	0.28	0.23	0.3	0.28	0.23	0.00
180- 7	6.7	7.1	6.7	0.30	0.28	2.6	0.30	0.28	0.00
180- 8	6.0	5.4	6.3	0.28	0.25	85.0	0.25	0.28	0.00
180- 9	6.2	2.5	3.7	0.28	0.15	-76.5	0.16	0.27	-0.03
180-10	3.5	0.5	3.5	0.22	0.08	-89.8	0.08	.22	-0.00
180-11	2.2	1.2	2.2	0.12	0.07	88.7	0.07	0.12	0.00
180-12	1.1	-0.2	1.1	0.08	0.02	-89.8	0.02	0.08	-0.00
180-13	0.1	-0.5	0.1	0.02	-0.01	-90.0	-0.01	0.02	-0.00
180-14	-1.2	-1.0	-1.3	-0.05	-0.06	-4.9	-0.05	-0.06	-0.00
180-15	-6.3	-0.5	-3.5	-0.10	-0.32	9.0	-0.11	-0.31	0.03
180-16	-12.6	-15.0	-3.7	-0.16	-0.54	-7.5	-0.16	-0.54	-0.01
180-17	-7.3	0.3	-8.6	-0.15	-0.53	-2.2	-0.15	-0.53	-0.01
180-18	-8.0	-4.6	-7.8	-0.26	-0.42	0.9	-0.26	-0.42	0.00
180-19	-6.9	-4.0	-6.6	-0.23	-0.35	1.8	-0.23	-0.35	0.00
180-20	-6.3	-4.1	-6.1	-0.22	-0.32	1.5	-0.22	-0.32	0.00
202- 1	-1.3	9.1	20.8	0.67	0.16	46.5	0.40	0.43	0.26
202- 2	-0.6	7.6	14.8	0.48	0.12	43.1	0.31	0.29	0.18
202- 3	-0.9	2.1	7.2	0.23	0.04	52.1	0.11	0.16	0.09
202- 4	-1.5	3.0	7.8	0.24	0.03	46.1	0.13	0.14	0.11
202- 5	-0.9	7.8	13.0	0.42	0.09	37.7	0.30	0.22	0.16
202- 6	13.9	5.1	0.4	0.47	0.14	46.4	0.30	0.32	0.16
202- 7	2.1	6.5	13.3	0.46	0.20	51.0	0.30	0.36	0.13

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	3.7	3.7	6.8	0.28	0.17	68.2	0.19	0.26	0.04
202- 9	5.0	2.8	3.9	0.23	0.15	-81.3	0.15	0.23	-0.01
202-10	3.7	-0.3	2.8	0.22	0.06	-86.4	0.06	0.22	-0.01
202-11	5.0	3.6	0.2	0.17	0.05	-33.6	0.14	0.09	-0.05
202-12	4.7	3.4	-0.6	0.16	0.02	-31.7	0.12	0.06	-0.06
202-13	4.7	1.4	-3.0	0.13	-0.05	-41.2	0.05	0.02	-0.09
202-14	1.5	-1.7	-5.5	-0.00	-0.16	-42.9	-0.08	-0.09	-0.08
202-15	-2.7	-1.0	-4.7	-0.09	-0.22	-10.1	-0.10	-0.22	-0.02
202-16	-7.3	-9.[illegible]	-2.2	-0.08	-0.33	-1.5	-0.08	-0.33	-0.01
202-17	-7.5	-3.2	-6.0	-0.21	-0.37	6.3	-0.21	-0.37	0.02
202-18	-6.2	-3.6	-5.7	-0.20	-0.31	2.4	-0.20	-0.31	0.00
202-19	-3.9	-1.6	-5.3	-0.13	-0.27	-6.2	-0.13	-0.27	-0.02
202-20	-3.4	-1.7	-4.9	-0.12	-0.24	-8.9	-0.12	-0.23	-0.02
225- 1	-3.0	5.5	20.4	0.65	0.09	52.7	0.30	0.45	0.27
225- 2	-3.7	2.3	9.6	0.28	-0.03	47.5	0.11	0.14	0.15
225- 3	-4.8	1.6	8.2	0.22	-0.08	45.5	0.07	0.07	0.15
225- 4	-5.0	3.4	13.3	0.39	-0.03	47.3	0.16	0.19	0.21
225- 5	-4.3	11.9	18.2	0.58	0.01	33.2	0.41	0.18	0.26
225- 6	16.3	2.2	-3.5	0.52	0.03	48.6	0.24	0.31	0.25
225- 7	-1.8	2.6	13.7	0.45	0.06	56.6	0.18	0.33	0.18
225- 8	0.4	1.2	4.2	0.15	0.05	60.2	0.07	0.12	0.04
225- 9	1.1	0.5	1.1	0.06	0.03	-88.7	0.03	0.06	-0.00
225-10	1.7	-0.2	-1.0	0.05	-0.02	-56.2	0.00	0.04	-0.03
225-11	7.6	2.8	0.0	0.25	0.07	-52.7	0.14	0.19	-0.09
225-12	10.2	4.1	-0.3	0.34	0.09	-49.5	0.19	0.23	-0.12
225-13	9.8	2.7	-1.3	0.31	0.05	-52.8	0.14	0.22	-0.13
225-14	5.2	-2.1	-2.8	0.17	-0.07	-64.8	-0.03	0.13	-0.09
225-15	0.1	-1.3	-3.1	-0.03	-0.10	-41.2	-0.06	-0.07	-0.04
225-16	0.2	-0.5	-3.2	-0.02	-0.11	76.4	-0.11	-0.03	0.02
225-17	-2.4	-[illegible].6	-0.5	-0.03	-0.10	69.8	-0.09	-0.04	0.02
225-18	0.8	-1.1	-2.0	0.01	-0.06	-54.2	-0.04	-0.02	-0.03
225-19	2.9	0.1	-3.0	0.07	-0.07	-43.6	0.00	-0.01	-0.07
225-20	3.2	0.3	-3.1	0.08	-0.07	-42.9	0.01	-0.00	-0.07
247- 1	-3.6	-0.7	8.1	0.25	-0.05	58.2	0.03	0.16	0.14
247- 2	-4.8	-0.8	9.3	0.27	-0.08	56.6	0.03	0.17	0.16
247- 3	-5.6	0.1	10.1	0.29	-0.09	52.9	0.05	0.15	0.18
247- 4	-7.2	0.8	11.5	0.31	-0.12	49.2	0.06	0.12	0.22
247- 5	7.7	-3.0	-6.4	0.21	-0.15	56.3	-0.04	0.10	0.17
247- 6	-5.1	-5.8	4.0	0.[illegible]	-0.18	69.4	-0.14	0.10	0.11
247- 7	-5.3	-5.3	-0.5	-0.	-0.20	67.0	-0.18	-0.07	0.06
247- 8	-4.5	-3.5	-2.6	-0.	-0.17	45.0	-0.15	-0.15	0.02
247- 9	-3.5	-2.3	-3.4	-0.12	-0.17	0.6	-0.12	-0.17	0.00
247-10	-1.7	-0.6	-3.8	-0.06	-0.17	-12.8	-0.07	-0.17	-0.02
247-11	5.0	-1.6	2.7	0.29	0.04	-84.2	0.04	0.29	-0.03
247-12	4.3	-1.8	4.5	0.33	0.04	89.5	0.04	0.33	0.00
247-13	3.9	-2.9	5.7	0.39	0.03	86.7	0.03	0.39	0.02
247-14	9.9	-0.2*	-0.5	0.36	0.04	-66.5	0.09	0.31	-0.12
247-15	0.1	13.0	12.2	0.47	0.05	-69.2	0.11	0.42	-0.14
247-16	13.1	-0.4	0.8	0.52	0.08	-70.1	0.13	0.47	-0.14
247-17	8.1	-0.4	6.1	0.48	0.13	-86.1	0.13	0.48	-0.02
247-18	8.8	0.4	4.0	0.42	0.13	-79.0	0.14	0.41	-0.06
247-19	8.8	1.0	2.2	0.37	0.11	-71.7	0.13	0.34	-0.08
247-20	7.2	1.1	1.4	0.28	0.09	-68.7	0.11	0.26	-0.07
270- 1	0.6	-2.9	0.6	0.11	-0.06	-89.8	-0.06	0.11	-0.00
270- 2	-0.4	-3.[illegible]	0.0	0.07	-0.09	88.2	-0.09	0.07	0.00
270- 3	2.7	-0.[illegible]7	-4.6	0.04	-0.12	87.3	-0.12	0.04	0.01
270- 4	-2.3	-[illegible].2	-2.0	0.00	-0.19	89.0	-0.19	0.00	0.00
270- 5	-4.2	-8.2	-4.3	-0.09	-0.27	-89.7	-0.27	-0.09	-0.00
270- 6	-6.0	-8.4	-5.7	-0.19	-0.31	88.1	-0.31	-0.19	0.00
270- 7	-6.7	-7.5	-6.4	-0.26	-0.30	84.9	-0.30	-0.26	0.00
270- 8	-6.3	-5.0	-6.0	-0.24	-0.29	3.8	-0.24	-0.29	0.00
270- 9	-5.6	-3.4	-5.4	-0.19	-0.29	1.4	-0.19	-0.29	0.00
270-10	-3.3	-0.7	-4.3	-0.09	-0.24	-4.4	-0.09	-0.24	-0.01
270-11	3.8	-3.2	4.7	0.35	0.01	88.2	0.01	0.35	0.01
270-12	6.1	-3.8	8.7	0.58	0.06	86.7	0.06	0.58	0.03
270-13	-3.5	5.0	21.9	0.70	0.08	-83.9	0.09	0.70	-0.07

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. LONG	NORMAL	SHEAR
270-14	11.3	-4.2	9.9	0.79	0.11	-88.6	0.11	0.79	-0.02
270-15	11.4	-2.9	12.3	0.85	0.17	89.1	0.17	0.85	0.01
270-16	10.7	-0.9	12.3	0.78	0.21	88.1	0.21	0.78	0.02
270-17	10.0	0.1	11.5	0.70	0.21	88.0	0.21	0.70	0.02
270-18	8.5	0.7	9.1	0.57	0.19	88.9	0.19	0.57	0.01
270-19	7.6	1.0	7.9	0.49	0.18	89.3	0.18	0.49	0.00
270-20	6.4	1.4	7.0	0.41	0.16	88.2	0.16	0.41	0.01
0- 6	5.7	5.1	6.0	0.27	0.23	85.1	0.23	0.27	0.01
11- 1	9.7	5.3	2.9	0.35	0.19	-52.7	0.25	0.29	-0.08
22- 6	12.9	5.5	0.4	0.43	0.14	-50.1	0.26	0.31	-0.14
33- 1	14.3	3.3	-1.5	0.47	0.08	-55.7	0.20	0.34	-0.18
45- 6	14.2	1.3	-3.2	0.46	0.01	-57.7	0.14	0.33	-0.20
56- 1	11.4	-1.0	-5.2	0.35	-0.08	-58.2	0.04	0.23	-0.19
67- 5	6.6	-3.4	-5.9	0.18	-0.15	-60.7	-0.07	0.10	-0.14
78- 1	3.0	-2.8	-6.1	0.04	-0.17	-53.0	-0.10	-0.03	-0.11
90- 3	1.9	-0.5	-4.0	0.03	-0.11	-39.7	-0.03	-0.06	-0.07
0-16	-10.0	-16.5	-6.2	-0.15	-0.55	83.5	-0.54	-0.15	0.04
11-11	-8.9	-12.5	-3.8	-0.12	-0.43	78.6	-0.41	-0.13	0.06
22-16	-5.7	-8.0	-2.7	-0.09	-0.27	79.3	-0.27	-0.09	0.03
33-11	-2.6	-4.4	-2.7	-0.07	-0.15	-89.5	-0.15	-0.07	-0.00
45-16	0.3	-0.7	-3.0	-0.02	-0.10	-35.1	-0.04	-0.07	-0.04
56-11	1.5	6.8	2.9	0.20	-0.01	4.4	0.20	-0.01	0.02
67-15	0.2	11.9	11.0	0.43	0.05	20.4	0.38	0.09	0.12
78-11	-3.3	10.6	21.2	0.67	0.10	41.0	0.42	0.34	0.28
90-13	-3.6	7.4	20.6	0.65	0.08	47.7	0.34	0.39	0.28
180- 6	6.0	6.8	6.0	0.28	0.23	-89.7	0.23	0.28	-0.00
191- 1	10.5	5.3	2.9	0.38	0.19	-55.2	0.25	0.32	-0.09
202- 6	13.9	5.1	0.4	0.47	0.14	-53.6	0.26	0.36	-0.16
213- 1	15.8	3.1	-1.7	0.52	0.08	-57.0	0.21	0.39	-0.20
225- 6	16.3	2.2	-3.5	0.52	0.03	-56.4	0.18	0.37	-0.23
236- 1	13.0	0.1	-5.6	0.39	-0.07	-55.7	0.07	0.24	-0.21
247- 5	7.7	-3.0	-6.4	0.21	-0.15	-58.7	-0.06	0.11	-0.16
258- 1	3.5	-3.0	-6.6	0.05	-0.19	-53.2	-0.10	-0.03	-0.12
270- 3	2.7	-0.7	-4.6	0.04	-0.12	-42.7	-0.03	-0.05	-0.08
180-16	-12.6	-15.0	-3.7	-0.16	-0.54	73.5	-0.51	-0.19	0.10
191-11	-10.4	-12.9	-2.7	-0.11	-0.45	74.2	-0.43	-0.14	0.09
202-16	-7.3	-9.4	-2.2	-0.08	-0.33	75.5	-0.31	-0.10	0.06
213-11	-2.6	-4.9	-3.6	-0.09	-0.17	-82.5	-0.17	-0.09	-0.01
225-16	0.2	-0.5	-3.2	-0.02	-0.11	-29.6	-0.04	-0.09	-0.04
236-11	1.0	7.5	3.5	0.22	-0.03	6.5	0.22	-0.03	0.03
247-15	0.1	13.0	12.2	0.47	0.05	20.8	0.42	0.11	0.14
258-11	-3.3	12.6	22.9	0.73	0.11	39.0	0.49	0.36	0.30
270-13	-3.5	5.0	21.9	0.70	0.08	54.1	0.30	0.49	0.29
400-01	5.9	3.4	0.3	0.20	0.07	2.7	0.20	0.07	0.01
400-11	-5.5	0.7	5.4	0.12	-0.13	-3.7	0.12	-0.13	-0.02
401-01	4.0	11.3	3.7	0.34	-0.01	-0.4	0.34	-0.01	-0.00
401-02	-2.9	12.6					0.03	0.39	
401-03	-3.4	11.2					-0.00	0.33	
401-04	-2.3	9.7					0.02	0.30	
402-01	4.0	11.6	4.0	0.35	-0.01	-0.0	0.35	-0.01	-0.00
402-02	-2.6	11.4					0.03	0.35	
402-03	-3.7	12.1					-0.00	0.36	
402-04	-2.3	10.0					0.02	0.31	
403-01	-0.2	-0.2	-0.2	-0.01	-0.01	89.1	-0.01	-0.01	0.00
403-02	0.1	0.2					0.01	0.01	
403-03	-0.1	-0.2					-0.00	-0.01	
403-04	0.1	0.2					0.00	0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, IN-PLANE FORCE LOADING ON RUN, -F2Y

NOMINAL LOAD = 1.564E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	24.6	38.9	18.1	1.33	0.50	-5.2	1.32	0.51	-0.07
0- 2	31.6	48.3	26.1	1.69	0.78	-4.0	1.69	0.79	-0.06
0- 3	14.6	18.0	13.9	0.70	0.52	-2.5	0.70	0.52	-0.01
0- 4	12.0	12.0	11.4	0.51	0.49	-20.4	0.51	0.49	-0.01
0- 5	15.6	19.7	14.2	0.75	0.53	-4.2	0.75	0.53	-0.02
0- 6	14.9	12.1	16.2	0.75	0.59	-5.1	0.75	0.59	-0.01
0- 7	18.1	19.9	16.6	0.80	0.68	-8.1	0.80	0.68	-0.02
0- 8	16.8	16.7	16.9	0.73	0.72	86.9	0.72	0.73	0.00
0- 9	16.1	9.4	14.9	0.80	0.52	-87.2	0.52	0.80	-0.01
0-10	9.4	5.2	10.9	0.55	0.32	85.9	0.32	0.55	0.02
0-11	5.7	6.7	5.0	0.26	0.20	-8.2	0.26	0.20	-0.01
0-12	-0.4	-0.7	1.6	0.06	-0.01	71.6	-0.00	0.06	0.02
0-13	-1.7	-1.1	-0.3	-0.03	-0.06	47.8	-0.05	-0.04	0.02
0-14	-4.6	-1.8	-2.9	-0.11	-0.21	11.6	-0.12	-0.20	0.02
0-15	-13.3	-0.4	-11.8	-0.26	-0.82	1.8	-0.26	-0.82	0.02
0-16	-23.3	-39.8	-15.8	-0.36	-1.31	-5.2	-0.37	-1.31	-0.09
0-17	-14.9	2.2	-16.6	-0.26	-1.09	-1.4	-0.26	-1.09	-0.02
0-18	-19.1	-11.7	-18.3	-0.64	-0.96	1.6	-0.64	-0.96	0.01
0-19	-15.9	-9.6	-16.0	-0.54	-0.83	-0.3	-0.54	-0.83	-0.00
0-20	-12.0	-5.7	-12.3	-0.37	-0.67	-0.6	-0.37	-0.67	-0.00
22- 1	0.8	29.9	41.0	1.40	0.39	32.9	1.10	0.69	0.46
22- 2	2.1	44.8	54.2	1.91	0.50	29.1	1.58	0.83	0.60
22- 3	-1.0	9.1	18.4	0.60	0.15	43.7	0.38	0.36	0.22
22- 4	-3.3	10.8	22.0	0.69	0.11	41.7	0.43	0.37	0.29
22- 5	-0.0	21.7	31.0	1.05	0.28	34.2	0.81	0.52	0.36
22- 6	31.4	12.9	2.1	1.07	0.37	40.6	0.77	0.66	0.35
22- 7	5.7	16.8	27	0.97	0.46	44.9	0.72	0.72	0.25
22- 8	9.1	11.8	18.5	0.71	0.47	56.3	0.54	0.64	0.11
22- 9	10.5	8.8	11.2	0.51	0.42	85.1	0.42	0.51	0.01
22-10	8.9	1.8	7.1	0.49	0.20	-85.9	0.20	0.49	-0.02
22-11	11.6	3.7	-2.0	0.36	0.05	-49.5	0.18	0.23	-0.16
22-12	9.9	2.2	-3.5	0.29	-0.02	-49.1	0.11	0.16	-0.15
22-13	-0.3	1.1	-0.2	0.02	-0.04	1.0	0.02	-0.04	0.00
22-14	4.8	-5.4	-13.7	0.02	-0.40	-48.0	-0.21	-0.17	-0.21
22-15	-8.9	-1.7	-9.0	-0.22	-0.55	-0.3	-0.22	-0.55	-0.00
22-16	-13.2	-17.3	-6.0	-0.32	-0.61	-0.5	-0.22	-0.61	-0.00
22-17	-16.6	-7.0	-13.5	-0.46	-0.84	5.4	-0.46	-0.83	0.04
22-18	-13.4	-8.6	-13.5	-0.46	-0.69	-0.4	-0.46	-0.69	-0.00
22-19	-8.9	-5.3	-13.1	-0.33	-0.61	-10.1	-0.34	-0.60	-0.05
22-20	-2.8	-2.2	-14.2	-0.17	-0.56	-20.9	-0.22	-0.51	-0.13
45- 1	1.0	-3.2	5.5	0.30	-0.02	80.4	-0.01	0.29	0.05
45- 2	-5.2	0.0	14.2	0.44	-0.05	57.3	0.09	0.29	0.22
45- 3	-8.9	0.7	12.6	0.33	-0.17	48.0	0.05	0.10	0.25
45- 4	-10.9	6.4	24.8	0.71	-0.12	45.9	0.28	0.31	0.41
45- 5	-9.9	18.6	32.4	1.00	-0.03	35.4	0.65	0.31	0.49
45- 6	29.6	2.1	-7.3	0.95	0.00	49.0	0.41	0.54	0.47
45- 7	-3.9	2.8	25.7	0.86	0.08	59.3	0.28	0.65	0.34
45- 8	0.0	4.0	10.3	0.34	0.10	51.5	0.19	0.25	0.12
45- 9	1.9	2.3	4.1	0.16	0.10	62.4	0.11	0.15	0.03
45-10	3.3	0.3	-1.1	0.10	-0.01	-55.1	0.03	0.07	-0.05
45-11	1.2	-3.7	2.8	0.22	-0.05	86.1	-0.05	0.22	0.02
45-12	7.0	-3.5	3.4	0.43	0.02	-84.3	0.02	0.43	-0.04
45-13	11.3	-2.3	2.1	0.52	0.05	-76.4	0.08	0.49	-0.11
45-14	6.3	-8.8	-2.0	0.37	-0.18	-79.7	-0.16	0.35	-0.10
45-15	3.5	-4.9	-5.7	0.09	-0.19	-64.8	-0.18	0.04	-0.11
45-16	2.8	5.5*	-6.3	0.12	-0.27	86.8	-0.27	0.12	0.02
45-17	-3.4	-7.6	-1.3	0.02	-0.22	84.4	-0.22	0.02	0.02
45-18	0.2	-4.2	-2.4	0.03	-0.12	-78.9	-0.12	0.02	-0.03
45-19	6.0	-1.3	-5.6	0.15	-0.13	-52.5	-0.03	0.05	-0.13
45-20	8.2	0.6	-6.2	0.21	-0.12	-46.5	0.03	0.05	-0.17
67- 1	-4.8	-0.6	3.3	0.06	-0.13	43.9	-0.03	-0.04	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-6.8	-1.0	7.2	0.17	-0.16	49.7	-0.02	0.03	0.16
67- 3	-8.4	-0.3	11.8	0.31	-0.16	50.6	0.03	0.12	0.23
67- 4	-12.9	-3.2	13.9	0.34	-0.30	52.7	-0.06	0.11	0.31
67- 5	9.2	-7.7	-12.1	0.22	-0.35	59.8	-0.20	0.08	0.25
67- 6	-11.4	-12.2	4.3	0.12	-0.42	68.9	-0.35	0.05	0.18
67- 7	-12.6	-12.0	-1.3	-0.12	-0.47	66.0	-0.41	-0.18	0.13
67- 8	-10.9	-8.2	-4.9	-0.27	-0.41	47.5	-0.35	-0.33	0.07
67- 9	-8.8	-5.9	-6.4	-0.28	-0.38	17.4	-0.29	-0.37	0.03
67-10	-4.6	-2.1	-5.8	-0.15	-0.30	-5.6	-0.15	-0.30	-0.01
67-11	-1.8	-2.6	9.4	0.36	-0.03	69.4	0.02	0.31	0.13
67-12	1.1	-3.3	12.5	0.56	0.02	75.3	0.06	0.52	0.13
67-13	5.2	-6.1	0.1	0.32	-0.10	-81.9	-0.09	0.32	-0.06
67-14	14.6	-7.5	5.2	0.84	0.01	-82.4	0.02	0.83	-0.11
67-15	2.3	27.2	22.0	0.93	0.11	-73.4	0.17	0.87	-0.23
67-16	19.8	-5.2	6.8	1.02	0.12	-80.3	0.14	0.99	-0.15
67-17	13.2	-2.4	14.4	0.97	0.22	89.0	0.22	0.97	0.01
67-18	15.9	-0.7	9.9	0.87	0.23	-83.7	0.24	0.86	-0.07
67-19	16.9	0.5	6.4	0.78	0.22	-77.4	0.24	0.76	-0.12
67 20	15.5	1.2	3.2	0.63	0.16	-71.5	0.21	0.59	-0.14
90- 1	-0.9	-1.8	-4.0	-0.07	-0.14	-34.2	-0.09	-0.12	-0.04
90- 2	-1.7	-5.9	-5.0	-0.07	-0.21	-73.6	-0.20	-0.08	-0.04
90- 3	-1.4	-1.9	-6.2	-0.09	-0.23	-73.9	-0.22	-0.10	-0.04
90- 4	-4.6	-10.2	-7.0	-0.14	-0.35	-82.4	-0.35	-0.14	-0.03
90- 5	-7.4	-14.3	-9.0	-0.21	-0.49	-86.3	-0.49	-0.21	-0.02
90- 6	-12.1	-18.0	-12.9	-0.41	-0.66	-87.9	-0.66	-0.41	-0.01
90- 7	-13.6	-16.4	-13.6	-0.52	-0.65	-89.8	-0.65	-0.52	-0.00
90- 8	-13.1	-13.3	-13.7	-0.57	-0.58	-37.2	-0.57	-0.58	-0.01
90- 9	-12.6	-9.4	-11.4	-0.45	-0.58	6.1	-0.45	-0.58	0.01
90-10	-10.0	-4.5	-10.1	-0.30	-0.56	-0.2	-0.30	-0.56	-0.00
90-11	2.7	-2.5	5.2	0.32	0.02	84.8	0.02	0.32	0.03
90-12	7.9	-4.7	12.9	0.80	0.09	85.3	0.10	0.79	0.06
90-13	-5.2	12.9	31.8	1.00	0.14	89.6	0.14	1.00	0.01
90-14	16.0	-6.0	16.0	1.19	0.18	90.0	0.18	1.19	0.00
90-15	20.9	-5.9	17.9	1.42	0.25	-88.3	0.25	1.42	-0.03
90-16	20.5	-3.6	20.6	1.44	0.32	89.9	0.32	1.44	0.00
90-17	18.1	-0.9	21.4	1.32	0.37	87.7	0.37	1.32	0.04
90-18	17.1	0.2	19.0	1.18	0.36	88.5	0.36	1.18	0.02
90-19	14.8	1.3	16.5	1.00	0.34	88.3	0.34	1.00	0.02
90-20	12.9	0.4	13.5	0.86	0.27	89.3	0.27	0.86	0.01
180- 1	20.5	35.7	22.0	1.24	0.58	1.4	1.24	0.58	0.02
180- 2	17.8	28.5	16.9	1.00	0.49	-1.2	1.00	0.49	-0.01
180- 3	12.2	14.3	11.8	0.57	0.46	-2.6	0.57	0.46	-0.00
180- 4	10.7	10.5	9.8	0.45	0.43	-30.2	0.45	0.43	-0.01
180- 5	13.3	16.2	12.2	0.63	0.47	-4.5	0.63	0.47	-0.01
180- 6	14.2	9.9	14.3	0.71	0.51	-0.6	0.71	0.51	-0.00
180- 7	16.3	19.1	16.2	0.76	0.63	-0.3	0.76	0.63	-0.00
180- 8	15.2	15.5	15.3	0.66	0.65	3.1	0.66	0.65	0.00
180- 9	14.9	7.7	8.8	0.63	0.39	-71.8	0.41	0.60	-0.07
180-10	8.4	3.0	8.3	0.48	0.23	-89.5	0.23	0.48	-0.00
180-11	2.1	-0.6	2.7	0.17	0.03	86.9	0.03	0.17	0.01
180-12	0.4	-2.8	0.6	0.10	-0.05	89.2	-0.05	0.10	0.00
180-13	-1.0	-2.9	-1.2	-0.01	-0.09	-87.9	-0.09	-0.01	-0.00
180-14	-3.5	-3.3	-4.0	-0.15	-0.17	-13.9	-0.15	-0.17	-0.01
180-15	-13.3	-1.8	-8.1	-0.24	-0.67	8.1	-0.25	-0.66	0.06
180-16	-26.2	-30.4	-8.1	-0.37	-1.11	-2.2	-0.37	-1.10	-0.03
180-17	-15.0	-0.3	-18.1	-0.33	-1.09	-2.7	-0.33	-1.09	-0.04
180-18	-17.2	-11.2	-17.1	-0.60	-0.87	0.1	-0.60	-0.87	0.00
180-19	-14.7	-9.0	-14.4	-0.50	-0.75	0.8	-0.50	-0.75	0.00
180-20	-13.3	-8.2	-13.0	-0.45	-0.68	0.7	-0.45	-0.68	0.00
202- 1	-2.1	17.6	38.9	1.26	0.31	46.1	0.77	0.81	0.47
202- 2	-0.5	16.2	28.7	0.94	0.26	41.0	0.65	0.56	0.34
202- 3	-1.3	5.5	14.4	0.46	0.10	48.7	0.26	0.30	0.18
202- 4	-2.4	7.3	16.0	0.50	0.08	43.5	0.30	0.28	0.21
202- 5	-0.7	17.8	26.8	0.90	0.23	35.5	0.67	0.45	0.32
202- 6	29.3	10.1	2.3	1.02	0.34	43.6	0.69	0.66	0.34
202- 7	5.0	16.6	29.7	1.03	0.46	46.7	0.73	0.76	0.29

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	8.3	10.2	16.0	0.62	0.42	58.7	0.48	0.57	0.09
202- 9	11.0	8.2	10.0	0.50	0.39	-83.7	0.40	0.50	-0.01
202-10	7.8	0.7	7.2	0.48	0.16	-88.8	0.16	0.48	-0.01
202-11	4.3	2.9	0.9	0.15	0.07	-40.1	0.12	0.10	-0.04
202-12	5.8	1.9	-1.4	0.18	0.01	-46.9	0.09	0.10	-0.08
202-13	6.5	-0.8	-5.8	0.16	-0.13	-50.6	-0.01	0.04	-0.14
202-14	1.4	-5.5	-10.6	-0.06	-0.34	-49.4	-0.22	-0.18	-0.14
202-15	-6.1	-3.3	-8.8	-0.22	-0.42	-8.9	-0.22	-0.41	-0.03
202-16	-13.0	-17.6	-5.1	-0.17	-0.61	0.7	-0.17	-0.61	0.01
202-17	-16.7	-7.5	-10.9	-0.43	-0.75	12.3	-0.45	-0.74	0.07
202-18	-13.2	-8.4	-11.4	-0.44	-0.62	6.6	-0.44	-0.62	0.02
202-19	-8.1	-3.7	-10.9	-0.27	-0.55	-6.7	-0.27	-0.54	-0.03
202-20	-6.8	-3.5	-10.4	-0.24	-0.49	-9.7	-0.25	-0.48	-0.04
225- 1	-2.8	3.7	10.9	0.33	0.01	46.4	0.17	0.18	0.16
225- 2	-5.2	3.1	10.6	0.30	-0.07	43.4	0.12	0.10	0.18
225- 3	-7.4	2.6	12.3	0.33	-0.12	44.6	0.11	0.10	0.23
225- 4	-8.7	6.0	22.4	0.65	-0.07	46.7	0.27	0.31	0.36
225- 5	-7.8	22.5	33.1	1.06	0.02	32.1	0.77	0.31	0.47
225- 6	30.5	3.0	-6.3	0.99	0.05	46.9	0.49	0.55	0.47
225- 7	-4.2	6.4	27.5	0.89	0.11	54.2	0.38	0.62	0.37
225- 8	-0.1	3.4	10.0	0.34	0.09	53.7	0.18	0.25	0.12
225- 9	1.3	1.6	3.7	0.14	0.07	63.2	0.09	0.13	0.03
225-10	2.4	-0.3	-0.7	0.08	-0.01	-63.7	0.01	0.06	-0.04
225-11	0.7	1.8	2.5	0.09	0.05	37.8	0.07	0.06	0.02
225-12	4.7	0.9	3.0	0.24	0.09	-82.1	0.10	0.23	-0.02
225-13	7.9	0.7	1.7	0.33	0.09	-71.6	0.11	0.30	-0.07
225-14	4.0	-5.6	-1.8	0.21	-0.12	-78.2	-0.11	0.20	-0.07
225-15	-0.9	-4.6	-4.9	-0.06	-0.19	-65.4	-0.16	-0.08	-0.05
225-16	2.5	0.2	-8.0	0.02	-0.26	75.8	-0.24	0.00	0.07
225-17	-7.0	-5.8	0.5	-0.03	-0.24	62.3	-0.20	-0.08	0.09
225-18	-0.1	-3.3	-3.1	-0.01	-0.12	-69.9	-0.11	-0.03	-0.03
225-19	5.1	-0.8	-5.7	0.11	-0.14	-47.5	-0.02	-0.00	-0.12
225-20	6.5	0.1	-6.1	0.15	-0.14	-45.4	0.01	0.01	-0.15
247- 1	-6.1	1.1	4.9	0.11	-0.16	36.2	0.01	-0.07	0.13
247- 2	-8.4	0.2	9.0	0.21	-0.19	45.2	0.01	0.01	0.20
247- 3	-10.2	0.9	12.7	0.32	-0.21	45.9	0.05	0.06	0.26
247- 4	-13.2	1.7	17.1	0.43	-0.26	45.4	0.08	0.09	0.35
247- 5	11.2	-8.0	-11.3	0.32	-0.32	52.3	-0.08	0.08	0.31
247- 6	-11.2	-10.2	7.4	0.21	-0.37	65.8	-0.27	0.11	0.21
247- 7	-11.5	-10.1	-0.0	-0.08	-0.41	63.6	-0.35	-0.15	0.13
247- 8	-9.8	-7.5	-3.8	-0.22	-0.36	51.1	-0.31	-0.28	0.07
247- 9	-8.0	-5.8	-5.9	-0.26	-0.33	20.8	-0.27	-0.32	0.02
247-10	-4.6	-2.6	-7.2	-0.17	-0.34	-10.6	-0.18	-0.33	-0.03
247-11	-0.9	0.5	7.2	0.25	0.02	61.7	0.07	0.20	0.09
247-12	0.8	-0.3	9.5	0.38	0.06	70.6	0.10	0.35	0.10
247-13	2.2	-3.2	11.9	0.56	0.04	77.4	0.07	0.54	0.11
247-14	13.6	-1.1*	0.7	0.55	0.07	-71.0	0.12	0.50	-0.15
247-15	1.5	22.2	18.0	0.76	0.08	-73.2	0.13	0.71	-0.19
247-16	19.9	-2.3	2.1	0.84	0.10	-73.1	0.16	0.78	-0.21
247-17	12.6	-1.8	11.2	0.83	0.19	-88.5	0.19	0.83	-0.02
247-18	15.6	-0.5	7.5	0.79	0.20	-80.7	0.22	0.77	-0.09
247-19	16.9	0.9	4.1	0.72	0.18	-73.2	0.23	0.67	-0.15
247-20	14.2	1.2	2.7	0.58	0.15	-70.9	0.19	0.53	-0.13
270- 1	-5.0	-1.8	-0.6	-0.06	-0.18	32.9	-0.10	-0.14	0.05
270- 2	-5.4	-4.3	-0.8	-0.07	-0.19	58.5	-0.16	-0.11	0.05
270- 3	-1.1	-6.5	-7.1	-0.09	-0.26	65.7	-0.23	-0.12	0.07
270- 4	-8.4	-10.2	-3.5	-0.14	-0.37	74.9	-0.35	-0.16	0.06
270- 5	-10.7	-15.0	-7.4	-0.24	-0.53	82.3	-0.52	-0.25	0.04
270- 6	-13.0	-16.5	-10.3	-0.38	-0.62	82.4	-0.61	-0.39	0.03
270- 7	-13.9	-15.6	-12.4	-0.50	-0.62	81.3	-0.62	-0.51	0.02
270- 8	-13.0	-11.5	-12.3	-0.51	-0.57	7.6	-0.51	-0.57	0.01
270- 9	-11.8	-8.8	-11.6	-0.43	-0.57	0.9	-0.43	-0.57	0.00
270-10	-7.1	-3.2	-9.4	-0.23	-0.48	-6.4	-0.24	-0.47	-0.03
270-11	4.2	-2.0	2.8	0.28	0.02	-86.4	0.02	0.28	-0.02
270-12	9.0	-4.1	10.6	0.74	0.10	88.3	0.10	0.74	0.02
270-13	-3.9	6.5	30.1	0.98	0.14	-82.3	0.16	0.97	-0.11

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	17.8	-5.5	13.9	1.17	0.18	-87.3	0.19	1.17	- .35
270-15	19.5	-4.8	18.8	1.37	0.27	-89.6	0.27	1.37	-0.01
270-16	19.2	-2.4	19.9	1.34	0.33	89.6	0.33	1.34	0.01
270-17	18.8	-1.3	19.6	1.29	0.35	89.4	0.35	1.29	0.01
270-18	16.8	-0.3	16.4	1.10	0.32	-89.7	0.32	1.10	-0.00
270-19	15.6	0.6	15.0	0.99	0.32	-89.4	0.32	0.99	-0.01
270-20	13.2	1.3	13.7	0.86	0.30	89.3	0.30	0.86	0.01
0- 6	14.	12.1	16.2	0.75	0.59	84.9	0.59	0.75	0.01
11- 1	24.5	12.6	8.6	0.92	0.51	-58.2	0.62	0.80	-0.18
22- 6	31.4	12.9	2.1	1.07	0.37	-52.4	0.63	0.81	-0.34
33- 1	32.5	7.0	-3.1	1.08	0.18	-56.7	0.45	0.81	-0.41
45- 6	29.6	2.1	-7.3	0.95	0.00	-58.0	0.27	0.69	-0.43
56- 1	20.8	-3.3	-11.6	0.61	-0.22	-58.0	0.01	0.38	-0.37
67- 5	9.2	-7.7	-12.1	0.22	-0.35	-60.2	-0.21	0.08	-0.25
78- 1	1.5	-6.2	-11.2	-0.06	-0.36	-51.2	-0.24	-0.17	-0.15
90- 3	-1.4	-1.9	-6.2	-0.09	-0.23	-25.9	-0.12	-0.21	-0.06
0-16	-23.3	-39.8	-15.8	-0.36	-1.31	84.8	-1.31	-0.37	0.09
11-11	-22.1	-29.6	-8.9	-0.30	-1.02	77.5	-0.99	-0.34	0.15
22-16	-13.2	-17.3	-6.0	-0.22	-0.61	77.5	-0.59	-0.24	0.08
33-11	-4.5	-8.0	-6.1	-0.16	-0.29	-81.5	-0.29	-0.16	-0.02
45-16	2.8	5.5*	-6.3	0.12	-0.27	-16.2	0.09	-0.24	-0.11
56-11	5.2	18.2	6.4	0.53	-0.04	1.3	0.53	-0.04	0.01
67-15	2.3	27.2	22.0	0.93	0.11	16.6	0.87	0.17	0.23
78-11	-5.6	21.9	37.8	1.21	0.17	37.5	0.82	0.56	0.50
90-13	-5.2	12.9	31.8	1.00	0.14	45.6	0.56	0.58	0.43
180- 6	14.2	9.9	14.3	0.71	0.51	89.4	0.51	0.71	0.00
191- 1	23.7	10.9	7.9	0.89	0.46	-60.9	0.56	0.79	-0.18
202- 6	29.3	10.1	2.3	1.02	0.34	-56.4	0.54	0.81	-0.31
213- 1	3 .5	5.6	-2.7	1.06	0.17	-58.7	0.41	0.82	-0.39
225- 6	30.5	3.0	-6.3	0.99	0.05	-58.1	0.31	0.73	-0.42
236- 1	22.5	-1.8	-10.1	0.68	-0.15	-58.0	0.08	0.45	-0.38
247- 5	11.2	-8.0	-11.3	0.32	-0.32	-62.7	-0.19	0.18	-0.26
258- 1	2.7	-9.1	-11.4	0.01	-0.38	-62.0	-0.30	-0.08	-0.16
270- 3	-1.1	-6.5	-7.1	-0.09	-0.26	-68.3	-0.23	-0.12	-0.07
180-16	-26.2	-30.4	-8.1	-0.37	-1.11	72.8	-1.04	-0.43	0.21
191-11	-20.4	-25.1	-6.0	-0.24	-0.89	74.4	-0.84	-0.29	0.17
202-16	-13.0	-17.6	-5.1	-0.17	-0.61	77.7	-0.59	-0.19	0.09
213-11	-2.8	-8.3	-8.3	-0.15	-0.33	-67.9	-0.30	-0.17	-0.06
225-16	2.5	0.2	-8.0	0.02	-0.26	-30.2	-0.05	-0.19	-0.12
236-11	3.7	13.8	3.4	0.39	-0.08	-0.4	0.39	-0.08	-0.00
247-15	1.5	22.2	18.0	0.76	0.08	16.8	0.71	0.13	0.19
258-11	-4.4	19.8	34.1	1.10	0.18	37.8	0.75	0.52	0.44
270-13	-3.9	6.5	30.1	0.98	0.14	55.7	0.41	0.72	0.39
400-01	-16.3	-4.5	10.0	0.17	-0.44	-87.0	-0.44	0.17	-0.03
400-11	-3.6	-8.1	-11.4	-0.23	-0.41	85.3	-0.41	-0.23	0.01
401-01	64.8	41.5	13.7	1.24	-0.02	-0.6	1.24	-0.02	-0.01
401-02	1.2	-0.7					0.03	-0.01	
401-03	10.5	-43.1					-0.08	-1.32	
401-04	0.0	3.1					0.03	0.10	
402-01	6.2	17.0	5.7	0.51	0.00	-0.7	0.51	0.00	-0.01
402-02	0.2	0.1					0.01	0.01	
402-03	4.2	-16.7					-0.03	-0.51	
402-04	0.1	0.8					0.01	0.03	
403-01	-0.3	-0.6	-0.3	-0.01	-0.02	87.5	-0.02	-0.01	0.00
403-02	0.1	0.7					0.01	0.02	
403-03	-0.1	-0.5					-0.01	-0.02	
403-04	0.1	0.5					0.01	0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, OUT-OF-PLANE FORCE LOADING ON RUN, F23

NOMINAL LOAD = 1.564E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	10.1	-0.6	-8.8	0.25	-0.19	-49.0	-0.00	0.06	-0.22
0- 2	9.5	-0.1	-9.5	0.22	-0.22	-45.3	-0.00	0.00	-0.22
0- 3	5.3	-0.3	-5.7	0.12	-0.13	-45.4	-0.01	-0.01	-0.13
0- 4	4.7	-0.2	-4.9	0.11	-0.12	-45.3	-0.01	-0.00	-0.11
0- 5	5.1	-0.5	-5.6	0.11	-0.14	-46.4	-0.02	-0.00	-0.12
0- 6	-3.3	0.1	3.6	0.09	-0.07	-44.6	0.01	0.01	-0.08
0- 7	0.8	-0.2	-1.1	0.02	-0.03	-47.5	-0.01	-0.00	-0.02
0- 8	-1.3	-0.1	1.0	0.02	-0.03	45.3	-0.01	-0.00	0.03
0- 9	-2.4	-0.1	2.5	0.06	-0.06	47.1	-0.00	0.01	0.06
0-10	-2.4	-0.1	2.1	0.05	-0.06	43.9	-0.00	-0.01	0.05
0-11	-5.9	-0.5	5.5	0.12	-0.14	46.3	-0.02	-0.00	0.13
0-12	0.1	-0.5	8.4	0.33	0.04	69.5	0.07	0.29	0.10
0-13	-9.6	-0.3	9.6	0.22	-0.22	46.0	-0.01	0.01	0.22
0-14	-10.0	-0.6	10.3	0.24	-0.23	47.0	-0.01	0.02	0.23
0-15	-8.4	-0.1	8.9	0.21	-0.19	46.2	0.00	0.02	0.20
0-16	8.3	-1.5	-7.1	0.21	-0.16	37.1	0.08	-0.07	0.18
0-17	-2.5	-0.1	2.9	0.07	-0.06	47.6	0.00	0.01	0.06
0-18	-3.5	0.0	3.5	0.08	-0.08	45.1	0.00	0.00	0.08
0-19	-3.9	-0.1	3.8	0.09	-0.09	45.2	-0.00	-0.00	0.09
0-20	-3.1	0.1	3.1	0.07	-0.07	44.1	0.00	-0.00	0.07
22- 1	7.1	21.0	13.7	0.70	0.19	8.6	0.69	0.20	0.08
22- 2	10.3	24.1	12.8	0.79	0.20	2.9	0.78	0.20	0.03
22- 3	5.2	5.3	2.1	0.21	0.11	-22.2	0.19	0.12	-0.08
22- 4	5.7	6.2	2.3	0.24	0.11	-18.7	0.22	0.12	-0.08
22- 5	6.2	7.5	3.6	0.28	0.14	-13.7	0.27	0.15	-0.03
22- 6	5.1	3.6	5.0	0.25	0.18	4.8	0.25	0.18	0.01
22- 7	3.0	3.7	5.3	0.21	0.15	55.4	0.17	0.19	0.03
22- 8	1.7	0.6	4.4	0.20	0.07	75.9	0.07	0.19	0.03
22- 9	1.1	-0.7	3.1	0.16	0.02	80.3	0.02	0.16	0.02
22-10	0.2	-1.3	2.9	0.14	-0.01	77.5	0.00	0.14	0.03
22-11	2.7	9.9	3.6	0.29	-0.02	1.8	0.29	-0.02	0.01
22-12	0.1	9.3	3.5	0.25	-0.10	6.4	0.25	-0.10	0.04
22-13	0.1	7.3	0.0	0.17	-0.16	-0.2	0.17	-0.16	-0.00
22-14	-6.0	2.1	-0.9	-0.01	-0.29	12.4	-0.02	-0.28	0.06
22-15	-12.7	-2.2	0.7	-0.08	-0.43	30.4	-0.17	-0.38	0.15
22-16	-9.4	-17.1	-5.5	-0.09	-0.55	6.3	-0.10	-0.54	0.05
22-17	-8.1	-1.3	-6.3	-0.17	-0.44	4.5	-0.17	-0.44	0.02
22-18	-7.8	-1.2	-2.8	-0.12	-0.34	15.9	-0.13	-0.32	0.06
22-19	-6.6	-0.5	-1.8	-0.08	-0.28	16.8	-0.10	-0.26	0.06
22-20	-4.1	0.1	-2.1	-0.06	-0.21	8.5	-0.06	-0.21	0.02
45- 1	0.6	6.3	41.5	1.48	0.32	62.9	0.56	1.24	0.47
45- 2	-3.8	6.0	22.8	0.72	0.09	52.4	0.33	0.49	0.31
45- 3	-3.8	3.7	10.6	0.31	-0.02	43.7	0.15	0.14	0.17
45- 4	-3.0	7.8	16.2	0.50	0.06	41.3	0.31	0.25	0.22
45- 5	0.0	13.4	17.6	0.61	0.15	31.1	0.48	0.27	0.20
45- 6	17.0	4.8	0.8	0.59	0.17	48.6	0.36	0.41	0.21
45- 7	2.3	8.3	14.4	0.53	0.19	62.0	0.26	0.45	0.14
45- 8	3.8	2.0	5.5	0.26	0.14	81.1	0.14	0.26	0.02
45- 9	3.7	0.1	2.6	0.21	0.06	-84.8	0.06	0.21	-0.01
45-10	2.9	-0.9	0.6	0.14	0.01	-78.1	0.01	0.14	-0.03
45-11	14.6	8.3	-2.8	0.46	0.05	-50.2	0.22	0.29	-0.20
45-12	18.9	9.7	-3.0	0.60	0.08	-40.4	0.38	0.30	-0.25
45-13	16.3	6.5	-6.0	0.48	-0.04	-41.6	0.25	0.19	-0.26
45-14	5.0	-1.6	-8.3	0.08	-0.22	-44.6	-0.07	-0.07	-0.15
45-15	-7.9	-0.6	-5.0	-0.14	-0.41	6.9	-0.14	-0.41	0.03
45-16	-8.6	-14.8	-7.5	-0.19	-0.50	10.7	-0.20	-0.49	0.06
45-17	-9.8	-3.7	-5.7	-0.23	-0.44	13.3	-0.24	-0.43	0.05
45-18	-4.5	-1.8	-7.5	-0.16	-0.36	-9.7	-0.16	-0.35	-0.03
45-19	-2.7	-0.1	-5.8	-0.08	-0.28	-10.3	-0.08	-0.28	-0.04
45-20	-1.7	0.1**	-4.6	-0.05	-0.22	-12.3	-0.06	-0.21	-0.03
67- 1	-5.5	-0.6	18.5	0.60	-0.04	60.3	0.11	0.44	0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-5.3	-0.5	19.2	0.63	-0.03	60.8	0.13	0.47	0.28
67- 3	-5.5	1.9	21.0	0.67	-0.00	56.8	0.20	0.47	0.31
67- 4	-6.4	2.8	20.5	0.63	-0.02	53.7	0.20	0.40	0.31
67- 5	15.7	-0.7	-4.6	0.51	-0.04	59.2	0.11	0.37	0.24
67- 6	-2.7	-2.1	11.9	0.43	-0.03	66.4	0.04	0.35	0.17
67- 7	-1.2	-1.2	5.3	0.19	-0.02	67.3	0.01	0.16	0.08
67- 8	0.6	-0.2	1.2	0.07	0.01	82.6	0.01	0.07	0.01
67- 9	1.7	0.2	-0.5	0.05	-0.00	-55.4	0.02	0.04	-0.03
67-10	2.1	0.1	-1.6	0.05	-0.03	-47.6	0.01	0.02	-0.04
67-11	8.7	-2.9	0.7	0.40	0.00	-76.2	0.03	0.38	-0.09
67-12	6.2	-5.0	-0.3	0.33	-0.07	-78.9	-0.06	0.31	-0.08
67-13	3.2	-4.3	-0.4*	0.20	-0.08	-81.2	-0.07	0.19	-0.04
67-14	0.7	-3.0	-3.1	0.01	-0.11	-66.6	-0.09	-0.01	-0.04
67-15	1.3*	1.6	2.6	0.10	0.07	-31.2	0.09	0.08	-0.01
67-16	3.8	-3.0	-2.5	0.14	-0.08	-69.6	-0.06	0.11	-0.07
67-17	3.7	-1.7	-1.5	0.14	-0.04	-68.8	-0.02	0.11	-0.06
67-18	4.4	0.0	-2.7	0.12	-0.05	-51.5	0.02	0.05	-0.08
67-19	4.0	0.6	-3.1	0.10	-0.06	-44.3	0.02	0.02	-0.08
67-20	2.7	0.9	-2.5	0.07	-0.06	-36.5	0.02	-0.02	-0.06
90- 1	1.8	-4.9	6.1	0.38	-0.04	83.2	-0.04	0.37	0.05
90- 2	0.3	-5.7	5.3	0.33	-0.09	81.8	-0.08	0.32	0.06
90- 3	10.0	1.0	-5.7	0.28	-0.09	82.7	-0.09	0.27	0.05
90- 4	-2.1	-6.4	4.2	0.23	-0.14	78.5	-0.13	0.22	0.07
90- 5	-3.9	-6.7	1.8	0.10	-0.19	76.7	-0.18	0.08	0.06
90- 6	-5.2	-6.4	-0.3	-0.02	-0.22	73.0	-0.20	-0.03	0.06
90- 7	-4.6	-4.6	-1.6	-0.09	-0.18	67.1	-0.17	-0.10	0.03
90- 8	-3.4	-2.6	-2.3	-0.11	-0.14	34.6	-0.12	-0.13	0.01
90- 9	-2.3	-0.9	-1.9	-0.06	-0.12	5.1	-0.06	-0.12	0.00
90-10	-1.0	0.3	-1.7	-0.02	-0.10	-5.7	-0.02	-0.09	-0 01
90-11	2.8	-5.6	6.1	0.43	-0.05	85.3	-0.04	0.42	0.04
90-12	4.5	-5.8	9.5	0.60	-0.00	84.5	0.01	0.60	0.06
90-13	-6.0	8.0	21.6	0.65	0.02	88.7	0.02	0.65	0.01
90-14	8.5	1.5*	9.2	0.55	0.21	88.8	0.21	0.55	0.01
90-15	10.2	-4.4	8.6	0.72	0.08	-88.4	0.08	0.72	-0.02
90-16	9.2	-2.1	8.3	0.63	0.12	-88.8	0.12	0.63	-0.01
90-17	7.7	-0.2	6.9	0.49	0.14	-88.4	0.14	0.49	-0.01
90-18	6.7	0.6	4.6	0.36	0.12	-84.2	0.12	0.36	-0.02
90-19	5.1	0.9	2.7	0.24	0.09	-78.9	0.10	0.24	-0.03
90-20	4.0	0.8	1.6	0.17	0.06	-74.7	0.07	0.17	-0.03
180- 1	0.2	-0.1	0.0	0.01	-0.00	-80.8	-0.00	0.01	-0.00
180- 2	0.8	0.0	-0.6	0.02	-0.01	-46.6	0.00	0.00	-0.02
180- 3	0.9	-0.1	-0.9	0.02	-0.02	-46.8	-0.00	0.00	-0.02
180- 4	0.9	0.0	-0.8	0.02	-0.02	-46.4	0.00	0.00	-0.02
180- 5	1.1	0.0	-1.0	0.02	-0.02	-44.3	0.00	-0.00	-0.02
180- 6	-1.6	-0.0	1.6	0.04	-0.04	-45.0	-0.00	-0.00	-0.04
180- 7	2.1	0.1	-2.1	0.05	-0.05	-44.0	0.00	-0.00	-0.05
180- 8	2.1	-0.0	-2.2	0.05	-0.05	-45.0	-0.00	-0.00	-0.05
180- 9	1.7	-0.1	-1.8	0.04	-0.04	-46.0	-0.00	-0.00	-0.04
180-10	1.4	-0.1	-1.5	0.03	-0.03	-46.0	-0.00	-0.00	-0.03
180-11	-0.2	0.1	0.2	0.01	-0.00	36.0	0.00	-0.00	0.00
180-12	2.5	0.0	-2.5	0.06	-0.06	-44.8	0.00	-0.00	-0.06
180-13	3.6	-0.0	-3.6	0.08	-0.08	-45.0	-0.00	-0.00	-0.08
180-14	4.3	-0.0	-4.4	0.10	-0.10	-44.5	-0.00	-0.01	-0.10
180-15	4.2	1.4	-4.4	0.10	-0.11	-35.8	0.03	-0.04	-0.10
180-16	-4.1	2.6	4.0	0.11	-0.11	-46.7	-0.01	0.00	-0.11
180-17	2.9	-0.2	-3.2	0.06	-0.08	-45.9	-0.01	-0.00	-0.07
180-18	2.7	-0.2	-2.8	0.06	-0.07	-46.5	-0.01	0.00	-0.06
180-19	2.2	-0.1	-2.2	0.05	-0.05	-45.9	-0.00	0.00	-0.05
180-20	1.6	-0.1	-1.7	0.04	-0.04	-45.5	-0.00	-0.00	-0.04
202- 1	1.0	-13.6	-21.4	-0.17	-0.71	-53.4	-0.51	-0.36	-0.26
202- 2	0.0	-9.0	-12.1	-0.10	-0.41	-57.9	-0.33	-0.19	-0.14
202- 3	0.6	-2.8	-4.6	-0.02	-0.15	-53.6	-0.10	-0.07	-0.06
202- 4	0.4	-3.4	-4.2	-0.02	-0.14	-61.3	-0.12	-0.05	-0.05
202- 5	0.0	-5.3	-6.7	-0.05	-0.23	-60.4	-0.19	-0.10	-0.08
202- 6	-7.0	-2.0	0.3	-0.05	-0.23	-45.0	-0.14	-0.14	-0.09
202- 7	0.6	-1.1	-5.9	-0.03	-0.20	-32.1	-0.08	-0.15	-0.07

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES MAX	MIN	PSI	STRESS (KSI) RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	0.6	0.9	-2.6	0.01	-0.10	-20.0	-0.00	-0.09	-0.04
202- 9	0.7	1.6	-1.1	0.04	-0.06	-13.3	0.03	-0.05	-0.02
202-10	0.3	1.2	-0.7	0.03	-0.04	-10.5	0.02	-0.04	-0.01
202-11	-5.4	-4.5	0.3	-0.03	-0.19	62.1	-0.15	-0.06	0.07
202-12	-4.3	-0.1	-0.4	-0.03	-0.17	20.2	-0.05	-0.15	0.04
202-13	-3.9	-5.6	0.3	0.02	-0.18	75.5	-0.16	0.01	0.05
202-14	-0.1	-1.9	0.4	0.05	-0.04	86.5	-0.04	0.05	0.01
202-15	2.9	-0.2	-0.0	0.11	0.01	-69.6	0.02	0.10	-0.03
202-16	2.0	4.9	1.9	0.15	0.02	-77.3	0.02	0.14	-0.03
202-17	3.8	0.5	1.3	0.16	0.05	-74.6	0.06	0.16	-0.03
202-18	2.5	-0.2	0.4	0.11	0.02	-73.5	0.02	0.10	-0.02
202-19	1.5	-0.6	-0.0	0.07	-0.00	-75.4	0.00	0.06	-0.02
202-20	1.0	-0.5	-0.0	0.05	-0.00	-75.9	-0.00	0.04	-0.01
225- 1	4.3	-9.4	-36.3	-0.19	-1.18	-36.0	-0.53	-0.84	-0.47
225- 2	4.0	-3.9	-14.4	-0.01	-0.44	-41.0	-0.19	-0.25	-0.21
225- 3	4.9	-2.6	-9.8	0.07	-0.27	-45.5	-0.11	-0.10	-0.17
225- 4	4.3	-4.0	-12.8	0.01	-0.38	-44.2	-0.18	-0.19	-0.20
225- 5	3.5	-9.1	-14.7	-0.01	-0.47	-55.5	-0.32	-0.16	-0.21
225- 6	-12.5	-2.8	3.3	-0.01	-0.39	-36.4	-0.19	-0.25	-0.18
225- 7	1.0	0.4	-8.0	-0.01	-0.29	-24.6	-0.06	-0.24	-0.10
225- 8	-0.2	1.8	-0.8	0.03	-0.08	-3.7	0.03	-0.08	-0.01
225- 9	-0.2	1.9	1.2	0.06	-0.01	12.6	0.05	-0.01	0.02
225-10	-0.4	1.4	1.8	0.06	0.00	29.1	0.05	0.01	0.02
225-11	-10.3	-3.0	0.9	-0.07	-0.34	36.5	-0.16	-0.24	0.13
225-12	-15.2	-5.9	2.1	-0.08	-0.48	43.0	-0.27	-0.30	0.20
225-13	-14.1	-4.7	3.7	-0.02	-0.43	43.5	-0.21	-0.23	0.20
225-14	-7.3	-0.3	3.7	0.06	-0.21	37.4	-0.04	-0.11	0.13
225-15	-0.2	-0.1	2.1	0.08	0.00	66.3	0.02	0.06	0.03
225-16	1.7	1.3	1.0	0.07	0.05	57.0	0.06	0.06	0.01
225-17	-0.5	1.5	1.6	0.06	-0.01	24.1	0.05	0.00	0.02
225-18	-2.4	-0.2	1.4	0.02	-0.07	40.8	-0.02	-0.03	0.04
225-19	-3.0	-1.2	1.0	0.00	-0.09	48.0	-0.05	-0.04	0.05
225-20	-2.3	-1.0	0.5	-0.01	-0.07	47.5	-0.04	-0.04	0.03
247- 1	2.0	2.3	-12.9	0.01	-0.48	-21.8	-0.05	-0.42	-0.17
247- 2	2.7	2.2	-13.0	0.03	-0.47	-23.4	-0.05	-0.39	-0.18
247- 3	3.4	1.4	-12.4	0.04	-0.42	-26.6	-0.06	-0.33	-0.18
247- 4	5.0	1.1	-11.9	0.07	-0.37	-31.0	-0.04	-0.25	-0.19
247- 5	-9.3	-1.4	6.1	0.11	-0.25	-20.9	0.06	-0.20	-0.12
247- 6	1.2	6.1	-2.0	0.14	-0.17	-6.9	0.13	-0.17	-0.04
247- 7	1.7	5.0	2.1	0.15	0.01	1.9	0.15	0.01	0.00
247- 8	1.6	3.3	3.3	0.13	0.08	23.0	0.12	0.09	0.02
247- 9	1.2	1.9	3.3	0.12	0.07	54.1	0.09	0.10	0.02
247-10	0.5	0.4	2.8	0.11	0.03	68.7	0.04	0.10	0.03
247-11	-8.7	3.6	1.3	0.04	-0.36	17.1	0.01	-0.33	0.12
247-12	-7.3	4.1	-0.4	0.04	-0.37	11.7	0.02	-0.35	0.08
247-13	-6.1	4.0	-1.1	0.03	-0.34	9.1	0.02	-0.33	0.06
247-14	-9.9	-0.5	3.2	0.02	-0.31	33.3	-0.08	-0.21	0.15
247-15	2.5	-9.2	-12.3	-0.01	-0.41	29.8	-0.11	-0.31	0.17
247-16	-13.0	-0.6	1.5	-0.04	-0.45	27.4	-0.13	-0.37	0.17
247-17	-7.8	0.4	-3.7	-0.10	-0.40	9.2	-0.11	-0.39	0.05
247-18	-6.9	-0.6	-2.7	-0.10	-0.31	13.3	-0.11	-0.30	0.05
247-19	-5.7	-1.1	-1.8	-0.08	-0.24	17.8	-0.10	-0.22	0.04
247-20	-3.8	-1.2	-1.5	-0.07	-0.16	18.8	-0.08	-0.15	0.03
270- 1	-5.8	5.3	-2.0	0.05	-0.38	5.8	0.04	-0.38	0.04
270- 2	-4.9	5.0	-0.9	0.06	-0.31	7.2	0.06	-0.31	0.05
270- 3	-9.4	-6.1	5.1	0.10	-0.28	9.2	0.09	-0.27	0.06
270- 4	-3.9	6.4	1.9	0.14	-0.23	10.6	0.13	-0.22	0.07
270- 5	-1.9	6.7	4.2	0.20	-0.10	14.4	0.18	-0.08	0.07
270- 6	0.3	6.0	4.8	0.20	0.01	16.6	0.19	0.03	0.05
270- 7	1.7	4.4	4.4	0.17	0.09	22.1	0.16	0.10	0.03
270- 8	2.1	2.3	3.3	0.13	0.10	61.2	0.11	0.13	0.01
270- 9	2.0	1.0	2.4	0.12	0.07	84.6	0.07	0.12	0.01
270-10	1.3	-0.4	1.2	0.09	0.01	-89.7	0.01	0.09	-0.00
270-11	-5.5	5.9	-3.0	0.05	-0.42	3.6	0.05	-0.41	0.03
270-12	-6.8	5.5	-6.6	-0.00	-0.57	0.2	-0.00	-0.57	0.00
270-13	4.8	-2.1	-20.3	-0.02	-0.65	9.1	-0.03	-0.64	0.10

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-10.6	5.8	-6.8	-0.04	-0.71	3.8	-0.04	-0.71	0.04
270-15	-9.6	4.1	-8.9	-0.09	-0.70	0.8	-0.09	-0.70	0.01
270-16	-7.8	1.7	-9.1	-0.13	-0.60	-1.7	-0.13	-0.60	-0.01
270-17	-5.9	0.2	-8.8	-0.13	-0.48	-4.9	-0.14	-0.48	-0.03
270-18	-3.9	-0.5	-6.4	-0.11	-0.33	-7.5	-0.11	-0.33	-0.03
270-19	-2.4	-0.8	-5.2	-0.09	-0.24	-12.2	-0.09	-0.23	-0.03
270-20	-1.4	-1.0	-4.1	-0.07	-0.17	-18.6	-0.08	-0.16	-0.03
0- 6	-3.3	0.1	3.6	0.09	-0.07	45.4	0.01	0.01	0.08
11- 1	-0.4	1.2	5.0	0.17	0.03	56.4	0.07	0.12	0.06
22- 6	5.1	3.6	5.0	0.25	0.18	-88.2	0.18	0.25	-0.00
33- 1	11.7	5.0	3.4	0.43	0.21	-60.5	0.26	0.38	-0.10
45- 6	17.0	4.8	0.8	0.59	0.17	-58.4	0.29	0.48	-0.19
56- 1	19.1	3.1	-2.3	0.63	0.08	-58.2	0.24	0.48	-0.25
67- 5	15.7	-0.7	-4.6	0.51	-0.04	-60.8	0.09	0.38	-0.23
78- 1	11.9	-0.7	-6.6	0.34	-0.11	-54.8	0.04	0.19	-0.21
90- 3	10.0	1.0	-5.7	0.28	-0.09	-49.3	0.06	0.12	-0.18
0-16	8.3	-1.5	-7.1	0.21	-0.16	-52.9	-0.02	0.08	-0.18
11-11	-2.5	-13.5	-7.8	-0.02	-0.42	-81.2	-0.41	-0.03	-0.06
22-16	-9.4	-17.1	-5.5	-0.09	-0.55	84.3	-0.54	-0.10	0.05
33-11	-12.2	-16.1	-4.3	-0.15	-0.56	76.6	-0.54	-0.17	0.09
45-16	-8.6	-14.8	-7.5	-0.19	-0.50	87.7	-0.50	-0.19	0.01
56-11	-4.6	-7.1	-5.7	-0.17	-0.27	-81.9	-0.26	-0.18	-0.01
67-15	1.3*	1.6	2.6	0.10	0.07	58.8	0.08	0.09	0.01
78-11	-5.0	7.2	17.2	0.52	0.00	42.1	0.29	0.24	0.26
90-13	-6.0	8.0	21.6	0.65	0.02	44.7	0.34	0.33	0.32
180- 6	-1.6	-0.0	1.6	0.04	-0.04	45.0	-0.00	-0.00	0.04
191- 1	-3.9	-0.9	0.4	-0.02	-0.13	33.7	-0.05	-0.10	0.05
202- 6	-7.0	-2.0	0.3	-0.05	-0.23	35.0	-0.11	-0.17	0.08
213- 1	-10.3	-2.1	1.5	-0.04	-0.33	34.4	-0.14	-0.24	0.14
225- 6	-12.5	-2.8	3.3	-0.01	-0.39	38.6	-0.16	-0.24	0.18
236- 1	-12.0	-2.6	5.1	0.05	-0.35	42.2	-0.13	-0.17	0.20
247- 5	-9.3	-1.4	6.1	0.11	-0.25	44.1	-0.06	-0.08	0.18
258- 1	-7.6	-3.0	6.0	0.13	-0.20	54.2	-0.08	0.02	0.16
270- 3	-9.4	-6.1	5.1	0.10	-0.28	59.2	-0.18	-0.00	0.17
180-16	-4.1	2.6	4.0	0.11	-0.11	28.3	0.06	-0.06	0.09
191-11	-0.3	4.8	3.2	0.15	-0.02	13.7	0.14	-0.01	0.04
202-16	2.0	4.9	1.9	0.15	0.02	-0.3	0.15	0.02	-0.00
213-11	2.6	3.6	1.8	0.13	0.06	-7.4	0.13	0.06	-0.01
225-16	1.7	1.3	1.0	0.07	0.05	-49.0	0.06	0.06	-0.01
236-11	1.8	-4.6	-4.8	0.04	-0.17	-66.2	-0.14	0.00	-0.08
247-15	2.5	-9.2	-12.3	-0.01	-0.41	-60.2	-0.31	-0.11	-0.17
258-11	5.0	-8.7	-21.4	-0.05	-0.66	-46.1	-0.36	-0.34	-0.30
270-13	4.8	-2.1	-20.3	-0.02	-0.65	-32.9	-0.20	-0.46	-0.29
400-01	-0.1	1.7	0.2	0.04	-0.04	48.1	-0.00	0.01	0.04
400-11	0.2	2.1	0.1	0.05	-0.04	-45.8	0.00	0.01	-0.05
401-01	2.0	-0.8	-2.5	0.04	-0.06	-51.4	-0.02	0.00	-0.05
401-02	10.9	-42.0					-0.06	-1.28	
401-03	0.8	-2.9					-0.00	-0.09	
401-04	-11.1	39.5					0.02	1.19	
402-01	2.6	0.4	-2.5	0.06	-0.06	-41.7	0.01	-0.00	-0.06
402-02	4.3	-16.6					-0.02	-0.50	
402-03	0.1	-0.4					0.00	-0.01	
402-04	-4.4	15.8					0.01	0.48	
403-01	-0.1	0.0	0.1	0.00	-0.00	37.0	-0.00	-0.00	0.00
403-02	-0.1	-0.0					-0.00	-0.00	
403-03	0.0	0.0					0.00	0.00	
403-04	-0.0	0.0					-0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, OUT-OF-PLANE MOMENT LOADING ON BRANCH, M3X

NOMINAL LOAD = 1.022E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	35.0	1.6	-25.2	0.91	-0.49	-48.1	0.13	0.29	-0.69
0- 2	31.4	4.2*	-24.4	0.79	-0.49	-44.3	0.17	0.13	-0.64
0- 3	18.2	1.7	-16.6	0.46	-0.37	-43.5	0.06	0.01	-0.40
0- 4	16.5	1.1	-14.3	0.40	-0.31	-45.1	0.05	0.05	-0.36
0- 5	17.8	2.6	-14.7	0.44	-0.31	-43.1	0.09	0.04	-0.37
0- 6	-7.0	1.8	12.6	0.35	-0.11	-41.8	0.15	0.10	-0.23
0- 7	5.0	4.9	1.9	0.20	0.10	-22.8	0.18	0.11	-0.03
0- 8	-1.1	5.5	7.5	0.25	0.02	31.0	0.19	0.08	0.10
0- 9	-4.1	3.9	11.1	0.32	-0.03	43.4	0.16	0.14	0.18
0-10	-5.1	3.0	7.7	0.21	-0.10	37.5	0.10	0.02	0.15
0-11	-10.1	-0.7	9.1	0.20	-0.24	45.6	-0.03	-0.02	0.22
0-12	-0.1	-0.7	7.1	0.28	0.02	69.8	0.05	0.25	0.08
0-13	-6.5	-0.4	5.0	0.10	-0.16	43.2	-0.02	-0.04	0.13
0-14	-5.0	-0.4	3.0	0.05	-0.14	40.9	-0.03	-0.06	0.09
0-15	2.5	-0.0	-5.9	0.03	-0.18	-34.3	-0.03	-0.11	-0.10
0-16	-8.5	1.9	8.5	0.20	-0.20	-51.3	-0.04	0.04	-0.20
0-17	11.6	0.4	-14.7	0.24	-0.37	-40.7	-0.02	-0.11	-0.30
0-18	6.7	-1.1	-9.0	0.13	-0.23	-44.6	-0.05	-0.05	-0.18
0-19	-1.4	-0.5	-0.5	-0.03	-0.06	22.3	-0.03	-0.05	0.01
0-20	-2.8	0.8	2.4	0.06	-0.07	34.2	0.01	-0.03	0.06
22- 1	23.6	14.6	-10.6	0.71	-0.16	-32.4	0.46	0.09	-0.39
22- 2	32.1	21.0	-12.2	1.00	-0.15	-31.7	0.68	0.17	-0.51
22- 3	27.1	7.1	-6.6	0.84	0.04	-50.3	0.37	0.51	-0.39
22- 4	30.6	10.8	-6.9	0.94	0.07	-46.6	0.48	0.53	-0.43
22- 5	30.7	17.1	-1.2	1.00	0.26	-40.8	0.68	0.58	-0.37
22- 6	7.0	9.7	27.1	1.02	0.44	-23.9	0.92	0.54	-0.21
22- 7	17.2	24.5	14.8	0.88	0.49	-4.0	0.88	0.49	-0.03
22- 8	10.8	19.0	19.1	0.77	0.51	22.9	0.73	0.55	0.10
22- 9	8.9	17.0	16.0	0.67	0.40	19.0	0.64	0.43	0.08
22-10	5.0	10.5	13.4	0.50	0.29	36.4	0.43	0.37	0.10
22-11	-20.7	6.8	-3.0	-0.03	-0.98	12.8	-0.08	-0.94	0.21
22-12	-15.3	0.9	-10.9	-0.23	-0.89	4.4	-0.24	-0.89	0.05
22-13	0.1	-2.5	-0.1	0.06	-0.06	-89.2	-0.06	0.06	-0.00
22-14	-13.2	-4.7	-26.8	-0.47	-1.24	-12.0	-0.50	-1.21	-0.16
22-15	-25.6	1.3	-15.5	-0.36	-1.40	6.5	-0.37	-1.38	0.12
22-16	-39.2	-38.0	-3.1	-0.34	-1.48	-11.5	-0.38	-1.43	-0.22
22-17	-9.1	-13.8	-21.7	-0.51	-0.81	-37.8	-0.62	-0.70	-0.14
22-18	-11.3	-5.4	-7.4	-0.30	-0.50	13.3	-0.31	-0.49	0.05
22-19	-9.0	1.0	-2.9	-0.08	-0.43	11.9	-0.09	-0.41	0.07
22-20	-3.5	7.5	-0.4	0.14	-0.30	4.6	0.14	-0.30	0.04
45- 1	-16.3	17.9	14.6	0.52	-0.60	19.7	0.40	-0.47	0.36
45- 2	-0.4	19.6	8.5	0.55	-0.20	8.0	0.53	-0.19	0.10
45- 3	13.1	14.6	1.4	0.53	0.09	-19.3	0.48	0.14	-0.14
45- 4	19.7	21.9	8.0	0.82	0.36	-17.9	0.78	0.41	-0.14
45- 5	38.7	44.2	14.8	1.63	0.66	-17.3	1.55	0.75	-0.28
45- 6	20.6	13.3	39.9	1.75	0.85	2.2	1.75	0.85	0.03
45- 7	21.9	49.2	42.7	1.84	0.93	15.7	1.78	0.99	0.24
45- 8	23.3	35.6	24.0	1.29	0.78	0.8	1.29	0.78	0.01
45- 9	20.0	28.5	18.9	1.04	0.62	-1.8	1.04	0.62	-0.01
45-10	14.3	20.4	12.5	0.74	0.41	-3.8	0.74	0.41	-0.02
45-11	1.1	20.2	5.4	0.53	-0.25	3.6	0.53	-0.25	0.05
45-12	0.3	14.8	-3.7	0.31	-0.45	-3.4	0.31	-0.45	-0.05
45-13	0.1	3.8	-17.1	-0.02	-0.71	-17.4	-0.08	-0.65	-0.20
45-14	-5.5	-12.0	-36.3	-0.48	-1.30	-30.1	-0.69	-1.10	-0.36
45-15	-25.2	-1.2	-23.7	-0.51	-1.58	0.9	-0.51	-1.58	0.02
45-16	-30.1	-36.8	-15.2	-0.60	-1.34	-0.9	-0.60	-1.34	-0.01
45-17	-25.8	-15.3	-15.3	-0.71	-1.05	22.4	-0.76	-1.00	0.12
45-18	-15.2	-3.8	-10.3	-0.33	-0.76	7.5	-0.34	-0.75	0.06
45-19	-5.2	7.7	-4.6	0.08	-0.50	0.7	0.08	-0.50	0.01
45-20	0.8	17.0	0.2	0.40	-0.36	-0.6	0.40	-0.36	-0.01
67- 1	-13.5	7.7	9.1	0.25	-0.44	24.4	0.13	-0.32	0.26

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-8.6	13.2	12.3	0.43	-0.28	21.3	0.34	-0.18	0.24
67- 3	-1.2	21.6	18.8	0.75	0.00	19.0	0.67	0.08	0.23
67- 4	11.1	42.8	30.8	1.45	0.35	12.2	1.40	0.39	0.23
67- 5	11.1	-1.2	34.9	1.61	0.36	16.9	1.50	0.47	0.35
67- 6	6.9	50.2	47.8	1.88	0.47	20.9	1.70	0.65	0.47
67- 7	16.4	49.9	37.6	1.74	0.58	12.5	1.69	0.63	0.24
67- 8	19.0	41.6	23.4	1.38	0.44	3.1	1.38	0.44	0.05
67- 9	21.2	38.8	16.8	1.28	0.35	-3.2	1.27	0.36	-0.05
67-10	14.1	28.6	12.9	0.93	0.23	-1.1	0.93	0.23	-0.01
67-11	4.5	22.3	12.1	0.69	0.02	7.6	0.68	0.03	0.09
67-12	1.3	10.2	-0.7	0.24	-0.22	-2.8	0.24	-0.22	-0.02
67-13	-5.1	-1.4	-1.1*	-0.07	-0.19	24.9	-0.09	-0.17	0.05
67-14	-17.3	-8.5	-6.6	-0.30	-0.73	17.8	-0.34	-0.69	0.12
67-15	23.0*	-15.1	-18.7	0.72	-0.53	25.2	0.49	-0.31	0.48
67-16	-14.4	-6.9	-4.8	-0.29	-0.54	30.1	-0.35	-0.48	0.11
67-17	-4.0	0.6	-3.7	-0.06	-0.27	1.1	-0.06	-0.27	0.00
67-18	4.5	10.3	-0.5	0.29	-0.12	-8.5	0.28	-0.11	-0.06
67-19	9.3	16.8	0.5	0.50	-0.08	-10.1	0.48	-0.06	-0.10
67-20	11.3	24.4	6.6	0.74	0.02	-4.4	0.74	0.03	-0.05
90- 1	-12.3	1.7	4.6	0.07	-0.40	28.5	-0.04	-0.29	0.20
90- 2	-9.1	12.0	13.2	0.43	-0.26	24.1	0.32	-0.14	0.26
90- 3	-6.6	-9.9	12.0	0.48	-0.25	23.8	0.36	-0.13	0.27
90- 4	-4.8	23.3	17.7	0.74	-0.19	16.8	0.67	-0.11	0.26
90- 5	0.7	33.4	21.0	1.04	-0.11	12.1	0.99	-0.06	0.23
90- 6	8.0	42.4	25.9	1.35	0.10	9.7	1.31	0.14	0.21
90- 7	10.2	40.6	20.7	1.25	0.07	5.9	1.24	0.08	0.12
90- 8	10.9	38.0	16.0	1.15	0.01	3.0	1.14	0.01	0.06
90- 9	12.3	36.1	13.9	1.09	0.03	1.0	1.09	0.03	0.02
90-10	9.2	30.2	10.0	0.89	-0.06	0.5	0.89	-0.05	0.01
90-11	5.6	19.9	13.8	0.67	0.16	10.9	0.65	0.18	0.09
90-12	1.8	10.4	10.5	0.40	0.12	2. 0	0.36	0.17	0.10
90-13	8.5	11.1	4.6	0.39	0.17	32.	0.33	0.23	0.10
90-14	1.1	15.7*	9.3	0.48	-0.04	10.6	0.47	-0.02	0.09
90-15	3.4	0.9	9.0	0.40	0.13	76.0	0.14	0.39	0.06
90-16	7.5	1.7	9.4	0.52	0.20	85.9	0.21	0.52	0.02
90-17	12.5	8.3	10.5	0.57	0.41	-81.1	0.42	0.57	-0.02
90-18	16.2	15.7	10.6	0.66	0.49	-25.2	0.63	0.52	-0.06
90-19	16.9	20.2	9.3	0.75	0.38	-14.1	0.72	0.40	-0.09
90-20	17.8	27.3	11.0	0.92	0.31	-7.4	0.91	0.32	-0.08
180- 1	1.6	-1.1	-3.2	0.02	-0.09	-48.0	-0.04	-0.03	-0.06
180- 2	3.9	-0.6	-5.2	0.08	-0.13	-45.1	-0.03	-0.03	-0.11
180- 3	3.8	-0.3	-5.1	0.07	-0.13	-42.6	-0.02	-0.04	-0.10
180- 4	3.5	-0.6	-5.2	0.07	-0.14	-43.6	-0.03	-0.04	-0.10
180- 5	6.0	-1.4	-8.2	0.12	-0.21	-46.0	-0.05	-0.04	-0.16
180- 6	-12.2	-0.8	8.4	0.16	-0.32	-48.2	-0.11	-0.06	-0.24
180- 7	10.8	-3.2	-15.1	0.21	-0.39	-47.2	-0.12	-0.07	-0.30
180- 8	10.2	-3.5	-14.4	0.20	-0.38	-48.4	-0.12	-0.06	-0.28
180- 9	7.4	-2.6	-10.3	0.14	-0.27	-48.7	-0.09	-0.04	-0.20
180-10	5.4	-1.9	-7.1	0.11	-0.18	-49.6	-0.06	-0.01	-0.14
180-11	-5.2	-0.1	5.9	0.14	-0.11	47.2	0.01	0.03	0.13
180-12	-4.6	-0.4	5.7	0.14	-0.10	49.9	0.00	0.04	0.12
180-13	-4.9	-0.4	6.0	0.15	-0.10	49.8	0.00	0.04	0.13
180-14	-5.5	-0.3	6.7	0.17	-0.12	49.0	0.01	0.05	0.14
180-15	-9.4	-2.3	9.0	0.21	-0.23	51.4	-0.06	0.04	0.21
180-16	10.6	-6.8	-9.9	0.31	-0.27	42.4	0.04	-0.01	0.29
180-17	-12.2	1.9	12.1	0.28	-0.29	40.5	0.04	-0.05	0.28
180-18	-9.1	1.2	8.7	0.20	-0.22	40.5	0.02	-0.04	0.20
180-19	-5.0	-0.4	3.7	0.07	-0.13	42.9	-0.02	-0.04	0.10
180-20	-4.4	-1.8	2.0	0.02	-0.13	49.8	-0.06	-0.04	0.07
202- 1	-6.1	-4.6	-6.3	-0.23	-0.30	-2.1	-0.23	-0.30	-0.00
202- 2	-7.1	-4.0	-5.5	-0.21	-0.33	9.7	-0.22	-0.32	0.02
202- 3	-9.4	-1.4	-1.9	-0.11	-0.3[illegible]	20.8	-0.14	-0.34	0.09
202- 4	-9.7	-3.3	-2.4	-0.15	-0.3[illegible]	26.6	-0.20	-0.32	0.08
202- 5	-8.6	-9.6	-8.3	-0.33	-0.39	86.1	-0.39	-0.33	0.00
202- 6	-13.4	-5.5	-8.1	-0.32	-0.59	-66.6	-0.55	-0.37	-0.10
202- 7	-2.6	-14.0	-19.0	-0.26	-0.67	-55.5	-0.54	-0.39	-0.19

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	0.2	-9.6	-12.8	-0.10	-0.44	-58.6	-0.35	-0.19	-0.15
202- 9	0.4	-10.2	-10.3	-0.04	-0.38	-67.3	-0.33	-0.09	-0.12
202-10	1.3	-6.5	-5.5	0.04	-0.22	-71.2	-0.19	0.01	-0.08
202-11	3.2	2.5	15.7	0.62	0.19	69.0	0.25	0.57	0.14
202-12	0.6	-0.8	17.0	0.67	0.09	69.8	0.15	0.60	0.19
202-13	-2.8	1.1	20.9	0.72	0.06	61.9	0.20	0.57	0.27
202-14	-2.6	0.6	21.9	0.76	0.06	63.2	0.21	0.62	0.28
202-15	-2.7	-0.7	18.6	0.66	0.02	64.6	0.14	0.54	0.25
202-16	17.2	4.2	-5.1	0.52	-0.00	53.4	0.18	0.33	0.25
202-17	-3.6	9.5	6.8	0.29	-0.15	16.8	0.25	-0.11	0.12
202-18	-6.3	1.2	1.3	0.02	-0.23	23.1	-0.02	-0.19	0.09
202-19	-8.1	-4.7	-1.8	-0.14	-0.29	42.4	-0.21	-0.22	0.07
202-20	-9.2	-8.0	-4.0	-0.21	-0.35	59.2	-0.32	-0.25	0.06
225- 1	1.1	-1.8	-0.3	0.07	-0.04	-81.1	-0.03	0.07	-0.02
225- 2	-2 .	-4.8	-0.5	0.01	-0.15	80.8	-0.14	0.01	0.02
225- 3	-8.3	-5.4	0.4	-0.07	-0.28	53.8	-0.20	-0.14	0.10
225- 4	-12.3	-9.7	-1.7	-0.16	-0.44	58.2	-0.36	-0.24	0.12
225- 5	-24.5	-22.6	-4.7	-0.33	-0.92	64.4	-0.81	-0.44	0.23
225- 6	-5.4	-5.6	-4.0	-0.33	-0.93	82.3	-0.92	-0.34	0.08
225- 7	-13.6	-29.9	-17.7	-0.34	-1.00	-85.9	-1.00	-0.34	-0.05
225- 8	-9.9	-20.0	-7.5	-0.11	-0.63	87.0	-0.63	-0.11	0.03
225- 9	-8.0	-18.2	-4.9	-0.00	-0.55	86.2	-0.55	-0.01	0.04
225-10	-3.5	-15.3	-2.4	0.16	-0.41	88.7	-0.41	0.16	0.01
225-11	-0.8	-4.8	-3.6	-0.03	-0.16	-75.7	-0.15	-0.03	-0.03
225-12	-1.1	-2.4	2.9	0.13	-0.05	74.3	-0.04	0.11	0.05
225-13	-3.4	0.2	12.7	0.41	-0.01	59.3	0.10	0.30	0.19
225-14	-5.1	4.5	23.4	0.74	0.05	53.9	0.29	0.50	0.33
225-15	3.9	-4.3	13.1	0.68	0.05	80.1	0.07	0.66	0.11
225-16	12.7	1.1	-4.7	0.38	-0.04	51.9	0.12	0.22	0.21
225-17	-2.2	7.6	1.1	0.17	-0.22	5.8	0.17	-0.21	0.04
225-18	-7.8	-2.1	-5.9	-0.18	-0.40	5.5	-0.18	-0.40	0.02
225-19	-12.0	-10.1	-8.4	-0.39	-0.48	44.3	-0.44	-0.44	0.04
225-20	-13.3	-17.8	-11.0	-0.39	-0.65	84.3	-0.65	-0.39	0.03
247- 1	2.1	2.5	6.5	0.25	0.12	64.3	0.14	0.22	0.05
247- 2	-2.7	-2.4	5.9	0.20	-0.07	66.3	-0.02	0.16	0.10
247- 3	-9.2	-8.5	4.8	0.12	-0.31	65.9	-0.24	0.05	0.16
247- 4	-20.5	-20.8	2.9	0.01	-0.76	67.8	-0.65	-0.10	0.27
247- 5	-6.7	-6.7	-30.9	-0.01	-0.94	76.2	-0.89	-0.06	0.22
247- 6	-13.7	-35.5	-11.4	-0.01	-1.07	88.6	-1.07	-0.01	0.03
247- 7	-15.3	-34.7	-9.7	-0.02	-1.05	86.4	-1.05	-0.03	0.07
247- 8	-13.9	-30.8	-6.0	0.06	-0.92	84.7	-0.91	0.05	0.09
247- 9	-11.8	-30.0	-6.0	0.11	-0.87	86.1	-0.87	0.11	0.07
247-10	-9.6	-25.3	-5.3	0.10	-0.74	86.6	-0.73	0.09	0.05
247-11	-5.7	-14.0	-6.9	-0.09	-0.45	-87.7	-0.45	-0.09	-0.01
247-12	-7.7	-7.8	1.3	0.01	-0.29	67.7	-0.24	-0.03	0.10
247-13	-6.8	1.5	9.4	0.24	-0.13	44.3	0.06	0.05	0.19
247-14	-8.5	0.8	5.3	0.10	-0.24	35.4	-0.01	-0.12	0.16
247-15	4.5	-5.8	-11.3	0.05	-0.34	36.4	-0.09	-0.20	0.18
247-16	-12.3	-0.1	1.9	-0.02	-0.43	27.2	-0.11	-0.34	0.16
247-17	-8.8	-3.0	-10.5	-0.26	-0.57	-3.8	-0.26	-0.57	-0.02
247-18	-12.3	-11.6	-14.0	-0.52	-0.61	-13.5	-0.53	-0.60	-0.02
247-19	-13.1	-17.2	-15.0	-0.53	-0.68	-81.5	-0.68	-0.53	-0.02
247-20	-15.7	-25.0	-16.1	-0.47	-0.89	-89.4	-0.89	-0.47	-0.00
270- 1	-7.7	-1.5	14.9	0.44	-0.13	57.2	0.04	0.27	0.26
270- 2	-13.8	-10.4	10.5	0.28	-0.42	62.9	-0.27	0.13	0.28
270- 3	9.9	-16.3	-18.2	0.25	-0.61	64.6	-0.45	0.09	0.33
270- 4	-22.0	-25.3	6.0	0.17	-0.86	70.5	-0.74	0.05	0.32
270- 5	-25.4	-37.2	-1.9	0.02	-1.19	76.7	-1.13	-0.04	0.27
270- 6	-26.0	-41.8	-6.6	-0.07	-1.33	79.5	-1.29	-0.11	0.22
270- 7	-22.5	-42.0	-10.8	-0.11	-1.31	83.5	-1.30	-0.13	0.13
270- 8	-16.6	-35.9	-10.8	-0.07	-1.10	86.2	-1.10	-0.08	0.07
270- 9	-14.6	-34.2	-11.8	-0.08	-1.05	88.1	-1.05	-0.08	0.03
270-10	-9.2	-29.1	-8.1	0.10	-0.84	89.2	-0.84	0.10	0.01
270-11	-12.0	-20.9	-7.1	-0.14	-0.68	83.8	-0.67	-0.15	0.06
270-12	-6.3	-7.3	-0.5	-0.03	-0.26	71.8	-0.24	-0.06	0.07
270-13	-7.8	-2.4	0.7	-0.05	-0.25	79.8	-0.25	-0.06	0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-4.9	-4.9	-1.6	-0.09	-0.19	67.6	-0.18	-0.10	0.04
270-15	-4.0	-0.7	-3.6	-0.09	-0.23	1.7	-0.09	-0.23	0.00
270-16	-4.0	-1.9	-7.8	-0.15	-0.35	-12.8	-0.16	-0.34	-0.04
270-17	-6.2	-8.5	-12.8	-0.33	-0.49	-36.5	-0.38	-0.43	-0.08
270-18	-7.7	-16.2	-14.6	-0.34	-0.62	-72.7	-0.59	-0.36	-0.08
270-19	-7.2	-20.4	-15.4	-0.26	-0.71	-77.8	-0.69	-0.28	-0.09
270-20	-10.8	-31.2	-18.7	-0.24	-1.02	-83.2	-1.01	-0.25	-0.09
0- 6	-7.0	1.8	12.6	0.35	-0.11	48.2	0.10	0.15	0.23
11- 1	-0.2	4.5	18.7	0.64	0.15	58.2	0.29	0.50	0.22
22- 6	7.0	9.7	27.1	1.02	0.44	63.1	0.56	0.90	0.23
33- 1	14.3	14.4	36.1	1.43	0.73	67.3	0.83	1.33	0.25
45- 6	20.6	13.3	39.9	1.75	0.85	75.2	0.91	1.69	0.22
56- 1	22.3	6.0	41.0	1.99	0.73	80.0	0.77	1.95	0.22
67- 5	11.1	-1.2	34.9	1.61	0.36	76.9	0.43	1.55	0.27
78- 1	2.2	-8.7	23.3	1.10	-0.01	76.9	0.05	1.04	0.24
90- 3	-6.6	-9.9	12.0	0.48	-0.25	71.8	-0.18	0.41	0.21
0-16	-8.5	1.9	8.5	0.20	-0.20	38.7	0.04	-0.04	0.20
11-11	-31.6	-28.7	-0.2	-0.22	-1.15	64.6	-0.98	-0.39	0.36
22-16	-39.2	-38.0	-3.1	-0.34	-1.48	66.5	-1.29	-0.52	0.42
33-11	-39.2	-36.5	-3.6	-0.38	-1.46	65.1	-1.27	-0.57	0.41
45-16	-30.1	-36.8	-15.2	-0.60	-1.34	76.1	-1.30	-0.64	0.17
56-11	-14.4	-28.1	-24.6	-0.61	-1.07	-74.7	-1.03	-0.64	-0.12
67-15	23.0*	-15.1	-18.7	0.72	-0.53	-64.8	-0.31	0.49	-0.48
78-11	2.7	2.8	-1.8	0.10	-0.05	-21.7	0.07	-0.03	-0.05
90-13	8.5	11.1	4.6	0.39	0.17	-11.4	0.39	0.17	-0.04
180- 6	-12.2	-0.8	8.4	0.16	-0.32	41.8	-0.06	-0.11	0.24
191- 1	-15.3	-3.1	1.5	-0.08	-0.51	32.9	-0.21	-0.38	0.19
202- 6	-13.4	-5.5	-8.1	-0.32	-0.59	13.4	-0.34	-0.58	0.06
213- 1	-9.2	-6.2	-17.8	-0.38	-0.78	-15.3	-0.41	-0.75	-0.10
225- 6	-5.4	-5.6	-24.0	-0.33	-0.93	-22.7	-0.42	-0.84	-0.21
236- 1	1.7	-4.0	-29.6	-0.17	-1.02	-28.9	-0.37	-0.82	-0.36
247- 5	8.7	-6.7	-30.9	-0.01	-0.94	-38.8	-0.37	-0.58	-0.46
258- 1	12.2	-11.0	-27.4	0.18	-0.79	-49.9	-0.40	-0.25	-0.46
270- 3	9.9	-16.3	-18.2	0.25	-0.61	-65.4	-0.46	0.10	-0.32
180-16	10.6	-6.8	-9.9	0.31	-0.27	-62.6	-0.15	0.18	-0.24
191-11	17.0	2.2	-7.1	0.50	-0.07	-51.4	0.15	0.28	-0.28
202-16	17.2	4.2	-5.1	0.52	-0.00	-49.6	0.22	0.30	-0.26
213-11	14.0	2.6	-4.3	0.43	-0.01	-52.0	0.16	0.26	-0.21
225-16	12.7	1.1	-4.7	0.38	-0.04	-54.1	0.10	0.24	-0.20
236-11	8.2	-3.3	-7.9	0.21	-0.20	-56.7	-0.07	0.09	-0.19
247-15	4.5	-5.8	-11.3	0.05	-0.34	-53.6	-0.20	-0.09	-0.18
258-11	-0.9	-2.9	-10.1	-0.11	-0.36	-30.6	-0.18	-0.29	-0.11
270-13	-7.8	-2.4	0.7	-0.05	-0.25	37.8	-0.13	-0.18	0.10
400-01	-0.1	-4.5	0.6	0.12	-0.10	-47.1	0.00	0.02	-0.11
400-11	-0.5	-3.0	-0.1	0.05	-0.08	42.7	-0.01	-0.02	0.06
401-01	21.8	2.6	-20.6	0.52	-0.47	-42.3	0.07	-0.02	-0.49
401-02	-1.2	1.9					-0.02	0.05	
401-03	0.3	-2.7					-0.02	-0.09	
401-04	-0.9	0.1					-0.03	-0.01	
402-01	-0.3	0.0	0.2	0.00	-0.01	35.7	0.00	-0.00	0.01
402-02	0.0	-0.0					-0.00	-0.00	
402-03	-0.1	0.0					-0.00	0.00	
402-04	-0.0	-0.1					-0.00	-0.00	
403-01	1.0	2.3	0.6	0.07	0.00	-4.0	0.07	0.00	-0.00
403-02	-9.1	33.2					0.03	1.00	
403-03	1.4	-4.4					0.00	-0.13	
403-04	8.2	-32.1					-0.05	-0.98	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, TORSIONAL MOMENT LOADING ON BRANCH, -M3Y

NOMINAL LOAD = 1.022E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

	STRAIN (MICROINCHES/INCH)			STRESS (KSI) PRINCIPLE STRESSES			RELATIVE TO REF. DIR.		
LOCATION	E(1)	E(2)	E(3)	MAX	MIN	PHI	ALONG	NORMAL	SHEAR
0- 1	7.7	-4.0	-11.2	0.15	-0.30	-51.5	-0.13	-0.02	-0.22
0- 2	4.7	-4.5	-11.1	0.05	-0.32	-49.5	-0.17	-0.11	-0.18
0- 3	0.8	-2.1	-5.5	-0.03	-0.17	-43.0	-0.09	-0.11	-0.07
0- 4	-0.7	-1.6	-3.0	-0.05	-0.11	-38.1	-0.07	-0.09	-0.03
0- 5	-6.8	-2.9	1.5	-0.02	-0.21	46.6	-0.12	-0.11	0.10
0- 6	10.9	-2.3	-13.5	0.23	-0.34	42.7	-0.03	-0.08	0.28
0- 7	-26.6	-4.3	19.6	0.38	-0.69	46.0	-0.17	-0.13	0.53
0- 8	-33.6	-5.1	26.1	0.53	-0.85	46.3	-0.19	-0.13	0.69
0- 9	-34.1	-5.1	33.9	0.79	-0.80	49.2	-0.12	0.11	0.78
0-10	-26.7	-3.7	22.6	0.48	-0.66	46.9	-0.12	-0.05	0.57
0-11	-0.8	-0.5	1.3	0.04	-0.02	62.9	-0.01	0.03	0.02
0-12	-0.5	-0.1	4.9	0.18	0.01	65.3	0.04	0.15	0.06
0-13	-5.7	-0.2	7.3	0.19	-0.12	49.2	0.01	0.06	0.15
0-14	-7.0	-0.3	9.2	0.24	-0.14	49.8	0.01	0.08	0.19
0-15	-2.5	-0.1	6.3	0.19	-0.03	56.7	0.04	0.12	0.10
0-16	5.7	6.8	2.1	0.24	0.09	74.1	0.10	0.23	0.08
0-17	8.3	0.4	-6.0		-0.12	-47.8	0.03	0.06	-0.16
0-18	12.1	2.0	-8.7		-0.17	-44.3	0.08	0.07	-0.24
0-19	9.3	1.0	-6.9		-0.14	-45.6	0.05	0.06	-0.19
0-20	8.7	-1.0	-7.8	0	-0.17	-49.9	-0.01	0.05	-0.19
22- 1	10.4	16.1	11.8	0.39	0.36	4.1	0.59	0.36	0.02
22- 2	12.2	18.9	13.1	0.69	0.40	2.0	0.69	0.40	0.01
22- 3	10.4	3.0	4.1	0.43	0.19	-71.5	0.21	0.41	-0.07
22- 4	9.5	5.1	4.2	0.37	0.22	-61.6	0.25	0.34	-0.06
22- 5	1.6	8.7	13.5	0.46	0.18	39.3	0.35	0.29	0.14
22- 6	23.7	6.9	-4.9	0.74	0.07	43.0	0.43	0.38	0.33
22- 7	-11.3	2.3	27.8	0.83	-0.12	53.5	0.22	0.49	0.45
22- 8	-17.3	-2.5	31.5	0.91	-0.30	55.7	0.08	0.52	0.56
22- 9	-20.5	-4.9	28.9	0.79	-0.43	55.1	-0.03	0.39	0.57
22-10	-22.4	-0.6	27.6	0.69	-0.47	48.5	0.04	0.18	0.58
22-11	-2.0	1.6	-8.1	-0.05	-0.39	-12.4	-0.06	-0.37	-0.07
22-12	-4.8	1.6	-9.4	-0.10	-0.51	-7.5	-0.10	-0.50	-0.05
22-13	-0.5	1.2	-0.3	0.02	-0.05	2.5	0.02	-0.05	0.00
22-14	-13.8	-1.5	-15.2	-0.32	-0.92	-1.5	-0.32	-0.92	-0.02
22-15	-27.6	-1.3	-6.7	-0.30	-1.17	16.7	-0.37	-1.10	0.24
22-16	-33.5	-41.5	-7.1	-0.29	-1.45	-4.0	-0.30	-1.44	-0.08
22-17	-6.6	-11.1	-26.1	-0.45	-0.96	-30.8	-0.58	-0.82	-0.22
22-18	-4.1	-9.4	-20.1	-0.32	-0.71	-35.8	-0.46	-0.58	-0.18
22-19	-1.7	-5.9	-17.3	-0.21	-0.61	-32.5	-0.32	-0.49	-0.18
22-20	3.8	-5.4	-19.0	-0.06	-0.59	-39.6	-0.28	-0.38	-0.26
45- 1	0.6	7.6	41.4	1.46	0.34	61.6	0.59	1.21	0.47
45- 2	-0.5	10.8	25.8	0.85	0.24	49.1	0.50	0.59	0.30
45- 3	4.1	7.7	12.5	0.45	0.26	48.7	0.34	0.37	0.10
45- 4	4.9	14.8	22.6	0.80	0.38	41.5	0.61	0.56	0.21
45- 5	7.1	30.7	32.5	1.23	0.46	24.7	1.10	0.60	0.29
45- 6	39.0	8.7	4.4	1.17	0.48	41.7	1.03	0.92	0.49
45- 7	1.9	14.5	44.2	1.51	0.46	56.0	0.79	1.18	0.49
45- 8	-2.2	6.2	31.1	1.05	0.19	58.2	0.43	0.81	0.38
45- 9	-6.9	-0.5	29.2	0.97	-0.02	61.4	0.21	0.75	0.42
45-10	-12.5	-6.7	22.8	0.71	-0.27	61.9	-0.05	0.49	0.41
45-11	12.3	6.5	-1.4	0.39	0.07	-40.8	0.26	0.21	-0.16
45-12	14.9	7.3	-7.7	0.43	-0.12	-35.9	0.24	0.07	-0.26
45-13	11.7	-0.6	-18.7	0.21	-0.51	-39.6	-0.08	-0.22	-0.35
45-14	-2.9	-12.6	-30.7	-0.38	-1.06	-36.5	-0.62	-0.82	-0.32
45-15	-28.8	-1.6	-18.0	-0.88	-1.52	6.9	-0.50	-1.51	0.12
45-16	-31.9	-46.5	-18.6	-0.57	-1.60	4.3	-0.57	-1.59	0.08
45-17	-28.0	-12.0	-24.0	-0.79	-1.44	4.0	-0.79	-1.44	0.05
45-18	-11.7	-12.3	-30.0	-0.60	-1.18	-23.5	-0.70	-1.09	-0.21
45-19	-2.2	-6.0	-27.3	-0.28	-0.99	-27.6	-0.43	-0.83	-0.29
45-20	6.3	-4.2	-27.4	-0.04	-0.87	-34.8	-0.31	-0.60	-0.39
67- 1	-11.9	5.7	27.3	0.78	-0.12	48.0	0.28	0.38	0.45

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-11.6	8.2	31.6	0.93	-0.07	47.3	0.39	0.47	0.50
67- 3	-10.9	14.6	39.1	1.18	0.03	44.5	0.62	0.59	0.58
67- 4	-11.5	24.0	48.2	1.49	0.08	39.6	0.92	0.66	0.69
67- 5	33.2	-8.7	3.8	1.50	0.08	44.2	0.81	0.77	0.71
67- 6	-9.8	14.0	47.7	1.49	0.14	49.9	0.70	0.93	0.66
67- 7	-6.2	10.8	37.3	1.18	0.15	51.1	0.56	0.77	0.50
67- 8	-4.9	5.7	26.7	0.85	0.08	54.1	0.35	0.59	0.36
67- 9	-7.6	2.6	24.1	0.74	-0.04	54.7	0.22	0.48	0.37
67-10	-9.7	-3.5	19.2	0.59	-0.18	59.8	0.01	0.39	0.33
67-11	2.0	1.4	7.1	0.29	0.10	70.5	0.12	0.27	0.06
67-12	-3.4	-6.7	-2.7	-0.05	-0.21	87.2	-0.21	-0.05	0.01
67-13	-7.8	-5.3	-0.5	-0.09	-0.27	53.2	-0.20	-0.15	0.08
67-14	-24.2	-6.1	-9.7	-0.43	-1.03	16.9	-0.48	-0.98	0.17
67-15	-9.4	-26.1	-27.5	-0.52	-1.06	24.9	-0.61	-0.97	0.21
67-16	-21.1	-7.8	-13.9	-0.51	-0.99	10.3	-0.53	-0.97	0.08
67-17	-2.9	-6.8	-25.6	-0.30	-0.92	-28.5	-0.44	-0.78	-0.26
67-18	6.3	-3.6	-28.8	-0.04	-0.92	-33.2	-0.31	-0.66	-0.40
67-19	12.0	-2.3	-29.4	0.13	-0.87	-36.5	-0.23	-0.52	-0.48
67-20	12.3	-0.3	-26.3	0.17	-0.77	-35.4	-0.15	-0.46	-0.45
90- 1	-16.1	-1.8	20.2	0.52	-0.34	51.0	0.00	0.18	0.42
90- 2	-22.5	-3.1	26.4	0.66	-0.49	50.8	-0.03	0.20	0.56
90- 3	9.1	-22.5	-7.3	0.61	-0.53	51.7	-0.09	0.17	0.56
90- 4	-27.5	-2.1	27.6	0.64	-0.63	47.2	-0.05	0.05	0.64
90- 5	-27.8	-3.2	25.2	0.56	-0.67	47.0	-0.10	-0.01	0.61
90- 6	-26.4	-2.2	23.9	0.53	-0.63	46.1	-0.08	-0.03	0.58
90- 7	-21.0	-1.6	19.0	0.42	-0.51	45.8	-0.06	-0.03	0.46
90- 8	-17.4	0.6	16.6	0.38	-0.41	43.3	0.01	-0.04	0.39
90- 9	-16.3	0.3	15.9	0.36	-0.38	44.1	0.00	-0.02	0.37
90-10	-14.6	1.1	15.6	0.37	-0.33	43.8	0.04	0.01	0.35
90-11	-9.8	-3.2	14.2	0.40	-0.21	57.1	-0.03	0.22	0.28
90-12	-7.0	-2.4	13.6	0.41	-0.13	59.5	0.01	0.27	0.24
90-13	-3.6	11.6	11.5	0.42	-0.08	66.2	-0.00	0.34	0.18
90-14	-2.1	-3.1	9.9	0.38	-0.04	69.7	0.01	0.33	0.14
90-15	4.1	-2.0	4.5	0.33	0.04	89.0	0.04	0.33	0.00
90-16	11.5	-0.7	-3.8	0.37	-0.04	-60.3	0.06	0.27	-0.18
90-17	18.7	-0.3	-12.3	0.51	-0.23	-51.5	0.06	0.22	-0.36
90-18	23.1	0.7	-18.1	0.58	-0.37	-47.5	0.07	0.15	-0.48
90-19	24.5	-0.0	-21.5	0.60	-0.47	-46.9	0.03	0.10	-0.53
90-20	23.5	-0.3	-20.8	0.57	-0.45	-47.3	0.02	0.10	-0.51
180- 1	4.5	0.9	-2.8	0.12	-0.05	-44.7	0.04	0.04	-0.08
180- 2	2.3	0.8	-0.9	0.07	-0.01	-43.6	0.03	0.03	-0.04
180- 3	0.9	0.4	0.4	0.04	0.02	-69.9	0.02	0.03	-0.01
180- 4	-0.7	0.3	1.9	0.06	-0.01	51.0	0.02	0.03	0.03
180- 5	-5.9	1.0	7.7	0.20	-0.12	44.6	0.04	0.04	0.16
180- 6	17.4	1.0	-12.3	0.45	-0.28	42.1	0.14	0.07	0.34
180- 7	-21.6	2.9	26.1	0.65	-0.46	44.2	0.11	0.08	0.55
180- 8	-26.4	3.9	31.0	0.76	-0.57	43.3	0.14	0.06	0.66
180- 9	-23.4	4.0	28.0	0.69	-0.49	43.1	0.14	0.06	0.59
180-10	-22.1	3.3	24.9	0.60	-0.43	42.7	0.10	0.02	0.54
180-11	1.2	0.1	-2.4	0.02	-0.07	-34.6	-0.01	-0.04	-0.04
180-12	0.8	0.2	-1.6	0.00	-0.06	-26.4	-0.01	-0.03	-0.02
180-13	-0.3	0.2	-0.9	-0.01	-0.05	-11.3	-0.01	-0.04	-0.01
180-14	-1.1	0.1	-0.2	-0.01	-0.05	15.1	-0.01	-0.05	0.01
180-15	2.0	0.3	-2.3	0.04	-0.06	-38.6	0.01	-0.02	-0.05
180-16	-6.0	2.1	-5.6	0.11	-0.17	-44.0	-0.03	-0.04	-0.14
180-17	12.3	-1.8	-12.0	0.29	-0.28	-49.5	-0.04	0.05	-0.28
180-18	13.9	-1.5	-14.1	0.32	-0.33	-47.8	-0.04	0.03	-0.32
180-19	12.2	0.5	-11.3	0.29	-0.25	-44.9	0.02	0.02	-0.27
180-20	13.7	1.7	-12.3	0.33	-0.27	-42.8	0.05	0.01	-0.30
202- 1	6.8	0.9	0.5	0.25	0.06	-65.7	0.09	0.22	-0.07
202- 2	8.2	1.6	2.7	0.34	0.12	-72.0	0.15	0.32	-0.06
202- 3	9.8	0.5	1.2	0.39	0.08	-69.7	0.12	0.35	-0.10
202- 4	8.2	1.6	1.8	0.32	0.11	-68.6	0.14	0.29	-0.07
202- 5	2.1	6.1	10.2	0.36	0.17	45.8	0.26	0.27	0.09
202- 6	21.9	5.5	-2.2	0.72	0.13	45.0	0.42	0.42	0.30
202- 7	-9.1	5.1	30.2	0.92	-0.02	52.8	0.33	0.58	0.45

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-14.0	2.2	29.1	0.84	-0.19	52.0	0.20	0.45	0.50
202- 9	-18.2	1.7	29.7	0.81	-0.31	49.8	0.15	0.38	0.55
202-10	-16.0	0.4	27.9	0.78	-0.27	52.0	0.13	0.38	0.51
202-11	-5.6	-5.4	-10.3	-0.26	-0.42	-20.9	-0.28	-0.40	-0.05
202-12	-6.0	-5.7	-11.4	-0.28	-0.47	-21.1	-0.30	-0.44	-0.06
202-13	-6.0	-5.4	-14.5	-0.29	-0.59	-20.7	-0.33	-0.55	-0.10
202-14	-9.2	-3.9	-16.1	-0.33	-0.76	-10.7	-0.34	-0.75	-0.08
202-15	-11.3	0.5	-15.4	-0.25	-0.90	-4.2	-0.25	-0.89	-0.05
202-16	-27.3	-25.7	-0.3	-0.18	-1.01	-11.4	-0.21	-0.97	-0.16
202-17	-3.1	-11.7	-20.7	-0.31	-0.71	-44.5	-0.51	-0.51	-0.20
202-18	-0.0	-9.2	-18.4	-0.18	-0.61	-45.0	-0.39	-0.39	-0.21
202-19	2.9	-3.0	-15.5	-0.04	-0.50	-35.2	-0.19	-0.35	-0.21
202-20	4.1	-3.6	-16.3	-0.02	-0.50	-38.1	-0.20	-0.32	-0.24
225- 1	0.1	2.0	3.6	0.12	0.04	42.0	0.08	0.07	0.04
225- 2	2.9	4.4	3.8	0.17	0.12	11.6	0.17	0.12	0.01
225- 3	6.9	4.9	3.8	0.27	0.19	-52.1	0.22	0.24	-0.04
225- 4	7.7	8.8	9.1	0.38	0.34	29.2	0.37	0.35	0.02
225- 5	10.2	24.2	19.2	0.87	0.39	12.6	0.85	0.41	0.10
225- 6	27.1	5.1	8.6	1.13	0.40	33.0	0.91	0.62	0.33
225- 7	1.7	19.6	38.1	1.27	0.43	45.5	0.85	0.86	0.42
225- 8	-2.3	8.2	28.0	0.92	0.19	53.6	0.44	0.66	0.35
225- 9	-7.3	4.3	27.5	0.86	0.01	54.3	0.30	0.57	0.40
225-10	-9.9	-0.2	24.4	0.74	-0.12	56.7	0.14	0.48	0.40
225-11	-0.6	3.2	3.1	0.11	-0.01	21.5	0.10	0.01	0.04
225-12	-1.9	0.1	-1.8	-0.03	-0.12	0.7	-0.03	-0.12	0.00
225-13	-3.7	-4.3	-9.6	-0.20	-0.37	-25.6	-0.23	-0.34	-0.07
225-14	-9.2	-9.6	-20.0	-0.46	-0.79	-23.9	-0.51	-0.74	-0.12
225-15	-28.2	-4.3	-8.3	-0.39	-1.18	17.7	-0.46	-1.11	0.23
225-16	-20.3	-35.7	-18.9	-0.47	-1.21	14.8	-0.51	-1.16	0.18
225-17	-18.1	-10.9	-22.6	-0.65	-1.10	-6.6	-0.65	-1.09	-0.05
225-18	-9.1	-9.6	-22.7	-0.47	-0.89	-23.5	-0.54	-0.83	-0.16
225-19	-0.8	-4.9	-22.3	-0.20	-0.79	-29.2	-0.34	-0.65	-0.25
225-20	4.5	-4.1	-22.4	-0.05	-0.71	-35.1	-0.27	-0.50	-0.31
247- 1	-6.8	3.6	8.7	0.23	-0.15	35.8	0.10	-0.12	0.18
247- 2	-6.9	7.6	14.3	0.42	-0.10	34.9	0.25	0.07	0.24
247- 3	-6.8	11.9	19.3	0.60	-0.06	33.3	0.40	0.14	0.30
247- 4	-5.0	25.4	30.0	1.04	0.04	26.8	0.83	0.24	0.40
247- 5	21.0	-7.9	9.5	1.20	0.10	32.0	0.90	0.41	0.49
247- 6	-7.4	17.4	39.1	1.22	0.14	43.2	0.71	0.65	0.54
247- 7	-4.5	14.3	32.3	1.02	0.17	44.3	0.60	0.58	0.42
247- 8	-4.0	9.3	26.2	0.83	0.13	48.4	0.43	0.52	0.35
247- 9	-7.1	3.9	23.4	0.71	-0.02	52.8	0.25	0.45	0.35
247-10	-8.9	-1.8	22.5	0.70	-0.12	59.3	0.09	0.49	0.36
247-11	-7.7	5.7	10.4	0.29	-0.18	32.0	0.16	-0.05	0.21
247-12	-10.4	0.8	2.5	0.02	-0.35	26.8	-0.06	-0.28	0.15
247-13	-13.4	-4.7	-7.9	-0.30	-0.61	12.4	-0.32	-0.60	0.06
247-14	-31.7	0.3	-2.2	-0.20	-1.25	20.2	-0.33	-1.13	0.34
247-15	-4.3	-26.8	-32.6	-0.41	-1.17	29.7	-0.60	-0.98	0.33
247-16	-29.4	-8.8	-7.4	-0.45	-1.13	24.3	-0.57	-1.01	0.25
247-17	-8.0	-5.3	-23.6	-0.37	-0.98	-18.3	-0.43	-0.92	-0.18
247-18	1.7	-3.6	-26.5	-0.15	-0.92	-29.0	-0.33	-0.73	-0.33
247-19	7.0	-1.5	-26.6	0.01	-0.85	-31.8	-0.23	-0.61	-0.39
247-20	11.0	-2.2	-24.6	0.13	-0.72	-37.8	-0.19	-0.40	-0.41
270- 1	-18.0	2.6	14.5	0.31	-0.47	37.4	0.03	-0.18	0.38
270- 2	-21.6	2.9	18.4	0.40	-0.54	38.6	0.04	-0.17	0.46
270- 3	-2.1	-25.5	-1.0	0.49	-0.62	39.3	0.04	-0.17	0.54
270- 4	-26.1	3.6	25.0	0.57	-0.62	40.4	0.07	-0.12	0.59
270- 5	-24.8	3.5	26.8	0.64	-0.56	42.2	0.10	-0.02	0.60
270- 6	-20.9	3.2	24.1	0.59	-0.45	43.1	0.11	0.03	0.52
270- 7	-17.0	1.9	19.9	0.49	-0.37	44.3	0.07	0.05	0.43
270- 8	-14.0	1.1	17.8	0.45	-0.29	46.5	0.06	0.10	0.37
270- 9	-14.0	-0.1	16.7	0.41	-0.30	47.8	0.02	0.09	0.35
270-10	-12.9	-1.4	15.1	0.37	-0.28	50.1	-0.01	0.10	0.32
270-11	-15.6	3.3	10.5	0.22	-0.44	32.9	0.03	-0.25	0.30
270-12	-14.7	4.2	6.6	0.14	-0.48	26.1	0.02	-0.36	0.25
270-13	-0.3	8.6	-8.2	0.13	-0.49	33.4	-0.06	-0.30	0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-15.0	3.0	4.2	0.06	-0.53	24.3	-0.04	-0.43	0.22
270-15	-8.3	2.6	-3.0	-0.04	-0.44	8.8	-0.05	-0.43	0.06
270-16	0.2	0.8	-11.0	-0.04	-0.42	-20.9	-0.09	-0.38	-0.13
270-17	9.2	-1.1	-18.8	0.13	-0.54	-37.6	-0.12	-0.29	-0.32
270-18	15.5	-1.8	-21.7	0.30	-0.56	-42.9	-0.10	-0.17	-0.43
270-19	19.0	-1.0	-24.7	0.38	-0.63	-42.5	-0.08	-0.17	-0.50
270-20	20.9	0.6	-24.3	0.45	-0.60	-42.1	-0.02	-0.13	-0.52
0- 6	10.9	-2.3	-13.5	0.23	-0.34	-47.3	-0.08	-0.03	-0.28
11- 1	17.0	2.7	-9.3	0.47	-0.14	-47.5	0.14	0.19	-0.30
22- 6	23.7	6.9	-4.9	0.74	0.07	-50.0	0.34	0.46	-0.33
33- 1	32.0	9.3	2.6	1.13	0.35	-59.2	0.56	0.92	-0.34
45- 6	39.0	8.7	6.4	1.47	0.48	-65.3	0.65	1.30	-0.38
56- 1	42.9	3.0	6.6	1.71	0.41	-70.1	0.56	1.56	-0.42
67- 5	33.2	-8.7	3.8	1.50	0.08	-75.8	0.16	1.42	-0.34
78- 1	23.0	-17.9	-4.8	1.09	-0.31	-76.4	-0.23	1.01	-0.32
90- 3	9.1	-22.5	-7.3	0.61	-0.53	-80.3	-0.50	0.58	-0.19
0-16	5.7	6.8	2.1	0.24	0.09	-15.9	0.23	0.10	-0.04
11-11	-19.6	-27.7	-6.0	-0.17	-0.93	77.8	-0.89	-0.20	0.16
22-16	-33.5	-41.5	-7.1	-0.29	-1.45	74.0	-1.36	-0.38	0.31
33-11	-40.0	-43.5	-6.3	-0.38	-1.60	70.2	-1.46	-0.52	0.39
45-16	-31.9	-46.5	-18.6	-0.57	-1.60	81.3	-1.57	-0.59	0.15
56-11	-18.7	-41.0	-31.6	-0.68	-1.47	-78.9	-1.44	-0.71	-0.15
67-15	-9.4	-26.1	-27.5	-0.52	-1.06	-65.1	-0.97	-0.61	-0.21
78-11	-3.3	-1.0	-5.9	-0.11	-0.28	-9.9	-0.11	-0.28	-0.03
90-13	-3.6	11.6	11.5	0.42	-0.08	22.2	0.35	-0.01	0.17
180- 6	17.4	1.0	-12.3	0.45	-0.24	-47.9	0.07	0.14	-0.34
191- 1	20.3	2.4	-8.4	0.60	-0.09	-52.0	0.17	0.34	-0.33
202- 6	21.9	5.5	-2.2	0.72	0.13	-55.0	0.32	0.52	-0.28
213- 1	22.8	5.5	4.4	0.87	0.30	-65.6	0.40	0.77	-0.21
225- 6	27.1	5.1	8.6	1.13	0.40	-72.0	0.47	1.06	-0.21
236- 1	27.4	0.7	10.0	1.26	0.34	-77.1	0.39	1.22	-0.20
247- 5	21.0	-7.9	9.5	1.20	0.10	-83.0	0.12	1.19	-0.13
258- 1	11.8	-18.6	1.1	0.87	-0.31	-84.0	-0.30	0.86	-0.12
270- 3	-2.1	-25.5	-1.0	0.49	-0.62	89.3	-0.62	0.49	0.01
180-16	-6.0	2.1	4.6	0.11	-0.17	31.0	0.03	-0.10	0.12
191-11	-20.8	-16.5	1.4	-0.12	-0.72	60.7	-0.57	-0.26	0.26
202-16	-27.3	-25.7	-0.3	-0.18	-1.01	65.6	-0.87	-0.32	0.31
213-11	-28.8	-31.0	-6.1	-0.34	-1.16	70.1	-1.06	-0.43	0.26
225-16	-20.3	-35.7	-18.9	-0.47	-1.21	88.8	-1.21	-0.47	0.02
236-11	-9.7	-33.5	-29.9	-0.46	-1.24	-71.9	-1.16	-0.53	-0.23
247-15	-4.3	-26.8	-32.6	-0.41	-1.17	-60.3	-0.98	-0.60	-0.33
258-11	2.5	-6.4	-24.6	-0.14	-0.80	-35.6	-0.37	-0.58	-0.31
270-13	-0.3	8.6	-8.2	0.13	-0.49	-8.6	0.12	-0.48	-0.09
400-01	-0.4	6.7	0.2	0.15	-0.16	46.4	-0.01	0.00	0.16
400-11	0.7	4.5	0.1	0.11	-0.08	-46.8	0.01	0.02	-0.10
401-01	0.2	-2.5	-2.0	0.01	-0.08	-73.3	-0.08	0.00	-0.03
401-02	8.6	-32.9					-0.04	-1.00	
401-03	0.1	-0.4					-0.00	-0.01	
401-04	-8.4	30.4					0.02	0.92	
402-01	0.1	-0.0	-0.2	0.00	-0.01	-41.5	-0.00	-0.00	-0.00
402-02	-0.1	0.1					-0.00	0.00	
402-03	0.0	-0.1					-0.00	-0.00	
402-04	0.0	0.1					0.00	0.00	
403-01	-20.7	-0.8	20.2	0.46	-0.48	45.8	-0.02	0.00	0.47
403-02	-0.1	-0.5					-0.01	-0.02	
403-03	-0.3	0.9					-0.00	0.03	
403-04	0.1	-0.6					-0.00	-0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, IN-PLANE MOMENT LOADING ON BRANCH, -M3Z

NOMINAL LOAD = 1.022E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	33.6	42.0	22.1	1.55	0.84	-11.0	1.52	0.87	-0.13
0- 2	43.3	56.9	32.2	2.08	1.16	-8.1	2.06	1.18	-0.13
0- 3	23.4	22.6	20.2	0.98	0.89	-32.4	0.95	0.92	-0.04
0- 4	21.3	16.2	18.4	0.94	0.76	-79.1	0.77	0.94	-0.03
0- 5	29.4	34.7	26.5	1.36	1.04	-6.1	1.35	1.04	-0.03
0- 6	29.8	19.2	31.4	1.58	1.05	-1.9	1.57	1.05	-0.02
0- 7	38.8	56.5	35.6	2.04	1.15	-2.3	2.04	1.15	-0.04
0- 8	39.1	59.7	40.9	2.17	1.26	1.3	2.17	1.26	0.02
0- 9	34.2	44.1	33.6	1.69	1.22	-0.9	1.69	1.22	-0.01
0-10	17.6	34.3	23.0	1.20	0.54	5.5	1.19	0.55	0.06
0-11	-5.8	3.7	-3.1	0.00	-0.38	4.8	-0.00	-0.38	0.03
0-12	0.7	-1.5	-7.1	-0.04	-0.24	-33.2	-0.10	-0.18	-0.09
0-13	-11.6	-0.6	-9.2	-0.22	-0.67	3.5	-0.22	-0.67	0.03
0-14	-14.5	-1.2	-11.1	-0.28	-0.82	4.1	-0.28	-0.82	0.04
0-15	-21.1	0.0	-19.9	-0.40	-1.35	0.8	-0.40	-1.35	0.01
0-16	-27.5	-42.9	-17.7	-0.49	-1.45	-6.8	-0.50	-1.44	-0.11
0-17	-11.6	-2.0	-15.3	-0.31	-0.85	-4.7	-0.31	-0.84	-0.04
0-18	-13.8	-17.0	-15.7	-0.58	-0.69	-78.2	-0.68	-0.58	-0.02
0-19	-8.9	-5.0	-8.4	-0.29	-0.46	2.0	-0.29	-0.46	0.01
0-20	-1.6	9.7	-0.6	0.20	-0.30	1.4	0.20	-0.30	0.01
22- 1	8.3	32.0	35.0	1.32	0.54	26.1	1.17	0.69	0.31
22- 2	17.5	53.9	45.8	1.96	0.75	16.2	1.87	0.84	0.33
22- 3	13.3	14.7	13.3	0.60	0.54	0.2	0.60	0.54	0.00
22- 4	16.2	19.2	17.7	0.78	0.67	9.0	0.78	0.67	0.02
22- 5	30.8	39.9	27.0	1.50	0.98	-5.0	1.49	0.99	-0.04
22- 6	30.6	18.8	36.1	1.77	1.09	-2.4	1.77	1.09	-0.03
22- 7	33.3	54.1	34.6	1.93	1.01	0.6	1.92	1.01	0.01
22- 8	32.9	48.5	29.7	1.74	0.94	-2.7	1.74	0.95	-0.04
22- 9	32.1	45.9	21.4	1.61	0.69	-7.8	1.59	0.70	-0.12
22-10	23.1	26.5	14.0	1.01	0.58	-15.0	0.98	0.61	-0.11
22-11	1.9	9.3	3.3	0.27	-0.04	3.0	0.27	-0.04	0.02
22-12	3.6	4.4	-2.5	0.14	-0.09	-19.0	0.11	-0.07	-0.07
22-13	0.8	1.3	0.5	0.04	0.01	-5.4	0.04	0.01	-0.00
22-14	0.3	-7.4	-19.2	-0.18	-0.63	-38.9	-0.36	-0.45	-0.22
22-15	-13.2	-4.5	-11.1	-0.34	-0.70	3.7	-0.34	-0.70	0.02
22-16	-9.0	-13.0	-8.1	-0.26	-0.47	9.3	-0.27	-0.46	0.03
22-17	-22.8	-9.8	-0.8	-0.25	-0.76	39.8	-0.46	-0.55	0.25
22-18	-13.6	-5.5	-0.9	-0.16	-0.46	37.4	-0.27	-0.35	0.15
22-19	-3.7	3.9	-1.1	0.05	-0.25	5.8	0.04	-0.25	0.03
22-20	5.6	16.2	2.0	0.45	-0.13	-4.1	0.45	-0.12	-0.04
45- 1	-9.4	-4.9	-2.9	-0.18	-0.34	34.5	-0.23	-0.29	0.08
45- 2	-10.8	-0.1	6.9	0.12	-0.29	39.0	-0.04	-0.13	0.20
45- 3	-11.0	2.0	7.7	0.16	-0.30	34.4	0.01	-0.15	0.22
45- 4	-5.5	9.9	16.5	0.51	-0.04	34.1	0.34	0.14	0.25
45- 5	15.7	31.6	20.6	1.09	0.44	5.7	1.08	0.45	0.06
45- 6	17.7	6.1	21.3	1.15	0.52	13.2	1.12	0.56	0.14
45- 7	13.4	36.8	31.6	1.35	0.57	16.2	1.29	0.63	0.21
45- 8	20.6	34.8	14.3	1.15	0.34	-5.2	1.15	0.35	-0.07
45- 9	19.6	30.9	9.2	1.02	0.22	-8.7	1.00	0.24	-0.12
45-10	15.3	23.5	4.8	0.76	0.10	-10.7	0.74	0.12	-0.12
45-11	1.5	7.3	16.2	0.55	0.21	51.1	0.34	0.42	0.17
45-12	4.1	8.6	19.9	0.71	0.32	56.7	0.43	0.59	0.18
45-13	6.4	8.2	19.2	0.73	0.37	62.7	0.44	0.65	0.15
45-14	2.4	-3.4	10.0	0.50	0.03	79.3	0.04	0.49	0.09
45-15	5.0	-8.7	0.0	0.37	-0.16	-83.8	-0.15	0.37	-0.06
45-16	15.0	11.9	-10.0	0.47	-0.25	76.5	-0.21	0.43	0.16
45-17	-8.1	-11.0	11.2	0.43	-0.30	71.1	-0.22	0.35	0.22
45-18	-4.6	1.8	12.3	0.37	-0.04	51.9	0.12	0.21	0.19
45-19	7.4	8.5	7.1	0.34	0.28	-3.0	0.34	0.28	-0.00
45-20	14.0	18.4	6.7	0.65	0.24	-12.3	0.63	0.26	-0.08
67- 1	-3.4	-8.2	-10.0	-0.20	-0.37	-57.3	-0.32	-0.25	-0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-3.7	-6.1	-7.0	-0.19	-0.27	-57.6	-0.25	-0.21	-0.04
67- 3	-2.9	-4.1	-4.5	-0.14	-0.18	-58.1	-0.17	-0.15	-0.02
67- 4	-0.8	-1.1	-2.0	-0.04	-0.07	-33.5	-0.05	-0.06	-0.01
67- 5	-3.4	-1.7	0.8	-0.01	-0.11	-9.5	-0.01	-0.10	-0.02
67- 6	-0.4	4.3*	-0.2*	0.09	-0.12	0.6	0.09	-0.12	0.00
67- 7	2.1	12.6	0.9	0.32	-0.19	-1.5	0.32	-0.19	-0.01
67- 8	3.5	15.1	-0.1	0.39	-0.24	-3.9	0.38	-0.24	-0.04
67- 9	5.9	16.9	0.0	0.45	-0.20	-5.9	0.45	-0.20	-0.07
67-10	3.4	14.8	2.0	0.39	-0.16	-1.7	0.39	-0.16	-0.02
67-11	-1.7	10.1	23.3	0.75	0.17	86.6	0.45	0.48	0.29
67-12	-2.5	10.3	31.9	1.04	0.22	52.2	0.53	0.73	0.40
67-13	0.5	-1.8	0.3	0.07	-0.03	-88.6	-0.03	0.07	-0.00
67-14	12.1	-9.3	19.6	1.27	0.09	85.8	0.10	1.26	0.09
67-15	15.6	39.5	17.3	1.24	0.17	-88.9	0.17	1.24	-0.02
67-16	9.4	-6.9	22.0	1.22	0.13	82.2	0.15	1.20	0.15
67-17	0.6	3.0	27.9	1.02	0.20	64.8	0.35	0.87	0.31
67-18	6.9	5.3	22.2	0.90	0.35	70.2	0.41	0.84	0.18
67-19	11.8	8.3	14.3	0.67	0.45	82.5	0.45	0.67	0.03
67-20	14.9	12.5	10.4	0.60	0.49	-46.7	0.54	0.55	-0.05
90- 1	11.1	-1.3	-14.5	0.22	-0.37	-44.1	-0.06	-0.08	-0.30
90- 2	11.0	-1.4	-14.1	0.22	-0.36	-44.6	-0.06	-0.07	-0.29
90- 3	-3.3	9.6	0.6	0.20	-0.31	-43.0	-0.04	-0.07	-0.26
90- 4	9.4	-2.8	-12.9	0.18	-0.33	-47.6	-0.10	-0.05	-0.26
90- 5	5.6	-4.3	-10.1	0.09	-0.28	-52.2	-0.14	-0.05	-0.18
90- 6	2.1	-5.6	-10.0	-0.02	-0.31	-52.6	-0.21	-0.13	-0.14
90- 7	-0.8	-2.9*	-8.7	-0.10	-0.30	-32.2	-0.16	-0.25	-0.09
90- 8	-2.2	-3.8	-7.8	-0.14	-0.28	-33.6	-0.19	-0.24	-0.06
90- 9	-2.9	-2.1	-5.7	-0.12	-0.25	-16.4	-0.13	-0.24	-0.03
90-10	-3.6	0.0	-4.0	-0.07	-0.25	-1.7	-0.07	-0.25	-0.01
90-11	-6.9	0.9	12.5	0.35	-0.11	50.6	0.08	0.16	0.22
90-12	-8.1	-0.0	19.4	0.59	-0.10	56.3	0.11	0.37	0.32
90-13	-2.3	22.5	16.9	0.73	-0.10	60.2	0.10	0.52	0.36
90-14	-8.6	-3.0	24.2	0.79	-0.12	61.8	0.08	0.59	0.38
90-15	-7.4	-4.6	26.8	0.93	-0.10	64.9	0.09	0.75	0.39
90-16	-6.6	-1.9	27.4	0.93	-0.04	62.9	0.16	0.73	0.39
90-17	-4.5	0.8	25.2	0.85	0.04	61.3	0.22	0.66	0.34
90-18	-0.0	1.7	19.5	0.71	0.13	64.6	0.23	0.60	0.23
90-19	3.3	3.0	14.1	0.55	0.19	68.3	0.24	0.50	0.12
90-20	5.8	2.1	9.4	0.46	0.19	81.0	0.20	0.45	0.04
180- 1	-10.3	-12.0	-11.1	-0.43	-0.49	-81.5	-0.49	-0.43	-0.01
180- 2	-9.4	-10.8	-9.7	-0.38	-0.44	-86.7	-0.44	-0.38	-0.00
180- 3	-8.6	-5.7	-8.9	-0.30	-0.44	-1.4	-0.30	-0.44	-0.00
180- 4	-9.5	-5.5	-9.4	-0.31	-0.50	0.5	-0.31	-0.50	0.00
180- 5	-13.5	-15.1	-14.2	-0.57	-0.62	-82.5	-0.62	-0.57	-0.01
180- 6	-18.6	-7.8	-15.2	-0.51	-0.94	-84.8	-0.94	-0.51	-0.04
180- 7	-20.3	-38.1	-23.6	-0.57	-1.32	-87.1	-1.31	-0.57	-0.04
180- 8	-22.1	-43.5	-24.5	-0.53	-1.47	-88.3	-1.46	-0.53	-0.03
180- 9	-14.8	-25.8	-12.9	-0.32	-0.87	87.8	-0.87	-0.32	0.02
180-10	-8.3	-23.0	-10.7	-0.10	-0.72	-87.5	-0.72	-0.10	-0.03
180-11	8.1	0.2	9.5	0.58	0.18	87.8	0.18	0.58	0.02
180-12	8.8	-1.4	9.0	0.61	0.14	89.2	0.14	0.61	0.01
180-13	8.1	-2.4	9.0	0.62	0.11	88.9	0.11	0.62	0.01
180-14	8.3	-1.8	9.1	0.62	0.13	88.9	0.13	0.62	0.01
180-15	11.2	-1.0	7.2	0.64	0.16	-84.4	0.16	0.63	-0.05
180-16	9.6	7.9	2.8	0.35	0.18	73.2	0.19	0.34	0.05
180-17	-1.1	5.0	-0.4	0.10	-0.17	1.8	0.10	-0.17	0.01
180-18	-1.8	7.1	-1.9	0.13	-0.29	-0.2	0.13	-0.29	-0.00
180-19	-6.3	-3.2	-5.2	-0.19	-0.31	6.2	-0.19	-0.31	0.01
180-20	-13.4	-20.9	-12.4	-0.37	-0.74	88.2	-0.74	-0.37	0.01
202- 1	-4.4	-6.6	-0.8	-0.01	-0.21	77.7	-0.20	-0.02	0.04
202- 2	-8.2	-8.6	0.4	-0.02	-0.31	68.7	-0.28	-0.06	0.10
202- 3	-10.4	-6.3	1.8	-0.04	-0.33	54.1	-0.23	-0.14	0.14
202- 4	-14.5	-7.8	0.9	-0.11	-0.47	48.6	-0.31	-0.27	0.18
202- 5	-25.3	-17.5	0.2	-0.22	-0.85	55.5	-0.65	-0.42	0.29
202- 6	-0.9	-7.2	-33.0	-0.29	-1.16	70.7	-1.07	-0.39	0.27
202- 7	-27.8	-40.8	-13.7	-0.40	-1.38	80.4	-1.35	-0.43	0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-23.2	-32.8	-8.9	-0.27	-1.11	78.4	-1.08	-0.30	0.17
202- 9	-23.8	-34.5	-8.2	-0.22	-1.15	78.5	-1.11	-0.26	0.18
202-10	-11.3	-19.8	-3.4	-0.01	-0.62	81.2	-0.60	-0.03	0.09
202-11	1.6	-4.0	-1.8	0.09	-0.10	-78.3	-0.09	0.09	-0.04
202-12	0.7	-2.4	0.9	0.11	-0.04	88.8	-0.04	0.11	0.00
202-13	-0.5	-1.0	4.2	0.17	-0.01	70.3	0.01	0.15	0.05
202-14	0.5	1.2	6.9	0.25	0.06	63.9	0.10	0.22	0.07
202-15	1.6	2.0	3.1	0.12	0.08	56.7	0.09	0.11	0.02
202-16	-4.8	-5.3	2.2	0.07	-0.10	-7.8	0.06	-0.17	-0.03
202-17	6.7	2.8	-12.0	0.14	-0.36	-29.9	0.01	-0.24	-0.22
202-18	-0.1	-2.0	-11.7	-0.09	-0.41	-28.0	-0.16	-0.34	-0.13
202-19	-7.2	-9.5	-10.8	-0.34	-0.43	-52.5	-0.40	-0.37	-0.04
202-20	-11.4	-17.1	-13.5	-0.42	-0.64	-83.4	-0.64	-0.43	-0.03
225- 1	4.9	6.8	12.8	0.48	0.28	58.8	0.33	0.43	0.09
225- 2	5.4	2.8	5.6	0.30	0.17	89.2	0.17	0.30	0.00
225- 3	3.3	1.2	4.3	0.22	0.10	84.8	0.10	0.22	0.01
225- 4	-3.4	-2.3	6.4	0.21	-0.08	64.0	-0.02	0.15	0.11
225- 5	-22.5	-10.7	10.3	0.13	-0.65	52.9	-0.37	-0.15	0.38
225- 6	11.7	-1.8	-26.4	0.14	-0.77	68.1	-0.65	0.02	0.32
225- 7	-18.7	-33.6	-4.0	0.05	-1.03	80.8	-1.00	0.03	0.17
225- 8	-18.9	-29.7	-2.4	0.02	-0.93	78.3	-0.89	-0.02	0.19
225- 9	-17.8	-27.2	-2.3	0.00	-0.86	77.8	-0.83	-0.04	0.18
225-10	-9.6	-21.3	-2.1	0.11	-0.62	83.2	-0.61	0.10	0.09
225-11	-1.8	-5.9	-12.5	-0.18	-0.43	-38.4	-0.28	-0.34	-0.12
225-12	1.7	-7.6	-16.8	-0.11	-0.54	-45.3	-0.33	-0.32	-0.21
225-13	2.0	-7.2	-17.6	-0.11	-0.56	-43.2	-0.32	-0.35	-0.23
225-14	0.6	-3.8	-13.3	-0.10	-0.44	-34.8	-0.21	-0.33	-0.16
225-15	-6.9	2.8	-2.0	-0.01	-0.37	9.4	-0.02	-0.36	0.06
225-16	-14.9	-17.5	0.1	-0.03	-0.61	-2.3	-0.03	-0.61	-0.02
225-17	4.7	-2.6	-18.0	-0.01	-0.56	-35.2	-0.19	-0.38	-0.26
225-18	1.4	-6.1	-16.4	-0.11	-0.53	-40.6	-0.29	-0.35	-0.21
225-19	-3.8	-10.1	-14.1	-0.26	-0.50	-51.7	-0.41	-0.35	-0.12
225-20	-7.2	-17.7	-13.6	-0.26	-0.63	-78.3	-0.61	-0.28	-0.07
247- 1	-3.4	8.0	16.0	0.50	0.04	40.0	0.31	0.23	0.22
247- 2	-4.6	7.2	17.8	0.54	0.02	43.6	0.30	0.27	0.26
247- 3	-7.0	4.9	17.9	0.52	-0.06	46.3	0.22	0.25	0.29
247- 4	-12.7	2.2	19.3	0.51	-0.23	47.1	0.12	0.17	0.37
247- 5	15.7	-6.2	-13.7	0.42	-0.33	56.8	-0.11	0.20	0.35
247- 6	-10.9	-15.5	8.2	0.33	-0.85	73.0	-0.39	0.27	0.22
247- 7	-13.1	-21.0	0.1	0.09	-0.65	77.8	-0.61	0.06	0.15
247- 8	-13.3	-21.1	-2.2	0.00	-0.67	78.8	-0.64	-0.02	0.13
247- 9	-12.4	-20.6	-4.0	-0.05	-0.65	80.6	-0.64	-0.06	0.10
247-10	-8.9	-15.7	-4.8	-0.08	-0.50	83.5	-0.50	-0.09	0.05
247-11	1.1	-9.9	-15.0	-0.10	-0.50	-55.1	-0.37	-0.23	-0.19
247-12	2.6	-12.6	-20.1	-0.10	-0.65	-54.4	-0.46	-0.28	-0.26
247-13	4.2	-9.1	-23.4	-0.09	-0.73	-43.9	-0.40	-0.42	-0.32
247-14	-5.1	-0.0	-13.3	-0.16	-0.63	-12.1	-0.18	-0.60	-0.10
247-15	-14.4	-19.4	-1.0	-0.02	-0.64	-14.9	-0.06	-0.60	-0.15
247-16	3.9	4.6	-15.0	0.08	-0.56	-21.6	-0.00	-0.47	-0.22
247-17	10.6	-5.7	-17.5	0.18	-0.48	-49.6	-0.20	-0.09	-0.32
247-18	7.4	-6.2	-14.1	0.11	-0.40	-52.5	-0.21	-0.08	-0.25
247-19	4.2	-7.2	-11.0	0.05	-0.34	-58.2	-0.23	-0.06	-0.18
247-20	-0.4	-11.7	-8.8	-0.01	-0.39	-74.6	-0.36	-0.03	-0.10
270- 1	-17.0	-1.3	15.0	0.33	-0.41	45.6	-0.05	-0.03	0.37
270- 2	-15.8	-3.0	12.4	0.25	-0.40	47.5	-0.10	-0.05	0.33
270- 3	1.9	-17.3	-7.3	0.24	-0.47	48.8	-0.16	-0.07	0.35
270- 4	-18.0	-7.2	10.7	0.19	-0.50	52.0	-0.24	-0.07	0.33
270- 5	-16.2	-10.5	5.5	0.05	-0.51	57.7	-0.35	-0.11	0.25
270- 6	-14.9	-11.6	1.0	-0.09	-0.51	60.2	-0.41	-0.19	0.18
270- 7	-13.2	-11.3	-2.5	-0.19	-0.48	61.4	-0.42	-0.26	0.12
270- 8	-10.7	-8.8	-3.8	-0.22	-0.40	57.2	-0.35	-0.27	0.08
270- 9	-9.1	-7.3	-4.4	-0.24	-0.35	51.6	-0.30	-0.28	0.05
270-10	-4.9	-3.0	-4.5	-0.16	-0.24	3.1	-0.16	-0.24	0.00
270-11	9.5	-2.3	-7.9	0.25	-0.18	-54.7	-0.04	0.10	-0.20
270-12	15.6	-3.9	-6.2	0.52	-0.12	-64.2	0.00	0.40	-0.25
270-13	1.2	-10.6	11.0	0.67	-0.14	-56.1	0.11	0.42	-0.37

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	2[illegible].7	-2.7	-9.8	0.78	-0.14	-60.3	0.08	0.55	-0.40
270-15	27.1	-2.8	-9.6	0.88	-0.12	-61.1	0.11	0.64	-0.42
270-16	25.9	-2.2	-8.5	0.84	-0.10	-61.2	0.12	0.62	-0.40
270-17	22.6	-2.4	-5.9	0.77	-0.05	-63.5	0.11	0.61	-0.33
270-18	17.3	-2.0	-2.6	0.63	0.00	-66.6	0.10	0.53	-0.23
270-19	12.9	-0.4	-0.2	0.49	0.06	-67.9	0.12	0.43	-0.15
270-20	8.8	0.0	2.0	0.38	0.08	-74.0	0.11	0.36	-0.08
0- 6	29.8	19.2	31.4	1.58	1.05	88.1	1.05	1.57	0.02
11- 1	32.4	18.8	32.4	1.70	1.07	90.0	1.07	1.70	0.00
22- 6	30.6	18.8	36.1	1.77	1.09	84.6	1.10	1.77	0.06
33- 1	23.9	12.5	30.8	1.52	0.82	83.5	0.83	1.51	0.08
45- 6	17.7	6.1	21.3	1.15	0.52	86.2	0.53	1.15	0.04
56- 1	6.8	-0.8	10.5	0.59	0.15	84.4	0.15	0.59	0.04
67- 5	-3.4	-1.7	0.8	-0.01	-0.11	50.5	-0.07	-0.05	0.05
78- 1	-6.8	2.4	-0.9	-0.01	-0.32	12.6	-0.02	-0.31	0.07
90- 3	-3.3	9.6	0.6	0.20	-0.31	5.0	0.20	-0.31	0.04
0-16	-27.5	-42.9	-17.7	-0.49	-1.45	83.2	-1.44	-0.50	0.11
11-11	-24.3	-30.5	-11.3	-0.93	-1.09	76.4	-1.06	-0.47	0.15
22-16	-9.0	-13.0	-8.1	-0.26	-0.47	87.3	-0.47	-0.27	0.01
33-11	7.1	1.9	-9.4	0.15	-0.25	-34.8	0.02	-0.12	-0.19
45-16	15.0	11.9	-10.0	0.47	-0.25	-26.5	0.32	-0.11	-0.29
56-11	19.3	30.7	4.6	0.98	0.05	-10.7	0.94	0.08	-0.17
67-15	15.6	39.5	17.3	1.24	0.17	1.1	1.24	0.17	0.02
78-11	1.2	34.1	28.8	1.19	0.10	18.0	1.08	0.20	0.32
90-13	-2.3	22.5	16.9	0.73	-0.10	16.2	0.66	-0.04	0.22
180- 6	-18.6	-7.8	-15.2	-0.51	-0.94	5.2	-0.51	-0.94	0.04
191- 1	-10.2	-9.5	-26.8	-0.51	-1.08	-21.3	-0.58	-1.00	-0.19
202- 6	-0.9	-7.2	-33.0	-0.29	-1.16	-29.3	-0.50	-0.95	-0.37
213- 1	6.3	-4.7	-30.3	-0.06	-0.97	-34.1	-0.34	-0.68	-0.42
225- 6	11.7	-1.8	-26.4	0.14	-0.77	-36.9	-0.19	-0.44	-0.44
236- 1	16.4	-1.0	-19.5	0.35	-0.48	-44.1	-0.05	-0.08	-0.41
247- 5	15.7	-6.2	-13.7	0.42	-0.33	-58.2	-0.12	0.21	-0.34
258- 1	10.5	-12.1	-10.3	0.38	-0.37	-69.8	-0.28	0.29	-0.24
270- 3	1.9	-17.3	-7.3	0.24	-0.47	-81.2	-0.45	0.22	-0.11
180-16	9.6	7.9	2.8	0.35	0.18	-31.8	0.30	0.23	-0.08
191-11	3.0	1.4	2.2	0.14	0.08	-80.4	0.08	0.14	-0.01
202-16	-4.8	-5.3	2.2	0.07	-0.18	69.2	-0.15	0.04	0.08
213-11	-13.5	-11.9	3.1	0.02	-0.47	64.6	-0.38	-0.07	0.19
225-16	-14.9	-17.5	0.1	-0.03	-0.61	71.7	-0.55	-0.09	0.17
236-11	-15.0	-20.0	-2.1	-0.06	-0.67	75.2	-0.63	-0.10	0.15
247-15	-14.4	-19.4	-1.0	-0.02	-0.64	75.1	-0.60	-0.06	0.15
258-11	-7.3	-15.4	5.9	0.34	-0.40	77.9	-0.37	0.31	0.15
270-13	1.2	-10.6	11.0	0.67	-0.14	81.9	-0.12	0.65	0.11
400-01	-7.8	-2.7	5.0	0.09	-0.21	-84.2	-0.21	0.09	-0.03
400-11	-2.4	-4.4	-5.3	-0.13	-0.20	79.4	-0.20	-0.13	0.01
401-01	12.1	26.3	7.0	0.80	0.02	-4.4	0.80	0.02	-0.06
401-02	-0.4	0.6					-0.01	0.02	
401-03	8.2	-29.8					-0.02	-0.90	
401-04	-1.4	3.3					-0.01	0.09	
402-01	0.0	0.5	0.2	0.01	-0.00	6.4	0.01	-0.00	0.00
402-02	0.1	-0.6					-0.00	-0.02	
402-03	-0.3	0.5					-0.01	0.01	
402-04	0.2	-0.6					0.00	-0.02	
403-01	11.9	32.7	11.8	0.99	0.03	-0.1	0.99	0.03	-0.00
403-02	-1.1	8.9					0.01	0.15	
403-03	8.5	-31.1					-0.03	-0.94	
403-04	0.5	-1.2					0.01	-0.03	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, IN-PLANE FORCE LOADING ON BRANCH, F3X

NOMINAL LOAD = 1.576E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	35.2	50.3	28.8	1.80	0.94	-5.0	1.79	0.95	-0.07
0- 2	46.7	67.1	40.5	2.41	1.32	-3.8	2.41	1.33	-0.07
0- 3	24.3	26.5	24.6	1.10	1.00	2.3	1.10	1.00	0.00
0- 4	22.0	19.0	22.3	1.02	0.88	88.7	0.88	1.02	0.00
0- 5	30.9	39.3	31.0	1.52	1.13	0.0	1.52	1.13	0.00
0- 6	33.6	21.0	33.5	1.73	1.15	0.1	1.73	1.15	0.00
0- 7	42.1	60.5	38.7	2.20	1.26	-2.4	2.19	1.27	-0.04
0- 8	42.5	62.1	42.8	2.28	1.38	0.2	2.28	1.38	0.00
0- 9	37.3	44.6	34.3	1.74	1.33	-4.8	1.74	1.33	-0.03
0-10	19.5	33.8	23.3	1.21	0.63	4.4	1.20	0.63	0.04
0-11	-3.2	5.7	-3.4	0.07	-0.35	-0.3	0.07	-0.35	-0.00
0-12	0.4	-0.7	-7.6	-0.04	-0.27	-26.8	-0.09	-0.22	-0.09
0-13	-10.2	0.0	-9.5	-0.20	-0.65	1.0	-0.20	-0.65	0.01
0-14	-13.6	-0.8	-11.7	-0.27	-0.82	2.4	-0.27	-0.81	0.02
0-15	-21.9	-0.2	-20.6	-0.42	-1.40	0.9	-0.42	-1.40	0.01
0-16	-28.8	-46.3	-20.0	-0.53	-1.56	-5.7	-0.54	-1.55	-0.10
0-17	-14.2	-2.2	-15.7	-0.35	-0.93	-1.7	-0.35	-0.93	-0.02
0-18	-16.8	-19.4	-17.3	-0.68	-0.79	-86.8	-0.79	-0.68	-0.01
0-19	-10.6	-7.2	-10.7	-0.38	-0.54	-0.2	-0.38	-0.54	-0.00
0-20	-3.0	7.5	-2.8	0.12	-0.36	0.3	0.12	-0.36	0.00
22- 1	6 3	36.4	43.4	1.57	0.56	29.1	1.33	0.80	0.43
22- 2	15.5	60.7	56.5	2.29	0.80	19.8	2.11	0.97	0.47
22- 3	11.0	16.2	16.8	0.68	0.51	25.8	0.65	0.54	0.07
22- 4	13.3	20.7	21.9	0.88	0.63	27.1	0.83	0.68	0.10
22- 5	28.7	43.2	32.6	1.61	1.02	4.4	1.60	1.03	0.04
22- 6	35.9	19.9	38.4	1.86	1.15	4.4	1.85	1.16	0.05
22- 7	33.0	55.5	38.8	2.00	1.08	4.2	1.99	1.08	0.07
22- 8	32.7	48.6	31.7	1.76	1.00	-0.9	1.76	1.00	-0.01
22- 9	31.9	45.1	22.1	1.59	0.72	-7.6	1.58	0.74	-0.11
22-10	22.8	25.2	14.0	0.98	0.60	-16.6	0.95	0.63	-0.10
22-11	6.8	9.3	3.0	0.32	0.10	-11.6	0.31	0.11	-0.04
22-12	7.5	4.7	-2.3	0.24	-0.01	-33.3	0.16	0.06	-0.11
22-13	0.6	1.9	0.4	0.05	-0.01	-2.2	0.05	-0.01	-0.00
22-14	3.8	-7.7	-18.8	-0.06	-0.58	-45.5	-0.33	-0.32	-0.26
22-15	-9.0	-4.3	-11.7	-0.30	-0.59	-6.3	-0.30	-0.58	-0.03
22-16	-6.8	-9.4	-7.5	-0.25	-0.36	16.3	-0.26	-0.35	0.03
22-17	-22.4	-10.5	-2.0	-0.29	-0.76	40.2	-0.49	-0.56	0.24
22-18	-12.2	-7.1	-3.0	-0.22	-0.43	42.1	-0.32	-0.34	0.11
22-19	-2.2	2.2	-3.6	-0.00	-0.24	-3.8	-0.01	-0.24	-0.02
22-20	7.0	14.0	-1.1	0.40	-0.15	-10.0	0.38	-0.13	-0.09
45- 1	-7.7	-7.8	-4.2	-0.19	-0.31	68.3	-0.30	-0.21	0.04
45- 2	-11.6	-2.2	7.7	0.14	-0.31	45.9	-0.09	-0.08	0.22
45- 3	-13.5	0.6	9.2	0.18	-0.36	38.3	-0.03	-0.15	0.26
45- 4	-8.6	8.9	19.3	0.56	-0.10	37.9	0.31	0.15	0.32
45- 5	11.0	31.2	24.0	1.10	0.40	12.7	1.07	0.44	0.15
45- 6	20.5	5.0	17.6	1.14	0.49	20.0	1.07	0.57	0.21
45- 7	10.8	33.7	32.6	1.30	0.55	21.1	1.21	0.65	0.25
45- 8	17.8	32.6	14.8	1.08	0.32	-2.6	1.08	0.32	-0.03
45- 9	16.9	28.8	9.4	0.93	0.19	-6.7	0.92	0.20	-0.09
45-10	12.8	21.3	4.6	0.68	0.07	-9.0	0.66	0.08	-0.09
45-11	1.9	4.4	16.3	0.59	0.19	61.4	0.28	0.50	0.17
45-12	5.1	6.2	21.1	0.81	0.32	65.4	0.40	0.72	0.18
45-13	8.2	7.2	21.2	0.86	0.40	69.6	0.46	0.80	0.15
45-14	4.6	-3.9	13.1	0.69	0.07	80.8	0.09	0.67	0.10
45-15	7.9	-9.0	-0.4	0.47	-0.15	-81.0	-0.13	0.46	-0.10
45-16	17.6	17.1	-7.6	0.62	-0.19	79.9	-0.16	0.59	0.14
45-17	-3.6	-10.3	11.2	0.53	-0.21	76.2	-0.16	0.49	0.17
45-18	-0.7	0.7	11.9	0.42	0.05	63.8	0.13	0.35	0.15
45-19	11.1	6.7	5.3	0.43	0.28	-58.8	0.32	0.39	-0.07
45-20	17.7	15.9	4.0	0.66	0.27	-26.8	0.58	0.35	-0.16
67- 1	-2.4	-9.6	-11.1	-0.17	-0.41	-61.4	-0.35	-0.23	-0.10

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-3.5	-7.9	-7.8	-0.17	-0.31	-67.8	-0.29	-0.19	-0.05
67- 3	-3.6	-5.6	-4.6	-0.14	-0.21	-80.9	-0.21	-0.14	-0.01
67- 4	-2.7	-3.5	-2.1	-0.08	-0.13	82.0	-0.13	-0.08	0.01
67- 5	-3.6	-2.3	-1.9	-0.10	-0.14	-29.3	-0.11	-0.13	-0.02
67- 6	-2.2	0.8	-1.9	-0.02	-0.15	1.5	-0.02	-0.15	0.00
67- 7	-1.3	7.2	-0.1	0.15	-0.21	2.1	0.15	-0.21	0.01
67- 8	-0.5	10.8	-0.5	0.24	-0.28	0.0	0.24	-0.28	0.00
67- 9	1.2	13.0	-0.5	0.31	-0.28	-1.9	0.31	-0.28	-0.02
67-10	-0.5	11.8	2.4	0.29	-0.21	3.8	0.29	-0.21	0.03
67-11	-2.3	7.4	23.1	0.75	0.14	51.8	0.38	0.52	0.29
67-12	-2.4	8.5	33.3	1.10	0.22	55.6	0.50	0.82	0.41
67-13	2.0	-2.6	0.0	0.13	-0.04	-82.3	-0.04	0.12	-0.02
67-14	16.6	-9.6	20.2	1.44	0.14	88.2	0.14	1.44	0.04
67-15	15.6	44.0	22.8	1.40	0.25	-85.9	0.25	1.40	-0.08
67-16	14.3	-6.5	22.4	1.37	0.21	85.4	0.21	1.36	0.09
67-17	4.1	1.9	28.7	1.14	0.26	69.8	0.37	1.03	0.28
67-18	10.3	3.7	20.6	0.96	0.37	78.2	0.39	0.94	0.12
67-19	15.2	6.2	12.8	0.78	0.42	-85.7	0.42	0.78	-0.03
67-20	18.0	9.7	7.8	0.69	0.41	-61.1	0.48	0.63	-0.12
90- 1	13.1	-1.6	-16.2	0.27	-0.40	-85.1	-0.07	-0.06	-0.34
90- 2	12.7	-2.9	-16.7	0.25	-0.43	-86.7	-0.11	-0.07	-0.34
90- 3	-2.9	11.2	-0.8	0.22	-0.38	-85.7	-0.09	-0.07	-0.30
90- 4	10.2	-5.8	-15.9	0.19	-0.43	-51.4	-0.19	-0.05	-0.30
90- 5	5.3	-7.3	-13.3	0.06	-0.40	-54.9	-0.25	-0.10	-0.21
90- 6	0.1	-9.4	-13.4	-0.12	-0.45	-56.0	-0.35	-0.22	-0.16
90- 7	-3.8	-8.6	-11.2	-0.23	-0.41	-53.4	-0.35	-0.29	-0.09
90- 8	-5.7	-6.9	-9.1	-0.28	-0.36	-37.0	-0.31	-0.33	-0.04
90- 9	-7.1	-8.7	-6.2	-0.24	-0.33	6.6	-0.24	-0.33	0.01
90-10	-7.8	-1.8	-3.5	-0.14	-0.34	14.6	-0.15	-0.33	0.05
90-11	-7.4	-1.6	11.8	0.33	-0.14	55.8	0.01	0.18	0.22
90-12	-7.6	-1.7	19.7	0.62	-0.10	59.7	0.08	0.44	0.32
90-13	-3.9	22.4	19.4	0.76	-0.10	63.3	0.08	0.59	0.35
90-14	-7.3	-4.3	24.8	0.85	-0.10	64.5	0.07	0.67	0.37
90-15	-5.6	-5.2	27.2	0.99	-0.07	67.2	0.09	0.83	0.38
90-16	-8.7	-2.4	27.3	0.97	-0.00	65.3	0.17	0.80	0.37
90-17	-2.8	-0.2	24.4	0.87	0.06	64.4	0.21	0.72	0.31
90-18	1.8	0.1	18.0	0.72	0.13	70.2	0.20	0.65	0.19
90-19	5.2	1.0	12.1	0.57	0.18	77.9	0.19	0.55	0.08
90-20	7.6	0.1	6.9	0.48	0.15	-88.6	0.15	0.48	-0.01
180- 1	-11.7	-14.1	-12.2	-0.46	-0.56	-87.3	-0.56	-0.46	-0.00
180- 2	-10.7	-12.5	-10.1	-0.40	-0.49	85.9	-0.49	-0.40	0.01
180- 3	-9.5	-6.8	-9.1	-0.34	-0.46	2.6	-0.34	-0.46	0.01
180- 4	-10.2	-6.3	-9.3	-0.34	-0.50	3.7	-0.34	-0.50	0.01
180- 5	-14.6	-16.3	-14.3	-0.57	-0.66	87.9	-0.66	-0.57	0.00
180- 6	-18.5	-7.5	-16.2	-0.51	-0.97	-86.8	-0.97	-0.52	-0.03
180- 7	-21.2	-38.9	-23.3	-0.57	-1.34	-88.2	-1.34	-0.57	-0.02
180- 8	-22.3	-43.2	-23.8	-0.52	-1.45	-88.9	-1.45	-0.52	-0.02
180- 9	-14.4	-25.0	-12.3	-0.30	-0.84	87.5	-0.84	-0.30	0.02
180-10	-7.9	-22.2	-10.2	-0.08	-0.69	-87.5	-0.69	-0.08	-0.03
180-11	8.9	-0.3	9.3	0.61	0.17	89.5	0.17	0.61	0.00
180-12	8.9	-2.0	8.5	0.62	0.13	-89.5	0.13	0.62	-0.00
180-13	8.4	-3.1	8.2	0.62	0.09	-89.7	0.09	0.62	-0.00
180-14	8.5	-2.5	8.5	0.62	0.11	-90.0	0.11	0.62	-0.00
180-15	10.7	-0.7	5.7	0.56	0.14	-82.2	0.15	0.56	-0.06
180-16	6.1	5.2	3.3	0.24	0.17	69.7	0.18	0.23	0.02
180-17	-1.4	5.7	-2.7	0.09	-0.27	-2.3	0.09	-0.27	-0.01
180-18	-2.2	7.9	-3.3	0.13	-0.36	-1.5	0.13	-0.36	-0.01
180-19	-7.1	-2.8	-6.1	-0.20	-0.37	4.1	-0.20	-0.37	0.01
180-20	-14.1	-20.3	-12.8	-0.42	-0.74	87.2	-0.74	-0.42	0.02
202- 1	-4.6	-6.9	0.4	0.04	-0.22	76.3	-0.20	0.02	0.06
202- 2	-8.6	-9.2	1.4	0.02	-0.33	69.0	-0.28	-0.03	0.12
202- 3	-10.8	-6.9	2.4	-0.01	-0.34	56.1	-0.24	-0.12	0.15
202- 4	-15.0	-8.4	1.6	-0.09	-0.48	51.0	-0.33	-0.25	0.19
202- 5	-26.0	-18.0	1.0	-0.20	-0.87	56.2	-0.66	-0.41	0.31
202- 6	-0.3	-6.6	-33.4	-0.27	-1.17	71.0	-1.08	-0.37	0.28
202- 7	-27.3	-40.8	-13.7	-0.39	-1.37	80.7	-1.35	-0.41	0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-22.2	-32.1	-9.2	-0.27	-1.08	79.1	-1.05	-0.30	0.15
202- 9	-22.1	-33.1	-8.6	-0.22	-1.09	79.6	-1.07	-0.25	0.16
202-10	-9.8	-18.8	-4.0	-0.01	-0.58	83.2	-0.57	-0.02	0.07
202-11	1.2	-4.5	-3.3	0.05	-0.14	-73.5	-0.12	0.04	-0.05
202-12	0.3	-2.5	-0.4	0.06	-0.06	-85.7	-0.06	0.06	-0.01
202-13	-0.7	-1.3	2.9	0.12	-0.02	71.6	-0.01	0.10	0.04
202-14	0.1	1.3	5.7	0.20	0.05	59.9	0.09	0.16	0.06
202-15	0.6	2.3	2.1	0.09	0.03	19.4	0.08	0.04	0.02
202-16	-6.0	-7.1	1.7	0.05	-0.24	-6.0	0.05	-0.24	-0.03
202-17	5.5	3.6	-12.0	0.12	-0.39	-26.2	0.02	-0.29	-0.20
202-18	-1.6	-1.2	-10.8	-0.11	-0.42	-21.4	-0.15	-0.38	-0.11
202-19	-8.6	-8.6	-9.8	-0.38	-0.41	-22.4	-0.38	-0.41	-0.01
202-20	-12.4	-15.9	-12.0	-0.44	-0.61	88.5	-0.61	-0.44	0.00
225- 1	4.8	7.4	14.2	0.53	0.29	56.9	0.36	0.45	0.11
225- 2	5.5	3.5	6.3	0.31	0.20	85.3	0.20	0.31	0.01
225- 3	3.5	1.6	4.9	0.24	0.12	82.2	0.12	0.24	0.02
225- 4	-3.4	-1.8	7.5	0.24	-0.07	62.7	-0.00	0.18	0.13
225- 5	-22.0	-9.8	11.3	0.17	-0.63	52.4	-0.33	-0.13	0.38
225- 6	11.9	-1.3	-25.8	0.16	-0.75	68.4	-0.63	0.03	0.31
225- 7	-17.9	-32.8	-4.2	0.05	-1.00	81.3	-0.98	0.03	0.16
225- 8	-17.4	-28.7	-3.5	0.00	-0.90	79.6	-0.87	-0.02	0.16
225- 9	-15.8	-25.8	-3.9	-0.03	-0.81	79.8	-0.79	-0.05	0.14
225-10	-7.5	-19.7	-3.9	0.08	-0.57	86.4	-0.57	0.08	0.04
225-11	-1.7	-5.8	-13.0	-0.18	-0.45	-37.3	-0.28	-0.35	-0.13
225-12	2.0	-7.9	-17.7	-0.11	-0.56	-45.1	-0.34	-0.33	-0.23
225-13	2.7	-7.3	-18.9	-0.10	-0.60	-42.7	-0.33	-0.37	-0.25
225-14	1.1	-4.0	-14.7	-0.10	-0.48	-35.1	-0.23	-0.36	-0.18
225-15	-7.6	2.9	-2.3	-0.02	-0.40	9.4	-0.03	-0.39	0.06
225-16	-14.4	-17.4	-0.6	-0.04	-0.60	-1.5	-0.04	-0.60	-0.01
225-17	3.8	-2.3	-16.7	-0.02	-0.53	-34.0	-0.18	-0.37	-0.24
225-18	0.1	-5.1	-14.2	-0.13	-0.48	-37.1	-0.26	-0.35	-0.16
225-19	-5.0	-8.7	-11.5	-0.28	-0.43	-48.7	-0.37	-0.35	-0.08
225-20	-8.5	-15.7	-10.3	-0.26	-0.55	-85.8	-0.55	-0.26	-0.02
247- 1	-4.0	8.2	16.4	0.50	0.02	39.5	0.31	0.22	0.24
247- 2	-5.0	7.6	18.4	0.56	0.02	42.7	0.31	0.26	0.27
247- 3	-7.1	5.3	18.1	0.53	-0.06	45.4	0.23	0.24	0.29
247- 4	-12.3	2.9	19.5	0.52	-0.21	46.3	0.14	0.17	0.37
247- 5	15.2	-6.1	-12.9	0.41	-0.32	56.4	-0.09	0.19	0.34
247- 6	-10.6	-14.6	7.7	0.31	-0.43	72.7	-0.37	0.24	0.21
247- 7	-12.2	-20.1	-1.3	0.04	-0.62	78.9	-0.60	0.02	0.13
247- 8	-11.7	-19.8	-4.4	-0.06	-0.63	81.4	-0.62	-0.07	0.08
247- 9	-10.0	-18.7	-6.5	-0.11	-0.60	85.2	-0.60	-0.11	0.04
247-10	-6.4	-13.5	-7.6	-0.15	-0.45	-87.4	-0.45	-0.15	-0.01
247-11	1.8	-9.4	-15.1	-0.08	-0.49	-54.2	-0.35	-0.22	-0.19
247-12	3.7	-12.5	-20.3	-0.06	-0.65	-54.7	-0.45	-0.26	-0.28
247-13	5.4	-9.3	-23.4	-0.05	-0.72	-45.6	-0.39	-0.38	-0.33
247-14	-3.0	0.3	-13.2	-0.12	-0.57	-15.5	-0.15	-0.54	-0.12
247-15	-14.3	-16.7	1.6	0.03	-0.57	-18.8	-0.03	-0.51	-0.18
247-16	6.6	4.5	-14.4	0.14	-0.48	-25.7	0.03	-0.36	-0.24
247-17	11.2	-5.1	-14.2	0.24	-0.37	-53.0	-0.15	0.02	-0.29
247-18	7.3	-4.9	-10.1	0.16	-0.28	-56.0	-0.14	0.02	-0.20
247-19	3.6	-5.8	-6.3	0.09	-0.22	-65.1	-0.16	0.04	-0.12
247-20	-1.3	-9.2	-4.1	0.04	-0.27	-84.1	-0.27	0.04	-0.03
270- 1	-16.5	-1.5	13.9	0.30	-0.41	45.4	-0.06	-0.05	0.35
270- 2	-14.8	-2.7	11.3	0.23	-0.38	47.0	-0.10	-0.05	0.30
270- 3	1.2	-16.0	-6.5	0.21	-0.43	48.0	-0.15	-0.08	0.32
270- 4	-16.5	-6.3	9.4	0.15	-0.46	51.0	-0.22	-0.09	0.30
270- 5	-14.5	-9.3	3.8	0.00	-0.46	56.8	-0.32	-0.14	0.21
270- 6	-12.9	-10.1	-0.8	-0.14	-0.45	58.9	-0.37	-0.22	0.14
270- 7	-11.2	-9.8	-4.5	-0.25	-0.43	59.7	-0.38	-0.29	0.08
270- 8	-8.8	-7.3	-6.3	-0.29	-0.35	39.2	-0.32	-0.33	0.03
270- 9	-6.8	-5.5	-7.0	-0.26	-0.33	-2.5	-0.26	-0.33	-0.00
270-10	-2.3	-2.3	-7.4	-0.12	-0.29	-22.2	-0.15	-0.27	-0.06
270-11	11.7	-2.3	-7.9	0.33	-0.16	-56.8	-0.02	0.18	-0.23
270-12	17.6	-4.2	-5.6	0.61	-0.10	-65.6	0.02	0.49	-0.27
270-13	1.3	-10.5	14.5	0.79	-0.11	-57.9	0.14	0.53	-0.41

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	DIR. SHEAR
270-14	27.6	-3.2	-8.9	0.91	-0.11	-62.3	0.11	0.69	-0.42
270-15	29.4	-3.4	-7.2	1.01	-0.06	-64.1	0.14	0.81	-0.42
270-16	27.3	-2.4	-5.0	0.97	-0.01	-65.1	0.17	0.79	-0.37
270-17	23.2	-1.9	-1.1	0.88	0.06	-68.4	0.18	0.77	-0.28
270-18	16.8	-0.9	2.6	0.71	0.12	-73.1	0.17	0.66	-0.16
270-19	11.9	0.0	5.7	0.59	0.16	-80.2	0.17	0.58	-0.07
270-20	7.0	0.4	8.2	0.49	0.16	87.7	0.16	0.49	0.01
0- 6	33.6	21.0	33.5	1.73	1.15	-89.9	1.15	1.73	-0.00
11- 1	37.5	20.5	33.2	1.86	1.17	-85.9	1.17	1.86	-0.05
22- 6	35.9	19.9	34.4	1.86	1.15	-88.6	1.15	1.86	-0.02
33- 1	28.5	12.3	28.1	1.58	0.84	-89.6	0.84	1.58	-0.00
45- 6	20.5	5.0	17.6	1.14	0.49	-87.0	0.49	1.14	-0.03
56- 1	7.7	-1.8	6.1	0.49	0.09	-87.3	0.10	0.49	-0.02
67- 5	-3.6	-2.3	-1.9	-0.10	-0.14	30.7	-0.11	-0.13	0.02
78- 1	-7.3	2.9	-4.0	-0.04	-0.44	5.5	-0.04	-0.44	0.04
90- 3	-2.9	11.2	-0.8	0.22	-0.38	2.3	0.22	-0.38	0.02
0-16	-28.8	-46.3	-20.0	-0.53	-1.56	84.3	-1.55	-0.54	0.10
11-11	-23.6	-28.7	-11.1	-0.44	-1.04	75.7	-1.01	-0.48	0.14
22-16	-6.8	-9.4	-7.5	-0.25	-0.36	-85.7	-0.36	-0.25	-0.01
33-11	8.7	4.4	-8.6	0.23	-0.22	-31.5	0.10	-0.10	-0.20
45-16	17.6	17.1	-7.6	0.62	-0.19	-23.1	0.49	-0.06	-0.29
56-11	20.5	36.5	8.5	1.15	0.10	-7.7	1.13	0.12	-0.14
67-15	15.6	44.0	22.8	1.40	0.25	4.1	1.40	0.25	0.08
78-11	0.2	35.9	33.2	1.30	0.13	20.4	1.16	0.27	0.38
90-13	-3.9	22.4	19.4	0.76	-0.10	19.3	0.67	-0.00	0.27
180- 6	-18.5	-7.5	-16.2	-0.51	-0.97	3.2	-0.52	-0.97	0.03
191- 1	-9.8	-9.0	-27.8	-0.50	-1.11	-21.3	-0.58	-1.03	-0.21
202- 6	-0.3	-6.6	-33.4	-0.27	-1.17	-29.0	-0.49	-0.96	-0.38
213- 1	6.8	-4.0	-30.1	-0.04	-0.96	-33.8	-0.32	-0.67	-0.43
225- 6	11.9	-1.3	-25.8	0.16	-0.75	-36.6	-0.17	-0.43	-0.44
236- 1	16.4	-0.7	-18.7	0.36	-0.45	-44.3	-0.04	-0.06	-0.40
247- 5	15.2	-6.1	-12.9	0.41	-0.32	-58.5	-0.12	0.21	-0.32
258- 1	9.5	-11.6	-9.5	0.35	-0.35	-70.3	-0.27	0.27	-0.22
270- 3	1.2	-16.0	-6.5	0.21	-0.43	-82.0	-0.42	0.20	-0.09
180-16	6.1	5.2	3.3	0.24	0.17	-35.3	0.21	0.19	-0.03
191-11	0.8	-1.4	2.0	0.12	-0.01	84.0	-0.00	0.12	0.01
202-16	-6.0	-7.1	1.7	0.05	-0.24	71.0	-0.21	0.02	0.09
213-11	-13.8	-13.1	2.4	0.01	-0.50	66.1	-0.41	-0.08	0.19
225-16	-14.4	-17.4	-0.6	-0.04	-0.60	72.5	-0.55	-0.09	0.16
236-11	-14.8	-16.4	-1.3	-0.06	-0.63	73.5	-0.58	-0.10	0.16
247-15	-14.3	-16.7	1.6	0.03	-0.57	71.2	-0.51	-0.03	0.18
258-11	-8.1	-13.5	10.4	0.45	-0.35	73.9	-0.29	0.39	0.21
270-13	1.3	-10.5	14.5	0.79	-0.11	80.1	-0.09	0.76	0.15
400-01	-8.6	-2.5	5.6	0.10	-0.23	-85.9	-0.23	0.10	-0.02
400-11	-2.7	-4.8	-6.1	-0.15	-0.23	82.4	-0.23	-0.15	0.01
401-01	12.9	34.0	11.7	1.03	0.03	-0.8	1.03	0.03	-0.01
401-02	-0.9	3.1					0.00	0.09	
401-03	9.6	-35.1					-0.03	-1.06	
401-04	-1.3	3.8					-0.00	0.11	
402-01	0.2	0.6	0.2	0.02	-0.00	-0.8	0.02	-0.00	-0.00
402-02	0.2	-0.6					0.00	-0.02	
402-03	-0.3	0.7					-0.00	0.02	
402-04	0.3	-0.5					0.00	-0.01	
403-01	7.0	18.9	6.5	0.57	0.01	-0.5	0.57	0.01	-0.01
403-02	-0.1	1.6					0.01	0.05	
403-03	4.7	-18.0					-0.02	-0.55	
403-04	0.2	-0.2					0.00	-0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, AXIAL FORCE LOADING ON BRANCH, F3Y

NOMINAL LOAD = 1.576E 04 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

	STRAIN (MICROINCHES/INCH)			STRESS (KSI) PRINCIPLE STRESSES			RELATIVE TO REF. DIR.		
LOCATION	E(1)	E(2)	E(3)	MAX	MIN	PHI	ALONG	NORMAL	SHEAR
0- 1	1.2	-19.1	-5.4	0.31	-0.49	-84.5	-0.48	0.30	-0.08
0- 2	9.4	-5.1*	-4.5*	0.34	-0.13	-68.7	-0.07	0.28	-0.16
0- 3	9.4	5.6	3.6	0.35	0.21	-53.8	0.26	0.30	-0.07
0- 4	11.0	5.1	5.4	0.44	0.25	-68.6	0.28	0.42	-0.06
0- 5	17.2	10.9	14.4	0.75	0.60	-12.2	0.75	0.61	-0.03
0- 6	17.9	8.7	19.2	1.02	0.57	-1.9	1.02	0.57	-0.02
0- 7	26.3	44.0	23.3	1.51	0.62	-2.2	1.50	0.62	-0.03
0- 8	28.1	50.4	29.4	1.73	0.73	0.8	1.73	0.73	0.01
0- 9	24.1	39.4	23.4	1.38	0.65	-0.6	1.38	0.65	-0.01
0-10	11.7	32.0	15.7	1.01	0.16	3.1	1.01	0.17	0.05
0-11	-16.5	-15.9	-11.1	-0.51	-0.67	63.8	-0.64	-0.54	0.06
0-12	-0.5	-12.1	-12.0	-0.08	-0.46	-67.7	-0.40	-0.13	-0.13
0-13	-13.7	-11.2	-12.0	-0.51	-0.59	12.7	-0.51	-0.59	0.02
0-14	-12.8	-9.9	-10.5	-0.45	-0.55	16.8	-0.46	-0.54	0.03
0-15	-7.6	-4.8	-7.5	-0.26	-0.39	0.9	-0.26	-0.39	0.00
0-16	-0.5	1.2*	-0.9	0.01	-0.08	86.6	-0.08	0.01	0.01
0-17	3.9	-5.6	2.0	0.32	-0.07	-86.8	-0.07	0.32	-0.02
0-18	3.4	-8.6	0.7	0.33	-0.16	-86.4	-0.16	0.33	-0.03
0-19	3.8	2.4	4.9	0.23	0.14	82.7	0.14	0.23	0.01
0-20	7.6	14.9	9.1	0.51	0.20	3.1	0.51	0.21	0.02
22- 1	15.2	-4.8	-24.3	0.26	-0.65	-45.4	-0.20	-0.19	-0.46
22- 2	24.7	9.7*	-23.1	0.62	-0.56	-34.7	0.24	-0.17	-0.55
22- 3	19.7	8.8	-7.2	0.58	-0.05	-39.5	0.33	0.21	-0.31
22- 4	26.2	13.0	-6.8	0.80	0.03	-39.4	0.49	0.34	-0.38
22- 5	37.5	26.5	-3.0	1.25	0.22	-32.6	0.95	0.52	-0.47
22- 6	5.0	8.7	38.8	1.44	0.44	-22.9	1.29	0.59	-0.36
22- 7	30.2	45.6	17.8	1.55	0.51	-8.0	1.53	0.53	-0.14
22- 8	24.8	42.0	22.0	1.43	0.57	-2.2	1.43	0.57	-0.03
22- 9	22.7	40.6	18.2	1.35	0.41	-3.2	1.34	0.41	-0.05
22-10	14.4	25.8	13.0	0.87	0.31	-1.7	0.87	0.31	-0.02
22-11	-30.9	11.9	18.7	0.45	-0.97	27.0	0.15	-0.67	0.57
22-12	-23.6	3.1	10.4	0.17	-0.73	30.2	-0.06	-0.51	0.39
22-13	-0.5	-2.6	0.1	0.05	-0.07	86.3	-0.06	0.05	0.01
22-14	-18.6	-5.9	-1.0	-0.20	-0.64	33.2	-0.33	-0.51	0.20
22-15	-13.7	-10.1	0.5	-0.10	-0.46	58.2	-0.36	-0.20	0.16
22-16	3.3	-5.7	-9.3	0.03	-0.29	45.2	-0.13	-0.13	0.16
22-17	-15.1	-4.9	11.6	0.24	-0.39	51.7	-0.15	-0.00	0.31
22-18	-7.6	1.5	11.4	0.30	-0.14	46.3	0.07	0.09	0.22
22-19	0.2	9.0	10.0	0.36	0.07	25.7	0.31	0.13	0.11
22-20	6.8	20.1	12.9	0.67	0.17	8.4	0.66	0.19	0.07
45- 1	-27.7	20.5	11.3	0.45	-1.15	17.1	0.31	-1.01	0.45
45- 2	-10.6	14.1	-0.4	0.23	-0.70	7.3	0.22	-0.69	0.12
45- 3	-1.3	9.9	-2.5	0.19	-0.36	-1.4	0.19	-0.36	-0.01
45- 4	8.9	15.5	-1.6	0.46	-0.14	-12.0	0.43	-0.12	-0.12
45- 5	32.8	34.1	2.6	1.27	0.25	-21.3	1.14	0.38	-0.35
45- 6	5.7	6.4	36.1	1.38	0.41	-6.1	1.37	0.42	-0.10
45- 7	19.0	45.7	28.5	1.54	0.50	6.1	1.52	0.51	0.11
45- 8	22.1	36.0	15.4	1.21	0.40	-5.5	1.20	0.41	-0.08
45- 9	18.6	30.4	12.5	1.02	0.32	-5.8	1.01	0.32	-0.07
45-10	12.1	22.6	9.1	0.73	0.18	-3.6	0.73	0.18	-0.03
45-11	3.3	36.1	14.8	1.02	-0.25	6.0	1.01	-0.24	0.13
45-12	-2.9	35.7	17.7	1.01	-0.38	10.0	0.97	-0.34	0.24
45-13	-8.1	25.9	16.8	0.76	-0.39	15.0	0.68	-0.31	0.29
45-14	-12.5	10.3	9.0	0.30	-0.45	20.9	0.20	-0.35	0.25
45-15	-16.6	-7.3	5.5	0.02	-0.50	49.6	-0.28	-0.20	0.25
45-16	5.5	-7.4	-15.8	0.03	-0.47	52.0	-0.28	-0.16	0.24
45-17	-19.4	-7.9	10.3	0.16	-0.55	51.4	-0.27	-0.12	0.34
45-18	-9.8	6.6	9.9	0.28	-0.27	28.3	0.15	-0.15	0.23
45-19	1.1	13.0	8.7	0.42	0.00	12.6	0.40	0.02	0.09
45-20	9.1	22.1	9.3	0.69	0.10	0.2	0.69	0.10	0.00
67- 1	-11.3	0.7	-0.3	-0.05	-0.45	20.2	-0.10	-0.40	0.13

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-8.4	3.2	0.5	0.03	-0.36	15.9	-0.00	-0.33	0.10
67- 3	-2.8	8.3	3.9	0.22	-0.17	11.7	0.20	-0.16	0.08
67- 4	5.5	20.4	10.7	0.64	0.06	6.0	0.63	0.06	0.06
67- 5	1.1	-1.0	18.7	0.75	0.10	10.5	0.73	0.12	0.12
67- 6	4.5	27.7	21.6	0.95	0.17	15.1	0.90	0.22	0.20
67- 7	11.3	30.6	17.7	1.00	0.24	5.5	0.99	0.25	0.07
67- 8	12.9	26.7	10.7	0.85	0.16	-2.1	0.85	0.16	-0.02
67- 9	13.7	25.1	8.1	0.80	0.13	-5.5	0.79	0.14	-0.06
67-10	7.6	18.8	7.8	0.59	0.08	0.3	0.59	0.08	0.00
67-11	8.5	29.0	13.4	0.89	0.05	3.8	0.88	0.05	0.06
67-12	2.2	25.2	15.7	0.79	-0.02	11.3	0.76	0.01	0.16
67-13	-7.4	7.2	0.8	0.12	-0.40	10.7	0.10	-0.38	0.10
67-14	-12.2	-0.6	12.5	0.29	-0.28	46.7	-0.01	0.02	0.28
67-15	11.9	2.5*	-12.2	0.28	-0.29	51.3	-0.07	0.06	0.28
67-16	-11.2	0.6	11.8	0.28	-0.25	44.1	0.02	0.00	0.27
67-17	-4.1	8.1	6.5	0.25	-0.15	18.7	0.21	-0.11	0.12
67-18	2.8	11.5	8.6	0.39	0.10	13.5	0.33	0.11	0.07
67-19	7.8	14.6	6.6	0.48	0.14	-2.4	0.48	0.14	-0.01
67-20	11.5	19.7	8.2	0.65	0.19	-4.7	0.65	0.19	-0.04
90- 1	-3.5	-2.7	-1.6	-0.09	-0.13	49.8	-0.11	-0.10	0.02
90- 2	-2.5	1.4	2.0	0.05	-0.08	27.0	0.03	-0.05	0.05
90- 3	-1.9	-2.5	2.5	0.10	-0.07	23.3	0.07	-0.04	0.06
90- 4	-0.9	6.8	4.4	0.21	-0.05	14.1	0.19	-0.04	0.06
90- 5	1.8	12.6	6.5	0.38	-0.02	7.8	0.37	-0.02	0.05
90- 6	5.4	17.2	8.2	0.53	0.05	3.9	0.53	0.05	0.03
90- 7	6.7	16.9	6.1	0.52	0.03	-0.8	0.52	0.03	-0.01
90- 8	6.6	15.5	4.6	0.47	0.01	-3.0	0.47	0.01	-0.02
90- 9	6.2	14.8	4.4	0.45	0.01	-2.7	0.45	0.01	-0.02
90-10	3.7	12.5	4.2	0.37	-0.03	0.9	0.37	-0.03	0.01
90-11	6.3	15.4	7.1	0.49	0.08	1.4	0.49	0.08	0.01
90-12	1.	11.0	7.2	0.35	0.02	11.8	0.34	0.03	0.07
90-13	10.3	9.7	-0.7	0.38	0.03	19.7	0.34	0.07	0.11
90-14	-1.6	8.0	8.8	0.31	-0.00	24.8	0.26	0.05	0.12
90-15	-2.5	5.3	9.7	0.30	0.01	37.0	0.19	0.11	0.14
90-16	-0.8	5.1	12.3	0.40	0.09	47.7	0.23	0.26	0.15
90-17	3.0	7.4	9.2	0.34	0.18	33.6	0.29	0.23	0.07
90-18	6.0	10.0	7.5	0.37	0.21	6.2	0.36	0.21	0.02
90-19	8.1	11.6	5.4	0.40	0.17	-7.8	0.40	0.18	-0.03
90-20	9.8	14.8	5.0	0.50	0.14	-8.9	0.49	0.15	-0.05
180- 1	-2.8	-4.1	-3.6	-0.11	-0.16	-77.9	-0.16	-0.11	-0.01
180- 2	-2.4	-3.8	-3.4	-0.10	-0.15	-75.0	-0.14	-0.10	-0.01
180- 3	-2.1	-2.6	-2.9	-0.10	-0.12	-50.6	-0.11	-0.11	-0.01
180- 4	-2.2	-2.4	-3.1	-0.10	-0.13	-30.9	-0.11	-0.12	-0.01
180- 5	-3.7	-5.6	-4.8	-0.15	-0.22	-78.2	-0.21	-0.15	-0.01
180- 6	-6.8	-1.8	-4.6	-0.15	-0.34	-81.9	-0.33	-0.15	-0.03
180- 7	-8.5	-13.8	-8.9	-0.25	-0.49	-89.0	-0.49	-0.25	-0.00
180- 8	-9.7	-15.7	-9.3	-0.27	-0.55	89.2	-0.55	-0.27	0.00
180- 9	-5.2	-9.5	-5.4	-0.13	-0.33	-89.7	-0.33	-0.13	-0.00
180-10	-3.1	-8.2	-8.3	-0.06	-0.26	-86.0	-0.26	-0.06	-0.01
180-11	1.2	0.0	2.1	0.11	0.03	81.7	0.03	0.11	0.01
180-12	1.2	0.2	2.2	0.11	0.04	80.2	0.04	0.11	0.01
180-13	1.4	-0.3	2.2	0.13	0.03	84.1	0.03	0.12	0.01
180-14	-0.1	0.3	2.4	0.09	0.02	63.5	0.03	0.07	0.03
180-15	1.5	0.2	2.3	0.12	0.04	83.5	0.04	0.12	0.01
180-16	2.9	1.3	0.9	0.11	0.06	44.5	0.08	0.08	0.03
180-17	-0.6	1.4	1.3	0.05	-0.02	20.3	0.04	-0.01	0.02
180-18	0.2	3.0	1.3	0.08	-0.02	6.7	0.08	-0.02	0.01
180-19	-0.3	1.0	0.5	0.03	-0.02	12.3	0.02	-0.02	0.01
180-20	-1.8	-2.9	-1.2	-0.03	-0.10	84.8	-0.10	-0.03	0.01
202- 1	-1.2	-2.4	-1.1	-0.02	-0.08	88.9	-0.08	-0.02	0.00
202- 2	-2.2	-3.1	-0.7	-0.02	-0.10	77.7	-0.10	-0.02	0.02
202- 3	-2.4	-1.8	-0.1	-0.02	-0.08	57.9	-0.07	-0.04	0.03
202- 4	-3.4	-2.5	-0.4	-0.04	-0.12	56.0	-0.09	-0.07	0.03
202- 5	-6.0	-5.8	-1.7	-0.10	-0.23	66.5	-0.21	-0.12	0.05
202- 6	-2.5	-1.7	-5.9	-0.11	-0.25	82.3	-0.25	-0.11	0.02
202- 7	-4.7	-9.9	-6.8	-0.15	-0.34	-83.0	-0.34	-0.15	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-6.1	-8.5	-4.8	-0.16	-0.31	84.2	-0.30	-0.16	0.01
202- 9	-6.5	-11.3	-4.6	-0.11	-0.37	85.3	-0.37	-0.11	0.02
202-10	-3.0	-6.5	-2.7	-0.04	-0.21	89.1	-0.21	-0.04	0.00
202-11	0.5	-0.5	-0.1	0.03	-0.01	-77.3	-0.01	0.02	-0.01
202-12	0.0	-0.1	0.6	0.03	0.00	71.0	0.00	0.02	0.01
202-13	-0.2	0.3	1.1	0.05	0.00	52.5	0.02	0.02	0.02
202-14	0.3	1.1	1.3	0.06	0.03	42.7	0.05	0.04	0.02
202-15	0.7	1.1	0.7	0.08	0.02	1.6	0.08	0.02	0.00
202-16	-1.4	-1.1	0.9	0.02	-0.04	-14.2	0.02	-0.04	-0.02
202-17	2.5	1.7	-2.1	0.07	-0.06	-28.2	0.04	-0.03	-0.05
202-18	0.6	1.5	-1.1	0.03	-0.06	-12.7	0.03	-0.05	-0.02
202-19	-1.6	-0.6	-0.7	-0.03	-0.06	21.5	-0.04	-0.06	0.01
202-20	-2.5	-2.4	-1.3	-0.06	-0.10	65.0	-0.09	-0.07	0.01
225- 1	0.3	0.8	3.7	0.13	0.04	62.1	0.06	0.11	0.04
225- 2	0.3	-0.5	1.3	0.06	0.00	78.8	0.00	0.06	0.01
225- 3	0.2	-1.0	0.9	0.06	-0.01	83.2	-0.01	0.06	0.01
225- 4	-0.5	-1.6	0.8	0.05	-0.04	79.7	-0.03	0.05	0.02
225- 5	-3.8	-2.5	1.6	0.02	-0.12	58.9	-0.08	-0.02	0.06
225- 6	2.0	0.0	-4.6	0.03	-0.14	70.6	-0.12	0.01	0.05
225- 7	-3.3	-4.9	-1.2	-0.03	-0.16	79.1	-0.16	-0.03	0.02
225- 8	-3.6	-6.5	-1.2	-0.00	-0.20	82.1	-0.20	-0.01	0.03
225- 9	-3.3	-6.0	-1.2	-0.01	-0.19	82.1	-0.19	-0.01	0.02
225-10	-1.3	-4.7	-1.1	0.02	-0.13	90.0	-0.13	0.02	0.00
225-11	0.0	-0.9	-2.0	0.03	-0.07	-41.8	-0.04	-0.05	-0.02
225-12	0.9	-0.5	-2.7	0.00	-0.08	-39.8	-0.03	-0.04	-0.04
225-13	0.8	0.0	-1.4	0.01	-0.04	-37.3	-0.01	-0.02	-0.03
225-14	0.5	0.5	-3.3	0.00	-0.12	-22.3	-0.02	-0.10	-0.04
225-15	-2.1	1.5	-0.3	0.02	-0.12	9.2	0.01	-0.11	0.02
225-16	-3.6	-4.7	0.6	0.02	-0.15	-0.7	0.02	-0.15	-0.00
225-17	1.8	1.0	-3.6	0.04	-0.11	-27.5	0.01	-0.08	-0.06
225-18	0.8	1.0	-2.3	0.02	-0.09	-20.5	0.01	-0.07	-0.04
225-19	-1.1	0.6	-1.0	-0.01	-0.09	1.1	-0.01	-0.09	0.00
225-20	-2.2	-0.6	-0.6	-0.03	-0.09	21.4	-0.04	-0.08	0.02
247- 1	-2.2	-0.5	3.0	0.08	-0.05	54.5	-0.00	0.04	0.06
247- 2	-1.4	-0.4	2.8	0.09	-0.02	59.2	0.00	0.06	0.05
247- 3	-0.6	0.4	2.9	0.09	0.00	56.0	0.03	0.07	0.04
247- 4	0.1	2.5	3.7	0.13	0.04	35.8	0.10	0.07	0.04
247- 5	2.8	0.1	1.4	0.14	0.04	35.0	0.10	0.07	0.04
247- 6	-0.0	2.0	4.1	0.14	0.04	45.8	0.09	0.09	0.05
247- 7	-0.7	0.9	2.7	0.08	0.00	47.5	0.04	0.05	0.04
247- 8	-1.1	-0.1	1.4	0.04	-0.02	50.7	0.00	0.01	0.03
247- 9	-0.7	-0.3	0.8	0.02	-0.02	57.2	-0.01	0.01	0.02
247-10	0.2	-0.0	0.1	0.01	0.00	-74.6	0.00	0.01	-0.00
247-11	0.9	2.7	1.2	0.08	0.01	2.5	0.08	0.01	0.00
247-12	1.0	2.5	-1.5	0.07	-0.06	-18.4	0.06	-0.04	-0.04
247-13	1.5	1.2	-2.5	0.04	-0.08	-24.9	0.02	-0.06	-0.05
247-14	-2.0	0.9	-0.9	-0.01	-0.12	6.3	-0.01	-0.12	0.01
247-15	-1.2	-5.6	-0.6	0.07	-0.15	-1.9	0.07	-0.15	-0.01
247-16	0.9	4.1	-1.3	0.09	-0.11	-7.3	0.09	-0.10	-0.03
247-17	4.1	2.3	-2.6	0.12	-0.05	-32.4	0.07	-0.01	-0.08
247-18	2.8	3.2	-0.7	0.11	-0.02	-19.8	0.09	-0.00	-0.04
247-19	1.3	3.1	0.9	0.09	0.00	-2.7	0.09	0.00	-0.00
247-20	0.7	3.9	1.7	0.11	-0.01	5.2	0.11	-0.01	0.01
270- 1	-3.4	-3.3	-0.8	-0.05	-0.13	65.5	-0.12	-0.06	0.03
270- 2	-1.4	-0.7	-0.0	-0.02	-0.05	42.4	-0.03	-0.03	0.02
270- 3	-0.8	-0.6	0.2	0.00	-0.03	10.8	-0.00	-0.03	0.01
270- 4	0.6	2.5	0.8	0.07	-0.01	1.6	0.07	-0.01	0.00
270- 5	1.9	6.5	2.7	0.20	0.00	2.7	0.19	0.00	0.01
270- 6	2.4	8.6	4.1	0.26	0.01	4.4	0.26	0.01	0.02
270- 7	1.6	8.8	4.7	0.27	-0.00	7.4	0.27	0.00	0.03
270- 8	1.0	7.6	4.2	0.23	-0.01	9.0	0.23	-0.00	0.04
270- 9	0.9	7.2	3.7	0.22	-0.02	7.9	0.21	-0.01	0.03
270-10	1.6	6.2	1.7	0.17	-0.04	0.3	0.17	-0.04	0.00
270-11	5.0	12.0	5.5	0.38	0.07	1.1	0.38	0.07	0.01
270-12	5.6	6.9	-0.6	0.23	-0.02	-17.7	0.21	0.01	-0.07
270-13	8.4	0.9	-2.8	0.26	-0.02	-12.4	0.25	-0.00	-0.06

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	5.2	7.4	-1.7	0.23	-0.08	-15.6	0.21	-0.0	-0.08
270-15	6.1	5.8	-3.2	0.21	-0.08	-23.5	0.16	-0.04	-0.11
270-16	6.6	4.7	-2.2	0.21	-0.02	-30.3	0.15	0.04	-0.10
270-17	10.0	4.3	0.0	0.33	0.10	-49.3	0.20	0.23	-0.12
270-18	6.3	7.1	2.6	0.27	0.12	-17.1	0.25	0.13	-0.04
270-19	4.3	7.7	4.2	0.26	0.10	-0.3	0.26	0.10	-0.00
270-20	4.3	11.0	6.4	0.36	0.09	5.3	0.36	0.10	0.02
0- 6	17.9	8.7	19.2	1.02	0.57	88.1	0.57	1.02	0.02
11- 1	10.3	8.0	28.2	1.16	0.49	70.9	0.56	1.09	0.21
22- 6	5.0	8.7	38.8	1.44	0.44	64.1	0.63	1.25	0.39
33- 1	6.6	8.6	40.8	1.54	0.49	65.7	0.67	1.36	0.39
45- 6	5.7	6.4	36.1	1.38	0.41	66.9	0.56	1.23	0.35
56- 1	5.5	1.3	28.5	1.18	0.28	71.9	0.37	1.09	0.27
67- 5	1.1	-1.0	18.7	0.75	0.10	70.5	0.17	.08	0.20
78- 1	-0.8	-3.5	9.2	0.39	-0.03	73.6	0.00	0.36	0.11
90- 3	-1.9	-2.5	2.5	0.10	-0.07	71.3	-0.05	0.08	0.05
0-16	-0.5	1.2*	-0.9	0.01	-0.08	-3.4	0.01	-0.08	-0.01
11-11	0.8	-3.8	-8.6	-0.06	-0.28	-44.1	-0.16	-0.17	-0.11
22-16	3.3	-5.7	-9.3	0.03	-0.29	-56.8	-0.19	-0.06	-0.15
33-11	4.1	-4.5	-10.5	0.03	-0.31	-49.9	-0.17	-0.11	-0.17
45-16	5.5	-7.4	-15.8	0.03	-0.47	-51.0	-0.27	-0.17	-0.25
56-11	10.9	-6.2	-17.7	0.19	-0.48	-50.6	-0.21	-0.0	-0.33
67-15	11.9	2.5*	-12.2	0.28	-0.29	-38.7	0.06	-0.07	-0.28
78-11	9.8	6.8	-5.1	0.30	-0.10	-29.6	0.20	-0.00	-0.17
90-13	10.3	9.7	-0.7	0.38	0.03	-24.3	0.32	0.09	-0.13
180- 6	-6.8	-1.8	-4.6	-0.15	-0.34	8.1	-0.15	-0.33	0.03
191- 1	-5.2	-2.2	-9.7	-0.19	-0.45	-11.4	-0.20	-0.44	-0.05
202- 6	-2.5	-1.7	-5.9	-0.11	-0.25	-17.7	-0.12	-0.24	-0.04
213- 1	0.0	-0.8	-9.1	-0.06	-0.33	-25.5	-0.11	-0.28	-0.11
225- 6	2.0	0.0	-4.6	0.03	-0.14	-34.4	-0.03	-0.09	-0.08
236- 1	3.2	0.3	-1.6	0.09	-0.02	-50.8	0.02	0.05	-0.06
247- 5	2.8	0.1	1.4	0.14	0.04	-80.0	0.04	0.13	-0.02
258- 1	0.6	-0.5	1.8	0.09	0.01	79.9	0.01	0.09	0.01
270- 3	-0.8	-0.6	0.2	0.00	-0.03	60.8	-0.02	-0.01	0.01
180-16	2.9	1.3	0.9	0.11	0.06	-60.5	0.07	0.10	-0.02
191-11	1.0	0.7	0.8	0.05	0.03	-79.2	0.03	0.05	-0.00
202-16	-1.4	-1.1	0.9	0.02	-0.04	62.8	-0.03	0.01	0.03
213-11	-3.7	-3.1	1.3	0.02	-0.12	63.9	-0.10	-0.01	0.06
225-16	-3.6	-4.7	0.6	0.02	-0.15	73.3	-0.14	0.01	0.05
236-11	-2.9	-5.4	-0.3	0.02	-0.16	80.4	-0.16	0.02	0.03
247-15	-1.2	-5.6	-0.6	0.07	-0.15	88.1	-0.13	0.07	0.01
258-11	3.3	-4.1	-1.8	0.16	-0.09	-76.0	-0.08	0.14	-0.06
270-13	8.4	0.9	-2.8	0.26	-0.02	-54.4	0.08	0.16	-0.13
400-01	-0.9	1.2	4.8	0.15	0.02	-82.7	0.02	0.15	-0.02
400-11	-11.0	-4.2	1.7	-0.05	-0.35	-2.3	-0.05	-0.35	-0.01
401-01	-28.7	-87.0	-32.7	-0.01	-2.62	-89.0	-2.62	-0.01	-0.05
401-02	-0.0	-0.6					-0.01	-0.02	
401-03	-23.1	89.9					0.13	2.73	
401-04	-2.3	1.1					-0.06	0.01	
402-01	-0.0	-0.0	-0.0	-0.00	-0.00	12.4	-0.00	-0.00	0.00
402-02	0.0	-0.2					-0.00	-0.01	
402-03	-0.2	0.0					-0.01	-0.00	
402-04	0.1	-0.2					-0.00	-0.01	
403-01	9.2	24.5	8.5	0.74	0.02	-0.7	0.74	0.02	-0.01
403-02	-3.9	14.3					0.01	0.43	
403-03	0.6	-2.5					-0.01	-0.08	
403-04	-2.2	8.5					0.01	0.26	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-7, OUT-OF-PLANE FORCE LOADING ON BRANCH, P3Z

NOMINAL LOAD = 1.576E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	36.4	0.0	-29.6	0.91	-0.62	-47.9	0.07	0.22	-0.76
0- 2	32.6	2.3	-30.3	0.78	-0.68	-44.0	0.08	0.02	-0.73
0- 3	19.5	0.2	-20.5	0.44	-0.48	-43.9	-0.00	-0.04	-0.46
0- 4	17.9	0.1	-17.8	0.41	-0.41	-44.9	0.00	0.00	-0.41
0- 5	19.9	-0.6	-19.9	0.46	-0.46	-45.9	-0.02	0.01	-0.46
0- 6	-13.0	0.8	15.1	0.37	-0.28	-44.6	0.05	0.04	-0.32
0- 7	6.7	0.2	-6.0	0.16	-0.13	-45.7	0.01	0.02	-0.15
0- 8	0.5	0.7	0.5	0.03	0.02	-1.9	0.03	0.02	-0.00
0- 9	-2.9	0.6	4.2	0.11	-0.06	45.0	0.03	0.03	0.08
0-10	-3.1	0.5	3.5	0.09	-0.07	42.2	0.02	0.00	0.08
0-11	-13.7	-1.5	12.9	0.29	-0.33	47.2	-0.04	0.01	0.31
0-12	0.2	-0.8	11.6	0.46	0.05	69.9	0.10	0.41	0.13
0-13	-9.5	-0.5	9.5	0.22	-0.22	46.5	-0.01	0.01	0.22
0-14	-7.8	-0.6	7.8	0.18	-0.18	47.3	-0.01	0.02	0.18
0-15	0.3	-0.1	-0.3	0.01	-0.01	-53.8	-0.00	0.00	-0.01
0-16	-2.2	4.4	5.7	0.18	-0.04	-62.3	0.01	0.14	-0.09
0-17	9.5	0.5	-10.1	0.21	-0.24	-42.8	0.00	-0.03	-0.23
0-18	3.6	0.2	-3.6	0.08	-0.08	-43.4	0.01	-0.00	-0.08
0-19	-4.5	-0.2	4.1	0.09	-0.11	44.6	-0.01	-0.01	0.10
0-20	-6.1	0.3	6.0	0.14	-0.14	43.1	0.01	-0.01	0.14
22- 1	24.0	15.4	-13.6	0.72	-0.27	-30.8	0.46	-0.01	-0.43
22- 2	33.4	20.6	-17.2	1.00	-0.30	-31.8	0.64	0.06	-0.58
22- 3	26.9	7.2	-8.7	0.80	-0.02	-48.0	0.35	0.43	-0.41
22- 4	30.5	10.6	-9.4	0.91	-0.01	-45.0	0.45	0.45	-0.46
22- 5	31.0	14.7	-6.7	0.96	0.08	-41.2	0.58	0.46	-0.43
22- 6	1.5	8.0	27.5	0.95	0.28	-28.8	0.80	0.44	-0.28
22- 7	17.9	21.4	8.9	0.79	0.36	-14.8	0.76	0.39	-0.10
22- 8	11.8	15.8	13.4	0.62	0.46	7.3	0.61	0.47	0.02
22- 9	10.0	13.6	11.2	0.53	0.38	5.9	0.52	0.38	0.01
22-10	6.3	7.6	9.9	0.39	0.30	52.2	0.34	0.36	0.04
22-11	-21.2	9.7	1.3	0.10	-0.95	15.0	0.03	-0.88	0.26
22-12	-16.4	3.3	-6.0	-0.12	-0.84	9.9	-0.15	-0.81	0.12
22-13	-0.2	-0.8	-0.2	0.01	-0.02	88.5	-0.02	0.01	0.00
22-14	-15.1	-3.4	-20.8	-0.43	-1.12	-5.5	-0.43	-1.11	-0.07
22-15	-26.0	0.1	-11.8	-0.34	-1.28	10.3	-0.37	-1.25	0.16
22-16	-35.7	-37.6	-4.3	-0.32	-1.40	-8.9	-0.34	-1.38	-0.17
22-17	-10.4	-11.3	-19.3	-0.50	-0.77	-25.7	-0.55	-0.72	-0.10
22-18	-14.1	-4.7	-5.0	-0.26	-0.57	21.4	-0.30	-0.52	0.11
22-19	-13.0	0.2	-0.8	-0.08	-0.51	20.3	-0.13	-0.46	0.14
22-20	-8.1	5.5	1.1	0.08	-0.38	13.5	0.06	-0.36	0.11
45- 1	-15.2	18.7	19.6	0.65	-0.46	23.3	0.47	-0.29	0.40
45- 2	-0.3	19.5	9.8	0.56	-0.16	9.5	0.54	-0.14	0.12
45- 3	12.2	14.2	1.6	0.50	0.09	17.9	0.46	0.12	-0.12
45- 4	18.3	20.9	7.4	0.77	0.32	-17.0	0.74	0.36	-0.13
45- 5	35.6	40.7	13.3	1.50	0.55	-17.3	1.42	0.67	-0.26
45- 6	19.0	12.5	36.8	1.61	0.79	2.1	1.61	0.79	0.03
45- 7	20.6	44.8	38.8	1.68	0.87	15.5	1.62	0.92	0.21
45- 8	22.4	31.6	21.4	1.16	0.71	-1.5	1.16	0.71	-0.01
45- 9	19.7	24.4	16.2	0.92	0.61	-7.4	0.92	0.62	-0.04
45-10	14.6	16.8	10.1	0.64	0.42	-13.5	0.63	0.43	-0.05
45-11	3.3	19.3	3.1	0.51	-0.24	-0.2	0.51	-0.24	-0.00
45-12	2.4	15.6	-4.8	0.34	-0.45	-6.0	0.34	-0.44	-0.08
45-13	0.8	5.2	-16.5	0.02	-0.70	-16.8	-0.04	-0.64	-0.20
45-14	-6.0	-9.8	-33.3	-0.45	-1.23	-27.1	-0.61	-1.07	-0.32
45-15	-26.5	-1.0	-21.0	-0.49	-1.55	3.4	-0.49	-1.54	0.06
45-16	-29.6	-38.5	-16.1	-0.59	-1.37	1.4	-0.59	-1.37	0.02
45-17	-27.6	-14.2	-14.9	-0.69	-1.13	21.1	-0.75	-1.07	0.15
45-18	-17.4	-3.9	-11.4	-0.37	-0.87	7.9	-0.38	-0.86	0.07
45-19	-9.4	5.6	-5.3	-0.01	-0.62	4.5	-0.02	-0.61	0.05
45-20	-4.7	12.7	-0.5	0.24	-0.47	3.9	0.24	-0.46	0.05
67- 1	-12.9	8.1	11.3	0.31	-0.38	26.9	0.17	-0.24	0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-8.6	12.9	14.4	0.48	-0.23	24.4	0.36	-0.11	0.27
67- 3	-2.1	20.8	20.8	0.77	0.03	22.5	0.66	0.14	0.26
67- 4	8.6	40.1	32.0	1.40	0.34	15.2	1.33	0.41	0.27
67- 5	13.3	-4.9	31.2	1.55	0.36	19.8	1.41	0.49	0.38
67- 6	5.3	45.5	46.8	1.77	0.46	23.4	1.57	0.66	0.48
67- 7	14.8	44.9	36.2	1.60	0.58	14.4	1.54	0.64	0.25
67- 8	17.8	36.9	22.2	1.25	0.46	3.7	1.25	0.47	0.05
67- 9	20.2	33.9	15.2	1.14	0.38	-8.4	1.13	0.39	-0.06
67-10	14.1	23.9	10.3	0.80	0.25	-4.7	0.79	0.25	-0.04
67-11	4.7	19.3	9.7	0.59	0.02	5.8	0.59	0.03	0.06
67-12	1.1	8.2	-2.6	0.18	-0.24	-5.8	0.17	-0.24	-0.04
67-13	-5.6	-1.3	0.4	-0.04	-0.19	33.2	-0.08	-0.14	0.07
67-14	-19.4	-3.9	-7.4	-0.31	-0.83	16.3	-0.36	-0.79	0.14
67-15	-5.7	-18.4	-21.3	-0.37	-0.79	29.1	-0.47	-0.69	0.18
67-16	-16.8	-6.7	-6.3	-0.33	-0.66	23.5	-0.38	-0.6.	0.12
67-17	-5.6	-0.1	-6.9	-0.13	-0.41	-3.0	-0.13	-0.41	-0.01
67-18	1.8	8.3	-3.6	0.18	-0.26	-8.1	0.17	-0.25	-0.06
67-19	5.9	13.8	-2.1	0.37	-0.21	-9.2	0.36	-0.19	-0.09
67-20	7.2	19.7	4.0	0.57	-0.09	-3.3	0.57	-0.09	-0.04
90- 1	-13.1	1.5	7.1	0.13	-0.38	33.0	-0.02	-0.23	0.23
90- 2	-11.1	10.4	15.2	0.45	-0.27	28.8	0.28	-0.10	0.30
90- 3	-4.6	-11.7	9.8	0.48	-0.26	28.6	0.31	-0.09	0.31
90- 4	-7.6	20.4	19.2	0.71	-0.21	21.3	0.59	-0.09	0.31
90- 5	-2.6	29.1	21.6	0.94	-0.13	15.8	0.86	-0.05	0.28
90- 6	4.3	37.1	25.4	1.21	0.07	12.6	1.15	0.12	0.24
90- 7	7.4	35.5	19.8	1.11	0.06	7.9	1.09	0.08	0.14
90- 8	8.9	33.1	14.9	1.00	0.01	4.0	1.00	0.02	0.07
90- 9	10.5	31.1	12.3	0.94	0.04	1.3	0.94	0.04	0.02
90-10	8.4	25.4	8.3	0.75	-0.04	-0.1	0.75	-0.04	-0.00
90-11	4.2	17.0	12.8	0.58	0.14	13.4	0.56	0.17	0.10
90-12	1.2	8.8	9.7	0.36	0.11	26.1	0.31	0.16	0.10
90-13	7.2	9.8	4.3	0.35	0.15	34.4	0.28	0.21	0.09
90-14	1.2	4.5	8.1	0.28	0.12	49.7	0.20	0.20	0.08
90-15	3.5	0.8	7.2	0.34	0.12	79.0	0.12	0.34	0.04
90-16	7.5	1.3	7.0	0.45	0.17	-88.8	0.17	0.45	-0.01
90-17	12.2	6.8	7.5	0.51	0.33	-70.7	0.35	0.49	-0.06
90-18	15.5	13.2	7.4	0.59	0.39	-33.4	0.53	0.45	-0.09
90-19	15.8	16.8	6.3	0.65	0.30	-19.9	0.61	0.34	-0.11
90-20	16.2	22.7	8.0	0.78	0.26	-10.6	0.76	0.28	-0.09
180- 1	3.0	-0.2	-3.0	0.07	-0.07	-46.5	-0.00	0.00	-0.07
180- 2	4.9	0.2	-4.6	0.11	-0.10	-44.8	0.01	0.00	-0.11
180- 3	4.4	0.1	-4.5	0.10	-0.11	-44.0	0.00	-0.01	-0.10
180- 4	4.3	-0.1	-4.2	0.10	-0.10	-45.7	-0.00	0.00	-0.10
180- 5	6.2	-0.1	-6.3	0.14	-0.13	-45.4	-0.00	0.00	-0.14
180- 6	-8.2	-0.1	7.6	0.17	-0.19	-45.6	-0.02	-0.01	-0.18
180- 7	8.6	-0.4	-9.2	0.19	-0.22	-45.1	-0.01	-0.01	-0.21
180- 8	7.2	-0.4	-7.6	0.16	-0.18	-45.7	-0.01	-0.00	-0.17
180- 9	4.6	-0.4	-5.0	0.10	-0.12	-46.0	-0.01	-0.01	-0.11
180-10	2.6	-0.0	-2.7	0.06	-0.06	-44.6	-0.00	-0.00	-0.06
180-11	-5.0	0.0	4.4	0.10	-0.12	43.3	-0.0.	-0.02	0.11
180-12	-4.4	-0.2	4.3	0.10	-0.10	45.7	-0.00	0.00	0.10
180-13	-4.6	-0.1	4.5	0.10	-0.11	45.3	-0.00	-0.00	0.11
180-14	-5.2	-0.1	5.1	0.12	-0.12	45.2	-0.00	-0.00	0.12
180-15	-8.1	-1.8	6.9	0.15	-0.20	49.5	-0.05	0.00	0.17
180-16	7.6	-5.6	-7.7	0.22	-0.22	42.0	0.02	-0.02	0.22
180-17	-8.2	1.0	8.2	0.19	-0.19	41.4	0.02	-0.02	0.19
180-18	-4.9	0.5	4.9	0.11	-0.11	42.1	0.01	-0.01	0.11
180-19	-1.4	-0.0	1.0	0.02	-0.04	41.0	-0.01	-0.01	0.03
180-20	-0.1	-0.1	-0.5	-0.01	-0.02	-29.1	-0.01	-0.01	-0.00
202- 1	-4.3	-4.0	-6.3	-0.19	-0.26	-19.4	-0.20	-0.25	-0.02
202- 2	-4.7	-3.2	-5.2	-0.17	-0.25	-3.4	-0.17	-0.25	-0.00
202- 3	-6.3	-1.0	-2.0	-0.09	-0.27	16.9	-0.10	-0.25	0.05
202- 4	-6.5	-2.5	-2.4	-0.12	-0.26	22.8	-0.14	-0.24	0.05
202- 5	5.6	-7.3	-7.0	-0.24	-0.30	-73.8	-0.29	-0.25	-0.02
202- 6	-10.0	-3.8	-5.2	-0.22	-0.43	-63.9	-0.39	-0.26	-0.08
202- 7	-1.3	-9.4	-13.1	-0.16	-0.46	-55.3	-0.36	-0.26	-0.14

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	0.3	-6.1	-7.5	-0.05	-0.26	-61.1	-0.21	-0.10	-0.09
202- 9	-0.1	-6.3	-4.9	-0.00	-0.21	-73.9	-0.20	-0.02	-0.06
202-10	0.1	-4.2	-1.2	0.06	-0.11	-84.9	-0.11	0.06	-0.02
202-11	2.1	1.8	13.0	0.51	0.14	68.3	0.19	0.46	0.13
202-12	-0.3	0.5	13.7	0.51	0.07	65.9	0.14	0.43	0.16
202-13	-3.3	0.2	16.4	0.55	0.01	61.5	0.13	0.43	0.23
202-14	-3.4	0.1	16.7	0.56	0.01	61.6	0.13	0.44	0.23
202-15	-3.7	-0.5	13.9	0.46	-0.02	61.2	0.09	0.35	0.20
202-16	11.2	0.4	-4.3	0.34	-0.05	47.3	0.13	0.16	0.19
202-17	-3.0	6.9	3.2	0.18	-0.17	12.3	0.16	-0.15	0.07
202-18	-4.7	0.3	-1.3	-0.04	-0.21	13.4	-0.05	-0.21	0.04
202-19	-5.6	-3.7	-3.9	-0.17	-0.23	20.2	-0.18	-0.23	0.02
202-20	-6.1	-6.3	-5.7	-0.24	-0.26	76.7	-0.26	-0.24	0.00
225- 1	0.8	-2.0	-0.7	0.05	-0.05	-80.1	-0.04	0.05	-0.02
225- 2	-2.2	-4.2	-0.4	0.01	-0.13	81.4	-0.12	0.01	0.02
225- 3	-6.8	-4.5	0.5	-0.05	-0.22	55.1	-0.17	-0.10	0.08
225- 4	-9.8	-7.9	-1.1	-0.12	-0.35	59.7	-0.29	-0.18	0.10
225- 5	-19.1	-17.3	-3.1	-0.24	-0.71	63.9	-0.62	-0.33	0.19
225- 6	-3.0	-4.0	-18.6	-0.22	-0.70	80.6	-0.69	-0.24	0.08
225- 7	-10.3	-22.2	-11.8	-0.21	-0.73	-88.2	-0.73	-0.21	-0.02
225- 8	-7.2	-14.6	-3.5	-0.01	-0.45	84.3	-0.44	-0.02	0.04
225- 9	-6.1	-13.3	-0.9	0.08	-0.39	82.6	-0.38	0.08	0.06
225-10	-2.9	-11.6	1.0	0.21	-0.29	84.8	-0.29	0.20	0.05
225-11	-0.7	-3.5	-2.3	-0.01	-0.11	-79.4	-0.11	-0.01	-0.02
225-12	-1.4	-1.6	3.2	0.12	-0.04	69.0	-0.02	0.10	0.05
225-13	-3.8	-0.0	10.9	0.34	-0.04	57.9	0.07	0.23	0.17
225-14	-5.8	3.0	18.7	0.57	-0.02	52.9	0.20	0.36	0.28
225-15	-0.2	-4.3	10.6	0.47	-0.03	75.1	0.00	0.44	0.13
225-16	9.1	-3.3	-6.7	0.26	-0.16	46.1	0.04	0.06	0.21
225-17	-4.4	6.2	-1.1	0.09	-0.33	5.3	0.09	-0.32	0.04
225-18	-8.1	-2.3	-7.4	-0.21	-0.46	1.8	-0.21	-0.46	0.01
225-19	-10.5	-8.4	-9.7	-0.39	-0.47	7.0	-0.39	-0.47	0.01
225-20	-10.6	-14.3	-11.9	-0.41	-0.56	-83.8	-0.55	-0.41	-0.02
247- 1	1.3	1.9	5.5	0.21	0.09	62.6	0.11	0.18	0.05
247- 2	-2.9	-1.9	5.8	0.19	-0.06	63.8	-0.01	0.14	0.10
247- 3	-8.5	-6.6	5.4	0.13	-0.26	63.0	-0.18	0.05	0.16
247- 4	-17.9	-15.3	4.7	0.05	-0.62	64.7	-0.50	-0.07	0.26
247- 5	9.1	-6.2	-25.5	0.05	-0.75	73.2	-0.69	-0.02	0.22
247- 6	-12.0	-28.5	-6.4	0.06	-0.84	85.9	-0.84	0.05	0.06
247- 7	-12.6	-27.6	-5.2	0.06	-0.82	84.4	-0.81	0.05	0.09
247- 8	-10.8	-24.0	-2.5	0.13	-0.70	83.3	-0.69	0.12	0.10
247- 9	-9.0	-23.2	-2.7	0.16	-0.66	84.8	-0.65	0.15	0.07
247-10	-7.5	-20.2	-2.2	0.15	-0.57	85.1	-0.56	0.15	0.06
247-11	-6.0	-10.9	-4.2	-0.08	-0.36	85.8	-0.35	-0.08	0.02
247-12	-8.1	-6.0	2.3	0.02	-0.26	60.2	-0.19	-0.05	0.12
247-13	-7.9	1.4	8.4	0.20	-0.18	41.1	0.04	-0.01	0.19
247-14	-11.5	-0.1	5.3	0.07	-0.34	36.2	-0.07	-0.19	0.19
247-15	4.5	-7.8	-14.5	0.01	-0.44	36.7	-0.15	-0.28	0.22
247-16	-15.3	-1.4	1.9	-0.05	-0.52	29.1	-0.16	-0.41	0.20
247-17	-10.0	-2.4	-11.0	-0.26	-0.64	-1.9	-0.26	-0.64	-0.01
247-18	-11.9	-9.5	-14.5	-0.48	-0.65	-9.8	-0.48	-0.65	-0.03
247-19	-11.8	-14.0	-15.4	-0.54	-0.62	-51.2	-0.59	-0.57	-0.04
247-20	-12.9	-20.4	-16.0	-0.48	-0.76	-82.6	-0.76	-0.48	-0.04
270- 1	-7.7	-0.8	13.7	0.39	-0.13	54.9	0.04	0.22	0.25
270- 2	-13.4	-8.7	10.5	0.26	-0.38	60.6	-0.23	0.11	0.28
270- 3	8.5	-16.0	-15.8	0.24	-0.56	62.3	-0.38	0.07	0.33
270- 4	-21.1	-21.3	7.4	0.18	-0.76	67.8	-0.63	0.04	0.33
270- 5	-23.8	-31.6	0.9	0.06	-1.04	74.2	-0.95	-0.03	0.29
270- 6	-23.8	-35.5	-3.4	-0.02	-1.14	77.5	-1.09	-0.08	0.23
270- 7	-19.9	-35.7	-7.6	-0.06	-1.12	82.1	-1.10	-0.08	0.14
270- 8	-14.3	-30.7	-8.1	-0.03	-0.94	85.5	-0.93	-0.03	0.07
270- 9	-12.1	-29.2	-9.3	-0.03	-0.89	87.8	-0.88	-0.03	0.03
270-10	-7.3	-24.5	-6.4	0.11	-0.70	89.2	-0.70	0.11	0.01
270-11	-12.6	-17.6	-4.6	-0.14	-0.60	77.9	-0.58	-0.16	0.09
270-12	-8.1	-5.7	0.5	-0.05	-0.27	56.9	-0.21	-0.12	0.10
270-13	-6.8	-0.7	-1.1	-0.07	-0.27	62.7	-0.23	-0.11	0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-7.5	-3.7	-0.4	-0.09	-0.25	43.2	-0.16	-0.17	0.08
270-15	-6.3	-0.1	-2.8	-0.08	-0.31	10.7	-0.09	-0.30	0.04
270-16	-5.7	-1.2	-7.1	-0.15	-0.40	-4.0	-0.15	-0.39	-0.02
270-17	-6.1	-6.8	-12.0	-0.30	-0.47	-26.3	-0.34	-0.44	-0.07
270-18	-6.6	-13.2	-13.9	-0.33	-0.55	-64.8	-0.51	-0.37	-0.08
270-19	-5.7	-16.7	-14.8	-0.26	-0.62	-72.5	-0.59	-0.29	-0.10
270-20	-8.3	-25.2	-17.2	-0.24	-0.85	-80.3	-0.83	-0.26	-0.10
0- 6	-13.0	0.8	15.1	0.37	-0.28	85.4	0.04	0.05	0.32
11- 1	-7.1	2.8	20.5	0.62	-0.04	52.8	0.20	0.38	0.32
22- 6	1.5	8.0	27.5	0.95	0.28	58.2	0.47	0.77	0.30
33- 1	10.6	13.3	34.0	1.30	0.61	63.9	0.75	1.17	0.27
45- 6	19.0	12.5	36.8	1.61	0.79	75.1	0.84	1.55	0.20
56- 1	22.9	5.7	37.1	1.87	0.70	81.8	0.72	1.85	0.16
67- 5	13.3	-1.9	31.2	1.55	0.36	79.8	0.39	1.51	0.21
78- 1	4.7	-9.8	19.9	1.07	-0.01	80.5	0.02	1.04	0.18
90- 3	-4.6	-11.7	9.8	0.48	-0.26	76.6	-0.22	0.44	0.17
0-16	-2.2	4.4	5.7	0.18	-0.04	27.7	0.14	0.01	0.09
11-11	-26.1	-27.3	-2.6	-0.21	-1.02	68.9	-0.91	-0.32	0.27
22-16	-35.7	-37.6	-4.3	-0.32	-1.40	69.1	-1.26	-0.45	0.36
33-11	-38.5	-37.8	-4.6	-0.38	-1.47	66.9	-1.30	-0.55	0.39
45-16	-29.6	-38.5	-16.1	-0.59	-1.37	78.4	-1.34	-0.62	0.16
56-11	-15.0	-31.6	-27.0	-0.62	-1.18	-75.3	-1.14	-0.65	-0.14
67-15	-5.7	-18.4	-21.3	-0.37	-0.79	-60.9	-0.69	-0.47	-0.18
78-11	2.2	0.6	-4.1	0.04	-0.12	-31.4	-0.01	-0.08	-0.07
90-13	7.2	9.8	4.3	0.35	0.15	-9.6	0.34	0.15	-0.03
180- 6	-8.2	-0.1	7.6	0.17	-0.19	84.4	-0.01	-0.02	0.18
191- 1	-11.0	-1.8	2.7	-0.01	-0.35	35.2	-0.12	-0.24	0.16
202- 6	-10.0	-3.8	-5.2	-0.22	-0.43	16.1	-0.24	-0.41	0.06
213- 1	-6.6	-4.3	-12.9	-0.27	-0.56	-15.0	-0.29	-0.54	-0.07
225- 6	-3.0	-4.0	-18.6	-0.22	-0.70	-24.4	-0.31	-0.62	-0.18
236- 1	3.2	-3.1	-23.3	-0.09	-0.78	-31.1	-0.27	-0.59	-0.31
247- 5	9.1	-6.2	-25.5	0.05	-0.75	-41.8	-0.31	-0.40	-0.40
258- 1	11.5	-10.8	-23.0	0.17	-0.66	-53.1	-0.36	-0.13	-0.40
270- 3	8.5	-16.0	-15.8	0.24	-0.56	-67.7	-0.44	0.1.	-0.28
180-16	7.6	-5.6	-7.7	0.22	-0.22	-63.0	-0.13	0.13	-0.18
191-11	11.1	-0.3	-5.5	0.33	-0.08	-55.4	0.05	0.19	-0.14
202-16	11.2	0.4	-4.3	0.34	-0.05	-55.7	0.08	0.22	-0.18
213-11	8.5	-1.8	-4.4	0.26	-0.09	-60.4	-0.00	0.18	-0.15
225-16	9.1	-3.3	-6.7	0.26	-0.16	-59.9	-0.05	0.16	-0.18
236-11	6.6	-6.9	-10.9	0.14	-0.32	-59.4	-0.20	0.02	-0.20
247-15	4.5	-7.8	-14.5	0.01	-0.44	-53.3	-0.28	-0.15	-0.22
258-11	0.1	-2.7	-12.3	-0.10	-0.43	-30.7	-0.18	-0.34	-0.14
270-13	-6.8	-0.7	-1.1	-0.07	-0.27	20.7	-0.09	-0.24	0.07
400-01	0.5	-3.3	0.1	0.10	-0.07	-43.5	0.02	0.01	-0.08
400-11	-0.3	-1.5	0.2	0.03	-0.04	40.5	0.00	-0.01	0.03
401-01	22.8	-0.3	-23.4	0.52	-0.55	-44.9	-0.01	-0.02	-0.53
401-02	2.2	-10.1					-0.03	-0.31	
401-03	-0.1	-0.7					-0.01	-0.02	
401-04	-3.7	11.0					-0.01	0.33	
402-01	-0.2	-0.0	0.2	0.00	-0.01	86.3	-0.00	-0.00	0.00
402-02	0.0	0.1					0.00	0.00	
402-03	-0.0	-0.1					-0.00	-0.00	
402-04	0.0	-0.0					0.00	-0.00	
403-01	2.8	0.1	-2.7	0.07	-0.06	-44.9	0.00	0.00	-0.06
403-02	-4.4	16.1					0.02	0.49	
403-03	0.5	-1.4					0.00	-0.04	
403-04	3.9	-15.4					-0.02	-0.47	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, INTERNAL PRESSURE LOADING

NOMINAL LOAD = 6.369E 01 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. DIR. AIRG	NORMAL	SHEAR
0- 1	19.1	8.6	11.4	0.83	0.48	-75.0	0.50	0.81	-0.09
0- 2	7.4	0.9	6.8	0.45	0.16	-88.6	0.16	0.45	-0.01
0- 3	7.7	5.1	7.4	0.38	0.27	-88.2	0.27	0.38	-0.00
0- 4	6.4	3.8	6.1	0.33	0.21	-88.5	0.21	0.33	-0.00
0- 5	6.6	1.9	6.3	0.38	0.17	-89.2	0.17	0.38	-0.00
0- 6	11.9	4.2	11.1	0.66	0.32	-88.3	0.32	0.66	-0.01
0- 7	8.0	20.7	16.6	0.75	0.31	-86.4	0.31	0.75	-0.03
0- 8	13.2	1.7	7.5	0.65	0.23	-80.9	0.24	0.64	-0.07
0- 9	8.8	2.1	4.1	0.39	0.16	-76.0	0.18	0.38	-0.05
0-10	11.1	4.8	3.3	0.41	0.20	-60.8	0.25	0.36	-0.09
0-11	15.5	5.0	16.1	0.93	0.43	89.2	0.43	0.93	0.01
0-12	17.8	12.4	17.6	0.88	0.64	-89.2	0.64	0.88	-0.00
0-13	16.6	12.1	17.1	0.83	0.61	88.5	0.61	0.83	0.01
0-14	19.3	14.2	19.7	0.96	0.71	88.8	0.71	0.96	0.01
0-15	24.0	14.0	24.1	1.27	0.80	89.9	0.80	1.27	0.00
0-16	24.0	-6.3	25.4	1.77	0.34	89.4	0.34	1.77	0.02
0-17	59.2	56.2	2.0	2.20	0.42	-89.1	0.42	2.20	-0.03
0-18	28.0	-10.6	22.8	1.92	0.26	-88.0	0.26	1.92	-0.06
0-19	26.4	15.4	24.1	1.31	0.85	-86.7	0.85	1.31	-0.03
0-20	27.4	36.3	23.5	1.35	0.83	-5.1	1.34	0.84	-0.05
22- 1	25.1	12.7	5.2	0.89	0.41	-52.0	0.59	0.71	-0.23
22- 2	12.7	3.5	-1.1	0.42	0.08	-54.4	0.19	0.30	-0.16
22- 3	13.8	6.2	-1.2	0.44	0.10	-45.3	0.27	0.27	-0.17
22- 4	12.5	1.8	-4.0	0.38	-0.02	-53.4	0.13	0.24	-0.19
22- 5	19.8	4.2	4.1	0.77	0.26	-67.4	0.33	0.69	-0.18
22- 6	6.9	18.6	15.9	0.68	0.29	-79.0	0.31	0.67	-0.07
22- 7	8.5	-1.6	7.8	0.57	0.12	-89.0	0.12	0.57	-0.01
22- 8	2.6	-2.4	9.5	0.47	0.05	78.9	0.06	0.45	0.08
22- 9	0.3	-2.1	8.9	0.38	0.01	73.5	0.04	0.35	0.10
22-10	-0.2	0.5	12.5	0.46	0.07	65.8	0.13	0.39	0.15
22-11	4.6	1.4	26.1	1.06	0.25	71.2	0.34	0.98	0.25
22-12	12.7	10.3	22.8	0.97	0.55	72.8	0.59	0.93	0.12
22-13	12.1	11.3	22.5	0.92	0.56	69.5	0.60	0.88	0.12
22-14	14.1	11.7	31.1	1.29	0.65	71.1	0.72	1.22	0.20
22-15	27.9	-7.8	29.0	2.05	0.38	89.6	0.38	2.05	0.01
22-16	44.0	58.4	11.0	1.99	0.37	83.9	0.39	1.97	0.17
22-17	14.8	4.7	35.3	1.60	0.55	76.7	0.60	1.55	0.24
22-18	23.2	15.4	24.6	1.22	0.83	87.7	0.83	1.22	0.02
22-19	17.9	14.4	18.8	0.88	0.70	86.8	0.70	0.88	0.01
22-20	22.0	31.2	22.0	1.16	0.73	-0.1	1.16	0.73	-0.00
45- 1	31.4	29.8	13.7	1.23	0.70	-25.3	1.14	0.80	-0.20
45- 2	24.2	11.3	1.6	0.82	0.29	-49.0	0.51	0.59	-0.26
45- 3	16.6	7.0	-0.9	0.54	0.13	-47.7	0.32	0.35	-0.20
45- 4	17.8	2.4	-7.4	0.52	-0.07	-51.4	0.16	0.29	-0.29
45- 5	20.4	3.5	4.0	0.80	0.25	-68.3	0.32	0.72	-0.19
45- 6	9.7	19.0	10.9	0.64	0.24	-82.9	0.25	0.64	-0.05
45- 7	5.8	-5.5	7.0	0.55	-0.00	88.6	-0.00	0.55	0.01
45- 8	-2.0	-8.6	9.4	0.47	-0.15	77.5	-0.12	0.44	0.13
45- 9	-4.1	-7.0	12.4	0.50	-0.14	71.8	-0.08	0.43	0.19
45-10	-2.7	-3.3	13.0	0.49	-0.05	68.6	0.02	0.41	0.18
45-11	-4.1	9.8	23.1	0.72	0.09	44.3	0.42	0.40	0.31
45-12	8.2	14.4	19.2	0.72	0.46	41.6	0.60	0.57	0.13
45-13	6.1	12.3	18.1	0.66	0.38	44.0	0.52	0.52	0.14
45-14	5.0	12.8	26.2	0.92	0.42	52.3	0.60	0.73	0.24
45-15	12.3	-7.8	23.9	1.39	0.16	83.7	0.18	1.37	0.13
45-16	22.6	37.9	12.0	1.23	0.25	82.8	0.27	1.22	0.12
45-17	7.1	2.7	25.7	1.09	0.32	72.9	0.39	1.02	0.21
45-18	11.7	7.9	21.4	0.94	0.48	75.5	0.51	0.91	0.11
45-19	11.3	6.3	15.6	0.75	0.40	81.7	0.41	0.74	0.05
45-20	12.9	12.2	16.6	0.70	0.56	72.1	0.57	0.69	0.04
67- 1	19.1	18.6	7.3	0.75	0.38	-23.8	0.69	0.44	-0.14

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	20.2	14.9	4.3	0.72	0.33	-35.7	0.59	0.47	-0.18
67- 3	21.6	10.4	1.3	0.73	0.25	-48.0	0.47	0.52	-0.23
67- 4	25.5	7.9	-0.3	0.86	0.22	-55.1	0.43	0.65	-0.30
67- 5	19.3	6.3	8.0	0.80	0.37	-71.2	0.41	0.75	-0.13
67- 6	13.3	24.2	13.5	0.82	0.32	-76.8	0.35	0.80	-0.11
67- 7	12.7	-3.3	6.8	0.72	0.11	-83.6	0.12	0.72	-0.07
67- 8	3.2	-11.1	7.7	0.62	-0.15	86.2	-0.15	0.62	0.05
67- 9	-0.7	-11.8	9.3	0.57	-0.20	81.3	-0.19	0.55	0.12
67-10	-0.3	-10.0	10.8	0.60	-0.15	80.0	-0.13	0.58	0.13
67-11	8.4	12.3	9.8	0.46	0.32	6.3	0.46	0.32	0.02
67-12	9.8	14.4	8.9	0.52	0.28	-2.7	0.52	0.28	-0.01
67-13	7.1	13.8	9.8	0.49	0.24	7.0	0.48	0.24	0.03
67-14	-2.3	5.6	14.0	0.44	0.06	86.0	0.24	0.26	0.19
67-15	5.1	-10.9	3.0	0.51	-0.16	-88.0	-0.16	0.51	-0.02
67-16	0.9	14.5	7.2	0.43	-0.08	-88.6	-0.08	0.43	-0.01
67-17	-0.4	-7.5	5.3*	0.34	-0.13	81.9	-0.12	0.33	0.07
67-18	2.8	-0.0	11.3	0.50	0.11	74.6	0.14	0.47	0.10
67-19	4.6	-1.1	10.4	0.53	0.11	80.7	0.12	0.52	0.07
67-20	7.7	1.6	13.6	0.68	0.24	81.0	0.25	0.67	0.07
90- 1	12.1	17.6	10.9	0.64	0.35	-2.8	0.63	0.35	-0.01
90- 2	12.4	16.0	12.0	0.61	0.44	-1.5	0.61	0.44	-0.00
90- 3	14.4	15.3	15.1	0.65	0.62	14.6	0.65	0.62	0.01
90- 4	18.4	15.0	18.5	0.87	0.71	89.8	0.71	0.87	0.00
90- 5	19.9	18.1	18.7	0.86	0.80	-76.3	0.80	0.86	-0.01
90- 6	20.9	20.8	15.3	0.86	0.68	-85.1	0.69	0.86	-0.02
90- 7	16.2	7.6	14.7	0.84	0.48	-87.2	0.48	0.84	-0.02
90- 8	8.3	-6.6	9.0	0.72	0.02	89.4	0.02	0.72	0.01
90- 9	5.6	-13.5	4.0	0.63	-0.22	-88.8	-0.22	0.63	-0.02
90-10	4.7	-12.9	3.3	0.56	-0.22	-88.9	-0.22	0.56	-0.02
90-11	9.5	13.3	9.4	0.50	0.32	-0.6	0.49	0.32	-0.00
90-12	11.1	15.8	9.9	0.57	0.33	-3.2	0.57	0.33	-0.01
90-13	8.9	13.2	7.7	0.47	0.24	-3.3	0.47	0.24	-0.01
90-14	2.6	4.6	1.1	0.14	0.01	-7.8	0.14	0.02	-0.02
90-15	-5.8	-7.5	-7.0	-0.25	-0.30	-74.7	-0.30	-0.25	-0.01
90-16	-7.4	-6.0	-4.7	-0.23	-0.29	-80.1	-0.29	-0.23	-0.01
90-17	-4.2	-6.9	-5.6	-0.16	-0.26	-80.7	-0.26	-0.16	-0.02
90-18	-1.2	-6.7	-0.4	0.10	-0.17	88.1	-0.17	0.10	0.01
90-19	4.2	-2.1	5.8	0.38	0.05	86.8	0.05	0.38	0.02
90-20	4.7	-5.2	7.4	0.52	-0.00	86.6	0.00	0.52	0.03
180- 1	22.6	11.6	15.2	1.00	0.62	-76.6	0.64	0.98	-0.09
180- 2	7.4	2.2	7.2	0.43	0.19	-89.6	0.19	0.43	-0.00
180- 3	8.0	5.9	7.6	0.38	0.29	-87.0	0.29	0.38	-0.00
180- 4	6.5	4.7	6.6	0.32	0.24	89.1	0.24	0.32	0.00
180- 5	6.5	2.4	7.4	0.40	0.19	87.2	0.19	0.40	0.01
180- 6	12.1	6.5	15.6	0.76	0.42	83.3	0.42	0.76	0.04
180- 7	9.3	21.6	16.6	0.77	0.34	86.4	0.34	0.77	0.03
180- 8	11.2	1.7	9.0	0.63	0.24	-86.3	0.24	0.63	-0.03
180- 9	9.3	3.4	6.5	0.45	0.23	-81.5	0.24	0.44	-0.03
180-10	12.1	11.5	9.6	0.50	0.43	-30.7	0.48	0.45	-0.03
180-11	13.3	-4.2	15.8	1.06	0.19	88.1	0.19	1.06	0.03
180-12	18.9	10.9	18.1	0.97	0.62	-88.4	0.62	0.97	-0.01
180-13	18.5	12.4	16.8	0.88	0.63	-85.6	0.63	0.88	-0.02
180-14	20.4	15.0	20.2	0.99	0.75	-89.5	0.75	0.99	-0.00
180-15	25.1	14.4	24.1	1.29	0.82	-88.5	0.82	1.29	-0.01
180-16	22.0	-12.0	27.1	1.90	0.21	88.0	0.21	1.89	0.06
180-17	54.8	70.3	12.1	2.42	0.45	90.0	0.45	2.42	0.00
180-18	28.2	-9.7	27.0	2.04	0.32	-89.6	0.32	2.04	-0.01
180-19	25.0	19.7	25.0	1.20	0.95	90.0	0.95	1.20	0.00
180-20	20.6	24.1	18.5	0.95	0.73	-6.5	0.94	0.73	-0.02
202- 1	23.9	18.8	10.5	0.90	0.58	-38.2	0.77	0.70	-0.15
202- 2	13.4	4.2	0.0	0.45	0.12	-55.3	0.23	0.35	-0.15
202- 3	13.4	8.0	0.4	0.45	0.14	-40.4	0.32	0.27	-0.15
202- 4	13.0	2.8	-2.9	0.41	0.03	-52.9	0.16	0.27	-0.18
202- 5	22.9	6.8	6.1	0.89	0.36	-66.2	0.44	0.80	-0.19
202- 6	9.6	21.5	19.6	0.82	0.43	-77.2	0.45	0.80	-0.09
202- 7	10.6	1.5	12.3	0.72	0.26	87.5	0.26	0.72	0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO PER. DIR. ALONG	NORMAL	SHEAR
202- 8	1.5	-0.3	12.4	0.51	0.09	71.5	0.13	0.47	0.13
202- 9	0.9	3.7	13.2	0.46	0.14	59.2	0.22	0.38	0.14
202-10	8.5	10.1	14.4	0.52	0.29	41.3	0.42	0.39	0.11
202-11	-1.0	-0.6	29.9	1.12	0.12	67.1	0.27	0.97	0.36
202-12	11.5	11.7	23.9	0.96	0.56	66.8	0.62	0.89	0.14
202-13	10.8	12.1	23.5	0.92	0.55	64.3	0.62	0.85	0.15
202-14	14.1	14.4	30.5	1.22	0.69	67.0	0.77	1.14	0.19
202-15	32.0	-9.0	21.6	1.98	0.31	-85.9	0.32	1.97	-0.12
202-16	52.6	68.6	17.7	2.38	0.64	84.3	0.65	2.36	0.17
202-17	16.8	-3.5	33.2	1.76	0.39	82.0	0.41	1.73	0.19
202-18	21.8	11.7	27.5	1.36	0.75	83.8	0.76	1.36	0.07
202-19	20.5	17.1	21.9	1.00	0.81	85.0	0.81	1.00	0.02
202-20	19.5	20.3	20.5	0.87	0.85	30.3	0.86	0.85	0.01
225- 1	35.8	28.3	16.8	1.35	0.90	-38.8	1.17	1.08	-0.22
225- 2	34.0	16.7	1.7	1.14	0.39	-47.0	0.74	0.79	-0.37
225- 3	22.8	10.6	-0.4	0.75	0.21	-46.4	0.47	0.49	-0.27
225- 4	19.7	5.0	-6.5	0.59	-0.02	-48.4	0.25	0.32	-0.30
225- 5	21.8	5.8	6.0	0.86	0.33	-67.9	0.41	0.78	-0.18
225- 6	12.0	22.6	14.4	0.78	0.34	-81.4	0.35	0.77	-0.07
225- 7	8.6	-3.2	8.5	0.63	0.10	-89.9	0.10	0.63	-0.00
225- 8	-0.4	-6.3	9.8	0.48	-0.08	77.5	-0.05	0.46	0.12
225- 9	-2.5	-3.8	12.6	0.49	-0.05	69.7	0.01	0.42	0.17
225-10	-0.8	-1.1	14.8	0.56	0.04	68.1	0.11	0.49	0.18
225-11	-3.9	9.3	22.3	0.70	0.09	44.9	0.40	0.39	0.30
225-12	8.7	12.2	12.8	0.52	0.40	27.4	0.50	0.43	0.05
225-13	7.0	10.4	12.8	0.49	0.36	40.3	0.44	0.41	0.07
225-14	6.3	14.4	28.4	0.87	0.45	47.9	0.64	0.68	0.21
225-15	23.5	-10.2	16.7	1.56	0.16	-86.8	0.16	1.56	-0.08
225-16	28.1	45.8	14.5	1.45	0.20	-85.1	0.21	1.44	-0.11
225-17	21.3	-5.0	10.6	1.18	0.18	-82.8	0.20	1.17	-0.12
225-18	13.3	5.9	20.9	1.01	0.46	80.7	0.47	0.99	0.09
225-19	13.2	9.5	17.7	0.81	0.52	79.7	0.52	0.80	0.05
225-20	16.9	8.9	11.8	0.75	0.48	-77.4	0.49	0.78	-0.06
247- 1	16.6	17.6	7.0	0.68	0.33	-19.7	0.64	0.37	-0.11
247- 2	25.9	21.3	6.5	0.95	0.44	-31.1	0.81	0.58	-0.22
247- 3	25.3	14.3	2.6	0.86	0.33	-44.0	0.61	0.59	-0.26
247- 4	33.4	16.5	1.5	1.12	0.38	-46.8	0.73	0.77	-0.37
247- 5	21.7	7.7	9.1	0.89	0.43	-70.2	0.48	0.84	-0.15
247- 6	15.8	25.0	13.1	0.86	0.37	-75.6	0.40	0.83	-0.12
247- 7	16.1	-1.8	5.9	0.79	0.15	-79.1	0.18	0.77	-0.12
247- 8	4.3	-11.3	5.5	0.59	-0.16	88.9	-0.16	0.59	0.01
247- 9	-0.1	-12.9	7.4	0.55	-0.23	83.6	-0.22	0.54	0.09
247-10	-0.3	-10.4	8.0	0.51	-0.18	81.9	-0.16	0.50	0.10
247-11	8.4	12.9	9.5	0.48	0.29	3.8	0.48	0.29	0.01
247-12	11.0	8.2	2.4	0.39	0.18	-35.0	0.32	0.25	-0.10
247-13	6.0	9.0	4.4	0.31	0.14	-6.1	0.31	0.14	-0.02
247-14	-2.2	2.6	9.2	0.28	0.02	49.1	0.13	0.17	0.13
247-15	5.6	-11.8	1.9	0.52	-0.20	-86.6	-0.20	0.52	-0.04
247-16	4.9	15.1	1.0	0.41	-0.16	85.4	-0.16	0.41	0.05
247-17	-5.8	-5.3	7.2	0.23	-0.18	66.4	-0.11	0.17	0.15
247-18	1.9	-1.0	10.5	0.46	0.07	74.7	0.10	0.43	0.10
247-19	6.1	1.1	9.9	0.51	0.18	82.2	0.18	0.50	0.04
247-20	11.9	-0.8	8.3	0.69	0.18	-85.3	0.18	0.69	-0.04
270- 1	12.1	19.2	13.4	0.70	0.39	3.0	0.70	0.40	0.02
270- 2	16.3	24.3	17.3	0.89	0.55	1.8	0.89	0.55	0.01
270- 3	17.3	19.2	17.5	0.79	0.70	1.4	0.79	0.70	0.00
270- 4	23.2	25.0	23.1	1.04	0.95	-1.2	1.04	0.95	-0.00
270- 5	21.9	19.3	20.4	0.95	0.86	-78.9	0.86	0.95	-0.02
270- 6	23.0	22.7	18.1	0.95	0.81	-86.3	0.81	0.95	-0.01
270- 7	19.4	11.5	17.7	0.96	0.63	-86.5	0.63	0.96	-0.02
270- 8	9.4	-7.5	7.6	0.74	-0.01	-88.3	-0.01	0.73	-0.02
270- 9	3.4	-15.3	5.8	0.66	-0.26	88.3	-0.26	0.65	0.03
270-10	4.6	-15.5	4.6	0.66	-0.27	-90.0	-0.27	0.66	-0.00
270-11	9.1	15.3	10.8	0.55	0.30	4.6	0.55	0.30	0.02
270-12	5.6	8.2	6.6	0.31	0.21	6.4	0.31	0.21	0.01
270-13	6.4	10.6	6.9	0.38	0.19	1.7	0.38	0.19	0.01

LOCATION	STRAIN E(1)	(MICROINCHES/INCH) E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-3.1	-2.7	-2.2	-0.10	-0.12	46.3	-0.11	-0.11	0.01
270-15	-6.2	-8.1	-6.4	-0.23	-0.31	-88.5	-0.31	-0.23	-0.00
270-16	-8.3	-5.6	-3.1	-0.18	-0.30	-89.2	-0.30	-0.18	-0.00
270-17	-4.8	-8.1	-4.8	-0.13	-0.28	-89.9	-0.28	-0.13	-0.00
270-18	-1.4	-2.9	208.7*	7.90	0.99	67.7	1.98	6.90	2.42
270-19	3.7	-1.3	5.6	0.34	0.06	85.6	0.06	0.34	0.02
270-20	7.0	-4.7	5.4	0.52	0.01	-88.0	0.01	0.51	-0.02
0- 7	8.0	20.7	16.6	0.75	0.31	13.6	0.72	0.33	0.10
11- 1	4.2	18.1	18.0	0.70	0.25	22.2	0.64	0.31	0.16
22- 6	6.9	18.6	15.9	0.68	0.29	16.0	0.65	0.32	0.10
33- 1	9.6	20.0	13.8	0.70	0.30	7.1	0.69	0.31	0.05
45- 6	9.7	19.0	10.9	0.64	0.24	2.1	0.64	0.24	0.01
56- 1	11.7	22.4	11.8	0.75	0.26	0.1	0.75	0.26	0.00
67- 6	13.3	24.2	13.5	0.82	0.32	0.2	0.82	0.32	0.00
78- 1	18.2	23.2	13.4	0.86	0.50	-9.0	0.85	0.51	-0.06
90- 6	20.9	20.8	15.3	0.86	0.68	-23.1	0.84	0.71	-0.06
0-17	59.2	56.2	2.0	2.20	0.42	-24.1	1.90	0.72	-0.66
11-11	64.0	74.5	3.3	2.62	0.27	-18.3	2.38	0.50	-0.70
22-16	44.0	58.4	11.0	1.99	0.37	-14.1	1.89	0.46	-0.38
33-11	31.8	47.0	12.1	1.56	0.32	-10.8	1.52	0.37	-0.23
45-16	22.6	37.9	12.0	1.23	0.25	-7.2	1.22	0.27	-0.12
56-11	8.0	26.5	12.4	0.82	0.06	3.9	0.81	0.06	0.05
67-16	0.9	14.5	7.2	0.43	-0.08	8.4	0.42	-0.07	0.07
78-11	-3.8	2.8	-1.8	0.01	-0.25	5.0	0.01	-0.25	0.02
90-16	-7.4	-6.0	-4.7	-0.23	-0.29	44.9	-0.26	-0.26	0.03
180- 7	9.3	21.6	16.6	0.77	0.34	11.4	0.75	0.35	0.08
191- 1	6.8	18.6	19.2	0.75	0.36	24.0	0.69	0.43	0.14
202- 6	9.6	21.5	19.6	0.82	0.43	17.8	0.79	0.46	0.11
213- 1	12.4	23.7	18.2	0.86	0.45	9.7	0.85	0.46	0.07
225- 6	12.0	22.6	14.4	0.78	0.34	3.6	0.78	0.34	0.03
236- 1	12.1	21.7	11.7	0.74	0.28	-0.5	0.74	0.28	-0.00
247- 6	15.8	25.0	13.1	0.86	0.37	-3.6	0.86	0.38	-0.03
258- 1	18.5	24.2	14.9	0.89	0.54	-6.8	0.89	0.55	-0.04
270- 6	23.0	22.7	18.1	0.95	0.81	-24.3	0.93	0.83	-0.06
180-17	54.8	70.3	12.1	2.42	0.45	-15.0	2.28	0.58	-0.49
191-11	49.8	68.9	14.5	2.32	0.44	-12.8	2.23	0.53	-0.41
202-16	52.6	68.6	17.7	2.38	0.64	-13.7	2.28	0.73	-0.40
213-11	30.9	53.9	13.5	1.71	0.19	-7.7	1.68	0.22	-0.20
225-16	24.1	45.8	14.5	1.45	0.20	-5.1	1.44	0.21	-0.11
236-11	16.3	32.1	9.4	1.00	0.10	-5.1	1.00	0.11	-0.08
247-16	4.9	15.1	1.0	0.41	-0.16	-4.6	0.41	-0.16	-0.05
258-11	-1.2	6.1	-3.0	0.10	-0.28	-3.2	0.10	-0.28	-0.02
270-16	-8.3	-5.6	-3.1	-0.18	-0.30	43.8	-0.24	-0.25	0.06
400-01	5.9	13.0	24.4	0.87	0.43	-83.5	0.44	0.86	-0.05
400-11	9.2	5.1	3.0	0.34	0.19	80.7	0.19	0.33	0.02
401-01	20.2	8.5	19.7	1.12	0.59	-89.4	0.59	1.12	-0.01
401-02	5.3	27.7					0.45	0.97	
401-03	8.7	34.5					0.63	1.22	
401-04	7.1	29.2					0.52	1.03	
402-01	18.8	8.8	19.0	1.04	0.58	89.7	0.58	1.04	0.00
402-02	6.1	26.2					0.46	0.93	
402-03	7.8	21.2					0.47	0.78	
403-01	9.2	4.6	8.7	0.48	0.28	-88.5	0.28	0.48	-0.01
403-02	7.0	20.8					0.44	0.75	
403-03	5.0	23.0					0.39	0.81	
403-04	6.9	27.1					0.50	0.96	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, TORSIONAL MOMENT LOADING ON RUN, B2X

NOMINAL LOAD = 3.9252 03 YOUNG'S MODULUS = 30.002 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	21.2	-7.7	-24.1	0.48	-0.61	-52.7	-0.21	0.08	-0.52
0- 2	16.8	-2.6	-17.1	0.39	-0.40	-49.1	-0.06	0.05	-0.39
0- 3	19.0	-2.5	-20.6	0.42	-0.49	-47.4	-0.07	0.00	-0.46
0- 4	19.8	-1.6	-21.6	0.48	-0.52	-45.9	-0.05	-0.02	-0.48
0- 5	21.6	-1.7	-24.2	0.47	-0.58	-45.5	-0.07	-0.05	-0.53
0- 6	22.6	-1.5	-25.6	0.49	-0.62	-45.0	-0.06	-0.06	-0.56
0- 7	-21.0	-9.3	23.0	0.61	-0.52	-42.4	0.09	-0.01	-0.56
0- 8	12.3	-0.6	-15.3	0.26	-0.38	-43.2	-0.04	-0.08	-0.32
0- 9	-5.5	0.1	2.6	0.04	-0.16	34.3	-0.03	-0.10	0.09
0-10	-9.3	0.5	5.3	0.09	-0.26	35.5	-0.03	-0.14	0.17
0-11	-20.8	-4.4	16.6	0.34	-0.53	48.5	-0.14	-0.04	0.43
0-12	-14.3	-4.3	10.4	0.21	-0.37	50.3	-0.14	-0.03	0.29
0-13	-14.1	-2.6	11.1	0.23	-0.35	47.7	-0.09	-0.04	0.29
0-14	-13.8	-1.5	11.4	0.24	-0.34	45.8	-0.06	-0.04	0.29
0-15	-13.7	-0.0	13.5	0.31	-0.32	44.8	-0.00	-0.01	0.31
0-16	-6.9	1.1	8.8	0.22	-0.14	44.4	0.04	0.04	0.18
0-17	6.8	0.8	-1.4	0.22	0.01	57.9	0.07	0.16	0.09
0-18	2.7	-0.6	3.1	0.21	0.04	88.2	0.04	0.21	0.01
0-19	2.7	1.4	3.2	0.16	0.09	85.3	0.09	0.16	0.01
0-20	1.8	2.9	2.7	0.11	0.08	17.3	0.11	0.08	0.01
22- 1	14.8	7.3	-22.5	0.34	-0.66	-29.6	0.09	-0.42	-0.43
22- 2	11.2	5.4	-15.4	0.26	-0.44	-30.4	0.08	-0.26	-0.31
22- 3	15.5	3.8	-19.1	0.34	-0.50	-36.0	0.05	-0.21	-0.40
22- 4	16.9	2.9	-20.2	0.37	-0.51	-38.1	0.04	-0.17	-0.43
22- 5	19.4	2.5	-22.8	0.42	-0.57	-39.4	0.02	-0.17	-0.49
22- 6	-11.4	-7.0	14.1	0.41	-0.29	-33.3	0.20	-0.08	-0.32
22- 7	6.2	4.5	-3.7	0.19	-0.08	-28.4	0.13	-0.02	-0.11
22- 8	-0.2	1.1	4.6	0.15	0.03	56.4	0.07	0.12	0.06
22- 9	-2.2	-1.2	7.2	0.25	-0.03	64.2	0.02	0.19	0.11
22-10	-3.6	-2.5	8.7	0.29	-0.08	64.7	-0.01	0.22	0.14
22-11	-14.6	10.8	12.4	0.37	-0.46	24.3	0.23	-0.32	0.31
22-12	-12.6	3.6	8.2	0.18	-0.37	30.5	0.04	-0.23	0.24
22-13	-13.7	0.5	7.5	0.13	-0.39	35.7	-0.05	-0.22	0.24
22-14	-18.3	-2.4	5.3	0.01	-0.57	35.5	-0.18	-0.37	0.27
22-15	-19.6	0.6	-7.9	-0.23	-0.95	11.2	-0.26	-0.92	0.14
22-	-17.7	-27.6	-7.2	-0.16	-0.90	-1.6	-0.17	-0.90	-0.02
22-17	-9.4	-4.3	-14.9	-0.33	-0.71	-9.7	-0.34	-0.70	-0.06
22-18	-10.8	-8.2	-9.9	-0.39	-0.49	6.1	-0.39	-0.49	0.01
22-19	-7.6	-7.2	-6.6	-0.29	-0.32	50.3	-0.31	-0.30	0.01
22-20	-7.6	-13.5	-7.0	-0.17	-0.46	88.6	-0.46	-0.17	0.01
45- 1	-2.2	21.7	3.0	0.51	-0.48	3.5	0.51	-0.47	0.06
45- 2	0.5	15.1	1.7	0.37	-0.27	1.2	0.37	-0.27	0.01
45- 3	3.3	10.4	-0.6	0.27	-0.16	-6.0	0.27	-0.15	-0.04
45- 4	7.7	8.6	-3.0	0.29	-0.09	-20.2	0.25	-0.04	-0.12
45- 5	5.3	6.2	-6.5	0.18	-0.23	-20.4	0.13	-0.18	-0.14
45- 6	3.7	-0.5	3.8	0.26	0.06	4.8	0.26	0.06	0.02
45- 7	3.6	6.1	7.3	0.28	0.19	35.5	0.25	0.22	0.04
45- 8	4.0	1.6	8.8	0.40	0.15	76.6	0.16	0.38	0.06
45- 9	3.4	-3.4	7.9	0.45	0.03	83.0	0.03	0.45	0.05
45-10	3.0	3.0*	4.5	0.19	0.14	66.7	0.14	0.18	0.02
45-11	1.0	18.5	-4.5	0.40	-0.54	-3.9	0.39	-0.54	-0.06
45-12	0.9	14.9	-3.6	0.32	-0.44	-3.9	0.32	-0.43	-0.05
45-13	-2.4	9.1	-3.9	0.15	-0.42	-1.8	0.15	-0.42	-0.02
45-14	-12.5	-0.8	-6.6	-0.20	-0.62	9.4	-0.21	-0.61	0.07
45-15	-24.7	0.6	-16.7	-0.39	-1.39	5.3	-0.40	-1.38	0.09
45-16	-23.1	-44.9	-24.3	-0.52	-1.51	0.8	-0.53	-1.51	0.01
45-17	-21.2	-10.3	-26.1	-0.70	-1.33	-5.2	-0.71	-1.32	-0.06
45-18	-20.8	-14.5	-19.5	-0.73	-1.00	3.3	-0.73	-1.00	0.01
45-19	-15.4	-9.6	-12.0	-0.48	-0.69	11.4	-0.49	-0.68	0.04
45-20	-12.9	-18.2	-10.9	-0.36	-0.66	85.3	-0.66	-0.36	0.02
67- 1	-10.5	8.5	10.7	0.31	-0.31	25.8	0.20	-0.19	0.24

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. NORMAL	ALONG	DIR. SHEAR
67- 2	-8.5	9.2	11.2	0.35	-0.23	25.8	0.24	-0.12	0.23
67- 3	-6.8	9.8	14.3	0.44	-0.12	30.2	0.30	0.02	0.24
67- 4	-6.2	12.1	18.5	0.58	-0.05	32.2	0.40	0.13	0.29
67- 5	-10.0	11.1	18.3	0.54	-0.19	31.9	0.34	0.02	0.33
67- 6	15.3	-0.8	-6.6	0.46	-0.09	45.5	0.18	0.19	0.28
67- 7	-0.8	4.1	13.8	0.46	0.10	54.1	0.22	0.33	0.17
67- 8	7.9	2.8	7.4	0.44	0.22	-88.5	0.22	0.44	-0.01
67- 9	9.4	-3.0	2.1	0.47	0.03	-78.7	0.05	0.45	-0.08
67-10	8.4	-4.9	-0.4	0.40	-0.06	-76.8	-0.03	0.38	-0.10
67-11	8.0	11.0	-4.5	0.33	-0.18	-17.0	0.29	-0.14	-0.14
67-12	5.6	10.0	-4.9	0.27	-0.24	-14.4	0.24	-0.21	-0.12
67-13	1.7	4.3	-9.2	0.07	-0.38	-17.0	0.03	-0.34	-0.13
67-14	-7.0	-3.3	-20.5	-0.30	-0.88	-16.5	-0.35	-0.83	-0.16
67-15	-40.4	-5.0	-10.2	-0.50	-1.67	18.3	-0.62	-1.55	0.35
67-16	-6.9	-45.1	-43.2	-0.45	-1.70	14.0	-0.52	-1.62	0.29
67-17	-28.2	-6.6	-17.9	-0.59	-1.38	8.7	-0.61	-1.37	0.12
67-18	-17.6	-13.3	-19.5	-0.67	-0.92	-5.3	-0.68	-0.92	-0.02
67-19	-10.4	-6.0	-11.8	-0.36	-0.59	-4.0	-0.36	-0.59	-0.02
67-20	-9.6	-15.1	-11.1	-0.33	-0.55	-85.4	-0.55	-0.33	-0.02
90- 1	-14.4	0.3	14.3	0.33	-0.33	44.2	0.01	-0.01	0.33
90- 2	-17.1	-0.0	17.0	0.39	-0.40	44.9	-0.00	-0.00	0.39
90- 3	-22.0	0.8	21.3	0.49	-0.51	43.4	0.01	-0.04	0.50
90- 4	-27.3	0.2	26.4	0.60	-0.64	44.3	-0.00	-0.03	0.62
90- 5	-32.0	-2.0	31.2	0.71	-0.75	46.5	-0.05	0.02	0.73
90- 6	16.2	-20.2	-16.7	0.58	-0.61	47.8	-0.07	0.05	0.59
90- 7	-19.4	-0.2	22.2	0.54	-0.42	47.3	0.02	0.10	0.48
90- 8	-0.5	2.7	5.9	0.19	0.04	45.2	0.11	0.12	0.07
90- 9	9.6	0.2	-5.9	0.26	-0.10	-50.8	0.04	0.12	-0.18
90-10	9.8	-1.0	-7.5	0.25	-0.16	-52.0	-0.00	0.10	-0.20
90-11	5.4	0.5	-5.2	0.13	-0.12	-42.8	0.01	-0.00	-0.12
90-12	3.7	0.0	-4.5	0.08	-0.11	-42.0	-0.01	-0.03	-0.09
90-13	3.4	-0.1	-5.7	0.06	-0.16	-38.6	-0.02	-0.07	-0.11
90-14	7.0	-0.3	-11.0	0.13	-0.30	-39.6	-0.05	-0.13	-0.21
90-15	5.6	1.4	-14.8	0.08	-0.47	-29.7	-0.06	-0.34	-0.24
90-16	-4.2	-18.5	-7.4	0.05	-0.54	-31.4	-0.11	-0.38	-0.26
90-17	3.2	1.0	-14.6	0.01	-0.50	-26.4	-0.09	-0.40	-0.21
90-18	-2.2	-2.7	-8.3	-0.13	-0.32	-25.1	-0.17	-0.28	-0.07
90-19	-0.6	-2.8	-6.4	-0.08	-0.22	-38.2	-0.13	-0.17	-0.07
90-20	-1.3	-3.2	-3.6	-0.07	-0.14	-62.0	-0.12	-0.09	-0.03
180- 1	18.8	-5.4	-22.8	0.40	-0.57	-49.6	-0.16	-0.01	-0.48
180- 2	17.0	-2.7	-17.5	0.39	-0.41	-49.0	-0.07	0.05	-0.40
180- 3	19.1	-3.3	-20.4	0.43	-0.49	-48.8	-0.09	0.03	-0.46
180- 4	19.8	-3.3	-21.5	0.44	-0.52	-48.4	-0.09	0.02	-0.48
180- 5	21.5	-4.6	-24.3	0.48	-0.59	-49.1	-0.13	0.02	-0.53
180- 6	23.7	-6.0	-27.5	0.52	-0.68	-49.6	-0.18	0.01	-0.59
180- 7	-20.8	-9.2	22.7	0.60	-0.51	-47.4	-0.00	0.09	-0.55
180- 8	11.1	-0.6	-13.3	0.24	-0.33	-43.9	-0.04	-0.06	-0.28
180- 9	-4.9	-0.0	3.4	0.06	-0.13	39.9	-0.02	-0.05	0.10
180-10	-8.3	0.5	7.1	0.15	-0.21	40.9	0.00	-0.05	0.18
180-11	-19.0	-3.5	12.5	0.22	-0.50	45.4	-0.14	-0.14	0.36
180-12	-14.4	-2.9	10.4	0.20	-0.37	47.1	-0.11	-0.06	0.29
180-13	-14.4	-3.0	11.1	0.22	-0.37	48.0	-0.10	-0.04	0.29
180-14	-13.8	-1.3	12.3	0.27	-0.33	46.3	-0.05	-0.02	0.30
180-15	-13.2	0.6	14.6	0.35	-0.29	45.3	0.03	0.03	0.32
180-16	-3.9	0.8	8.2	0.23	-0.05	51.3	0.06	0.12	0.14
180-17	9.9	5.9	-0.4	0.33	0.08	65.9	0.12	0.29	0.09
180-18	2.7	-0.3	4.2	0.24	0.06	84.2	0.06	0.23	0.02
180-19	1.7	2.0	3.3	0.13	0.08	60.4	0.10	0.12	0.02
180-20	1.3	2.3	1.5	0.08	0.04	2.9	0.08	0.04	0.00
202- 1	12.6	2.4*	-21.0	0.24	-0.60	-34.3	-0.03	-0.33	-0.39
202- 2	10.5	6.1	-15.5	0.25	-0.47	-28.3	0.09	-0.31	-0.30
202- 3	14.3	5.3	-19.3	0.32	-0.53	-32.6	0.07	-0.29	-0.39
202- 4	16.6	4.1	-21.2	0.36	-0.56	-35.7	0.05	-0.24	-0.44
202- 5	19.0	2.1	-24.3	0.40	-0.63	-38.7	-0.00	-0.23	-0.50
202- 6	-14.9	-7.5	15.6	0.41	-0.38	-36.3	0.13	-0.10	-0.38
202- 7	6.6	3.5	-6.3	0.17	-0.16	-31.4	0.08	-0.07	-0.15

LOCATION	STRAIN MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-1.1	1.5	4.7	0.14	0.01	48.2	0.07	0.09	0.07
202- 9	-4.3	-1.2	7.6	0.22	-0.08	57.8	0.01	0.14	0.14
202-10	-5.7	-2.9	8.4	0.25	-0.13	60.6	-0.04	0.16	0.16
202-11	-11.5	9.9	10.8	0.33	-0.36	23.7	0.22	-0.25	0.26
202-12	-13.0	3.0	8.3	0.17	-0.38	31.6	0.02	-0.23	0.25
202-13	-13.3	1.6	7.5	0.14	-0.39	33.3	-0.02	-0.23	0.24
202-14	-16.7	-1.3	7.0	0.08	-0.49	36.7	-0.13	-0.29	0.27
202-15	-17.7	-1.0	-0.1	-0.11	-0.65	24.1	-0.20	-0.56	0.20
202-16	-14.3	-25.4	-7.9	-0.14	-0.81	1.7	-0.14	-0.81	0.02
202-17	-8.2	-0.1	-10.6	-0.19	-0.62	-3.7	-0.19	-0.62	-0.03
202-18	-9.9	5.9	-8.6	-0.32	-0.48	5.6	-0.32	-0.47	0.02
202-19	-9.1	-7.4	-5.9	-0.28	-0.36	43.4	-0.32	-0.32	0.04
202-20	-6.2	-8.9	-5.6	-0.18	-0.32	87.5	-0.32	-0.18	0.01
225- 1	-0.3	24.3	5.8	0.62	-0.38	4.0	0.62	-0.38	0.07
225- 2	0.0	15.4	1.3	0.37	-0.31	1.3	0.37	-0.31	0.02
225- 3	3.5	10.7	-1.2	0.28	-0.18	-6.8	0.27	-0.17	-0.05
225- 4	7.9	9.2	-3.5*	0.30	-0.11	-19.6	0.26	-0.07	-0.11
225- 5	4.4	5.4	-8.0	0.14	-0.29	-20.5	0.09	-0.24	-0.14
225- 6	2.2*	-2.2	3.1	0.23	0.00	2.6	0.23	0.00	0.01
225- 7	1.9	5.2	7.4	0.27	0.14	39.3	0.21	0.19	0.06
225- 8	2.5	1.6	9.6	0.39	0.13	70.9	0.16	0.36	0.08
225- 9	1.5	-4.3	7.6	0.41	-0.02	80.5	-0.01	0.40	0.07
225-10	0.5	-6.9	6.9	0.41	-0.10	81.6	-0.09	0.40	0.07
225-11	-1.1	16.6	-0.9	0.36	-0.45	0.2	0.36	-0.45	0.00
225-12	-0.2	15.4	-2.2	0.33	-0.43	-1.7	0.33	-0.43	-0.02
225-13	-2.3	10.4	-3.6	0.18	-0.44	-1.5	0.18	-0.43	-0.02
225-14	-9.6	0.7	-6.1	-0.14	-0.54	5.8	-0.14	-0.54	0.04
225-15	-31.9	-3.3	-6.4	-0.35	-1.29	19.4	-0.46	-1.19	0.29
225-16	-15.9	-46.1	-26.5	-0.32	-1.50	16.0	-0.41	-1.41	0.31
225-17	-35.7	-6.0	-10.7	-0.50	-1.48	18.0	-0.60	-1.39	0.29
225-18	-22.9	-14.3	-19.4	-0.24	-1.07	7.3	-0.75	-1.06	0.04
225-19	-15.7	-12.3	-13.5	-0.57	-0.68	13.0	-0.57	-0.68	0.03
225-20	-10.5	-14.8	-7.3	-0.24	-0.52	82.5	-0.52	-0.24	0.04
247- 1	-11.8	6.0	9.6	0.25	-0.34	28.3	0.12	-0.21	0.25
247- 2	-11.0	8.7	11.1	0.33	-0.32	25.9	0.20	-0.20	0.26
247- 3	-8.1	9.2	13.9	0.42	-0.17	29.9	0.27	-0.02	0.25
247- 4	-7.4	11.5	19.8	0.60	-0.07	34.3	0.39	0.14	0.31
247- 5	-9.9	15.0	23.6	0.72	-0.13	32.1	0.48	0.11	0.39
247- 6	16.7	-3.4	-6.0	0.56	-0.10	44.1	0.24	0.22	0.33
247- 7	-4.2	1.9	15.5	0.49	-0.00	55.3	0.16	0.33	0.23
247- 8	6.3	2.2	7.3	0.40	0.18	86.9	0.19	0.40	0.01
247- 9	9.3	-3.4	0.9	0.44	-0.00	-76.8	0.02	0.41	-0.10
247-10	8.4	-6.6	-4.0	0.34	-0.15	-72.4	-0.11	0.30	-0.14
247-11	7.6	11.4	-2.4	0.34	-0.12	-15.0	0.31	-0.09	-0.12
247-12	6.5	9.6	-3.8	0.28	-0.17	-15.9	0.25	-0.13	-0.12
247-13	1.3	4.7	-6.9	0.08	-0.32	-14.3	0.05	-0.29	-0.09
247-14	-6.2	-3.7	-18.8	-0.29	-0.78	-17.9	-0.33	-0.74	-0.15
247-15	-40.2	-7.9	-10.0	-0.55	-1.60	20.7	-0.68	-1.47	0.35
247-16	-13.6	-45.9	-39.1	-0.59	-1.67	16.5	-0.68	-1.58	0.29
247-17	-17.8	1.1	-22.3	-0.37	-1.35	-3.1	-0.37	-1.35	-0.05
247-18	-18.9	-12.1	-22.0	-0.68	-1.07	-5.1	-0.68	-1.07	-0.03
247-19	-11.5	-9.9	-15.2	-0.48	-0.66	-14.2	-0.49	-0.65	-0.04
247-20	-7.7	-12.9	-8.1	-0.22	-0.46	-88.7	-0.46	-0.22	-0.01
270- 1	-14.1	0.3	14.8	0.35	-0.32	45.1	0.01	0.02	0.33
270- 2	-17.4	-0.4	17.6	0.41	-0.40	45.8	-0.01	0.02	0.40
270- 3	-22.5	-0.6	21.3	0.48	-0.53	45.1	-0.03	-0.02	0.51
270- 4	-28.0	-0.7	27.2	0.62	-0.65	45.3	-0.02	-0.01	0.64
270- 5	-31.6	-0.4	29.7	0.67	-0.75	44.5	-0.03	-0.05	0.71
270- 6	10.9	-26.7	-12.4	0.62	-0.69	40.1	0.08	-0.14	0.65
270- 7	-24.7	0.5	25.3	0.59	-0.56	44.7	0.02	0.01	0.58
270- 8	-4.8	1.0	8.0	0.22	-0.08	47.8	0.06	0.08	0.15
270- 9	6.6	0.4	-3.4	0.19	-0.05	-51.9	0.04	0.10	-0.12
270-10	[illegible]	-0.7	-8.5	0.26	-0.18	-89.8	0.00	0.07	-0.22
270-11	4.4	-0.3	-4.9	0.10	-0.12	-45.4	-0.01	-0.01	-0.11
270-12	2.6	0.6	3.3	0.06	-0.09	-35.9	0.01	-0.04	-0.07
270-13	3.1	1.1	-4.5	0.07	-0.13	-32.3	0.01	-0.07	-0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	4.2	0.9	-7.5	0.08	-0.22	-33.3	-0.01	-0.13	-0.14
270-15	6.4	0.6	-13.2	0.10	-0.39	-34.0	-0.05	-0.24	-0.23
270-16	-3.0	-17.5	-5.5	0.12	-0.49	-40.3	-0.13	-0.23	-0.30
270-17	7.4	0.9	-19.0	0.09	-0.59	-31.5	-0.09	-0.40	-0.31
270-18	-1.8	-0.9	-9.1	-0.10	-0.37	-19.4	-0.13	-0.34	-0.08
270-19	-1.2*	-2.5	-5.9	-0.09	-0.21	-32.8	-0.13	-0.18	-0.05
270-20	-0.5	-2.1	-2.4	-0.04	-0.09	-61.1	-0.08	-0.05	-0.02
0- 7	-21.0	-9.3	23.0	0.61	-0.52	57.6	-0.19	0.28	0.51
11- 1	-16.8	-9.1	18.7	0.51	-0.43	59.8	-0.19	0.27	0.41
22- 6	-11.4	-7.0	14.1	0.41	-0.29	61.7	-0.18	0.25	0.29
33- 1	-3.9	-4.5	7.7	0.28	-0.12	68.9	-0.07	0.23	0.13
45- 6	3.7	-0.5	3.8	0.26	0.06	89.8	0.06	0.26	0.00
56- 1	10.0	0.5	-1.3	0.34	0.03	-62.0	0.10	0.27	-0.11
67- 6	15.3	-0.8	-6.6	0.46	-0.09	-57.5	0.07	0.30	-0.25
78- 1	17.2	-8.8	-11.3	0.55	-0.30	-64.7	-0.14	0.40	-0.33
90- 6	16.2	-20.2	-16.7	0.58	-0.61	-70.2	-0.47	0.45	-0.38
0-17	6.8	0.8	-1.4	0.22	0.01	-57.1	0.07	0.16	-0.09
11-11	-5.3	-8.8	-2.2	-0.04	-0.28	81.4	-0.28	-0.04	0.04
22-16	-17.7	-27.6	-7.2	-0.16	-0.90	80.6	-0.88	-0.19	0.12
33-11	-21.6	-36.7	-14.1	-0.32	-1.21	84.4	-1.20	-0.33	0.09
45-16	-23.1	-44.9	-24.3	-0.52	-1.51	-89.2	-1.51	-0.53	-0.01
56-11	-13.2	-48.0	-37.2	-0.48	-1.67	-76.1	-1.61	-0.55	-0.28
67-16	-6.9	-45.1	-43.2	-0.45	-1.70	-69.0	-1.54	-0.61	-0.42
78-11	-3.8	-33.0	-36.3	-0.38	-1.34	-54.3	-1.16	-0.56	-0.37
90-16	-4.2	-18.5	-7.4	0.05	-0.54	-86.4	-0.54	0.04	-0.04
180- 7	-20.8	-9.2	22.7	0.60	-0.51	57.6	-0.19	0.28	0.50
191- 1	-17.5	-8.0	20.2	0.54	-0.43	58.2	-0.16	0.28	0.43
202- 6	-14.9	-7.5	15.6	0.41	-0.38	58.7	-0.17	0.20	0.35
213- 1	-7.2	-7.4	7.2	0.24	-0.24	67.9	-0.17	0.17	0.17
225- 6	2.2*	-2.2	3.1	0.23	0.00	87.6	0.00	0.23	0.01
236- 1	10.4	0.4	-1.4	0.36	0.03	-62.2	0.10	0.29	-0.14
247- 6	16.7	-3.4	-6.0	0.56	-0.10	-63.9	0.03	0.43	-0.26
258- 1	17.8	-11.8	-9.2	0.67	-0.30	-70.0	-0.19	0.55	-0.31
270- 6	10.9	-26.7	-12.4	0.62	-0.69	-77.9	-0.53	0.57	-0.27
180-17	9.9	5.9	-0.4	0.33	0.08	-39.1	0.23	0.18	-0.12
191-11	-1.4	-7.6	-3.4	0.02	-0.22	-84.3	-0.22	0.02	-0.02
202-16	-14.3	-25.4	-7.9	-0.14	-0.81	83.7	-0.81	-0.15	0.07
213-11	-13.7	-33.7	-14.3	-0.15	-1.05	-89.6	-1.05	-0.15	-0.01
225-16	-15.9	-46.1	-26.5	-0.32	-1.50	-84.0	-1.48	-0.33	-0.12
236-11	-16.3	-54.1	-36.6	-0.45	-1.81	-80.0	-1.77	-0.49	-0.23
247-16	-13.6	-45.9	-39.1	-0.59	-1.67	-73.5	-1.58	-0.68	-0.29
258-11	-10.8	-37.8	-29.2	-0.39	-1.32	-76.3	-1.27	-0.45	-0.21
270 16	-3.0	-17.5	-5.5	0.12	-0.49	-87.3	-0.49	0.12	-0.03
400-01	3.2	-12.4	-0.4	0.38	-0.26	-41.3	0.10	0.02	-0.32
400-11	0.1	-7.9	2.2	0.26	-0.16	41.6	0.07	0.02	0.21
401-01	18.7	-7.6	-24.3	0.39	-0.63	-51.3	-0.23	-0.01	-0.50
401-02	-0.8	-0.4					-0.03	-0.02	
401-03	8.9	-2.1					0.27	0.02	
401-04	-0.8	-0.1					-0.03	-0.01	
402-01	18.9	-3.1	-21.7	0.41	-0.53	-47.5	-0.10	-0.02	-0.47
402-02	-1.7	-0.8					-0.06	-0.04	
402-03	2.6	-1.1					0.07	-0.01	
403-01	0.1	-0.2	-0.3	0.00	-0.01	-57.3	-0.00	-0.00	-0.00
403-02	-0.0	-0.2					-0.00	-0.01	
403-03	-0.1	0.1					-0.00	0.00	
403-04	-0.0	-0.1					-0.00	-0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, OUT-OF-PLANE MOMENT LOADING ON RUN, -H2Y

NOMINAL LOAD = 3.9258 03 YOUNG'S MODULUS = 30.002 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	1.6	1.5	-0.4	0.06	-0.00	-23.9	0.05	0.01	-0.02
0- 2	1.1	0.6	-0.8	0.03	-0.02	-31.8	0.02	-0.01	-0.02
0- 3	2.2	0.7	-1.9	0.05	-0.04	-38.0	0.02	-0.01	-0.05
0- 4	2.6	0.6	-2.3	0.06	-0.05	-39.9	0.02	-0.00	-0.06
0- 5	3.3	0.5	-2.8	0.08	-0.06	-42.4	0.02	0.00	-0.07
0- 6	3.4	0.6	-3.0	0.08	-0.07	-41.7	0.02	-0.00	-0.07
0- 7	-1.7	-0.8	3.1	0.10	-0.04	-38.6	0.04	0.02	-0.06
0- 8	1.2	0.4	-0.5	0.03	-0.01	-40.8	0.02	0.01	-0.02
0- 9	-1.3	0.1	1.6	0.04	-0.03	46.1	0.01	0.01	0.03
0-10	-1.4	-0.1	1.5	0.04	-0.03	47.4	-0.00	0.01	0.03
0-11	-1.0	0.9	1.9	0.05	-0.02	36.7	0.03	0.01	0.03
0-12	-1.2	1.2	2.5	0.07	-0.02	36.0	0.04	0.01	0.04
0-13	-0.4	0.9	1.3	0.04	-0.00	30.5	0.03	0.01	0.02
0-14	-0.4	0.5	0.8	0.02	-0.01	33.3	0.01	0.00	0.01
0-15	-1.4	-0.1	1.1	0.02	-0.03	45.2	-0.01	-0.00	0.03
0-16	-2.5	0.2	1.7	0.03	-0.07	42.4	-0.01	-0.02	0.05
0-17	1.0	-2.9	-2.0	0.04	-0.09	41.4	-0.01	-0.03	0.06
0-18	-2.3	-0.1	1.2	0.02	-0.07	38.4	-0.01	-0.03	0.04
0-19	-1.8	-0.4	0.7	0.01	-0.05	41.5	-0.02	-0.03	0.03
0-20	-0.9	-0.7	0.0	-0.01	-0.03	56.8	-0.02	-0.02	0.01
22- 1	2.1	16.4	18.6	0.68	0.21	26.9	0.58	0.31	0.19
22- 2	-1.9	6.4	6.7	0.24	-0.03	23.7	0.20	0.01	0.10
22- 3	-0.2	7.9	6.5	0.27	0.00	17.5	0.24	0.03	0.08
22- 4	1.0	5.2	4.0	0.18	0.04	14.1	0.17	0.04	0.03
22- 5	1.1	3.8	3.2	0.14	0.05	16.4	0.13	0.05	0.03
22- 6	3.0	2.0	0.3	0.10	0.04	45.8	0.07	0.07	0.03
22- 7	-0.0	-0.2	2.4	0.09	0.01	69.4	0.02	0.08	0.03
22- 8	-0.2	-1.1	1.6	0.08	-0.02	76.6	-0.01	0.07	0.02
22- 9	0.1	-1.3	1.2	0.08	-0.02	82.4	-0.02	0.08	0.01
22-10	0.0	-1.4	1.0	0.07	-0.02	82.8	-0.02	0.06	0.01
22-11	6.0	6.6	1.4	0.24	0.07	-19.3	0.23	0.09	-0.05
22-12	9.4	14.9	0.7	0.46	-0.03	-11.9	0.44	-0.01	-0.10
22-13	5.5	6.1	-0.6	0.22	-0.00	-20.0	0.19	0.02	-0.07
22-14	0.8	0.9	-1.0	0.03	-0.03	-21.5	0.02	-0.02	-0.02
22-15	-5.3	-0.8	-1.7	-0.07	-0.23	16.8	-0.09	-0.21	0.04
22-16	-3.5	-2.5	-3.1	-0.05	-0.24	7.3	-0.05	-0.24	0.02
22-17	-3.8	-0.4	-2.8	-0.07	-0.21	5.3	-0.08	-0.21	0.01
22-18	-3.7	-1.2	-1.8	-0.07	-0.16	16.1	-0.08	-0.15	0.02
22-19	-2.4	-1.0	-1.4	-0.06	-0.11	13.4	-0.06	-0.10	0.01
22-20	-2.0	-2.5	-1.5	-0.06	-0.09	80.2	-0.09	-0.06	0.01
45- 1	-3.6	19.5	40.5	1.30	0.28	43.6	0.81	0.76	0.51
45- 2	-6.3	6.0	20.2	0.60	-0.01	47.1	0.27	0.32	0.31
45- 3	-5.6	5.1	16.4	0.49	-0.02	45.8	0.22	0.28	0.25
45- 4	-3.3	4.9	13.9	0.43	0.03	46.5	0.22	0.24	0.20
45- 5	-3.6	3.9	10.6	0.31	-0.01	43.2	0.16	0.18	0.16
45- 6	5.1	3.8	-2.5	0.16	-0.05	66.8	-0.02	0.13	0.08
45- 7	-0.2	-1.5	2.5	0.12	-0.02	76.1	-0.01	0.11	0.03
45- 8	1.3	-1.5	-0.3	07	-0.03	-78.9	-0.03	0.07	-0.02
45- 9	1.7	-1.4	-0.9	'7	-0.03	-72.3	-0.03	0.06	-0.03
45-10	1.7	-1.4	-1.6	.	-0.05	-65.5	-0.03	0.04	-0.04
45-11	12.7	4.4	-1.8	0.	0.06	-49.1	0.21	0.26	-0.17
45-12	24.3	9.2	-6.7	0.7.	0.02	-44.2	0.39	0.37	-0.36
45-13	14.8	5.8	-4.5	0.44	-0.00	-43.1	0.24	0.21	-0.22
45-14	6.7	1.7	-3.4	0.19	-0.05	-44.4	0.07	0.07	-0.12
45-15	-3.2	-0.7	-2.7	-0.07	-0.18	3.4	-0.07	-0.18	0.01
45-16	-2.3	-5.0	-3.3	-0.06	-0.17	6.1	-0.06	-0.17	0.01
45-17	-1.6	-0.3	-2.6	-0.05	-0.13	-7.9	-0.05	-0.13	-0.01
45-18	-1.2	-0.2	-2.1	-0.04	-0.11	-8.6	-0.04	-0.11	-0.01
45-19	-1.1	-0.1	-1.4	-0.03	-0.08	-4.3	-0.03	-0.08	-0.00
45-20	-0.9	-0.9	-1.2	-0.04	-0.05	-16.7	-0.04	-0.05	-0.00
67- 1	-2.2	-1.9	15.4	0.56	0.00	67.0	0.09	0.48	0.20

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.3	-1.3	15.3	0.55	0.01	65.8	0.10	0.46	0.20
67- 3	-2.1	-0.7	15.0	0.53	0.02	65.1	0.11	0.44	0.20
67- 4	-3.4	0.8	14.4	0.47	0.00	59.0	0.13	0.34	0.20
67- 5	-4.3	0.0	8.9	0.26	-0.06	54.6	0.05	0.15	0.15
67- 6	3.9	2.0	-3.6	0.10	-0.09	70.9	-0.07	0.08	0.06
67- 7	-1.1	-2.4	0.4	0.04	-0.06	79.9	-0.06	0.03	0.02
67- 8	0.5	-1.4	-2.3	-0.00	-0.07	-54.8	-0.05	-0.03	-0.03
67- 9	1.3	-0.1	-2.6	0.02	-0.07	-37.1	-0.01	-0.04	-0.04
67-10	1.4	0.2	-2.3	0.03	-0.06	-35.5	-0.00	-0.03	-0.04
67-11	13.8	-1.0	-2.8	0.48	-0.01	-64.0	0.09	0.39	-0.19
67-12	15.9	-0.5	-1.8	0.57	0.03	-65.3	0.13	0.48	-0.20
67-13	9.5	-1.4	-1.3	0.35	-0.00	-67.6	0.05	0.30	-0.13
67-14	6.5	-2.6	-1.6	0.25	-0.04	-70.6	-0.01	0.22	-0.09
67-15	4.0	0.8	-1.9	0.11	-0.02	-47.1	0.04	0.05	-0.07
67-16	-0.5	3.4	4.6	0.16	0.02	-66.2	0.04	0.13	-0.05
67-17	5.3	1.3	1.7	0.22	0.08	-70.2	0.10	0.20	-0.04
67-18	3.2	2.4	1.4	0.12	0.08	-43.6	0.10	0.10	-0.02
67-19	1.7	1.1	0.5	0.06	0.03	-41.9	0.05	0.04	-0.01
67-20	1.1	1.6	0.5	0.05	0.02	-11.0	0.05	0.02	-0.01
90- 1	4.7	-5.2	5.7	0.46	-0.02	88.7	-0.02	0.46	0.01
90- 2	4.8	-5.3	5.2	0.45	-0.02	89.5	-0.02	0.45	0.00
90- 3	4.4	-4.7	4.7	0.41	-0.02	89.4	-0.02	0.41	0.00
90- 4	2.8	-3.7	3.5	0.29	-0.02	88.6	-0.02	0.29	0.01
90- 5	0.9	-3.5	1.4	0.16	-0.06	88.4	-0.06	0.16	0.01
90- 6	2.2	1.6	-2.8	0.06	-0.09	-88.2	-0.09	0.06	-0.00
90- 7	-1.2	-3.1	-0.7	0.01	-0.09	86.3	-0.09	0.01	0.01
90- 8	-2.2	-2.3	-2.1	-0.09	-0.10	83.8	-0.10	-0.09	0.00
90- 9	-1.1	1.1	-1.0	0.00	-0.10	0.2	0.00	-0.10	0.00
90-10	-0.5	1.6	-0.5	0.03	-0.07	0.1	0.03	-0.07	0.00
90-11	5.9	-4.9	3.7	0.43	-0.02	-86.8	-0.02	0.43	-0.03
90-12	5.5	-5.3	4.3	0.45	-0.02	-88.4	-0.02	0.45	-0.01
90-13	4.8	-5.4	4.7	0.44	-0.03	-89.9	-0.03	0.44	-0.00
90-14	5.3	-4.1	5.1	0.44	0.01	-89.7	0.01	0.44	-0.00
90-15	8.8	-2.0	6.1	0.58	0.10	-85.9	0.10	0.58	-0.03
90-16	-1.0	11.3	17.6	0.58	0.13	-88.8	0.13	0.58	-0.01
90-17	9.1	-1.0	7.7	0.58	0.14	-88.0	0.14	0.58	-0.02
90-18	6.1	3.6	6.7	0.34	0.21	86.5	0.21	0.34	0.01
90-19	3.3	3.0	3.1	0.14	0.13	-73.7	0.13	0.14	-0.00
90-20	2.0	3.2	1.9	0.11	0.06	-1.2	0.11	0.06	-0.00
180- 1	0.1	1.2	1.1	0.04	0.01	19.3	0.04	0.01	0.01
180- 2	-0.5	0.4	0.9	0.03	-0.01	37.5	0.01	0.00	0.02
180- 3	-1.4	0.4	1.9	0.05	-0.03	42.1	0.02	0.01	0.04
180- 4	0.5	2.3	3.5	0.12	0.05	40.1	0.09	0.08	0.04
180- 5	-1.9	0.7	2.9	0.08	-0.04	41.9	0.03	0.01	0.06
180- 6	-2.1	0.9	2.9	0.08	-0.04	39.1	0.01	0.00	0.06
180- 7	1.5	0.8	-1.6	0.04	-0.04	44.4	-0.00	-0.00	0.04
180- 8	0.3	0.5	0.2	0.02	0.01	-8.9	0.02	0.01	-0.00
180- 9	1.8	0.1	-1.3	0.05	-0.03	-47.1	0.01	0.01	-0.04
180-10	1.7	-0.1	-1.4	0.04	-0.03	-49.8	-0.00	0.01	-0.04
180-11	0.4	0.2	-0.1	0.01	0.00	-37.0	0.01	0.00	-0.00
180-12	2.1	0.5	-1.7	0.05	-0.04	-40.0	0.02	0.00	-0.04
180-13	1.1	0.4	-0.8	0.03	-0.02	-37.3	0.01	-0.00	-0.02
180-14	0.6	0.1	-0.7	0.01	-0.02	-36.8	0.00	-0.01	-0.02
180-15	1.0	-0.3	-1.6	0.02	-0.04	-44.6	-0.01	-0.01	-0.03
180-16	1.7	-0.1	-2.8	0.03	-0.08	-40.1	-0.01	-0.03	-0.05
180-17	-3.8	-0.0	2.0	0.03	-0.11	-38.4	-0.02	-0.06	-0.07
180-18	1.5	0.0	-2.7	0.03	-0.07	-37.2	-0.01	-0.04	-0.05
180-19	0.9	-0.6	-1.8	0.01	-0.05	-47.2	-0.02	-0.02	-0.03
180-20	0.0	-0.5	-0.4	-0.00	-0.02	-71.6	-0.02	-0.00	-0.00
202- 1	-1.9	-20.5	-20.6	-0.18	-0.79	-67.3	-0.69	-0.27	-0.22
202- 2	1.6	-6.0	-6.2	0.03	-0.22	-66.9	-0.18	-0.01	-0.09
202- 3	0.5	-7.1	-5.8	0.01	-0.28	-72.6	-0.22	-0.01	-0.07
202- 4	-0.6	-4.2	-2.8	-0.01	-0.14	-78.4	-0.13	-0.02	-0.02
202- 5	-1.1	-2.5	-1.4	-0.03	-0.08	-86.2	-0.08	-0.03	-0.00
202- 6	-1.1	-0.8	-0.5	-0.03	-0.04	-50.8	-0.04	-0.03	-0.01
202- 7	0.6	0.6	-1.3	0.02	-0.05	-21.9	0.01	-0.04	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	1.0	1.1	-1.2	0.03	-0.04	-21.1	0.02	-0.03	-0.03
202- 9	1.1	1.3	-0.9	0.04	-0.03	-19.7	0.03	-0.02	-0.02
202-10	1.2	1.3	-0.6	0.04	-0.02	-20.5	0.03	-0.01	-0.02
202-11	-4.4	-4.4	-0.5	-0.04	-0.17	67.1	-0.15	-0.06	0.04
202-12	-8.7	-11.3	-0.9	-0.03	-0.38	74.5	-0.36	-0.06	0.09
202-13	-5.6	1.2	-1.7	-0.04	-0.28	11.1	-0.05	-0.27	0.05
202-14	-2.1	-2.3	0.3	0.00	-0.08	70.1	-0.07	-0.01	0.03
202-15	3.6	0.7	-0.6	0.12	0.01	-55.3	0.05	0.08	-0.05
202-16	1.1	4.9	2.8	0.15	0.01	-73.7	0.03	0.14	-0.04
202-17	3.1	-0.4	0.5	0.14	0.02	-74.4	0.03	0.13	-0.03
202-18	2.7	0.3	0.2	0.10	0.02	-66.4	0.03	0.09	-0.03
202-19	1.9	0.4	0.2	0.07	0.02	-62.8	0.03	0.06	-0.02
202-20	0.8	0.7	0.5	0.03	0.02	-28.3	0.03	0.03	-0.00
225- 1	1.2	-19.6	-42.2	-0.38	-1.38	-43.8	-0.86	-0.90	-0.50
225- 2	5.9	-4.7	-18.2	0.02	-0.54	-41.6	-0.23	-0.30	-0.28
225- 3	5.2	-4.5	-15.2	0.02	-0.45	-43.5	-0.20	-0.23	-0.24
225- 4	3.0	-3.9	-12.2	-0.02	-0.37	-42.6	-0.18	-0.21	-0.18
225- 5	2.6	-2.1	-8.0	0.01	-0.24	-41.9	-0.10	-0.13	-0.12
225- 6	-3.7	-2.5	2.4	0.05	-0.11	-24.6	0.03	-0.08	-0.06
225- 7	0.7	2.0	-1.1	0.05	-0.06	-11.2	0.04	-0.06	-0.02
225- 8	-0.2	2.0	0.6	0.05	-0.03	5.8	0.05	-0.03	0.01
225- 9	-0.5	1.7	1.1	0.05	-0.02	14.9	0.04	-0.02	0.02
225-10	-0.3	1.5	1.1	0.05	-0.01	16.5	0.04	-0.01	0.02
225-11	-11.2	-3.3	2.2	-0.04	-0.35	40.1	-0.17	-0.22	0.15
225-12	-25.2	-10.1	6.8	-0.02	-0.76	46.6	-0.41	-0.37	0.37
225-13	-15.5	-5.8	5.2	0.02	-0.46	46.9	-0.24	-0.21	0.24
225-14	-7.7	-1.4	3.0	0.02	-0.23	40.0	-0.08	-0.12	0.12
225-15	2.7	0.7	1.5	0.12	0.05	-78.2	0.06	0.12	-0.01
225-16	1.5	4.2	2.7	0.14	0.04	-71.9	0.05	0.13	-0.03
225-17	2.8	0.5	0.6	0.11	0.03	-68.6	0.04	0.10	-0.03
225-18	1.1	-0.1	1.2	0.08	0.02	88.8	0.02	0.08	0.00
225-19	0.5	-0.0	1.0	0.05	0.01	82.5	0.01	0.05	0.00
225-20	0.4	0.6	0.5	0.02	0.02	9.5	0.02	0.02	0.00
247- 1	1.1	2.9	-13.4	0.00	-0.53	-19.3	-0.05	-0.48	-0.17
247- 2	1.3	2.0	-12.9	-0.01	-0.49	-21.0	-0.07	-0.43	-0.16
247- 3	1.1	1.0	-13.0	-0.03	-0.48	-22.7	-0.09	-0.41	-0.16
247- 4	1.7	0.5	-11.0	-0.01	-0.39	-25.1	-0.08	-0.32	-0.15
247- 5	3.3	0.8	-7.1	0.05	-0.22	-31.3	-0.02	-0.14	-0.12
247- 6	-3.1	-1.2	3.5	0.09	-0.37	-15.3	0.08	-0.06	-0.04
247- 7	1.1	2.8	-0.0	0.08	-0.03	-7.1	0.07	-0.03	-0.01
247- 8	-0.0	1.9	2.2	0.08	0.01	27.1	0.06	0.03	0.03
247- 9	-0.5	0.5	2.2	0.07	0.00	52.7	0.03	0.04	0.03
247-10	-0.8	0.0	1.7	0.05	-0.01	54.4	0.01	0.03	0.03
247-11	-13.1	1.6	3.1	0.03	-0.46	25.5	-0.06	-0.37	0.19
247-12	-12.9	2.4	2.3	0.02	-0.48	22.3	-0.05	-0.40	0.17
247-13	-7.2	2.5	2.2	0.05	-0.27	21.4	0.01	-0.22	0.11
247-14	-5.3	2.8	0.9	0.04	-0.23	15.9	0.02	-0.21	0.07
247-15	-5.4	-1.8	1.8	0.01	-0.16	45.2	-0.08	-0.08	0.08
247-16	0.9	-4.2	-6.3	-0.03	-0.21	33.8	-0.08	-0.15	0.08
247-17	-4.3	0.3	-1.6	-0.04	-0.21	11.4	-0.05	-0.20	0.03
247-18	-3.1	-2.0	-1.5	-0.08	-0.12	33.5	-0.09	-0.11	0.02
247-19	-1.6	-1.3	-0.5	-0.03	-0.06	56.8	-0.05	-0.04	0.01
247-20	-0.5	-0.9	-0.1	-0.00	-0.03	80.7	-0.03	-0.00	0.00
270- 1	-6.3	4.3	-5.8	-0.02	-0.50	0.7	-0.02	-0.50	0.01
270- 2	-6.1	4.0	-5.5	-0.02	-0.48	1.0	-0.02	-0.48	0.01
270- 3	-5.8	3.6	-4.2	-0.01	-0.41	2.7	-0.02	-0.41	0.02
270- 4	-4.4	3.0	-2.7	-0.00	-0.31	3.7	-0.00	-0.30	0.02
270- 5	-2.2	3.2	-0.6	0.05	-0.17	4.9	0.05	-0.17	0.02
270- 6	-3.0	-2.6	2.7	0.08	-0.09	3.5	0.08	-0.09	0.01
270- 7	-0.2	3.5	1.2	0.09	0.05	6.4	0.09	-0.05	0.02
270- 8	1.3	2.2	1.9	0.08	0.05	13.2	0.08	0.05	0.01
270- 9	1.3	0.8	1.5	0.07	0.05	83.5	0.05	0.07	0.00
270-10	0.4	-0.8	0.4	0.04	-0.01	89.2	-0.01	0.04	0.00
270-11	-3.8	4.7	-5.4	0.02	-0.42	-2.5	0.02	-0.41	-0.02
270-12	-3.4	5.0	-5.0	0.03	-0.39	-2.5	0.03	-0.39	-0.02
270-13	-3.4	5.3	-4.3	0.05	-0.37	-1.4	0.05	-0.37	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-4.1	4.2	-4.0	0.02	-0.36	0.1	0.02	-0.36	0.00
270-15	-4.8	2.5	-5.5	-0.04	-0.40	-1.3	-0.04	-0.40	-0.01
270-16	1.3	-7.8	-12.9	-0.08	-0.42	-5.7	-0.08	-0.42	-0.03
270-17	-6.5	0.7	-6.0	-0.11	-0.43	1.0	-0.11	-0.43	0.01
270-18	-5.0	-1.2	-4.8	-0.13	-0.30	0.7	-0.13	-0.30	0.00
270-19	-2.6	-2.4	-2.6	-0.11	-0.12	1.3	-0.11	-0.12	0.00
270-20	-0.7	-1.6	-0.8	-0.01	-0.05	-89.2	-0.05	-0.01	-0.00
0- 7	-1.7	-0.8	3.1	0.10	-0.04	61.4	-0.01	0.07	0.06
11- 1	0.7	0.5	2.1	0.09	0.03	71.1	0.04	0.08	0.02
22- 6	3.0	2.0	0.3	0.10	0.04	-39.2	0.08	0.07	-0.03
33- 1	4.8	3.6	-1.5	0.16	-0.01	-29.5	0.12	0.03	-0.07
45- 6	5.1	3.8	-2.5	0.16	-0.05	-28.2	0.11	-0.00	-0.09
56- 1	4.6	3.0	-3.3	0.13	-0.08	-29.9	0.08	-0.02	-0.09
67- 6	3.9	2.0	-3.6	0.10	-0.09	-32.1	0.05	-0.04	-0.09
78- 1	2.5	0.3	-3.8	0.05	-0.10	-36.1	-0.01	-0.05	-0.07
90- 6	2.2	1.6	-2.8	0.06	-0.09	-26.2	0.03	-0.06	-0.06
0-17	1.0	-2.9	-2.0	0.04	-0.09	-73.6	-0.08	0.03	-0.03
11-11	-1.9	-5.2	-2.3	-0.02	-0.16	-88.4	-0.16	-0.02	-0.00
22-16	-3.5	-7.5	-3.3	-0.05	-0.24	89.3	-0.24	-0.05	0.00
33-11	-3.4	-7.2	-3.8	-0.07	-0.24	-88.2	-0.24	-0.07	-0.01
45-16	-2.3	-5.0	-3.3	-0.06	-0.17	-83.9	-0.17	-0.06	-0.01
56-11	-0.7	-1.0	-0.5	-0.02	-0.03	84.0	-0.03	-0.02	0.00
67-16	-0.5	3.4	5.6	0.16	0.02	30.8	0.12	0.06	0.06
78-11	-0.1	7.7	12.6	0.41	0.09	37.4	0.29	0.21	0.16
90-16	-1.0	11.3	17.6	0.58	0.13	36.2	0.42	0.29	0.21
180- 7	1.5	0.8	-1.6	0.04	-0.04	-30.6	0.02	-0.02	-0.04
191- 1	0.2	-0.0	-1.5	-0.00	-0.05	-26.5	-0.01	-0.04	-0.02
202- 6	-1.1	-0.8	-0.5	-0.03	-0.04	44.2	-0.04	-0.04	0.01
213- 1	-2.9	-2.2	1.0	0.01	-0.09	61.5	-0.07	-0.01	0.04
225- 6	-3.7	-2.5	2.4	0.05	-0.11	60.4	-0.07	0.01	0.07
236- 1	-3.8	-2.1	3.1	0.07	-0.10	58.2	-0.05	0.03	0.08
247- 6	-3.1	-1.2	3.5	0.09	-0.07	56.7	-0.02	0.04	0.08
258- 1	-2.4	-1.0	3.4	0.09	-0.05	58.2	-0.01	0.05	0.07
270- 6	-3.0	-2.6	2.7	0.08	-0.09	65.5	-0.06	0.05	0.07
180-17	-3.8	-0.0	2.0	0.03	-0.11	36.6	-0.02	-0.06	0.07
191-11	-1.6	2.4	2.6	0.09	-0.04	24.2	0.07	-0.02	0.05
202-16	1.1	4.9	2.8	0.15	0.01	8.3	0.15	0.02	0.02
213-11	1.2	5.1	3.2	0.16	0.02	9.2	0.16	0.03	0.02
225-16	1.5	4.2	2.7	0.14	0.04	8.1	0.14	0.04	0.01
236-11	1.3	0.5	-0.5	0.04	-0.00	-41.5	0.02	0.01	-0.02
247-16	0.9	-4.2	-6.3	-0.03	-0.21	-56.2	-0.15	-0.08	-0.08
258-11	0.5	-7.2	-10.1	-0.07	-0.34	-57.3	-0.26	-0.15	-0.12
270-16	1.3	-7.8	-12.9	-0.08	-0.42	-52.7	-0.29	-0.20	-0.16
400-01	-1.2	-0.5	0.8	0.02	-0.03	-83.1	-0.03	0.01	-0.01
400-11	0.1	-0.6	-0.8	-0.00	-0.03	77.1	-0.03	-0.00	0.01
401-01	2.1	5.4	1.9	0.16	0.01	-0.9	0.16	0.01	-0.00
401-02	-30.5	8.7					-0.92	-0.01	
401-03	-4.2	1.2					-0.13	-0.00	
401-04	29.2	-8.5					0.88	0.01	
402-01	0.8	0.8	0.7	0.03	0.03	-29.4	0.03	0.03	-0.00
402-02	-31.1	8.1					-0.94	-0.04	
402-03	-2.9	1.7					-0.08	0.03	
403-01	0.1	0.1	0.1	0.00	0.00	54.2	0.00	0.00	0.00
403-02	0.0	0.1					0.00	0.00	
403-03	0.0	0.0					0.00	0.00	
403-04	0.1	-5.7					-0.05	-0.19	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, IN-PLANE MOMENT LOADING ON RUN, -M22

NOMINAL LOAD = 3.925E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	10.7	24.8	5.5	0.74	-0.04	-4.4	0.73	-0.04	-0.06
0- 2	1.6	10.6	1.5	0.28	-0.14	-0.1	0.28	-0.14	-0.00
0- 3	2.7	12.5	3.2	0.35	-0.10	0.8	0.35	-0.10	0.01
0- 4	3.8	11.1	4.5	0.34	0.02	1.5	0.34	0.02	0.01
0- 5	6.1	11.6	5.9	0.39	0.13	-0.5	0.39	0.13	-0.00
0- 6	6.5	13.2	6.0	0.43	0.11	-1.1	0.43	0.11	-0.01
0- 7	7.9	2.8	7.2	0.43	0.22	-7.8	0.43	0.22	-0.03
0- 8	8.7	9.4	7.6	0.38	0.32	-11.8	0.38	0.32	-0.01
0- 9	6.4	0.7	6.1	0.40	0.14	-89.4	0.14	0.40	-0.00
0-10	7.0	-1.6	5.3	0.45	0.08	-87.0	0.08	0.44	-0.02
0-11	8.7	13.5	7.9	0.48	0.23	-2.3	0.48	0.23	-0.01
0-12	10.7	19.7	10.1	0.66	0.23	-0.9	0.66	0.23	-0.01
0-13	7.8	14.6	7.5	0.49	0.17	-0.8	0.49	0.17	-0.00
0-14	4.6	7.3	4.5	0.26	0.13	-0.3	0.26	0.13	-0.00
0-15	-1.3	-3.2	-1.6	-0.02	-0.10	-87.5	-0.10	-0.02	-0.00
0-16	-7.5	-5.3	-7.5	-0.27	-0.37	-0.3	-0.27	-0.37	-0.00
0-17	-21.2	-21.4	-6.3	-0.34	-0.84	2.9	-0.34	-0.84	0.02
0-18	-15.6	2.1	-13.7	-0.24	-1.02	1.6	-0.24	-1.02	0.02
0-19	-14.2	-9.2	-15.5	-0.51	-0.77	-3.2	-0.51	-0.77	-0.01
0-20	-10.4	-15.1	-10.7	-0.35	-0.56	-89.0	-0.56	-0.35	-0.00
22- 1	0.9	19.3	27.3	0.93	0.28	34.3	0.72	0.48	0.30
22- 2	-5.4	7.3	14.9	0.44	-0.04	38.0	0.26	0.15	0.23
22- 3	-5.7	10.7	19.8	0.67	-0.00	37.0	0.39	0.22	0.29
22- 4	-5.3	9.3	21.1	0.64	0.03	42.0	0.37	0.31	0.30
22- 5	-10.4	11.0	25.6	0.75	-0.10	39.7	0.40	0.25	0.42
22- 6	20.5	10.0	-8.4	0.61	-0.09	47.7	0.23	0.29	0.35
22- 7	-2.1	1.7	14.4	0.48	0.05	59.2	0.16	0.37	0.19
22- 8	3.4	0.8	7.1	0.34	0.11	78.8	0.12	0.33	0.04
22- 9	6.3	-1.3	3.6	0.36	0.06	-83.9	0.07	0.35	-0.03
22-10	7.2	-1.0	1.8	0.34	0.05	-77.0	0.07	0.32	-0.06
22-11	7.5	6.9	-1.8	0.26	-0.02	-24.4	0.22	0.03	-0.11
22-12	16.4	16.1	-2.1	0.60	0.01	-23.0	0.51	0.10	-0.21
22-13	11.8	10.1	-2.9	0.40	-0.02	-26.3	0.32	0.06	-0.17
22-14	3.6	-3.2	-7.2	0.05	-0.20	-52.5	-0.11	-0.04	-0.12
22-15	-12.7	-4.8	-8.8	-0.32	-0.61	9.0	-0.32	-0.60	0.04
22-16	-13.5	-23.6	-10.3	-0.24	-0.78	8.2	-0.24	-0.78	0.04
22-17	-13.3	-4.0	-11.9	-0.34	-0.74	2.4	-0.34	-0.74	0.02
22-18	-12.9	-6.9	-9.1	-0.37	-0.58	12.5	-0.38	-0.57	0.04
22-19	-9.1	-5.0	-6.9	-0.27	-0.42	10.1	-0.27	-0.41	0.03
22-20	-7.7	-10.9	-7.3	-0.24	-0.40	88.1	-0.40	-0.24	0.01
45- 1	-0.0	1.6	3.7	0.12	0.04	48.5	0.07	0.08	0.04
45- 2	-1.7	3.5	9.3	0.29	0.04	46.6	0.16	0.17	0.13
45- 3	-3.7	3.6	15.2	0.47	0.02	51.3	0.20	0.29	0.22
45- 4	-6.3	6.1	26.2	0.81	0.04	51.7	0.34	0.51	0.37
45- 5	-15.6	10.3	35.1	1.00	-0.17	44.3	0.43	0.40	0.58
45- 6	17.7	9.4	-12.0	0.50	-0.25	62.0	-0.09	0.33	0.31
45- 7	-4.4	-4.3	9.3	0.33	-0.12	67.2	-0.05	0.26	0.16
45- 8	2.3	-3.1	-1.3	0.12	-0.07	-76.9	-0.06	0.11	-0.04
45- 9	4.6	-2.1	-4.2	0.12	-0.11	-58.8	-0.05	0.06	-0.10
45-10	5.8	-2.1	-6.1	0.14	-0.15	-53.8	-0.05	0.04	-0.14
45-11	0.2	0.6	-0.0	0.02	-0.01	-4.9	0.02	-0.01	-0.00
45-12	9.8	2.0	-4.1	0.28	-0.04	-48.5	0.10	0.14	-0.16
45-13	13.0	5.3	-5.1	0.38	-0.04	-40.7	0.20	0.14	-0.21
45-14	10.7	-1.0	-7.8	0.28	-0.16	-52.3	0.01	0.12	-0.21
45-15	-4.8	-4.4	-3.2	-0.15	-0.19	59.1	-0.18	-0.16	0.02
45-16	1.1	-1.4	-6.1	-0.02	-0.19	53.5	-0.13	-0.08	0.08
45-17	-2.9	-0.4	1.6	0.03	-0.08	41.8	-0.02	-0.03	0.05
45-18	-0.8	0.8	0.4	0.02	-0.04	14.4	0.01	-0.03	0.01
45-19	-0.3	0.7	-0.3	0.01	-0.03	0.0	0.01	-0.03	0.00
45-20	0.4	-0.1	-0.9	0.00	-0.03	-35.9	-0.01	-0.02	-0.02
67- 1	-1.8	0.6	0.3	0.01	-0.07	19.3	-0.00	-0.06	0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-3.3	0.7	5.5	0.15	-0.05	47.9	0.04	0.06	0.10
67- 3	-5.5	1.2	13.2	0.39	-0.06	53.0	0.10	0.23	0.22
67- 4	-8.9	4.0	22.6	0.66	-0.08	50.2	0.23	0.36	0.36
67- 5	-11.5	2.0	22.1	0.62	-0.17	50.6	0.15	0.30	0.39
67- 6	9.1	1.5	-11.0	0.20	-0.28	64.8	-0.19	0.11	0.18
67- 7	-6.9	-7.8	0.3	-0.01	-0.27	70.7	-0.24	-0.04	0.08
67- 8	-3.6	-6.2	-8.7	-0.21	-0.32	-44.8	-0.26	-0.26	-0.06
67- 9	-0.6	-0.6	-9.8	-0.07	-0.37	-22.7	-0.12	-0.33	-0.11
67-10	0.8	0.5	-9.5	-0.02	-0.35	-23.3	-0.07	-0.30	-0.12
67-11	-0.9	0.3	2.3	0.07	-0.01	51.5	0.02	0.04	0.04
67-12	4.0	0.7	2.4	0.20	0.08	-81.3	0.08	0.20	-0.02
67-13	6.7	-0.4	2.0	0.31	0.06	-76.7	0.08	0.30	-0.05
67-14	11.9	-4.6	0.2	0.54	-0.02	-75.6	0.01	0.51	-0.14
67-15	20.0	0.4	-1.9	0.71	0.07	-64.1	0.19	0.59	-0.25
67-16	1.7	26.5	25.3	0.98	0.17	-75.9	0.22	0.93	-0.19
67-17	22.4	3.1	12.6	1.10	0.40	-80.6	0.42	1.08	-0.11
67-18	15.2	10.6	13.2	0.69	0.52	-82.3	0.52	0.69	-0.02
67-19	9.5	4.7	7.4	0.45	0.27	-82.3	0.28	0.45	-0.02
67-20	8.1	10.4	6.6	0.39	0.24	-6.5	0.39	0.24	-0.02
90- 1	-1.1	0.2	-0.5	-0.01	-0.06	8.2	-0.01	-0.06	0.01
90- 2	-0.8	-1.1	-0.2	-0.00	-0.04	76.6	-0.03	-0.01	0.01
90- 3	-0.6	-2.3	-0.0	0.03	-0.06	85.7	-0.06	0.03	0.01
90- 4	-0.6	-2.5	-0.0	0.04	-0.06	86.5	-0.06	0.04	0.01
90- 5	0.8	-3.5	1.8	0.17	-0.06	86.9	-0.06	0.17	0.0
90- 6	0.6	0.3	-4.2	-0.00	-0.15	-86.8	-0.15	-0.00	-0.01
90- 7	-4.5	-6.2	-3.6	-0.13	-0.23	84.1	-0.22	-0.13	0.01
90- 8	-9.4	-9.4	-9.6	-0.40	-0.41	-20.1	-0.40	-0.41	-0.00
90- 9	-7.2	1.6	-7.1	-0.10	-0.51	0.1	-0.10	-0.51	0.00
90-10	-5.0	3.7	-5.1	-0.01	-0.42	-0.2	-0.01	-0.42	-0.00
90-11	-0.6	-0.7	-0.4	-0.02	-0.03	74.6	-0.03	-0.02	0.00
90-12	1.8	-1.7	1.8	0.16	-0.00	-89.9	-0.00	0.16	-0.00
90-13	5.1	-2.7	5.6	0.42	0.04	89.1	0.04	0.42	0.01
90-14	11.2	-2.2	11.6	0.80	0.17	89.6	0.17	0.80	0.00
90-15	25.1	-2.7	18.9	1.52	0.37	-86.4	0.37	1.52	-0.07
90-16	-1.3	36.2	56.9	1.89	0.49	-88.1	0.49	1.89	-0.05
90-17	31.5	-3.2	27.7	2.02	0.51	-88.4	0.51	2.02	-0.04
90-18	24.6	13.0	27.5	1.42	0.8	86.8	0.82	1.42	0.03
90-19	16.7	12.2	15.7	0.78	0.60	-86.5	0.60	0.78	-0.01
90-20	11.2	14.8	11.2	0.56	0.40	0.0	0.56	0.40	0.00
180- 1	17.3	32.3	11.3	1.03	0.19	-4.7	1.03	0.20	-0.07
180- 2	2.3	11.8	1.6	0.31	-0.15	-0.9	0.31	-0.15	-0.01
180- 3	3.8	13.7	3.1	0.38	-0.09	-1.0	0.38	-0.09	-0.01
180- 4	4.8	11.7	3.8	0.36	0.01	-2.0	0.36	0.01	-0.01
180- 5	6.6	11.9	5.7	0.40	0.13	-2.4	0.40	0.13	-0.01
180- 6	7.1	13.2	6.1	0.44	0.13	-2.2	0.44	0.13	-0.01
180- 7	8.8	3.5	5.7	0.40	0.22	-3.8	0.40	0.22	-0.01
180- 8	7.3	8.8	8.6	0.37	0.31	18.2	0.36	0.32	0.02
180- 9	6.8	1.2	6.2	0.40	0.16	-88.4	0.16	0.40	-0.01
180-10	4.4	-2.2	3.9	0.33	0.03	-88.7	0.03	0.33	-0.01
180-11	6.5	6.5	5.6	0.27	0.25	-23.2	0.27	0.25	-0.01
180-12	10.8	19.7	11.4	0.67	0.28	1.0	0.67	0.28	0.01
180-13	9.2	16.6	8.8	0.56	0.21	-0.7	0.56	0.21	-0.00
180-14	5.4	8.4	5.1	0.30	0.15	-1.3	0.30	0.15	-0.00
180-15	-1.0	-3.1	-1.5	-0.01	-0.10	-86.1	-0.10	-0.01	-0.01
180-16	-7.8	-2.6	-8.5	-0.22	-0.47	-1.8	-0.22	-0.47	-0.01
180-17	-21.2	-27.4	-9.6	-0.35	-0.97	2.0	-0.35	-0.97	0.02
180-18	-16.6	1.1	-15.0	-0.29	-1.06	1.3	0.29	-1.06	0.02
180-19	-14.8	-11.2	-14.6	-0.55	-0.71	0.8	-0.55	-0.71	0.00
180-20	-9.2	-11.6	-8.7	-0.32	-0.45	87.6	-0.44	-0.32	0.01
202- 1	1.3	29.8	34.0	1.21	0.30	27.9	1.01	0.50	0.38
202- 2	-5.4	7.8	16.2	0.49	-0.02	39.1	0.28	0.18	0.25
202- 3	-6.3	10.4	21.7	0.66	-0.00	39.5	0.39	0.27	0.32
202- 4	-5.8	8.8	22.7	0.69	0.03	44.2	0.37	0.35	0.33
202- 5	-10.1	10.9	25.6	0.75	-0.09	40.0	0.41	0.26	0.41
202- 6	19.8	8.5	-7.9	0.58	-0.07	45.3	0.25	0.26	0.33
202- 7	-1.7	3.9	15.6	0.51	0.09	54.9	0.23	0.37	0.20

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	3.7	1.5	8.1	0.37	0.14	76.7	0.15	0.36	0.05
202- 9	5.1	-1.8	3.2	0.32	0.04	-85.4	0.04	0.32	-0.02
202-10	6.1	-3.0	-0.1	0.28	-0.03	-76.3	-0.01	0.27	-0.07
202-11	5.8	6.3	-2.9	0.21	-0.09	-21.0	0.17	-0.05	-0.10
202-12	18.4	18.3	-2.3	0.68	0.01	-22.6	0.58	0.11	-0.24
202-13	15.2	11.0	-4.8	0.49	-0.04	-29.9	0.36	0.09	-0.23
202-14	6.9	-0.8	-7.2	0.16	-0.17	-47.6	-0.02	0.01	-0.16
202-15	-12.7	-5.2	-8.4	-0.32	-0.58	11.0	-0.33	-0.57	0.05
202-16	-15.8	-25.3	-11.4	-0.31	-0.86	2.6	-0.31	-0.86	0.02
202-17	-15.1	-2.5	-12.2	-0.33	-0.84	3.7	-0.33	-0.84	0.03
202-18	-15.7	-8.8	-11.1	-0.46	-0.69	13.4	-0.47	-0.68	0.05
202-19	-11.1	-7.1	-8.8	-0.36	-0.50	10.8	-0.36	-0.49	0.03
202-20	-7.0	-8.3	-7.5	-0.29	-0.34	-82.1	-0.33	-0.29	-0.01
225- 1	-0.4	2.1	4.8	0.16	0.03	46.4	0.09	0.10	0.06
225- 2	-2.3	3.3	9.5	0.29	0.02	46.3	0.15	0.16	0.14
225- 3	-4.6	3.6	16.0	0.49	0.00	50.9	0.20	0.29	0.24
225- 4	-6.2	5.7	27.8	0.87	0.05	53.3	0.35	0.58	0.39
225- 5	-15.2	9.1	39.0	1.14	-0.12	47.9	0.45	0.57	0.63
225- 6	21.0	8.9	-13.3	0.58	-0.25	58.2	-0.02	0.35	0.37
225- 7	-4.8	-4.2	9.1	0.31	-0.13	66.1	-0.05	0.24	0.16
225- 8	1.9	-3.6	-1.3	0.19	-0.08	-78.7	-0.08	0.10	-0.04
225- 9	4.9	-2.5	-4.8	0.13	-0.12	-58.5	-0.06	0.06	-0.11
225-10	5.7	-1.9	-6.7	0.13	-0.17	-51.4	-0.05	0.01	-0.14
225-11	0.9	0.9	0.6	0.04	0.02	-16.0	0.04	0.03	-0.00
225-12	11.9	2.7	-4.2	0.35	-0.02	-48.9	0.14	0.19	-0.19
225-13	15.2	6.4	-5.6	0.45	-0.04	-40.6	0.24	0.17	-0.24
225-14	13.6	-0.1	-7.9	0.38	-0.14	-52.5	0.05	0.19	-0.25
225-15	-4.5	-5.2	-7.0	-0.22	-0.28	-32.5	-0.23	-0.26	-0.03
225-16	-2.4	-4.4	-6.6	-0.15	-0.24	57.0	-0.21	-0.17	0.04
225-17	-4.1	-5.5	-0.0	0.01	-0.18	74.8	-0.17	-0.01	0.05
225-18	-2.0	-0.5	0.5	-0.00	-0.06	39.9	-0.03	-0.04	0.03
225-19	0.5	1.1	-1.0	0.02	-0.05	-15.2	0.02	-0.04	-0.02
225-20	0.7	0.7	-1.2	0.02	-0.04	-23.3	0.01	-0.03	-0.02
247- 1	-1.9	0.5	1.2	0.02	-0.06	30.8	0.00	-0.03	0.04
247- 2	-3.6	-0.0	5.8	0.16	-0.06	51.8	0.02	0.07	0.11
247- 3	-5.4	0.8	13.1	0.39	-0.06	54.1	0.09	0.23	0.21
247- 4	-7.9	2.9	21.8	0.65	-0.06	52.7	0.20	0.39	0.34
247- 5	-11.3	4.2	25.4	0.73	-0.13	49.4	0.24	0.37	0.42
247- 6	10.4	-1.1	-11.1	0.23	-0.26	60.9	-0.15	0.12	0.21
247- 7	-7.7	-7.2	2.9	0.06	-0.27	66.2	-0.21	0.01	0.12
247- 8	-4.9	-7.1	-8.7	-0.25	-0.34	-49.4	-0.30	-0.28	-0.04
247- 9	-1.3	-0.6	-10.1	-0.09	-0.40	-20.3	-0.13	-0.36	-0.10
247-10	1.7	2.6	-8.2	0.04	-0.32	-20.2	-0.01	-0.27	-0.11
247-11	0.6	0.4	1.9	0.08	0.03	72.0	0.03	0.07	0.02
247-12	5.7	1.0	2.6	0.26	0.10	-76.7	0.11	0.25	-0.04
247-13	6.9	0.0	2.1	0.31	0.08	-76.0	0.09	0.30	-0.06
247-14	10.9	-4.6	1.8	0.55	-0.00	-78.7	0.02	0.53	-0.11
247-15	27.2	4.8	-4.1	0.89	0.10	-56.7	0.34	0.65	-0.36
247-16	1.3	30.5	32.8	1.21	0.25	-65.3	0.42	1.04	-0.36
247-17	19.1	-2.8	15.3	1.20	0.27	-87.3	0.28	1.20	-0.04
247-18	16.9	10.4	16.7	0.87	0.57	-89.6	0.57	0.87	-0.00
247-19	11.7	8.9	10.4	0.52	0.42	-81.1	0.42	0.52	-0.02
247-20	7.7	10.0	5.3	0.36	0.19	-9.5	0.36	0.20	-0.03
270- 1	-0.3	-0.3	-0.3	-0.01	-0.01	-42.5	-0.01	-0.01	-0.00
270- 2	0.3	-1.5	0.0	0.04	-0.03	-88.0	-0.03	0.04	-0.00
270- 3	0.7	-2.3	0.2	0.08	-0.04	-87.7	-0.04	0.08	-0.01
270- 4	1.2	-2.0	0.9	0.11	-0.03	-88.5	-0.02	0.11	-0.00
270- 5	1.7	-3.2	1.4	0.17	-0.04	-89.0	-0.04	0.17	-0.00
270- 6	2.3	0.9	-4.3	0.05	-0.13	88.0	-0.13	0.05	0.01
270- 7	-3.3	-6.6	-3.3	-0.07	-0.22	-89.8	-0.22	-0.07	-0.00
270- 8	-8.6	-7.8	-8.2	-0.34	-0.37	8.0	-0.35	-0.37	0.00
270- 9	-9.0	-4.4	-10.2	-0.29	-0.53	-3.2	-0.29	-0.53	-0.01
270-10	-4.7	3.6	-5.5	-0.02	-0.42	-1.3	-0.02	-0.42	-0.01
270-11	0.4	-0.9	0.2	0.04	-0.02	-87.3	-0.02	0.04	-0.00
270-12	2.3	-1.7	2.6	0.20	0.01	89.0	0.01	0.20	0.00
270-13	5.0	-2.5	5.6	0.41	0.05	88.9	0.05	0.41	0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	10.4	-3.6	10.1	0.76	0.12	-89.6	0.12	0.76	-0.00
270-15	17.9	-3.8	20.1	1.34	0.29	88.6	0.29	1.34	0.03
270-16	-1.7	32.1	52.4	1.73	0.44	85.0	0.45	1.72	0.11
270-17	28.7	-1.0	26.4	1.84	0.52	-88.8	0.52	1.84	-0.03
270-18	27.2	4.6	37.3	2.03	0.73	84.8	0.75	2.02	0.12
270-19	19.3	13.9	18.7	0.93	0.70	-88.4	0.70	0.93	-0.01
270-20	10.0	13.9	8.6	0.51	0.29	-4.1	0.51	0.29	-0.02
0- 7	7.9	2.8	7.2	0.43	0.22	-87.8	0.22	0.43	-0.01
11- 1	15.5	7.8	-2.1	0.49	0.08	-41.4	0.31	0.26	-0.20
22- 6	20.5	10.0	-8.4	0.61	-0.09	-37.3	0.35	0.17	-0.33
33- 1	21.0	11.5	-11.5	0.61	-0.20	-33.8	0.36	0.05	-0.38
45- 6	17.7	9.4	-12.0	0.50	-0.25	-33.0	0.27	-0.03	-0.34
56- 1	13.1	5.0	-12.0	0.33	-0.28	-35.3	0.13	-0.08	-0.29
67- 6	9.1	1.5	-11.0	0.20	-0.28	-38.2	0.02	-0.10	-0.23
78- 1	3.0	-3.0	-8.8	0.01	-0.26	-45.6	-0.13	-0.12	-0.14
90- 6	0.6	0.3	-4.2	-0.00	-0.15	-24.8	-0.03	-0.13	-0.06
0-17	-21.2	-21.4	-6.3	-0.34	-0.84	67.9	-0.77	-0.41	0.17
11-11	-24.4	-25.7	-7.1	-0.37	-0.98	69.5	-0.91	-0.45	0.20
22-16	-13.5	-23.6	-10.3	-0.24	-0.78	86.2	-0.78	-0.24	0.04
33-11	-5.4	-13.6	-10.9	-0.21	-0.49	-76.6	-0.48	-0.22	-0.06
45-16	1.1	-1.4	-6.1	-0.02	-0.19	-36.5	-0.08	-0.13	-0.08
56-11	3.7	13.8	7.0	0.43	0.03	5.5	0.42	0.03	0.04
67-16	1.7	26.5	25.3	0.98	0.17	21.1	0.88	0.28	0.27
78-11	-1.5	34.0	48.6	1.64	0.39	33.7	1.25	0.77	0.58
90-16	-1.3	36.2	56.9	1.89	0.49	36.9	1.39	1.00	0.67
180- 7	8.8	3.5	5.7	0.40	0.22	-78.8	0.22	0.40	-0.04
191- 1	15.3	6.6	-2.4	0.48	0.07	-44.5	0.28	0.27	-0.20
202- 6	19.8	8.5	-7.9	0.58	-0.07	-39.7	0.31	0.19	0.32
213- 1	22.7	12.2	-11.8	0.66	-0.19	-34.3	0.39	0.08	-0.40
225- 6	21.0	8.9	-13.3	0.58	-0.25	-36.8	0.28	0.05	-0.40
236- 1	16.6	4.4	-12.5	0.43	-0.25	-40.4	0.14	0.03	-0.34
247- 6	10.4	-1.1	-11.1	0.23	-0.26	-47.1	-0.03	0.00	-0.25
258- 1	5.4	-3.2	-8.8	0.09	-0.24	-51.0	-0.11	-0.04	-0.16
270- 6	2.3	0.9	-4.3	0.05	-0.13	-30.0	0.00	-0.09	-0.08
180-17	-21.2	-27.4	-9.6	-0.35	-0.97	77.0	-0.94	-0.38	0.13
191-11	-18.1	-26.4	-11.3	-0.35	-0.91	81.9	-0.90	-0.36	0.08
202-16	-15.8	-25.3	-11.4	-0.31	-0.86	84.6	-0.85	-0.31	0.05
213-11	-6.9	-16.3	-11.4	-0.22	-0.56	-81.3	-0.56	-0.23	-0.05
225-16	-2.4	-4.4	-6.6	-0.15	-0.24	-43.0	-0.19	-0.20	-0.05
236-11	1.0	14.3	8.4	0.44	-0.04	10.5	0.42	-0.02	0.09
247-16	1.3	30.5	32.8	1.21	0.25	24.7	1.04	0.42	0.36
258-11	1.3	37.0	45.0	1.59	0.39	28.8	1.31	0.67	0.50
270-16	-1.7	32.1	52.4	1.73	0.44	38.0	1.24	0.93	0.62
400-01	-18.2	-3.9	6.0	0.02	-0.54	84.8	-0.54	0.02	0.05
400-11	4.2	-4.7	-14.8	-0.01	-0.45	-88.2	-0.45	-0.01	-0.01
401-01	9.7	30.6	11.6	0.92	-0.00	1.4	0.92	-0.00	0.02
401-02	3.7	0.2					0.12	0.04	
401-03	-32.4	7.2					-1.00	-0.08	
401-04	-1.3	1.4					-0.03	0.03	
402-01	9.9	31.2	11.4	0.93	-0.02	1.0	0.93	-0.02	0.02
402-02	1.1	1.3					0.05	0.05	
402-03	-31.1	6.9					-0.96	-0.08	
403-01	-0.0**	0.2	0.0	0.00	-0.00	2.1	0.00	-0.00	0.00
403-02	-0.2	0.4					-0.00	0.01	
403-03	0.2	-0.2					0.01	-0.00	
403-04	-0.2	0.4					-0.00	0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '**' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, AXIAL FORCE LOADING ON RUN, F2X

NOMINAL LOAD = 6.048E 03 YOUNG'S MODULUS = 30.008 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	4.1	9.5	2.1	0.28	-0.02	-4.3	0.28	-0.01	-0.02
0- 2	0.4	3.8	0.5	0.10	-0.06	0.2	0.10	-0.06	0.00
0- 3	0.9	4.5	1.1	0.12	-0.04	1.1	0.12	-0.04	0.00
0- 4	1.4	4.1	1.6	0.13	0.01	1.3	0.12	0.01	0.00
0- 5	2.4	4.3	2.2	0.14	0.05	-1.3	0.14	0.05	-0.00
0- 6	2.5	4.9	2.1	0.16	0.04	-2.1	0.16	0.04	-0.00
0- 7	2.8	1.1	2.8	0.16	0.08	-9.7	0.16	0.08	-0.01
0- 8	3.3	3.4	2.8	0.14	0.12	-18.0	0.14	0.12	-0.01
0- 9	2.5	0.0	2.4	0.16	0.05	-89.6	0.05	0.16	-0.00
0-10	2.7	-1.0	2.1	0.18	0.02	-87.3	0.03	0.18	-0.01
0-11	3.7	5.9	3.5	0.21	0.10	-1.7	0.21	0.10	-0.00
0-12	4.5	8.3	4.3	0.28	0.10	-0.7	0.28	0.10	-0.00
0-13	3.3	6.4	3.3	0.21	0.07	-0.4	0.21	0.07	-0.00
0-14	2.0	3.3	2.0	0.12	0.06	-0.2	0.12	0.06	-0.00
0-15	-0.4	-1.2	-0.5	-0.00	-0.04	-89.1	-0.04	-0.00	-0.00
0-16	-3.0	-2.1	-3.0	-0.11	-0.15	-0.2	-0.11	-0.15	-0.00
0-17	-8.9	-8.9	-2.5	-0.14	-0.35	2.9	-0.14	-0.35	0.01
0-18	-6.5	1.1	-5.7	-0.10	-0.43	1.6	-0.10	-0.43	0.01
0-19	-6.0	-3.7	-6.5	-0.21	-0.32	-2.7	-0.21	-0.32	-0.01
0-20	-4.5	-6.7	-4.7	-0.15	-0.25	-88.8	-0.25	-0.15	-0.00
22- 1	0.7	9.6	13.0	0.45	0.14	32.9	0.36	0.23	0.14
22- 2	-2.3	3.4	6.4	0.19	-0.02	36.4	0.12	0.06	0.10
22- 3	-2.3	4.8	8.4	0.26	0.00	35.8	0.17	0.09	0.12
22- 4	-2.1	3.9	8.7	0.27	0.02	41.6	0.16	0.13	0.12
22- 5	-4.5	4.3	10.6	0.31	-0.05	40.4	0.16	0.10	0.17
22- 6	8.3	4.2	-3.8	0.24	-0.05	48.7	0.08	0.12	0.14
22- 7	-1.1	0.2	5.8	0.19	0.01	60.7	0.05	0.15	0.08
22- 8	1.3	-0.2	2.7	0.14	0.03	80.8	0.04	0.14	0.02
22- 9	2.5	-0.9	1.3	0.15	0.02	-83.9	0.02	0.15	-0.01
22-10	2.9	-0.8	0.5	0.14	0.01	-77.2	0.02	0.13	-0.03
22-11	4.2	4.3	-0.4	0.16	0.01	-21.7	0.14	0.03	-0.05
22-12	7.9	8.5	-0.7	0.31	0.00	-20.7	0.27	0.04	-0.10
22-13	5.7	5.1	-1.4	0.20	-0.01	-25.1	0.16	0.02	-0.08
22-14	1.9	-1.1	-3.2	0.03	-0.09	-49.9	-0.04	-0.02	-0.06
22-15	-5.5	-1.8	-3.9	-0.13	-0.27	8.0	-0.13	-0.27	0.02
22-16	-6.0	-10.4	-4.4	-0.10	-0.35	3.6	-0.10	-0.34	0.02
22-17	-5.6	-1.5	-5.3	-0.14	-0.32	1.1	-0.14	-0.32	0.00
22-18	-5.5	-2.8	-4.0	-0.16	-0.25	10.2	-0.16	-0.25	0.02
22-19	-3.9	-2.2	-3.1	-0.12	-0.18	8.5	-0.12	-0.18	0.01
22-20	-3.3	-4.9	-3.3	-0.11	-0.18	89.4	-0.18	-0.11	0.00
45- 1	-1.6	8.9	17.1	0.55	0.11	41.3	0.36	0.30	0.22
45- 2	-2.7	3.5	9.3	0.28	0.00	44.0	0.15	0.14	0.14
45- 3	-2.9	2.9	9.6	0.29	-0.00	47.1	0.13	0.15	0.14
45- 4	-3.1	3.4	12.7	0.39	0.02	49.9	0.17	0.24	0.18
45- 5	-6.8	4.4	15.3	0.44	-0.07	44.6	0.19	0.18	0.26
45- 6	7.6	4.3	-5.3	0.22	-0.12	63.0	-0.05	0.15	0.13
45- 7	-1.8	-2.2	3.8	0.14	-0.06	69.3	-0.03	0.12	0.06
45- 8	1.0	-1.6	-0.9	0.05	-0.04	-75.8	-0.04	0.04	-0.02
45- 9	2.4	-1.1	-2.0	0.07	-0.05	-60.2	-0.02	0.04	-0.05
45-10	2.7	-0.9	-2.9	0.06	-0.07	-53.0	-0.02	0.01	-0.06
45-11	5.9	2.7	-0.4	0.19	0.05	-46.1	0.12	0.12	-0.07
45-12	12.0	4.7	-3.7	0.36	-0.00	-43.0	0.19	0.17	-0.18
45-13	9.0	3.9	-3.1	0.27	-0.02	-40.7	0.15	0.11	-0.14
45-14	6.0	0.1	-4.0	0.16	-0.07	-50.2	0.02	0.06	-0.11
45-15	-2.1	-1.7	-1.7	-0.08	-0.09	21.8	-0.08	-0.09	0.00
45-16	-0.0	-1.3	-2.6	-0.03	-0.09	45.7	-0.06	-0.06	0.03
45-17	-1.1	0.0	0.2	0.00	-0.04	28.5	-0.01	-0.03	0.02
45-18	-0.2	0.5	-0.2	0.01	-0.03	1.1	0.01	-0.03	0.00
45-19	-0.2	0.4	-0.3	0.00	-0.03	-3.6	0.00	-0.03	-0.00
45-20	0.1	-0.1	-0.6	-0.00	-0.02	-34.0	-0.01	-0.01	-0.01
67- 1	-1.8	-0.3	6.5	0.22	-0.01	61.5	0.04	0.16	0.10

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REP. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.3	0.1	7.1	0.23	-0.02	58.4	0.05	0.16	0.11
67- 3	-2.9	0.5	9.0	0.28	-0.02	56.5	0.07	0.19	0.14
67- 4	-4.4	1.9	11.9	0.35	-0.03	51.4	0.12	0.20	0.19
67- 5	-5.3	0.9	10.3	0.29	-0.08	51.0	0.07	0.15	0.18
67- 6	4.3	1.0	-4.9	0.10	-0.12	66.1	-0.09	0.06	0.08
67- 7	-2.8	-3.6	0.1	0.00	-0.12	73.1	-0.11	-0.01	0.03
67- 8	-1.3	-2.7	-4.0	-0.08	-0.14	-45.8	-0.11	-0.11	-0.03
67- 9	0.1	-0.1	-4.4	-0.02	-0.16	-24.2	-0.05	-0.14	-0.05
67-10	0.7	0.5	-4.2	0.00	-0.15	-24.1	-0.02	-0.12	-0.06
67-11	6.2	-0.1	-0.6	0.2	0.02	-65.0	0.05	0.19	-0.08
67-12	6.5	0.5	0.2	0.24	0.05	-66.1	0.08	0.21	-0.07
67-13	5.5	-0.2	0.3	0.22	0.03	-70.0	0.05	0.20	-0.06
67-14	6.6	-2.0	-0.4	0.28	-0.01	-72.9	0.01	0.25	-0.08
67-15	9.0	0.6	-1.1	0.31	0.03	-61.7	0.09	0.24	-0.12
67-16	0.6	11.1	11.1	0.42	0.08	-74.6	0.10	0.40	-0.09
67-17	10.1	1.7	5.3	0.48	0.18	-79.2	0.19	0.47	-0.05
67-18	6.8	4.9	5.5	0.29	0.23	-76.0	0.24	0.29	-0.01
67-19	4.1	2.3	3.0	0.18	0.12	-78.3	0.12	0.18	-0.01
67-20	3.4	4.6	2.8	0.17	0.10	-5.9	0.17	0.10	-0.01
90- 1	1.4	-1.8	2.0	0.15	-0.01	87.4	-0.01	0.15	0.01
90- 2	1.1	-2.1	1.6	0.14	-0.02	87.7	-0.02	0.14	0.01
90- 3	0.6	-2.1	1.3	0.11	-0.03	86.8	-0.03	0.11	0.01
90- 4	0.1	-1.8	0.9	0.07	-0.03	85.1	-0.03	0.07	0.01
90- 5	0.2	-2.0	1.2	0.10	-0.03	84.8	-0.03	0.10	0.01
90- 6	0.7	0.2	-2.3	0.01	-0.07	89.9	-0.07	0.01	0.00
90- 7	-2.1	-2.9	-1.3	-0.05	-0.10	80.9	-0.10	-0.05	0.01
90- 8	-4.1	-4.0	-0.1	-0.17	-0.18	2.5	-0.17	-0.18	0.00
90- 9	-3.0	1.1	-2.9	-0.03	-0.22	0.2	-0.03	-0.22	0.00
90-10	-1.9	2.1	-2.0	0.01	-0.18	-0.3	0.01	-0.18	-0.00
90-11	2.7	-2.7	1.4	0.20	-0.02	-86.1	-0.02	0.20	-0.01
90-12	3.0	-2.6	2.2	0.23	-0.01	-88.0	-0.01	0.23	-0.01
90-13	3.8	-2.5	3.6	0.30	0.02	-89.7	0.02	0.30	-0.00
90-14	6.1	-1.7	5.9	0.44	0.08	-89.7	0.08	0.44	-0.00
90-15	12.1	-1.4	8.9	0.73	0.17	-86.1	0.18	0.72	-0.04
90-16	-0.7	16.7	26.4	0.88	0.23	-87.8	0.23	0.88	-0.02
90-17	14.5	-1.4	12.6	0.93	0.24	-88.2	0.24	0.93	-0.02
90-18	11.1	6.1	12.3	0.63	0.37	86.9	0.37	0.63	0.01
90-19	7.3	5.6	6.8	0.33	0.27	-85.2	0.27	0.33	-0.01
90-20	4.9	6.7	4.8	0.25	0.17	-0.6	0.25	0.17	-0.00
180- 1	7.3	13.6	4.7	0.43	0.08	-4.8	0.43	0.08	-0.03
180- 2	0.8	4.7	0.5	0.12	-0.06	-1.1	0.12	-0.06	-0.00
180- 3	1.4	5.4	1.1	0.15	-0.04	-1.2	0.15	-0.04	-0.00
180- 4	1.9	6.7	1.4	0.14	-0.00	-1.9	0.14	-0.00	-0.00
180- 5	2.7	4.9	2.3	0.16	0.05	-2.6	0.16	0.05	-0.00
180- 6	2.9	5.4	2.4	0.18	0.05	-2.5	0.18	0.05	-0.01
180- 7	3.5	1.4	2.3	0.16	0.09	-3.7	0.16	0.09	-0.00
180- 8	2.9	3.4	3.4	0.14	0.13	27.0	0.14	0.13	0.01
180- 9	2.7	0.2	2.6	0.17	0.06	-89.0	0.06	0.17	-0.00
180-10	1.8	-1.3	1.5	0.14	0.00	-88.9	0.00	0.14	-0.00
180-11	3.1	3.2	2.6	0.13	0.11	-16.7	0.13	0.11	-0.01
180-12	4.9	8.8	5.2	0.30	0.13	1.1	0.30	0.13	0.00
180-13	4.2	7.6	4.0	0.26	0.09	-0.6	0.26	0.09	-0.00
180-14	2.5	4.0	2.4	0.14	0.07	-1.2	0.14	0.07	-0.00
180-15	-0.2	-1.0	-0.3	0.01	-0.03	-86.6	-0.03	0.01	-0.00
180-16	-3.1	-1.0	-3.4	-0.09	-0.19	-2.1	-0.09	-0.19	-0.00
180-17	-8.9	-11.5	-3.9	-0.14	-0.41	1.9	-0.14	-0.41	0.01
180-18	-7.0	0.7	-6.3	-0.12	-0.45	1.3	-0.12	-0.45	0.01
180-19	-6.3	-4.6	-6.2	-0.23	-0.30	0.4	-0.23	-0.30	0.00
180-20	-4.0	-5.2	-3.8	-0.14	-0.20	87.7	-0.20	-0.14	0.00
202- 1	0.8	15.1	17.4	0.63	0.16	27.2	0.53	0.25	0.19
202- 2	-2.5	3.7	7.6	0.23	-0.01	38.4	0.14	0.08	0.12
202- 3	-2.8	5.0	9.9	0.30	0.00	38.4	0.19	0.12	0.15
202- 4	-2.6	3.9	10.1	0.31	0.01	44.3	0.16	0.16	0.15
202- 5	-4.7	4.5	11.1	0.32	-0.05	40.6	0.17	0.11	0.18
202- 6	8.5	3.7	-3.8	0.25	-0.04	46.2	0.10	0.11	0.15
202- 7	-1.1	1.1	6.6	0.21	0.02	56.5	0.08	0.16	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	1.4	0.2	3.3	0.16	0.05	77.7	0.05	0.15	0.02
202- 9	2.1	-1.1	1.2	0.14	0.01	-85.1	0.01	0.13	-0.01
202-10	2.5	-1.6	-0.3	0.12	-0.02	-76.3	-0.02	0.11	-0.03
202-11	3.6	3.7	-1.2	0.13	-0.03	-22.2	0.11	-0.00	-0.06
202-12	9.3	9.7	-0.9	0.35	0.01	-21.4	0.31	0.05	-0.12
202-13	7.6	5.7	-2.5	0.25	-0.03	-29.0	0.18	0.04	-0.12
202-14	3.7	0.1	-3.3	0.09	-0.07	-85.8	0.01	0.01	-0.08
202-15	-5.3	-2.1	-3.6	-0.13	-0.25	9.6	-0.14	-0.25	0.02
202-16	-7.0	-11.1	-4.8	-0.13	-0.38	2.0	-0.13	-0.38	0.01
202-17	-6.4	-0.9	-5.4	-0.14	-0.37	2.7	-0.14	-0.37	0.01
202-18	-6.6	-3.5	-5.0	-0.19	-0.30	10.1	-0.20	-0.30	0.02
202-19	-4.8	-3.0	-3.9	-0.15	-0.22	9.1	-0.16	-0.22	0.01
202-20	-3.0	-3.7	-3.3	-0.12	-0.15	-81.7	-0.15	-0.12	-0.00
225- 1	-0.6	9.2	18.7	0.61	0.16	44.4	0.39	0.38	0.22
225- 2	-2.7	3.0	9.4	0.28	0.00	46.4	0.14	0.15	0.14
225- 3	-3.1	2.7	10.2	0.31	-0.00	48.6	0.13	0.17	0.15
225- 4	-3.1	3.1	13.9	0.44	0.03	52.6	0.18	0.29	0.20
225- 5	-6.9	3.9	17.6	0.51	-0.06	48.4	0.19	0.26	0.28
225- 6	9.2	4.2	-6.1	0.25	-0.12	59.5	-0.02	0.16	0.16
225- 7	-2.2	-2.4	3.7	0.13	-0.07	68.2	-0.01	0.10	0.07
225- 8	0.9	-1.9	-0.9	0.05	-0.05	-77.0	-0.04	0.04	-0.02
225- 9	2.2	-1.2	-2.5	0.05	-0.07	-57.3	-0.03	0.02	-0.05
225-10	2.6	-0.9	-3.3	0.06	-0.08	-50.8	-0.03	0.00	-0.07
225-11	5.7	2.0	-0.6	0.18	0.03	-49.9	0.10	0.12	-0.07
225-12	13.4	5.1	-4.0	0.40	0.00	-43.9	0.21	0.19	-0.20
225-13	10.6	4.3	-3.9	0.31	-0.02	-41.3	0.17	0.12	-0.17
225-14	7.7	0.3	-4.2	0.21	-0.07	-51.8	0.04	0.11	-0.14
225-15	-1.7	-2.0	-3.3	-0.08	-0.13	-28.6	-0.09	-0.12	-0.02
225-16	-1.3	-2.1	-2.6	-0.07	-0.10	51.4	-0.09	-0.08	0.02
225-17	-1.5	-2.1	-0.1	-0.00	-0.07	75.2	-0.06	-0.01	0.02
225-18	-0.5	0.1	0.1	0.00	-0.02	23.4	-0.00	-0.02	0.01
225-19	0.4	0.6	-0.5	0.02	-0.02	-16.8	0.01	-0.02	-0.01
225-20	0.4	0.3	-0.6	0.01	-0.02	-25.4	0.00	-0.01	-0.01
247- 1	-1.2	-0.9	5.9	0.21	-0.01	66.2	0.03	0.18	0.08
247- 2	-1.9	-0.6	6.6	0.22	-0.02	62.5	0.03	0.17	0.10
247- 3	-2.5	0.2	8.7	0.28	-0.01	58.5	0.07	0.20	0.13
247- 4	-3.5	1.2	11.3	0.35	-0.01	55.2	0.11	0.23	0.17
247- 5	-5.0	1.6	11.7	0.34	-0.05	50.9	0.10	0.18	0.19
247- 6	4.7	-0.1	-5.0	0.11	-0.12	63.1	-0.07	0.06	0.09
247- 7	-3.1	-3.4	1.0	0.03	-0.12	69.0	-0.10	0.01	0.05
247- 8	-1.9	-3.2	-4.3	-0.11	-0.16	-47.0	-0.14	-0.13	-0.03
247- 9	-0.3	-0.1	-4.7	-0.03	-0.18	-21.3	-0.05	-0.16	-0.05
247-10	1.1	1.5	-3.8	0.01	-0.14	-20.3	0.01	-0.12	-0.06
247-11	6.2	-0.6	-0.6	0.23	0.01	-67.2	0.04	0.20	-0.08
247-12	7.1	-0.5	0.1	0.28	0.03	-69.6	0.06	0.25	-0.08
247-13	5.2	-0.7	0.1	0.21	0.02	-71.6	0.04	0.19	-0.06
247-14	6.2	-2.6	0.3	0.29	-0.01	-76.7	0.01	0.28	-0.07
247-15	13.0	2.6	-2.1	0.42	0.05	-55.1	0.17	0.30	-0.17
247-16	0.3	14.0	15.5	0.56	0.12	-64.3	0.20	0.48	-0.18
247-17	9.1	-1.3	6.9	0.56	0.13	-86.5	0.13	0.56	-0.03
247-18	7.9	5.0	7.5	0.39	0.27	-87.8	0.27	0.39	-0.00
247-19	5.3	4.2	4.5	0.23	0.19	-75.7	0.19	0.23	-0.01
247-20	3.4	4.7	2.3	0.17	0.08	-7.8	0.16	0.08	-0.01
270- 1	2.3	-1.8	1.9	0.18	0.00	-88.7	0.00	0.18	-0.00
270- 2	2.1	-1.9	1.6	0.17	-0.01	-88.1	-0.01	0.17	-0.01
270- 3	1.9	-1.8	1.0	0.14	-0.01	-86.1	-0.01	0.14	-0.01
270- 4	1.7	-1.3	0.8	0.11	-0.01	-85.4	-0.01	0.11	-0.01
270- 5	1.4	-1.7	0.7	0.11	-0.02	-86.1	-0.02	0.11	-0.01
270- 6	1.5	1.1	-2.0	0.04	-0.06	-88.4	-0.06	0.04	-0.00
270- 7	-1.1	-3.1	-1.6	-0.02	-0.10	-85.6	-0.10	-0.02	-0.01
270- 8	-3.7	-3.6	-3.7	-0.16	-0.16	2.6	-0.16	-0.16	0.00
270- 9	-4.0	-1.7	-4.5	-0.12	-0.24	-2.9	-0.12	-0.24	-0.01
270-10	-1.8	2.1	-2.2	0.01	-0.18	-1.1	0.01	-0.18	-0.00
270-11	1.9	-2.4	2.8	0.21	-0.01	87.1	-0.01	0.21	0.01
270-12	2.2	-2.5	3.2	0.23	-0.00	87.3	-0.00	0.23	0.01
270-13	3.2	-2.5	4.0	0.29	0.01	88.1	0.01	0.29	0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	5.4	-2.5	5.5	0.42	0.05	89.9	0.05	0.42	0.00
270-15	8.6	-2.1	9.8	0.66	0.13	88.4	0.13	0.66	0.01
270-16	-1.0	15.3	24.9	0.82	0.20	84.7	0.21	0.81	0.06
270-17	13.4	-0.6	12.4	0.87	0.24	-89.0	0.24	0.87	-0.01
270-18	12.4	2.3	13.0	0.78	0.30	89.2	0.30	0.78	0.01
270-19	8.6	6.6	8.4	0.41	0.32	-88.7	0.32	0.41	-0.00
270-20	4.4	6.5	3.8	0.23	0.12	-3.4	0.23	0.12	-0.01
0- 7	2.8	1.1	2.8	0.16	0.08	-89.7	0.08	0.16	-0.00
11- 1	6.0	3.1	-1.0	0.19	0.02	-40.0	0.12	0.09	-0.08
22- 6	8.3	4.2	-3.8	0.24	-0.05	-36.3	0.14	0.05	-0.14
33- 1	8.7	5.0	-5.0	0.25	-0.09	-32.8	0.15	0.01	-0.16
45- 6	7.6	4.3	-5.3	0.22	-0.12	-32.0	0.12	-0.02	-0.15
56- 1	5.9	2.6	-5.2	0.15	-0.12	-34.0	0.07	-0.04	-0.13
67- 6	4.3	1.0	-4.9	0.10	-0.12	-36.9	0.02	-0.04	-0.11
78- 1	1.7	-1.2	-4.1	0.01	-0.12	-44.4	-0.05	-0.05	-0.07
90- 6	0.7	0.2	-2.3	0.01	-0.07	-28.1	-0.01	-0.06	-0.03
0-17	-8.9	-8.9	-2.5	-0.14	-0.35	67.9	-0.32	-0.17	0.07
11-11	-10.1	-10.7	-2.8	-0.15	-0.41	69.7	-0.38	-0.18	0.08
22-16	-6.0	-10.4	-4.4	-0.10	-0.35	85.6	-0.34	-0.10	0.02
33-11	-2.6	-6.3	-4.5	-0.09	-0.22	-80.3	-0.22	-0.09	-0.02
45-16	-0.0	-1.3	-2.6	-0.03	-0.09	-44.3	-0.06	0.06	-0.03
56-11	1.3	5.3	2.9	0.17	0.02	6.9	0.16	0.02	0.02
67-16	0.6	11.1	11.1	0.42	0.08	22.4	0.37	0.13	0.12
78-11	-0.7	14.9	21.9	0.73	0.17	34.5	0.55	0.35	0.26
90-16	-0.7	16.7	26.4	0.88	0.23	37.2	0.64	0.46	0.31
180- 7	3.5	1.4	2.3	0.16	0.09	-78.7	0.09	0.16	-0.01
191- 1	6.5	2.9	-1.4	0.20	0.02	-42.7	0.12	0.10	-0.09
202- 6	8.5	3.7	-3.8	0.25	-0.04	-38.8	0.13	0.07	-0.14
213- 1	9.9	5.6	-5.5	0.29	-0.10	-33.2	0.17	0.02	-0.18
225- 6	9.2	4.2	-6.1	0.25	-0.12	-35.5	0.13	0.01	-0.18
236- 1	7.4	2.3	-5.7	0.19	-0.12	-38.6	0.07	0.00	-0.15
247- 6	4.7	-0.1	-5.0	0.11	-0.12	-44.9	-0.00	-0.01	-0.11
258- 1	2.6	-1.0	-4.0	0.05	-0.11	-47.5	-0.04	-0.02	-0.08
270- 6	1.5	1.1	-2.0	0.04	-0.06	-26.4	0.02	-0.04	-0.04
180-17	-8.9	-11.5	-3.9	-0.14	-0.41	76.9	-0.39	-0.16	0.06
191-11	-7.9	-11.6	-4.8	-0.14	-0.40	81.8	-0.39	-0.15	0.04
202-16	-7.0	-11.1	-4.8	-0.13	-0.38	84.0	-0.37	-0.13	0.03
213-11	-3.2	-7.3	-4.8	-0.09	-0.25	-83.1	-0.25	-0.10	-0.02
225-16	-1.3	-2.1	-2.6	-0.07	-0.10	-48.6	-0.09	-0.08	-0.02
236-11	0.2	6.4	4.2	0.20	-0.01	12.9	0.19	-0.00	0.05
247-16	0.3	14.0	15.5	0.56	0.12	25.7	0.48	0.20	0.18
258-11	0.4	17.2	21.3	0.75	0.18	29.3	0.61	0.32	0.24
270-16	-1.0	15.3	24.9	0.82	0.20	37.7	0.59	0.43	0.30
400-01	7.4	1.7	-1.9	0.23	0.01	-6.1	0.22	0.01	-0.02
400-11	-2.2	1.8	6.5	0.19	-0.01	2.3	0.19	-0.01	0.01
401-01	3.7	12.3	4.6	0.37	-0.01	1.6	0.37	-0.01	0.01
401-02	13.3	-3.6					0.40	0.01	
401-03	14.1	-3.8					0.43	0.01	
401-04	12.1	-3.2					0.37	0.01	
402-01	3.5	14.1	4.2	0.40	-0.08	0.9	0.40	-0.07	0.01
402-02	13.0	-0.8					0.42	0.10	
402-03	11.1	-6.1					0.31	-0.09	
403-01	-0.0	0.1	-0.0	0.00	-0.00	3.7	0.00	-0.00	0.00
403-02	-0.2	0.1					-0.00	0.00	
403-03	0.1	-0.2					0.00	-0.01	
403-04	-0.2	0.1					-0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '**' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, IN-PLANE FORCE LOADING ON RUN, -F2Y

NOMINAL LOAD = 6.048E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	12.8	28.1	6.1	0.84	-0.03	-5.1	0.84	-0.03	-0.08
0- 2	2.5	11.9	1.6	0.32	-0.14	-1.3	0.32	-0.14	-0.01
0- 3	3.7	13.9	3.1	0.39	-0.10	-0.8	0.39	-0.10	-0.01
0- 4	4.7	12.4	4.3	0.37	0.01	-0.8	0.37	0.01	-0.00
0- 5	7.2	12.6	5.6	0.42	0.13	-3.7	0.42	0.13	-0.02
0- 6	7.6	13.9	5.6	0.45	0.11	-4.0	0.45	0.11	-0.02
0- 7	7.7	2.8	8.3	0.46	0.22	-11.8	0.45	0.23	-0.05
0- 8	9.2	9.6	7.5	0.39	0.32	-17.4	0.39	0.33	-0.02
0- 9	6.0	0.5	6.4	0.40	0.13	89.2	0.13	0.40	0.00
0-10	6.5	-1.8	5.6	0.44	0.08	-88.2	0.08	0.44	-0.01
0-11	9.0	15.4	8.9	0.53	0.23	-0.0	0.53	0.23	-0.00
0-12	11.3	22.3	11.4	0.74	0.23	0.2	0.74	0.23	0.00
0-13	8.0	16.5	8.3	0.54	0.16	0.5	0.54	0.16	0.00
0-14	4.6	8.4	4.9	0.29	0.12	1.1	0.29	0.12	0.00
0-15	-1.9	-2.8	-1.4	-0.04	-0.10	83.0	-0.10	-0.04	0.01
0-16	-8.3	-5.4	-7.7	-0.28	-0.40	3.5	-0.28	-0.40	0.01
0-17	-22.1	-22.7	-6.9	-0.36	-0.88	1.7	-0.36	-0.88	0.03
0-18	-16.4	1.9	-14.1	-0.26	-1.05	1.9	-0.26	-1.05	0.03
0-19	-14.9	-9.6	-15.7	-0.52	-0.79	-2.1	-0.52	-0.79	-0.01
0-20	-10.6	-15.5	-10.9	-0.35	-0.57	-89.1	-0.57	-0.35	-0.00
22- 1	0.3	22.1	32.8	1.10	0.31	35.5	0.84	0.58	0.38
22- 2	-6.4	8.2	17.0	0.51	-0.05	38.2	0.29	0.16	0.27
22- 3	-6.4	12.0	21.9	0.67	-0.01	36.7	0.43	0.23	0.33
22- 4	-5.6	10.1	22.3	0.68	0.03	41.4	0.40	0.32	0.32
22- 5	-10.1	11.6	26.3	0.77	-0.08	39.4	0.43	0.26	0.42
22- 6	20.7	10.3	-8.2	0.61	-0.08	47.8	0.23	0.30	0.34
22- 7	-1.8	1.7	14.4	0.49	0.06	59.7	0.17	0.38	0.19
22- 8	3.5	0.6	7.1	0.34	0.11	79.8	0.12	0.34	0.04
22- 9	6.4	-1.5	3.5	0.36	0.06	-83.7	0.06	0.36	-0.03
22-10	7.3	-1.3	1.7	0.34	0.05	-77.2	0.06	0.33	-0.06
22-11	10.3	7.5	-2.6	0.33	-0.01	-30.1	0.25	0.08	-0.15
22-12	19.3	18.2	-2.8	0.70	0.01	-24.0	0.58	0.12	-0.25
22-13	13.6	11.3	-3.5	0.46	-0.03	-26.9	0.36	0.07	-0.20
22-14	4.2	-3.3	-7.9	0.06	-0.22	-51.4	-0.11	-0.05	-0.14
22-15	-13.3	-5.0	-9.8	-0.34	-0.65	7.4	-0.35	-0.65	0.04
22-16	-14.8	-25.2	-11.0	-0.27	-0.84	3.5	-0.27	-0.84	0.04
22-17	-14.0	-4.5	-13.1	-0.37	-0.79	1.5	-0.37	-0.79	0.01
22-18	-13.5	-7.4	-9.9	-0.39	-0.61	11.3	-0.40	-0.60	0.04
22-19	-9.7	-5.5	-7.5	-0.29	-0.44	9.9	-0.30	-0.44	0.03
22-20	-8.2	-11.7	-7.8	-0.26	-0.43	88.4	-0.43	-0.26	0.00
45- 1	0.1	0.6	8.1	0.30	0.05	65.5	0.10	0.26	0.09
45- 2	-2.2	2.0	11.5	0.37	0.03	55.5	0.14	0.26	0.16
45- 3	-4.6	2.5	17.1	0.53	0.00	54.5	0.18	0.36	0.25
45- 4	-6.9	5.7	27.9	0.87	0.03	52.7	0.34	0.56	0.40
45- 5	-15.7	10.1	35.2	1.00	-0.17	44.6	0.43	0.41	0.59
45- 6	17.5	9.6	-11.9	0.49	-0.25	62.4	-0.09	0.33	0.31
45- 7	-4.2	-4.2	9.1	0.32	-0.11	67.4	-0.05	0.26	0.15
45- 8	2.6	-3.0	-1.4	0.12	-0.07	-75.3	-0.06	0.11	-0.05
45- 9	4.8	-2.0	-4.2	0.13	-0.10	-58.5	-0.04	0.06	-0.10
45-10	6.0	-1.9	-6.1	0.14	-0.15	-53.5	-0.05	0.04	-0.14
45-11	1.4	-2.4	-0.2	0.10	-0.05	-82.4	-0.04	0.09	-0.02
45-12	13.0	0.6	-5.2	0.39	-0.06	-54.8	0.09	0.24	-0.21
45-13	15.2	4.8	-5.9	0.44	-0.04	-44.5	0.20	0.19	-0.24
45-14	11.7	-1.6	-8.4	0.32	-0.17	-53.9	-0.00	0.15	-0.23
45-15	-5.1	-4.8	-3.8	-0.17	-0.21	58.9	-0.20	-0.18	0.01
45-16	0.4	-1.8	-6.4	-0.04	-0.21	54.8	-0.16	-0.10	0.08
45-17	-3.0	-0.7	1.1	0.01	-0.09	41.4	-0.03	-0.05	0.05
45-18	-1.1	0.5	-0.1	0.00	-0.05	13.1	-0.00	-0.05	0.01
45-19	-0.5	0.5	-0.5	0.00	-0.04	0.8	0.00	-0.04	0.00
45-20	0.2	-0.3	-1.3	-0.00	-0.04	-36.5	-0.02	-0.03	-0.02
67- 1	-0.7	-0.9	0.4	0.02	-0.03	72.4	-0.02	0.01	0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-2.3	-0.6	5.9	0.19	-0.03	60.4	0.02	0.13	0.09
67- 3	-4.6	0.1	13.4	0.42	-0.04	57.7	0.09	0.29	0.21
67- 4	-8.4	3.0	22.6	0.67	-0.07	52.3	0.21	0.40	0.36
67- 5	-11.4	1.5	21.6	0.61	-0.17	51.2	0.13	0.30	0.38
67- 6	8.8	1.5	-10.8	0.19	-0.27	65.2	-0.19	0.11	0.18
67- 7	-6.7	-7.6	0.2	-0.01	-0.27	40.9	-0.24	-0.04	0.08
67- 8	-3.5	-5.8	-8.5	-0.20	-0.32	-43.0	-0.25	-0.26	-0.06
67- 9	-0.5	-0.3	-9.5	-0.06	-0.36	-22.1	-0.11	-0.32	-0.10
67-10	0.9	0.7	-9.1	-0.02	-0.34	-23.3	-0.07	-0.29	-0.12
67-11	-0.8	-1.6	3.1	0.13	-0.03	72.5	-0.01	0.11	0.04
67-12	4.4	-1.1	3.2	0.28	0.05	-86.7	0.05	0.28	-0.01
67-13	6.8	-1.7	2.7	0.36	0.05	-81.1	0.05	0.35	-0.05
67-14	11.9	-5.1	1.0	0.57	-0.02	-77.4	0.01	0.55	-0.13
67-15	20.5	0.5	-1.8	0.73	0.07	-64.1	0.20	0.60	-0.26
67-16	1.8	26.8	25.6	0.99	0.18	-75.9	0.23	0.95	-0.19
67-17	22.4	3.2	12.7	1.10	0.40	-80.7	0.42	1.08	-0.11
67-18	15.1	10.7	13.2	0.69	0.52	-82.6	0.53	0.69	-0.02
67-19	9.4	4.7	7.4	0.45	0.27	-82.4	0.28	0.44	-0.02
67-20	7.9	10.3	6.5	0.38	0.23	-6.3	0.38	0.24	-0.02
90- 1	1.1	-0.3	-1.4	0.02	-0.04	-48.4	-0.01	-0.00	-0.03
90- 2	1.3	-1.5	-1.1	0.05	-0.04	-71.6	-0.03	0.04	-0.03
90- 3	1.3	-2.5	-1.0	0.07	-0.06	-78.3	-0.06	0.07	-0.03
90- 4	0.9	-2.5	-0.8	0.07	-0.06	-80.6	-0.06	0.06	-0.02
90- 5	1.7	-3.7	0.9	0.17	-0.06	-87.8	-0.06	0.17	-0.01
90- 6	0.4	0.9	-4.0	0.00	-0.16	-81.9	-0.15	0.00	-0.02
90- 7	-4.1	-6.2	-3.8	-0.12	-0.22	88.2	-0.22	-0.12	0.00
90- 8	[illegible]	-9.1	-9.3	-0.39	-0.40	-6.5	-0.39	-0.40	-0.00
90- 9	-7.1	1.7	-6.7	-0.10	-0.49	0.6	-0.10	-0.49	0.00
90-10	-5.0	3.5	-4.7	-0.02	-0.40	0.4	-0.02	-0.40	0.00
90-11	-1.8	-1.4	1.7	0.05	-0.05	64.2	-0.03	0.03	0.04
90-12	0.6	-2.3	3.7	0.20	-0.02	80.5	-0.01	0.20	0.04
90-13	4.0	-3.1	7.2	0.44	0.04	84.7	0.04	0.44	0.04
90-14	10.2	-2.4	12.6	0.81	0.17	87.5	0.17	0.81	0.03
90-15	24.2	-2.8	19.4	1.51	0.36	-87.2	0.37	1.50	-0.06
90-16	-1.1	35.9	55.8	1.86	0.49	-88.3	0.49	1.86	-0.04
90-17	30.4	-3.1	27.8	1.99	0.50	-88.9	0.50	1.99	-0.03
90-18	23.8	13.0	27.3	1.39	0.80	86.1	0.80	1.38	0.04
90-19	16.	11.9	15.5	0.77	0.59	-87.7	0.59	0.77	-0.01
90-20	11.0	14.4	10.9	0.55	0.39	-0.1	0.55	0.39	-0.00
180- 1	13.9	25.6	8.5	0.82	0.14	-3	0.81	0.15	-0.06
180- 2	1.9	9.5	0.8	0.25	-0.13	-1.9	0.25	-0.13	-0.01
180- 3	3.3	11.1	2.1	0.31	-0.08	-2.0	0.31	-0.08	-0.01
180- 4	4.2	9.9	2.8	0.30	0.00	-3.1	0.30	0.00	-0.02
180- 5	6.0	10.2	4.7	0.34	0.12	-3.9	0.34	0.12	-0.02
180- 6	6.5	11.8	5.0	0.39	0.11	-3.6	0.39	0.11	-0.02
180- 7	7.7	2.8	5.4	0.37	0.19	-6.2	0.37	0.19	-0.02
180- 8	6.9	8.3	7.7	0.34	0.29	10.7	0.34	0.29	0.01
180- 9	6.6	1.4	6.0	0.38	0.16	-88.2	0.16	0.38	-0.01
180-10	4.4	-1.8	3.8	0.31	0.04	-88.6	0.04	0.31	-0.01
180-11	5.3	5.2	5.3	0.23	0.2	87.7	0.22	0.23	0.00
180-12	9.1	16.1	9.9	0.56	0.25	1.7	0.56	0.25	0.01
180-13	7.8	13.8	7.8	0.47	0.20	0.0	0.47	0.20	0.00
180-14	4.6	6.6	4.7	0.24	0.15	1.1	0.24	0.15	0.00
180-15	-0.9	-3.3	-1.1	0.01	-0.10	-88.6	-0.10	0.01	-0.00
180-16	-6.8	-2.4	-7.5	-0.20	-0.41	-2.1	-0.20	-0.41	-0.01
180-17	-19.3	-2.5	-8.6	-0.32	-0.87	1.6	-0.32	-0.87	0.01
180-18	-14.9	1.1	-13.8	-0.26	-0.97	1.1	-0.26	-0.97	0.01
180-19	-13.5	-10.4	-13.7	-0.51	-0.66	-0.5	-0.51	-0.66	-0.00
180-20	-8.6	-10.8	-8.2	-0.30	-0.42	87.5	-0.42	-0.30	0.01
202- 1	2.3	23.8	25.9	0.96	0.25	25.3	0.83	0.38	0.27
202- 2	-3.8	6.8	12.6	0.39	-0.01	37.0	0.24	0.14	0.19
202- 3	-4.8	9.2	18.0	0.55	0.01	38.7	0.34	0.22	0.26
202- 4	-4.6	7.9	19.6	0.60	0.04	44.1	0.33	0.31	0.28
202- 5	-9.1	9.9	22.9	0.67	-0.08	39.8	0.36	0.23	0.37
202- 6	18.1	7.5	-7.4	0.53	-0.07	44.8	0.23	0.23	0.30
202- 7	-1.7	3.6	14.6	0.48	0.08	54.5	0.21	0.34	0.19

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	3.2	1.5	8.0	0.35	0.13	74.9	0.15	0.34	0.06
202- 9	4.6	-1.7	3.4	0.30	0.04	-87.1	0.04	0.30	-0.01
202-10	5.4	-2.8	0.3	0.27	-0.02	-77.8	-0.01	0.25	-0.06
202-11	3.0	6.2	-1.5	0.17	-0.10	-11.3	0.16	-0.09	-0.05
202-12	13.9	15.6	-1.2	0.55	-0.00	-19.7	0.49	0.06	-0.18
202-13	11.9	9.6	-3.6	0.40	-0.04	-27.6	0.30	0.05	-0.18
202-14	5.1	-1.0	-5.9	0.11	-0.14	-47.8	-0.03	-0.00	-0.13
202-15	-12.4	-5.0	-7.2	-0.29	-0.54	14.2	-0.31	-0.53	0.06
202-16	-14.5	-24.0	-10.9	-0.28	-0.81	3.5	-0.28	-0.81	0.03
202-17	-14.4	-2.2	-11.3	-0.30	-0.80	4.1	-0.30	-0.80	0.04
202-18	-15.0	-8.3	-10.4	-0.43	-0.66	13.8	-0.44	-0.64	0.05
202-19	-10.7	-6.8	-8.3	-0.34	-0.48	12.0	-0.34	-0.47	0.03
202-20	-6.6	-8.0	-7.2	-0.27	-0.32	-81.6	-0.32	-0.27	-0.01
225- 1	-0.5	4.5	2.4	0.13	-0.05	11.3	0.12	-0.04	0.03
225- 2	-2.0	5.3	7.5	0.24	-0.01	30.8	0.18	0.06	0.11
225- 3	-3.6	4.7	13.4	0.40	0.01	45.5	0.21	0.21	0.20
225- 4	-5.2	6.2	24.9	0.78	0.06	51.8	0.34	0.50	0.35
225- 5	-14.2	8.8	36.2	1.05	-0.11	47.4	0.42	0.52	0.58
225- 6	19.8	8.0	-12.7	0.54	-0.24	57.5	-0.01	0.32	0.35
225- 7	-4.9	-4.0	8.8	0.29	-0.13	65.6	-0.05	0.22	0.16
225- 8	1.5	-3.5	-0.7	0.11	-0.08	-81.9	-0.07	0.11	-0.03
225- 9	4.2	-2.6	-4.3	0.11	-0.12	-60.5	-0.06	0.06	-0.10
225-10	5.2	-2.1	-6.1	0.12	-0.16	-53.2	-0.06	0.02	-0.13
225-11	-0.1	3.8	0.8	0.10	-0.06	3.7	0.10	-0.06	0.01
225-12	8.9	4.6	-3.3	0.27	-0.03	-36.9	0.16	0.08	-0.14
225-13	12.5	7.4	-4.8	0.38	-0.05	-33.8	0.25	0.08	-0.20
225-14	11.6	0.6	-7.5	0.31	-0.13	-49.2	0.06	0.12	-0.22
225-15	-5.8	-5.0	-6.3	-0.23	-0.28	-6.1	-0.24	-0.28	-0.01
225-16	-2.4	-5.8	-7.5	-0.15	-0.27	45.7	-0.21	-0.21	0.06
225-17	-5.5	-5.4	-0.1	-0.03	-0.21	66.9	-0.18	-0.06	0.06
225-18	-2.7	-0.8	0.2	-0.02	-0.09	35.3	-0.04	-0.07	0.03
225-19	-0.1	0.6	-1.2	0.00	-0.06	-12.3	0.00	-0.06	-0.01
225-20	0.5	0.1	-1.3	0.01	-0.04	-29.3	-0.01	-0.03	-0.02
247- 1	-3.5	1.6	1.5	0.04	-0.12	22.2	0.02	-0.10	0.06
247- 2	-5.1	1.6	5.9	0.15	-0.11	39.3	0.04	-0.01	0.13
247- 3	-6.3	2.2	12.8	0.36	-0.08	48.3	0.11	0.16	0.22
247- 4	-8.3	4.0	21.6	0.63	-0.07	50.0	0.22	0.34	0.34
247- 5	-11.4	5.1	25.4	0.73	-0.13	48.1	0.26	0.35	0.42
247- 6	10.7	-1.6	-10.9	0.25	-0.26	59.1	-0.12	0.11	0.22
247- 7	-7.7	-6.9	3.4	0.08	-0.26	65.4	-0.20	0.02	0.13
247- 8	-4.4	-6.9	-8.3	-0.22	-0.32	-53.0	-0.28	-0.26	-0.05
247- 9	-1.0	-1.0	-9.9	-0.09	-0.38	-22.7	-0.13	-0.33	-0.10
247-10	1.9	1.9	-8.2	0.03	-0.30	-22.4	-0.02	-0.25	-0.12
247-11	1.1	2.3	1.2	0.08	0.02	1.5	0.08	0.02	0.00
247-12	5.8	2.7	1.6	0.21	0.11	-57.4	0.14	0.18	-0.05
247-13	6.8	1.4	1.2	0.26	0.08	-66.8	0.11	0.23	-0.06
247-14	10.4	-3.9	0.2	0.47	-0.01	-75.5	0.02	0.44	-0.12
247-15	23.4	4.4	-4.3	0.75	0.07	-55.3	0.29	0.53	-0.32
247-16	0.5	26.4	29.0	1.06	0.21	-64.6	0.36	0.90	-0.33
247-17	17.5	-2.6	13.4	1.08	0.24	-86.8	0.25	1.08	-0.05
247-18	15.3	9.4	1.9	0.78	0.52	-89.1	0.52	0.78	-0.00
247-19	10.8	8.1	9.2	0.48	0.38	-78.7	0.38	0.47	-0.02
247-20	7.1	9.0	4.7	0.33	0.18	-10.9	0.32	0.18	-0.03
270- 1	-2.6	0.1	1.1	0.02	-0.08	33.1	-0.01	-0.05	0.04
270- 2	-2.4	-1.3	1.9	0.05	-0.06	58.0	-0.03	0.02	0.05
270- 3	-2.1	-2.0	2.1	0.07	-0.07	66.9	-0.05	0.05	0.05
270- 4	-1.6	-1.8	2.9	0.10	-0.05	69.1	-0.03	0.09	0.05
270- 5	-0.7	-3.1	3.4	0.17	-0.06	77.3	-0.04	0.16	0.05
270- 6	2.7	-1.1	-4.9	0.04	-0.14	73.1	-0.12	0.02	0.05
270- 7	-4.9	-6.3	-1.7	-0.06	-0.22	76.2	-0.21	-0.07	0.04
270- 8	-8.5	-7.9	-7.8	-0.34	-0.36	27.8	-0.34	-0.36	0.01
270- 9	-8.4	-4.5	10.4	-0.29	-0.52	-5.8	-0.29	-0.52	-0.02
270-10	-4.0	3.4	-5.9	-0.02	-0.41	-3.2	-0.02	-0.41	-0.02
270-11	1.6	-0.6	-2.0	0.03	-0.05	-51.9	-0.02	0.00	-0.04
270-12	3.3	-1.3	0.6	0.16	0.00	-78.6	0.01	0.16	-0.03
270-13	6.0	-2.0	3.6	0.37	0.05	-85.0	0.05	0.36	-0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	11.0	-3.0	8.2	0.71	0.12	-86.8	0.12	0.70	-0.03
270-15	18.1	-3.3	17.7	1.26	0.28	-89.7	0.28	1.26	-0.00
270-16	-1.8	29.1	49.9	1.64	0.42	86.4	0.43	1.63	0.08
270-17	28.7	-0.8	23.7	1.75	0.50	-87.4	0.50	1.75	-0.06
270-18	26.4	4.5	25.3	1.60	0.62	-89.3	0.62	1.60	-0.01
270-19	18.7	13.4	17.7	0.89	0.67	-87.1	0.67	0.89	-0.01
270-20	9.7	13.4	8.2	0.49	0.28	-4.7	0.49	0.28	-0.02
0- 7	7.7	2.8	8.3	0.46	0.22	88.2	0.22	0.46	0.01
11- 1	15.2	7.9	-1.6	0.49	0.09	-41.1	0.32	0.26	-0.19
22- 6	20.7	10.3	-8.2	0.61	-0.08	-37.2	0.36	0.17	-0.33
33- 1	20.8	11.6	-11.3	0.61	-0.20	-33.4	0.36	0.05	-0.37
45- 6	17.5	9.6	-11.9	0.49	-0.25	-32.6	0.28	-0.04	-0.34
56- 1	12.9	5.1	-11.8	0.33	-0.28	-34.9	0.13	-0.08	-0.28
67- 6	8.8	1.5	-10.8	0.19	-0.27	-37.8	0.02	-0.10	-0.23
78- 1	2.7	-2.8	-8.6	0.00	-0.26	-44.2	-0.12	-0.13	-0.13
90- 6	0.4	0.9	-4.0	0.00	-0.16	-19.9	-0.01	-0.14	-0.05
0-17	-22.1	-22.7	-6.9	-0.36	-0.88	68.7	-0.81	-0.43	0.17
11-11	-24.9	-26.3	-7.2	-0.38	-1.00	69.5	-0.92	-0.45	0.20
22-16	-14.8	-25.2	-11.0	-0.27	-0.84	85.5	-0.84	-0.27	0.04
33-11	-5.9	-14.1	-10.9	-0.22	-0.50	-78.0	-0.49	-0.23	-0.06
45-16	0.4	-1.8	-6.4	-0.04	-0.21	-35.2	-0.10	-0.16	-0.08
56-11	3.6	13.9	7.2	0.43	0.03	5.9	0.03	0.04	0.04
67-16	1.8	26.8	25.6	0.99	0.18	21.1	0.89	0.29	0.27
78-11	-1.3	34.4	48.5	1.64	0.39	33.3	1.26	0.76	0.57
90-16	-1.1	35.9	55.8	1.86	0.49	36.7	1.37	0.98	0.66
180- 7	7.7	2.8	5.4	0.37	0.19	-81.2	0.20	0.37	-0.03
191- 1	13.9	5.9	-2.1	0.44	0.07	-45.0	0.25	0.25	-0.18
202- 6	18.1	7.5	-7.4	0.53	-0.07	-40.2	0.28	0.18	-0.29
213- 1	21.2	11.0	-11.1	0.61	-0.18	-34.8	0.35	0.08	-0.37
225- 6	19.8	8.0	-12.7	0.54	-0.24	-37.5	0.25	0.05	-0.38
236- 1	16.2	4.0	-12.2	0.42	-0.24	-41.1	0.13	0.04	-0.33
247- 6	10.7	-1.6	-10.9	0.25	-0.26	-48.9	-0.04	0.03	-0.25
258- 1	5.9	-4.2	-9.1	0.12	-0.25	-54.6	-0.13	-0.01	-0.17
270- 6	2.7	-1.1	-4.9	0.04	-0.14	-44.9	-0.05	-0.05	-0.09
180-17	-19.3	-24.5	-8.6	-0.32	-0.87	76.6	-0.84	-0.35	0.12
191-11	-16.6	-24.7	-10.6	-0.32	-0.85	82.4	-0.84	-0.33	0.07
202-16	-14.5	-24.0	-10.9	-0.28	-0.81	85.5	-0.81	-0.28	0.04
213-11	-6.6	-16.3	-11.5	-0.21	-0.56	-80.8	-0.55	-0.22	-0.06
225-16	-2.4	-5.8	-7.5	-0.15	-0.27	-54.3	-0.23	-0.19	-0.06
236-11	0.2	10.9	5.9	0.32	-0.06	10.0	0.31	-0.05	0.07
247-16	0.5	26.4	29.0	1.06	0.27	25.4	0.90	0.36	0.33
258-11	0.4	32.7	41.5	1.44	0.35	30.1	1.17	0.63	0.47
270-16	-1.8	29.1	49.9	1.64	0.42	39.4	1.15	0.31	0.60
400-01	-18.0	-3.8	5.7	0.01	-0.54	84.5	-0.54	0.01	0.05
400-11	4.1	-4.5	-14.5	-0.01	-0.44	-88.0	-0.44	-0.01	-0.02
401-01	13.3	42.9	15.7	1.28	-0.03	1.2	1.28	-0.03	0.03
401-02	1.1	0.7					0.04	0.03	
401-03	-44.3	10.0					-1.36	-0.11	
401-04	2.9	0.2					0.10	0.04	
402-01	5.7	16.1	5.5	0.48	-0.00	-0.3	0.48	-0.00	-0.00
402-02	-0.8	0.6					-0.02	0.01	
402-03	-16.0	3.9					-0.49	-0.03	
403-01	-0.1	0.2	0.0	0.00	-0.01	6.2	0.00	-0.01	0.00
403-02	-0.3	0.2					-0.01	0.00	
403-03	0.3	-0.4					0.01	-0.01	
403-04	-0.4	0.2					-0.01	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, OUT-OF-PLANE FORCE LOADING ON RUN, F22

NOMINAL LOAD = 6.048E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. AICMG	NORMAL	SHEAR
0- 1	4.6	0.6	-3.5	0.12	-0 07	-44.9	0.02	0.02	-0.09
0- 2	3.4	0.2	-2.9	0.08	-0.06	-45.3	0.01	0.01	-0.07
0- 3	4.9	0.3	-4.5	0.12	-0.10	-44.5	0.01	0.01	-0.11
0- 4	5.5	0.5	-5.1	0.13	-0.12	-43.3	0.01	-0.00	-0.12
0- 5	6.3	0.3	-6.1	0.15	-0.14	-44.0	0.01	0.00	-0.14
0- 6	6.6	0.3	-6.6	0.15	-0.15	-43.6	0.01	-0.01	-0.15
0- 7	-4.7	-2.1	6.3	0.18	-0.11	-40.9	0.06	0.01	-0.14
0- 8	2.9	0.3	-2.8	0.07	-0.06	-42.9	0.01	-0.00	-0.07
0- 9	-2.1	-0.0	1.9	0.04	-0.05	43.6	-0.00	-0.01	0.05
0-10	-2.8	-0.1	2.2	0.04	-0.07	42.0	-0.01	-0.02	0.06
0-11	-4.4	0.4	4.6	0.11	-0.10	43.4	0.01	-0.00	0.10
0-12	-3.7	0.8	4.4	0.11	-0.08	41.8	0.02	0.00	0.09
0-13	-2.8	0.7	3.1	0.08	-0.06	40.0	0.02	-0.01	0.07
0-14	-2.7	0.3	2.7	0.06	-0.06	41.1	0.01	-0.01	0.06
0-15	-3.7	-0.1	3.2	0.07	-0.09	43.9	-0.01	-0.01	0.08
0-16	-3.6	0.0	3.1	0.07	-0.09	42.3	-0.00	-0.02	0.08
0-17	2.0	-2.8	-2.3	0.07	-0.08	44.2	-0.00	-0.01	0.08
0-18	-2.0	-0.2	1.8	0.04	-0.05	47.5	-0.01	0.00	0.04
0-19	-1.3	-0.2	1.3	0.03	-0.03	49.1	-0.00	0.00	0.03
0-20	-0.6	-0.3	0.5	0.01	-0.01	59.0	-0.01	0.01	0.01
22- 1	3.6	17.3	16.2	0.65	0.20	20.2	0.59	0.25	0.15
22- 2	-0.6	7.0	4.7	0.22	-0.04	14.2	0.20	-0.02	0.06
22- 3	1.7	8.1	3.7	0.24	-0.01	5.2	0.24	-0.01	0.02
22- 4	3.3	5.4	0.9	0.17	0.01	-9.8	0.17	0.01	-0.03
22- 5	3.9	3.9	-0.2	0.15	0.01	-22.1	0.13	0.03	-0.05
22- 6	1.2	0.7	2.4	0.11	0.05	-19.8	0.10	0.05	-0.02
22- 7	1.0	0.5	1.6	0.08	0.04	79.8	0.04	0.08	0.01
22- 8	-0.1	-0.9	2.0	0.09	-0.01	74.9	-0.00	0.08	0.02
22- 9	-0.1	-1.4	2.2	0.11	-0.02	77.2	-0.01	0.10	0.03
22-10	-0.5	-1.7	2.1	0.10	-0.03	76.3	-0.02	0.09	0.03
22-11	4.7	8.4	3.2	0.27	0.07	-5.0	0.27	0.07	-0.02
22-12	8.1	12.5	2.0	0.40	0.03	-11.1	0.39	0.04	-0.07
22-13	3.7	6.4	0.6	0.20	-0.01	-9.9	0.19	-0.01	-0.04
22-14	-1.7	0.6	-0.1	0.00	-0.08	14.5	-0.00	-0.07	0.02
22-15	-8.1	-0.5	-2.8	-0.10	-0.36	14.3	-0.12	-0.35	0.06
22-16	-6.1	-11.8	-4.3	-0.07	-0.38	4.0	-0.07	-0.37	0.02
22-17	-5.0	-1.0	-5.2	-0.12	-0.31	-0.4	-0.12	-0.31	-0.00
22-18	-5.1	-2.3	-3.2	-0.13	-0.23	13.9	-0.13	-0.22	0.02
22-19	-3.4	-2.0	-2.4	-0.10	-0.15	15.6	-0.10	-0.14	0.01
22-20	-3.0	-4.5	-2.4	-0.07	-0.16	85.9	-0.16	-0.07	0.01
45- 1	-4.0	20.9	42.7	1.37	0.29	43.0	0.87	0.79	0.54
45- 2	-6.6	6.6	20.6	0.62	-0.01	45.9	0.29	0.31	0.31
45- 3	-5.4	5.6	16.1	0.48	-0.02	44.3	0.24	0.22	0.25
45- 4	-2.3	5.5	13.0	0.41	0.05	44.4	0.23	0.23	0.18
45- 5	-2.8	4.4	9.0	0.27	-0.01	38.5	0.16	0.10	0.14
45- 6	5.3	3.5	-1.8	0.17	-0.02	63.0	0.02	0.13	0.07
45- 7	0.3	-0.6	3.4	0.15	0.01	74.0	0.02	0.14	0.04
45- 8	1.9	-1.2	0.8	0.12	-0.00	-84.4	-0.00	0.12	-0.01
45- 9	2.1	-1.8	0.2	0.12	-0.02	-81.4	-0.02	0.12	-0.02
45-10	2.1	-2.5	-0.9	0.10	-0.05	-75.7	-0.04	0.09	-0.03
45-11	14.2	5.1	-1.7	0.45	0.08	-48.9	0.24	0.29	-0.18
45-12	26.0	11.0	-7.0	0.79	0.02	-42.4	0.44	0.37	-0.38
45-13	14.9	6.9	-4.7	0.45	-0.01	-39.9	0.26	0.18	-0.23
45-14	4.9	1.2	-4.0	0.12	-0.08	-40.0	0.04	0.00	-0.10
45-15	-6.7	-0.4	-5.1	-0.12	-0.38	4.3	-0.13	-0.38	0.02
45-16	-5.8	-11.7	-6.7	-0.14	-0.39	2.4	-0.14	-0.39	0.01
45-17	-4.7	-1.7	-6.5	-0.15	-0.33	-6.7	-0.15	-0.33	-0.02
45-18	-4.2	-2.3	-4.8	-0.14	-0.24	-4.3	-0.14	-0.24	-0.01
45-19	-3.3	-1.5	-3.1	-0.10	-0.18	1.2	-0.10	-0.18	0.00
45-20	-2.8	-3.8	-2.8	-0.09	-0.14	90.0	-0.14	-0.09	0.00
67- 1	-2.7	-2.1	15.5	0.56	-0.01	66.6	0.08	0.47	0.21

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO PER. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.9	-1.2	15.6	0.55	-0.00	64.5	0.10	0.44	0.21
67- 3	-2.8	-0.2	15.9	0.55	0.02	62.9	0.13	0.44	0.22
67- 4	-4.1	2.0	16.0	0.50	0.00	55.7	0.16	0.35	0.23
67- 5	-5.	1.4	10.9	0.30	-0.08	49.2	0.08	0.14	0.19
67- 6	5.8	1.6	-4.5	0.15	-0.09	63.5	-0.05	0.10	0.10
67- 7	-1.3	-1.8	2.3	0.09	-0.05	70.8	-0.03	0.07	0.04
67- 8	1.5	-1.0	-1.1	0.05	-0.03	-66.1	-0.02	0.04	-0.03
67- 9	2.6	-0.5	-2.1	0.07	-0.05	-53.6	-0.01	0.03	-0.05
67-10	2.5	-0.5	-2.3	0.06	-0.05	-53.0	-0.01	0.02	-0.06
67-11	14.5	-0.3	-2.3	0.50	0.02	-63.6	0.11	0.41	-0.19
67-12	13.7	0.6	-1.5	0.48	0.05	-62.9	0.14	0.39	-0.18
67-13	8.7	-0.6	-1.7	0.30	-0.00	-64.1	0.05	0.24	-0.12
67-14	5.3	-2.8	-4.1	0.16	-0.11	-63.0	-0.05	0.10	-0.11
67-15	-2.1	0.1	-3.2	-0.05	-0.18	-5.8	-0.05	-0.18	-0.01
67-16	-1.4	-3.2	-1.9	-0.03	-0.11	-2.4	-0.03	-0.11	-0.00
67-17	1.0	0.3	-0.9	0.02	-0.02	-37.8	0.01	-0.00	-0.02
67-18	0.6	0.3	-1.5	0.01	-0.05	-26.4	-0.00	-0.04	-0.02
67-19	0.1	0.2	-1.3	-0.00	-0.05	-20.5	-0.01	-0.05	-0.02
67-20	-0.4	-0.8	-1.2	-0.02	-0.04	-42.5	-0.03	-0.03	-0.01
90- 1	3.9	-5.0	5.7	0.43	-0.02	87.4	-0.02	0.43	0.02
90- 2	3.2	-5.1	6.0	0.42	-0.03	85.9	-0.03	0.42	0.03
90- 3	1.5	-4.4	6.6	0.38	-0.03	81.6	-0.02	0.37	0.06
90- 4	-1.1	-3.6	6.5	0.29	-0.05	74.5	-0.03	0.26	0.09
90- 5	-3.9	-3.8	5.5	0.19	-0.12	67.4	-0.07	0.14	0.11
90- 6	4.2	-1.5	-5.2	0.09	-0.13	67.2	-0.10	0.06	0.08
90- 7	-4.1	-3.1	2.4	0.05	-0.13	62.3	-0.09	0.02	0.07
90- 8	-2.2	-2.0	-1.2	-0.06	-0.09	57.9	-0.08	-0.07	0.01
90- 9	0.3	1.0	-1.9	0.01	-0.09	-15.3	0.01	-0.08	-0.03
90-10	1.1	1.3	-1.6	0.04	-0.06	-20.1	0.03	-0.05	-0.03
90-11	5.2	-4.7	4.1	0.41	-0.02	-88.4	-0.02	0.41	-0.01
90-12	5.0	-4.9	4.4	0.42	-0.02	-89.2	-0.02	0.42	-0.01
90-13	4.7	-4.9	4.4	0.41	-0.02	-89.5	-0.02	0.41	-0.00
90-14	6.0	-3.6	3.8	0.41	0.01	-86.3	0.01	0.40	-0.03
90-15	9.3	-1.5	2.8	0.48	0.08	-80.6	0.09	0.47	-0.06
90-16	-1.4	7.9	15.7	0.50	0.11	-82.7	0.11	0.50	-0.05
90-17	9.2	-0.7	5.4	0.50	0.12	-83.4	0.13	0.50	-0.04
90-18	5.5	3.2	5.3	0.28	0.18	-88.5	0.18	0.28	-0.00
90-19	3.1	2.5	2.1	0.12	0.10	-51.2	0.11	0.11	-0.01
90-20	1.8	2.6	1.3	0.09	0.04	-6.2	0.09	0.04	-0.01
180- 1	2.8	0.3	-2.4	0.07	-0.05	-44.1	0.01	0.01	-0.06
180- 2	2.0	-0.0	-1.9	0.05	-0.04	-46.5	0.00	0.01	-0.04
180- 3	1.5	-0.1	-1.5	0.04	-0.04	-46.5	-0.00	0.00	-0.04
180- 4	1.4	-0.1	-1.3	0.03	-0.03	-47.4	-0.00	0.00	-0.03
180- 5	1.4	-0.1	-1.2	0.03	-0.03	-48.5	-0.00	0.01	-0.03
180- 6	1.6	-0.1	-1.5	0.04	-0.03	-47.0	-0.00	0.00	-0.04
180- 7	-1.7	-0.8	1.3	0.05	-0.04	-46.8	0.00	0.01	-0.05
180- 8	1.9	0.3	-1.7	0.04	-0.04	-41.2	0.01	-0.00	-0.04
180- 9	0.8	0.1	-0.6	0.02	-0.01	-44.8	0.00	0.00	-0.02
180-10	0.2	-0.1	-0.1	0.01	-0.00	-65.5	-0.00	0.00	-0.00
180-11	-2.8	-0.4	2.2	0.05	-0.07	45.9	-0.01	-0.01	0.06
180-12	-0.6	0.1	0.6	0.01	-0.01	41.1	0.00	-0.00	0.01
180-13	-1.5	-0.0	1.4	0.03	-0.03	44.9	-0.00	-0.00	0.03
180-14	-1.7	-0.0	1.5	0.03	-0.04	44.3	-0.00	-0.00	0.04
180-15	-1.3	-0.2	1.0	0.02	-0.03	46.7	-0.01	-0.00	0.03
180-16	0.8	-0.0	-1.1	0.02	-0.03	-40.5	-0.00	-0.01	-0.02
180-17	-1.9	0.6	1.5	0.04	-0.05	-42.0	-0.00	-0.01	-0.04
180-18	1.6	-0.0	-1.8	0.03	-0.04	-43.5	-0.00	-0.01	-0.04
180-19	0.9	-0.3	-1.2	0.02	-0.03	-49.1	-0.01	-0.00	-0.02
180-20	0.1	-0.2	-0.2	0.00	-0.01	-65.2	-0.01	-0.00	-0.00
202- 1	-0.2	-16.6	-19.4	-0.15	-0.69	-62.7	-0.58	-0.26	-0.22
202- 2	2.6	-4.4	-7.3	0.02	-0.22	-56.5	-0.15	-0.05	-0.11
202- 3	2.3	-5.5	-7.7	0.02	-0.25	-59.8	-0.18	-0.05	-0.12
202- 4	1.8	-3.2	-5.5	0.01	-0.17	-55.1	-0.11	-0.05	-0.08
202- 5	1.6	-1.9	-4.8	0.01	-0.14	-47.9	-0.08	-0.06	-0.07
202- 6	-3.2	-1.8	1.6	0.03	-0.09	-38.1	-0.02	-0.05	-0.06
202- 7	1.3	1.0	-2.0	0.03	-0.06	-25.4	0.01	-0.05	-0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PRI	RELATIVE TO REF. DIR. ALONG	NORMAL	DIR. SHEAR
202- 8	0.6	1.1	-0.3	0.03	-0.02	-12.6	0.03	-0.02	-0.01
202- 9	0.2	0.8	0.3	0.02	-0.00	3.2	0.02	-0.00	0.00
202-10	-0.0	0.6	0.6	0.02	0.00	22.5	0.02	0.01	0.01
202-11	-5.0	-2.1	1.0	-0.02	-0.16	46.2	-0.09	-0.08	0.07
202-12	-9.1	-8.7	0.6	-0.03	-0.33	66.4	-0.28	-0.08	0.11
202-13	-7.0	-4.6	2.2	0.01	-0.22	57.7	-0.15	-0.05	0.11
202-14	-4.5	-2.0	1.5	0.00	-0.13	49.9	-0.08	-0.05	0.07
202-15	0.5	0.5	-0.5	0.02	-0.02	-20.8	0.01	-0.01	-0.01
202-16	-1.2	0.5	1.3	0.03	-0.03	-46.2	0.00	0.00	-0.03
202-17	1.5	-0.4	-1.2	0.04	-0.03	-55.9	-0.01	0.02	-0.03
202-18	1.0	-0.7	-1.1	0.03	-0.03	-59.7	-0.02	0.01	-0.02
202-19	0.4	-0.7	-0.7	0.01	-0.02	-68.7	-0.02	0.01	-0.01
202-20	-0.1	-0.7	-0.4	-0.00	-0.02	-82.2	-0.02	-0.00	-0.00
225- 1	1.0	-15.9	-33.8	-0.30	-1.10	-44.3	-0.69	-0.71	-0.40
225- 2	5.3	-3.5	-15.3	0.03	-0.45	-40.8	-0.18	-0.25	-0.24
225- 3	5.0	-3.3	-13.3	0.03	-0.39	-42.2	-0.16	-0.20	-0.21
225- 4	3.9	-2.6	-11.3	0.02	-0.34	-40.7	-0.13	-0.19	-0.18
225- 5	2.9	-1.4	-8.5	0.02	-0.25	-38.1	-0.09	-0.15	-0.13
225- 6	-3.2	-2.7	2.5	0.07	-0.10	-20.5	0.05	-0.08	-0.06
225- 7	0.8	2.4	-0.2	0.06	-0.04	-6.5	0.06	-0.03	-0.01
225- 8	0.1	1.8	1.8	0.07	0.01	21.5	0.06	0.02	0.02
225- 9	-0.4	0.7	1.9	0.06	0.01	47.1	0.03	0.03	0.03
225-10	-0.4	0.1	1.9	0.06	0.00	59.8	0.02	0.05	0.03
225-11	-9.1	-2.8	1.6	-0.04	-0.28	40.1	-0.14	-0.18	0.12
225-12	-20.9	-7.5	5.2	-0.03	-0.64	44.3	-0.33	-0.34	0.30
225-13	-13.5	-4.0	3.8	-0.01	-0.41	42.4	-0.19	-0.23	0.20
225-14	-8.3	-1.2	1.6	-0.02	-0.27	33.6	-0.09	-0.19	0.11
225-15	-2.4	0.2	0.2	-0.00	-0.09	22.3	-0.02	-0.08	0.03
225-16	-1.1	-3.2	-1.3	-0.01	-0.10	11.4	-0.01	-0.09	0.02
225-17	-2.6	-0.4	-1.3	-0.05	-0.12	11.5	-0.05	-0.12	0.02
225-18	-2.3	-2.4	-1.9	-0.08	-0.10	72.3	-0.10	-0.08	0.00
225-19	-1.7	-2.0	-1.1	-0.04	-0.07	77.1	-0.07	-0.05	0.01
225-20	-1.1	-1.8	-0.6	-0.01	-0.06	82.5	-0.06	-0.01	0.01
247- 1	0.6	2.3	-11.6	-0.01	-0.47	-18.9	-0.06	-0.42	-0.14
247- 2	0.5	2.1	-10.9	-0.01	-0.44	-18.9	-0.05	-0.39	-0.13
247- 3	0.5	1.6	-10.3	-0.02	-0.40	-19.9	-0.06	-0.36	-0.12
247- 4	1.0	1.9	-7.3	0.01	-0.29	-19.6	-0.02	-0.25	-0.10
247- 5	1.8	2.8	-3.3	0.07	-0.13	-17.9	0.05	-0.12	-0.06
247- 6	-0.6	-1.4	2.5	0.10	-0.02	1.4	0.10	-0.02	0.00
247- 7	0.5	2.8	2.0	0.09	0.01	13.0	0.09	0.02	0.02
247- 8	1.3	2.1	3.0	0.11	0.07	46.6	0.09	0.09	0.02
247- 9	1.0	-0.1	2.0	0.10	0.03	80.9	0.03	0.10	0.01
247-10	0.6	-1.1	0.8	0.07	-0.01	88.2	-0.01	0.07	0.00
247-11	-11.5	1.8	3.2	0.04	-0.40	25.5	-0.04	-0.32	0.17
247-12	-11.4	2.8	2.1	0.03	-0.43	20.9	-0.03	-0.37	0.15
247-13	-6.5	2.6	0.9	0.03	-0.27	17.1	0.00	-0.25	0.09
247-14	-5.7	1.8	-2.3	-0.03	-0.31	8.1	-0.04	-0.30	0.04
247-15	-10.9	-2.7	-0.1	-0.09	-0.37	31.6	-0.17	-0.30	0.12
247-16	-1.5	-10.9	-11.5	-0.13	-0.43	24.3	-0.18	-0.38	0.11
247-17	-6.5	0.3	-4.9	-0.10	-0.38	3.6	-0.10	-0.38	0.02
247-18	-5.6	-3.8	-4.8	-0.19	-0.25	8.3	-0.19	-0.25	0.01
247-19	-3.2	-2.8	-2.8	-0.12	-0.13	24.6	-0.12	-0.13	0.00
247-20	-1.6	-2.8	-1.3	-0.03	-0.09	87.1	-0.09	-0.03	0.00
270- 1	-6.5	3.9	-5.1	-0.02	-0.47	2.1	-0.02	-0.47	0.02
270- 2	-7.1	3.8	-4.1	-0.02	-0.46	4.6	-0.02	-0.46	0.03
270- 3	-7.8	3.5	-1.8	-0.00	-0.41	10.0	-0.01	-0.40	0.07
270- 4	-7.6	3.1	0.8	0.03	-0.32	16.5	0.00	-0.29	0.10
270- 5	-6.3	3.3	3.5	0.10	-0.22	23.1	0.05	-0.17	0.11
270- 6	-1.4	-6.0	1.2	0.13	-0.14	21.8	0.10	-0.11	0.10
270- 7	-3.4	3.8	4.8	0.15	-0.09	26.2	0.10	-0.04	0.09
270- 8	0.8	2.5	2.9	0.11	0.05	30.3	0.09	0.06	0.03
270- 9	2.4	0.9	0.9	0.10	0.05	-67.6	0.05	0.09	-0.02
270-10	2.0	-0.7	-0.9	0.07	-0.02	-65.6	-0.01	0.05	-0.03
270-11	-4.2	4.6	-4.5	0.02	-0.39	-0.4	0.02	-0.39	-0.00
270-12	-3.6	4.8	-4.4	0.03	-0.37	-1.3	0.03	-0.37	-0.01
270-13	-3.2	4.9	-4.5	0.04	-0.37	-2.1	0.04	-0.37	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO BEP. ALONG	NORMAL	DIR. SHEAR
270-14	-3.4	3.8	-5.0	0.00	-0.37	-2.8	0.00	-0.37	-0.02
270-15	-3.6	2.2	-7.5	-0.05	-0.42	-7.0	-0.06	-0.42	-0.04
270-16	0.4	-10.3	-12.9	-0.09	-0.45	-13.7	-0.11	-0.43	-0.08
270-17	-4.8	0.5	-8.6	-0.11	-0.46	-7.4	-0.12	-0.45	-0.04
270-18	-4.8	-1.4	-5.8	-0.14	-0.32	-3.6	-0.14	-0.32	-0.01
270-19	-2.6	-2.6	-3.4	-0.12	-0.14	-21.1	-0.12	-0.14	-0.01
270-20	-0.7	-1.8	-1.0	-0.02	-0.06	-85.7	-0.06	-0.02	-0.00
0- 7	-4.7	-2.1	6.3	0.18	-0.11	59.1	-0.03	0.10	0.13
11- 1	-1.9	-0.9	4.8	0.16	-0.03	62.6	0.01	0.12	0.08
22- 6	1.2	0.7	2.4	0.11	0.05	75.2	0.05	0.10	0.01
33- 1	3.9	2.6	-0.4	0.13	0.02	-34.3	0.10	0.06	-0.05
45- 6	5.3	3.5	-1.8	0.17	-0.02	-32.0	0.12	0.03	-0.08
56- 1	5.7	2.8	-3.4	0.16	-0.06	-35.3	0.09	0.01	-0.11
67- 6	5.8	1.6	-4.5	0.15	-0.09	-39.5	0.05	0.00	-0.12
78- 1	4.7	-1.1	-5.3	0.11	-0.13	-49.6	-0.03	0.01	-0.12
90- 6	4.2	-1.5	-5.2	0.09	-0.13	-50.8	-0.04	-0.00	-0.11
0-17	2.0	-2.8	-2.3	0.07	-0.08	-70.8	-0.07	0.06	-0.05
11-11	-2.8	-6.7	-2.7	-0.03	-0.21	89.4	-0.21	-0.03	0.00
22-16	-6.1	-11.8	-4.3	-0.07	-0.38	86.0	-0.37	-0.07	0.02
33-11	-6.6	-12.6	-5.8	-0.12	-0.41	88.2	-0.41	-0.12	0.01
45-16	-5.8	-11.7	-6.7	-0.14	-0.39	-87.6	-0.39	-0.14	-0.01
56-11	-2.5	-8.0	-5.9	-0.08	-0.28	-77.9	-0.27	-0.09	-0.04
67-16	-1.4	-3.2	-1.9	-0.03	-0.11	-85.4	-0.11	-0.03	-0.01
78-11	-1.3	2.7	6.8	0.21	0.03	45.8	0.12	0.12	0.09
90-16	-1.4	7.9	15.7	0.50	0.11	42.3	0.32	0.29	0.20
180- 7	-1.7	-0.8	1.9	0.05	-0.04	58.2	-0.02	0.02	0.04
191- 1	-2.3	-1.2	1.6	0.03	-0.07	57.1	-0.04	0.00	0.05
202- 6	-3.2	-1.8	1.6	0.03	-0.09	56.9	-0.06	-0.01	0.06
213- 1	-3.8	-3.1	1.8	0.04	-0.12	63.9	-0.09	0.01	0.06
225- 6	-3.2	-2.7	2.5	0.07	-0.10	64.5	-0.07	0.04	0.07
236- 1	-2.1	-1.8	2.7	0.08	-0.06	65.4	-0.04	0.06	0.06
247- 6	-0.6	-1.4	2.5	0.10	-0.02	73.4	-0.01	0.09	0.04
258- 1	0.1	-2.4	4.1	0.13	-0.04	82.1	-0.03	0.13	0.02
270- 6	-1.4	-6.0	1.2	0.13	-0.14	83.8	-0.14	0.13	0.03
180-17	-1.9	0.6	1.5	0.04	-0.05	33.0	0.01	-0.03	0.04
191-11	-1.6	0.8	1.6	0.04	-0.04	32.3	0.02	-0.02	0.04
202-16	-1.2	0.5	1.3	0.03	-0.03	35.8	0.01	-0.01	0.03
213-11	-1.0	-0.7	0.7	0.02	-0.03	61.4	-0.02	0.01	0.02
225-16	-1.1	-3.2	-1.3	-0.01	-0.10	-88.6	-0.10	-0.01	-0.00
236-11	-1.6	-7.6	-5.7	-0.05	-0.26	-76.3	-0.25	-0.06	-0.05
247-16	-1.5	-10.9	-11.5	-0.13	-0.43	-65.7	-0.38	-0.18	-0.11
258-11	-1.5	-12.2	-13.3	-0.14	-0.49	-64.6	-0.43	-0.21	-0.14
270-16	0.4	-10.3	-12.9	-0.09	-0.45	-60.7	-0.36	-0.17	-0.15
400-01	-0.5	2.0	0.4	0.05	-0.05	51.3	-0.01	0.01	0.05
400-11	-0.3	1.2	-0.0	0.02	-0.04	-42.5	-0.00	-0.01	-0.03
401-01	4.6	5.7	-0.3	0.19	-0.01	-17.3	0.17	0.01	-0.06
401-02	-41.6	11.4					-1.26	-0.03	
401-03	-3.3	1.1					-0.10	0.00	
401-04	38.5	-11.1					1.16	0.02	
402-01	3.5	0.1	-3.0	0.08	-0.07	-45.6	0.01	0.01	-0.08
402-02	-15.1	3.9					-0.46	-0.02	
402-03	-0.8	0.8					-0.02	0.02	
403-01	0.0	0.0	-0.0	0.00	-0.00	-10.0	0.00	-0.00	-0.00
403-02	-0.0	0.0					-0.00	-0.00	
403-03	-0.0	-0.0					-0.00	-0.00	
403-04	-0.0	-0.0					-0.00	-0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, OUT-OF-PLANE MOMENT LOADING ON BRANCH, M3X

NOMINAL LOAD = 7.083E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	5.7	0.8	-3.3	0.15	-0.05	-47.6	0.04	0.06	-0.10
0- 2	4.7	0.3	-2.9	0.13	-0.05	-49.1	0.03	0.05	-0.09
0- 3	6.6	0.8	-4.5	0.18	-0.08	-46.8	0.04	0.05	-0.13
0- 4	6.8	0.9	-4.3	0.18	-0.07	-46.7	0.05	0.06	-0.13
0- 5	6.7	1.3	-3.5	0.19	-0.05	-46.8	0.06	0.08	-0.12
0- 6	0.4	2.5	3.8	0.13	0.05	37.8	0.10	0.08	0.04
0- 7	13.8	5.8	-6.0	0.40	-0.06	40.4	0.20	0.13	0.23
0- 8	-14.8	1.2	19.4	0.49	-0.30	46.8	0.07	0.12	0.39
0- 9	-12.8	2.5	14.4	0.35	-0.28	41.5	0.07	-0.00	0.31
0-10	-8.8	1.5	9.5	0.23	-0.20	41.4	0.04	-0.01	0.21
0-11	-1.2	-0.0	-0.9	-0.02	-0.07	4.2	-0.02	-0.07	0.00
0-12	1.8	1.1	-3.0	0.04	-0.10	-27.1	0.01	-0.07	-0.06
0-13	3.2	0.9	-4.9	0.07	-0.14	-33.7	0.00	-0.07	-0.09
0-14	5.1	0.7	-7.0	0.10	-0.18	-37.6	-0.00	-0.08	-0.14
0-15	7.1	-0.3	-9.9	0.14	-0.26	-41.2	-0.03	-0.09	-0.20
0-16	6.8	-0.7	-10.1	0.13	-0.27	-41.9	-0.05	-0.09	-0.20
0-17	-7.8	7.8	5.7	0.21	-0.30	-46.2	-0.05	-0.03	-0.26
0-18	6.7	-0.3	-5.8	0.17	-0.12	-48.4	0.00	0.04	-0.14
0-19	4.0	-0.6	-2.9	0.11	-0.06	-53.7	-0.00	0.05	-0.08
0-20	1.8	1.6	0.8	0.07	0.04	-27.7	0.06	0.05	-0.01
22- 1	13.1	7.4	1.8	0.45	0.19	-45.2	0.32	0.32	-0.13
22- 2	14.9	3.3	0.9	0.53	0.14	-61.7	0.23	0.45	-0.16
22- 3	18.6	6.5	1.9	0.65	0.23	-57.0	0.35	0.53	-0.19
22- 4	19.9	7.4	2.7	0.70	0.27	-57.1	0.39	0.57	-0.20
22- 5	15.8	17.2	13.1	0.69	0.55	-13.1	0.68	0.55	-0.03
22- 6	20.8	10.0	8.3	0.80	0.44	22.0	0.75	0.49	0.12
22- 7	0.3	11.2	20.0	0.66	0.21	41.8	0.46	0.41	0.23
22- 8	-2.9	7.0	16.7	0.52	0.07	44.6	0.30	0.29	0.23
22- 9	-3.4	3.2	9.5	0.28	-0.02	44.3	0.13	0.13	0.15
22-10	-2.5	3.8	6.2	0.19	-0.03	32.8	0.12	0.03	0.10
22-11	-6.1	-1.0	-12.1	-0.19	-0.59	-10.3	-0.20	-0.58	-0.07
22-12	-1.6	2.0	-14.8	-0.07	-0.64	-16.4	-0.12	-0.59	-0.15
22-13	-1.4	-0.1	-19.6	-0.13	-0.77	-20.5	-0.21	-0.69	-0.21
22-14	0.2	-6.0	-28.6	-0.23	-0.99	-30.1	-0.42	-0.80	-0.33
22-15	6.2	-8.7	-27.5	-0.07	-0.85	-41.8	-0.41	-0.50	-0.39
22-16	-15.3	5.9	5.6	0.14	-0.55	-59.9	-0.38	-0.04	-0.30
22-17	1.8	-18.5	-8.0	0.24	-0.51	-81.3	-0.49	0.22	-0.11
22-18	9.5	-11.3	-1.4	0.37	-0.24	-83.5	-0.23	0.36	-0.07
22-19	4.1	-2.7	6.0	0.40	0.03	86.4	0.04	0.39	0.02
22-20	7.4	8.0	9.2	0.38	0.33	53.2	0.35	0.36	0.02
45- 1	-2.9	2.8	0.6	0.05	-0.15	11.9	0.04	-0.14	0.04
45- 2	3.7	7.6	2.9	0.24	0.04	-2.7	0.24	0.05	-0.01
45- 3	11.8	8.6	3.3	0.42	0.22	-37.8	0.35	0.30	-0.10
45- 4	21.5	13.3	6.0	0.77	0.41	-46.6	0.58	0.60	-0.18
45- 5	39.2	38.2	15.0	1.54	0.78	-23.8	1.42	0.91	-0.28
45- 6	16.1	13.7	29.9	1.26	0.72	-13.3	1.23	0.75	-0.12
45- 7	21.3	28.2	18.1	1.04	0.64	-5.3	1.04	0.65	-0.04
45- 8	13.9	16.6	11.5	0.64	0.45	-8.6	0.63	0.45	-0.03
45- 9	9.5	11.4	5.8	0.42	0.23	-13.1	0.41	0.24	-0.04
45-10	9.6	14.3	3.5	0.47	0.09	-10.6	0.46	0.10	-0.07
45-11	0.8	8.8	4.8	0.26	-0.03	9.1	0.26	-0.02	0.05
45-12	1.8	3.8	-5.2	0.08	-0.22	-16.2	0.05	-0.20	-0.08
45-13	3.2	0.4	-17.3	-0.01	-0.59	-26.9	-0.13	-0.48	-0.24
45-14	3.5	-10.3	-35.8	-0.22	-1.17	-36.7	-0.56	-0.83	-0.45
45-15	6.1	-15.5	-31.7	-0.11	-0.99	-49.1	-0.61	-0.89	-0.44
45-16	-19.2	7.9	6.1	0.16	-0.72	-69.3	-0.61	0.05	-0.29
45-17	-2.8	-25.6	-5.5	0.32	-0.67	-88.3	-0.67	0.32	-0.03
45-18	2.4	-11.0	4.1	0.47	-0.19	88.3	-0.19	0.47	0.02
45-19	6.7	0.3	6.7	0.50	0.16	86.2	0.16	0.50	0.02
45-20	11.8	15.9	14.8	0.64	0.50	14.7	0.63	0.51	0.03
67- 1	-9.4	-2.5	0.7	-0.06	-0.31	34.9	-0.14	-0.23	0.12

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-4.8	2.2	2.6	0.07	-0.16	24.0	0.03	-0.13	0.09
67- 3	3.4	9.0	6.0	0.30	0.10	8.4	0.30	0.10	0.03
67- 4	17.4	21.9	10.8	0.80	0.41	-11.6	0.78	0.43	-0.08
67- 5	46.1	55.2	22.9	2.03	0.93	-14.6	1.96	1.00	-0.27
67- 6	19.9	22.0	49.6	1.94	1.04	-11.8	1.90	1.07	-0.18
67- 7	39.1	49.4	27.9	1.83	1.05	-9.6	1.80	1.07	-0.13
67- 8	30.5	34.5	19.0	1.32	0.80	-15.3	1.29	0.84	-0.13
67- 9	21.6	24.6	11.8	0.93	0.50	-15.9	0.90	0.53	-0.11
67-10	17.5	27.9	11.8	0.94	0.32	-6.0	0.93	0.32	-0.07
67-11	1.4	10.9	9.2	0.39	0.07	17.5	0.36	0.10	0.09
67-12	3.2	7.0	1.8	0.21	0.00	-4.5	0.21	0.00	-0.02
67-13	5.6	-1.0	-12.5	0.07	-0.36	-37.4	-0.09	-0.20	-0.21
67-14	6.1	-16.0	-32.8	-0.12	-1.03	-48.9	-0.63	-0.51	-0.45
67-15	2.8	-13.1	-33.3	-0.23	-1.07	-41.5	-0.60	-0.70	-0.42
67-16	-25.9	-6.3	8.3	0.02	-0.78	-56.2	-0.53	-0.22	-0.37
67-17	1.3	-25.5	-17.7	0.10	-0.81	-75.6	-0.75	0.05	-0.22
67-18	1.6	-3.7	5.5	0.33	-0.02	82.6	-0.02	0.32	0.04
67-19	3.0	7.1	7.0	0.28	0.15	21.8	0.26	0.16	0.05
67-20	8.7	27.6	16.4	0.90	0.18	7.1	0.88	0.19	0.09
90- 1	-7.1	-6.7	-4.7	-0.22	-0.29	60.9	-0.27	0.24	0.03
90- 2	-5.5	-2.4	-3.0	-0.13	-0.23	17.4	-0.14	-0.22	0.03
90- 3	-1.5	5.6	1.8	0.14	-0.13	8.4	0.13	-0.12	0.04
90- 4	7.6	20.0	11.4	0.65	0.16	5.2	0.65	0.16	0.04
90- 5	29.1	50.9	38.5	2.04	0.86	5.3	2.03	0.87	0.11
90- 6	17.4	17.4	54.4	2.14	0.93	5.5	2.13	0.95	0.12
90- 7	33.6	65.4	41.9	2.26	0.97	4.3	2.26	0.98	0.10
90- 8	36.0	57.8	37.5	2.06	1.09	1.1	2.06	1.09	0.02
90- 9	20.9	31.5	21.8	1.15	0.68	1.2	1.15	0.68	0.01
90-10	19.7	33.3	22.3	1.19	0.61	3.0	1.18	0.62	0.03
90-11	5.1	12.4	5.2	0.39	0.05	0.2	0.39	0.05	0.00
90-12	4.6	9.8	4.5	0.32	0.08	-0.3	0.32	0.08	-0.00
90-13	2.2	4.4	3.0	0.15	0.07	6.4	0.15	0.07	0.01
90-14	-3.5	-5.6	-2.0	-0.05	-0.19	82.8	-0.18	-0.05	0.02
90-15	-10.4	-23.5	-11.6	-0.18	-0.76	-88.7	-0.76	-0.18	-0.01
90-16	-24.8	-6.8	3.6	-0.12	-0.79	-87.5	-0.79	-0.12	-0.03
90-17	-8.1	-25.0	-10.3	-0.03	-0.76	-88.0	-0.76	-0.03	-0.03
90-18	-5.0	-18.0	-1.9	0.19	-0.49	86.9	-0.48	0.18	0.04
90-19	4.[illegible]	11.4	5.2	0.36	0.05	1.7	0.36	0.05	0.01
90-20	9.9	28.9	10.0	0.87	-0.01	0.1	0.87	-0.01	0.00
180- 1	-1.1	-0.3	0.8	0.02	-0.03	52.1	-0.01	0.00	0.02
180- 2	-0.8	0.2	0.7	0.02	-0.02	36.7	0.00	-0.01	0.02
180- 3	-1.4	0.3	1.5	0.04	-0.03	40.2	0.01	-0.00	0.03
180- 4	-1.4	0.1	1.3	0.03	-0.03	42.0	0.00	-0.01	0.03
180- 5	-0.6	-0.1	0.1	-0.00	-0.02	32.2	-0.01	-0.01	0.01
180- 6	6.6	-2.6	-9.5	0.13	-0.25	-49.0	-0.09	-0.04	-0.19
180- 7	-18.5	-7.4	12.7	0.25	-0.50	-51.9	-0.21	-0.03	-0.36
180- 8	18.8	-1.3	-22.4	0.40	-0.55	-44.3	-0.07	-0.09	-0.48
180- 9	12.8	-1.2	-14.9	0.28	-0.36	-45.3	-0.05	-0.04	-0.32
180-10	6.5	-1.8	-8.2	0.13	-0.21	-48.7	-0.06	-0.01	-0.17
180-11	-3.2	-0.3	3.4	0.08	-0.07	48.8	-0.01	0.01	0.08
180-12	-4.8	-0.3	5.4	0.13	-0.11	48.4	-0.00	0.03	0.12
180-13	-6.4	-0.7	6.6	0.15	-0.15	48.2	-0.01	0.02	0.15
180-14	-8.4	-0.6	8.2	0.19	-0.20	46.9	-0.02	0.01	0.19
180-15	-10.6	-0.5	10.6	0.24	-0.24	46.4	-0.01	0.01	0.24
180-16	-8.4	1.0	10.2	0.25	-0.18	44.7	0.04	0.03	0.21
180-17	10.2	-6.3	-9.1	0.30	-0.25	42.5	0.05	-0.00	0.27
180-18	-7.4	0.6	7.2	0.16	-0.17	42.2	0.01	-0.02	0.17
180-19	-2.9	0.0	1.8	0.03	-0.08	37.9	-0.01	-0.04	0.05
180-20	-0.8	-2.0	-2.0	-0.04	-0.08	-68.3	-0.08	-0.05	-0.01
202- 1	-9.0	-6.3	-5.2	-0.26	-0.35	32.9	-0.29	-0.33	0.04
202- 2	-12.6	-1.4	-2.5	-0.14	-0.51	19.7	-0.18	-0.47	0.12
202- 3	-14.6	-4.4	-3.2	-0.22	-0.55	25.8	-0.28	-0.49	0.13
202- 4	-15.8	-5.3	-4.7	-0.27	-0.61	24.0	-0.32	-0.55	0.13
202- 5	-8.7	-13.5	-16.0	-0.44	-0.62	-53.4	-0.56	-0.50	-0.09
202- 6	-21.6	-9.4	-1.7	-0.27	-0.73	-56.3	-0.59	-0.41	-0.22
202- 7	5.5	-9.8	-23.1	-0.04	-0.71	-47.1	-0.40	-0.35	-0.33

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	6.8	-6.0	-15.7	0.07	-0.45	-48.8	-0.23	-0.16	-0.26
202- 9	5.2	-4.0	-8.4	0.10	-0.24	-54.6	-0.12	-0.01	-0.16
202-10	2.9	-5.1	-4.3	0.10	-0.16	-70.5	-0.13	0.07	-0.08
202-11	3.9	4.1	16.5	0.64	0.24	66.9	0.30	0.58	0.14
202-12	-0.1	-0.2	15.6	0.59	0.07	67.8	0.15	0.52	0.18
202-13	-1.2	2.8	21.3	0.74	0.12	61.4	0.26	0.60	0.26
202-14	-3.0	5.0	26.8	0.89	0.13	57.3	0.35	0.67	0.34
202-15	-7.0	1.9	22.9	0.71	-0.03	56.1	0.20	0.48	0.34
202-16	14.0	-7.9	-6.5	0.52	-0.20	28.7	0.35	-0.03	0.30
202-17	-7.7	12.4	7.3	0.33	-0.35	15.4	0.28	-0.30	0.17
202-18	-7.2	10.7	3.1	0.23	-0.41	10.9	0.21	-0.39	0.12
202-19	-9.0	0.2	-5.8	-0.14	-0.50	6.0	-0.14	-0.49	0.04
202-20	-8.2	-9.4	-10.8	-0.38	-0.44	-41.5	-0.40	-0.41	-0.03
225- 1	4.1	1.6	0.3	0.14	0.05	-53.7	0.08	0.11	-0.04
225- 2	-2.2	-3.9	-1.7	-0.04	-0.13	86.8	-0.13	-0.04	0.01
225- 3	-9.9	-6.2	-2.5	-0.18	-0.35	44.8	-0.27	-0.27	0.08
225- 4	-20.2	-12.1	-5.5	-0.38	-0.72	42.0	-0.53	-0.57	0.17
225- 5	-32.4	-35.0	-17.5	-0.78	-1.36	71.8	-1.30	-0.84	0.17
225- 6	-15.3	-14.9	-27.9	-0.71	-1.14	73.3	-1.10	-0.75	0.12
225- 7	-19.9	-25.6	-15.7	-0.58	-0.95	82.5	-0.94	-0.58	0.05
225- 8	-11.5	-13.8	-7.8	-0.31	-0.52	77.9	-0.51	-0.32	0.04
225- 9	-7.4	-11.6	-4.2	-0.11	-0.39	82.1	-0.38	-0.12	0.04
225-10	-6.3	-11.9	0.1	0.08	-0.35	80.0	-0.34	0.07	0.07
225-11	-0.7	-5.1	-6.8	-0.08	-0.24	-57.2	-0.19	-0.13	-0.07
225-12	-1.1	-1.8	2.8	0.11	-0.04	71.8	-0.03	0.10	0.05
225-13	-3.1	0.9	14.7	0.48	0.01	59.3	0.14	0.36	0.21
225-14	-4.7	10.3	30.1	0.95	0.14	48.9	0.49	0.60	0.40
225-15	-8.1	6.2	31.0	0.96	0.03	52.6	0.37	0.61	0.45
225-16	20.7	-6.3	-11.6	0.64	-0.25	38.2	0.30	0.09	0.44
225-17	-16.8	13.2	20.7	0.59	-0.42	29.5	0.34	-0.17	0.43
225-18	-8.3	13.9	-0.3	0.24	-0.61	6.2	0.23	-0.61	0.09
225-19	-9.9	-3.4	-11.8	-0.29	-0.64	-3.6	-0.29	-0.63	-0.02
225-20	-11.0	-19.3	-14.1	-0.38	-0.70	-83.4	-0.69	-0.38	-0.04
247- 1	8.1	5.7	1.8	0.29	0.14	-38.1	0.23	0.20	-0.07
247- 2	4.5	0.7	0.2	0.16	0.04	-64.0	0.06	0.14	-0.05
247- 3	-3.6	-6.3	-2.1	-0.04	-0.20	83.7	-0.20	-0.04	0.02
247- 4	-19.5	-21.9	-7.3	-0.33	-0.82	72.2	-0.77	-0.38	0.14
247- 5	-47.5	-54.4	-21.2	-0.92	-2.03	73.4	-1.94	-1.01	0.30
247- 6	-12.7	-22.6	-53.0	-0.89	-1.93	76.6	-1.88	-0.94	0.24
247- 7	-37.8	-50.5	-24.3	-0.86	-1.81	80.4	-1.78	-0.88	0.16
247- 8	-31.7	-39.7	-20.3	-0.77	-1.46	78.8	-1.43	-0.80	0.13
247- 9	-20.3	-26.6	-12.7	-0.46	-0.95	79.7	-0.94	-0.47	0.09
247-10	-17.8	-31.6	-13.0	-0.28	-1.04	85.8	-1.03	-0.28	0.06
247-11	-0.4	-9.2	-9.1	-0.06	-0.35	-68.0	-0.31	-0.10	-0.10
247-12	-2.3	-5.5	-2.9	-0.04	-0.18	-87.1	-0.18	-0.04	-0.01
247-13	-4.2	2.0	10.1	0.29	-0.04	48.7	0.10	0.15	0.16
247-14	-5.7	15.1	26.6	0.84	0.06	36.9	0.56	0.38	0.37
247-15	-6.4	11.0	31.2	0.97	0.10	47.2	0.50	0.57	0.43
247-16	27.6	1.0	-8.9	0.87	-0.06	32.7	0.60	0.21	0.42
247-17	1.7	21.3	5.7	0.57	-0.25	3.2	0.57	-0.25	0.05
247-18	-1.0	12.9	-1.1	0.28	-0.37	-0.2	0.28	-0.37	-0.00
247-19	-5.4	-8.8	-9.5	-0.26	-0.38	-61.7	-0.35	-0.29	-0.05
247-20	-9.3	-29.2	-13.8	-0.08	-0.91	-86.4	-0.90	-0.09	-0.05
270- 1	3.9	6.8	8.4	0.32	0.21	37.0	0.28	0.25	0.05
270- 2	1.7	2.5	6.6	0.25	0.11	62.0	0.14	0.22	0.06
270- 3	-2.5	-5.5	2.4	0.14	-0.14	78.1	-0.13	0.12	0.06
270- 4	-12.1	-21.9	-7.2	-0.13	-0.70	84.3	-0.70	-0.13	0.06
270- 5	-29.3	-48.2	-23.6	-0.63	-1.64	86.2	-1.64	-0.63	0.07
270- 6	-7.9	-23.2	-55.0	-0.77	-1.92	82.6	-1.90	-0.79	0.15
270- 7	-38.4	-65.5	-34.2	-0.88	-2.23	87.9	-2.23	-0.88	0.05
270- 8	-34.3	-54.6	-33.6	-0.98	-1.93	89.5	-1.93	-0.98	0.01
270- 9	-26.2	-38.5	-26.1	-0.84	-1.41	89.8	-1.41	-0.84	0.00
270-10	-18.7	-36.6	-21.1	-0.47	-1.24	-87.9	-1.24	-0.47	-0.03
270-11	-5.7	-13.1	-5.8	-0.08	-0.42	-89.8	-0.42	-0.08	-0.00
270-12	-4.3	-9.2	-4.7	-0.09	-0.30	-88.9	-0.30	-0.09	-0.00
270-13	-1.6	-4.7	-3.5	-0.06	-0.16	-77.8	-0.16	-0.06	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	4.9	6.6	1.6	0.23	0.05	-13.1	0.22	0.06	-0.04
270-15	11.8	18.5	6.1	0.61	0.16	-8.3	0.60	0.17	-0.07
270-16	22.9	4.6	-1.8	0.77	0.14	-10.8	0.74	0.16	-0.12
270-17	14.2	27.2	8.8	0.86	0.13	-4.9	0.85	0.13	-0.06
270-18	6.9	19.0	5.9	0.56	-0.02	-1.1	0.56	-0.02	-0.01
270-19	-2.7	-4.0	-3.4	-0.11	-0.15	-79.3	-0.15	-0.11	-0.01
270-20	-12.7	-32.6	-8.6	0.05	-0.96	87.3	-0.96	0.05	0.05
0- 7	13.8	5.8	-6.0	0.40	-0.06	-39.6	0.21	0.12	-0.23
11- 1	18.5	8.5	-1.3	0.60	0.14	-45.2	0.37	0.37	-0.23
22- 6	20.8	10.0	8.3	0.80	0.44	-63.0	0.52	0.73	-0.15
33- 1	18.3	12.0	19.9	0.98	0.65	86.8	0.66	0.98	0.02
45- 6	16.1	13.7	29.9	1.26	0.72	71.7	0.77	1.20	0.16
56- 1	15.7	20.5	43.7	1.68	0.91	62.9	1.07	1.52	0.31
67- 6	19.9	22.0	49.6	1.94	1.04	65.2	1.19	1.78	0.34
78- 1	19.3	20.7	55.4	2.17	1.03	66.4	1.22	1.99	0.42
90- 6	17.4	17.4	54.4	2.14	0.93	67.5	1.11	1.96	0.43
0-17	-7.8	7.8	5.7	0.21	-0.30	18.8	0.16	-0.25	0.16
11-11	-10.8	5.8	3.0	0.11	-0.44	17.6	0.06	-0.39	0.16
22-16	-15.3	5.9	5.6	0.14	-0.55	22.1	0.04	-0.45	0.24
33-11	-16.1	6.8	5.5	0.15	-0.60	20.8	0.05	-0.51	0.25
45-16	-19.2	7.9	6.1	0.16	-0.72	20.7	0.05	-0.61	0.29
56-11	-23.3	1.3	9.1	0.12	-0.73	31.3	-0.11	-0.50	0.37
67-16	-25.9	-6.3	8.3	0.02	-0.78	40.8	-0.32	-0.44	0.40
78-11	-26.5	-9.3	5.6	-0.08	-0.82	43.0	-0.42	-0.47	0.37
90-16	-24.8	-6.8	3.6	-0.12	-0.79	37.5	-0.37	-0.54	0.33
180- 7	-18.5	-7.4	12.7	0.25	-0.50	53.1	-0.23	-0.02	0.36
191- 1	-21.5	-8.3	7.6	0.04	-0.64	47.6	-0.11	-0.27	0.34
202- 6	-21.6	-9.4	-1.7	-0.27	-0.73	38.7	-0.45	-0.55	0.23
213- 1	-20.9	-12.6	-14.2	-0.61	-0.89	17.2	-0.64	-0.86	0.08
225- 6	-15.3	-14.9	-27.9	-0.71	-1.14	-21.7	-0.77	-1.08	-0.15
236- 1	-12.2	-18.4	-42.6	-0.77	-1.58	-29.7	-0.97	-1.38	-0.35
247- 6	-12.7	-22.6	-53.0	-0.89	-1.93	-31.4	-1.17	-1.65	-0.47
258- 1	-12.2	-21.7	-57.4	-0.89	-2.10	-30.0	-1.19	-1.79	-0.52
270- 6	-7.9	-23.2	-55.0	-0.77	-1.92	-35.4	-1.16	-1.54	-0
180-17	10.2	-6.3	-9.1	0.30	-0.25	-62.5	-0 13	0.18	-0.22
191-11	12.0	-5.5	-6.9	0.40	-0.18	-65.3	-0.08	0.30	-0.22
202-16	14.0	-7.9	-6.5	0.52	-0.20	-69.3	-0.11	0.43	-0.24
213-11	17.0	-7.1	-9.0	0.57	-0.22	-65.3	-0.08	0.43	-0.30
225-16	20.7	-6.3	-11.6	0.64	-0.25	-61.8	-0.06	0.44	-0.37
236-11	24.1	-3.7	-10.9	0.75	-0.19	-60.2	0.05	0.52	-0.40
247-16	27.6	1.0	-8.9	0.87	-0.06	-57.3	0.21	0.60	-0.42
258-11	26.2	3.1	-7.0	0.82	0.00	-55.7	0.26	0.56	-0.38
270-16	22.9	4.6	-1.8	0.77	0.14	-57.8	0.32	0.59	-0.28
400-01	-0.0	-1.1	0.9	0.05	-0.02	-53.5	0.01	0.03	-0.03
400-11	-0.1	-1.0	-0.2	0.01	-0.03	45.9	-0.01	-0.01	0.02
401-01	5.0	0.0	-4.4	0.12	-0.09	-47.1	0.01	0.02	-0.11
401-02	0.0	-0.7					-0.01	-0.02	
401-03	-0.2	0.8					-0.00	0.02	
401-04	0.2	-0.3					0.00	-0.01	
402-01	-0.7	0.0	0.6	0.01	-0.02	44.2	-0.00	-0.00	0.02
402-02	-0.0	0.0					-0.00	0.00	
402-03	-0.0	0.1					-0.00	0.00	
403-01	0.8	1.4	0.3	0.05	0.00	-8.8	0.04	0.00	-0.01
403-02	37.2	-11.0					1.12	0.01	
403-03	-1.2	0.5					-0.04	0.00	
403-04	-35.8	9.0					-1.09	-0.06	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, TORSIONAL MOMENT LOADING ON BRANCH, -M3Y

NOMINAL LOAD = 7.083E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESS (KSI) MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	-1.2	-1.5	-0.6	-0.02	-0.06	77.0	-0.05	-0.03	0.01
0- 2	-0.4	-0.5	-0.9	-0.02	-0.04	-29.5	-0.03	-0.03	-0.01
0- 3	0.2	-0.8	-1.9	-0.01	-0.06	-44.7	-0.04	-0.04	-0.02
0- 4	0.5	-0.7	-2.4	-0.01	-0.08	-40.2	-0.04	-0.05	-0.03
0- 5	-0.1	-1.0	-2.8	-0.03	-0.09	-36.1	-0.05	-0.07	-0.03
0- 6	-4.7	-2.7	0.2	-0.04	-0.15	50.3	-0.11	-0.08	0.06
0- 7	6.0	0.9	-9.1	0.12	-0.25	44.1	-0.06	-0.07	0.18
0- 8	-17.4	-5.3	12.0	0.23	-0.46	50.0	-0.18	-0.06	0.34
0- 9	-22.4	-1.3*	16.9	0.34	-0.57	42.9	-0.08	-0.15	0.45
0-10	-27.9	-2.9	20.4	0.40	-0.72	44.0	-0.14	-0.18	0.56
0-11	0.3	-0.4	0.2	0.03	-0.00	-87.8	-0.00	0.03	-0.00
0-12	0.2	-1.5*	-0.1	0.04	-0.03	-87.3	-0.03	0.04	-0.00
0-13	0.6	-1.2	-0.3	0.04	-0.03	-81.6	-0.03	0.04	-0.01
0-14	0.4	-1.1	-0.1	0.04	-0.02	-84.6	-0.02	0.04	-0.01
0-15	0.0	-0.4	1.2*	0.05	-0.00	75.2	0.00	0.05	0.01
0-16	0.5*	0.6	2.0*	0.07	0.03	63.7	0.04	0.07	0.02
0-17	-0.1	1.3	2.4*	0.08	0.02	-22.9	0.07	0.03	-0.02
0-18	2.6	1.8*	-1.8	0.08	-0.04	-28.8	0.05	-0.01	-0.05
0-19	8.3	1.4*	-7.7	0.20	-0.17	-41.0	0.04	-0.01	-0.18
0-20	16.1	-2.8*	-16.2	0.38	-0.38	-49.9	-0.07	0.06	-0.37
22- 1	2.0	3.0	4.2	0.16	0.11	48.2	0.13	0.14	0.03
22- 2	1.9	0.4	1.7	0.11	0.04	-87.9	0.04	0.11	-0.00
22- 3	2.8	0.8	1.1	0.12	0.05	-72.0	0.06	0.11	-0.02
22- 4	2.5	0.6	0.5	0.10	0.03	-65.8	0.04	0.08	-0.02
22- 5	-8.6	-2.1*	5.4	0.09	-0.23	46.8	-0.08	-0.06	0.16
22- 6	11.8	1.4	-12.5	0.27	-0.30	43.9	-0.00	-0.02	0.28
22- 7	-17.3	-7.0	13.6	0.30	-0.46	54.1	-0.20	0.04	0.36
22- 8	-19.6	-7.1	16.4	0.37	-0.50	53.5	-0.19	0.06	0.42
22- 9	-18.9	-6.0	16.0	0.35	-0.48	52.3	-0.17	0.04	0.40
22-10	-24.0	-9.1	19.9	0.44	-0.62	53.9	-0.25	0.07	0.51
22-11	0.5	0.3	-3.0	0.00	-0.11	-24.7	-0.02	-0.09	-0.04
22-12	1.5	1.4	-3.0	0.04	-0.10	-23.1	0.02	-0.08	-0.05
22-13	-0.0	-1.1	-3.8	-0.04	-0.13	-33.2	-0.06	-0.10	-0.04
22-14	-3.1	-3.1	-4.6	-0.14	-0.19	-22.1	-0.15	-0.18	-0.02
22-15	-4.4	1.5*	-7.8	-0.08	-0.44	-6.2	-0.09	-0.44	-0.04
22-16	-11.4	-10.9	0.4	-0.05	-0.42	-15.7	-0.08	-0.39	-0.10
22-17	2.5*	-3.5	-11.7	-0.03	-0.36	-40.6	-0.17	-0.22	-0.16
22-18	5.4	-4.5	-13.5	0.04	-0.39	-46.2	-0.18	-0.16	-0.22
22-19	7.5	-5.4	-12.1	0.14	-0.33	-54.0	-0.17	-0.02	-0.23
22-20	14.0	-8.9	-22.2	0.26	-0.61	-52.4	-0.29	-0.07	-0.42
45- 1	-0.7	5.1	9.4	0.30	0.07	40.5	0.20	0.17	0.12
45- 2	0.7	3.1	5.5	0.19	0.08	43.9	0.13	0.13	0.06
45- 3	2.6	2.8	5.1	0.20	0.13	63.8	0.14	0.19	0.03
45- 4	3.8	3.6	6.5	0.27	0.17	69.6	0.18	0.26	0.03
45- 5	-8.8	2.2*	9.1	0.22	-0.21	38.5	0.05	-0.04	0.21
45- 6	11.8	0.6	-11.5	0.28	-0.26	51.0	-0.05	0.06	0.26
45- 7	-12.6	-6.1	11.5	0.28	-0.33	57.3	-0.15	0.10	0.28
45- 8	-15.2	-8.6	11.5	0.27	-0.42	58.3	-0.23	0.08	0.31
45- 9	-15.9	-9.0	12.5	0.30	-0.44	58.7	-0.24	0.10	0.33
45-10	-21.6	-10.4	15.9	0.34	-0.59	56.0	-0.30	0.05	0.43
45-11	2.6	1.5	-0.2	0.08	0.02	-38.2	0.06	0.04	-0.03
45-12	5.9	1.7	-4.0	0.16	-0.07	-40.6	0.06	0.02	-0.11
45-13	3.7	-0.2	-5.8	0.07	-0.16	-40.0	-0.03	-0.07	-0.11
45-14	-1.5	-5.2	-9.6	-0.14	-0.33	-42.2	-0.23	-0.25	-0.09
45-15	-5.0	0.8*	-12.1	-0.14	-0.60	-10.1	-0.15	-0.59	-0.08
45-16	-14.0	-16.2	-1.9	-0.10	-0.58	-18.1	-0.15	-0.53	-0.14
45-17	1.6*	-7.5	-17.0	-0.11	-0.54	-44.4	-0.33	-0.33	-0.21
45-18	4.4	-8.0	-16.2	-0.01	-0.50	-50.6	-0.30	-0.21	-0.24
45-19	6.9	-4.7	-13.3	0.10	-0.37	-49.3	-0.17	-0.10	-0.23
45-20	12.6	-10.1	-20.2	0.24	-0.57	-55.6	-0.31	-0.01	-0.38
67- 1	-2.7	0.1	4.3	0.11	-0.05	50.0	0.02	0.05	0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-1.9	1.8	6.2	0.19	-0.00	47.5	0.08	0.10	0.09
67- 3	-1.2	3.5	9.6	0.30	0.05	48.2	0.16	0.19	0.12
67- 4	-2.1	5.6	12.8	0.40	0.06	43.9	0.24	0.22	0.17
67- 5	-8.6	3.3	12.5	0.33	-0.16	41.5	0.11	0.05	0.24
67- 6	10.7	-1.8	-9.1	0.27	-0.20	50.7	-0.01	0.08	0.23
67- 7	-9.0	-3.9	9.5	0.24	-0.22	57.0	-0.09	0.10	0.21
67- 8	-9.3	-5.4	8.3	0.21	-0.25	59.7	-0.13	0.09	0.20
67- 9	-10.7	-6.7	8.4	0.21	-0.30	60.2	-0.18	0.08	0.22
67-10	-14.8	-7.6	11.3	0.26	-0.40	57.0	-0.21	0.06	0.30
67-11	2.3	1.2	2.3	0.12	0.07	89.7	0.07	0.12	0.00
67-12	2.1	0.1	0.6	0.09	0.02	-74.6	0.03	0.09	-0.02
67-13	0.6	-2.7	-4.2	-0.02	-0.14	-55.6	-0.10	-0.06	-0.05
67-14	-0.2	-6.3	-12.5	-0.13	-0.41	-45.0	-0.27	-0.27	-0.14
67-15	-8.5	0.9	-9.4	-0.16	-0.61	-1.3	-0.16	-0.61	-0.01
67-16	-7.7	-18.4	-7.6	-0.08	-0.58	-7.2	-0.09	-0.57	-0.06
67-17	1.0	-0.6	-13.2	-0.05	-0.47	-26.2	-0.13	-0.39	-0.16
67-18	7.7	-5.6	-16.3	0.09	-0.46	-48.0	-0.21	-0.16	-0.28
67-19	8.8	-3.2	-12.6	0.17	-0.33	-48.5	-0.11	-0.05	-0.25
67-20	16.6	-5.9	-20.8	0.35	-0.53	-50.8	-0.18	-0.00	-0.43
90- 1	-2.7	-0.2	3.8	0.10	-0.05	51.7	0.00	0.04	0.07
90- 2	-4.8	-0.4	5.7	0.14	-0.10	49.8	-0.00	0.04	0.12
90- 3	-7.8	-0.2	8.3	0.20	-0.18	46.7	-0.00	0.02	0.19
90- 4	-10.6	-0.5	10.7	0.25	-0.24	46.4	-0.01	0.01	0.25
90- 5	-43.0	-1.6	12.8	0.30	-0.30	48.4	-0.04	0.03	0.30
90- 6	7.2	-8.4	-7.7	0.24	-0.27	49.3	-0.05	0.03	0.25
90- 7	-9.8	-1.2	9.9	0.23	-0.23	48.6	-0.03	0.03	0.23
90- 8	-8.1	-0.4	8.2	0.19	-0.19	46.4	-0.01	0.01	0.19
90- 9	-8.5	-0.7	8.6	0.20	-0.20	47.6	-0.02	0.02	0.20
90-10	-12.3	0.3	12.6	0.29	-0.28	48.7	0.01	0.00	0.29
90-11	-2.4	-0.9	3.0	0.08	-0.06	57.3	-0.02	0.04	0.06
90-12	-2.6	-0.8	3.1	0.08	-0.06	55.4	-0.01	0.04	0.07
90-13	-0.8	-0.6	1.4	0.05	-0.02	64.4	-0.01	0.03	0.03
90-14	4.4	-0.6	-3.5	0.11	-0.07	-52.3	-0.00	0.04	-0.09
90-15	9.2	0.8	-8.5	0.22	-0.19	-43.7	0.02	0.01	-0.20
90-16	-3.9	-9.6	3.9	0.24	-0.24	-46.1	-0.01	0.01	-0.24
90-17	10.6	0.8	-9.9	0.25	-0.22	-43.7	0.03	0.01	-0.24
90-18	12.1	-0.5	-11.4	0.29	-0.26	-46.9	-0.00	0.03	-0.27
90-19	13.3	0.1	-12.5	0.31	-0.28	-45.8	0.01	0.03	-0.30
90-20	17.4	-0.1	-16.3	0.41	-0.36	-46.1	0.01	0.04	-0.39
180- 1	1.1	1.0	0.8	0.05	0.04	-40.9	0.04	0.04	-0.00
180- 2	0.9	0.3	0.6	0.04	0.02	-80.1	0.03	0.04	-0.00
180- 3	1.4	0.5	0.1	0.05	0.02	-56.4	0.03	0.04	-0.01
180- 4	1.5	0.3	-0.3	0.05	0.00	-53.9	0.02	0.03	-0.02
180- 5	1.8	0.7	0.5	0.07	0.03	-64.0	0.04	0.06	-0.02
180- 6	-1.2	3.3	6.6	0.21	0.02	40.5	0.13	0.10	0.09
180- 7	13.7	5.7	-4.9	0.41	-0.03	34.0	0.27	0.11	0.20
180- 8	-12.2	3.8	18.6	0.49	- .22	43.9	0.15	0.12	0.36
180- 9	-18.1	1.9	21.8	0.54	-0.38	44.9	0.08	0.08	0.46
180-10	-24.7	1.6	26.5	0.63	-0.55	44.2	0.06	0.02	0.59
180-11	-0.0	0.1	-1.1	-0.00	-0.04	-18.5	-0.01	-0.04	-0.01
180-12	0.1	0.5	-0.9	0.01	-0.04	-14.7	0.01	-0.04	-0.01
180-13	0.2	0.7	-0.8	0.01	-0.04	-13.4	0.01	-0.04	-0.01
180-14	-0.0	0.8	-0.5	0.01	-0.04	-6.0	0.01	-0.04	-0.01
180-15	-0.9	0.3	0.1	0.00	-0.04	18.0	-0.00	-0.03	0.01
180-16	-1.0	-0.5	-0.4	-0.02	-0.04	24.4	-0.03	-0.04	0.01
180-17	-0.7	2.0	0.9	0.05	-0.04	-63.3	-0.02	0.03	-0.04
180-18	3.4	-1.4	-2.4	0.10	-0.06	-61.0	-0.02	0.06	-0.07
180-19	10.9	-0.9	-9.5	0.27	-0.21	-49.4	-0.01	0.07	-0.24
180-20	20.0	3.8	-15.9	0.50	-0.33	-42.1	0.13	0.05	-0.41
202- 1	2.0	2.3	2.3	0.10	0.09	22.4	0.10	0.09	0.00
202- 2	2.7	0.4	0.9	0.11	0.04	-73.6	0.04	0.11	-0.02
202- 3	3.5	0.9	0.8	0.13	0.05	-66.8	0.06	0.12	-0.03
202- 4	4.2	1.2	1.2	0.17	0.07	-68.0	0.08	0.15	-0.03
202- 5	-1.9	3.6	7.8	0.24	0.01	41.2	0.14	0.11	0.11
202- 6	14.2	3.2	-5.5	0.42	-0.04	36.7	0.25	0.12	0.22
202- 7	-11.7	2.3	18.7	0.50	-0.20	47.3	0.12	0.18	0.35

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-14.6	2.7	20.4	0.53	-0.28	45.3	0.12	0.13	0.40
202- 9	-16.6	0.3	19.4	0.48	-0.36	46.8	0.04	0.09	0.42
202-10	-21.2	0.5	21.9	0.58	-0.46	46.0	0.04	0.08	0.52
202-11	-0.7	-0.8	-3.5	-0.05	-0.14	-23.3	-0.06	-0.12	-0.03
202-12	0.3	0.4	-3.1	-0.00	-0.12	-21.8	-0.02	-0.10	-0.04
202-13	-0.1	-0.7	-3.9	-0.03	-0.14	-27.4	-0.06	-0.12	-0.04
202-14	-2.5	-2.7	-4.7	-0.12	-0.19	-25.1	-0.13	-0.18	-0.02
202-15	-4.5	-0.8	-5.2	-0.11	-0.30	-2.3	-0.11	-0.30	-0.01
202-16	-9.1	-7.4	-0.6	-0.09	-0.32	-21.4	-0.12	-0.29	-0.08
202-17	0.9	-3.2	-8.3	-0.05	-0.27	-41.9	-0.15	-0.17	-0.11
202-18	4.7	-5.4	-12.0	0.04	-0.35	-50.8	-0.20	-0.12	-0.19
202-19	9.2	-1.9	-12.3	0.18	-0.31	-46.1	-0.07	-0.05	-0.25
202-20	16.9	-1.1*	-18.7	0.37	-0.45	-45.3	-0.04	-0.03	-0.41
225- 1	-1.2	-0.1	-0.4	-0.02	-0.05	14.9	-0.02	-0.05	0.01
225- 2	-0.3	1.2	0.8	0.04	-0.01	15.1	0.03	-0.01	0.01
225- 3	1.4	1.5	1.7	0.07	0.06	65.6	0.06	0.07	0.00
225- 4	3.8	3.0	3.9	0.18	0.14	88.8	0.14	0.18	0.00
225- 5	-1.7	7.0	10.9	0.35	0.04	34.6	0.25	0.14	0.15
225- 6	13.9	1.6	-4.2	0.43	-0.01	40.0	0.25	0.17	0.22
225- 7	-7.8	2.1	14.9	0.42	-0.11	48.6	0.12	0.18	0.26
225- 8	-10.2	-0.6	14.6	0.39	-0.20	51.3	0.03	0.16	0.29
225- 9	-13.5	-3.2	14.9	0.37	-0.31	52.6	-0.06	0.12	0.33
225-10	-18.7	-3.6	20.4	0.50	-0.43	51.3	-0.07	0.14	0.45
225-11	0.1	1.3	1.9	0.07	0.02	37.3	0.05	0.04	0.02
225-12	0.8	0.5	-0.6	0.02	-0.02	-29.3	0.01	-0.01	-0.02
225-13	1.2	-0.1	-2.9	0.01	-0.09	-34.8	-0.02	-0.05	-0.05
225-14	-1.5	-4.0	-6.4	-0.11	-0.22	-45.7	-0.17	-0.17	-0.06
225-15	-8.5	-1.8	-8.3	-0.21	-0.51	0.4	-0.21	-0.51	0.00
225-16	-10.3	-14.8	-5.6	-0.17	-0.51	0.6	-0.17	-0.51	0.00
225-17	-5.0	-3.3	-10.0	-0.21	-0.44	-15.3	-0.22	-0.42	-0.06
225-18	2.6	-7.3	-14.7	-0.06	-0.46	-49.1	-0.29	-0.23	-0.20
225-19	7.7	-4.6	-13.5	0.12	-0.37	-49.5	-0.16	-0.09	-0.24
225-20	15.1	-7.7	-19.6	0.32	-0.52	-53.7	-0.22	0.03	-0.40
247- 1	-2.5	-0.5	0.0	-0.02	-0.09	30.7	-0.04	-0.07	0.03
247- 2	-2.7	0.6	1.9	0.04	-0.08	33.0	0.01	-0.04	0.05
247- 3	-2.4	2.2	5.0	0.14	-0.03	38.0	0.08	0.03	0.08
247- 4	-2.2	4.7	9.4	0.29	0.02	39.5	0.18	0.13	0.13
247- 5	-4.1	9.2	14.6	0.46	-0.01	33.5	0.32	0.13	0.22
247- 6	10.5	-2.1	-2.8	0.37	-0.04	42.1	0.19	0.14	0.21
247- 7	-4.7	1.5	11.1	0.32	-0.05	51.0	0.10	0.08	0.18
247- 8	-6.1	-0.7*	10.5	0.30	-0.11	54.7	0.01	0.16	0.19
247- 9	-8.8	-2.8	10.3	0.27	-0.20	55.3	-0.05	0.12	0.22
247-10	-18.9	-6.8	15.5	0.34	-0.49	53.2	-0.19	0.05	0.40
247-11	-0.8	1.8	3.1	0.10	0.00	36.0	0.07	0.04	0.04
247-12	-0.8	1.2	2.8	0.09	0.00	41.7	0.05	0.04	0.04
247-13	-1.7	-1.2	-0.1*	-0.02	-0.06	53.3	-0.04	-0.03	0.02
247-14	-2.9	-4.6	-7.0	-0.16	-0.26	-40.0	-0.20	-0.22	-0.05
247-15	-10.4	-1.9*	-7.7	-0.22	-0.55	5.3	-0.22	-0.55	0.03
247-16	-9.4	-16.2	-8.0	-0.20	-0.55	-2.7	-0.20	-0.55	-0.02
247-17	-0.4*	-1.6	-9.8	-0.09	-0.36	-26.6	-0.14	-0.30	-0.11
247-18	4.2	-6.0	-15.8	-0.02	-0.48	-45.5	-0.25	-0.24	-0.23
247-19	9.1	-5.0	-15.2	0.15	-0.41	-49.5	-0.17	-0.09	-0.28
247-20	17.0	-3.6	-19.8	0.37	-0.49	-48.4	-0.11	-0.01	-0.42
270- 1	-2.7	0.5	1.8	0.04	-0.08	33.2	0.00	-0.04	0.05
270- 2	-4.5	0.3	3.5	0.07	-0.12	39.1	-0.00	-0.04	0.09
270- 3	-7.5	0.1	6.2	0.13	-0.19	41.8	-0.01	-0.05	0.16
270- 4	-10.4	-0.2	9.5	0.21	-0.25	44.4	-0.01	-0.02	0.23
270- 5	-13.0	-0.5*	11.7	0.26	-0.31	44.6	-0.02	-0.03	0.29
270- 6	4.4	-11.4	-5.5	0.25	-0.30	40.2	0.02	-0.07	0.27
270- 7	-11.2	-0.5*	10.5	0.24	-0.27	45.4	-0.02	-0.01	0.25
270- 8	-6.9	-0.4*	7.2	0.17	-0.16	47.2	-0.01	0.02	0.16
270- 9	-6.2	0.6*	6.7	0.16	-0.14	43.4	0.02	0.00	0.15
270-10	-14.9	-0.4	14.4	0.33	-0.35	45.4	-0.02	-0.01	0.34
270-11	-3.2	0.4	2.3	0.05	-0.09	36.2	0.00	-0.04	0.06
270-12	-3.8	0.5	2.8	0.06	-0.10	37.0	0.00	-0.04	0.08
270-13	-3.4	0.4	2.3	0.05	-0.09	35.9	-0.00	-0.04	0.07

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-1.2*	0.3	0.0*	0.00	-0.05	16.5	-0.00	-0.05	0.01
270-15	2.6*	0.1	-4.3	0.05	-0.12	-37.0	-0.01	-0.06	-0.08
270-16	-1.3	-7.2	0.0	0.12	-0.18	-45.9	-0.03	-0.02	-0.15
270-17	4.8	0.5	-7.5	0.09	-0.21	-36.8	-0.02	-0.10	-0.14
270-18	6.7	-0.0	-8.1	0.14	-0.20	-42.4	-0.01	-0.05	-0.17
270-19	12.1	-0.6	-13.9	0.26	-0.34	-44.4	-0.03	-0.05	-0.30
270-20	19.7	-0.3	-19.9	0.45	-0.46	-45.4	-0.01	0.00	-0.46
0- 7	6.0	0.9	-9.1	0.12	-0.25	-35.9	-0.01	-0.12	-0.17
11- 1	9.3	1.3	-11.3	0.20	-0.29	-38.8	0.01	-0.10	-0.24
22- 6	11.8	1.4	-12.5	0.27	-0.30	-41.1	0.03	-0.05	-0.28
33- 1	12.3	0.9	-12.3	0.28	-0.29	-42.6	0.02	-0 03	-0.29
45- 6	11.8	0.6	-11.5	0.28	-0.26	-44.0	0.02	-0.00	-0.27
56- 1	11.1	-1.3	-10.6	0.26	-0.24	-48.9	-0.02	0.04	-0.25
67- 6	10.7	-1.8	-9.1	0.27	-0.20	-52.3	-0.03	0.09	-0.23
78- 1	8.9	-4.9	-7.6	0.26	-0.20	-62.1	-0.10	0.16	-0.19
90- 6	7.2	-8.4	-7.7	0.24	-0.27	-68.7	-0.20	0.17	-0.17
0-17	-0.1	*.3	2.4*	0.08	0.02	42.1	0.05	0.05	0.03
11-11	-6.2	-3.2	1.2	-0.02	-0.20	50.0	-0.12	-0.09	0.09
22-16	-11.4	-10.9	0.4	-0.05	-0.42	66.3	-0.36	-0.11	0.14
33-11	-12.9	-13.9	-0.9	-0.09	-0.51	69.6	-0.46	-0.14	0.14
45-16	-14.0	-16.2	-1.9	-0.10	-0.58	71.9	-0.53	-0.15	0.14
56-11	- .2	-18.4	-5.2	-0.08	-0.58	83.3	-0.58	-0.08	0.06
67-16	-7.7	-18.4	-7.6	-0.08	-0.58	89.8	-0.58	-0.08	0.00
78-11	-5.2	-15.1	-5.5	-0.01	-0.45	-89.5	-0.45	-0.01	-0.00
90-16	-3.9	-9.6	3.9	0.24	-0.24	78.9	-0.22	0.22	0.09
180- 7	13.7	5.7	-4.9	0.41	-0.03	-41.0	0.22	0.16	-0.22
191- 1	13.4	3.7	-6.5	0.38	-0.08	-44.4	0.15	0.14	-0.23
202- 6	14.2	3.2	-5.5	0.42	-0.04	-48.3	0.16	0.21	-0.23
213- 1	15.1	3.0	-6.4	0.44	-0.06	-48.6	0.16	0.22	-0.25
225- 6	13.9	1.6	-4.2	0.43	-0.01	-55.0	0.13	0.28	-0.21
236- 1	11.9	0.1	-4.0	0.37	-0.03	-57.9	0.08	0.26	-0.18
247- 6	10.5	-2.1	-2.8	0.37	-0.04	-65.9	0.03	0.30	-0.15
258- 1	8.6	-5.6	-4.1	0.33	-0.14	-70.5	-0.08	0.28	-0.15
270- 6	4.4	-11.4	-5.5	0.25	-0.30	-77.8	-0.27	0.23	-0.11
180-17	-0.7	2.0	0.9	0.05	-0.04	11.7	0.05	-0.04	0.02
191-11	-4.5	-1.9	-0.0	-0.04	-0.15	39.8	-0.09	-0.11	0.05
202-16	-9.1	-7.4	-0.6	-0.09	-0.32	60.6	-0.27	-0.15	0.10
213-11	-9.2	-10.5	-2.7	-0.13	-0.38	72.1	-0.36	-0.15	0.08
225-16	-10.3	-14.8	-5.6	-0.17	-0.51	80.6	-0.50	-0.18	0.05
236-11	-10.4	-17.1	-8.0	-0.21	-0.58	85.7	-0.58	-0.21	0.03
247-16	-9.4	-16.2	-8.0	-0.20	-0.55	87.3	-0.55	-0.20	0.02
258-11	-6.4	-13.2	-6.0	-0.10	-0.43	89.1	-0.43	-0.10	0.00
270-16	-1.3	-7.2	0.0	0.12	-0.18	87.1	-0.18	0.12	0.02
400-01	0.1	1.3	-0.2	0.03	-0.03	41.7	0.00	-0.01	0.03
400-11	0.1	-0.6	0.2	0.02	-0.01	42.6	0.01	0.00	0.02
401-01	0.1	0.0	-0.0	0.00	0.00	-55.2	0.00	0.00	-0.00
401-02	-6.2	1.9					-0.19	0.00	
401-03	-0.1	-0.0					-0.00	-0.00	
401-04	5.9	-1.4					0.18	0.01	
402-01	0.2	-0.0	-0.0	0.01	0.00	-64.9	0.00	0.01	-0.00
402-02	-0.2	0.0					-0.01	-0.00	
402-03	0.1	-0.0**					0.00	0.00	
403-01	-23.3	-1.5*	22.6	0.51	0.55	46.4	-0.04	0.01	0.53
403-02	-0.3	0.3					-0.01	0.01	
403-03	3.7	-2.4					0.10	-0.04	
403-04	-0.0	-2.5					-0.03	-0.08	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, IN-PLANE MOMENT LOADING ON BRANCH, -M3Z

NOMINAL LOAD = 7.083E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	7.7	8.9	4.8	0.30	0.20	-14.5	0.33	0.21	-0.03
0- 2	4.9	2.9	4.6	0.24	0.16	-87.8	0.16	0.24	-0.00
0- 3	5.8	5.0	5.8	0.27	0.23	-89.0	0.23	0.27	-0.00
0- 4	7.3	4.7	7.0	0.36	0.25	-88.4	0.25	0.36	-0.00
0- 5	10.4	7.6	10.2	0.50	0.38	-89.0	0.38	0.50	-0.00
0- 6	16.0	19.4	16.9	0.77	0.64	4.4	0.77	0.64	0.01
0- 7	23.7	14.2	19.0	1.09	0.74	-1.0	1.09	0.74	-0.01
0- 8	21.1	31.1	22.8	1.15	0.73	2.6	1.15	0.73	0.02
0- 9	15.7	20.2	13.6	0.76	0.50	-5.2	0.76	0.50	-0.02
0-10	13.4	17.9	9.9	0.65	0.35	-7.8	0.64	0.36	-0.04
0-11	-2.8	2.5	-3.2	-0.00	-0.25	-0.9	-0.00	-0.25	-0.00
0-12	-1.3	8.2	-1.6	0.16	-0.28	-0.4	0.16	-0.28	-0.00
0-13	-1.9	7.4	-2.6	0.13	-0.32	-1.0	0.13	-0.32	-0.01
0-14	-2.6	6.4	-3.4	0.09	-0.35	-1.3	0.09	-0.35	-0.01
0-15	-5.8	0.4	-6.4	-0.11	-0.41	-1.2	-0.11	-0.41	-0.01
0-16	-9.5	-5.3	-9.6	-0.31	-0.51	-0.4	-0.31	-0.51	-0.00
0-17	-5.2	-4.2	-11.0	-0.23	-0.46	-83.4	-0.46	-0.24	-0.03
0-18	-1.0	-10.7	-2.0	0.15	-0.28	-88.4	-0.28	0.15	-0.01
0-19	1.0	-10.8	-0.6	0.26	-0.25	-87.9	-0.25	0.26	-0.02
0-20	11.4	19.5	12.1	0.68	0.33	1.2	0.68	0.33	0.01
22- 1	2.4	6.3	5.0	0.22	0.09	13.4	0.22	0.10	0.03
22- 2	1.5	3.7	2.8	0.13	0.05	10.9	0.13	0.06	0.01
22- 3	2.8	5.1	5.1	0.21	0.13	22.5	0.20	0.14	0.03
22- 4	6.7	6.1	7.3	0.32	0.28	80.8	0.28	0.32	0.01
22- 5	26.1	25.9	13.9	1.05	0.66	-23.0	0.99	0.72	-0.14
22- 6	16.1	11.8	26.3	1.16	0.66	-19.2	1.10	0.72	-0.15
22- 7	26.3	30.2	14.6	1.14	0.61	-15.4	1.10	0.65	-0.13
22- 8	22.9	26.3	11.8	0.99	0.50	-16.0	0.95	0.54	-0.13
22- 9	16.6	16.8	6.7	0.66	0.33	-21.9	0.62	0.38	-0.11
22-10	16.1	21.0	6.8	0.74	0.25	-12.9	0.71	0.27	-0.11
22-11	0.2	1.9	0.2	0.05	-0.03	-0.1	0.05	-0.03	-0.00
22-12	2.5	5.2	-1.0	0.14	-0.08	-10.8	0.13	-0.07	-0.04
22-13	1.6	6.1	-1.2	0.15	-0.13	-6.7	0.15	-0.13	-0.03
22-14	-1.2	-0.1	-5.3	-0.05	-0.23	-16.9	-0.07	-0.21	-0.05
22-15	-4.8	-12.4	-6.2	-0.07	-0.39	-87.1	-0.39	-0.08	-0.02
22-16	0.6	6.0	-4.6	0.11	-0.28	88.9	-0.28	0.11	0.01
22-17	-9.6	-13.5	3.5	0.15	-0.42	73.9	-0.37	0.11	0.15
22-18	-3.6	-8.3	4.5	0.24	-0.20	77.7	-0.18	0.22	0.09
22-19	2.0	2.5	6.7	0.26	0.12	64.3	0.14	0.23	0.06
22-20	7.9	21.2	14.8	0.73	0.24	9.5	0.71	0.26	0.08
45- 1	-2.7	-4.8	-5.8	-0.15	-0.22	-54.2	-0.19	-0.17	-0.04
45- 2	-5.0	-2.0	-1.6	-0.09	-0.19	25.8	-0.11	-0.17	0.04
45- 3	-5.6	-0.6	-0.3	-0.04	-0.21	24.4	-0.07	-0.18	0.06
45- 4	-2.7	1.2	2.0	0.05	-0.08	29.1	0.02	-0.05	0.05
45- 5	-6.2	27.6	12.6	0.74	-0.47	10.5	0.70	0.43	0.22
45- 6	9.2	8.9	25.2	1.00	0.47	-17.0	0.96	0.52	-0.15
45- 7	23.7	28.4	10.9	1.04	0.45	-15.0	1.00	0.49	-0.15
45- 8	-0.1**	22.9	7.4	0.61	-0.30	5.5	0.60	-0.29	0.09
45- 9	16.6	17.5	4.3	0.66	0.23	-20.4	0.61	0.28	-0.14
45-10	16.3	21.7	5.1	0.74	0.17	-13.5	0.71	0.21	-0.13
45-11	-0.3	2.3	5.5	0.18	0.04	47.9	0.10	0.12	0.07
45-12	-1.3	1.4	6.5	.20	0.02	53.1	0.08	0.14	0.09
45-13	1.0	4.1	6.8	0.23	0.10	43.0	0.17	0.16	0.07
45-14	1.6	3.9	6.2	0.22	0.12	44.9	0.17	0.17	0.05
45-15	-4.7	-11.6	1.5	0.17	-0.31	81.3	-0.30	0.16	0.07
45-16	5.4	10.1	-6.9	0.26	-0.32	75.1	-0.28	0.22	0.14
45-17	-9.6	-6.4	9.7	0.27	-0.27	62.0	-0.15	0.15	0.22
45-18	-3.3	-0.3	8.5	0.26	-0.04	57.9	0.05	0.18	0.14
45-19	1.6	4.9	6.1	0.22	0.11	32.7	0.19	0.14	0.05
45-20	6.7	17.8	10.0	0.58	0.14	5.0	0.58	0.14	0.04
67- 1	-0.7	-3.1	-4.5	-0.07	-0.16	-52.5	-0.12	-0.10	-0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-2.7	-4.1	-5.4	-0.14	-0.21	-45.6	-0.18	-0.17	-0.03
67- 3	-3.7	-4.1	-5.4	-0.17	-0.22	-30.5	-0.19	-0.21	-0.02
67- 4	-2.2	-0.8	-1.6	-0.05	-0.11	8.0	-0.05	-0.11	0.01
67- 5	10.5	16.0	7.7	0.55	0.23	-5.7	0.55	0.23	-0.03
67- 6	5.2	4.7	14.5	0.58	0.26	-7.8	0.58	0.27	-0.04
67- 7	13.5	18.3	7.8	0.64	0.27	-10.4	0.63	0.28	-0.07
67- 8	13.4	15.8	4.7	0.57	0.20	-16.4	0.54	0.23	-0.10
67- 9	10.4	12.9	3.7	0.46	0.15	-14.9	0.44	0.17	-0.08
67-10	8.7	14.5	5.0	0.48	0.11	-6.7	0.47	0.12	-0.04
67-11	-1.4	1.6	2.4	0.07	-0.03	30.0	0.05	-0.00	0.04
67-12	-1.0	3.3	6.6	0.21	0.03	41.2	0.13	0.11	0.0
67-13	-1.3	5.6	12.5	0.40	0.08	44.9	0.24	0.24	0.16
67-14	-0.3	4.5	19.2	0.66	0.15	58.5	0.29	0.52	0.22
67-15	-1.2	-12.8	5.3	0.44	-0.26	83.8	-0.25	0.43	0.07
67-16	4.3	16.3	0.5	0.43	-0.22	79.0	-0.20	0.40	0.12
67-17	-7.5	-7.2	10.3	0.35	-0.22	67.0	-0.14	0.26	0.20
67-18	-1.9	3.4	8.5	0.26	0.02	44.4	0.14	0.14	0.12
67-19	1.3	4.3	3.1	0.15	0.04	11.9	0.14	0.04	0.02
67-20	5.4	12.1	5.0	0.38	0.06	-0.9	0.38	0.06	-0.00
90- 1	4.2	-0.6	-4.7	0.09	-0.11	-47.5	-0.02	-0.00	-0.10
90- 2	5.1	-0.4	-5.5	0.12	-0.13	-46.2	-0.01	-0.00	-0.12
90- 3	5.7	-0.4	-5.5	0.13	-0.13	-47.5	-0.01	0.01	-0.13
90- 4	4.1	0.3	-3.5	0.10	-0.07	-45.1	0.01	0.01	-0.09
90- 5	0.9	1.2	0.9	0.05	0.03	-0.2	0.05	0.03	-0.00
90- 6	0.8	-0.2	0.7	0.05	0.01	28.9	0.04	0.02	0.02
90- 7	-0.2	0.9	1.0	0.03	-0.00	26.5	0.03	0.01	0.01
90- 8	1.8	0.8	-1.5	0.05	-0.03	-34.8	0.02	-0.01	-0.04
90- 9	0.7	0.6	-1.5	0.02	-0.05	-24.3	0.01	-0.04	-0.03
90-10	0.2	0.6	-0.7	0.01	-0.03	-15.1	0.01	-0.03	-0.01
90-11	1.3	0.4	-0.9	0.03	-0.02	-38.2	0.01	0.00	-0.02
90-12	-1.5	0.2	2.1	0.05	-0.03	46.8	0.01	0.02	0.04
90-13	-6.8	0.3	7.7	0.19	-0.15	45.7	0.02	0.02	0.17
90-14	-15.7	0.3	16.4	0.38	-0.36	45.1	0.01	0.02	0.37
90-15	-18.8	-3.0	22.0	0.55	-0.41	51.3	-0.04	0.17	0.47
90-16	6.2	22.6	-0.8	0.58	-0.35	50.0	0.04	0.20	0.46
90-17	-15.6	-2.5	20.0	0.52	-0.33	52.4	-0.01	0.20	0.41
90-18	-8.1	1.3	12.0	0.32	-0.15	46.7	0.07	0.10	0.23
90-19	0.2	1.3	2.6	0.09	0.03	48.1	0.06	0.06	0.03
90-20	3.1	1.4	-0.4	0.10	0.02	-43.8	0.06	0.06	-0.04
180- 1	-6.7	-5.6	-5.0	-0.23	-0.27	36.4	-0.25	-0.26	0.02
180- 2	-4.5	-1.5	-4.9	-0.13	-0.27	-1.7	-0.13	-0.27	-0.00
180- 3	-5.0	-2.9	-5.2	-0.17	-0.27	-0.8	-0.17	-0.27	-0.00
180- 4	0.0**	0.0**	0.0**	0.0	0.0	-45.0	0.0	0.0	0.0
180- 5	-8.7	-5.2	9.6	-0.30	-0.49	-3.1	-0.30	-0.48	-0.01
180- 6	-15.7	-18.3	-17.8	-0.67	-0.76	-72.8	-0.75	-0.68	-0.02
180- 7	-23.1	-14.5	-17.2	-0.72	-1.01	88.8	-1.01	-0.72	0.01
180- 8	-18.7	-29.1	-21.0	-0.64	-1.07	-86.5	-1.06	-0.64	-0.03
180- 9	-15.1	-21.6	-14.2	-0.47	-0.79	88.0	-0.79	-0.47	0.01
180-10	-11.0	-20.6	-10.3	-0.23	-0.68	89.1	-0.68	-0.23	0.01
180-11	4.4	-0.6	5.9	0.36	0.09	86.4	0.09	0.35	0.02
180-12	3.5	-4.3	3.3	0.32	-0.03	-89.6	-0.03	0.32	-0.00
180-13	3.5	-5.0	3.4	0.34	-0.05	-89.7	-0.05	0.34	-0.00
180-14	3.7	-5.5	3.7	0.37	-0.05	90.0	-0.05	0.37	0.00
180-15	6.2	-1.4	5.6	0.42	0.08	-88.9	0.08	0.42	-0.01
180-16	7.1	3.4	7.6	0.48	0.22	88.2	0.22	0.41	0.01
180-17	2.1	-1.8	7.8	0.38	0.04	3.4	0.38	0.04	0.02
180-18	-1.1	11.9	-1.6	0.25	-0.36	-0.6	0.25	-0.36	-0.01
180-19	-5.5	4.8	-4.5	0.01	-0.44	1.5	0.01	-0.44	0.01
180-20	-12.4	-19.7	-10.9	-0.31	-0.69	87.3	-0.69	-0.31	0.02
202- 1	-1.1	-2.4	-1.1	-0.02	-0.08	89.9	-0.08	-0.02	0.00
202- 2	-2.1	-2.5	-0.2	-0.01	-0.09	73.3	-0.08	-0.02	0.02
202- 3	-3.0	-3.2	-1.9	-0.08	-0.13	72.8	-0.12	-0.09	0.01
202- 4	-7.4	-4.2	-3.8	-0.19	-0.29	25.8	-0.21	-0.27	0.04
202- 5	-28.7	-24.5	-9.6	-0.57	-1.07	59.8	-0.95	-0.70	0.22
202- 6	-11.4	-12.1	-29.2	-0.59	-1.15	61.3	-1.02	-0.72	0.24
202- 7	-29.2	-32.1	-13.7	-0.61	-1.22	72.0	-1.16	-0.67	0.18

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-20.3	-22.1	-9.9	-0.45	-0.85	71.6	-0.81	-0.49	0.12
202- 9	-15.5	-18.8	-7.0	-0.28	-0.68	75.2	-0.66	-0.31	0.10
202-10	-15.4	-23.6	-5.4	-0.12	-0.77	79.6	-0.75	-0.14	0.12
202-11	1.0	-0.7	-1.2	0.02	-0.03	-59.2	-0.02	0.01	-0.03
202-12	0.2	-2.3	0.2	0.07	-0.05	-89.8	-0.05	0.07	-0.00
202-13	0.0**	0.0**	0.0**	0.0	0.0	-45.0	0.0	0.0	0.0
202-14	1.0	-2.8	2.5	0.18	-0.03	85.3	-0.03	0.18	0.02
202-15	3.4	8.9	7.3	0.32	0.14	14.5	0.31	0.15	0.05
202-16	-1.1	-8.0	4.8	0.32	-0.16	-0.3	0.32	-0.16	-0.00
202-17	3.2	14.0	-2.8	0.34	-0.32	-6.1	0.33	-0.31	-0.07
202-18	1.9	11.8	-4.9	0.25	-0.38	-7.2	0.24	-0.37	-0.08
202-19	-6.6	-3.8	-8.7	-0.24	-0.42	-7.4	-0.24	-0.42	-0.02
202-20	-11.0	-19.7	-14.0	-0.37	-0.70	-84.1	-0.70	-0.37	-0.03
225- 1	2.5	4.6	6.5	0.24	0.15	43.1	0.20	0.19	0.05
225- 2	4.8	2.9	3.3	0.20	0.14	-73.2	0.15	0.20	-0.02
225- 3	4.9	1.4	3.1	0.24	0.11	-80.5	0.11	0.23	-0.02
225- 4	2.5	0.2	2.3	0.15	0.05	-88.4	0.05	0.15	-0.00
225- 5	-24.6	-26.1	-8.3	-0.41	-1.00	70.0	-0.93	-0.48	0.19
225- 6	-6.5	-9.5	-29.6	-0.44	-1.10	68.2	-1.01	-0.53	0.23
225- 7	-28.6	-32.8	-9.7	-0.44	-1.20	72.6	-1.14	-0.51	0.22
225- 8	-22.5	-22.3	-5.6	-0.33	-0.87	67.3	-0.79	-0.41	0.19
225- 9	-17.1	-19.5	-5.2	-0.24	-0.71	72.3	-0.67	-0.29	0.14
225-10	-15.2	-19.3	-3.7	-0.14	-0.67	74.8	-0.63	-0.18	0.13
225-11	0.1	-1.6	-5.1	-0.04	-0.17	-35.7	-0.09	-0.13	-0.06
225-12	3.2	-0.7	-7.5	0.04	-0.22	-37.5	-0.06	-0.12	-0.12
225-13	1.8	-2.7	-8.6	-0.02	-0.27	-41.3	-0.13	-0.16	-0.12
225-14	-0.7	-6.0	-8.8	-0.10	-0.30	-54.1	-0.23	-0.17	-0.09
225-15	1.5	10.8	1.7	0.28	-0.15	0.3	0.28	-0.14	0.00
225-16	-3.0	-9.7	3.2	0.24	-0.23	1.3	0.24	-0.23	0.01
225-17	1.6	13.5	1.2	0.34	-0.22	-0.5	0.34	-0.22	-0.00
225-18	4.5	5.3	-7.3	0.15	-0.27	-20.6	0.09	-0.22	-0.14
225-19	-2.6	-6.3	-7.6	-0.15	-0.28	-57.7	-0.25	-0.19	-0.06
225-20	-7.5	-17.5	-6.5	-0.06	-0.54	88.6	-0.54	-0.06	0.01
247- 1	-1.0	2.1	4.4	0.14	0.01	40.6	0.08	0.06	0.06
247- 2	1.0	4.1	6.6	0.23	0.10	42.3	17	0.16	0.07
247- 3	2.1	4.5	8.0	0.29	0.15	50.7	..20	0.23	0.07
247- 4	0.7	1.9	5.9	0.21	0.07	59.7	0.11	0.18	0.06
247- 5	-9.9	-13.1	-3.5	-0.12	-0.45	76.8	-0.44	-0.14	0.07
247- 6	-2.3	-3.6	-15.1	-0.18	-0.56	82.3	-0.56	-0.19	0.05
247- 7	-11.4	-18.5	-8.3	-0.22	-0.62	85.0	-0.62	-0.22	0.04
247- 8	-13.2	-18.0	-7.5	-0.26	-0.63	79.6	-0.62	-0.27	0.07
247- 9	-9.8	-13.2	-5.9	-0.21	-0.47	80.0	-0.46	-0.21	0.04
247-10	-8.5	-15.3	-8.0	-0.19	-0.52	89.0	-0.52	-0.19	0.01
247-11	1.4	-0.4	-0.8	0.04	-0.02	-61.2	-0.01	0.03	-0.03
247-12	1.9	-3.1	-5.7	0.01	-0.17	-53.4	-0.11	-0.06	-0.09
247-13	2.4	-6.6	-13.0	-0.05	-0.41	-49.7	-0.26	-0.20	-0.18
247-14	6.4	-7.3	-20.5	0.0[illegible]	-0.61	-45.5	-0.31	-0.30	-0.31
247-15	2.9	13.5	-7.4	0.29	-0.48	-9.1	0.27	-0.46	-0.12
247-16	-9.7	-13.7	7.6	0.[illegible]1	-0.40	-17.2	0.24	-0.34	-0.20
247-17	13.4	2.1	-10.3	0.34	-0.21	-43.7	0.08	0.05	-0.27
247-18	7.2	1.0	-7.4	0.17	-0.17	-40.7	0.02	-0.03	-0.17
247-19	-0.3	-4.2	-2.3	0.01	-0.13	-80.5	-0.12	0.01	-0.02
247-20	-4.6	-11.0	-0.8	0.08	-0.31	83.6	-0.31	0.08	0.04
270- 1	-5.1	-0.3	4.7	0.11	-0.12	45.6	-0.01	-0.00	0.11
270- 2	-6.0	-0.6	5.6	0.13	-0.14	47.2	-0.02	0.00	0.13
270- 3	-6.2	-0.5	5.7	0.[illegible]	-0.15	46.1	-0.02	-0.01	0.14
270- 4	-4.9	-0.1	5.0	0.12	-0.11	46.3	-0.00	0.01	0.11
270- 5	-1.1	-0.1	1.5	0.04	-0.02	51.4	0.00	0.01	0.03
270- 6	0.1	-0.1	-0.7	-0.00	-0.02	84.8	-0.02	-0.00	0.00
270- 7	-0.0	-0.5	-0.4	-0.00	-0.02	-68.1	-0.02	-0.00	-0.01
270- 8	-0.6	-1.0	-1.0	-0.03	-0.04	-63.7	-0.04	-0.03	-0.01
270- 9	-1.7	-0.7	-0.1	-0.02	-0.06	36.2	-0.03	-0.05	0.02
270-10	0.3	-0.4	-1.9	-0.01	-0.06	-35.4	-0.02	-0.04	-0.03
270-11	-0.9	0.2	1.2	0.03	-0.02	43.2	0.01	0.00	0.02
270-12	1.7	-0.1	-1.3	0.04	-0.03	-49.8	0.00	0.01	-0.03
270-13	7.6	-0.2	-7.0	0.18	-0.16	-46.8	0.00	0.02	-0.17

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	15.0	-0.8	-13.7	0.36	-0.30	-47.9	-0.00	0.06	-0.33
270-15	21.6	-1.3	-18.8	0.53	-0.41	-48.8	-0.00	0.12	-0.47
270-16	-6.2	-18.7	10.1	0.59	-0.43	-53.7	-0.07	0.24	-0.49
270-17	23.8	0.8	-18.6	0.60	-0.38	-47.4	0.07	0.15	-0.49
270-18	14.3	0.7	-0.1**	0.53	0.08	-65.7	0.16	0.45	-0.17
270-19	3.6	1.1	-0.7	0.11	0.01	-49.4	0.05	0.07	-0.05
270-20	-1.6	1.3	3.3	0.09	-0.02	39.6	0.05	0.03	0.06
0- 7	23.7	14.2	19.0	1.09	0.74	-81.0	0.75	1.08	-0.05
11- 1	18.4	13.3	23.6	1.09	0.71	80.6	0.72	1.08	0.06
22- 6	16.1	11.8	26.3	1.16	0.66	75.8	0.69	1.13	0.12
33- 1	12.0	10.7	27.4	1.12	0.57	69.7	0.64	1.05	0.18
45- 6	9.2	8.9	25.2	1.00	0.47	68.0	0.55	0.93	0.18
56- 1	6.5	8.2	22.0	0.84	0.38	64.0	0.47	0.75	0.18
67- 6	5.2	4.7	14.5	0.58	0.26	69.2	0.30	0.54	0.11
78- 1	2.4	1.1	6.7	0.29	0.10	74.2	0.11	0.28	0.05
90- 6	0.8	-0.2	0.7	0.05	0.01	-89.1	0.01	0.05	-0.00
0-17	-5.2	-4.2	-11.0	-0.23	-0.46	-18.4	-0.26	-0.44	-0.07
11-11	-1.3	-0.1	-10.5	-0.08	-0.42	-19.2	-0.12	-0.39	-0.11
22-16	0.6	6.0	-4.6	0.11	-0.28	-9.1	0.10	-0.27	-0.06
33-11	3.7	8.0	-6.7	0.19	-0.31	-14.5	0.15	-0.28	-0.12
45-16	5.4	10.1	-6.9	0.26	-0.32	-14.9	0.22	-0.26	-0.14
56-11	4.8	13.3	3.5	0.33	-0.28	-9.1	0.32	-0.26	-0.10
67-16	4.3	16.3	0.5	0.43	-0.22	-4.0	0.42	-0.22	-0.04
78-11	4.0	20.1	3.5	0.54	-0.21	-0.4	0.54	-0.21	-0.01
90-16	6.2	22.6	-0.8	0.58	-0.35	-1.0	0.57	-0.34	-0.08
180- 7	-23.1	-14.5	-17.2	-0.72	-1.01	13.8	-0.73	-1.00	0.07
191- 1	-15.7	-11.2	-24.5	-0.63	-1.09	-13.1	-0.65	-1.07	-0.10
202- 6	-11.4	-12.1	-29.2	-0.59	-1.15	-23.7	-0.68	-1.06	-0.21
213- 1	-10.3	-9.6	-29.2	-0.53	-1.17	-21.5	-0.61	-1.08	-0.22
225- 6	-6.5	-9.5	-29.6	-0.44	-1.10	-26.8	-0.58	-0.97	-0.27
236- 1	-3.9	-6.5	-23.7	-0.31	-0.88	-26.8	-0.42	-0.76	-0.23
247- 6	-2.3	-3.6	-15.1	-0.18	-0.56	-25.7	-0.26	-0.49	-0.15
258- 1	-0.9	-0.9	-6.8	-0.07	-0.26	-22.6	-0.10	-0.23	-0.07
270- 6	0.1	-0.1	-0.7	-0.00	-0.02	-33.2	-0.01	-0.02	-0.01
180-17	2.1	-1.8	7.8	0.38	0.04	78.4	0.06	0.37	0.07
191-11	0.8	-5.3	6.0	0.36	-0.06	81.7	-0.05	0.35	0.06
202-16	-1.1	-8.0	4.8	0.32	-0.16	81.7	-0.15	0.31	0.07
213-11	-0.6	-8.5	2.6	0.27	-0.18	85.3	-0.18	0.26	0.04
225-16	-3.0	-9.7	3.2	0.24	-0.33	81.3	-0.22	0.23	0.07
236-11	-6.7	-11.5	4.8	0.24	-0.32	75.8	-0.28	0.21	0.13
247-16	-9.7	-13.7	7.6	0.31	-0.40	72.8	-0.34	0.24	0.20
258-11	-9.9	-16.5	8.6	0.40	-0.45	74.8	-0.39	0.34	0.21
270-16	-6.2	-18.7	10.1	0.59	-0.43	79.3	-0.39	0.56	0.19
400-01	-1.4	-0.4	0.7	0.01	-0.04	-88.9	-0.04	0.01	-0.00
400-11	0.1	-0.4	-1.2	-0.01	-0.04	-83.3	-0.04	-0.01	-0.00
401-01	2.4	4.4	2.6	0.15	0.06	1.5	0.15	0.06	0.00
401-02	0.5	-2.0					-0.00	-0.06	
401-03	-4.4	3.1					-0.12	0.06	
401-04	-0.2	-1.8					-0.03	-0.06	
402-01	-0.5	0.4	-0.5	-0.00	-0.04	0.8	-0.00	-0.04	0.00
402-02	-0.3	1.4					0.00	0.04	
402-03	-1.4	-1.4					-0.00	-0.04	
403-01	11.3	33.2	11.9	0.99	-0.00	0.4	0.99	-0.00	0.01
403-02	2.9	-0.1					0.09	0.02	
403-03	-32.1	9.0					-0.97	-0.02	
403-04	0.3	-0.0**					0.01	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '**' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, IN-PLANE FORCE LOADING ON BRANCH, F3X

NOMINAL LOAD = 1.116E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. AICMG	NORMAL	SHEAR
0- 1	7.7	9.3	4.7	0.35	0.19	-13.0	0.34	0.19	-0.04
0- 2	4.7	3.3	4.3	0.22	0.17	-85.4	0.17	0.22	-0.00
0- 3	5.7	5.3	5.5	0.25	0.23	-81.1	0.23	0.25	-0.00
0- 4	7.0	4.9	6.6	0.34	0.25	-86.7	0.25	0.34	-0.01
0- 5	10.0	7.6	9.6	0.47	0.37	-87.3	0.37	0.47	-0.00
0- 6	15.2	18.8	16.0	0.74	0.59	3.9	0.74	0.60	0.01
0- 7	22.8	13.4	17.9	1.04	0.70	-0.3	1.04	0.70	-0.00
0- 8	19.6	29.3	22.0	1.09	0.69	3.9	1.09	0.69	0.03
0- 9	14.3	18.7	13.2	0.70	0.47	-3.2	0.70	0.47	-0.01
0-10	12.1	16.2	9.6	0.59	0.34	-6.4	0.59	0.34	-0.03
0-11	-2.2	2.9	-2.7	0.02	-0.23	-1.4	0.02	-0.23	-0.01
0-12	-0.8	8.5	-0.9	0.18	-0.25	-0.1	0.18	-0.25	-0.00
0-13	-1.7	7.6	-1.8	0.14	-0.29	-0.2	0.14	-0.29	-0.00
0-14	-2.6	6.5	-2.5	0.10	-0.32	0.1	0.10	-0.32	0.00
0-15	-5.9	0.5	-5.2	-0.10	-0.38	1.6	-0.10	-0.38	0.01
0-16	-9.4	-5.2	-8.3	-0.29	-0.46	4.2	-0.30	-0.46	0.01
0-17	-4.3	-4.5	-11.1	-0.22	-0.44	-88.4	-0.44	-0.22	-0.01
0-18	-1.5	-10.2	-1.7	0.13	-0.27	-89.6	-0.27	0.13	-0.00
0-19	0.7	-10.6	-1.0	0.24	-0.25	-87.7	-0.25	0.23	-0.02
0-20	10.8	17.2	10.3	0.61	0.30	-1.2	0.60	0.30	-0.01
22- 1	2.5	6.7	5.7	0.25	0.11	16.0	0.24	0.12	0.04
22- 2	1.5	3.9	3.1	0.14	0.06	13.0	0.13	0.06	0.02
22- 3	2.8	5.4	5.3	0.22	0.13	22.1	0.20	0.14	0.03
22- 4	6.4	6.3	7.4	0.32	0.28	71.7	0.28	0.31	0.01
22- 5	24.2	25.0	14.0	1.00	0.64	-20.6	0.95	0.68	-0.12
22- 6	16.4	11.3	24.2	1.10	0.65	-16.6	1.06	0.68	-0.12
22- 7	23.9	28.3	14.9	1.06	0.60	-13.3	1.04	0.63	-0.10
22- 8	20.6	24.4	12.1	0.91	0.49	-13.9	0.89	0.52	-0.10
22- 9	14.8	15.4	7.1	0.61	0.33	-20.5	0.57	0.37	-0.09
22-10	14.1	19.2	7.2	0.67	0.24	-11.0	0.65	0.26	-0.08
22-11	1.1	2.1	0.9	0.07	0.02	-2.0	0.07	0.02	-0.00
22-12	3.2	5.3	-0.1	0.16	-0.03	-11.9	0.15	-0.02	-0.04
22-13	2.1	6.3	0.2	0.17	-0.07	-5.4	0.17	-0.07	-0.02
22-14	-0.9	0.3	-3.1	-0.03	-0.14	-13.1	-0.03	-0.14	-0.03
22-15	-5.0	-11.3	-4.3	-0.05	-0.35	88.4	-0.35	-0.05	0.01
22-16	1.1	4.8	-4.7	0.09	-0.24	86.1	-0.24	0.09	0.02
22-17	-9.1	-11.9	3.1	0.12	-0.38	72.8	-0.33	0.08	0.14
22-18	-3.3	-7.6	3.3	0.19	-0.19	78.2	-0.17	0.18	0.08
22-19	2.1	2.0	4.9	0.20	0.10	68.5	0.11	0.18	0.03
22-20	7.9	18.2	11.3	0.61	0.21	5.5	0.61	0.21	0.04
45- 1	-2.4	-4.2	-4.8	-0.12	-0.19	-58.1	-0.17	-0.14	-0.03
45- 2	-4.6	-1.6	-1.1	-0.07	-0.17	27.3	-0.09	-0.15	0.04
45- 3	-5.1	-0.4	0.3	-0.03	-0.18	26.6	-0.06	-0.15	0.06
45- 4	-2.2	1.5	2.7	0.07	-0.05	32.0	0.04	-0.02	0.06
45- 5	22.1	26.0	12.9	0.97	0.52	-14.1	0.95	0.55	-0.11
45- 6	9.9	8.6	22.7	0.93	0.47	-14.8	0.90	0.50	-0.11
45- 7	21.2	26.2	11.4	0.95	0.44	-13.2	0.93	0.47	-0.11
45- 8	17.5	20.7	7.6	0.76	0.32	-15.7	0.73	0.35	-0.1
45- 9	14.3	15.7	4.8	0.59	0.23	-18.8	0.55	0.27	-0
45-10	13.6	19.4	5.5	0.65	0.16	-11.1	0.64	0.18	-0
45-11	-0.2	1.5	4.9	0.16	0.04	54.8	0.08	0.12	0.06
45-12	-0.8	1.1	6.3	0.21	0.03	57.6	0.08	0.16	0.08
45-13	1.2	3.9	7.5	0.26	0.11	49.0	0.18	0.20	0.07
45-14	1.6	4.4	8.3	0.29	0.13	49.5	0.20	0.23	0.08
45-15	-4.9	-10.0	2.8	0.18	-0.27	78.4	-0.25	0.16	0.09
45-16	6.0	8.5	-6.8	0.24	-0.27	72.2	-0.22	0.19	0.15
45-17	-8.3	-4.7	8.6	0.23	-0.22	60.1	-0.11	0.12	0.19
45-18	-2.4	0.1	6.5	0.20	-0.02	57.1	0.04	0.14	0.10
45-19	2.0	4.3	3.8	0.16	0.09	17.0	0.16	0.09	0.02
45-20	7.1	14.7	6.2	0.47	0.10	-1.6	0.47	0.10	-0.01
67- 1	-0.5	-2.8	-4.1	-0.05	-0.14	-52.9	-0.11	-0.09	-0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.3	-3.7	-4.6	-0.12	-0.18	-50.2	-0.15	-0.14	-0.03
67- 3	-3.2	-3.5	-4.5	-0.15	-0.18	-28.5	-0.16	-0.18	-0.01
67- 4	-2.0	-0.3	-0.6	-0.03	-0.08	18.0	-0.03	-0.08	0.02
67- 5	9.4	15.4	8.4	0.53	0.23	-2.3	0.53	0.23	-0.01
67- 6	5.8	4.3	12.9	0.54	0.26	-4.5	0.54	0.26	-0.02
67- 7	11.9	16.7	8.1	0.59	0.27	-7.8	0.58	0.27	-0.04
67- 8	11.5	14.3	5.2	0.51	0.20	-13.9	0.50	0.22	-0.07
67- 9	8.5	11.7	4.3	0.41	0.14	-10.7	0.40	0.15	-0.05
67-10	6.6	13.2	5.8	0.43	0.10	-1.5	0.43	0.10	-0.01
67-11	-1.3	0.6	1.6	0.04	-0.03	36.1	0.02	-0.01	0.03
67-12	-1.0	2.4	6.2	0.19	0.03	46.3	0.11	0.12	0.08
67-13	-1.5	5.2	12.8	0.41	0.08	46.8	0.23	0.25	0.17
67-14	-5.1	4.8	19.4	0.60	0.02	50.6	0.25	0.36	0.28
67-15	-0.8	-11.0	6.4	0.45	-0.21	82.6	-0.20	0.44	0.08
67-16	5.1	15.3	0.6	0.41	-0.17	77.9	-0.14	0.39	0.12
67-17	-6.0	-5.0	9.9	0.33	-0.16	65.6	-0.08	0.25	0.18
67-18	-0.3	3.3	6.5	0.21	0.05	43.3	0.14	0.13	0.08
67-19	2.4	3.4	1.4	0.12	0.04	-9.0	0.12	0.04	-0.01
67-20	6.8	9.4	1.5	0.31	0.04	-13.4	0.30	0.06	-0.06
90- 1	4.1	-0.3	-4.2	0.09	-0.10	-47.0	-0.01	0.00	-0.10
90- 2	5.0	-0.1	-4.9	0.12	-0.11	-46.0	-0.00	0.01	-0.11
90- 3	5.4	-0.1	-4.8	0.13	-0.10	-47.0	0.00	0.02	-0.12
90- 4	3.8	0.6	-2.8	0.10	-0.05	-44.3	0.02	0.02	-0.08
90- 5	0.6	1.3	1.6	0.06	0.03	33.3	0.05	0.04	0.01
90- 6	1.1	-0.9	0.5	0.07	0.01	35.0	0.05	0.03	0.03
90- 7	-0.6	0.9	1.5	0.05	-0.01	34.4	0.03	0.01	0.03
90- 8	0.8	0.7	-0.9	0.02	-0.03	-23.7	0.02	-0.02	-0.02
90- 9	-0.5	0.6	-0.2	0.01	-0.04	4.4	0.01	-0.04	0.00
90-10	-1.3	0.8	0.8	0.02	-0.05	23.4	0.01	-0.03	0.02
90-11	0.7	-0.5	-1.0	0.01	-0.03	-55.6	-0.01	0.00	-0.02
90-12	-1.9	-0.7	1.8	0.04	-0.05	50.7	-0.02	0.01	0.04
90-13	-6.6	-0.3	7.2	0.17	-0.15	47.5	-0.00	0.03	0.16
90-14	-14.3	0.3	15.5	0.37	-0.32	45.5	0.02	0.03	0.34
90-15	-16.1	-1.4	21.1	0.54	-0.33	50.9	0.02	0.20	0.43
90-16	7.1	21.5	0.1	0.57	-0.27	49.4	0.09	0.22	0.42
90-17	-13.0	-0.8	19.1	0.51	-0.25	51.7	0.04	0.22	0.37
90-18	-5.7	2.5	10.5	0.29	-0.09	44.6	0.10	0.10	0.19
90-19	1.7	0.6	0.9	0.07	0.04	-75.6	0.04	0.07	-0.01
90-20	4.6	-0.3	-2.8	0.13	-0.05	-53.9	0.01	0.07	-0.08
180- 1	-6.6	-5.5	-4.9	-0.23	-0.27	37.3	-0.24	-0.25	0.02
180- 2	-4.4	-1.5	-4.8	-0.13	-0.27	-1.5	-0.13	-0.27	-0.00
180- 3	-5.0	-2.9	-5.0	-0.17	-0.26	-0.2	-0.17	-0.26	-0.00
180- 4	-5.8	-2.9	-6.2	-0.19	-0.33	-1.7	-0.19	-0.33	-0.00
180- 5	-8.6	-5.3	-9.4	-0.30	-0.47	-3.0	-0.30	-0.47	-0.01
180- 6	-15.1	-17.8	-17.1	-0.65	-0.74	-74.2	-0.73	-0.65	-0.02
180- 7	-22.0	-13.7	-16.2	-0.68	-0.96	88.9	-0.96	-0.68	0.01
180- 8	-17.6	-27.4	-19.8	-0.60	-1.00	-86.4	-1.00	-0.60	-0.03
180- 9	-14.1	-19.7	-13.0	-0.44	-0.72	87.6	-0.72	-0.44	0.01
180-10	-10.1	-18.4	-9.0	-0.21	-0.61	88.2	-0.61	-0.21	0.01
180-11	4.6	-0.5	5.6	0.35	0.09	87.4	0.09	0.35	0.01
180-12	3.7	-4.1	2.9	0.31	-0.03	-88.5	-0.03	0.31	-0.01
180-13	3.8	-4.7	2.9	0.33	-0.04	-88.4	-0.04	0.33	-0.01
180-14	4.0	-5.3	3.1	0.36	-0.05	-88.6	-0.05	0.36	-0.01
180-15	6.4	-1.4	4.7	0.40	0.08	-86.6	0.08	0.40	-0.02
180-16	7.1	3.3	6.5	0.37	0.21	-87.5	0.21	0.37	-0.01
180-17	0.9	-2.0	8.0	0.36	0.02	0.6	0.36	0.02	0.00
180-18	-0.8	11.4	-2.2	0.23	-0.36	-1.6	0.23	-0.36	-0.02
180-19	-4.8	4.8	-4.7	0.02	-0.42	0.3	0.02	-0.42	0.00
180-20	-11.0	-17.6	-10.4	-0.30	-0.62	88.8	-0.62	-0.30	0.01
202- 1	-1.4	-2.6	-1.3	-0.03	-0.09	88.4	-0.09	-0.03	0.00
202- 2	-2.4	-2.6	-0.3	-0.02	-0.10	70.5	-0.09	-0.03	0.02
202- 3	-3.3	-3.4	-1.9	-0.09	-0.14	68.7	-0.13	-0.09	0.02
202- 4	-7.5	-4.3	-3.6	-0.19	-0.29	28.2	-0.21	-0.27	0.04
202- 5	-27.4	-23.7	-9.4	-0.55	-1.03	60.3	-0.91	-0.66	0.21
202- 6	-11.0	-11.5	-27.7	-0.56	-1.09	61.7	-0.97	-0.68	0.22
202- 7	-27.2	-30.1	-13.2	-0.58	-1.15	72.4	-1.09	-0.64	0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. AICMG	NORMAL	SHEAR
202- 8	-18.6	-20.3	-9.4	-0.42	-0.78	72.0	-0.75	-0.46	0.11
202- 9	-14.0	-16.9	-6.5	-0.26	-0.62	75.4	-0.59	-0.28	0.09
202-10	-13.7	-21.2	-5.0	-0.11	-0.69	79.9	-0.67	-0.13	0.10
202-11	0.8	-0.9	-2.1	0.01	-0.06	-49.6	-0.03	-0.02	-0.03
202-12	0.2	-2.2	-0.6	0.04	-0.06	-83.9	-0.06	0.04	-0.01
202-13	-0.0	-4.0	1.1	0.13	-0.08	86.5	-0.08	0.13	0.01
202-14	0.8	-2.5	2.9	0.18	-0.02	83.2	-0.02	0.18	0.02
202-15	2.5	8.6	7.7	0.32	0.12	18.2	0.30	0.14	0.06
202-16	-0.8	-8.5	4.1	0.31	-0.17	1.3	0.31	-0.17	0.01
202-17	2.4	13.8	-2.3	0.32	-0.32	-4.9	0.32	-0.31	-0.05
202-18	1.2	11.6	-4.2	0.24	-0.37	-5.8	0.24	-0.37	-0.06
202-19	-6.8	-3.3	-7.8	-0.22	-0.41	-3.4	-0.22	-0.41	-0.01
202-20	-10.7	-18.0	-12.6	-0.35	-0.65	-85.8	-0.65	-0.35	-0.02
225- 1	2.5	4.5	6.3	0.23	0.15	43.7	0.19	0.19	0.04
225- 2	4.7	2.8	3.1	0.20	0.13	-72.0	0.14	0.19	-0.02
225- 3	4.4	1.2	3.0	0.22	0.10	-81.9	0.10	0.22	-0.02
225- 4	1.8	-0.1	2.2	0.14	0.04	87.5	0.04	0.14	0.00
225- 5	-23.9	-25.5	-8.2	-0.40	-0.97	70.1	-0.91	-0.47	0.18
225- 6	-6.6	-9.2	-28.3	-0.43	-1.06	68.6	-0.98	-0.52	0.21
225- 7	-26.9	-31.1	-9.7	-0.43	-1.14	73.1	-1.08	-0.49	0.20
225- 8	-20.4	-20.9	-5.7	-0.31	-0.81	68.4	-0.74	-0.38	0.17
225- 9	-15.4	-18.0	-5.4	-0.24	-0.66	73.3	-0.62	-0.27	0.12
225-10	-13.4	-17.7	-4.0	-0.14	-0.61	76.3	-0.58	-0.17	0.11
225-11	0.1	-1.7	-5.2	-0.05	-0.17	-36.0	-0.09	-0.13	-0.06
225-12	3.2	-0.8	-7.3	0.04	-0.21	-38.0	-0.06	-0.12	-0.12
225-13	1.8	-2.6	-8.1	-0.02	-0.25	-41.8	-0.12	-0.15	-0.11
225-14	-0.7	-5.5	-7.7	-0.09	-0.27	-55.1	-0.21	-0.15	-0.08
225-15	0.7	10.4	2.7	0.27	-0.13	3.3	0.27	-0.13	0.02
225-16	-1.9	-9.5	2.2	0.23	-0.22	4.0	0.23	-0.22	0.03
225-17	0.5	12.8	2.2	0.32	-0.21	2.2	0.32	-0.21	0.02
225-18	3.3	5.6	-6.2	0.13	-0.26	-17.1	0.10	-0.22	-0.11
225-19	-3.3	-5.7	-6.6	-0.17	-0.25	-57.9	-0.23	-0.19	-0.04
225-20	-7.9	-16.1	-5.3	-0.06	-0.50	86.1	-0.50	-0.06	0.03
247- 1	-0.6	2.4	4.3	0.14	0.02	39.2	0.09	0.07	0.06
247- 2	1.1	4.1	6.3	0.22	0.10	41.0	0.17	0.15	0.06
247- 3	2.0	4.3	7.6	0.27	0.14	50.8	0.19	0.22	0.06
247- 4	0.2	1.3	5.5	0.19	0.05	60.2	0.09	0.16	0.06
247- 5	-10.4	-13.7	-3.8	-0.14	-0.48	76.7	-0.46	-0.15	0.08
247- 6	-2.7	-3.9	-15.4	-0.20	-0.58	82.6	-0.57	-0.21	0.05
247- 7	-11.3	-18.5	-8.8	-0.23	-0.63	85.7	-0.63	-0.24	0.03
247- 8	-12.8	-17.9	-8.2	-0.27	-0.63	81.3	-0.62	-0.28	0.05
247- 9	-9.1	-13.0	-6.8	-0.22	-0.46	83.5	-0.46	-0.22	0.03
247-10	-7.1	-14.7	-8.9	-0.19	-0.50	-86.1	-0.50	-0.19	-0.02
247-11	1.3	-0.8	-1.2	0.04	-0.03	-62.3	-0.02	0.02	-0.03
247-12	1.9	-3.3	-5.8	0.01	-0.18	-54.7	-0.12	-0.05	-0.09
247-13	2.3	-6.5	-12.4	-0.04	-0.39	-50.6	-0.25	-0.18	-0.17
247-14	6.0	-6.6	-18.7	0.01	-0.56	-45.7	-0.28	-0.26	-0.29
247-15	2.7	12.9	-5.9	0.28	-0.42	-8.3	0.27	-0.41	-0.10
247-16	-8.0	-12.3	6.8	0.29	-0.35	-16.2	0.24	-0.30	-0.17
247-17	12.4	2.6	-8.9	0.32	-0.17	-42.7	0.10	0.05	-0.25
247-18	6.2	1.6	-6.0	0.15	-0.14	-37.9	0.04	-0.03	-0.14
247-19	-1.0	-3.9	-1.3	0.01	-0.11	-88.7	-0.11	0.01	-0.00
247-20	-5.5	-10.6	0.4	0.09	-0.31	79.9	-0.29	0.08	0.07
270- 1	-4.6	0.2	5.0	0.12	-0.10	45.0	0.01	0.01	0.11
270- 2	-5.4	-0.2	5.9	0.14	-0.12	46.9	0.00	0.02	0.13
270- 3	-5.7	-0.3	5.8	0.14	-0.13	46.7	-0.00	0.01	0.13
270- 4	-4.8	-0.4	4.7	0.11	-0.11	47.7	-0.01	0.01	0.11
270- 5	-1.7	-1.4	0.7	0.01	-0.06	63.6	-0.04	-0.00	0.03
270- 6	-0.1	-0.6	-2.3	-0.02	-0.08	86.8	-0.08	-0.02	0.00
270- 7	-1.0	-2.5	-1.6	-0.03	-0.08	-82.3	-0.08	-0.03	-0.01
270- 8	-1.2	-2.7	-2.6	-0.06	-0.11	-69.0	-0.10	-0.06	-0.02
270- 9	-1.9	-2.0	-1.8	-0.08	-0.08	80.3	-0.08	-0.08	0.00
270-10	1.0	-1.4	-3.8	-0.00	-0.11	-45.4	-0.06	-0.06	-0.06
270-11	-1.0	-0.5	0.8	0.02	-0.03	55.5	-0.01	0.00	0.02
270-12	1.5	-0.7	-1.5	0.04	-0.04	-57.1	-0.02	0.01	-0.03
270-13	7.1	-0.8	-6.8	0.17	-0.16	-48.6	-0.02	0.03	-0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	14.3	-1.0	-12.8	0.35	-0.28	-48.6	-0.01	0.07	-0.31
270-15	20.7	-0.9	-17.1	0.52	-0.36	-49.1	0.01	0.14	-0.44
270-16	-5.3	-16.8	10.1	0.58	-0.37	-53.9	-0.04	0.25	-0.45
270-17	22.8	1.3	-16.7	0.59	-0.33	-47.5	0.09	0.17	-0.46
270-18	13.5	1.1	-4.6*	0.41	-0.03	-55.0	0.11	0.26	-0.21
270-19	2.7	1.2	0.4	0.09	0.04	-53.8	0.06	0.07	-0.03
270-20	-3.1	0.5	4.4	0.11	-0.06	45.8	0.02	0.03	0.09
0- 7	22.8	13.4	17.9	1.04	0.70	-80.3	0.71	1.03	-0.06
11- 1	18.0	12.6	21.3	1.01	0.67	83.3	0.68	1.01	0.04
22- 6	16.4	11.3	24.2	1.10	0.65	78.4	0.66	1.08	0.09
33- 1	12.5	10.4	24.6	1.03	0.56	71.6	0.61	0.98	0.14
45- 6	9.9	8.6	22.7	0.93	0.47	70.2	0.52	0.88	0.15
56- 1	7.2	7.7	19.8	0.78	0.38	66.3	0.44	0.71	0.14
67- 6	5.8	4.3	12.9	0.54	0.26	72.5	0.28	0.52	0.08
78- 1	2.9	0.7	6.0	0.28	0.10	78.6	0.10	0.28	0.04
90- 6	1.1	-0.4	0.5	0.07	0.01	-83.0	0.01	0.06	-0.01
0-17	-4.3	-4.5	-11.1	-0.22	-0.44	-23.4	-0.26	-0.40	-0.08
11-11	-0.9	-0.5	-10.0	-0.08	-0.39	-21.2	-0.12	-0.35	-0.10
22-16	1.1	4.8	-4.7	0.09	-0.24	-11.9	0.07	-0.23	-0.07
33-11	3.7	6.6	-6.4	0.16	-0.28	-16.2	0.13	-0.24	-0.12
45-16	6.0	8.5	-6.8	0.24	-0.27	-17.8	0.19	-0.22	-0.15
56-11	5.2	11.8	-3.3	0.31	-0.23	-10.7	0.29	-0.21	-0.10
67-16	5.1	15.3	0.6	0.41	-0.17	-5.1	0.41	-0.17	-0.05
78-11	4.9	19.1	3.8	0.53	-0.16	-1.1	0.53	-0.16	-0.01
90-16	7.1	21.5	0.1	0.57	-0.27	-5.6	0.57	-0.26	-0.08
180- 7	-22.0	-13.7	-16.2	-0.68	-0.96	13.9	-0.69	-0.95	0.07
191- 1	-15.3	-10.8	-23.5	-0.61	-1.05	-12.8	-0.63	-1.03	-0.10
202- 6	-11.0	-11.5	-27.7	-0.56	-1.09	-23.3	-0.65	-1.01	-0.19
213- 1	-10.3	-9.4	-28.2	-0.52	-1.13	-21.1	-0.60	-1.05	-0.21
225- 6	-6.6	-9.2	-28.3	-0.43	-1.06	-26.4	-0.56	-0.94	-0.25
236- 1	-4.2	-6.5	-23.6	-0.31	-0.88	-26.3	-0.43	-0.77	-0.22
247- 6	-2.7	-3.9	-15.4	-0.20	-0.58	-25.4	-0.27	-0.51	-0.15
258- 1	-1.3	-1.4	-8.1	-0.09	-0.31	-23.0	-0.13	-0.28	-0.08
270- 6	-0.1	-0.6	-2.3	-0.02	-0.08	-31.2	-0.04	-0.06	-0.02
180-17	0.9	-2.0	8.0	0.36	0.02	75.6	0.04	0.34	0.08
191-11	0.7	-5.8	5.4	0.34	-0.08	82.6	-0.07	0.34	0.05
202-16	-0.8	-8.5	4.1	0.31	-0.17	83.3	-0.16	0.31	0.06
213-11	0.1	-8.8	1.7	0.26	-0.19	87.7	-0.19	0.26	0.02
225-16	-1.9	-9.5	2.2	0.23	-0.22	84.0	-0.22	0.23	0.05
236-11	-5.2	-10.8	3.9	0.23	-0.29	78.0	-0.26	0.21	0.11
247-16	-8.0	-12.3	6.8	0.29	-0.35	73.8	-0.30	0.24	0.17
258-11	-8.5	-14.7	8.3	0.39	-0.39	75.1	-0.34	0.33	0.19
270-16	-5.3	-16.8	10.1	0.58	-0.37	79.1	-0.36	0.54	0.18
400-01	-1.5	-0.5	0.5	0.00	-0.04	89.4	-0.04	0.00	0.00
400-11	0.5	-0.3	-1.2	0.00	-0.04	-86.9	-0.04	0.00	-0.00
401-01	2.9	6.0	3.1	0.20	0.06	0.8	0.20	0.06	0.00
401-02	0.7	-2.0					0.00	-0.06	
401-03	-5.5	3.2					-0.15	0.05	
401-04	0.2	-1.8					-0.01	-0.06	
402-01	-0.5	0.4	-0.5	-0.00	-0.04	0.3	-0.00	-0.04	0.00
402-02	-0.3	1.4					0.00	0.04	
402-03	0.4	-1.8					-0.00	-0.04	
403-01	5.6	16.8	6.1	0.50	-0.00	0.6	0.50	-0.00	0.01
403-02	1.4	-0.0					0.05	0.01	
403-03	-16.4	4.8					-0.49	-0.01	
403-04	-0.2	0.5					-0.00	0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8. AXIAL FORCE LOADING ON BRANCH, P3Y

NOMINAL LOAD = 1.116E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	5.6	2.5	4.7	0.28	0.16	-85.4	0.16	0.28	-0.01
0- 2	5.5	0.0	6.0	0.38	0.11	88.7	0.11	0.38	0.01
0- 3	6.6	2.4	7.6	0.41	0.19	87.1	0.19	0.41	0.01
0- 4	8.3	3.1	9.0	0.50	0.24	88.3	0.24	0.50	0.01
0- 5	11.4	7.4	12.3	0.61	0.41	87.0	0.41	0.61	0.01
0- 6	16.8	20.4	18.1	0.82	0.68	6.2	0.82	0.68	0.02
0- 7	23.1	13.8	19.5	1.09	0.74	-3.2	1.09	0.74	-0.02
0- 8	20.7	29.4	20.5	1.09	0.68	-0.4	1.09	0.68	-0.00
0- 9	13.4	16.0	10.3	0.61	0.41	-10.5	0.60	0.41	-0.04
0-10	9.5	12.7	6.4	0.46	0.22	-8.9	0.45	0.23	-0.04
0-11	-6.7	-2.2	-6.9	-0.18	-0.40	-0.7	-0.18	-0.40	-0.00
0-12	-5.6	3.5	-5.4	-0.03	-0.44	0.4	-0.03	-0.44	0.00
0-13	-5.8	3.7	-5.7	-0.03	-0.47	0.1	-0.03	-0.47	0.00
0-14	-6.2	4.0	-6.1	-0.03	-0.50	0.2	-0.03	-0.50	0.00
0-15	-9.0	-0.9	-8.2	-0.19	-0.55	1.6	-0.19	-0.55	0.01
0-16	-11.1	-5.4	-9.8	-0.33	-0.56	3.7	-0.33	-0.56	0.02
0-17	-2.4	-2.5	-12.3	-0.15	-0.47	-87.9	-0.47	-0.15	-0.01
0-18	0.9	-12.5	0.7	0.34	-0.27	-89.8	-0.27	0.34	-0.00
0-19	3.0	-12.0	2.1	0.44	-0.23	-89.1	-0.23	0.44	-0.01
0-20	12.6	16.9	12.0	0.63	0.42	-1.8	0.63	0.42	-0.01
22- 1	4.3	3.1	-3.4	0.13	-0.09	-27.8	0.08	-0.04	-0.09
22- 2	4.6	3.0	-1.0	0.15	0.01	-33.1	0.11	0.05	-0.06
22- 3	6.7	4.6	1.4	0.24	0.11	-39.4	0.18	0.16	-0.06
22- 4	10.8	6.6	4.4	0.40	0.25	-53.8	0.30	0.35	-0.07
22- 5	30.6	26.8	9.8	1.15	0.58	-28.8	1.02	0.71	-0.24
22- 6	12.3	10.1	29.1	1.20	0.58	-24.1	1.10	0.68	-0.23
22- 7	26.4	28.4	11.3	1.09	0.53	-19.2	1.03	0.59	-0.17
22- 8	21.0	22.3	8.7	0.86	0.41	-19.9	0.81	0.46	-0.14
22- 9	14.5	13.3	4.0	0.55	0.24	-26.0	0.49	0.30	-0.12
22-10	12.8	15.8	3.8	0.56	0.15	-15.5	0.53	0.18	-0.10
22-11	-4.4	2.5	2.7	0.08	-0.15	23.4	0.04	-0.11	0.08
22-12	-3.0	3.1	0.4	0.05	-0.16	10.5	0.04	-0.16	0.04
22-13	-2.2	4.7	-1.1	0.08	-0.22	2.6	0.08	-0.22	0.01
22-14	-2.8	-0.9	-7.1	-0.11	-0.32	-13.9	-0.12	-0.30	-0.05
22-15	-1.6	-12.7	-8.9	-0.03	-0.42	-76.8	-0.40	-0.05	-0.09
22-16	-0.5	9.9	-1.5	0.21	-0.30	-83.2	-0.29	0.20	-0.06
22-17	-5.9	-15.4	2.6	0.26	-0.40	81.4	-0.39	0.25	0.10
22-18	0.4	-9.2	3.5	0.34	-0.18	86.0	-0.17	0.34	0.04
22-19	4.9	1.1	6.0	0.33	0.13	86.4	0.13	0.33	0.01
22-20	9.9	18.7	12.5	0.65	0.30	4.9	0.65	0.30	0.03
45- 1	-6.1	-2.2	-7.4	-0.18	-0.39	-4.0	-0.18	-0.39	-0.01
45- 2	-8.5	-0.7	-3.0	-0.11	-0.38	14.2	-0.13	-0.36	0.06
45- 3	-6.9	0.0	-2.2	-0.08	-0.31	13.7	-0.09	-0.30	0.05
45- 4	-0.6	2.3	-0.8	0.04	-0.10	-1.3	0.04	-0.10	-0.00
45- 5	29.6	29.9	9.2	1.17	0.49	-22.1	1.07	0.59	-0.24
45- 6	8.1	9.1	28.4	1.10	0.47	-18.9	1.03	0.53	-0.19
45- 7	24.9	28.8	10.4	1.06	0.45	-16.5	1.01	0.50	-0.17
45- 8	22.6	21.0	6.6	0.86	0.39	-25.7	0.77	0.48	-0.18
45- 9	15.5	15.2	3.5	0.60	0.22	-23.1	0.54	0.28	-0.14
45-10	14.4	18.4	4.2	0.64	0.16	-14.6	0.61	0.19	-0.12
45-11	0.3	9.9	9.4	0.37	0.05	21.0	0.32	0.09	0.10
45-12	-3.3	7.4	11.1	0.35	-0.02	32.1	0.25	0.09	0.17
45-13	-1.4	7.8	9.9	0.34	0.03	28.9	0.26	0.10	0.13
45-14	0.3	5.0	4.6	0.18	0.03	20.4	0.16	0.05	0.05
45-15	-1.7	-12.1	-4.3	0.08	-0.34	-86.0	-0.34	0.08	-0.03
45-16	0.4	9.7	-3.0	0.20	-0.31	85.6	-0.31	0.20	0.04
45-17	-6.6	-9.7	5.5	0.23	-0.28	73.4	-0.24	0.19	0.14
45-18	-0.3	-2.2	5.7	0.25	-0.02	74.3	0.00	0.23	0.07
45-19	4.2	4.1	4.1	0.18	0.18	-81.3	0.18	0.18	-0.00
45-20	8.6	16.6	8.0	0.55	0.16	-1.0	0.55	0.16	-0.01
67- 1	-7.5	-5.4	-3.5	-0.19	-0.28	43.6	-0.23	-0.24	0.05

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-9.6	-6.9	-4.7	-0.25	-0.36	41.5	-0.30	-0.31	0.06
67- 3	-8.4	-5.8	-5.1	-0.24	-0.33	29.7	-0.27	-0.31	0.04
67- 4	-2.4	0.3	-1.4	-0.03	-0.14	6.5	-0.03	-0.13	0.01
67- 5	16.4	22.5	9.4	0.79	0.31	-10.0	0.77	0.33	-0.08
67- 6	7.5	7.3	20.6	0.82	0.39	-9.0	0.81	0.40	-0.07
67- 7	18.0	23.5	11.4	0.85	0.41	-10.2	0.83	0.43	-0.08
67- 8	16.2	18.6	7.7	0.70	0.23	-16.4	0.67	0.36	-0.10
67- 9	12.0	14.2	5.7	0.52	0.24	-15.4	0.50	0.26	-0.07
67-10	9.5	15.9	7.0	0.53	0.18	-7.6	0.53	0.18	-0.03
67-11	0.7	9.6	6.5	0.31	0.00	12.8	0.29	0.02	0.07
67-12	0.6	12.4	11.6	0.46	0.07	20.7	0.41	0.12	0.13
67-13	0.8	13.2	14.1	0.52	0.12	24.7	0.45	0.19	0.15
67-14	-3.0	6.6	13.0	0.40	0.03	39.4	0.25	0.18	0.18
67-15	-1.3	-11.6	-1.3	0.18	-0.29	89.9	-0.29	0.18	0.00
67-16	-1.7	9.1	0.9	0.20	-0.24	86.8	-0.24	0.20	0.02
67-17	-5.4	-9.3	3.0	0.16	-0.26	76.3	-0.24	0.14	0.10
67-18	-0.0	1.7	4.9	0.16	0.05	53.1	0.09	0.12	0.06
67-19	2.4	4.7	1.3	0.15	0.01	-5.6	0.15	0.02	-0.01
67-20	7.2	14.1	4.1	0.44	0.04	-5.2	0.44	0.05	-0.04
90- 1	-2.4	-6.7	-6.1	-0.11	-0.25	-71.4	-0.24	-0.13	-0.04
90- 2	-2.2	-7.2	-7.1	-0.12	-0.28	-67.8	-0.26	-0.14	-0.06
90- 3	-1.2	-5.9	-6.6	-0.09	-0.24	-63.8	-0.21	-0.12	-0.06
90- 4	0.2	-1.6	-2.6	-0.02	-0.09	-53.7	-0.06	-0.04	-0.03
90- 5	4.0	9.2	6.9	0.33	0.14	10.5	0.32	0.15	0.03
90- 6	3.9	2.4	8.8	0.38	0.16	12.0	0.37	0.17	0.04
90- 7	5.4	12.1	8.6	0.42	0.18	8.8	0.42	0.18	0.04
90- 8	8.0	11.8	6.9	0.42	0.22	-3.6	0.42	0.22	-0.01
90- 9	4.4	6.8	4.8	0.25	0.15	2.6	0.25	0.15	0.00
90-10	3.5	7.3	5.8	0.26	0.13	11.7	0.26	0.14	0.03
90-11	5.6	9.0	1.8	0.29	0.03	-9.7	0.28	0.04	-0.04
90-12	4.8	10.9	4.7	0.35	0.06	-0.2	0.35	0.06	-0.00
90-13	0.4	10.6	8.5	0.36	0.02	16.8	0.33	0.05	0.09
90-14	-8.5	6.7	13.0	0.37	-0.17	33.8	0.20	-0.01	0.25
90-15	-15.0	-3.6	13.7	0.31	-0.37	50.9	-0.10	0.04	0.33
90-16	2.0	13.2	-2.7	0.30	-0.33	50.1	-0.07	0.04	0.31
90-17	-12.8	-4.8	11.2	0.26	-0.32	54.2	-0.12	0.06	0.28
90-18	-6.4	-2.3	6.5	0.16	-0.16	54.9	-0.05	0.06	0.15
90-19	1.4	3.0	0.9	0.09	0.01	-3.7	0.09	0.01	-0.01
90-20	5.0	6.7	-0.4	0.22	-0.02	-15.9	0.20	-0.00	-0.06
180- 1	-1.7	-2.7	-0.9	-0.02	-0.09	81.2	-0.09	-0.02	0.01
180- 2	-0.1	-0.9	-0.3	0.01	-0.02	-86.7	-0.02	0.01	-0.00
180- 3	-0.2	-0.8	-0.4	0.00	-0.02	-84.1	-0.02	0.00	-0.00
180- 4	-0.4	-0.3	-0.2	-0.02	-0.03	-12.2	-0.02	-0.01	-0.00
180- 5	-2.4	-0.7	-2.8	-0.07	-0.16	-2.6	-0.07	-0.16	-0.00
180- 6	-6.3	-6.2	-5.9	-0.26	-0.27	63.5	-0.26	-0.26	0.00
180- 7	-9.2	-5.9	-8.4	-0.31	-0.44	79.0	-0.44	-0.31	0.02
180- 8	-11.3	-15.3	-7.1	-0.31	-0.56	84.0	-0.56	-0.32	0.03
180- 9	-11.0	-15.2	-8.4	-0.29	-0.55	83.3	-0.54	-0.29	0.03
180-10	-9.4	-15.5	-7.7	-0.21	-0.53	86.5	-0.53	-0.21	0.02
180-11	0.3	-0.4	-0.1	0.02	-0.01	-80.4	-0.01	0.02	-0.00
180-12	0.1	-1.8	-0.9	0.02	-0.05	-80.5	-0.05	0.01	-0.01
180-13	-0.0	-2.5	-1.2	0.02	-0.07	-81.4	-0.07	0.02	-0.01
180-14	-0.1	-3.0	-1.4	0.02	-0.09	-81.8	-0.08	0.02	-0.02
180-15	0.9	-1.5	-0.8	0.04	-0.04	-75.7	-0.03	0.04	-0.02
180-16	2.2	1.8	1.5	0.09	0.07	-54.8	0.08	0.08	-0.01
180-17	-0.9	-1.4	3.3	0.13	-0.03	-4.4	0.13	-0.02	-0.01
180-18	0.3	4.6	-0.8	0.10	-0.12	-3.3	0.10	-0.12	-0.01
180-19	-1.6	1.0	-1.3	-0.01	-0.12	1.9	-0.01	-0.12	0.00
180-20	-5.9	-10.5	-4.9	-0.08	-0.34	87.5	-0.34	-0.08	0.01
202- 1	1.0	-0.3	0.4	0.05	0.01	-81.1	0.01	0.05	-0.01
202- 2	2.2	-0.9	0.2	0.11	-0.00	-76.7	0.00	0.10	-0.02
202- 3	3.0	-0.1	-0.2	0.11	0.01	-66.3	0.03	0.09	-0.04
202- 4	1.2	0.5	-0.8	0.03	-0.01	-38.1	0.02	0.00	-0.02
202- 5	-8.8	-9.8	-4.7	-0.21	-0.37	72.9	-0.36	-0.22	0.05
202- 6	-6.2	-4.8	-11.3	-0.27	-0.48	68.3	-0.45	-0.30	0.07
202- 7	-14.1	-16.1	-6.5	-0.28	-0.63	73.4	-0.57	-0.31	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-11.3	-13.7	-6.1	-0.24	-0.50	76.4	-0.49	-0.26	0.06
202- 9	-9.2	-12.8	-6.0	-0.20	-0.45	81.5	-0.45	-0.21	0.04
202-10	-9.5	-16.1	-6.2	-0.14	-0.53	84.4	-0.53	-0.14	0.04
202-11	-0.6	-0.7	-2.8	-0.04	-0.11	-23.4	-0.05	-0.10	-0.03
202-12	-0.6	-0.9	-2.9	-0.04	-0.11	-26.4	-0.06	-0.10	-0.03
202-13	-0.7	-2.9	-4.9	-0.07	-0.17	-46.5	-0.12	-0.12	-0.05
202-14	0.4	-3.4	-6.9	-0.06	-0.22	-45.8	-0.14	-0.14	-0.08
202-15	4.0	4.1	-4.4	0.13	-0.15	-21.9	0.09	-0.11	-0.10
202-16	-6.2	-2.4	5.6	0.13	-0.16	-27.2	0.07	-0.10	-0.12
202-17	5.5	4.4	-4.8	0.17	-0.14	-25.7	0.11	-0.08	-0.12
202-18	4.6	3.6	-4.4	0.14	-0.13	-26.1	0.09	-0.08	-0.10
202-19	0.3	-2.8	-3.7	-0.02	-0.12	-59.5	-0.10	-0.05	-0.05
202-20	-3.8	-9.2	-5.7	-0.10	-0.31	-83.9	-0.31	-0.10	-0.02
225- 1	-2.3	0.3	2.5	0.06	-0.05	42.9	0.01	0.00	0.06
225- 2	-1.5	-0.2	1.8	0.04	-0.03	50.5	-0.00	0.01	0.04
225- 3	1.7	0.2	2.1	0.12	0.04	86.9	0.04	0.12	0.00
225- 4	5.7	2.3	2.0	0.22	0.11	-64.6	0.13	0.20	-0.04
225- 5	-4.5	-6.9	-3.9	-0.12	-0.24	86.6	-0.24	-0.12	0.01
225- 6	-3.3	-2.3	-8.6	-0.15	-0.36	77.1	-0.35	-0.16	0.05
225- 7	-10.5	-11.3	-4.9	-0.22	-0.44	70.9	-0.41	-0.25	0.07
225- 8	-7.3	-9.7	-3.5	-0.12	-0.34	78.1	-0.33	-0.13	0.04
225- 9	-5.7	-9.1	-4.5	-0.13	-0.31	85.7	-0.31	-0.13	0.01
225-10	-5.3	-9.3	-5.1	-0.13	-0.32	89.4	-0.32	-0.13	0.00
225-11	1.0	2.6	3.4	0.12	0.07	36.4	0.10	0.09	0.03
225-12	1.7	2.6	0.5	0.08	0.01	-11.4	0.08	0.01	-0.01
225-13	1.1	0.6	-4.0	0.01	-0.14	-25.9	-0.02	-0.11	-0.06
225-14	0.5	-5.2	-11.9	-0.10	-0.39	-42.8	-0.23	-0.26	-0.14
225-15	4.7	5.0	-10.3	0.13	-0.37	-21.9	0.06	-0.30	-0.17
225-16	-10.3	-4.3	7.2	0.14	-0.28	-26.2	0.06	-0.20	-0.17
225-17	7.7	6.2	-7.6	0.23	-0.22	-25.7	0.14	-0.14	-0.18
225-18	6.3	-0.7	-5.9	0.15	-0.13	-49.3	-0.01	0.03	-0.14
225-19	1.9	-2.8	-2.8	0.06	-0.09	-67.5	-0.07	0.04	-0.05
225-20	-2.9	-6.1	-0.1	0.05	-0.17	81.6	-0.17	0.04	0.03
247- 1	-6.5	-4.6	0.7	-0.03	-0.21	57.9	-0.16	-0.08	0.08
247- 2	-6.2	-3.4	2.1	0.01	-0.19	54.2	-0.12	-0.06	0.10
247- 3	-2.6	-0.9	3.8	0.11	-0.06	57.5	-0.01	0.06	0.07
247- 4	3.5	4.3	4.1	0.18	0.15	14.0	0.17	0.15	0.01
247- 5	9.6	8.8	2.3	0.36	0.15	-25.8	0.32	0.19	-0.08
247- 6	2.0	5.6	6.5	0.24	0.12	-41.9	0.19	0.18	-0.06
247- 7	6.5	3.4	1.1	0.23	0.10	-49.2	0.16	0.17	-0.06
247- 8	2.0	-1.2	0.5	0.11	-0.01	-81.4	-0.00	0.11	-0.02
247- 9	1.4	-0.8	-1.0	0.04	-0.03	-66.1	-0.02	0.03	-0.03
247-10	2.2	-0.6	-2.9	0.04	-0.08	-48.2	-0.02	-0.01	-0.06
247-11	0.7	6.9	7.4	0.27	0.07	24.7	0.24	0.11	0.08
247-12	2.2	6.6	4.8	0.23	0.07	11.2	0.22	0.08	0.03
247-13	3.5	3.0	-4.3	0.10	-0.14	-24.6	0.06	-0.09	-0.09
247-14	6.6	-4.6	-18.2	0.04	-0.54	-42.2	-0.22	-0.28	-0.29
247-15	3.4	6.1	-14.4	0.10	-0.57	-18.8	0.03	-0.50	-0.21
247-16	-15.6	-10.8	7.3	0.13	-0.48	-30.0	-0.03	-0.33	-0.26
247-17	8.3	-5.4	-9.6	0.21	-0.26	-59.1	-0.14	0.08	-0.21
247-18	4.8	-3.8	-5.6	0.12	-0.16	-61.4	-0.10	0.06	-0.12
247-19	1.0	0.5	0.9	0.05	0.03	-86.1	0.03	0.05	-0.00
247-20	-1.3	1.9	4.5	0.14	0.00	41.9	0.08	0.06	0.07
270- 1	-7.4	-7.9	-3.8	-0.17	-0.31	70.9	-0.29	-0.19	0.04
270- 2	-8.0	-8.0	-3.4	-0.17	-0.32	67.6	-0.30	-0.19	0.05
270- 3	-7.1	-5.8	-2.0	-0.13	-0.26	58.1	-0.22	-0.17	0.06
270- 4	-2.7	1.5	1.8	0.05	-0.09	24.9	0.03	-0.06	0.05
270- 5	8.2	13.9	7.0	0.47	0.18	-2.6	0.47	0.18	-0.01
270- 6	2.4	7.7	16.9	0.59	0.24	-9.4	0.58	0.25	-0.06
270- 7	13.2	21.6	10.7	0.74	0.29	-3.7	0.74	0.29	-0.03
270- 8	12.5	19.3	11.5	0.68	0.35	-1.9	0.68	0.35	-0.01
270- 9	9.2	14.0	9.8	0.51	0.31	2.0	0.51	0.31	0.01
270-10	9.0	13.5	6.2	0.47	0.19	-6.5	0.47	0.19	-0.03
270-11	3.2	12.0	7.4	0.39	0.07	8.7	0.	0.07	0.05
270-12	5.8	12.8	5.8	0.41	0.09	-0.1	0.41	0.09	-0.00
270-13	9.8	12.6	1.8	0.43	0.07	-15.2	0.41	0.09	-0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-.5	11.6	5.5	-7.0	0.33	-0.13	-35.6	0.17	0.01	-0.22
270-15	12.5	-2.7	-15.1	0.27	-0.38	-48.0	-0.09	-0.02	-0.32
270-16	-9.4	-15.9	5.0	0.26	-0.45	-56.9	-0.24	0.05	-0.33
270-17	12.1	-6.9	-16.9	0.25	-0.45	-53.6	-0.21	-0.00	-0.33
270-18	7.0	-6.0	-9.0	0.17	-0.26	-61.0	-0.16	0.07	-0.18
270-19	2.0	2.6	0.9	0.09	0.03	-13.3	0.09	0.04	-0.01
270-20	1.7	13.4	6.3	0.40	-0.05	6.8	0.39	-0.05	0.05
0- 7	23.1	13.8	19.5	1.09	0.74	-83.2	0.74	1.09	-0.04
11- 1	15.4	11.8	25.2	1.10	0.64	75.1	0.67	1.07	0.11
22- 6	12.3	10.1	29.1	1.20	0.58	70.9	0.64	1.13	0.19
33- 1	9.3	9.8	30.0	1.17	0.51	66.8	0.61	1.07	0.24
45- 6	8.1	9.1	28.4	1.10	0.47	66.1	0.57	1.00	0.23
56- 1	7.3	9.9	26.7	1.01	0.45	63.2	0.56	0.89	0.22
67- 6	7.5	7.3	20.6	0.82	0.39	68.0	0.45	0.76	0.15
78- 1	5.5	4.1	14.5	0.60	0.26	71.4	0.29	0.57	0.10
90- 6	3.9	2.4	8.8	0.38	0.16	74.0	0.18	0.36	0.06
0-17	-2.4	-2.5	-12.3	-0.15	-0.47	-22.9	-0.20	-0.43	-0.11
11-11	1.1	4.3	-9.9	0.05	-0.43	-16.2	0.01	-0.39	-0.13
22-16	-0.5	9.9	-1.5	0.21	-0.30	-1.2	0.21	-0.30	-0.01
33-11	0.0	10.0	-2.5	0.21	-0.31	-3.2	0.21	-0.31	-0.03
45-16	0.4	9.7	-3.0	0.20	-0.31	-4.4	0.20	-0.31	-0.04
56-11	-1.5	9.2	-0.8	0.19	-0.29	0.9	0.19	-0.29	0.01
67-16	-1.7	9.1	0.9	0.20	-0.24	3.8	0.20	-0.24	0.03
78-11	-1.1	11.1	1.2	0.26	-0.25	3.0	0.26	-0.25	0.03
90-16	2.0	13.2	-2.7	0.30	-0.33	-4.9	0.30	-0.33	-0.05
180- 7	-9.2	-5.9	-8.4	-0.31	-0.44	4.0	-0.31	-0.44	0.01
191- 1	-6.6	-4.7	-10.8	-0.27	-0.48	-13.9	-0.28	-0.46	-0.05
202- 6	-6.2	-4.8	-11.3	-0.27	-0.48	-16.7	-0.28	-0.46	-0.06
213- 1	-5.8	-4.2	-9.4	-0.24	-0.41	-14.1	-0.25	-0.40	-0.04
225- 6	-3.3	-2.3	-8.6	-0.15	-0.36	-17.9	-0.17	-0.34	-0.06
236- 1	-1.0	1.1	-0.9*	0.01	-0.09	0.6	0.01	-0.09	0.00
247- 6	2.0	5.6	6.5	0.24	0.13	30.1	0.21	0.15	0.05
258- 1	3.1	6.9	14.5	0.52	0.24	54.2	0.33	0.42	0.13
270- 6	2.4	7.7	16.9	0.59	0.24	52.6	0.37	0.46	0.17
180-17	-0.9	-1.4	3.3	0.13	-0.03	70.6	-0.01	0.11	0.05
191-11	-3.4	-2.0	4.2	.12	-0.09	61.3	-0.04	0.07	0.09
202-16	-6.2	-2.4	5.6	0.13	-0 16	54.8	-0.06	0.03	0.14
213-11	-7.6	-3.1	5.8	0.12	-0.20	54.1	-0.09	0.01	0.15
225-16	-10.3	-4.3	7.2	0.15	-0.28	53.8	-0.13	-0.00	0.20
236-11	-13.4	-7.2	7.3	0.13	-0.39	56.0	-0.23	-0.01	0.24
247-16	-15.6	-10.8	7.3	0.13	-0.48	60.0	-0.33	-0.03	0.26
258-11	-14.9	-13.9	7.0	0.17	-0.51	66.2	-0.40	0.06	0.25
270-16	-9.4	-15.9	5.0	0.26	-0.45	76.1	-0.41	0.22	0.17
400-01	1.2	3.2	6.3	0.22	0.10	-84.1	0.10	0.22	-0 01
400-11	-7.4	-3.5	0.4	-0.06	-0.24	0.2	-0.06	-0.24	0.00
401-01	-4.2	-16.5	-5.3	0.07	-0.47	-88.7	-0.47	0.07	-0.01
401-02	0.0	-2.4					-0.02	-0.08	
401-03	16.4	-1.6					0.53	0.11	
401-04	-0.2	-2.6					-0.03	-0.09	
402-01	-0.2	-0.3	-0.3	-0.01	-0.01	-58.5	-0.01	-0.01	-0.00
402-02	0.4	0.3					0.02	0.01	
402-03	-0.4	-0.4					-0.02	-0.02	
403-01	6.5	20.4	8.0	0.61	0.01	1.7	0.61	0.01	0.02
403-02	7.1	-1.9					0.22	0.01	
403-03	-6.0	1.8					-0.18	-0.00	
403-04	7.8	-1.7					0.24	0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.

THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-8, OUT-OF-PLANE FORCE LOADING ON BRANCH, F3Z

NOMINAL LOAD = 1.116E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	5.3	-0.1	-4.3	0.13	-0.09	-48.5	0.01	0.03	-0.11
0- 2	4.5	0.0	-3.7	0.11	-0.08	-47.2	0.01	0.02	-0.09
0- 3	6.0	0.2	-5.3	0.15	-0.11	-45.7	0.01	0.02	-0.13
0- 4	6.1	0.4	-5.3	0.15	-0.12	-44.9	0.02	0.02	-0.13
0- 5	5.7	0.4	-5.0	0.14	-0.11	-44.7	0.02	0.01	-0.12
0- 6	0.1	0.3	0.5	0.02	0.01	39.0	0.01	0.01	0.00
0- 7	8.4	3.1	-5.6	0.23	-0.11	41.9	0.08	0.04	0.17
0- 8	-13.4	-1.6	13.4	0.31	-0.31	48.4	-0.04	0.04	0.31
0- 9	-11.5	0.3	10.4	0.23	-0.28	42.8	-0.01	-0.04	0.25
0-10	-7.4	-0.1	6.3	0.13	-0.18	43.1	-0.01	-0.03	0.16
0-11	-2.0	-0.4	0.5	-0.00	-0.06	37.2	-0.02	-0.04	0.03
0-12	0.8	0.3	-1.7	0.01	-0.05	-30.6	-0.00	-0.03	-0.03
0-13	2.2	0.0	-3.2	0.04	-0.08	-39.4	-0.01	-0.03	-0.06
0-14	3.9	-0.1	-5.0	0.08	-0.13	-41.8	-0.01	-0.04	-0.10
0-15	5.6	-0.2	-7.2	0.11	-0.18	-42.6	-0.02	-0.05	-0.15
0-16	6.0	-0.2	-7.3	0.12	-0.18	-42.8	-0.02	-0.04	-0.15
0-17	-6.0	6.3	5.3	0.19	-0.22	-44.9	-0.01	-0.02	-0.20
0-18	5.1	0.5	-4.3	0.12	-0.09	-44.5	0.02	0.01	-0.11
0-19	2.2	0.5	-1.4	0.06	-0.03	-44.1	0.02	0.02	-0.04
0-20	-1.3	-0.2	1.3	0.03	-0.03	48.1	-0.00	0.00	0.03
22- 1	11.6	6.6	0.7	0.39	0.14	-42.5	0.27	0.25	-0.13
22- 2	12.9	2.7	-0.1	0.45	0.10	-59.9	0.19	0.36	-0.15
22- 3	16.1	5.5	0.5	0.55	0.17	-55.0	0.29	0.42	-0.18
22- 4	17.0	6.1	1.1	0.58	0.19	-55.3	0.32	0.46	-0.18
22- 5	12.2	12.7	9.1	0.52	0.40	-78.8	0.50	0.41	-0.04
22- 6	15.9	7.2	5.7	0.61	0.32	22.3	0.57	0.36	0.10
22- 7	-1.1	7.6	15.3	0.49	0.12	43.4	0.31	0.29	0.19
22- 8	-3.7	8.1	12.8	0.39	0.00	46.5	0.18	0.20	0.19
22- 9	-3.7	1.3	7.0	0.20	-0.05	47.0	0.06	0.08	0.12
22-10	-2.3	1.6	3.8	0.11	-0.04	37.5	0.05	0.01	0.07
22-11	-5.6	-0.2	-9.6	-0.15	-0.50	-7.6	-0.16	-0.50	-0.05
22-12	-2.0	1.8	-12.0	-0.07	-0.53	-14.9	-0.10	-0.50	-0.12
22-13	-1.8	-0.4	-16.0	-0.12	-0.64	-20.0	-0.18	-0.58	-0.16
22-14	-0.4	-5.1	-23.4	-0.20	-0.82	-29.6	-0.35	-0.67	-0.26
22-15	4.4	-6.7	-22.7	-0.08	-0.71	-39.9	-0.34	-0.45	-0.31
22-16	-13.2	3.3	4.2	0.08	-0.46	-58.0	-0.31	-0.07	-0.24
22-17	1.0	-14.6	-6.9	0.16	-0.41	-80.6	-0.39	0.14	-0.09
22-18	2.7	-9.1	-1.0	0.27	-0.20	-84.7	-0.19	0.26	-0.04
22-19	1.8	-2.7	5.2	0.30	0.00	82.3	0.01	0.29	0.04
22-20	3.6	4.5	7.8	0.30	0.19	59.9	0.22	0.27	0.05
45- 1	-2.4	3.7	2.1	0.10	-0.11	15.0	0.08	-0.10	0.05
45- 2	3.4	7.1	3.1	0.23	0.05	-1.1	0.23	0.05	-0.00
45- 3	10.4	7.8	3.2	0.38	0.20	-37.1	0.32	0.27	-0.08
45- 4	18.8	11.7	5.0	0.67	0.35	-45.8	0.51	0.51	-0.16
45- 5	32.3	31.4	11.8	1.26	0.63	-23.9	1.16	0.73	-0.24
45- 6	13.1	11.2	24.1	1.01	0.58	-13.2	0.99	0.61	-0.10
45- 7	17.0	22.5	14.7	0.83	0.53	-4.8	0.83	0.53	-0.03
45- 8	11.0	12.8	9.0	0.50	0.36	-10.0	0.49	0.37	-0.02
45- 9	7.7	8.4	4.2	0.32	0.19	-17.7	0.33	0.20	-0.04
45-10	8.0	10.2	1.9	0.35	0.07	-15.2	0.33	0.09	-0.07
45-11	1.0	7.7	3.3	0.22	-0.04	5.9	0.22	-0.03	0.03
45-12	2.2	3.7	-5.2	0.08	-0.21	-17.7	0.06	-0.18	-0.09
45-13	2.9	0.5	-15.1	-0.00	-0.52	-26.8	-0.11	-0.42	-0.21
45-14	2.5	-8.8	-30.9	-0.20	-1.01	-36.0	-0.48	-0.73	-0.38
45-15	4.4	-12.5	-27.1	-0.12	-0.85	-47.1	-0.51	-0.46	-0.36
45-16	-17.0	4.6	4.5	0.08	-0.62	-67.7	-0.52	-0.02	-0.25
45-17	-3.0	-21.4	-5.6	0.21	-0.58	-87.8	-0.58	0.21	-0.03
45-18	0.7	-9.7	2.8	0.34	-0.19	87.4	-0.19	0.34	0.02
45-19	4.1	-0.6	7.1	0.38	0.09	83.2	0.10	0.38	0.03
45-20	5.6	11.2	12.3	0.48	0.29	27.9	0.44	0.33	0.08
67- 1	-8.2	-1.8	1.4	-0.03	-0.26	35.9	-0.11	-0.13	0.11

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-4.2	2.4	3.0	0.08	-0.14	25.0	0.04	-0.10	0.08
67- 3	2.8	8.2	6.0	0.29	0.09	11.4	0.28	0.10	0.04
67- 4	14.9	19.2	10.0	0.70	0.37	-9.9	0.69	0.38	-0.06
67- 5	39.5	47.2	19.8	1.73	0.81	-14.7	1.67	0.87	-0.23
67- 6	17.2	18.7	41.8	1.64	0.89	-11.4	1.61	0.92	-0.15
67- 7	32.9	41.9	23.9	1.55	0.89	-9.2	1.53	0.90	-0.10
67- 8	25.8	28.8	15.9	1.11	0.68	-15.8	1.08	0.71	-0.11
67- 9	18.4	20.1	9.4	0.77	0.42	-17.9	0.74	0.45	-0.10
67-10	15.2	22.6	9.0	0.77	0.26	-8.1	0.76	0.27	-0.07
67-11	1.4	9.0	7.4	0.32	0.06	16.6	0.29	0.08	0.07
67-12	2.9	5.9	0.8	0.18	-0.01	-7.4	0.17	-0.01	-0.02
67-13	5.0	-0.9	-11.7	0.06	-0.34	-36.8	-0.09	-0.20	-0.19
67-14	5.7	-14.0	-30.1	-0.11	-0.94	-47.7	-0.56	-0.49	-0.41
67-15	1.5	-10.6	-29.2	-0.23	-0.96	-39.0	-0.52	-0.47	-0.35
67-16	-22.7	-7.4	6.1	-0.02	-0.69	-53.8	-0.46	-0.25	-0.32
67-17	1.0	-21.7	-16.2	0.06	-0.71	-74.3	-0.65	0.00	-0.20
67-18	0.8	-3.9	4.0	0.25	-0.05	82.7	-0.04	0.25	0.04
67-19	1.8	5.4	5.9	0.22	0.11	26.1	0.20	0.13	0.05
67-20	6.0	22.0	14.2	0.72	0.14	9.4	0.71	0.16	0.09
90- 1	-6.8	-5.7	-3.7	-0.19	-0.26	53.7	-0.24	-0.21	0.04
90- 2	-5.6	-2.3	-1.9	-0.11	-0.22	25.9	-0.13	-0.19	0.04
90- 3	-2.5	4.7	2.2	0.12	-0.13	13.1	0.11	-0.12	0.05
90- 4	5.3	17.2	10.6	0.56	0.12	8.1	0.55	0.13	0.06
90- 5	24.4	51.3	34.1	1.77	0.73	6.2	1.76	0.75	0.11
90- 6	15.4	14.5	46.8	1.86	0.81	6.3	1.85	0.82	0.11
90- 7	28.7	56.9	36.9	1.97	0.84	4.8	1.96	0.85	0.09
90- 8	31.1	50.5	32.8	1.80	0.94	1.4	1.80	0.94	0.02
90- 9	18.3	27.1	18.6	0.99	0.59	0.6	0.99	0.59	0.00
90-10	17.2	28.6	18.7	1.02	0.53	2.0	1.01	0.53	0.02
90-11	4.3	10.4	4.6	0.33	0.05	0.8	0.33	0.05	0.00
90-12	4.2	8.5	3.9	0.28	0.07	-0.9	0.28	0.07	-0.00
90-13	2.6	4.1	2.0	0.14	0.06	-5.0	0.14	0.06	-0.01
90-14	-1.3	-4.6	-3.1	-0.03	-0.15	-79.8	-0.15	-0.04	-0.02
90-15	-7.1	-19.9	-12.0	-0.16	-0.66	-83.3	-0.65	-0.17	-0.06
90-16	-22.0	-7.9	3.4	-0.10	-0.69	-83.2	-0.68	-0.11	-0.07
90-17	-5.4	-21.5	-10.6	-0.03	-0.66	-84.5	-0.65	-0.03	-0.06
90-18	-3.5	-15.7	-2.4	0.17	-0.42	88.8	-0.42	0.17	0.01
90-19	4.0	9.5	4.4	0.30	0.06	1.1	0.30	0.06	0.00
90-20	8.1	24.4	8.7	0.73	-0.01	0.6	0.73	-0.01	0.01
180- 1	-0.6	0.0	0.9	0.02	-0.01	49.9	0.00	0.01	0.02
180- 2	-0.4	0.0	0.6	0.02	-0.01	48.9	0.00	0.01	0.01
180- 3	-0.9	0.2	1.5	0.04	-0.01	47.9	0.01	0.02	0.03
180- 4	-0.8	0.3	1.4	0.04	-0.01	46.7	0.01	0.02	0.03
180- 5	0.1	0.0	0.3	0.01	0.00	74.0	0.00	0.01	0.00
180- 6	6.6	-1.1	-7.0	0.15	-0.17	-48.7	-0.03	0.01	-0.16
180- 7	-14.0	-5.5	11.7	0.26	-0.36	-50.6	-0.11	0.01	-0.31
180- 8	16.5	0.7	-17.0	0.38	-0.40	-43.3	0.01	-0.04	-0.39
180- 9	10.7	0.4	-10.8	0.24	-0.25	-43.8	0.01	-0.01	-0.25
180-10	4.4	-0.4	-4.6	0.10	-0.11	-46.7	-0.01	0.00	-0.10
180-11	-3.0	-0.2	2.5	0.05	-0.07	45.0	-0.01	-0.01	0.06
180-12	-4.5	0.0	4.3	0.10	-0.10	44.3	-0.00	-0.01	0.10
180-13	-5.7	-0.2	5.3	0.12	-0.14	44.9	-0.01	-0.01	0.13
180-14	-7.5	-0.2	6.9	0.15	-0.18	44.6	-0.01	-0.02	0.17
180-15	-9.5	-0.3	8.8	0.20	-0.23	44.9	-0.01	-0.02	0.21
180-16	-7.7	0.6	8.2	0.19	-0.17	43.9	0.02	0.00	0.18
180-17	8.5	-4.9	-8.1	0.23	-0.22	44.2	0.01	0.00	0.23
180-18	-5.7	-0.4	5.8	0.13	-0.13	47.1	-0.01	0.01	0.13
180-19	-1.0	-0.4	0.7	0.02	-0.03	54.7	-0.01	0.00	0.02
180-20	2.2	-0.2	-2.6	0.05	-0.07	-44.2	-0.01	-0.01	-0.06
202- 1	-7.7	-5.4	-4.7	-0.23	-0.31	31.0	-0.25	-0.28	0.04
202- 2	-10.8	-1.1	-2.3	-0.12	-0.44	19.0	-0.16	-0.41	0.10
202- 3	-12.3	-3.9	-3.0	-0.19	-0.47	25.5	-0.24	-0.41	0.11
202- 4	-13.0	-4.5	-4.1	-0.23	-0.50	23.8	-0.27	-0.46	0.10
202- 5	-6.0	-10.3	-13.2	-0.33	-0.50	-50.4	-0.43	-0.40	-0.08
202- 6	-17.3	-7.4	0.4	-0.16	-0.57	-53.5	-0.42	-0.30	-0.20
202- 7	5.6	-6.6	-18.2	0.01	-0.55	-45.7	-0.28	-0.26	-0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	5.8	-3.8	-11.9	0.08	-0.33	-87.4	-0.15	-0.11	-0.20
202- 9	4.2	-2.3	-5.7	0.09	-0.15	-53.8	-0.07	0.00	-0.11
202-10	1.8	-2.8	-1.7	0.08	-0.08	-74.3	-0.06	0.07	-0.04
202-11	3.3	3.6	14.1	0.58	0.20	66.7	0.25	0.49	0.12
202-12	-0.0	-0.1	13.3	0.50	0.07	67.7	0.13	0.44	0.15
202-13	-1.1	2.5	18.0	0.62	0.10	60.9	0.23	0.50	0.22
202-14	-3.0	4.2	22.9	0.75	0.10	56.8	0.29	0.56	0.30
202-15	-6.5	1.1	19.0	0.58	-0.05	56.0	0.15	0.39	0.29
202-16	11.4	-7.0	-5.9	0.42	-0.18	28.7	0.28	-0.04	0.25
202-17	-6.6	9.8	5.7	0.26	-0.30	15.4	0.22	-0.26	0.14
202-18	-5.8	8.4	1.8	0.17	-0.34	10.1	0.15	-0.32	0.09
202-19	-6.3	0.5	-5.6	-0.11	-0.41	1.5	-0.11	-0.41	0.01
202-20	-4.9	-6.7	-10.0	-0.26	-0.38	-36.9	-0.30	-0.34	-0.06
225- 1	3.1	0.9	-0.3	0.10	0.02	-54.0	0.05	0.07	-0.04
225- 2	-2.1	-3.5	-1.7	-0.04	-0.12	85.8	-0.12	-0.04	0.01
225- 3	-8.8	-5.5	-2.9	-0.17	-0.31	43.8	-0.24	-0.24	0.07
225- 4	-17.2	-10.2	-4.9	-0.33	-0.62	41.2	-0.45	-0.49	0.14
225- 5	-26.7	-28.6	-14.4	-0.65	-1.12	71.4	-1.07	-0.69	0.14
225- 6	-12.3	-12.4	-22.7	-0.58	-0.92	72.0	-0.88	-0.61	0.10
225- 7	-15.9	-20.2	-12.3	-0.46	-0.75	81.8	-0.75	-0.47	0.04
225- 8	-9.1	-10.5	-5.7	-0.23	-0.40	75.4	-0.39	-0.25	0.04
225- 9	-6.2	-8.9	-2.4	-0.07	-0.30	78.8	-0.29	-0.08	0.04
225-10	-5.6	-9.2	1.5	0.10	-0.27	76.9	-0.25	0.08	0.08
225-11	-0.5	-4.3	-5.5	-0.07	-0.19	-58.3	-0.16	-0.10	-0.06
225-12	-1.2	-1.5	2.5	0.09	-0.04	69.7	-0.02	0.08	0.04
225-13	-2.9	0.8	12.9	0.42	0.01	59.1	0.12	0.31	0.18
225-14	-4.2	9.1	26.4	0.83	0.12	48.7	0.43	0.52	0.35
225-15	-7.8	4.7	26.4	0.81	-0.01	52.5	0.29	0.51	0.39
225-16	17.4	-6.0	-10.7	0.53	-0.25	38.1	0.24	0.05	0.38
225-17	-15.4	10.7	17.5	0.48	-0.39	29.8	0.27	-0.18	0.38
225-18	-7.4	11.4	-0.9	0.19	-0.54	5.9	0.18	.53	0.07
225-19	-7.9	-2.7	-10.8	-0.24	-0.56	-6.0	-0.25	.56	-0.03
225-20	-8.0	-15.8	-13.3	-0.32	-0.59	-76.2	-0.57	).34	-0.06
247- 1	6.9	4.7	1.3	0.24	0.11	-38.8	0.19	3.16	-0.06
247- 2	3.9	0.5	-0.2	0.13	0.02	-61.4	0.05	0.11	-0.05
247- 3	-3.2	-5.4	-2.1	-0.05	-0.18	84.4	-0.18	-0.05	0.01
247- 4	-16.8	-18.6	-6.1	-0.28	-0.70	71.6	-0.66	-0.33	0.12
247- 5	-40.7	-45.9	-17.4	-0.78	-1.72	72.6	-1.63	-0.86	0.27
247- 6	-10.6	-19.5	-45.3	-0.75	-1.64	76.0	-1.59	-0.80	0.21
247- 7	-32.3	-42.6	-20.1	-0.72	-1.53	79.8	-1.50	-0.75	0.14
247- 8	-26.4	-33.0	-16.6	-0.63	-1.21	78.5	-1.19	-0.65	0.11
247- 9	-16.9	-22.1	-10.0	-0.36	-0.79	79.1	-0.77	-0.38	0.08
247-10	-15.2	-26.1	-9.9	-0.22	-0.86	84.5	-0.85	-0.23	0.06
247-11	-0.4	-8.0	-7.7	-0.05	-0.30	-68.5	-0.26	-0.08	-0.08
247-12	-2.1	-4.8	-2.3	-0.04	-0.15	-88.9	-0.15	-0.04	-0.00
247-13	-4.1	1.7	9.1	0.26	-0.04	48.8	0.09	0.13	0.15
247-14	-5.7	13.0	23.9	0.74	0.04	37.6	0.48	0.30	0.34
247-15	-6.5	8.5	27.3	0.84	0.05	48.2	0.40	0.49	0.39
247-16	24.3	0.7	-9.0	0.74	-0.09	33.7	0.49	0.17	0.38
247-17	0.2	18.5	5.0	0.48	-0.26	4.3	0.48	-0.25	0.06
247-18	-1.4	11.4	-1.3	0.24	-0.35	0.1	0.24	-0.35	0.00
247-19	-4.5	-7.4	-8.9	-0.24	-0.34	-53.0	-0.30	-0.27	-0.05
247-20	-7.1	-24.5	-12.7	-0.08	-0.77	-84.6	-0.76	-0.09	-0.06
270- 1	3.6	6.0	7.1	0.27	0.19	34.7	0.24	0.21	0.04
270- 2	1.8	2.5	5.8	0.22	0.11	60.7	0.13	0.19	0.05
270- 3	-1.9	-4.3	2.3	0.12	-0.11	77.7	-0.10	0.11	0.05
270- 4	-10.6	-18.5	-5.7	-0.10	-0.59	83.4	-0.59	-0.11	0.06
270- 5	-25.9	-41.3	-19.5	-0.54	-1.41	85.1	-1.40	-0.55	0.07
270- 6	-6.6	-20.7	-47.7	-0.67	-1.66	81.6	-1.64	-0.69	0.14
270- 7	-33.8	-56.5	-28.7	-0.76	-1.92	87.1	-1.92	-0.76	0.06
270- 8	-29.8	-47.1	-28.6	-0.84	-1.67	89.0	-1.67	-0.84	0.01
270- 9	-22.4	-33.4	-22.5	-0.71	-1.22	-89.9	-1.22	-0.71	-0.00
270-10	-15.9	-31.1	-18.0	-0.40	-1.05	-87.9	-1.05	-0.40	-0.02
270-11	-5.0	-11.5	-5.2	-0.07	-0.37	-89.6	-0.37	-0.07	-0.00
270-12	-4.2	-8.5	-4.1	-0.08	-0.28	89.9	-0.28	-0.08	0.00
270-13	-2.2	-4.7	-2.9	-0.06	-0.16	-85.4	-0.16	-0.06	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	3.2	5.2	2.1	0.17	0.05	-5.8	0.17	0.05	-0.01
270-15	8.8	16.0	6.4	0.52	0.13	-4.0	0.52	0.13	-0.03
270-16	20.2	5.1	-2.3	0.66	0.11	-7.4	0.65	0.12	-0.07
270-17	10.6	23.5	8.7	0.73	0.09	-2.0	0.73	0.10	-0.02
270-18	4.8	16.2	8.2	0.50	0.05	5.0	0.50	0.06	0.04
270-19	-2.5	-3.5	-3.2	-0.11	-0.14	-75.7	-0.14	-0.11	-0.01
270-20	-10.6	-27.8	-7.7	0.04	-0.82	87.8	-0.82	0.04	0.03
0- 7	8.8	3.1	-5.6	0.23	-0.11	-38.1	0.10	0.02	-0.16
11- 1	13.3	5.6	-2.2	0.42	0.06	-44.6	0.24	0.23	-0.18
22- 6	15.9	7.2	5.7	0.61	0.32	-62.7	0.38	0.55	-0.12
33- 1	14.3	9.2	15.4	0.77	0.51	87.2	0.51	0.77	0.01
45- 6	13.1	11.2	24.1	1.01	0.58	71.8	0.63	0.97	0.13
56- 1	18.1	17.1	36.4	1.40	0.76	63.1	0.89	1.27	0.26
67- 6	17.2	18.7	41.8	1.64	0.89	65.6	1.01	1.51	0.28
78- 1	17.0	17.4	47.3	1.86	0.89	67.0	1.04	1.72	0.35
90- 6	15.4	14.5	46.8	1.86	0.81	68.3	0.95	1.72	0.36
0-17	-6.0	6.3	5.3	0.19	-0.22	20.2	0.14	-0.17	0.13
11-11	-9.2	4.1	3.0	0.08	-0.35	20.1	0.03	-0.30	0.14
22-16	-13.2	3.3	4.2	0.08	-0.46	24.0	-0.01	-0.37	0.20
33-11	-14.4	4.1	4.3	0.08	-0.52	22.8	-0.01	-0.43	0.22
45-16	-17.0	4.6	4.5	0.08	-0.62	22.3	-0.02	-0.52	0.25
56-11	-20.5	-1.0	6.8	0.05	-0.64	33.4	-0.16	-0.43	0.32
67-16	-22.7	-7.4	6.1	-0.02	-0.69	43.2	-0.33	-0.38	0.33
78-11	-23.3	-10.1	4.0	-0.10	-0.73	45.8	-0.42	-0.40	0.31
90-16	-22.0	-7.9	3.4	-0.10	-0.69	41.8	-0.37	-0.43	0.29
180- 7	-14.0	-5.5	11.7	0.26	-0.36	54.4	-0.15	0.05	0.30
191- 1	-16.8	-6.3	7.7	0.09	-0.48	49.1	-0.23	-0.15	0.28
202- 6	-17.3	-7.4	0.4	-0.16	-0.57	41.5	-0.34	-0.39	0.20
213- 1	-16.6	-10.2	-10.7	-0.48	-0.69	20.2	-0.50	-0.66	0.07
225- 6	-12.3	-12.4	-22.7	-0.58	-0.92	-23.0	-0.63	-0.87	-0.12
236- 1	-9.8	-15.4	-35.3	-0.63	-1.30	-30.3	-0.80	-1.13	-0.29
247- 6	-10.6	-19.5	-45.3	-0.75	-1.64	-32.0	-1.00	-1.39	-0.40
258- 1	-10.0	-18.9	-49.2	-0.75	-1.78	-30.7	-1.02	-1.51	-0.45
270- 6	-6.6	-20.7	-47.7	-0.67	-1.66	-36.4	-1.01	-1.31	-0.47
180-17	8.5	-4.9	-8.1	0.23	-0.22	-60.8	-0.11	0.13	-0.19
191-11	9.8	-4.4	-6.1	0.31	-0.15	-64.1	-0.07	0.22	-0.18
202-16	11.4	-7.0	-5.9	0.42	-0.18	-69.3	-0.11	0.34	-0.20
213-11	14.0	-6.5	-8.1	0.46	-0.21	-65.2	-0.09	0.35	-0.26
225-16	17.4	-6.0	-10.7	0.53	-0.25	-61.9	-0.07	0.36	-0.32
236-11	20.8	-3.8	-10.6	0.64	-0.20	-59.8	0.01	0.43	-0.36
247-16	24.3	0.7	-9.0	0.74	-0.09	-56.3	0.17	0.49	-0.38
258-11	23.2	3.1	-7.2	0.71	-0.03	-53.9	0.23	0.45	-0.35
270-16	20.2	5.1	-2.3	0.66	0.11	-54.4	0.30	0.47	-0.26
400-01	0.2	-0.8	0.6	0.04	-0.01	-50.9	0.01	0.02	-0.03
400-11	-0.1	-0.6	0.1	0.01	-0.01	41.6	0.00	-0.00	0.01
401-01	5.3	0.3	-4.7	0.13	-0.10	-44.9	0.01	0.01	-0.12
401-02	-2.2	0.2					-0.07	-0.02	
401-03	-0.1	0.6					0.00	0.02	
401-04	2.3	-0.5					0.07	0.00	
402-01	-0.4	0.1	0.5	0.01	-0.01	42.8	0.00	0.00	0.01
402-02	0.1	0.0					0.00	0.00	
402-03	0.0	0.3					0.00	0.01	
403-01	2.0	-0.1	-1.9	0.05	-0.04	-47.0	-0.00	0.01	-0.04
403-02	17.8	-5.2					0.53	0.00	
403-03	0.3	-0.1					0.01	-0.00	
403-04	-17.2	4.4					-0.52	-0.03	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, INTERNAL PRESSURE LOADING

NOMINAL LOAD = 6.369E 01 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	21.3	15.7	19.1	0.97	0.76	-82.9	0.76	0.97	-0.03
0- 2	13.0	7.1	14.2	0.73	0.43	87.2	0.43	0.73	0.01
0- 3	5.2	1.6	7.9	0.40	0.16	82.5	0.17	0.40	0.03
0- 4	0.8	-2.1	3.1	0.18	-0.01	82.3	-0.01	0.18	0.03
0- 5	3.2	-2.2	5.2	0.33	0.03	85.7	0.03	0.33	0.02
0- 6	15.1	5.8	17.5	0.94	0.46	86.7	0.46	0.94	0.03
0- 7	17.9	30.6	25.2	1.15	0.70	87.9	0.70	1.15	0.02
0- 8	20.2	10.5	21.6	1.13	0.66	88.1	0.66	1.13	0.02
0- 9	9.5	-1.8	7.9	0.62	0.13	-87.9	0.13	0.62	-0.02
0-10	12.3	9.7	10.4	0.53	0.44	-75.4	0.45	0.53	-0.02
0-11	15.9	-2.3	18.7	1.19	0.29	88.0	0.29	1.19	0.03
0-12	18.4	9.0	20.5	1.08	0.59	87.1	0.59	1.07	0.02
0-13	9.0	2.5	996.3*	37.76	5.33	67.7	10.00	33.09	11.39
0-14	23.3	19.0	23.8	1.12	0.90	88.6	0.90	1.11	0.01
0-15	26.5	16.3	27.1	1.39	0.91	89.1	0.91	1.39	0.01
0-16	26.8	-6.4	30.3	2.03	0.42	88.6	0.42	2.03	0.04
0-17	59.0	64.3	1.4	2.32	0.26	89.9	0.26	2.32	0.00
0-18	30.4	-14.9	35.3	2.51	0.30	88.5	0.31	2.51	0.06
0-19	29.8	18.0	28.9	1.52	1.00	-88.9	1.00	1.52	-0.01
0-20	22.2	20.5	16.9	0.90	0.77	-35.2	0.86	0.82	-0.06
22- 1	29.7	18.2	14.7	1.15	0.75	-59.0	0.86	1.04	-0.17
22- 2	22.6	8.6	2.8	0.79	0.30	-56.4	0.45	0.64	-0.23
22- 3	16.8	3.6	-1.8	0.56	0.09	-56.5	0.23	0.41	-0.22
22- 4	11.5	-1.5	-5.4	0.35	-0.09	-59.1	0.03	0.23	-0.19
22- 5	14.3	-1.6	-2.4	0.51	-0.00	-65.9	0.08	0.43	-0.19
22- 6	25.4	9.7	15.3	1.15	0.60	-77.4	0.63	1.12	-0.12
22- 7	15.7	29.9	25.4	1.12	0.64	-81.2	0.65	1.11	-0.07
22- 8	15.3	2.5	12.7	0.87	0.33	-86.8	0.33	0.87	-0.03
22- 9	3.2	-4.7	8.4	0.50	-0.00	83.0	0.01	0.49	0.06
22-10	6.8	6.5	14.6	0.59	0.33	68.4	0.36	0.56	0.09
22-11	1.2	2.9	36.1	1.34	0.26	66.0	0.44	1.16	0.40
22-12	10.2	9.8	25.4	1.02	0.51	68.2	0.58	0.95	0.18
22-13	12.1	9.8	20.9	0.89	0.52	73.4	0.55	0.86	0.10
22-14	16.4	17.6	22.5	0.92	0.75	60.8	0.79	0.88	0.07
22-15	15.0	16.1	31.8	1.26	0.75	65.4	0.83	1.17	0.19
22-16	14.8	-8.7	31.3	1.75	0.23	82.7	0.26	1.72	0.19
22-17	44.5	63.5	10.0	2.09	0.24	85.3	0.25	2.08	0.15
22-18	15.4	-10.4	36.0	1.97	0.24	82.0	0.27	1.93	0.24
22-19	22.5	18.9	29.0	1.28	0.93	77.3	0.95	1.26	0.08
22-20	16.7	15.0	16.5	0.75	0.68	-88.3	0.68	0.75	-0.00
45- 1	29.5	30.7	14.7	1.21	0.69	-20.4	1.14	0.75	-0.17
45- 2	25.1	15.6	5.9	0.89	0.44	-44.6	0.67	0.66	-0.22
45- 3	15.5	6.0	-2.1	0.49	0.08	-47.2	0.27	0.30	-0.20
45- 4	21.3	6.5	-5.8	0.65	0.02	-47.6	0.30	0.36	-0.31
45- 5	22.7	3.0	-7.6	0.69	-0.04	-53.4	0.22	0.43	-0.35
45- 6	24.9	8.6	8.7	0.98	0.45	-67.6	0.53	0.91	-0.19
45- 7	12.0	25.7	18.0	0.90	0.38	-74.2	0.42	0.86	-0.13
45- 8	15.6	-1.2	7.2	0.80	0.18	-80.8	0.20	0.78	-0.10
45- 9	0.9	-8.4	6.9	0.46	-0.12	83.1	-0.12	0.45	0.07
45-10	1.0	-0.2	14.4	0.57	0.09	69.9	0.15	0.51	0.15
45-11	-3.6	12.7	29.9	0.95	0.18	85.8	0.55	0.57	0.39
45-12	5.1	11.6	22.4	0.79	0.38	51.8	0.54	0.64	0.20
45-13	9.6	16.5	22.3	0.83	0.53	42.6	0.69	0.67	0.15
45-14	11.5	11.6	13.0	0.55	0.50	66.2	0.51	0.54	0.02
45-15	7.0	10.4	22.7	0.85	0.43	59.8	0.53	0.74	0.18
45-16	-2.1	-5.2	35.9	1.40	0.05	69.7	0.21	1.24	0.44
45-17	27.4	48.3	11.0	1.52	0.13	78.1	0.18	1.46	0.28
45-18	7.9	-3.9	28.7	1.35	0.22	77.4	0.27	1.30	0.24
45-19	14.3	11.5	25.6	1.09	0.62	73.0	0.66	1.05	0.13
45-20	13.8	6.5	17.2	0.87	0.45	84.7	0.46	0.87	0.04
67- 1	20.4	20.4	6.8	0.81	0.36	-22.6	0.74	0.43	-0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	12.9	9.8	8.2	0.47	0.26	-36.7	0.40	0.34	-0.10
67- 3	17.4	6.5	0.9	0.59	0.19	-53.9	0.33	0.45	-0.19
67- 4	30.9	13.5	0.1	1.02	0.31	-48.6	0.62	0.71	-0.36
67- 5	26.8	14.0	11.2	1.03	0.60	-61.3	0.70	0.93	-0.18
67- 6	16.0	27.8	19.1	0.99	0.52	-68.7	0.58	0.93	-0.16
67- 7	18.2	0.9	6.7	0.83	0.24	-76.8	0.27	0.80	-0.[illegible]
67- 8	8.6	-8.8	5.8	0.68	-0.06	-87.5	-0.06	0.68	-0.03
67- 9	2.0	-12.7	6.3	0.57	-0.21	86.4	-0.21	0.56	0.05
67-10	-0.3	-10.5	10.1	0.59	-0.17	80.7	-0.15	0.57	0.12
67-11	11.9	7.7	3.6	0.43	0.24	-45.3	0.33	0.33	-0.09
67-12	10.2	16.4	17.6	0.70	0.49	28.2	0.65	0.54	0.09
67-13	9.2	20.0	19.0	0.78	0.42	19.7	0.74	0.47	0.11
67-14	1.3	6.6	12.4	0.42	0.16	46.4	0.29	0.30	0.13
67-15	-6.8	-12.6	9.6	0.43	-0.31	74.7	-0.26	0.38	0.19
67-16	7.4	22.0	1.0	0.61	-0.17	71.3	-0.09	0.53	0.24
67-17	16.8	-4.0	-3.0	0.64	-0.04	-68.9	0.04	0.55	-0.23
67-18	2.2	-1.0	13.7	0.59	0.10	73.6	0.13	0.55	0.13
67-19	7.8	2.7	14.4	0.68	0.27	79.4	0.28	0.67	0.08
67-20	13.5	0.5	12.0	0.83	0.26	-88.3	0.26	0.83	-0.02
90- 1	18.0	26.9	16.4	0.96	0.51	-2.5	0.96	0.51	-0.02
90- 2	11.6	14.0	12.5	0.56	0.47	6.7	0.56	0.47	0.01
90- 3	9.9	7.0	11.9	0.56	0.37	83.0	0.38	0.56	0.02
90- 4	19.6	21.1	21.2	0.90	0.85	23.2	0.89	0.86	0.02
90- 5	27.0	31.4	28.9	1.28	1.12	7.8	1.28	1.12	0.02
90- 6	27.2	28.5	27.2	1.20	1.13	-54.3	1.16	1.18	-0.03
90- 7	24.8	15.9	22.7	1.20	0.84	-86.2	0.84	1.20	-0.02
90- 8	13.8	-4.6	10.9	0.92	0.14	-87.6	0.14	0.92	-0.03
90- 9	7.7	-15.4	3.6	0.73	-0.25	-87.2	-0.24	0.73	-0.05
90-10	5.8	-15.3	3.5	0.66	-0.26	-88.4	-0.26	0.66	-0.03
90-11	8.2	-0.4	8.8	0.57	0.16	89.1	0.16	0.57	0.01
90-12	13.8	25.9	16.9	0.90	0.41	4.2	0.90	0.41	0.04
90-13	15.3	30.5	17.8	1.03	0.38	2.5	1.03	0.39	0.03
90-14	2.6	9.2	3.8	0.28	-0.00	2.8	0.27	-0.00	0.01
90-15	-9.2	-11.2	-8.1	-0.31	-0.43	83.5	-0.43	-0.31	0.01
90-16	-11.0	-7.3	-3.6	-0.23	-0.40	-81.8	-0.39	-0.23	-0.02
90-17	-3.8	-9.7	-7.8	-0.15	-0.35	-76.5	-0.34	-0.16	-0.05
90-18	-1.1	-5.2	-3.0	-0.01	-0.16	-81.8	-0.16	-0.01	-0.02
90-19	5.7	-1.2	3.1	0.32	0.06	-83.6	0.06	0.32	-0.03
90-20	8.4	-3.6	9.1	0.66	0.09	89.2	0.09	0.66	0.01
180- 1	21.1	13.0	17.8	0.99	0.68	-83.0	0.68	0.98	-0.04
180- 2	12.5	6.4	13.0	0.69	0.40	88.9	0.40	0.69	0.01
180- 3	11.6	9.3	13.3	0.61	0.46	82.6	0.46	0.61	0.02
180- 4	3.6	0.6	6.2	0.31	0.11	81.3	0.11	0.31	0.03
180- 5	2.6	-2.4	5.9	0.34	0.02	83.1	0.03	0.34	0.04
180- 6	14.2	5.5	17.0	0.90	0.43	86.0	0.43	0.90	0.03
180- 7	21.7	30.9	27.1	1.21	0.89	86.2	0.89	1.21	0.02
180- 8	21.2	13.3	23.9	1.18	0.75	85.9	0.75	1.18	0.03
180- 9	8.0	-0.8	8.9	0.57	0.15	88.5	0.15	0.57	0.01
180-10	10.1	9.9	11.0	0.47	0.43	72.8	0.44	0.47	0.01
180-11	21.3	-2.0	18.4	1.36	0.34	-88.1	0.35	1.35	-0.03
180-12	19.9	9.2	22.1	1.17	0.63	87.4	0.63	1.17	0.02
180-13	19.0	10.9	20.5	1.05	0.64	87.6	0.64	1.05	0.02
180-14	20.3	13.4	21.2	1.06	0.72	88.2	0.72	1.06	0.01
180-15	23.5	18.9	28.3	1.28	0.94	80.6	0.95	1.27	0.05
180-16	53.2	2.9	35.8	2.89	0.93	-84.1	0.95	2.87	-0.20
180-17	26.0	-8.9	32.0	2.12	0.37	17.7	1.96	0.53	0.51
180-18	41.7	17.9	76.2	3.55	1.50	78.6	1.58	3.47	0.40
180-19	28.1	14.0	27.8	1.52	0.88	-89.7	0.88	1.52	-0.00
180-20	20.8	21.3	26.7	1.11	0.93	65.0	0.96	1.08	0.07
202- 1	30.2	17.2	15.8	1.20	0.77	-64.4	0.85	1.12	-0.17
202- 2	22.3	7.3	4.9	0.83	0.33	-63.0	0.44	0.73	-0.20
202- 3	18.9	6.4	3.3	0.69	0.27	-60.6	0.37	0.59	-0.18
202- 4	9.5	-1.2	-2.3	0.33	-0.02	-64.8	0.04	0.27	-0.14
202- 5	10.9	-3.4	-1.7	0.43	-0.04	-70.9	0.01	0.38	-0.15
202- 6	25.1	11.3	18.4	1.18	0.68	-81.0	0.69	1.17	-0.08
202- 7	16.8	33.5	28.8	1.26	0.70	-80.4	0.71	1.24	-0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	20.9	4.6	11.5	0.98	0.41	-79.1	0.43	0.96	-0.11
202- 9	5.4	-1.9	8.9	0.52	0.09	84.5	0.10	0.51	0.04
202-10	6.1	8.2	14.0	0.53	0.33	57.5	0.39	0.47	0.09
202-11	0.8	4.5	28.7	1.03	0.23	63.2	0.39	0.87	0.32
202-12	10.8	11.1	25.0	1.00	0.54	66.9	0.61	0.92	0.16
202-13	11.0	11.1	21.9	0.88	0.53	67.2	0.58	0.83	0.13
202-14	12.9	-6929.4*	26.3	161.20	-159.52	90.0	-159.52	161.20	0.16
202-15	16.8	17.0	33.0	1.33	0.81	67.1	0.88	1.25	0.19
202-16	18.3	-10.2	27.4	1.75	0.21	86.1	0.22	1.74	0.10
202-17	39.8	-7007.8*	12.9	163.46	-161.20	6.1	159.84	-157.59	34.05
202-18	16.9	-6.7	30.1	1.72	0.29	83.8	0.31	1.70	0.15
202-19	23.6	17.9	28.0	1.29	0.92	82.3	0.92	1.29	0.05
202-20	19.2	15.1	19.4	0.92	0.73	89.1	0.73	0.92	0.00
225- 1	30.7	26.9	12.6	1.17	0.69	-30.1	1.05	0.81	-0.21
225- 2	32.4	20.5	2.2	1.10	0.39	-39.1	0.82	0.67	-0.35
225- 3	19.2	7.6	-0.0	0.64	0.18	-50.8	0.37	0.46	-0.22
225- 4	21.3	6.5	-6.9	0.63	-0.02	-46.4	0.29	0.33	-0.33
225- 5	21.5	1.6	-8.9	0.64	-0.10	-53.5	0.16	0.38	-0.35
225- 6	24.3	7.7	9.2	0.99	0.45	-70.2	0.51	0.93	-0.17
225- 7	9.8	25.3	18.6	0.88	0.33	-74.2	0.37	0.84	-0.14
225- 8	12.8	-2.0	6.8	0.70	0.14	-82.9	0.15	0.69	-0.07
225- 9	2.2	-5.9	8.4	0.49	-0.04	82.3	-0.03	0.49	0.07
225-10	2.2	1.9	14.7	0.57	0.15	68.2	0.21	0.52	0.14
225-11	-3.3	10.5	54.8*	1.86	0.35	58.8	0.75	1.45	0.67
225-12	6.2	9.0	19.7	0.73	0.37	59.9	0.46	0.64	0.16
225-13	2.0	9.6	17.9	0.61	0.24	46.3	0.42	0.43	0.18
225-14	12.5	12.5	12.2	0.53	0.52	-21.3	0.53	0.53	-0.00
225-15	8.8	9.9	19.9	0.78	0.45	64.2	0.51	0.72	0.13
225-16	3.4	-8.6	28.5	1.32	0.05	76.5	0.12	1.25	0.29
225-17	25.0	50.4	15.3	1.57	0.16	78.4	0.21	1.51	0.28
225-18	9.4	-0.6	28.8	1.33	0.31	76.9	0.36	1.28	0.22
225-19	16.5	12.7	22.6	1.01	0.67	77.9	0.68	0.99	0.07
225-20	20.7	12.5	14.6	0.89	0.62	-74.4	0.64	0.87	-0.07
247- 1	18.1	17.1	5.1	0.69	0.30	-25.0	0.62	0.37	-0.15
247- 2	21.6	16.0	4.0	0.77	0.33	-35.0	0.62	0.48	-0.20
247- 3	19.6	8.8	-0.3	0.64	0.18	-47.5	0.39	0.43	-0.23
247- 4	32.7	14.2	-1.9	1.06	0.26	-47.0	0.63	0.69	-0.40
247- 5	25.9	10.3	7.6	0.98	0.46	-62.7	0.57	0.87	-0.21
247- 6	15.5	24.7	16.1	0.88	0.47	-73.0	0.51	0.85	-0.11
247- 7	13.2	-3.1	7.0	0.76	0.13	-83.8	0.13	0.75	-0.07
247- 8	6.3	-10.1	6.5	0.65	-0.11	89.8	-0.11	0.65	0.00
247- 9	-0.6	-11.8	9.4	0.58	-0.20	81.4	-0.19	0.56	0.12
247-10	-0.4	-8.8	12.1	0.62	-0.12	78.5	-0.09	0.59	0.14
247-11	13.4	9.8	6.0	0.50	0.33	-44.1	0.42	0.41	-0.08
247-12	11.0	10.3	4.6	0.43	0.24	-26.3	0.39	0.28	-0.07
247-13	8.8	16.5	14.6	0.63	0.37	15.7	0.61	0.39	0.07
247-14	0.9	4.6	10.5	0.36	0.13	51.4	0.22	0.27	0.11
247-15	-4.0	-7.1	11.5	0.47	-0.15	72.1	-0.09	0.41	0.18
247-16	7.1	22.0	2.8	0.61	-0.18	70.4	-0.09	0.52	0.25
247-17	-3.8	-2.9	27.6	1.01	0.01	66.6	0.17	0.85	0.36
247-18	4.3	-0.2	14.4	0.65	0.15	76.1	0.18	0.62	0.12
247-19	7.5	3.4	14.4	0.66	0.28	77.7	0.29	0.65	0.08
247-20	9.6	2.6	10.8	0.61	0.26	87.9	0.26	0.61	0.01
270- 1	14.6	21.2	13.3	0.77	0.43	-2.5	0.77	0.43	-0.01
270- 2	19.3	27.4	18.3	1.01	0.61	-1.8	1.01	0.61	-0.01
270- 3	13.2	11.7	13.3	0.60	0.53	89.7	0.53	0.60	0.00
270- 4	22.7	23.6	21.9	0.99	0.92	-9.1	0.99	0.93	-0.01
270- 5	26.5	24.0	24.4	1.13	1.05	-72.7	1.09	1.13	-0.02
270- 6	28.1	27.3	22.9	1.17	1.02	-81.1	1.01	1.16	-0.02
270- 7	25.4	17.9	23.1	1.19	0.89	-84.8	0.89	1.18	-0.03
270- 8	12.9	-5.7	10.2	0.90	0.10	-87.8	0.10	0.90	-0.03
270- 9	6.4	-14.6	5.7	0.74	-0.22	-89.5	-0.22	0.74	-0.01
270-10	6.1	-15.3	2.3	0.63	-0.27	-87.2	-0.27	0.63	-0.04
270-11	9.0	12.2	8.5	0.45	0.30	-2.4	0.45	0.30	-0.01
270-12	6.6	9.4	7.4	0.36	0.25	5.0	0.36	0.25	0.01
270-13	12.4	26.2	16.5	0.89	0.34	5.0	0.89	0.35	0.05

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-15	2.6	7.6	3.3	0.23	0.02	1.9	0.23	0.02	0.01
270-1	-6.1	-6.9	-5.6	-0.23	-0.28	83.3	-0.27	-0.23	0.01
270-16	-8.6	-5.9	-5.8	-0.26	-0.35	76.8	-0.35	-0.27	0.02
270-17	-7.0	-10.4	-6.7	-0.21	-0.38	89.0	-0.38	-0.21	0.00
270-18	-1.7	-4.7	-2.9	-0.04	-0.16	-83.4	-0.15	-0.04	-0.01
270-19	7.1	-1.3	3.4	0.38	0.07	-82.0	0.07	0.38	-0.04
270-20	18.1	-2.9	11.9	1.06	0.23	-85.1	0.23	1.06	-0.07
0- 7	17.9	30.6	25.2	1.15	0.70	10.9	1.13	0.71	0.08
11- 1	19.1	33.4	26.7	1.24	0.73	10.0	1.22	0.74	0.09
22- 7	15.7	29.9	25.4	1.12	0.64	13.8	1.10	0.67	0.11
33- 1	12.2	27.5	24.6	1.04	0.54	17.2	1.00	0.58	0.14
45- 7	12.0	25.7	18.0	0.90	0.38	7.8	0.89	0.39	0.07
56- 1	9.5	23.8	19.1	0.86	0.37	13.5	0.83	0.40	0.11
67- 6	16.0	27.8	19.1	0.99	0.52	4.3	0.99	0.52	0.04
78- 1	24.8	28.7	20.2	1.12	0.81	-10.2	1.11	0.82	-0.05
90- 6	27.2	28.5	27.2	1.20	1.13	-0.3	1.20	1.13	-0.00
0-17	59.0	64.3	1.4	2.32	0.26	-20.1	2.08	0.51	-0.66
11-11	51.0	65.9	5.9	2.23	0.21	-15.5	2.08	0.36	-0.52
22-17	44.5	63.5	10.0	2.09	0.24	-12.7	2.00	0.33	-0.40
33-11	41.8	54.3	6.4	1.84	0.22	-15.2	1.73	0.33	-0.41
45-17	27.4	48.3	11.0	1.52	0.13	-7.9	1.49	0.15	-0.19
56-11	18.3	36.1	7.6	1.10	0.01	-6.5	1.09	0.02	-0.12
67-16	7.4	22.0	3.0	0.61	-0.17	-3.7	0.61	-0.16	-0.05
78-11	-4.1	4.5	-3.7	0.03	-0.36	0.7	0.03	-0.36	0.00
90-16	-11.0	-7.3	-3.6	-0.23	-0.40	45.2	-0.31	-0.31	0.09
180- 7	21.7	30.9	27.1	1.21	0.89	11.2	1.20	0.90	0.06
191- 1	19.8	34.2	30.9	1.33	0.84	16.0	1.29	0.88	0.13
202- 7	16.8	33.5	28.8	1.26	0.70	14.6	1.22	0.73	0.14
213- 1	12.1	26.9	22.3	0.99	0.49	13.8	0.96	0.51	0.12
225- 7	9.8	25.3	18.6	0.88	0.33	10.8	0.87	0.35	0.10
236- 1	11.4	23.2	14.8	0.80	0.32	4.9	0.80	0.33	0.04
247- 6	15.5	24.7	16.1	0.88	0.47	1.0	0.88	0.47	0.01
258- 1	22.6	28.9	20.2	1.09	0.74	-8.5	1.09	0.74	-0.03
270- 6	28.1	27.3	22.9	1.17	1.02	-27.1	1.14	1.05	-0.06
180-17	26.0	-8.9	32.0	2.12	0.37	87.7	0.37	2.12	0.07
191-11	37.5	69.0	16.2	2.15	0.15	-7.1	2.12	0.18	-0.25
202-17	39.8	-7007.8*	12.9	163.46	-161.20	-89.9	-161.20	163.46	-0.32
213-11	33.3	59.4	15.9	1.88	0.23	-7.0	1.86	0.25	-0.20
225-17	25.0	50.4	15.3	1.57	0.16	-4.6	1.56	0.16	-0.11
236-11	18.3	36.9	9.3	1.14	0.05	-5.5	1.13	0.06	-0.10
247-16	7.1	22.0	2.8	0.61	-0.18	-3.6	0.61	-0.18	-0.05
258-11	-3.4	4.2	-5.2	0.01	-0.38	-3.0	0.01	-0.38	-0.02
270-16	-8.6	-5.9	-5.8	-0.26	-0.35	22.8	-0.28	-0.34	0.03
400-01	6.6	8.8	20.0	0.76	0.38	-73.1	0.42	0.72	-0.10
400-11	23.0	12.9	7.1	0.83	0.45	82.5	0.48	0.83	0.05
401-01	20.9	10.4	16.9	1.00	0.60	-84.1	0.61	0.99	-0.04
401-02	62.2	7.9					2.13	0.88	
401-03	10.0	33.8					0.66	1.21	
401-04	31.1	8.7					1.11	0.60	
402-01	20.0	8.1	19.9	1.13	0.58	-89.8	0.58	1.13	-0.00
402-02	35.4	8.7					1.25	0.64	
402-03	26.1	10.1					0.96	0.59	
402-04	19.2	5.6					0.69	0.38	
403-01	16.0	4.7	32.6	1.53	0.55	78.5	0.59	1.49	0.19
403-02	5.5	11.5					0.29	0.43	
403-03	5.1	10.7					0.27	0.40	
403-04	19.4	6.5					0.70	0.41	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, TORSIONAL MOMENT LOADING ON RUN, M2X

NOMINAL LOAD = 3.925E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	22.6	-2.9	-22.2	0.53	-0.51	-48.9	-0.06	0.08	-0.52
0- 2	22.3	-0.2	-22.3	0.52	-0.51	-45.3	-0.00	0.01	-0.51
0- 3	19.8	-1.1	-19.8	0.46	-0.46	-46.6	-0.03	0.03	-0.46
0- 4	19.6	1.1	-19.8	0.45	-0.46	-43.3	0.02	-0.03	-0.45
0- 5	22.2	0.9	-22.4	0.51	-0.52	-43.7	0.02	-0.03	-0.52
0- 6	25.4	0.3	-25.5	0.59	-0.59	-44.5	0.01	-0.01	-0.59
0- 7	-21.8	-11.3	25.9	0.72	-0.54	-43.4	0.12	0.05	-0.63
0- 8	17.4	0.1	-17.8	0.40	-0.41	-44.6	-0.00	-0.01	-0.41
0- 9	-0.9	-0.1	0.6	0.01	-0.03	41.7	-0.01	-0.01	0.02
0-10	-6.0	-0.2	6.1	0.14	-0.14	45.9	-0.00	0.01	0.14
0-11	-19.5	-0.0	18.1	0.40	-0.46	44.0	-0.01	-0.05	0.43
0-12	-17.2	-0.2	16.7	0.38	-0.40	44.9	-0.01	-0.01	0.39
0-13	-11.2	-0.9	0.1**	-0.07	-0.40	25.3	-0.13	-0.34	0.13
0-14	-11.5	-0.2	10.7	0.24	-0.27	44.4	-0.01	-0.02	0.26
0-15	-13.2	0.4	13.2	0.30	-0.31	44.1	0.01	-0.01	0.30
0-16	-9.5	1.1	10.7	0.26	-0.21	43.6	0.04	0.02	0.23
0-17	7.2	-4.8	-5.0	0.24	-0.15	42.9	0.06	0.03	0.20
0-18	-5.1	0.4	7.8	0.21	-0.09	49.1	0.04	0.08	0.15
0-19	-0.8	1.0	2.8	0.09	0.00	45.9	0.04	0.05	0.04
0-20	-0.8	0.9	1.9	0.06	-0.01	38.0	0.03	0.02	0.03
22- 1	10.7	9.0	-19.6	0.28	-0.66	-24.2	0.12	-0.50	-0.35
22- 2	10.0	8.4	-15.9	0.27	-0.52	-24.4	0.14	-0.39	-0.30
22- 3	11.5	5.6	-13.1	0.29	-0.36	-31.2	0.11	-0.18	-0.28
22- 4	14.0	4.3	-14.5	0.33	-0.35	-36.2	0.09	-0.11	-0.33
22- 5	7.5	-4.8	866.6*	32.95	4.51	67.9	8.53	28.93	9.91
22- 6	16.5	0.6	-24.1	0.32	-0.64	-38.9	-0.06	-0.26	-0.47
22- 7	-11.6	-9.7	12.2	0.37	-0.34	-30.0	0.19	-0.17	-0.31
22- 8	5.9	6.5	-0.6	0.23	-0.00	-20.2	0.20	0.02	-0.08
22- 9	0.1	1.4	8.0	0.28	0.06	61.7	0.11	0.23	0.09
22-10	-4.7	-4.6	7.7	0.26	-0.14	67.4	-0.08	0.21	0.14
22-11	-13.6	11.5	12.2	0.38	-0.44	23.4	0.25	-0.31	0.30
22-12	-12.6	10.6	11.9	0.36	-0.39	24.2	0.24	-0.27	0.28
22-13	-11.0	8.1	7.5	0.18	-0.33	28.9	0.06	-0.21	0.21
22-14	-11.4	0.4	4.8	0.06	-0.35	32.7	-0.06	-0.23	0.19
22-15	-15.3	-1.7	3.5	-0.01	-0.49	32.9	-0.15	-0.35	0.22
22-16	-17.4	0.2	-1.6	-0.12	-0.69	19.7	-0.18	-0.63	0.18
22-17	-9.9	-27.2	-14.2	-0.16	-0.87	12.0	-0.19	-0.84	0.14
22-18	-13.2	1.2	-13.0	-0.23	-0.89	0.1	-0.23	-0.89	0.00
22-19	-14.8	-11.5	-10.2	-0.48	-0.59	33.5	-0.51	-0.56	0.05
22-20	-9.2	-8.6	-6.0	-0.28	-0.37	60.9	-0.35	-0.30	0.04
45- 1	1.0	25.7	3.4	0.64	-0.45	1.5	0.64	-0.45	0.03
45- 2	1.4	19.7	4.6	0.52	-0.26	2.7	0.51	-0.26	0.04
45- 3	0.6	7.9	4.8*	0.24	-0.01	10.9	0.23	-0.01	0.05
45- 4	5.4	7.9	-0.1	0.25	-0.02	-13.9	0.24	-0.01	-0.06
45- 5	8.9	9.6	-0.9	0.34	0.00	-20.8	0.30	0.04	-0.11
45- 6	1.5	8.3	-0.8	0.20	-0.17	-4.2	0.20	-0.17	-0.03
45- 7	6.5	-1.9	-0.7	0.26	-0.02	26.3	0.21	0.04	0.11
45- 8	-0.9	3.8	10.1	0.33	0.07	49.2	0.18	0.22	0.13
45- 9	3.2	-0.3	10.7	0.49	0.11	76.4	0.13	0.46	0.09
45-10	-1.9	-12.2	2.1	0.29	-0.28	85.4	-0.28	0.29	0.05
45-11	-2.2	17.9	0.6	0.40	-0.47	2.2	0.40	-0.47	0.03
45-12	-3.9	14.4	-2.6	0.27	-0.55	1.0	0.27	-0.55	0.01
45-13	-0.7	15.0	-0.3	0.33	-0.38	0.4	0.33	-0.38	0.09
45-14	-0.9	8.5	-5.7	0.14	-0.42	-5.7	0.13	-0.41	-0.06
45-15	-10.2	-2.7	-12.0	-0.28	-0.67	-3.0	-0.28	-0.67	-0.02
45-16	-20.0	-1.8	-22.6	-0.46	-1.36	-1.9	-0.46	-1.36	-0.03
45-17	-19.0	-48.8	-32.1	-0.54	-1.65	3.9	-0.54	-1.65	0.08
45-18	-29.0	-6.5	-24.6	-0.68	-1.62	3.1	-0.68	-1.62	0.05
45-19	-22.7	-19.6	-19.6	-0.86	-0.96	22.3	-0.87	-0.94	0.04
45-20	-12.7	-12.4	-11.0	-0.48	-0.53	62.7	-0.52	-0.49	0.02
67- 1	-10.6	8.7	9.4	0.29	-0.34	23.6	0.19	-0.24	0.23

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-9.0	8.6	10.4	0.32	-0.26	25.5	0.21	-0.15	0.22
67- 3	-8.1	10.0	16.7	0.50	-0.13	32.7	0.32	0.05	0.29
67- 4	-7.9	13.9	25.9	0.79	-0.02	36.9	0.50	0.27	0.39
67- 5	-10.0	21.1	32.2	1.02	-0.06	32.4	0.71	0.25	0.49
67- 6	23.6	-1.5	-6.4	0.78	-0.05	45.1	0.37	0.37	0.42
67- 7	-3.0	1.8	19.5	0.65	0.05	59.9	0.20	0.50	0.26
67- 8	5.8	0.4	8.6	0.47	0.15	84.1	0.15	0.46	0.03
67- 9	10.6	-3.9	-0.2	0.46	-0.02	-74.6	0.01	0.43	-0.12
67-10	6.4	-10.8	-5.9	0.30	-0.28	-75.5	-0.24	0.27	-0.14
67-11	6.3	9.5	-3.3	0.28	-0.15	-15.6	0.25	-0.12	-0.11
67-12	6.3	-2.2	12.5	0.68	0.12	82.6	0.13	0.67	0.07
67-13	4.5	9.2	-5.9	0.23	-0.29	-13.9	0.20	-0.26	-0.12
67-14	-3.7	0.1	-16.6	-0.16	-0.72	-16.0	-0.20	-0.67	-0.15
67-15	-20.5	-4.8	-26.7	-0.57	-1.45	-4.7	-0.58	-1.44	-0.07
67-16	-20.0	-50.8	-37.6	-0.69	-1.78	-4.1	-0.69	-1.78	-0.08
67-17	-32.8	-5.3	-20.5	-0.63	-1.66	8.1	-0.65	-1.63	0.14
67-18	-20.0	-11.8	-25.0	-0.71	-1.22	-6.5	-0.72	-1.21	-0.06
67-19	-13.2	-15.1	-18.5	-0.61	-0.74	-36.9	-0.66	-0.70	-0.06
67-20	-7.8	-13.6	-12.1	-0.33	-0.52	-75.0	-0.51	-0.34	-0.05
90- 1	-13.5	-0.0	12.9	0.29	-0.32	44.8	-0.01	-0.02	0.31
90- 2	-17.2	-0.1	17.5	0.41	-0.39	45.4	0.00	0.01	0.40
90- 3	-21.9	0.0	22.8	0.53	-0.50	45.5	0.01	0.03	0.52
90- 4	-32.8	-0.1	31.6	0.72	-0.77	44.5	-0.01	-0.04	0.74
90- 5	-38.3	-1.7	39.3	0.92	-0.87	46.6	-0.03	0.07	0.89
90- 6	10.1	-33.1	-11.8	0.75	-0.82	45.4	-0.05	-0.02	0.79
90- 7	-27.9	0.1	27.5	0.63	-0.65	44.7	-0.00	-0.01	0.64
90- 8	-8.8	0.4	9.4	0.22	-0.20	44.9	0.01	0.01	0.21
90- 9	7.3	0.9	-6.5	0.18	-0.14	-43.2	0.03	0.01	-0.16
90-10	11.1	0.6	-10.6	0.26	-0.24	-44.1	0.02	0.00	-0.25
90-11	4.3	-0.0**	-4.3	0.10	-0.10	-45.2	0.00	0.00	-0.10
90-12	3.5	-0.0	-4.0	0.08	-0.10	-43.6	-0.01	-0.01	-0.09
90-13	3.2	-0.8	-3.9	0.07	-0.10	-48.7	-0.02	-0.00	-0.08
90-14	8.2	0.7	-7.7	0.19	-0.17	-43.3	0.02	0.00	-0.18
90-15	-11.2	-0.8	14.4	0.37	-0.23	50.3	0.01	0.12	0.30
90-16	-6.6	-12.1	8.9	0.40	-0.30	-52.2	-0.04	0.14	-0.34
90-17	16.9	1.5	-13.5	0.43	-0.28	-45.4	0.07	0.08	-0.35
90-18	8.6	-0.3	-8.6	0.20	-0.20	-46.1	-0.01	0.01	-0.20
90-19	5.1	0.3	-4.9	0.12	-0.11	-43.7	0.01	-0.00	-0.12
90-20	2.9	0.3	-2.5	0.07	-0.05	-44.2	0.01	0.01	-0.06
180- 1	20.4	-1.2	-22.2	0.45	-0.53	-45.4	-0.04	-0.03	-0.49
180- 2	21.2	-0.7	-21.6	0.49	-0.50	-45.7	-0.02	0.00	-0.49
180- 3	24.4	-0.4	-25.1	0.56	-0.58	-45.2	-0.02	-0.01	-0.57
180- 4	19.4	-0.4	-21.2	0.43	-0.51	-44.3	-0.03	-0.05	-0.47
180- 5	20.4	-1.9	-22.6	0.45	-0.54	-46.1	-0.07	-0.03	-0.50
180- 6	25.7	-1.2	-24.7	0.61	-0.56	-47.0	-0.02	0.06	-0.58
180- 7	-23.8	-13.3	27.5	0.77	-0.61	-44.7	0.09	0.07	-0.69
180- 8	19.7	0.7	-19.6	0.45	-0.45	-44.1	0.02	-0.01	-0.45
180- 9	-1.4	-0.2	0.7	0.01	-0.04	40.1	-0.01	-0.02	0.02
180-10	-5.8	0.5	5.8	0.13	-0.14	42.4	0.01	-0.01	0.13
180-11	-15.8	2.2	16.9	0.40	-0.36	42.1	0.06	-0.01	0.38
180-12	-17.6	-0.6	16.5	0.37	-0.42	45.1	-0.03	-0.02	0.39
180-13	-14.9	-0.6	14.1	0.32	-0.35	45.4	-0.02	-0.01	0.33
180-14	-9.8	-0.7	9.2	0.21	-0.23	46.2	-0.02	-0.00	0.22
180-15	-10.8	0.9	12.1	0.29	-0.24	44.3	0.03	0.02	0.26
180-16	-10.9	0.5	12.9	0.32	-0.23	46.2	0.03	0.05	0.27
180-17	-7.4	0.4	9.4	0.24	-0.15	-22.9	0.18	-0.09	-0.14
180-18	7.0	-3.4	1.1	0.36	-0.01	-79.1	0.00	0.35	-0.07
180-19	0.2	1.2	2.1	0.07	0.03	44.6	0.05	0.05	0.02
180-20	-0.7	1.1	2.4	0.07	-0.00	40.8	0.04	0.03	0.04
202- 1	11.4	5.5	-20.3	0.24	-0.63	-28.9	0.04	-0.42	-0.37
202- 2	11.0	6.6	-18.8	0.25	-0.59	-27.4	0.07	-0.41	-0.34
202- 3	12.8	4.7	-18.7	0.28	-0.53	-32.1	0.05	-0.30	-0.36
202- 4	13.5	3.0	-16.3	0.30	-0.42	-36.7	0.04	-0.16	-0.34
202- 5	16.1	-18.8	3.9	1.11	-0.25	-84.0	-0.24	1.10	-0.14
202- 6	17.3	0.3	-28.2	0.31	-0.77	-38.0	-0.10	-0.36	-0.53
202- 7	-13.9	-11.0	13.0	0.38	-0.41	-30.9	0.17	-0.20	-0.35

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	4.8	6.1	0.0	0.21	0.00	-16.6	0.19	0.02	-0.06
202- 9	-0.7	1.6	7.9	0.26	0.05	57.7	0.11	0.20	0.10
202-10	-4.2	-4.1	8.6	0.30	-0.11	67.2	-0.05	0.24	0.15
202-11	-14.5	9.5	12.8	0.35	-0.44	26.0	0.20	-0.29	0.31
202-12	-14.3	7.5	12.8	0.33	-0.40	29.2	0.16	-0.22	0.31
202-13	-13.0	3.9	10.9	0.25	-0.34	33.7	0.07	-0.16	0.28
202-14	-11.1	0.1	6.4	0.11	-0.31	37.3	-0.05	-0.16	0.20
202-15	-16.1	-3.9	4.7	-0.00	-0.49	40.0	-0.20	-0.29	0.24
202-16	-18.8	-0.8	-0.2	-0.11	-0.70	23.5	-0.21	-0.61	0.21
202-17	-9.3	-27.7	-14.5	-0.14	-0.88	10.6	-0.17	-0.85	0.13
202-18	-13.7	-3.0	-12.0	-0.32	-0.78	2.5	-0.32	-0.78	0.02
202-19	-14.5	-12.1	-10.3	-0.48	-0.58	39.8	-0.52	-0.54	0.05
202-20	-10.4	-8.7	-6.4	-0.31	-0.40	49.7	-0.37	-0.35	0.05
225- 1	-1.2	20.0	6.5	0.52	-0.29	6.3	0.51	-0.28	0.09
225- 2	0.5	20.2	4.7	0.52	-0.30	3.4	0.52	-0.29	0.05
225- 3	1.6	10.3	1.4	0.27	-0.14	-0.4	0.27	-0.14	-0.00
225- 4	4.6	6.7	-0.3	0.21	-0.03	-14.1	0.20	-0.01	-0.06
225- 5	8.8	8.9	-0.7	0.33	0.02	-22.4	0.29	0.06	-0.11
225- 6	2.2	8.2	-1.4	0.20	-0.17	-6.5	0.20	-0.16	-0.04
225- 7	7.7	-0.0	-0.8	0.27	0.02	30.5	0.21	0.09	0.11
225- 8	0.4	3.6	10.9	0.37	0.11	55.9	0.19	0.29	0.12
225- 9	2.8	-2.0	9.8	0.48	0.06	78.5	0.08	0.46	0.08
225-10	-2.6	-11.4	4.8	0.35	-0.25	81.8	-0.24	0.33	0.09
225-11	-2.8	19.5	-0.5	0.42	-0.56	1.5	0.42	-0.56	0.03
225-12	-2.9	17.1	-1.5	0.35	-0.54	1.0	0.35	-0.54	0.02
225-13	-1.7	11.6	-2.9	0.22	-0.42	-1.2	0.22	-0.42	-0.01
225-14	-2.1	10.1	-2.8	0.19	-0.39	-0.7	0.19	-0.39	-0.01
225-15	-9.6	-1.2	-10.9	-0.23	-0.65	-2.1	-0.23	-0.65	-0.02
225-16	-26.5	-3.3	-21.4	-0.55	-1.50	3.6	-0.55	-1.50	0.06
225-17	-16.0	-48.4	-35.4	-0.53	-1.67	4.6	-0.54	-1.66	0.09
225-18	-26.9	-10.0	-24.5	-0.74	-1.46	2.2	-0.74	-1.46	0.03
225-19	-21.8	-20.7	-18.5	-0.82	-0.90	53.9	-0.88	-0.85	0.04
225-20	-14.5	-13.4	-10.2	-0.48	-0.59	58.2	-0.56	-0.51	0.05
247- 1	-10.3	8.5	9.2	0.28	-0.33	23.5	0.19	-0.23	0.23
247- 2	-8.8	9.7	9.7	0.32	-0.28	22.6	0.23	-0.19	0.21
247- 3	-7.9	9.4	15.9	0.48	-0.11	33.1	0.30	0.06	0.27
247- 4	-6.5	14.1	25.4	0.79	0.02	36.8	0.51	0.30	0.37
247- 5	-10.0	17.3	28.7	0.88	-0.08	33.8	0.58	0.22	0.45
247- 6	22.4	-0.3	-5.2	0.75	-0.01	44.6	0.37	0.36	0.38
247- 7	-1.4	3.3	19.1	0.65	0.11	59.3	0.25	0.51	0.24
247- 8	6.7	0.5	9.1	0.51	0.16	85.4	0.17	0.51	0.03
247- 9	7.9	-5.1	0.7	0.42	-0.05	-79.5	-0.03	0.40	-0.08
247-10	5.5	-11.3	-6.4	0.27	-0.30	-75.5	-0.27	0.23	-0.14
247-11	5.3	10.7	-1.8	0.30	-0.15	-10.8	0.28	-0.13	-0.08
247-12	5.3	12.1	-1.2	0.33	-0.16	-9.0	0.32	-0.15	-0.08
247-13	3.9	8.8	-5.9	0.20	-0.29	-13.9	0.17	-0.26	-0.11
247-14	-3.7	-0.2	-16.8	-0.17	-0.70	-17.4	-0.22	-0.66	-0.15
247-15	-21.9	-5.1	-26.3	-0.59	-1.47	-3.3	-0.60	-1.47	-0.05
247-16	-19.4	-49.2	-36.7	-0.67	-1.73	-4.9	-0.68	-1.72	-0.09
247-17	-19.4	-5.5	-35.4	-0.64	-1.71	-10.1	-0.67	-1.68	-0.19
247-18	-23.1	-11.6	-22.9	-0.72	-1.25	0.3	-0.72	-1.25	0.00
247-19	-17.5	-17.0	-20.0	-0.76	-0.85	-17.8	-0.76	-0.85	-0.03
247-20	-9.7	-12.4	-11.9	-0.42	-0.51	-73.0	-0.50	-0.43	-0.03
270- 1	-13.1	0.3	12.7	0.29	-0.31	43.8	0.00	-0.02	0.30
270- 2	-17.3	1.1	16.7	0.38	-0.41	42.6	0.02	-0.05	0.39
270- 3	-22.3	1.9	21.6	0.49	-0.52	42.1	0.04	-0.07	0.51
270- 4	-31.1	0.1	31.7	0.74	-0.71	45.2	0.01	0.02	0.72
270- 5	-35.5	0.1	36.6	0.86	-0.81	45.3	0.01	0.03	0.83
270- 6	11.3	-32.2	-12.6	0.75	-0.81	46.4	-0.06	0.01	0.78
270- 7	-30.8	-1.8	31.0	0.72	-0.71	46.8	-0.04	0.05	0.71
270- 8	-8.5	0.0	8.1	0.18	-0.20	44.2	-0.00	-0.01	0.19
270- 9	4.8	0.2	-4.3	0.11	-0.09	-45.0	0.01	0.01	-0.10
270-10	11.3	-0.4	-10.8	0.27	-0.25	-46.7	-0.01	0.03	-0.26
270-11	5.0	0.7	-4.7	0.12	-0.11	-41.9	0.02	-0.01	-0.11
270-12	3.4	0.7	-3.3	0.08	-0.08	-39.5	0.02	-0.01	-0.08
270-13	3.6	1.0	-3.8	0.08	-0.09	-36.7	0.02	-0.03	-0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	DIR. SHEAR
270-14	5.4	0.5	5.0*	0.33	0.11	-88.8	0.11	0.33	-0.00
270-15	11.0	0.9	-12.6	0.24	-0.31	-40.8	0.01	-0.07	-0.27
270-16	-7.1	-14.7	4.0	0.26	-0.40	-47.5	-0.09	-0.04	-0.33
270-17	14.7	0.7	-15.2	0.33	-0.36	-43.1	0.01	-0.04	-0.34
270-18	7.5	0.0	-7.4	0.17	-0.17	-45.1	0.00	0.00	-0.17
270-19	3.9	-0.3	-5.1	0.08	-0.13	-42.8	-0.02	-0.03	-0.10
270-20	2.9	-0.1	-2.5	0.07	-0.05	-48.0	0.00	0.02	-0.06
0- 7	-21.8	-11.3	25.9	0.72	-0.54	59.6	-0.22	0.40	0.55
11- 1	-18.9	-8.6	20.5	0.54	-0.47	57.8	-0.18	0.25	0.45
22- 7	-11.6	-9.7	12.2	0.37	-0.34	65.0	-0.22	0.24	0.27
33- 1	-4.3	-7.8	5.0	0.23	-0.20	75.1	-0.17	0.20	0.11
45- 7	6.5	-1.9	-0.7	0.26	-0.02	-71.7	0.01	0.23	-0.08
56- 1	17.0	-3.8	4.5	0.82	0.10	-78.4	0.13	0.79	-0.14
67- 6	23.6	-1.5	-6.4	0.78	-0.05	-61.9	0.14	0.60	-0.35
78- 1	21.9	-14.4	-10.2	0.85	-0.35	-70.8	-0.22	0.72	-0.37
90- 6	10.1	-33.1	-11.8	0.75	-0.82	-80.6	-0.78	0.71	-0.25
0-17	7.2	-4.8	-5.0	0.24	-0.15	-67.1	-0.09	0.18	-0.14
11-11	-1.9	-13.8	-7.3	0.02	-0.42	-81.8	-0.41	0.01	-0.06
22-17	-9.9	-27.2	-14.2	-0.16	-0.87	-86.0	-0.87	-0.16	-0.05
33-11	-18.5	-38.2	-19.1	-0.36	-1.25	-89.5	-1.25	-0.36	-0.01
45-17	-19.0	-48.8	-32.1	-0.54	-1.65	-82.1	-1.63	-0.56	-0.15
56-11	-23.4	-56.2	-40.5	-0.78	-1.96	-80.3	-1.93	-0.81	-0.20
67-16	-20.0	-50.8	-37.6	-0.69	-1.78	-79.1	-1.74	-0.73	-0.20
78-11	-13.7	-32.3	-16.9	-0.26	-1.05	-87.3	-1.05	-0.26	-0.04
90-16	-6.6	-12.1	8.9	0.40	-0.30	74.8	-0.26	0.36	0.18
180- 7	-23.8	-13.3	27.5	0.77	-0.61	60.3	-0.27	0.43	0.59
191- 1	-20.0	-13.3	21.0	0.59	-0.55	62.0	-0.30	0.34	0.47
202- 7	-13.9	-11.0	13.0	0.38	-0.41	64.1	-0.26	0.23	0.31
213- 1	-2.4	-5.7	4.6	0.22	-0.13	76.4	-0.11	0.21	0.08
225- 7	7.7	-0.0	-0.8	0.27	0.02	-64.5	0.07	0.23	-0.10
236- 1	16.4	3.6	-2.5	0.53	0.07	-54.8	0.22	0.38	-0.22
247- 6	22.4	-0.3	-5.2	0.75	-0.01	-61.4	0.16	0.57	-0.32
258- 1	20.5	-16.6	-8.9	0.87	-0.37	-73.4	-0.27	0.77	-0.34
270- 6	11.3	-32.2	-12.6	0.75	-0.81	-79.6	-0.76	0.70	-0.28
180-17	-7.4	0.4	9.4	0.24	-0.15	47.1	0.03	0.06	0.19
191-11	-0.9	-12.6	-8.1	0.01	-0.40	-77.9	-0.38	-0.01	-0.08
202-17	-9.3	-27.7	-14.5	-0.14	-0.88	-85.4	-0.87	-0.15	-0.06
213-11	-13.8	-40.1	-25.9	-0.36	-1.34	-81.7	-1.32	-0.38	-0.14
225-17	-16.0	-48.4	-35.4	-0.53	-1.67	-78.4	-1.63	-0.58	-0.22
236-11	-22.1	-56.1	-41.5	-0.76	-1.97	-79.1	-1.92	-0.80	-0.22
247-16	-19.4	-49.2	-36.7	-0.67	-1.73	-78.9	-1.69	-0.71	-0.20
258-11	-13.3	-30.0	-15.1	-0.24	-0.97	-88.4	-0.97	-0.24	-0.02
270-16	-7.1	-14.7	4.0	0.26	-0.40	78.5	-0.37	0.24	0.13
400-01	6.9	-10.2	-6.9	0.29	-0.28	-28.0	0.16	-0.16	-0.24
400-11	-7.7*	-13.2	1.5	0.12	-0.39	32.8	-0.03	-0.24	0.23
401-01	23.3	0.0**	-24.0	0.53	-0.56	-44.5	-0.01	-0.02	-0.55
401-02	0.3	0.1					0.01	0.00	
401-03	-2.5	1.6					-0.07	0.03	
401-04	0.0	-1.1					-0.01	0.04	
402-01	22.9	0.1	-23.7	0.52	-0.55	-44.4	-0.01	-0.03	-0.54
402-02	2.2	1.7					0.09	0.08	
402-03	3.6	-5.3					0.07	-0.14	
402-04	-3.3	1.6					-0.09	0.02	
403-01	0.0	0.1	0.1	0.00	0.00	30.7	0.00	0.00	0.00
403-02	-0.0	0.3					0.00	0.01	
403-03	0.0	-0.2					-0.00	-0.01	
403-04	-0.0	0.1					0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, OUT-OF-PLANE MOMENT LOADING ON RUN, -H2Y

NOMINAL LOAD = 3.925E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	1.6	-0.2	-2.8	0.03	-0.08	-39.9	-0.02	-0.03	-0.05
0- 2	2.5	-0.2	-3.7	0.05	-0.10	-41.3	-0.02	-0.03	-0.07
0- 3	2.4	-0.3	-3.1	0.05	-0.08	-44.6	-0.02	-0.02	-0.06
0- 4	2.6	0.0	-3.3	0.06	-0.08	-41.7	-0.01	-0.02	-0.07
0- 5	3.6	-0.0	-4.0	0.08	-0.10	-43.6	-0.00	-0.01	-0.09
0- 6	4.0	-0.1	-4.3	0.09	-0.10	-44.8	-0.01	-0.01	-0.10
0- 7	-2.6	-1.5	3.5	0.10	-0.06	-41.4	0.03	0.01	-0.08
0- 8	1.3	0.1	-1.2	0.03	-0.03	-42.9	0.00	-0.00	-0.03
0- 9	-1.3	0.2	1.5	0.04	-0.03	43.7	0.01	0.00	0.03
0-10	-1.5	0.1	1.8	0.05	-0.03	46.5	0.00	0.01	0.04
0-11	0.8	0.1	0.8	0.04	0.01	78.5	0.02	0.04	0.00
0-12	-2.6	0.3	3.7	0.10	-0.05	46.7	0.02	0.03	0.07
0-13	-3.5	-0.1	4.0*	0.10	-0.08	48.0	0.00	0.02	0.09
0-14	-3.1	0.0	3.5	0.09	-0.07	46.8	0.00	0.01	0.08
0-15	-2.3	0.1	2.7	0.07	-0.05	46.6	0.01	0.01	0.06
0-16	-2.8	0.1	3.3	0.08	-0.06	46.8	0.01	0.01	0.07
0-17	2.7	-1.9	-2.3	0.08	-0.07	44.9	0.01	0.01	0.08
0-18	-3.3	0.1	3.8	0.09	-0.07	46.3	0.01	0.01	0.08
0-19	-1.7	0.2	1.8	0.04	-0.04	42.4	0.01	-0.00	0.04
0-20	-0.7	0.1	0.7	0.02	-0.02	40.1	0.00	-0.00	0.02
22- 1	4.5	25.3	22.5	0.92	0.24	18.7	0.85	0.31	0.21
22- 2	1.4	12.3	10.8	0.44	0.08	18.6	0.40	0.12	0.11
22- 3	0.0	7.1	5.2	0.23	-0.01	14.8	0.22	0.01	0.06
22- 4	-0.2	3.9	1.8	0.11	-0.04	9.2	0.11	-0.04	0.02
22- 5	1.2	4.0	1.9	0.12	0.01	3.8	0.12	0.01	0.01
22- 6	1.5	3.9	2.5	0.13	0.04	7.7	0.13	0.04	0.01
22- 7	1.8	0.8	0.4	0.06	0.03	28.1	0.06	0.04	0.01
22- 8	-0.5	-0.4	1.7	0.06	-0.01	66.7	0.00	0.05	0.03
22- 9	-0.5	-1.2	1.4	0.06	-0.02	75.5	-0.02	0.06	0.02
22-10	-1.1	-2.0	0.7	0.04	-0.05	76.8	-0.05	0.03	0.02
22-11	7.5	7.3	2.7	0.29	0.14	-23.4	0.27	0.17	-0.05
22-12	7.3	12.2	4.0	0.40	0.09	-6.9	0.39	0.09	-0.04
22-13	4.2	10.1	2.3	0.30	-0.02	-3.8	0.30	-0.02	-0.02
22-14	4.5	8.2	0.5	0.25	-0.03	-9.6	0.24	-0.03	-0.05
22-15	1.4	2.4	-0.9	0.07	-0.04	-14.0	0.06	-0.04	-0.03
22-16	-3.7	-0.9	-0.9	-0.05	-0.14	22.7	-0.07	-0.13	0.03
22-17	-1.5	-6.0	-4.4	-0.05	-0.20	20.4	-0.07	-0.19	0.05
22-18	-4.4	0.5	-2.0	-0.05	-0.22	9.2	-0.05	-0.22	0.03
22-19	-3.1	-1.4	-1.4	-0.07	-0.12	22.7	-0.08	-0.12	0.02
22-20	-1.4	-1.1	-0.8	-0.04	-0.05	42.7	-0.05	-0.05	0.01
45- 1	-4.6	25.9	41.9	1.36	0.24	36.3	0.97	0.63	0.54
45- 2	-0.2	14.8	29.1	0.96	0.28	44.5	0.63	0.61	0.34
45- 3	-5.1	3.4	13.8	0.41	-0.03	47.9	0.16	0.21	0.22
45- 4	-6.5	2.2	10.2	0.27	-0.11	43.7	0.09	0.07	0.19
45- 5	-3.3	4.3	11.4	0.34	0.00	44.0	0.18	0.17	0.17
45- 6	-3.1	3.1	9.0	0.27	-0.01	44.4	0.13	0.12	0.14
45- 7	5.0	3.1	-2.4	0.15	-0.04	66.1	-0.01	0.12	0.07
45- 8	-0.7	-2.1	1.6	0.08	-0.05	77.6	-0.04	0.08	0.03
45- 9	1.1	-1.7	-0.8	0.05	-0.04	-76.1	-0.04	0.05	-0.02
45-10	0.8	-2.2	-1.9	0.02	-0.07	-69.5	-0.06	0.01	-0.03
45-11	17.4	11.4	2.1	0.60	0.24	-38.8	0.46	0.38	-0.18
45-12	16.1	10.4	-2.4	0.52	0.06	-34.5	0.37	0.21	-0.21
45-13	18.5	12.3	-5.7	0.58	-0.09	-31.9	0.41	0.14	-0.28
45-14	17.0	6.3	-6.0	0.50	-0.11	-43.0	0.25	0.22	-0.27
45-15	7.4	0.6	-4.6	0.20	-0.08	-48.7	0.04	0.08	-0.14
45-16	-2.0	-1.9	-3.7	-0.09	-0.15	-21.2	-0.10	-0.14	-0.02
45-17	-3.1	-5.3	-2.8	-0.07	-0.18	-5.5	-0.07	-0.18	-0.01
45-18	-2.3	-0.0	-2.9	-0.05	-0.17	-3.2	-0.05	-0.17	-0.01
45-19	-1.2	-0.7	-2.2	-0.05	-0.10	-12.7	-0.05	-0.10	-0.01
45-20	-0.6	-0.6	-1.2	-0.03	-0.05	-21.4	-0.03	-0.05	-0.01
67- 1	-6.3	-5.1	11.9	0.40	-0.16	65.6	-0.06	0.30	0.21

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-5.0	-2.1	1?.7	0.48	-0.07	62.6	0.05	0.37	0.23
67- 3	-3.3	-0.7	15.5	0.53	-0.01	62.9	0.10	0.42	0.22
67- 4	-3.6	0.1	14.7	0.48	-0.01	60.4	0.11	0.36	0.21
67- 5	-4.8	0.3	9.3	0.27	-0.07	52.5	0.05	0.14	0.16
67- 6	4.3	0.8	-4.3	0.10	-0.11	67.4	-0.08	0.07	0.07
67- 7	-1.5	-2.9	0.4	0.03	-0.08	78.8	-0.08	0.03	0.02
67- 8	-0.1	-1.8	-2.2	-0.02	-0.08	-62.0	-0.06	-0.03	-0.02
67- 9	1.2	-0.3	-2.6	0.01	-0.08	-39.4	-0.02	-0.04	-0.04
67-10	1.6	0.5	-2.1	0.04	-0.06	-33.9	0.01	-0.03	-0.04
67-11	20.0	-0.3	-5.5	0.65	-0.03	-60.2	0.14	0.48	-0.29
67-12	16.2	-5.5	-0.1	0.71	-0.02	-74.5	0.03	0.66	-0.19
67-13	10.9	-2.2	-2.4	0.40	-0.03	-67.1	0.03	0.33	-0.15
67-14	8.1	-2.5	-1.2	0.32	-0.03	-70.8	0.01	0.28	-0.11
67-15	7.2	-0.9	-0.8	0.27	0.01	-67.9	0.04	0.23	-0.09
67-16	-1.0	4.7	7.5	0.24	0.03	-69.6	0.06	0.22	-0.07
67-17	0.9	1.0	4.7	0.18	0.06	66.7	0.08	0.16	0.04
67-18	3.6	2.2	1.1	0.13	0.07	-89.5	0.10	0.11	-0.03
67-19	2.0	1.7	0.0	0.07	0.02	-28.1	0.06	0.03	-0.02
67-20	0.7	1.2	-0.1	0.04	-0.01	-13.2	0.03	-0.01	-0.01
90- 1	6.6	-4.9	7.3	0.57	0.02	89.2	0.02	0.57	0.01
90- 2	7.0	-4.7	7.1	0.57	0.03	89.9	0.03	0.57	0.00
90- 3	6.3	-4.0	6.4	0.51	0.03	89.9	0.03	0.51	0.00
90- 4	4.5	-3.6	5.0	0.40	0.01	89.1	0.01	0.40	0.01
90- 5	1.8	-4.2	2.0	0.22	-0.06	89.5	-0.06	0.22	0.00
90- 6	4.8	1.8	-4.2	0.12	-0.10	-89.8	-0.10	0.12	-0.00
90- 7	-0.7	-4.1	-0.3	0.06	-0.10	88.5	-0.10	0.06	0.00
90- 8	-1.9	-2.6	-1.9	-0.07	-0.10	-89.4	-0.10	-0.07	-0.00
90- 9	-1.6	-0.5	-1.8	-0.04	-0.10	-2.5	-0.04	-0.10	-0.00
90-10	0.2	2.2	-0.1	0.05	-0.05	-2.0	0.05	-0.05	-0.00
90-11	5.5	-0.0	5.2	0.35	0.11	-89.1	0.11	0.35	-0.00
90-12	5.8	-5.0	4.5	0.46	-0.01	-88.2	-0.01	0.46	-0.01
90-13	5.5	-5.2	4.5	0.45	-0.02	-88.6	-0.02	0.45	-0.01
90-14	6.4	-4.5	4.1	0.45	-0.00	-86.7	0.00	0.45	-0.03
90-15	7.4	-1.9	6.6	0.51	0.09	-88.7	0.09	0.51	-0.01
90-16	-0.4	11.4	15.4	0.53	0.12	84.8	0.12	0.52	0.04
90-17	8.5	-0.2	6.0	0.48	0.14	-85.2	0.14	0.48	-0.03
90-18	6.4	1.9	6.6	0.39	0.17	89.3	0.17	0.39	0.00
90-19	3.8	4.3	3.9	0.18	0.16	4.2	0.18	0.16	0.00
90-20	1.2	2.1	1.1	0.07	0.03	-1.9	0.07	0.03	-0.00
180- 1	-0.6	0.7	1.7	0.05	-0.00	42.2	0.03	0.02	0.03
180- 2	-1.2	0.5	2.1	0.06	-0.02	44.2	0.02	0.02	0.04
180- 3	-2.6	0.3	2.7	0.06	-0.06	42.3	0.01	-0.00	0.06
180- 4	-2.3	-0.1	2.6	0.06	-0.05	48.2	-0.00	0.01	0.06
180- 5	-2.8	0.1	3.2	0.08	-0.06	45.7	0.01	0.01	0.07
180- 6	-3.4	0.1	3.4	0.08	-0.08	44.0	0.00	-0.00	0.08
180- 7	2.3	1.5	-3.0	0.06	-0.09	87.7	-0.02	-0.01	0.07
180- 8	-0.9	-0.1	0.8	0.02	-0.02	48.7	-0.00	0.00	0.02
180- 9	1.5	-0.0	-1.6	0.04	-0.04	-45.0	-0.00	-0.00	-0.04
180-10	1.5	-0.1	-1.7	0.03	-0.04	-44.5	-0.00	-0.01	-0.04
180-11	-1.1	0.1	0.4	0.01	-0.04	29.4	-0.00	-0.03	0.02
180-12	.3	-0.0	-1.8	0.02	-0.05	-40.5	-0.01	-0.02	-0.04
180-13	2.9	0.2	-3.1	0.06	-0.07	-42.0	0.00	-0.01	-0.07
180-14	2.8	0.5	-2.8	0.07	-0.07	-39.5	0.01	-0.01	-0.07
180-15	2.5	0.2	-2.6	0.06	-0.06	-42.5	0.00	-0.01	-0.06
180-16	3.0	0.1	-3.1	0.07	-0.07	-43.6	0.00	-0.00	-0.07
180-17	3.3	-0.1	-3.3	0.08	-0.08	63.9	-0.05	0.05	0.06
180-18	-3.1	3.4	0.5	0.06	-0.17	10.6	0.05	-0.16	0.04
180-19	1.9	0.2	-1.5	0.05	-0.03	-45.3	0.01	0.01	-0.04
180-20	0.7	0.1	-0.6	0.02	-0.01	-45.6	0.00	0.00	-0.01
202- 1	-1.5	-22.0	-21.2	-0.15	-0.82	-68.7	-0.73	-0.24	-0.23
202- 2	-1.0	10.4	-9.4	-0.07	-0.38	-70.4	-0.34	-0.10	-0.10
202- 3	-1.6	-9.9	-7.5	-0.05	-0.34	-75.6	-0.32	-0.07	-0.07
202- 4	-0.1	-4.7	-3.4	0.00	-0.15	-75.8	-0.14	-0.01	-0.04
202- 5	-0.8	-3.7	-2.0	-0.01	-0.11	-82.7	-0.11	-0.01	-0.01
202- 6	-1.0	-4.0	-1.9	-0.00	-0.12	-84.8	-0.12	-0.00	-0.01
202- 7	-2.0	-0.9	0.2	-0.01	-0.06	-50.1	-0.04	-0.03	-0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PRI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	1.0	1.2	-1.3	0.03	-0.05	-19.6	0.03	-0.04	-0.03
202- 9	0.9	1.7	-0.9	0.04	-0.04	-14.6	0.04	-0.04	-0.02
202-10	1.0	2.2	-0.1	0.06	-0.03	-8.8	0.06	-0.02	-0.01
202-11	-7.7	-7.5	-1.2	-0.09	-0.29	66.6	-0.26	-0.12	0.08
202-12	-9.4	-13.3	-3.4	-0.10	-0.45	78.4	-0.43	-0.12	0.07
202-13	-4.3	-9.2	-2.7	-0.02	-0.28	85.9	-0.28	-0.02	0.02
202-14	-3.3	-7.3	-0.7	0.04	-0.21	83.2	-0.21	0.04	0.03
202-15	-1.5	-3.2	0.8	0.06	-0.09	78.8	-0.08	0.05	0.03
202-16	3.7	1.0	1.4	0.15	0.06	-71.6	0.07	0.14	-0.03
202-17	1.9	6.1	4.1	0.21	0.06	-74.1	0.07	0.19	-0.04
202-18	4.3	0.5	1.6	0.19	0.06	-75.3	0.07	0.18	-0.03
202-19	2.8	1.8	1.3	0.11	0.06	-65.2	0.07	0.10	-0.02
202-20	1.4	1.1	0.7	0.05	0.04	-43.7	0.05	0.04	-0.01
225- 1	1.1	-14.3	-39.6	-0.34	-1.31	-38.3	-0.71	-0.94	-0.87
225- 2	2.0	-8.0	-21.4	-0.14	-0.69	-40.8	-0.37	-0.45	-0.27
225- 3	3.5	-7.3	-19.5	-0.08	-0.61	-43.2	-0.33	-0.36	-0.27
225- 4	6.2	-1.3	-10.0	0.10	-0.27	-42.9	-0.07	-0.10	-0.19
225- 5	8.0	-3.4	-11.1	0.02	-0.33	-44.4	-0.15	-0.16	-0.17
225- 6	3.4	-3.7	-9.9	0.02	-0.29	-47.1	-0.15	-0.13	-0.15
225- 7	-3.8	-3.1	2.6	0.07	-0.12	-21.2	0.04	-0.09	-0.06
225- 8	0.6	2.3	-0.8	0.05	-0.06	-7.9	0.05	-0.06	-0.02
225- 9	-0.9	2.1	1.8	0.07	-0.03	20.0	0.06	-0.02	0.03
225-10	-0.6	2.1	2.2	0.08	-0.01	23.0	0.07	0.00	0.03
225-11	-18.1	-9.1	0.1	-0.17	-0.60	45.4	-0.39	-0.38	0.21
225-12	-25.3	-15.1	1.4	-0.20	-0.83	51.6	-0.58	-0.44	0.31
225-13	-10.7	-8.1	4.1	0.06	-0.38	61.4	-0.25	-0.03	0.17
225-14	-17.9	-8.9	5.8	0.02	-0.54	51.9	-0.33	-0.19	0.27
225-15	-9.5	-1.8	4.6*	0.06	-0.27	42.5	-0.09	-0.12	0.16
225-16	-0.5	1.8	3.5	0.11	0.02	40.1	0.07	0.06	0.05
225-17	3.1	3.1	1.0	0.12	0.05	60.6	0.07	0.11	0.03
225-18	0.8	0.0	2.1	0.10	0.03	77.4	0.03	0.10	0.02
225-19	-1.4*	-1.9*	1.4	0.05	-0.05	71.2	-0.04	0.04	0.03
225-20	0.2	0.3	0.7	0.02	0.01	56.1	0.02	0.02	0.01
247- 1	6.3	5.0	-10.7	0.16	-0.35	-24.9	0.07	-0.26	-0.20
247- 2	6.3	3.0	-13.0	0.12	-0.41	-28.3	0.00	-0.29	-0.22
247- 3	3.1	1.7	-14.1	0.02	-0.49	-25.7	-0.07	-0.40	-0.20
247- 4	3.7	0.7	-13.6	0.03	-0.45	-28.4	-0.08	-0.34	-0.20
247- 5	4.4	0.7	-7.8	0.08	-0.22	-34.5	-0.02	-0.13	-0.14
247- 6	-3.2	-0.6	4.2	0.11	-0.07	-20.7	0.09	-0.05	-0.06
247- 7	1.4	2.6	0.3	0.08	-0.01	-8.0	0.08	-0.01	-0.01
247- 8	0.1	1.6	2.6	0.09	0.03	38.5	0.06	0.05	0.03
247- 9	-1.0	0.5	3.0	0.09	-0.00	51.6	0.03	0.05	0.05
247-10	-1.6	-0.7	2.2	0.06	-0.04	59.0	-0.01	0.04	0.04
247-11	-21.8	0.6	5.8	0.03	-0.72	29.0	-0.14	-0.54	0.32
247-12	-17.2	-0.1	5.0	0.03	-0.55	30.9	-0.12	-0.40	0.26
247-13	-10.7	3.2	2.6	0.05	-0.40	21.1	-0.01	-0.34	0.15
247-14	-7.8	3.3	0.3	0.03	-0.35	14.8	0.00	-0.32	0.09
247-15	-7.5	1.0	0.2	-0.02	-0.30	19.8	-0.05	-0.27	0.09
247-16	1.0	-7.5	-10.3	-0.05	-0.34	15.5	-0.07	-0.32	0.07
247-17	-4.7	-0.3	-2.1	-0.07	-0.22	11.4	-0.07	-0.22	0.03
247-18	-4.4	-2.3	-1.5	-0.09	-0.16	32.5	-0.11	-0.14	0.03
247-19	-3.1	-2.7	-1.1	-0.06	-0.12	59.3	-0.10	-0.08	0.02
247-20	-1.2	-1.4	-0.4	-0.02	-0.05	73.3	-0.05	-0.02	0.01
270- 1	-6.7	5.5	-6.6	-0.00	-0.57	0.2	-0.00	-0.57	0.00
270- 2	-6.4	5.4	-6.7	-0.00	-0.56	-0.3	-0.00	-0.56	-0.00
270- 3	-6.3	4.4	-5.3	-0.01	-0.48	1.3	-0.01	-0.48	0.01
270- 4	-5.7	3.9	-3.5	0.00	-0.39	3.6	-0.00	-0.39	0.02
270- 5	-3.5	3.9	-0.6	0.05	-0.23	6.9	0.05	-0.22	0.03
270- 6	-4.6	-4.0	3.1	0.08	-0.15	11.1	0.07	-0.14	0.04
270- 7	-1.3	4.0	1.5	0.10	-0.09	10.0	0.09	-0.09	0.03
270- 8	1.4	2.2	2.2	0.09	0.06	22.3	0.09	0.07	0.01
270- 9	2.4	0.8	1.9	0.12	0.06	-84.4	0.06	0.12	-0.01
270-10	0.2	-2.4	-0.5	0.05	-0.06	-85.9	-0.06	0.04	-0.01
270-11	-5.0	4.4	-5.8	-0.01	-0.46	-1.1	-0.01	-0.46	-0.01
270-12	-4.9	4.7	-5.7	0.00	-0.46	-1.0	0.00	-0.46	-0.01
270-13	-5.0	5.6	-4.3	0.03	-0.46	1.7	0.03	-0.46	0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-5.3	5.0	-4.7	0.02	-0.44	0.8	0.02	-0.44	0.01
270-15	-6.8	2.8	-5.9	-0.06	-0.48	1.4	-0.06	-0.48	0.01
270-16	0.6	-11.7	-14.9	-0.10	-0.52	-6.2	-0.11	-0.51	-0.04
270-17	-7.9	0.8	-7.5	-0.13	-0.53	0.6	-0.13	-0.53	0.00
270-18	-6.4	-1.5	-6.7	-0.16	-0.40	-0.6	-0.16	-0.40	-0.00
270-19	-3.8	-4.3	-4.1	-0.16	-0.18	-77.5	-0.18	-0.16	-0.00
270-20	-1.6	-2.6	-1.4	-0.04	-0.09	86.7	-0.09	-0.04	0.00
0- 7	-2.6	-1.5	3.5	0.10	-0.06	61.6	-0.03	0.07	0.07
11- 1	-0.3	-0.2	2.5	0.09	0.00	66.7	0.02	0.08	0.03
22- 7	1.8	0.8	0.4	0.06	0.03	-56.9	0.04	0.05	-0.02
33- 1	3.3	2.1	-1.2	0.10	-0.01	-33.0	0.07	0.02	-0.05
45- 7	5.0	3.1	-2.4	0.15	-0.04	-31.9	0.10	0.01	-0.08
56- 1	4.5	3.3	-3.2	0.14	-0.08	-27.9	0.09	-0.03	-0.09
67- 6	4.3	0.8	-4.5	0.10	-0.11	-39.6	0.02	-0.02	-0.10
78- 1	4.1	0.3	-4.5	0.09	-0.11	-41.9	0.00	-0.02	-0.10
90- 6	4.8	1.8	-4.2	0.12	-0.10	-35.8	0.05	-0.02	-0.10
0-17	2.7	-1.9	-2.3	0.08	-0.07	-65.1	-0.04	0.06	-0.06
11-11	0.7	-4.1	-3.5	0.02	-0.14	-70.9	-0.12	0.00	-0.05
22-17	-1.5	-6.0	-4.4	-0.05	-0.20	-77.6	-0.20	-0.06	-0.03
33-11	-3.3	-6.6	-3.7	-0.08	-0.22	-88.1	-0.22	-0.08	-0.00
45-17	-3.1	-5.3	-2.8	-0.07	-0.18	88.5	-0.18	-0.07	0.00
56-11	-2.3	-0.5	1.9	0.04	-0.06	49.8	-0.02	0.00	0.05
67-16	-1.0	4.7	7.5	0.24	0.03	35.4	0.17	0.10	0.10
78-11	-0.3	9.1	13.2	0.44	0.11	34.4	0.34	0.22	0.16
90-16	-0.4	11.4	15.4	0.53	0.12	31.8	0.41	0.23	0.18
180- 7	2.3	1.5	-3.0	0.06	-0.09	-27.3	0.03	-0.06	-0.06
191- 1	0.0	0.6	-1.8	0.00	-0.08	-16.0	-0.00	-0.07	-0.02
202- 7	-2.0	-0.9	0.2	-0.01	-0.06	44.9	-0.04	-0.04	0.03
213- 1	-3.6	-2.4	1.8	0.03	-0.11	60.0	-0.07	-0.00	0.06
225- 7	-3.8	-3.1	2.6	0.07	-0.12	63.8	-0.08	0.03	0.07
236- 1	-3.8	-2.1	3.4	0.08	-0.10	58.5	-0.05	0.03	0.08
247- 6	-3.2	-0.6	4.2	0.11	-0.07	53.3	-0.01	0.05	0.09
258- 1	-3.6	-0.6	4.1	0.10	-0.08	51.4	-0.01	0.03	0.09
270- 6	-4.6	-4.0	3.1	0.08	-0.15	65.1	-0.11	0.04	0.09
180-17	3.3	-0.1	-3.3	0.08	-0.08	-46.1	-0.00	0.00	-0.08
191-11	-0.9	3.1	4.3	0.15	-0.01	23.7	0.13	0.02	0.06
202-17	1.9	6.1	4.1	0.21	0.06	9.9	0.20	0.06	0.03
213-11	3.0	5.3	3.4	0.19	0.09	2.3	0.19	0.09	0.00
225-17	3.1	3.1	1.0	0.12	0.05	-22.4	0.11	0.06	-0.02
236-11	1.9	-2.6	-4.6	0.02	-0.14	-55.4	-0.09	-0.03	-0.08
247-16	1.0	-7.5	-10.3	-0.05	-0.34	-58.5	-0.27	-0.13	-0.13
258-11	0.4	-10.9	-14.1	-0.10	-0.49	-59.6	-0.39	-0.20	-0.17
270-16	0.6	-11.7	-14.9	-0.10	-0.52	-60.2	-0.41	-0.20	-0.18
400-01	0.1	-0.7	-0.3	0.01	-0.02	-36.6	0.00	-0.01	-0.01
400-11	0.0	-0.5	-0.2	0.01	-0.01	52.5	-0.01	-0.00	0.01
401-01	-0.3	0.1	0.1	0.00	-0.01	23.7	0.00	-0.01	0.00
401-02	10.1	-37.6					-0.04	-1.14	
401-03	0.4	-0.4					0.01	-0.01	
401-04	-10.0	37.8					0.04	1.15	
402-01	0.7	-0.1	-0.7	0.02	-0.01	-48.2	-0.00	0.00	-0.02
402-02	9.1	-37.2					-0.07	-1.14	
402-03	0.1	0.6					0.01	0.02	
402-04	-11.8	36.8					-0.02	1.10	
403-01	-0.0	-0.0	-0.1	-0.00	-0.00	-7.8	-0.00	-0.00	-0.00
403-02	-0.0	-0.0					-0.00	-0.00	
403-03	0.0	-0.0					0.00	-0.00	
403-04	-0.0	-0.0					-0.00	-0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, IN-PLANE MOMENT LOADING ON RUN, -B'Z

NOMINAL LOAD = 3.925E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	10.7	32.9	12.9	0.99	0.02	1.4	0.99	0.02	0.02
0- 2	7.7	19.3	8.1	0.60	0.07	0.6	0.60	0.07	0.01
0- 3	3.5	11.4	3.3	0.33	-0.04	-0.4	0.33	-0.04	-0.00
0- 4	0.9	6.5	1.5	0.17	-0.07	1.6	0.17	-0.07	0.01
0- 5	2.8	7.7	2.8	0.23	0.01	-0.1	0.23	0.01	-0.00
0- 6	4.6	12.1	4.6	0.37	0.03	0.1	0.37	0.03	0.00
0- 7	8.5	-0.3	3.8	0.42	0.11	-3.0	0.42	0.11	-0.02
0- 8	6.9	10.3	7.1	0.38	0.22	0.7	0.38	0.22	0.00
0- 9	7.4	3.6	8.0	0.42	0.24	87.8	0.24	0.42	0.01
0-10	3.8	-3.4	4.9	0.36	0.01	87.8	0.01	0.36	0.01
0-11	8.5	9.8	10.2	0.42	0.38	29.5	0.41	0.39	0.02
0-12	11.9	17.1	12.4	0.63	0.41	1.7	0.63	0.41	0.01
0-13	8.9	13.2	1.7*	0.43	0.03	-12.2	0.41	0.05	-0.08
0-14	6.4	11.5	6.7	0.39	0.17	0.9	0.39	0.17	0.00
0-15	-1.4	-0.4	-1.2	-0.03	-0.08	4.2	-0.04	-0.08	0.00
0-16	-11.7	-8.3	-11.2	-0.42	-0.56	2.2	-0.42	-0.56	0.01
0-17	-17.5	-20.8	-9.8	-0.80	-0.77	5.8	-0.80	-0.77	0.04
0-18	-18.0	-4.8	-17.9	-0.47	-1.07	0.1	-0.47	-1.07	0.00
0-19	-18.3	-15.0	-17.6	-0.70	-0.88	3.4	-0.70	-0.88	0.01
0-20	-11.2	-10.6	-10.0	-0.44	-0.47	46.3	-0.45	-0.45	0.01
22- 1	5.5	32.9	36.6	1.35	0.45	26.3	1.17	0.63	0.36
22- 2	-1.1	14.9	24.5	0.81	0.20	38.1	0.58	0.43	0.30
22- 3	-6.2	7.0	18.7	0.56	-0.02	43.3	.28	0.25	0.29
22- 4	-8.7	3.3	16.6	0.46	-0.13	46.4	.15	0.18	0.29
22- 5	-8.2	7.9	22.9	0.68	-0.04	44.0	0.33	0.30	0.36
22- 6	-12.3	16.5	30.1	0.90	-0.14	35.1	0.56	0.20	0.49
22- 7	21.8	6.9	-11.9	0.60	-0.18	43.3	0.24	0.19	0.39
22- 8	-4.5	3.1	15.5	0.47	-0.00	51.7	0.18	0.29	0.23
22- 9	4.8	-0.6	5.1	0.34	0.08	8[illegible].3	0.08	0.34	0.00
22-10	4.6	-4.9	-0.4	0.26	-0.08	-80.2	-0.07	0.25	-0.06
22-11	9.6	8.4	-2.4	0.33	-0.02	-25.8	0.26	0.05	-0.14
22-12	15.0	14.5	-1.4	0.55	0.03	-23.5	0.47	0.11	-0.19
22-13	13.3	14.7	-2.2	0.51	-0.04	-20.1	0.45	0.03	-0.18
22-14	15.0	12.7	-4.6	0.51	-0.06	-26.3	0.40	0.05	-0.23
22-15	6.5	-1.8	-9.7	0.12	-0.26	-45.6	-0.07	-0.06	-0.19
22-16	-8.9	-9.2	-11.6	-0.40	-0.48	-26.2	-0.41	-0.46	-0.03
22-17	-13.1	-20.7	-13.8	-0.41	-0.78	9.4	-0.42	-0.73	0.05
22-18	-16.5	-2.0	-11.1	-0.31	-0.87	6.5	-0.32	-0.86	0.06
22-19	-12.6	-10.3	-11.6	-0.47	-0.56	7.7	-0.48	-0.56	0.01
22-20	-6.9	-6.9	-7.9	0.30	-0.33	-22.5	-0.30	-0.33	-0.01
45- 1	0.1	4.1	5.5	0.19	0.05	32.5	0.15	0.09	0.06
45- 2	0.9	6.4	13.1	0.44	0.16	47.7	0.29	0.31	0.14
45- 3	-2.0	2.7	11.2	0.36	0.04	53.1	0.16	0.24	0.15
45- 4	-8.1	0.6	15.6	0.45	-0.12	52.6	0.09	0.24	0.27
45- 5	-8.9	6.8	31.4	0.96	0.01	51.3	0.38	0.59	0.47
45- 6	-15.2	11.4	39.4	1.15	-0.11	45.7	0.50	0.53	0.63
45- 7	23.0	10.4	-12.1	0.65	-0.19	60.9	0.01	0.45	0.36
45- 8	-6.4	-5.5	9.6	0.32	-0.18	65.9	-0.10	0.23	0.18
45- 9	2.9	-3.8	-3.4	0.10	-0.12	-69.1	-0.09	0.07	-0.07
45-10	5.7	-2.4	-7.8	0.12	-0.20	-50.9	-0.08	-0.01	-0.16
45-11	1.6	-0.0	-0.4	0.05	-0.00	-59.6	0.01	0.04	-0.02
45-12	6.2	-1.2	-3.0	0.19	-0.05	-60.7	0.00	0.13	-0.11
45-13	12.9	4.2	-[illegible]	0.37	-0.05	-43.6	0.17	0.15	-0.21
45-14	18.4	6.7	-[illegible]	0.55	-0.02	-43.7	0.28	0.25	-0.28
45-15	13.0	-1.3	-[illegible]	0.35	-0.19	-52.8	0.01	0.15	-0.26
45-16	-4.1	-9.8	-6.8	-0.13	-0.34	-81.5	-0.33	-0.13	-0.03
45-17	-4.8	-2.1	-3.4	-0.13	-0.23	-84.6	-0.22	-0.13	-0.01
45-18	-3.8	-1.3	-0.5	-0.05	-0.14	32.0	-0.07	-0.11	0.04
45-19	0.4	0.8	-1.9	0.01	-0.08	-18.8	0.00	-0.07	-0.03
45-20	1.4	0.6	-1.7	0.03	-0.05	-32.3	0.01	-0.02	-0.04
67- 1	-0.7	0.9	-0.2	0.01	-0.05	4.4	0.01	-0.05	0.00

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-3.1	0.6	4.2	0.11	-0.06	44.2	0.02	0.02	0.08
67- 3	-5.9	1.4	12.7	0.36	-0.07	51.0	0.10	0.19	0.21
67- 4	-9.6	3.6	24.7	0.73	-0.08	51.4	0.23	0.41	0.40
67- 5	-13.1	5.4	25.9	0.73	-0.18	46.6	0.25	0.30	0.45
67- 6	10.4	-3.1	-12.7	0.22	-0.32	57.3	-0.16	0.06	0.25
67- 7	-9.2	-8.4	1.4	-0.01	-0.33	65.2	-0.27	-0.06	0.12
67- 8	-6.0	-6.5	-8.1	-0.27	-0.33	-29.9	-0.29	-0.32	-0.02
67- 9	-1.4	-1.2	-10.9	-0.10	-0.42	-21.9	-0.15	-0.38	-0.11
67-10	3.5	5.0	-9.3	0.11	-0.36	-19.6	0.06	-0.30	-0.15
67-11	-1.5	-1.9	1.7	0.06	-0.05	70.5	-0.04	0.05	0.04
67-12	4.3	0.7	0.5	0.16	0.04	-66.2	0.06	0.14	-0.04
67-13	7.8	0.8	1.9	0.32	0.09	-71.9	0.11	0.30	-0.07
67-14	12.9	-1.7	2.1	0.57	0.08	-74.8	0.11	0.53	-0.12
67-15	24.6	-2.7	4.1	1.08	0.16	-74.8	0.22	1.01	-0.24
67-16	2.5	32.9	36.1	1.33	0.33	-79.5	0.36	1.29	-0.18
67-17	17.7	3.5	22.3	1.24	0.47	86.1	0.48	1.24	0.05
67-18	19.9	11.0	16.8	0.96	0.61	-84,1	0.62	0.96	-0.04
67-19	15.6	12.8	10.1	0.61	0.49	-45.1	0.55	0.55	-0.06
67-20	9.9	11.5	7.2	0.44	0.29	-12.2	0.43	0.30	-0.03
90- 1	-1.2	1.2	-0.7	0.01	-0.09	3.4	0.01	-0.09	0.01
90- 2	-0.1	-0.2	0.3	0.01	-0.00	74.4	-0.00	0.01	0.00
90- 3	1.0	-1.3	1.0	0.10	-0.01	-89.7	-0.01	0.10	-0.00
90- 4	2.5	-2.1	2.1	0.20	-0.00	-88.7	-0.00	0.20	-0.00
90- 5	2.8	-4.2	1.8	0.25	-0.05	-87.7	-0.05	0.25	-0.01
90- 6	3.9	1.0	-5.7	0.08	-0.16	-88.5	-0.16	0.08	-0.01
90- 7	-3.4	-7.3	-3.9	-0.07	-0.24	-88.1	-0.24	-0.07	-0.01
90- 8	-9.1	-8.7	-9.6	-0.38	-0.42	-11.5	-0.39	-0.42	-0.01
90- 9	-10.9	-4.0	-10.4	-0.30	-0.61	1.1	-0.30	-0.61	0.01
90-10	-3.5	8.1	-3.2	0.12	-0.41	0.4	0.12	-0.41	0.00
90-11	-0.6	0.5	-0.5	0.00	-0.05	1.7	0.00	-0.05	0.00
90-12	1.4	-2.3	1.1	0.13	-0.03	-88.7	-0.03	0.13	-0.00
90-13	5.[illegible]	-3.1	4.3	0.38	0.02	-88.7	0.02	0.38	-0.01
90-14	12.4	-3.7	9.5	0.81	0.13	-87.1	0.13	0.81	-0.03
90-15	23.8	-2.4	20.4	1.[illegible]1	0.38	-88.0	0.38	1.51	-0.04
90-16	1.0	39.3	52.3	1.80	0.48	84.9	0.49	1.79	0.12
90-17	31.2	0.2	28.2	1.83	0.55	-86.4	0.55	1.82	-0.08
90-18	29.7	7.0	31.9	1.87	0.77	88.7	0.77	1.87	0.03
90-19	22.8	21.5	23.8	1.04	0.96	82.6	0.96	1.04	0.01
90-20	12.2	13.6	11.6	0.55	0.47	-4.7	0.55	0.47	-0.01
180- 1	12.4	31.2	11.8	0.96	0.08	-0.4	0.96	0.08	-0.01
180- 2	5.7	17.1	5.5	0.51	-0.03	-0.3	0.51	-0.03	-0.00
180- 3	8.3	19.7	7.8	0.61	0.08	-0.6	0.61	0.08	-0.01
180- 4	2.8	9.5	3.1	0.28	-0.02	0.7	0.28	-0.02	0.00
180- 5	3.0	8.3	3.5	0.25	0.02	1.6	0.25	0.02	0.01
180- 6	4.6	11.9	4.1	0.36	0.01	-1.1	0.36	[illegible].01	-0.01
180- 7	9.[illegible]	-1.4	3.1	0.45	0.08	-4.0	0.45	0.08	-0.03
180- 8	6.7	10.3	6.1	0.36	0.18	-2.5	0.36	0.18	-0.01
180- 9	7.8	2.7	7.0	0.43	0.21	-87.6	0.21	0.43	-0.01
180-10	4.7	-3.9	4.2	0.38	-0.00	-89.2	-0.00	0.38	-0.01
180-11	8.2	8.7	9.4	0.39	0.36	52.1	0.37	0.38	0.01
180-12	13.3	20.0	14.2	0.73	0.44	2.1	0.73	0.44	0.01
180-13	9.9	13.8	10.8	0.52	0.37	3.8	0.52	0.37	0.01
180-14	6.6	8.9	7.4	0.34	0.26	6.4	0.34	0.26	0.01
180-15	0.5	3.1	3.0	0.12	0.03	21.4	0.11	0.05	0.03
180-16	-9.4	-7.6	-7.1	-0.32	-0.38	31.2	-0.34	-0.37	0.03
180-17	-13.8	-7.7	-13.2	-0.45	-0.71	-68.5	-0.68	-0.48	-0.09
180-18	-18.3	-14.3	-29.6	-0.77	-1.29	-15.2	-0.80	-1.25	-0.13
180-19	-18.2	-14.5	-17.8	-0.69	-0.85	1.7	-0.69	-0.85	0.00
180-20	-11.2	-11.1	-13.3	-0.49	-0.56	-20.3	-0.50	-0.55	0.02
202- 1	1.7	30.6	34.3	1.25	0.30	26.1	1.06	0.48	0.38
202- 2	-1.4	13.8	21.6	0.71	0.15	35.9	0.52	0.34	0.27
202- 3	-4.2	13.3	24.4	0.77	0.10	38.7	0.51	0.36	0.33
202- 4	-8.2	6.0	19.8	0.57	-0.07	44.6	0.25	0.24	0.32
202- 5	-8.7	6.8	21.6	0.63	-0.07	44.3	0.29	0.27	0.35
202- 6	-13.0	15.6	30.8	0.91	-0.15	36.5	0.54	0.23	0.51
202- 7	21.5	7.3	-13.7	0.58	-0.25	45.4	0.16	0.17	0.41

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-3.7	2.1	13.2	0.41	-0.00	53.8	0.14	0.27	0.19
202- 9	4.6	-0.9	4.8	0.33	0.07	89.4	0.07	0.33	0.00
202-10	4.7	-5.1	-0.6	0.26	-0.09	-79.8	-0.08	0.25	-0.06
202-11	9.8	10.2	-2.2	0.36	-0.04	-21.6	0.31	0.01	-0.14
202-12	17.6	19.1	0.7	0.69	0.09	-20.2	0.62	0.16	-0.20
202-13	12.5	14.0	-0.2	0.50	0.03	-19.5	0.45	0.08	-0.15
202-14	11.7	11.4	-2.9	0.42	-0.05	-23.1	0.35	0.03	-0.17
202-15	7.3	1.0	-9.0	0.16	-0.23	-38.8	0.01	-0.08	-0.19
202-16	-8.6	-8.0	-12.0	-0.37	-0.51	-18.0	-0.39	-0.49	-0.04
202-17	-12.9	-21.3	-13.5	-0.38	-0.75	7.2	-0.38	-0.75	0.05
202-18	-17.6	-6.2	-11.1	-0.41	-0.81	10.9	-0.43	-0.80	0.07
202-19	-12.1	-10.2	-11.2	-0.46	-0.54	9.2	-0.46	-0.53	0.01
202-20	-7.0	-6.6	-7.9	-0.30	-0.34	-13.8	-0.30	-0.34	-0.01
225- 1	0.4	2.5	4.7	0.16	0.06	46.0	0.11	0.11	0.05
225- 2	0.7	3.8	9.5	0.33	0.11	53.5	0.19	0.25	0.10
225- 3	-1.8	5.1	14.7	0.47	0.08	49.7	0.24	0.31	0.19
225- 4	-7.2	-0.3	14.4	0.42	-0.11	54.9	0.07	0.24	0.25
225- 5	-9.9	4.5	28.9	0.87	-0.06	52.3	0.29	0.52	0.45
225- 6	-16.0	14.7	41.5	1.21	-0.12	43.0	0.59	0.50	0.66
225- 7	19.2	9.7	-13.4	0.53	-0.28	61.3	-0.10	0.34	0.34
225- 8	-5.5	-4.6	7.7	0.25	-0.15	65.6	-0.08	0.18	0.15
225- 9	3.4	-3.7	-4.7	0.09	-0.15	-63.5	-0.10	0.04	-0.09
225-10	5.9	-2.7	-7.8	0.12	-0.20	-52.2	-0.08	-0.00	-0.16
225-11	1.5	-1.2	-0.8	0.06	-0.03	-71.6	-0.02	0.05	-0.03
225-12	8.2	1.0	-2.2	0.26	-0.00	-55.6	0.08	0.18	-0.12
225-13	7.3	1.2	-4.2	0.20	-0.06	-47.0	0.06	0.08	-0.13
225-14	17.2	8.5	-4.4	0.53	0.02	-39.6	0.32	0.23	-0.25
225-15	15.5	2.3	-8.7	0.43	-0.13	-47.6	0.12	0.17	-0.28
225-16	2.8	-8.3	-5.8	0.12	-0.25	-73.8	-0.22	0.09	-0.10
225-17	-5.6	1.1	0.2	-0.01	-0.23	-78.0	-0.22	-0.02	-0.04
225-18	-2.0	-0.1	0.6	0.00	-0.06	32.7	-0.02	-0.04	0.03
225-19	1.2	1.8	-1.0	0.05	-0.04	-16.4	0.04	-0.03	-0.02
225-20	1.6	0.5	-1.4	0.04	-0.03	-36.2	0.01	-0.01	-0.03
247- 1	-0.3	1.1	-0.4	0.02	-0.05	-1.2	0.02	-0.05	-0.00
247- 2	-3.5	0.2	4.0	0.10	-0.08	45.0	0.01	0.01	0.09
247- 3	-6.2	0.2	12.1	0.35	-0.09	53.4	0.06	0.19	0.21
247- 4	-10.4	2.5	24.8	0.73	-0.11	52.4	0.20	0.41	0.41
247- 5	-14.4	3.3	25.6	0.71	-0.22	48.3	0.19	0.29	0.46
247- 6	10.4	-3.1	-13.6	0.21	-0.35	57.4	-0.18	0.05	0.25
247- 7	-9.4	-7.6	1.3	-0.03	-0.32	61.6	-0.25	-0.09	0.12
247- 8	-6.1	-6.0	-7.3	-0.27	-0.33	-21.2	-0.28	-0.32	-0.02
247- 9	-0.6	-2.1	-11.0	-0.10	-0.40	-27.2	-0.16	-0.33	-0.12
247-10	3.6	3.7	-9.5	0.09	-0.34	-22.2	0.03	-0.28	-0.15
247-11	-1.1	-2.6	1.8	0.09	-0.06	76.7	-0.05	0.08	0.03
247-12	4.6	0.1	0.9	0.20	0.04	-73.0	0.06	0.18	-0.06
247-13	8.1	0.6	2.3	0.35	0.10	-73.8	0.12	0.33	-0.07
247-14	12.5	-1.9	4.0	0.61	0.10	-78.7	0.12	0.59	-0.10
247-15	24.1	-2.6	5.1	1.08	0.17	-75.6	0.23	1.03	-0.22
247-16	1.6	34.7	38.1	1.39	0.31	-80.6	0.34	1.36	-0.18
247-17	17.1	1.5	18.5	1.14	0.39	88.8	0.39	1.14	0.02
247-18	19.3	9.7	14.6	0.90	0.55	-81.2	0.56	0.89	-0.05
247-19	16.1	13.9	12.2	0.65	0.56	-48.5	0.60	0.61	-0.05
247-20	9.6	9.7	6.8	0.40	0.30	-21.3	0.39	0.32	-0.03
270- 1	-0.8	1.4	-0.6	0.02	-0.08	1.4	0.02	-0.08	0.00
270- 2	-0.1	-0.8	0.1	0.02	-0.02	85.2	-0.02	0.02	0.00
270- 3	0.6	-2.0	0.3	0.08	-0.04	-88.2	-0.04	0.08	-0.00
270- 4	2.3	-2.9	1.2	0.18	-0.03	-86.5	-0.03	0.18	-0.01
270- 5	2.5	-4.6	0.7	0.21	-0.08	-85.7	-0.08	0.21	-0.02
270- 6	4.5	2.9	-4.8	0.12	-0.13	-82.6	-0.13	0.12	-0.03
270- 7	-1.3	-7.1	-3.5	0.02	-0.22	-83.8	-0.22	0.02	-0.03
270- 8	-9.1	-8.1	-9.3	-0.37	-0.42	-1.7	-0.37	-0.42	-0.00
270- 9	-11.6	-5.6	-11.0	-0.35	-0.62	1.6	-0.35	-0.62	0.01
270-10	-4.4	7.5	-2.5	0.11	-0.40	2.5	0.11	-0.40	0.02
270-11	-0.5	-1.9	-0.2	0.02	-0.05	86.8	-0.05	0.02	0.00
270-12	1.4	-2.0	1.7	0.15	-0.02	88.7	-0.02	0.15	0.00
270-13	4.8	-2.6	4.2	0.36	0.03	-88.6	0.03	0.36	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	10.0	-3.5	9.3	0.71	0.11	-89.2	0.11	0.71	-0.01
270-15	19.9	-2.5	17.3	1.29	0.31	-88.2	0.31	1.28	-0.03
270-16	1.3	37.3	48.2	1.67	0.44	84.9	0.45	1.66	0.11
270-17	29.5	-1.0	26.8	1.88	0.53	-88.7	0.53	1.88	-0.03
270-18	29.8	5.3	29.7	1.84	0.71	-89.9	0.71	1.84	-0.00
270-19	21.9	19.9	22.5	1.00	0.90	86.0	0.90	1.00	0.01
270-20	13.4	15.0	11.9	0.60	0.49	-8.7	0.60	0.49	-0.02
0- 7	8.5	-0.3	3.8	0.42	0.11	-80.0	0.12	0.41	-0.05
11- 1	16.9	3.3	-6.8	0.49	-0.06	-49.2	0.18	0.26	-0.27
22- 7	21.8	6.9	-11.9	0.60	-0.18	-41.7	0.26	0.17	-0.39
33- 1	23.2	10.9	-13.8	0.65	-0.25	-35.7	0.35	0.06	-0.43
45- 7	23.0	10.4	-12.1	0.65	-0.19	-37.1	0.35	0.12	-0.40
56- 1	16.2	6.6	-13.0	0.43	-0.29	-35.7	0.18	-0.04	-0.34
67- 6	10.4	-3.1	-12.7	0.22	-0.32	-49.7	-0.09	-0.01	-0.27
78- 1	5.2	-4.6	-9.7	0.09	-0.28	-53.7	-0.15	-0.04	-0.17
90- 6	3.9	1.0	-5.7	0.08	-0.16	-34.5	0.00	-0.08	-0.11
0-17	-17.5	-20.8	-9.8	-0.40	-0.77	75.8	-0.75	-0.42	0.09
11-11	-16.6	-23.6	-12.5	-0.41	-0.84	83.6	-0.83	-0.41	0.05
22-17	-13.1	-20.7	-13.8	-0.41	-0.74	-88.6	-0.74	-0.41	-0.01
33-11	-9.2	-13.2	-10.3	-0.34	-0.50	-85.5	-0.50	-0.34	-0.01
45-17	-4.8	-2.1	-3.4	-0.13	-0.23	9.4	-0.13	-0.22	0.02
56-11	0.2	17.7	16.5	0.64	0.07	20.5	0.57	0.14	0.19
67-16	2.5	32.9	36.1	1.33	0.33	25.5	1.14	0.51	0.39
78-11	2.3	40.0	51.7	1.80	0.51	31.1	1.46	0.86	0.57
90-16	1.0	39.3	52.3	1.80	0.48	31.9	1.43	0.85	0.59
180- 7	9.2	-1.8	3.1	0.45	0.08	-79.0	0.09	0.44	-0.07
191- 1	15.7	3.4	-7.4	0.44	-0.09	-46.9	0.16	0.20	-0.27
202- 7	21.5	7.3	-13.7	0.58	-0.25	-39.6	0.25	0.09	-0.41
213- 1	22.5	9.7	-14.1	0.62	-0.26	-36.7	0.31	0.05	-0.42
225- 7	19.2	9.7	-13.4	0.53	-0.28	-33.7	0.28	-0.03	-0.38
236- 1	15.0	2.7	-13.4	0.36	-0.30	-41.1	0.08	-0.01	-0.33
247- 6	10.4	-3.1	-13.6	0.21	-0.35	-48.6	-0.10	-0.03	-0.28
258- 1	7.2	-4.4	-10.0	0.15	-0.27	-54.6	-0.13	0.01	-0.20
270- 6	4.5	2.9	-4.8	0.12	-0.13	-28.6	0.06	-0.07	-0.11
180-17	-13.8	-7.7	-13.2	-0.45	-0.71	1.5	-0.45	-0.71	0.01
191-11	-15.2	-27.0	-15.5	-0.39	-0.93	-89.7	-0.93	-0.39	-0.00
202-17	-12.9	-21.3	-13.5	-0.38	-0.75	-88.8	-0.75	-0.38	-0.01
213-11	-9.1	-11.1	-9.3	-0.35	-0.44	-88.2	-0.44	-0.35	-0.00
225-17	-5.6	1.1	0.2	-0.01	-0.23	19.0	-0.03	-0.20	0.07
236-11	-0.1	21.1	19.3	0.76	0.06	20.1	0.68	0.15	0.22
247-16	1.6	34.7	38.1	1.39	0.31	25.4	1.19	0.51	0.42
258-11	1.6	39.7	48.5	1.71	0.44	29.0	1.41	0.74	0.54
270-16	1.3	37.3	48.2	1.67	0.42	30.9	1.35	0.77	0.54
400-01	-17.6	-13.4	2.8	-0.04	-0.59	-74.8	-0.55	-0.08	-0.14
400-11	4.7	-6.4	-15.8	0.00	-0.48	87.7	-0.47	-0.00	0.02
401-01	11.2	34.0	13.6	1.03	0.03	1.6	1.03	0.03	0.03
401-02	1.6	-0.9					0.05	-0.01	
401-03	-35.5	7.7					-1.09	-0.10	
401-04	0.7	1.2					0.03	0.04	
402-01	9.2	34.3	12.8	1.01	-0.07	2.2	1.01	-0.07	0.04
402-02	2.7	-0.6					0.08	0.01	
402-03	7.5	-36.8					-0.12	-1.14	
402-04	2.5	-0.0					0.08	0.02	
403-01	-0.4	0.3	0.4	0.01	-0.01	23.7	0.01	-0.01	0.01
403-02	-0.3	-0.0					-0.01	-0.00	
403-03	0.3	-0.0					0.01	0.00	
403-04	0.3	-0.3					0.01	-0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, AXIAL FORCE LOADING ON RUN, F2X

NOMINAL LOAD = 6.038E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO SPF. DIR. ALONG	NORMAL	SHEAR
0- 1	4.0	12.5	5.2	0.38	0.01	2.1	0.38	0.01	0.01
0- 2	2.9	7.3	3.3	0.23	0.03	1.3	0.23	0.03	0.00
0- 3	1.5	4.3	1.4	0.13	-0.00	-0.3	0.13	-0.00	-0.00
0- 4	0.5	2.3	0.7	0.07	-0.02	1.3	0.07	-0.02	0.00
0- 5	1.3	3.0	1.2	0.09	0.01	-0.6	0.09	0.01	-0.00
0- 6	1.8	4.8	1.8	0.15	0.01	-0.2	0.15	0.01	-0.00
0- 7	3.0	-0.4	1.3	0.15	0.03	-3.6	0.15	0.03	-0.01
0- 8	2.4	3.5	2.3	0.13	0.08	-1.1	0.13	0.08	-0.00
0- 9	2.8	0.9	2.9	0.16	0.08	89.1	0.08	0.16	0.00
0-10	1.2	-2.1	1.5	0.14	-0.02	88.6	-0.02	0.14	0.00
0-11	3.8	4.2	3.9	0.17	0.16	7.2	0.17	0.16	0.00
0-12	5.1	7.1	4.8	0.26	0.16	-2.0	0.26	0.16	-0.00
0-13	3.7	5.4	18.8*	0.70	0.26	63.9	0.35	0.62	0.17
0-14	2.8	4.8	2.3	0.16	0.06	-3.0	0.16	0.06	-0.01
0-15	-0.5	-0.1	-1.0	-0.02	-0.05	-11.1	-0.02	-0.04	-0.01
0-16	-4.8	-3.3	-5.0	-0.17	-0.25	-2.5	-0.17	-0.25	-0.00
0-17	-7.7	-8.8	-3.8	-0.16	-0.33	3.5	-0.16	-0.33	0.01
0-18	-7.3	-1.7	-7.7	-0.19	-0.46	-1.0	-0.19	-0.46	-0.00
0-19	-7.6	-6.3	-7.4	-0.29	-0.35	2.5	-0.29	-0.35	0.00
0-20	-4.7	-4.7	-4.1	-0.18	-0.20	88.3	-0.20	-0.18	0.01
22- 1	2.9	15.9	17.1	0.64	0.21	25.1	0.56	0.29	0.16
22- 2	-0.1	7.1	10.7	0.36	0.09	35.9	0.27	0.19	0.13
22- 3	-2.3	3.4	8.0	0.24	0.00	41.5	0.13	0.11	0.12
22- 4	-3.4	1.6	7.0	0.20	-0.04	46.2	0.07	0.08	0.12
22- 5	-3.0	3.6	9.6	0.29	-0.01	43.5	0.15	0.13	0.15
22- 6	-5.1	6.9	12.4	0.37	-0.06	34.9	0.23	0.08	0.20
22- 7	8.8	2.2*	-5.0	0.24	-0.08	41.6	0.10	0.06	0.16
22- 8	-2.0	0.7	6.0	0.18	-0.01	54.0	0.05	0.11	0.09
22- 9	2.0	-0.7	1.7	0.14	0.02	-88.4	0.02	0.14	-0.00
22-10	1.9	-2.6	-0.7	0.10	-0.05	-78.8	-0.05	0.10	-0.03
22-11	5.4	4.4	-0.7	0.18	0.01	-27.6	0.15	0.05	-0.07
22-12	7.1	7.7	0.1	0.28	0.03	-20.6	0.25	0.06	-0.08
22-13	6.0	7.3	-1.0	0.25	-0.03	-17.9	0.22	-0.00	-0.08
22-14	7.0	6.0	-2.5	0.24	-0.04	-25.9	0.18	0.01	-0.11
22-15	3.4	-0.7	-5.0	0.06	-0.13	-44.6	-0.03	-0.04	-0.10
22-16	-3.2	-3.9	-5.7	-0.16	-0.22	-32.8	-0.18	-0.20	-0.03
22-17	-6.2	-8.8	-5.3	-0.18	-0.32	3.7	-0.18	-0.32	0.01
22-18	-6.5	-0.7	-5.2	-0.13	-0.37	3.6	-0.13	-0.37	0.01
22-19	-5.0	-4.4	-5.1	-0.20	-0.23	-2.2	-0.20	-0.23	-0.00
22-20	-2.7	-3.1	-3.4	-0.12	-0.14	-48.9	-0.13	-0.13	-0.01
45- 1	-2.2	10.8	17.1	0.55	0.08	35.3	0.40	0.24	0.22
45- 2	-0.0	7.2	13.2	0.44	0.13	42.3	0.30	0.27	0.15
45- 3	-2.5	2.2	7.5	0.22	-0.01	46.6	0.10	0.11	0.11
45- 4	-4.5	1.0	8.2	0.23	-0.07	48.8	0.06	0.10	0.15
45- 5	-3.9	3.7	14.5	0.48	0.01	50.0	0.19	0.26	0.21
45- 6	-6.3	5.1	17.1	0.50	-0.04	45.8	0.22	0.24	0.27
45- 7	9.7	4.8	-5.0	0.28	-0.08	62.0	0.00	0.20	0.15
45- 8	-2.4	-2.6	3.7	0.13	-0.07	68.5	-0.05	0.10	0.07
45- 9	1.6	-1.7	-1.9	0.05	-0.06	-66.3	-0.04	0.03	-0.04
45-10	2.9	-0.9	-3.7	0.06	-0.09	-89.5	-0.03	-0.01	-0.08
45-11	8.0	5.4	1.7	0.28	0.13	-39.8	0.22	0.19	-0.07
45-12	7.7	4.3	-1.2	0.25	0.04	-38.3	0.17	0.12	-0.10
45-13	10.0	5.8	-3.4	0.31	-0.02	-34.6	0.20	0.08	-0.16
45-14	11.5	4.1	-4.0	0.34	-0.02	-43.5	0.17	0.15	-0.18
45-15	7.2	-0.6	-5.2	0.19	-0.10	-52.4	0.01	0.08	-0.14
45-16	-1.2	-4.6	-3.7	-0.05	-0.16	-74.8	-0.15	-0.06	-0.03
45-17	-2.8	-1.1	-0.9	-0.05	-0.11	-68.0	-0.10	-0.06	-0.02
45-18	-1.1	-0.6	-0.8	-0.03	-0.05	11.4	-0.03	-0.05	0.00
45-19	0.5	0.4	-1.1	0.01	-0.04	-24.8	0.00	-0.03	-0.02
45-20	0.6	0.3	-0.8	0.01	-0.02	-31.6	0.00	-0.01	-0.02
67- 1	-3.8	-1.9	5.2	0.15	-0.09	60.0	-0.03	0.09	0.10

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-3.5	-0.5	6.6	0.19	-0.06	56.0	0.02	0.11	0.12
67- 3	-3.6	0.5	9.0	0.27	-0.04	54.8	0.06	0.17	0.15
67- 4	-4.6	1.6	12.8	0.38	-0.03	53.0	0.12	0.23	0.20
67- 5	-5.5	2.8	12.0	0.34	-0.06	46.7	0.13	0.15	0.20
67- 6	4.8	-0.9	-5.2	0.11	-0.13	58.1	-0.06	0.04	0.10
67- 7	-3.4	-3.3	0.7	0.01	-0.12	66.5	-0.10	-0.01	0.05
67- 8	-2.0	-2.4	-3.6	-0.10	-0.14	-32.4	-0.11	-0.13	-0.02
67- 9	0.1	0.1	-4.7	-0.02	-0.18	-22.7	-0.04	-0.15	-0.05
67-10	2.2	3.1	-3.8	0.08	-0.14	-19.1	0.06	-0.12	-0.07
67-11	8.6	-0.4	-1.6	0.30	0.00	-63.7	0.06	0.24	-0.12
67-12	7.5	-1.4	0.3	0.32	0.02	-72.8	0.05	0.29	-0.08
67-13	6.5	-0.1	0.3	0.25	0.04	-69.6	0.06	0.23	-0.07
67-14	7.6	-1.1	0.6	0.32	0.03	-73.2	0.06	0.30	-0.08
67-15	11.9	-1.4	1.4	0.51	0.07	-73.5	0.10	0.47	-0.12
67-16	0.7	14.8	16.7	0.60	0.14	-78.6	0.16	0.59	-0.09
67-17	7.6	1.6	10.2	0.55	0.21	84.9	0.21	0.55	0.03
67-18	9.0	5.1	7.1	0.42	0.27	-81.4	0.28	0.42	-0.02
67-19	6.8	5.9	4.2	0.27	0.21	-36.4	0.25	0.23	-0.03
67-20	4.0	5.4	3.0	0.19	0.11	-7.9	0.19	0.11	-0.01
90- 1	2.4	-1.9	2.4	0.20	0.00	-89.9	0.00	0.20	-0.00
90- 2	2.2	-2.0	2.0	0.19	-0.00	-89.2	-0.00	0.19	-0.00
90- 3	2.0	-1.8	1.8	0.16	-0.00	-89.0	-0.00	0.16	-0.00
90- 4	2.1	-1.6	1.8	0.17	0.00	-88.5	0.00	0.17	-0.00
90- 5	1.8	-1.8	1.3	0.15	-0.01	-88.2	-0.01	0.15	-0.01
90- 6	2.5	1.0	-2.3	0.06	-0.06	-88.6	-0.06	0.06	-0.00
90- 7	-1.1	-2.9	-1.2	-0.01	-0.09	-89.6	-0.09	-0.01	-0.00
90- 8	-3.8	-3.4	-3.6	-0.15	-0.17	6.1	-0.15	-0.17	0.00
90- 9	-4.5	-1.1	-4.0	-0.11	-0.25	2.1	-0.11	-0.25	0.01
90-10	-1.0	4.6	-0.7	0.09	-0.16	0.9	0.09	-0.16	0.00
90-11	2.5	-0.2	2.4	0.17	0.04	-89.5	0.04	0.17	-0.00
90-12	3.0	-2.2	2.6	0.23	0.01	-89.0	0.01	0.23	-0.00
90-13	3.9	-2.2	3.6	0.30	0.02	-89.4	0.02	0.30	-0.00
90-14	6.6	-2.3	5.4	0.45	0.07	-88.0	0.07	0.45	-0.01
90-15	11.6	-1.4	9.4	0.73	0.17	-87.3	0.18	0.72	-0.03
90-16	0.4	18.7	24.4	0.84	0.22	84.1	0.22	0.84	0.06
90-17	14.0	-0.2	11.4	0.84	0.25	-87.0	0.25	0.84	-0.03
90-18	13.0	3.2	14.4	0.83	0.35	88.1	0.35	0.83	0.02
90-19	9.9	9.9	10.5	0.45	0.43	70.6	0.43	0.45	0.01
90-20	5.1	6.1	4.8	0.24	0.19	-3.8	0.24	0.19	-0.00
180- 1	4.6	12.1	4.5	0.37	0.02	-0.2	0.37	0.02	-0.00
180- 2	2.0	6.4	1.9	0.19	-0.02	-0.2	0.19	-0.02	-0.00
180- 3	3.1	7.6	2.9	0.24	0.03	-0.6	0.24	0.03	-0.00
180- 4	1.0	3.7	1.2	0.11	-0.01	0.8	0.11	-0.01	0.00
180- 5	1.2	3.3	1.4	0.10	0.01	2.0	0.10	0.01	0.00
180- 6	1.8	4.9	1.6	0.15	-0.00	-0.9	0.15	-0.00	-0.00
180- 7	3.5	-0.8	1.1	0.17	0.02	-4.1	0.17	0.02	-0.01
180- 8	2.4	3.8	2.2	0.13	0.07	-2.6	0.13	0.07	-0.00
180- 9	3.1	0.7	2.6	0.17	0.07	-86.7	0.07	0.17	-0.01
180-10	1.8	-2.2	1.4	0.16	-0.02	-88.5	-0.02	0.16	-0.00
180-11	3.8	3.9	4.2	0.18	0.17	56.6	0.17	0.17	0.00
180-12	6.0	8.6	6.2	0.32	0.20	0.8	0.32	0.20	0.00
180-13	4.7	6.0	4.7	0.23	0.17	0.2	0.23	0.17	0.00
180-14	3.1	3.8	3.2	0.15	0.12	1.3	0.15	0.12	0.00
180-15	0.5	1.3	1.1	0.05	0.02	14.5	0.05	0.02	0.01
180-16	-3.8	-3.1	-3.2	-0.14	-0.16	19.8	-0.14	-0.16	0.01
180-17	-5.7	-3.1	-5.8	-0.18	-0.31	-70.8	-0.29	-0.20	-0.04
180-18	-8.0	-5.9	-12.8	-0.33	-0.57	-14.0	-0.34	-0.55	-0.06
180-19	-7.7	-6.1	-7.6	-0.29	-0.37	0.6	-0.29	-0.37	0.00
180-20	-4.9	-5.0	-5.7	-0.21	-0.24	-26.6	-0.22	-0.23	-0.01
202- 1	1.0	14.6	16.1	0.59	0.14	25.7	0.51	0.23	0.17
202- 2	-0.4	6.3	9.5	0.31	0.07	34.9	0.24	0.15	0.11
202- 3	-1.6	6.1	10.6	0.34	0.05	37.8	0.23	0.16	0.14
202- 4	-3.4	2.7	8.6	0.25	-0.03	44.6	0.11	0.11	0.14
202- 5	-3.6	3.0	9.3	0.27	-0.03	44.5	0.13	0.12	0.15
202- 6	-5.7	6.5	13.1	0.39	-0.07	36.7	0.22	0.09	0.22
202- 7	9.0	3.1	-6.1	0.24	-0.12	46.0	0.06	0.07	0.18

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-2.0	0.2	5.2	0.16	-0.02	55.9	0.04	0.10	0.08
202- 9	1.8	-0.8	1.7	0.13	0.02	-89.3	0.02	0.13	-0.00
202-10	1.9	-2.7	-0.8	0.11	-0.06	-78.8	-0.05	0.10	-0.03
202-11	5.4	5.5	-0.8	0.20	-0.01	-22.0	0.17	0.02	-0.07
202-12	8.4	9.8	0.8	0.35	0.05	-18.1	0.32	0.08	-0.09
202-13	5.7	7.1	0.2	0.24	0.01	-16.7	0.22	0.03	-0.06
202-14	5.5	5.7	-1.4	0.20	-0.03	-21.5	0.17	0.00	-0.08
202-15	3.7	0.7	-4.4	0.08	-0.11	-37.7	0.01	-0.04	-0.09
202-16	-3.3	-3.3	-5.7	-0.15	-0.23	-22.4	-0.16	-0.22	-0.03
202-17	-6.1	-9.3	-5.4	-0.16	-0.33	3.4	-0.16	-0.33	0.01
202-18	-7.1	-2.5	-5.1	-0.17	-0.35	7.6	-0.18	-0.34	0.02
202-19	-4.9	-4.8	-5.0	-0.20	-0.23	-1.4	-0.20	-0.23	-0.00
202-20	-2.8	-2.9	-3.4	-0.13	-0.14	-24.0	-0.13	-0.14	-0.01
225- 1	-0.7	6.5	16.0	0.59	0.13	89.1	0.30	0.36	0.19
225- 2	-0.6	8.4	9.7	0.51	0.08	85.6	0.19	0.20	0.12
225- 3	-1.6	4.2	10.4	0.33	0.05	85.9	0.18	0.19	0.14
225- 4	-4.0	0.3	7.6	0.21	-0.06	52.1	0.04	0.11	0.13
225- 5	-4.5	2.4	13.6	0.41	-0.02	51.6	0.15	0.24	0.21
225- 6	-6.8	6.4	18.2	0.53	-0.05	43.4	0.26	0.23	0.29
225- 7	8.1	4.6	-5.6	0.23	-0.12	63.0	-0.05	0.16	0.14
225- 8	-2.1	-2.3	2.9	0.10	-0.07	68.9	-0.05	0.08	0.06
225- 9	1.7	-1.7	-2.5	0.04	-0.07	-60.9	-0.05	0.01	-0.05
225-10	2.9	-1.2	-3.8	0.06	-0.10	-51.2	-0.04	-0.00	-0.08
225-11	8.2	4.4	0.5	0.27	0.10	-44.1	0.19	0.18	-0.09
225-12	11.6	6.9	-0.8	0.38	0.09	-38.5	0.27	0.20	-0.14
225-13	5.8	3.6	-2.6	0.18	-0.04	-32.4	0.11	0.02	-0.10
225-14	11.3	5.9	-3.4	0.34	-0.01	-37.4	0.22	0.12	-0.17
225-15	8.4	1.4	-4.2	0.24	-0.06	-48.2	0.07	0.11	-0.15
225-16	2.0	-3.7	-3.3	0.07	-0.12	-69.4	-0.10	0.04	-0.06
225-17	-3.1	0.4	0.9	0.01	-0.11	-70.4	-0.09	-0.00	-0.04
225-18	-0.2	-0.0	-0.0	-0.00	-0.01	17.7	-0.00	-0.01	0.00
225-19	1.0	1.6*	-0.5	0.05	-0.02	-15.3	0.04	-0.02	-0.02
225-20	0.9	0.4	-0.6	0.03	-0.01	-38.4	0.01	0.00	-0.02
247- 1	-3.5	-1.4	4.9	0.14	-0.08	58.2	-0.02	0.08	0.10
247- 2	-3.9	-0.6	6.1	0.17	-0.08	54.5	0.01	0.09	0.12
247- 3	-3.3	-0.2	8.4	0.26	-0.04	57.5	0.04	0.17	0.14
247- 4	-4.7	1.0	12.6	0.38	-0.04	54.3	0.10	0.24	0.20
247- 5	-5.9	1.6	11.5	0.32	-0.08	49.0	0.09	0.15	0.20
247- 6	4.6	-0.8	-5.5	0.10	-0.13	59.0	-0.07	0.04	0.10
247- 7	-3.5	-3.1	0.3	-0.01	-0.12	64.3	-0.10	-0.03	0.04
247- 8	-2.0	-2.3	-3.7	-0.10	-0.15	-27.8	-0.11	-0.13	-0.02
247- 9	0.4	-0.4	-4.9	-0.02	-0.17	-27.1	-0.05	-0.14	-0.06
247-10	2.2	2.4	-4.0	0.07	-0.14	-21.8	0.04	-0.11	-0.07
247-11	9.4	-0.6	-2.0	0.32	-0.01	-63.5	0.06	0.26	-0.13
247-12	8.1	0.3	-1.3	0.27	0.02	-61.4	0.07	0.21	-0.11
247-13	6.5	-0.5	0.1	0.26	0.03	-70.0	0.06	0.23	-0.07
247-14	7.4	-1.4	1.4	0.34	0.04	-76.2	0.05	0.32	-0.07
247-15	11.5	-1.3	1.8	0.50	0.07	-74.4	0.10	0.47	-0.11
247-16	0.3	15.9	18.0	0.65	0.13	-79.6	0.15	0.63	-0.09
247-17	8.2	0.6	8.0	0.52	0.17	-89.7	0.17	0.52	-0.00
247-18	9.0	4.6	6.4	0.41	0.25	-78.5	0.26	0.40	-0.03
247-19	9.7*	6.5	5.3	0.37	0.26	-56.8	0.30	0.34	-0.05
247-20	4.2	4.5	3.0	0.18	0.13	-17.3	0.18	0.13	-0.01
270- 1	2.4	-2.1	2.4	0.21	-0.00	-90.0	-0.00	0.21	-0.00
270- 2	2.0	-2.4	2.0	0.19	-0.02	89.9	-0.02	0.19	0.00
270- 3	1.9	-2.1	1.2	0.15	-0.02	-87.5	-0.02	0.15	-0.01
270- 4	2.4	-1.9	1.0	0.16	-0.01	-84.6	-0.01	0.15	-0.02
270- 5	2.2	-2.0	0.4	0.13	-0.02	-82.7	-0.02	0.13	-0.02
270- 6	2.6	2.2	-1.8	0.08	-0.05	-79.3	-0.04	0.08	-0.02
270- 7	0.3	-2.8	-1.3	0.03	-0.08	-80.4	-0.07	0.03	-0.02
270- 8	-3.6	-3.1	-3.7	-0.14	-0.17	-3.9	-0.14	-0.17	-0.00
270- 9	-4.7	-1.8	-4.4	-0.13	-0.26	1.9	-0.13	-0.26	0.00
270-10	-1.4	4.3	-0.4	0.08	-0.16	2.7	0.08	-0.16	0.01
270-11	2.5	-2.1	2.7	0.22	0.00	89.3	0.00	0.22	0.00
270-12	2.9	-2.1	3.1	0.24	0.01	89.4	0.01	0.24	0.00
270-13	4.0	-2.1	3.3	0.29	0.02	-88.3	0.02	0.29	-0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	5.6	-2.3	5.2	0.41	0.05	-89.3	0.05	0.41	-0.00
270-15	9.5	-1.6	8.5	0.63	0.14	-88.6	0.14	0.63	-0.01
270-16	0.3	17.6	22.6	0.79	0.20	84.5	0.20	0.78	0.06
270-17	13.3	-0.8	12.4	0.87	0.24	-89.0	0.24	0.87	-0.01
270-18	13.1	2.4	13.3	0.82	0.32	89.8	0.32	0.82	0.00
270-19	9.5	9.2	10.0	0.43	0.40	77.8	0.40	0.43	0.01
270-20	5.7	6.9	5.0	0.27	0.19	-6.8	0.27	0.19	-0.01
0- 7	3.0	-0.4	1.3	0.15	0.03	-80.6	0.03	0.15	-0.02
11- 1	6.6	1.2	-3.0	0.19	-0.04	-48.8	0.06	0.09	-0.11
22- 7	8.8	2.2*	-5.0	0.24	-0.08	-43.4	0.09	0.07	-0.16
33- 1	9.5	4.7	-5.7	0.27	-0.11	-34.8	0.15	0.02	-0.18
45- 7	9.7	4.8	-5.0	0.28	-0.08	-36.0	0.16	0.05	-0.17
56- 1	7.0	3.3	-5.2	0.19	-0.11	-38.2	0.10	-0.02	-0.14
67- 6	4.8	-0.9	-5.2	0.11	-0.13	-48.9	-0.02	0.01	-0.12
79- 1	2.8	-1.6	-4.0	0.06	-0.11	-52.9	-0.05	-0.00	-0.08
90- 6	2.5	1.0	-2.3	0.06	-0.06	-34.6	0.02	-0.02	-0.05
0-17	-7.7	-8.8	-3.8	-0.16	-0.33	73.5	-0.32	-0.18	0.05
11-11	-7.5	-10.0	-4.8	-0.17	-0.36	80.3	-0.35	-0.17	0.03
22-17	-6.2	-8.8	-5.3	-0.18	-0.32	85.7	-0.32	-0.18	0.01
33-11	-4.7	-5.7	-3.9	-0.15	-0.22	81.7	-0.22	-0.15	0.01
45-17	-2.8	-1.1	-0.9	-0.05	-0.11	26.0	-0.06	-0.10	0.02
56-11	-0.5	7.7	7.8	0.29	0.02	22.8	0.25	0.06	0.10
67-16	0.7	14.8	16.7	0.60	0.14	26.4	0.51	0.23	0.18
78-11	0.9	18.4	23.9	0.83	0.23	31.2	0.67	0.39	0.27
90-16	0.4	18.7	24.4	0.84	0.22	31.1	0.68	0.38	0.28
180- 7	3.5	-0.8	1.1	0.17	0.02	-79.1	0.03	0.17	-0.03
191- 1	6.3	1.2	-3.5	0.17	-0.05	-46.1	0.06	0.06	-0.11
202- 7	9.0	3.1	-6.1	0.24	-0.12	-39.0	0.10	0.02	-0.18
213- 1	9.4	4.3	-6.2	0.26	-0.12	-35.5	0.13	0.01	-0.18
225- 7	8.1	4.6	-5.6	0.23	-0.12	-32.0	0.13	-0.02	-0.16
236- 1	6.3	1.6	-5.5	0.16	-0.12	-39.1	0.05	-0.01	-0.14
247- 6	4.6	-0.8	-5.5	0.10	-0.13	-47.0	-0.03	-0.01	-0.12
258- 1	3.5	-1.2	-3.9	0.08	-0.10	-52.3	-0.03	0.01	-0.09
270- 6	2.6	2.2	-1.8	0.08	-0.05	-25.3	0.06	-0.02	-0.05
180-17	-5.7	-3.1	-5.8	-0.18	-0.31	-0.8	-0.19	-0.31	-0.00
191-11	-6.8	-11.7	-6.3	-0.16	-0.40	88.4	-0.40	-0.16	0.01
202-17	-6.1	-9.3	-5.4	-0.16	-0.33	87.4	-0.33	-0.16	0.01
213-11	-4.6	-5.0	-3.5	-0.15	-0.20	74.6	-0.19	-0.15	0.01
225-17	-3.1	0.4	0.9	0.01	-0.11	26.6	-0.01	-0.08	0.05
236-11	-0.7	9.5	9.5	0.36	0.02	22.4	0.31	0.07	0.12
247-16	0.3	15.9	18.0	0.65	0.13	26.4	0.55	0.24	0.20
258-11	0.4	18.5	22.7	0.80	0.19	29.1	0.65	0.34	0.26
270-16	0.3	17.6	22.6	0.79	0.20	30.5	0.63	0.35	0.26
400-01	8.3	6.2	-1.2	0.28	0.02	14.6	0.26	0.04	0.06
400-11	-2.2	3.1	7.8	0.23	0.00	-1.6	0.23	0.00	-0.01
401-01	4.0	13.0	5.6	0.39	0.01	2.8	0.39	0.01	0.02
401-02	-3.7	15.9					0.04	0.49	
401-03	16.2	-4.4					0.49	0.02	
401-04	-2.8	13.2					0.04	0.41	
402-01	2.9	13.8	4.7	0.39	-0.07	2.6	0.39	-0.07	0.02
402-02	-1.2	14.3					0.10	0.46	
402-03	-6.5	15.5					-0.06	0.45	
402-04	-1.7	14.3					0.08	0.46	
403-01	-0.2	0.1	0.2	0.00	-0.01	26.8	0.00	-0.00	0.00
403-02	-0.2	-0.0					-0.01	-0.00	
403-03	0.1	-0.0					0.00	0.00	
403-04	0.2	-0.2					0.00	-0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, IN-PLANE FORCE LOADING ON RUN, -P2Y

NOMINAL LOAD = 6.038E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	14.0	39.1	14.5	1.18	0.04	0.3	1.18	0.04	0.01
0- 2	10.1	22.7	8.7	0.71	0.09	-1.5	0.71	0.09	-0.02
0- 3	5.0	13.2	3.0	0.38	-0.04	-3.2	0.38	-0.04	-0.02
0- 4	1.9	7.5	0.7	0.20	-0.09	-2.7	0.20	-0.09	-0.01
0- 5	4.2	8.7	2.0	0.27	0.00	-5.6	0.26	0.00	-0.03
0- 6	6.4	13.6	3.9	0.42	0.03	-4.2	0.42	0.03	-0.03
0- 7	8.4	-0.7	5.4	0.47	0.12	-7.5	0.47	0.12	-0.05
0- 8	8.1	11.1	7.0	0.41	0.24	-4.4	0.41	0.24	-0.01
0- 9	7.5	3.5	8.5	0.45	0.24	86.7	0.24	0.45	0.21
0-10	3.5	-3.9	5.4	0.38	-0.00	86.7	-0.00	0.38	0.02
0-11	9.3	11.6	12.1	0.50	0.42	28.8	0.48	0.44	0.03
0-12	12.9	19.9	14.7	0.73	0.45	4.3	0.73	0.45	0.02
0-13	9.3	15.3	18.5*	0.71	0.49	36.7	0.63	0.57	0.11
0-14	6.8	13.5	8.1	0.46	0.18	3.1	0.46	0.18	0.02
0-15	-1.0	0.3	-0.6	-0.01	-0.09	11.1	-0.02	-0.09	0.02
0-16	-13.1	-8.6	-11.6	-0.44	-0.62	5.5	-0.44	-0.61	0.02
0-17	-18.5	-22.6	-10.7	-0.42	-0.83	7.1	-0.43	-0.83	0.05
0-18	-19.5	-5.0	-18.6	-0.89	-1.14	0.9	-0.89	-1.14	0.01
0-19	-19.3	-15.8	-18.3	-0.74	-0.87	4.7	-0.74	-0.87	0.01
0-20	-11.6	-11.0	-10.3	-0.45	-0.48	48.0	-0.47	-0.47	0.02
22- 1	5.9	39.4	45.1	1.65	0.54	27.4	1.41	0.77	0.45
22- 2	-1.7	17.4	29.2	0.96	0.22	38.3	0.67	0.50	0.36
22- 3	-7.1	8.2	21.4	0.63	-0.02	42.8	0.33	0.28	0.33
22- 4	-9.8	3.8	18.4	0.51	-0.14	46.0	0.17	0.19	0.31
22- 5	-8.8	9.0	24.9	0.73	-0.04	43.4	0.37	0.32	0.39
22- 6	-12.8	18.2	32.1	0.97	-0.14	34.6	0.61	0.22	0.52
22- 7	23.1	8.7	-12.2	0.65	-0.18	45.2	0.23	0.24	0.41
22- 8	-4.3	3.5	16.3	0.50	0.01	51.8	0.20	0.32	0.24
22- 9	5.4	-0.8	5.3	0.37	0.09	-89.6	0.09	0.37	-0.00
22-10	4.9	-5.5	-0.6	0.28	-0.10	-80.1	-0.09	0.27	-0.06
22-11	12.9	9.4	-2.9	0.42	0.01	-30.5	0.32	0.11	-0.18
22-12	18.7	16.8	-1.2	0.67	0.08	-25.5	0.56	0.19	-0.23
22-13	15.9	17.0	-2.3	0.61	-0.02	-20.9	0.53	0.06	-0.21
22-14	17.3	14.8	-4.9	0.59	-0.06	-26.2	0.46	0.07	-0.26
22-15	7.4	-1.1	-10.5	0.14	-0.27	-43.7	-0.06	-0.08	-0.21
22-16	-9.4	-9.7	-13.1	-0.43	-0.54	-29.9	-0.45	-0.52	-0.34
22-17	-14.9	-22.7	-14.5	-0.44	-0.81	7.3	-0.45	-0.81	0.05
22-18	-17.4	-2.1	-12.4	-0.34	-0.94	5.4	-0.34	-0.94	0.06
22-19	-13.2	-11.0	-12.5	-0.51	-0.60	5.5	-0.51	-0.60	0.01
22-20	-7.1	-7.3	-8.2	-0.31	-0.34	-28.9	-0.32	-0.34	-0.01
45- 1	0.0	2.6	9.1	0.31	0.08	56.7	0.15	0.24	0.10
45- 2	1.2	5.2	16.4	0.57	0.18	57.7	0.29	0.46	0.18
45- 3	-2.8	1.9	13.2	0.42	0.02	56.3	0.15	0.30	0.19
45- 4	-9.3	-0.6	17.6	0.51	-0.15	54.8	0.07	0.29	0.31
45- 5	-9.9	6.6	34.1	1.04	-0.01	52.0	0.39	0.64	0.51
45- 6	-16.3	11.8	41.7	1.21	-0.13	45.9	0.52	0.57	0.67
45- 7	24.1	10.9	-12.8	0.68	-0.20	60.9	0.01	0.48	0.38
45- 8	-6.4	-5.7	9.8	0.33	-0.18	66.2	-0.10	0.25	0.19
45- 9	3.5	-3.9	-3.8	0.12	-0.13	-68.2	-0.09	0.08	-0.08
45-10	6.3	-2.5	-8.3	0.13	-0.22	-50.7	-0.08	-0.01	-0.17
45-11	3.2	-2.3	-1.3	0.13	-0.05	-72.9	-0.03	0.12	-0.03
45-12	8.8	-2.7	-3.6	0.30	-0.08	-65.2	-0.01	0.23	-0.14
45-13	16.0	3.6	-6.7	0.46	-0.06	-47.5	0.18	0.22	-0.26
45-14	21.3	6.4	-6.9	0.64	-0.02	-46.6	0.29	0.33	-0.33
45-15	14.5	-1.9	-10.2	0.39	-0.21	-54.0	-0.00	0.18	-0.28
45-16	-4.0	-10.5	-7.7	-0.13	-0.37	-79.1	-0.36	-0.14	-0.04
45-17	-5.6	-2.5	-3.2	-0.14	-0.24	-78.6	-0.24	-0.14	-0.02
45-18	-3.8	-1.6	-1.0	-0.06	-0.14	30.9	-0.08	-0.12	0.03
45-19	0.5	0.5	-2.3	0.01	-0.08	-22.6	-0.01	-0.07	-0.03
45-20	1.4	0.5	-1.9	0.03	-0.05	-33.2	0.01	-0.03	-0.04
67- 1	0.4	-1.0	-1.1	0.01	-0.04	-65.6	-0.03	0.00	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.5	-1.2	4.1	0.12	-0.05	60.7	-0.01	0.08	0.08
67- 3	-5.4	-0.1	13.1	0.40	-0.07	56.5	0.07	0.26	0.21
67- 4	-9.7	2.6	25.6	0.77	-0.08	53.4	0.22	0.46	0.41
67- 5	-13.7	4.9	26.7	0.75	-0.19	47.3	0.24	0.32	0.47
67- 6	10.6	-3.2	-13.3	0.22	-0.34	57.8	-0.18	0.06	0.25
67- 7	-9.5	-8.7	1.2	-0.02	-0.34	65.1	-0.28	-0.07	0.12
67- 8	-6.1	-6.5	-8.4	-0.28	-0.34	-27.5	-0.29	-0.33	-0.03
67- 9	-1.3	-1.0	-11.2	-0.10	-0.44	-21.6	-0.15	-0.39	-0.11
67-10	3.8	5.4	-9.5	0.12	-0.37	-19.3	0.07	-0.31	-0.15
67-11	-1.1	-3.5	2.2	0.13	-0.08	78.9	-0.07	0.12	0.34
67-12	5.0	1.0	-1.1	0.16	0.01	-53.0	0.06	0.10	-0.07
67-13	8.1	-0.7	2.7	0.38	0.08	-78.0	0.09	0.37	-0.06
67-14	13.4	-3.2	2.8	0.64	0.06	-77.4	0.09	0.61	-0.12
67-15	26.0	-3.1	4.7	1.15	0.17	-75.0	0.23	1.09	-0.25
67-16	2.8	35.1	38.0	1.40	0.34	-80.0	0.38	1.37	-0.18
67-17	18.8	3.6	23.1	1.30	0.49	86.5	0.50	1.30	0.05
67-18	20.5	11.3	17.6	1.00	0.63	-84.6	0.64	0.99	-0.03
67-19	16.0	13.3	10.5	0.63	0.50	-44.8	0.57	0.57	-0.06
67-20	10.0	11.8	7.4	0.45	0.29	-11.2	0.45	0.30	-0.03
90- 1	1.1	1.0	-2.2	0.03	-0.07	-23.5	0.01	-0.06	-0.04
90- 2	2.3	-0.4	-1.2	0.07	-0.02	-60.1	0.00	0.05	-0.04
90- 3	3.1	-1.5	-0.3	0.14	-0.02	-75.0	-0.01	0.13	-0.04
90- 4	4.6	-2.3	0.9	0.24	-0.01	-79.9	0.00	0.23	-0.04
90- 5	4.2	-4.4	0.6	0.27	-0.06	-82.6	-0.05	0.26	-0.04
90- 6	4.0	2.0	-5.6	0.09	-0.16	-83.6	-0.16	0.09	-0.03
90- 7	-2.9	-7.5	-4.5	-0.07	-0.25	-83.7	-0.25	-0.07	-0.02
90- 8	-9.4	-9.0	-9.9	-0.40	-0.43	-10.6	-0.40	-0.43	-0.01
90- 9	-11.6	-4.2	-10.5	-0.31	-0.63	2.2	-0.32	-0.63	0.01
90-10	-3.8	8.4	-3.1	0.12	-0.42	0.8	0.12	-0.42	0.01
90-11	-1.8	0.0	1.5	0.03	-0.05	41.7	-0.00	-0.01	0.04
90-12	0.2	-2.9	3.1	0.18	-0.04	81.0	-0.03	0.17	0.03
90-13	3.9	-3.6	6.2	0.42	0.01	86.3	0.02	0.41	0.03
90-14	11.6	-4.4	11.1	0.85	0.12	-89.6	0.12	0.85	-0.01
90-15	25.5	-2.6	19.8	1.56	0.38	-86.8	0.39	1.55	-0.07
90-16	1.3	41.3	53.2	1.85	0.49	83.8	0.50	1.83	0.15
90-17	30.9	-0.1	25.0	1.85	0.55	-87.0	0.55	1.84	-0.07
90-18	29.7	7.2	33.2	1.91	0.79	88.0	0.79	1.91	0.04
90-19	23.0	22.0	24.5	1.06	0.97	78.2	0.98	1.06	0.02
90-20	12.3	13.9	11.8	0.56	0.47	-4.2	0.56	0.47	-0.01
180- 1	10.4	26.0	9.3	0.79	0.05	-1.1	0.79	0.05	-0.01
180- 2	5.1	14.4	3.8	0.42	-0.04	-1.8	0.42	-0.04	-0.01
180- 3	7.5	16.9	6.0	0.52	0.06	-2.1	0.52	0.06	-0.02
180- 4	2.8	8.4	2.2	0.24	-0.03	-1.5	0.24	-0.03	-0.01
180- 5	3.1	7.3	2.6	0.22	0.02	-1.4	0.22	0.02	-0.00
180- 6	4.7	10.6	3.0	0.32	0.01	-3.6	0.32	0.01	-0.02
180- 7	7.6	-1.8	3.4	0.41	0.06	-6.9	0.41	0.07	-0.04
180- 8	6.9	9.7	5.0	0.34	0.16	-7.0	0.34	0.17	-0.02
180- 9	7.7	2.9	6.7	0.41	0.21	-86.5	0.21	0.41	-0.01
180-10	4.7	-3.5	4.2	0.37	0.01	-89.1	0.01	0.37	-0.01
180-11	6.9	7.4	8.9	0.37	0.31	58.9	0.33	0.35	0.02
180-12	11.5	17.0	12.9	0.63	0.41	4.1	0.63	0.41	0.02
180-13	9.1	11.8	10.0	0.46	0.36	5.9	0.46	0.36	0.01
180-14	6.1	7.5	6.9	0.30	0.25	10.7	0.30	0.25	0.01
180-15	0.4	2.2	2.8	0.10	0.04	33.0	0.08	0.06	0.03
180-16	-8.6	-7.4	-6.4	-0.30	-0.35	42.7	-0.32	-0.32	0.02
180-17	-12.7	-7.4	-12.4	-0.42	-0.66	-69.2	-0.63	-0.45	-0.08
180-18	-17.3	-13.2	-27.8	-0.72	-1.22	-14.6	-0.75	-1.18	-0.12
180-19	-17.4	-13.8	-17.2	-0.66	-0.82	0.7	-0.66	-0.82	0.00
180-20	-11.0	-10.6	-13.0	-0.47	-0.56	-18.0	-0.48	-0.55	-0.02
202- 1	2.6	26.4	27.0	1.02	0.25	23.2	0.90	0.37	0.28
202- 2	-0.4	12.6	17.3	0.59	0.14	32.4	0.46	0.26	0.20
202- 3	-3.2	12.1	20.7	0.66	0.09	37.1	0.45	0.30	0.28
202- 4	-7.0	5.6	17.4	0.50	-0.06	44.1	0.23	0.21	0.28
202- 5	-7.5	6.4	19.3	0.56	-0.06	44.0	0.26	0.24	0.31
202- 6	-11.9	14.4	27.9	0.83	-0.14	36.1	0.49	0.20	0.46
202- 7	20.3	6.4	-12.9	0.55	-0.23	44.6	0.16	0.15	0.39

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-3.6	2.5	13.1	0.40	0.00	52.7	0.15	0.26	0.19
202- 9	8.3	-0.5	5.3	0.33	0.08	87.2	0.08	0.33	0.01
202-10	8.4	-8.9	0.1	0.27	-0.07	-81.6	-0.07	0.26	-0.05
202-11	6.4	9.8	-0.6	0.30	-0.05	-13.5	0.28	-0.04	-0.08
202-12	13.6	17.3	1.8	0.59	0.07	-15.8	0.55	0.11	-0.14
202-13	9.9	12.8	0.7	0.43	0.03	-15.8	0.40	0.06	-0.11
202-14	9.9	10.3	-2.1	0.37	-0.04	-21.5	0.31	0.02	-0.14
202-15	5.8	0.3	-8.0	0.12	-0.21	-39.2	-0.01	-0.08	-0.16
202-16	-9.2	-7.6	-10.8	-0.37	-0.49	-9.4	-0.37	-0.48	-0.02
202-17	-12.1	-21.5	-14.0	-0.36	-0.76	9.3	-0.37	-0.75	0.06
202-18	-17.7	-5.9	-10.7	-0.40	-0.82	11.5	-0.42	-0.80	0.08
202-19	-12.5	-10.1	-11.0	-0.46	-0.55	12.5	-0.47	-0.54	0.02
202-20	-7.5	-6.7	-7.9	-0.30	-0.35	-5.7	-0.31	-0.35	-0.00
225- 1	-0.3	4.8	3.4	0.15	-0.02	14.8	0.14	-0.01	0.04
225- 2	0.1	6.4	8.4	0.29	0.08	31.0	0.23	0.13	0.09
225- 3	-1.9	6.8	13.0	0.41	0.06	41.8	0.26	0.22	0.17
225- 4	-6.7	1.1	13.3	0.38	-0.10	51.2	0.09	0.19	0.23
225- 5	-9.0	5.3	27.4	0.83	-0.03	51.0	0.31	0.48	0.42
225- 6	-15.5	15.0	30.8	1.18	-0.11	42.4	0.59	0.47	0.64
225- 7	19.4	9.5	-13.3	0.54	-0.28	60.7	-0.08	0.34	0.35
225- 8	-5.6	-4.6	8.3	0.27	-0.15	65.1	-0.08	0.19	0.16
225- 9	3.1	-3.9	-3.9	0.10	-0.13	-67.5	-0.10	0.06	-0.08
225-10	5.8	-3.3	-7.3	0.12	-0.20	-55.2	-0.10	0.01	-0.15
225-11	0.2	2.7	0.1	0.07	-0.05	-0.5	0.07	-0.05	-0.00
225-12	5.9	4.0	-1.3	0.19	0.01	-32.8	0.14	0.06	-0.08
225-13	6.0	3.1	-3.2	0.17	-0.05	-35.2	0.10	0.02	-0.11
225-14	15.3	9.7	-3.5	0.49	0.02	-33.9	0.34	0.16	-0.22
225-15	8.5	-1.9	485.2*	18.53	2.63	68.1	4.84	16.32	5.50
225-16	0.9	-8.0	-6.3	0.03	-0.26	-73.0	-0.24	0.01	-0.08
225-17	-5.7	-1.3	-2.1	-0.09	-0.24	-79.5	-0.24	-0.10	-0.03
225-18	-3.7	-0.3	-0.5	-0.04	-0.15	20.9	-0.05	-0.13	0.04
225-19	-0.8	0.6	-1.6	-0.01	-0.09	-6.4	-0.01	-0.09	-0.01
225-20	0.8	0.0	-1.8	0.01	-0.05	-34.5	-0.01	-0.03	-0.03
247- 1	-1.7	2.6	0.5	0.05	-0.10	9.7	0.05	-0.10	0.03
247- 2	-4.8	2.0	4.6	0.12	-0.12	33.0	0.04	-0.05	0.11
247- 3	-7.4	1.7	12.8	0.35	-0.12	47.7	0.09	0.14	0.23
247- 4	-11.2	4.1	26.9	0.78	-0.11	50.5	0.25	0.42	0.44
247- 5	-15.2	4.5	27.4	0.75	-0.23	47.1	0.23	0.30	0.49
247- 6	11.8	-3.3	-14.0	0.25	-0.35	56.2	-0.16	0.07	0.28
247- 7	-9.8	-7.6	2.8	0.01	-0.33	61.3	-0.25	-0.07	0.14
247- 8	-5.7	-6.1	-7.2	-0.26	-0.30	-31.4	-0.27	-0.28	-0.02
247- 9	-0.5	-2.6	-10.9	-0.11	-0.39	-29.5	-0.17	-0.32	-0.12
247-10	3.7	2.8	-9.8	0.07	-0.34	-24.6	0.00	-0.27	-0.16
247-11	-1.0	-0.2	1.5	0.04	-0.02	53.8	0.00	0.02	0.01
247-12	4.7	2.5	0.8	0.16	0.07	-49	0.11	0.12	-0.05
247-13	8.5	2.6	1.6	0.31	0.12	-62.7	0.16	0.27	-0.08
247-14	12.4	-0.8	2.6	0.54	0.10	-74.8	0.13	0.51	-0.11
247-15	22.3	-2.4	3.4	0.97	0.14	-74.1	0.20	0.90	-0.22
247-16	0.6	30.9	35.2	1.27	0.27	-79.4	0.30	.23	-0.18
247-17	15.8	1.7	17.0	1.05	0.36	88.8	0.36	1.05	0.01
247-18	17.8	9.7	13.2	0.82	0.51	-80.2	0.52	0.81	-0.05
247-19	15.1	13.1	11.0	0.61	0.51	-45.3	0.56	0.56	-0.05
247-20	9.1	9.0	6.1	0.37	0.28	-23.5	0.36	0.30	-0.03
270- 1	-3.1	1.8	1.2	0.04	-0.12	18.7	0.02	-0.11	0.05
270- 2	-2.9	-0.4	2.2	0.04	-0.07	44.9	-0.02	-0.02	0.06
270- 3	-2.3	-1.7	2.6	0.08	-0.06	63.7	-0.04	0.05	0.06
270- 4	-1.2	-3.0	4.1	0.18	-0.06	74.7	-0.04	0.17	0.06
270- 5	-0.7	-4.7	3.6	0.21	-0.09	80.3	-0.08	0.21	0.05
270- 6	5.2	-0.1	-6.0	0.11	-0.15	82.7	-0.14	0.11	0.03
270- 7	-3.9	-7.8	-1.2	0.02	-0.23	82.7	-0.23	0.01	0.03
270- 8	-9.8	-8.1	-9.0	-0.37	-0.43	9.0	-0.37	-0.43	0.01
270- 9	-11.4	-5.8	-11.5	-0.36	-0.62	-0.4	-0.36	-0.62	-0.00
270-10	-3.7	7.4	-3.4	0.10	-0.41	0.4	0.10	-0.41	0.00
270-11	1.1	-1.5	-2.3	0.02	-0.07	-59.3	-0.05	-0.00	-0.04
270-12	2.9	-1.5	0.0	0.14	-0.01	-77.0	-0.01	0.13	-0.03
270-13	6.2	-1.8	2.5	0.34	0.04	-81.7	0.04	0.33	-0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	11.4	-2.9	7.9	0.71	0.12	-86.0	0.12	0.70	-0.04
270-15	21.3	-1.9	15.8	1.27	0.32	-86.1	0.32	1.27	-0.06
270-16	0.7	35.6	48.5	1.66	0.45	86.7	0.45	1.66	0.07
270-17	31.0	-0.8	25.0	1.87	0.53	-87.0	0.54	1.87	-0.07
270-18	30.6	5.2	28.[illegible]	1.83	0.71	-88.9	0.71	1.83	-0.02
270-19	22.8	19.9	22.1	1.0[illegible]	0.90	-88.2	0.90	1.01	-0.00
270-20	13.7	15.1	11.8	0.61	0.49	-11.3	0.60	0.50	-0.02
0- 7	8.4	-0.7	5.4	0.47	0.12	-84.5	0.12	0.47	-0.03
11- 1	17.9	5.4	-6.4	0.53	-0.04	-50.4	0.19	0.30	-0.28
22- 7	23.1	8.7	-12.2	0.65	-0.18	-39.8	0.31	0.76	-0.41
33- 1	24.3	11.[illegible]	-14.5	0.68	-0.26	-35.5	0.36	0.06	-0.45
45- 7	24.1	10.9	-12.8	0.68	-0.20	-37.1	0.36	0.12	-0.43
56- 1	16.8	6.8	-13.6	0.44	-0.30	-35.6	0.19	-0.05	-0.35
67- 6	10.6	-3.2	-13.3	0.22	-0.34	-49.2	-0.10	-0.02	-0.28
78- 1	5.0	-4.3	-9.9	0.07	-0.28	-52.1	-0.15	-0.06	-0.17
90- 6	4.0	2.0	-5.6	0.09	-0.16	-29.6	0.03	-0.10	-0.11
0-17	-18.5	-22.6	-10.7	-0.42	-0.83	77.1	-0.81	-0.44	0.09
11-11	-18.2	-25.8	-13.3	-0.43	-0.91	83.1	-0.91	-0.44	0.06
22-17	-14.9	-22.7	-14.5	-0.44	-0.81	89.3	-0.81	-0.44	0.00
33-11	-10.7	-14.5	-10.7	-0.37	-0.55	0.0	-0.55	-0.37	0.00
45-17	-5.6	-2.5	-3.2	-0.14	-0.24	15.4	-0.14	-0.23	0.03
56-11	0.1	19.0	17.6	0.69	0.07	20.4	0.61	0.14	0.20
67-16	2.8	35.1	38.0	1.40	0.34	25.0	1.21	0.53	0.41
78-11	2.7	42.5	53.7	1.88	0.53	30.4	1.54	0.88	0.59
90-16	1.3	41.3	53.2	1.85	0.49	30.8	1.49	0.84	0.60
180- 7	7.6	-1.8	3.4	0.41	0.06	-81.9	0.07	0.41	-0.05
191- 1	14.7	2.7	-6.6	0.42	-0.08	-48.7	0.14	0.21	-0.25
202- 7	20.3	6.4	-12.9	0.55	-0.23	-40.4	0.22	0.10	-0.38
213- 1	21.9	9.1	-13.6	0.60	-0.25	-37.3	0.29	0.06	-0.41
225- 7	19.4	9.5	-13.3	0.54	-0.28	-34.3	0.28	-0.02	-0.38
236- 1	15.9	2.8	-13.5	0.39	-0.29	-41.8	0.09	0.01	-0.34
247- 6	11.8	-3.3	-14.0	0.25	-0.35	-49.8	-0.10	0.00	-0.30
258- 1	8.6	-5.9	-10.7	0.20	-0.29	-58.4	-0.16	0.07	-0.22
270- 6	5.[illegible]	-0.1	-6.0	0.11	-0.15	-43.3	-0.01	-0.03	-0.13
180-17	-12.[illegible]	-7.4	-12.4	-0.42	-0.	0.8	-0.42	-0.66	0.00
191-11	-14.2	-25.9	-15.0	-0.37	-0.89	-89.0	-0.89	-0.37	-0.01
202-17	-12.1	-21.5	-14.0	-0.36	-0.76	-86.7	-0.75	-0.36	-0.02
213-11	-8.8	-12.4	-10.7	-0.35	-0.48	-80.0	-0.48	-0.36	-0.02
225-17	-5.7	-1.3	-2.1	-0.09	-0.24	17.5	-0.11	-0.23	0.04
236-11	-1.1	17.3	16.1	0.62	0.02	20.7	0.55	0.10	0.20
247-16	0.6	30.9	35.2	1.27	0.27	26.6	1.07	0.47	0.40
258-11	0.7	36.9	47.1	1.64	0.41	30.3	1.33	0.72	0.54
270-16	0.7	35.6	48.5	1.66	0.45	32.7	1.31	0.80	0.55
400-01	-18.4	-13.8	2.8	-0.05	-0.61	-75.1	-0.58	-0.09	-0.14
400-11	4.8	-6.7	-16.3	-0.00	-0.49	87.5	-0.49	-0.00	0.02
401-01	18.6	53.0	20.2	1.61	0.06	0.7	1.61	0.06	0.02
401-02	2.7	-4.2					0.05	-0.11	
401-03	-54.7	12.1					-1.68	-0.14	
401-04	-0.8	6.1					0.03	0.19	
402-01	6.4	21.8	7.6	0.64	-0.04	1.1	0.64	-0.04	0.01
402-02	1.3	-0.9					0.03	-0.02	
402-03	5.0	-24.0					-0.07	-0.74	
402-04	0.7	1.5					0.04	0.06	
403-01	-0.5	0.3	0.5	0.01	-0.01	30.5	0.01	-0.00	0.01
403-02	-0.3	-0.0					-0.01	-0.00	
403-03	0.3	-0.1					0.01	0.00	
403-04	0.4	-0.3					0.01	-0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, OUT-OF-PLANE FORCE LOADING ON RUN, F2Z

NOMINAL LOAD = 6.038E 02 YOUNG'S MODULUS = 30.03E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PRI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	4.2	-2.1	-6.2	0.08	-0.16	-51.0	-0.07	-0.02	-0.12
0- 2	5.2	-1.6	-7.0	0.10	-0.18	-48.1	-0.05	-0.02	-0.14
0- 3	4.7	-1.1	-5.9	0.10	-0.15	-47.8	-0.04	-0.01	-0.12
0- 4	5.2	-0.1	-5.9	0.11	-0.14	-43.7	-0.01	-0.02	-0.13
0- 5	6.5	-0.1	-7.1	0.14	-0.17	-43.9	-0.01	-0.02	-0.16
0- 6	7.1	-0.5	-7.8	0.16	-0.19	-45.6	-0.02	-0.01	-0.17
0- 7	-5.7	-2.9	6.7	0.18	-0.14	-43.5	0.03	0.01	-0.16
0- 8	3.3	-0.2	-3.7	0.07	-0.09	-44.5	-0.01	-0.01	-0.08
0- 9	-1.7	0.1	1.4	0.03	-0.04	40.3	0.00	-0.01	0.04
0-10	-2.5	0.2	2.6	0.06	-0.06	43.1	0.01	-0.00	0.06
0-11	-3.0	-0.2	2.8	0.06	-0.07	46.1	-0.01	-0.00	0.07
0-12	-5.6	-0.3	5.6	0.13	-0.13	46.7	-0.01	0.01	0.13
0-13	-11.3	-6.4	570.4*	21.39	2.57	67.3	5.38	18.58	6.71
0-14	-5.2	-0.5	4.9	0.11	-0.12	46.8	-0.01	0.00	0.12
0-15	-4.2	0.0	4.7	0.11	-0.09	46.3	0.00	0.01	0.10
0-16	-3.7	0.5	5.2	0.14	-0.07	46.5	0.03	0.04	0.10
0-17	4.4	-2.0	-2.8	0.14	-0.07	46.3	0.03	0.04	0.10
0-18	-3.5	0.2	5.5	0.15	-0.06	50.0	0.03	0.06	0.10
0-19	-1.2	0.8	2.8	0.08	-0.01	44.9	0.03	0.03	0.05
0-20	-0.5	0.7	1.2	0.04	-0.00	35.6	0.02	0.01	0.02
22- 1	5.6	26.7	21.0	0.93	0.21	14.9	0.88	0.26	0.18
22- 2	2.5	13.2	8.8	0.43	0.06	11.4	0.42	0.07	0.07
22- 3	1.6	7.7	3.2	0.23	-0.02	8.2	0.23	-0.02	0.02
22- 4	1.8	4.4	-0.5	0.12	-0.06	-8.7	0.11	-0.06	-0.03
22- 5	3.5	4.2	-1.9	0.14	-0.07	-19.3	0.11	-0.04	-0.06
22- 6	3.8	3.4	-2.2	0.13	-0.06	-24.7	0.09	-0.03	-0.07
22- 7	-0.5	-0.8	2.3	0.09	-0.01	-24.6	0.07	0.0	-.04
22- 8	0.3	0.3	1.1	0.05	0.02	70.2	0.02	0.04	.01
22- 9	-0.7	-1.0	2.2	0.08	-0.02	70.2	-0.01	0.03	03
22-10	-1.9	-2.4	1.7	0.06	-0.07	70.8	-0.06	0.05	0.04
22-11	6.4	8.7	4.3	0.31	0.15	-8.9	0.31	0.15	-0.02
22-12	5.9	13.7	5.7	0.43	0.06	-0.4	0.43	0.06	-0.00
22-13	2.5	10.7	3.6	0.31	-0.05	2.1	0.31	-0.05	0.01
22-14	2.6	8.2	1.4	0.23	-0.06	-2.7	0.23	-0.06	-0.01
22-15	-0.9	2.5	-0.0	0.05	-0.09	-.3	0.05	-0.09	0.01
22-16	-5.8	-0.5	-0.6	-0.05	-0.22	22.3	-0.07	-0.20	0.06
22-17	-2.3	-8.9	-5.8	-0.05	-0.29	18.0	-0.08	-0.27	0.07
22-18	-5.5	0.7	-3.1	-0.07	-0.30	6.7	-0.07	-0.30	0.03
22-19	-4.6	-2.5	-2.3	-0.11	-0.18	25.3	-0.13	-0.17	0.03
22-20	-2.4	-1.9	-1.2	-0.06	-0.09	89.1	-0.08	-0.08	0.01
45- 1	-5.0	27.5	45.6	1.48	0.26	37.1	1.04	0.70	0.58
45- 2	-0.1	15.6	30.7	1.01	0.30	44.3	0.66	0.65	0.36
45- 3	-6.6*	3.5	14.1	0.26	-0.08	45.5	0.16	0.16	0.24
45- 4	-5.9	2.9	9.8	0.27	-0.10	41.7	0.10	0.06	0.18
45- 5	-2.1	5.2	10.3	0.32	0.03	40.1	0.20	0.15	0.14
45- 6	-2.5	3.6	7.6	0.23	-0.01	39.2	0.13	0.09	0.12
45- 7	4.9	2.4	-2.1	0.14	-0.02	61.1	0.02	0.11	0.07
45- 8	-0.7	-1.5	2.5	0.10	-0.03	73.0	-0.02	0.09	0.04
45- 9	1.3	-1.6	0.6	0.10	-0.02	-86.3	-0.02	0.10	-0.01
45-10	0.2	-3.8	-1.5	0.05	-0.10	-82.7	-0.10	0.05	-0.02
45-11	19.2	12.1	2.0	0.66	0.25	-40.3	0.49	0.42	-0.20
45-12	17.1	11.7	-2.5	0.56	0.06	-32.9	0.41	0.21	-0.23
45-13	18.9	14.0	-5.6	0.61	-0.05	-29.6	0.45	0.12	-0.28
45-14	16.7	7.0	-6.5	0.49	-0.05	-40.4	0.26	0.18	-0.27
45-15	5.8	0.3	-5.8	0.13	-0.13	-43.3	0.01	-0.0	-0.13
45-16	-4.3	-1.7	-6.3	-0.14	-0.31	-7.8	-0.15	-0.31	-0.02
45-17	-5.3	-11.3	-6.7	-0.13	-0.38	-0.0	-0.13	-0.38	-0.00
45-18	-5.8	-0.8	-5.9	-0.13	-0.37	-0.4	-0.13	-0.37	-0.00
45-19	-4.2	-3.3	-4.6	-0.16	-0.21	-5.0	-0.16	-0.21	-0.00
45-20	-2.3	-2.3	-2.5	-0.10	-0.11	-21.6	-0.10	-0.11	-0.00
67- 1	-6.3	-5.7	12.0	0.41	-0.17	66.4	-0.07	0.32	0.21

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-5.4	-2.3	15.0	0.49	-0.08	62.4	0.04	0.37	0.24
67- 3	-3.7	-0.2	16.6	0.56	-0.00	61.6	0.12	0.43	0.24
67- 4	-4.1	1.4	16.7	0.53	-0.00	57.7	0.16	0.38	0.24
67- 5	-5.6	2.5	12.3	0.35	-0.06	47.7	0.13	0.16	0.21
67- 6	6.8	0.6	-5.0	0.17	-0.10	60.5	-0.03	0.11	0.12
67- 7	-1.7	-2.5	2.7	0.11	-0.06	72.1	-0.05	0.09	0.05
67- 8	0.7	-1.6	-0.8	0.04	-0.04	-76.8	-0.04	0.03	-0.02
67- 9	2.4	-0.9	-2.3	0.06	-0.06	-56.0	-0.02	0.02	-0.05
67-10	2.2	-1.2	-2.6	0.05	-0.07	-56.6	-0.03	0.02	-0.06
67-11	20.6	-0.1	-5.4	0.67	-0.02	-60.3	0.15	0.50	-0.30
67-12	16.4	-5.4	0.6	0.73	-0.00	-75.1	0.04	0.68	-0.18
67-13	10.8	-1.7	-2.8	0.38	-0.03	-64.9	0.04	0.30	-0.16
67-14	6.9	-2.7	-3.3	0.24	-0.08	-65.7	-0.03	0.18	-0.12
67-15	3.7	-1.4	-4.3	0.08	-0.11	-52.6	-0.04	0.01	-0.09
67-16	-3.7	-3.0	1.4	0.02	-0.12	-42.0	-0.04	-0.06	-0.07
67-17	-3.8	0.2	1.3	0.01	-0.12	29.9	-0.02	-0.09	0.06
67-18	0.2	0.2	-2.7	-0.01	-0.10	-22.5	-0.02	-0.09	-0.03
67-19	-0.2	-0.3	-2.7	-0.02	-0.10	-23.2	-0.04	-0.09	-0.03
67-20	-0.5	-1.1	-2.0	-0.04	-0.07	-39.2	-0.05	-0.06	-0.02
90- 1	6.7	-4.6	6.9	0.55	0.03	89.8	0.03	0.55	0.00
90- 2	6.0	-4.3	7.7	0.55	0.03	87.8	0.04	0.55	0.02
90- 3	4.1	-3.6	8.2	0.49	0.03	84.1	0.04	0.49	0.05
90- 4	0.7	-3.4	8.3	0.39	-0.01	77.0	0.01	0.37	0.09
90- 5	-3.1	-4.2	6.6	0.25	-0.10	70.5	-0.06	0.21	0.11
90- 6	5.7	-2.5	-5.3	0.15	-0.13	68.2	-0.09	0.11	0.10
90- 7	-4.2	-3.8	3.2	0.09	-0.14	66.1	-0.10	0.06	0.08
90- 8	-2.8	-2.3	-0.5	-0.04	-0.10	60.9	-0.09	-0.05	0.03
90- 9	-0.3	-0.3	-2.3	-0.02	-0.09	-23.1	-0.03	-0.08	-0.02
90-10	1.7	1.7	-1.5	0.06	-0.05	-22.0	0.04	-0.03	-0.04
90-11	4.5	-0.0	5.6	0.33	0.10	87.0	0.10	0.33	0.01
90-12	4.8	-5.0	4.8	0.43	-0.02	90.0	-0.02	0.43	0.00
90-13	4.7	-5.1	4.3	0.42	-0.03	-89.3	-0.03	0.42	-0.01
90-14	6.4	-4.2	3.0	0.41	-0.01	-84.5	-0.00	0.41	-0.04
90-15	4.8	-1.8	7.5	0.45	0.08	85.3	0.08	0.45	0.03
90-16	-1.2	8.1	14.2	0.46	0.10	-88.0	0.10	0.46	-0.01
90-17	9.4	0.1	3.2	0.43	0.11	-76.9	0.13	0.41	-0.07
90-18	6.3	1.6	4.2	0.31	0.14	-81.9	0.14	0.31	-0.02
90-19	3.6	3.4	2.3	0.14	0.11	-26.9	0.14	0.12	-0.01
90-20	1.1	1.6	0.4	0.05	0.01	-12.4	0.05	0.01	-0.01
180- 1	1.6	-0.5	-1.8	0.04	-0.05	-52.2	-0.01	0.01	-0.04
180- 2	1.4	-0.2	-1.3	0.04	-0.03	-51.0	-0.00	0.01	-0.03
180- 3	0.7	-0.5	-1.0	0.01	-0.03	-54.7	-0.01	-0.00	-0.02
180- 4	0.5	-0.3	-0.8	0.01	-0.02	-53.6	-0.01	-0.00	-0.01
180- 5	-0.0	-0.3	-0.3	-0.00	-0.01	-73.2	-0.01	-0.00	-0.00
180- 6	0.0	-0.4	-0.3	0.00	-0.01	-77.1	-0.01	0.00	-0.00
180- 7	-0.9	-0.4	0.9	0.02	-0.02	-49.5	-0.00	0.00	-0.02
180- 8	1.6	-0.3	-1.9	0.03	-0.05	-47.2	-0.01	-0.00	-0.04
180- 9	0.9	-0.0	-1.4	0.02	-0.04	-39.0	-0.01	-0.02	-0.03
180-10	0.5	0.3	-0.7	0.01	-0.02	-29.4	0.00	-0.01	-0.01
180-11	-3.2	0.1	2.6	0.06	-0.08	40.5	-0.00	-0.02	0.07
180-12	-1.7	-0.6	0.6	0.00	-0.05	46.7	-0.02	0.02	0.03
180-13	0.1	-0.3	-0.8	-0.00	-0.02	-40.7	-0.01	-0.02	-0.01
180-14	0.9	0.1	-1.2	0.02	-0.03	-36.9	-0.00	-0.01	-0.02
180-15	0.7	0.3	-0.6	0.02	-0.01	-36.7	0.01	-0.00	-0.01
180-16	1.4	0.3	-0.6	0.04	-0.00	-47.2	0.02	0.02	-0.02
180-17	2.4	0.2	-1.1	0.07	-0.01	57.4	0.01	0.04	0.04
180-18	-1.2	2.9	2.0	0.09	-0.05	16.5	0.08	-0.04	0.04
180-19	2.2	0.7	-0.6	0.07	0.00	-46.3	0.03	0.04	-0.03
180-20	0.8	0.5	0.2	0.03	0.01	-41.5	0.02	0.02	-0.01
202- 1	-0.4	-18.5	-20.2	-0.15	-0.74	-69.7	-0.63	-0.25	-0.23
202- 2	0.1	-8.6	-10.6	-0.08	-0.37	-61.3	-0.30	-0.15	-0.12
202- 3	0.0	-8.5	-9.4	-0.06	-0.34	-64.5	-0.29	-0.11	-0.11
202- 4	1.6	-3.9	-5.6	0.01	-0.18	-59.2	-0.13	-0.04	-0.08
202- 5	1.5	-3.0	-4.8	0.01	-0.15	-56.3	-0.10	-0.04	-0.07
202- 6	1.6	-4.0	-6.7	-0.01	-0.21	-54.7	-0.14	-0.08	-0.10
202- 7	-4.2	-2.4	2.2	0.04	-0.12	-37.8	-0.02	-0.06	-0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO PEP. ALONG	NORMAL	DIP. SHEAR
202- 8	1.5	1.8	-1.5	0.05	-0.05	-20.0	0.04	-0.04	-0.03
202- 9	0.5	1.7	0.1	0.05	-0.02	-4.7	0.04	-0.02	-0.01
202-10	0.1	1.6	1.1	0.05	0.00	13.0	0.05	0.00	0.01
202-11	-8.1	-5.2	0.8	-0.05	-0.27	54.6	-0.19	-0.12	0.10
202-12	-9.9	-10.6	-1.2	-0.08	-0.39	69.5	-0.35	-0.12	0.10
202-13	-5.4	-7.3	-0.4	-0.01	-0.24	75.4	-0.23	-0.02	0.06
202-14	-4.7	-6.5	0.7	0.03	-0.21	74.4	-0.19	0.02	0.06
202-15	-3.8	-3.2	1.9	0.04	-0.12	63.8	-0.09	0.01	0.07
202-16	0.9	1.1	1.7	0.07	0.04	58.7	0.05	0.06	0.01
202-17	0.9	2.2	2.0	0.08	0.04	-66.1	0.05	0.08	-0.02
202-18	2.4	0.3	0.1	0.09	0.02	-65.3	0.03	0.08	-0.03
202-19	0.9	-0.0	0.1	0.04	0.01	-72.4	0.01	0.03	-0.01
202-20	0.0	-0.0	0.0	0.00	-0.00	-88.0	-0.00	0.00	-0.00
225- 1	1.3	-11.9	-31.8	-0.26	-1.04	-39.3	-0.58	-0.73	-0.38
225- 2	2.0	-6.6	-18.0	-0.11	-0.58	-41.1	-0.31	-0.37	-0.23
225- 3	3.4	-6.3	-17.2	-0.06	-0.53	-43.4	-0.28	-0.31	-0.24
225- 4	6.1	-1.0	-9.3	0.11	-0.25	-42.9	-0.06	-0.08	-0.18
225- 5	4.7	-2.4	-10.9	0.05	-0.31	-42.6	-0.12	-0.15	-0.18
225- 6	3.5	-3.1	-10.4	0.01	-0.31	-43.4	-0.14	-0.16	-0.16
225- 7	-3.2	-3.3	2.4	0.07	-0.11	-16.9	0.06	-0.09	-0.05
225- 8	0.5	2.5	0.4	0.07	-0.03	-0.7	0.07	-0.03	-0.00
225- 9	-0.7	1.6	3.0	0.09	0.00	37.3	0.06	0.04	0.04
225-10	-1.3	0.4	2.8	0.08	-0.02	49.8	0.02	0.04	0.05
225-11	-14.7	-8.1	-0.4	-0.16	-0.49	47.3	-0.34	-0.31	0.17
225-12	-21.1	-12.5	0.9	-0.17	-0.69	51.3	-0.49	-0.38	0.25
225-13	-9.4	-6.0	3.5	0.04	-0.29	57.8	-0.20	-0.06	0.15
225-14	-16.4	-7.1	4.9	0.00	-0.50	48.7	-0.28	-0.22	0.25
225-15	-12.8	-4.4	254.2*	9.40	0.95	66.6	2.29	8.06	3.08
225-16	-4.0	1.6	0.7	0.02	-0.16	18.1	0.00	-0.14	0.05
225-17	1.0	-3.5	-3.7	0.02	-0.13	16.4	0.00	-0.12	0.04
225-18	-2.7	-1.3	-1.2	-0.06	-0.11	23.0	-0.07	-0.10	0.02
225-19	-2.6	-2.6	-1.1	-0.05	-0.10	67.8	-0.10	-0.06	0.02
225-20	-1.8	-1.5	-0.6	-0.04	-0.07	58.8	-0.06	-0.04	0.01
247- 1	5.7	4.0	-9.6	0.14	-0.31	-26.0	0.05	-0.22	-0.18
247- 2	5.4	2.6	-11.3	0.10	-0.36	-28.1	0.00	-0.26	-0.19
247- 3	2.5	1.8	-11.6	0.02	-0.42	-24.0	-0.05	-0.34	-0.16
247- 4	3.0	1.7	-10.3	0.04	-0.35	-23.6	-0.03	-0.28	-0.15
247- 5	3.1	2.2	-4.6	0.08	-0.15	-26.0	0.04	-0.10	-0.09
247- 6	-0.6	-0.6	3.3	0.12	-0.01	-6.7	0.12	-0.00	-0.01
247- 7	1.2	2.8	2.6	0.11	0.05	18.2	0.10	0.06	0.02
247- 8	0.6*	1.7	3.8	0.13	0.05	52.5	0.08	0.10	0.04
247- 9	0.1	-0.1	3.0	0.12	0.01	69.0	0.03	0.10	0.03
247-10	-0.9	-2.3	1.5	0.08	-0.05	77.9	-0.05	0.08	0.03
247-11	-19.0	0.6	5.3	0.03	-0.62	29.3	-0.12	-0.46	0.28
247-12	-15.2	0.5	4.6	0.04	-0.49	29.9	-0.09	-0.36	0.23
247-13	-9.8	3.5	1.8	0.05	-0.39	18.9	0.00	-0.34	0.13
247-14	-8.2	2.8	-1.9	-0.02	-0.41	10.9	-0.03	-0.40	0.07
247-15	-1.1*	0.2	-3.5	-0.03	-0.16	-12.7	-0.04	-0.15	-0.03
247-16	-1.6	-14.3	-15.3	-0.15	-0.57	8.8	-0.16	-0.56	0.06
247-17	-7.4	-1.1	-7.0	-0.17	-0.45	0.8	-0.17	-0.45	0.00
247-18	-7.6	-3.9	-4.9	-0.21	-0.33	15.6	-0.21	-0.32	0.03
247-19	-5.6	-5.2	-4.0	-0.19	-0.23	56.0	-0.21	-0.20	0.02
247-20	-2.7	-3.3	-2.1	-0.08	-0.13	81.0	-0.12	-0.08	0.01
270- 1	-5.8	5.3	-6.3	0.00	-0.52	-0.7	0.00	-0.52	-0.01
270- 2	-6.4	5.3	-5.5	0.00	-0.51	1.1	0.00	-0.51	0.01
270- 3	-7.5	4.5	-3.2	0.00	-0.46	6.2	-0.00	-0.45	0.05
270- 4	-8.4	3.9	0.0	0.03	-0.39	13.8	0.01	-0.37	0.10
270- 5	-7.3	3.7	3.7	0.10	-0.26	22.5	0.05	-0.20	0.13
270- 6	-3.0	-7.5	1.5	0.13	-0.20	26.7	0.06	-0.13	0.13
270- 7	-4.8	3.5	5.1	0.15	-0.13	27.9	0.08	-0.07	0.11
270- 8	0.6	2.3	3.2	0.11	0.05	37.5	0.09	0.07	0.03
270- 9	2.8	0.9	1.5	0.12	0.06	-76.4	0.06	0.12	-0.01
270-10	1.7	-2.5	-1.8	0.07	-0.07	-72.7	-0.06	0.06	-0.04
270-11	-5.7	4.0	-4.7	-0.01	-0.44	1.5	-0.01	-0.44	0.01
270-12	-5.5	4.4	-4.8	-0.00	-0.44	1.0	-0.00	-0.44	0.01
270-13	-5.8	5.2	-4.1	0.02	-0.45	2.5	0.02	-0.45	0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-5.0	4.7	-5.4	0.01	-0.45	-0.5	0.01	-0.45	-0.00
270-15	-5.7	2.9	-7.7	-0.07	-0.51	-2.9	-0.07	-0.51	-0.02
270-16	-0.4	-14.1	-15.1	-0.11	-0.56	-11.4	-0.12	-0.54	-0.09
270-17	-6.3	1.0	-9.7	-0.13	-0.55	-5.3	-0.14	-0.55	-0.04
270-18	-5.9	-1.5	-8.1	-0.17	-0.43	-5.6	-0.17	-0.43	-0.03
270-19	-3.6	-4.6	-5.2	-0.17	-0.21	-51.1	-0.19	-0.18	-0.02
270-20	-1.5	-2.8	-1.8	-0.04	-0.10	-85.7	-0.10	-0.04	-0.00
0- 7	-5.7	-2.9	6.7	0.18	-0.14	59.5	-0.06	0.10	0.14
11- 1	-3.3	-1.5	5.2	0.15	-0.07	60.1	-0.02	0.10	0.10
22- 7	-0.5	-0.8	2.3	0.09	-0.01	70.4	0.00	0.08	0.03
33- 1	1.9	0.6	-0.3	0.06	0.01	-49.9	0.03	0.04	-0.02
45- 7	4.9	2.4	-2.1	0.14	-0.02	-36.9	0.08	0.04	-0.08
56- 1	6.0	3.3	-3.4	0.17	-0.06	-33.5	0.10	0.01	-0.11
67- 6	6.8	0.6	-5.0	0.17	-0.10	-46.5	0.03	0.05	-0.14
78- 1	6.5	-1.5	-5.6	0.17	-0.13	-53.8	-0.03	0.06	-0.14
90- 6	5.7	-2.5	-5.3	0.15	-0.13	-57.8	-0.05	0.07	-0.13
0-17	4.4	-2.0	-2.8	0.14	-0.07	-63.7	-0.03	0.10	-0.08
11-11	1.1	-5.3	-4.3	0.04	-0.17	-71.7	-0.15	0.02	-0.06
22-17	-2.3	-8.9	-5.8	-0.05	-0.29	-80.0	-0.29	-0.06	-0.04
33-11	-5.4	-11.3	-6.0	-0.12	-0.37	-88.5	-0.37	-0.12	-0.01
45-17	-5.3	-11.3	-6.7	-0.13	-0.38	-86.0	-0.38	-0.13	-0.02
56-11	-5.4	-8.4	-3.8	-0.11	-0.29	84.3	-0.28	-0.11	0.02
67-16	-3.7	-3.0	1.4	0.02	-0.12	63.0	-0.09	-0.01	0.06
78-11	-2.2	3.3	8.9	0.27	0.02	45.3	0.14	0.15	0.13
90-16	-1.2	8.1	14.2	0.46	0.10	39.0	0.32	0.24	0.18
180- 7	-0.9	-0.4	0.9	0.02	-0.02	55.5	-0.01	0.01	0.02
191- 1	-2.8	-1.3	1.3	0.02	-0.08	52.0	-0.04	-0.02	0.05
202- 7	-4.2	-2.4	2.2	0.04	-0.12	57.2	-0.08	-0.01	0.07
213- 1	-4.1	-3.2	2.6	0.06	-0.13	62.9	-0.09	0.02	0.08
225- 7	-3.2	-3.3	2.4	0.07	-0.11	68.1	-0.08	0.05	0.06
236- 1	-1.9	-1.5	2.9	0.09	-0.05	65.0	-0.03	0.07	0.06
247- 6	-0.6	-0.6	3.3	0.12	-0.01	67.3	0.01	0.10	0.05
258- 1	-1.0	-2.4	2.9	0.13	-0.05	75.1	-0.04	0.12	0.04
270- 6	-3.0	-7.5	1.5	0.13	-0.20	80.7	-0.19	0.12	0.05
180-17	2.4	0.2	-1.1	0.07	-0.01	-52.6	0.02	0.04	-0.04
191-11	-0.4	2.6	3.1	0.11	0.01	27.1	0.09	0.03	0.04
202-17	0.9	2.2	2.0	0.08	0.04	17.9	0.08	0.04	0.01
213-11	1.4	0.0	-0.1	0.05	0.01	-65.9	0.01	0.04	-0.02
225-17	1.0	-3.5	-3.7	0.02	-0.13	-66.6	-0.11	-0.01	-0.05
236-11	-0.9	-10.1	-9.9	-0.08	-0.38	-68.0	-0.34	-0.13	-0.10
247-16	-1.6	-14.3	-15.3	-0.15	-0.57	-65.2	-0.50	-0.23	-0.16
258-11	-1.3	-15.2	-16.5	-0.15	-0.61	-64.7	-0.53	-0.24	-0.18
270-16	-0.4	-14.1	-15.1	-0.11	-0.56	-65.4	-0.48	-0.18	-0.17
400-01	-0.3	2.1	0.9	0.06	-0.03	54.5	-0.00	0.03	0.04
400-11	0.3	2.8	0.3	0.07	-0.04	-45.3	0.01	0.01	-0.06
401-01	1.7	-2.0	-3.0	0.03	-0.09	-60.7	-0.06	0.00	-0.05
401-02	13.9	-53.2					-0.07	-1.62	
401-03	3.8	-0.1					0.12	0.03	
401-04	-14.9	53.8					0.04	1.63	
402-01	3.4	-0.8	-3.6	0.08	-0.09	-50.2	-0.02	0.01	-0.08
402-02	5.3	-22.0					-0.04	-0.67	
402-03	0.9	1.4					0.04	0.05	
402-04	-7.1	22.0					-0.02	0.66	
403-01	0.1	0.1	0.0	0.00	0.00	-48.6	0.00	0.00	-0.00
403-02	0.1	0.1					0.00	0.00	
403-03	0.0	0.1					0.00	0.00	
403-04	-0.0	0.0					-0.00	0.00	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, OUT-OF-PLANE MOMENT LOADING ON BRANCH, M3Y

NOMINAL LOAD = 7.083E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	4.2	-1.6	-6.7	0.07	-0.18	-46.6	-0.06	-0.05	-0.13
0- 2	1.2	-1.2	-4.3	-0.00	-0.13	-41.1	-0.06	-0.07	-0.06
0- 3	-0.9	-0.3	-1.9	-0.03	-0.09	-12.2	-0.03	-0.08	-0.01
0- 4	0.5	0.5	-3.5	0.00	-0.13	-22.7	-0.02	-0.11	-0.05
0- 5	1.9	-0.0	-6.1	0.01	-0.19	-31.2	-0.04	-0.14	-0.09
0- 6	-5.8	-3.8	-2.4	-0.14	-0.21	40.6	-0.17	-0.18	0.04
0- 7	7.6	2.6	-15.6	0.14	-0.48	46.8	-0.19	-0.15	0.31
0- 8	-27.3	-8.5	15.3	0.24	-0.75	48.4	-0.31	-0.20	0.49
0- 9	-20.1	-2.8	14.9	0.29	-0.52	45.3	-0.12	-0.11	0.40
0-10	-12.7	-3.4	10.2	0.21	-0.32	50.2	-0.10	-0.01	0.26
0-11	1.0	0.1	1.7	0.09	0.03	82.4	0.03	0.09	0.01
0-12	2.3	0.2	0.5	0.10	0.03	-72.0	0.03	0.09	-0.02
0-13	1.4	-2.7	179.3*	6.84	0.90	68.2	1.72	6.02	2.05
0-14	6.1	-1.8	-4.4	0.17	-0.10	-58.5	-0.03	0.10	-0.12
0-15	9.8	-1.1	-7.6	0.25	-0.16	-52.0	-0.00	0.10	-0.20
0-16	13.7	1.3	-9.2	0.36	-0.17	-47.5	0.07	0.12	-0.26
0-17	-6.4	8.6	10.2	0.33	-0.16	-44.5	0.09	0.08	-0.25
0-18	9.6	3.4	-6.9	0.25	-0.14	-37.7	0.11	0.01	-0.19
0-19	3.4	2.9	-4.4	0.10	-0.14	-24.5	0.06	-0.10	-0.09
0-20	-3.0	-1.8	-1.2	-0.07	-0.11	35.8	-0.08	-0.10	0.02
22- 1	14.3	9.0	5.3	0.52	0.32	-50.0	0.40	0.44	-0.10
22- 2	14.0	6.4	4.9	0.53	0.28	-62.1	0.34	0.48	-0.11
22- 3	16.2	1.1	2.5	0.65	0.15	-70.2	0.21	0.59	-0.16
22- 4	17.2	-0.3	0.7	0.67	0.10	-69.2	0.17	0.60	-0.19
22- 5	16.9	4.1	0.5	0.59	0.16	-59.7	0.27	0.48	-0.19
22- 6	4.5	12.2	12.9	0.50	0.24	25.0	0.45	0.29	0.10
22- 7	18.3	6.1	-5.3	0.55	0.01	39.1	0.33	0.22	0.27
22- 8	-13.6	-0.8	17.7	0.46	-0.28	50.2	0.02	0.15	0.36
22- 9	-12.8	-3.4	9.0	0.17	-0.33	48.9	-0.12	-0.05	0.25
22-10	-10.2	-3.0	4.9	0.06	-0.29	46.3	-0.12	-0.11	0.17
22-11	-6.6	-3.3	-18.3	-0.28	-0.78	-16.4	-0.32	-0.74	-0.14
22-12	-6.7	-3.4	-16.4	-0.28	-0.72	-15.3	-0.31	-0.68	-0.11
22-13	-2.8	0.5	-20.7	-0.15	-0.85	-18.1	-0.22	-0.79	-0.21
22-14	1.8	-0.6	-21.6	-0.08	-0.77	-25.8	-0.21	-0.64	-0.27
22-15	3.2	-6.6	-27.6	-0.14	-0.90	-34.9	-0.39	-0.65	-0.36
22-16	3.5	-6.4	-26.3	-0.13	-0.85	-35.7	-0.37	-0.60	-0.34
22-17	-20.4	-4.2	5.4	-0.01	-0.63	-44.3	-0.31	-0.33	-0.31
22-18	6.2	-8.3	-9.8	0.16	-0.31	-64.6	-0.23	0.07	-0.18
22-19	6.1	-4.6	-0.2	0.32	-0.06	-78.5	-0.05	0.30	-0.07
22-20	5.6	0.6	6.1	0.37	0.13	88.5	0.13	0.37	0.01
45- 1	-0.9	5.6	2.8	0.16	-0.08	10.8	0.15	-0.07	0.04
45- 2	4.8	10.5	6.2	0.35	0.12	4.0	0.35	0.12	0.02
45- 3	12.1	9.7	1.7	0.43	0.16	-31.0	0.36	0.23	-0.12
45- 4	20.9	9.0	-0.2	0.69	0.20	-48.6	0.41	0.48	-0.24
45- 5	25.3	14.4	4.5	0.88	0.40	-46.4	0.63	0.65	-0.24
45- 6	23.8	28.1	15.6	1.06	0.63	-13.0	1.04	0.65	-0.09
45- 7	13.3	11.2	16.5	0.73	0.55	-3.8	0.73	0.55	-0.01
45- 8	11.7	13.9	11.5	0.55	0.45	-1.1	0.55	0.45	-0.00
45- 9	4.0	3.9	3.1	0.17	0.14	-26.4	0.16	0.15	-0.01
45-10	4.1	8.2	2.8	0.26	0.04	-4.0	0.26	0.04	-0.02
45-11	0.3	4.1	2.0	0.12	-0.02	7.8	0.12	-0.02	0.02
45-12	-1.2	0.0	-5.9	-0.05	-0.25	-16.6	-0.07	-0.23	-0.05
45-13	3.0	2.1	-13.0	0.03	-0.46	-24.3	-0.05	-0.38	-0.18
45-14	7.4	-0.8	-23.0	0.05	-0.72	-32.6	-0.17	-0.50	-0.35
45-15	6.0	-11.7	-38.8	-0.17	-1.23	-39.1	-0.59	-0.81	-0.52
45-16	1.7	-21.9	-34.9	-0.27	-1.15	-53.1	-0.83	-0.59	-0.42
45-17	-28.8	-7.8	5.6	-0.09	-0.90	-55.2	-0.64	-0.35	-0.38
45-18	4.5	-18.5	-12.8	0.21	-0.56	-74.4	-0.51	0.15	-0.20
45-19	8.1	-3.7	4.1	0.49	0.03	-84.1	0.04	0.49	-0.05
45-20	7.3	4.4	10.3	0.48	0.27	80.5	0.28	0.48	0.03
67- 1	-7.5	-0.2	2.6	0.02	-0.23	32.9	-0.05	-0.16	0.12

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-3.6	2.4	2.6	0.08	-0.12	23.2	0.05	-0.09	0.07
67- 3	2.9	7.8	6.2	0.28	0.11	13.5	0.27	0.12	0.04
67- 4	14.9	21.0	13.3	0.77	0.44	-3.1	0.76	0.45	-0.02
67- 5	39.4	52.4	28.0	1.87	0.85	-10.2	1.84	0.88	-0.18
67- 6	34.5	20.3	44.6	1.67	0.86	-12.2	1.64	0.89	-0.17
67- 7	31.7	41.6	22.8	1.51	0.82	-8.6	1.50	0.84	-0.10
67- 8	29.6	31.0	15.0	1.22	0.69	-20.1	1.15	0.75	-0.17
67- 9	22.6	21.8	9.5	0.89	0.49	-24.4	0.82	0.56	-0.15
67-10	19.8	29.9	12.0	1.02	0.35	-7.8	1.00	0.36	-0.09
67-11	-0.6	5.3	5.8	0.21	0.01	24.9	0.17	0.05	0.07
67-12	2.5	1.4	6.5	0.28	0.11	73.7	0.12	0.27	0.05
67-13	6.3	3.2	-9.9	0.14	-0.30	-29.2	0.04	-0.19	-0.19
67-14	7.7	-8.2	-28.8	-0.03	-0.88	-41.3	-0.40	-0.51	-0.42
67-15	2.2	-19.1	-37.0	-0.29	-1.20	-47.5	-0.79	-0.71	-0.45
67-16	-31.4	-12.8	5.5	-0.13	-0.98	-60.3	-0.77	-0.34	-0.37
67-17	-14.3	-18.4	1.5	0.06	-0.61	73.3	-0.55	0.00	0.18
67-18	3.2	-10.2	-6.4	0.16	-0.30	-75.4	-0.27	0.13	-0.11
67-19	6.8	8.2	5.8	0.31	0.22	-7.6	0.31	0.23	-0.01
67-20	0.7	15.7	8.2	0.46	-0.08	9.2	0.45	-0.07	0.09
90- 1	-7.1	-5.0	-4.0	-0.20	-0.28	34.5	-0.22	-0.25	0.03
90- 2	-6.9	-3.2	-2.9	-0.15	-0.27	24.7	-0.17	-0.25	0.05
90- 3	-4.1	2.6	1.3	0.05	-0.17	17.3	0.03	-0.15	0.06
90- 4	4.6	17.7	11.6	0.58	0.11	10.0	0.57	0.12	0.08
90- 5	22.6	51.8	34.3	1.77	0.66	7.0	1.76	0.68	0.13
90- 6	9.0	20.1	52.9	1.89	0.76	4.1	1.89	0.77	0.08
90- 7	29.5	54.5	34.6	1.90	0.85	3.3	1.89	0.85	0.06
90- 8	28.8	46.3	32.7	1.68	0.95	3.6	1.68	0.96	0.05
90- 9	27.0	35.8	24.2	1.33	0.86	-3.9	1.33	0.86	-0.03
90-10	26.0	40.9	21.5	1.42	0.62	-3.7	1.41	0.62	-0.05
90-11	4.1	-2.1	4.1	0.32	0.03	89.9	0.03	0.32	0.00
90-12	4.4	9.3	4.3	0.30	0.07	-0.4	0.30	0.07	-0.00
90-13	3.9	6.3	1.9	0.20	0.04	-8.0	0.20	0.05	-0.02
90-14	0.1	-4.0	-5.6	-0.05	-0.19	-56.9	-0.15	-0.09	-0.07
90-15	-12.2	-24.0	-7.7	-0.10	-0.76	85.5	-0.75	-0.10	0.05
90-16	-25.3	-6.9	5.8	-0.05	-0.78	-87.1	-0.78	-0.06	-0.04
90-17	-3.6	-24.3	-11.3	0.08	-0.72	-83.6	-0.71	0.07	-0.09
90-18	-1.8	-16.9	-4.9	0.17	-0.46	-86.7	-0.46	0.17	-0.04
90-19	5.7	8.4	3.4	0.29	0.10	-8.1	0.28	0.11	-0.03
90-20	4.6	16.6	1.1	0.44	-0.20	-3.6	0.44	-0.19	-0.04
180- 1	-1.6	0.5	2.9	0.08	-0.03	46.2	0.02	0.03	0.05
180- 2	0.3	0.5	0.7	0.03	0.02	46.2	0.02	0.02	0.00
180- 3	3.5	0.3	-2.3	0.09	-0.04	-47.8	0.02	0.03	-0.07
180- 4	2.8	-0.6	-1.9	0.08	-0.04	-57.0	-0.00	0.04	-0.06
180- 5	2.0	-0.5	-0.5	0.07	-0.01	-67.7	0.00	0.06	-0.03
180- 6	9.0	2.1	-4.6	0.25	-0.06	-45.4	0.09	0.10	-0.16
180- 7	-12.5	-6.4	17.9	0.53	-0.29	-44.5	0.12	0.11	-0.41
180- 8	29.6	7.6	-21.2	0.77	-0.41	-41.1	0.26	0.10	-0.59
180- 9	18.2	4.2	-13.8	0.47	-0.28	-41.4	0.14	0.05	-0.37
180-10	10.3	3.5	-7.4	0.27	-0.15	-38.4	0.11	0.01	-0.20
180-11	-4.0	0.3	3.1	0.07	-0.10	39.3	-0.00	-0.03	0.08
180-12	-5.3	0.2	4.2	0.09	-0.13	40.4	-0.01	-0.04	0.11
180-13	-4.6	0.4	3.5	0.07	-0.12	38.1	-0.00	-0.05	0.09
180-14	-5.7	0.9	4.5	0.10	-0.15	36.8	0.01	-0.06	0.12
180-15	-9.3	1.3	8.9	0.20	-0.22	40.3	0.03	-0.04	0.21
180-16	-13.6	-0.8	10.9	0.22	-0.34	43.6	-0.05	-0.07	0.28
180-17	-13.4	-1.6	9.7	0.19	-0.35	-25.6	0.09	-0.25	-0.21
180-18	7.6	-9.6	-2.6	0.41	-0.20	-78.6	-0.17	0.39	-0.12
180-19	-3.6	-2.0	3.8	0.10	-0.09	60.0	-0.04	0.05	0.08
180-20	2.2	1.6	1.4	0.09	0.07	-56.5	0.07	0.08	-0.01
202- 1	-11.8	-4.9	-7.1	-0.29	-0.52	13.8	-0.30	-0.51	0.05
202- 2	-13.6	-3.8	-6.5	-0.27	-0.60	15.0	-0.29	-0.57	0.08
202- 3	-14.3	-3.2	-7.6	-0.27	-0.66	11.6	-0.29	-0.65	0.08
202- 4	-15.9	0.1	-5.1	-0.18	-0.73	13.5	-0.21	-0.70	0.12
202- 5	-16.3	-3.2	-4.4	-0.23	-0.66	20.0	-0.28	-0.61	0.14
202- 6	-4.0	-14.1	-19.4	-0.32	-0.69	-53.6	-0.56	-0.45	-0.18
202- 7	-21.6	-9.1	5.9	-0.02	-0.65	-47.4	-0.36	-0.31	-0.32

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	15.5	4.1	-16.6	0.36	-0.41	-37.0	0.08	-0.13	-0.37
202- 9	13.8	4.2	-6.5	0.39	-0.08	-43.4	0.17	0.14	-0.24
202-10	8.7	3.0	-0.5	0.28	0.07	-51.5	0.15	0.20	-0.11
202-11	4.3	4.9	18.6	0.72	0.27	66.4	0.34	0.64	0.16
202-12	5.1	3.9	17.5	0.71	0.26	70.1	0.31	0.66	0.14
202-13	4.1	2.5	21.5	0.86	0.24	69.9	0.31	0.79	0.20
202-14	-2.1	0.1	26.2	0.94	0.09	65.0	0.24	0.79	0.33
202-15	-5.4	3.5	29.8	0.98	0.07	58.2	0.32	0.72	0.41
202-16	-6.4	5.2	28.2	0.89	0.05	54.1	0.33	0.60	0.40
202-17	20.8	-0.9	-8.6	0.64	-0.11	38.3	0.35	0.17	0.36
202-18	-10.5	11.6	7.8	0.31	-0.43	17.6	0.24	-0.36	0.21
202-19	-10.5	2.4	-4.0	-0.07	-0.54	9.3	-0.09	-0.53	0.07
202-20	-7.1	-3.4	-11.4	-0.25	-0.54	-10.2	-0.26	-0.53	-0.05
225- 1	3.3	0.8	-0.8	0.10	0.01	-51.1	0.04	0.07	-0.05
225- 2	-2.6	-5.0	-3.3	-0.08	-0.17	-85.3	-0.17	-0.08	-0.01
225- 3	-9.4	-8.1	-3.2	-0.19	-0.35	60.2	-0.31	-0.23	0.07
225- 4	-18.8	-8.8	0.0	-0.18	-0.62	43.2	-0.39	-0.42	0.22
225- 5	-25.6	-13.2	-3.4	-0.36	-0.88	41.8	-0.59	-0.65	0.26
225- 6	-31.8	-32.7	-16.0	-0.75	-1.30	69.1	-1.23	-0.82	0.18
225- 7	-10.1	-13.6	-22.5	-0.54	-0.85	62.0	-0.79	-0.61	0.13
225- 8	-15.2	-15.2	-8.7	-0.41	-0.62	67.5	-0.59	-0.44	0.08
225- 9	-6.2	-6.3	-1.6	-0.09	-0.24	68.5	-0.22	-0.11	0.05
225-10	-4.6	-9.0	0.0	0.07	-0.26	80.6	-0.25	0.06	0.05
225-11	-0.4	-3.6	-5.7	-0.07	-0.19	-50.7	-0.14	-0.12	-0.06
225-12	-0.3	-1.1	0.8	0.04	-0.02	78.8	-0.02	0.04	0.01
225-13	-2.2	1.0	10.8	0.35	0.01	58.5	0.11	0.26	0.15
225-14	-5.6	-1.6	17.7	0.58	-0.06	61.7	0.08	0.44	0.27
225-15	-8.5	6.8	36.8	1.15	0.06	53.9	0.44	0.77	0.52
225-16	-7.8	19.8	38.3	1.19	0.11	39.4	0.76	0.55	0.53
225-17	32.2	5.3	-12.7	0.95	-0.11	32.3	0.64	0.19	0.48
225-18	-10.1	18.4	6.4	0.43	-0.58	11.1	0.39	-0.55	0.19
225-19	-14.2	-2.7	-9.1	-0.28	-0.71	7.9	-0.29	-0.71	0.06
225-20	-11.0	-9.6	-13.1	-0.46	-0.58	-11.5	-0.46	-0.58	-0.02
247- 1	7.8	2.2	-2.0	0.24	0.01	-49.0	0.11	0.14	-0.11
247- 2	3.3	-1.3	-1.5	0.11	-0.04	-66.3	-0.01	0.09	-0.05
247- 3	-3.8	-6.3	-3.4	-0.09	-0.22	87.8	-0.22	-0.09	0.00
247- 4	-18.9	-21.3	-9.1	-0.40	-0.80	73.2	-0.77	-0.43	0.11
247- 5	-48.4	-53.6	-19.6	-0.90	-2.02	71.8	-1.91	-1.00	0.33
247- 6	-11.3	22.9	-52.7	-0.85	-1.90	72.9	-1.81	-0.94	0.29
247- 7	-34.2	0.1	-17.7	-0.73	-1.49	74.9	-1.44	-0.79	0.19
247- 8	-30.8	-31.0	-12.9	-0.64	-1.23	67.8	-1.15	-0.73	0.21
247- 9	-24.7	-27.6	-11.8	-0.52	-1.04	72.7	-1.00	-0.57	0.15
247-10	-21.8	-32.3	-13.7	-0.41	-1.11	82.2	-1.10	-0.43	0.09
247-11	3.0	-5.3	-8.5	0.02	-0.26	-56.8	-0.18	-0.06	-0.13
247-12	-0.5	-5.6	-3.9	-0.01	-0.18	-77.1	-0.17	-0.02	-0.04
247-13	-6.1	-3.1	8.5	0.25	-0.14	60.3	-0.05	0.15	0.17
247-14	-9.2	8.5	25.4	0.74	-0.05	44.3	0.35	0.34	0.40
247-15	-7.2	20.0	35.6	1.12	0.10	37.4	0.74	0.47	0.49
247-16	34.8	8.6	-11.9	1.04	-0.05	25.5	0.83	0.15	0.42
247-17	-4.1	22.2	10.9	0.61	-0.32	10.8	0.58	-0.29	0.17
247-18	-10.5	7.3	3.4	0.14	-0.45	16.4	0.10	-0.40	0.16
247-19	-10.8	-4.8	-4.7	-0.23	-0.43	23.0	-0.26	-0.40	0.07
247-20	-7.2	-15.6	-11.6	-0.25	-0.56	-80.2	-0.55	-0.26	-0.05
270- 1	6.0	6.4	7.1	0.29	0.27	51.5	0.28	0.28	0.01
270- 2	4.7	3.8	6.1	0.27	0.19	77.3	0.19	0.27	0.02
270- 3	1.0	-1.1	3.8	0.19	0.02	79.4	0.02	0.19	0.03
270- 4	-10.2	-17.9	-5.9	-0.11	-0.58	83.8	-0.57	-0.12	0.05
270- 5	-29.6	-47.3	-24.6	-0.69	-1.63	86.5	-1.63	-0.69	0.06
270- 6	-9.8	-25.7	-53.2	-0.83	-1.87	88.4	-1.87	-0.83	0.03
270- 7	-38.5	-67.0	-38.1	-0.98	-2.30	89.8	-2.30	-0.98	0.00
270- 8	-32.4	-48.1	-30.2	-1.04	-1.64	87.5	-1.63	-1.04	0.03
270- 9	-28.5	-38.0	-27.6	-0.97	-1.43	88.7	-1.43	-0.97	0.01
270-10	-25.7	-46.1	-27.0	-0.67	-1.59	-89.0	-1.58	-0.67	-0.02
270-11	-4.2	-11.3	-5.6	-0.06	-0.36	-86.9	-0.36	-0.06	-0.02
270-12	-4.0	-9.6	-5.8	-0.07	-0.31	-87.7	-0.31	-0.07	-0.01
270-13	-4.8	-10.1	-4.0	-0.06	-0.32	88.1	-0.32	-0.06	0.01

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
270-14	-1.4	0.7	3.5	0.10	-0.01	89.3	0.04	0.05	0.06
270-15	3.9	16.8	10.4	0.54	0.07	9.4	0.53	0.09	0.08
270-16	22.9	7.0	-3.2	0.73	0.11	2.9	0.73	0.12	0.03
270-17	9.0	28.8	14.8	0.91	0.11	4.9	0.90	0.12	0.07
270-18	1.7	18.6	5.6	0.51	-0.19	3.7	0.50	-0.19	0.05
270-19	-4.6	-8.3	-4.2	-0.10	-0.28	88.6	-0.28	-0.10	0.00
270-20	-7.6	-21.0	-0.6	0.22	-0.57	84.1	-0.57	0.21	0.08
0- 7	7.6	2.6	-15.6	0.14	-0.48	-30.2	-0.02	-0.32	-0.27
11- 1	18.3	3.3	-13.2	0.47	-0.25	-43.7	0.13	0.09	-0.36
22- 7	18.3	6.1	-5.3	0.55	0.01	-45.9	0.27	0.29	-0.27
33- 1	15.9	7.2	3.2	0.56	0.25	-55.1	0.36	0.46	-0.15
45- 7	13.3	11.2	16.5	0.73	0.55	78.2	0.55	0.72	0.04
56- 1	12.5	15.2	31.2	1.20	0.67	62.7	0.78	1.09	0.22
67- 6	14.5	20.3	44.6	1.67	0.86	60.8	1.05	1.48	0.35
78- 1	14.9	18.4	46.5	1.78	0.85	63.9	1.03	1.60	0.37
90- 6	9.0	20.1	52.9	1.89	0.76	58.1	1.08	1.58	0.51
0-17	-6.4	8.6	10.2	0.33	-0.16	25.5	0.24	-0.07	0.19
11-11	-13.7	-0.2	6.5	0.09	-0.40	35.6	-0.08	-0.23	0.23
22-17	-20.4	-4.2	5.4	-0.01	-0.63	37.7	-0.24	-0.40	0.30
33-11	-25.0	-3.5	5.3	-0.04	-0.80	33.5	-0.29	-0.57	0.35
45-17	-28.8	-7.8	5.6	-0.09	-0.90	38.8	-0.41	-0.58	0.40
56-11	-33.0	-11.7	5.1	-0.16	-1.04	41.6	-0.54	-0.65	0.44
67-16	-31.4	-12.8	5.5	-0.13	-0.98	44.7	-0.55	-0.56	0.43
78-11	-29.1	-12.3	7.0	-0.06	-0.89	46.9	-0.50	-0.45	0.42
90-16	-25.3	-6.9	5.8	-0.05	-0.78	39.9	-0.35	-0.48	0.36
180- 7	-12.5	-6.4	17.9	0.53	-0.29	60.5	-0.09	0.33	0.35
191- 1	-21.6	-9.6	15.0	0.30	-0.59	54.4	-0.29	0.00	0.42
202- 7	-21.6	-9.1	5.9	-0.02	-0.65	47.6	-0.37	-0.31	0.32
213- 1	-15.9	-9.8	-7.8	-0.40	-0.61	31.4	-0.46	-0.56	0.09
225- 7	-10.1	-13.6	-22.5	-0.54	-0.85	-33.0	-0.64	-0.76	-0.14
236- 1	-8.5	-18.5	-39.2	-0.65	-1.40	-35.4	-0.90	-1.15	-0.35
247- 6	-11.3	-22.9	-52.7	-0.85	-1.90	-33.1	-1.16	-1.58	-0.48
258- 1	-12.3	-28.3	-60.2	-0.97	-2.14	-35.8	-1.37	-1.74	-0.55
270- 6	-9.8	-25.7	-53.2	-0.83	-1.87	-37.6	-1.22	-1.48	-0.50
180-17	-13.4	-1.6	9.7	0.19	-0.35	44.4	-0.07	-0.09	0.27
191-11	12.8	-0.1	-7.4	0.36	-0.13	-52.7	0.05	0.18	-0.23
202-17	20.8	-0.9	-8.6	0.64	-0.11	-57.7	0.10	0.42	-0.34
213-11	28.6	2.4	-11.8	0.85	-0.13	-53.3	0.22	0.50	-0.47
225-17	32.2	5.3	-12.7	0.95	-0.11	-50.7	0.31	0.52	-0.52
236-11	34.2	5.4	-12.5	1.02	-0.09	-51.5	0.34	0.59	-0.54
247-16	34.8	8.6	-11.9	1.04	-0.05	-48.5	0.43	0.56	-0.54
258-11	30.6	8.2	-8.8	0.93	0.01	-48.9	0.40	0.53	-0.46
270-16	22.9	7.0	-3.2	0.73	0.11	-51.1	0.36	0.49	-0.30
400-01	0.4	-1.0	-0.9	0.01	-0.03	-25.5	0.00	-0.03	-0.02
400-11	0.1	-1.0	0.0	0.03	-0.02	45.7	0.00	0.00	0.02
401-01	5.8	3.2	-3.5	0.17	-0.07	-33.0	0.10	0.00	-0.11
401-02	0.4	-0.4					0.01	-0.01	
401-03	-2.6	-0.3					-0.09	-0.04	
401-04	0.4	-0.4					0.01	-0.01	
402-01	-0.7	0.1	1.0	0.02	-0.01	44.1	0.01	0.00	0.02
402-02	0.0	-0.4					-0.00	-0.01	
402-03	-0.2	0.1					-0.00	0.00	
402-04	-0.4	0.1					-0.01	-0.00	
403-01	1.4	-4.8	-8.3	-0.03	-0.26	-52.6	-0.18	-0.12	-0.11
403-02	31.3	0.5					1.04	0.33	
403-03	2.9	1.5					0.11	0.08	
403-04	8.9	-35.8					-0.06	-1.09	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

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T-15, TORSIONAL MOMENT LOADING ON BRANCH, -M3Y

NOMINAL LOAD = 7.083E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	0.1	-0.8	-1.2	-0.01	-0.04	-56.0	-0.03	-0.02	-0.02
0- 2	-0.1	-0.6	-0.9	-0.01	-0.03	-51.7	-0.02	-0.02	-0.01
0- 3	-0.2	-0.2	-0.5	-0.01	-0.02	-18.7	-0.01	-0.02	-0.00
0- 4	0.4	0.1	-1.0	0.01	-0.03	-29.4	-0.00	-0.02	-0.02
0- 5	0.7	0.1	-1.6	0.01	-0.05	-33.0	-0.01	-0.03	-0.03
0- 6	-3.6	-0.6	2.0	0.03	-0.10	43.1	-0.03	-0.04	0.06
0- 7	9.6	3.8	-9.1	0.24	-0.22	42.3	0.03	-0.01	0.23
0- 8	-18.7	-2.2*	16.2	0.35	-0.46	46.5	-0.07	-0.03	0.40
0- 9	-21.7	-0.8	19.8	0.44	-0.52	44.8	-0.04	-0.04	0.48
0-10	-25.0	-3.3	23.4	0.53	-0.59	48.0	-0.09	0.02	0.56
0-11	0.1	0.1	-0.6	0.00	-0.02	-22.2	-0.00	-0.02	-0.01
0-12	-0.4	0.3	-0.1	0.00	-0.02	8.6	0.00	-0.02	0.00
0-13	-0.7	0.5	0.0**	0.01	-0.04	12.0	0.00	-0.04	0.01
0-14	-0.4	0.7	0.1	0.01	-0.03	7.3	0.01	-0.03	0.01
0-15	-0.8	0.3	0.1	0.00	-0.03	17.6	-0.00	-0.03	0.01
0-16	-0.9	-1.0	-0.9	-0.04	-0.04	81.6	-0.04	-0.04	0.00
0-17	-0.8	-0.5	-1.0	-0.03	-0.05	-77.5	-0.05	-0.03	-0.00
0-18	-0.7	-1.6	-0.5	-0.00	-0.05	87.4	-0.05	-0.00	0.00
0-19	8.8	-1.0	-7.9	0.21	-0.18	-49.8	-0.01	0.05	-0.19
0-20	13.9	0.3	-11.3	0.35	-0.24	-47.3	0.03	0.08	-0.29
22- 1	4.1	7.1	7.3	0.29	0.20	24.5	0.28	0.21	0.04
22- 2	3.3	3.3	4.4	0.18	0.15	67.7	0.15	0.18	0.01
22- 3	3.7	0.9	2.3	0.18	0.08	-80.8	0.08	0.18	-0.02
22- 4	4.1	0.2	1.3	0.18	0.05	-75.1	0.06	0.17	-0.03
22- 5	3.6	1.6	1.4	0.14	0.08	-64.4	0.09	0.13	-0.03
22- 6	-6.5	3.1	8.2	0.21	-0.14	36.5	0.09	-0.02	0.17
22- 7	14.5	1.8	-12.4	0.36	-0.26	41.5	0.08	0.01	0.31
22- 8	-20.3	-5.2	17.9	0.40	-0.50	50.9	-0.14	0.04	0.44
22- 9	-20.9	-5.5	17.4	0.38	-0.53	50.6	-0.16	0.01	0.44
22-10	-27.1	-8.1	20.2	0.41	-0.70	50.6	-0.26	-0.04	0.55
22-11	0.3	0.4	-0.6	-0.01	-0.17	-22.3	-0.03	-0.15	-0.06
22-12	0.4	1.5	-3.7	0.02	-0.16	-16.8	0.00	-0.14	-0.05
22-13	0.4	2.0	-5.0	0.02	-0.21	-16.1	0.00	-0.20	-0.06
22-14	0.7	1.1	-5.4	0.00	-0.21	-20.6	-0.02	-0.18	-0.07
22-15	-2.2	-2.6	-6.8	-0.12	-0.26	-25.2	-0.15	-0.24	-0.05
22-16	-4.7	-3.2	-7.9	-0.19	-0.35	-13.6	-0.20	-0.34	-0.04
22-17	-9.0	-9.2	-3.3	-0.17	-0.36	-13.6	-0.18	-0.35	-0.04
22-18	-1.4	-3.0	-8.6	-0.12	-0.31	-30.4	-0.17	-0.26	-0.08
22-19	6.1	-6.0	-12.7	0.09	-0.37	-53.1	-0.20	-0.08	-0.22
22-20	11.4	-3.9	-14.7	0.23	-0.38	-49.8	-0.12	-0.02	-0.30
45- 1	-1.3	6.6	9.2	0.31	0.03	31.7	0.23	0.11	0.12
45- 2	1.0	5.8	8.2	0.28	0.11	35.4	0.23	0.17	0.08
45- 3	2.3	2.9	4.0	0.16	0.11	54.0	0.13	0.14	0.02
45- 4	3.8	2.3	3.5	0.19	0.12	-87.0	0.12	0.19	-0.00
45- 5	4.6	4.7	6.5	0.27	0.21	65.6	0.22	0.26	0.02
45- 6	-5.0	6.5	12.6	0.38	-0.05	36.3	0.23	0.10	0.20
45- 7	13.5	1.0	-7.7	0.37	-0.12	47.8	0.10	0.15	0.25
45- 8	-13.1	-3.6	13.2	0.32	-0.31	52.7	-0.08	0.09	0.30
45- 9	-14.0	-6.2	12.7	0.31	-0.36	56.3	-0.16	0.10	0.31
45-10	-23.2	-13.6	13.4	0.26	-0.68	57.7	-0.41	-0.01	0.42
45-11	3.3	2.6	1.4	0.12	0.08	-37.6	0.11	0.10	-0.02
45-12	3.2	1.5	-1.3	0.09	-0.01	-38.9	0.05	0.03	-0.05
45-13	4.6	2.5	-3.4	0.13	-0.08	-32.1	0.07	-0.02	-0.09
45-14	4.8	0.5	-5.9	0.10	-0.15	-39.2	0.00	-0.05	-0.12
45-15	-0.3	-5.1	-10.6	-0.11	-0.35	-42.9	-0.22	-0.24	-0.12
45-16	-4.9	-6.8	-15.0	-0.29	-0.56	-28.7	-0.35	-0.50	-0.12
45-17	-13.8	-15.6	-5.6	-0.25	-0.58	-21.4	-0.29	-0.54	-0.11
45-18	-2.0	-6.6	-14.2	-0.20	-0.49	-37.8	-0.31	-0.38	-0.14
45-19	6.2	-8.2	-15.8	0.06	-0.47	-53.7	-0.29	-0.13	-0.25
45-20	10.7	-6.3	-16.6	0.20	-0.45	-51.9	-0.20	-0.05	-0.32
67- 1	-3.7	-0.5	3.2	0.07	-0.09	46.8	-0.02	-0.01	0.08

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-3.3	0.6	4.8	0.13	-0.06	46.1	0.03	0.04	0.09
67- 3	-2.5	2.5	8.6	0.26	0.00	47.8	0.12	0.14	0.13
67- 4	-2.2	6.0	14.0	0.44	0.06	44.5	0.26	0.25	0.19
67- 5	-4.2	11.2	17.5	0.56	0.02	33.8	0.39	0.18	0.25
67- 6	12.3	-1.2	-3.2	0.42	-0.03	43.8	0.20	0.19	0.22
67- 7	-4.9	0.1	11.6	0.35	-0.06	55.8	0.07	0.22	0.19
67- 8	-7.3	-3.0	9.3	0.26	-0.17	58.1	-0.05	0.14	0.19
67- 9	-10.5	-5.8	8.9	0.22	-0.29	58.6	-0.15	0.08	0.22
67-10	-16.6	-9.5	11.2	0.24	-0.47	58.0	-0.27	0.04	0.32
67-11	2.4	0.7	1.9	0.12	0.06	-85.4	0.06	0.12	-0.01
67-12	2.6	1.9	1.4	0.10	0.07	-51.9	0.08	0.09	-0.01
67-13	1.3	0.2	0.5	0.06	0.02	-75.2	0.02	0.05	-0.01
67-14	-0.9	-3.8	-6.0	-0.09	-0.21	-48.6	-0.16	-0.14	-0.06
67-15	-3.0	-4.2	-13.9	-0.20	-0.52	-26.0	-0.26	-0.46	-0.12
67-16	-13.3	-17.6	-5.0	-0.17	-0.61	-28.1	-0.27	-0.51	-0.18
67-17	-17.1	-4.7	2.1	-0.09	-0.55	37.1	-0.26	-0.38	0.22
67-18	5.3	-5.5	-16.7	0.01	-0.50	-44.5	-0.24	-0.25	-0.25
67-19	11.3	-4.2	-17.7	0.20	-0.47	-47.1	-0.16	-0.11	-0.33
67-20	15.1	-4.5	-16.1	0.35	-0.39	-52.1	-0.11	0.07	-0.36
90- 1	-1.5	-0.4	2.6	0.08	-0.03	57.4	0.00	0.05	0.05
90- 2	-3.7	-0.5	4.8	0.12	-0.08	51.8	0.00	0.05	0.10
90- 3	-6.9	-0.4	8.0	0.20	-0.15	48.5	0.00	0.04	0.17
90- 4	-11.7	-0.2	12.3	0.29	-0.26	46.2	0.00	0.02	0.28
90- 5	-14.2	-0.2	16.0	0.39	-0.31	47.2	0.01	0.07	0.35
90- 6	4.7	-12.4	-4.0	0.33	-0.30	45.4	0.01	0.02	0.31
90- 7	-10.8	0.6	11.8	0.28	-0.24	44.8	0.02	0.02	0.26
90- 8	-6.7	0.9	7.9	0.19	-0.14	43.8	0.03	0.02	0.17
90- 9	-8.2	0.7	8.7	0.21	-0.18	43.6	0.02	0.00	0.19
90-10	-12.4	-0.4	12.6	0.29	-0.28	46.1	-0.01	0.01	0.29
90-11	-2.5	-0.0**	3.4	0.09	-0.05	49.1	0.01	0.03	0.07
90-12	-2.9	-0.6	3.9	0.10	-0.06	53.5	-0.00	0.04	0.08
90-13	-2.8	-0.6	3.7	0.10	-0.06	53.7	-0.00	0.04	0.08
90-14	0.3	-0.3	0.9	0.05	0.00	80.9	0.01	0.05	0.01
90-15	-3.6	-0.7	6.3	0.18	-0.07	56.3	0.01	0.11	0.11
90-16	-3.5	-4.8	5.9	0.23	-0.13	-56.1	-0.02	0.12	-0.16
90-17	10.4	0.5	-7.2	0.27	-0.13	-48.6	0.04	0.10	-0.20
90-18	11.9	-0.7	-10.2	0.29	-0.22	-48.9	0.00	0.07	-0.26
90-19	16.0	0.1	-14.3	0.39	-0.31	-46.4	0.02	0.05	-0.35
90-20	18.8	3.1	-14.1	0.48	-0.28	-43.6	0.12	0.08	-0.38
180- 1	0.4	0.1	-0.2	0.01	-0.00	-38.1	0.00	0.00	-0.01
180- 2	0.2	0.1	-0.1	0.01	-0.00	-40.5	0.00	0.00	-0.00
180- 3	0.0	0.1	0.1	0.01	0.00	19.6	0.00	0.00	0.00
180- 4	0.3	0.2	0.0	0.01	0.00	-43.7	0.01	0.01	-0.00
180- 5	0.3	0.1	-0.1	0.01	-0.00	-46.4	0.00	0.00	-0.00
180- 6	-2.7	-0.2	3.2	0.08	-0.06	49.7	-0.00	0.02	0.07
180- 7	9.4	4.6	-6.3	0.26	-0.13	40.6	0.09	0.03	0.19
180- 8	-14.7	-1.0*	15.7	0.37	-0.33	47.9	-0.01	0.06	0.35
180- 9	-18.1	-0.7	19.1	0.45	-0.41	46.9	-0.01	0.05	0.43
180-10	-19.9	1.2*	22.1	0.53	-0.48	44.9	0.05	0.04	0.49
180-11	0.8	-0.1	-0.1	0.03	-0.00	-66.7	0.00	0.02	-0.01
180-12	0.8	-0.1	-0.1	0.03	-0.00	-66.4	0.00	0.02	-0.01
180-13	0.5	-0.2	0.2	0.03	0.00	-83.8	0.00	0.03	-0.00
180-14	0.3	-0.6	0.3	0.03	-0.01	89.6	-0.01	0.03	0.00
180-15	-0.1	-0.8	0.6	0.03	-0.01	77.2	-0.00	0.03	0.01
180-16	0.1	0.3	1.3	0.05	0.01	62.6	0.02	0.04	0.01
180-17	0.8	0.9	0.9	0.04	0.04	-32.0	0.04	0.04	-0.00
180-18	0.4	1.0	0.2	0.03	-0.01	-4.3	0.03	-0.01	-0.00
180-19	8.3	1.3	-8.5	0.19	-0.20	-40.2	0.03	-0.04	-0.19
180-20	11.8	1.2	-15.8	0.24	-0.41	-38.5	-0.01	-0.16	-0.32
202- 1	2.4	1.7	2.5	0.12	0.09	87.8	0.09	0.12	0.00
202- 2	2.6	0.8	1.9	0.13	0.06	-83.2	0.06	0.13	-0.01
202- 3	3.0	0.4	1.9	0.15	0.06	-82.4	0.06	0.15	-0.01
202- 4	3.5	-0.3	1.3	0.17	0.04	-78.4	0.04	0.16	-0.03
202- 5	3.4	1.4	0.9	0.12	0.06	-59.6	0.07	0.11	-0.03
202- 6	-4.5	2.8*	8.2	0.23	-0.07	40.9	0.10	0.06	0.15
202- 7	13.8	1.1	-10.3	0.35	-0.20	38.5	0.14	0.01	0.27

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-18.7	-4.4	16.9	0.38	-0.46	50.6	-0.12	0.04	0.41
202- 9	-20.4	-2.7	16.9	0.36	-0.51	46.5	-0.10	-0.05	0.43
202-10	-21.7	-4.5	19.8	0.44	-0.53	49.9	-0.12	0.04	0.48
202-11	-0.6	-0.8	-4.0	-0.05	-0.15	-24.9	-0.06	-0.13	-0.04
202-12	-0.7	-0.6	-3.3	-0.04	-0.13	-21.7	-0.05	-0.12	-0.03
202-13	-0.9	-0.3	-3.8	-0.04	-0.16	-17.5	-0.05	-0.15	-0.03
202-14	-0.8	-0.9*	-4.8	-0.06	-0.18	-23.3	-0.08	-0.16	-0.05
202-15	-2.6	-2.9	-5.4	-0.13	-0.21	-26.6	-0.15	-0.20	-0.03
202-16	-4.3	-1.7*	-6.0	-0.14	-0.30	-7.3	-0.14	-0.30	-0.02
202-17	-7.6	-8.9	-2.4	-0.11	-0.32	-10.8	-0.11	-0.31	-0.04
202-18	1.2	-2.9*	-9.2	-0.05	-0.29	-39.3	-0.15	-0.20	-0.12
202-19	7.2	-5.7	-13.5	0.11	-0.38	-51.7	-0.19	-0.08	-0.24
202-20	14.6	-1.6*	-14.1	0.35	-0.32	-48.8	-0.03	0.06	-0.33
225- 1	-0.8	0.5	0.5	0.02	-0.03	22.6	0.01	-0.02	0.02
225- 2	0.6	2.0	1.5	0.07	0.02	18.1	0.07	0.02	0.01
225- 3	1.7	2.1	1.9	0.08	0.07	9.6	0.08	0.07	0.00
225- 4	3.5	1.6	1.4	0.14	0.07	-65.0	0.08	0.13	-0.02
225- 5	4.7	3.3	3.9	0.21	0.16	-79.6	0.16	0.21	-0.01
225- 6	-4.1	6.8	10.9	0.34	-0.04	32.7	0.23	0.07	0.17
225- 7	11.9	0.3	-8.1	0.31	-0.15	45.6	0.08	0.09	0.23
225- 8	-13.1	-2.8*	12.8	0.30	-0.31	50.7	-0.07	0.05	0.30
225- 9	-17.1	-7.0	13.4	0.29	-0.45	54.4	-0.20	0.04	0.35
225-10	-24.8	-11.0	15.0	0.27	-0.69	53.5	-0.35	-0.07	0.46
225-11	0.2	0.6	1.1*	0.04	0.02	45.5	0.03	0.03	0.01
225-12	0.7	0.2	-0.6*	0.02	-0.01	-40.2	0.01	0.00	-0.02
225-13	1.0	-0.2	-2.5*	0.01	-0.08	-36.4	-0.02	-0.04	-0.04
225-14	1.4	-0.0	-3.8*	0.01	-0.11	-33.3	-0.02	-0.08	-0.06
225-15	-1.7	-4.4	-8.7	-0.14	-0.31	-38.8	-0.21	-0.24	-0.08
225-16	-5.2	-4.3	-14.7	-0.26	-0.60	-20.1	-0.30	-0.56	-0.11
225-17	-12.6	-17.0	-6.2	-0.21	-0.59	-18.5	-0.25	-0.55	-0.11
225-18	0.8*	-7.0	-15.5	-0.13	-0.50	-43.6	-0.31	-0.32	-0.19
225-19	7.3	-8.7	-17.3	0.08	-0.51	-53.3	-0.30	-0.13	-0.28
225-20	12.9	-3.9*	-13.3	0.31	-0.32	-52.8	-0.09	0.08	-0.30
247- 1	-2.2	0.6	1.0	0.02	-0.07	26.5	0.00	-0.05	0.04
247- 2	-2.0	1.4	2.2	0.06	-0.05	29.4	0.03	-0.03	0.05
247- 3	-1.6	2.4	5.5	0.17	0.00	41.7	0.09	0.07	0.08
247- 4	-1.6	5.5	10.9	0.35	0.06	41.5	0.22	0.18	0.14
247- 5	-5.3	7.9	14.3	0.43	-0.05	35.4	0.27	0.11	0.23
247- 6	11.3	-2.0	-4.3	0.37	-0.07	43.4	0.16	0.14	0.22
247- 7	-5.8	-0.1*	11.3	0.33	-0.09	54.1	0.05	0.18	0.20
247- 8	-8.0	-2.9*	10.3	0.28	-0.18	57.1	-0.05	0.14	0.21
247- 9	-12.9	-5.8	10.9	0.25	-0.34	55.9	-0.15	0.07	0.27
247-10	-18.5	-8.7	14.0	0.31	-0.50	55.8	-0.24	0.05	0.38
247-11	-1.1	0.5	2.6	0.08	-0.01	48.5	0.03	0.04	0.04
247-12	-0.3	0.9	2.3*	0.07	0.01	47.2	0.04	0.04	0.03
247-13	-0.8	-0.2*	0.0*	-0.01	-0.03	32.9	-0.01	-0.02	0.01
247-14	-2.4	-3.8	-6.4*	-0.14	-0.24	-37.0	-0.18	-0.20	-0.05
247-15	-4.0	-3.3	-14.9	-0.21	-0.60	-20.6	-0.26	-0.55	-0.13
247-16	-13.3	-20.5	-7.3	-0.19	-0.69	-24.2	-0.28	-0.60	-0.18
247-17	1.3*	-5.8	-19.9	-0.14	-0.66	-35.7	-0.32	-0.48	-0.24
247-18	4.8	-5.0	-18.4	-0.02	-0.56	-40.7	-0.25	-0.33	-0.27
247-19	9.0	-7.2	-19.5	0.11	-0.56	-48.9	-0.27	-0.18	-0.33
247-20	15.0	-2.4*	-18.7	0.31	-0.47	-45.8	-0.09	-0.07	-0.39
270- 1	-2.3	0.7	1.2	0.03	-0.07	27.0	0.01	-0.05	0.04
270- 2	-4.2	0.8	3.1	0.07	-0.11	35.2	0.01	-0.05	0.08
270- 3	-7.2	0.9	6.1	0.13	-0.18	39.1	0.01	-0.06	0.15
270- 4	-11.6	-0.0	10,7	0.24	-0.28	43.9	-0.01	-0.03	0.26
270- 5	-14.5	-0.7	13.5	0.30	-0.35	45.4	-0.03	-0.02	0.32
270- 6	3.9	-13.4	-5.8	0.27	-0.35	46.6	-0.06	-0.02	0.31
270- 7	-13.5	-1.9	12.1	0.27	-0.33	47.7	-0.06	-0.00	0.29
270- 8	-7.7	-0.7	6.5	0.14	-0.19	45.3	-0.03	-0.02	0.16
270- 9	-8.3	-0.2	7.7	0.17	-0.20	44.8	-0.01	-0.01	0.18
270-10	-14.5	-2.0	12.7	0.28	-0.35	47.4	-0.06	-0.01	0.31
270-11	-3.7	0.4	2.6	0.05	-0.10	37.0	-0.00	-0.04	0.07
270-12	-3.8	0.4	2.8	0.06	-0.10	37.6	-0.00	-0.04	0.08
270-13	-3.4	0.1	2.5*	0.05	-0.09	39.8	-0.01	-0.03	0.07

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	-0.7*	0.4	-0.4*	-0.00	-0.05	3.7	-0.00	-0.05	0.00
270-15	4.8*	0.8	-5.9*	0.10	-0.15	-37.8	0.01	-0.06	-0.12
270-16	-3.7*	-8.9	1.8*	0.15	-0.24	-45.6	-0.05	-0.04	-0.19
270-17	8.4	1.0	-9.6	0.18	-0.24	-39.8	0.01	-0.06	-0.21
270-18	10.8	0.5	-12.2	0.24	-0.30	-42.1	-0.00	-0.06	-0.26
270-19	15.3	0.1	-17.1	0.34	-0.41	-43.3	-0.02	-0.06	-0.37
270-20	18.9	3.3	-16.0	0.47	-0.34	-42.0	0.10	0.02	-0.40
0- 7	9.6	3.8	-9.1	0.24	-0.22	-34.7	0.09	-0.07	-0.22
11- 1	14.3	1.5	-10.8	0.37	-0.21	-45.5	0.07	0.08	-0.29
22- 7	14.5	1.8	-12.4	0.36	-0.26	-43.5	0.06	0.03	-0.31
33- 1	14.1	1.8	-10.4	0.36	-0.20	-45.2	0.08	0.08	-0.28
45- 7	13.5	1.0	-7.7	0.37	-0.12	-50.2	0.08	0.17	-0.24
56- 1	13.0	-5.8	2.2	0.66	-0.01	-79.0	0.02	0.63	-0.12
67- 6	12.3	-1.2	-3.2	0.42	-0.03	-63.2	0.06	0.33	-0.18
78- 1	10.1	-5.6	-3.6	0.40	-0.12	-71.0	-0.06	0.34	-0.16
90- 6	4.7	-12.4	-4.0	0.33	-0.30	-80.6	-0.28	0.31	-0.10
0-17	-0.8	-0.5	-1.0	-0.03	-0.05	-7.5	-0.03	-0.05	-0.00
11-11	-4.9	-4.6	-2.1	-0.11	-0.19	64.1	-0.18	-0.12	0.03
22-17	-9.0	-9.2	-3.3	-0.17	-0.36	68.4	-0.33	-0.19	0.07
33-11	-12.7	-12.0	-3.7	-0.22	-0.49	65.0	-0.44	-0.26	0.10
45-17	-13.8	-15.6	-5.6	-0.25	-0.58	72.6	-0.55	-0.28	0.09
56-11	-15.8	-18.7	-6.1	-0.26	-0.68	74.1	-0.65	-0.29	0.11
67-16	-13.3	-17.6	-5.0	-0.17	-0.61	76.9	-0.59	-0.20	0.10
78-11	-8.7	-12.5	-0.3	0.02	-0.40	76.1	-0.38	-0.01	0.10
90-16	-3.5	-4.8	5.9	0.23	-0.13	70.9	-0.09	0.19	0.11
180- 7	9.4	4.6	-6.3	0.26	-0.13	-34.4	0.13	-0.01	-0.18
191- 1	13.1	3.8	-9.1	0.34	-0.17	-40.5	0.13	0.05	-0.26
202- 7	13.8	1.1	-10.3	0.35	-0.20	-46.5	0.06	0.09	-0.28
213- 1	13.5	0.7*	-9.5	0.35	-0.18	-48.3	0.06	0.12	-0.27
225- 7	11.9	0.3	-8.1	0.31	-0.15	-49.4	0.04	0.12	-0.23
236- 1	11.3	-0.3*	-5.1	0.34	-0.07	-56.3	0.06	0.21	-0.19
247- 6	11.3	-2.0	-4.3	0.37	-0.07	-62.6	0.02	0.28	-0.18
258- 1	8.7	-7.7	-4.1	0.37	-0.18	-73.6	-0.13	0.33	-0.15
270- 6	3.9	-13.4	-5.8	0.27	-0.35	-79.4	-0.33	0.25	-0.11
180-17	0.8	0.9	0.9	0.04	0.04	38.0	0.04	0.04	0.00
191-11	-3.5	-4.2	-1.7	-0.07	-0.15	75.2	-0.15	-0.08	0.02
202-17	-7.6	-8.9	-2.4	-0.11	-0.32	73.2	-0.30	-0.13	0.06
213-11	-11.4	-13.4	-4.8	-0.20	-0.49	74.1	-0.47	-0.22	0.08
225-17	-12.6	-17.0	-6.2	-0.21	-0.59	78.5	-0.58	-0.23	0.07
236-11	-14.9	-20.5	-8.2	-0.27	-0.72	79.7	-0.70	-0.29	0.08
247-16	-13.3	-20.5	-7.3	-0.19	-0.69	81.8	-0.68	-0.20	0.07
258-11	-7.9	-13.9	-3.2	-0.04	-0.44	82.0	-0.43	-0.05	0.05
270-16	-3.7*	-8.9	1.8	0.15	-0.24	80.4	-0.22	0.14	0.06
400-01	-0.5	1.1	0.6	0.03	-0.02	59.0	-0.01	0.01	0.02
400-11	0.2	-0.4	0.2	0.02	-0.01	44.6	0.01	0.01	0.01
401-01	0.0	0.0**	-0.2	-0.00	-0.01	-27.7	-0.00	-0.00	-0.00
401-02	-6.8	2.1					-0.20	0.00	
401-03	0.0	0.3					0.00	0.01	
401-04	6.9	-1.7					0.21	0.01	
402-01	0.2	0.1	0.1	0.01	0.00	-62.0	0.00	0.01	-0.00
402-02	-0.0	-0.0					-0.00	-0.00	
402-03	0.2	0.1					0.01	0.01	
402-04	-0.1	0.0					-0.00	-0.00	
403-01	1.3*	1.3*	2.9	0.12	0.06	67.7	0.07	0.11	0.02
403-02	0.6	-21.5					-0.19	-0.70	
403-03	-1.2*	22.0					0.18	0.71	
403-04	-2.8	2.1					-0.07	0.04	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, IN-PLANE MOMENT LOADING ON BRANCH, -M3Z

NOMINAL LOAD = 7.083E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	9.3	14.7	9.8	0.53	0.29	1.4	0.53	0.29	0.01
0- 2	8.8	10.5	8.7	0.41	0.34	-1.3	0.41	0.34	-0.00
0- 3	6.4	3.8	6.6	0.34	0.22	88.7	0.22	0.34	0.00
0- 4	6.0	-0.2	6.1	0.40	0.11	89.8	0.11	0.40	0.00
0- 5	9.6	2.1	8.8	0.56	0.23	-88.4	0.23	0.56	-0.01
0- 6	18.5	19.9	20.1	0.85	0.80	25.5	0.84	0.81	0.02
0- 7	34.8	18.1	23.7	1.54	0.97	0.1	1.54	0.97	0.00
0- 8	28.9	43.9	31.4	1.61	0.97	2.6	1.61	0.98	0.03
0- 9	15.9	19.4	15.7	0.76	0.60	-0.7	0.76	0.60	-0.00
0-10	12.5	19.9	11.2	0.69	0.32	-2.3	0.69	0.32	-0.02
0-11	-4.9	2.1	-4.5	-0.05	-0.36	0.8	-0.05	-0.36	0.00
0-12	-4.0	4.3	-3.8	0.02	-0.36	0.4	0.02	-0.36	0.00
0-13	-5.1	7.1	142.9*	5.18	0.73	64.9	1.53	4.38	1.71
0-14	-1.7	11.9	-2.1	0.24	-0.40	-0.4	0.24	-0.40	-0.00
0-15	-5.1	5.6	-4.8	0.03	-0.46	0.5	0.03	-0.46	0.00
0-16	-13.1	-11.3	-12.1	-0.51	-0.57	10.7	-0.51	-0.57	0.01
0-17	-10.6	-10.3	-15.2	-0.47	-0.63	89.5	-0.63	-0.47	0.00
0-18	-10.0	-10.9	-9.1	-0.20	-0.63	88.6	-0.63	-0.20	0.01
0-19	2.2	-11.9	1.7	0.40	-0.24	-89.5	-0.24	0.40	-0.01
0-20	10.9	10.0	8.4	0.44	0.38	-37.2	0.42	0.41	-0.03
22- 1	2.3	9.7	8.5	0.35	0.11	17.6	0.33	0.13	0.07
22- 2	2.6	7.8	5.5	0.27	0.08	10.5	0.26	0.09	0.03
22- 3	3.6	5.3	2.6	0.19	0.08	-6.8	0.18	0.08	-0.01
22- 4	3.6	1.6	2.7	0.17	0.10	-81.8	0.10	0.17	-0.01
22- 5	7.6	4.4	8.1	0.42	0.26	88.1	0.26	0.42	0.01
22- 6	30.6	32.9	19.5	1.29	0.85	-17.6	1.25	0.89	-0.13
22- 7	21.5	14.2	32.5	1.48	0.84	-16.7	1.43	0.89	-0.18
22- 8	36.9	43.5	18.4	1.61	0.76	-15.2	1.55	0.82	-0.21
22- 9	22.6	17.4	4.3	0.81	0.35	-33.4	0.67	0.49	-0.21
22-10	22.0	23.4	5.8	0.88	0.31	-20.3	0.81	0.38	-0.19
22-11	1.5	2.4	0.7	0.08	0.02	-8.7	0.08	0.02	-0.01
22-12	2.9	3.7	-1.0	0.12	-0.04	-17.7	0.10	-0.02	-0.05
22-13	3.8	5.2	-3.0	0.15	-0.12	-17.7	0.13	-0.09	-0.08
22-14	4.9	8.7	-2.0	0.25	-0.12	-12.7	0.23	-0.10	-0.08
22-15	1.5	4.3	-3.6	0.09	-0.18	-12.6	0.08	-0.17	-0.06
22-16	-9.0	-11.7	-7.6	-0.27	-0.48	84.2	-0.43	-0.27	0.02
22-17	-4.4	1.5	-10.7	-0.10	-0.55	88.4	-0.55	-0.10	0.01
22-18	-7.7	-17.2	-0.1	0.15	-0.49	82.1	-0.48	0.14	0.09
22-19	3.3	-0.7	8.3	0.41	0.09	79.5	0.10	0.40	0.06
22-20	6.6	9.6	8.2	0.37	0.26	10.0	0.37	0.26	0.02
45- 1	-3.8	-7.3	-7.0	-0.18	-0.29	-69.5	-0.28	-0.19	-0.04
45- 2	-5.3	-3.8	-4.1	-0.18	-0.23	15.7	-0.18	-0.23	0.01
45- 3	-7.8	-0.0	0.3	-0.03	-0.29	23.5	-0.07	-0.25	0.09
45- 4	-6.9	0.6	1.3	0.00	-0.24	24.9	-0.04	-0.20	0.09
45- 5	-1.8	1.9	4.7	0.14	-0.01	41.6	0.07	0.05	0.07
45- 6	25.2	30.1	15.8	1.12	0.63	-13.0	1.10	0.66	-0.11
45- 7	11.0	12.2	25.4	1.00	0.57	-17.1	0.96	0.60	-0.12
45- 8	33.4	33.9	10.7	1.33	0.57	-21.9	1.22	0.67	-0.26
45- 9	23.8	19.4	2.9	0.85	0.29	-29.9	0.71	0.43	-0.24
45-10	23.5	30.8	10.9	1.08	0.39	-12.5	1.05	0.42	-0.15
45-11	-0.0	2.1	6.1	0.20	0.06	53.7	0.11	0.15	0.07
45-12	1.2	1.7	8.1	0.30	0.09	65.2	0.13	0.27	0.08
45-13	-0.6	0.2	8.1	0.29	0.03	64.8	0.08	0.24	0.10
45-14	1.0	4.3	8.9	0.30	0.12	49.7	0.20	0.23	0.09
45-15	2.3	7.0	11.0	0.39	0.18	42.8	0.29	0.28	0.10
45-16	-10.8	-9.2	7.2	0.19	-0.35	64.8	-0.25	0.09	0.21
45-17	5.0	10.0	-7.4	0.24	-0.35	71.6	-0.29	0.18	0.18
45-18	-10.7	-10.1	7.3	0.21	-0.36	66.6	-0.27	0.12	0.21
45-19	1.3	6.2	9.7	0.33	0.14	39.9	0.25	0.22	0.10
45-20	2.4	9.1	4.3	0.28	0.01	4.6	0.28	0.01	0.02
67- 1	0.0	-2.7	-3.3	-0.02	-0.12	-61.2	-0.10	-0.05	-0.04

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.0	-3.2	-4.8	-0.11	-0.18	-81.6	-0.14	-0.15	-0.03
67- 3	-3.3	-4.1	-6.7	-0.17	-0.26	-31.5	-0.19	-0.23	-0.04
67- 4	-2.2	-2.5	-4.5	-0.11	-0.18	-27.6	-0.12	-0.16	-0.03
67- 5	8.4	14.6	7.1	0.50	0.17	-2.7	0.49	0.17	-0.02
67- 6	3.8	2.5	12.4	0.51	0.18	-1.7	0.51	0.19	-0.01
67- 7	9.7	18.1	10.1	0.61	0.24	0.7	0.61	0.24	0.00
67- 8	13.8	18.9	7.9	0.66	0.27	-10.1	0.65	0.28	-0.07
67- 9	12.8	15.7	6.7	0.57	0.26	-13.7	0.55	0.28	-0.07
67-10	13.1	21.7	9.2	0.73	0.23	-5.3	0.72	0.23	-0.05
67-11	-2.9	0.1	2.4	0.05	-0.07	41.0	-0.00	-0.02	0.06
67-12	-2.6	5.0	0.2	0.10	-0.20	6.5	0.09	-0.19	0.03
67-13	-1.6	3.8	11.3	0.36	0.06	49.3	0.18	0.23	0.15
67-14	-3.1	6.2	21.6	0.69	0.10	52.1	0.33	0.47	0.28
67-15	-7.2	-5.8	23.9	0.84	-0.13	66.2	0.03	0.68	0.36
67-16	15.6	25.3	-1.4	0.77	-0.16	62.5	0.04	0.57	0.38
67-17	19.4	-0.6	-10.0	0.56	-0.16	-55.0	0.08	0.33	-0.34
67-18	-6.4	2.2	13.6	0.39	-0.08	89.0	0.12	0.19	0.23
67-19	0.3	8.9	7.1	0.30	0.02	16.8	0.28	0.04	0.08
67-20	-1.1	10.4	1.8	0.25	-0.22	4.1	0.25	-0.22	0.03
90- 1	4.5	0.3	-4.3	0.11	-0.10	-44.0	0.01	0.00	-0.10
90- 2	6.8	0.5	-6.3	0.16	-0.14	-44.1	0.02	0.01	-0.15
90- 3	8.0	0.4	-7.7	0.19	-0.17	-44.1	0.01	0.00	-0.18
90- 4	9.3	0.5	-7.9	0.23	-0.17	-45.7	0.03	0.04	-0.20
90- 5	5.6	0.6	-4.5	0.14	-0.09	-44.8	0.02	0.02	-0.12
90- 6	-0.3	2.9	1.6	0.09	-0.03	-42.4	0.03	0.02	-0.06
90- 7	0.7	-0.5	-1.0	0.01	-0.03	-54.6	-0.01	-0.00	-0.02
90- 8	-2.7	-0.8	0.9	0.00	-0.08	43.4	-0.04	-0.04	0.04
90- 9	-2.7	-0.1	0.9	0.01	-0.09	32.5	-0.02	-0.06	0.04
90-10	-2.1	-0.2	0.9	0.01	-0.06	36.9	-0.02	-0.04	0.03
90-11	1.1	-0.4	-1.6	0.02	-0.04	-48.7	-0.01	-0.01	-0.03
90-12	-1.3	-0.9	1.0	0.03	-0.04	60.9	-0.02	0.01	0.03
90-13	-7.2	-1.4	7.0	0.16	-0.17	50.2	-0.03	0.03	0.16
90-14	-16.3	-2.7	16.6	0.39	-0.38	50.0	-0.06	0.07	0.38
90-15	25.0	1.7	-23.6	0.59	-0.53	-43.9	0.05	0.01	-0.56
90-16	11.4	25.5	-6.6	0.67	-0.47	42.4	0.15	0.05	0.57
90-17	-22.1	-1.9	23.4	0.56	-0.50	48.2	-0.03	0.09	0.53
90-18	-13.6	1.4	20.1	0.53	-0.25	48.0	0.10	0.18	0.39
90-19	-4.3	1.5	8.7	0.25	-0.06	48.2	0.08	0.11	0.15
90-20	2.5	0.8	0.4	0.09	0.03	-60.4	0.05	0.08	-0.02
180- 1	-8.0	-6.9	-7.4	-0.31	-0.35	9.7	-0.31	-0.35	0.01
180- 2	-7.6	-5.4	-7.5	-0.27	-0.37	0.3	-0.27	-0.37	0.00
180- 3	-7.7	-6.6	-8.0	-0.31	-0.36	-2.9	-0.31	-0.36	-0.00
180- 4	-6.6	0.0	-7.6	-0.14	-0.47	-2.0	-0.14	-0.47	-0.01
180- 5	-7.8	-0.6	-9.7	-0.19	-0.56	-3.2	-0.19	-0.56	-0.02
180- 6	-18.3	-16.6	-17.8	-0.74	-0.81	4.6	-0.74	-0.81	0.01
180- 7	-35.6	-18.3	-23.6	-0.97	-1.56	89.1	-1.56	-0.97	0.01
180- 8	-25.8	-41.5	-30.1	-0.88	-1.51	-85.5	-1.51	-0.89	-0.05
180- 9	-10.4	-15.9	-14.2	-0.44	-0.62	-75.9	-0.61	-0.45	-0.04
180-10	-6.6	-17.2	-9.3	-0.12	-0.56	-86.0	-0.55	-0.13	-0.03
180-11	6.3	-0.4	6.9	0.44	0.12	88.8	0.12	0.44	0.01
180-12	5.9	-1.8	6.1	0.48	0.08	89.7	0.08	0.48	0.00
180-13	6.4	-3.2	6.3	0.49	0.05	-89.8	0.05	0.49	-0.00
180-14	6.2	-7.8	8.8	0.54	-0.07	-88.4	-0.07	0.54	-0.02
180-15	4.5	-7.7	4.6	0.48	-0.09	89.8	-0.09	0.48	0.00
180-16	9.5	4.5	10.0	0.54	0.30	88.7	0.30	0.54	0.01
180-17	10.6	13.8	11.7	0.54	0.41	-64.4	0.44	0.52	-0.05
180-18	6.6	8.7	-2.8	0.27	-0.11	-17.3	0.24	-0.08	-0.11
180-19	-5.5	12.9	-4.2	0.20	-0.62	1.1	0.20	-0.62	0.02
180-20	-13.9	-14.7	-17.1	-0.62	-0.71	-31.9	-0.65	-0.68	-0.04
202- 1	-1.6	-3.4	-2.1	-0.04	-0.12	-84.6	-0.11	-0.04	-0.01
202- 2	-3.3	-4.3	-1.4	-0.05	-0.15	77.1	-0.15	-0.06	0.02
202- 3	-5.5	-5.2	-0.7	-0.06	-0.21	65.9	-0.18	-0.08	0.06
202- 4	-6.4	-1.9	-0.3	-0.07	-0.22	31.9	-0.21	-0.18	0.07
202- 5	-10.3	-2.9	-3.2	-0.17	-0.41	21.3	-0.20	-0.38	0.08
202- 6	-32.4	-31.3	-15.6	-0.77	-1.29	65.5	-1.20	-0.86	0.19
202- 7	-16.5	-14.3	-36.6	-0.77	-1.50	65.4	-1.38	-0.90	0.28

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-38.6	-42.4	-16.2	-0.74	-1.61	71.6	-1.52	-0.83	0.26
202- 9	-23.0	-18.1	-3.6	-0.32	-0.82	58.2	-0.68	-0.46	0.22
202-10	-15.8	-21.6	-4.6	-0.14	-0.73	76.9	-0.70	-0.17	0.13
202-11	1.0	-0.8	-0.7	0.04	-0.02	-70.0	-0.02	0.03	-0.02
202-12	0.8	-1.6	0.6	0.08	-0.02	-88.7	-0.02	0.08	-0.00
202-13	-0.6	-2.5	2.7	0.14	-0.04	77.6	-0.04	0.13	0.04
202-14	-1.4	-5.6	2.3	0.17	-0.13	81.6	-0.12	0.16	0.04
202-15	-0.1	-4.8	2.2	0.18	-0.09	84.3	-0.09	0.18	0.03
202-16	6.7	11.3	7.8	0.40	0.21	3.9	0.40	0.22	0.01
202-17	4.7	-6.0	6.2	0.50	-0.03	4.2	0.49	-0.03	0.04
202-18	4.9	23.9	1.4	0.61	-0.35	-2.4	0.61	-0.34	-0.04
202-19	-8.2	-0.8	-9.7	-0.19	-0.57	-2.7	-0.19	-0.57	-0.02
202-20	-12.1	-12.3	-10.0	-0.44	-0.51	70.5	-0.50	-0.45	0.02
225- 1	4.3	5.4	6.7	0.26	0.21	48.8	0.23	0.24	0.03
225- 2	6.8	4.9	4.6	0.28	0.21	-62.4	0.23	0.26	-0.03
225- 3	6.2	1.1	3.7	0.30	0.12	-81.2	0.12	0.30	-0.03
225- 4	6.1	-0.9	0.9	0.27	0.03	-75.0	0.05	0.25	-0.06
225- 5	0.6	-0.8	1.2	0.08	-0.00	88.9	-0.00	0.08	0.01
225- 6	-32.5	-32.0	-9.3	-0.53	-1.27	66.8	-1.15	-0.64	0.27
225- 7	-6.8	-11.8	-33.2	-0.50	-1.21	65.9	-1.09	-0.62	0.27
225- 8	-36.5	-35.1	-9.0	-0.55	-1.40	65.9	-1.26	-0.69	0.32
225- 9	-26.5	-24.9	-6.5	-0.41	-1.01	64.9	-0.90	-0.52	0.23
225-10	-22.9	-28.7	-9.7	-0.37	-1.02	76.1	-0.99	-0.41	0.15
225-11	1.4	-1.2	-6.3	-0.01	-0.20	-35.8	-0.08	-0.14	-0.09
225-12	1.5	-1.2	-8.1	-0.02	-0.26	-33.4	-0.09	-0.19	-0.11
225-13	2.5	-0.5	-11.9	-0.01	-0.39	-29.9	-0.11	-0.30	-0.17
225-14	2.7	-1.6	-10.7	-0.01	-0.33	-35.3	-0.12	-0.22	-0.15
225-15	0.3	-6.9	-16.8	-0.14	-0.48	-43.9	-0.30	-0.32	-0.17
225-16	.5	8.9	-9.8	0.28	-0.33	-22.0	0.19	-0.25	-0.21
225-17	-4.5	-11.4	5.6	0.32	-0.28	-18.5	0.26	-0.22	-0.18
225-18	8.5	8.9	-7.1	0.29	-0.23	-21.8	0.22	-0.16	-0.18
225-19	-3.8	-7.5	-7.5	-0.18	-0.30	-67.8	-0.29	-0.20	-0.04
225-20	-6.7	-11.2	-3.0	-0.06	-0.36	8 .8	-0.35	-0.06	0.04
247- 1	0.3	3.4	3.2	0.13	0.02	21.2	0.11	0.04	0.03
247- 2	2.6	4.1	5.2	0.20	0.14	40.9	0.17	0.	0.03
247- 3	3.6	4.6	8.3	0.32	0.19	59.6	0.22	0.29	0.06
247- 4	1.0	2.6	7.7	0.28	0.10	59.1	0.15	0.23	0.08
247- 5	-14.6	-18.3	-5.0	-0.19	-0.65	75.4	-0.62	-0.22	0.11
247- 6	- .3	-5.6	-20.4	-0.26	-0.75	79.2	-0.74	-0.28	0.09
247- 7	-14.4	-21.5	-10.0	-0.30	-0.78	83.4	-0.74	-0.31	0.05
247- 8	-16.7	-21.1	-10.4	-0.39	-0.77	78.7	-0.75	-0.41	0.07
247- 9	-16.6	-21.0	-11.1	-0.41	-0.77	79.6	-0.76	-0.43	0.06
247-10	-16.0	-23.6	-13.3	-0.42	-0.84	85.6	-0.83	-0.42	0.03
247-11	2.8	-1.0	-2.7	0.07	-0.07	-55.4	-0.02	0.03	-0.06
247-12	3.5	-0.9	-6.0	0.05	-0.16	-43.0	-0.05	-0.06	-0.11
247-13	3.1	-5.2	-12.8	-0.02	-0.39	-46.3	-0.22	-0.20	-0.18
247-14	5.8	-8.1	-22.0	-0.03	-0.67	-44.9	-0.35	-0.35	-0.32
247-15	12.8	5.0	-23.3	0.25	-0.71	-30.2	0.01	-0.46	-0.42
247-16	-15.3	-20.4	8.0	0.32	-0.63	-33.4	0.03	-0.34	-0.43
247-17	14.0	0.2	-17.2	0.29	-0.43	-41.7	-0.03	-0.11	-0.36
247-18	8.6	-0.4	-9.5	0.19	-0.23	-44.7	-0.02	-0.02	-0.21
247-19	3.0	-4.7	-4.8	0.09	-0.16	-66.9	-0.13	0.05	-0.09
247-20	-2.3	-8.1	1.0	0.15	-0.20	83.6	-0.20	0.14	0.04
270- 1	-4.3	0.5	4.6	0.11	-0.10	42.5	0.02	-0.00	0.10
270- 2	-6.2	0.7	6.8	0.16	-0.14	43.5	0.02	0.01	0.15
270- 3	-7.0	0.8	7.7	0.18	-0.15	43.3	0.02	0.00	0.17
270- 4	-7.5	-0.3	8.2	0.20	-0.17	47.4	0.00	0.03	0.18
270- 5	-3.5	-1.3	3.0	0.07	-0.09	53.7	-0.03	0.01	0.08
270- 6	0.8	-2.0	-2.7	0.01	-0.09	65.1	-0.07	-0.01	0.04
270- 7	-2.1	-2.6	0.0	-0.00	-0.09	72.7	-0.08	-0.01	0.02
270- 8	0.6	-1.8	-3.6	-0.02	-0.11	-49.7	-0.07	-0.06	-0.05
270- 9	0.4	-2.4	-4.7	-0.03	-0.15	-47.2	-0.10	-0.09	-0.06
270-10	-0.1	-1.6	-3.2	-0.03	-0.11	-43.7	-0.07	-0.07	-0.04
270-11	-1.3	-0 5	0.8	0.01	-0.04	50.9	-0.02	-0.01	0.03
270-12	0.8	-0.9	-1.1	0.02	-0.03	-64.6	-0.02	0.01	-0.02
270-13	6.6	-0.8	-7.5	0.14	-0.18	-46.3	-0.03	-0.01	-0.16

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	15.2	-0.7	-14.7	0.36	-0.34	-46.9	-0.01	0.03	-0.35
270-15	27.2	1.1	-22.5	0.68	-0.47	-46.5	0.07	0.13	-0.57
270-16	-12.3	-20.0	14.4	0.62	-0.53	-52.1	-0.10	0.19	0.56
270-17	29.0	1.1	-23.0	0.73	-0.47	-47.2	0.08	0.17	-0.60
270-18	19.8	1.1	-14.4	0.51	-0.28	-47.7	0.08	0.15	-0.39
270-19	8.1	2.2	-4.8	0.22	-0.08	-42.5	0.09	0.06	-0.15
270-20	-0.4	0.4	2.5	0.08	0.01	56.2	0.03	0.06	0.03
0- 7	34.8	18.1	23.7	1.54	0.97	-76.9	1.00	1.51	-0.13
11- 1	25.0	16.9	32.3	1.51	0.94	81.3	0.96	1.50	0.08
22- 7	21.5	14.2	32.5	1.48	0.84	78.3	0.86	1.45	0.13
33- 1	16.1	13.0	32.3	1.36	0.72	72.1	0.78	1.30	0.19
45- 7	11.0	12.2	25.4	1.00	0.57	64.9	0.64	0.92	0.17
56- 1	8.2	7.1	22.2	0.90	0.41	69.6	0.47	0.84	0.16
67- 6	3.8	2.5	12.4	0.51	0.18	71.3	0.22	0.48	0.10
78- 1	0.7	0.3	5.3	0.21	0.05	69.7	0.07	0.19	0.05
90- 6	-0.3	2.9	1.6	0.09	-0.03	11.6	0.08	-0.02	0.02
0-17	-10.6	-10.3	-15.2	-0.47	-0.63	-20.5	-0.49	-0.61	-0.05
11-11	-7.4	-3.5	-13.4	-0.27	-0.62	-11.8	-0.29	-0.60	-0.07
22-17	-4.4	1.5	-10.7	-0.10	-0.55	-9.6	-0.11	-0.53	-0.07
33-11	1.6	5.1	-10.1	0.07	-0.44	-16.2	0.03	-0.40	-0.14
45-17	5.0	10.0	-7.4	0.24	-0.35	-14.4	0.21	-0.31	-0.14
56-11	13.1	18.9	-4.7	0.58	-0.21	-15.6	0.52	-0.16	-0.21
67-16	15.6	25.3	-1.4	0.77	-0.16	-12.5	0.72	-0.12	-0.20
78-11	14.4	20.9	-0.9	0.83	-0.25	-9.5	0.80	-0.22	-0.18
90-16	11.4	25.5	-6.6	0.67	-0.47	-10.6	0.64	-0.43	-0.21
180- 7	-35.6	-38.3	-23.6	-0.97	-1.56	14.1	-1.01	-1.53	0.14
191- 1	-27.0	-15.2	-30.9	-0.92	-1.56	-4.1	-0.92	-1.56	-0.05
202- 7	-16.5	-14.3	-36.6	-0.77	-1.50	-19.6	-0.85	-1.42	-0.23
213- 1	-11.6	-12.1	-35.8	-0.63	-1.40	-23.2	-0.75	-1.28	-0.28
225- 7	-6.8	-11.8	-33.2	-0.50	-1.21	-29.1	-0.67	-1.04	-0.30
236- 1	-4.2	-9.2	-28.8	-0.38	-1.04	-29.6	-0.54	-0.88	-0.28
247- 6	-3.3	-5.6	-20.4	-0.26	-0.75	-26.8	-0.36	-0.65	-0.20
258- 1	-0.3	-3.3	-10.0	-0.10	-0.34	-34.3	-0.18	-0.26	-0.11
270- 6	0.8	-2.0	-2.7	0.01	-0.09	-60.9	-0.06	-0.01	-0.04
180-17	10.6	13.8	11.7	0.54	0.41	5.6	0.54	0.42	0.01
191-11	8.8	-3.6	6.1	0.58	0.06	-86.6	0.06	0.58	-0.03
202-17	4.7	-6.0	6.2	0.50	-0.03	88.2	-0.03	0.50	0.02
213-11	0.5	-8.6	4.9	0.38	-0.15	84.5	-0.14	0.38	0.05
225-17	-4.5	-11.4	5.6	0.32	-0.28	78.5	-0.25	0.30	0.12
236-11	-12.5	-16.5	7.3	0.28	-0.51	72.3	-0.43	0.21	0.23
247-16	-15.3	-20.4	8.0	0.32	-0.63	72.6	-0.54	0.23	0.27
258-11	-15.8	-20.6	13.4	0.51	-0.61	71.6	-0.50	0.40	0.34
270-16	-12.3	-20.0	14.4	0.62	-0.53	73.9	-0.44	0.53	0.31
400-01	-1.8	-1.4	-0.1	-0.02	-0.06	-74.5	-0.06	-0.02	-0.01
400-11	0.7	-0.4	-1.5	0.01	-0.04	88.9	-0.04	0.01	0.00
401-01	2.8	6.5	2.8	0.20	0.03	-0.1	0.20	0.03	-0.00
401-02	-1.2	0.4					-0.03	0.00	
401-03	-7.8	3.1					-0.23	0.02	
401-04	-1.3	1.1					-0.03	0.02	
402-01	-1.6	-0.1	-1.6	-0.03	-0.10	0.5	-0.03	-0.10	0.00
402-02	3.1	0.4					0.11	0.04	
402-03	-3.2	-0.6					-0.11	-0.05	
402-04	3.1	0.4					0.11	0.04	
403-01	-9.9	34.7	0.6	0.72	-1.11	3.8	0.71	-1.10	0.12
403-02	1.2	-11.8					-0.08	-0.38	
403-03	-33.6	-13.3					-1.24	-0.77	
403-04	0.5	0.*					0.02	0.01	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, IN-PLANE FORCE LOADING ON BRANCH, F3X

NOMINAL LOAD = 1.111E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO PER. ALONG	NORMAL	DIR. SHEAR
0- 1	9.0	14.8	9.9	0.53	0.28	2.4	0.53	0.28	0.01
0- 2	8.5	10.4	8.6	0.41	0.32	0.6	0.41	0.32	0.00
0- 3	6.2	4.0	6.5	0.32	0.22	88.3	0.22	0.32	0.00
0- 4	5.8	0.1	5.9	0.38	0.12	89.8	0.12	0.38	0.00
0- 5	8.9	2.3	8.5	0.52	0.23	-89.1	0.23	0.52	-0.00
0- 6	17.5	19.3	19.2	0.82	0.76	21.1	0.81	0.77	0.02
0- 7	33.0	17.0	22.6	1.47	0.91	-0.1	1.47	0.91	-0.00
0- 8	27.7	21.7	29.6	1.53	0.92	2.1	1.53	0.93	0.02
0- 9	14.9	17.8	14.7	0.70	0.56	-0.8	0.70	0.56	-0.00
0-10	11.1	17.7	10.4	0.62	0.30	-1.6	0.62	0.30	-0.01
0-11	-4.7	2.2	-4.4	-0.04	-0.35	0.7	-0.04	-0.35	0.00
0-12	-3.8	4.5	-3.6	0.03	-0.35	0.2	0.03	-0.35	0.00
0-13	-6.5	5.7	302.0*	11.17	1.49	66.3	3.05	9.61	3.56
0-14	-1.6	12.1	-1.7	0.25	-0.39	-0.2	0.25	-0.39	-0.00
0-15	-5.0	5.7	-4.3	0.04	-0.44	1.0	0.04	-0.44	0.01
0-16	-13.0	-11.3	-11.5	-0.50	-0.55	19.4	-0.50	-0.54	0.02
0-17	-9.8	-9.8	-15.1	-0.45	-0.62	87.8	-0.62	-0.45	0.01
0-18	-9.9	-18.7	-8.7	-0.18	-0.61	88.1	-0.61	-0.18	0.01
0-19	2.0	-12.1	1.4	0.39	-0.25	-89.4	-0.25	0.39	-0.01
0-20	10.5	9.2	7.7	0.42	0.36	-43.3	0.39	0.39	-0.03
22- 1	2.0	9.8	8.7	0.36	0.10	18.4	0.33	0.13	0.08
22- 2	2.2	7.7	5.6	0.26	0.07	12.2	0.25	0.08	0.04
22- 3	3.1	5.6	2.7	0.19	0.06	-1.9	0.19	0.06	-0.00
22- 4	3.0	1.7	2.8	0.15	0.10	-87.5	0.10	0.15	-0.00
22- 5	6.7	4.5	8.0	0.39	0.25	83.7	0.25	0.38	0.01
22- 6	28.0	31.4	19.1	1.22	0.80	-14.8	1.19	0.83	-0.10
22- 7	21.0	13.4	29.9	1.39	0.79	-15.2	1.34	0.84	-0.15
22- 8	33.9	40.7	18.0	1.50	0.73	-14.1	1.45	0.77	-0.18
22- 9	20.4	15.7	4.5	0.73	0.34	-33.9	0.61	0.46	-0.18
22-10	19.2	20.7	6.0	0.78	0.30	-19.6	0.73	0.35	-0.15
22-11	1.8	2.6	1.0	0.09	0.03	-8.6	0.09	0.03	-0.01
22-12	3.3	3.9	-0.6	0.13	-0.02	-18.4	0.12	-0.00	-0.05
22-13	0.1	5.3	-2.7	0.16	-0.10	-18.2	0.14	-0.08	-0.08
22-14	5.1	8.8	-1.7	0.25	-0.11	-12.9	0.24	-0.09	-0.08
22-15	1.7	4.3	-3.3	0.10	-0.16	-13.2	0.08	-0.15	-0.06
22-16	-8.6	-11.6	-7.3	-0.25	-0.43	85.1	-0.43	-0.25	0.01
22-17	-4.3	1.8	-10.2	-0.09	-0.53	88.8	-0.53	-0.09	0.01
22-18	-7.3	-16.8	-0.6	0.14	-0.48	82.6	-0.47	0.13	0.08
22-19	3.6	-1.1	7.0	0.38	0.07	82.6	0.08	0.38	0.04
22-20	6.8	8.6	6.5	0.33	0.24	-2.0	0.33	0.24	-0.00
45- 1	-3.6	-6.8	-6.2	-0.16	-0.26	-72.8	-0.25	-0.17	-0.03
45- 2	-5.1	-3.6	-3.6	-0.16	-0.21	21.7	-0.17	-0.21	0.02
45- 3	-7.8	-0.1	0.5	-0.03	-0.28	24.9	-0.07	-0.24	0.10
45- 4	-7.0	0.6	1.6	0.01	-0.24	26.1	-0.04	-0.19	0.10
45- 5	-2.2	1.8	5.0	0.14	-0.02	42.3	0.07	0.05	0.08
45- 6	22.8	28.5	16.0	1.06	0.61	-10.3	1.04	0.62	-0.08
45- 7	11.4	11.5	22.9	0.92	0.55	-14.7	0.90	0.57	-0.09
45- 8	30.3	31.4	11.0	1.22	0.55	-20.9	1.13	0.64	-0.22
45- 9	21.1	17.5	3.4	0.76	0.29	-29.5	0.65	0.40	-0.20
45-10	20.2	27.4	11.0	0.96	0.38	-10.7	0.94	0.40	-0.11
45-11	0.2	2.3	6.1	0.21	0.06	53.2	0.12	0.16	0.07
45-12	1.4	1.9	8.1	0.31	0.10	65.2	0.14	0.27	0.08
45-13	-0.3	0.4	8.2	0.30	0.04	64.8	0.09	0.25	0.10
45-14	1.4	4.4	8.9	0.31	0.13	50.4	0.20	0.24	0.09
45-15	2.4	6.9	10.9	0.38	0.19	43.7	0.29	0.28	0.10
45-16	-10.3	-9.1	6.8	0.19	-0.34	65.3	-0.24	0.09	0.20
45-17	4.5	9.7	-6.9	0.23	-0.34	72.3	-0.28	0.18	0.16
45-18	-9.8	-10.0	6.5	0.20	-0.34	67.8	-0.26	0.12	0.13
45-19	2.2	5.6	8.0	0.29	0.15	40.0	0.23	0.21	0.07
45-20	3.3	8.2	2.4	0.25	-0.00	-2.5	0.25	-0.00	-0.01
67- 1	-0.1	-2.7	-3.1	-0.03	-0.11	-63.5	-0.09	-0.04	-0.03

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PRI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
67- 2	-2.1	-3.2	-4.4	-0.11	-0.16	-43.3	-0.14	-0.14	-0.03
67- 3	-3.5	-4.0	-6.0	-0.17	-0.24	-29.6	-0.19	-0.22	-0.03
67- 4	-2.6	-2.6	-3.7	-0.12	-0.15	-21.8	-0.12	-0.15	-0.01
67- 5	6.8	13.3	7.4	0.45	0.16	1.5	0.45	0.16	0.01
67- 6	4.1	1.7	10.4	0.46	0.16	2.1	0.46	0.16	0.01
67- 7	7.9	16.0	9.8	0.55	0.21	3.9	0.54	0.21	0.02
67- 8	11.3	16.7	7.9	0.58	0.24	-6.8	0.58	0.25	-0.04
67- 9	10.9	13.7	6.9	0.49	0.24	-8.5	0.48	0.24	-0.04
67-10	10.0	19.0	9.6	0.63	0.21	-0.6	0.63	0.21	-0.00
67-11	-2.6	0.2	2.4	0.05	-0.06	81.9	0.00	-0.01	0.06
67-12	-2.3	5.1	0.4	0.10	-0.18	6.3	0.10	-0.18	0.03
67-13	-1.4	3.9	11.3	0.36	0.06	89.6	0.19	0.24	0.15
67-14	-2.9	6.1	21.2	0.68	0.11	52.1	0.32	0.46	0.28
67-15	-6.6	-5.5	22.9	0.81	-0.11	66.4	0.03	0.67	0.34
67-16	14.7	24.2	-0.7	0.74	-0.14	63.0	0.04	0.55	0.35
67-17	18.1	-0.7	-8.7	0.53	-0.13	-55.9	0.08	0.33	-0.31
67-18	-4.9	2.0	12.1	0.35	-0.05	50.2	0.12	0.19	0.20
67-19	1.8	8.3	5.2	0.27	0.03	9.7	0.26	0.04	0.04
67-20	0.8	9.6	0.1	0.23	-0.19	-1.0	0.23	-0.19	-0.01
90- 1	4.3	0.2	-3.9	0.10	-0.09	-44.7	0.01	0.01	-0.09
90- 2	6.4	0.3	-5.9	0.15	-0.13	-44.7	0.01	0.01	-0.14
90- 3	7.4	0.2	-6.8	0.17	-0.15	-45.4	0.01	0.01	-0.16
90- 4	8.2	-0.0	-7.2	0.20	-0.16	-46.9	0.01	0.03	-0.18
90- 5	4.1	-0.6	-4.3	0.09	-0.10	-48.5	-0.02	0.01	-0.10
90- 6	-0.2	1.8	0.3	0.04	-0.04	-50.0	-0.01	0.01	-0.04
90- 7	-0.6	-1.6	-1.2	-0.02	-0.06	-77.3	-0.05	-0.02	-0.01
90- 8	-3.9	-1.8	0.7	-0.02	-0.12	86.8	-0.07	-0.07	0.05
90- 9	-4.5	-0.9	1.4	0.00	-0.14	38.7	-0.05	-0.08	0.07
90-10	-4.2	-0.9	1.9	0.02	-0.12	82.8	-0.04	-0.06	0.07
90-11	1.1	0.3	-1.4	0.02	-0.04	-35.2	0.00	-0.02	-0.03
90-12	-1.3	-0.8	1.2	0.03	-0.04	60.1	-0.03	0.01	0.03
90-13	-6.9	-1.2	7.1	0.17	-0.16	50.3	-0. .	0.03	0.16
90-14	-15.5	-2.4	16.3	0.39	-0.35	50.0	-0.05	0.08	0.37
90-15	24.3	2.0	-22.1	0.58	-0.49	-83.9	0.07	0.03	-0.54
90-16	11.3	24.7	-5.7	0.66	-0.42	82.4	0.17	0.07	0.54
90-17	-20.3	-1.4	22.4	0.54	-0.45	88.2	-0.01	0.10	0.49
90-18	-11.8	1.6	18.7	0.50	-0.21	88.4	0.11	0.19	0.35
90-19	-2.4	1.5	7.1	0.21	-0.01	50.1	0.08	0.12	0.11
90-20	4.5	1.0	-1.1	0.14	0.01	-52.2	0.06	0.09	-0.06
180- 1	-7.6	-6.7	-7.2	-0.30	-0.33	7.9	-0.30	-0.33	0.00
180- 2	-7.2	-5.2	-7.2	-0.26	-0.35	-0.1	-0.26	-0.35	-0.00
180- 3	-7.4	-6.4	-7.5	-0.30	-0.34	-1.3	-0.30	-0.34	-0.00
180- 4	-6.2	0.0	-7.0	-0.13	-0.44	-1.8	-0.13	-0.43	-0.01
180- 5	-7.8	-0.7	-9.1	-0.18	-0.53	-3.2	-0.18	-0.53	-0.02
180- 6	-17.6	-15.9	-16.8	-0.71	-0.77	9.5	-0.71	-0.77	0.01
180- 7	-33.3	-17.0	-22.9	-0.92	-1.49	87.6	-1.49	-0.92	0.02
180- 8	-25.5	-39.5	-27.6	-0.84	-1.44	-87.7	-1.44	-0.84	-0.02
180- 9	-10.6	-14.8	-12.5	-0.42	-0.57	-81.7	-0.57	-0.42	-0.02
180-10	-6.5	-15.6	-7.8	-0.11	-0.50	-87.8	-0.50	-0.11	-0.01
180-11	6.2	-0.4	6.6	0.43	0.12	89.2	0.12	0.43	0.00
180-12	5.8	-1.8	5.8	0.42	0.07	-90.0	0.07	0.42	-0.00
180-13	6.2	-3.2	5.9	0.48	0.05	-89.5	0.05	0.48	-0.00
180-14	6.0	-7.6	4.4	0.52	-0.07	-88.3	-0.07	0.52	-0.02
180-15	4.3	-7.6	4.2	0.46	-0.09	-89.9	-0.09	0.46	-0.00
180-16	9.2	4.4	9.1	0.50	0.28	-89.9	0.28	0.50	-0.00
180-17	10.3	13.4	10.6	0.52	0.38	-68.5	0.40	0.50	-0.05
180-18	5.8	8.4	-3.4	0.25	-0.15	-16.2	0.22	-0.12	-0.11
180-19	-5.2	12.5	-4.2	0.20	-0.60	0.8	0.20	-0.60	0.01
180-20	-13.1	-13.8	-16.3	-0.59	-0.67	-30.4	-0.61	-0.65	-0.04
202- 1	-1.1	-3.1	-1.8	-0.02	-0.10	-84.0	-0.10	-0.02	-0.01
202- 2	-2.8	-4.0	-1.1	-0.03	-0.13	78.9	-0.13	-0.03	0.02
202- 3	-4.8	-4.9	-0.3	-0.03	-0.18	68.4	-0.16	-0.05	0.05
202- 4	-5.6	-1.9	-0.0	-0.05	-0.19	35.9	-0.10	-0.14	0.06
202- 5	-9.3	-2.7	-2.8	-0.15	-0.37	22.2	-0.18	-0.34	0.08
202- 6	-30.5	-29.4	-14.3	-0.71	-1.21	65.5	-1.12	-0.80	0.19
202- 7	-15.2	-13.3	-34.7	-0.72	-1.42	65.1	-1.30	-0.84	0.27

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	-36.6	-40.0	-15.0	-0.70	-1.52	71.4	-1.03	-0.78	0.25
202- 9	-21.5	-16.8	-3.2	-0.29	-0.76	57.9	-0.63	-0.43	0.21
202-10	-18.5	-19.8	-4.4	-0.18	-0.67	77.0	-0.64	-0.16	0.12
202-11	0.8	-1.0	-1.2	0.02	-0.04	-65.4	-0.03	0.01	-0.02
202-12	0.5	-1.6	0.1	0.06	-0.03	-86.	-0.03	0.06	-0.01
202-13	-0.7	-2.4	1.9	0.10	-0.05	78.1	-0.04	0.09	0.03
202-14	-1.4	-5.2	1.4	0.13	-0.12	82.6	-0.12	0.12	0.03
202-15	-0.2	-4.7	1.1	0.14	-0.10	86.6	-0.10	0.14	0.01
202-16	5.9	10.5	6.5	0.36	0.17	1.9	0.36	0.17	0.01
202-17	3.8	-6.2	5.6	0.45	-0.05	3.7	0.45	-0.05	0.03
202-18	9.4	22.0	1.3	0.57	-0.32	-2.3	0.56	-0.32	-0.04
202-19	-7.7	-0.5	-8.5	-0.17	-0.52	-1.5	-0.17	-0.52	-0.01
202-20	-11.4	-11.1	-8.5	-0.38	-0.47	65.0	-0.45	-0.40	0.03
225- 1	4.0	5.1	6.4	0.25	0.19	47.3	0.22	0.23	0.03
225- 2	6.5	4.8	4.5	0.26	0.21	-62.2	0.22	0.25	-0.02
225- 3	6.1	1.3	3.7	0.30	0.12	-80.8	0.13	0.29	-0.03
225- 4	6.2	-0.7	1.0	0.27	0.04	-74.4	0.06	0.25	-0.06
225- 5	1.3	-0.4	1.4	0.10	0.02	88.7	0.02	0.10	0.00
225- 6	-29.7	-29.3	-8.5	-0.48	-1.16	67.1	-1.05	-0.58	0.24
225- 7	-6.4	-10.7	-30.4	-0.46	-1.12	66.4	-1.01	-0.56	0.24
225- 8	-33.5	-32.6	-8.7	-0.51	-1.19	66.5	-1.17	-0.64	0.29
225- 9	-23.9	-22.9	-6.6	-0.39	-0.92	65.7	-0.83	-0.48	0.20
225-10	-20.1	-26.1	-9.8	-0.36	-0.93	77.6	-0.90	-0.38	0.12
225-11	1.4	-1.0	-6.1	-0.01	-0.19	-35.0	-0.07	-0.13	-0.09
225-12	1.5	-1.0	-7.6	-0.02	-0.24	-33.1	-0.08	-0.18	-0.10
225-13	2.5	-0.5	-11.5	-0.01	-0.38	-30.0	-0.10	-0.29	-0.16
225-14	2.9	-1.3	-10.3	0.00	-0.32	-35.1	-0.10	-0.21	-0.15
225-15	0.6	-6.6	-15.9	-0.14	-0.52	-41.3	-0.30	-0.35	-0.19
225-16	7.9	7.9	-10.2	0.25	-0.34	-22.6	0.16	-0.26	-0.21
225-17	-4.9	-11.2	5.1	0.29	-0.28	-19.0	0.23	-0.22	-0.18
225-18	7.6	8.1	-6.6	0.26	-0.22	-21.6	0.20	-0.15	-0.16
225-19	-3.4	-6.7	-5.9	-0.15	-0.26	-74.3	-0.25	-0.15	-0.03
225-20	-6.6	-9.8	-1.8	-0.04	-0.32	78.3	-0.31	-0.05	0.06
247- 1	-0.1	3.1	3.1	0.12	0.01	23.1	0.10	0.03	0.04
247- 2	2.2	3.9	5.0	0.19	0.12	39.5	0.16	0.15	0.03
247- 3	3.3	6.5	8.1	0.31	0.18	58.7	0.22	0.27	0.06
247- 4	1.5	3.1	7.7	0.28	0.12	57.9	0.16	0.23	0.07
247- 5	-12.3	-15.7	-4.1	-0.15	-0.55	75.8	-0.52	-0.18	0.09
247- 6	-3.0	-4.4	-17.6	-0.23	-0.66	80.4	-0.65	-0.24	0.07
247- 7	-12.2	-19.0	-9.3	-0.27	-0.65	85.0	-0.65	-0.27	0.03
247- 8	-13.8	-18.5	-9.9	-0.35	-0.67	81.7	-0.66	-0.35	0.05
247- 9	-13.5	-18.4	-10.8	-0.37	-0.67	83.9	-0.66	-0.37	0.03
247-10	-12.7	-20.4	-13.0	-0.38	-0.73	-89.5	-0.73	-0.38	-0.00
247-11	2.6	-0.8	-2.2	0.07	-0.05	-55.7	-0.01	0.03	-0.06
247-12	3.3	-0.6	-5.4	0.06	-0.15	-42.3	-0.04	-0.05	-0.10
247-13	3.3	-4.7	-12.2	-0.01	-0.37	-46.1	-0.20	-0.18	-0.18
247-14	5.8	-7.8	-21.3	-0.02	-0.64	-45.0	-0.33	-0.33	-0.31
247-15	11.9	4.2	-22.6	0.23	-0.68	-30.5	-0.01	-0.45	-0.40
247-16	-15.0	-19.0	7.9	0.29	-0.60	-34.2	0.01	-0.31	-0.41
247-17	12.9	-0.1	-15.9	0.27	-0.40	-42.3	-0.03	-0.09	-0.33
247-18	7.7	-0.0	-8.2	0.17	-0.20	-44.1	-0.01	-0.02	-0.18
247-19	2.3	-4.0	-3.3	0.08	-0.12	-70.4	-0.10	0.06	-0.06
247-20	-3.1	-7.1	2.5	0.16	-0.18	78.8	-0.17	0.14	0.06
270- 1	-4.3	0.2	4.1	0.09	-0.10	83.1	0.00	-0.01	0.10
270- 2	-6.0	0.4	6.2	0.14	-0.14	83.7	0.01	-0.00	0.14
270- 3	-6.7	0.6	7.0	0.16	-0.15	83.2	0.02	-0.00	0.16
270- 4	-6.7	0.1	7.8	0.19	-0.14	86.7	0.01	0.03	0.17
270- 5	-2.3	0.2	3.5	0.09	-0.04	89.2	0.02	0.04	0.07
270- 6	1.1	-0.9	-0.8	0.04	-0.03	57.4	-0.01	0.02	0.03
270- 7	-0.6	-0.2	1.0	0.03	-0.01	57.0	0.00	0.02	0.02
270- 8	1.9	-0.4	-2.9	0.03	-0.08	-44.2	-0.02	-0.02	-0.06
270- 9	2.0	-1.0	-4.4	0.02	-0.13	-43.5	-0.05	-0.06	-0.07
270-10	2.1	0.2	-3.4	0.04	-0.09	-36.3	-0.01	-0.05	-0.06
270-11	-1.1	-0.0	1.0	0.02	-0.03	45.4	-0.00	-0.00	0.02
270-12	0.8	-0.2	-0.7	0.02	-0.02	-55)	-0.01	0.01	-0.02
270-13	6.4	-0.2	-6.6	0.14	-0.16	-45.5	-0.01	-0.00	-0.15

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	14.5	-0.6	-13.8	0.34	-0.31	-47.0	-0.01	0.04	-0.33
270-15	24.6	0.5	-21.1	0.60	-0.45	-46.6	0.05	0.10	-0.53
270-16	-12.0	-18.4	14.7	0.61	-0.49	-53.0	-0.10	0.21	-0.53
270-17	26.7	0.1	-21.2	0.67	-0.44	-48.1	0.06	0.18	-0.55
270-18	18.1	0.5	-12.5	0.48	-0.24	-49.2	0.07	0.17	-0.35
270-19	6.9	.6	-3.0	0.20	-0.03	-41.6	0.10	0.07	-0.11
270-20	-1.3	.9	3.6	0.11	-0.01	87.6	0.04	0.05	0.06
0- 7	33.0	17.0	22.6	1.47	0.91	-77.1	0.94	1.44	-0.12
11- 1	24.2	16.0	30.6	1.45	0.90	82.2	0.91	1.44	0.07
22- 7	21.0	13.4	29.9	1.39	0.79	79.8	0.81	1.37	0.10
33- 1	16.2	12.5	29.7	1.27	0.70	73.6	0.74	1.22	0.16
45- 7	11.8	11.5	22.9	0.92	0.55	67.3	0.60	0.86	0.13
56- 1	8.5	6.5	19.7	0.82	0.39	71.9	0.43	0.78	0.13
67- 6	4.1	1.7	10.4	0.46	0.16	75.1	0.18	0.44	0.07
78- 1	0.9	-0.4	3.5	0.16	0.03	76.3	0.03	0.15	0.03
90- 6	-0.2	1.8	0.3	0.04	-0.04	4.0	0.04	-0.04	0.01
0-17	-9.8	-9.8	-15.1	-0.45	-0.62	-22.2	-0.47	-0.60	-0.06
11-11	-7.0	-3.0	-13.2	-0.25	-0.61	-11.9	-0.27	-0.59	-0.07
22-17	-4.3	1.8	-10.2	-0.09	-0.53	-9.2	-0.10	-0.52	-0.07
33-11	1.3	5.0	-9.6	0.07	-0.42	-15.4	0.03	-0.39	-0.13
45-17	4.5	9.7	-6.9	0.23	-0.34	-13.7	0.20	-0.30	-0.13
56-11	12.2	18.1	-4.0	0.55	-0.20	-15.0	0.50	-0.15	-0.19
67-16	14.7	24.2	-0.7	0.74	-0.14	-12.0	0.70	-0.10	-0.18
78-11	13.9	27.9	-0.2	0.81	-0.22	-9.3	0.78	-0.19	-0.16
90-16	11.3	24.7	-5.7	0.66	-0.42	-10.6	0.62	-0.39	-0.20
180- 7	-33.3	-17.0	-22.9	-0.92	-1.49	12.6	-0.95	-1.46	0.12
191- 1	-24.6	-14.0	-29.4	-0.85	-1.46	-5.2	-0.86	-1.46	-0.06
202- 7	-15.2	-13.3	-34.7	-0.72	-1.42	-19.9	-0.80	-1.34	-0.22
213- 1	-10.7	-11.0	-33.0	-0.58	-1.30	-23.0	-0.69	-1.19	-0.26
225- 7	-6.4	-10.7	-30.4	-0.46	-1.12	-28.6	-0.61	-0.97	-0.28
236- 1	-3.9	-7.8	-25.6	-0.34	-0.93	-28.7	-0.47	-0.79	-0.25
247- 6	-3.0	-4.4	-17.6	-0.23	-0.66	-25.6	-0.31	-0.58	-0.17
258- 1	0.0	-2.1	-7.5	-0.07	-0.26	-33.3	-0.12	-0.20	-0.09
270- 6	1.1	-0.9	-0.8	0.04	-0.03	-68.6	-0.02	0.03	-0.02
180-17	10.3	13.4	10.6	0.52	0.38	1.5	0.52	0.38	0.00
191-11	7.5	-4.2	5.6	0.53	0.03	-87.5	0.03	0.53	-0.02
202-17	3.8	-6.2	5.6	0.45	-0.05	87.7	-0.05	0.45	0.02
213-11	-0.2	-8.5	4.6	0.35	-0.16	83.6	-0.15	0.34	0.06
225-17	-4.9	-11.2	5.1	0.29	-0.28	78.0	-0.26	0.27	0.12
236-11	-12.2	-15.4	6.8	0.25	-0.48	71.5	-0.41	0.18	0.22
247-16	-15.0	-19.0	7.9	0.29	-0.60	71.8	-0.51	0.20	0.26
258-11	-15.3	-18.8	12.9	0.47	-0.57	70.6	-0.46	0.36	0.33
270-16	-12.0	-18.4	14.7	0.61	-0.49	73.0	-0.40	0.51	0.31
400-01	-1.7	-1.3	0.0	-0.01	-0.06	-75.9	-0.06	-0.02	-0.01
400-11	0.6	-0.8	-1.4	0.01	-0.04	-90.0	-0.04	0.01	-0.00
401-01	2.5	6.2	2.8	0.20	0.03	1.3	0.20	0.03	0.00
401-02	-1.2	0.7					-0.03	0.01	
401-03	-7.0	2.9					-0.20	0.03	
401-04	-1.3	1.3					-0.03	0.03	
402-01	-1.5	-0.1	-1.6	-0.03	-0.10	-0.1	-0.03	-0.10	-0.00
402-02	3.0	0.4					0.10	0.04	
402-03	-3.0	-0.6					-0.10	-0.05	
402-04	3.0	0.4					0.10	0.04	
403-01	-5.0	17.8	0.3	0.37	-0.57	3.7	0.37	-0.56	0.06
403-02	0.6	-6.2					-0.04	-0.20	
403-03	-17.3	-6.4					-0.63	-0.38	
403-04	-0.0	0.5					0.00	0.02	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, AXIAL FORCE LOADING ON BRANCH, P3Y

NOMINAL LOAD = 1.111E 03 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
0- 1	8.2	5.6	8.0	0.40	0.29	-88.5	0.29	0.40	-0.00
0- 2	9.2	6.5	8.9	0.44	0.33	-88.4	0.33	0.44	-0.00
0- 3	7.8	1.4	8.3	0.50	0.19	88.9	0.19	0.50	0.01
0- 4	8.5	-1.5	8.5	0.60	0.13	-89.9	0.13	0.60	-0.00
0- 5	11.5	1.9	11.2	0.70	0.27	-89.5	0.27	0.70	-0.00
0- 6	19.2	20.8	21.7	0.91	0.85	37.9	0.88	0.87	0.03
0- 7	33.2	17.8	23.0	1.47	0.94	0.2	1.47	0.94	0.00
0- 8	25.7	39.0	28.4	1.44	0.88	3.2	1.43	0.88	0.03
0- 9	12.1	13.9	11.8	0.56	0.47	-2.3	0.56	0.47	-0.00
0-10	7.5	12.3	6.3	0.42	0.17	-3.0	0.42	0.17	-0.01
0-11	-10.2	-1.6	-10.2	-0.24	-0.64	-0.1	-0.24	-0.64	-0.00
0-12	-10.3	-1.8	-10.4	-0.25	-0.64	-0.2	-0.25	-0.64	-0.00
0-13	-12.7	1.5	382.6*	14.15	1.70	66.4	3.69	12.16	4.56
0-14	-5.7	10.1	-6.4	0.11	-0.63	-0.7	0.11	-0.63	-0.01
0-15	-7.7	4.5	-7.6	-0.05	-0.61	0.2	-0.05	-0.61	0.00
0-16	-13.6	-12.0	-12.7	-0.54	-0.59	10.4	-0.54	-0.59	0.01
0-17	-9.2	-7.9	-15.2	-0.40	-0.64	-87.5	-0.64	-0.40	-0.01
0-18	-7.3	-19.7	-6.3	0.00	-0.59	88.9	-0.59	0.00	0.01
0-19	4.9	-12.2	4.8	0.60	-0.18	-89.9	-0.18	0.60	-0.00
0-20	12.7	10.2	10.4	0.54	0.45	-70.0	0.46	0.53	-0.03
22- 1	3.7	3.0	-3.0	0.11	-0.08	-25.6	0.08	-0.05	-0.08
22- 2	6.3	6.6	-1.3	0.24	-0.02	-21.3	0.20	0.01	-0.09
22- 3	9.8	5.9	-2.3	0.31	0.01	-35.4	0.21	0.11	-0.14
22- 4	11.1	2.4	-1.5	0.36	0.05	-55.6	0.15	0.26	-0.14
22- 5	15.3	5.8	3.5	0.56	0.24	-60.7	0.32	0.48	-0.14
22- 6	36.0	34.2	15.0	1.41	0.78	-25.2	1.29	0.89	-0.24
22- 7	17.8	12.7	34.8	1.50	0.76	-21.1	1.40	0.85	-0.25
22- 8	34.4	38.5	15.2	1.45	0.68	-17.5	1.38	0.75	-0.22
22- 9	18.7	12.9	1.8	0.64	0.24	-36.4	0.50	0.38	-0.19
22-10	16.6	16.4	2.2	0.63	0.17	-22.8	0.56	0.24	-0.17
22-11	-4.8	2.1	1.7	0.05	-0.18	20.7	0.02	-0.15	0.07
22-12	-4.0	1.5	-1.5	-0.02	-0.22	8.3	-0.02	-0.22	0.03
22-13	-1.0	2.6	-6.1	0.00	-0.31	-11.2	-0.01	-0.30	-0.06
22-14	1.5	6.3	-6.0	0.12	-0.31	-11.9	0.10	-0.29	-0.09
22-15	0.4	2.4	-9.5	0.00	-0.39	-17.9	-0.03	-0.35	-0.11
22-16	-6.4	-13.3	-13.8	-0.32	-0.55	-65.6	-0.51	-0.36	-0.08
22-17	-8.6	5.1	-5.8	-0.02	-0.60	-78.8	-0.57	-0.04	-0.11
22-18	-2.2	-19.8	-2.6	0.30	-0.50	-8..7	-0.50	0.30	-0.00
22-19	8.1	-2.2	7.8	0.58	0.11	-89.6	0.11	0.58	-0.00
22-20	10.0	9.9	8.8	0.42	0.38	-26.8	0.41	0.39	-0.01
45- 1	-8.1	-4.9	-9.1	-0.28	-0.45	-3.9	-0.28	-0.45	-0.01
45- 2	-9.4	-1.6	-6.7	-0.19	-0.50	5.8	-0.20	-0.50	0.03
45- 3	-10.9	0.9	-0.9	-0.06	-0.45	18.2	-0.10	-0.41	0.12
45- 4	-4.7	3.0	-0.7	0.02	-0.26	9.7	0.01	-0.25	0.05
45- 5	5.1	5.6	0.8	0.21	0.05	-19.9	0.19	0.07	-0.05
45- 6	34.0	36.6	13.3	1.40	0.63	-19.4	1.31	0.72	-0.24
45- 7	10.2	13.3	31.1	1.18	0.59	-19.3	1.12	0.66	-0.18
45- 8	36.4	35.8	10.9	1.42	0.61	-23.2	1.29	0.73	-0.29
45- 9	23.7	18.0	2.3	0.83	0.28	-32.3	0.67	0.44	-0.25
45-10	22.1	27.7	9.1	0.98	0.35	-14.2	0.95	0.39	-0.15
45-11	0.6	11.9	13.5	0.49	0.12	26.7	0.41	0.19	0.15
45-12	-0.3	10.0	15.3	0.51	0.13	36.1	0.38	0.26	0.18
45-13	-4.1	6.4	14.4	0.44	0.01	41.2	0.25	0.19	0.21
45-14	-1.4	8.0	9.0	0.32	0.01	25.6	0.26	0.07	0.12
45-15	1.6	6.5	4.5	0.22	0.04	11.3	0.21	0.05	0.03
45-16	-8.5	-14.9	-2.9	-0.02	-0.47	81.6	-0.46	-0.03	0.06
45-17	-5.2	7.4	-3.0	0.09	-0.44	88.7	-0.44	0.09	0.01
45-18	-5.8	-15.5	0.1	0.18	-0.42	83.5	-0.41	0.17	0.07
45-19	6.0	3.5	7.6	0.37	0.21	83.3	0.22	0.37	0.02
45-20	5.6	9.5	4.4	0.32	0.11	-3.8	0.32	0.11	-0.01
67- 1	-8.9	-5.5	-0.7	-0.11	-0.30	89.6	-0.22	-0.19	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-10.7	-6.1	-3.2	-0.21	-0.39	39.0	-0.28	-0.32	0.09
67- 3	-9.2	-5.9	-5.6	-0.26	-0.37	25.5	-0.28	-0.35	0.04
67- 4	-1.5	0.4	-3.0	-0.03	-0.16	-7.7	-0.04	-0.16	-0.02
67- 5	19.7	28.7	11.7	0.99	0.36	-8.6	0.97	0.38	-0.09
67- 6	7.2	8.6	25.5	0.98	0.42	-7.9	0.97	0.43	-0.08
67- 7	19.5	28.7	15.8	1.02	0.50	-4.8	1.01	0.50	-0.04
67- 8	22.4	26.4	12.1	0.98	0.50	-14.8	0.95	0.53	-0.12
67- 9	18.8	20.1	9.5	0.78	0.43	-18.9	0.75	0.47	-0.11
67-10	17.4	27.5	12.8	0.94	0.36	-5.3	0.93	0.36	-0.05
67-11	-2.6	8.5	8.0	0.30	-0.06	21.3	0.25	-0.02	0.12
67-12	-2.1	12.3	11.0	0.43	-0.05	19.9	0.37	0.01	0.15
67-13	1.2	14.6	13.9	0.54	0.10	21.0	0.49	0.16	0.15
67-14	-0.1	11.9	15.2	0.53	0.12	30.1	0.42	0.22	0.18
67-15	-7.5	-8.0	9.5	0.33	-0.24	68.2	-0.16	0.25	0.20
67-16	4.8	13.4	-2.2	0.34	-0.25	67.4	-0.16	0.25	0.21
67-17	8.9	-6.5	-8.0	0.27	-0.23	-64.7	-0.14	0.18	-0.20
67-18	-3.7	-2.2	5.9	0.18	-0.09	62.1	-0.03	0.12	0.11
67-19	3.5	9.9	4.3	0.31	0.03	2.0	0.31	0.03	0.01
67-20	-0.2	13.6	1.2	0.32	-0.28	1.5	0.32	-0.28	0.02
90- 1	-3.4	-6.3	-6.3	-0.16	-0.25	-67.6	-0.24	-0.17	-0.03
90- 2	-3.3	-8.6	-9.5	-0.19	-0.36	-62.8	-0.33	-0.22	-0.07
90- 3	-0.9	-6.4	-9.2	-0.12	-0.32	-53.9	-0.25	-0.19	-0.10
90- 4	3.0	-1.2	-5.7	0.04	-0.16	-44.2	-0.06	-0.06	-0.10
90- 5	8.2	13.1	5.9	0.44	0.16	-5.4	0.44	0.16	-0.03
90- 6	2.2	6.9	15.7	0.55	0.22	-0.4	0.55	0.22	-0.00
90- 7	8.9	16.3	10.2	0.57	0.25	2.9	0.57	0.26	0.02
90- 8	7.8	15.1	12.2	0.56	0.30	11.8	0.55	0.31	0.05
90- 9	7.6	12.5	10.5	0.47	0.30	11.3	0.47	0.31	0.03
90-10	7.3	14.2	10.0	0.50	0.24	7.0	0.50	0.24	0.03
90-11	6.6	-0.6	1.6	0.30	0.05	-75.8	0.07	0.28	-0.06
90-12	6.1	12.7	5.7	0.41	0.09	-0.8	0.41	0.09	-0.00
90-13	1.6	12.9	9.7	0.43	0.05	14.7	0.41	0.08	0.09
90-14	-8.5	6.4	14.1	0.39	-0.15	36.2	0.20	0.04	0.26
90-15	14.9	-1.2	-19.0	0.30	-0.48	-43.6	-0.07	-0.11	-0.39
90-16	4.8*	14.4	-7.0	0.33	-0.43	42.5	-0.01	-0.08	0.38
90-17	-18.8	-6.8	13.1	0.26	-0.50	51.9	-0.21	-0.03	0.37
90-18	-11.8	-4.1	11.4	0.28	-0.29	54.4	-0.10	0.08	0.27
90-19	-1.7	3.3	5.3	0.16	-0.01	33.2	0.11	0.04	0.08
90-20	3.7	5.8	-1.5	0.17	-0.08	-14.4	0.16	-0.06	-0.06
180- 1	-1.2	-2.4	-1.1	-0.02	-0.08	88.9	-0.08	-0.02	0.00
180- 2	-0.7	-1.4	-0.6	-0.01	-0.04	88.6	-0.04	-0.01	0.00
180- 3	-0.5	-1.1	-0.8	-0.02	-0.04	-81.2	-0.04	-0.02	-0.00
180- 4	-0.4	0.6	-0.4	0.01	-0.04	0.3	0.01	-0.04	0.00
180- 5	-1.2	1.2	-2.0	-0.00	-0.13	-3.7	-0.00	-0.13	-0.01
180- 6	-6.5	-4.9	-6.6	-0.24	-0.32	-1.0	-0.24	-0.32	-0.00
180- 7	-16.0	-8.4	-10.4	-0.44	-0.70	-89.8	-0.70	-0.44	-0.00
180- 8	-13.9	-22.4	-15.8	-0.46	-0.81	-86.4	-0.81	-0.46	-0.02
180- 9	-8.0	-12.9	-10.2	-0.30	-0.48	-82.0	-0.48	-0.30	-0.03
180-10	-7.2	-15.3	-8.7	-0.17	-0.51	-87.1	-0.51	-0.17	-0.02
180-11	0.0	-0.6	0.1	0.02	-0.01	88.4	-0.01	0.02	0.00
180-12	-0.2	-1.8	-0.2	0.03	-0.05	-89.9	-0.05	0.03	-0.00
180-13	-0.5	-2.5	-0.4	0.03	-0.07	89.2	-0.07	0.03	0.00
180-14	-0.7	-3.3	-0.4	0.04	-0.09	88.5	-0.09	0.04	0.00
180-15	-1.0	-3.8	-0.5	0.04	-0.10	87.5	-0.10	0.04	0.01
180-16	2.2	1.1	2.2	0.12	0.07	89.8	0.07	0.12	0.00
180-17	3.7	5.7	3.8	0.21	0.12	-68.9	0.13	0.19	-0.03
180-18	2.7	3.5	-1.7	0.1	-0.06	-18.0	0.09	-0.05	-0.05
180-19	-2.1	5.2	-0.9	0.09	-0.22	2.6	0.09	-0.22	0.01
180-20	-5.9	-8.1	-7.2	-0.24	-0.32	-79.3	-0.32	-0.24	-0.01
202- 1	0.6	-1.4	-0.3	0.04	-0.03	-82.3	-0.03	0.04	-0.01
202- 2	1.0	-1.3	-0.1	0.06	-0.02	-81.6	-0.02	0.06	-0.01
202- 3	1.7	-1.0	0.2	0.09	-0.01	-79.3	-0.00	0.09	-0.02
202- 4	2.5	0.2	-0.2	0.08	0.01	-61.2	0.03	0.07	-0.03
202- 5	1.2	1.1	-1.8	0.03	-0.06	-23.6	0.02	-0.05	-0.03
202- 6	-10.9	-11.2	-7.5	-0.34	-0.45	69.7	-0.44	-0.35	0.04
202- 7	-9.3	-7.0	-15.4	-0.39	-0.67	70.2	-0.64	-0.42	0.09

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
202- 8	-20.0	-24.5	-10.5	-0.41	-0.89	76.3	-0.87	-0.44	0.11
202- 9	-13.3	-13.5	-4.9	-0.25	-0.53	68.3	-0.49	-0.29	0.10
202-10	-10.0	-16.4	-7.0	-0.18	-0.55	84.8	-0.55	-0.18	0.03
202-11	-0.5	-0.6	-1.8	-0.03	-0.07	-23.9	-0.04	-0.06	-0.01
202-12	-1.0	-1.1	-1.7	-0.05	-0.07	-25.5	-0.05	-0.07	-0.01
202-13	-1.3	-2.1	-2.8	-0.07	-0.10	-47.0	-0.09	-0.09	-0.02
202-14	-0.6	-3.3	-4.8	-0.07	-0.17	-53.1	-0.13	-0.10	-0.05
202-15	0.5	-4.1	-6.4	-0.08	-0.21	-54.0	-0.15	-0.10	-0.08
202-16	5.5	0.0	-4.2	0.16	-0.11	-27.7	0.10	-0.05	-0.11
202-17	-4.7	-2.3	7.2	0.22	-0.11	-23.4	0.17	-0.06	-0.12
202-18	7.1	9.3	-3.2	0.29	-0.12	-17.6	0.25	-0.09	-0.12
202-19	-0.8	-2.2	-5.5	-0.08	-0.19	-34.7	-0.11	-0.15	-0.05
202-20	-4.2	-5.8	-3.1	-0.10	-0.21	83.1	-0.21	-0.10	0.01
225- 1	-2.3	-0.6	2.1	0.05	-0.06	51.4	-0.02	0.01	0.05
225- 2	-1.4	-0.3	1.7	0.04	-0.03	53.1	-0.00	0.02	0.04
225- 3	0.3	0.0	1.9	0.08	0.02	72.5	0.02	0.07	0.02
225- 4	3.4	-0.1	0.8	0.15	0.03	-74.2	0.04	0.14	-0.03
225- 5	5.4	2.2	0.3	0.18	0.06	-51.8	0.11	0.14	-0.06
225- 6	-7.2	-9.1	-4.5	-0.17	-0.33	78.6	-0.33	-0.18	0.03
225- 7	-3.9	-3.4	-10.2	-0.19	-0.41	74.4	-0.40	-0.21	0.06
225- 8	-13.4	-15.1	-5.1	-0.23	-0.56	72.3	-0.53	-0.26	0.10
225- 9	-10.7	-12.7	-5.5	-0.22	-0.47	75.1	-0.45	-0.24	0.06
225-10	-9.4	-15.0	-7.9	-0.22	-0.52	86.5	-0.52	-0.23	0.02
225-11	0.9	2.2	3.0	0.11	0.06	38.6	0.09	0.08	0.02
225-12	1.5	2.8	1.8	0.10	0.04	3.0	0.10	0.04	0.00
225-13	0.2	2.1	0.9	0.06	-0.01	6.9	0.06	-0.01	0.01
225-14	1.1	1.2	-4.1	0.02	-0.15	-21.8	-0.00	-0.13	-0.06
225-15	1.6	-3.8	-13.5	-0.07	-0.44	-36.9	-0.21	-0.31	-0.17
225-16	7.4	-0.1	-16.0	0.10	-0.47	-35.2	-0.09	-0.28	-0.27
225-17	-12.4	-8.7	8.1	0.19	-0.37	-35.8	-0.00	-0.18	-0.27
225-18	8.3	-0.6	-7.9	0.20	-0.18	-47.7	-0.01	0.03	-0.19
225-19	1.9	-4.0	-3.7	0.06	-0.13	-69.2	-0.11	0.03	-0.06
225-20	-1.3	-3.7	0.7	0.07	-0.09	81.8	-0.09	0.06	0.02
247- 1	-5.8	-3.1	1.9	0.01	-0.18	53.5	-0.11	-0.06	0.09
247- 2	-5.4	-2.7	2.9	0.05	-0.15	54.7	-0.09	-0.02	0.10
247- 3	-2.0	-1.3	4.4	0.14	-0.04	64.3	-0.01	0.11	0.07
247- 4	2.9	3.3	4.8	0.19	0.14	60.6	0.15	0.18	0.02
247- 5	5.6	3.8	1.0	0.20	0.09	-39.6	0.15	0.13	-0.05
247- 6	0.5	3.7	3.8	0.14	0.04	-50.4	0.08	0.10	-0.05
247- 7	2.7	0.2	-1.4	0.08	-0.02	-51.6	0.02	0.04	-0.05
247- 8	0.9	-2.2	-2.9	0.01	-0.09	-60.8	-0.07	-0.02	-0.04
247- 9	0.1	-3.9	-3.6	-0.01	-0.14	-70.0	-0.13	-0.02	-0.04
247-10	-0.5	-3.1	-4.8	-0.06	-0.16	-51.3	-0.12	-0.10	-0.05
247-11	-0.7	4.7	6.1	0.21	0.03	29.4	0.16	0.07	0.08
247-12	0.2	6.2	5.5	0.22	0.02	19.1	0.20	0.04	0.06
247-13	3.0	5.4	-3.1	0.14	-0.15	-14.8	0.12	-0.13	-0.07
247-14	6.0	-1.0	-15.4	0.06	-0.46	-35.5	-0.12	-0.29	-0.25
247-15	9.4	-0.6	-22.8	0.11	-0.69	-34.6	-0.15	-0.43	-0.37
247-16	-17.5	-16.8	6.6	0.15	-0.61	-39.3	-0.16	-0.31	-0.38
247-17	9.4	-6.3	-14.5	0.18	-0.40	-53.7	-0.20	-0.02	-0.28
247-18	7.8	-2.2	-8.0	0.19	-0.19	-52.5	-0.05	0.05	-0.18
247-19	4.3	-1.8	-2.7	0.14	-0.07	-63.4	-0.03	0.10	-0.08
247-20	-0.6	-0.5	3.5	0.13	-0.00	66.7	0.02	0.11	0.05
270- 1	-6.6	-6.1	-2.8	-0.15	-0.25	63.1	-0.23	-0.17	0.04
270- 2	-8.9	-7.5	-2.5	-0.16	-0.33	59.6	-0.29	-0.20	0.07
270- 3	-8.7	-6.4	-1.1	-0.12	-0.30	55.6	-0.24	-0.18	0.09
270- 4	-5.1	-1.0	2.6	0.04	-0.14	43.0	-0.05	-0.06	0.09
270- 5	5.2	0.8	6.9	0.37	0.15	5.2	0.37	0.15	0.02
270- 6	2.7	5.9	12.6	0.45	0.21	0.6	0.45	0.21	0.00
270- 7	10.1	18.0	10.7	0.62	0.27	1.1	0.62	0.27	0.01
270- 8	11.2	12.9	7.4	0.49	0.30	-13.8	0.48	0.31	-0.04
270- 9	10.7	11.0	6.0	0.44	0.27	-20.8	0.42	0.30	-0.05
270-10	10.3	14.5	6.5	0.51	0.21	-8.7	0.50	0.22	-0.04
270-11	1.9	10.2	6.7	0.33	0.04	11.2	0.32	0.05	0.06
270-12	3.6	10.6	5.6	0.34	0.05	4.7	0.33	0.06	0.02
270-13	8.4	14.3	2.7	0.45	0.02	-8.9	0.44	0.03	-0.06

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF ALONG	NORMAL	DIR. SHEAR
270-14	12.9	8.8	-6.7	0.39	-0.13	-29.9	0.26	-0.00	-0.23
270-15	16.9	1.7	-16.5	0.40	-0.38	-42.5	0.04	-0.02	-0.38
270-16	-10.9	-16.7	7.6	0.34	-0.48	-51.7	-0.17	0.02	-0.40
270-17	15.6	-5.1	-19.5	0.33	-0.49	-50.1	-0.16	-0.01	-0.40
270-18	10.8	-4.3	-11.6	0.26	-0.29	-54.7	-0.11	0.08	-0.26
270-19	4.9	3.8	-1.7	0.16	-0.02	-28.0	0.12	0.02	-0.08
270-20	0.2	6.4	1.9	0.17	-0.08	4.5	0.17	-0.08	0.02
0- 7	33.2	17.8	23.0	1.47	0.94	-76.8	0.97	1.44	-0.12
11- 1	22.0	16.1	34.6	1.53	0.90	76.3	0.93	1.49	0.15
22- 7	17.8	12.7	34.8	1.50	0.76	73.9	0.81	1.44	0.20
33- 1	13.6	12.2	36.5	1.47	0.68	69.2	0.78	1.37	0.26
45- 7	10.2	13.3	31.1	1.18	0.59	62.7	0.71	1.06	0.24
56- 1	9.3	10.3	31.5	1.22	0.53	66.1	0.64	1.11	0.26
67- 6	7.2	8.6	25.5	0.98	0.42	65.1	0.52	0.88	0.21
78- 1	5.1	5.8	18.3	0.70	0.30	65.9	0.37	0.64	0.15
90- 6	2.2	6.9	15.7	0.55	0.22	53.6	0.34	0.43	0.16
0-17	-9.2	-7.9	-15.2	-0.40	-0.64	-17.5	-0.42	-0.62	-0.07
11-11	-8.1	1.0	-10.7	-0.16	-0.65	-3.6	-0.16	-0.64	-0.03
22-17	-8.6	5.1	-5.8	-0.02	-0.60	3.2	-0.02	-0.59	0.03
33-11	-5.7	6.8	-5.5	0.05	-0.53	0.3	0.05	-0.53	0.00
45-17	-5.2	7.4	-3.0	0.09	-0.44	2.7	0.09	-0.44	0.03
56-11	1.4	10.5	-3.2	0.23	-0.31	-5.6	0.23	-0.30	-0.05
67-16	4.4	13.4	-2.2	0.34	-0.25	-7.6	0.33	-0.24	-0.08
78-11	5.0	15.7	-2.7	0.40	-0.30	-7.4	0.38	-0.29	-0.09
90-16	4.8*	14.4	-7.0	0.33	-0.43	-10.5	0.31	-0.40	-0.14
180- 7	-16.0	-8.4	-10.4	-0.44	-0.70	15.2	-0.46	-0.68	0.06
191- 1	-13.8	-7.6	-13.5	-0.45	-0.72	0.8	-0.45	-0.72	0.00
202- 7	-9.3	-7.0	-15.4	-0.39	-0.67	-14.8	-0.41	-0.65	-0.07
213- 1	-6.8	-5.1	-13.6	-0.29	-0.58	-16.9	-0.32	-0.55	-0.08
225- 7	-3.9	-3.4	-10.2	-0.19	-0.41	-20.6	-0.22	-0.39	-0.07
236- 1	-1.7	-0.0	-2.9	-0.04	-0.15	-7.5	-0.05	-0.15	-0.01
247- 6	0.5	3.7	3.8	0.14	0.04	23.6	0.13	0.06	0.04
258- 1	2.8	6.5	11.2	0.40	0.20	48.7	0.29	0.31	0.10
270- 6	2.7	5.9	12.6	0.45	0.21	54.6	0.29	0.37	0.11
180-17	3.7	5.7	3.8	0.21	0.12	1.1	0.21	0.12	0.00
191-11	0.4	-1.5	5.3	0.24	0.01	75.3	0.02	0.22	0.06
202-17	-4.7	-2.3	7.2	0.22	-0.11	60.6	-0.03	0.14	0.14
213-11	-8.9	-5.4	7.6	0.19	-0.25	60.1	-0.14	0.08	0.19
225-17	-12.4	-8.7	8.1	0.19	-0.37	61.2	-0.24	0.06	0.24
236-11	-16.9	-12.4	7.2	0.12	-0.54	61.1	-0.38	-0.03	0.28
247-16	-17.5	-16.8	6.6	0.15	-0.61	66.7	-0.50	0.03	0.28
258-11	-16.5	-16.9	8.4	0.24	-0.59	68.0	-0.47	0.12	0.29
270-16	-10.9	-16.7	7.6	0.34	-0.48	74.3	-0.42	0.28	0.21
400-01	2.1	2.8	5.6	0.21	0.12	-74.2	0.13	0.21	-0.02
400-11	-7.7	-3.1	0.7	-0.05	-0.25	-2.2	-0.05	-0.25	-0.01
401-01	-9.3	-26.8	-10.5	-0.04	-0.82	-89.0	-0.81	-0.04	-0.01
401-02	-2.1	2.3					-0.05	0.06	
401-03	24.4	-4.3					0.76	0.10	
401-04	-1.6	0.4					-0.05	-0.00	
402-01	-0.6	-0.9	-0.6	-0.02	-0.03	-88.7	-0.03	-0.02	-0.00
402-02	0.2	0.9					0.02	0.03	
402-03	-0.2	-1.2					-0.02	-0.04	
402-04	0.2	0.8					0.02	0.03	
403-01	-6.0	22.1	-1.4	0.44	-0.76	2.5	0.44	-0.75	0.05
403-02	6.7	-2.6					0.20	-0.02	
403-03	-7.2	-2.8					-0.27	-0.16	
403-04	-2.0	7.8					0.01	0.24	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

T-15, OUT-OF-PLANE FORCE LOADING ON BRANCH, P3Z

NOMINAL LOAD = 1.111E 02 YOUNG'S MODULUS = 30.00E 06
SURFACE PRESSURE = 0.0 POISSON'S RATIO = 0.300

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
0- 1	7.2	0.8	-5.4	0.18	-0.11	-45.3	0.04	0.04	-0.15
0- 2	4.6	0.9	-3.2	0.12	-0.06	-43.3	0.03	0.02	-0.09
0- 3	1.9	0.3	-1.0	0.05	-0.02	-46.9	0.02	0.02	-0.03
0- 4	3.1	0.2	-2.5	0.08	-0.05	-45.9	0.01	0.01	-0.07
0- 5	5.4	0.6	-4.5	0.13	-0.09	-44.5	0.02	0.02	-0.11
0- 6	0.7	1.4	1.4	0.06	0.03	22.1	0.05	0.04	0.01
0- 7	14.0	5.9	-7.3	0.40	-0.11	38.8	0.20	0.09	0.25
0- 8	-17.1	1.6	20.4	0.50	-0.36	45.0	0.07	0.07	0.43
0- 9	-14.1	1.1	15.7	0.38	-0.31	44.5	0.04	0.03	0.34
0-10	-8.0	0.7	9.7	0.24	-0.17	45.5	0.03	0.04	0.20
0-11	-2.0	0.2	0.7	0.01	-0.06	29.4	-0.01	-0.05	0.03
0-12	-0.5	0.4	-0.3	0.00	-0.04	4.2	0.00	-0.04	0.00
0-13	5.3	5.4	-452.7*	-2.11	-17.06	-22.5	-4.30	-14.87	-5.28
0-14	4.2	1.0	-4.6	0.09	-0.12	-37.4	0.02	-0.04	-0.10
0-15	7.0	0.1	-8.0	0.15	-0.20	-42.5	-0.01	-0.04	-0.17
0-16	8.9	-1.6	-11.2	0.18	-0.28	-46.4	-0.06	-0.04	-0.23
0-17	-8.0	5.4	5.3	0.16	-0.28	-47.7	-0.08	-0.04	-0.22
0-18	6.2	-1.5	-7.8	0.13	-0.20	-48.2	-0.05	-0.01	-0.16
0-19	2.5	-0.4	-2.0	0.07	-0.04	-53.0	-0.00	0.03	-0.05
0-20	-1.8	0.8	2.9	0.08	-0.03	41.5	0.03	0.02	0.05
22- 1	14.5	11.0	5.2	0.53	0.31	-38.2	0.45	0.40	-0.11
22- 2	14.7	8.4	4.4	0.53	0.29	-51.6	0.38	0.44	-0.12
22- 3	17.3	2.8	1.7	0.64	0.17	-65.3	0.25	0.56	-0.18
22- 4	18.4	0.4	-0.3	0.69	0.10	-66.8	0.19	0.60	-0.21
22- 5	19.7	5.4	1.0	0.69	0.20	-58.8	0.33	0.55	-0.22
22- 6	14.5	20.2	15.0	0.76	0.50	1.2	0.76	0.50	0.01
22- 7	21.0	8.7	4.8	0.76	0.34	26.2	0.68	0.42	0.17
22- 8	-2.7	10.6	19.8	0.63	0.10	39.8	0.41	0.32	0.26
22- 9	-5.6	0.7	8.3	0.22	-0.10	47.6	0.04	0.07	0.16
22-10	-3.3	1.9	4.0	0.11	-0.07	33.9	0.05	-0.02	0.08
22-11	-7.1	-1.6	-16.0	-0.24	-0.75	-12.0	-0.27	-0.72	-0.10
22-12	-6.9	-1.6	-14.9	-0.23	-0.70	-11.7	-0.25	-0.68	-0.09
22-13	-2.7	2.0	-20.2	-0.12	-0.86	-16.5	-0.18	-0.80	-0.20
22-14	2.0	1.7	-21.2	-0.04	-0.78	-22.9	-0.15	-0.67	-0.27
22-15	2.8	-5.2	-27.5	-0.14	-0.92	-32.4	-0.37	-0.69	-0.35
22-16	0.7	-9.3	-27.4	-0.23	-0.91	-36.9	-0.48	-0.67	-0.32
22-17	-20.8	-3.8	2.2	-0.10	-0.69	-49.9	-0.45	-0.35	-0.29
22-18	3.7	-12.6	-9.5	0.15	-0.39	-73.0	-0.35	0.10	-0.15
22-19	5.5	-5.1	2.9	0.39	-0.04	-86.0	-0.03	0.39	-0.03
22-20	5.6	2.7	9.4	0.44	0.20	79.1	0.21	0.43	0.04
45- 1	-2.4	5.0	1.7	0.12	-0.15	10.6	0.11	-0.14	0.05
45- 2	2.5	10.0	5.0	0.31	0.01	5.6	0.30	0.01	0.03
45- 3	7.3	9.4	1.6	0.32	0.06	-14.9	0.30	0.08	-0.06
45- 4	18.1	9.3	-0.2	0.59	0.17	-43.9	0.39	0.37	-0.21
45- 5	24.6	15.0	4.9	0.86	0.40	-44.2	0.64	0.62	-0.23
45- 6	30.7	35.9	18.3	1.35	0.75	-14.3	1.31	0.79	-0.14
45- 7	15.3	13.9	23.3	0.98	0.67	-10.2	0.97	0.68	-0.05
45- 8	20.7	22.6	13.6	0.88	0.58	-16.5	0.86	0.61	-0.08
45- 9	11.2	8.8	3.3	0.41	0.21	-34.4	0.34	0.27	-0.09
45-10	11.3	15.0	3.9	0.52	0.14	-13.4	0.50	0.16	-0.09
45-11	0.7	6.4	4.4	0.21	0.01	12.8	0.20	0.02	0.04
45-12	-0.8	2.3	-2.4	0.02	-0.16	-5.7	0.02	-0.16	-0.02
45-13	2.3	3.7	-9.2	0.06	-0.36	-19.4	0.02	-0.31	-0.13
45-14	7.1	1.5	-19.7	0.09	-0.63	-29.9	-0.09	-0.45	-0.31
45-15	6.0	-9.0	-35.3	-0.13	-1.12	-37.4	-0.50	-0.76	-0.48
45-16	-1.7	-24.1	-33.1	-0.35	-1.14	-56.5	-0.90	-0.59	-0.36
45-17	-27.7	-6.2	2.9	-0.15	-0.91	-60.0	-0.72	-0.34	-0.33
45-18	0.9	-21.1	-11.3	0.17	-0.62	-79.5	-0.59	0.15	-0.14
45-19	6.9	-2.8	6.5	0.50	0.07	-89.3	0.07	0.50	-0.01
45-20	6.3	6.3	11.9	0.48	0.30	67.4	0.33	0.45	0.06
67- 1	-8.7	-1.2	2.2	-0.00	-0.27	34.8	-0.09	-0.19	0.13

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	STRESS (KSI) RELATIVE TO REF. ALONG	NORMAL	DIR. SHEAR
67- 2	-5.5	1.1	1.8	0.03	-0.19	26.0	-0.01	-0.14	0.08
67- 3	0.7	6.0	4.7	0.20	0.03	15.8	0.19	0.04	0.05
67- 4	13.3	20.0	12.3	0.72	0.38	-2.0	0.72	0.38	-0.01
67- 5	41.6	57.1	26.4	2.02	0.90	-9.1	1.99	0.92	-0.18
67- 6	15.7	20.8	48.0	1.82	0.91	-10.7	1.78	0.94	-0.17
67- 7	34.3	46.4	25.8	1.68	0.90	-7.3	1.67	0.91	-0.10
67- 8	33.5	35.7	16.9	1.39	0.77	-19.1	1.32	0.84	-0.19
67- 9	26.5	25.4	10.5	1.04	0.55	-24.5	0.95	0.63	-0.18
67-10	23.6	34.5	13.3	1.18	0.40	-8.9	1.16	0.42	-0.12
67-11	-1.1	6.4	6.7	0.24	-0.00	23.9	0.20	0.04	0.09
67-12	1.9	3.6	8.2	0.30	0.14	57.7	0.18	0.25	0.07
67-13	6.3	6.2	-6.1	0.21	-0.20	-22.7	0.15	-0.14	-0.14
67-14	6.9	-4.8	-22.5	0.01	-0.68	-39.3	-0.26	-0.40	-0.34
67-15	-0.2	-19.8	-31.0	-0.30	-1.04	-52.6	-0.77	-0.57	-0.36
67-16	-27.4	-8.0	4.0	-0.13	-0.88	-66.7	-0.76	-0.25	-0.27
67-17	-10.0	-18.3	-1.5	0.06	-0.55	80.6	-0.54	0.05	0.10
67-18	1.0	-9.9	-3.6	0.15	-0.26	-82.6	-0.25	0.14	-0.05
67-19	5.9	9.6	7.2	0.35	0.21	6.0	0.35	0.21	0.02
67-20	-0.5	17.3	8.4	0.49	-0.16	9.3	0.48	-0.14	0.10
90- 1	-6.9	-5.7	-5.2	-0.24	-0.28	35.0	-0.25	-0.27	0.02
90- 2	-6.7	-4.4	-4.8	-0.21	-0.28	17.5	-0.21	-0.28	0.02
90- 3	-3.7	1.4	-0.7	-0.00	-0.18	11.3	-0.01	-0.18	0.03
90- 4	5.0	16.5	9.8	0.54	0.10	7.4	0.53	0.11	0.06
90- 5	24.0	51.6	34.1	1.78	0.71	6.3	1.77	0.72	0.12
90- 6	9.1	20.1	53.4	1.91	0.77	4.4	1.90	0.77	0.09
90- 7	29.4	55.0	35.3	1.91	0.86	3.7	1.91	0.86	0.07
90- 8	28.3	46.8	33.4	1.70	0.95	4.6	1.69	0.95	0.06
90- 9	26.7	36.1	24.3	1.34	0.85	-3.3	1.34	0.85	-0.03
90-10	25.8	40.8	21.5	1.41	0.61	-3.6	1.41	0.62	-0.05
90-11	4.9	-0.6	3.0	0.30	0.07	-86.8	0.07	0.30	-0.01
90-12	4.9	10.5	4.9	0.34	0.08	0.0	0.34	0.08	0.00
90-13	3.4	7.9	4.1	0.26	0.06	2.3	0.26	0.06	0.01
90-14	-2.4	-2.5	-1.3	-0.06	-0.10	71.5	-0.10	-0.06	0.01
90-15	-6.6	-22.2	-12.1	-0.10	-0.70	-84.0	-0.70	-0.10	-0.06
90-16	-22.0	-1.7	4.1	-0.04	-0.73	83.6	-0.72	-0.05	0.08
90-17	-8.0	-24.0	-6.3	0.08	-0.70	88.6	-0.70	0.08	0.02
90-18	-4.5	-16.3	-0.6	0.21	-0.43	86.0	-0.43	0.21	0.04
90-19	4.7	8.5	5.3	0.30	0.13	2.1	0.30	0.13	0.01
90-20	5.1	16.3	1.1	0.44	-0.18	-4.3	0.44	-0.17	-0.05
180- 1	-2.5	-0.6	1.6	0.03	-0.07	47.3	-0.02	-0.02	0.05
180- 2	-0.6	-0.4	-0.3	-0.01	-0.02	35.5	-0.02	-0.02	0.00
180- 3	2.5	-0.7	-3.4	0.05	-0.09	-47.3	-0.03	-0.01	-0.07
180- 4	2.1	-0.5	-2.9	0.04	-0.07	-46.1	-0.02	-0.01	-0.06
180- 5	1.0	-0.4	-2.0	0.01	-0.06	-42.7	-0.02	-0.03	-0.04
180- 6	5.6	-0.6	-7.4	0.11	-0.19	-43.9	-0.03	-0.04	-0.15
180- 7	-18.1	-9.3	12.9	0.28	-0.50	-48.4	-0.16	-0.07	-0.39
180- 8	22.8	-0.6	-25.5	0.50	-0.61	-84.1	-0.04	-0.07	-0.56
180- 9	14.2	0.4	-15.4	0.32	-0.37	-83.1	-0.00	-0.05	-0.34
180-10	7.1	-0.7	-8.3	0.15	-0.20	-45.5	-0.03	-0.02	-0.18
180-11	-3.0	0.1	3.7	0.09	-0.06	47.2	0.01	0.02	0.08
180-12	-4.4	-0.3	4.6	0.11	-0.10	47.7	-0.01	0.01	0.10
180-13	-3.7	-0.3	3.9	0.09	-0.08	48.0	-0.00	0.01	0.09
180-14	-4.9	-0.7	4.7	0.11	-0.11	48.4	-0.02	0.01	0.11
180-15	-8.6	-0.3	8.8	0.20	-0.20	46.2	-0.00	0.01	0.20
180-16	-11.7	-0.2	11.6	0.27	-0.27	45.3	-0.01	0.00	0.27
180-17	-11.1	0.7	10.8	0.25	-0.26	-27.1	0.14	-0.15	-0.21
180-18	7.9	-7.2	-3.1	0.36	-0.15	-75.1	-0.12	0.33	-0.13
180-19	-3.3	0.2	1.9	0.03	-0.09	35.4	-0.01	-0.05	0.06
180-20	0.8	-1.1	-3.1	-0.00	-0.09	-44.5	-0.05	-0.05	-0.04
202- 1	-11.3	-5.3	-7.1	-0.29	-0.50	14.0	-0.30	-0.48	0.05
202- 2	-13.3	-4.4	-6.5	-0.28	-0.57	15.9	-0.30	-0.55	0.08
202- 3	-14.0	-3.9	-7.5	-0.29	-0.64	12.7	-0.30	-0.62	0.08
202- 4	-15.5	-0.1	-5.0	-0.18	-0.70	13.6	-0.20	-0.67	0.12
202- 5	-16.5	-3.4	-4.9	-0.24	-0.67	19.1	-0.29	-0.63	0.13
202- 6	-9.6	-19.0	-21.7	-0.51	-0.83	-59.5	-0.75	-0.59	-0.14
202- 7	-23.9	-11.5	-1.3	-0.28	-0.80	-52.8	-0.61	-0.47	-0.25

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	STRESS (KSI) PRINCIPLE STRESSES MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
202- 8	6.8	-4.8	-18.9	0.04	-0.56	-42.1	-0.23	-0.29	-0.30
202- 9	7.9	0.0	-6.6	0.20	-0.14	-47.5	0.01	0.04	-0.17
202-10	4.3	-1.8	-1.0	0.17	-0.03	-71.3	-0.01	0.15	-0.06
202-11	4.1	4.3	17.1	0.67	0.25	67.1	0.31	0.60	0.15
202-12	4.8	3.3	16.2	0.66	0.24	70.8	0.28	0.62	0.13
202-13	3.7	1.7	20.1	0.81	0.21	70.7	0.27	0.75	0.19
202-14	-2.3	-1.1	24.7	0.90	0.06	66.2	0.20	0.76	0.31
202-15	-5.4	2.0	27.8	0.92	0.04	59.5	0.27	0.69	0.38
202-16	-4.7	7.0	27.1	0.86	0.10	52.4	0.38	0.58	0.37
202-17	19.3	-2.6	-6.[illegible]	0.64	-0.09	33.6	0.41	0.13	0.33
202-18	-8.2	15.3	6.5	0.37	-0.45	12.2	0.33	-0.41	0.17
202-19	-10.4	1.8	-6.9	-0.13	-0.61	4.8	-0.13	-0.61	0.04
202-20	-7.7	-5.6	-13.7	-0.32	-0.59	-15.2	-0.34	-0.58	-0.07
225- 1	3.4	1.3	0.3	0.12	0.04	-54.9	0.07	0.09	-0.04
225- 2	-1.8	-4.2	-2.3	-0.04	-0.14	-86.4	-0.14	-0.04	-0.01
225- 3	-8.0	-7.6	-2.4	-0.14	-0.31	65.6	-0.28	-0.17	0.06
225- 4	-16.5	-8.5	0.2	-0.16	-0.54	46.2	-0.36	-0.34	0.19
225- 5	-23.7	-12.5	-3.0	-0.33	-0.81	42.7	-0.55	-0.59	0.24
225- 6	-35.9	-37.0	-17.3	-0.82	-1.46	69.1	-1.38	-0.90	0.21
225- 7	-11.2	-15.0	-27.5	-0.62	-1.04	63.9	-0.96	-0.70	0.17
225- 8	-21.3	-21.3	-10.1	-0.49	-0.86	67.4	-0.80	-0.55	0.13
225- 9	-10.9	-11.0	-2.7	-0.16	-0.43	67.7	-0.39	-0.20	0.10
225-10	-9.0	-14.3	-1.6	-0.00	-0.45	78.8	-0.43	-0.02	0.09
225-11	0.0	-3.3	-5.9	-0.06	-0.20	-48.1	-0.13	-0.12	-0.07
225-12	-0.1	-0.8	-0.1	0.01	-0.02	-88.5	-0.02	0.01	-0.00
225-13	-1.7	1.1	8.6	0.28	0.02	57.1	0.09	0.20	0.12
225-14	-5.0	-1.7	14.8	0.49	-0.06	61.9	0.06	0.36	0.23
225-15	-8.2	4.6	41.8*	1.36	0.08	58.0	0.44	1.00	0.58
225-16	-5.7	20.3	33.0	1.06	0.1[illegible]	35.6	0.74	0.43	0.45
225-17	28.3	1.4	-11.0	0.85	-0.11	27.9	0.64	0.10	0.40
225-18	-7.6	18.7	3.4	0.41	-0.59	7.5	0.39	-0.57	0.13
225-19	-14.3	-0.1*	-11.0	-0.25	-0.83	3.7	-0.25	-0.83	0.04
225-20	-11.2	-11.1	-13.6	-0.49	-0.57	-21.5	-0.50	-0.56	-0.03
247- 1	6.6	2.0	-1.3	0.21	0.02	-49.7	0.10	0.13	-0.09
247- 2	2.8	-1.1	-0.8	0.12	-0.01	-72.5	-0.00	0.10	-0.04
247- 3	-3.5	-5.4	-1.5	-0.03	-0.18	80.7	-0.17	-0.04	0.02
247- 4	-17.8	-19.5	-6.8	-0.32	-0.74	71.4	-0.69	-0.36	0.13
247- 5	-48.5	-54.1	-19.4	-0.88	-2.03	72.1	-1.92	-0.99	0.34
247- 6	-11.2	-22.5	-53.5	-0.85	-1.93	73.6	-1.84	-0.94	0.29
247- 7	-34.6	-41.8	-18.6	-0.74	-1.53	76.1	-1.49	-0.79	0.18
247- 8	-31.0	-32.4	-13.9	-0.66	-1.26	69.7	-1.19	-0.73	0.20
247- 9	-25.3	-29.3	-12.9	-0.54	-1.09	74.3	-1.05	-0.59	0.14
247-10	-22.4	-33.8	-15.1	-0.45	-1.16	83.2	-1.15	-0.46	0.08
247-11	3.0	-4.5	-7.7	0.03	-0.23	-56.0	-0.15	-0.05	-0.12
247-12	-0.1	-4.8	-3.9	-0.01	-0.16	-72.8	-0.15	-0.02	-0.04
247-13	-5.0	-3.2	5.9	0.17	-0.13	61.9	-0.06	0.10	0.13
247-14	-7.6	6.5	19.1	0.56	-0.06	43.5	0.26	0.23	0.31
247-15	-3.9	19.7	27.8	0.92	0.11	32.0	0.69	0.33	0.37
247-16	28.9	2.5	-10.3	0.88	-0.08	19.4	0.77	0.03	0.30
247-17	-1.1	20.7	5.6	0.53	-0.33	5.2	0.52	-0.33	0.08
247-18	-8.4	6.7	0.5	0.10	-0.43	11.3	0.08	-0.41	0.10
247-19	-9.7	-5.5	-6.1	-0.27	-0.41	18.9	-0.28	-0.39	0.04
247-20	-7.4	-16.1	-11.0	-0.23	-0.56	-82.6	-0.55	-0.24	-0.04
270- 1	4.3	5.4	7.0	0.27	0.21	49.2	0.24	0.25	0.03
270- 2	2.6	3.0	6.8	0.26	0.14	64.2	0.16	0.24	0.05
270- 3	-1.0	-1.5	4.7	0.18	-0.02	69.8	0.00	0.16	0.07
270- 4	-11.7	-16.9	-3.6	-0.10	-0.56	78.2	-0.54	-0.11	0.09
270- 5	-28.7	-43.8	-21.7	-0.64	-1.52	84.7	-1.51	-0.65	0.08
270- 6	-8.7	-24.7	-49.9	-0.77	-1.74	87.3	-1.74	-0.77	0.05
270- 7	-36.5	-62.5	-34.9	-0.91	-2.15	89.1	-2.15	-0.91	0.02
270- 8	-29.5	-40.8	-28.1	-0.96	-1.51	88.4	-1.51	-0.96	0.02
270- 9	-25.3	-34.9	-26.4	-0.90	-1.32	-88.2	-1.32	-0.90	-0.01
270-10	-22.2	-41.7	-25.7	-0.62	-1.44	-87.2	-1.44	-0.62	-0.04
270-11	-3.9	-9.7	-4.5	-0.05	-0.31	-88.4	-0.31	-0.05	-0.01
270-12	-3.4	-8.2	-4.2	-0.06	-0.26	-87.3	-0.26	-0.06	-0.01
270-13	-2.8	-8.5	-4.[illegible]	-0.05	-0.27	-84.1	-0.27	-0.06	-0.02

LOCATION	STRAIN (MICROINCHES/INCH) E(1)	E(2)	E(3)	PRINCIPLE STRESSES (KSI) MAX	MIN	PHI	RELATIVE TO REF. DIR. ALONG	NORMAL	SHEAR
270-14	2.1	1.1	0.3	0.07	0.03	-47.8	0.05	0.05	-0.02
270-15	9.3	16.2	8.6	0.52	0.08	-7.1	0.51	0.08	-0.05
270-16	19.0	1.9	-0.2	0.68	0.12	-10.0	0.67	0.14	-0.10
270-17	14.1	26.8	8.7	0.85	0.13	-4.9	0.84	0.13	-0.06
270-18	5.1	17.4	2.4	0.48	-0.16	-2.9	0.47	-0.15	-0.03
270-19	-3.4	-7.0	-4.6	-0.10	-0.24	-84.4	-0.24	-0.10	-0.01
270-20	-7.8	-18.9	0.3	-0.20	-0.52	82.6	-0.51	0.19	0.09
0- 7	14.0	5.9	-7.3	0.40	-0.11	-38.2	0.20	0.08	-0.25
11- 1	21.2	6.5	-2.6	0.68	0.12	-51.6	0.34	0.46	-0.27
22- 7	21.0	8.7	4.8	0.76	0.34	-58.8	0.45	0.65	-0.19
33- 1	17.9	9.7	13.-	0.82	0.52	-79.4	0.53	0.81	-0.05
45- 7	15.3	13.9	23.3	0.98	0.67	71.8	0.70	0.95	0.09
56- 1	14.4	16.8	37.0	1.43	0.77	64.1	0.90	1.31	0.26
67- 6	15.7	20.8	48.0	1.82	0.91	62.3	1.11	1.62	0.37
78- 1	15.6	18.0	47.8	1.85	0.87	65.2	1.04	1.68	0.37
90- 6	9.1	20.1	53.4	1.91	0.77	58.4	1.08	1.59	0.51
0-17	-8.0	5.4	5.3	0.16	-0.28	22.3	0.10	-0.21	0.15
11-11	-14.4	-1.1	2.5	-0.03	-0.48	30.1	-0.14	-0.37	0.19
22-17	-20.8	-3.8	2.2	-0.10	-0.69	32.1	-0.27	-0.53	0.26
33-11	-24.1	-2.7	2.0	-0.12	-0.83	28.6	-0.28	-0.67	0.30
45-17	-27.7	-6.2	2.9	-0.15	-0.91	34.0	-0.39	-0.67	0.35
56-11	-29.5	-8.3	2.7	-0.19	-0.97	36.3	-0.46	-0.69	0.37
67-16	-27.8	-8.0	4.0	-0.13	-0.88	38.3	-0.42	-0.59	0.36
78-11	-25.4	-6.5	6.0	-0.05	-0.79	39.2	-0.34	-0.49	0.36
90-16	-22.0	-1.7	8.1	-0.04	-0.73	30.6	-0.22	-0.55	0.30
180- 7	-18.1	-9.3	12.9	0.28	-0.50	56.6	-0.27	0.04	0.36
191- 1	-25.2	-11.8	8.6	0.04	-0.75	50.9	-0.44	-0.27	0.39
202- 7	-23.9	-11.5	-1.3	-0.28	-0.80	42.2	-0.51	-0.56	0.26
213- 1	-17.2	-11.5	-13.5	-0.56	-0.76	12.6	-0.57	-0.75	0.04
225- 7	-11.2	-15.0	-27.5	-0.62	-1.04	-31.1	-0.73	-0.93	-0.19
236- 1	-8.6	-18.6	-41.5	-0.67	-1.48	-34.2	-0.92	-1.22	-0.38
247- 6	-11.2	-22.5	-53.5	-0.85	-1.93	-32.4	-1.16	-1.62	-0.49
258- 1	-11.2	-27.0	-57.8	-0.91	-2.04	-36.1	-1.31	-1.65	-0.54
270- 6	-8.7	-24.7	-49.9	-0.77	-1.74	-38.7	-1.15	-1.36	-0.48
180-17	-11.1	0.-	10.8	0.25	-0.26	42.9	0.01	-0.03	0.25
191-11	12.8	-1.2	-5.5	0.39	-0.08	-59.0	0.04	0.27	-0.21
202-17	19.3	-2.6	-6.6	0.64	-0.09	-62.4	0.06	0.48	-0.30
213-11	25.6	-0.6	-10.0	0.79	-0.12	-57.6	0.14	0.53	-0.41
225-17	28.3	1.4	-11.0	0.85	-0.11	-55.1	0.20	0.54	-0.45
236-11	28.3	0.3	-10.9	0.87	-0.12	-56.6	0.18	0.57	-0.45
247-16	28.9	2.5	-10.3	0.88	-0.08	-54.6	0.24	0.56	-0.45
258-11	25.0	2.6	-6.1	0.80	0.01	-57.0	0.25	0.56	-0.36
270-16	19.0	1.9	-0.2	0.68	0.12	-64.0	0.23	0.58	-0.22
400 01	0.4	-0.7	-0.1	0.03	-0.01	-37.5	0.01	0.00	-0.02
400-11	-0.9	-1.4	-0.1	0.00	-0.04	33.6	-0.01	-0.03	0.02
401-01	5.9	0.4	-5.5	0.14	-0.12	-43.9	0.01	0.00	-0.13
401-02	0.9	-3.5					-0.00	-0.10	
401-03	-0.1	-0.3					-0.01	-0.01	
401-04	-0.9	3.4					0.01	0.10	
402-01	-0.9	0.1	0.7	0.02	-0.02	39.8	-0.00	-0.01	0.02
402-02	0.5	-0.3					0.01	-0.00	
402-03	-0.4	0.1					-0.01	-0.00	
402-04	0.2	0.3					0.01	0.01	
403-01	-0.3	1.3	-4.4	-0.01	-0.20	-14.7	-0.02	-0.19	-0.05
403-02	17.2	-2.0					0.55	0.10	
403-03	-1.0	1.4					-0.02	0.04	
403-04	4.5	-18.0					-0.03	-0.55	

PHI IS THE ANGLE MEASURED FROM THE REFERENCE DIRECTION TO THE DIRECTION FOR MAXIMUM STRESS. (C.C. +)
THE TOLERANCE USED FOR DATA ELIMINATION IS THE MAXIMUM OF 8.0 MICROINCHES/INCH OR 15.0 PERCENT OF THE MAXIMUM STRAIN FOR THAT GAGE.
THE '*' INDICATES THAT MORE THAN 30 PERCENT OF THE DATA FOR THAT GAGE WAS ELIMINATED.

APPENDIX VII

TABULATION OF STRESS INTENSITIES

Table VII.1 presents the adjustments made in values of the stress intensities calculated by LINDA. These adjustments are made according to the procedure of Section 3.1.2. Table VII.2 is a complete presentation of normalized stress intensities.

In Table VII.2 the loads are organized in the following order: Pressure, F2X, -F2Y, -F2Z, M2X, -M2Y, -M2Z, F3X, F3Y, F3Z, M3X, -M3Y, -M3Z. Under each load case the models are presented sequentially, that is T-4, T-6, T-7, T-8, T-15.

Key to Table VII.2

(oval) = Local Maximum

▲ = Adjusted Data Point

Table VII.1. Adjusted Principal Stresses

Tee	Load	Rosette Number	NOSEY Max Stress	NOSEY Min Stress	Adjusted Max Stress	Adjusted Min Stress
T-4	P	90-18	11.487	4.281	2.0	0.6
		247-3	17.068	3.875	14.8	8.0
	M2X	0-15	0.0211	0.0146	0.025	-0.007
		22-8	0.0467	0.0341	0.055	0.0341
		22-10	0.0212	0.0053	0.065	0.025
		22-20	-0.0194	-0.0745	0.033	-0.092
		247-3	0.276	0.0201	0.240	0.0201
		247-13	-0.0363	-0.2005	-0.0363	-0.140
	-M2Y	247-3	0.0704	-0.1852	0.0027	-0.130
	-M2Z	225-5	0.078	-0.125	0.210	0.015
	F2Z	22-2	0.231	-0.007	0.270	0.130
		225-2	0.024	-0.496	0.000	-0.440
		202-12	-0.021	-0.202	0.000	-0.180
	M3X	67-5	0.485	0.087	0.440	0.140
		247-3	0.003	-0.0685	0.025	-0.0685
	F3X	247-3	1.1835	0.0097	1.060	0.100
	F3Y	247-3	3.1721	-3.0694	0.077	0.011
	F3Z	247-3	0.2665	-0.338	0.380	-0.338
T-6	P	45-2	9.433	-0.550	8.00	-1.60
		180-14	13.881	5.945	15.50	5.00
		247-12	12.121	4.281	1.5	-2.00
		247-15	0.106	-3.973	-2.0	-4.0
		270-17	2.763	-3.061	2.763	0.00
	M2X	270-11	0.005	0.004	0.085	-0.085
	-M2Y	22-14	-0.018	-0.061	-0.018	-0.028
		180-5	0.017	-0.012	0.014	-0.012
		270-11	-0.005	-0.006	0.010	-0.120

Table VII.1 -- Continued

Tee	Load	Rosette Number	NOSEY Max Stress	NOSEY Min Stress	Adjusted Max Stress	Adjusted Min Stress
T-6	-M2Z	22-14	-0.020	-0.124	-0.065	-0.090
		270-11	0.021	0.012	0.05	-.02
	F2X	45-7	0.062	0.013	0.055	0.011
		45-16	0.007	-0.009	0.002	-0.008
		270-11	-0.001	-0.002	0.045	-0.002
	-F2Y	270-11	-0.064	-0.076	0.400	-0.100
	F2Z	22-14	-0.192	-0.529	-0.240	-0.500
		270-11	0.047	-0.011	0.080	-0.700
	M3X	67-13	0.012	0.003	0.061	0.003
		270-11	0.005	0.001	-0.038	-0.073
	M3Y	0-16	0.013	-0.021	0.003	-0.010
		22-14	-0.078	-0.262	-0.120	-0.210
		270-11	0.011	0.002	0.110	-0.160
	F3X	270-11	-0.015	-0.020	-0.015	-0.20
	F3Y	45-2	-0.020	-0.145	0.00	-0.125
		180-20	-0.047	-0.052	0.010	-0.052
		270-11	0.006	0.005	0.070	0.005
	F3Z	22-14	-0.643	-2.139	-0.90	-1.75
		270-11	-0.078	-0.093	-0.078	-0.700
T-7	P	0-16	24.628	-4.805	20.50	3.50
		0-17	35.33	8.389	17.0	4.0
		22-13	1.718	-1.041	6.5	3.5
		67-15	27.067	6.647	2.0	-0.75
		90-14	16.418	-16.375	-.25	-0.25
		202-15	12.792	2.398	11.20	2.398
		225-19	9.543	3.913	6.2	3.0
		247-14	1.438	-1.089	1.75	-0.75
		247-17	6.293	0.720	3.0	0.75
		270-15	0.255	-0.535	0.80	-0.40

Table VII.1 -- Continued

Tee	Load	Rosette Number	NOSEY Max Stress	NOSEY Min Stress	Adjusted Max Stress	Adjusted Min Stress
T-7	M2X	0-12	0.045	0.00	0.033	-0.028
		22-13	-0.006	-0.009	-0.006	-0.045
		67-13	-0.005	-0.044	-0.015	-0.070
		247-14	-0.018	-0.122	-0.013	-0.10
	M2Y	0-12	0.019	0.002	0.013	-0.013
	-M2Z	0-12	0.002	-0.005	0.005	0.002
		22-13	-0.003	-0.011	0.010	-0.015
		45-1	0.013	-0.001	0.046	0.004
		67-13	0.023	-0.007	0.052	0.0025
		247-14	0.061	0.011	0.073	0.008
	F2X	0-12	0.003	0.00	0.005	0.003
		67-13	0.014	-0.002	0.023	0.002
		247-14	0.022	0.004	0.028	0.004
	-F2Y	22-13	0.016	-0.018	0.100	-0.100
		45-16	0.079	-0.176	0.025	-0.130
		67-13	0.208	-0.059	0.460	0.020
		247-14	0.350	0.040	0.435	0.040
	F2Z	22-13	0.111	-0.090	0.100	-0.110
		67-15	-0.062	-0.834	0.050	-0.070
		90-14	0.275	0.213	0.455	0.030
		202-12	-0.021	-0.110	-0.010	-0.120
	M3X	0-12	0.029	0.003	0.018	-0.020
		22-13	0.007	-0.005	-0.035	-0.100
		67-15	0.068	-0.051	-0.040	-0.065
		202-12	0.066	0.009	0.066	0.014
	-M3Y	0-12	0.017	0.001	0.013	-0.004
		22-13	0.002	-0.106	-0.02	-0.07
		67-13	-0.009	-0.026	-0.025	-0.06
		247-14	-0.021	-0.124	-0.037	-0.097
	-M3Z	22-13	0.004	0.000	0.004	-0.038
		22-16	-0.027	-0.048	-0.027	-0.075
		67-13	0.007	-0.002	0.117	0.020

Table VII.1 -- Continued

Tee	Load	Rosette Number	NOSEY Max Stress	NOSEY Min Stress	Adjusted Max Stress	Adjusted Min Stress
T-7	F3X	22-13	0.033	-0.004	0.033	-0.160
		67-13	0.074	-0.030	0.83	0.12
		247-14	-0.085	-0.364	-0.030	-0.42
	F3Y	22-13	0.005	-0.00?	0.005	-0.043
		90-13	0.025	0.006	0.022	0.00
		202-6	-0.007	-0.016	-0.007	-0.021
		202-7	-0.018	-0.024	-0.008	-0.024
		202-18	0.003	-0.006	0.002	-0.005
	F3Z	22-13	-0.002	-0.016	-0.180	-0.600
		67-13	-0.028	-0.121	-0.028	-0.360
T-8	P	270-14	-1.604	-1.9265	2.00	-1.9265
		270-18	123.226	14.01	1.8	-2.92
	M2X	45-4	0.074	-0.02	0.055	-0.02
	-M2Z	270-18	0.5187	0.1814	0.420	0.160
	F2Z	0-1	0.194	-0.112	0.090	-0.060
	-M3Z	45-5	1.0452	- .6648	1.52	0.71
		45-8	0.8587	-0.4240	1.16	0.47
		180-4	0.0	0.0	-0.261	-0.473
		202-13	0.0	0.0	0.162	-0.128
		270-18	0.737	0.1056	0.50	-0.27
	F3X	270-18	4.936	1.301	3.0	-1.250
T-15	P	0-13	433.091	67.856	17.4	11.0
		180-17	33.572	6.142	55.0	20.0
		202-14	2392.96	***	14.5	11.0
		202-17	2429.645	***	32.0	3.6
		225-11	29.23	5.706	15.0	4.0

Table VII.1 -- Continued

Tee	Load	Rosette Number	NOSEY Max Stress	NOSEY Min Stress	Adjusted Max Stress	Adjusted Min Stress
T-15	M2X	0-13	-0.018	-0.104	0.078	-0.086
		22-5	8.566	1.255	0.081	-0.127
		247-17	-0.168	-0.44	-0.183	-0.44
		270-14	0.201	0.053	0.040	-0.050
	-M2Y	90-11	0.090	0.028	0.117	0.028
		180-18	0.016	-0.043	0.016	-0.0165
		225-19	0.014	-0.013	0.014	0.005
	-M2Z	0-13	0.103	-0.038	0.135	0.095
		45-13	0.089	0.004	0.120	0.020
	F2X	0-13	0.001	-0.207	0.040	0.022
		225-19	0.008	-0.004	0.003	-0.001
		247-19	0.113	0.052	0.053	0.040
	-F2Y	0-13	1.205	0.830	1.205	0.650
		225-15	30.323	4.609	0.40	-0.20
	F2Z	0-13	35.137	4.563	0.200	-0.208
		225-15	19.045	2.199	0.000	-0.600
		247-15	-0.057	-0.263	-0.150	-0.800
	M3X	0-8	0.310	-1.06	0.310	-0.60
		0-13	9.325	1.327	0.18	-0.048
	-M3Y	0-13	0.007	-0.045	0.014	-0.024
		90-11	0.122	-0.071	0.15	-0.09
	-M3Z	0-13	7.655	1.144	0.175	-0.530
	F3X	0-13	96.437	13.871	1.22	-3.31
		225-19	-1.329	-2.31	1.4	-2.31
	F3Y	0-13	12.545	1.631	-0.100	-0.562
		180-19	0.072	-0.204	-0.050	-0.204
	F3Z	0-13	-10.054	-76.280	0.431	-0.68

T-4, P, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.346	0.488	0.937	1.105	1.237	0-5	0.612
2	0.108	0.508	0.908	1.342	(1.715)	11-1	1.073
3	0.147	0.547	0.935	1.454	1.596	22-6	1.111
4	0.372	0.713	0.977	1.420	1.323	33-1	0.897
5	0.612	0.926	0.912	1.268	1.329	45-6	0.938
6	1.089	1.111	0.938	1.254	1.295	56-1	1.133
7	0.782	1.047	0.902	1.040	1.208	67-4	1.420
8	0.595	0.693	0.765	1.004	1.138	78-1	1.595
9	0.618	0.599	0.652	0.982	1.172	90-1	1.237
10	0.615	0.608	0.695	0.929	1.238		0.0

T-4, P, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	1.357	1.171	0.559	0.548	0.391	0-15	4.417
12	1.588	1.261	0.403	0.229	0.157	11-11	2.361
13	2.553	1.330	0.580	0.220	0.164	22-16	2.128
14	3.272	1.407	0.854	0.255	0.059	33-11	2.117
15	(4.417)	1.774	1.305	0.405	0.130	45-16	1.285
16	2.622	2.128	1.285	0.588	0.241	56-11	0.600
17	2.182	2.270	1.693	0.693	0.311	67-14	0.255
18	1.813	1.821	1.526	0.707	0.323▲	78-11	0.172
19	1.607	1.612	1.365	0.662	0.260	90-11	0.391
20	1.421	1.397	1.199	0.747	0.413		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.284	0.501	0.854	1.184	1.191	180-5	0.617
2	0.162	0.507	0.970	1.543	(1.940)	191-1	1.169
3	0.279	0.491	0.975	1.595▲	1.592	202-6	1.023
4	0.491	0.549	0.919	1.426	1.292	213-1	0.869
5	0.617	0.726	0.886	1.351	1.354	225-6	0.891
6	0.816	1.023	0.891	1.325	1.385	236-1	1.148
7	0.695	0.959	0.853	1.114	1.382	247-4	1.428
8	0.416	0.552	0.749	1.007	1.260	258-1	1.943
9	0.371	0.381	0.594	1.004	1.240	270-1	1.191
10	0.423	0.489	0.682	1.033	1.226		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.245	1.103	0.561	0.483	0.401	180-15	3.446
12	1.439	1.153	0.351	0.284	0.148	191-11	2.326
13	1.809	1.346	0.471	0.305	0.099	202-16	2.507
14	2.868	1.621	0.964	0.269	0.073	213-11	2.017
15	(3.446)	2.090	1.548	0.337	0.160	225-16	1.521
16	3.234	2.507	1.521	0.488	0.258	236-11	0.586
17	2.120	2.066	1.722	0.649	0.333	247-14	0.269
18	1.779	1.772	1.510	0.701	0.307	258-11	0.227
19	1.562	1.611	1.277	0.717	0.364	270-11	0.401
20	1.396	1.429	1.177	0.735	0.476		0.0

T-6, P, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.615	0.461	0.992	1.249	1.196	0-5	0.786
2	0.795	0.534	1.035▲	1.574	1.535	11-1	0.665
3	0.712	0.470	1.159	1.739	(1.866)	22-6	0.480
4	0.816	0.580	1.209	1.843	1.851	33-1	0.740
5	0.786	0.531	1.139	1.809	1.526	45-6	1.004
6	0.784	0.480	1.004	1.736	1.489	56-1	1.544
7	0.696	0.545	0.984	1.586	1.476	67-4	1.843
8	0.672	0.405	0.936	1.451	1.401	78-1	1.632
9	0.601	0.425	0.773	1.175	1.356	90-1	1.196
10	0.458	0.405	0.697	1.155	1.318		0.0

T-6, P, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	1.467	1.433	0.448	0.471	0.604	0-15	1.767
12	1.895	1.786	0.519	0.314	0.166	11-11	2.566
13	1.946	2.097	1.009	0.204	0.159	22-16	3.155
14	1.787	2.694	1.485	0.260	0.266	33-11	2.333
15	1.767	2.928	1.359	0.248	0.086	45-16	1.279
16	1.872	(3.159)	1.279	0.306	0.260	56-11	0.366
17	1.933	3.152	1.350	0.419	0.634	67-14	0.260
18	2.068	2.776	1.715	0.487	0.311	78-11	0.198
19	2.194	2.225	1.512	0.569	0.202	90-11	0.604
20	1.715	1.678	1.244	0.607	0.246		0.0

VII-

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.686	0.640	1.102	1.223	1.197	180-5	0.798
2	0.777	0.581	1.117	1.583	1.649	191-1	0.622
3	0.707	0.579	1.243	1.709	1.887	202-6	0.493
4	0.759	0.490	1.245	1.849	(1.951)	213-1	0.725
5	0.794	0.519	1.168	1.862	1.813	225-6	1.029
6	0.820	0.493	1.029	1.807	1.733	236-1	1.526
7	0.744	0.497	0.981	1.605	1.656	247-4	1.849
8	0.657	0.435	0.876	1.498	1.550	258-1	1.752
9	0.558	0.333	0.744	1.127	1.447	270-1	1.197
10	0.478	0.369	0.578	1.121	1.384		0.0

T-6, P, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.447	1.377	0.826	0.560	0.184	180-15	1.618
12	1.781	1.726	0.563	0.377▲	0.071	191-11	3.306
13	1.905	2.047	1.187	0.239	0.258	202-16	3.310
14	1.778▲	2.486	1.550	0.347	0.444	213-11	2.315
15	1.618	2.938	2.292	0.323▲	0.267	225-16	1.562
16	1.479	(3.310)	1.562	0.348	0.175	236-11	0.595
17	1.554	3.051	1.564	0.488	0.406▲	247-14	0.347
18	1.885	2.850	1.833	0.635	0.247	258-11	0.171
19	2.028	2.256	1.661	0.835	0.259	270-11	0.184
20	1.642	1.720	1.299	0.685	0.221		0.0

T-7, P, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.569	0.594	0.898	0.788	0.701	0-5	0.268
2	0.543	0.556	0.740	0.894	1.020	11-1	0.268
3	0.281	0.557	0.795	0.917	1.013	22-6	0.500
4	0.267	0.601	0.812	1.209	1.243	33-1	0.687
5	0.268	0.506	0.860	1.213	1.164	45-6	0.893
6	0.230	0.500	0.893	(1.285)	1.199	56-1	1.174
7	0.319	0.501	0.856	1.191	1.132	67-4	1.209
8	0.444	0.541	0.772	1.010	1.076	78-1	1.218
9	0.560	0.501	0.751	0.956	1.033	90-1	0.701
10	0.366	0.529	0.629	0.746	1.073		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.618	0.607	0.897	0.728	0.773	180-5	0.285
2	0.413	0.579	0.753	0.967	0.821	191-1	0.380
3	0.284	0.573	0.800	1.069	1.038	202-6	0.580
4	0.269	0.573	0.790	1.194	1.268	213-1	0.723
5	0.285	0.505	0.939	(1.274)	1.241	225-6	0.947
6	0.232	0.580	0.947	1.245	1.131	236-1	1.136
7	0.377	0.639	0.907	1.103	1.080	247-4	1.194
8	0.498	0.591	0.828	0.963	1.033	258-1	1.254
9	0.474	0.549	0.729	0.904	0.997	270-1	0.773
10	0.365	0.617	0.721	0.893	0.922		0.0

T-7, P, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	1.511	1.426	0.882	0.754	0.639	0-15	3.793
12	1.129	1.478	0.892	0.443	0.279	11-11	2.578
13	1.914	1.544▲	0.883	0.437	0.257	22-16	2.280
14	2.101	1.900	1.094	0.567	0.257▲	33-11	1.883
15	3.793	2.250	1.470	0.617▲	0.371	45-16	1.559
16	(4.425)▲	2.280	1.559	0.672	0.538	56-11	1.070
17	3.704▲	2.249	1.531	0.874	0.668	67-14	0.567
18	2.693	1.967	1.538	0.987	0.702	78-11	0.268
19	1.974	1.777	1.475	1.001	0.812	90-11	0.639
20	1.675	1.732	1.433	1.006	0.879		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.578	1.624	0.951	0.745	0.662	180-15	3.480
12	1.787	1.467	0.911	0.479	0.192	191-11	2.964
13	1.923	1.621	0.879	0.294	0.226	202-16	2.292
14	2.109	1.952	1.072	0.566▲	0.265	213-11	1.805
15	3.480	2.511▲	1.492	0.630	0.370▲	225-16	1.532
16	(3.724)	2.292	1.532	0.582	0.563	236-11	0.975
17	2.953	2.131	1.506	0.823▲	0.682	247-14	0.520
18	2.306	1.907	1.516	0.994	0.765	258-11	0.327
19	2.016	1.766	1.482▲	1.015	0.789	270-11	0.662
20	1.911	1.660	1.358	0.928	0.888		0.0

T-8, P, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.824	0.880	(1.223)	0.745	0.631	0-7	0.744
2	0.446	0.413	0.812	0.715	0.604	11-1	0.697
3	0.380	0.442	0.536	0.723	0.640	22-6	0.680
4	0.321	0.402	0.603	0.853	0.862	33-1	0.694
5	0.379	0.753	0.793	0.793	0.848	45-6	0.639
6	0.657	0.680	0.629	0.819	0.854	56-1	0.747
7	0.744	0.570	0.559	0.722	0.835	67-6	0.819
8	0.648	0.468	0.633	0.778	0.720	78-1	0.851
9	0.387	0.379	0.646	0.784	0.855	90-6	0.854
10	0.409	0.460	0.539	0.756	0.788		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.988	0.888	(1.338)	0.677	0.651	180-7	0.764
2	0.428	0.449	1.135	0.945	0.886	191-1	0.743
3	0.376	0.446	0.745	0.858	0.780	202-6	0.817
4	0.317	0.404	0.617	1.112	1.024	213-1	0.854
5	0.358	0.881	0.347	0.881	0.943	225-6	0.780
6	0.757	0.817	0.780	0.860	0.944	236-1	0.731
7	0.764	0.717	0.633	0.789	0.953	247-6	0.860
8	0.624	0.507	0.566	0.759	0.751	258-1	0.887
9	0.442	0.462	0.544	0.789	0.930	270-6	0.944
10	0.493	0.516	0.555	0.695	0.937		0.0

I-8, P, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.985	1.125	0.783	0.524	0.554	0-17	2.257
12	0.938	1.024	0.773	0.578	0.633	11-11	(2.700)
13	0.886	0.981	0.717	0.548	0.529	22-16	2.043
14	1.015	1.344	0.980	0.502	0.208	33-11	1.620
15	1.321	2.115	1.452	0.679	0.235	45-16	1.293
16	1.834	2.043	1.293	0.509	0.223	56-11	0.880
17	2.257	1.672	1.144	0.378	0.188	67-16	0.509
18	1.978	1.273	0.999	0.558	0.276	78-11	0.266
19	1.363	0.933	0.807	0.588	0.444	90-16	0.223
20	1.398	1.211	0.764	0.739	0.567		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.119	1.178	0.758	0.537	0.611	180-17	2.473
12	1.024	1.010	0.577	0.449	0.371	191-11	2.374
13	0.937	0.977	0.550	0.374	0.437	202-16	2.429
14	1.048	1.273	0.926	0.344	0.250▲	213-11	1.771
15	1.342	2.040	1.627	0.730	0.245	225-16	1.510
16	1.955	2.429	1.510	0.577	0.237	236-11	1.064
17	(2.473)	1.816	1.243	0.412	0.217	247-16	0.577
18	2.098	1.417	1.064	0.522	0.301▲	258-11	0.388
19	1.248	1.054	0.855	0.568	0.398	270-16	0.237
20	1.000	0.923	0.812	0.751	0.578		0.0

T-15, P, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.988	1.162	1.224	0.813	0.973	0-7	1.162
2	0.740	0.802	0.897	0.476	0.572	11-1	1.252
3	0.404	0.559	0.495	0.598	0.568	22-6	1.159
4	0.191	0.435	0.652	1.032	0.913	33-1	1.054
5	0.335	0.516	0.728	1.037	(1.297)	45-6	0.993
6	0.952	1.159	0.993	1.001	1.213	56-1	0.866
7	1.162	1.136	0.907	0.834	1.214	67-6	1.001
8	1.149	0.877	0.801	0.739	0.928	78-1	1.130
9	0.623	0.499	0.584	0.782	0.970	90-6	1.213
10	0.538	0.599	0.573	0.750	0.917		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.997	1.215	1.184	0.701	0.777	180-7	1.223
2	0.702	0.839	1.111	0.774	1.019	191-1	(1.344)
3	0.614	0.693	0.645	0.651	0.613	202-6	1.197
4	0.316	0.344	0.650	1.070	1.004	213-1	1.000
5	0.339	0.471	0.731	0.987	1.153	225-6	1.000
6	0.912	1.197	1.000	0.891	1.183	236-1	0.806
7	1.223	1.273	0.892	0.763	1.203	247-6	0.891
8	1.198	0.993	0.702	0.757	0.903	258-1	1.107
9	0.579	0.518	0.534	0.783	0.950	270-6	1.183
10	0.477	0.539	0.576	0.737	0.903		0.0

T-15, P, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	1.273	1.418	1.021	0.497	0.627	0-17	2.406
12	1.153	1.095	0.866	0.771	0.976	11-11	2.311
13	1.172▲	0.972	0.904	0.854	1.103	22-16	1.822
14	1.196	0.995	0.621	0.488	0.341	33-11	1.520
15	1.476	1.337	0.921	0.742	0.373	45-16	1.475
16	2.111	1.822	1.475	0.778	0.338	56-11	1.176
17	2.406	2.175	1.595	0.703	0.290	67-16	0.778
18	(2.596)	2.047	1.428	0.656	0.150	78-11	0.381
19	1.603	1.361	1.164	0.755	0.388	90-16	0.338
20	0.979	0.820	0.950	0.902	0.738		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.440	1.106	1.019▲	0.571	0.522	180-17	2.202
12	1.253	1.073	0.805	0.496	0.424	191-11	2.237
13	1.127	0.957	0.677	0.702	0.964	202-16	1.826
14	1.136	0.987▲	0.605	0.425	0.299	213-11	1.562
15	1.362	1.407	0.852	0.598	0.215	225-16	1.391
16	3.013	1.826	1.391	0.787	0.294	236-11	1.209
17	3.566▲	2.102▲	1.644	1.073	0.317	247-16	0.787
18	(3.654)	1.794	1.406	0.719	0.125	258-11	0.391
19	1.603	1.372	1.086	0.731	0.445	270-16	0.294
20	1.187	1.001	0.972	0.684	1.143		0.0

T-4, F2X,NCFMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CCRRESFCNDS TC NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	C.424	1.242	1.260	1.208	0.549	0-5	1.052
2	C.396	1.052	1.378	1.539	1.005	11-1	1.357
3	0.419	1.062	1.318	1.872	1.4C4	22-6	1.643
4	0.638	1.216	1.810	1.752	1.578	33-1	2.323
5	1.052	1.351	2.359	1.427	1.63C	45-6	(2.523)
6	1.276	1.643	(2.523)	0.651	1.693	56-1	2.278
7	C.971	1.495	1.83E	0.654	1.693	67-4	1.752
8	1.016	1.039	0.708	0.802	1.536	78-1	1.117
9	0.940	0.896	0.383	C.773	1.38C	90-1	0.549
10	0.930	0.786	0.310	0.674	1.229		C.0

GAGE	PHI LINE 180	202.5	225	247.5	27C	CROTCH LINE GAGE	INDEX
1	C.310	1.224	1.219	1.286	0.490	180-5	1.055
2	0.325	C.966	1.328	1.633	1.036	191-1	1.271
3	C.370	1.068	1.505	1.849	1.440	202-6	1.622
4	0.604	1.128	1.695	1.630	1.513	213-1	2.221
5	1.055	1.385	2.388	1.555	1.617	225-6	2.411
6	1.312	1.622	(2.411)	0.794	1.752	236-1	2.174
7	1.042	1.659	2.005	0.700	1.760	247-4	1.630
8	1.109	1.086	0.755	0.768	1.523	258-1	1.195
9	1.026	0.893	0.419	0.732	1.271	270-1	0.490
10	C.948	C.807	0.266	0.680	1.107		0.0

T-4, F2X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CCRRESFONDS TC NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.44C	0.523	0.974	1.187	1.437	0-15	2.164
12	0.341	0.266	0.51C	1.367	2.518	11-11	1.380
13	0.339	C.161	0.776	1.505	3.648	22-16	1.367
14	0.906	0.357	0.432	1.893	(4.031)	33-11	1.133
15	2.164	0.945	0.474	1.979	3.554	45-16	0.646
16	1.638	1.367	0.646	1.732	3.044	56-11	1.094
17	1.414	1.609	1.055	1.482	2.456	67-14	1.893
18	1.070	1.169	0.622	1.294	2.133	78-11	2.148
19	0.987	0.958	0.464	1.138	1.875	90-11	1.437
20	0.953	0.852	0.490	0.932	1.526		0.0

GAGE	PHI LINE 180	202.5	225	247.5	27C	CROTCH LINE GAGE	INDEX
11	0.521	0.682	0.995	1.195	1.711	180-15	1.596
12	0.471	0.417	0.674	1.404	2.411	191-11	1.341
13	0.354	0.133	0.562	1.547	3.586	202-16	1.495
14	0.885	0.320	0.409	1.953	(3.857)	213-11	1.122
15	1.596	0.974	0.612	2.208	3.661	225-16	0.677
16	2.078	1.495	0.677	1.880	3.109	236-11	1.062
17	1.430	1.625	0.805	1.565	2.556	247-14	1.553
18	1.174	1.169	0.591	1.289	2.049	258-11	2.380
19	1.060	0.937	0.437	1.083	1.630	270-11	1.711
20	1.029	0.867	0.531	1.005	1.437		0.0

T-6, F2X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.495	1.266	1.130	0.990	0.578	0-5	0.734
2	0.831	1.336	1.174	1.240	0.820	11-1	1.039
3	0.773	1.411	1.609	1.389	1.271	22-6	1.526
4	0.700	1.430	1.784	1.310	1.638	33-1	1.797
5	0.734	1.518	(1.862)	1.198	1.625	45-6	1.672
6	0.727	1.526	1.672	1.122	1.656	56-1	1.560
7	0.747	1.456	1.432▲	0.917	1.719	67-4	1.310
8	0.771	1.336	1.049	0.927	1.617	78-1	0.849
9	0.904	1.026	0.391	0.976	1.430	90-1	0.578
10	0.971	0.857	0.294	0.849	1.253		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.398	1.430	1.690	1.341	0.786	180-5	0.740
2	0.828	1.552	1.687	1.680	0.810	191-1	1.128
3	0.831	1.474	2.078	1.789	1.226	202-6	1.654
4	0.737	1.521	2.237	1.737	1.669	213-1	1.760
5	0.740	1.651	(2.239)	1.687	1.976	225-6	1.935
6	0.729	1.654	1.935	1.534	1.833	236-1	1.979
7	0.758	1.594	1.750	1.062	1.893	247-4	1.737
8	0.773	1.448	1.159	0.872	1.758	258-1	1.065
9	0.976	1.128	0.612	0.872	1.557	270-1	0.786
10	1.010	0.963	0.450	0.784	1.318		0.0

T-6, F2X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.437	0.469	0.963	1.260	1.221	0-15	0.716
12	0.568	0.237	0.976	1.542	1.768	11-11	1.161
13	0.510	0.385	0.414	1.648	2.482	22-16	1.115
14	0.542	0.807	0.266	2.031	3.164	33-11	0.622
15	0.716	0.888	0.216	2.159	(3.317)	45-16	0.424
16	0.906	1.115	0.260▲	2.195	2.799	56-11	1.237
17	1.107	1.255	0.214	2.002	2.552	67-14	2.031
18	1.409	1.682	0.414	1.859	2.341	78-11	1.818
19	1.555	1.474	0.409	1.516	2.008	90-11	1.221
20	1.049	0.841	0.396	1.143	1.604		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.443	0.534	1.445	1.536	1.229▲	180-15	0.664
12	0.687	0.234	1.195	1.612	2.278	191-11	1.510
13	0.557	0.482	0.534	2.036	3.000	202-16	1.479
14	0.497	0.721	0.479	2.383	(3.841)	213-11	0.550
15	0.664	1.174	0.448	2.513	3.747	225-16	0.393
16	0.737	1.479	0.393	2.513	3.297	236-11	1.284
17	0.898	1.505	0.312	1.984	2.752	247-14	2.383
18	1.396	1.961	0.833	1.737	2.276	258-11	2.164
19	1.521	1.677	0.687	1.320	1.922	270-11	0.957
20	1.083	1.013	0.430	1.120	1.669		0.0

T-7, F2X, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PBI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.179	1.504	1.589	0.834	0.377	0-5	0.797
2	1.622	(2.117)	0.971	0.933	0.471	11-1	1.061
3	0.712	0.712	0.750	1.037	0.415	22-6	1.301
4	0.603	0.825	1.174	1.183	0.528	33-1	1.414
5	0.757	1.263	1.452	0.999	0.750	45-6	1.376
6	0.811	1.301	1.376	0.886	0.976	56-1	1.282
7	0.891	1.183	1.197	0.632	0.919	67-4	1.183
8	0.886	0.867	0.453	0.533	0.867	78-1	0.651
9	0.999	0.651	0.203	0.523	0.844	90-1	0.377
10	0.707	0.627	0.198	0.424	0.801		0.0

T-7, F2X, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PBI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.420	0.533	0.641	0.816	1.009	0-15	0.971
12	0.236▲	0.396	0.882	0.966	1.692	11-11	1.282
13	0.118	0.184	0.858	1.084▲	1.947	22-16	0.830
14	0.189	0.467	0.693	1.117	2.220	33-1[illegible]	0.467
15	0.971	0.702	0.264	1.296	(2.432)	45-16	0.292
16	1.655	0.830	0.292	1.461	2.315	56-11	0.646
17	1.400	1.098	0.288	1.367	2.022	67-14	1.117
[illegible]	1.249	0.891	0.165	1.216	1.725	78-11	2.013
19	1.094	0.811	0.377	1.065	1.414	90-11	1.009
20	0.891	0.735	0.438	0.863	1.183		0.0

GAGE	180	PBI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.485	(2.032)	1.585	0.905	0.481	180-5	0.754
2	1.207	1.452	0.924	1.061	0.457	191-1	1.160
3	0.684	0.693	0.896	1.131	0.504	202-6	1.424
4	0.613	0.726	1.263	1.306	0.566	213-1	1.579
5	0.754	1.277	1.758	1.103	0.830	225-6	1.579
6	0.863	1.424	1.579	0.962	0.948	236-1	1.381
7	0.900	1.405	1.358	0.613	0.924	247-4	1.306
8	0.863	0.844	0.453	0.523	0.891	258-1	0.731
9	0.839	0.702	0.174	0.533	0.872	270-1	0.481
10	0.660	0.674	0.193	0.523	0.712		0.0

GAGE	180	PBI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.358	0.523	0.773	0.891	1.070	180-15	0.962
12	0.231	0.471	1.018	1.009	1.749	191-11	1.367
13	0.090	0.533	0.952	1.169	2.126	202-16	0.990
14	0.179	0.495	0.717	1.320▲	2.359	213-11	0.533
15	0.962	0.684	0.306	1.428	(2.569)	225-16	0.335
16	1.622	0.990	0.335	1.565	2.357	236-11	0.745
17	1.607	1.131	0.288	1.452	2.131	247-14	1.056
18	1.268	0.943	0.193	1.277	1.721	258-11	2.206
19	1.075	0.811	0.410	1.103	1.485	270-11	1.070
20	0.957	0.721	0.434	0.853	1.244		0.0

T-8, F2X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.774	1.149	(1.407)	0.597	0.422	0-7	0.408
2	0.397	0.540	0.721	0.631	0.411	11-1	0.488
3	0.419	0.674	0.746	0.778	0.370	22-6	0.762
4	0.320	0.685	1.003	1.001	0.274	33-1	0.905
5	0.370	0.922	1.328	0.954	0.332	45-6	0.859
6	0.409	0.762	0.859	0.573	0.216	56-1	0.716
7	0.408	0.497	0.510	0.316	0.266	67-6	0.573
8	0.359	0.353	0.236	0.368	0.455	78-1	0.345
9	0.408	0.376	0.302	0.414	0.568	90-6	0.216
10	0.463	0.357	0.346	0.397	0.483		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.116	(1.618)	1.576	0.587	0.469	180-7	0.411
2	0.485	0.628	0.730	0.623	0.463	191-1	0.513
3	0.502	0.787	0.815	0.763	0.405	202-6	0.759
4	0.371	0.789	1.124	0.949	0.318	213-1	1.009
5	0.416	0.965	1.487	1.026	0.331	225-6	0.974
6	0.453	0.759	0.974	0.581	0.261	236-1	0.811
7	0.411	0.551	0.515	0.375	0.255	247-6	0.581
8	0.365	0.397	0.250	0.414	0.419	258-1	0.397
9	0.436	0.348	0.313	0.472	0.611	270-6	0.261
10	0.359	0.371	0.364	0.447	0.494		0.0

T-8, F2X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.532	0.405	0.493	0.575	0.575	0-17	0.891
12	0.713	0.785	0.944	0.622	0.631	11-11	1.040
13	0.541	0.554	0.740	0.556	0.774	22-16	0.881
14	0.294	0.313	0.604	0.743	1.116	33-11	0.560
15	0.093	0.683	0.222	0.792	1.864	45-16	0.222
16	0.379	0.881	0.222	1.084	2.246	56-11	0.430
17	0.891	0.828	0.093	1.226	(2.377)	67-16	1.084
18	1.102	0.641	0.087	0.751	1.604	78-11	1.881
19	0.828	0.460	0.074	0.469	0.852	90-16	2.246
20	0.625	0.455	0.047	0.431	0.644		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.335	0.414	0.471	0.593	0.571	180-17	1.042
12	0.774	0.907	1.047	0.719	0.623	191-11	1.023
13	0.660	0.716	0.880	0.546	0.752	202-16	0.965
14	0.362	0.423	0.740	0.792	1.077	213-11	0.641
15	0.090	0.639	0.327	1.083	1.690	225-16	0.253
16	0.490	0.965	0.253	1.451	2.106	236-11	0.563
17	1.042	0.946	0.175	1.435	(2.228)	247-16	1.451
18	1.166	0.776	0.054	1.003	2.008	258-11	1.522
19	0.779	0.554	0.099	0.584	1.048	270-16	2.106
20	0.501	0.378	0.072	0.427	0.590		0.0

T-15, F2X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	C.988	(1.668)	1.443	0.614	0.529	0-7	0.400
2	0.597	0.933	1.128	0.652	0.490	11-1	0.579
3	0.334	0.623	0.590	0.792	0.433	22-6	1.110
4	0.208	0.615	0.760	1.073	0.430	33-1	C.965
5	C.244	0.754	1.151	1.042	0.406	45-6	1.390
6	C.361	1.110	1.390	0.600	0.301	56-1	0.776
7	C.400	0.911	0.919	0.338	0.238	67-6	0.600
8	0.337	C.502	0.529	0.364	0.441	78-1	0.422
9	0.427	0.362	0.285	0.458	0.663	90-6	C.301
10	0.414	0.408	0.394	C.576	0.645		C.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	C.966	(1.544)	1.374	0.560	0.541	180-7	0.453
2	0.532	0.823	0.820	0.633	0.529	191-1	0.582
3	0.612	0.885	0.855	0.771	0.447	202-6	1.168
4	0.310	0.713	0.715	1.088	0.434	213-1	C.977
5	C.266	C.767	1.105	1.045	0.406	225-6	1.495
6	C.361	1.168	1.495	0.597	0.338	236-1	0.719
7	C.453	0.924	0.907	0.323	0.286	247-6	0.597
8	0.346	0.460	0.438	0.381	0.449	258-1	0.455
9	0.453	0.348	0.297	0.345	0.671	270-6	C.338
10	0.455	0.422	0.406	0.537	0.625		0.0

T-15, F2X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.453	0.480	0.733	0.781	0.442	0-17	0.864
12	0.685	0.726	0.642	0.820	0.611	11-11	0.937
13	0.630▲	0.705	0.855	0.663	0.774	22-16	0.581
14	0.425	0.718	0.921	0.834	1.163	33-11	C.573
15	0.123	0.504	0.757	1.328	1.854	45-16	0.423
16	0.644	0.581	0.423	1.577	2.200	56-11	0.757
17	0.864	0.828	0.279	1.448	(2.200)	67-16	1.577
18	1.188	0.959	0.127	1.099	2.174	78-11	2.167
19	0.911	0.614	0.124	0.705	1.179	90-16	2.200
20	0.518	0.362	0.096	0.510	0.631		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.467	0.532	0.722	0.853	0.582	180-17	0.806
12	0.836	0.907	0.995	0.716	0.639	191-11	1.047
13	0.608	0.633	0.559	0.674	0.765	202-16	0.609
14	0.395	0.601	0.908	0.880	1.067	213-11	0.519
15	0.127	0.502	0.759	1.302	1.648	225-16	0.483
16	0.420	0.609	0.483	1.695	2.054	236-11	0.927
17	0.806	0.864	0.297	1.362	(2.265)	247-16	1.695
18	1.483	0.908	0.022	1.066	2.139	258-11	2.086
19	0.960	0.593	0.063▲	0.834▲	1.135	270-16	2.054
20	0.628	0.370	0.093	0.474	0.699		0.0

T-4,-F2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.492	0.922	0.466	0.386	0.288	0-5	0.846
2	0.366	0.771	0.669	0.673	0.564	11-1	1.023
3	0.374	0.788	0.789	0.939	0.781	22-6	1.194
4	0.562	0.908	1.115	0.899	0.890	33-1	1.579
5	0.846	1.008	1.501	0.776	0.944	45-6	1.603
6	0.561	1.194	(1.603)	0.430	0.987	56-1	1.286
7	0.702	1.076	1.194	0.428	0.990	67-4	0.899
8	0.716	0.715	0.470	0.501	0.917	78-1	0.535
9	0.643	0.623	0.246	0.477	0.828	90-1	0.288
10	0.626	0.537	0.193	0.407	0.764		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.284	0.679	0.324	0.493	0.284	180-5	0.736
2	0.248	0.560	0.464	0.708	0.602	191-1	0.838
3	0.268	0.628	0.630	0.879	0.799	202-6	1.020
4	0.449	0.673	0.858	0.852	0.871	213-1	1.319
5	0.736	0.858	1.317	0.871	0.943	225-6	1.365
6	0.896	1.020	(1.365)	0.517	0.991	236-1	1.181
7	0.665	1.061	1.183	0.405	1.006	247-4	0.852
8	0.710	0.681	0.492	0.403	0.884	258-1	0.616
9	0.653	0.560	0.266	0.397	0.760	270-1	0.284
10	0.595	0.501	0.165	0.385	0.676		0.0

T-4,-F2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.261	0.330	0.317	0.580	0.490	0-15	1.577
12	0.171	0.158	0.167	0.779	1.1[illegible]	11-11	0.981
13	0.256	0.148	0.335	0.919	1.840	22-16	0.937
14	0.711	0.283	0.217	1.1[illegible]	(2.146)	33-11	0.698
15	1.577	0.660	0.319	1.239	1.588	45-16	0.409
16	1.161	0.937	0.409	1.097	1.774	56-11	0.742
17	0.997	1.106	0.627	0.940	1.454	67-14	1.137
18	0.738	0.787	0.346	0.821	1.289	78-11	1.091
19	0.659	0.641	0.281	0.716	1.153	90-11	0.490
20	0.631	0.574	0.320	0.589	0.957		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.283	0.274	0.199	0.450	0.540	180-15	1.006
12	0.274	0.160	0.209	0.596	0.993	191-11	0.839
13	0.204	0.084	0.183	0.678	1.674	202-16	0.896
14	0.590	0.230	0.090	0.914	(1.932)	213-11	0.690
15	1.006	0.604	0.386	1.065	1.924	225-16	0.430
16	1.278	0.896	0.430	0.924	1.659	236-11	0.574
17	0.906	0.993	0.511	0.800	1.455	247-14	0.514
18	0.716	0.705	0.368	0.698	1.191	258-11	0.586
19	0.653	0.560	0.260	0.636	0.962	270-11	0.540
20	0.637	0.530	0.310	0.579	0.874		0.0

T-6,-F2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.713	1.277	0.511	0.394	0.286	0-5	0.749
2	1.025	1.355	0.810	0.725	0.554	11-1	0.977
3	0.867	1.410	1.276	0.891	0.913	22-6	1.422
4	0.724	1.391	1.491	0.913	1.239	33-1	(1.629)
5	0.749	1.436	1.586	0.877	1.263	45-6	1.438
6	0.716	1.422	1.438	0.824	1.252	56-1	1.252
7	0.708	1.357	1.435	0.760	1.340	67-4	0.913
8	0.708	1.224	0.971	0.772	1.284	78-1	0.602
9	0.793	0.937	0.417	0.766	1.153	90-1	0.286
10	0.848	0.803	0.314	0.650	1.022		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.409	0.899	0.582	0.618	0.280	180-5	0.648
2	0.764	1.049	0.765	0.959	0.530	191-1	0.881
3	0.729	1.030	1.197	1.123	0.805	202-6	1.240
4	0.636	1.102	1.417	1.165	1.143	213-1	1.268
5	0.648	1.223	(1.490)	1.164	1.395	225-6	1.351
6	0.639	1.240	1.351	1.108	1.267	236-1	1.335
7	0.664	1.214	1.271	0.868	1.321	247-4	1.165
8	0.675	1.129	0.920	0.611	1.264	258-1	0.653
9	0.817	0.904	0.588	0.525	1.148	270-1	0.280
10	0.821	0.783	0.357	0.511	1.005		0.0

T-6,-F2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.265	0.409	0.441	0.810	0.513	C-15	0.791
12	0.593	0.349	0.584	1.148	0.943	11-11	1.202
13	0.571	0.517	0.403	1.261	1.574	22-16	1.086
14	0.658	0.909	0.362	1.527	2.203	33-11	0.561
15	0.791	0.934	0.349	1.639	(2.424)	45-16	0.444
16	0.924	1.086	0.444	1.734	2.138	56-11	1.096
17	1.066	1.204	0.389	1.617	2.017	67-14	1.527
18	1.291	1.563	0.329	1.487	1.873	78-11	1.095
19	1.368	1.347	0.375	1.209	1.632	90-11	0.513
20	0.867	0.764	0.332	0.913	1.315		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.276	0.222	0.472	0.633	0.478▲	180-15	0.538
12	0.524	0.203	0.453	0.885	1.011	191-11	1.118
13	0.459	0.391	0.183	1.040	1.607	202-16	1.054
14	0.416	0.513	0.319	1.248	2.277	213-11	0.707
15	0.538	0.830	0.340	1.347	(2.353)	225-16	0.349
16	0.569	1.054	0.349	1.375	2.179	236-11	0.714
17	0.682	1.077	0.343	1.122	1.913	247-14	1.248
18	1.059	1.433	0.634	0.970	1.639	258-11	0.572
19	1.148	1.249	0.531	0.826	1.430	270-11	0.072
20	0.826	0.779	0.347	0.762	1.260		0.0

T-7,-F2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.331	1.407	0.313	0.186	0.144	0-5	0.756
2	1.698	(1.920)	0.490	0.325	0.213	11-1	0.921
3	0.703	0.596	0.494	0.471	0.235	22-6	1.072
4	0.517	0.695	0.819	0.635	0.355	33-1	1.081
5	0.756	1.052	1.024	0.565	0.496	45-6	0.954
6	0.755	1.072	0.954	0.531	0.607	56-1	0.825
7	0.812	0.976	0.856	0.473	0.652	67-4	0.635
8	0.733	0.713	0.344	0.411	0.587	78-1	0.358
9	0.811	0.514	0.162	0.379	0.581	90-1	0.144
10	0.556	0.488	0.108	0.298	0.559		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.250	(1.265)	0.332	0.263	0.178	180-5	0.632
2	1.006	0.947	0.361	0.399	0.195	191-1	0.993
3	0.572	0.466	0.450	0.524	0.265	202-6	1.018
4	0.457	0.504	0.712	0.692	0.370	213-1	1.064
5	0.632	0.899	1.064	0.631	0.531	225-6	0.993
6	0.716	1.018	0.993	0.568	0.619	236-1	0.829
7	0.769	1.035	0.888	0.413	0.629	247-4	0.692
8	0.666	0.625	0.336	0.365	0.575	258-1	0.390
9	0.631	0.507	0.143	0.337	0.578	270-1	0.178
10	0.483	0.479	0.089	0.337	0.478		0.0

T-7,-F2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.262	0.363	0.264	0.387	0.321	0-15	0.820
12	0.077	0.310	0.430	0.557	0.800	11-11	1.028
13	0.059	0.313▲	0.518	0.720▲	0.998	22-16	0.610
14	0.210	0.423	0.540	0.841	1.192	33-11	0.294
15	0.820	0.551	0.270	0.936	1.421	45-16	0.398
16	1.317	0.610	0.242▲	1.021	(1.440)	56-11	0.564
17	1.092	0.840	0.247	0.967	1.327	67-14	0.841
18	0.968	0.691	0.153	0.876	1.187	78-11	1.208
19	0.836	0.614	0.275	0.785	1.066	90-11	0.321
20	0.673	0.563	0.329	0.636	0.863		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.171	0.152	0.091	0.247	0.280	180-15	0.673
12	0.151	0.176	0.236	0.381	0.741	191-11	0.888
13	0.089	0.288	0.328	0.565	0.984	202-16	0.607
14	0.174	0.338	0.333	0.680▲	1.175	213-11	0.329
15	0.613	0.421	0.186	0.764	(1.375)	225-16	0.277
16	1.109	0.607	0.277	0.841	1.346	236-11	0.469
17	1.092	0.755	0.245	0.830	1.298	247-14	0.547
18	0.879	0.625	0.121	0.791	1.104	258-11	1.098
19	0.758	0.550	0.247	0.716	0.957	270-11	0.280
20	0.681	0.493	0.290	0.576	0.858		0.0

T-8,-F2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.889	1.104	0.300	0.045	0.061	0-7	0.462
2	0.465	0.565	0.369	0.224	0.095	11-1	0.487
3	0.495	0.690	0.538	0.469	0.138	22-6	0.702
4	0.375	0.683	0.867	0.751	0.128	33-1	0.816
5	0.418	0.867	(1.191)	0.791	0.236	45-6	0.758
6	0.454	0.702	0.758	0.473	0.162	56-1	0.614
7	0.462	0.486	0.439	0.266	0.219	67-6	0.473
8	0.389	0.343	0.191	0.314	0.395	78-1	0.264
9	0.397	0.363	0.236	0.364	0.493	90-6	0.162
10	0.441	0.343	0.297	0.336	0.401		0.0

T-8,-F2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.530	0.347	0.145	0.158	0.103	0-17	0.878
12	0.739	0.697	0.453	0.276	0.221	11-11	1.000
13	0.541	0.498	0.494	0.359	0.443	22-16	0.840
14	0.287	0.291	0.496	0.601	0.805	33-11	0.504
15	0.097	0.652	0.205	0.727	1.507	45-16	0.211
16	0.403	0.840	0.211	0.993	1.859	56-11	0.431
17	0.878	0.791	0.098	1.097	(1.991)	67-16	0.993
18	1.052	0.607	0.058	0.684	1.381	78-11	1.637
19	0.782	0.440	0.046	0.443	0.764	90-16	1.859
20	0.570	0.427	0.041	0.378	0.547		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.820	0.954	0.178	0.168	0.095	180-7	0.368
2	0.381	0.399	0.252	0.262	0.111	191-1	0.436
3	0.394	0.554	0.406	0.489	0.136	202-6	0.605
4	0.300	0.602	0.779	0.711	0.156	213-1	0.806
5	0.342	0.763	(1.165)	0.867	0.226	225-6	0.788
6	0.367	0.605	0.788	0.511	0.178	236-1	0.671
7	0.368	0.475	0.426	0.343	0.219	247-6	0.511
8	0.336	0.350	0.188	0.317	0.358	258-1	0.373
9	0.378	0.303	0.234	0.377	0.518	270-6	0.178
10	0.311	0.292	0.277	0.334	0.408		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.228	0.277	0.162	0.078	0.086	180-17	0.868
12	0.558	0.560	0.297	0.210	0.166	191-11	0.846
13	0.471	0.443	0.439	0.261	0.366	202-16	0.808
14	0.242	0.258	0.451	0.489	0.706	213-11	0.563
15	0.108	0.543	0.283	0.752	1.256	225-16	0.274
16	0.414	0.808	0.274	1.057	1.635	236-11	0.387
17	0.868	0.800	0.207	1.077	(1.748)	247-16	1.057
18	0.970	0.654	0.091	0.774	1.596	258-11	1.443
19	0.653	0.473	0.065	0.472	0.887	270-16	1.635
20	0.413	0.319	0.048	0.328	0.465		0.0

T-15,-F2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.191	(1.663)	0.309	0.041	0.101	0-7	0.477
2	0.715	0.964	0.577	0.175	0.092	11-1	0.570
3	0.425	0.657	0.425	0.462	0.156	22-6	1.104
4	0.289	0.648	0.655	0.846	0.250	33-1	0.943
5	0.266	0.776	1.046	0.929	0.328	45-6	1.332
6	0.421	1.104	1.332	0.554	0.253	56-1	0.738
7	0.477	0.824	0.880	0.342	0.250	67-6	0.554
8	0.412	0.504	0.505	0.347	0.436	78-1	0.354
9	0.452	0.373	0.242	0.437	0.639	90-6	0.253
10	0.384	0.378	0.342	0.488	0.546		0.0

T-15,-F2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.502	0.424	0.179	0.204	0.077	0-17	0.641
12	0.740	0.674	0.375	0.156	0.214	11-11	0.924
13	0.728▲	0.623	0.523	0.384	0.419	22-16	0.544
14	0.464	0.645	0.648	0.642	0.854	33-11	0.552
15	0.093	0.414	0.596	1.160	1.565	45-16	0.369
16	0.625	0.544	0.369	1.415	1.862	56-11	0.693
17	0.841	0.822	0.243	1.314	1.861	67-16	1.415
18	1.148	0.548	0.140	1.010	(1.927)	78-11	1.898
19	0.884	0.605	0.093	0.640	1.079	90-16	1.862
20	0.491	0.349	0.080	0.457	0.567		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.759	1.031	0.165	0.156	0.160	180-7	0.415
2	0.458	0.591	0.292	0.239	0.115	191-1	0.493
3	0.527	0.666	0.413	0.466	0.143	202-6	0.959
4	0.272	0.561	0.471	0.887	0.235	213-1	0.844
5	0.225	0.616	0.855	0.979	0.297	225-6	1.288
6	0.323	0.959	(1.288)	0.597	0.258	236-1	0.680
7	0.415	0.771	0.807	0.336	0.255	247-6	0.597
8	0.347	0.405	0.419	0.300	0.438	258-1	0.495
9	0.413	0.331	0.224	0.388	0.627	270-6	0.258
10	0.373	0.344	0.312	0.410	0.503		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.370	0.353	0.120	0.061	0.089	180-17	0.665
12	0.642	0.556	0.193	0.165	0.150	191-11	0.896
13	0.468	0.433	0.222	0.316	0.339	202-16	0.492
14	0.306	0.402	0.490	0.547	0.709	213-11	0.490
15	0.104	0.324	0.362▲	0.976	1.282	225-16	0.289
16	0.352	0.492	0.289	1.278	1.675	236-11	0.627
17	0.665	0.763	0.240	1.056	(1.886)	247-16	1.278
18	1.231	0.826	0.146	0.832	1.849	258-11	1.652
19	0.831	0.553	0.077	0.616	1.019	270-16	1.675
20	0.564	0.357	0.063	0.379	0.614		0.0

T-4, F2Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.530	0.376	0.966	0.806	0.513	0-5	0.534
2	0.483	0.271▲	0.881	0.904	0.536	11-1	0.375
3	0.521	0.233	0.677	1.079	0.466	22-6	0.319
4	0.550	0.271	0.780	1.078	0.471	33-1	0.647
5	0.534	0.267	0.885	0.906	0.477	45-6	0.981
6	0.222	0.319	0.981	0.375	0.478	56-1	(1.237)
7	0.083	0.273	0.756	0.181	0.378	67-4	1.078
8	0.123	0.299	0.446	0.145	0.322	78-1	0.805
9	0.162	0.251	0.357	0.152	0.254	90-1	0.513
10	0.172	0.249	0.262	0.172	0.220		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.032	0.333	(0.656)	0.537	0.535	180-5	0.078
2	0.028	0.205	0.604	0.555	0.510	191-1	0.059
3	0.058	0.182	0.515	0.528	0.418	202-6	0.132
4	0.075	0.151	0.411	0.401	0.323	213-1	0.294
5	0.078	0.152	0.441▲	0.319	0.333	225-6	0.383
6	0.099	0.132	0.383	0.226	0.281	236-1	0.427
7	0.123	0.102	0.251	0.262	0.232	247-4	0.401
8	0.110	0.105	0.109	0.238	0.175	258-1	0.444
9	0.104	0.089	0.107	0.188	0.147	270-1	0.535
10	0.097	0.078	0.104	0.143	0.139		0.0

T-4, F2Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.225	0.233	0.652	0.593	0.755	0-15	0.251
12	0.164	0.096	0.450	0.441	0.975	11-11	0.459
13	0.243	0.096	0.529	0.403	1.238	22-16	0.642
14	0.290	0.198	0.360	0.435	(1.288)	33-11	0.846
15	0.251	0.428	0.521	0.309	1.055	45-16	0.669
16	0.162	0.642	0.669	0.167	0.779	56-11	0.350
17	0.164	0.608	0.971	0.235	0.602	67-16	0.435
18	0.152	0.460	0.645	0.253	0.480	78-11	0.761
19	0.147	0.379	0.463	0.241	0.384	90-11	0.755
20	0.137	0.282	0.327	0.191	0.276		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.091	0.281	0.454	0.517	0.725	180-15	0.160
12	0.054	0.181▲	0.277	0.502	0.757	191-11	0.106
13	0.044	0.095	0.246	0.509	(0.928)	202-16	0.111
14	0.113	0.058	0.240	0.526	0.892	213-11	0.093
15	0.160	0.055	0.241	0.603	0.725	225-16	0.141
16	0.196	0.111	0.141	0.544	0.545	236-11	0.302
17	0.158	0.116	0.083	0.434	0.403	247-16	0.526
18	0.117	0.071	0.125	0.321	0.274	258-11	0.706
19	0.102	0.025	0.110	0.213	0.182	270-11	0.725
20	0.076	0.011	0.083	0.161	0.131		0.0

T-6, F2Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.499	0.425	(1.048)	0.846	0.544	0-5	0.346
2	0.574	0.372	0.849	0.884	0.517	11-1	0.221
3	0.452	0.381	0.956	0.887	0.497	22-6	0.331
4	0.400	0.340	0.937	0.856	0.493	33-1	0.629
5	0.346	0.297	0.947	0.758	0.474	45-6	0.870
6	0.275	0.331	0.870	0.646	0.434	56-1	0.998
7	0.190	0.329	0.801	0.430	0.384	67-4	0.856
8	0.089	0.280	0.569	0.244	0.321	78-1	0.678
9	0.057	0.260	0.432	0.172	0.245	90-1	0.544
10	0.196	0.281	0.346	0.200	0.222		0.0

T-6, F2Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.226	0.233	0.728	0.678	0.746	0-15	0.228
12	0.282	0.179	0.642	0.573	0.823	11-11	0.393
13	0.235	0.305	0.355	0.504	0.976	22-16	0.710
14	0.209	0.478▲	0.559	0.570	(1.087)	33-11	0.756
15	0.228	0.610	0.599	0.525	1.035	45-16	0.649
16	0.250	0.710	0.649	0.363	0.776	56-11	0.258
17	0.262	0.729	0.676	0.246	0.619	67-16	0.570
18	0.233	0.732	0.828	0.279	0.459	78-11	0.839
19	0.163	0.582	0.615	0.270	0.372	90-11	0.746
20	0.073	0.343	0.382	0.197	0.270		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.034	0.407	(0.730)	0.534	0.550	180-5	0.040
2	0.042	0.356	0.617	0.512	0.533	191-1	0.083
3	0.031	0.284	0.578	0.470	0.483	202 6	0.196
4	0.043	0.231	0.526	0.410	0.433	213-1	0.274
5	0.040	0.206	0.466	0.375	0.447	225-6	0.350
6	0.061	0.196	0.350	0.300	0.380	236-1	0.435
7	0.080	0.171	0.285	0.249	0.325	247-4	0.410
8	0.099	0.150	0.150	0.286	0.262	258-1	0.431
9	0.127	0.122	0.108	0.281	0.236	270-1	0.550
10	0.115	0.102	0.125	0.214	0.214		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.110	0.214	0.552	0.538	0.746▲	180-15	0.187
12	0.078	0.101	0.441	0.501	0.758	191-11	0.216
13	0.154	0.052	0.237	0.583	0.874	202-16	0.189
14	0.163	0.095	0.184	0.676	(0.980)	213-11	0.132
15	0.187	0.162	0.180	0.717	0.867	225-16	0.172
16	0.186	0.189	0.172	0.726	0.683	236-11	0.409
17	0.204	0.181	0.174	0.588	0.510	247-16	0.676
18	0.188	0.192	0.160	0.563	0.367	258-11	0.690
19	0.146	0.139	0.143	0.367	0.274	270-11	0.555
20	0.050	0.043	0.102	0.247	0.219		0.0

T-7, F22,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.433	0.702	(1.486)	0.637	0.417	0-5	0.246
2	0.433	0.786	0.724	0.656	0.406	11-1	0.166
3	0.249	0.211	0.328	0.664	0.364	22-6	0.251
4	0.220	0.237	0.504	0.642	0.370	33-1	0.434
5	0.246	0.277	0.605	0.546	0.287	45-6	0.592
6	0.158	0.251	0.597	0.452	0.219	56-1	0.633
7	0.045	0.207	0.525	0.211	0.182	67-4	0.642
8	0.052	0.196	0.264	0.070	0.136	78-1	0.451
9	0.115	0.159	0.207	0.053	0.117	90-1	0.417
10	0.104	0.147	0.143	0.084	0.093		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.014	0.710	(1.160)	0.496	0.429	180-5	0.051
2	0.035	0.417	0.437	0.492	0.373	191-1	0.129
3	0.042	0.150	0.337	0.455	0.376	202-6	0.233
4	0.041	0.146	0.391	0.491	0.366	213-1	0.335
5	0.051	0.233	0.469	0.352	0.298	225-6	0.389
6	0.074	0.233	0.389	0.306	0.205	236-1	0.395
7	0.096	0.199	0.289	0.154	0.176	247-4	0.441
8	0.098	0.115	0.107	0.133	0.135	258-1	0.327
9	0.081	0.090	0.070	0.121	0.124	270-1	0.429
10	0.067	0.069	0.061	0.105	0.090		0.0

T-7, F22,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.259	0.306	0.458	0.404	0.467	0-15	0.394
12	0.335	0.352	0.596	0.395	0.601	11-11	0.420
13	0.437	0.328▲	0.513	0.267	0.653	22-16	0.545
14	0.466	0.294	0.304	0.120	0.712▲	33-11	0.559
15	0.394	0.433	0.415	0.188▲	(0.723)	45-16	0.502
16	0.367	0.545	0.502	0.210	0.627	56-11	0.269
17	0.126	0.449	0.438	0.174	0.488	67-14	0.120
18	0.161	0.334	0.361	0.166	0.360	78-11	0.518
19	0.176	0.281	0.283	0.161	0.244	90-11	0.467
20	0.140	0.209	0.217	0.126	0.175		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.012	0.189	0.338	0.404	0.466	180-15	0.207
12	0.113	0.188▲	0.483	0.396	0.570	191-11	0.180
13	0.167	0.195	0.429	0.363	0.653	202-16	0.152
14	0.199	0.094	0.260	0.330	(0.712)	213-11	0.129
15	0.207	0.113	0.075	0.408	0.707	225-16	0.066
16	0.221	0.152	0.066	0.453	0.599	236-11	0.206
17	0.140	0.164	0.065	0.399	0.461	247-14	0.330
18	0.125	0.101	0.088	0.317	0.333	258-11	0.656
19	0.102	0.069	0.091	0.239	0.242	270-11	0.466
20	0.076	0.049	0.072	0.160	0.172		0.0

T-8, F22,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.091	0.652	(1.377)	0.570	0.451	0-7	0.288
2	0.147	0.255	0.624	0.548	0.449	11-1	0.188
3	0.216	0.251	0.493	0.547	0.405	22-6	0.108
4	0.243	0.171	0.410	0.506	0.340	33-1	0.131
5	0.284	0.146	0.278	0.363	0.302	45-6	0.183
6	0.301	0.108	0.183	0.242	0.220	56-1	0.224
7	0.288	0.079	0.149	0.134	0.180	67-6	0.242
8	0.130	0.099	0.119	0.081	0.088	78-1	0.234
9	0.091	0.124	0.144	0.113	0.101	90-6	0.220
10	0.117	0.129	0.139	0.114	0.092		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.120	0.693	(1.107)	0.467	0.476	180-7	0.091
2	0.089	0.246	0.475	0.434	0.460	191-1	0.101
3	0.069	0.264	0.419	0.402	0.410	202-6	0.121
4	0.065	0.178	0.351	0.301	0.353	213-1	0.162
5	0.058	0.148	0.267	0.200	0.311	225-6	0.171
6	0.072	0.121	0.171	0.128	0.278	236-1	0.147
7	0.091	0.097	0.097	0.096	0.235	247-6	0.128
8	0.082	0.053	0.070	0.114	0.110	258-1	0.169
9	0.030	0.028	0.059	0.103	0.099	270-6	0.278
10	0.008	0.024	0.062	0.084	0.091		0.0

T-8, F22,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.205	0.277	0.456	0.506	0.428	0-17	0.157
12	0.185	0.406	(0.792)	0.480	0.437	11-11	0.209
13	0.138	0.209	0.457	0.304	0.433	22-16	0.380
14	0.123	0.079	0.206	0.267	0.409	33-11	0.417
15	0.158	0.365	0.383	0.181	0.483	45-16	0.398
16	0.156	0.380	0.398	0.108	0.508	56-11	0.279
17	0.157	0.316	0.332	0.046	0.507	67-16	0.108
18	0.088	0.228	0.248	0.059	0.267	78-11	0.214
19	0.063	0.148	0.178	0.056	0.125	90-16	0.508
20	0.025	0.161	0.144	0.047	0.091		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.113	0.157	0.286	0.434	0.409	180-17	0.091
12	0.024	0.334	(0.640)	0.461	0.402	191-11	0.085
13	0.065	0.232	0.409	0.302	0.402	202-16	0.063
14	0.074	0.139	0.266	0.311	0.368	213-11	0.044
15	0.050	0.034	0.089	0.375	0.422	225-16	0.097
16	0.044	0.063	0.097	0.433	0.447	236-11	0.260
17	0.091	0.069	0.126	0.385	0.459	247-16	0.433
18	0.078	0.058	0.099	0.256	0.317	258-11	0.494
19	0.049	0.040	0.075	0.125	0.142	270-16	0.447
20	0.005	0.020	0.060	0.095	0.061		0.0

T-15, F2Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.250	0.927	(1.485)	0.573	0.557	0-7	0.322
2	0.279	0.430	1.015	0.567	0.553	11-1	0.225
3	0.243	0.246	0.471	0.557	0.496	22-6	0.184
4	0.256	0.174	0.361	0.533	0.397	33-1	0.061
5	0.311	0.199	0.317	0.407	0.350	45-6	0.232
6	0.342	0.184	0.232	0.268	0.278	56-1	0.232
7	0.322	0.099	0.166	0.170	0.227	67-6	0.268
8	0.160	0.048	0.130	0.078	0.100	78-1	0.290
9	0.074	0.105	0.120	0.116	0.091	90-6	0.278
10	0.117	0.135	0.155	0.121	0.103		0.0

T-15, F2Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.133	0.313	0.661	0.690	0.333	0-17	0.211
12	0.257	0.433	0.563	(0.738)	0.449	11-11	0.198
13	0.246▲	0.349	0.655	0.407	0.442	22-16	0.223
14	0.232	0.287	0.536	0.311	0.412	33-11	0.372
15	0.203	0.144	0.262	0.188	0.450	45-16	0.312
16	0.205	0.223	0.312	0.146	0.457	56-11	0.288
17	0.211	0.291	0.380	0.137	0.427	67-16	0.146
18	0.212	0.300	0.363	0.099	0.309	78-11	0.268
19	0.093	0.183	0.215	0.104	0.183	90-16	0.457
20	0.042	0.090	0.107	0.070	0.055		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.079	0.747	(1.052)	0.447	0.521	180-7	0.048
2	0.065	0.374	0.581	0.463	0.517	191-1	0.099
3	0.045	0.346	0.539	0.442	0.462	202-6	0.216
4	0.033	0.188	0.355	0.397	0.417	213-1	0.191
5	0.008	0.159	0.362	0.228	0.356	225-6	0.326
6	0.012	0.216	0.326	0.128	0.324	236-1	0.144
7	0.045	0.161	0.186	0.109	0.274	247-6	0.128
8	0.082	0.107	0.091	0.135	0.114	258-1	0.180
9	0.056	0.063	0.093	0.122	0.127	270-6	0.324
10	0.030	0.053	0.095	0.135	0.143		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.136	0.268	0.493	0.656	0.440	180-17	0.088
12	0.057	0.396	(0.698)	0.533	0.447	191-11	0.111
13	0.021	0.244	0.329	0.435	0.470	202-16	0.066
14	0.052	0.242	0.500	0.414	0.455	213-11	0.055
15	0.029	0.167	0.362▲	0.483▲	0.517	225-16	0.184
16	0.047	0.066	0.184	0.577	0.565	236-11	0.305
17	0.085	0.088	0.142	0.458	0.564	247-16	0.577
18	0.139	0.093	0.110	0.335	0.441	258-11	0.619
19	0.068	0.029	0.105	0.232	0.213	270-16	0.565
20	0.023	0.005	0.065	0.129	0.100		0.0

T-4, H2X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PBI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.361	0.921	0.515	0.946	1.419	0-5	1.314
2	1.162	0.897	0.378	1.178	1.786	11-1	1.101
3	1.206	0.950	0.412	1.740	1.846	22-6	0.898
4	1.363	1.106	0.576	2.155	1.743	33-1	0.567
5	1.314	1.093	0.818	(2.262)	1.406	45-6	1.004
6	0.861	0.898	1.004	1.594	0.896	56-1	1.828
7	0.162	0.401	1.065	1.346	0.439	67-4	2.155
8	0.025	0.341▲	1.016	1.155	0.184	78-1	1.887
9	0.104	0.397	0.992	1.016	0.109	90-1	1.419
10	0.150	0.404▲	0.831	0.825	0.189		0.0

T-4, H2X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PBI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.590	0.607	0.864	0.567	0.767	0-15	0.131
12	0.282	0.418	0.699	0.471	0.720	11-11	0.524
13	0.294	0.301	0.698	1.014	0.508	22-16	0.895
14	0.283	0.401	0.926	1.247	0.270	33-11	1.658
15	0.199▲	0.608	1.460	1.674	0.222	45-16	1.518
16	0.238	0.895	1.918	2.123	0.261	56-11	1.834
17	0.104	0.728	(2.296)	1.852	0.386	67-16	1.247
18	0.029	0.630	1.756	1.512	0.529	78-11	0.637
19	0.163	0.612	1.296	1.216	0.582	90-11	0.767
20	0.212	0.571▲	1.034	1.033	0.513		0.0

GAGE	180	PBI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.335	0.994	0.574	1.028	1.522	180-5	1.368
2	1.153	0.899	0.359	1.190	1.831	191-1	1.200
3	1.246	0.962	0.371	1.490▲	1.865	202-6	0.951
4	1.359	1.005	0.469	1.870	1.692	213-1	0.636
5	1.368	1.104	0.818	(2.322)	1.342	225-6	1.021
6	0.882	0.951	1.021	1.710	0.839	236-1	1.730
7	0.198	0.414	1.122	1.453	0.410	247-4	1.870
8	0.107	0.309	1.045	1.124	0.140	258-1	1.869
9	0.134	0.373	0.965	0.937	0.119	270-1	1.522
10	0.138	0.377	0.816	0.775	0.210		0.0

GAGE	180	PBI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.684	0.657	0.753	0.592	0.751	180-15	0.097
12	0.383	0.476	0.647	0.534	0.711	191-11	0.436
13	0.223	0.372	0.655	0.869▲	0.432	202-16	1.049
14	0.079	0.479	0.968	1.350	0.266	213-11	1.591
15	0.097	0.746	1.506	1.814	0.209	225-16	2.108
16	0.108	1.049	(2.108)	1.931	0.264	236-11	1.843
17	0.178	0.651	1.955	1.721	0.416	247-16	1.350
18	0.101	0.558	1.609	1.429	0.553	258-11	0.625
19	0.138	0.536	1.222	1.119	0.653	270-11	0.791
20	0.191	0.500	0.983	0.960	0.638		0.0

T-6, M2X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.351	0.874	0.571	1.279	1.519	0-5	1.149
2	1.539	0.939	0.547	1.515	1.850	11-1	C.864
3	1.430	C.962	0.783	1.734	2.103	22-6	C.649
4	1.236	C.820	1.074	1.954	2.031	33-1	C.909
5	1.149	0.640	1.277	(2.121)	1.555	45-6	1.378
6	1.019	0.649	1.378	2.115	1.101	56-1	2.074
7	0.841	0.645	1.486	2.038	0.685	67-4	1.954
8	0.620	0.512	1.276	1.659	0.279	78-1	1.884
9	C.211	C.518	1.299	1.176	0.083	90-1	1.519
10	C.156	0.666	1.143	0.915	0.142		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.393	1.077	0.538	1.229	1.525	180-5	1.194
2	1.598	1.160	0.502	1.493	1.948	191-1	C.977
3	1.463	1.126	0.729	1.743	2.172	202-6	C.713
4	1.271	C.985	0.964	1.933	(2.197)	213-1	C.801
5	1.194	0.824	1.169	2.025	1.794	225-6	1.255
6	1.045	C.713	1.255	2.047	1.145	236-1	1.887
7	0.877	0.585	1.216	2.005	0.621	247-4	1.933
8	0.613	0.499	1.099	1.839	0.171	258-1	1.953
9	0.058	0.459	1.241	1.273	0.071	270-1	1.525
10	0.116	0.558	1.073	0.964	0.192		0.0

T-6, M2X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.583	0.550	0.928	0.552	C.920	0-15	0.217
12	0.197	0.641	0.877	0.571	0.965	11-11	C.403
13	0.087	0.664	1.202	0.638	0.747	22-16	1.269
14	0.165	1.027	1.583	0.875	0.409	33-11	1.625
15	0.217	1.042	1.722	1.047	0.166	45-16	2.022
16	0.184	1.269	2.022	1.450	0.317	56-11	1.635
17	0.177	1.332	2.131	1.793	0.445	67-14	0.875
18	0.168	1.268	(2.244)	1.982	0.535	78-11	0.669
19	0.159	1.079	1.868	1.637	0.594	90-11	C.520
20	0.086	0.801	1.332	1.116	0.620		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.756	0.568	0.912	0.595	1.055	180-15	0.174
12	0.363	0.631	0.785	0.478	0.941	191-11	0.441
13	0.050	0.675	1.235	0.784	0.775	202-16	0.589
14	0.116	0.719	1.487	0.963	0.536	213-11	1.637
15	0.174	0.888	1.740	1.191	0.142	225-16	1.525
16	0.170	0.989	1.925	1.549	0.233	236-11	1.704
17	0.165	1.001	2.074	2.003	0.487	247-14	0.963
18	0.156	0.896	1.909	(2.204)	0.642	258-11	0.814
19	0.142	0.752	1.643	1.595	C.703	270-11	0.025
20	0.148	0.620	1.252	1.201	0.705		0.0

T-7, B2K, NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.433	0.961	1.050	0.737	0.936	0-5	1.107
2	(1.479)	1.302	0.590	0.762	1.154	11-1	0.892
3	1.031	0.727	0.316	0.836	1.135	22-6	0.703
4	0.935	0.800	0.447	1.081	1.245	33-1	0.723
5	1.107	0.862	0.794	1.154	1.114	45-6	0.900
6	0.912	0.703	0.900	1.177	0.928	56-1	1.207
7	0.634	0.516	0.972	0.959	0.558	67-4	1.081
8	0.324	0.394	0.693	0.669	0.288	78-1	1.242
9	0.095	0.347	0.648	0.518	0.106	90-1	0.936
10	0.035	0.368	0.521	0.369	0.058		0.0

T-7, B2K, NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.696	0.870	0.691	0.358	0.286	0-15	0.235
12	0.623▲	0.587	0.654	0.324	0.340	11-11	0.701
13	0.525	0.460▲	0.463	0.715▲	0.312	22-16	1.068
14	0.472	0.664	0.727	1.052	0.288	33-11	1.196
15	0.235	0.827	1.147	1.176	0.201	45-16	1.281
16	0.150	1.068	1.281	1.148	0.009	56-11	(1.386)
17	0.178	0.759	1.354	1.019	0.217	67-14	1.052
18	0.020	0.681	1.222	0.892	0.345	78-11	0.551
19	0.204	0.690	1.021	0.773	0.418	90-11	0.286
20	0.230	0.523	0.838	0.624	0.377		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	(1.737)	1.343	0.948	0.710	0.952	180-5	1.127
2	1.392	0.911	0.533	0.813	1.034	191-1	0.903
3	1.062	0.693	0.355	0.886	1.171	202-6	0.721
4	0.952	0.746	0.474	1.158	1.228	213-1	0.740
5	1.127	0.845	0.886	1.255	1.124	225-6	1.000
6	0.938	0.721	1.000	1.209	0.848	236-1	1.246
7	0.636	0.578	1.105	0.900	0.522	247-4	1.158
8	0.254	0.404	0.696	0.636	0.274	258-1	1.271
9	0.054	0.403	0.633	0.474	0.122	270-1	0.952
10	0.048	0.413	0.558	0.416	0.029		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.777	0.713	0.741	0.363	0.278	180-15	0.233
12	0.598	0.534	0.657	0.316	0.339	191-11	0.690
13	0.516	0.504	0.457	0.573	0.326	202-16	1.027
14	0.460	0.645	0.701	1.022▲	0.259	213-11	1.227
15	0.233	0.822	1.153	1.160	0.179	225-16	1.340
16	0.105	1.027	1.340	1.082	0.016	236-11	1.343
17	0.229	0.796	(1.368)	0.980	0.226	247-14	1.243
18	0.012	0.733	1.216	0.868	0.336	258-11	0.526
19	0.217	0.663	1.001	0.762	0.407	270-11	0.278
20	0.281	0.593	0.803	0.577	0.381		0.0

T-8, M2I,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.077	0.996	0.981	0.620	0.658	0-7	1.113
2	0.785	0.701	0.638	0.576	0.781	11-1	0.937
3	0.911	0.836	0.419	0.557	0.993	22-6	0.701
4	0.949	0.878	0.294▲	0.629	1.231	33-1	0.396
5	1.048	0.989	0.418	0.723	(1.451)	45-6	0.256
6	1.104	0.701	0.256	0.551	1.183	56-1	0.342
7	1.113	0.272	0.282	0.360	0.955	67-6	0.551
8	0.636	0.152	0.401	0.444	0.189	78-1	0.847
9	0.203	0.274	0.456	0.468	0.365	90-6	1.183
10	0.353	0.366	0.549	0.456	0.407		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.967	0.942	0.999	0.591	0.663	180-7	1.101
2	0.800	0.713	0.679	0.646	0.803	191-1	0.964
3	0.913	0.847	0.460	0.584	1.003	202-6	0.784
4	0.953	0.911	0.418	0.672	1.265	213-1	0.473
5	1.062	1.010	0.433	0.857	(1.404)	225-6	0.219
6	1.190	0.784	0.215	0.659	1.302	236-1	0.361
7	1.101	0.329	0.270	0.486	1.145	247-6	0.659
8	0.559	0.146	0.395	0.397	0.294	258-1	0.960
9	0.193	0.303	0.427	0.439	0.237	270-6	1.302
10	0.358	0.376	0.506	0.494	0.437		0.0

T-8, M2I,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.863	0.823	0.932	0.510	0.243	0-17	0.225
12	0.577	0.546	0.745	0.504	0.189	11-11	0.280
13	0.579	0.518	0.558	0.445	0.214	22-16	0.902
14	0.576	0.571	0.624	0.884	0.422	33-11	1.212
15	0.623	0.944	1.388	1.678	0.544	45-16	1.513
16	0.359	0.902	1.513	(1.710)	0.593	56-11	1.688
17	0.225	0.715	1.339	1.398	0.516	67-16	1.710
18	0.207	0.495	1.005	0.931	0.325	78-11	1.352
19	0.162	0.317	0.693	0.602	0.224	90-16	0.593
20	0.116	0.457	0.663	0.561	0.139		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.721	0.694	0.811	0.464	0.213	180-17	0.329
12	0.571	0.552	0.759	0.445	0.143	191-11	0.232
13	0.588	0.517	0.609	0.390	0.194	202-16	0.820
14	0.597	0.566	0.541	0.787	0.294	213-11	1.055
15	0.638	0.659	1.296	1.611	0.487	225-16	1.504
16	0.285	0.820	1.504	1.674	0.608	236-11	(1.824)
17	0.329	0.622	1.493	1.353	0.683	247-16	1.674
18	0.248	0.482	1.078	1.081	0.372	258-11	1.333
19	0.135	0.362	0.690	0.666	0.210	270-16	0.608
20	0.073	0.324	0.526	0.458	0.086		0.0

T-15, M2I,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.037	0.928	1.076	0.626	0.606	0-7	1.253
2	1.022	0.789	0.771	0.573	0.796	11-1	1.001
3	0.907	0.636	0.256	0.627	1.025	22-6	0.953
4	0.905	0.684	0.274	0.809	1.479	33-1	0.929
5	1.024	0.816▲	0.344	1.070	(1.780)	45-6	0.367
6	1.168	0.953	0.367	0.828	1.564	56-1	0.828
7	1.253	0.710	0.277	0.656	1.269	67-6	0.828
8	0.806	0.231	0.329	0.470	0.415	78-1	1.187
9	0.035	0.284	0.490	0.482	0.318	90-6	1.564
10	0.277	0.398	0.571	0.578	0.498		0.0

T-15, M2I,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.862	0.813	0.859	0.425	0.198	0-17	0.389
12	0.777	0.753	0.809	0.686	0.172	11-11	0.443
13	0.644▲	0.502	0.713	0.510	0.163	22-16	0.699
14	0.508	0.410	0.554	0.719	0.364	33-11	1.261
15	0.605	0.492	0.675	1.458	0.597	45-16	1.372
16	0.463	0.699	1.372	1.794	0.703	56-11	(1.979)
17	0.389	0.874	1.660	1.667	0.698	67-16	1.794
18	0.299	0.896	1.630	1.231	0.356	78-11	1.057
19	0.086	0.598	0.969	0.751	0.232	90-16	0.703
20	0.068	0.372	0.537	0.528	0.120		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.977	0.860	0.811	0.612	0.591	180-7	1.368
2	0.982	0.835	0.810	0.598	0.785	191-1	1.137
3	1.135	0.803	0.803	0.585	1.011	202-6	1.078
4	0.932	0.713	0.237	0.792	1.441	213-1	0.353
5	0.987	1.354	0.333	0.958	(1.658)	225-6	0.365
6	1.158	1.078	0.365	0.752	1.549	236-1	0.531
7	1.368	0.784	0.274	0.652	1.422	247-6	0.752
8	0.900	0.206	0.374	0.515	0.380	258-1	1.231
9	0.048	0.267	0.476	0.463	0.208	270-6	1.549
10	0.267	0.411	0.598	0.566	0.509		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.755	0.784	0.969	0.440	0.226	180-17	0.385
12	0.782	0.727	0.887	0.484	0.157	191-11	0.404
13	0.664	0.597	0.638	0.486	0.176	202-16	0.705
14	0.435	0.418	0.576	0.711	0.353▲	213-11	1.347
15	0.525	0.493	0.656	1.487	0.546	225-16	1.517
16	0.547	0.705	1.517	1.745	0.657	236-11	(1.979)
17	0.385	0.886	1.685	1.727▲	0.686	247-16	1.745
18	0.367	0.787	1.479	1.263	0.341	258-11	0.980
19	0.071	0.591	0.918	0.867	0.208	270-16	0.657
20	0.073	0.411	0.594	0.516	0.119		0.0

T-4,-H2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.286	0.350	0.818	0.688	0.500	0-5	0.312
2	0.275	0.235	0.744	0.726	0.459	11-1	0.219
3	0.309	0.181	0.563	0.792	0.350	22-6	0.243
4	0.355	0.204	0.632	0.730	0.375	33-1	0.534
5	0.312	0.199	0.703	0.576	0.354	45-6	0.741
6	0.099	0.243	0.741	0.166	0.363	56-1	(0.911)
7	0.074	0.205	0.525	0.023	0.343	67-4	0.730
8	0.106	0.201	0.265	0.110	0.291	78-1	0.614
9	0.125	0.166	0.187	0.138	0.221	90-1	0.500
10	0.131	0.169	0.169	0.150	0.201		0.0

T-4,-H2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.095	0.225	0.550	0.535	0.775	0-15	0.206
12	0.081	0.091	0.321	0.445	0.910	11-11	0.294
13	0.153	0.067	0.423	0.415	1.188	22-16	0.405
14	0.205	0.106	0.305	0.459	(1.231)	33-11	0.510
15	0.206	0.263	0.312	0.392	0.983	45-16	0.361
16	0.107	0.405	0.361	0.266	0.768	56-11	0.222
17	0.117	0.399	0.554	0.235	0.548	67-16	0.459
18	0.114	0.295	0.358	0.212	0.416	78-11	0.717
19	0.117	0.233	0.242	0.181	0.320	90-11	0.705
20	0.098	0.163	0.160	0.122	0.224		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.216	0.381	(0.825)	0.710	0.457	180-5	0.307
2	0.246	0.238	0.766	0.745	0.454	191-1	0.225
3	0.290	0.205	0.692	0.824▲	0.306	202-6	0.206
4	0.330	0.185	0.590	0.627	0.301	213-1	0.436
5	0.307	0.209	0.668	0.540	0.290	225-6	0.656
6	0.115	0.206	0.656	0.180	0.312	236-1	0.780
7	0.093	0.151	0.504	0.055	0.300	247-4	0.626
8	0.123	0.156	0.237	0.114	0.229	258-1	0.540
9	0.137	0.166	0.171	0.136	0.171	270-1	0.497
10	0.130	0.151	0.137	0.127	0.158		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.075	0.293	0.582	0.498	0.752	180-15	0.204
12	0.080	0.180	0.347	0.500	0.822	191-11	0.215
13	0.103	0.076	0.335	0.440	(1.054)	202-16	0.379
14	0.181	0.079	0.284	0.459	1.008	213-11	0.418
15	0.204	0.235	0.301	0.423	0.849	225-16	0.353
16	0.171	0.379	0.353	0.331	0.648	236-11	0.189
17	0.130	0.314	0.385	0.255	0.463	247-16	0.459
18	0.117	0.225	0.290	0.189	0.311	258-11	0.736
19	0.114	0.165	0.199	0.150	0.202	270-11	0.752
20	0.093	0.120	0.125	0.109	0.139		0.0

T-6,-M2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.274	0.499	(1.009)	0.800	0.602	0-5	0.176
2	0.328	0.412	0.816	0.798	0.520	11-1	0.142
3	0.276	0.359	0.896	0.774	0.436	22-6	0.322
4	0.214	0.308	0.861	0.715	0.463	33-1	0.565
5	0.176	0.304	0.833	0.612	0.410	45-6	0.729
6	0.127	0.322	0.729	0.495	0.419	56-1	0.770
7	0.070	0.301	0.634	0.258	0.405	67-4	0.715
8	0.014	0.252	0.402	0.071	0.344	78-1	0.584
9	0.119	0.205	0.242	0.168	0.265	90-1	0.602
10	0.174	0.215	0.201	0.196	0.238		0.0

T-6,-M2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.089	0.258	0.722	0.675	0.813	0-15	0.238
12	0.220	0.125	0.630	0.645	0.918	11-11	0.327
13	0.225	0.207	0.340	0.630	1.093	22-16	0.513
14	0.215	0.174▲	0.353	0.752	(1.216)	33-11	0.491
15	0.238	0.440	0.373	0.743	1.155	45-16	0.378
16	0.255	0.513	0.378	0.652	0.862	56-11	0.336
17	0.270	0.527	0.378	0.508	0.672	67-14	0.752
18	0.240	0.549	0.500	0.420	0.537	78-11	0.518
19	0.178	0.429	0.352	0.268	0.350	90-11	0.613
20	0.065	0.227	0.195	0.155	0.266		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.291	0.427	(1.021)	0.767	0.588	180-5	0.181
2	0.348	0.382	0.867	0.783	0.522	191-1	0.133
3	0.290	0.326	0.821	0.784	0.400	202-6	0.251
4	0.215	0.258	0.782	0.683	0.376	213-1	0.420
5	0.161▲	0.228	0.734	0.614	0.403	225-6	0.621
6	0.127	0.251	0.621	0.518	0.376	236-1	0.713
7	0.071	0.232	0.522	0.300	0.364	247-4	0.683
8	0.0	0.206	0.329	0.073	0.302	258-1	0.588
9	0.162	0.193	0.229	0.171	0.271	270-1	0.588
10	0.180	0.212	0.200	0.184	0.247		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.061	0.205	0.726	0.647	0.807▲	180-15	0.227
12	0.207	0.066	0.553	0.516	0.865	191-11	0.304
13	0.230	0.169	0.327	0.571	0.987	202-16	0.466
14	0.209	0.290	0.376	0.642	(1.115)	213-11	0.466
15	0.227	0.415	0.411	0.639	0.951	225-16	0.412
16	0.220	0.466	0.412	0.572	0.787	236-11	0.322
17	0.246	0.458	0.410	0.327	0.576	247-14	0.642
18	0.221	0.448	0.482	0.283	0.410	258-11	0.787
19	0.171	0.347	0.331	0.228	0.293	270-11	0.040
20	0.081	0.186	0.185	0.153	0.220		0.0

T-7,-B2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	C.243	0.683	(1.361)	0.595	0.429	0-5	0.111
2	0.234	0.768	0.676	0.608	0.410	11-1	0.119
3	0.126	0.177	0.341	0.598	0.364	22-6	C.251
4	0.104	0.202	0.476	0.570	0.370	33-1	C.410
5	C.111	0.263	0.553	0.469	0.276	45-6	0.521
6	C.053	C.251	0.521	0.387	0.217	56-1	0.522
7	0.025	0.218	0.439	0.176	0.181	67-4	0.570
8	0.079	0.171	0.191	0.055	0.138	78-1	0.393
9	0.110	0.125	0.126	0.063	0.131	90-1	C.429
10	0.090	.117	0.101	0.073	0.111		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	C.254	0.772	(1.450)	0.592	0.452	180-5	0.095
2	0.168	0.456	0.528	0.599	0.378	191-1	0.115
3	0.105	0.158	0.370	0.564	0.371	202-6	C.250
4	0.086	0.162	0.459	0.554	0.358	213-1	C.407
5	C.095	0.235	0.587	0.450	0.266	225-6	0.519
6	C.038	C.250	0.519	0.377	0.190	236-1	0.509
7	C.036	0.222	0.424	0.151	0.167	247-4	0.554
8	0.093	0.147	0.172	C.064	0.132	258-1	0.382
9	0.098	0.122	0.109	0.067	0.122	270-1	C.452
10	0.092	0.122	0.105	0.073	0.057		C.0

T-7,-M2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.113	0.236	0.393	0.395	0.470	0-15	0.296
12	0.266▲	0.258	0.531	0.407	0.628	11-11	0.312
13	0.294	0.280	0.461	0.311	0.680	22-16	0.365
14	0.326	0.178	0.278	0.233	0.754	33-11	C.361
15	0.296	0.279	0.237	0.281	(0.764)	45-16	0.293
16	0.294	0.365	0.293	0.332	0.665	56-11	0.114
17	C.119	0.327	0.236	0.282	0.522	67-14	0.233
18	0.144	C.239	0.188	0.225	0.383	78-11	0.609
19	0.139	0.191	0.145	0.170	0.263	90-11	0.470
20	0.106	0.139	0.108	0.119	C.183		0.C

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.157	C.239	0.410	0.411	0.460	180-15	0.314
12	0.269	0.288	0.560	0.397	0.558	191-11	0.275
13	0.320	0.272	0.468	0.353	0.647	202-16	0.326
14	0.346	0.187	0.295	0.210	(0.658)	213-11	C.347
15	0.314	0.265	0.238	0.293	0.654	225-16	0.279
16	0.309	0.326	0.279	0.318	0.563	236-11	0.104
17	0.147	0.289	0.218	0.271	0.483	247-14	0.210
18	0.148	C.220	0.167	0.202	0.327	258-11	0.613
19	0.138	0.163	0.130	0.147	0.233	270-11	0.460
20	0.116	0.130	0.092	0.095	C.156		0.C

T-8,-M2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.063	0.673	(1.289)	0.568	0.485	0-7	0.134
2	0.049	0.272	0.616	0.547	0.479	11-1	0.085
3	0.098	0.269	0.512	0.532	0.429	22-6	0.102
4	0.117	0.177	0.424	0.467	0.320	33-1	0.171
5	0.145	0.136	0.329	0.323	0.216	45-6	0.212
6	0.153	0.102	0.212	0.196	0.145	56-1	0.213
7	0.134	0.092	0.136	0.103	0.099	67-6	0.196
8	0.041	0.094	0.103	0.072	0.095	78-1	0.153
9	0.069	0.096	0.102	0.094	0.100	90-6	0.145
10	0.069	0.089	0.102	0.091	0.094		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.042	0.782	(1.369)	0.541	0.493	180-7	0.080
2	0.033	0.251	0.563	0.493	0.473	191-1	0.050
3	0.076	0.254	0.475	0.480	0.411	202-6	0.044
4	0.093	0.137	0.371	0.387	0.309	213-1	0.108
5	0.110	0.083	0.250	0.271	0.217	225-6	0.167
6	0.116	0.044	0.167	0.164	0.175	236-1	0.180
7	0.080	0.064	0.113	0.107	0.143	247-6	0.164
8	0.015	0.079	0.084	0.077	0.083	258-1	0.149
9	0.072	0.073	0.072	0.069	0.073	270-6	0.175
10	0.072	0.063	0.061	0.061	0.055		0.0

T-8,-M2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.072	0.242	0.398	0.491	0.456	0-17	0.130
12	0.092	0.396	(0.732)	0.548	0.475	11-11	0.161
13	0.045	0.219	0.450	0.354	0.476	22-16	0.241
14	0.032	0.060	0.233	0.300	0.437	33-11	0.237
15	0.060	0.225	0.179	0.134	0.537	45-16	0.174
16	0.099	0.241	0.174	0.152	0.576	56-11	0.038
17	0.130	0.208	0.135	0.212	0.572	67-16	0.152
18	0.084	0.157	0.109	0.119	0.334	78-11	0.407
19	0.059	0.105	0.080	0.058	0.140	90-16	0.576
20	0.031	0.092	0.049	0.052	0.111		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.011	0.168	0.348	0.487	0.437	180-17	0.139
12	0.085	0.379	(0.760)	0.502	0.428	191-11	0.131
13	0.046	0.223	0.481	0.320	0.424	202-16	0.153
14	0.031	0.086	0.254	0.275	0.385	213-11	0.161
15	0.060	0.115	0.120	0.170	0.398	225-16	0.138
16	0.106	0.153	0.138	0.208	0.418	236-11	0.044
17	0.133	0.134	0.108	0.208	0.425	247-16	0.208
18	0.101	0.098	0.075	0.119	0.294	258-11	0.342
19	0.062	0.065	0.050	0.058	0.117	270-16	0.418
20	0.016	0.031	0.020	0.028	0.053		0.0

T-15,-M2Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.105	0.922	(1.367)	0.553	0.574	0-7	0.165
2	C.144	C.439	0.962	0.552	0.576	11-1	C.096
3	C.127	C.239	0.436	0.529	0.513	22-6	0.129
4	0.137	C.151	0.381	0.484	0.400	33-1	C.120
5	0.176	0.122	0.339	C.330	0.281	45-6	0.273
6	0.192	0.129	0.273	0.204	0.215	56-1	C.214
7	0.165	0.062	0.186	0.115	0.166	67-6	C.204
8	C.C59	0.068	0.125	0.077	0.100	78-1	0.199
9	C.066	0.088	0.099	0.090	0.102	90-6	0.215
10	C.078	0.092	0.100	0.096	0.101		0.0

T-15,-M2Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.047	0.294	0.600	0.679	0.459▲	C-17	C.170
12	0.144	0.399	0.522	(0.726)	0.469	11-11	C.139
13	0.176	0.318	C.617	0.425	0.468	22-16	0.148
14	0.15C	C.281	0.526	0.343	0.450	33-11	0.222
15	0.115	0.119	0.276	0.270	0.505	45-16	0.152
16	0.139	0.148	0.152	0.237	0.522	56-11	0.097
17	0.170	0.203	0.181	0.186	0.480	67-16	C.237
18	0.164	0.223	0.172	0.131	0.382	78-11	C.440
19	0.08C	0.125	C.100	0.073	0.175	90-16	0.522
20	0.033	0.057	0.048	0.047	0.078		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.057	0.830	(1.318)	0.510	0.566	180-7	C.152
2	C.C75	C.382	0.693	0.530	0.559	191-1	C.081
3	C.127	0.340	0.616	0.518	0.485	202-6	0.135
4	0.111	C.156	0.374	0.480	0.396	213-1	0.144
5	C.136	0.116	0.349	0.308	0.275	225-6	0.311
6	0.155	0.135	0.311	0.179	0.230	236-1	0.185
7	0.152	0.064	0.190	0.082	0.190	247-6	C.179
8	0.040	0.081	0.110	0.088	0.091	258-1	C.183
9	C.C71	0.084	0.093	0.093	0.126	270-6	C.230
10	0.073	0.084	0.086	0.097	0.100		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.043	0.296	0.600	0.746	0.458	180-17	C.153
12	0.078	0.453	(0.835)	0.581	0.460	191-11	C.177
13	0.139	0.285	0.405	0.452	0.466	202-16	0.158
14	0.135	C.248	0.560	0.376	0.459	213-11	0.190
15	0.119	0.135	0.332	0.301	0.490	225-16	0.114
16	0.140	0.158	0.114	0.353	0.526	236-11	0.162
17	0.153	0.209	0.126	0.228	0.535	247-16	0.353
18	0.127▲	0.196	0.100	0.167	C.4CE	258-11	0.497
19	0.078	0.113	0.053▲	0.120	0.183	270-16	0.526
20	0.030	0.052	0.025	0.051	0.091		0.0

T-4,-H22,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.361	0.746	0.350	0.374	0.278	0-5	0.734
2	0.266	0.648	0.522	0.605	0.523	11-1	0.923
3	0.278	0.666	0.628	0.846	0.726	22-6	1.049
4	0.471	0.768	0.933	0.815	0.826	33-1	1.388
5	0.734	0.872	1.299	0.715	0.880	45-6	(1.405)
6	0.880	1.049	(1.405)	0.407	0.942	56-1	1.145
7	0.631	0.962	1.058	0.400	0.926	67-4	0.815
8	0.648	0.639	0.418	0.464	0.862	78-1	0.503
9	0.591	0.551	0.204	0.451	0.784	90-1	0.278
10	0.562	0.497	0.154	0.395	0.723		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.366	0.833	0.347	0.431	0.188	180-5	0.789
2	0.298	0.662	0.540	0.662	0.581	191-1	0.896
3	0.319	0.728	0.742	0.834	0.789	202-6	1.093
4	0.505	0.773	0.945	0.781	0.844	213-1	1.396
5	0.789	0.954	1.304▲	0.788	0.924	225-6	(1.402)
6	0.921	1.093	(1.402)	0.512	0.992	236-1	1.180
7	0.705	1.104	1.195	0.456	1.013	247-4	0.781
8	0.731	0.693	0.459	0.471	0.885	258-1	0.607
9	0.661	0.574	0.240	0.447	0.756	270-1	0.188
10	0.612	0.506	0.151	0.415	0.673		0.0

T-4,-H22,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.245	0.238	0.219	0.476	0.418	0-15	1.351
12	0.187	0.119	0.149	0.631	1.042	11-11	0.834
13	0.237	0.109	0.269	0.791	1.660	22-16	0.614
14	0.614	0.228	0.148	0.969	(1.974)	33-11	0.627
15	1.351	0.578	0.276	1.070	1.860	45-16	0.374
16	1.007	0.814	0.374	0.965	1.664	56-11	0.631
17	0.892	0.955	0.567	0.852	1.373	67-14	0.969
18	0.676	0.695	0.305	0.764	1.220	78-11	0.932
19	0.619	0.564	0.247	0.673	1.107	90-11	0.416
20	0.597	0.515	0.293	0.566	0.913		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.312	0.384	0.228	0.530	0.620	180-15	1.086
12	0.245	0.242	0.220	0.723	1.067	191-11	0.907
13	0.188	0.099	0.217	0.844	1.766	202-16	0.519
14	0.648	0.237	0.184	1.108	(2.013)	213-11	0.644
15	1.086	0.612	0.362	1.289	1.952	225-16	0.384
16	1.345	0.919	0.384	1.117	1.751	236-11	0.682
17	0.923	1.031	0.435	0.949	1.488	247-14	1.108
18	0.720	0.725	0.289	0.785	1.203	258-11	1.135
19	0.650	0.571	0.242	0.664	0.968	270-11	0.620
20	0.616	0.538	0.331	0.619	0.864		0.0

T-6,-H22,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.535	1.012	0.396	0.383	0.238	0-5	0.645
2	0.811	1.090	0.643	0.661	0.486	11-1	0.842
3	0.710	1.157	1.068	0.808	0.814	22-6	1.224
4	0.617	1.170	1.264	0.823	1.114	33-1	(1.388)
5	0.645	1.226	1.346	0.790	1.145	45-6	1.232
6	0.621	1.224	1.232	0.746	1.137	56-1	1.093
7	0.628	1.171	1.223	0.678	1.209	67-4	0.823
8	0.638	1.072	0.832	0.697	1.161	78-1	0.546
9	0.732	0.829	0.348	0.688	1.052	90-1	0.238
10	0.760	0.695	0.232	0.605	0.931		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.514	1.048	0.599	0.470	0.207	180-5	0.655
2	0.877	1.174	0.821	0.792	0.477	191-1	0.903
3	0.782	1.124	1.194	0.954	0.754	202-6	1.234
4	0.651	1.153	1.380	0.980	1.074	213-1	1.242
5	0.655	1.245	(1.427)	0.999	1.318	225-6	1.262
6	0.631	1.234	1.262	0.955	1.185	236-1	1.241
7	0.641	1.190	1.176	0.738	1.249	247-4	0.980
8	0.638	1.083	0.838	0.655	1.196	258-1	0.547
9	0.780	0.845	0.457	0.589	1.078	270-1	0.207
10	0.788	0.738	0.315	0.533	0.943		0.0

T-6,-H22,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.249	0.305	0.307	0.628	0.427	0-15	0.625
12	0.491	0.246	0.433	0.894	0.817	11-11	0.977
13	0.453	0.373	0.279	1.003	1.389	22-16	0.858
14	0.504	0.559▲	0.255	1.247	1.966	33-11	0.487
15	0.625	0.707	0.268	1.353	(2.175)	45-16	0.575
16	0.743	0.858	0.375	1.448	1.919	56-11	0.683
17	0.875	0.965	0.285	1.370	1.826	67-14	1.247
18	1.074	1.296	0.291	1.289	1.697	78-11	0.888
19	1.167	1.132	0.297	1.081	1.481	90-11	0.427
20	0.762	0.647	0.278	0.829	1.195		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.243	0.291	0.479	0.673	0.435▲	180-15	0.584
12	0.526	0.235	0.515	0.978	1.010	191-11	1.176
13	0.467	0.416	0.286	1.173	1.569	202-16	1.029
14	0.470	0.511	0.280	1.382	2.198	213-11	0.574
15	0.584	0.814	0.265	1.490	(2.250)	225-16	0.264
16	0.611	1.029	0.264	1.537	2.075	236-11	0.511
17	0.721	1.039	0.228	1.306	1.806	247-14	1.382
18	1.078	1.387	0.479	1.137	1.548	258-11	1.021
19	1.148	1.194	0.432	0.895	1.343	270-11	0.132
20	0.796	0.723	0.292	0.782	1.186		0.0

T-7,-M22,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.979	0.992	0.470▲	0.182	0.139	0-5	0.611
2	1.277	(1.407)	0.329	0.278	0.175	11-1	0.810
3	0.593	0.459	0.360	0.396	0.198	22-6	0.858
4	0.414	0.543	0.616	0.547	0.305	33-1	0.898
5	0.611	0.833	0.840	0.492	0.431	45-6	0.794
6	0.617	0.859	0.794	0.464	0.579	56-1	0.696
7	0.676	0.793	0.716	0.409	0.568	67-4	0.547
8	0.413	0.586	0.299	0.358	0.515	78-1	0 313
9	0.670	0.419	0.144	0.325	0.508	90-1	0.139
10	0.459	0.394	0.082	0.260	0.497		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.334	(1.425)	0.468	0.204	0.096	180-5	0.612
2	1.037	1.011	0.395	0.349	0.152	191-1	0.856
3	0.572	0.475	0.482	0.469	0.223	202-6	0.987
4	0.441	0.508	0.736	0.625	0.330	213-1	1.010
5	0.612	0.890	1.027	0.559	0.488	225-6	0.939
6	0.683	0.987	0.939	0.510	0.565	236-1	0.765
7	0.719	0.991	0.828	0.406	0.573	247-4	0.625
8	0.618	0.585	0.295	0.347	0.527	258-1	0.341
9	0.590	0.477	0.117	0.226	0.526	270-1	0.096
10	0.452	0.447	0.088	0.321	0.436		0.0

T-7,-M22,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.194	0.230	0.117	0.261	0.254	0-15	0.676
12	0.051▲	0.202	0.258	0.419	0.660	11-11	0.820
13	0.077	0.255▲	0.347	0.531▲	0.832	22-16	0.484
14	0.171	0.325	0.388	0.651	1.000	33-11	0.240
15	0.676	0.425	0.215	0.729	1.209	45-16	0.230
16	1.100	0.484	0.230	0.812	(1.251)	56-11	0.441
17	0.919	0.698	0.209	0.789	1.146	67-16	0.651
18	0.826	0.570	0.108	0.728	1.029	78-11	0.274
19	0.724	0.517	0.227	0.663	0.881	90-11	0.254
20	0.592	0.481	0.281	0.549	0.754		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.150	0.236	0.153	0.290	0.291	180-15	0.687
12	0.092	0.256	0.350	0.432	0.722	191-11	0.851
13	0.037	0.360	0.426	0.630	0.946	202-16	0.587
14	0.178	0.342	0.414	0.746▲	1.133	213-11	0.263
15	0.687	0.413	0.179	0.841	(1.312)	225-16	0.264
16	1.103	0.587	0.264	0.900	1.271	236-11	0.498
17	1.074	0.721	0.217	0.864	1.173	247-16	0.621
18	0.855	0.584	0.144	0.790	0.988	258-11	1.079
19	0.721	0.516	0.256	0.705	0.885	270-11	0.291
20	0.640	0.460	0.280	0.550	0.760		0.0

T-8,-M2Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.785	0.923	0.117	0.060	0.060	0-7	0.430
2	0.420	0.486	0.287	0.205	0.037	11-1	0.486
3	0.446	0.619	0.467	0.451	0.091	22-6	0.699
4	0.338	0.641	0.807	0.743	0.102	33-1	0.816
5	0.385	0.853	(1.175)	0.792	0.225	45-6	0.753
6	0.427	0.699	0.753	0.478	0.150	56-1	0.615
7	0.430	0.478	0.444	0.271	0.223	67-6	0.478
8	0.376	0.334	0.188	0.318	0.402	78-1	0.272
9	0.393	0.355	0.229	0.369	0.505	90-6	0.150
10	0.443	0.334	0.279	0.346	0.414		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.025	1.206	0.156	0.060	0.014	180-7	0.401
2	0.459	0.513	0.291	0.225	0.078	191-1	0.478
3	0.473	0.666	0.491	0.453	0.130	202-6	0.667
4	0.356	0.688	0.870	0.716	0.139	213-1	0.861
5	0.393	0.843	(1.267)	0.865	0.219	225-6	0.832
6	0.434	0.657	0.832	0.502	0.179	236-1	0.687
7	0.401	0.506	0.438	0.333	0.216	247-6	0.502
8	0.360	0.365	0.196	0.332	0.369	258-1	0.337
9	0.400	0.318	0.253	0.400	0.528	270-6	0.179
10	0.325	0.314	0.299	0.356	0.417		0.0

T-8,-M2Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.471	0.286	0.025	0.078	0.028	0-17	0.830
12	0.655	0.597	0.323	0.198	0.163	11-11	0.570
13	0.484	0.429	0.424	0.306	0.412	22-16	0.775
14	0.257	0.259	0.445	0.565	0.797	33-11	0.485
15	0.101	0.600	0.189	0.705	1.506	45-16	0.192
16	0.370	0.775	0.192	0.977	1.873	56-11	0.427
17	0.830	0.733	0.106	1.090	(2.006)	67-16	0.977
18	1.008	0.570	0.055	0.685	1.402	78-11	1.623
19	0.758	0.411	0.044	0.445	0.773	90-16	1.873
20	0.551	0.394	0.033	0.382	0.555		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.270	0.303	0.037	0.080	0.056	180-17	0.959
12	0.667	0.679	0.379	0.258	0.200	191-11	0.904
13	0.556	0.538	0.491	0.309	0.408	202-16	0.853
14	0.294	0.332	0.520	0.555	0.758	213-11	0.560
15	0.095	0.577	0.276	0.885	1.336	225-16	0.241
16	0.471	0.853	0.241	1.205	1.720	236-11	0.481
17	0.959	0.838	0.188	1.197	(1.828)	247-16	1.205
18	1.056	0.685	0.060	0.860	1.649	258-11	1.579
19	0.703	0.493	0.072	0.517	0.921	270-16	1.720
20	0.440	0.331	0.062	0.362	0.502		0.0

T-15,-B2Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.999	(1.364)	0.191	0.067	0.098	0-7	0.424
2	0.606	0.813	0.445	0.167	0.020	11-1	0.551
3	0.366	0.573	0.471	0.436	0.104	22-6	1.034
4	0.247	0.582	0.564	0.808	0.204	33-1	0.895
5	0.234	0.714	0.964	0.896	0.297	45-6	1.254
6	0.373	1.034	1.254	0.536	0.235	56-1	0.707
7	0.424	0.780	0.836	0.329	0.242	67-6	0.536
8	0.381	0.475	0.491	0.335	0.424	78-1	0.358
9	0.427	0.346	0.221	0.426	0.617	90-6	0.235
10	0.366	0.345	0.316	0.466	0.528		0.0

T-15,-B2Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.431	0.354	0.053	0.116	0.041	0-17	0.784
12	0.644	0.556	0.250	0.165	0.160	11-11	0.851
13	0.530	0.553	0.423	0.327	0.383	22-16	0.488
14	0.400	0.569	0.566	0.571	0.818	33-11	0.507
15	0.080	0.374	0.534	1.086	1.526	45-16	0.343
16	0.573	0.488	0.343	1.342	1.824	56-11	0.649
17	0.784	0.754	0.228	1.257	1.846	67-16	1.342
18	1.088	0.883	0.136	0.977	(1.890)	78-11	1.823
19	0.851	0.571	0.085	0.625	1.062	90-16	1.824
20	0.476	0.338	0.079	0.449	0.557		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.963	1.254	0.162	0.065	0.095	180-7	0.453
2	0.530	0.716	0.329	0.174	0.033	191-1	0.502
3	0.616	0.776	0.471	0.436	0.116	202-6	1.052
4	0.299	0.643	0.526	0.835	0.217	213-1	0.876
5	0.256	0.694	0.919	0.925	0.290	225-6	(1.322)
6	0.362	1.052	(1.322)	0.555	0.254	236-1	0.658
7	0.453	0.823	0.811	0.322	0.241	247-6	0.555
8	0.368	0.410	0.402	0.332	0.426	258-1	0.419
9	0.431	0.332	0.233	0.399	0.623	270-6	0.254
10	0.387	0.352	0.325	0.426	0.504		0.0

T-15,-B2Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.399	0.402	0.090	0.149	0.069	180-17	0.722
12	0.742	0.699	0.260	0.196	0.163	191-11	0.935
13	0.531	0.500	0.263	0.349	0.358	202-16	0.513
14	0.350	0.465	0.532	0.613	0.721	213-11	0.444
15	0.119	0.384	0.559	1.087	1.294	225-16	0.368
16	0.385	0.513	0.368	1.404	1.687	236-11	0.763
17	0.722	0.762	0.226	1.148	(1.893)	247-16	1.404
18	1.305	0.823	0.068	0.912	1.853	258-11	1.726
19	0.865	0.542	0.094	0.662	1.017	270-16	1.687
20	0.573	0.345	0.072	0.405	0.608		0.0

T-4, F3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	C.862	0.945	0.511	0.628	1.028	0-5	1.816
2	C.899	0.836	0.701	0.595	0.993	11-1	1.048
3	C.993	C.893	0.763	0.386	0.716	22-6	2.090
4	1.212	1.107	0.908	0.295	0.655	33-1	2.106
5	1.816	1.424	1.504	0.321	0.564	45-6	1.751
6	(2.191)	2.090	1.751	0.640	0.550	56-1	0.821
7	1.320	2.087	1.739	0.753	0.576	67-4	0.295
8	C.969	1.222	1.188	0.744	0.548	78-1	0.934
9	C.732	0.987	0.841	0.703	0.539	90-1	1.028
10	0.617	0.724	0.740	0.652	0.492		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	C.901	C.189	0.458	0.835	1.198	180-5	C.972
2	C.578	0.253	0.554	1.052	1.154	191-1	1.153
3	C.628	C.354	0.527	1.059▲	0.734	202-6	1.316
4	0.702	0.492	0.416	0.989	0.613	213-1	1.072
5	0.972	0.910	0.575	0.953	0.532	225-6	0.818
6	1.038	1.316	0.818	0.742	0.536	236-1	C.859
7	0.591	(1.376)	1.084	0.664	0.574	247-4	C.989
8	C.324	C.743	0.932	0.532	0.530	258-1	1.245
9	0.293	0.569	0.783	0.557	0.493	270-1	1.198
10	0.330	C.568	0.606	0.475	0.478		0.0

T-4, F3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.359	0.437	0.745	0.952	0.461	C-11	1.708
12	0.668	0.386	0.832	1.387	1.045	11-11	0.965
13	1.067	0.423	0.706	1.617	1.399	22-16	0.849
14	1.381	0.553	0.572	1.782	1.572	33-11	0.650
15	1.708	0.735	0.574	(1.991)	1.300	45-16	0.888
16	1.218	0.849	0.888	1.643	1.125	56-11	1.544
17	C.961	1.235	0.835	1.283	0.859	67-14	1.782
18	C.36C	C.4C8	0.256	0.947	0.723	78-11	1.621
19	0.24C	0.265	0.556	0.739	0.600	90-11	0.461
20	0.431	0.49C	0.535	0.582	0.499		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.539	0.141	0.520	0.413	0.437	180-15	C.424
12	0.685	0.163	0.800	0.747	0.845	191-11	0.407
13	0.798	0.241	0.692	1.002	1.351	202-16	C.430
14	0.712	0.285	0.596	0.865	(1.397)	213-11	0.558
15	0.424	0.282	0.559	0.894	1.268	225-16	0.862
16	0.603	0.430	0.862	0.727	1.039	236-11	1.025
17	0.486	0.606	0.773	0.509	0.86C	247-14	C.865
18	0.444	0.419	0.595	0.374	0.678	258-11	C.764
19	0.497	C.543	0.522	0.297	0.526	270-11	0.437
20	0.503	0.545	0.515	0.327	0.464		0.0

T-6, F3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.147	1.208	0.624	0.835	1.063	0-5	1.169
2	(1.577)	1.377	0.744	0.735	1.038	11-1	1.198
3	1.310	1.482	0.910	0.670	0.942	22-6	1.358
4	1.102	1.449	0.997	0.686	0.748	33-1	1.575
5	1.169	1.452	1.166	0.620	0.609	45-6	1.103
6	1.123	1.358	1.103	0.581	0.553	56-1	0.509
7	1.112	1.445	1.412	0.621	0.640	67-4	0.686
8	1.146	1.417	1.178	0.739	0.639	78-1	0.890
9	1.317	1.394	0.997	0.852	0.606	90-1	1.063
10	0.929	1.073	0.859	0.725	0.575		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.665	0.383	0.610	0.867	1.062	180-5	0.512
2	0.886	0.623	0.595	0.995	1.086	191-1	0.705
3	0.668	0.761	0.422	0.95	0.966	202-6	0.921
4	0.537	0.876	0.504	0.952	0.787	213-1	0.878
5	0.542	0.900	0.695	0.909	0.747	225-6	0.813
6	0.508	0.921	0.813	0.879	0.577	236-1	0.762
7	0.503	0.854	0.990	0.839	0.662	247-4	0.952
8	0.506	0.851	1.004	0.802	0.669	258-1	(1.169)
9	0.541	0.770	0.823	0.580	0.616	270-1	1.062
10	0.386	0.571	0.697	0.565	0.571		0.0

T-6, F3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.384	0.427	0.943	0.958	0.266	0-15	1.028
12	0.912	0.598	0.971	1.496	0.743	11-11	1.229
13	1.091	0.872	0.809	1.639	1.121	22-16	0.947
14	1.077	1.150	0.618	1.866	1.341	33-11	0.423
15	1.028	0.952	0.726	1.982	1.371	45-16	0.961
16	1.034	0.947	0.961	(2.095)	1.146	56-11	1.806
17	1.032	0.924	0.886	1.957	1.017	67-14	1.866
18	1.009	0.965	0.406	1.701	0.888	78-11	1.049
19	0.866	0.802	0.324	1.134	0.735	90-11	0.286
20	0.330	0.227	0.588	0.787	0.578		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.554	0.222	0.585	0.437	0.187	180-15	0.429
12	0.683	0.427	0.643	0.692	0.781	191-11	0.452
13	0.697	0.558	0.523	0.798	1.134	202-16	0.374
14	0.588	0.513	0.444	0.840	1.307	213-11	0.446
15	0.429	0.369	0.550	0.837	(1.332)	225-16	0.667
16	0.287	0.374	0.667	0.826	1.167	236-11	1.004
17	0.224	0.346	0.699	0.830	0.992	247-14	0.840
18	0.239	0.376	0.619	0.694	0.809	258-11	0.599
19	0.425	0.410	0.517	0.433	0.677	270-11	0.020
20	0.464	0.485	0.525	0.339	0.578		0.0

T-7, F3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.822	1.584	0.317	0.415	0.675	0-5	1.541
2	(2.444)	2.309	0.445	0.319	0.679	11-1	1.887
3	1.113	0.691	0.538	0.215	0.601	22-6	1.884
4	1.039	0.889	0.664	0.130	0.616	33-1	1.600
5	1.541	1.628	1.113	0.140	0.454	45-6	1.156
6	1.749	1.884	1.156	0.146	0.459	56-1	0.494
7	2.224	2.020	1.320	0.356	0.415	67-4	0.130
8	2.306	1.782	1.089	0.515	0.366	78-1	0.447
9	1.766	1.611	0.944	0.581	0.336	90-1	0.675
10	1.221	0.989	0.686	0.500	0.349		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.571	0.251	0.533	0.510	0.702	180-5	0.674
2	0.502	0.342	0.315	0.562	0.603	191-1	1.124
3	0.464	0.347	0.247	0.582	0.641	202-6	1.188
4	0.505	0.487	0.307	0.732	0.609	213-1	0.968
5	0.674	0.882	0.793	0.727	0.461	225-6	0.908
6	0.988	1.188	0.908	0.741	0.458	236-1	0.807
7	1.356	1.388	1.053	0.664	0.431	247-4	0.732
8	(1.471)	1.093	0.906	0.633	0.357	258-1	0.691
9	0.853	1.107	0.821	0.605	0.334	270-1	0.702
10	0.699	0.584	0.652	0.456	0.297		0.0

T-7, F3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.412	0.322	0.591	0.752	0.474	C-15	1.409
12	0.301	0.247	0.814	1.111	0.719	11-11	1.054
13	0.656	0.304▲	0.869	1.308▲	0.858	22-16	0.363
14	0.820	0.584	0.694	1.447	0.949	33-11	0.446
15	1.410	0.592	0.614	1.412	1.052	45-16	0.600
16	(1.573)	0.363	0.800	1.377	0.575	56-11	1.154
17	0.940	0.770	0.728	1.149	0.872	67-14	1.447
18	0.796	0.437	0.426	0.970	0.721	78-11	1.309
19	0.541	0.243	0.431	0.789	0.566	90-11	0.474
20	0.478	0.541	0.666	0.698	0.480		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.612	0.188	0.455	0.494	0.492	180-15	0.568
12	0.620	0.120	0.570	0.655	0.712	191-11	0.124
13	0.623	0.137	0.605	0.724	0.898	202-16	0.287
14	0.622	0.195	0.491	0.662▲	1.020	213-11	0.502
15	0.568	0.086	0.406	0.597	(1.075)	225-16	0.607
16	0.238	0.287	0.607	0.617	0.974	236-11	0.635
17	0.358	0.510	0.537	0.608	0.889	247-14	0.574
18	0.490	0.426	0.482	0.431	0.719	258-11	0.799
19	0.374	0.421	0.437	0.306	0.597	270-11	0.492
20	0.744	0.618	0.556	0.307	0.502		0.0

T-8, F3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.351	0.250	0.189	0.141	0.192	0-7	1.056
2	0.226	0.140	0.172	0.179	0.226	11-1	1.022
3	0.251	0.219	0.182	0.185	0.233	22-6	1.110
4	0.342	0.321	0.127	0.084	0.151	33-1	1.040
5	0.480	1.012	0.982	0.536	0.058	45-6	0.939
6	0.754	(1.110)	0.939	0.549	0.064	56-1	0.783
7	1.056	1.075	0.963	0.595	0.052	67-6	0.549
8	1.105	0.920	0.766	0.518	0.045	78-1	0.286
9	0.713	0.614	0.595	0.409	0.044	90-6	0.064
10	0.600	0.677	0.659	0.431	0.068		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.271	0.087	0.235	0.138	0.219	180-7	0.974
2	0.270	0.097	0.199	0.222	0.260	191-1	1.061
3	0.266	0.138	0.221	0.276	0.264	202-6	1.105
4	0.332	0.295	0.138	0.196	0.219	213-1	1.140
5	0.474	1.040	0.981	0.780	0.069	225-6	1.071
6	0.746	1.105	1.071	0.582	0.079	236-1	0.882
7	0.974	(1.158)	1.151	0.634	0.064	247-6	0.582
8	1.016	0.790	0.815	0.635	0.106	258-1	0.313
9	0.732	0.622	0.662	0.462	0.084	270-6	0.079
10	0.619	0.695	0.611	0.503	0.115		0.0

T-8, F3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.243	0.069	0.164	0.071	0.041	0-17	0.441
12	0.430	0.185	0.211	0.195	0.090	11-11	0.391
13	0.428	0.237	0.261	0.410	0.318	22-16	0.331
14	0.414	0.145	0.294	0.599	0.684	33-11	0.433
15	0.379	0.354	0.445	0.653	(0.872)	45-16	0.502
16	0.468	0.331	0.502	0.583	0.838	56-11	0.537
17	0.441	0.494	0.447	0.486	0.754	67-16	0.583
18	0.397	0.381	0.223	0.212	0.373	78-11	0.680
19	0.483	0.198	0.165	0.118	0.073	90-16	0.638
20	0.611	0.618	0.476	0.314	0.178		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.349	0.067	0.174	0.069	0.045	180-17	0.361
12	0.341	0.094	0.249	0.186	0.073	191-11	0.422
13	0.372	0.206	0.251	0.393	0.323	202-16	0.482
14	0.408	0.207	0.269	0.569	0.629	213-11	0.446
15	0.403	0.322	0.404	0.698	0.879	225-16	0.454
16	0.374	0.482	0.454	0.637	(0.951)	236-11	0.514
17	0.361	0.642	0.531	0.493	0.911	247-16	0.637
18	0.592	0.615	0.390	0.288	0.474	258-11	0.777
19	0.438	0.415	0.257	0.124	0.095	270-16	0.951
20	0.624	.656	0.509	0.395	0.174		0.0

T-15, F3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.535	0.360	0.265	0.113	0.189	0-7	1.483
2	0.416	0.265	0.216	0.166	0.282	11-1	1.463
3	0.328	0.187	0.285	0.240	0.326	22-6	1.230
4	0.387	0.151	0.250	0.156	0.356	33-1	1.282
5	0.529	0.390	0.166	0.452	0.196	45-6	1.068
6	0.829	1.230	1.068	0.460	0.081	56-1	0.830
7	1.483	1.399	0.932	0.550	0.056	67-6	0.460
8	(1.547)	1.514	1.229	0.587	0.124	78-1	0.160
9	0.713	0.739	0.770	0.496	0.138	90-6	0.081
10	0.627	0.789	0.972	0.639	0.142		0.0

T-15, F3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.355	0.089	0.208	0.117	0.063	0-17	0.630
12	0.378	0.150	0.310	0.283	0.066	11-11	0.614
13	0.503▲	0.261	0.297	0.363	0.325	22-16	0.432
14	0.630	0.360	0.311	0.685	0.741	33-11	0.491
15	0.474	0.260	0.389	0.925	1.067	45-16	0.518
16	0.559	0.432	0.518	0.870	(1.060)	56-11	0.744
17	0.630	0.534	0.565	0.662	0.988	67-16	0.870
18	0.620	0.612	0.535	0.397	0.706	78-11	1.022
19	0.631	0.385	0.291	0.271	0.221	90-16	1.080
20	0.428	0.336	0.249	0.419	0.140		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.337	0.101	0.255	0.118	0.193	180-7	1.505
2	0.356	0.135	0.268	0.191	0.282	191-1	1.483
3	0.345	0.185	0.300	0.310	0.316	202-6	1.217
4	0.439	0.190	0.273	0.280	0.335	213-1	1.310
5	0.534	0.369	0.097	0.552	0.136	225-6	1.169
6	0.780	1.217	1.169	0.664	0.066	236-1	0.938
7	1.505	1.435	1.127	0.659	0.042	247-6	0.664
8	1.454	(1.534)	1.306	0.675	0.110	258-1	0.258
9	0.580	0.772	0.928	0.675	0.148	270-6	0.066
10	0.507	0.676	0.933	0.734	0.130		0.0

T-15, F3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.434	0.061	0.194	0.118	0.049	180-17	0.523
12	0.427	0.089	0.245	0.202	0.036	191-11	0.534
13	0.480	0.149	0.381	0.370	0.298	202-16	0.368
14	0.590	0.251	0.322	0.648	0.650	213-11	0.508
15	0.546	0.238	0.527	0.905	1.051	225-16	0.586
16	0.508	0.368	0.586	0.881	1.054	236-11	0.726
17	0.523	0.503	0.570	0.663	(1.107)	247-16	0.881
18	0.393	0.884	0.476	0.366	0.711	258-11	1.036
19	0.792	0.525	0.412▲	0.205	0.230	270-16	1.094
20	0.680	0.475	0.322	0.337	0.113		0.0

T-4, F3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	2.768	1.023	3.518	2.534	2.195	0-5	5.606
2	2.987	1.357	3.005	2.135	1.979	11-1	6.934
3	3.437	1.838	2.193	1.255	1.344	22-6	7.320
4	3.893	2.680	1.838	1.552	1.068	33-1	7.335
5	5.606	4.806	4.591	2.474	1.005	45-6	6.080
6	(7.513)	7.320	6.080	2.916	1.000	56-1	3.799
7	8.685	7.440	6.716	2.922	1.130	67-6	1.552
8	3.338	8.108	8.669	2.633	1.263	78-1	2.057
9	2.471	3.325	3.260	2.526	1.555	90-1	2.195
10	2.440	2.721	2.976	2.575	1.641		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.013	0.419	1.031	1.831	2.062	180-5	2.284
2	1.177	0.358	1.178	1.982	1.497	191-1	2.680
3	1.320	0.487	1.279	2.005▲	1.229	202-6	2.776
4	1.622	0.815	1.099	2.036	1.958	213-1	1.906
5	2.284	1.760	0.799	1.987	2.099	225-6	1.281
6	2.612	2.776	1.281	0.737	2.190	236-1	1.781
7	1.661	(3.198)	1.614	0.607	2.099	247-6	2.036
8	1.005	1.854	1.738	0.766	2.049	258-1	1.971
9	0.952	1.297	1.383	0.891	2.180	270-1	2.062
10	0.948	1.238	0.937	0.870	2.180		0.0

T-4, F3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	2.614	1.703	4.325	3.867	1.650	0-15	2.953
12	3.333	1.336	4.284	(4.484)	2.528	11-11	2.140
13	3.997	1.409	3.442	4.078	3.109	22-16	2.039
14	3.773	1.549	2.456	4.088	3.607	33-11	2.010
15	2.953	1.984	1.807	4.474	3.112	45-16	2.450
16	3.518	2.039	2.450	3.643	2.760	56-11	3.539
17	2.398	3.411	2.896	2.945	2.104	67-16	4.088
18	1.018	0.963	1.349	2.310	1.807	78-11	3.685
19	1.812	1.630	2.526	2.411	1.299	90-11	1.690
20	2.015	2.187	2.367	2.078	1.130		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.091	0.365	0.878	0.708	2.068	180-15	0.846
12	1.367	0.294	1.435	1.367	2.614	191-11	0.727
13	1.578	0.193	1.698	1.877	3.396	202-16	0.595
14	1.383	0.172	1.909	2.101	(3.656)	213-11	1.552
15	0.846	0.583	2.008	2.357	3.567	225-16	2.601
16	1.325	0.995	2.601	1.909	3.015	236-11	2.734
17	1.010	1.266	1.883	1.331	2.605	247-16	2.101
18	0.930	0.797	1.060	0.680	2.062	258-11	1.605
19	1.167	1.115	0.568	0.570	2.224	270-11	2.068
20	1.164	1.101	0.536	0.586	1.799		0.0

T-6, P3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	3.726	1.922	3.953	3.307	3.341	0-5	4.265
2	4.687	2.932	3.255▲	3.010	3.341	11-1	4.810
3	4.218	4.341	2.857	2.669	3.088	22-6	5.380
4	3.942	5.156	3.010	2.669	2.289	33-1	6.166
5	4.265	5.448	3.776	2.403	1.739	45-6	4.320
6	4.315	5.380	4.320	2.200	1.448	56-1	2.099
7	4.591	6.109	5.726	2.297	1.536	67-4	2.669
8	5.044	6.158	4.851	2.984	1.565	78-1	3.273
9	6.208	(6.276)	4.086	3.151	1.500	90-1	3.341
10	4.573	4.674	3.617	2.831	1.482		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	1.883	0.802	1.940	2.385	2.534	180-5	1.851
2	2.523	1.358	2.036	2.633	2.096	191-1	2.406
3	2.029	1.831	1.732	2.724	1.385	202-6	2.659
4	1.862	2.328	1.302	2.646	2.552	213-1	2.367
5	1.851	2.528	1.594	2.403	2.833	225-6	1.849
6	1.779	2.659	1.849	2.055	2.726	236-1	2.187
7	1.747	2.609	2.281	1.359	2.961	247-4	2.646
8	1.799	2.758	2.544	1.141	(3.219)	258-1	2.721
9	2.039	2.656	2.099	1.112	2.870	270-1	2.534
10	1.573	2.042	1.771	1.234	3.182		0.0

T-6, P3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	2.448	1.979	4.799	3.737	1.125	0-15	2.263
12	3.328	1.677	4.961	5.057	1.810	11-11	2.568
13	3.409	1.393	3.570	4.966	2.739	22-16	1.820
14	2.859	3.052	2.747	5.648	3.557	33-11	1.734
15	2.263	1.726	2.909	5.953	3.729	45-16	3.453
16	2.513	1.820	3.453	(6.205)	3.216	56-11	5.836
17	2.380	1.914	3.226	5.901	2.859	67-14	5.648
18	2.190	1.953	2.242	5.166	2.513	78-11	3.258
19	1.982	1.695	1.945	3.617	2.005	90-11	1.125
20	0.255	1.531	3.099	3.021	1.568		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	1.474	0.510	1.521	0.854	1.823▲	180-15	1.164
12	1.768	0.500	2.247	1.943	3.023	191-11	1.086
13	1.904	0.966	3.062	2.669	3.859	202-16	0.891
14	1.633	0.706	2.573	2.956	4.765	213-11	1.706
15	1.164	0.768	2.651	3.250	(5.058)	225-16	2.677
16	0.818	0.891	2.877	3.255	4.744	236-11	3.849
17	0.654	0.828	2.638	2.630	4.107	247-14	2.956
18	0.669	1.081	1.627	2.078	3.179	258-11	2.075
19	1.232	1.008	1.133	1.036	2.448	270-11	0.156
20	1.614▲	1.221	0.909	0.745	2.358		0.0

T-7, P3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	2.583	2.777	4.775	1.376	0.363	0-5	2.140
2	2.126	4.181	2.762	1.094	0.231	11-1	3.366
3	1.391	1.881	1.692	1.216	0.363	22-6	4.266
4	1.254	2.409	1.673	1.956	0.702	33-1	4.568
5	2.140	3.795	3.828	2.258	1.211	45-6	4.144
6	2.937	4.266	4.144	2.899	1.702	56-1	3.578
7	4.364	4.540	4.573	3.031	1.584	67-4	1.956
8	(5.063)	4.210	3.597	2.564	1.442	78-1	1.207
9	4.035	3.946	3.017	2.404	1.395	90-1	0.363
10	2.951	2.550	2.173	1.754	1.282		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.599	0.259	0.528	0.457	0.467	180-5	0.721
2	0.542	0.368	0.264	0.405	0.217	191-1	1.287
3	0.410	0.302	0.250	0.391	0.137	202-6	0.735
4	0.467	0.434	0.302	0.514	0.269	213-1	0.919
5	0.721	0.811	0.542	0.519	0.580	225-6	0.641
6	1.094	0.990▲	0.641	0.476	0.792	236-1	0.467
7	1.240	1.131▲	0.839	0.288	0.830	247-4	0.514
8	(1.386)	1.282	0.764	0.222	0.750	258-1	0.349
9	1.113	1.343	0.702	0.141	0.731	270-1	0.467
10	0.943	0.655	0.561	0.061	0.632		0.0

T-7, P3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	2.027	(4.205)	3.823	2.649	1.460	0-15	1.047
12	1.372	2.729	4.096	2.546	1.065	11-11	0.872
13	1.744	2.249▲	3.408	1.523	1.037▲	22-16	0.971
14	1.598	1.975	2.234	1.688	1.061	33-11	1.122
15	1.047	1.400	1.556	1.881	1.070	45-16	1.504
16	0.957	0.971	1.504	1.607	1.150	56-11	1.589
17	1.065	1.853	2.060	1.150	1.164	67-16	1.688
18	1.329	1.301	1.657	1.197	1.113	78-11	1.193
19	0.679	1.103	1.268	1.438	1.230	90-11	1.480
20	1.523	1.989	2.060	1.942	1.499		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.453	0.137	0.278	0.226	(1.168)	180-15	0.486
12	0.448	0.061	0.349	0.462	0.773	191-11	0.160
13	0.509	0.080	0.453	0.698	0.830	202-16	0.273
14	0.330	0.184	0.504	0.438	0.948	213-11	0.556
15	0.486	0.132	0.481	0.608	0.910	225-16	0.655
16	0.363	0.273	0.655	0.712	0.959	236-11	0.556
17	0.236	0.476	0.556	0.613	0.966	247-16	0.438
18	0.434	0.316▲	0.377	0.410	0.851	258-11	0.853
19	0.156	0.245	0.259	0.302	0.839	270-11	1.164
20	0.429	0.387	0.321	0.354	1.084		0.0

T-8, F3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.402	1.057	1.964	1.413	1.262	0-7	5.398
2	1.665	0.727	1.894	1.828	1.405	11-1	5.436
3	2.03.	1.167	1.569	1.670	1.215	22-6	5.917
4	2.461	1.993	0.649	0.719	0.411	33-1	5.792
5	3.037	5.681	5.772	3.877	1.592	45-6	5.425
6	4.062	(5.917)	5.425	4.029	1.853	56-1	4.956
7	5.398	5.366	5.242	4.171	2.076	67-6	4.029
8	5.376	4.239	4.230	3.424	2.060	78-1	2.948
9	3.012	2.711	2.947	2.576	1.218	90-6	1.853
10	2.236	2.729	3.143	2.621	1.306		0.0

T-8, F3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	2.001	1.104	1.817	1.531	1.437	0-17	2.352
12	2.195	1.077	1.820	2.265	1.729	11-11	2.332
13	2.307	1.480	1.677	2.597	1.761	22-16	2.518
14	2.464	1.532	0.919	1.994	2.610	33-11	2.575
15	2.710	2.045	2.039	2.226	(3.274)	45-16	2.500
16	2.793	2.518	2.500	2.130	3.066	56-11	2.312
17	2.352	3.230	2.455	2.047	2.821	67-16	2.130
18	2.980	2.514	1.286	0.799	1.542	78-11	2.490
19	3.271	1.648	0.887	0.740	0.479	90-16	3.066
20	3.145	3.229	2.688	2.162	1.144		0.0

T-8, F3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.451	0.265	0.555	1.078	1.544	180-7	2.142
2	0.171	0.571	0.383	1.021	1.604	191-1	2.307
3	0.190	0.575	0.619	0.787	1.299	202-6	2.096
4	0.247	0.294	1.117	0.899	0.615	213-1	1.469
5	0.715	1.394	1.180	1.935	2.422	225-6	0.930
6	1.264	2.096	0.930	1.616	3.001	236-1	0.864
7	2.142	2.917	1.537	1.478	(3.777)	247-6	1.618
8	2.722	2.463	1.548	0.883	3.495	258-1	2.672
9	2.694	2.211	1.512	0.661	2.621	270-6	3.001
10	2.601	2.605	1.541	0.818	2.378		0.0

T-8, F3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.217	0.541	0.634	1.390	1.971	180-17	0.617
12	0.378	0.556	0.437	1.161	2.065	191-11	1.011
13	0.491	0.864	0.713	1.167	2.142	202-16	1.428
14	0.522	1.160	1.962	2.822	2.205	213-11	1.615
15	0.456	1.400	2.483	3.298	3.098	225-16	2.092
16	0.449	1.428	2.092	2.992	(3.458)	236-11	2.531
17	0.817	1.485	1.977	2.302	3.350	247-16	2.592
18	1.084	1.280	1.405	1.412	2.120	258-11	3.324
19	0.675	0.620	0.752	0.227	0.461	270-16	3.458
20	1.642	1.345	0.547	1.012	2.325		0.0

T-15, F3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	2.005	0.979	2.272	1.522	1.288	0-7	7.310
2	2.219	1.265	2.489	1.945	1.822	11-1	(7.607)
3	2.469	1.549	2.226	1.853	1.572	22-6	7.008
4	2.960	1.812	1.364	0.747	0.958	33-1	7.341
5	3.489	2.810	1.044	4.970	2.259	45-6	6.978
6	4.522	7.008	6.978	4.924	2.794	56-1	6.116
7	7.310	7.435	5.897	5.093	2.888	67-6	4.924
8	7.120	7.179	7.070	4.929	2.843	78-1	3.571
9	2.757	3.175	4.123	3.926	2.414	90-6	2.794
10	2.074	3.125	4.893	4.702	2.563		0.0

T-15, F3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	3.187	1.124	2.446	1.798	1.493	0-17	3.218
12	3.189	1.142	2.547	2.406	2.060	11-11	3.199
13	3.136▲	1.513	2.148	2.707	2.165	22-16	2.739
14	3.616	2.100	1.563	2.576	2.668	33-11	2.624
15	3.016	1.936	1.008	2.756	3.812	45-16	2.364
16	2.955	2.739	2.364	3.040	3.836	56-11	2.596
17	3.218	2.965	2.624	2.467	3.699	67-16	2.637
18	2.919	(3.989)	2.970	1.308	2.760	78-11	3.538
19	3.864	2.868	1.859	1.518	0.864	90-16	3.836
20	2.678	2.108	1.590	2.966	1.259		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.381	0.399	0.514	0.929	1.273	180-7	3.398
2	0.232	0.460	0.324	0.997	1.653	191-1	3.543
3	0.211	0.531	0.459	0.861	1.521	202-6	2.219
4	0.309	0.444	0.704	0.937	0.838	213-1	2.830
5	0.667	0.454	0.913	0.994	1.844	225-6	1.538
6	1.446	2.219	1.538	0.740	2.229	236-1	0.741
7	3.398	3.298	2.032	0.503	3.090	247-6	0.740
8	3.987	(4.393)	2.751	0.492	2.468	258-1	1.985
9	2.379	2.619	2.302	0.645	2.192	270-6	2.229
10	2.544	2.719	2.547	0.807	2.533		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.226	0.347	0.557	1.038	1.656	180-17	1.006
12	0.417	0.405	0.485	1.113	1.689	191-11	1.210
13	0.533	0.525	0.505	1.202	2.257	202-16	1.347
14	0.746	0.829	0.723	2.528	2.557	213-11	2.149
15	0.708	1.044	2.140	3.886	3.761	225-16	2.812
16	0.488	1.347	2.812	3.720	3.972	236-11	3.207
17	1.006	1.570	2.740	2.821	3.990	247-16	3.720
18	0.833	2.005	1.833	1.844	2.662	258-11	(4.008)
19	1.138▲	0.958	0.960	0.961	0.898	270-16	3.972
20	1.567	1.016	0.806	0.640	1.227		0.0

T-4, F3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.338	0.854	0.570	0.923	0.662	0-5	0.805
2	1.087	0.953	0.667	1.185	1.151	11-1	0.813
3	1.084	0.990	0.772	1.905	1.441	22-6	0.973
4	1.046	1.028	1.117	2.373	1.519	33-1	1.459
5	0.805	0.874	1.751	(2.762)	1.481	45-6	2.054
6	0.274	0.973	2.054	1.993	1.343	56-1	2.588
7	0.317	0.739	1.842	1.577	1.138	67-4	2.373
8	0.340	0.542	1.192	1.301	0.995	78-1	1.490
9	0.325	0.453	0.940	1.197	1.126	90-1	0.662
10	0.297	0.335	0.741	1.123	1.120		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.059	0.436	0.140	0.337	1.011	180-5	0.673
2	0.147	0.513	0.121	0.419	1.364	191-1	0.599
3	0.203	0.475	0.332	0.718▲	1.585	202-6	0.600
4	0.418	0.403	0.435	0.995	(1.606)	213-1	0.782
5	0.673	0.497	0.847	1.222	1.545	225-6	0.921
6	0.847	0.600	0.921	1.235	1.399	236-1	0.819
7	0.599	0.463	0.872	1.207	1.214	247-4	0.995
8	0.485	0.147	0.548	1.089	1.053	258-1	1.112
9	0.349	0.107	0.592	1.055	1.021	270-1	1.011
10	0.227	0.193	0.569	0.993	0.991		0.0

T-4, F3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.596	0.842	0.904	0.806	0.730	0-15	0.228
12	0.303	0.974	0.790	0.554	0.540	11-11	0.887
13	0.220	1.009	1.095	0.754	0.693	22-16	1.292
14	0.192	1.030	1.463	0.653	0.924	33-11	2.068
15	0.228	1.135	1.967	0.868	0.918	45-16	2.084
16	0.268	1.292	(2.084)	0.883	0.823	56-11	1.609
17	0.182	0.863	2.059	0.619	0.668	67-14	0.653
18	0.129	0.595	1.154	0.745	0.890	78-11	0.292
19	0.216	0.397	0.626	0.796	0.744	90-11	0.730
20	0.258	0.329	0.618	0.805	0.639		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.094	0.536	0.192	0.360	0.738	180-15	0.202
12	0.098	0.671	0.080	0.300	0.452	191-11	0.280
13	0.127	0.886	0.463	0.394	0.444	202-16	0.473
14	0.201	0.841	0.680	0.649	0.666	213-11	0.578
15	0.202	0.614	0.751	0.846	0.780	225-16	0.723
16	0.106	0.473	0.723	1.110	0.751	236-11	0.744
17	0.072	0.412	0.673	(1.111)	0.769	247-14	0.699
18	0.031	0.291	0.637	0.955	0.878	258-11	0.517
19	0.052	0.359	0.653	0.949	0.964	270-11	0.738
20	0.062	0.370	0.614	0.813	0.765		0.0

T-6, F3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.421	1.088	0.683	1.317	0.852	0-5	0.547
2	1.424	1.158	0.947	1.562	1.241	11-1	0.480
3	1.050	1.116	1.488	1.896	1.576	22-6	0.898
4	0.724	1.039	1.908	2.104	1.767	33-1	1.507
5	0.547	0.939	2.135	2.436	1.658	45-6	2.087
6	0.362	0.898	2.087	2.498	1.496	56-1	(2.640)
7	0.165	0.775	2.113	2.378	1.364	67-4	2.104
8	0.052	0.566	1.333	1.895	1.162	78-1	1.544
9	0.356	0.559	1.199	1.415	1.083	90-1	0.852
10	0.437	0.500	0.969	1.264	1.123		0.0

T-6, F3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.632	1.078	1.086	0.719	0.721	0-15	0.161
12	0.338	1.323	1.176	290	0.669	11-11	0.681
13	0.139	1.546	2.089	0.360	0.729	22-16	1.763
14	0.137	1.632▲	2.466	0.390	0.981	33-11	2.310
15	0.161	1.683	2.403	0.569	1.209	45-16	2.485
16	0.163	1.763	(2.485)	0.765	1.087	56-11	1.663
17	0.160	1.649	2.318	0.827	0.965	67-16	0.390
18	0.159	1.217	1.874	0.843	0.867	78-11	0.555
19	0.126	0.898	1.205	0.866	0.830	90-11	0.721
20	0.146	0.517	0.730	0.898	0.853		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.037	0.526	0.112	0.308	0.955	180-5	0.736
2	0.240	0.486	0.404	0.531	1.301	191-1	0.662
3	0.497	0.401	0.694	0.790	1.622	202-6	0.337
4	0.654	0.396	0.791	0.965	(1.934)	213-1	0.366
5	0.736	0.403	0.799	1.116	1.796	225-6	0.699
6	0.776	0.337	0.695	1.175	1.486	236-1	0.814
7	0.787	0.333	0.584	1.209	1.345	247-4	0.965
8	0.742	0.335	0.427	1.197	1.208	258-1	1.021
9	0.494	0.220	0.468	1.061	1.105	270-1	0.955
10	0.255	0.220	0.546	1.006	1.080		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.144	0.661	0.193	0.332	0.653▲	180-15	0.168
12	0.034	0.801	0.513	0.482	0.636	191-11	0.142
13	0.133	0.811	1.127	0.701	0.638	202-16	0.407
14	0.146	0.735	0.974	0.843	0.849	213-11	0.613
15	0.168	0.531	0.812	0.935	0.944	225-16	0.627
16	0.169	0.407	0.827	1.068	0.940	236-11	0.953
17	0.185	0.257	0.772	1.019	0.860	247-16	0.843
18	0.184	0.261	0.562	(1.224)	0.946	258-11	0.618
19	0.138	0.335	0.732	1.019	0.920	270-11	0.086
20	0.016	0.391	0.688	0.886	0.849		0.0

T-7, P3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.519	0.981	1.097	0.686	0.506	0-5	0.911
2	1.441	1.294	0.716	0.700	0.712	11-1	0.657
3	0.917	0.820	0.507	0.775	0.731	22-6	C.959
4	0.819	0.914	0.779	1.408	0.910	33-1	1.305
5	C.911	C.963	1.511	1.553	1.055	#5-6	1.617
6	0.643	0.959	1.617	1.781	1.209	56-1	(1.882)
7	0.289	0.789	1.691	1.614	1.110	67-4	1.408
8	0.033	C.620	1.171	1.258	1.006	78-1	1.069
9	0.164	0.530	0.931	1.142	0.946	90-1	C.506
10	0.153	0.393	0.649	0.800	0.783		C.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.138	0.266	0.101	0.210	0.518	180-5	0.287
2	0.218	0.254	0.138	0.251	0.641	191-1	0.348
3	0.205	0.266	0.225	0.392	0.793	202-6	C.431
4	0.195	0.256	0.351	0.668	0.931	213-1	0.565
5	C.267	C.301	0.714	0.798	1.081	225-6	C.704
6	0.361	0.431	0.704	0.891	(1.143)	236-1	0.780
7	C.4C7	0.457	0.734	0.873	1.118	247-4	0.668
8	0.340	0.263	0.447	0.817	0.937	258-1	0.822
9	0.220	0.213	0.462	0.812	0.887	270-1	C.518
10	0.120	0.168	0.491	0.716	0.809		C.0

T-7, P3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.610	1.034	0.737	0.593	0.584	0-15	0.015
12	0.461	0.837	0.786	0.418	0.359	11-11	1.021
13	0.435	0.945▲	0.716	0.567▲	0.347	22-16	1.407
14	0.358	1.121	1.237	0.839	C.277	33-11	1.472
15	0.015	1.281	(1.553)	0.797	0.343	45-16	1.382
16	0.222	1.407	1.382	0.663	0.447	56-11	1.188
17	0.448	0.772	1.139	0.416	0.513	67-14	0.839
18	0.166	0.569	0.874	0.438	0.595	78-11	0.166
19	0.195	0.513	0.618	0.571	0.649	90-11	0.584
20	0.276	0.461	0.703	0.650	0.783		0.C

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.215	C.509	0.115	0.356	0.599	180-15	0.346
12	0.199	0.505	0.156	0.277	0.272	191-11	0.406
13	0.208	0.551	0.374	0.375	0.266	202-16	0.379
14	0.235	0.562	0.582	0.413	0.252	213-11	0.344
15	0.346	0.474	0.500	0.453	0.309	225-16	0.417
16	0.434	0.379	0.417	0.521	0.358	236-11	0.457
17	0.377	0.342	0.416	0.639	0.481	247-14	0.413
18	0.225	0.216	0.461	0.659	0.552	258-11	0.431
19	0.056	0.236	0.478	0.631	0.625	270-11	0.599
20	0.018	0.264	0.559	0.765	(0.856)		0.C

T-8, F3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.219	0.388	0.205	0.261	0.261	0-7	0.326
2	0.185	0.445	0.227	0.218	0.214	11-1	0.412
3	0.257	0.544	0.377	0.283	0.244	22-6	0.605
4	0.258	0.579	0.666	0.697	0.559	33-1	0.767
5	0.241	0.517	1.260	1.725	1.766	45-6	1.010
6	0.017	0.605	1.010	1.634	1.851	56-1	1.395
7	0.326	0.489	0.832	1.541	(1.961)	67-6	1.634
8	0.609	0.383	0.496	1.107	1.790	78-1	1.857
9	0.496	0.243	0.323	0.769	0.986	90-6	1.851
10	0.311	0.147	0.350	0.767	1.011		0.0

T-8, F3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.061	0.496	0.251	0.313	0.326	0-17	0.396
12	0.068	0.525	0.288	0.185	0.274	11-11	0.425
13	0.125	0.630	0.514	0.391	0.141	22-16	0.528
14	0.202	0.812	(1.001)	0.930	0.152	33-11	0.590
15	0.290	0.702	0.840	0.948	0.650	45-16	0.689
16	0.301	0.528	0.689	0.681	0.667	56-11	0.670
17	0.396	0.559	0.771	0.748	0.653	67-16	0.681
18	0.211	0.454	0.521	0.294	0.576	78-11	0.722
19	0.086	0.296	0.382	0.223	0.299	90-16	0.687
20	0.062	0.298	0.474	0.717	0.724		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.036	0.305	0.102	0.240	0.272	180-7	0.614
2	0.025	0.438	0.121	0.133	0.214	191-1	0.560
3	0.056	0.464	0.313	0.178	0.228	202-6	0.565
4	0.053	0.502	0.614	0.695	0.590	213-1	0.688
5	0.017	0.495	1.113	1.711	1.402	225-6	0.915
6	0.310	0.565	0.915	1.636	1.649	236-1	1.299
7	0.614	0.541	0.749	1.520	(1.918)	247-6	1.636
8	0.760	0.402	0.398	1.205	1.658	258-1	1.775
9	0.485	0.236	0.298	0.786	1.212	270-6	1.649
10	0.203	0.152	0.362	0.851	1.048		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.126	0.540	0.193	0.294	0.363	180-17	0.442
12	0.199	0.497	0.132	0.153	0.276	191-11	0.459
13	0.250	0.612	0.417	0.300	0.160	202-16	0.591
14	0.327	0.706	0.823	0.737	0.174	213-11	0.659
15	0.415	0.622	0.801	0.831	0.517	225-16	0.764
16	0.361	0.591	0.764	0.816	0.654	236-11	0.816
17	0.442	0.543	(0.861)	0.725	0.728	247-16	0.816
18	0.261	0.497	0.718	0.580	0.458	258-11	0.721
19	0.043	0.404	0.556	0.340	0.139	270-16	0.654
20	0.109	0.379	0.587	0.761	0.848		0.0

T-15, F3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	NOTCH LINE GAGE	INDEX
1	0.290	0.540	0.266	0.276	0.284	0-7	0.507
2	0.180	0.539	0.309	0.214	0.287	11-1	0.688
3	0.066	0.651	0.326	0.206	0.185	22-6	0.771
4	0.131	0.696	0.601	0.725	0.540	33-1	0.830
5	0.227	0.693	0.869	(2.043)	1.800	45-6	1.368
6	0.055	0.771	1.368	1.839	1.933	56-1	1.452
7	0.507	0.773	0.997	1.701	1.938	67-6	1.839
8	0.865	0.636	0.897	1.408	1.719	78-1	1.871
9	0.688	0.322	0.413	1.050	1.359	90-6	1.933
10	0.409	0.181	0.522	1.197	1.431		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	NOTCH LINE GAGE	INDEX
1	0.095	0.503	0.119	0.210	0.279	180-7	0.777
2	0.023	0.580	0.138	0.127	0.266	191-1	0.796
3	0.138	0.644	0.311	0.180	0.202	202-6	0.842
4	0.114	0.711	0.549	0.746	0.566	213-1	0.771
5	0.069	0.683	0.822	2.055	1.535	225-6	1.483
6	0.299	0.842	1.483	1.951	1.767	236-1	1.502
7	0.777	0.810	1.056	1.555	(2.170)	247-6	1.951
8	1.113	0.595	0.867	1.282	1.534	258-1	2.070
9	0.663	0.337	0.431	1.109	1.339	270-6	1.767
10	0.359	0.201	0.454	1.176	1.456		0.0

T-15, F3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	NOTCH LINE GAGE	INDEX
11	0.073	0.756	0.211	0.245	0.314	0-17	0.436
12	0.038	0.709	0.186	0.300	0.342	11-11	0.483
13	0.123▲	0.870	0.421	0.403	0.260	22-16	0.518
14	0.208	0.790	0.712	0.692	0.101	33-11	0.841
15	0.347	0.926	1.131	1.049	0.717	45-16	1.153
16	0.464	0.918	(1.153)	0.884	0.736	56-11	0.977
17	0.436	0.700	0.921	0.614	0.777	67-16	0.884
18	0.324	0.541	0.786	0.414	0.642	78-11	0.794
19	0.107	0.431	0.510	0.358	0.300	90-16	0.736
20	0.108	0.445	0.487	0.649	0.618		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	NOTCH LINE GAGE	INDEX
11	0.156	0.674	0.198	0.268	0.311	180-17	0.506
12	0.208	0.670	0.033	0.164	0.267	191-11	0.477
13	0.176	0.824	0.262	0.301	0.277	202-16	0.869
14	0.221	0.910	0.548	0.616	0.074	213-11	0.906
15	0.400	0.927	(1.356)	0.929	0.522	225-16	1.066
16	0.536	0.869	1.066	0.956	0.690	236-11	0.984
17	0.506	0.724	0.964	0.860	0.857	247-16	0.956
18	0.512	0.815	0.989	0.530	0.631	258-11	0.804
19	0.126	0.618	0.840	0.412	0.244	270-16	0.690
20	0.095	0.601	0.581	0.566	0.722		0.0

T-4, M3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.122	0.911	0.489	0.942	0.797	0-5	C.459
2	0.903	1.008	0.706	1.231	1.301	11-1	C.368
3	C.888	1.018	C.869	1.987	1.556	22-6	C.599
4	C.785	1.007	1.165	2.378	1.619	33-1	1.111
5	0.459	0.746	1.598	(2.732)▲	1.555	45-6	1.799
6	0.330	0.599	1.799	1.944	1.4C6	56-1	2.423
7	0.604	0.441	1.542	1.532	1.160	67-4	2.378
8	0.598	0.448	0.951	1.266	1.021	78-1	1.589
9	C.539	C.4C2	0.741	1.163	1.293	90-1	C.797
10	0.5C3	0.345	0.55C	1.093	1.277		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.060	0.481	0.078	0.281	0.8C4	180-5	0.728
2	0.094	0.556	0.197	0.392	1.22C	191-1	C.739
3	0.156	0.499	0.44C	0.580▲	1.490	202-6	0.549
4	C.417	C.388	0.535	0.892	1.601	213-1	C.694
5	C.728	0.440	0.913	1.160	(1.609)	225-6	C.963
6	C.985	C.549	0.963	1.191	1.503	236-1	C.947
7	0.759	0.527	0.847	1.187	1.322	247-4	0.892
8	0.585	0.338	0.407	1.073	1.158	258-1	C.960
9	0.492	0.205	0.469	1.078	1.126	270-1	C.804
10	C.358	0.179	0.575	1.018	1.090		0.0

T-4, M3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.430	0.879	0.865	0.888	C.723	0-15	0.274
12	0.197	1.019	0.905	0.707	C.3C0	11-11	0.703
13	0.073	1.063	1.253	1.044	C.426	22-16	1.154
14	0.087	1.026	1.622	1.054	0.656	33-11	2.054
15	0.274	1.054	2.103	1.303	0.722	45-16	2.180
16	0.376	1.154	(2.180)	1.153	0.668	56-11	1.981
17	0.256	0.760	1.978	0.805	0.660	67-14	1.054
18	0.114	0.442	1.018	0.815	0.911	78-11	0.192
19	0.052	0.235	0.519	0.832	0.750	9C-11	0.723
20	0.086	0.16C	0.500	0.832	0.727		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.115	0.601	0.132	0.376	0.795	180-15	0.202
12	0.103	0.745	0.244	0.405	0.548	191-11	0.323
13	0.074	0.974	0.684	0.422	0.63€	202-16	0.594
14	0.165	0.942	0.934	0.707	0.868	213-11	0.777
15	0.202	0.716	1.020	0.813	0.968	225-16	0.875
16	0.180	0.594	0.875	0.928	0.910	236-11	0.762
17	C.170	0.368	0.564	C.963	0.873	247-14	0.707
18	0.143	0.225	0.431	0.842	0.975	258-11	0.543
19	0.149	0.305	0.548	0.943	(1.075)	270-11	0.795
20	0.135	0.323	0.565	0.826	0.862		0.0

T-6, M3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.151	1.201	0.684	1.244	0.781	0-5	0.646
2	1.064	1.412	0.911	1.556	1.039	11-1	0.877
3	0.913	1.419	1.586	1.790	1.414	22-6	1.256
4	0.692	1.365	2.153	1.935	1.718	33-1	1.966
5	0.646	1.301	2.471	2.300	1.715	45-6	2.396
6	0.625	1.256	2.396	2.414	1.646	56-1	(2.709)
7	0.533	1.129	2.570	2.405	1.515	67-4	1.935
8	0.646	0.910	1.786	2.000	1.319	78-1	1.359
9	0.779	0.825	1.358	1.538	1.258	90-1	0.781
10	0.738	0.765	1.145	1.414	1.286		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.240	0.767	0.063	0.620	1.332	180-5	0.856
2	0.402	0.812	0.354	0.759	1.564	191-1	0.639
3	0.531	0.723	0.838	1.008	1.807	202-6	0.911
4	0.668	0.612	1.014	1.165	(2.019)	213-1	0.707
5	0.856	0.579	1.115	1.373	1.985	225-6	1.045
6	0.928	0.511	1.045	1.458	1.638	236-1	1.204
7	0.967	0.439	0.989	1.530	1.520	247-4	1.165
8	0.952	0.341	0.715	1.473	1.367	258-1	1.339
9	0.748	0.166	0.760	1.192	1.227	270-1	1.332
10	0.541	0.179	0.803	1.106	1.251		0.0

T-6, M3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.463	1.229	1.055	0.949	0.793	0-15	0.502
12	0.447	1.526	1.031	0.476	0.798	11-11	1.039
13	0.502	1.856	1.939	0.379▲	0.945	22-16	1.999
14	0.578	(2.424)	2.406	0.376	1.337	33-11	2.296
15	0.502	1.936	2.229	0.373	1.564	45-16	2.219
16	0.484	1.959	2.219	0.464	1.397	56-11	1.201
17	0.476	1.861	1.985	0.353	1.255	67-14	0.876
18	0.461	1.322	1.539	0.267	1.031	78-11	0.875
19	0.394	0.963	0.739	0.773	1.004	90-11	0.793
20	0.145	0.395	0.779	0.884	1.064		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.227	0.878	0.286	0.477	0.453▲	180-15	0.155
12	0.171	1.034	0.404	0.399	0.409	191-11	0.428
13	0.232	1.107	(1.248)	0.544	0.360	202-16	0.708
14	0.187	1.077	1.170	0.682	0.600	213-11	0.820
15	0.155	0.833	0.973	0.790	0.710	225-16	0.959
16	0.138	0.708	0.959	1.042	0.811	236-11	0.952
17	0.153	0.536	0.920	1.124	0.857	247-14	0.682
18	0.148	0.376	0.648	1.234	0.929	258-11	0.585
19	0.099	0.469	0.864	1.034	0.893	270-11	0.029
20	0.199	0.612	0.877	1.026	0.882		0.0

T-7, B3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.376	0.859	1.115	0.686	0.458	0-5	0.743
2	1.289	1.131	0.730	0.707	0.681	11-1	0.638
3	0.798	0.842	0.527	0.755	0.714	22-6	1.041
4	0.704	0.949	0.829	1.458	0.927	33-1	1.449
5	0.743	1.003	1.649	1.615	1.137	45-6	1.765
6	0.459	1.041	1.765	1.889	1.352	56-1	(2.002)
7	0.203	0.909	1.861	1.749	1.256	67-4	1.458
8	0.256	0.796	1.304	1.389	1.147	78-1	1.097
9	0.357	0.688	1.055	1.283	1.095	90-1	0.458
10	0.300	0.508	0.746	0.933	0.944		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.114	0.303	0.108	0.252	0.569	180-5	0.326
2	0.211	0.330	0.150	0.272	0.691	191-1	0.506
3	0.206	0.378	0.278	0.431	0.854	202-6	0.604
4	0.202	0.370	0.441	0.767	1.022	213-1	0.787
5	0.326	0.398	0.930	0.947	1.210	225-6	0.942
6	0.476	0.604	0.942	1.074	(1.336)	236-1	1.037
7	0.602	0.674	1.013	1.058	1.321	247-4	0.767
8	0.567	0.443	0.643	0.975	1.111	258-1	0.922
9	0.408	0.388	0.5[illegible]	0.980	1.058	270-1	0.569
10	0.289	0.261	0.573	0.826	0.935		0.0

T-7, B3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.441	0.985	0.777	0.695	0.672	-15	0.210
12	0.388▲	0.895	0.760	0.465	0.409	[illegible]-11	1.158
13	0.263	1.022▲	0.714	0.511	0.399	22-16	1.483
14	0.189	1.253	1.309	0.724	0.387	33-11	1.461
15	0.210	1.407	(1.595)	0.664▲	0.408	45-16	1.347
16	0.424	1.483	1.347	0.539	0.[illegible]24	56-11	1.070
17	0.610	0.818	1.062	0.273	0.579	67-14	0.724
18	0.361	0.50[illegible]	0.765	0.411	0.664	78-11	0.169
19	0.047	0.429	0.575	0.587	0.752	90-11	0.672
20	0.129	0.438	0.767	0.749	0.931		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.254	0.624	0.162	0.454	0.679	180-15	0.431
12	0.240	0.676▲	0.177	0.311	0.255	191-11	0.564
13	0.252	0.722	0.412	0.366	0.256	202-16	0.519
14	0.281	0.767	0.735	0.340	0.189	213-11	0.427
15	0.431	0.661	0.677	0.376	0.237	225-16	0.412
16	0.574	0.519	0.412	0.416	0.359	236-11	0.395
17	0.564	0.430	0.373	0.569	0.[illegible]8	247-14	0.340
18	0.411	0.244	0.410	0.612	0.621	258-11	0.351
19	0.201	0.287	0.484	0.687	0.715	270-11	0.679
20	0.153	0.358	0.662	0.898	(1.023)		0.0

T-8, M3X,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.209	0.448	0.204	0.309	0.284	0-7	0.467
2	0.179	0.530	0.240	0.232	0.228	11-1	0.598
3	0.258	0.647	0.419	0.299	0.266	22-6	0.803
4	0.258	0.698	0.759	0.790	0.649	33-1	0.979
5	0.236	0.687	1.532	2.010	2.020	45-6	1.248
6	0.135	0.803	1.248	1.922	2.122	56-1	1.667
7	0.467	0.664	1.040	1.810	(2.241)	67-6	1.922
8	0.795	0.523	0.638	1.312	2.039	78-1	2.149
9	0.636	0.300	0.423	0.922	1.137	90-6	2.122
10	0.430	0.221	0.475	0.936	1.174		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.045	0.348	0.140	0.286	0.313	180-7	0.756
2	0.035	0.504	0.126	0.163	0.244	191-1	0.678
3	0.067	0.547	0.345	0.201	0.279	202-6	0.729
4	0.063	0.606	0.711	0.807	0.698	213-1	0.883
5	0.020	0.614	1.349	2.005	1.626	225-6	1.131
6	0.378	0.729	1.131	1.917	1.904	236-1	1.571
7	0.756	0.707	0.945	1.791	(2.210)	247-6	1.917
8	0.959	0.527	0.515	1.445	1.911	258-1	2.077
9	0.645	0.335	0.388	0.948	1.390	270-6	1.904
10	0.341	0.265	0.440	1.032	1.227		0.0

T-8, M3X,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.068	0.585	0.294	0.386	0.367	0-11	0.516
12	0.140	0.633	0.302	0.214	0.315	11-11	0.553
13	0.205	0.765	0.590	0.436	0.154	22-16	0.700
14	0.291	0.987	(1.157)	1.017	0.185	33-11	0.759
15	0.399	0.845	0.985	1.067	0.757	45-16	0.896
16	0.396	0.700	0.896	0.807	0.790	56-11	0.851
17	0.516	0.756	1.003	0.917	0.758	67-16	0.807
18	0.293	0.616	0.668	0.350	0.678	78-11	0.616
19	0.170	0.396	0.498	0.279	0.356	90-16	0.790
20	0.073	0.374	0.624	0.893	0.882		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.153	0.631	0.236	0.344	0.412	180-17	0.551
12	0.238	0.587	0.153	0.178	0.299	191-11	0.578
13	0.305	0.734	0.478	0.332	0.162	202-16	0.720
14	0.387	0.882	0.941	0.826	0.225	213-11	0.794
15	0.492	0.747	0.953	0.959	0.609	225-16	0.902
16	0.432	0.720	0.902	0.931	0.760	236-11	0.944
17	0.551	0.682	1.015	0.825	0.853	247-16	0.931
18	0.341	0.643	0.864	0.646	0.568	258-11	0.826
19	0.114	0.494	0.630	0.372	0.153	270-16	0.760
20	0.084	0.433	0.692	0.901	(1.024)		0.0

T-15, M3I,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.251	0.524	0.236	0.251	0.276	0-7	0.612
2	0.135	0.532	0.352	0.196	0.272	11-1	0.718
3	0.073	0.639	0.433	0.279	0.221	22-6	0.495
4	0.129	0.662	0.688	0.765	0.581	33-1	0.562
5	0.207	0.590	0.875	1.860	1.769	45-6	1.052
6	0.217	0.495	1.052	1.667	1.885	56-1	1.196
7	0.612	0.545	0.725	1.509	(1.890)	67-6	1.667
8	0.644▲	0.716	0.546	1.212	1.677	78-1	1.772
9	0.753	0.500	0.173	0.885	1.334	90-6	1.885
10	0.528	0.343	0.258	1.010	1.413		0.0

T-15, M3I,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.081	0.782	0.140	0.206	0.310	0-17	0.486
12	0.093	0.714	0.257	0.271	0.259	11-11	0.487
13	0.161▲	0.849	0.492	0.434	0.204	22-16	0.646
14	0.262	0.768	0.764	0.874	0.193	33-11	0.799
15	0.405	0.896	(1.223)	1.199	0.753	45-16	1.147
16	0.528	0.846	1.147	0.977	0.779	56-11	1.036
17	0.486	0.624	0.898	0.647	0.778	67-16	0.977
18	0.387	0.467	0.758	0.446	0.616	78-11	0.688
19	0.235	0.375	0.490	0.314	0.267	90-16	0.779
20	0.106	0.360	0.484	0.538	0.624		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.106	0.522	0.104	0.240	0.297	180-7	0.807
2	0.028	0.595	0.174	0.148	0.274	191-1	0.882
3	0.134	0.662	0.353	0.216	0.188	202-6	0.687
4	0.119	0.724	0.617	0.802	0.576	213-1	0.612
5	0.081	0.654	0.878	2.015	1.634	225-6	1.294
6	0.310	0.687	1.294	1.894	1.871	236-1	1.398
7	0.807	0.648	0.853	1.490	(2.307)	247-6	1.894
8	1.165	0.763	0.617	1.232	1.643	258-1	2.138
9	0.732	0.464	0.241	1.045	1.438	270-6	1.871
10	0.413	0.283	0.318	1.110	1.588		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.167	0.716	0.194	0.286	0.360	180-17	0.526
12	0.219	0.707	0.062	0.183	0.311	191-11	0.476
13	0.189	0.858	0.350	0.384	0.321	202-16	0.682
14	0.240	0.941	0.637	0.790	0.108	213-11	0.959
15	0.419	0.972	1.169	1.117	0.541	225-16	1.193
16	0.558	0.882	(1.193)	1.073	0.730	236-11	1.091
17	0.526	0.743	1.044	0.921	0.901	247-16	1.073
18	0.599	0.722	0.997	0.585	0.682	258-11	0.921
19	0.191	0.542	0.711	0.430	0.280	270-16	0.730
20	0.081	0.535	0.583	0.556	0.784		0.0

T-4,-83Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.640	0.552	1.044	1.198	1.145	0-5	0.387
2	0.607	0.670	1.101	1.560	1.617	11-1	0.477
3	0.611	0.643	1.040	2.309	1.790	22-6	0.882
4	0.430	0.574	1.276	2.709	1.774	33-1	1.281
5	0.387	0.431	1.697	2.728	1.527	45-6	2.183
6	1.047	0.882	2.183	1.743	1.142	56-1	(2.736)
7	1.283	1.036	1.941	1.393	0.785	67-4	2.709
8	1.303	1.103	1.403	1.071	0.592	78-1	1.979
9	1.318	1.178	1.142	0.872	0.603	90-1	1.145
10	1.340	1.174	0.960	0.718	0.541		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.304	0.402	0.158	0.762	1.388	180-5	0.263
2	0.295	0.474	0.299	1.034	1.791	191-1	0.529
3	0.278	0.450	0.533	1.658	1.926	202-6	0.456
4	0.084	0.338	0.622	1.838	1.803	213-1	0.594
5	0.263	0.166	0.898	(2.359)	1.525	225-6	1.178
6	0.866	0.456	1.178	1.792	1.134	236-1	1.813
7	1.124	0.920	1.270	1.592	0.837	247-4	1.838
8	1.052	1.031	1.149	1.220	0.634	258-1	1.780
9	1.138	1.130	0.999	0.989	0.579	270-1	1.388
10	1.093	1.119	1.100	0.909	0.507		0.0

T-4,-83Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.086	0.371	0.659	0.600	1.306	0-15	0.288
12	0.090	0.616	0.729	0.286	1.181	11-11	0.885
13	0.137	0.763	0.895	0.674	0.866	22-16	1.358
14	0.151	0.819	1.163	0.824	0.621	33-11	2.152
15	0.288	1.047	1.745	1.181	0.535	45-16	2.112
16	0.626	1.358	2.112	1.648	0.705	56-11	1.628
17	0.716	1.137	(2.501)	1.516	0.910	67-14	0.824
18	0.616	0.906	1.594	1.306	1.183	78-11	0.980
19	0.533	0.728	1.225	1.183	1.263	90-11	1.306
20	0.443	0.606	0.978	1.109	1.152		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.039	0.395	0.122	0.613	1.263	180-15	0.358
12	0.055	0.491	0.304	0.464	1.077	191-11	0.485
13	0.087	0.710	0.734	1.299	0.688	202-16	1.086
14	0.235	0.778	1.096	1.374	0.599	213-11	1.615
15	0.358	0.875	1.576	1.836	0.598	225-16	2.088
16	0.543	1.086	(2.088)	1.894	0.828	236-11	1.842
17	0.734	0.802	1.790	1.707	1.133	247-14	1.374
18	0.644	0.669	1.270	1.470	1.321	258-11	0.836
19	0.585	0.598	0.970	1.247	1.466	270-11	1.263
20	0.502	0.517	0.823	1.060	1.350		0.0

T-6,-M3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.628	0.521	1.365	1.552	1.524	0-5	0.320
2	0.713	0.636	1.286	1.847	1.964	11-1	0.383
3	0.528	0.598	1.484	2.219	2.290	22-6	0.497
4	0.329	0.363	1.512	2.408	2.265	33-1	1.224
5	0.320	0.339	1.826	2.549	1.775	45-6	1.905
6	0.351	0.497	1.905	2.475	1.334	56-1	(2.662)
7	0.494	0.577	1.949	2.328	0.996	67-4	2.408
8	0.727	0.926	1.673	1.827	0.662	78-1	2.111
9	1.196	1.259	1.483	1.246	0.538	90-1	1.524
10	1.357	1.461	1.233	0.919	0.501		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.359	0.538	0.274	0.775	1.239	180-5	0.236
2	0.388	0.545	0.517	1.063	1.759	191-1	0.341
3	0.209	0.483	0.805	1.463	2.105	202-6	0.534
4	0.098	0.428	0.964	1.675	(2.249)	213-1	0.708
5	0.236	0.394	1.163	1.918	1.961	225-6	1.266
6	0.401	0.534	1.266	2.016	1.409	236-1	1.811
7	0.556	0.564	1.255	2.111	1.038	247-4	1.675
8	0.767	0.663	1.213	2.065	0.739	258-1	1.644
9	1.225	0.895	1.259	1.417	0.603	270-1	1.239
10	1.263	1.117	1.020	1.072	0.552		0.

T-6,-M3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.065	0.612	0.803	1.028	1.489	0-15	0.068
12	0.096	0.921	1.011	0.684	1.374	11-11	0.562
13	0.042	1.142	1.500	0.508	0.987	22-16	1.741
14	0.045	1.304▲	2.006	0.550	0.611	33-11	2.208
15	0.068	1.588	2.102	0.655	0.630	45-16	2.350
16	0.081▲	1.741	2.350	1.105	0.867	56-11	1.585
17	0.096	1.716	2.404	1.603	1.082	67-14	0.550
18	0.078	1.438	(2.496)	1.855	1.245	78-11	1.224
19	0.214	1.130	1.846	1.659	1.325	90-11	1.489
20	0.592	0.852	1.339	1.339	1.373		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.023	0.511	0.217	0.670	1.676▲	180-15	0.198
12	0.091	0.705	0.580	0.496	1.436	191-11	0.621
13	0.135	0.906	1.476	0.832	1.215	202-16	1.121
14	0.159	1.031	1.591	1.132	0.947	213-11	1.526
15	0.198	1.074	1.733	1.268	0.751	225-16	1.872
16	0.173	1.121	1.872	1.568	0.803	236-11	1.588
17	0.187	1.048	1.963	1.933	1.045	247-14	1.132
18	0.228	0.734	1.669	(2.079)	1.288	258-11	1.279
19	0.400	0.646	1.217	1.571	1.410	270-11	0.068
20	0.637	0.573	0.951	1.289	1.436		0.0

T-7,-M3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.446	0.596	1.470	0.905	0.853	0-5	0.210
2	0.369	0.691	0.854	0.996	1.149	11-1	0.605
3	0.174	0.432	0.458	1.188	1.139	22-6	0.742
4	0.099	0.371	0.804	1.498	1.271	33-1	1.134
5	0.210	0.466	1.247	1.515	1.222	45-6	1.483
6	0.561	0.742	1.483	1.497	1.159	56-1	(1.730)
7	1.062	0.938	1.526	1.188	0.919	67-4	1.498
8	1.373	1.203	1.056	0.856	0.782	78-1	1.396
9	1.579	1.212	0.987	0.775	0.740	90-1	0.853
10	1.136	1.159	0.978	0.766	0.694		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.169	0.254	0.125	0.375	0.773	180-5	0.313
2	0.076	0.345	0.173	0.516	0.941	191-1	0.679
3	0.036	0.392	0.270	0.650	1.101	202-6	0.716
4	0.062	0.327	0.381	1.039	1.188	213-1	0.874
5	0.313	0.361	0.881	1.210	1.191	225-6	1.134
6	0.685	0.716	1.134	1.224	1.035	236-1	1.274
7	1.094	0.934	1.280	1.025	0.848	247-4	1.039
8	(1.319)	1.019	0.921	0.832	0.732	258-1	1.181
9	1.181	1.116	0.858	0.727	0.709	270-1	0.773
10	1.080	1.040	0.862	0.820	0.653		0.0

T-7,-M3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.059	0.389	0.396	0.292	0.605	C-15	0.221
12	0.174▲	0.516	0.547	0.218	0.541	11-11	0.934
13	0.302	0.715▲	0.711	0.613▲	0.494	22-16	1.459
14	0.375	0.932	1.068	1.036	0.423	33-11	(1.616)
15	0.221	1.183	1.538	1.076	0.330	45-16	1.611
16	0.246	1.459	1.611	0.999	0.410	56-11	1.488
17	0.329	0.968	1.458	0.932	0.732	67-14	1.036
18	0.478	0.719	1.196	0.930	0.950	78-11	0.292
19	0.372	0.612	0.993	0.997	1.059	90-1	0.605
20	0.383	0.598	0.873	0.939	1.017		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.091	0.428	0.122	0.464	0.660	180-15	0.101
12	0.057	0.472	0.128	0.367	0.620	191-11	0.720
13	0.044	0.594	0.373	0.616	0.618	202-16	1.012
14	0.048	0.769	0.801	0.991▲	0.590	213-11	1.164
15	0.101	0.904	1.189	1.180	0.450	225-16	1.223
16	0.276	1.012	1.223	1.136	0.425	236-11	1.251
17	0.562	0.719	1.107	0.991	0.666	247-14	(1.265)
18	0.648	0.609	0.903	0.921	0.856	258-11	0.812
19	0.540	0.495	0.792	0.859	1.007	270-11	0.660
20	0.598	0.506	0.719	0.843	1.043		0.0

T-8,-M3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.050	0.160	0.303	0.163	0.153	0-7	0.378
2	0.032	0.106	0.186	0.188	0.244	11-1	0.488
3	0.057	0.115	0.203	0.304	0.369	22-6	0.561
4	0.075	0.097	0.269	0.400	0.487	33-1	0.575
5	0.091	0.320	0.418	0.486	0.593	45-6	0.536
6	0.153	0.561	0.536	0.467	0.501	56-1	0.500
7	0.378	0.745	0.606	0.462	0.452	67-6	0.467
8	0.681	0.861	0.684	0.463	0.373	78-1	0.452
9	0.902	0.823	0.731	0.504	0.393	90-6	0.501
10	(1.103)	1.052	0.922	0.653	0.566		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.045	0.097	0.053	0.085	0.111	180-7	0.428
2	0.038	0.113	0.052	0.116	0.189	191-1	0.460
3	0.046	0.132	0.069	0.173	0.317	202-6	0.452
4	0.049	0.166	0.185	0.290	0.460	213-1	0.500
5	0.068	0.238	0.351	0.465	0.571	225-6	0.441
6	0.204	0.452	0.441	0.407	0.550	236-1	0.408
7	0.428	0.695	0.522	0.366	0.505	247-6	0.407
8	0.702	0.798	0.578	0.400	0.330	258-1	0.466
9	0.909	0.823	0.673	0.471	0.300	270-6	0.550
10	(1.165)	1.027	0.913	0.830	0.679		0.0

T-8,-M3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.025	0.107	0.084	0.127	0.137	0-17	0.079
12	0.055	0.144	0.230	0.088	0.139	11-11	0.195
13	0.060	0.132	0.222	0.134	0.070	22-16	0.422
14	0.041	0.191	0.335	0.416	0.187	33-11	0.510
15	0.035	0.444	0.606	0.613	0.408	45-16	0.580
16	0.078	0.422	0.580	0.578	0.472	56-11	0.584
17	0.079	0.364	0.545	0.468	0.471	67-16	0.578
18	0.127	0.433	0.499	0.552	0.540	78-11	0.455
19	0.371	0.472	0.470	0.492	0.588	90-16	0.472
20	0.752	0.860	0.808	(0.871)	0.770		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.038	0.135	0.067	0.098	0.134	180-17	0.093
12	0.043	0.118	0.041	0.086	0.158	191-11	0.149
13	0.045	0.144	0.100	0.057	0.138	202-16	0.322
14	0.042	0.190	0.225	0.261	0.051	213-11	0.365
15	0.033	0.302	0.514	0.555	0.162	225-16	0.508
16	0.036	0.322	0.508	0.549	0.301	236-11	0.581
17	0.093	0.265	0.437	0.460	0.292	247-16	0.549
18	0.156	0.389	0.460	0.479	0.341	258-11	0.428
19	0.471	0.491	0.491	0.560	0.594	270-16	0.301
20	0.826	0.813	0.830	0.847	(0.905)		0.0

T-15,-M3Y,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.040	0.296	0.304	0.159	0.104	0-7	0.456
2	0.035	0.184	0.285	0.186	0.199	11-1	0.574
3	0.023	0.182	0.158	0.261	0.345	22-6	0.352
4	0.037	0.184	0.187	0.441	0.548	33-1	0.561
5	0.055	0.143	0.270	0.557	0.691	45-6	0.422
6	0.129	0.352	0.422	0.440	0.618	56-1	0.661
7	0.456	0.614	0.492	0.402	0.518	67-6	0.440
8	0.800	0.890	0.626	0.423	0.333	78-1	0.509
9	0.948	0.890	0.663	0.500	0.385	90-6	0.618
10	(1.110)	1.099	0.928	0.707	0.569		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.015	0.126	0.043	0.091	0.083	180-7	0.387
2	0.009	0.137	0.072	0.112	0.172	191-1	0.513
3	0.008	0.157	0.087	0.167	0.307	202-6	0.303
4	0.012	0.174	0.138	0.347	0.508	213-1	0.536
5	0.013	0.125	0.210	0.476	0.638	225-6	0.379
6	0.141	0.303	0.379	0.439	0.612	236-1	0.422
7	0.387	0.552	0.466	0.421	0.586	247-6	0.439
8	0.701	0.829	0.605	0.460	0.324	258-1	0.543
9	0.857	0.856	0.736	0.580	0.365	270-6	0.612
10	(0.966)	0.962	0.953	0.798	0.624		0.0

T-15,-M3Y,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.021	0.172	0.124	0.122	0.170▲	0-17	0.051
12	0.022	0.172	0.105	0.100	0.163	11-11	0.195
13	0.027▲	0.234	0.204	0.053	0.158	22-16	0.353
14	0.033	0.212	0.248	0.208	0.033	33-11	0.492
15	0.032	0.264	0.354	0.524	0.244	45-16	0.568
16	0.040	0.353	0.568	0.613	0.348	56-11	0.684
17	0.051	0.362	0.583	0.551	0.403	67-16	0.613
18	0.057	0.313	0.495	0.505	0.510	78-11	0.415
19	0.384	0.447	0.526	0.668	0.695	90-16	0.348
20	0.577	0.603	0.643	0.740	(0.757)		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.026	0.151	0.037	0.083	0.151	180-17	0.034
12	0.025	0.131	0.042	0.073	0.159	191-11	0.154
13	0.021	0.158	0.085	0.034	0.137	202-16	0.302
14	0.026	0.192	0.129	0.235	0.047	213-11	0.493
15	0.024	0.213	0.309	0.607	0.249	225-16	0.604
16	0.045	0.302	0.604	0.694	0.350	236-11	0.719
17	0.034	0.324	0.598	0.663	0.423	247-16	0.694
18	0.030	0.295	0.514	0.564	0.530	258-11	0.439
19	0.391	0.486	0.586	0.658	0.742	270-16	0.390
20	0.652	0.660	0.621	0.770	(0.798)		0.0

T-4,-E3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.832	0.851	0.598	0.707	1.139	0-5	1.823
2	0.967	0.792	0.695	0.631	1.088	11-1	2.126
3	1.034	0.864	0.738	0.405	0.734	22-6	2.110
4	1.198	1.016	0.846	0.355	0.636	33-1	2.146
5	1.823	1.362	1.457	0.440	0.538	45-6	1.750
6	(2.250)	2.110	1.750	0.771	0.505	56-1	0.826
7	1.345	2.211	1.836	0.903	0.530	67-4	0.355
8	1.002	1.303	1.343	0.873	0.499	78-1	1.023
9	0.732	1.114	1.013	0.825	0.466	90-1	1.139
10	0.652	0.878	0.922	0.787	0.412		0.0

T-4,-M3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.477	0.411	0.828	0.995	0.423	0-15	1.755
12	0.803	0.407	0.988	1.438	1.074	11-11	1.019
13	1.229	0.502	0.761	1.658	1.455	22-16	0.895
14	1.487	0.629	0.587	1.833	1.659	33-11	0.684
15	1.755	0.791	0.571	(2.043)	1.341	45-16	0.505
16	1.239	0.895	0.905	1.695	1.162	56-11	1.591
17	0.923	1.280	0.914	1.321	0.896	67-14	1.833
18	0.312	0.407	0.346	0.944	0.769	78-11	1.414
19	0.279	0.324	0.625	0.693	0.606	90-11	0.423
20	0.470	0.567	0.591	0.554	0.470		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.564	0.207	0.487	0.883	1.229	180-5	1.065
2	0.652	0.280	0.597	1.049	1.216	191-1	1.181
3	0.708	0.374	0.546	1.074	0.798	202-6	1.389
4	0.772	0.531	0.409	1.047	0.610	213-1	1.142
5	1.065	0.978	0.598	1.047	0.517	225-6	0.854
6	1.134	1.389	0.854	0.823	0.500	236-1	0.874
7	0.700	(1.478)	1.108	0.759	0.535	247-4	1.047
8	0.414	0.864	1.067	0.628	0.451	258-1	1.305
9	0.394	0.662	0.922	0.621	0.436	270-1	1.229
10	0.399	0.664	0.720	0.524	0.392		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.574	0.153	0.577	0.469	0.412	180-15	0.569
12	0.749	0.199	0.872	0.844	0.868	191-11	0.471
13	0.901	0.291	0.738	1.149	1.430	202-16	0.377
14	0.876	0.374	0.632	0.987	(1.489)	213-11	0.544
15	0.569	0.356	0.569	1.009	1.288	225-16	0.925
16	0.552	0.377	0.925	0.867	1.066	236-11	1.105
17	0.495	0.648	0.823	0.634	0.865	247-14	0.587
18	0.431	0.416	0.626	0.483	0.680	258-11	0.823
19	0.537	0.607	0.589	0.383	0.532	270-11	0.412
20	0.561	0.635	0.602	0.405	0.445		0.0

T-6,-M3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.172	1.141	0.692	0.996	1.206	0-5	1.147
2	(1.564)	1.288	0.792	0.970	1.207	11-1	1.176
3	1.289	1.389	0.865	0.955	1.142	22-6	1.244
4	1.105	1.346	0.854	0.986	0.875	33-1	1.404
5	1.147	1.340	0.875	0.910	0.682	45-6	0.814
6	1.099	1.244	0.814	0.791	0.538	56-1	0.423
7	1.114	1.407	1.191	0.793	0.541	67-4	0.986
8	1.175	1.425	1.090	0.763	0.541	78-1	1.037
9	1.393	1.468	1.002	0.825	0.535	90-1	1.206
10	1.018	1.157	0.910	0.688	0.512		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.644	0.326	0.615	0.843	0.973	180-5	0.560
2	0.660	0.556	0.631	0.986	0.977	191-1	0.769
3	0.670	0.712	0.452	0.959	0.833	202-6	0.959
4	0.560	0.865	0.418	0.914	0.588	213-1	0.862
5	0.560	0.921	0.611	0.764	0.499	225-6	0.746
6	0.528	0.959	0.746	0.715	0.523	236-1	0.668
7	0.530	0.913	0.962	0.682	0.571	247-4	0.914
8	0.554	0.939	1.019	0.705	0.563	258-1	(1.070)
9	0.646	0.888	0.864	0.541	0.505	270-1	0.973
11	0.464	0.693	0.736	0.518	0.472		0.0

T-6,-M3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.517	0.376	1.116	0.937	0.177	0-15	1.110
12	1.031	0.421	1.289	1.650	0.603	11-11	1.116
13	1.227	0.680	1.289	1.851	1.008	22-16	0.657
14	1.178	0.863▲	1.189	1.953	1.285	33-11	0.843
15	1.110	0.674	1.278	2.106	1.366	45-16	1.567
16	1.086	0.657	1.567	(2.268)	1.203	56-11	2.179
17	1.073	0.629	1.481	2.149	1.000	67-14	1.953
18	1.018	0.759	0.846	1.895	0.810	78-11	0.941
19	0.859	0.674	0.505	1.266	0.684	90-11	0.177
20	0.240	0.305	0.746	0.751	0.531		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.586	0.162	0.636	0.455	0.165▲	180-15	0.517
12	0.747	0.315	0.739	0.805	0.824	191-11	0.544
13	0.795	0.495	0.684	0.927	1.219	202-16	0.342
14	0.685	0.493	0.527	0.988	(1.415)	213-11	0.350
15	0.517	0.358	0.625	0.985	1.403	225-16	0.733
16	0.367	0.342	0.733	0.957	1.276	236-11	1.154
17	0.288	0.243	0.731	0.910	1.059	247-14	0.588
18	0.210	0.281	0.576	0.723	0.830	258-11	0.674
19	0.395	0.293	0.494	0.407	0.655	270-11	0.072
20	0.441	0.472	0.483	0.368	0.554		0.0

T-7,-M3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	1.568	1.334	0.351	0.371	0.585	0-5	1.373
2	2.108	1.989	0.413	0.270	0.572	11-1	1.731
3	0.994	0.615	0.456	0.182	0.514	22-6	1.799
4	0.956	0.796	0.543	0.080	0.515	33-1	1.554
5	1.373	1.519	1.116	0.106	0.369	45-6	1.179
6	1.594	1.799	1.179	0.342	0.308	56-1	0.625
7	2.060	1.950	1.386	0.530	0.294	67-4	0.080
8	(2.189)	1.762	1.177	0.643	0.281	78-1	0.347
9	1.705	1.623	1.035	0.688	0.246	90-1	0.585
10	1.209	1.019	0.775	0.567	0.253		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.499	0.215	0.486	0.503	0.740	180-5	0.633
2	0.444	0.318	0.300	0.548	0.656	191-1	1.087
3	0.451	0.335	0.224	0.576	0.696	202-6	1.164
4	0.501	0.474	0.285	0.742	0.690	213-1	0.979
5	0.633	0.859	0.787	0.762	0.562	225-6	0.921
6	0.949	1.164	0.921	0.793	0.525	236-1	0.833
7	1.328	1.394	1.082	0.753	0.499	247-4	0.742
8	(1.477)	1.119	0.959	0.676	0.411	258-1	0.746
9	0.878	1.159	0.873	0.663	0.356	270-1	0.740
10	0.724	0.620	0.733	0.512	0.213		0.0

T-7,-M3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.386	0.281	0.557	0.757	0.465	0-15	1.361
12	0.232	0.225	0.716	1.045	0.693	11-11	1.112
13	0.676	0.431▲	0.729	1.195▲	0.830	22-16	0.488
14	0.826	0.642	0.490	1.268	0.904	33-11	0.403
15	1.361	0.725	0.524	1.238	1.026	45-16	0.709
16	(1.463)	0.766▲	0.709	1.219	0.962	56-11	0.972
17	0.854	0.773	0.722	1.027	0.863	67-14	1.268
18	0.699	0.464	0.395	0.901	0.704	78-11	1.193
19	0.463	0.291	0.344	0.679	0.547	90-11	0.465
20	0.488	0.577	0.653	0.606	0.469		0.0

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.583	0.187	0.439	0.500	0.421	180-15	0.638
12	0.611	0.135	0.539	0.654	0.634	191-11	0.141
13	0.624	0.179	0.558	0.729	0.810	202-16	0.241
14	0.622	0.265	0.435	0.629	0.916	213-11	0.489
15	0.638	0.120	0.386	0.642	(0.994)	225-16	0.606
16	0.358	0.241	0.608	0.633	0.935	236-11	0.673
17	0.266	0.498	0.569	0.654	0.816	247-14	0.629
18	0.412	0.411	0.533	0.512	0.620	258-11	0.735
19	0.311	0.436	0.513	0.396	0.508	270-11	0.421
20	0.747	0.656	0.642	0.407	0.400		0.0

T-8,-M3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.334	0.221	0.217	0.154	0.207	0-7	1.074
2	0.241	0.128	0.189	0.203	0.247	11-1	1.073
3	0.264	0.203	0.205	0.216	0.260	22-6	1.141
4	0.357	0.315	0.129	0.105	0.175	33-1	1.103
5	0.455	1.037	1.077▲	0.547	0.046	45-6	0.992
6	0.761	(1.141)	0.992	0.576	0.054	56-1	0.827
7	1.074	1.123	1.024	0.638	0.035	67-6	0.576
8	1.135	0.973	0.822▲	0.566	0.081	78-1	0.288
9	0.748	0.656	0.656	0.454	0.068	90-6	0.054
10	0.639	0.728	0.736	0.472	0.046		0.0

T-8,-M3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 0	22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.254	0.082	0.178	0.102	0.051	0-17	0.453
12	0.447	0.222	0.203	0.207	0.082	11-11	0.421
13	0.445	0.285	0.228	0.393	0.337	22-16	0.391
14	0.438	0.225	0.215	0.650	0.745	33-11	0.502
15	0.408	0.391	0.487	0.705	(0.970)	45-16	0.577
16	0.497	0.391	0.577	0.652	0.935	56-11	0.617
17	0.453	0.572	0.539	0.572	0.855	67-16	0.652
18	0.427	0.450	0.305	0.260	0.467	78-11	0.757
19	0.511	0.255	0.219	0.145	0.087	90-16	0.935
20	0.674	0.719	0.574	0.379	0.097		0.0

T-8,-M3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.268	0.076	0.236	0.136	0.227	180-7	0.996
2	0.270	0.087	0.201	0.226	0.270	191-1	1.073
3	0.265	0.124	0.233	0.284	0.277	202-6	1.134
4	0.335▲	0.287	0.153	0.210	0.229	213-1	1.149
5	0.478	1.058	0.983	0.446	0.060	225-6	1.090
6	0.747	1.134	1.090	0.555	0.013	236-1	0.863
7	0.996	(1.206)	1.189	0.615	0.013	247-6	0.555
8	1.050	0.838	0.863	0.621	0.038	258-1	0.256
9	0.778	0.673	0.706	0.461	0.057	270-6	0.013
10	0.677	0.763	0.662	0.507	0.058		0.0

T-8,-M3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	PHI LINE 180	202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.352	0.059	0.168	0.060	0.051	180-17	0.378
12	0.356	0.118	0.257	0.185	0.070	191-11	0.421
13	0.390	0.205▲	0.264	0.405	0.338	202-16	0.479
14	0.428	0.210	0.298	0.623	0.670	213-11	0.446
15	0.418	0.319	0.428	0.770	0.944	225-16	0.478
16	0.402	0.475	0.478	0.710	(1.029)	236-11	0.559
17	0.378	0.654	0.561	0.551	0.987	247-16	0.710
18	0.614	0.633	0.416	0.342	0.545▲	258-11	0.853
19	0.455	0.413	0.279	0.144	0.110	270-16	1.029
20	0.680	0.696	0.538	0.395	0.115		0.0

T-15,-M3Z,NORMALIZED STRESS INTENSITY ON OUTSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
1	0.528	0.353	0.289	0.118	0.200	0-7	1.538
2	0.415	0.264	0.227	0.177	0.298	11-1	1.511
3	0.340	0.182	0.276	0.258	0.359	22-6	1.291
4	0.401	0.167	0.246	0.176	0.391	33-1	1.355
5	0.559	0.416	0.147	0.490	0.232	45-6	1.120
6	0.851	1.291	1.120	0.507	0.106	56-1	0.897
7	1.538	1.473	0.995	0.609	0.034	67-6	0.507
8	1.608	1.603	1.321	0.659	0.097	78-1	0.193
9	0.760	0.804	0.848	0.568	0.102	90-6	0.099
10	0.693	0.881	1.080	0.721	0.085		0.0

T-15,-M3Z,NORMALIZED STRESS INTENSITY ON INSIDE SURFACE
LOAD CORRESPONDS TO NOMINAL STRESS INTENSITY OF 1000 PSI

GAGE	0	PHI LINE 22.5	45	67.5	90	CROTCH LINE GAGE	INDEX
11	0.358	0.077	0.203	0.122	0.063	0-17	0.636
12	0.372	0.154	0.303	0.283	0.061	11-11	0.619
13	0.499	0.264	0.284	0.356	0.330	22-16	0.426
14	0.629	0.362	0.305	0.691	0.762	33-11	0.503
15	0.478	0.269	0.387	0.960	1.110	45-16	0.529
16	0.574	0.436	0.529	0.917	1.133	56-11	0.782
17	0.636	0.545	0.583	0.716	1.044	67-16	0.917
18	0.625	0.627	0.563	0.461	0.773	78-11	1.071
19	0.633	0.405	0.334	0.302	0.298	90-16	1.133
20	0.446	0.370	0.278	0.463	0.089		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
1	0.351	0.116	0.266	0.125	0.203	180-7	1.568
2	0.375	0.150	0.278	0.200	0.296	191-1	1.562
3	0.366	0.205	0.305	0.318	0.333	202-6	1.289
4	0.468	0.222	0.270	0.273	0.360	213-1	1.402
5	0.564	0.412	0.082	0.644	0.157	225-6	1.266
6	0.815	1.289	1.266	0.754	0.094	236-1	1.038
7	1.568	1.507	1.215	0.743	0.088	247-6	0.754
8	1.518	1.610	1.401	0.769	0.112	258-1	0.340
9	0.623	0.819	1.008	0.770	0.151	270-6	0.094
10	0.555	0.727	1.022	0.836	0.106		0.0

GAGE	180	PHI LINE 202.5	225	247.5	270	CROTCH LINE GAGE	INDEX
11	0.447	0.061	0.203	0.134	0.050	180-17	0.542
12	0.440	0.111	0.262	0.219	0.052	191-11	0.573
13	0.493	0.180	0.398	0.393	0.321	202-16	0.405
14	0.606	0.289	0.334	0.670	0.684	213-11	0.522
15	0.560	0.274	0.487	0.948	1.132	225-16	0.603
16	0.542	0.405	0.603	0.933	1.137	236-11	0.773
17	0.542	0.523	0.594	0.717	1.183	247-16	0.933
18	0.378	0.949	0.518	0.414	0.779	258-11	1.102
19	0.811	0.575	0.305	0.248	0.295	270-16	1.137
20	0.711	0.517	0.360	0.350	0.080		0.0

IHC002I STOP 0

APPENDIX VIII

COMPUTER PLOTS OF STRESS INTENSITIES

Three types of stress intensity plots are presented in this appendix: projected length along maximum intensity phi line vs. stress intensity, circumferential location vs. maximum stress intensity and stress intensity contour plots. Adjusted data points have been circled in the first two sets of plots. For those load cases where the maximum stress intensity occurred at an intermediate gage location on the crotch line (i.e., 11^{o}, 33^{o}, 56^{o}, 78^{o}, 194^{o}, 213^{o}, 236^{o} and 258^{o}) no gage line plots were generated. These intermediate values were not used in generating the circumferential plots.

The projected gage line length used for the abscissas of the first set of plots is computed by first projecting the maximum stress intensity gage line onto the diametral plane. The resulting curve is then rotated 45^{o} and projected onto a straight line. The resulting lengths are designated x". Gages on the branch have negative values of x" and run gages have positive values of x". The derivation of x" is illustrated in Figure VIII.1.

Each set of plots has been organized according to load type and model number in the following manner. The loads are presented in this order, Pressure, F2X, -F2Y, -F2Z, M2X, -M2Y, -M2Z, F3X, F3Y, F3Z, M3X, -M3Y and -M3Z. Under each load type the models are ordered sequentially, that is, T-4, T-6, T-7, T-8 and T-15. Under each model the 0^{o}-90^{o} quadrant is presented first and then the 180^{o} to 270^{o} quadrant.

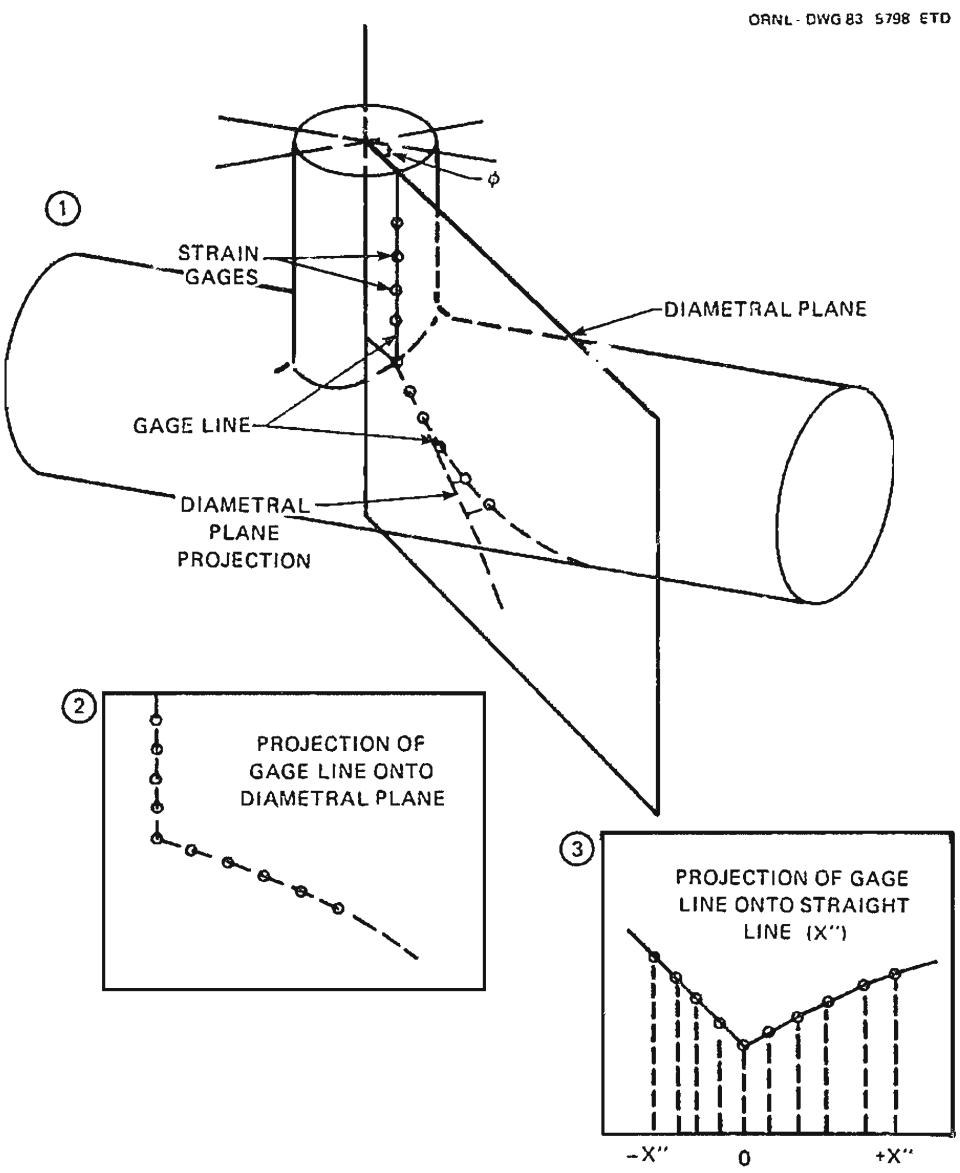
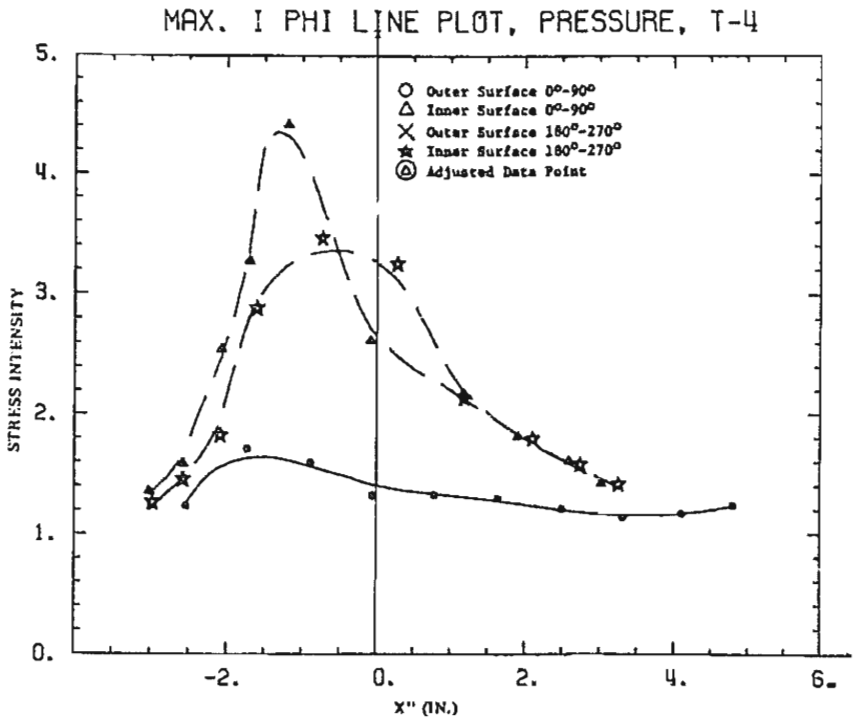
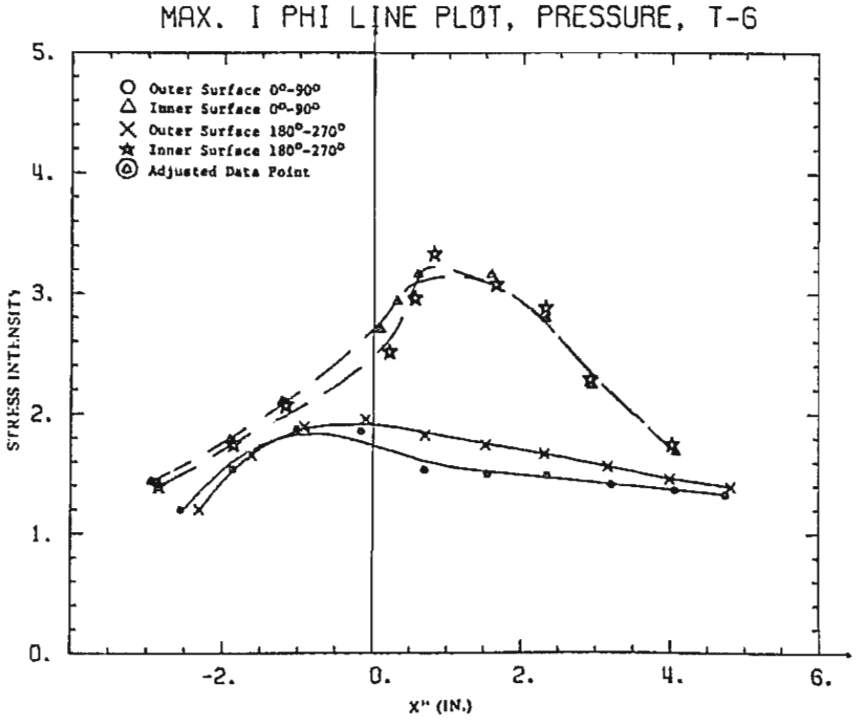


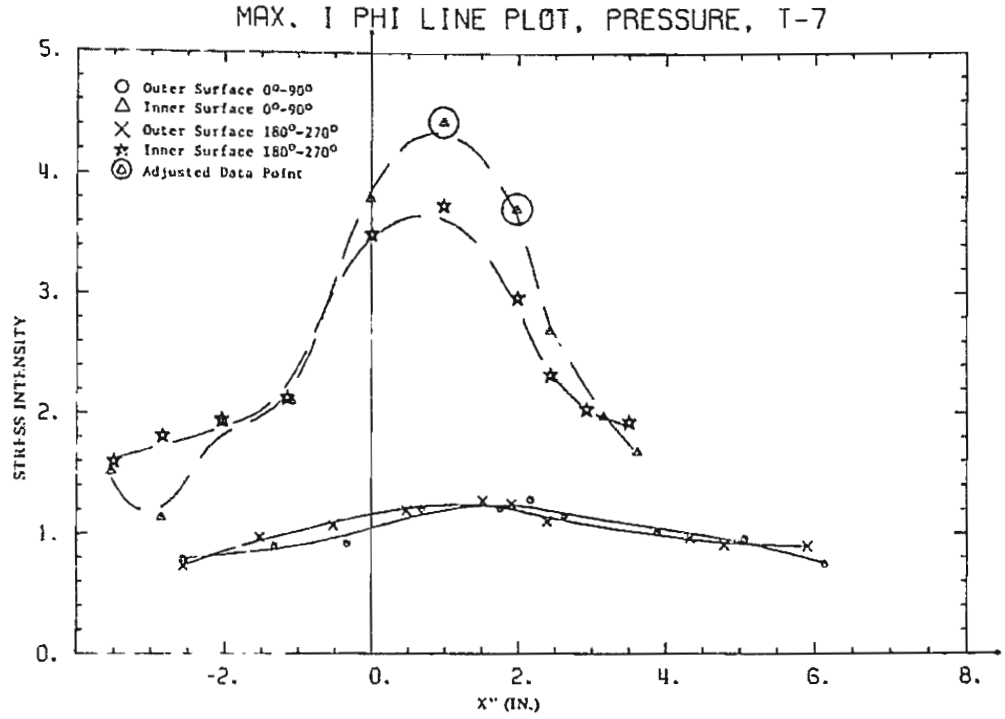
FIGURE IX.3. LOCATION OF DIAL INDICATORS AND PIPE LEG ROSETTES FOR T-7.

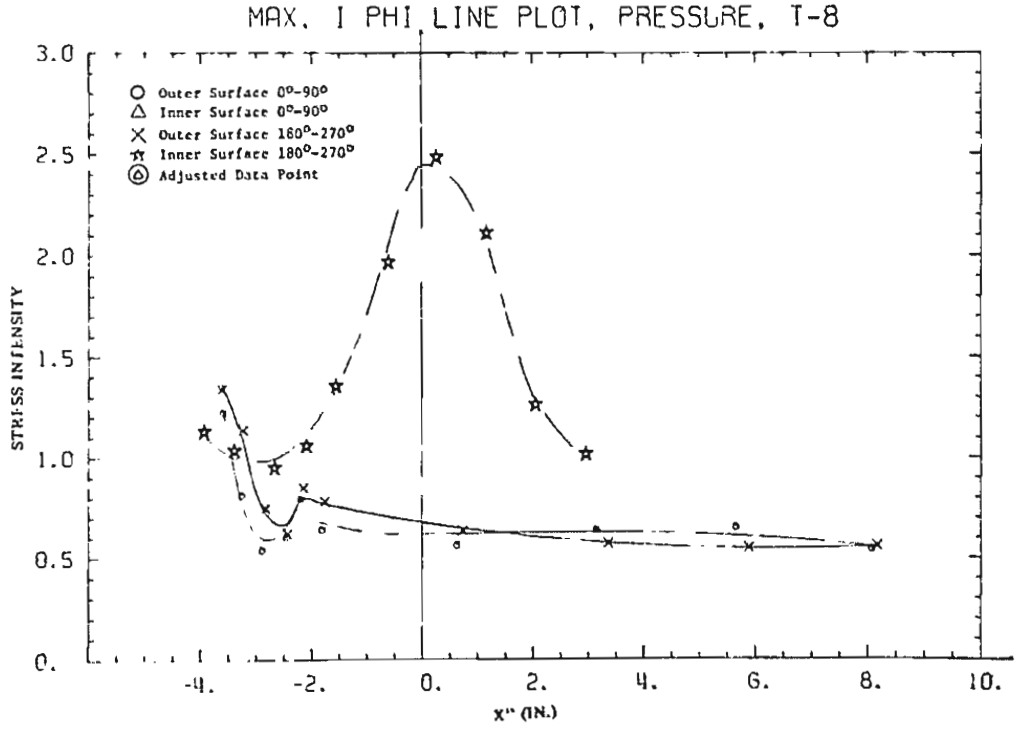
VIII.1

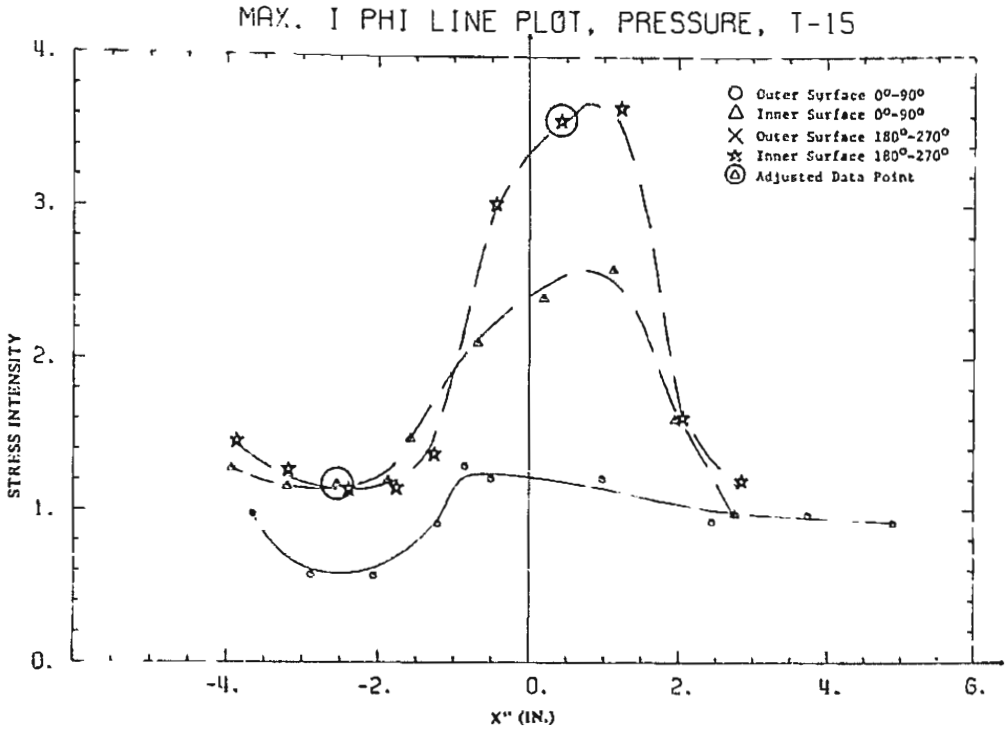
PROJECTED LENGTH ALONG MAXIMUM INTENSITY
PHI LINE VS STRESS INTENSITY

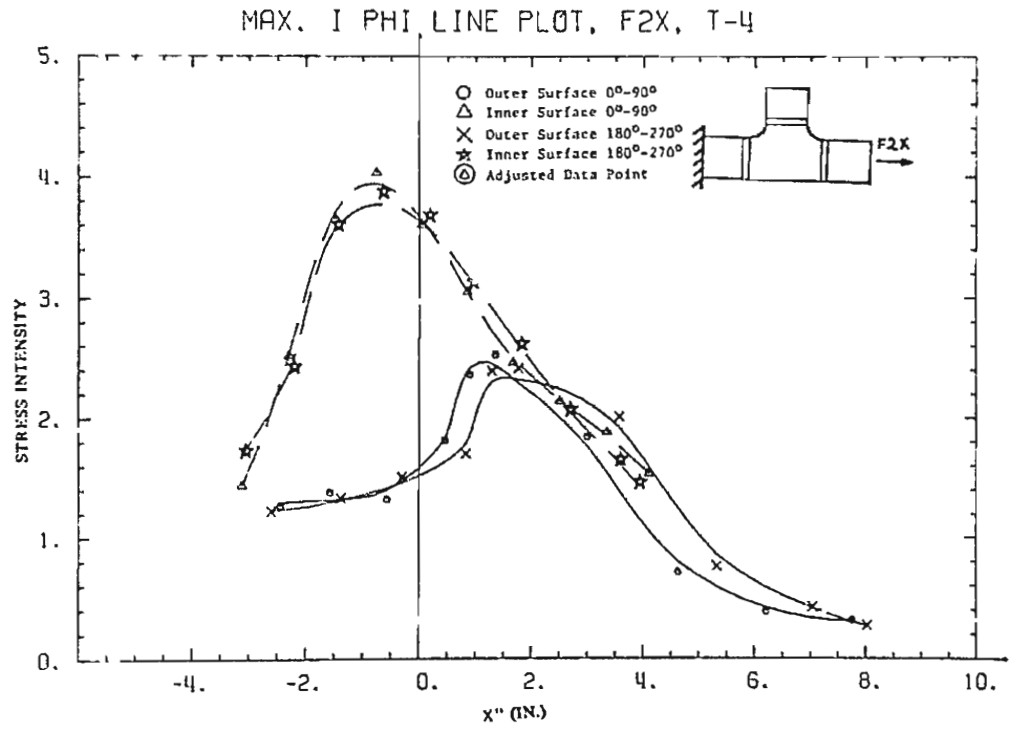

MAX. I PHI LINE PLOT, PRESSURE, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
STRESS INTENSITY
X" (IN.)
5.
4.
3.
2.
1.
0.
-2.
0.
2.
4.
6.

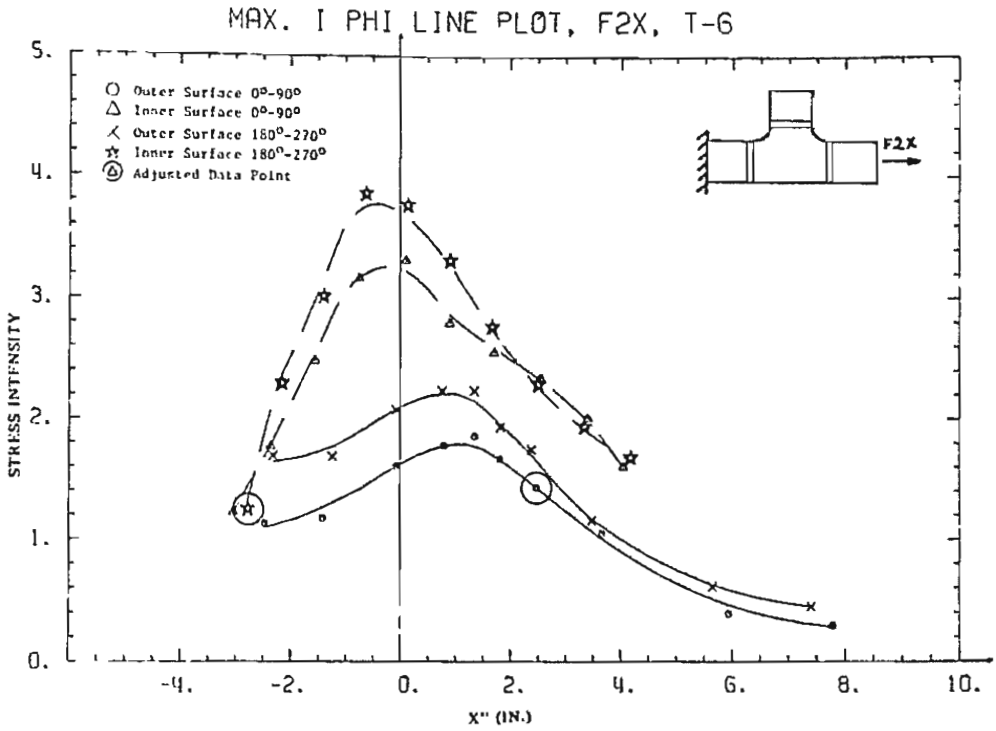

MAX. I PHI LINE PLOT, PRESSURE, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
STRESS INTENSITY
X" (IN.)
5.
4.
3.
2.
1.
0.
-2.
0.
2.
4.
6.

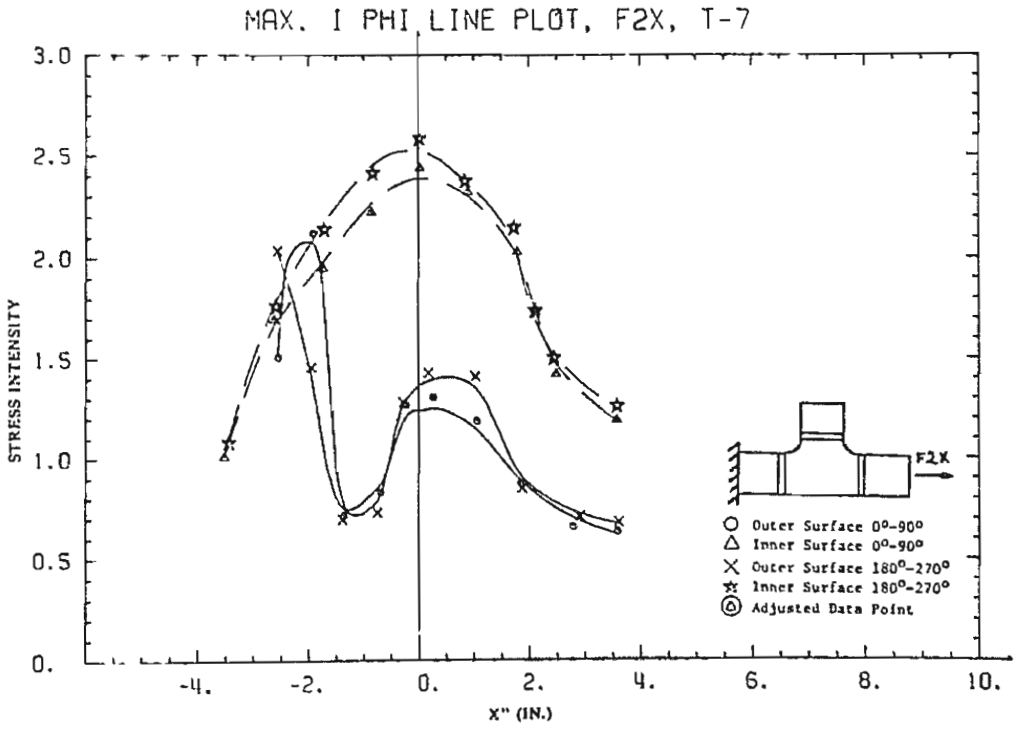

MAX. I PHI LINE PLOT, PRESSURE, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
STRESS INTENSITY
X" (IN.)
5.
4.
3.
2.
1.
0.
-2.
0.
2.
4.
6.
8.

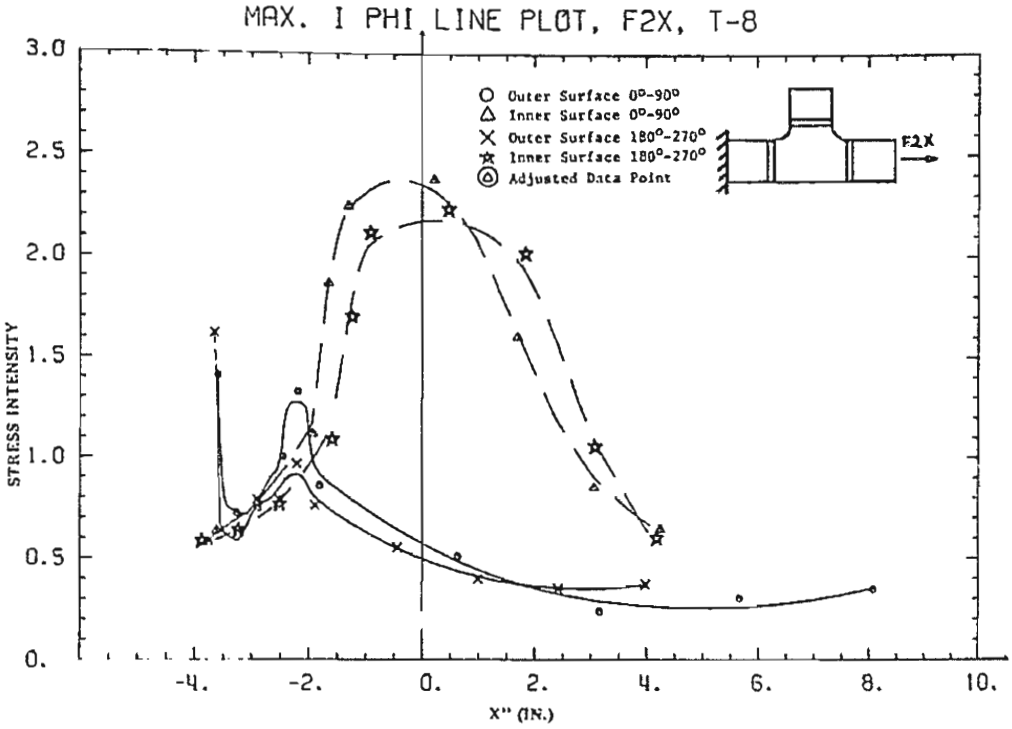

MAX. I PHI LINE PLOT, PRESSURE, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
STRESS INTENSITY
X" (IN.)
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

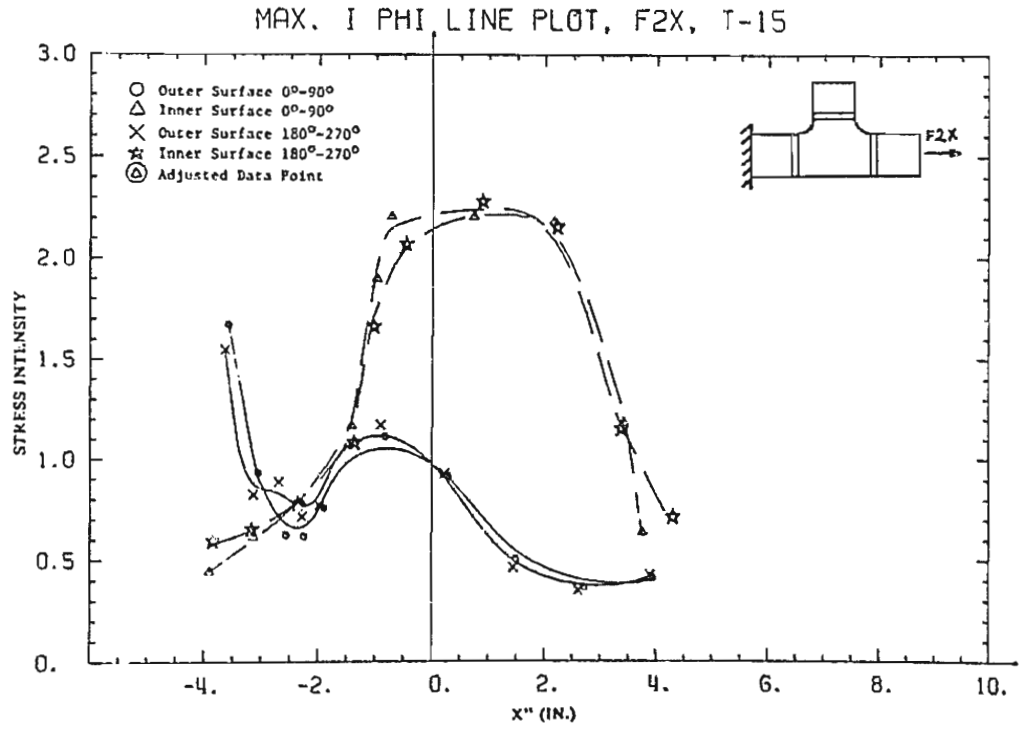

MAX. I PHI LINE PLOT, PRESSURE, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
STRESS INTENSITY
X" (IN.)
0.
1.
2.
3.
4.
-4.
-2.
0.
2.
4.
6.

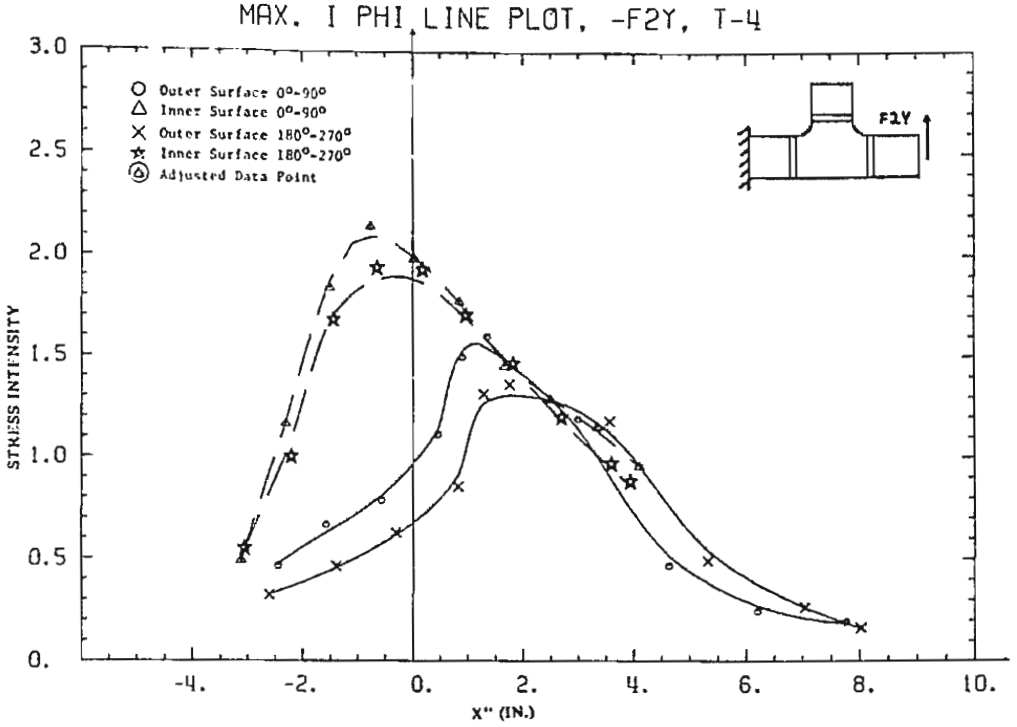

MAX. I PHI LINE PLOT, F2X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
STRESS INTENSITY
X" (IN.)
0.
1.
2.
3.
4.
5.
-4.
-2.
0.
2.
4.
6.
8.
10.

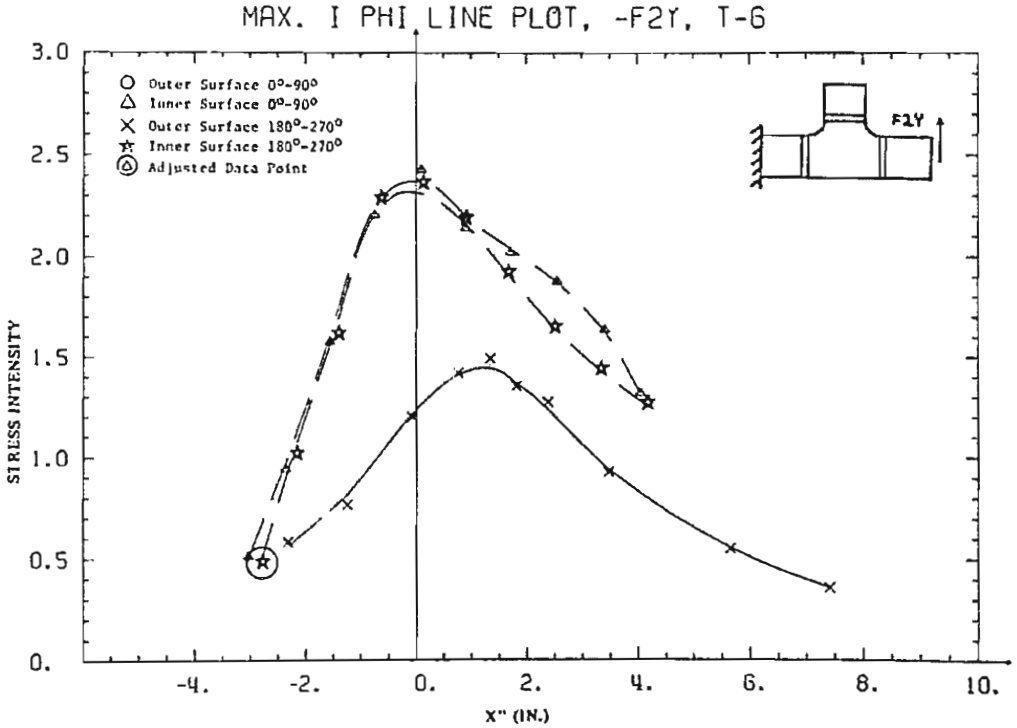

MAX. I PHI LINE PLOT, F2X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
STRESS INTENSITY
X" (IN.)
5.
4.
3.
2.
1.
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

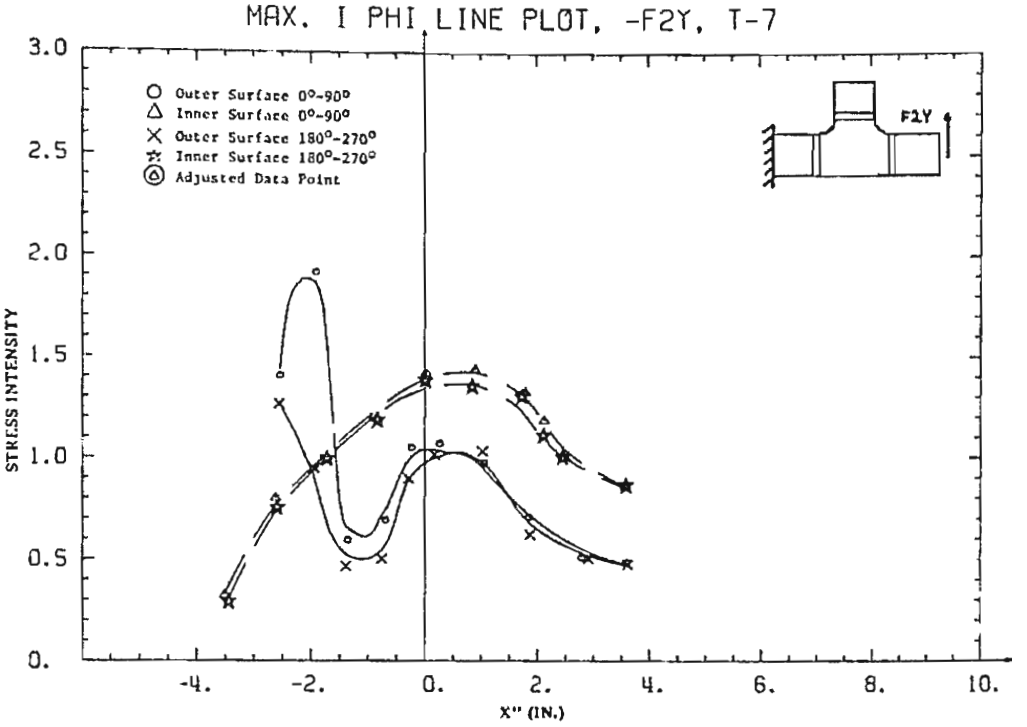

MAX. I PHI LINE PLOT, F2X, T-7
F2X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
STRESS INTENSITY
X" (IN.)
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

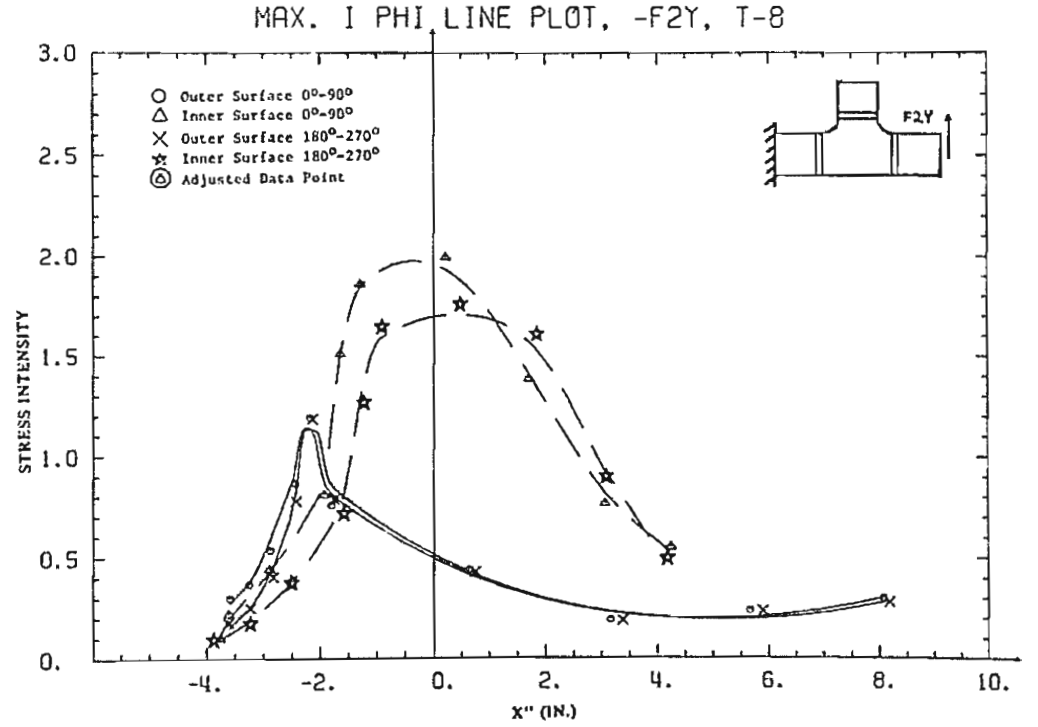

MAX. I PHI LINE PLOT, F2X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

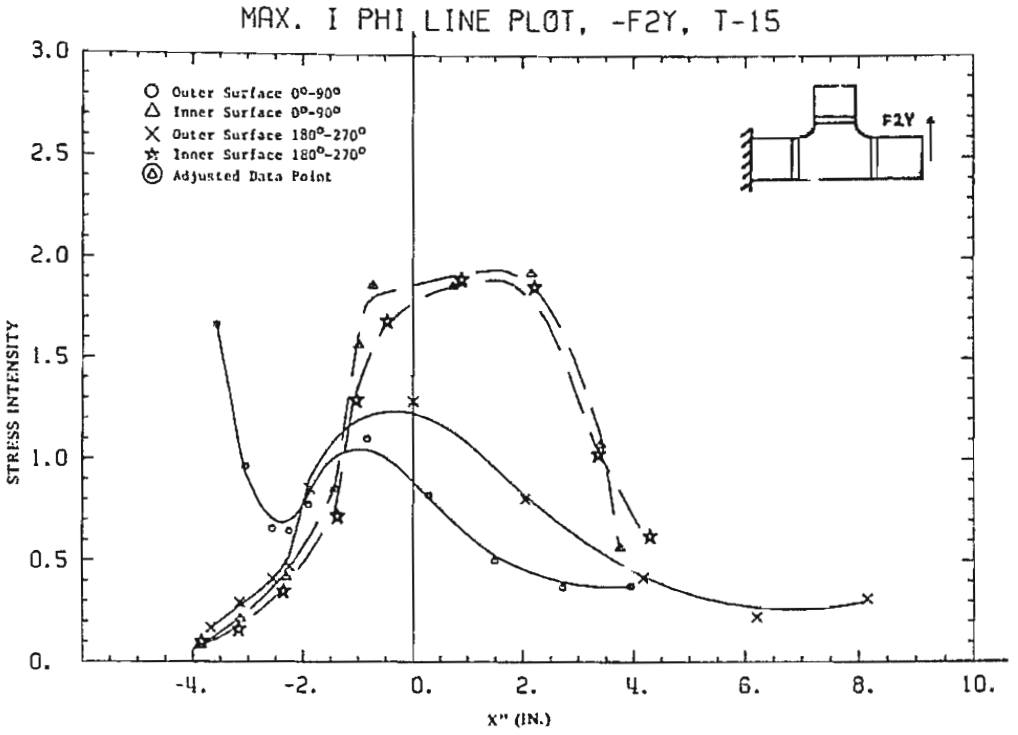

MAX. I PHI LINE PLOT, F2X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

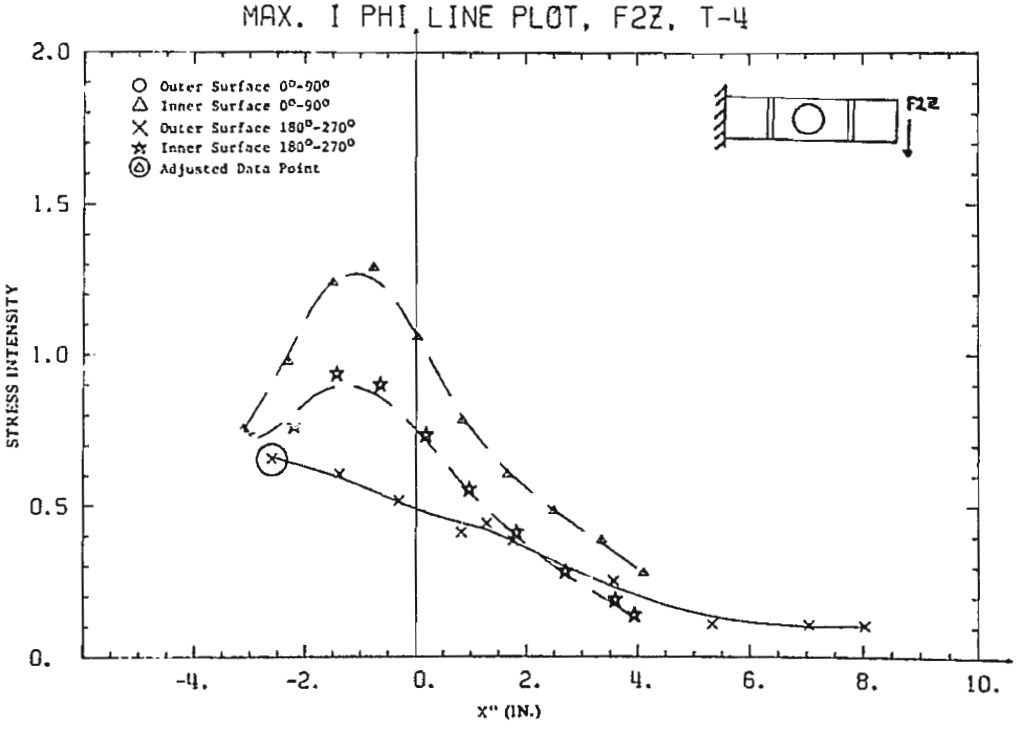

MAX. I PHI LINE PLOT, -F2Y, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

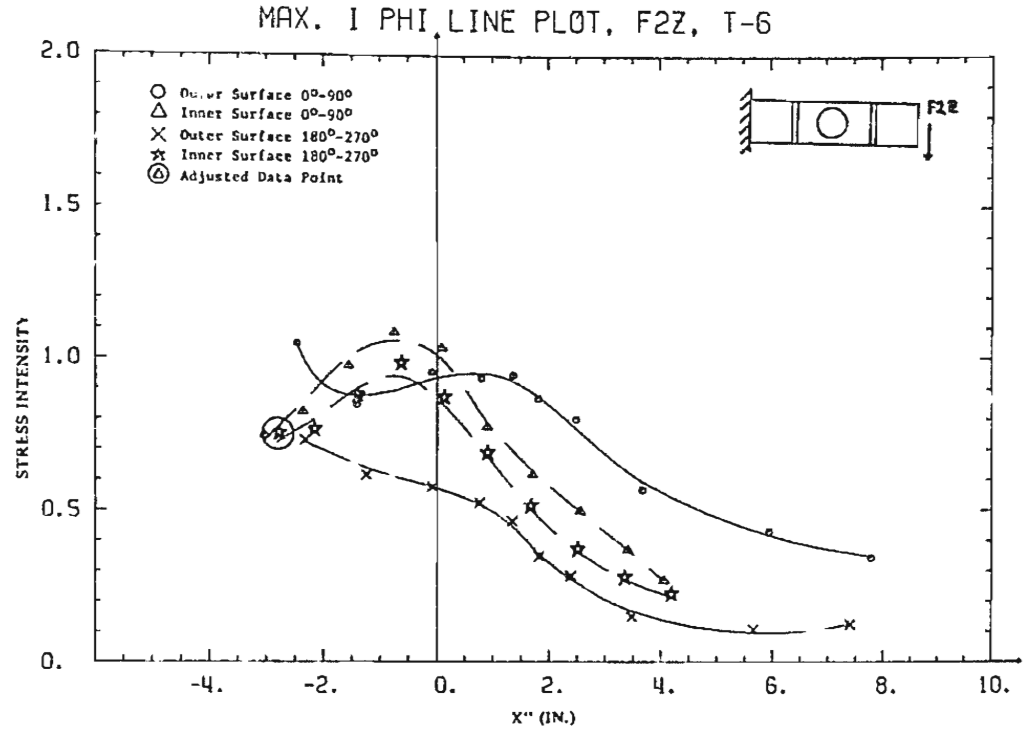

MAX. I PHI LINE PLOT, -F2Y, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

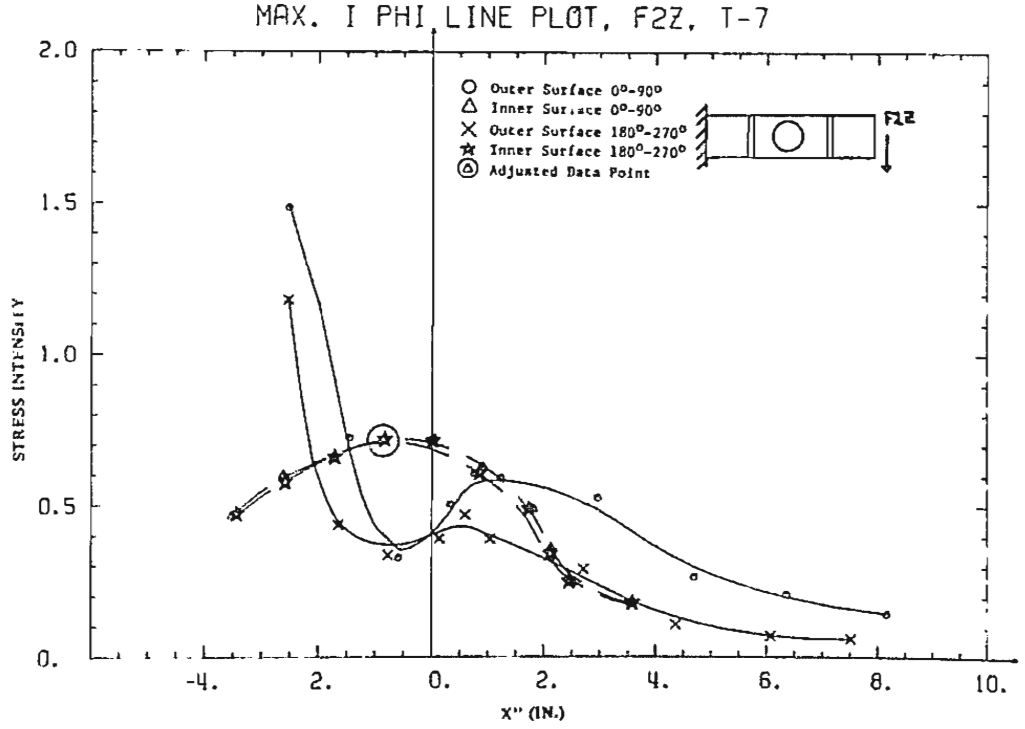

MAX. I PHI LINE PLOT, -F2Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

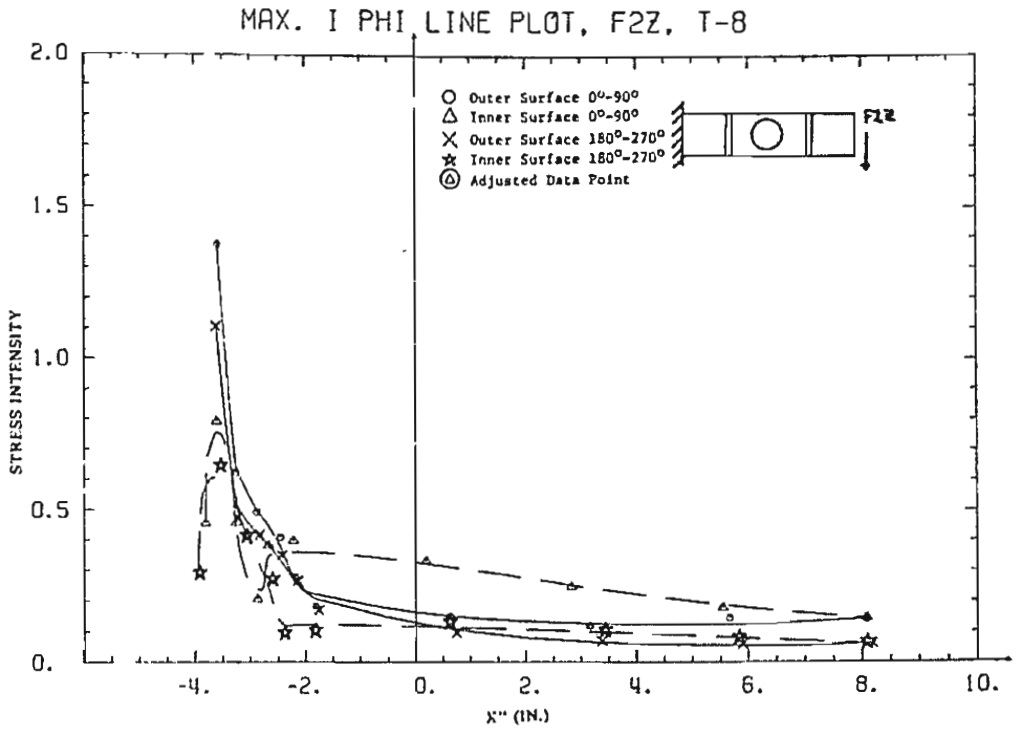

MAX. I PHI LINE PLOT, -F2Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

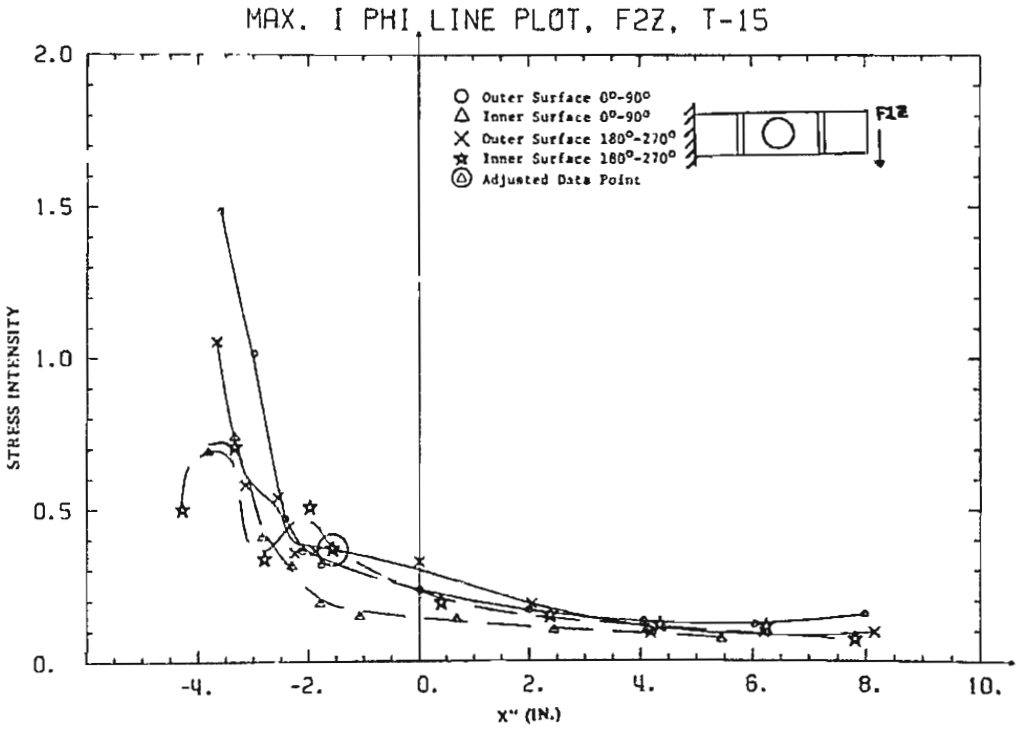

MAX. I PHI LINE PLOT, -F2Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

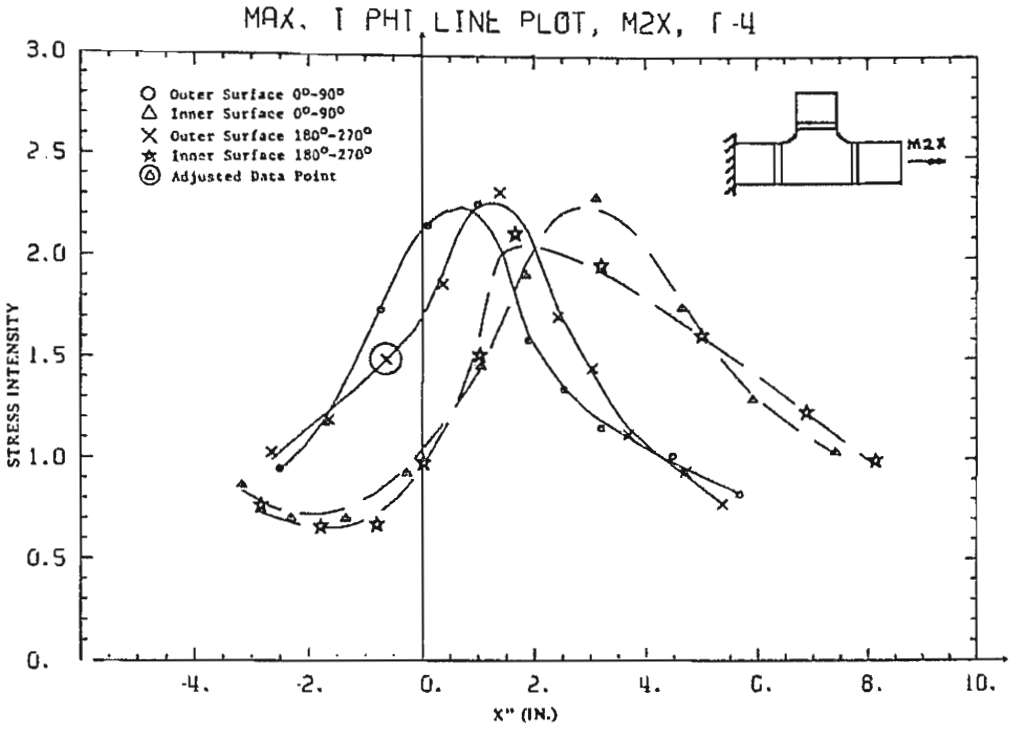

MAX. I PHI LINE PLOT, F2Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

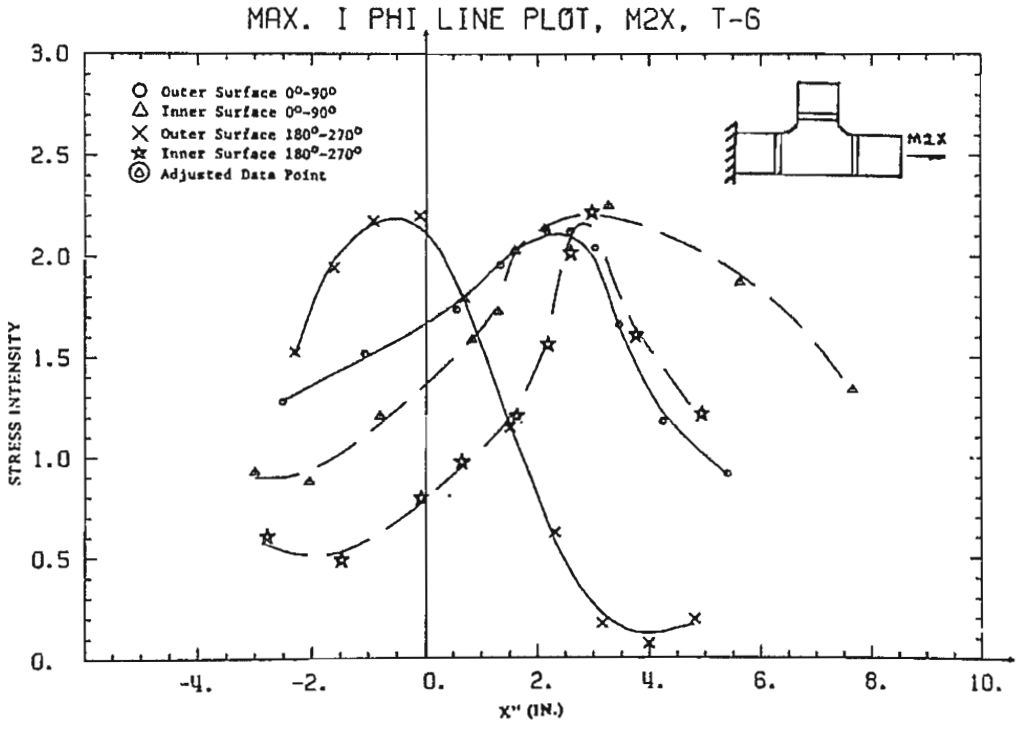

MAX. I PHI LINE PLOT, F2Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

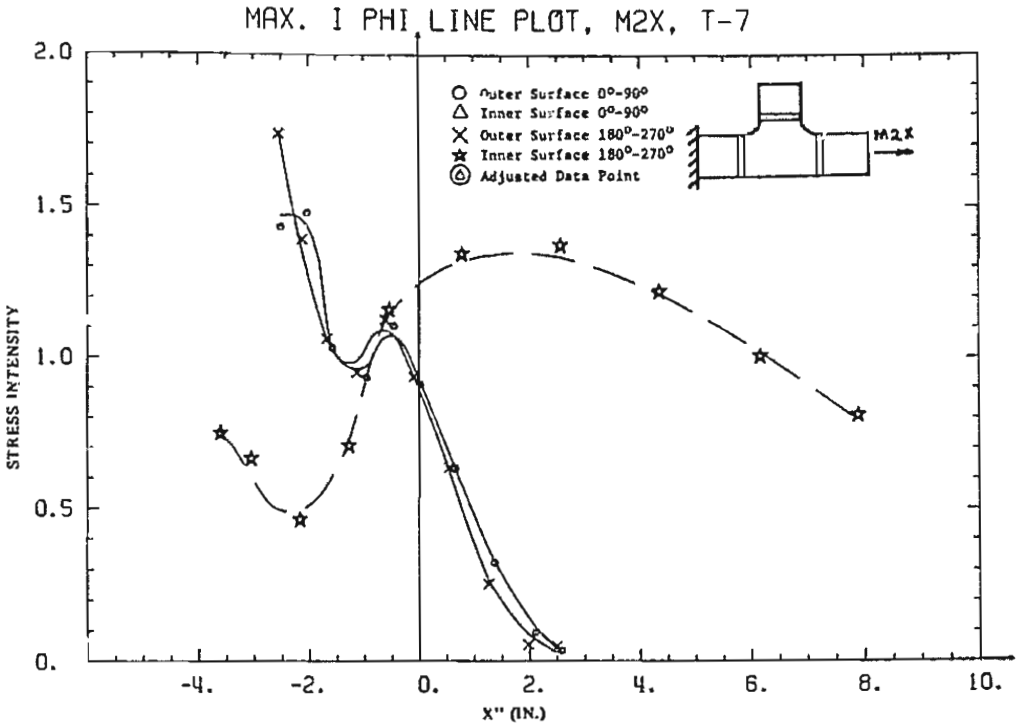

MAX. I PHI LINE PLOT, F2Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
2.
0.
2.
4.
6.
8.
10.
X" (IN.)

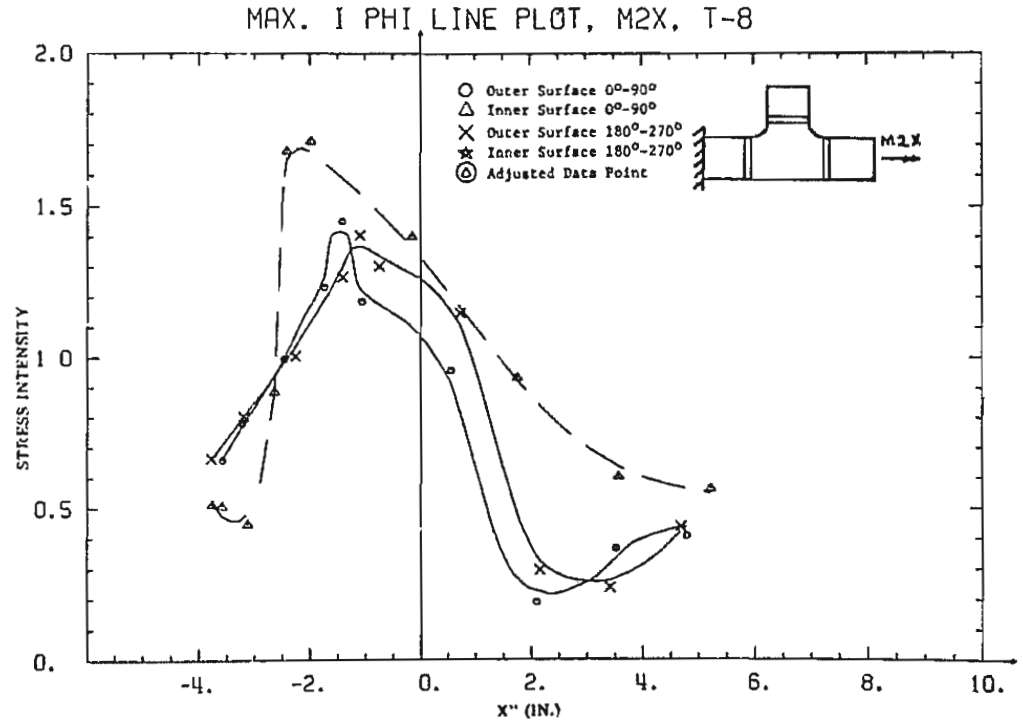

MAX. I PHI LINE PLOT, F2Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

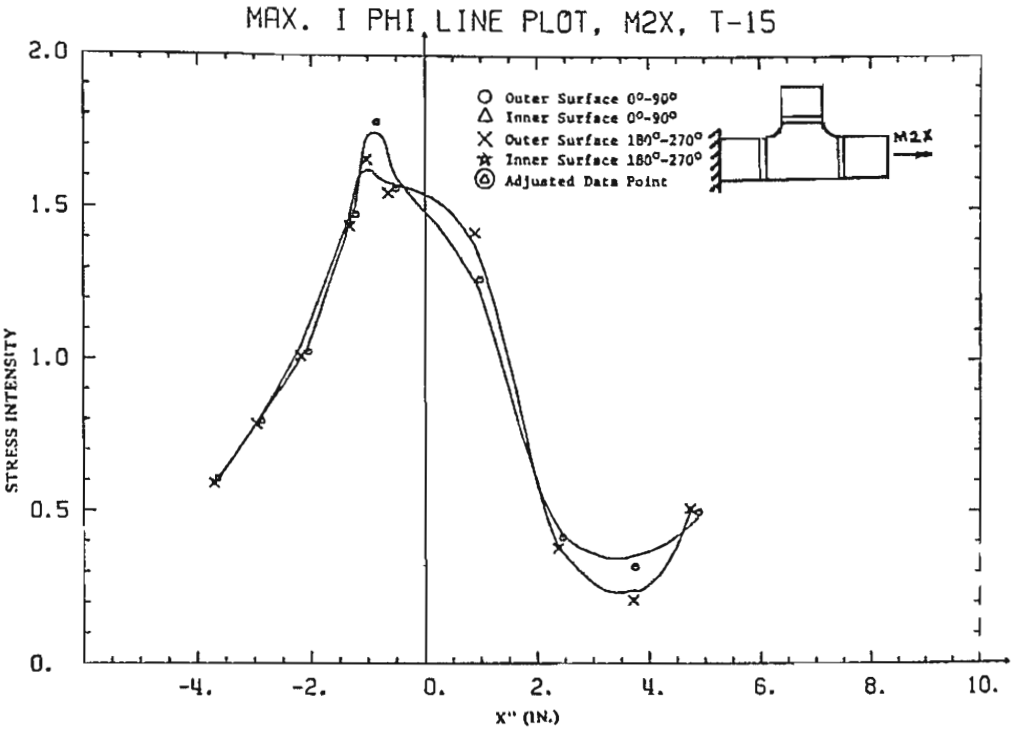

MAX. I PHI LINE PLOT, F2Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

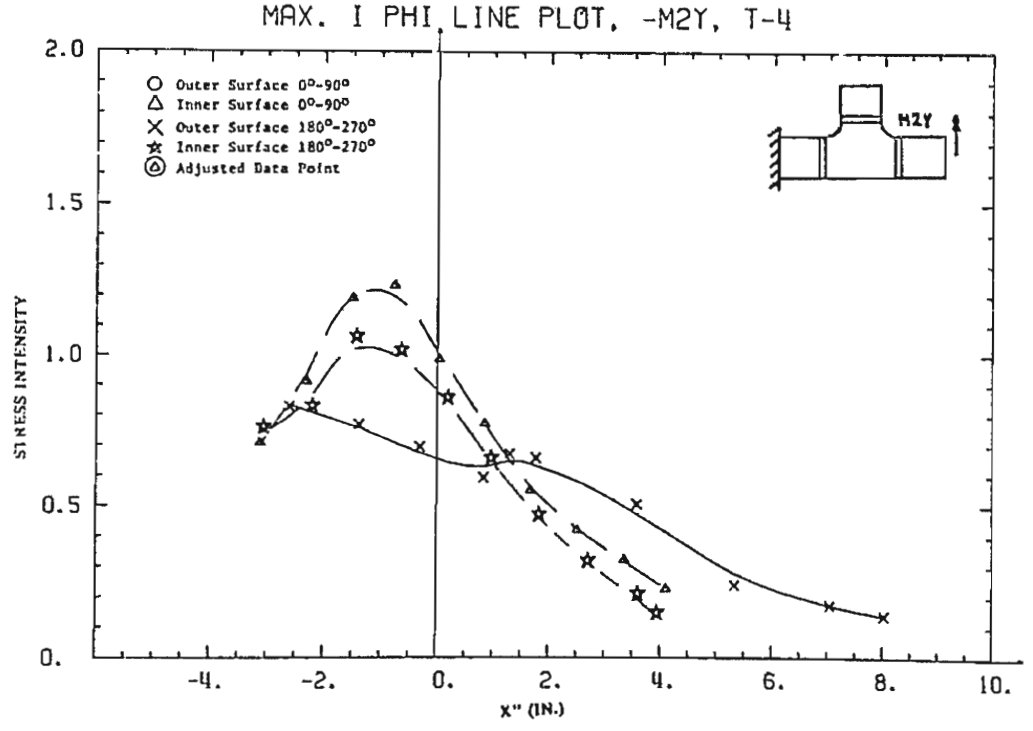

MAX. I PHI LINE PLOT, M2X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

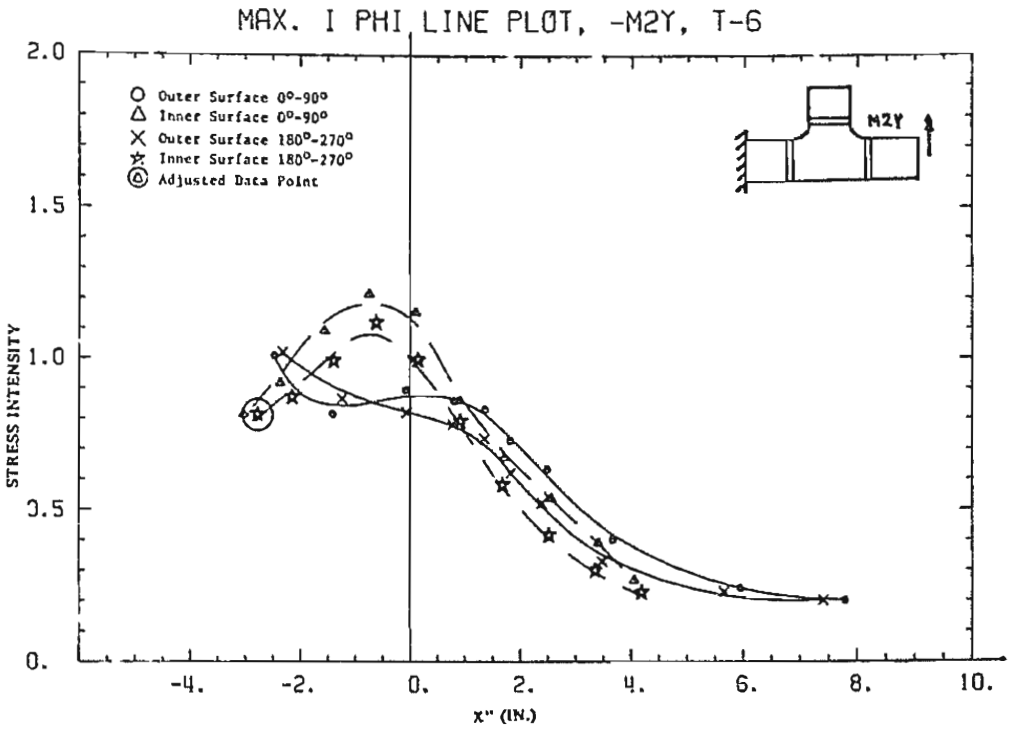

MAX. I PHI LINE PLOT, M2X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

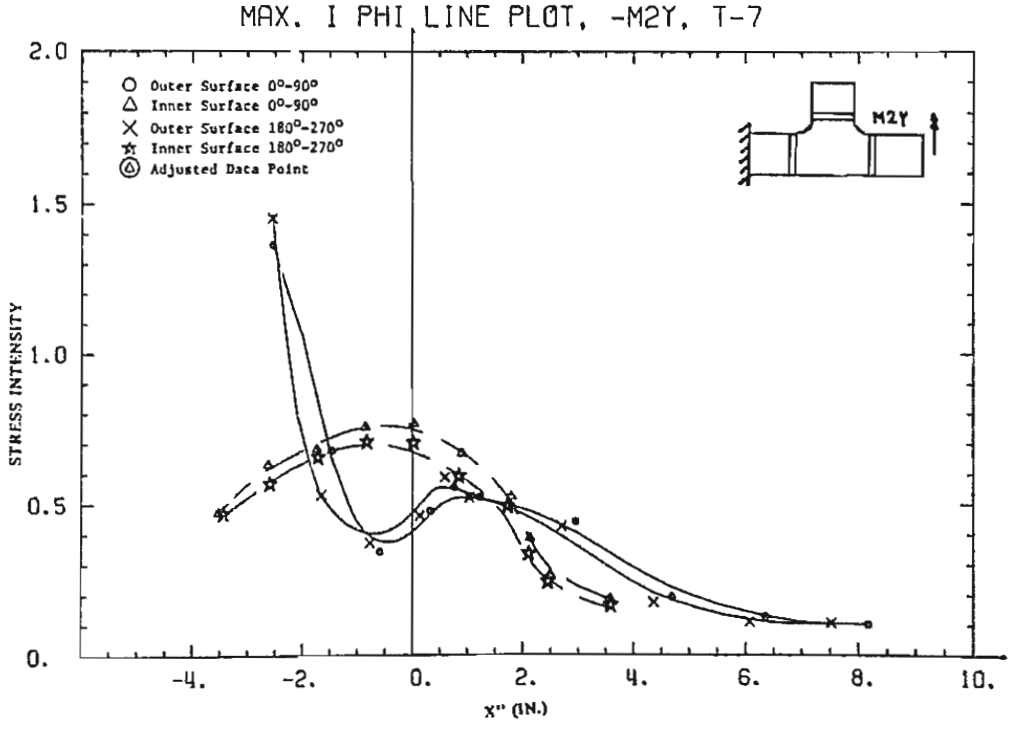

MAX. I PHI LINE PLOT, M2X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
STRESS INTENSITY
X" (IN.)
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

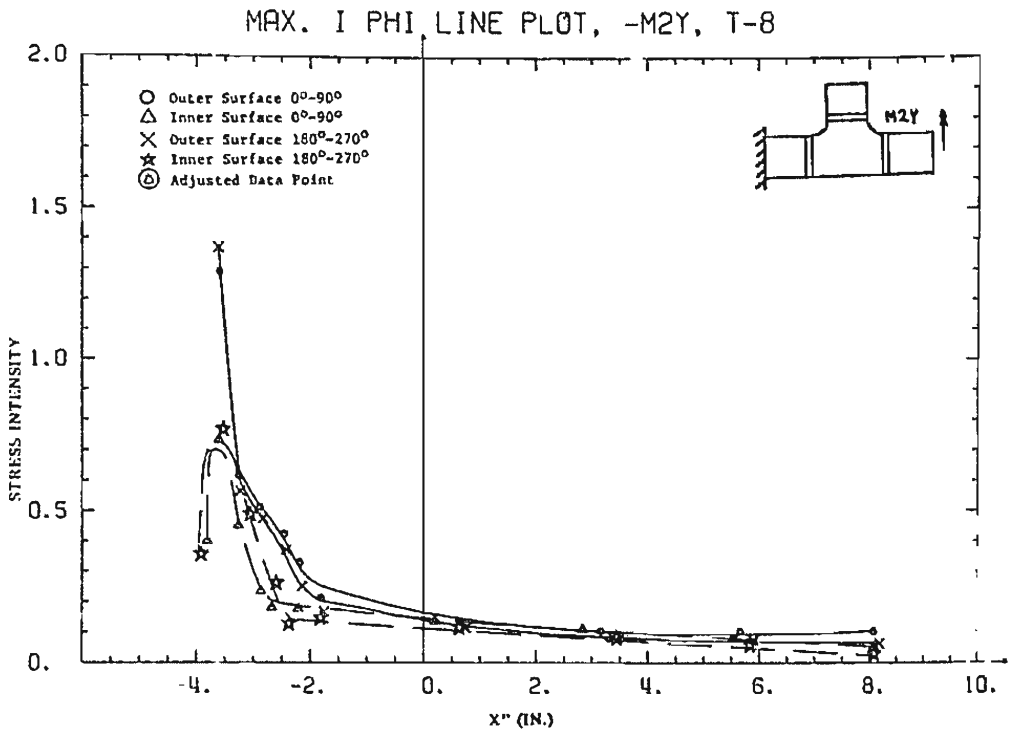

MAX. I PHI LINE PLOT, M2X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
STRESS INTENSITY
X" (IN.)
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

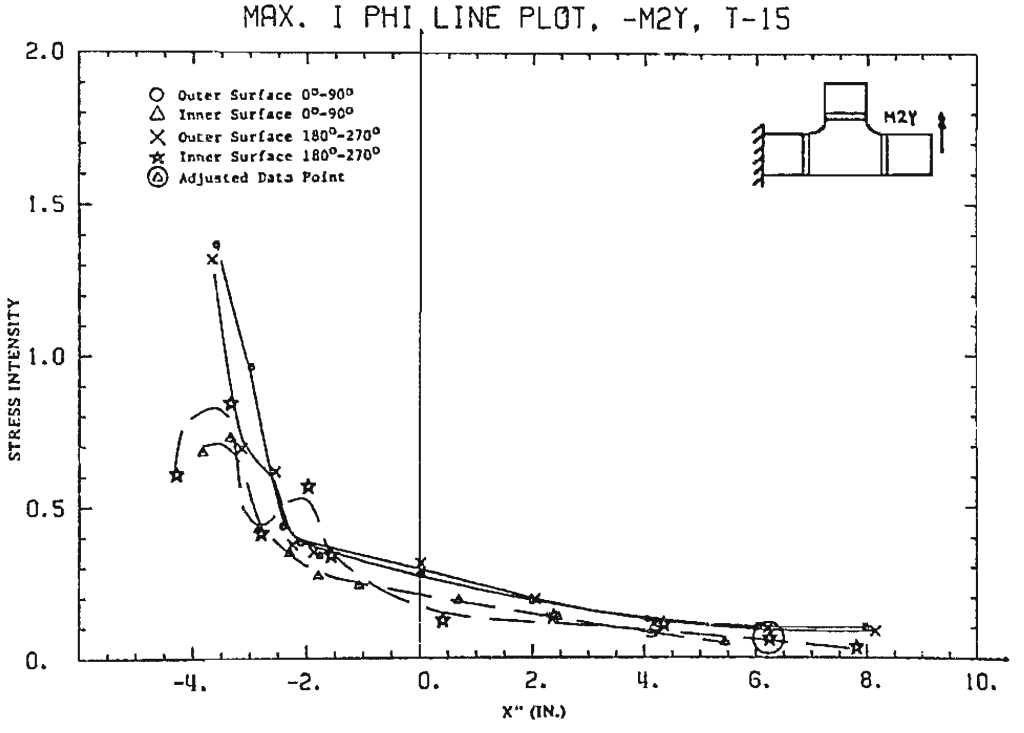

MAX. I PHI LINE PLOT, M2X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
STRESS INTENSITY
X" (IN.)
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

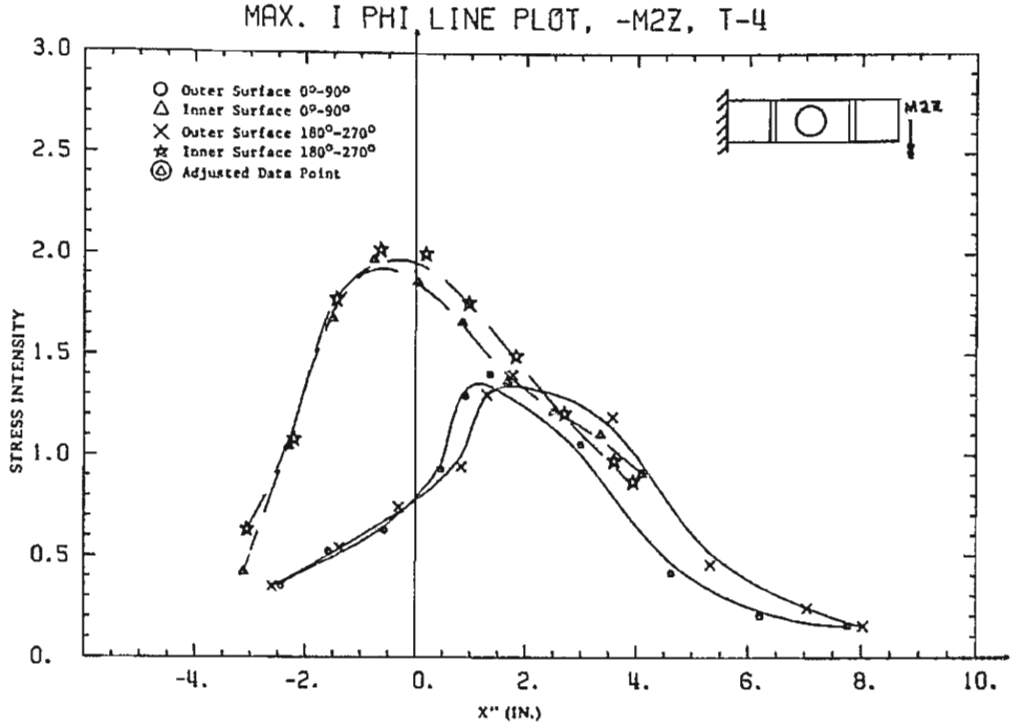

MAX. I PHI LINE PLOT, -M2Y, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
STRESS INTENSITY
X" (IN.)
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

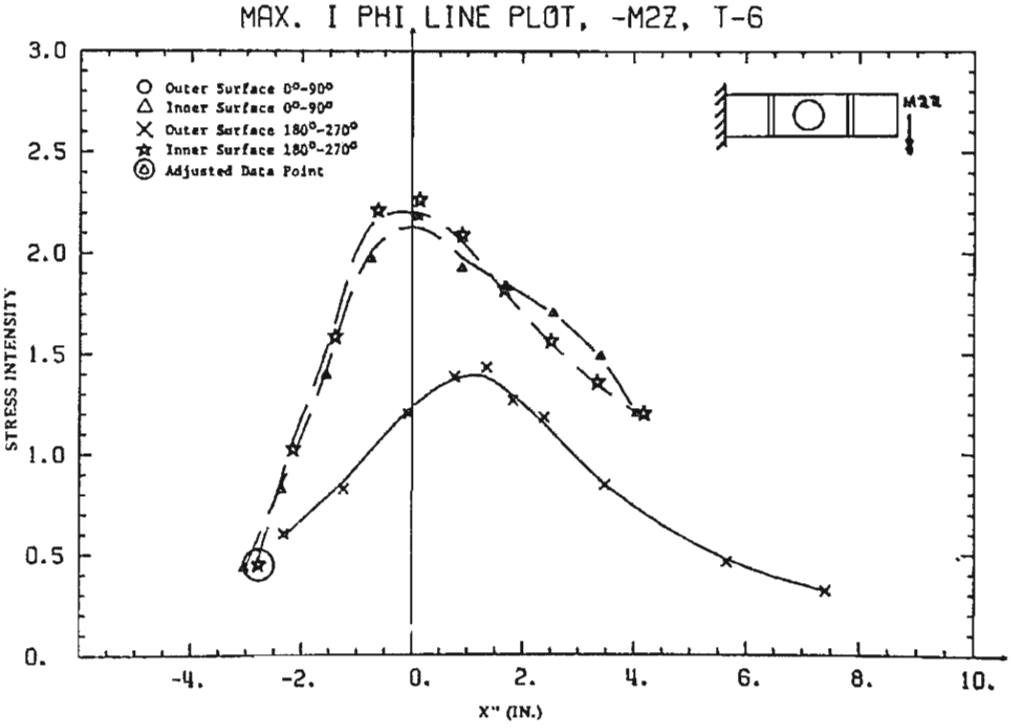

MAX. I PHI LINE PLOT, -M2Y, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

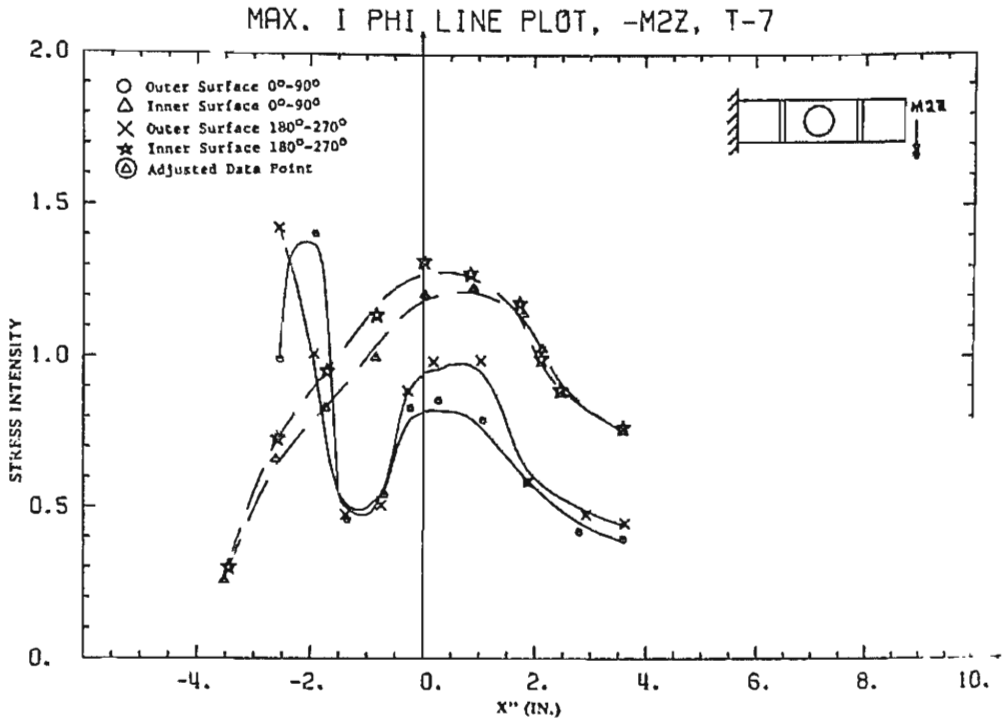

MAX. I PHI LINE PLOT, -M2Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

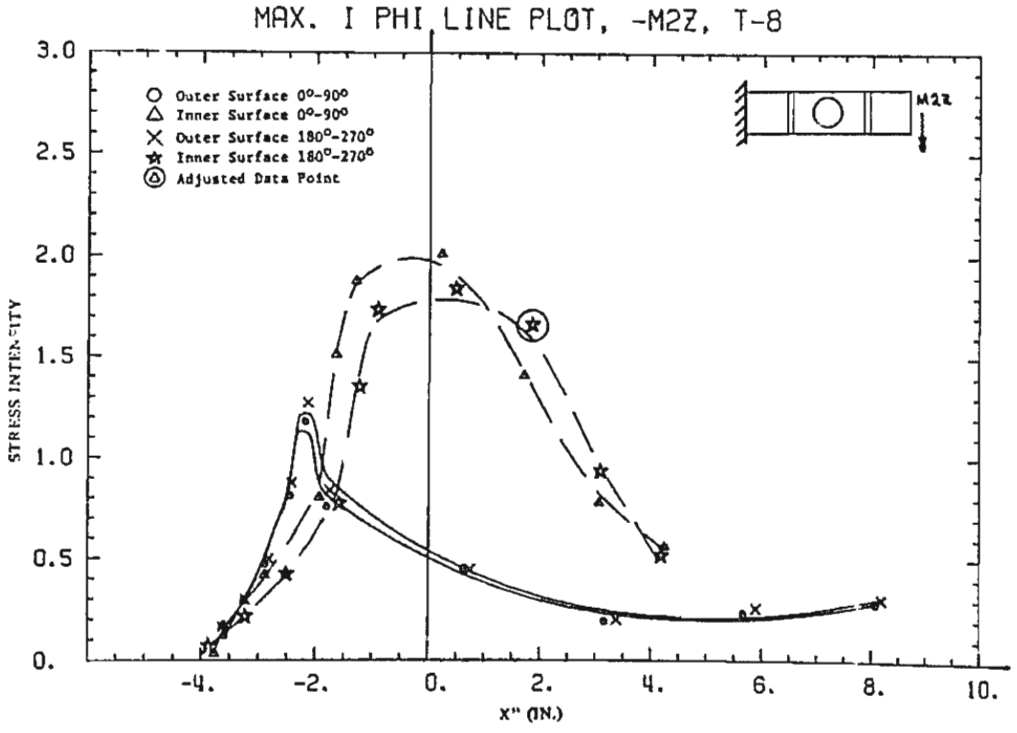

MAX. I PHI LINE PLOT, -M2Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

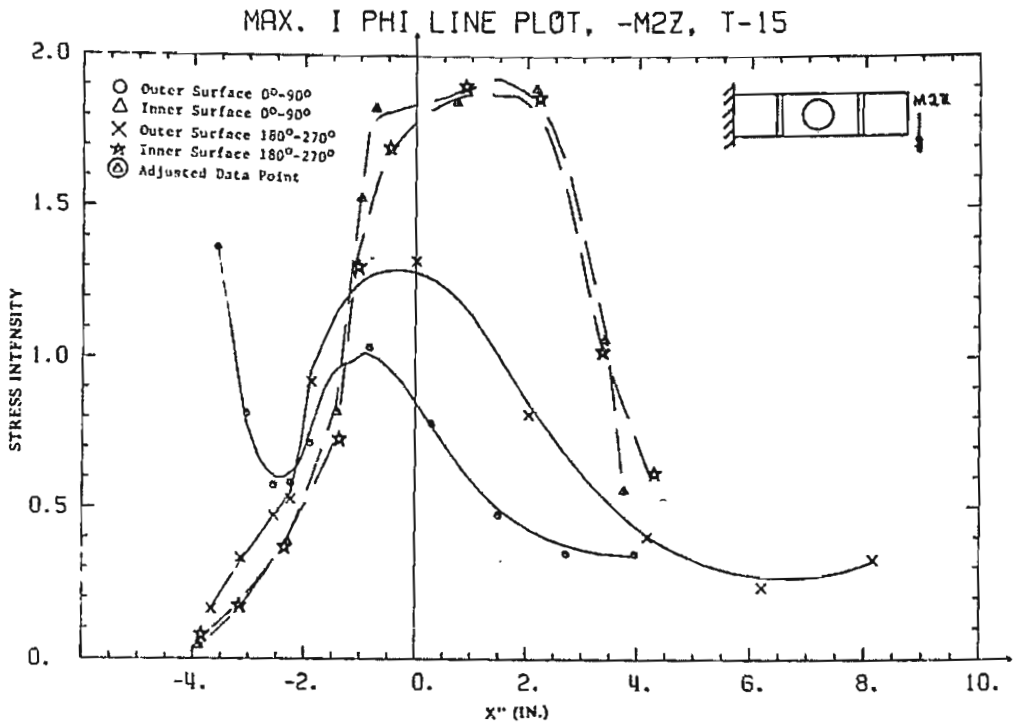

MAX. I PHI LINE PLOT, -M2Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

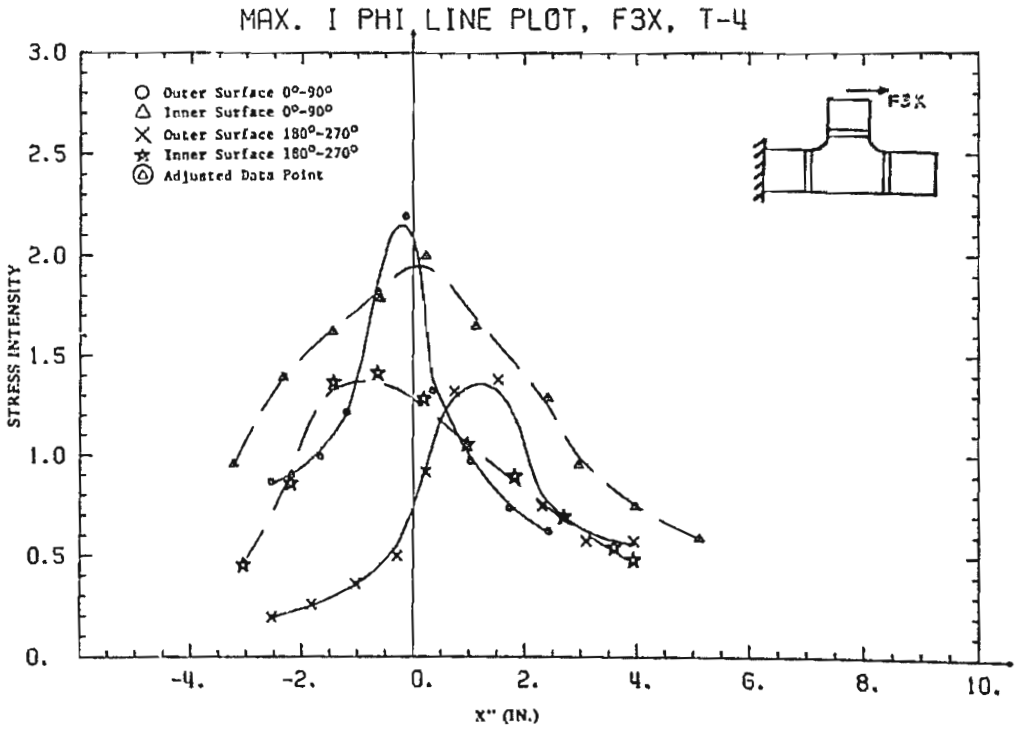

MAX. I PHI LINE PLOT, -M2Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

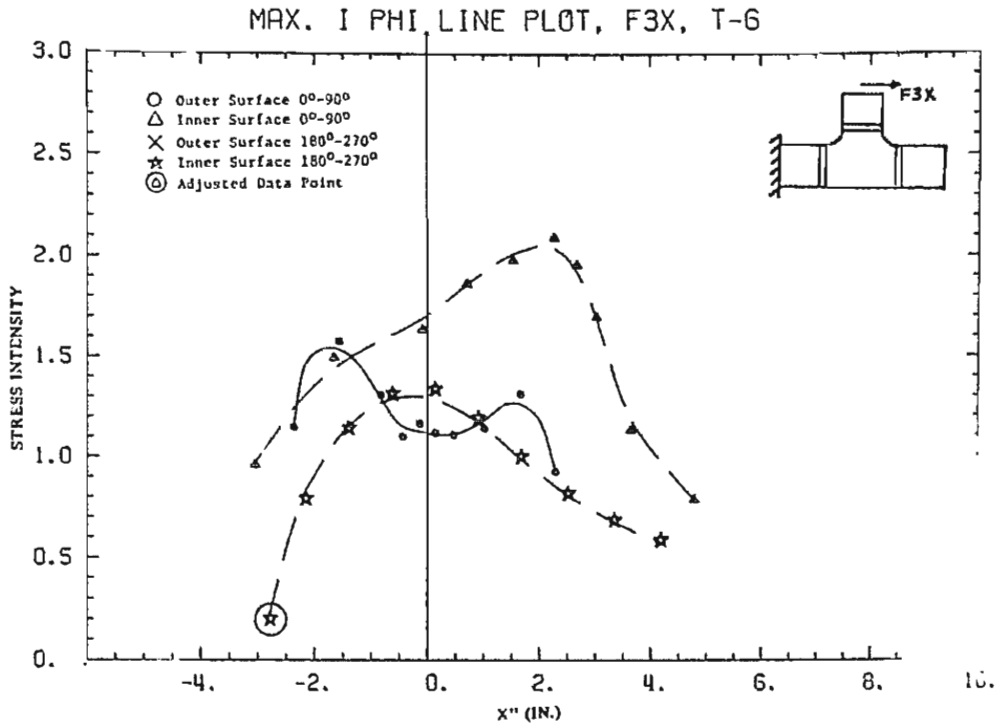

MAX. I PHI LINE PLOT, -M2Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

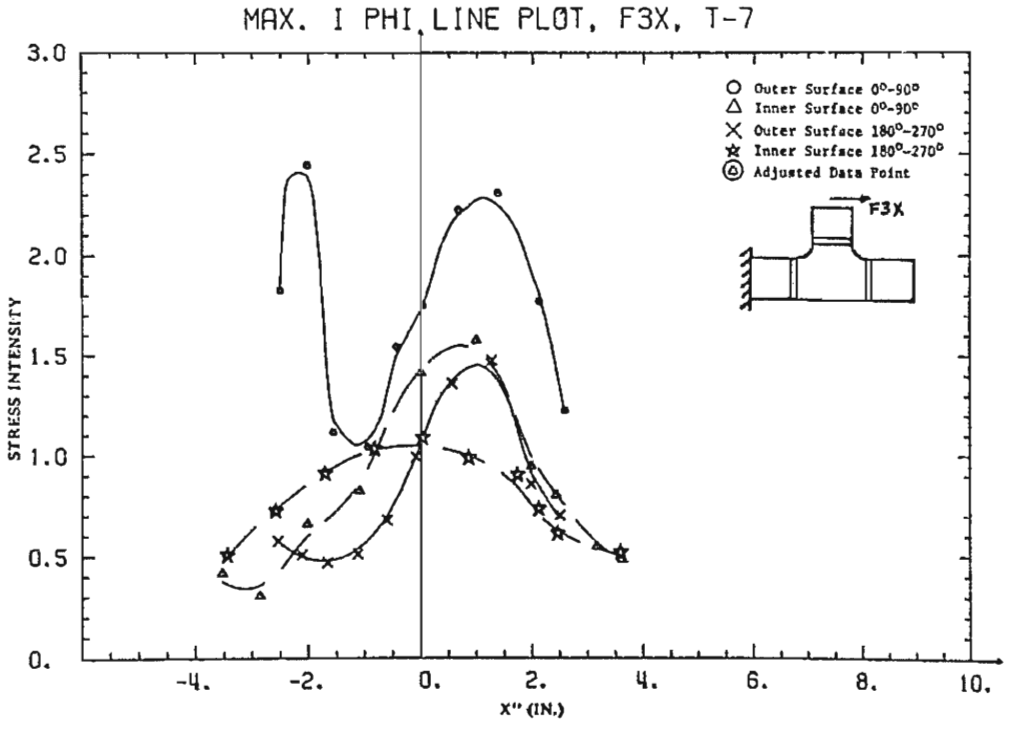

MAX. I PHI LINE PLOT, -M2Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

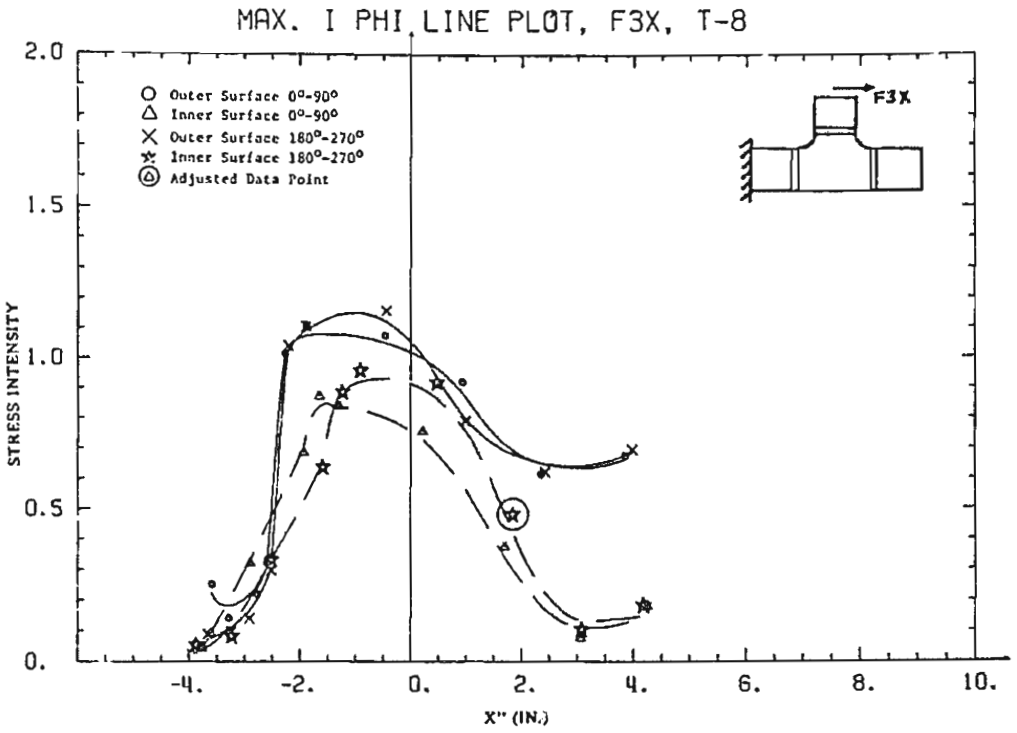

MAX. I PHI LINE PLOT, -M2Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

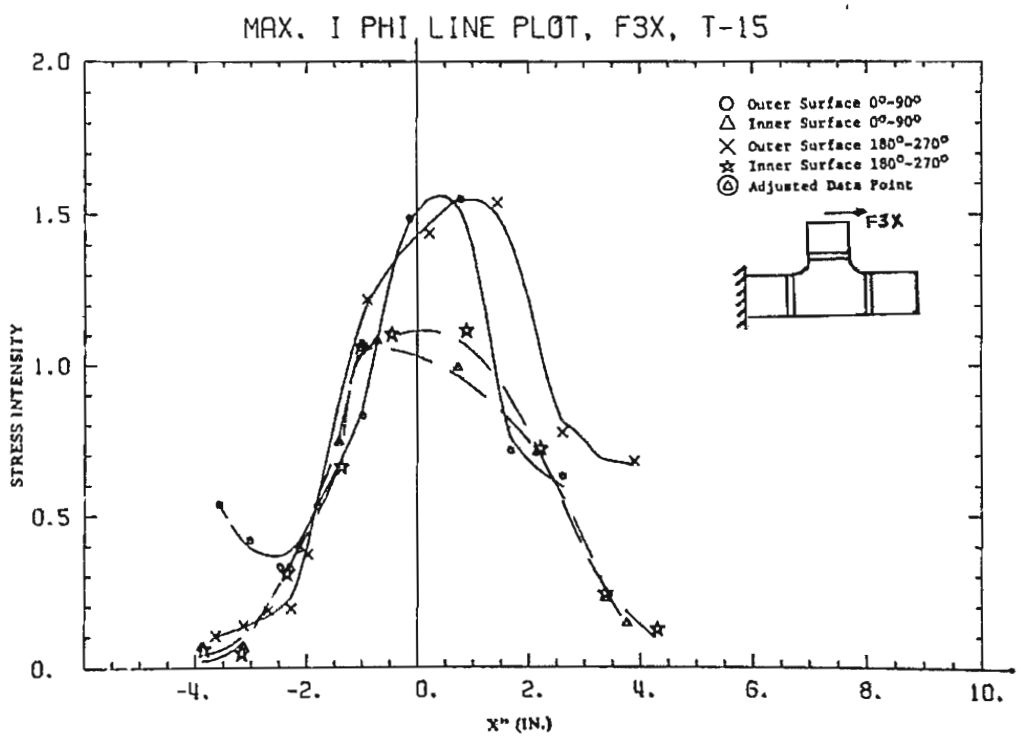

MAX. I PHI LINE PLOT, -M2Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
STRESS INTENSITY
X" (IN.)
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

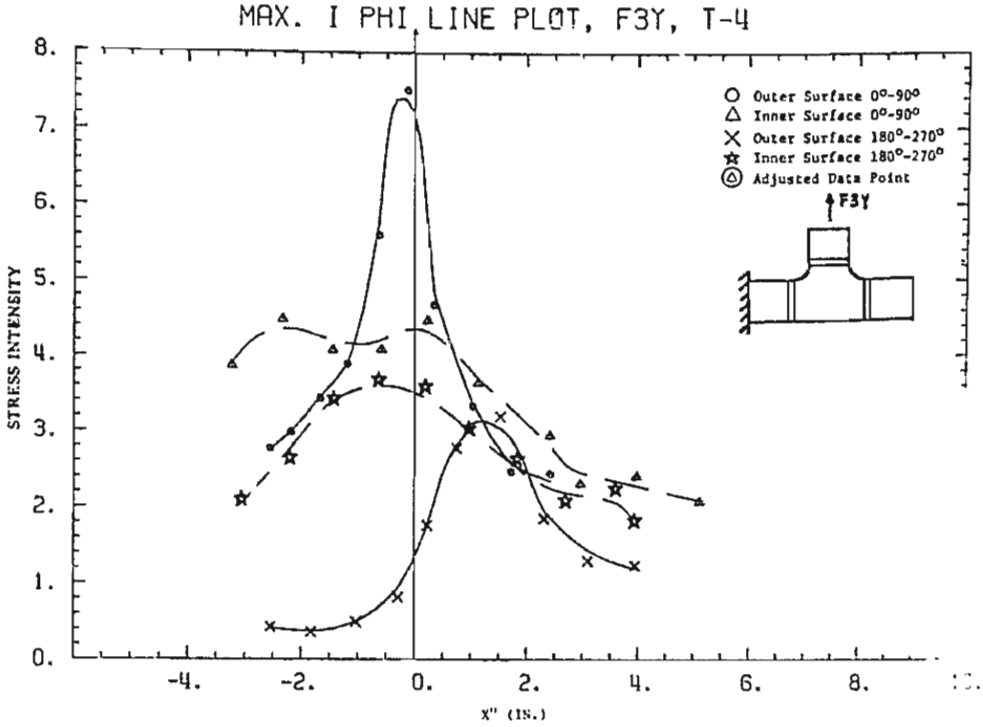

MAX. I PHI LINE PLOT, F3X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
STRESS INTENSITY
X" (IN.)
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

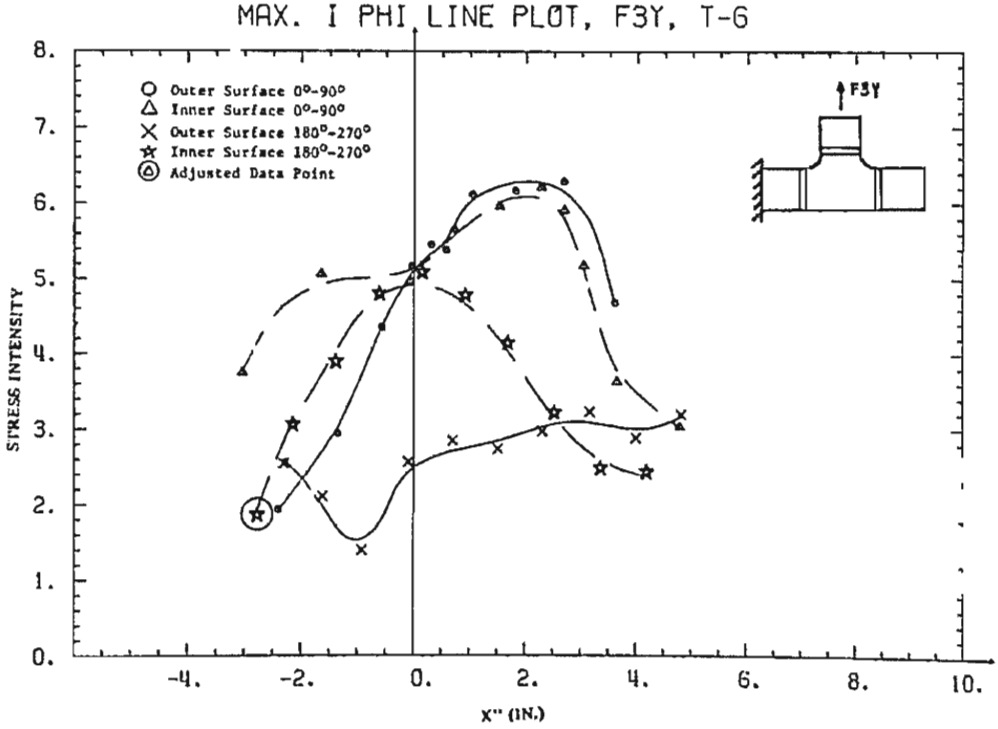

MAX. I PHI LINE PLOT, F3X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
X" (IN.)

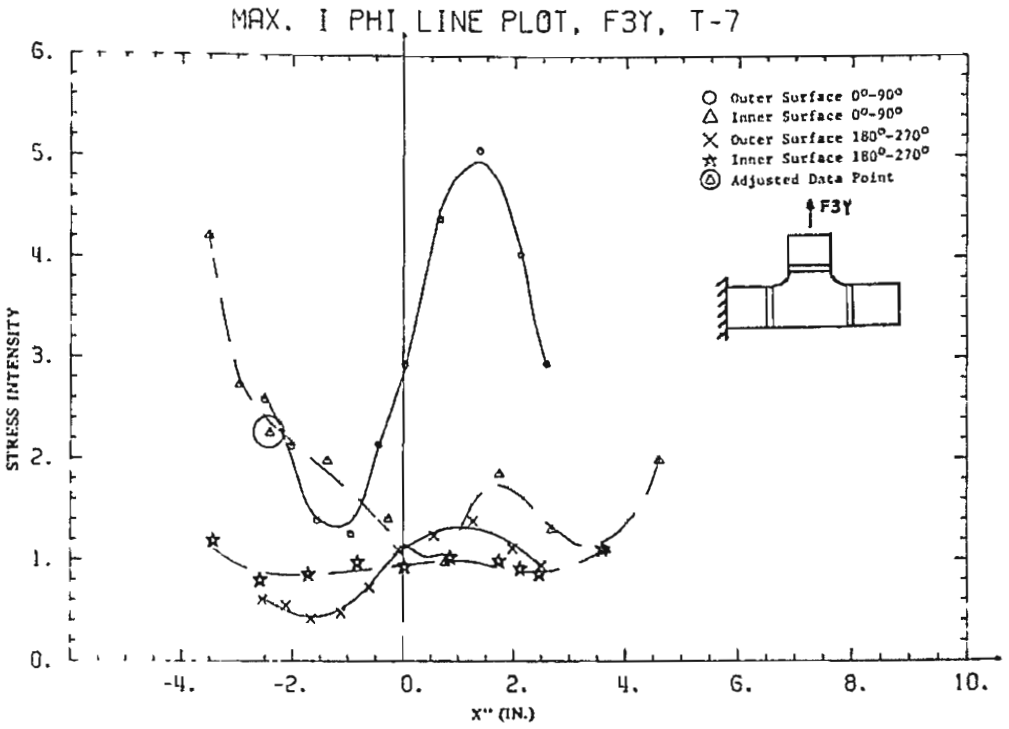

MAX. I PHI LINE PLOT, F3X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

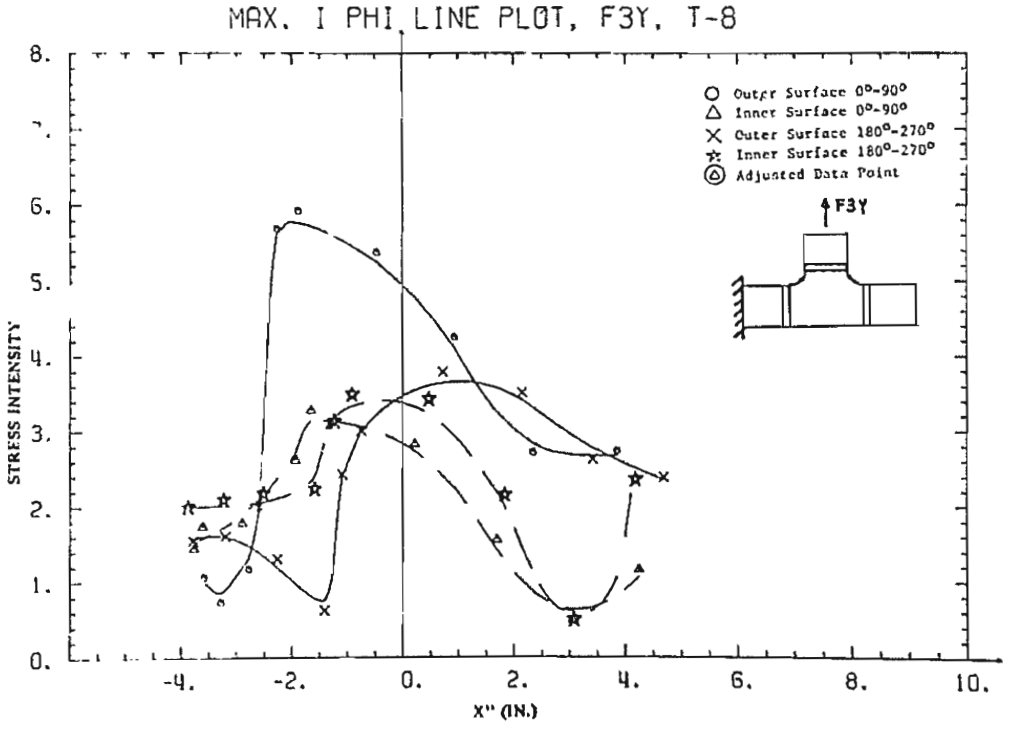

MAX. I PHI LINE PLOT, F3X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

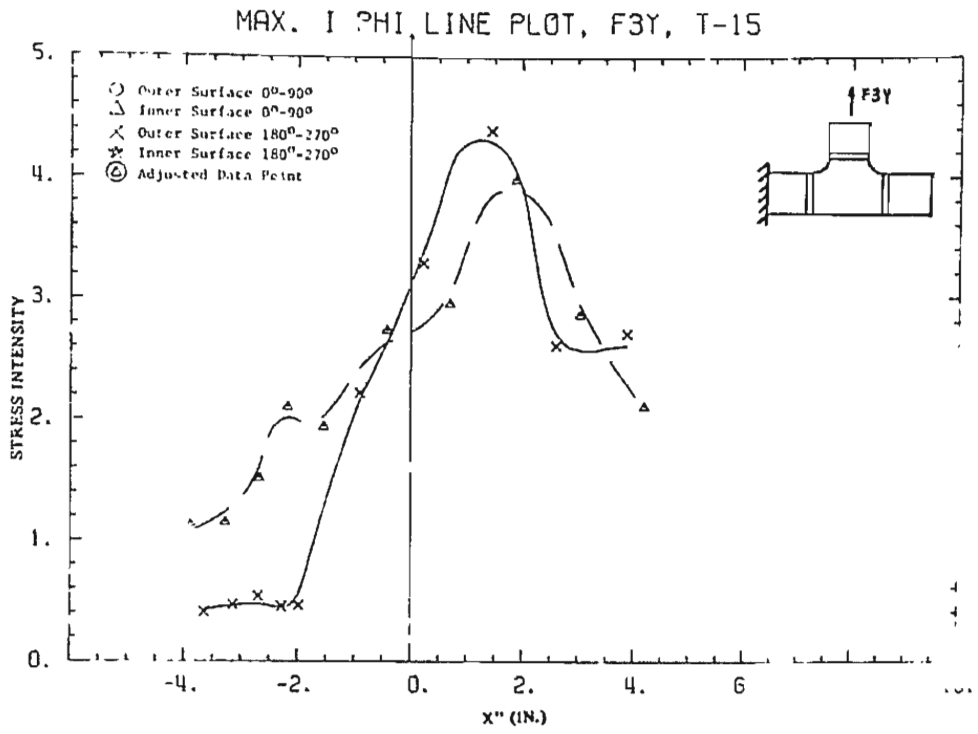

MAX. I PHI LINE PLOT, F3X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

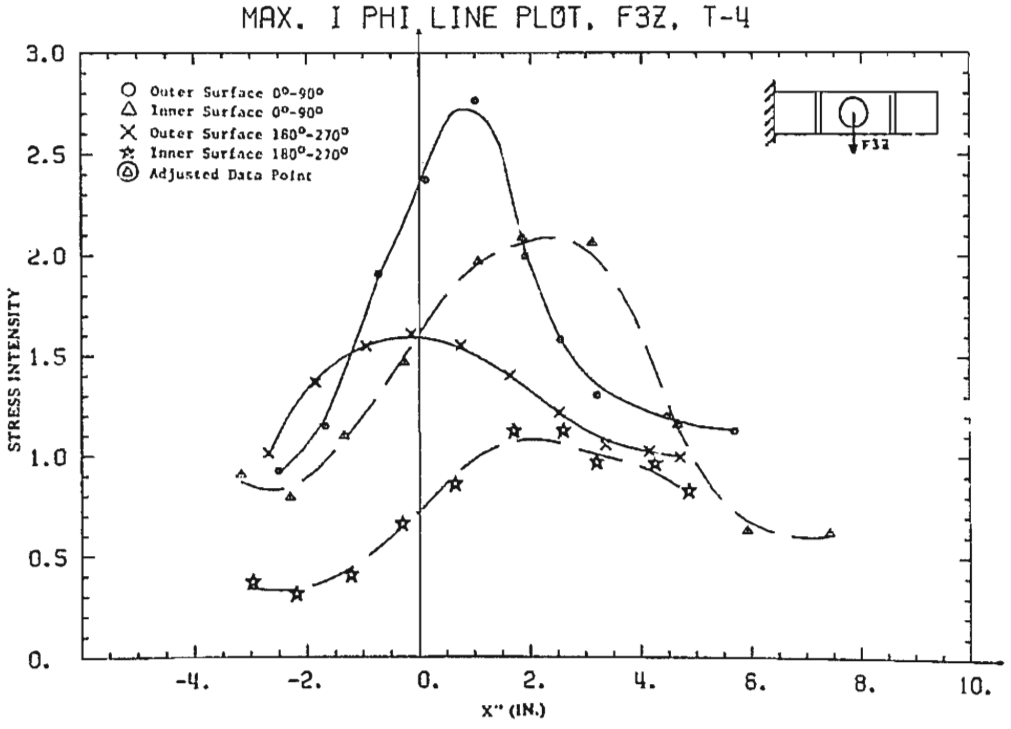

MAX. I PHI LINE PLOT, F3Y, T-4
STRESS INTENSITY
X" (IN.)
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

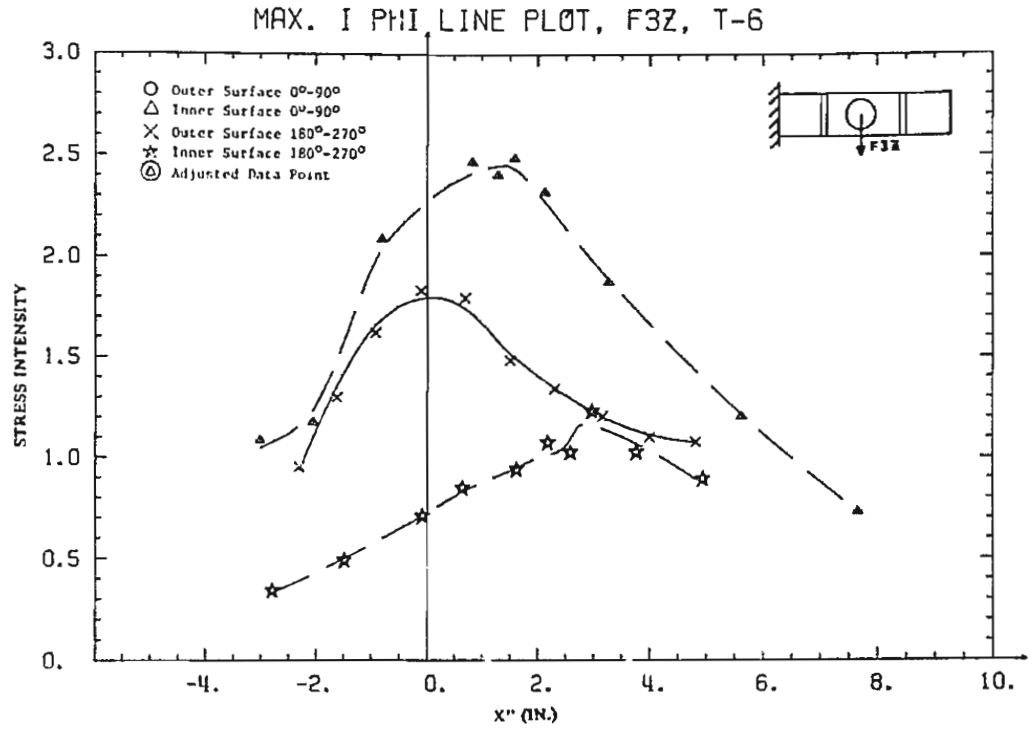

MAX. I PHI LINE PLOT, F3Y, T-6
STRESS INTENSITY
X" (IN.)
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

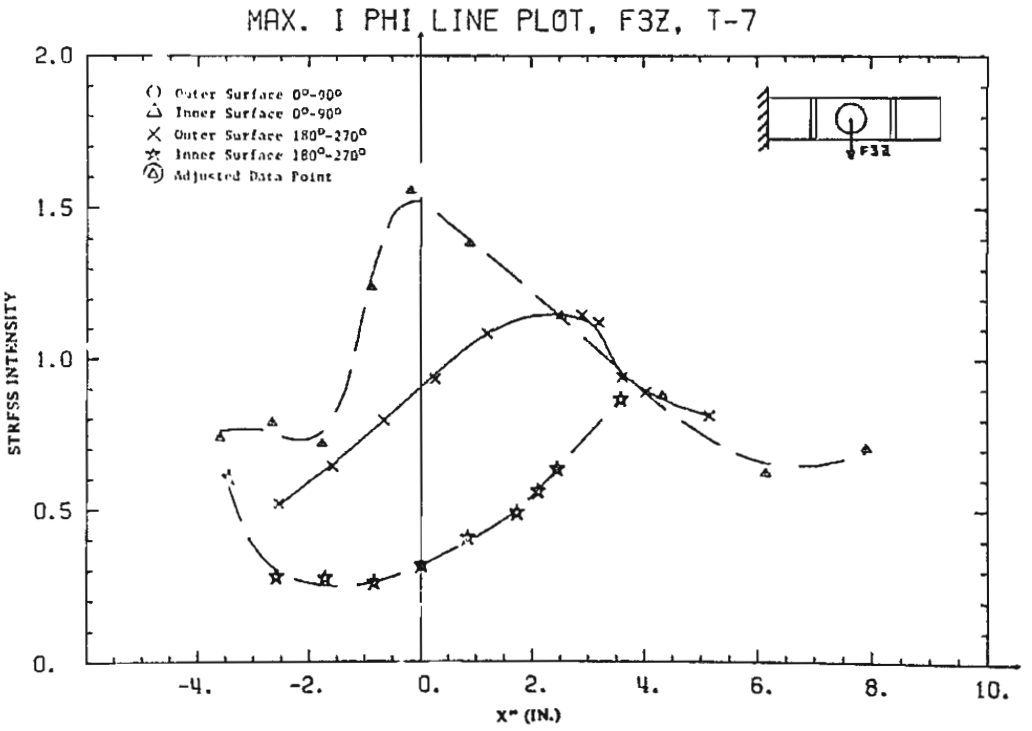

MAX. I PHI LINE PLOT, F3Y, T-7
STRESS INTENSITY
X" (IN.)
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

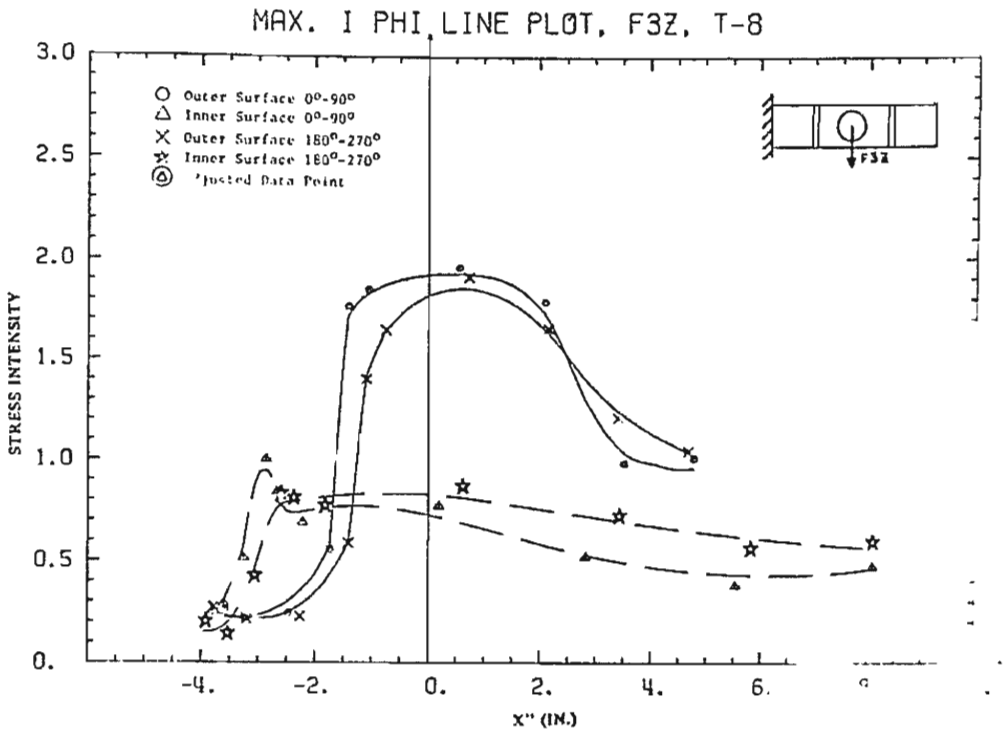

MAX. I PHI LINE PLOT, F3Y, T-8
STRESS INTENSITY
X" (IN.)
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

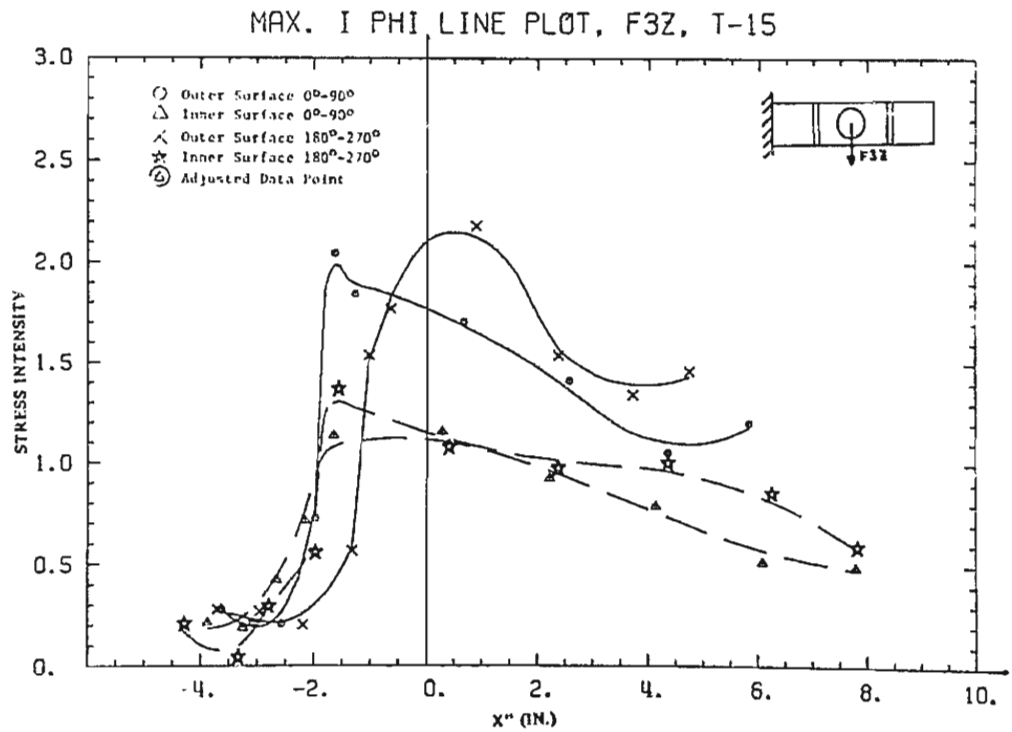

MAX. I PHI LINE PLOT, F3Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y
STRESS INTENSITY
X" (IN.)
5.
4.
3.
2.
1.
0.
-4.
-2.
0.
2.
4.
6

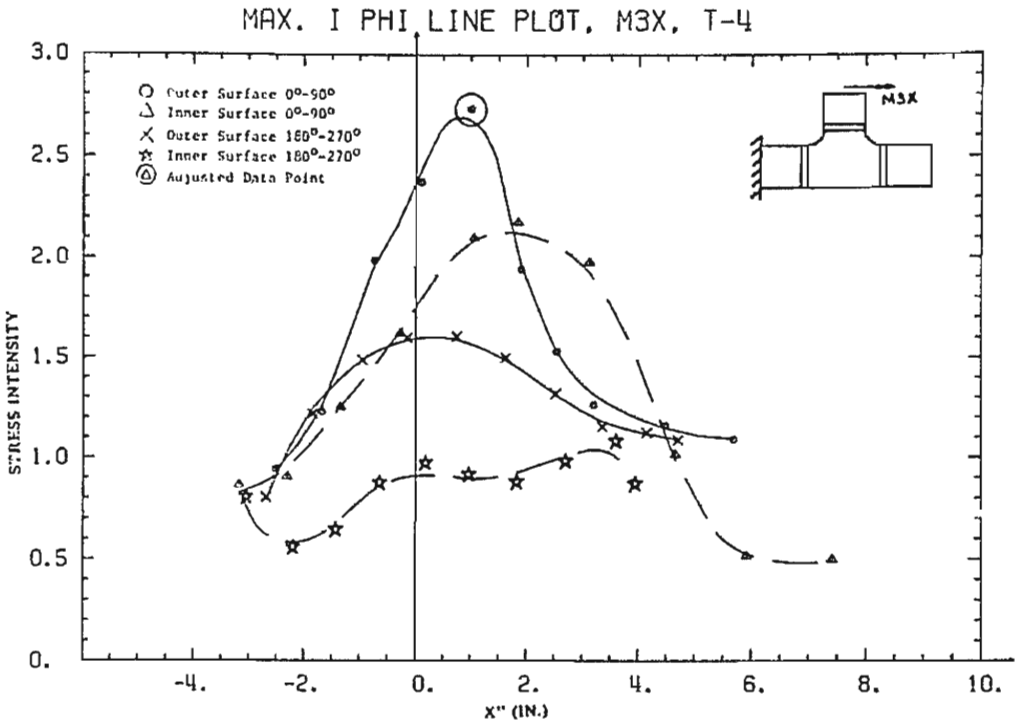

MAX. I PHI LINE PLOT, F3Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
STRESS INTENSITY
X" (IN.)
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.

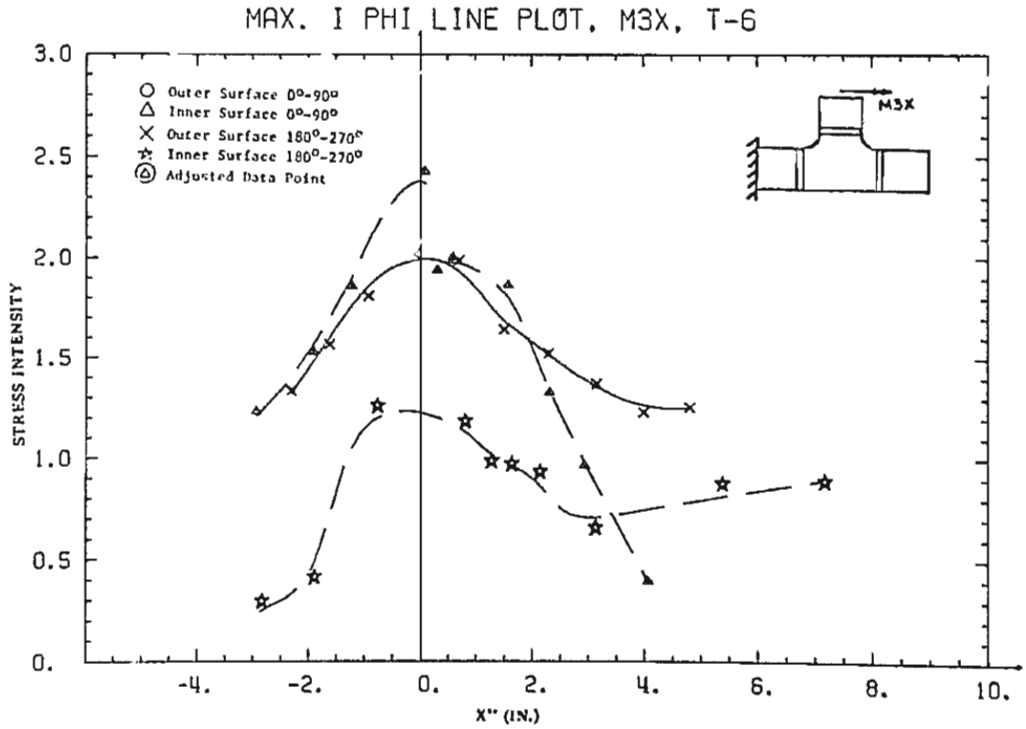

MAX. I PHI LINE PLOT, F3Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

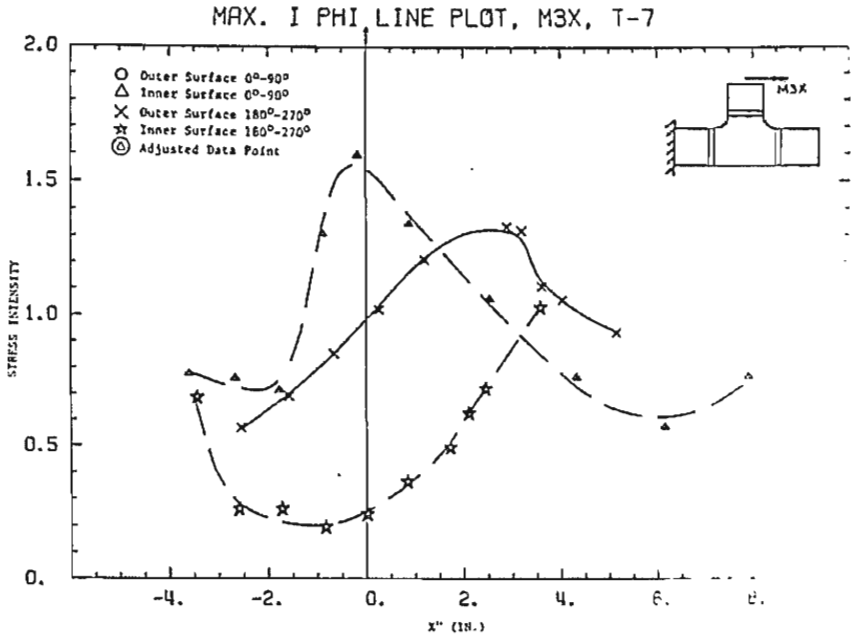

MAX. I PHI LINE PLOT, F3Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

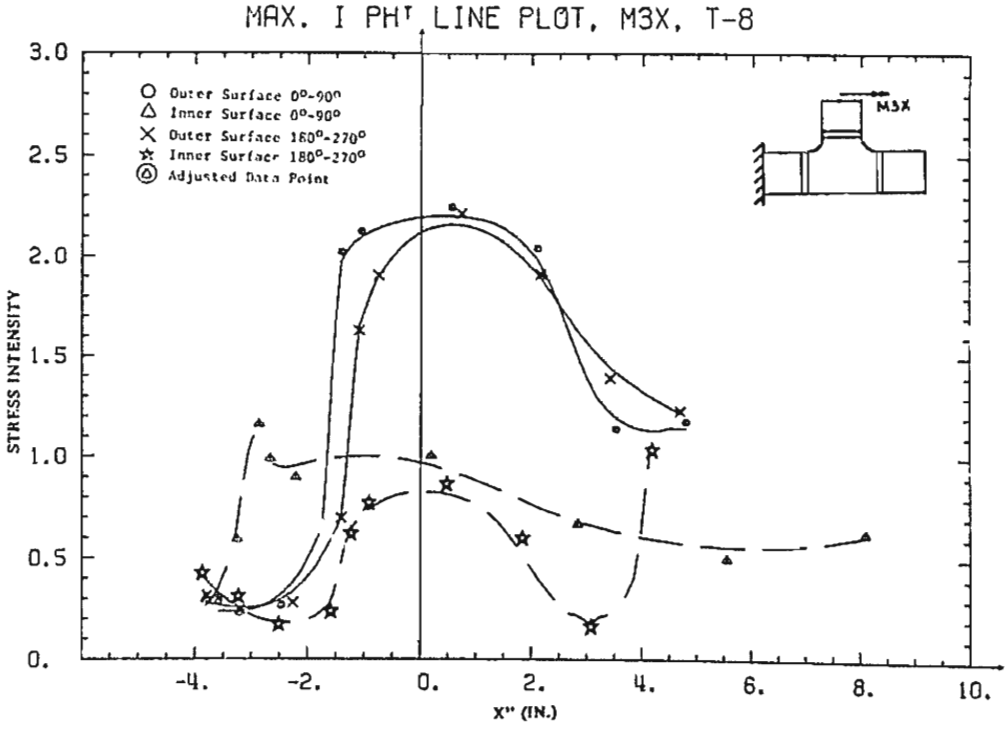

MAX. I PHI LINE PLOT, F3Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
X" (IN.)

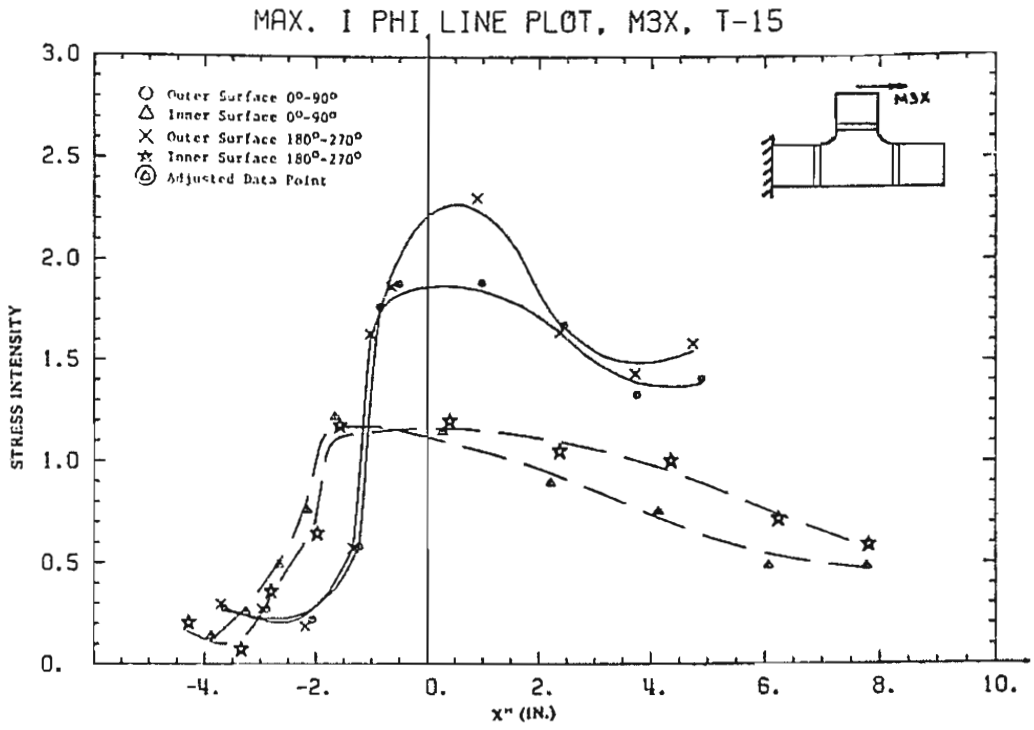

MAX. I PHI LINE PLOT, F3Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

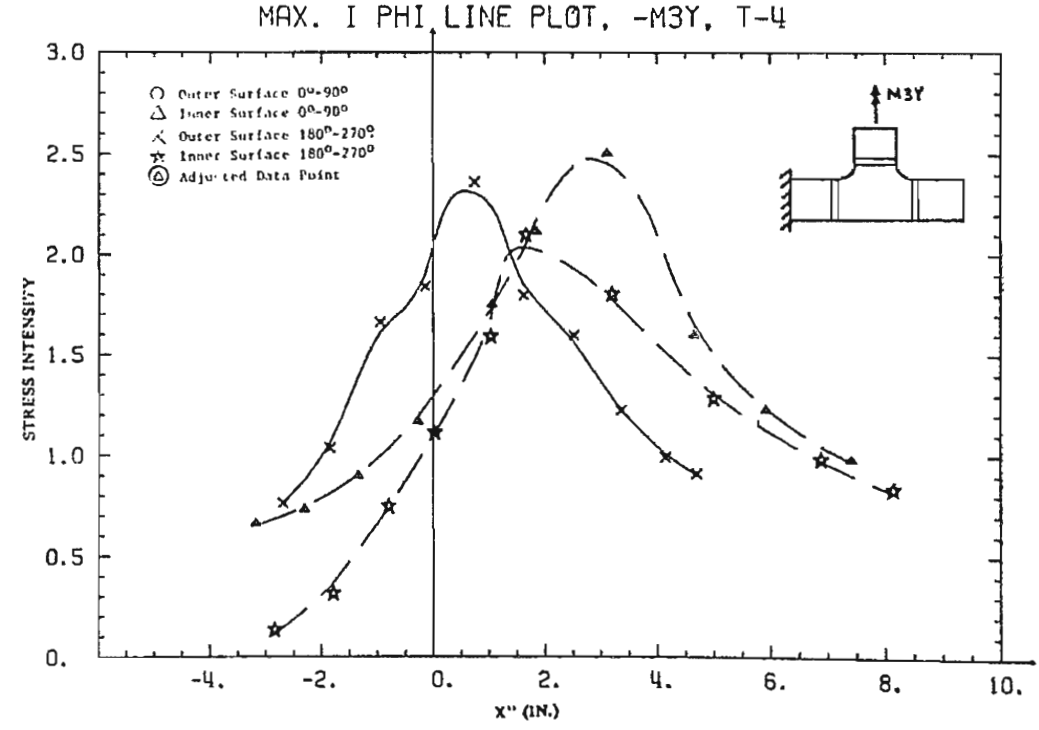

MAX. I PHI LINE PLØT, M3X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

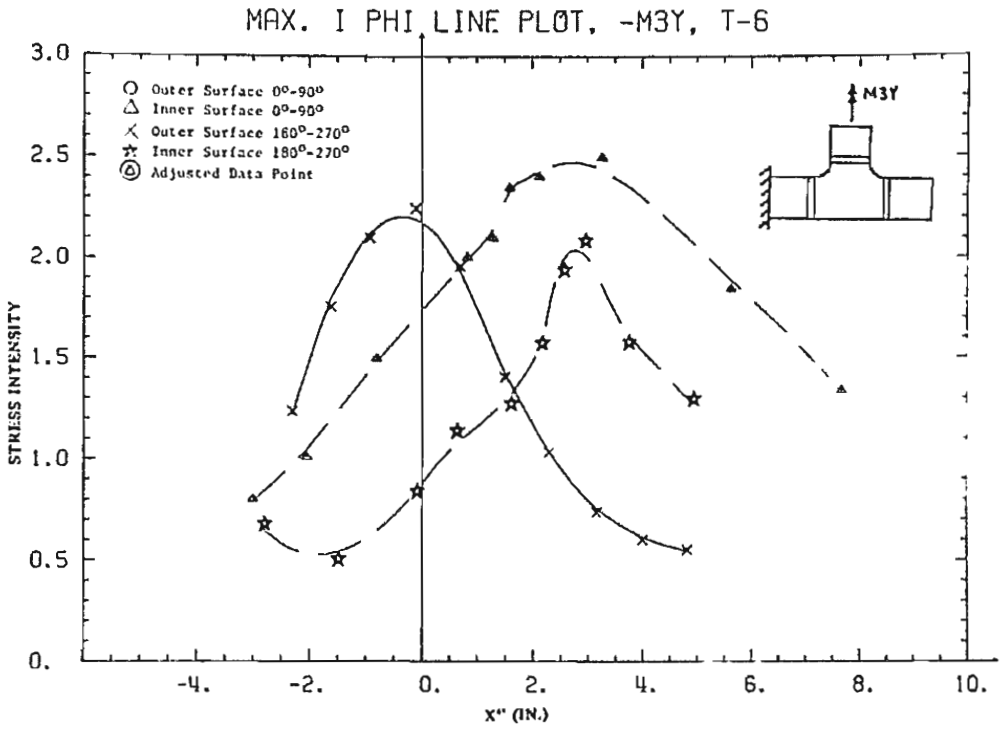

MAX. I PHI LINE PLØT, M3X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

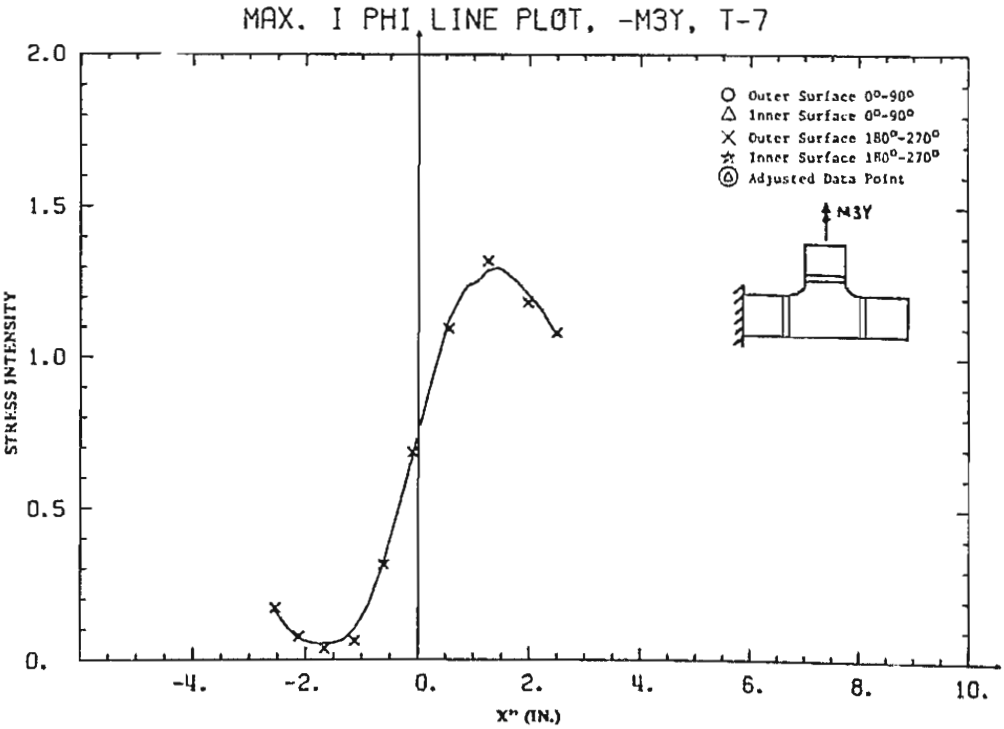

MAX. I PHI LINE PLOT, M3X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3X
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
X" (IN.)

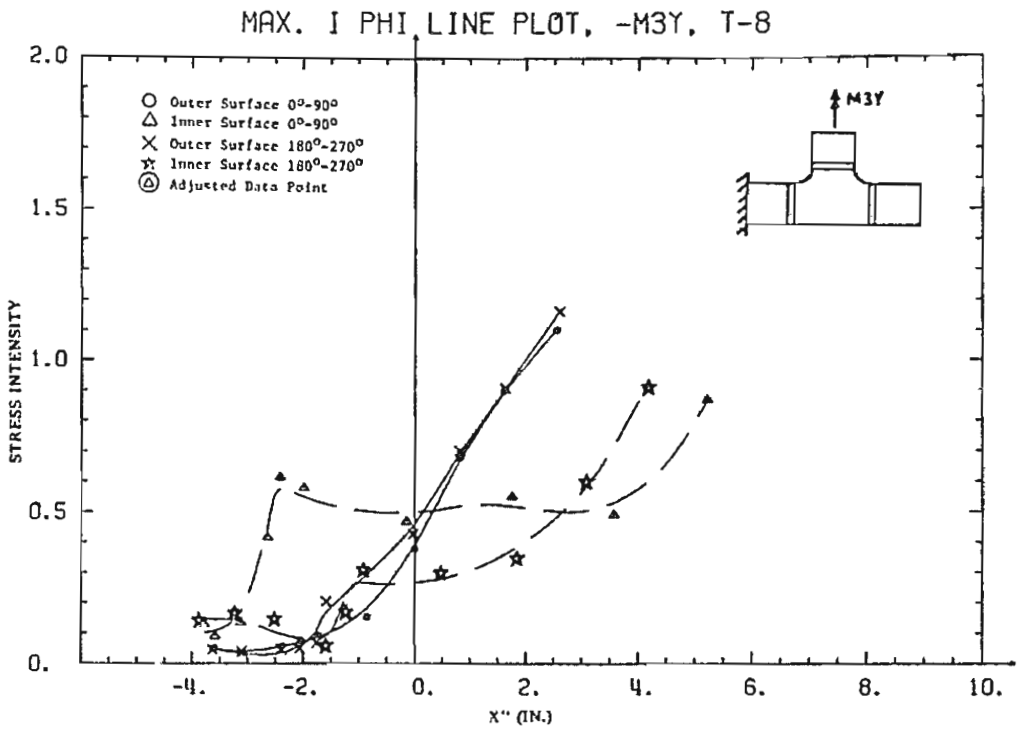

MAX. I PHI LINE PLOT, M3X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

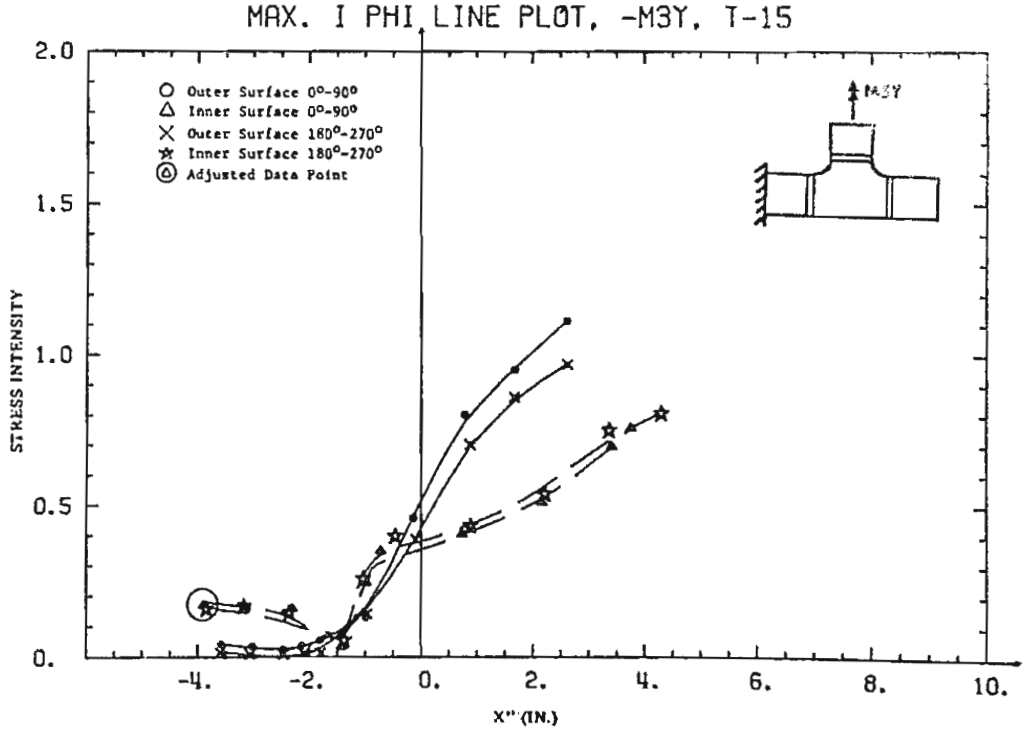

MAX. I PHI LINE PLOT, M3X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3X
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

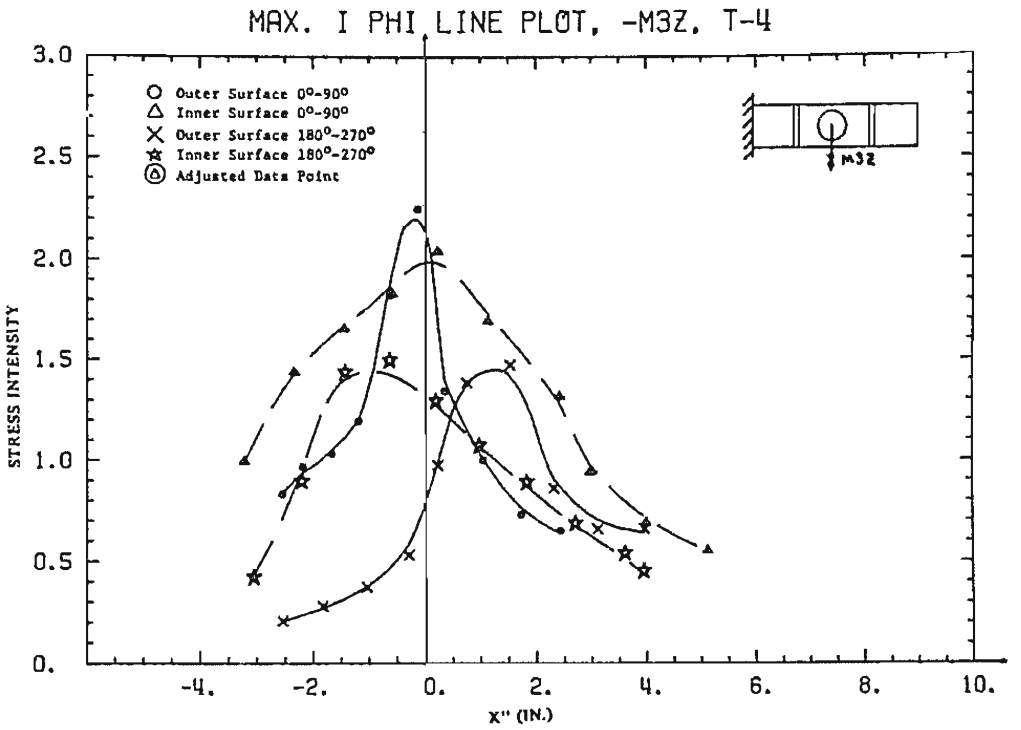

MAX. I PHI LINE PLOT, -M3Y, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

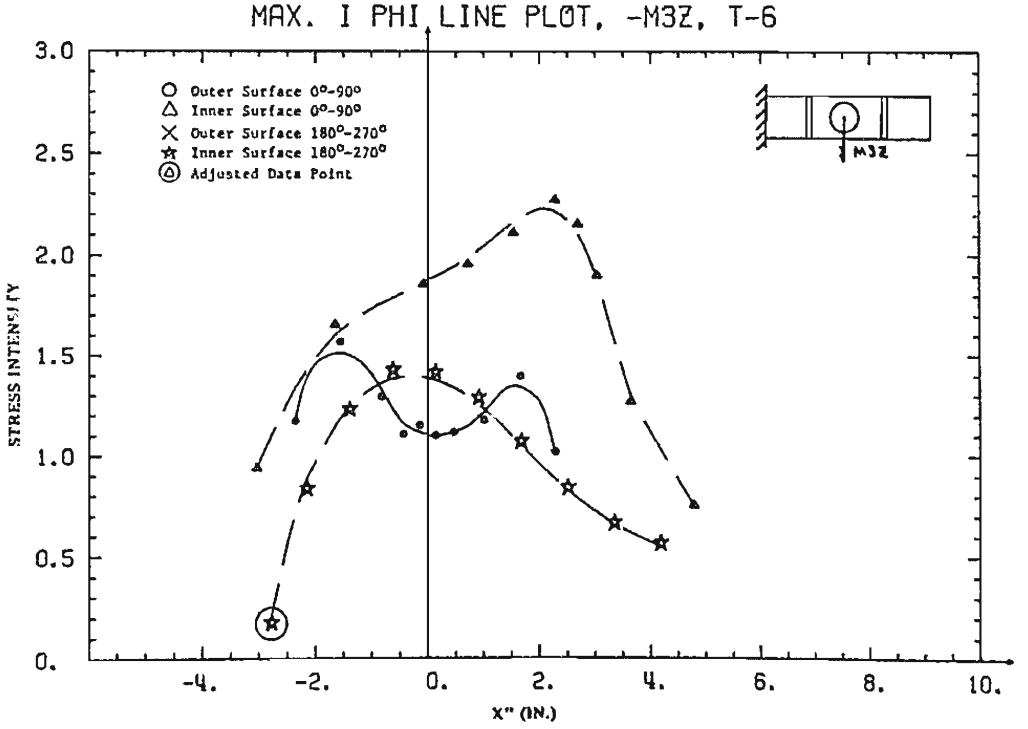

MAX. I PHI LINE PLOT, -M3Y, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

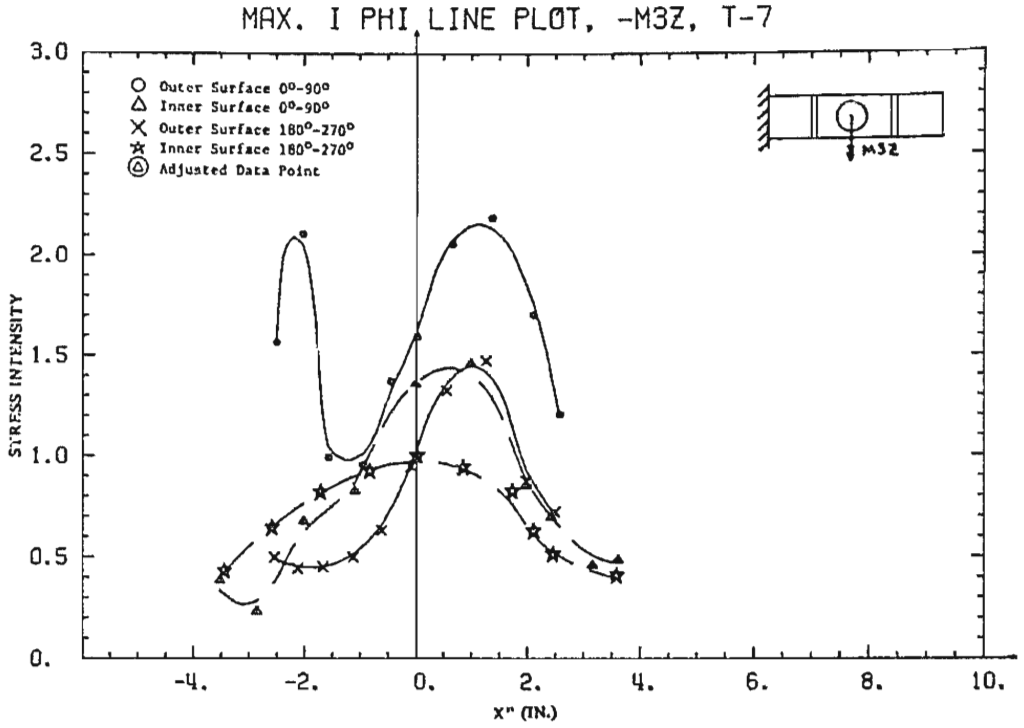

MAX. I PHI LINE PLOT, -M3Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

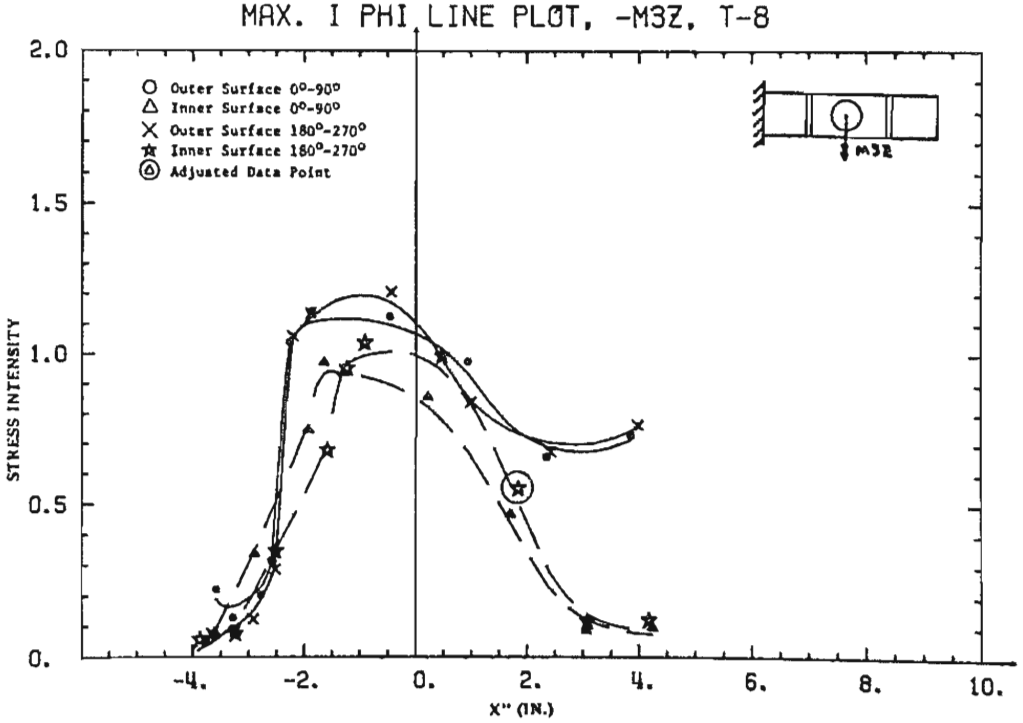

MAX. I PHI LINE PLOT, -M3Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

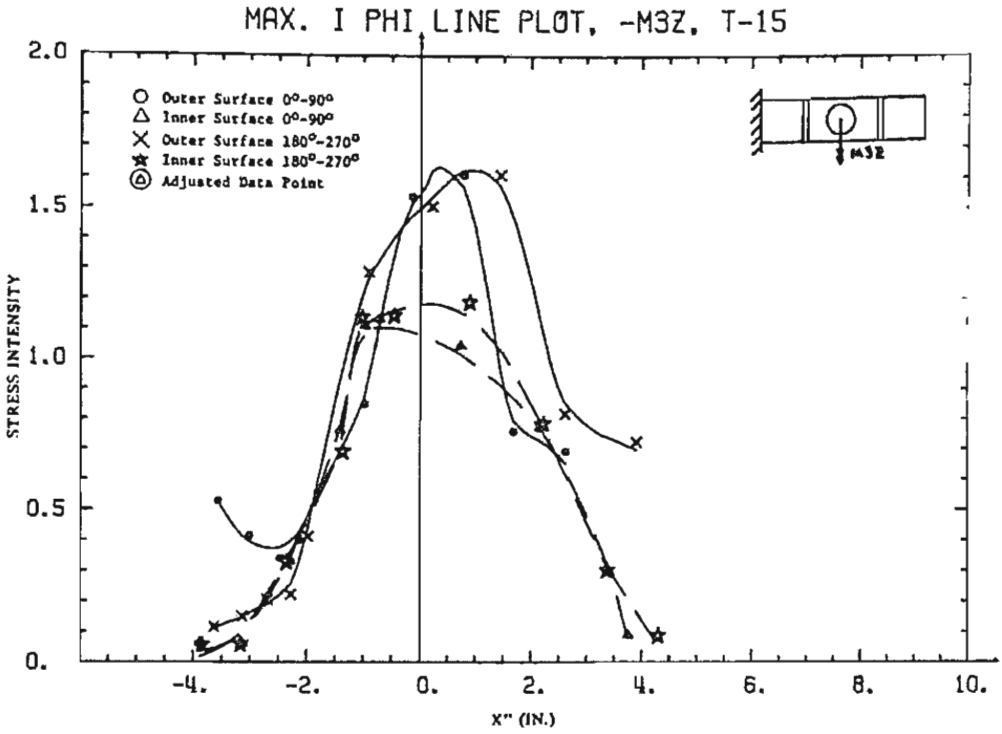

MAX. I PHI LINE PLOT, -M3Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)


MAX. I PHI LINE PLOT, -M3Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)


MAX. I PHI LINE PLOT, -M3Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

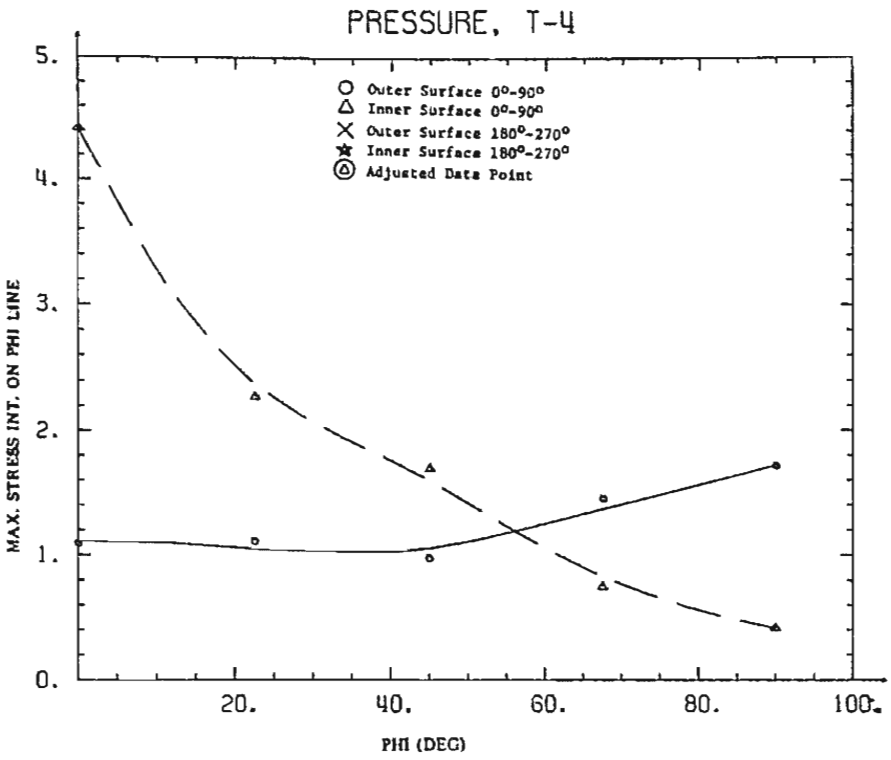

MAX. I PHI LINE PLOT, -M3Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
STRESS INTENSITY
3.0
2.5
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

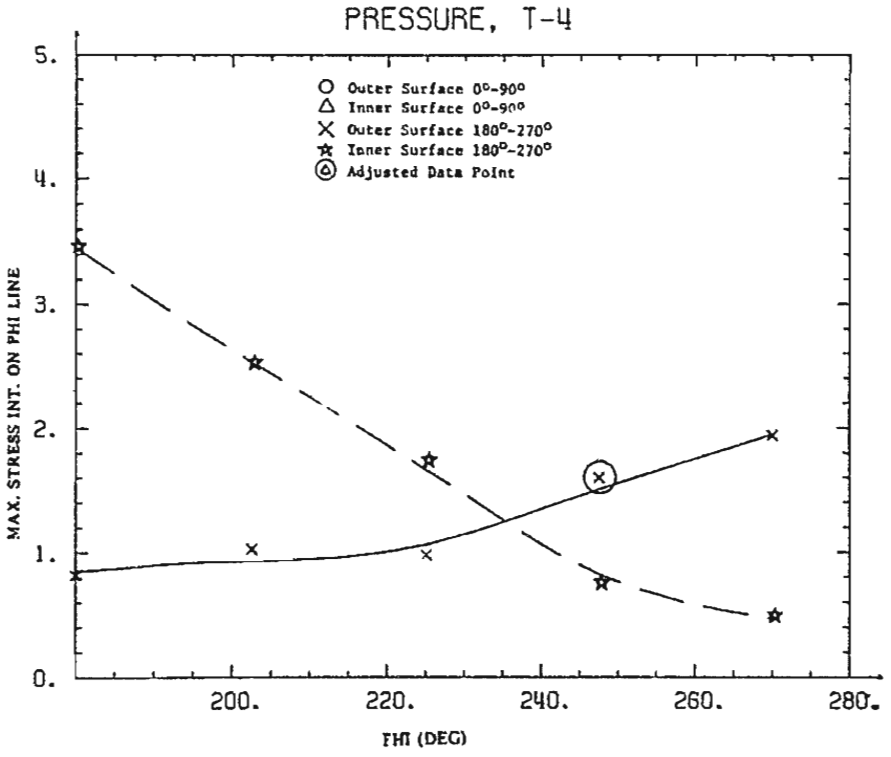

MAX. I PHI LINE PLOT, -M3Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

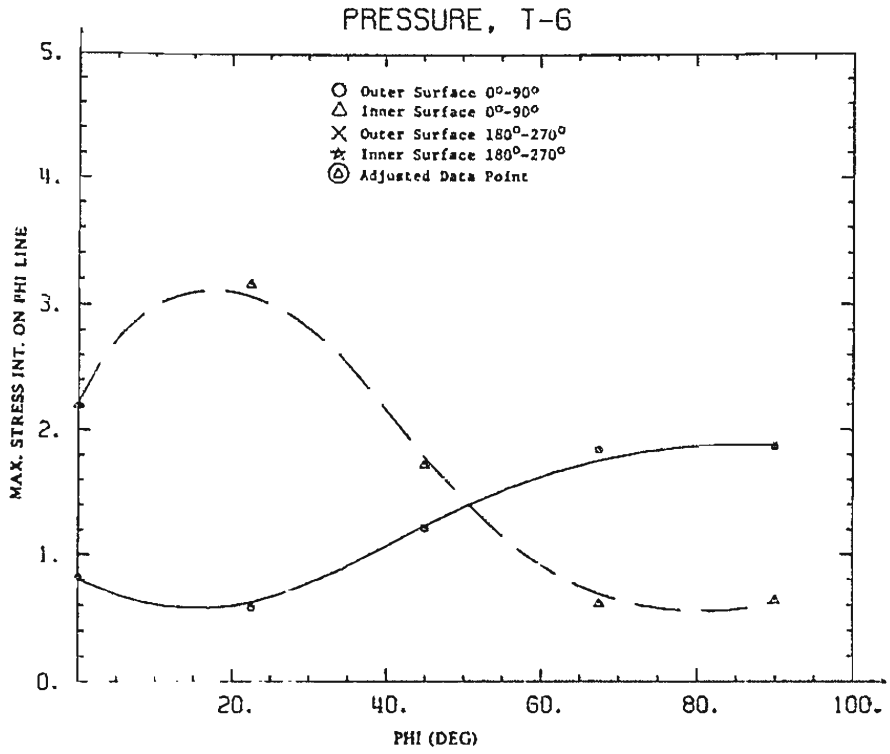

MAX. I PHI LINE PLOT, -M3Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
STRESS INTENSITY
2.0
1.5
1.0
0.5
0.
-4.
-2.
0.
2.
4.
6.
8.
10.
X" (IN.)

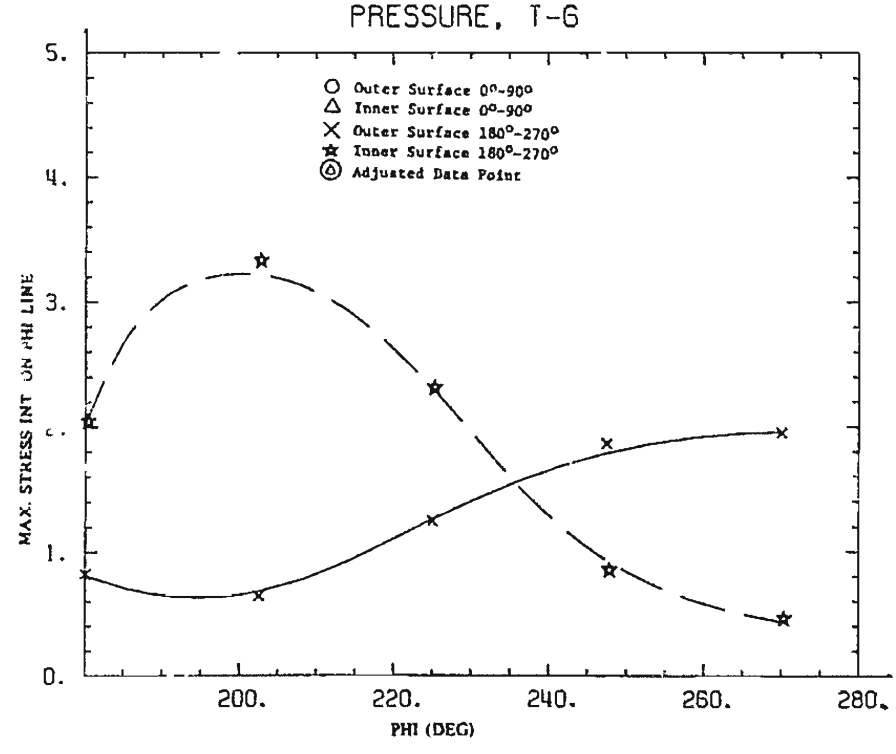
VIII.2

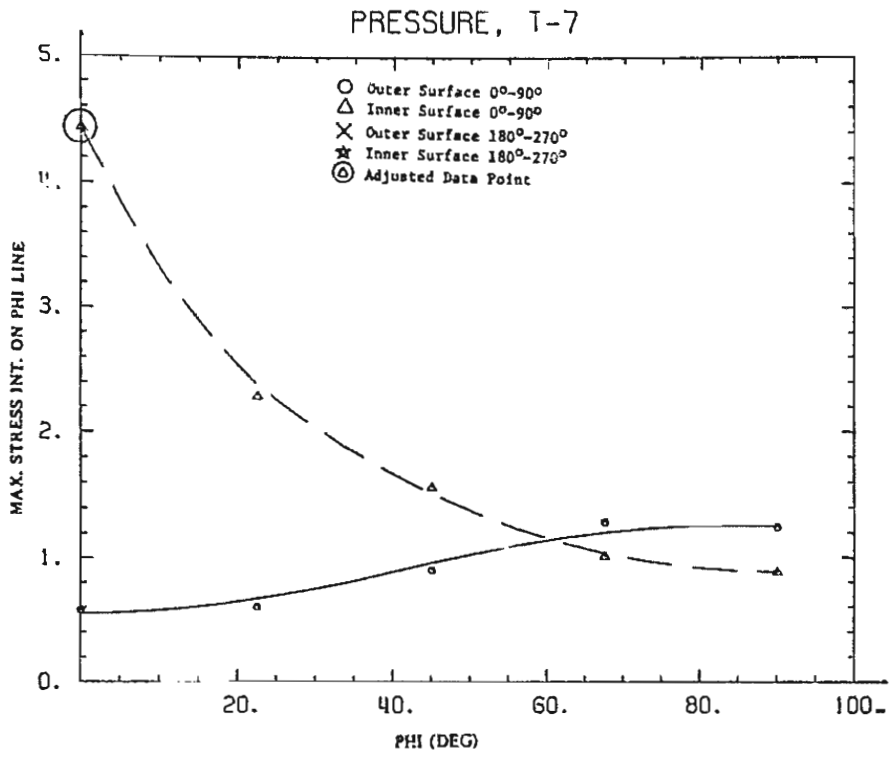
CIRCUMFERENTIAL LOCATION VS MAXIMUM STRESS INTENSITY

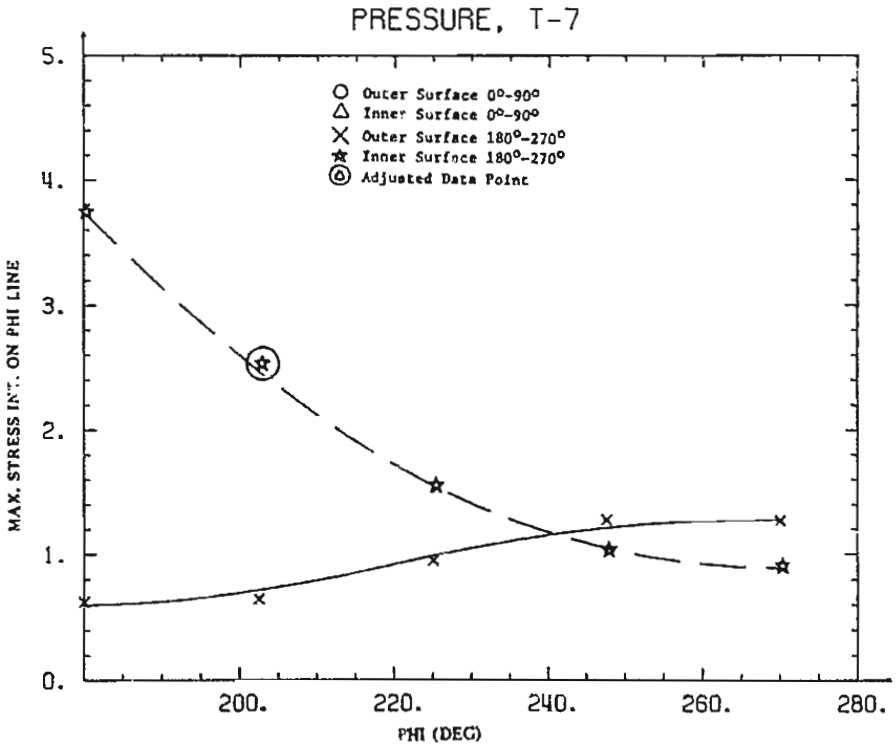

PRESSURE, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
20.
40.
60.
80.
100.

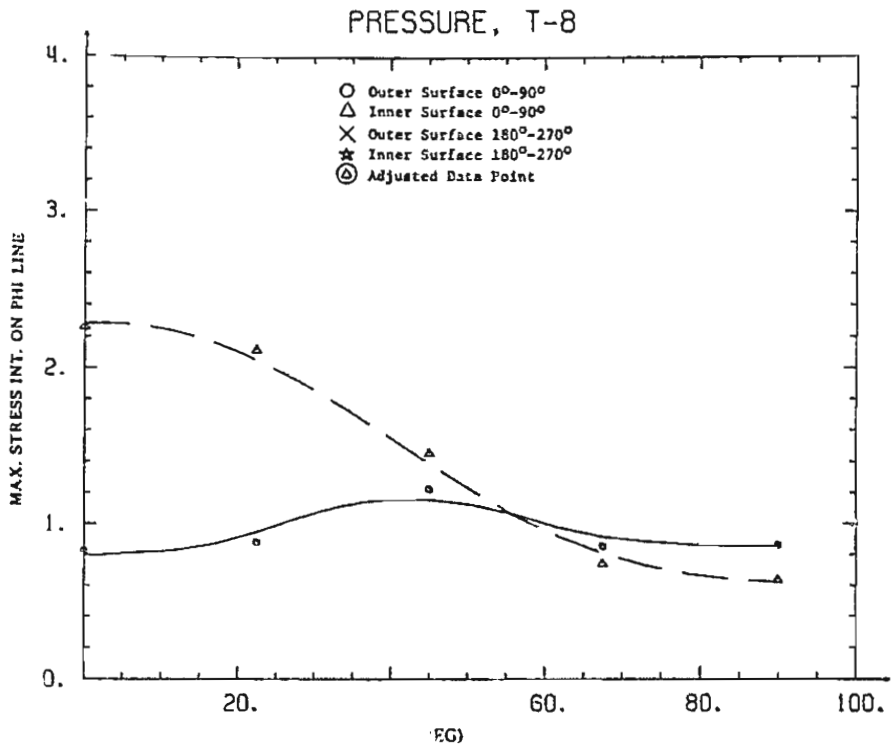

PRESSURE, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
200.
220.
240.
260.
280.

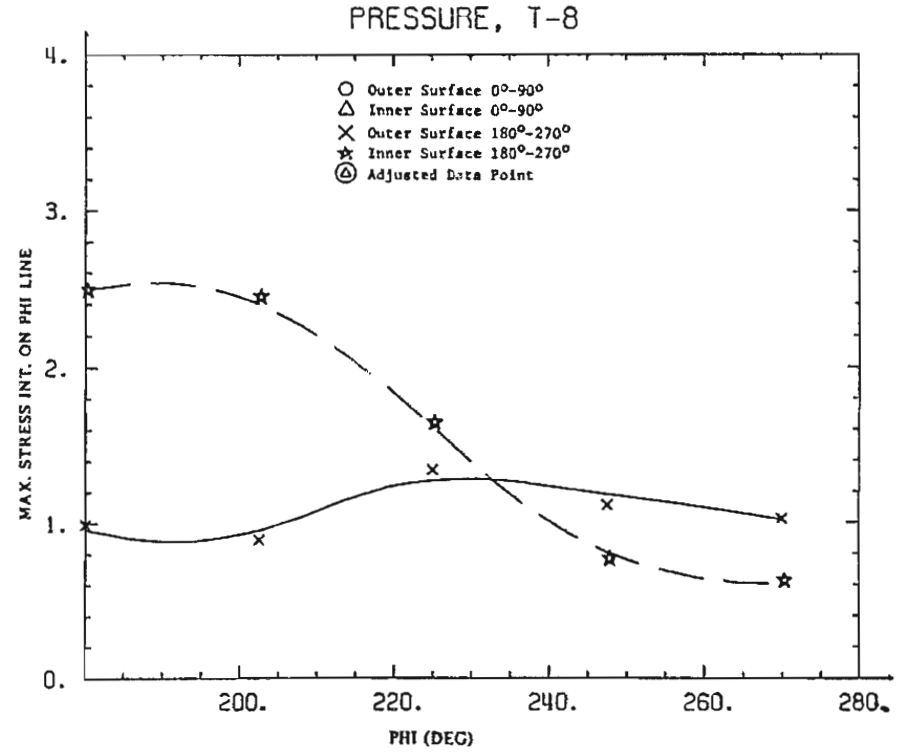

PRESSURE, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
20.
40.
60.
80.
100.

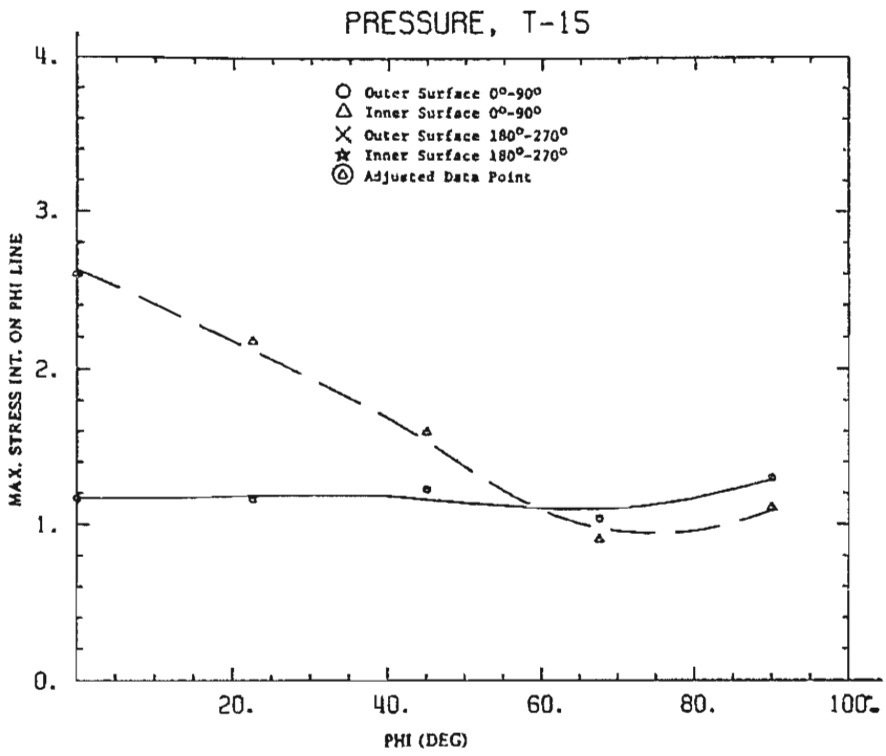

PRESSURE, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT ON PHI LINE
PHI (DEG)
0.
1.
3.
4.
5.
200.
220.
240.
260.
280.

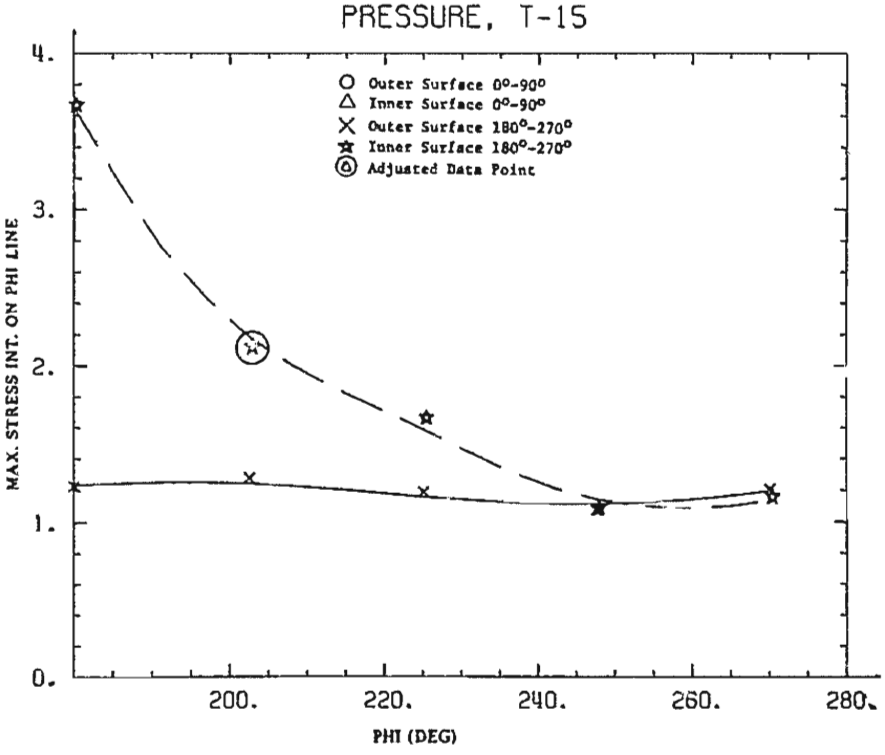

PRESSURE, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
20.
40.
60.
80.
100.

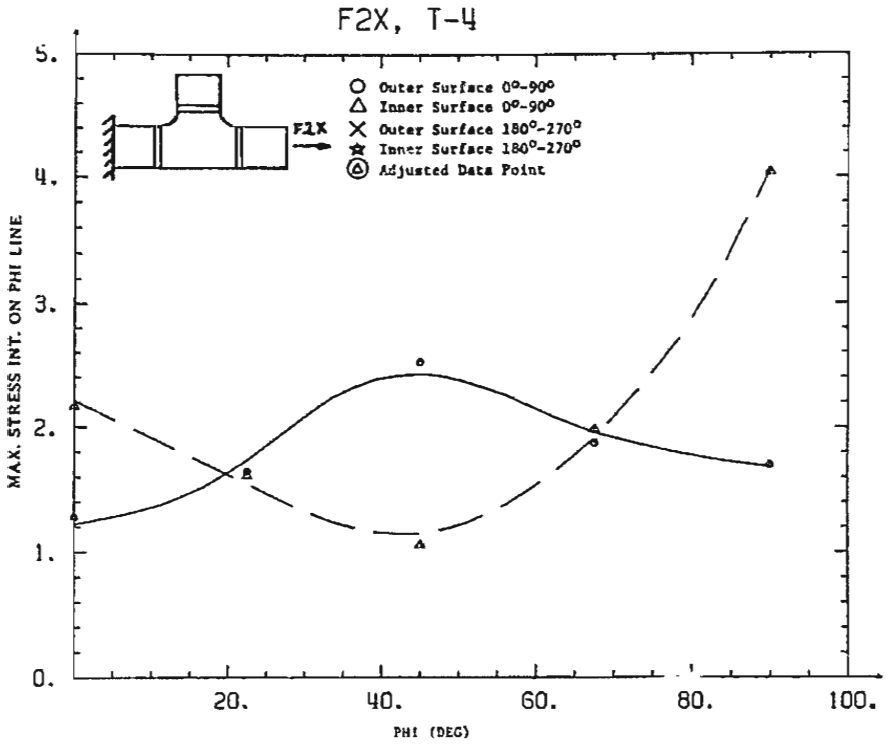

PRESSURE, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
200.
220.
240.
260.
280.

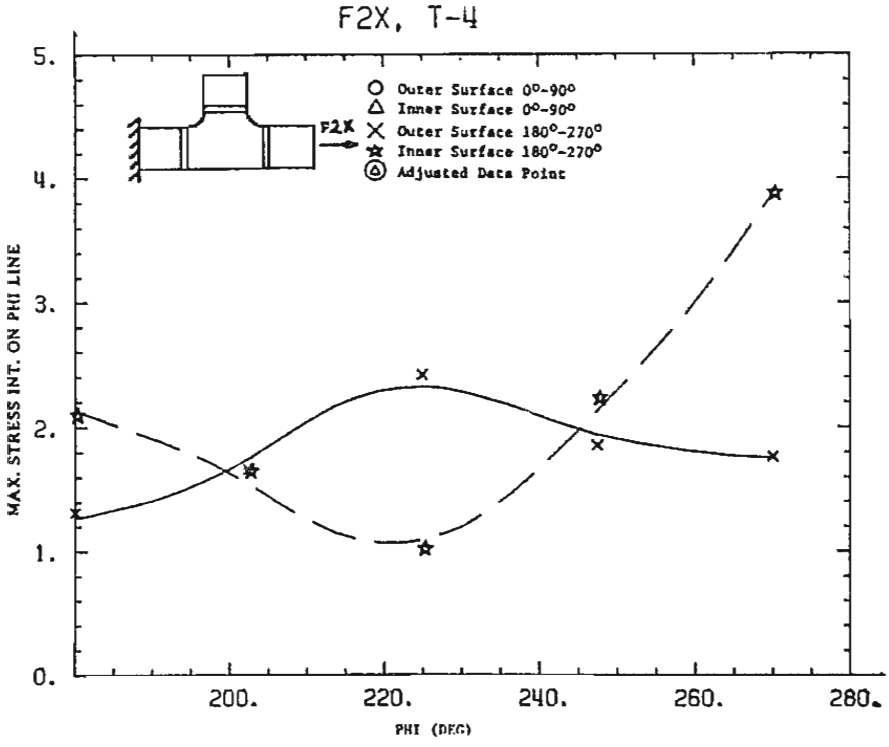

PRESSURE, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
4.
3.
2.
1.
0.
20.
60.
80.
100.
EG)

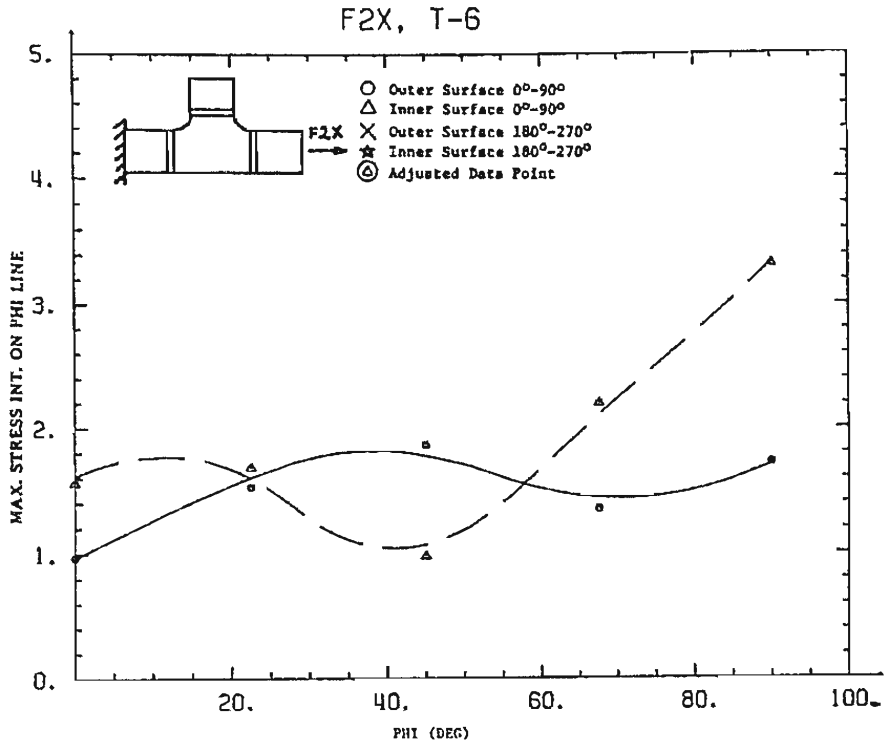

PRESSURE, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
4.
3.
2.
1.
0.
200.
220.
240.
260.
280.
PHI (DEG)

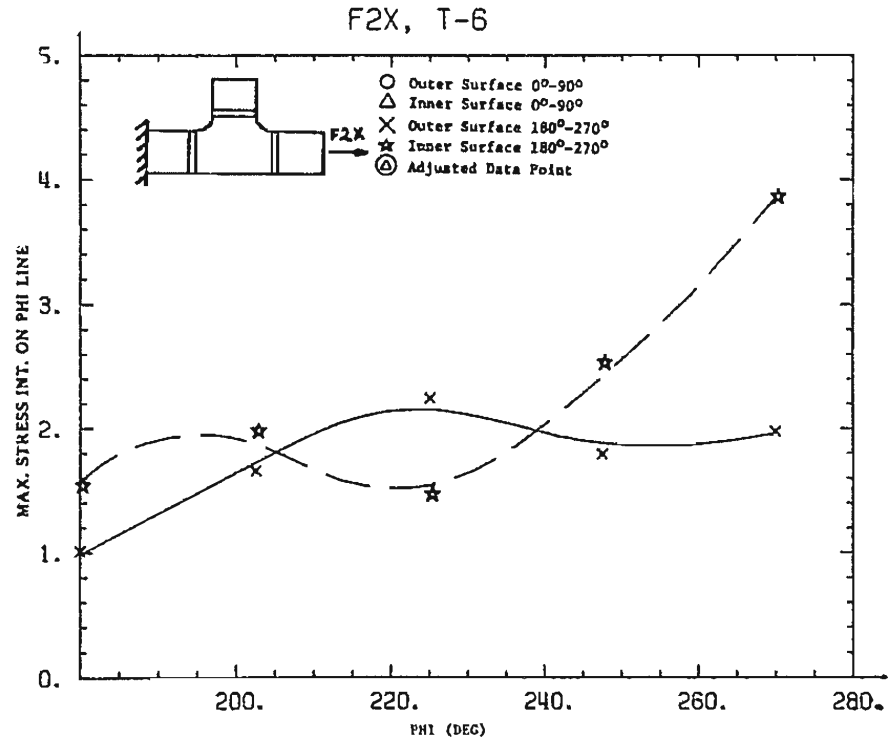

PRESSURE, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
20.
40.
60.
80.
100.

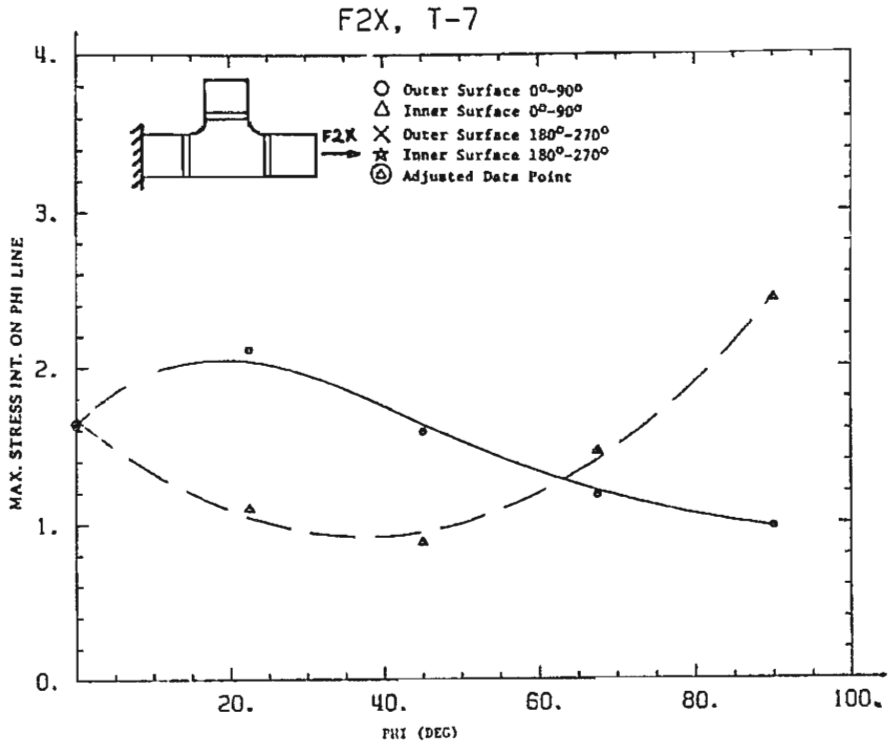

PRESSURE, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
200.
220.
240.
260.
280.

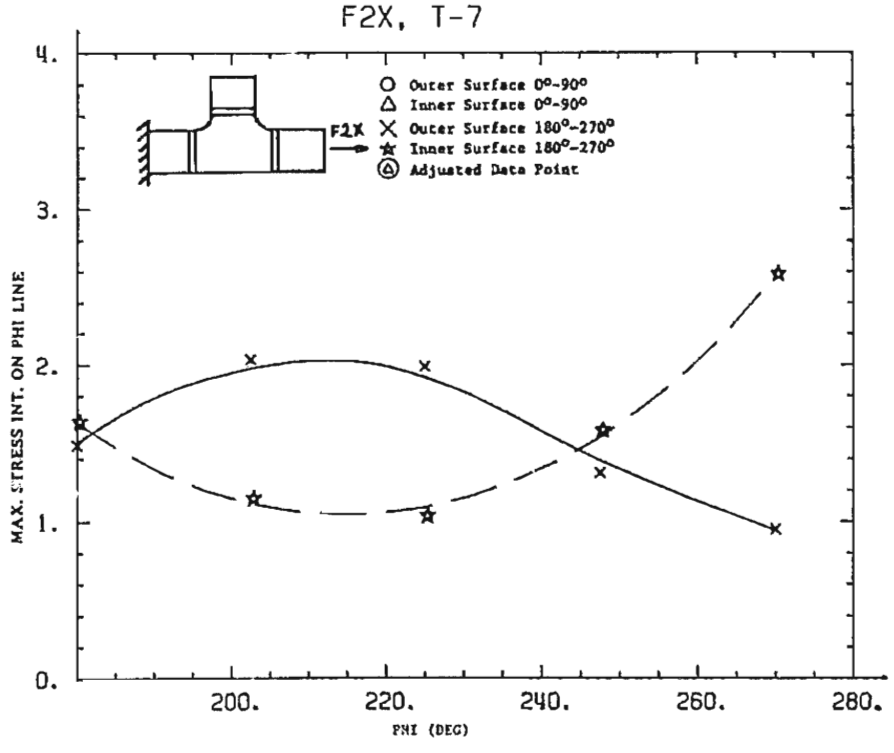

F2X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
20.
40.
60.
80.
100.

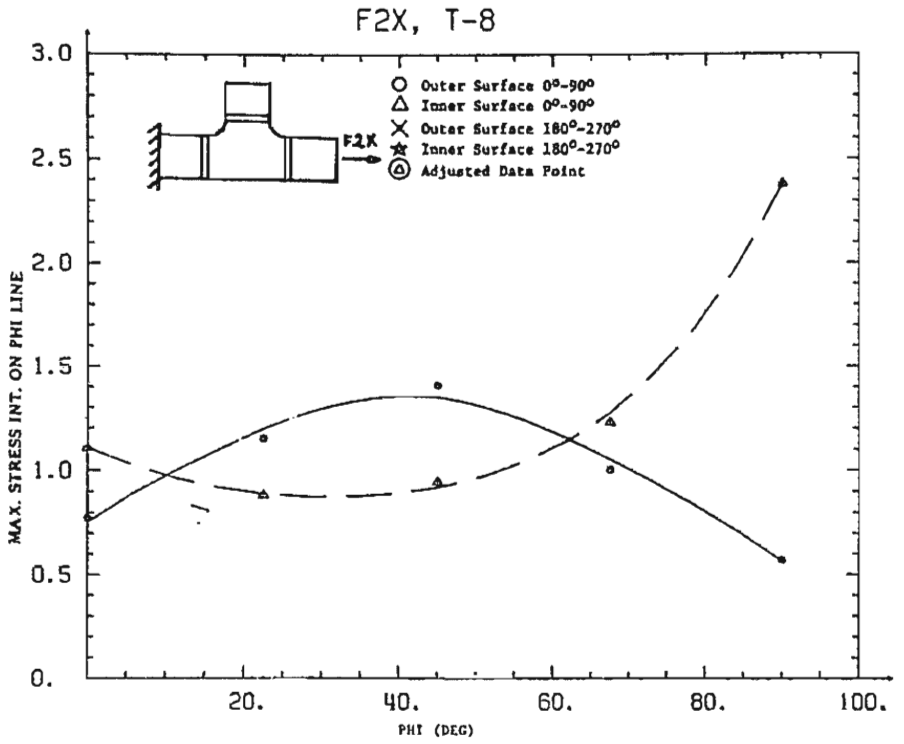

F2X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
200.
220.
240.
260.
280.

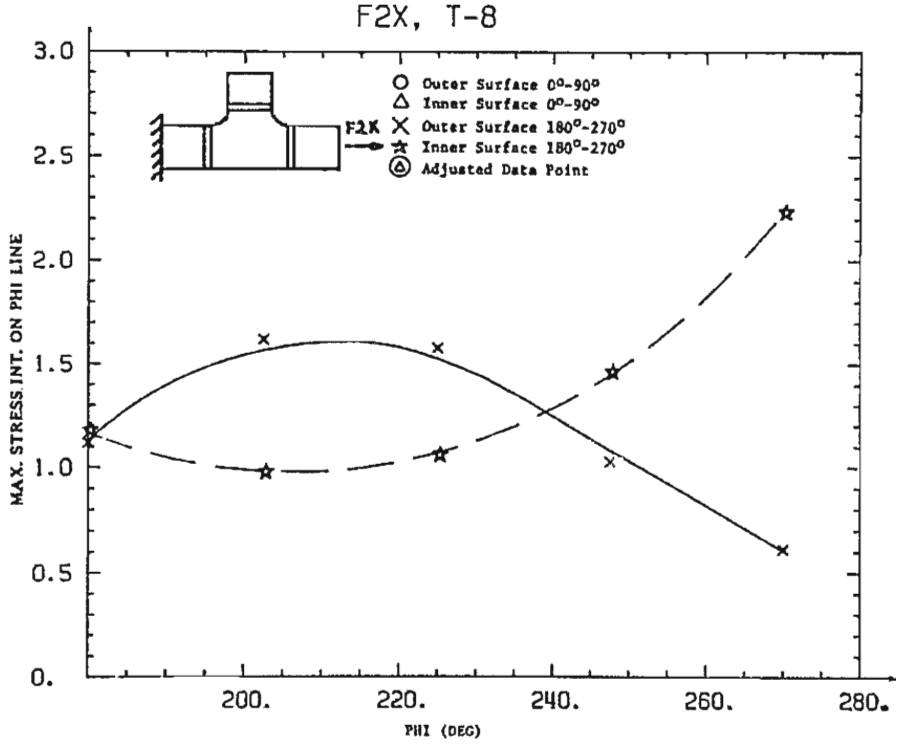

F2X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
20.
40.
60.
80.
100.

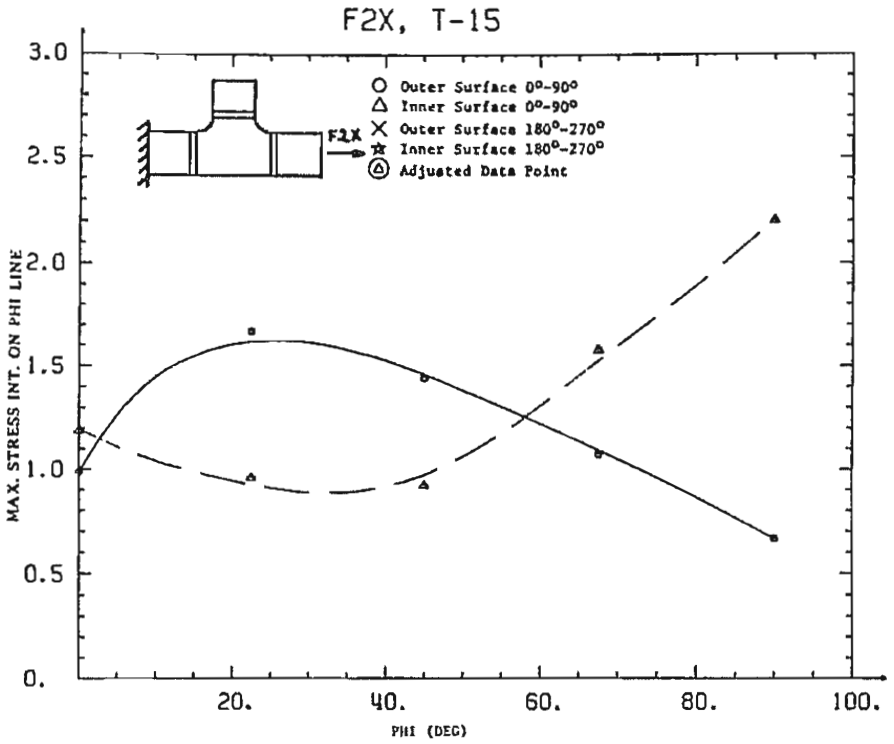

F2X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
200.
220.
240.
260.
280.

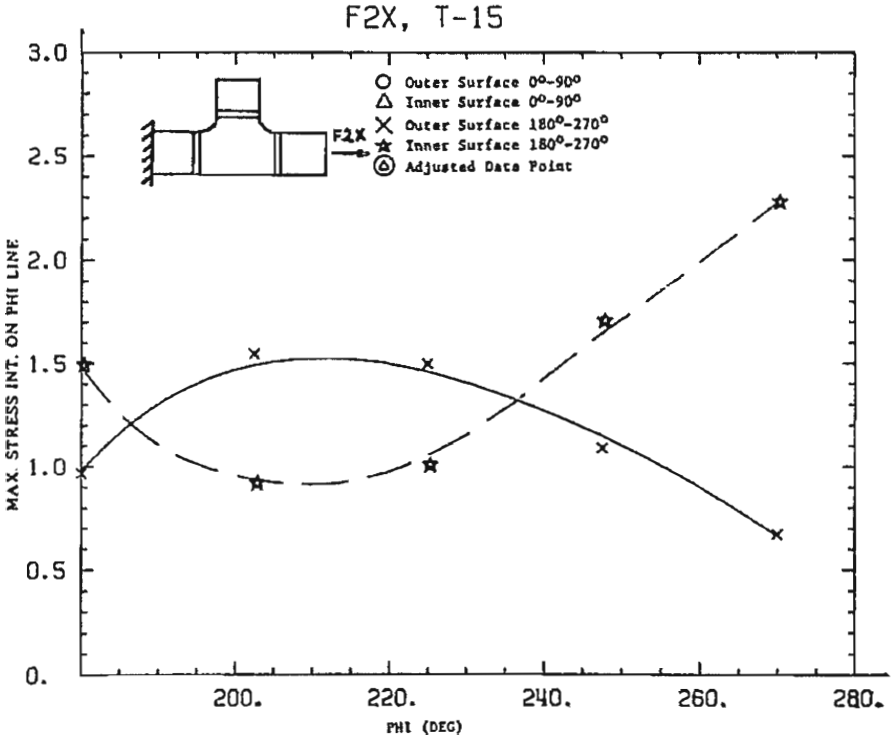

F2X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
20.
40.
60.
80.
100.

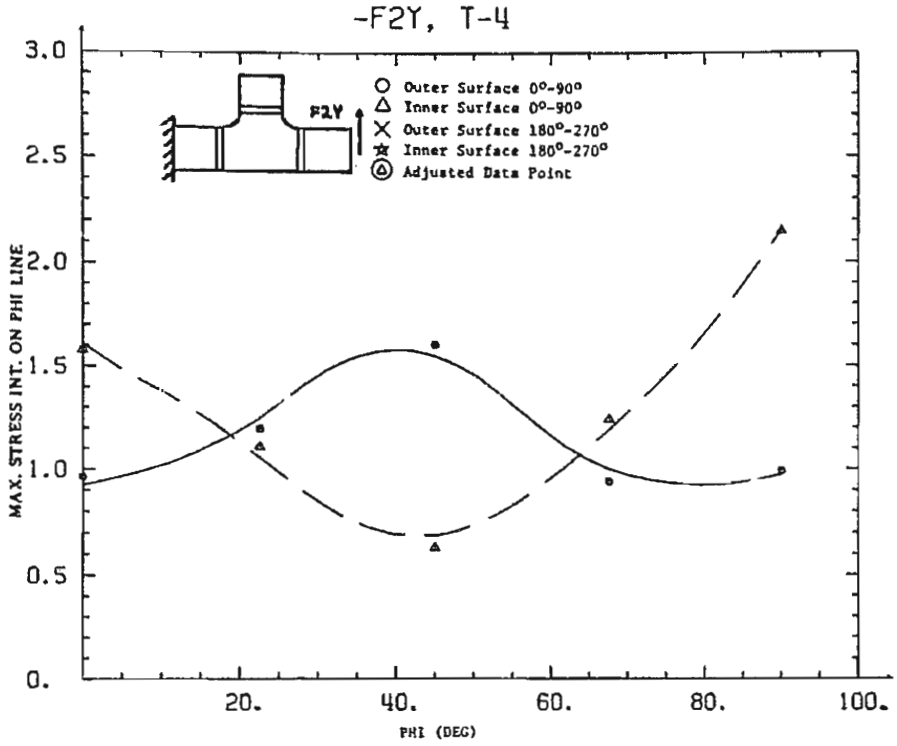

F2X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
200.
220.
240.
260.
280.

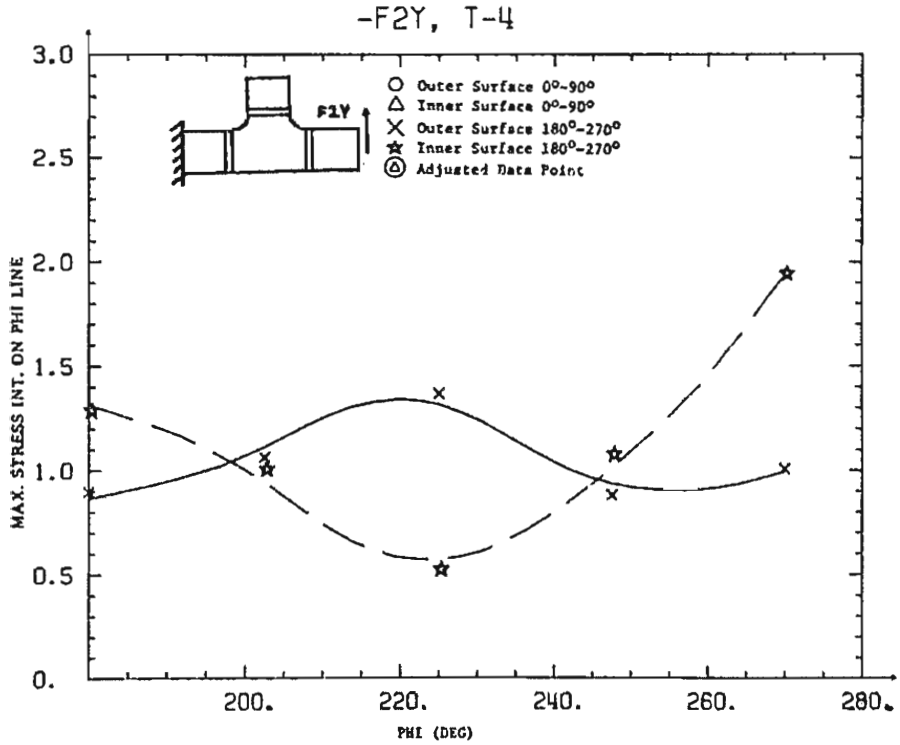

F2X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

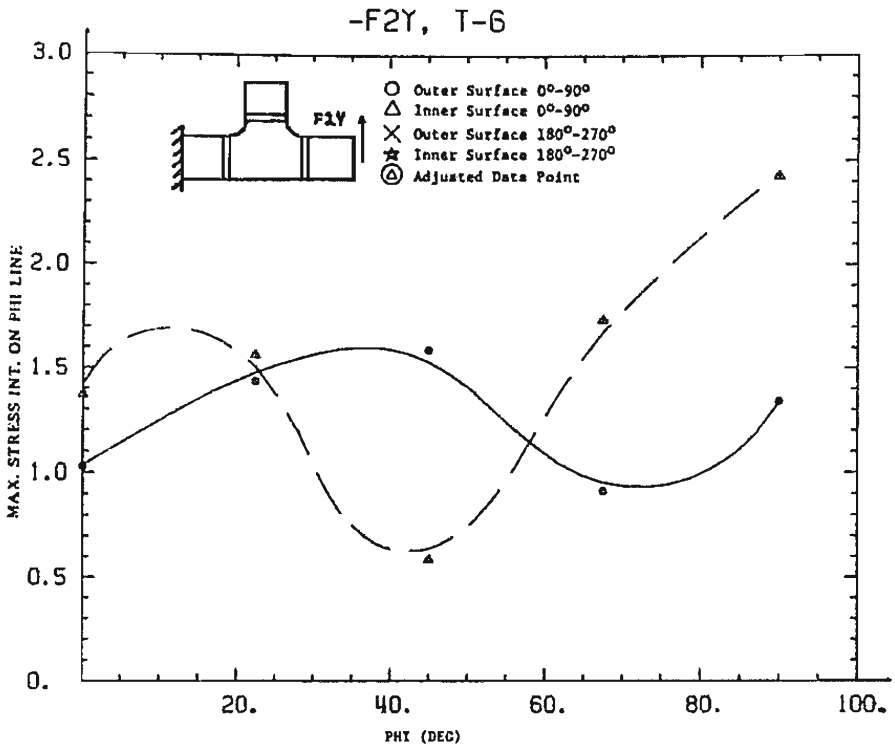

F2X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

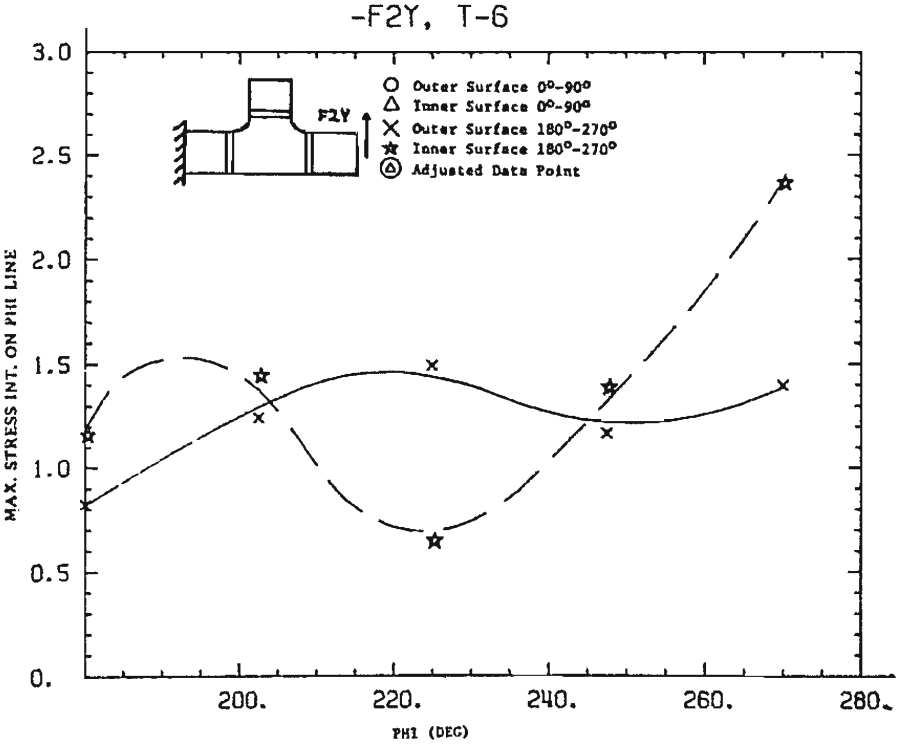

F2X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

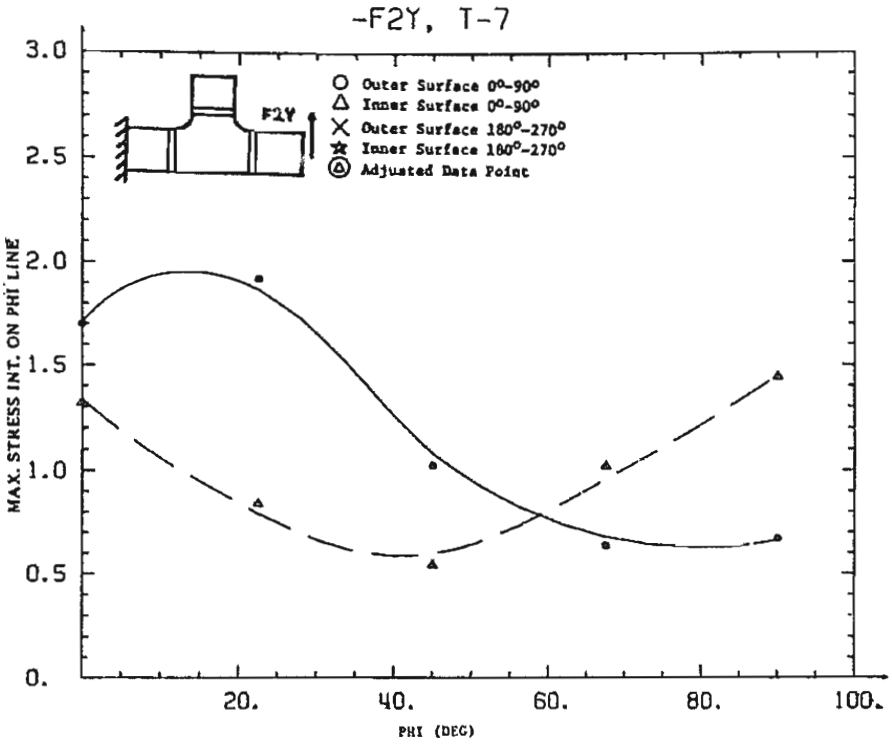

F2X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

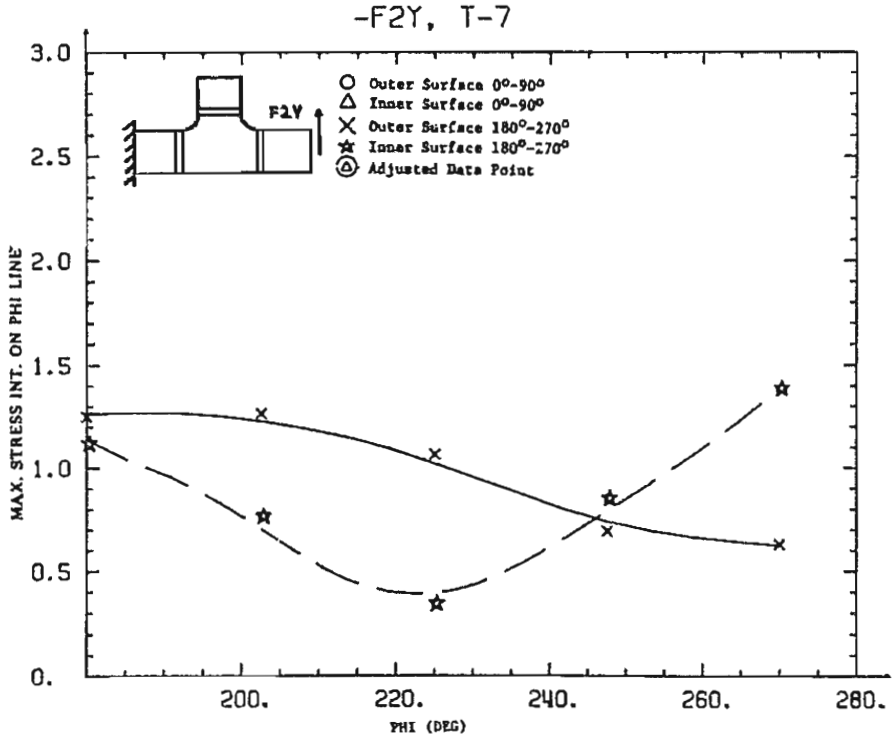

-F2Y, T-4
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

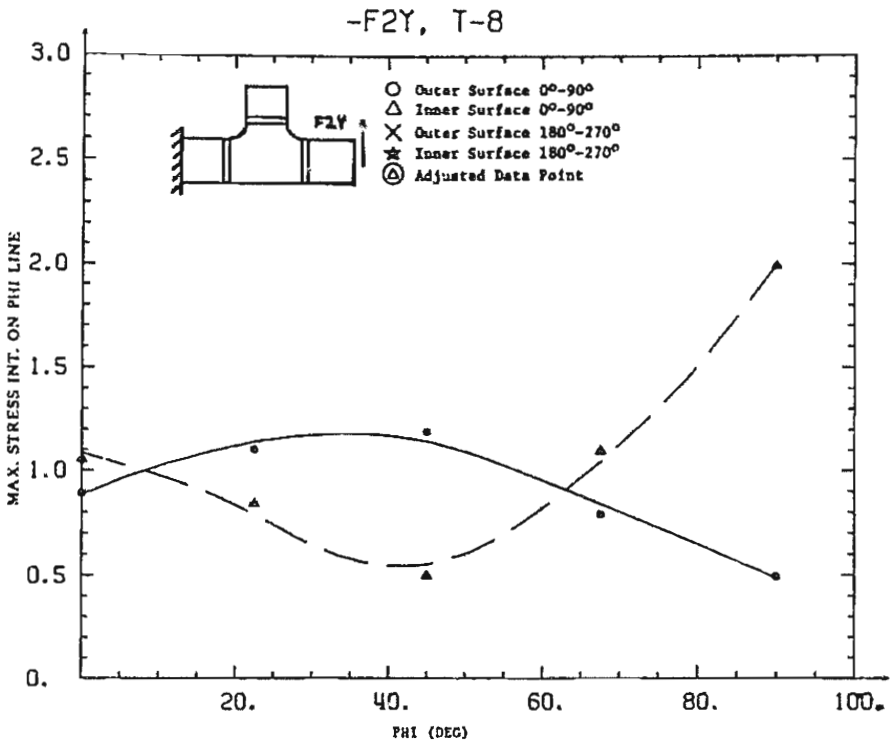

-F2Y, T-4
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

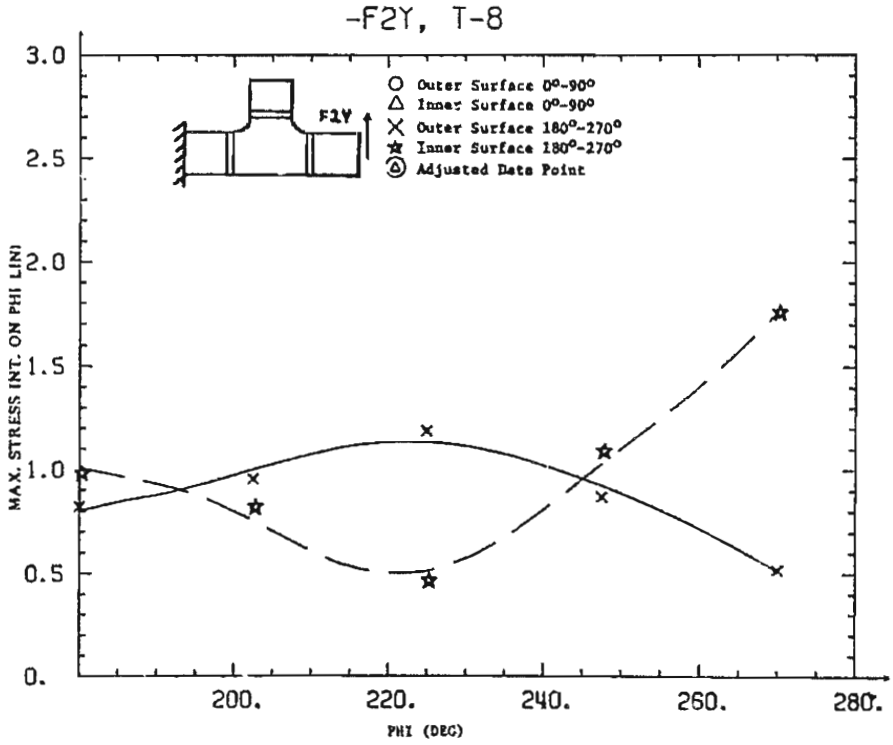

-F2Y, T-6
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

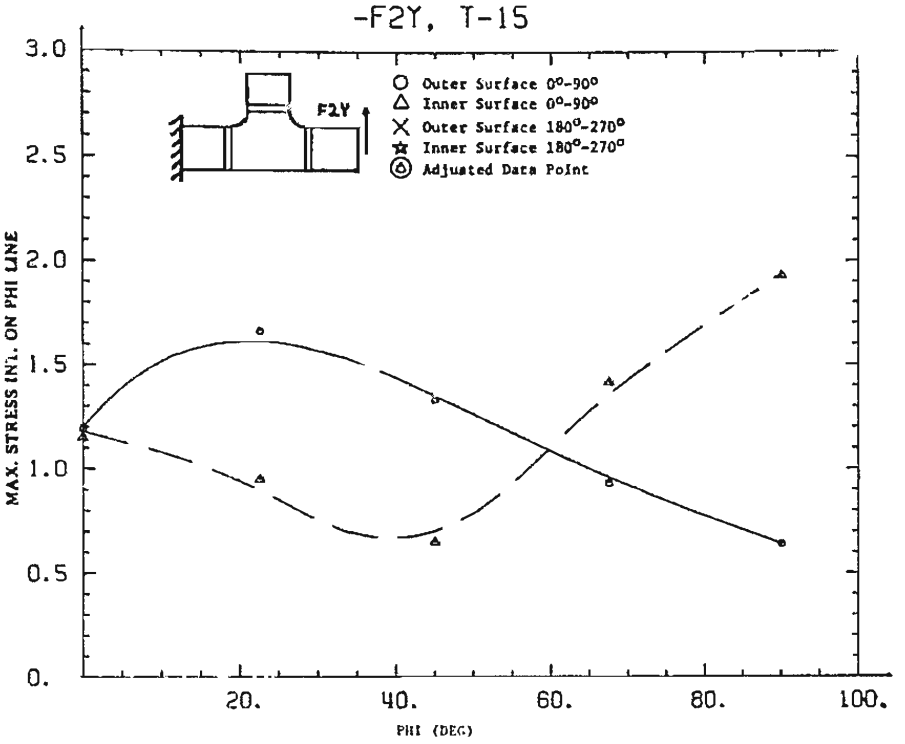

-F2Y, T-6
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

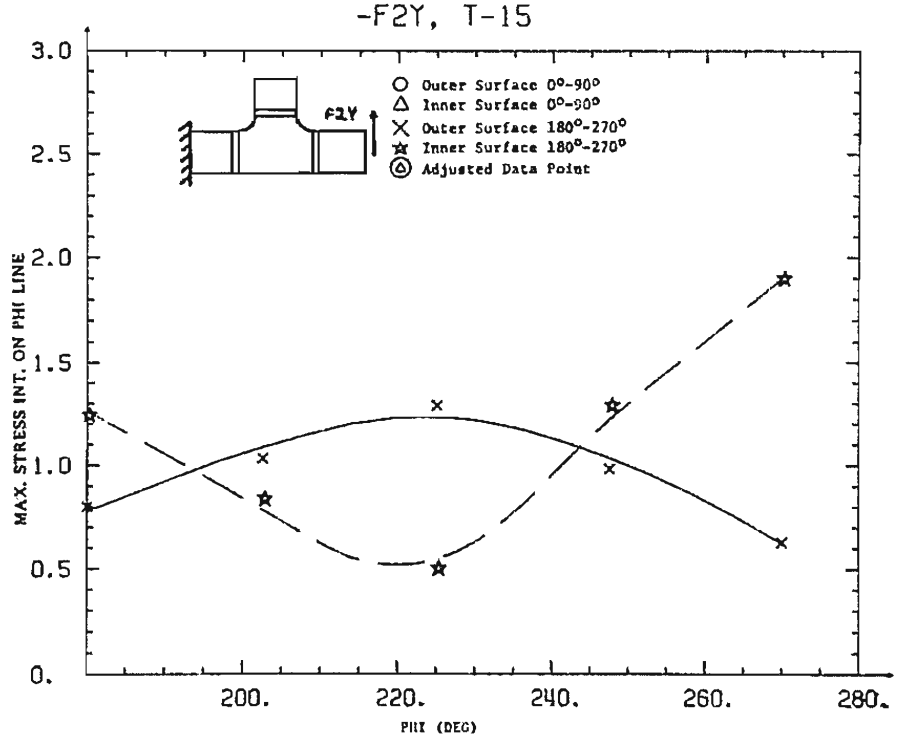

-F2Y, T-7
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

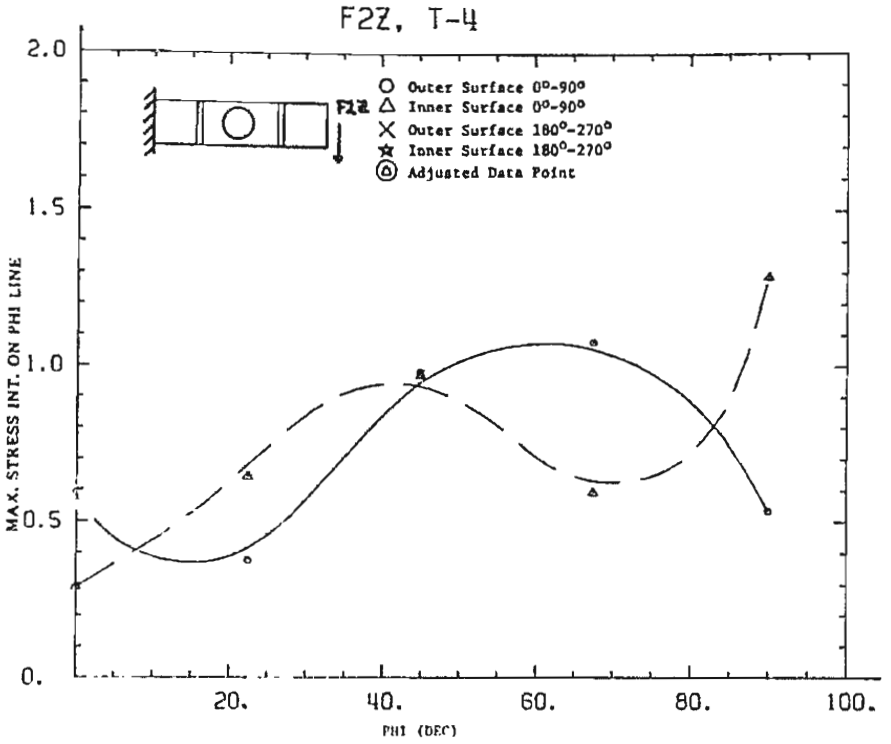

-F2Y, T-7
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

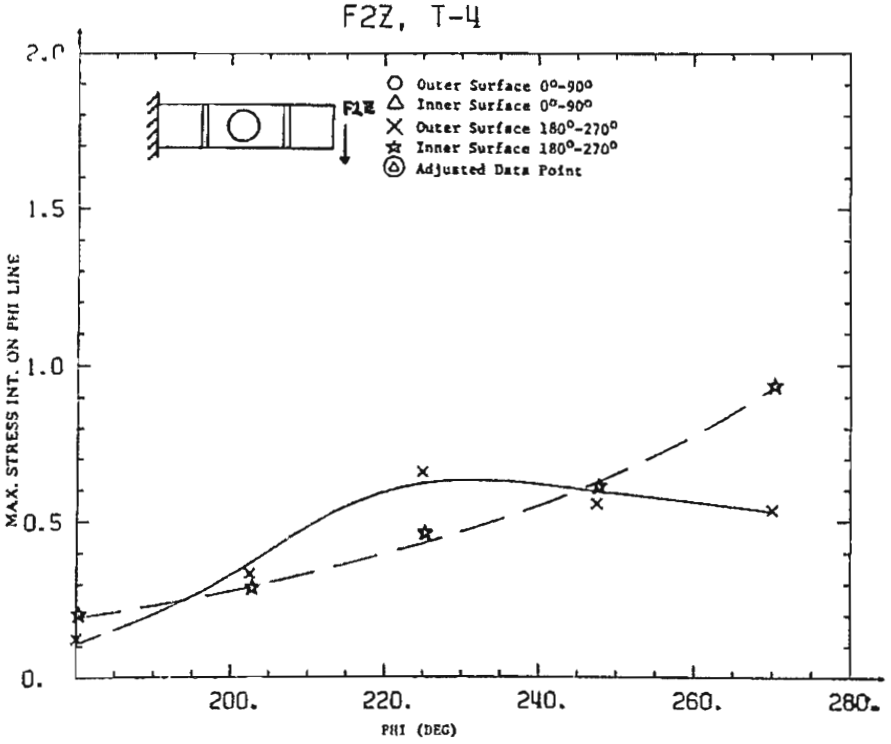

-F2Y, T-8
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

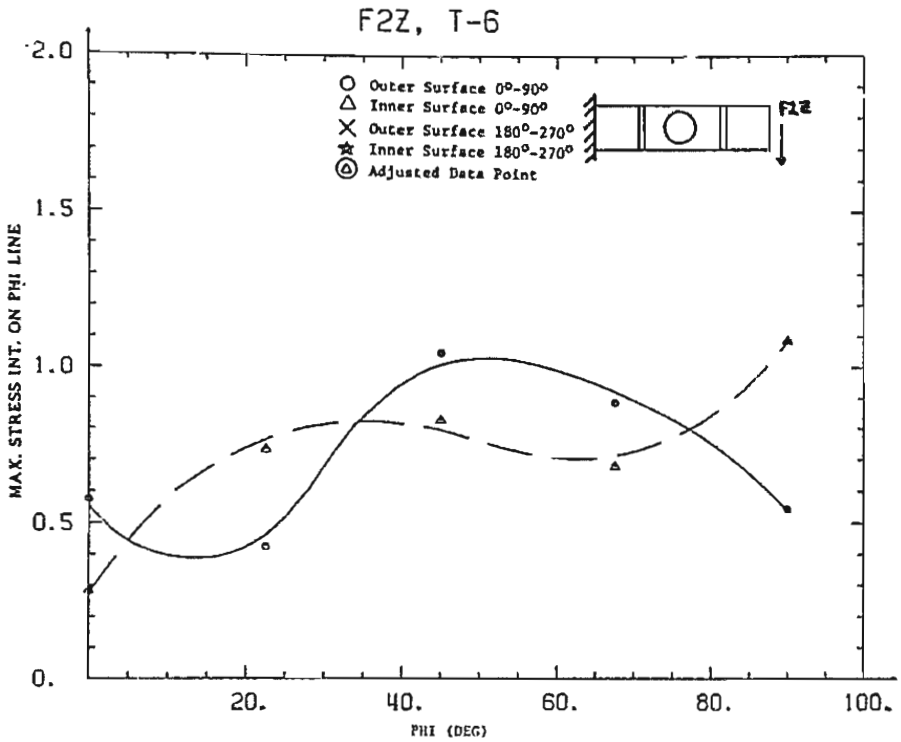

-F2Y, T-8
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

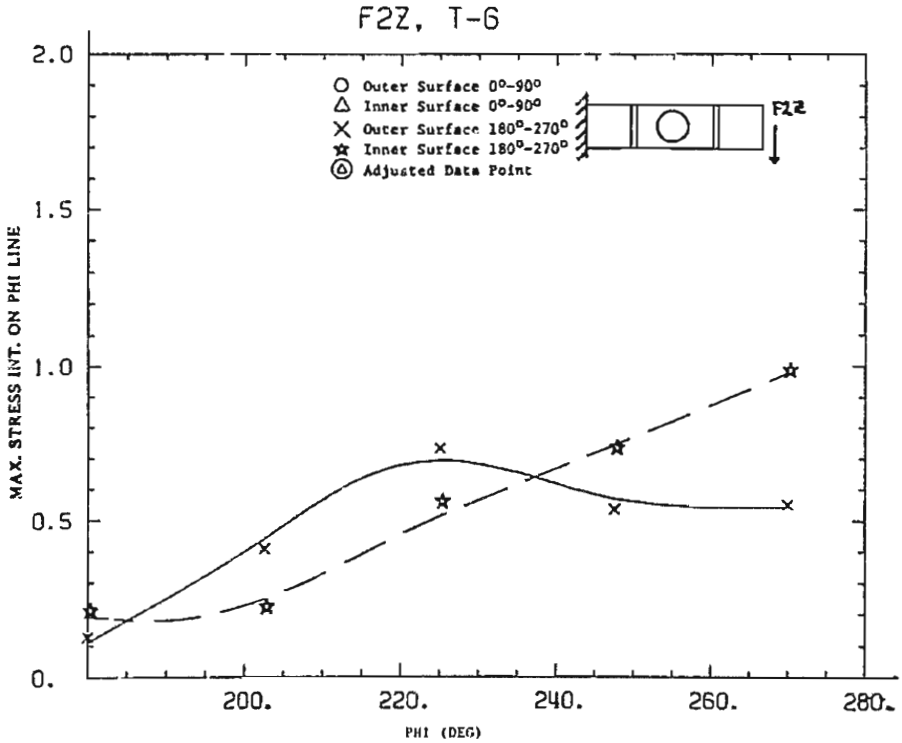

-F2Y, T-15
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

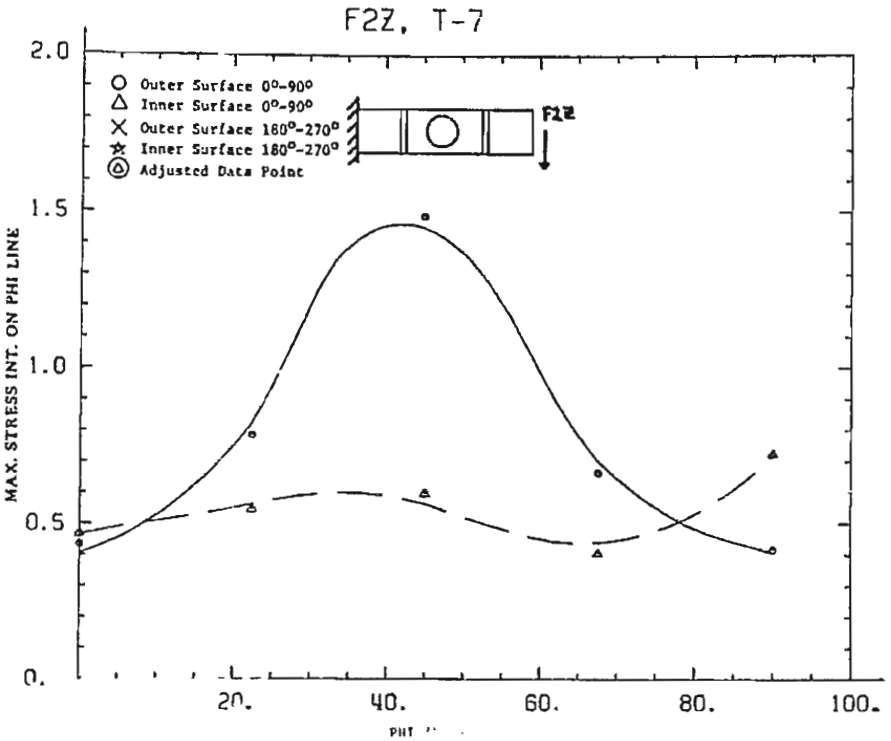

-F2Y, T-15
F2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

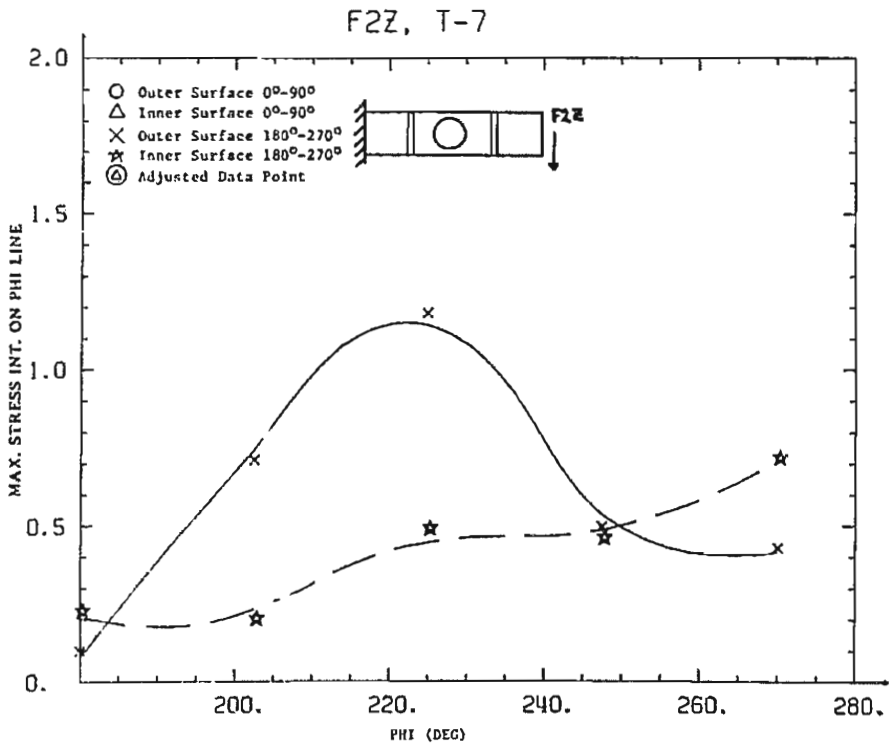

F2Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
0.5
1.0
1.5
2.0
20.
40.
60.
80.
100.

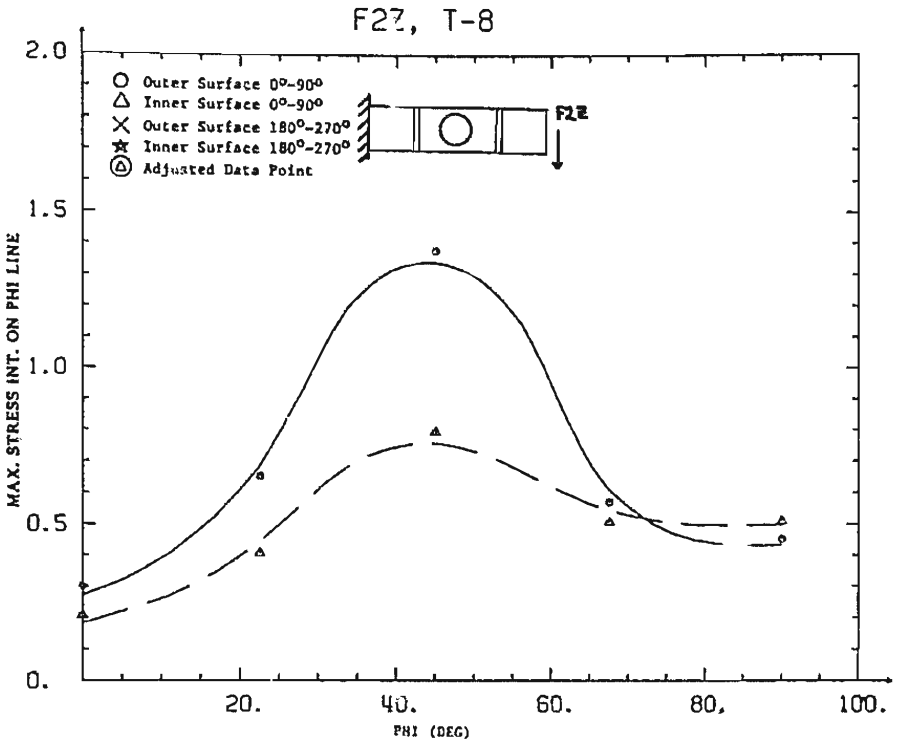

F2Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
0.5
1.0
1.5
200.
220.
240.
260.
280.

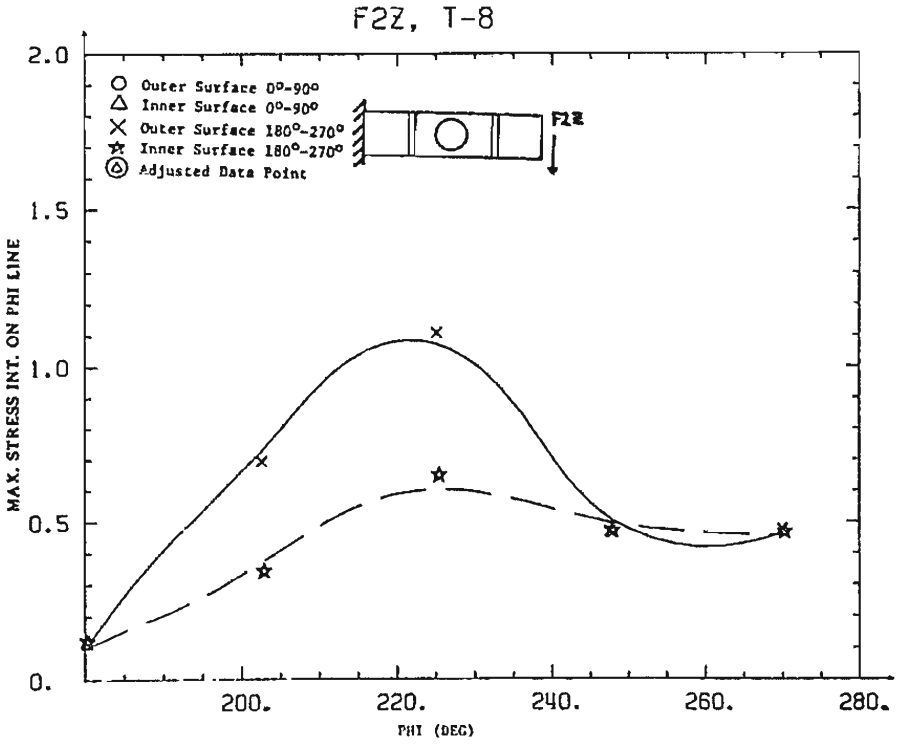

F2Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

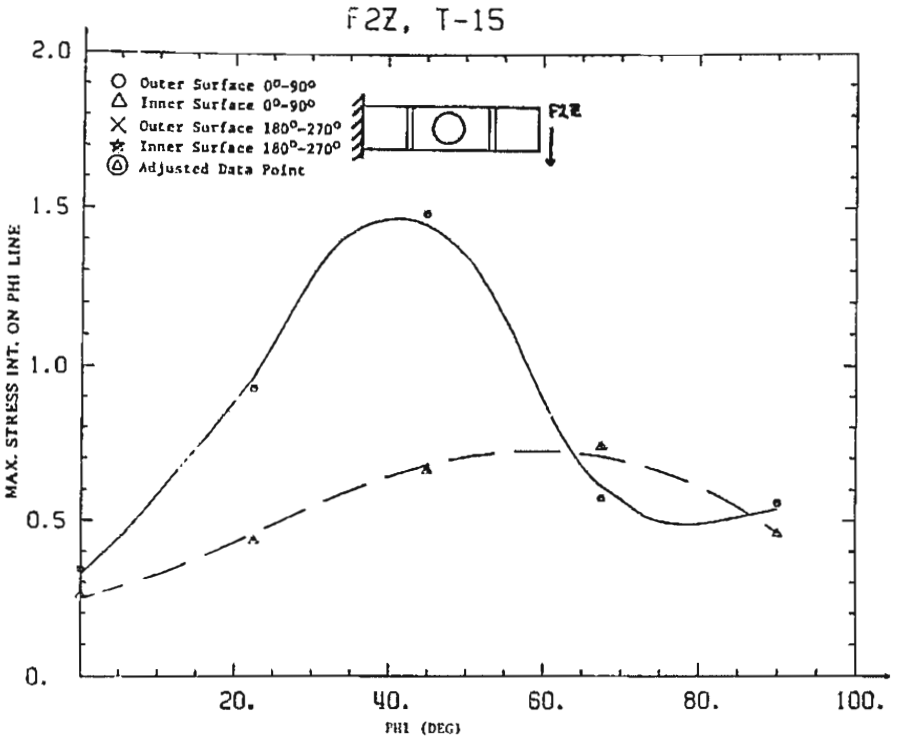

F2Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

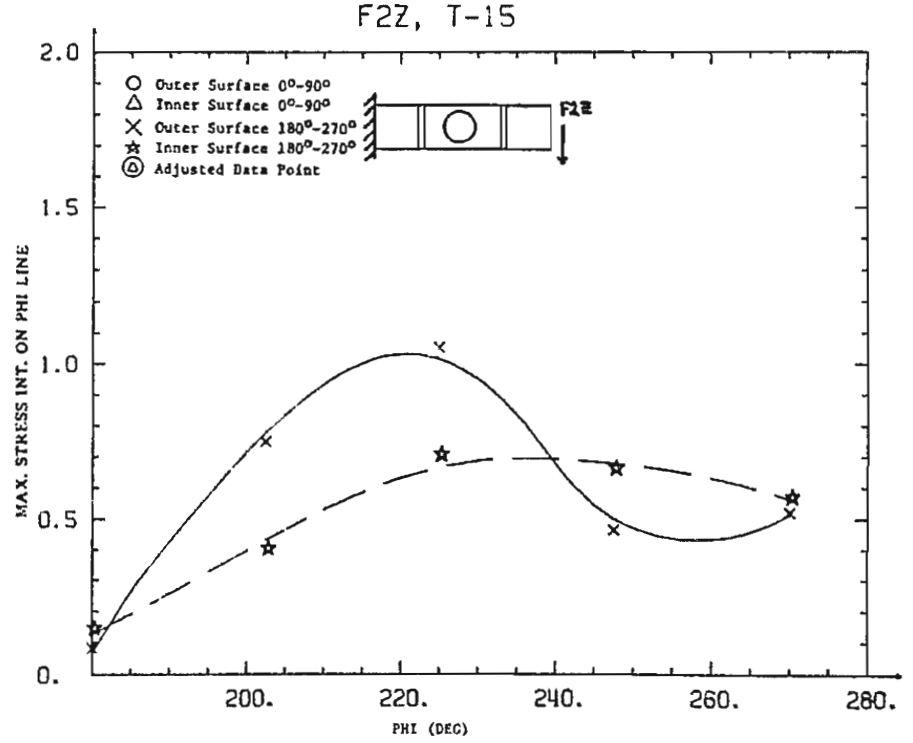

F2Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

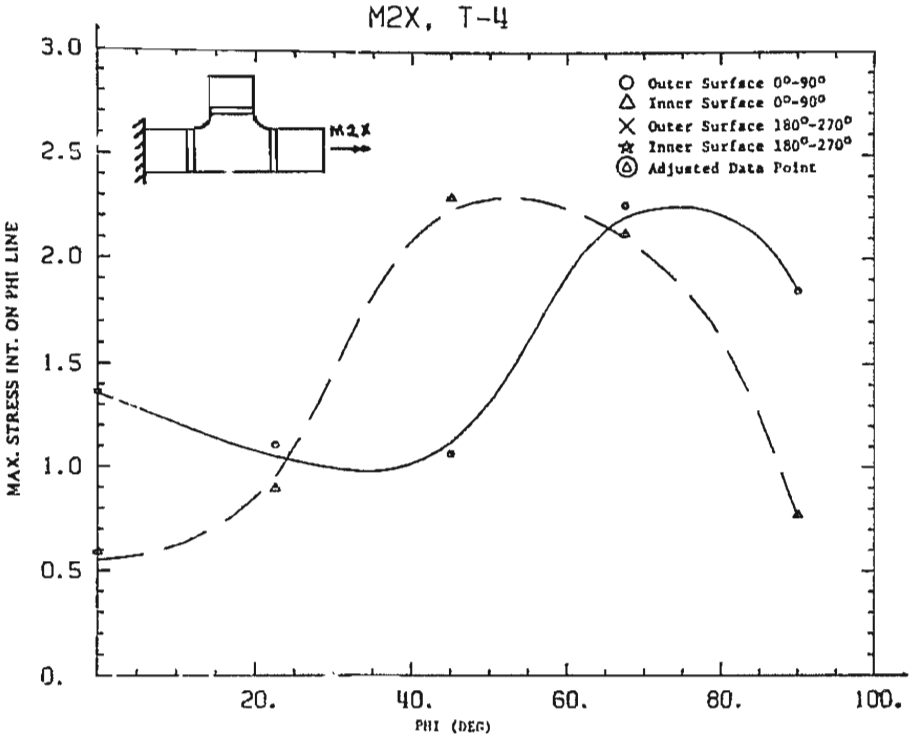

F2Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

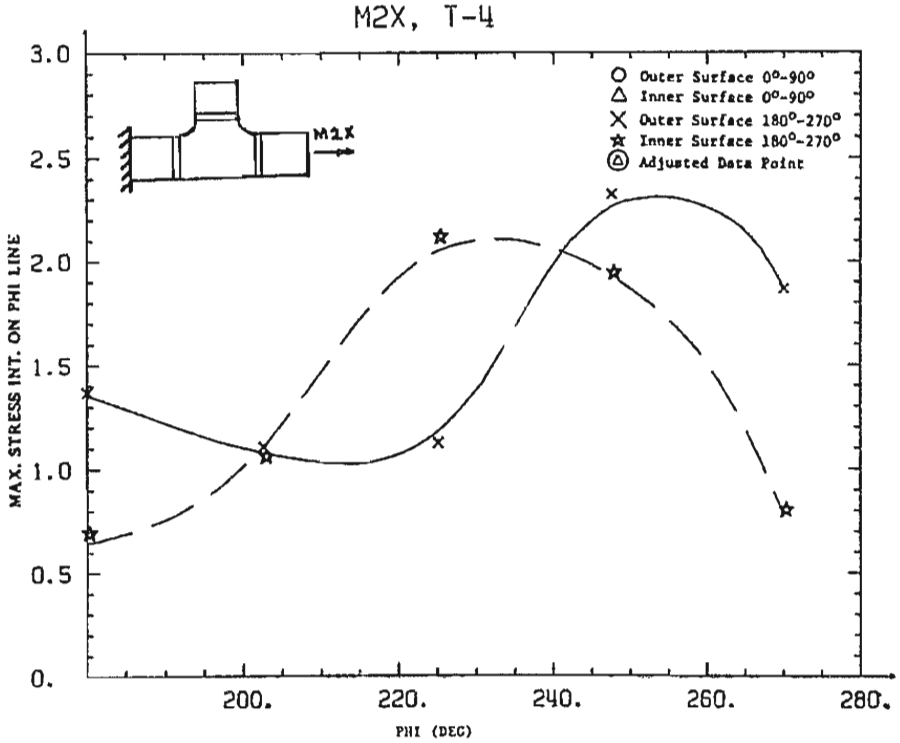

F2Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

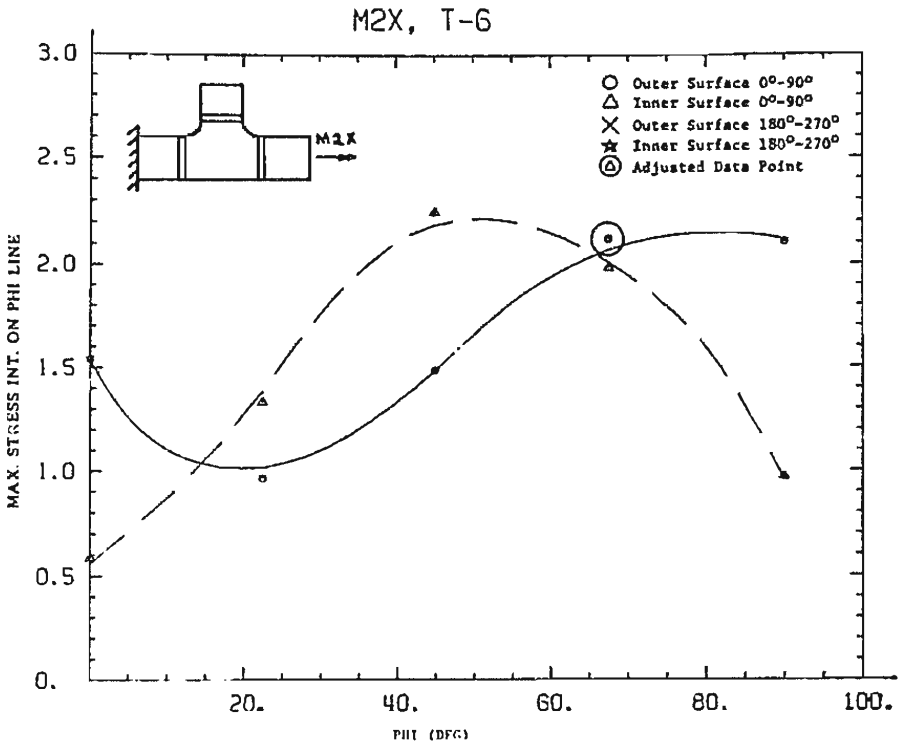

F2Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

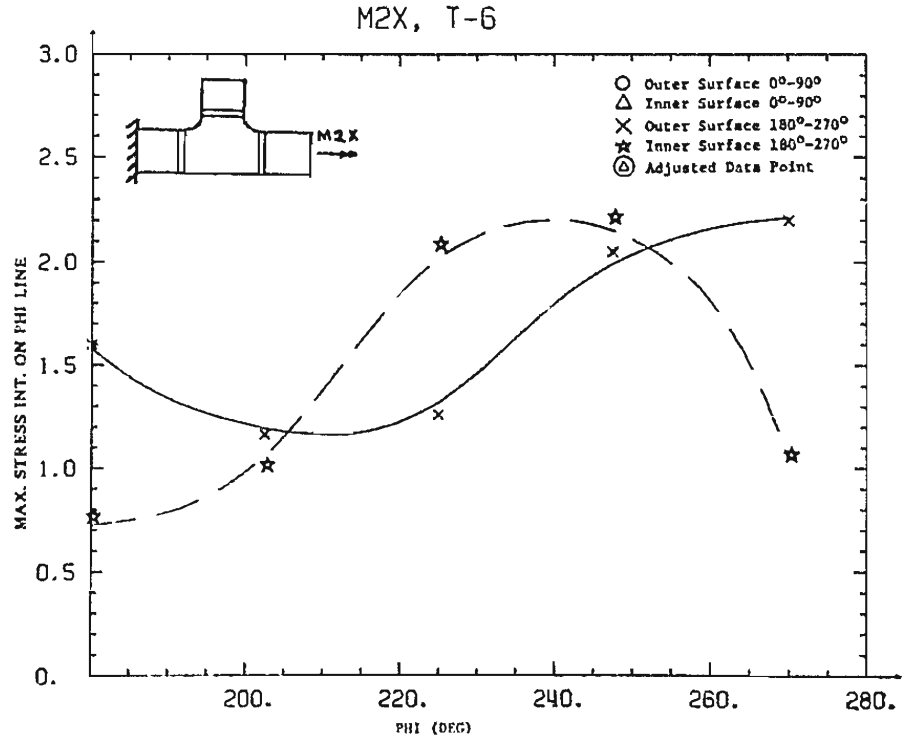

F2Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

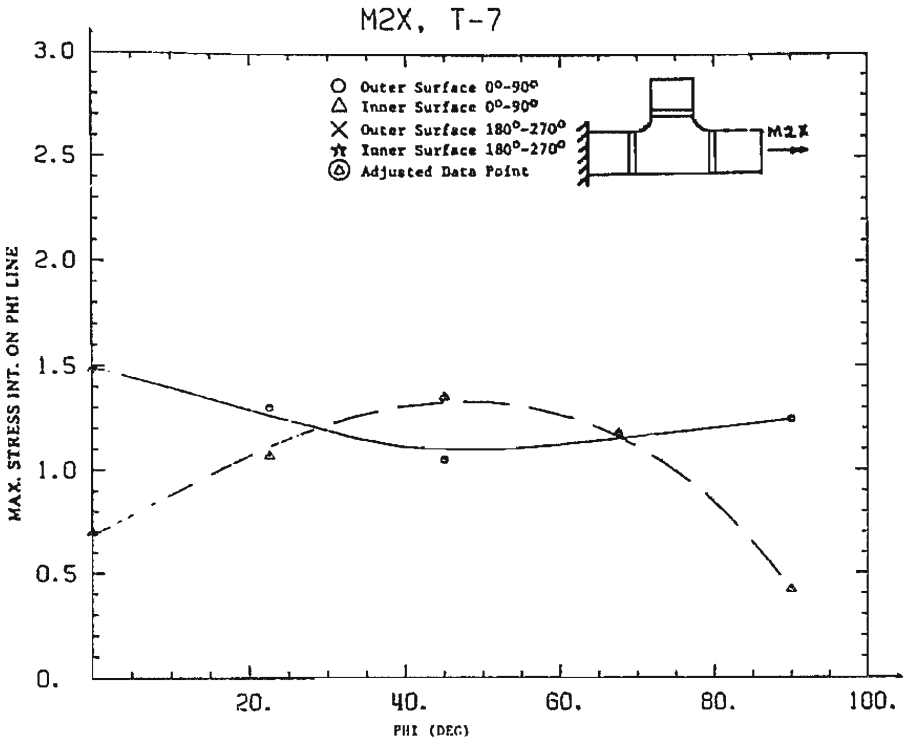

F2Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

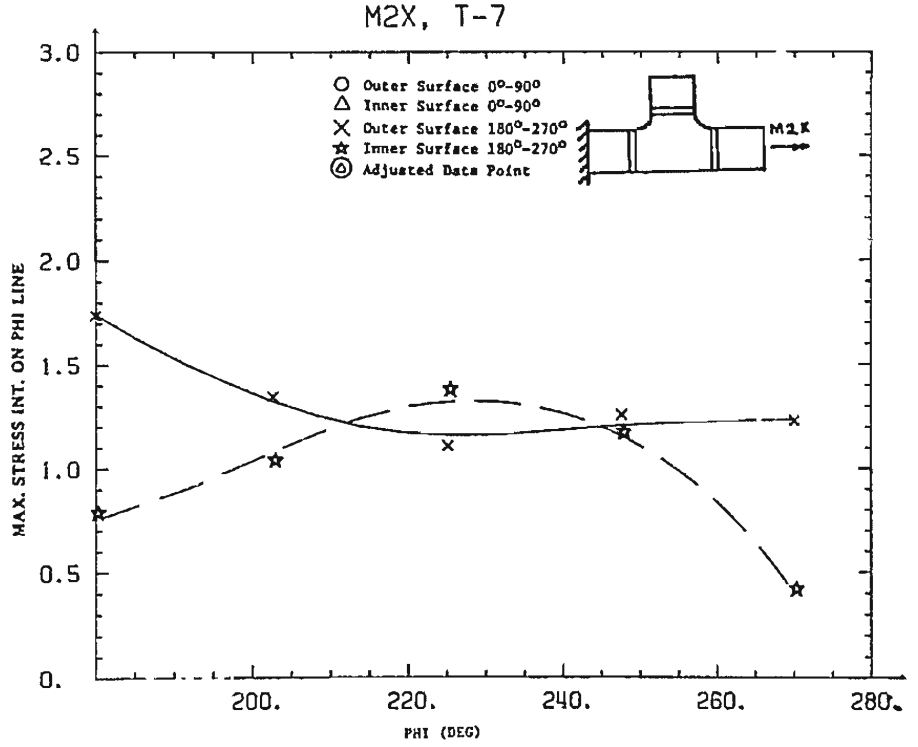

M2X, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
M2X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

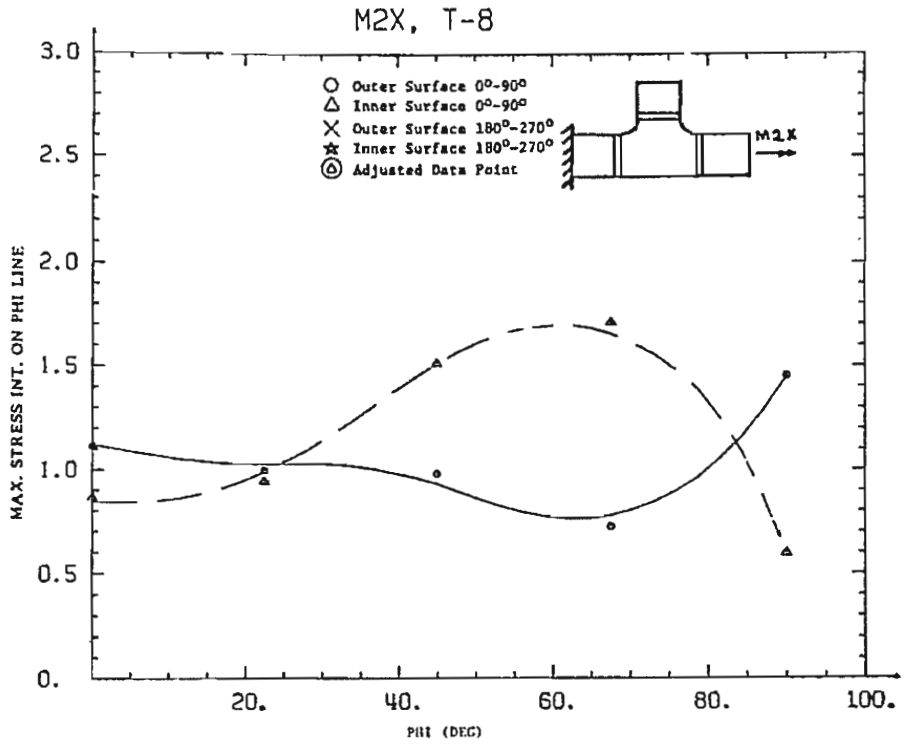

M2X, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
M2X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

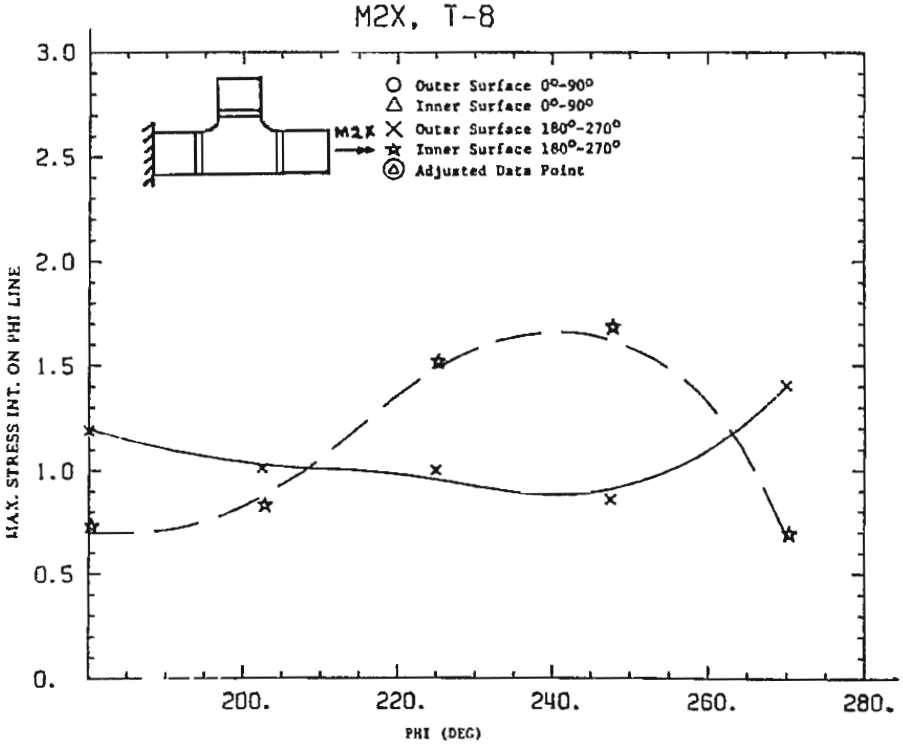

M2X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

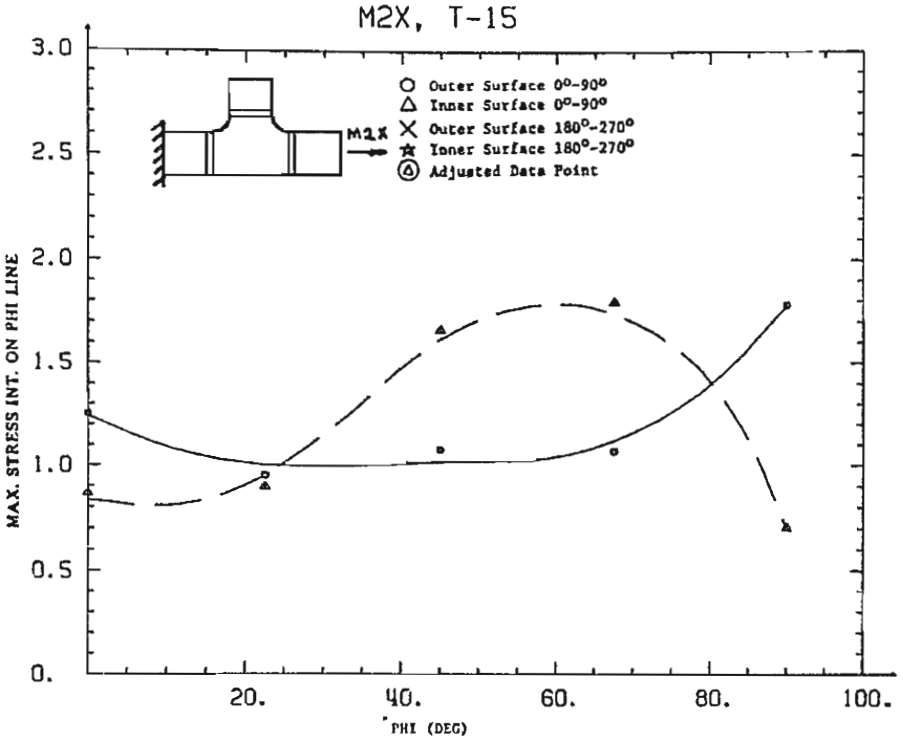

M2X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

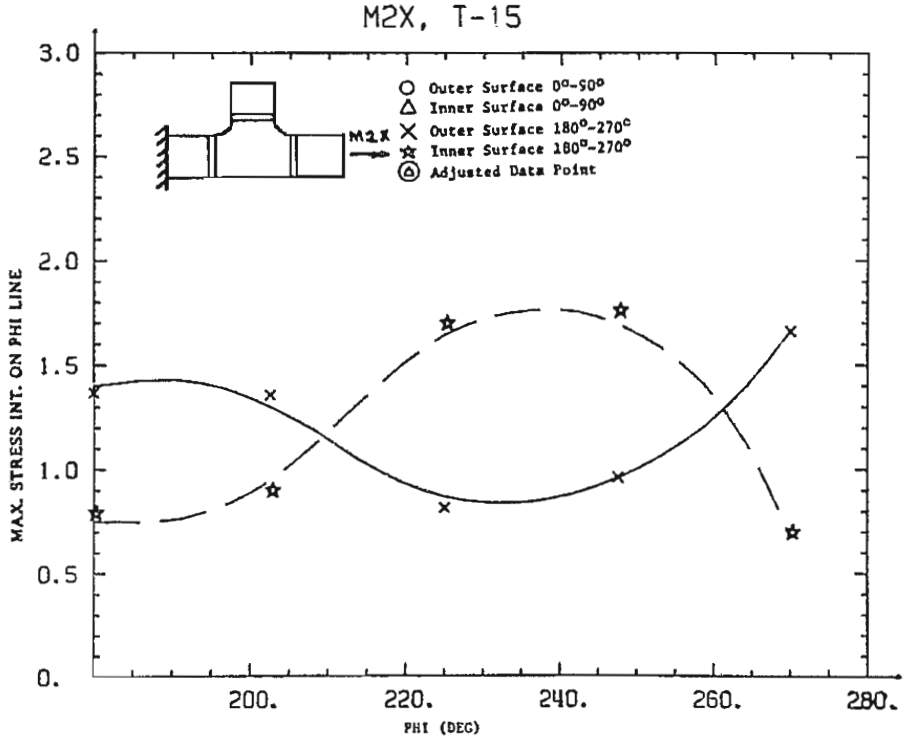

M2X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

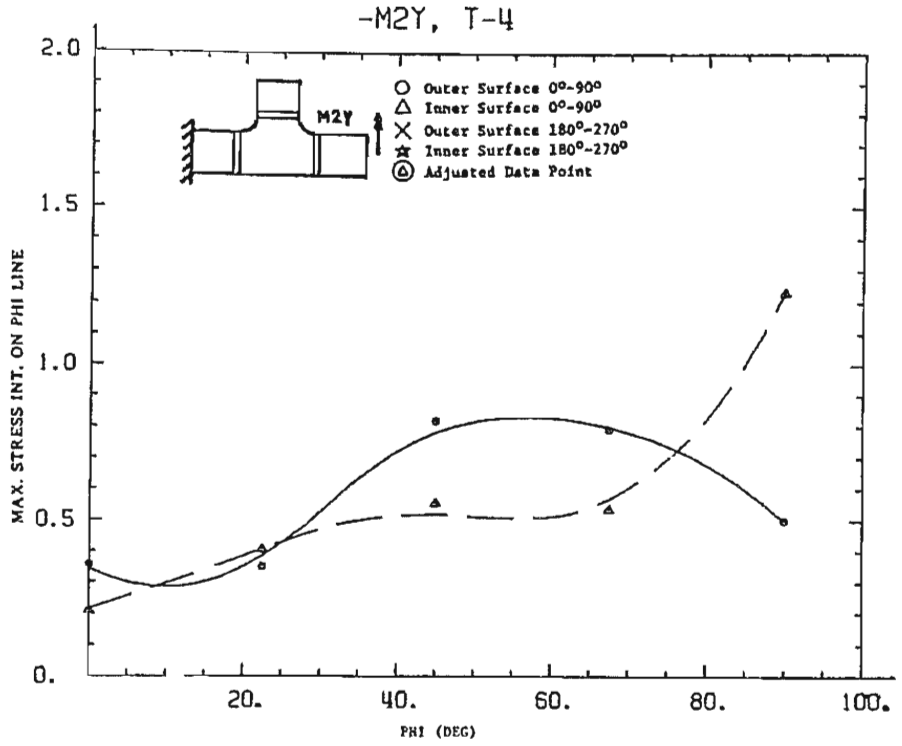

M2X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

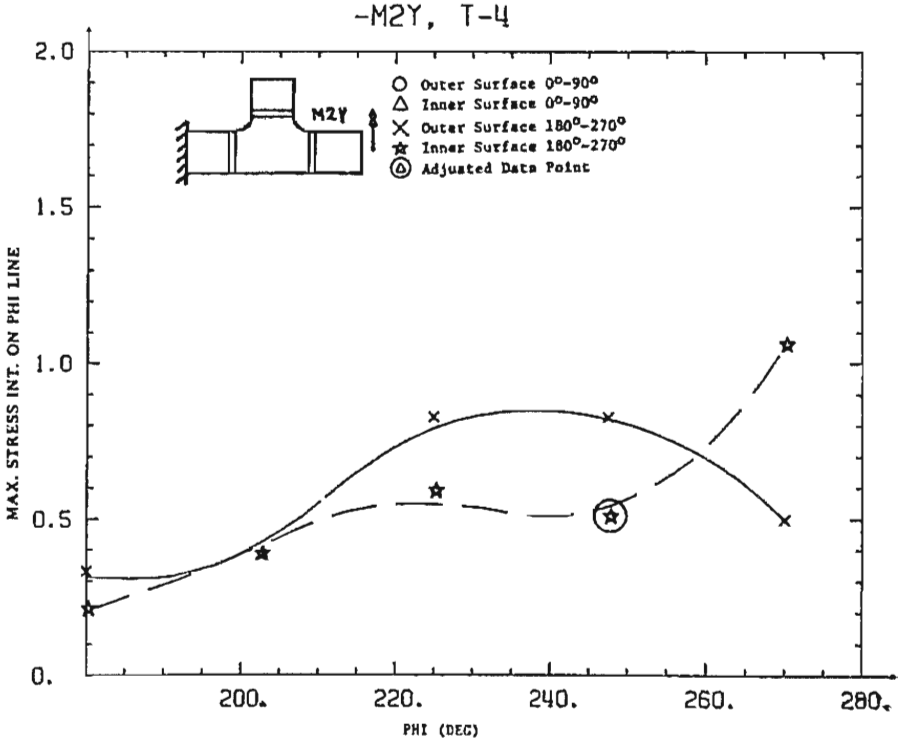

M2X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

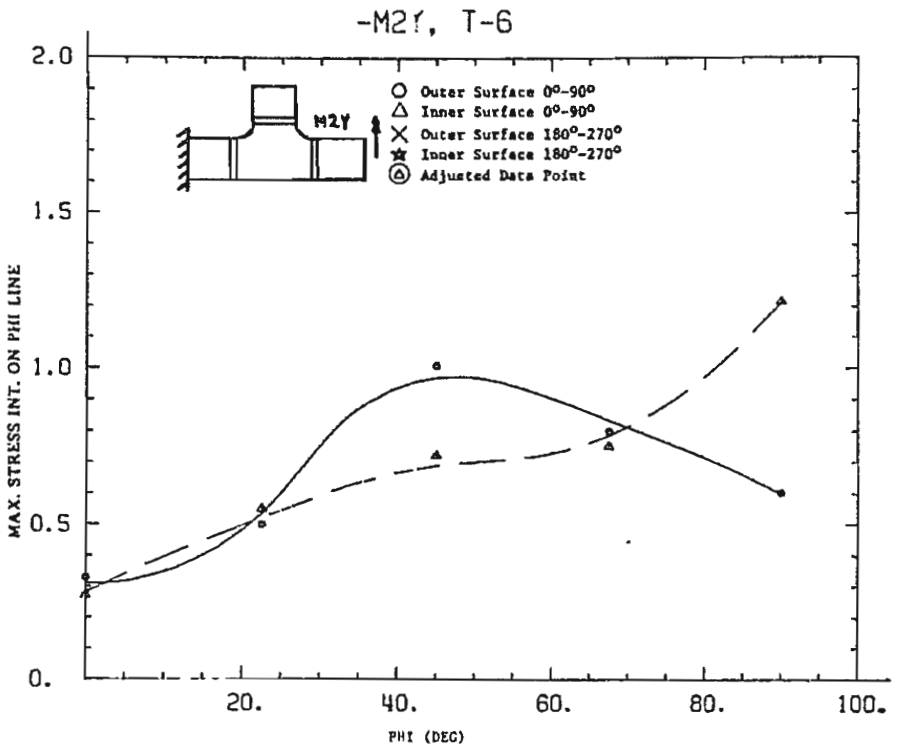

M2X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

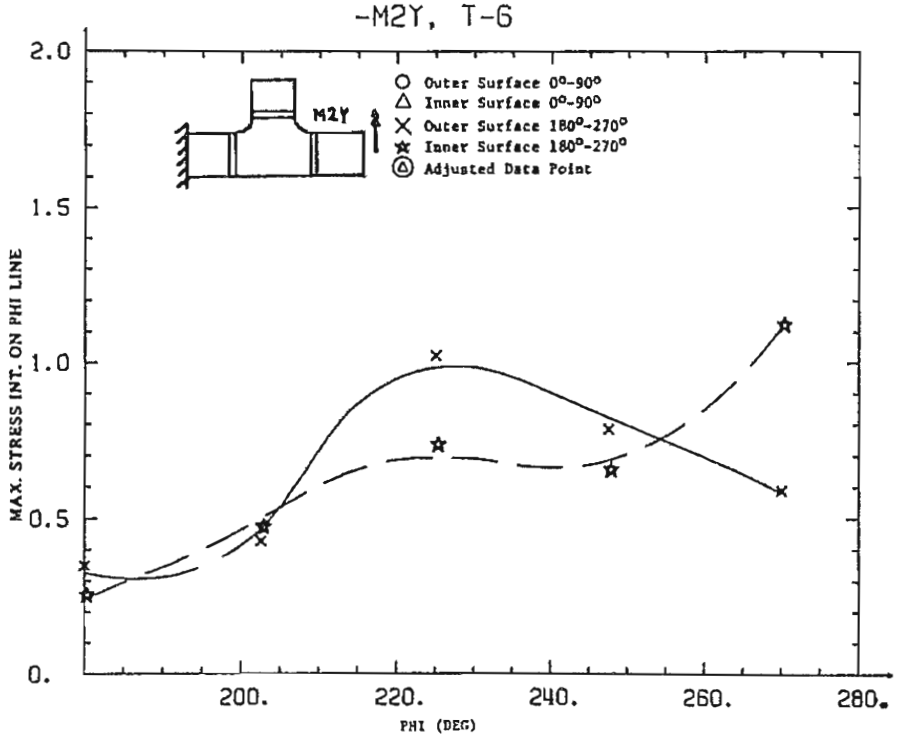

M2X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

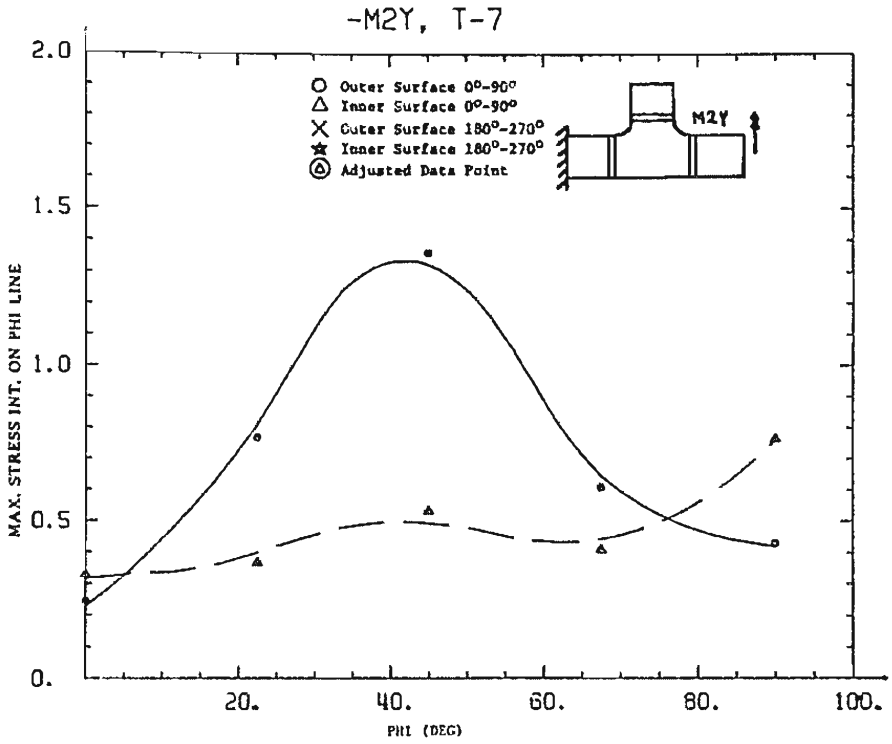

M2X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

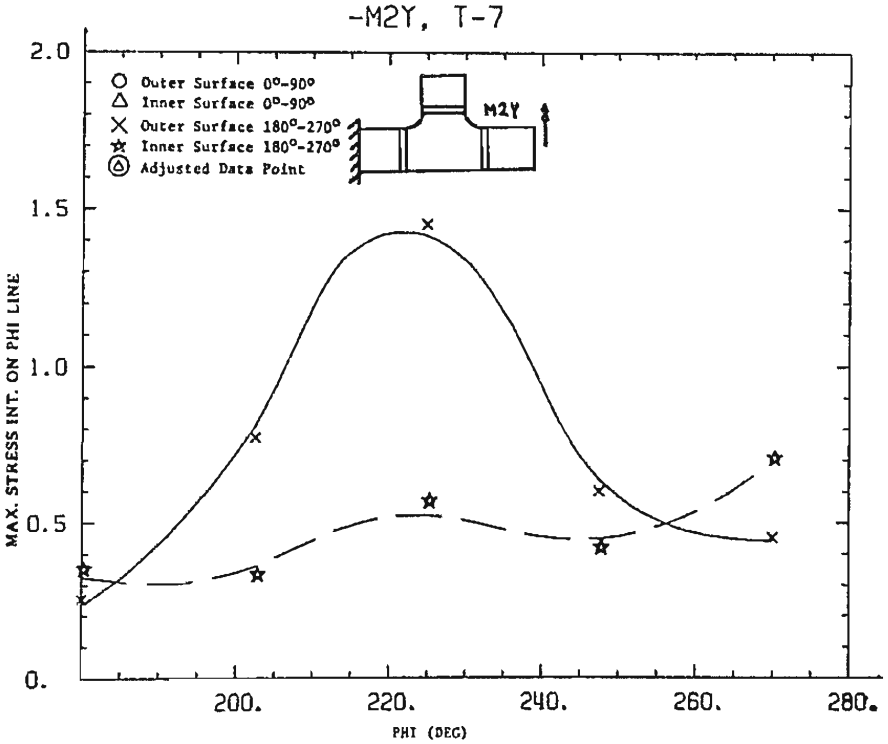

-M2Y, T-4
M2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

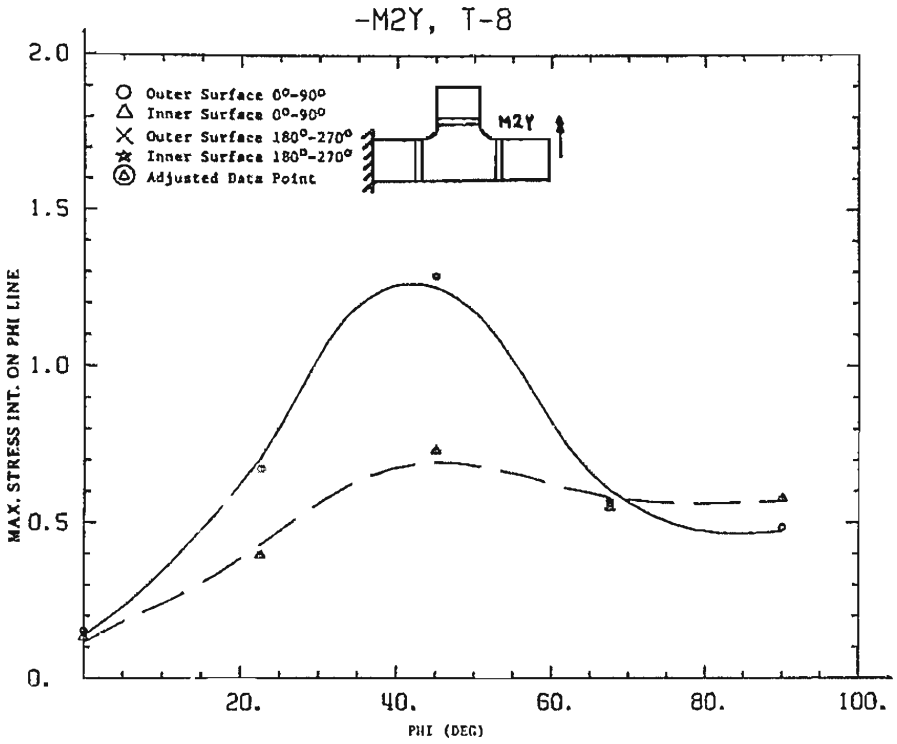

-M2Y, T-4
M2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

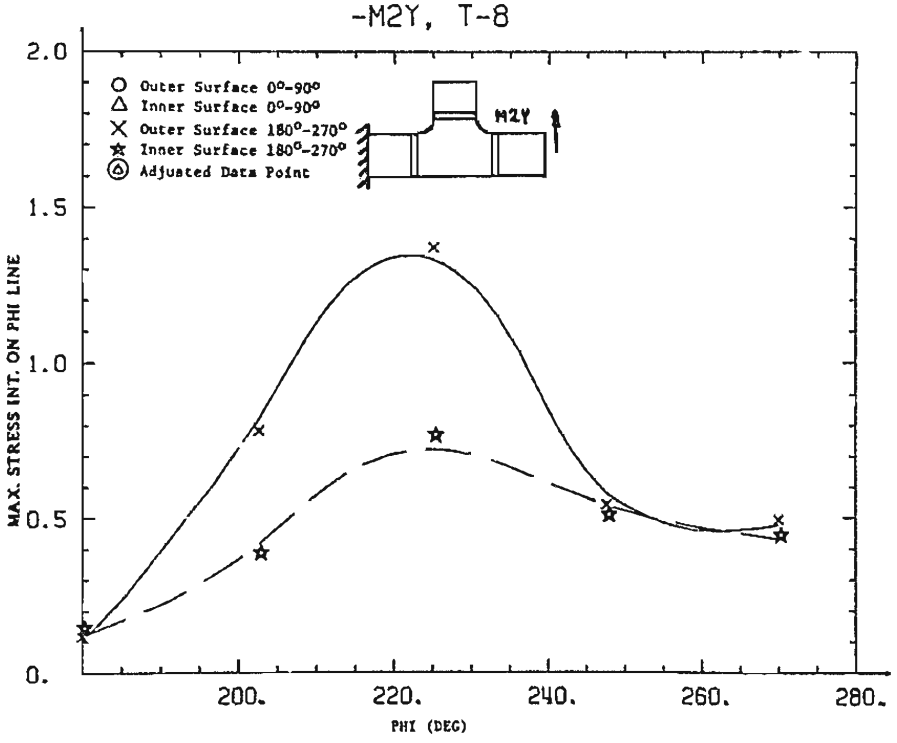

-M2Y, T-6
M2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

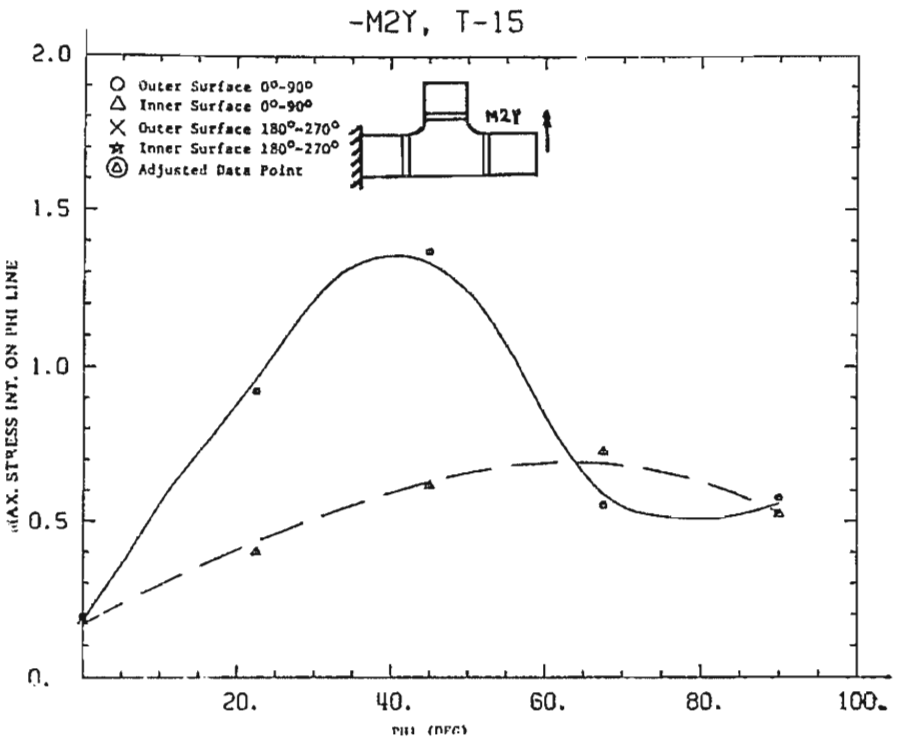

-M2Y, T-6
M2Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

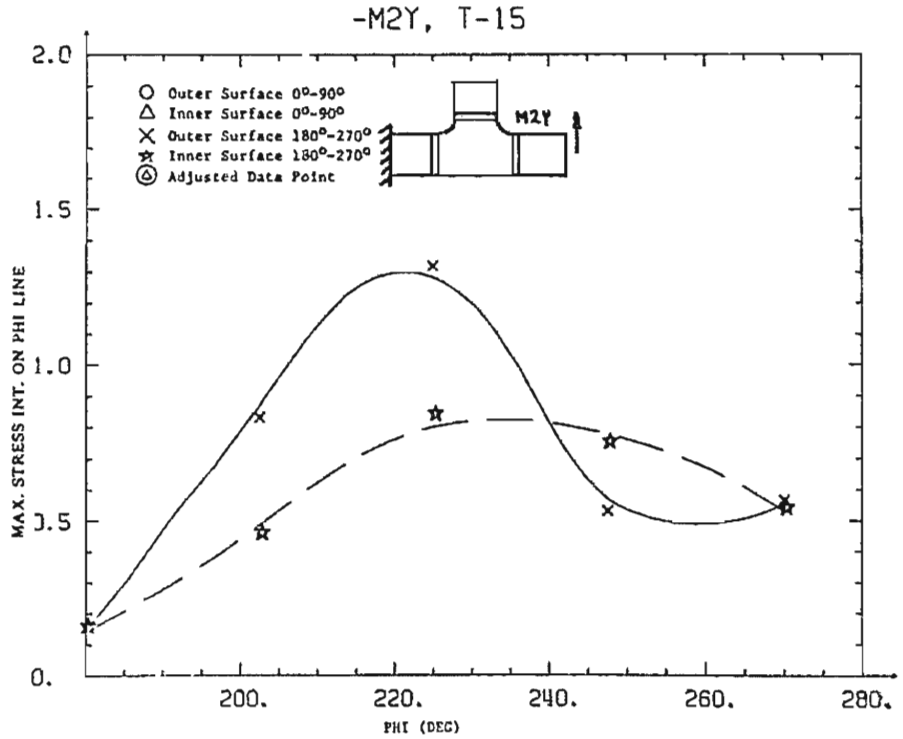

-M2Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

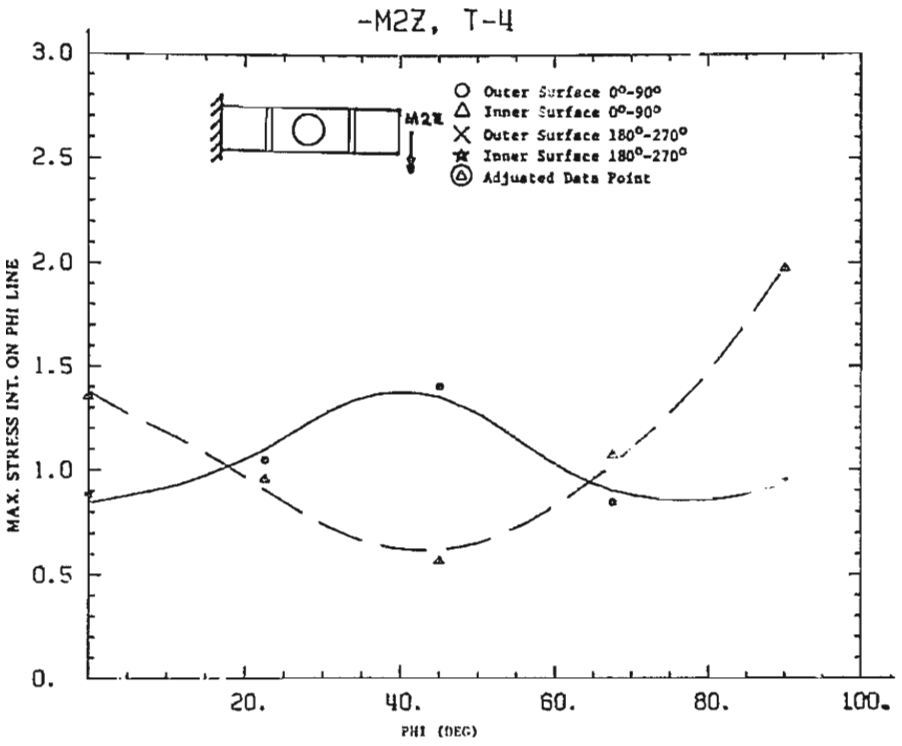

-M2Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

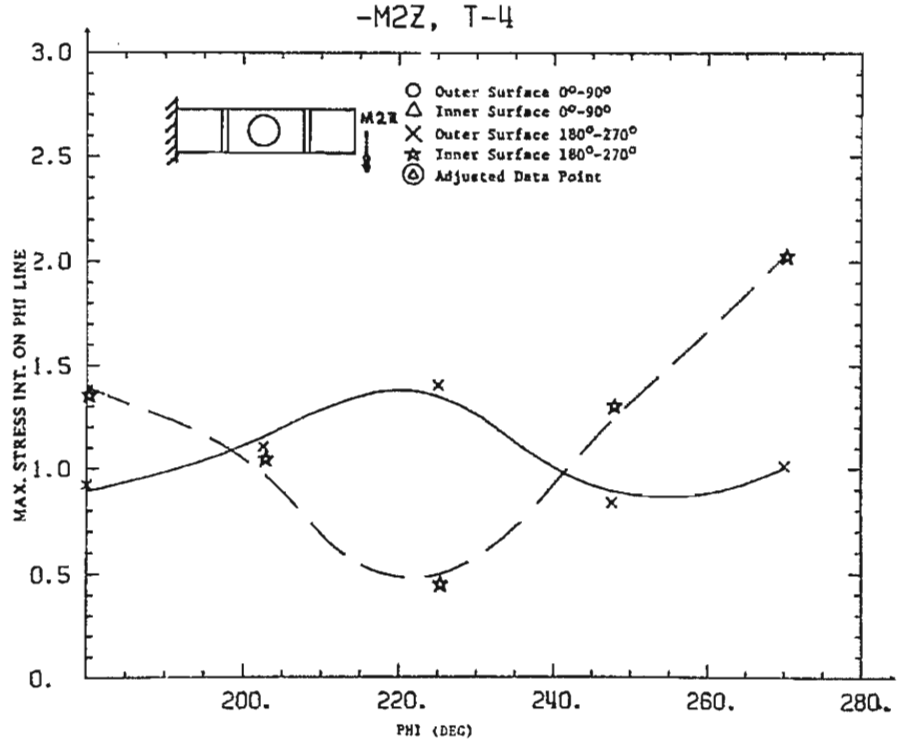

-M2Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

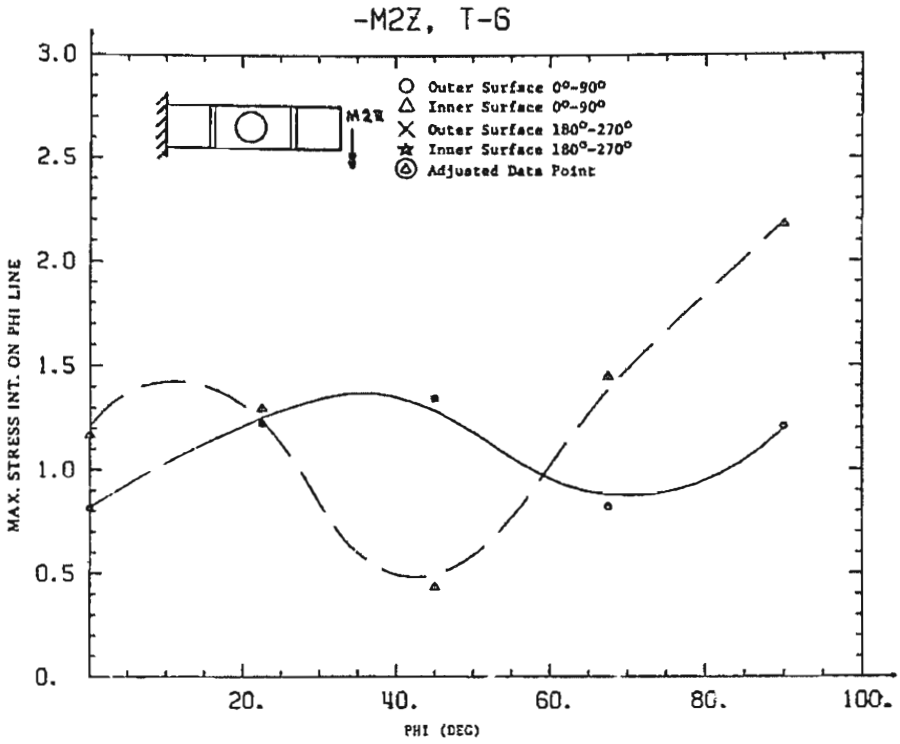

-M2Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

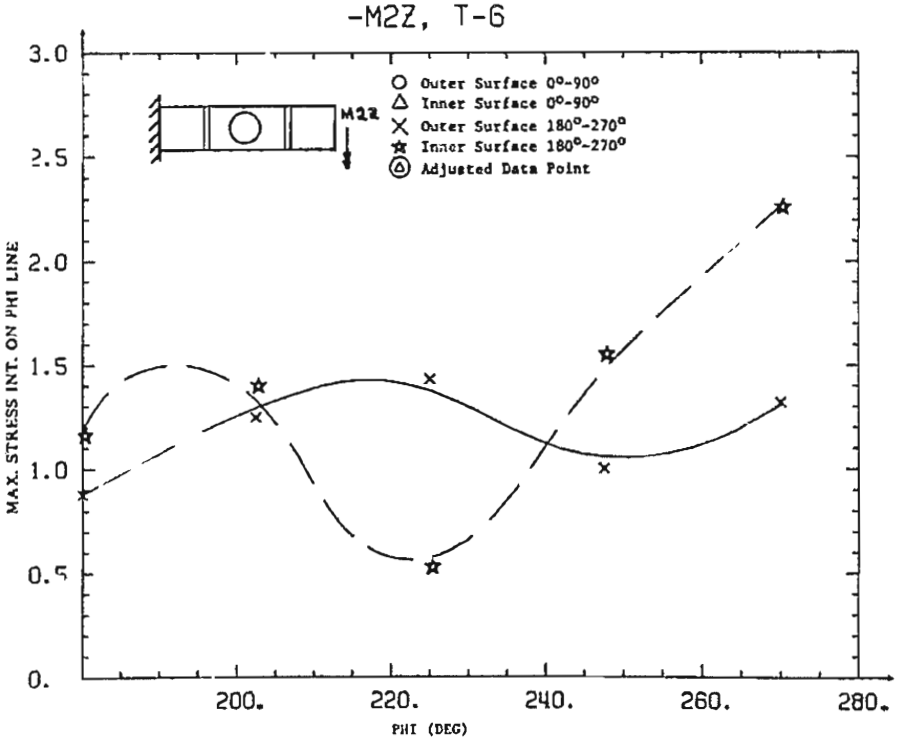

-M2Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

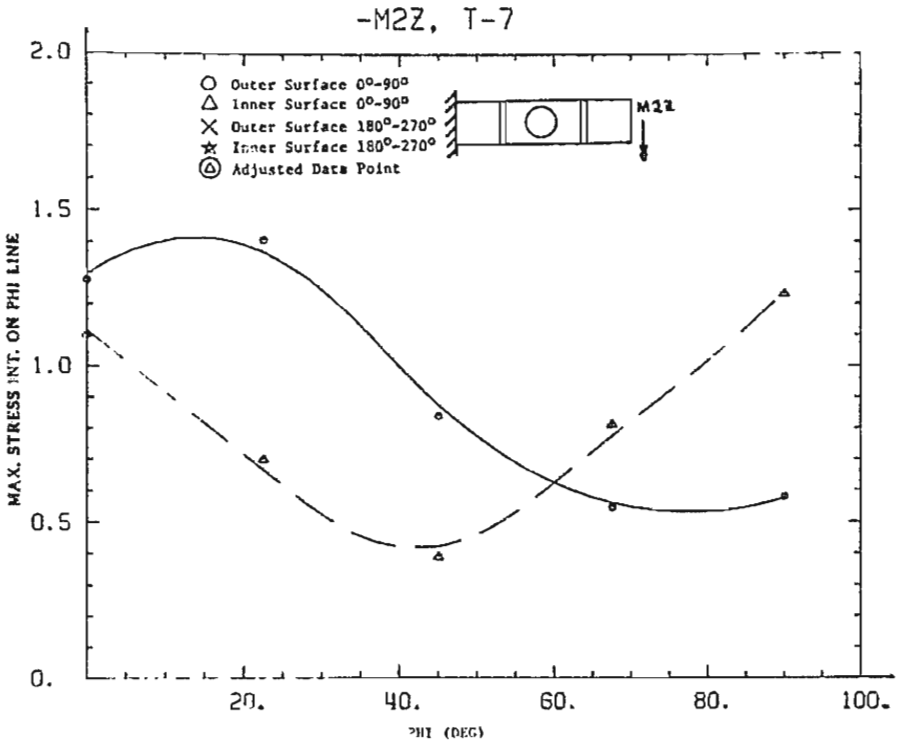

-M2Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

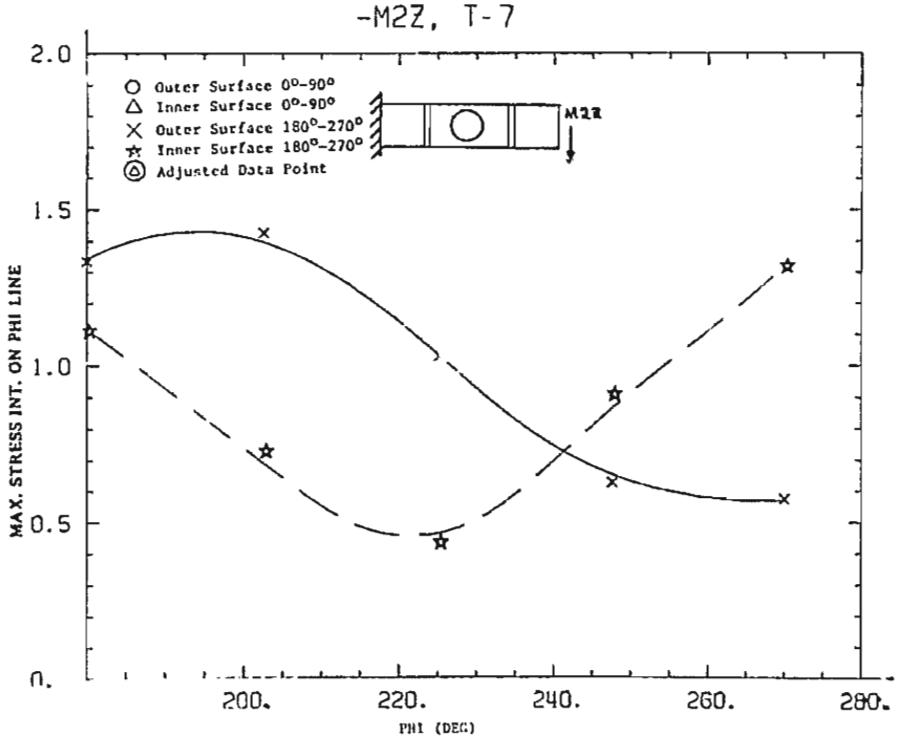

-M2Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
0.5
1.0
1.5
2.0
2.5
3.0
20.
40.
60.
80.
100.

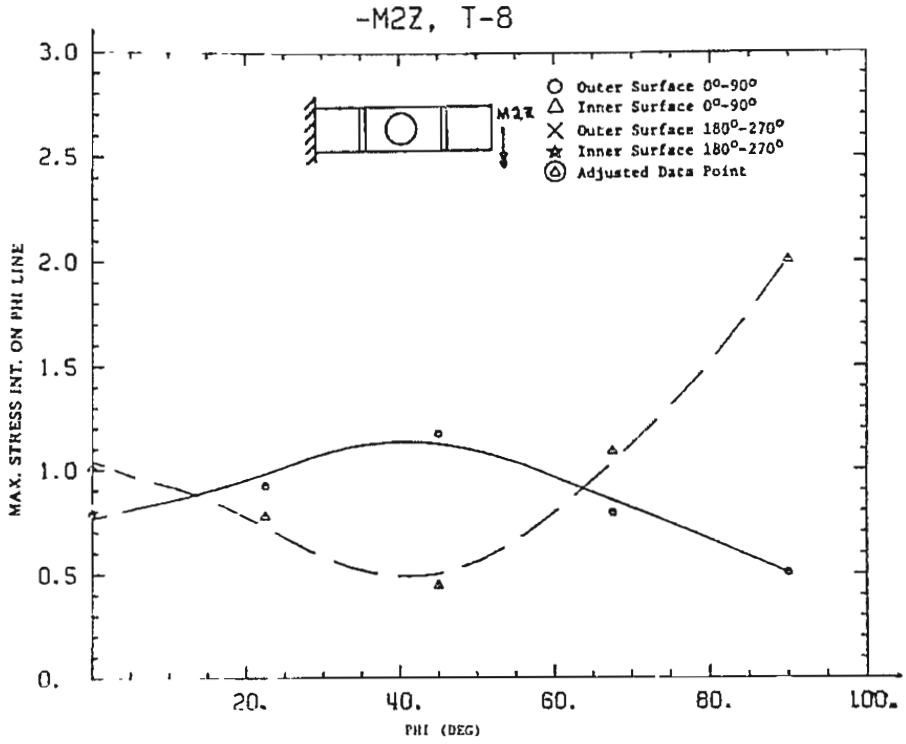

-M2Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
0.5
1.0
1.5
2.0
2.5
3.0
200.
220.
240.
260.
280.

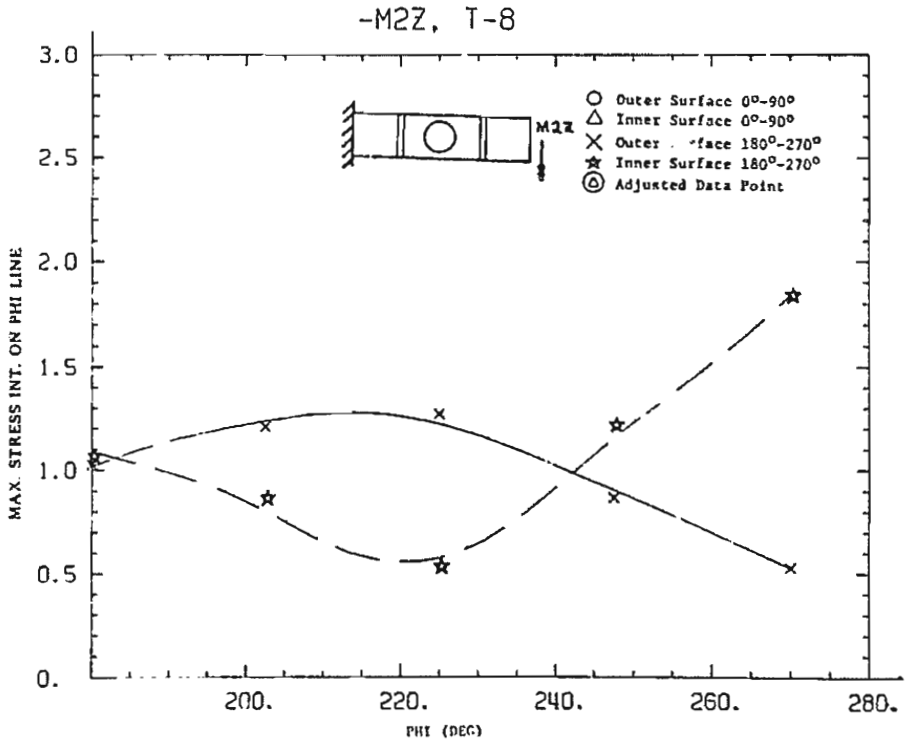

-M2Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

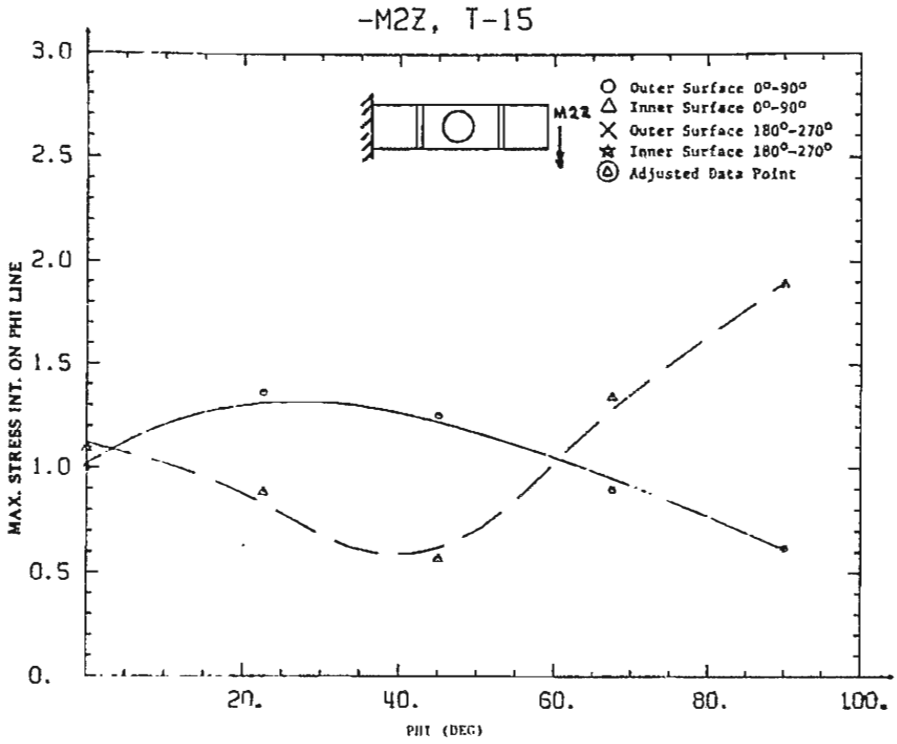

-M2Z, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

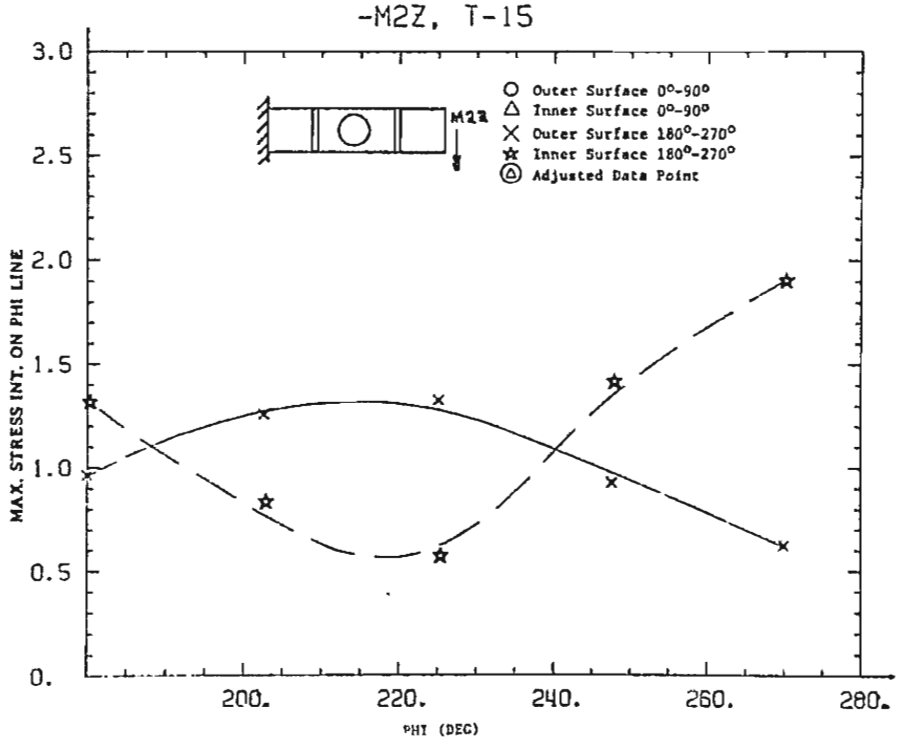

-M2Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

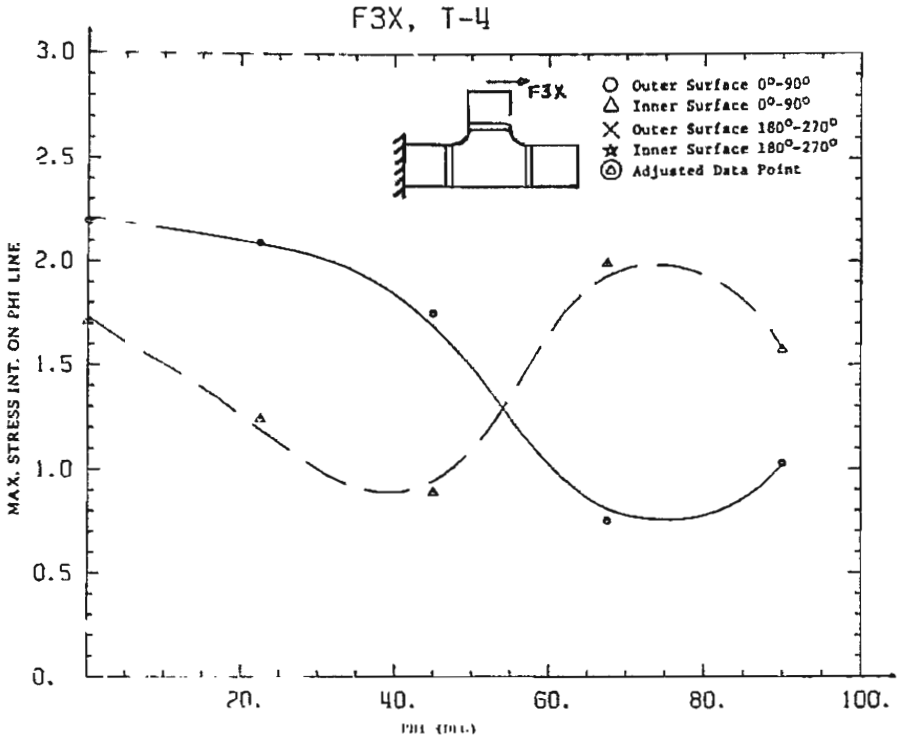

-M2Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M2Z
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

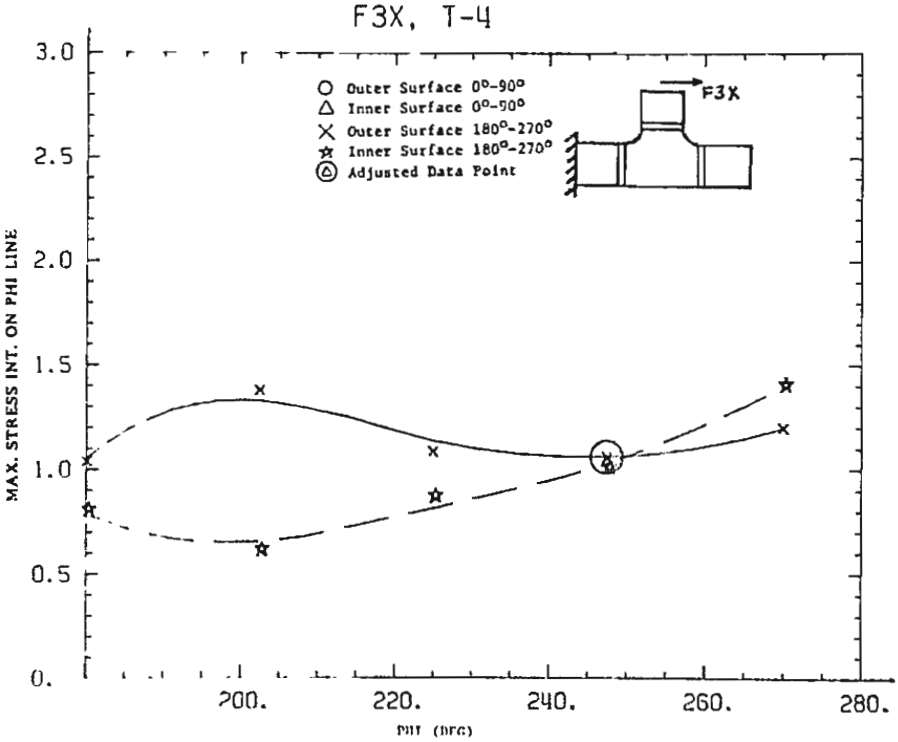

-M2Z, T-8
M2Z
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

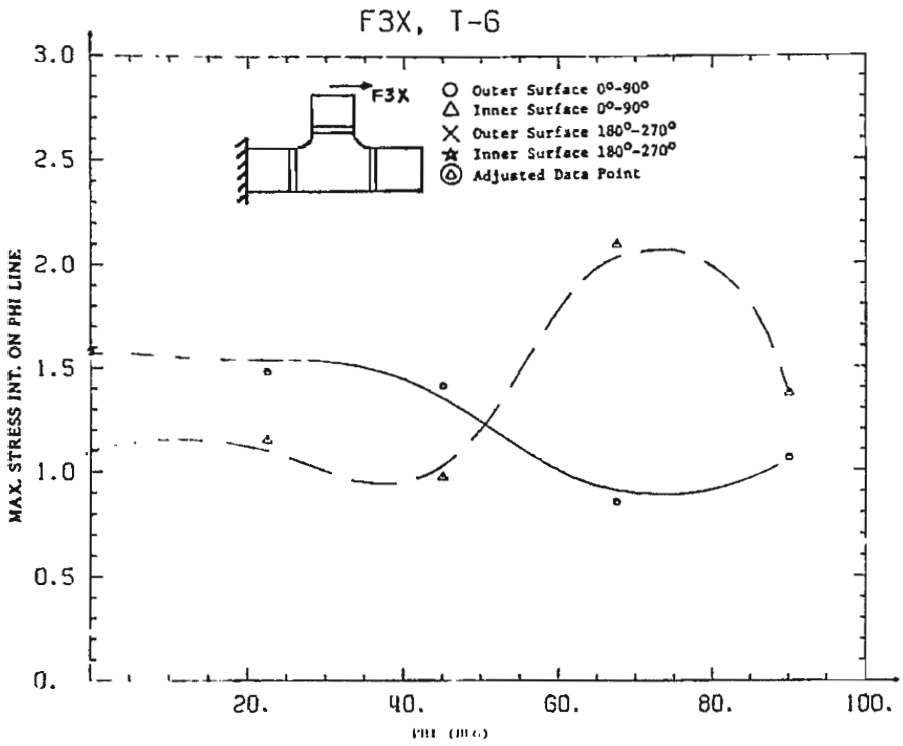

-M2Z, T-8
M2Z
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

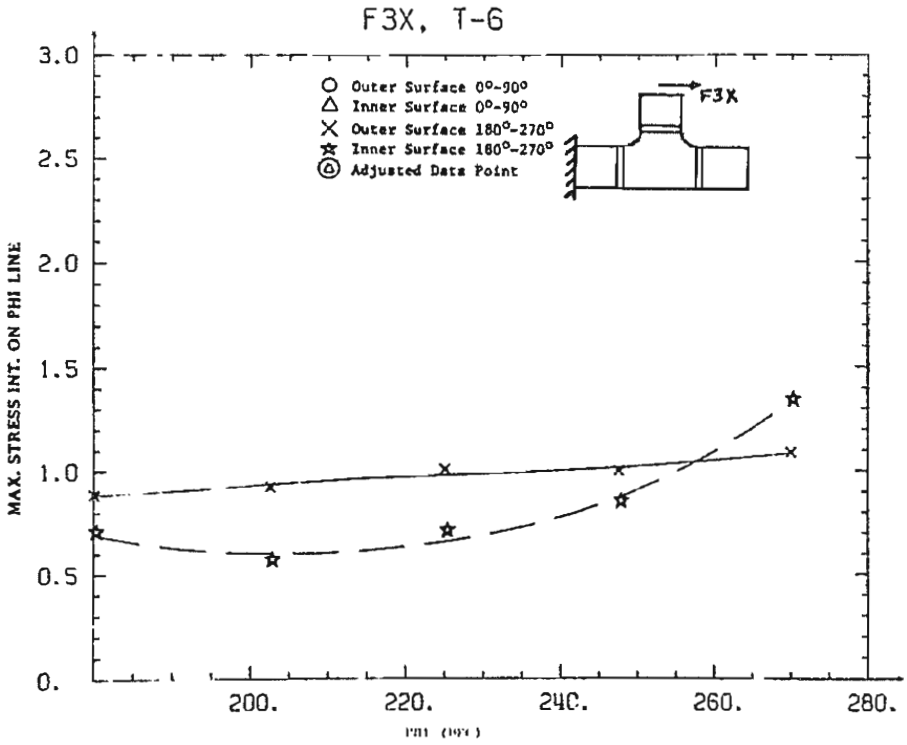

-M2Z, T-15
M2Z
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

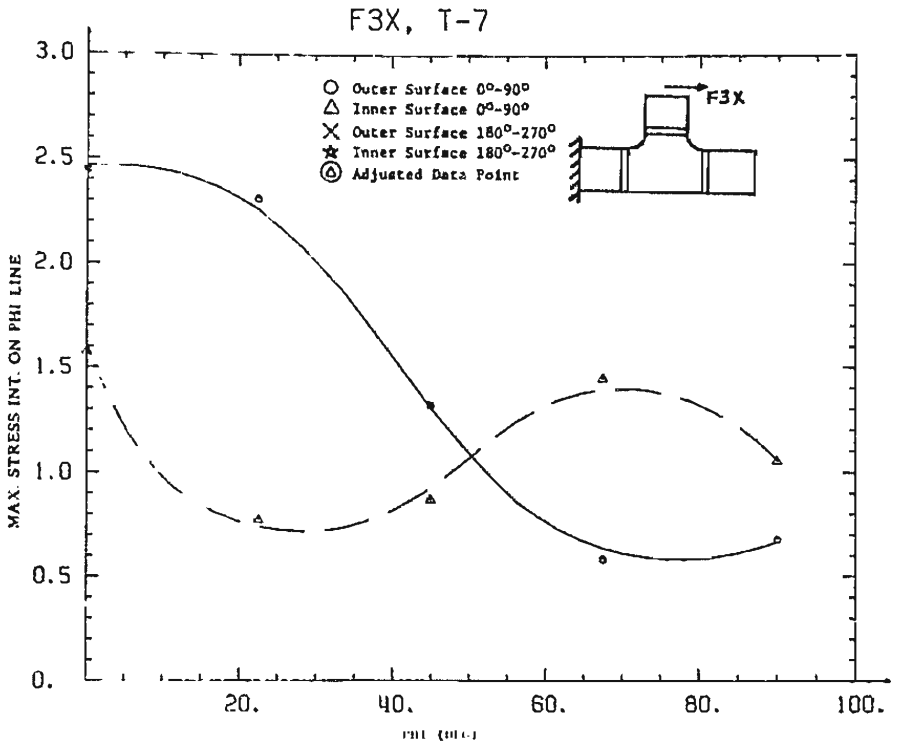

-M2Z, T-15
M2Z
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

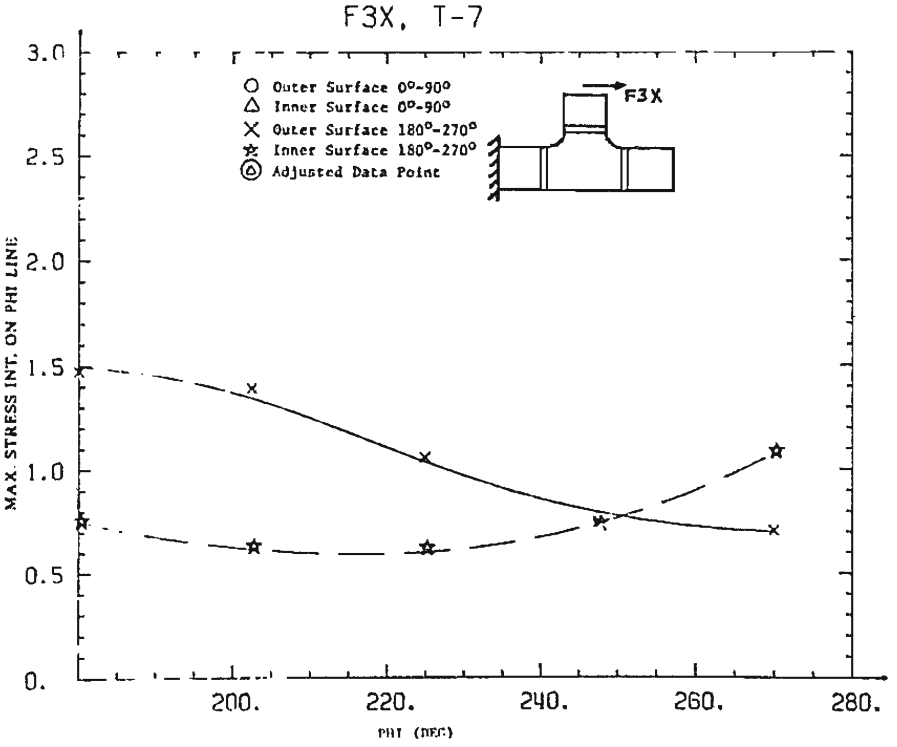

F3X, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
F3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

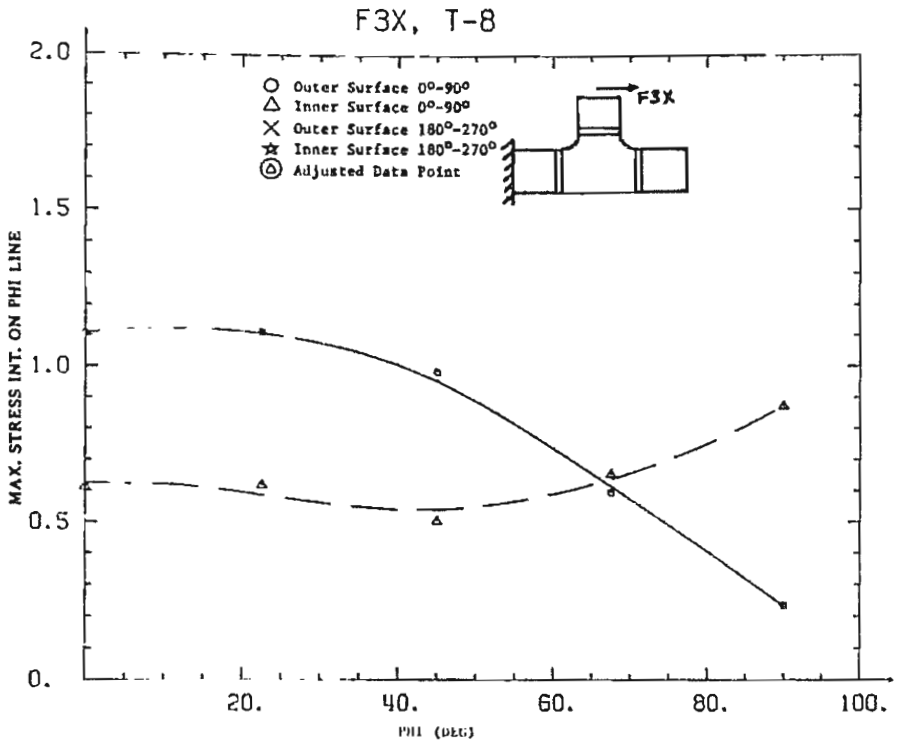

F3X, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
F3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

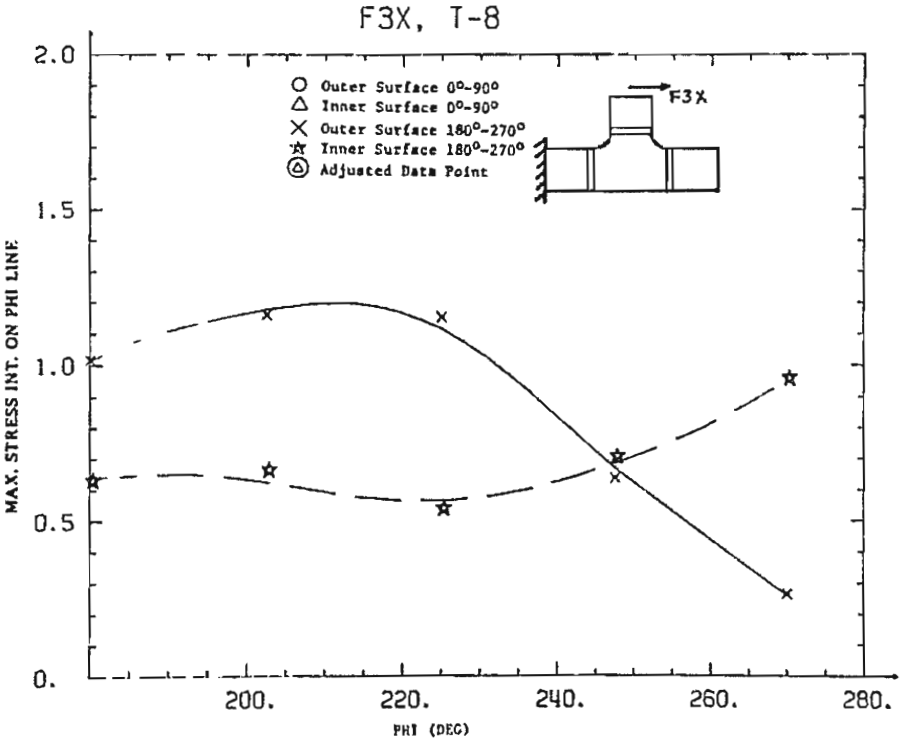

F3X, T-6
F3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

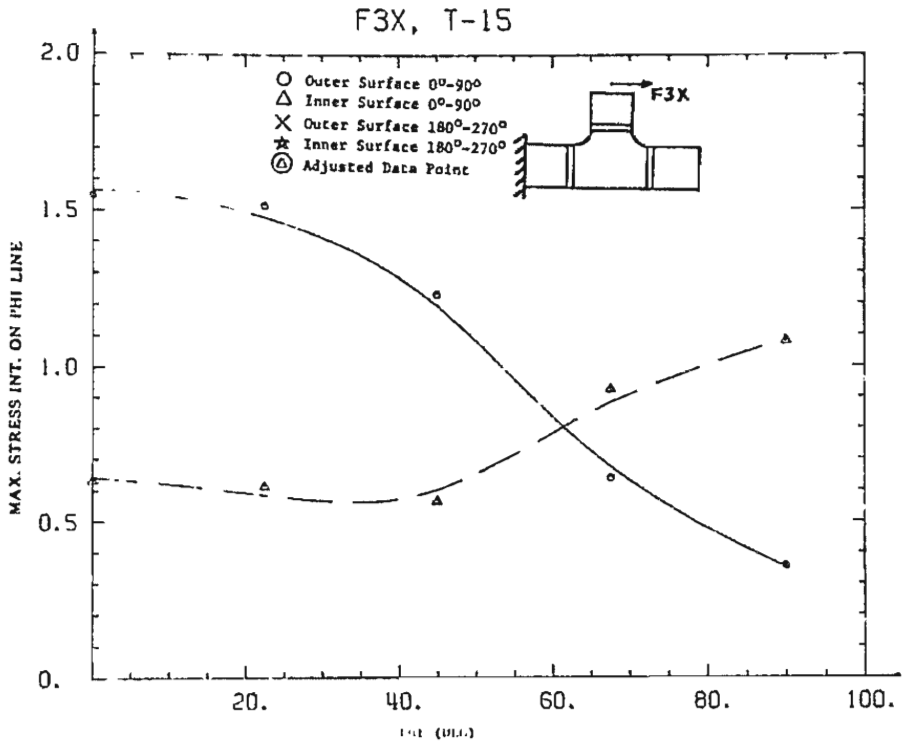

F3X, T-6
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

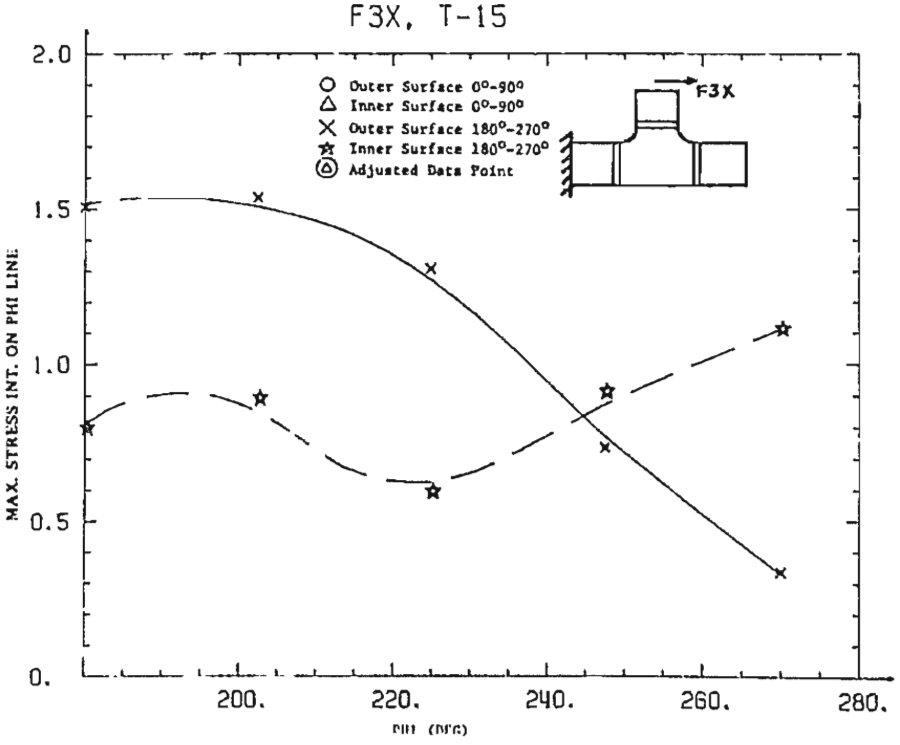

F3X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

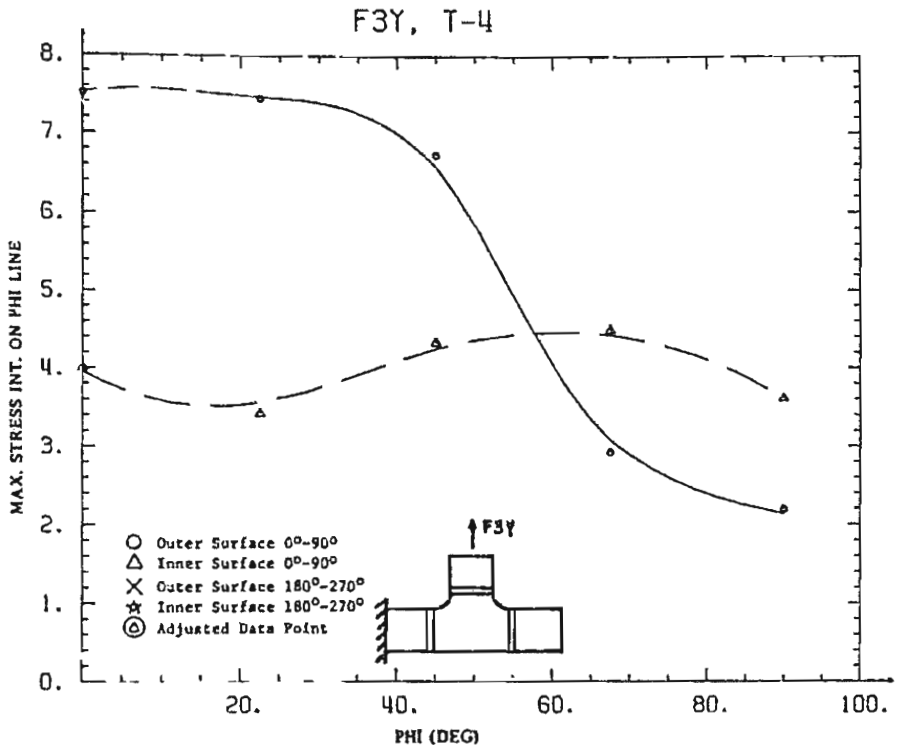

F3X, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

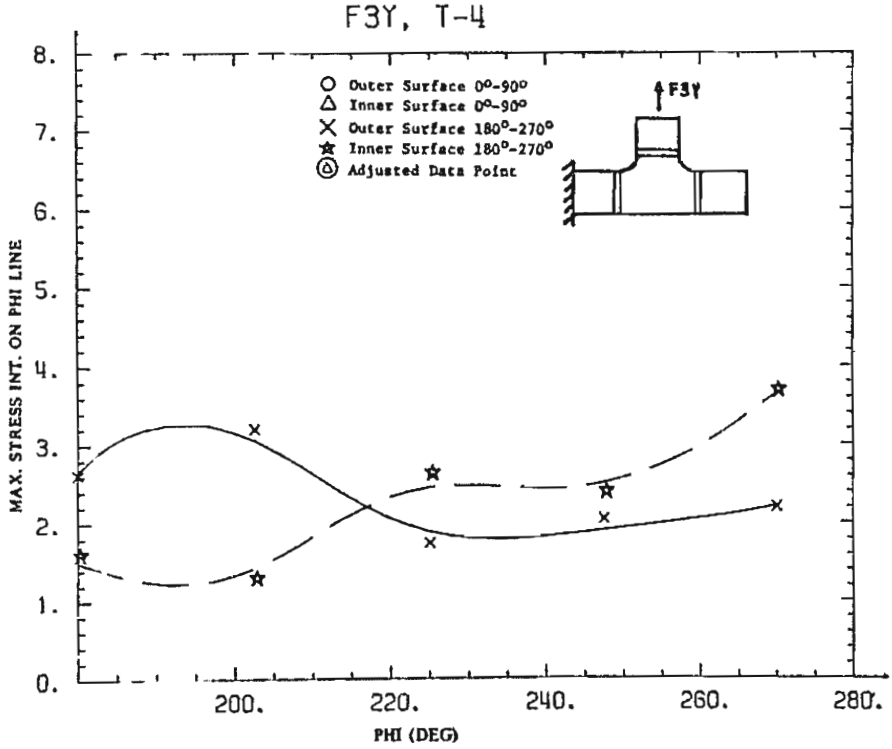

F3X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

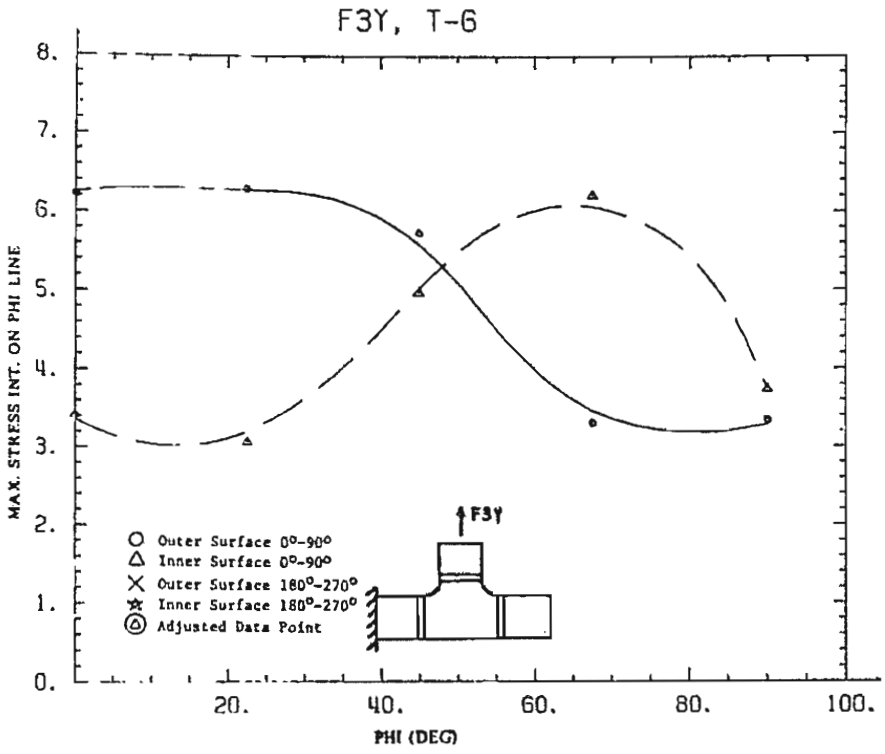

F3X, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

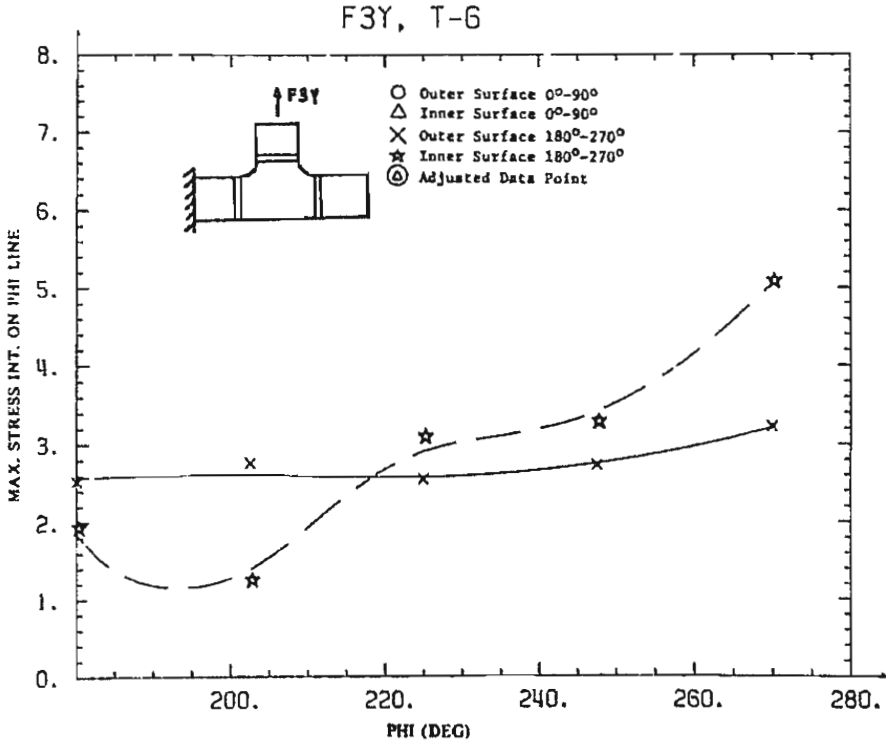

F3X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

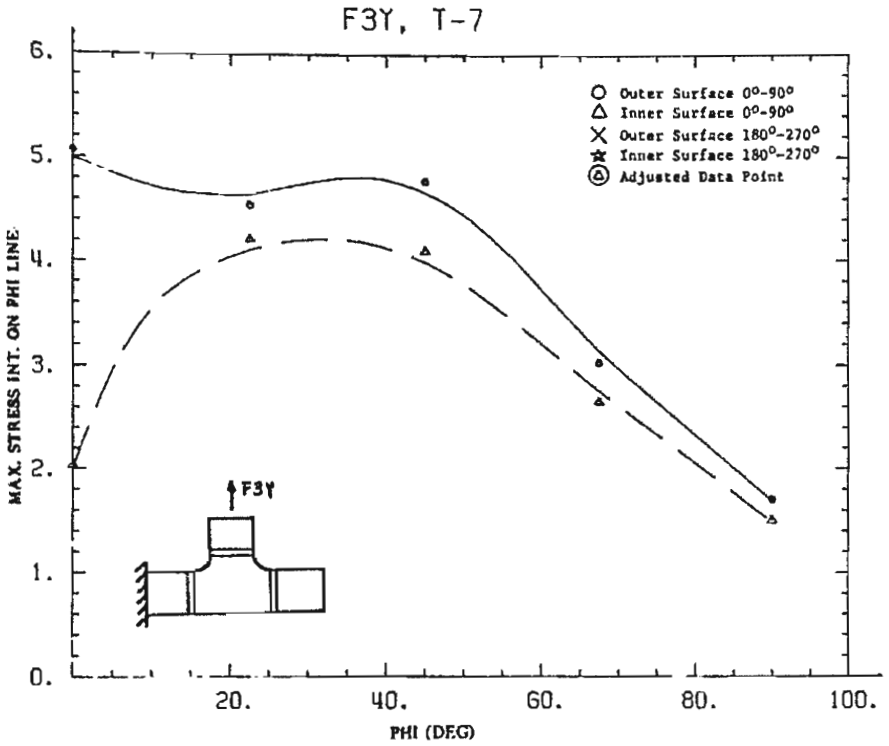

F3X, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3X
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

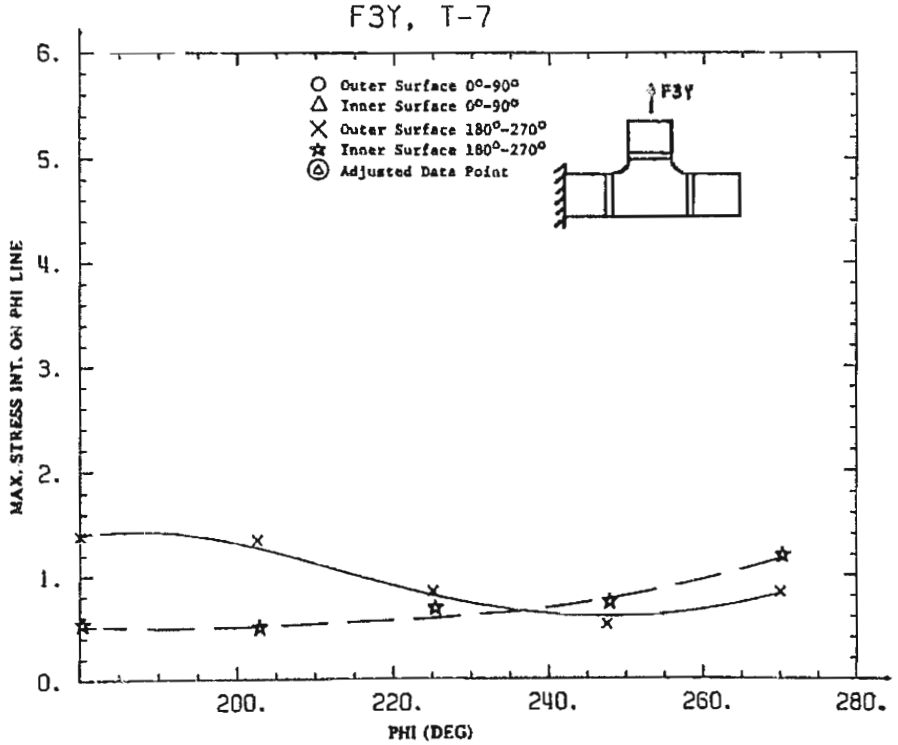

F3Y, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
20.
40.
60.
80.
100.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

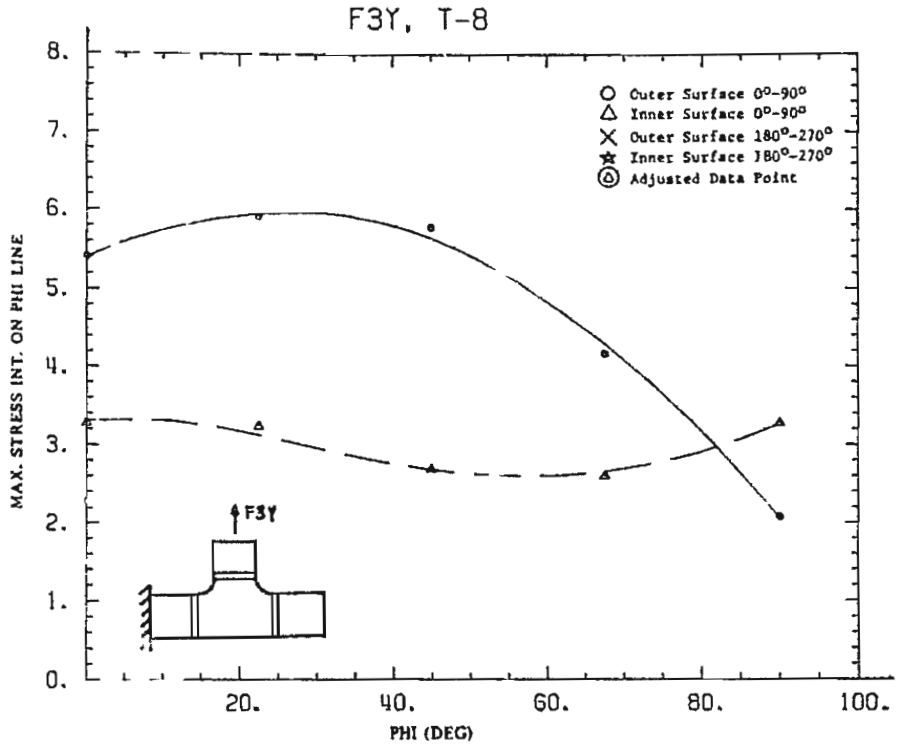

F3Y, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
200.
220.
240.
260.
280.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

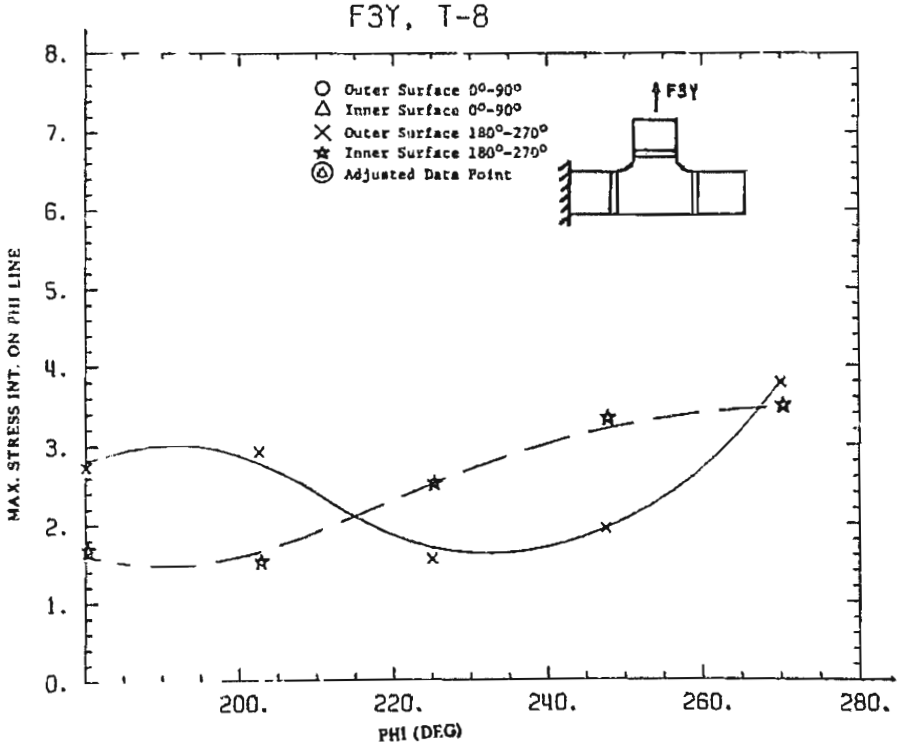

F3Y, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
20.
40.
60.
80.
100.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

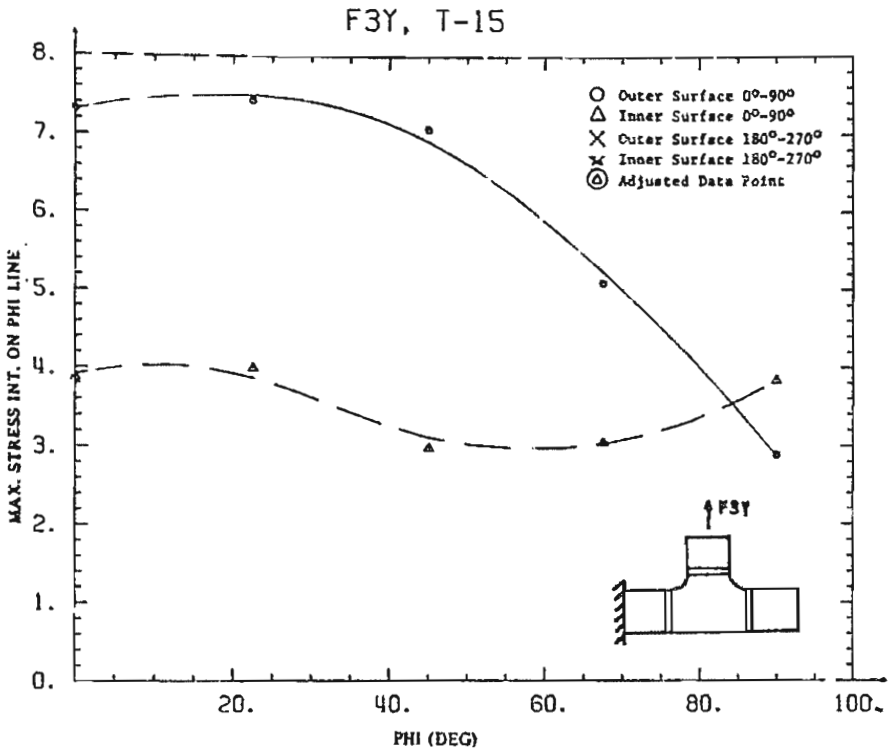

F3Y, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
200.
220.
240.
260.
280.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y

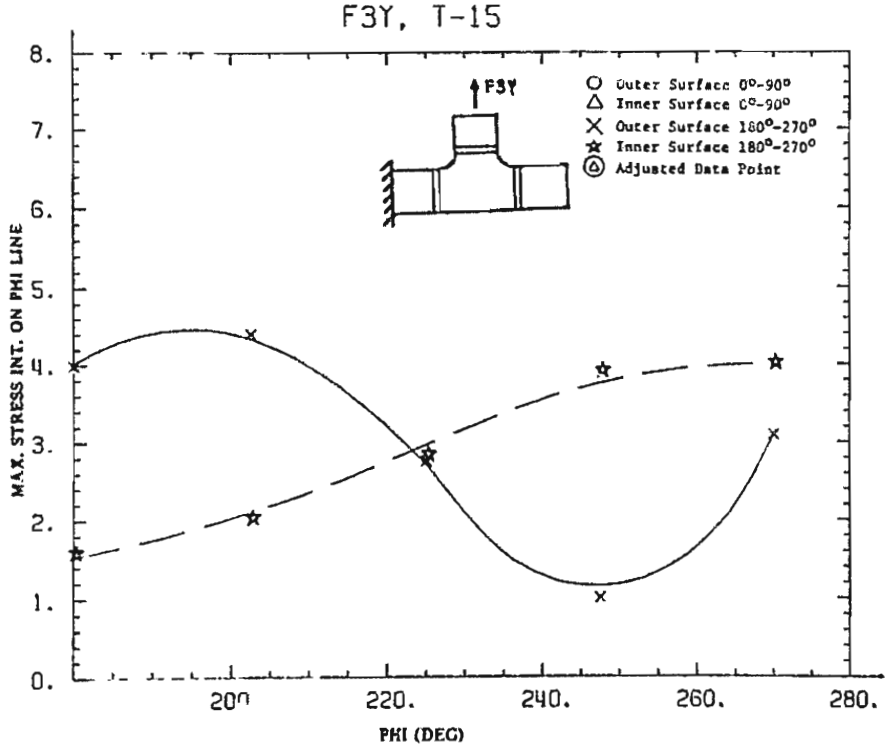

F3Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
20.
40.
60.
80.
100.

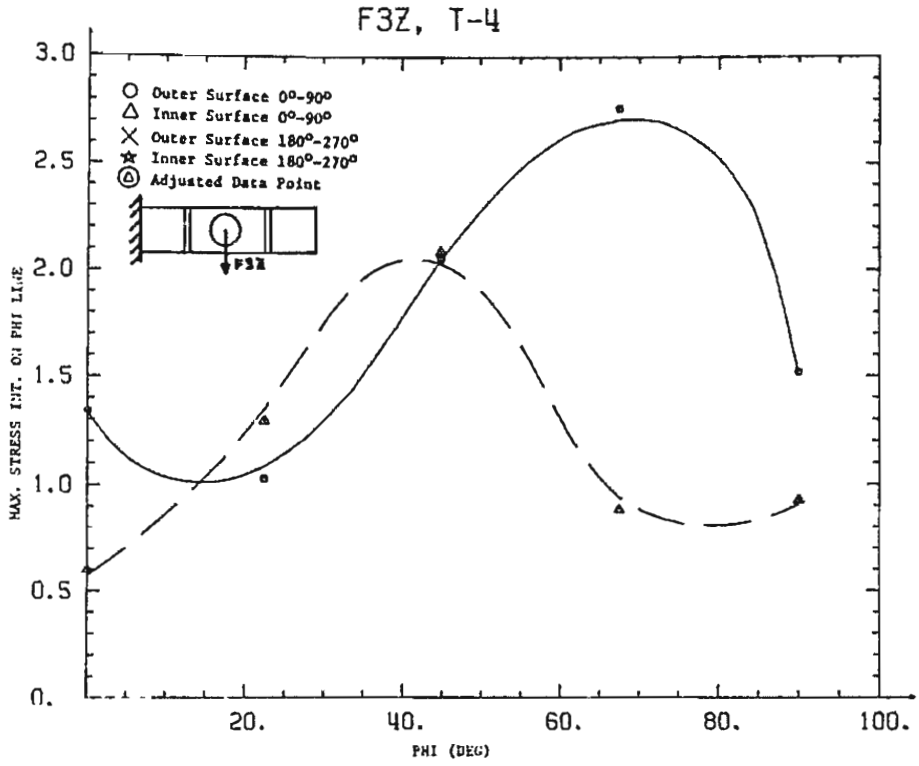

F3Y, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
200.
220.
240.
260.
280.

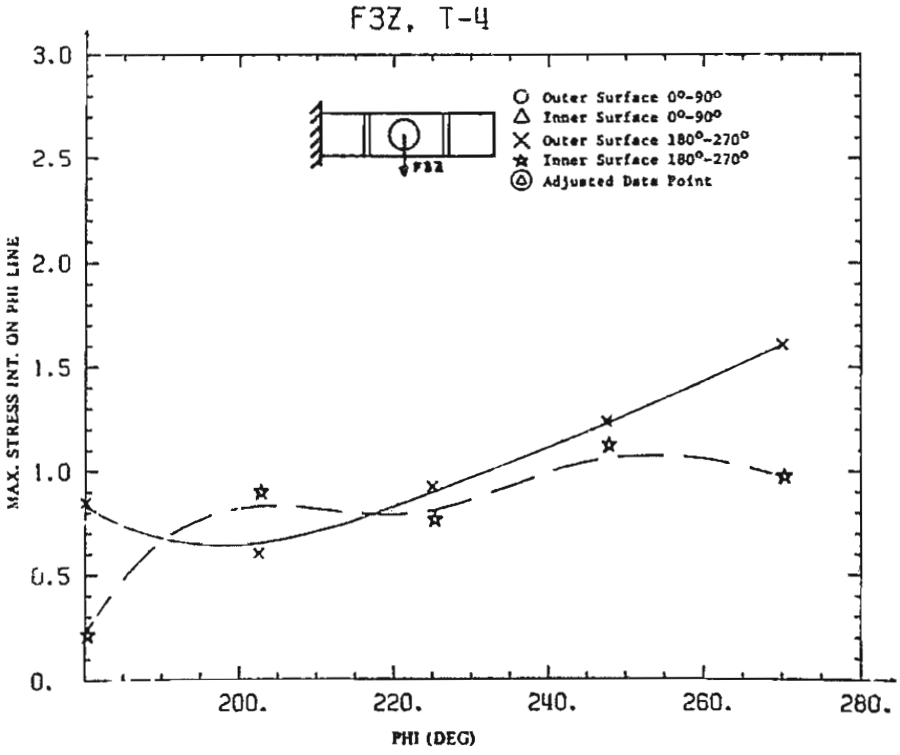

F3Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
20.
40.
60.
80.
100.

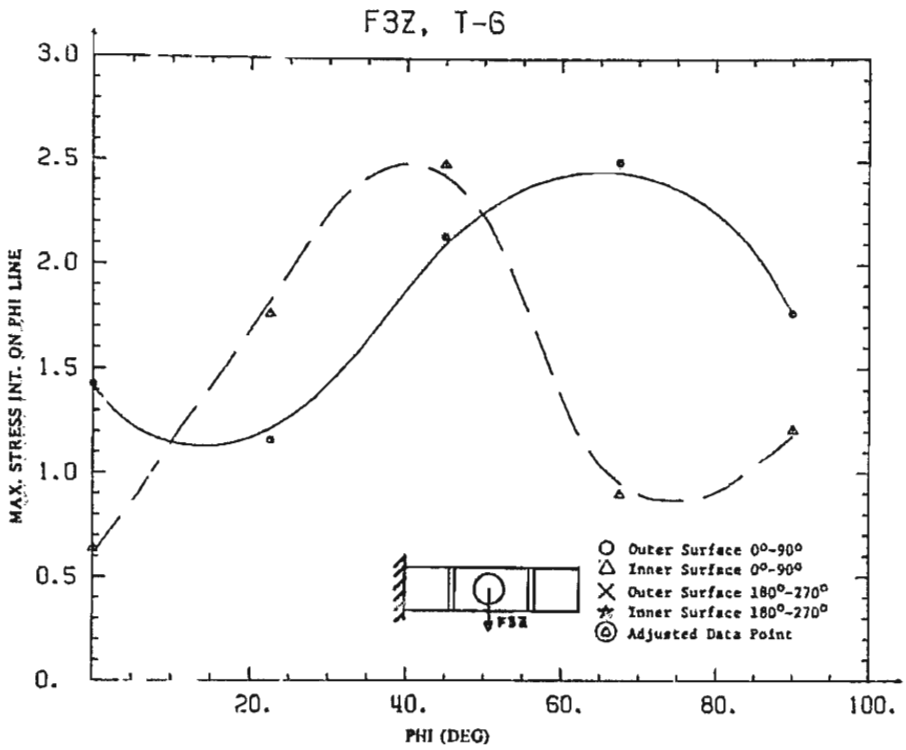

F3Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
200.
220.
240.
260.
280.

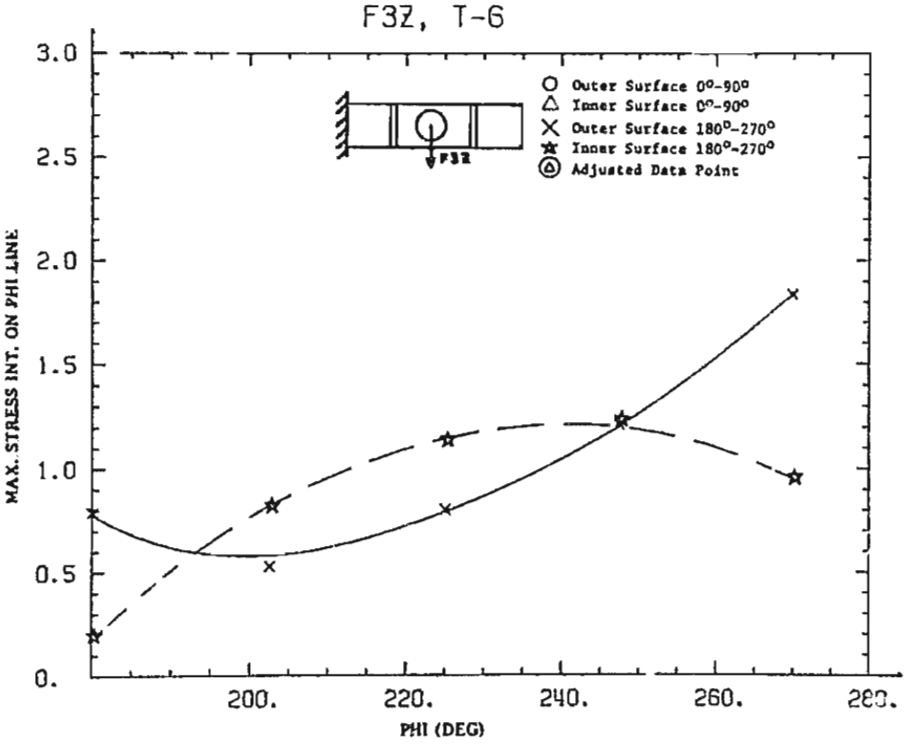

F3Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
20.
40.
60.
80.
100.

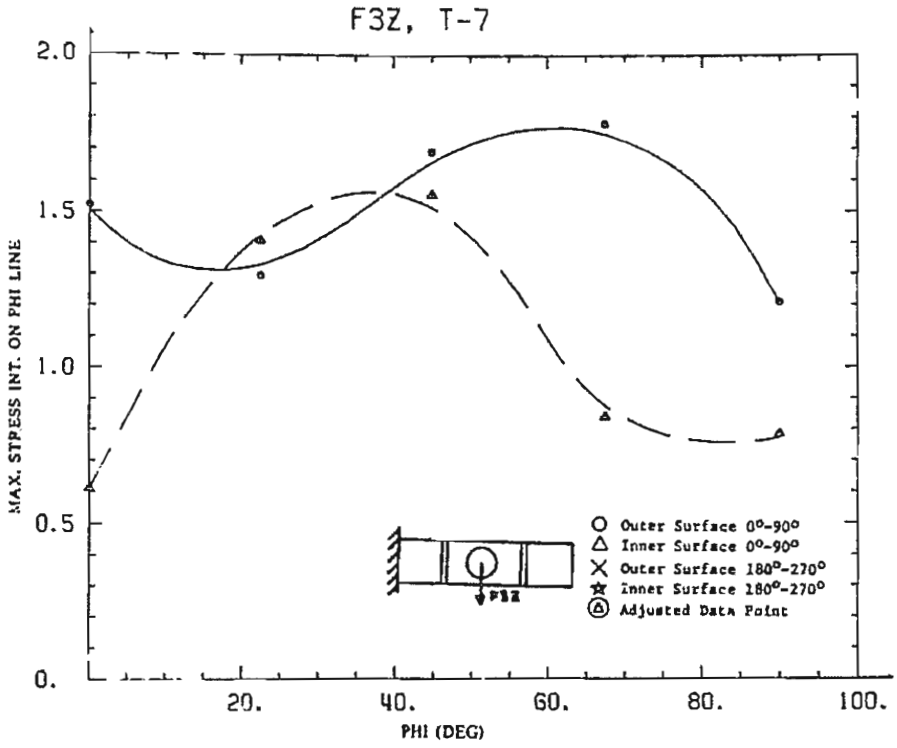

F3Y, T-15
F3Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
1.
2.
3.
4.
5.
6.
7.
8.
200
220.
240.
260.
280.

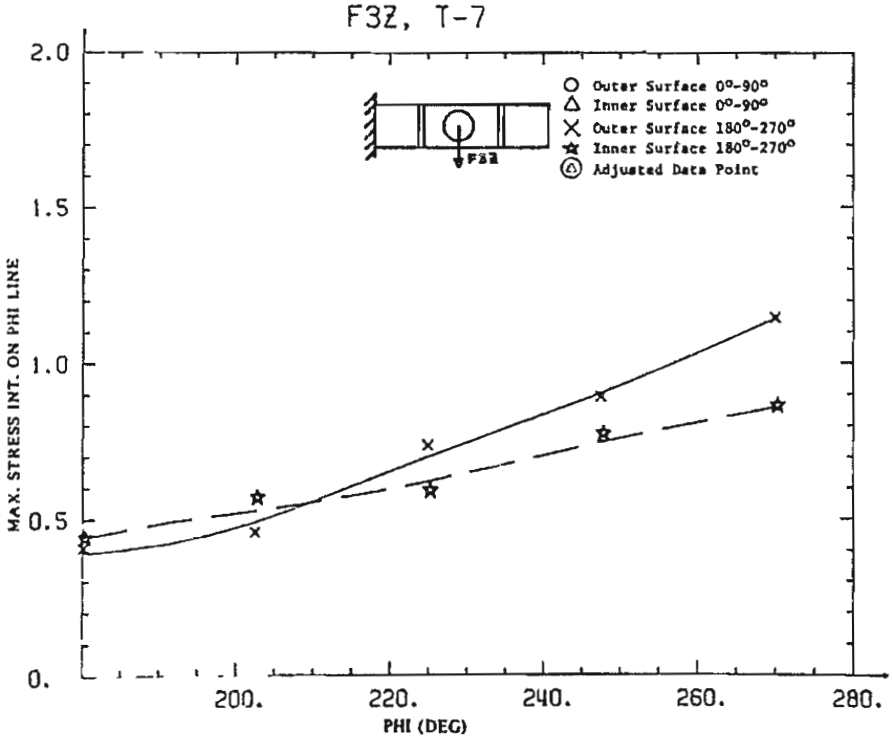

F3Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

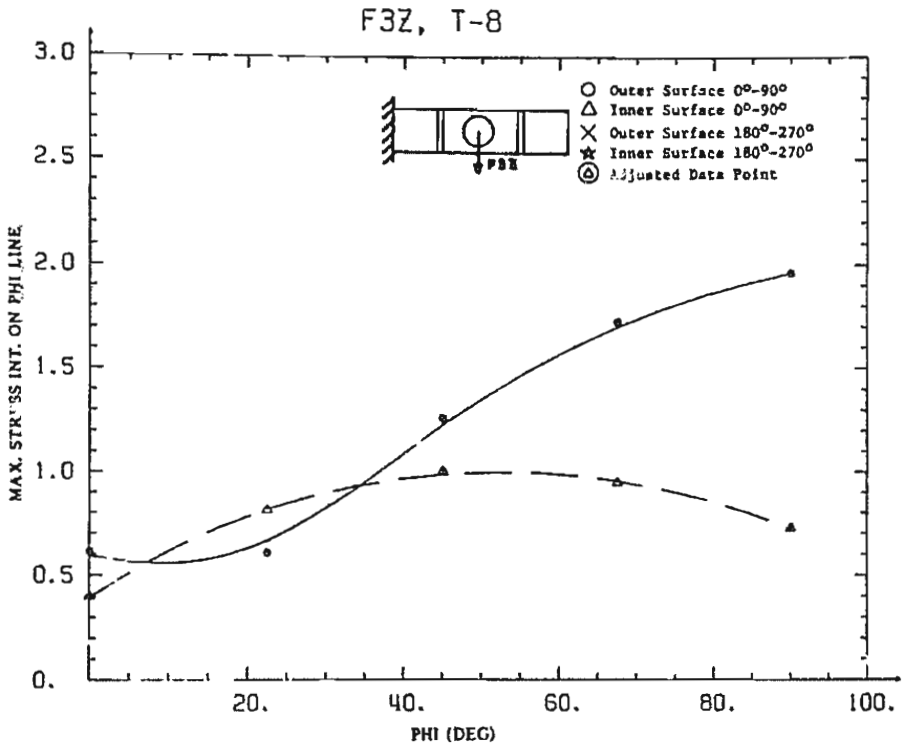

F3Z, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

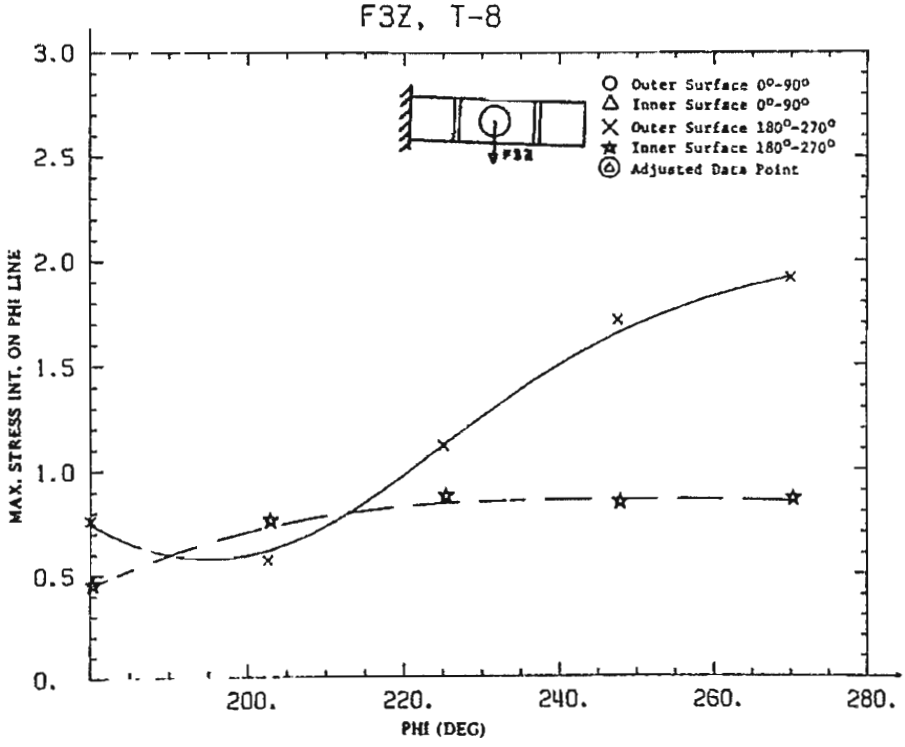

F3Z, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
F3Z
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

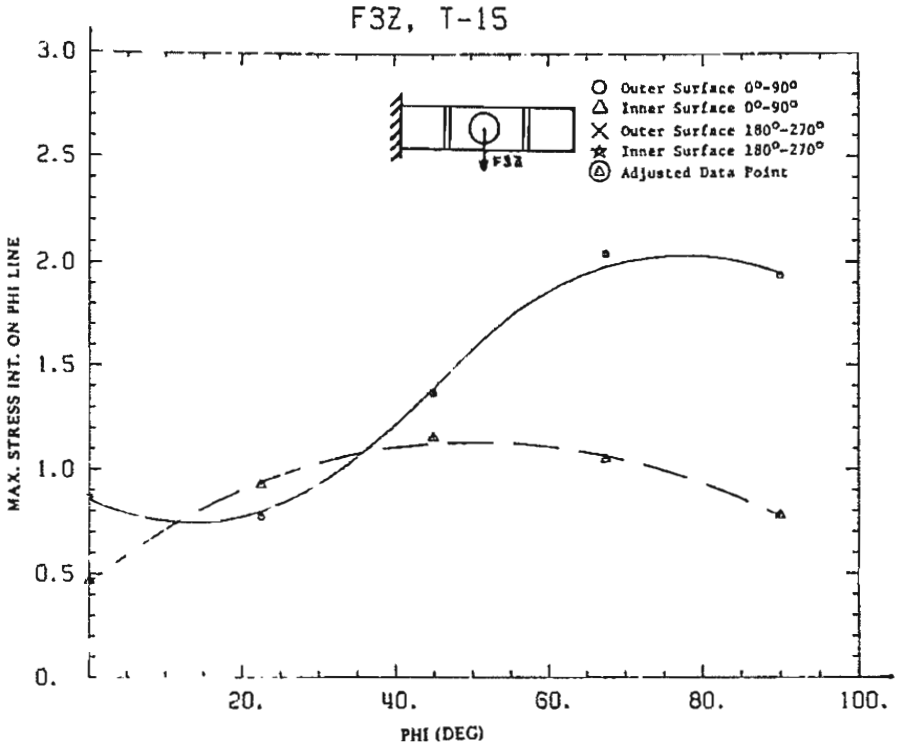

F3Z, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
F3Z
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

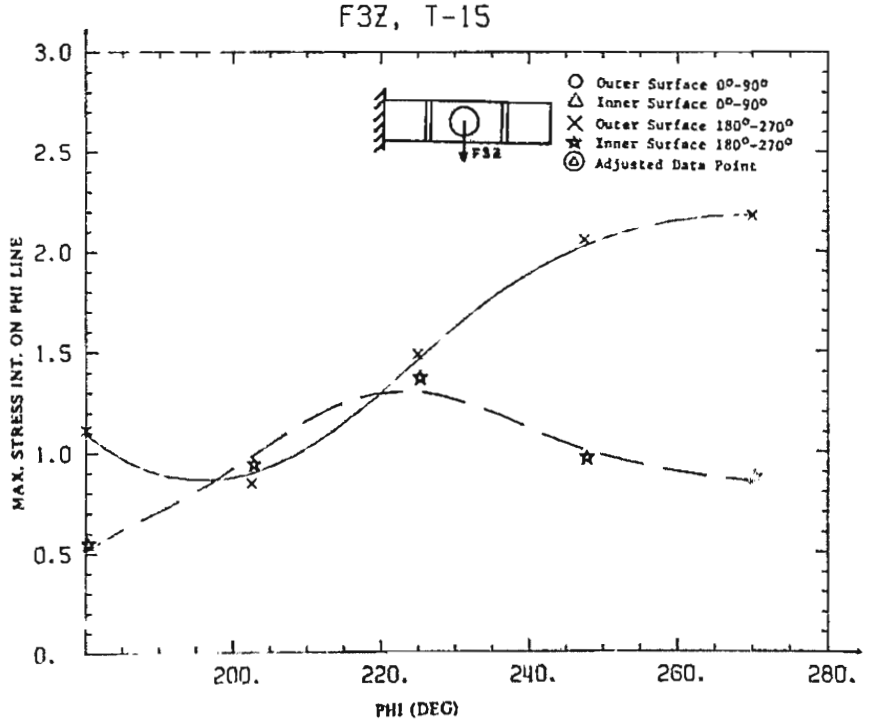

F3Z, T-7
2.0
1.5
1.0
0.5
0.
MAX. STPESS INT. ON PHI LINE
20.
40.
60.
80.
100.
PHI (DEG)
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z

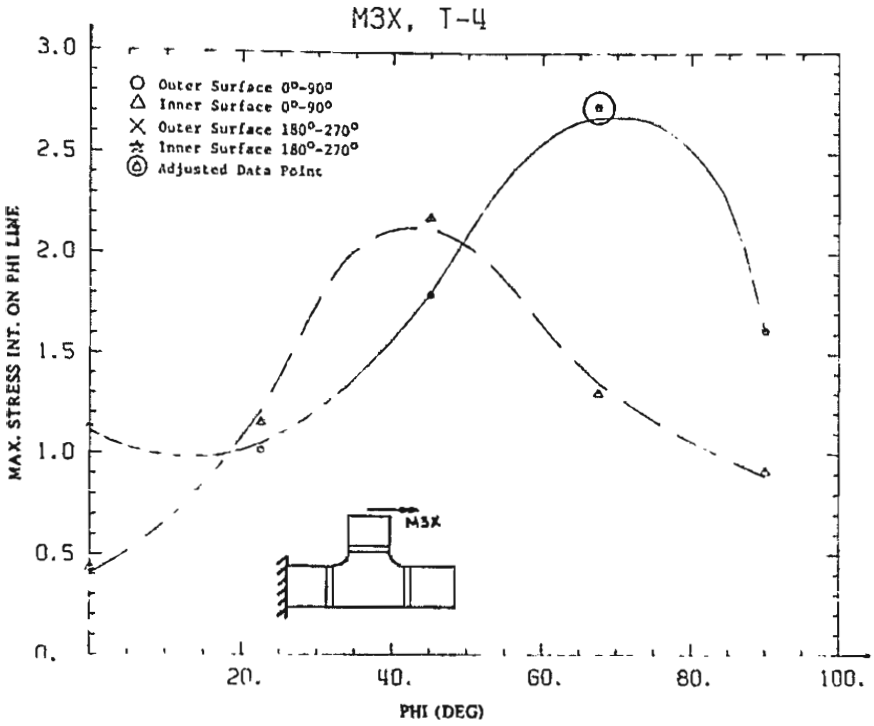

F3Z, T-7
2.0
1.5
1.0
0.5
0.
MAX. STRESS INT. ON PHI LINE
200.
220.
240.
260.
280.
PHI (DEG)
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z

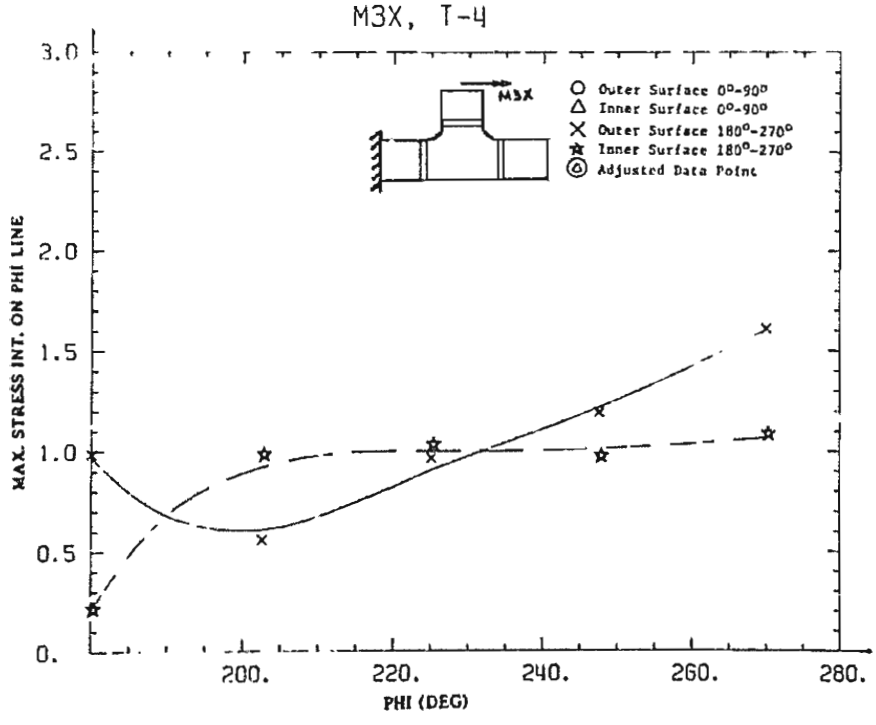

F3Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

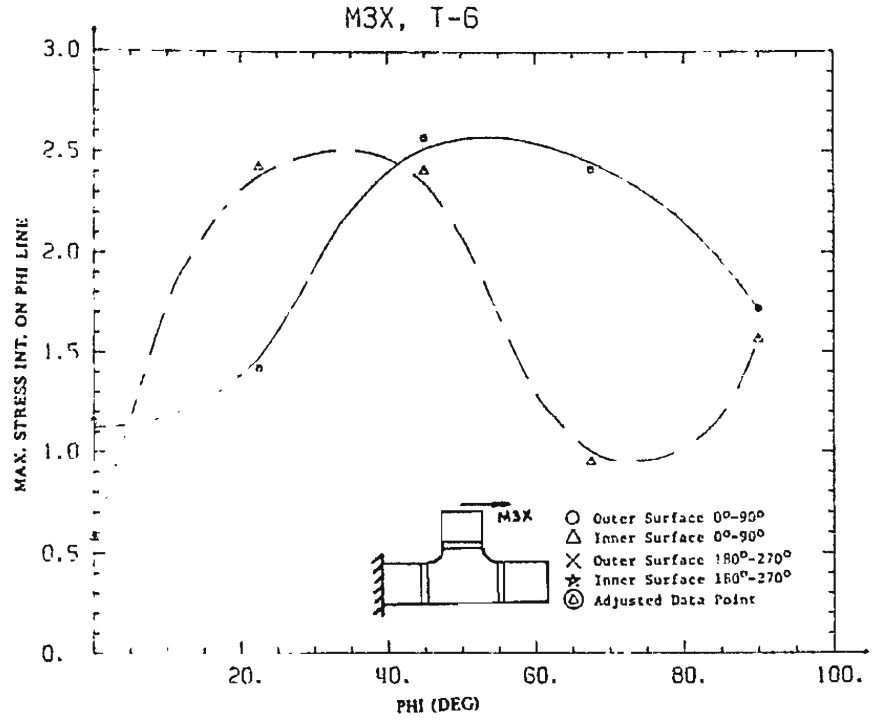

F3Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

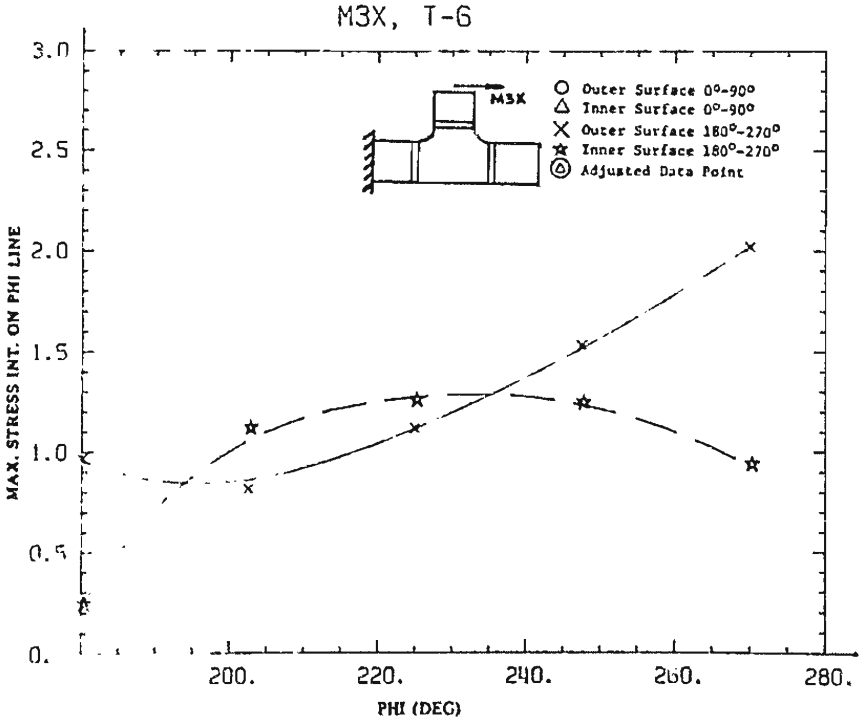

F3Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

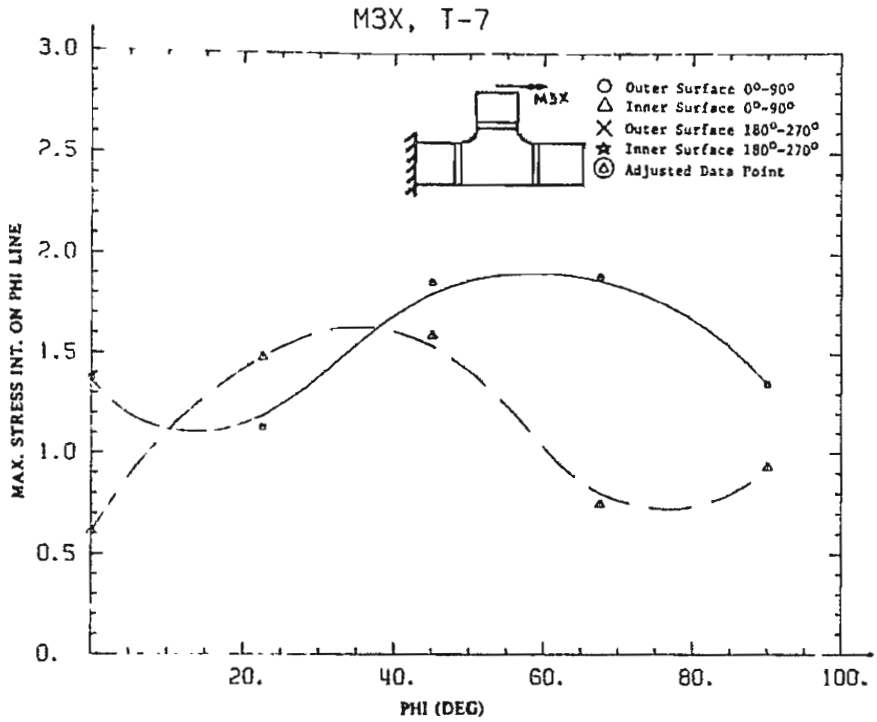

F3Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
F3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

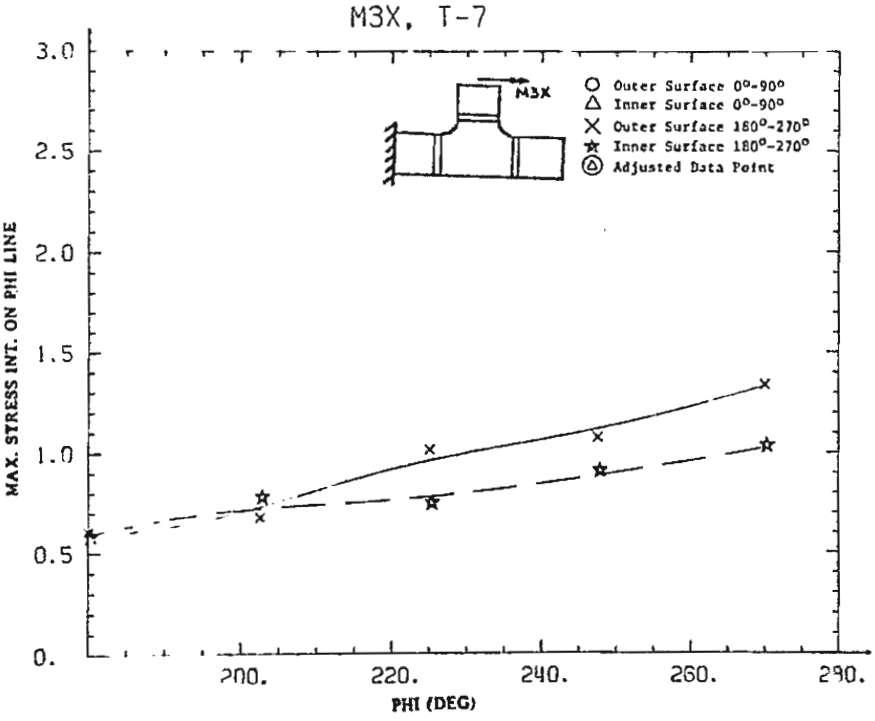

M3X, T-4
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3X
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

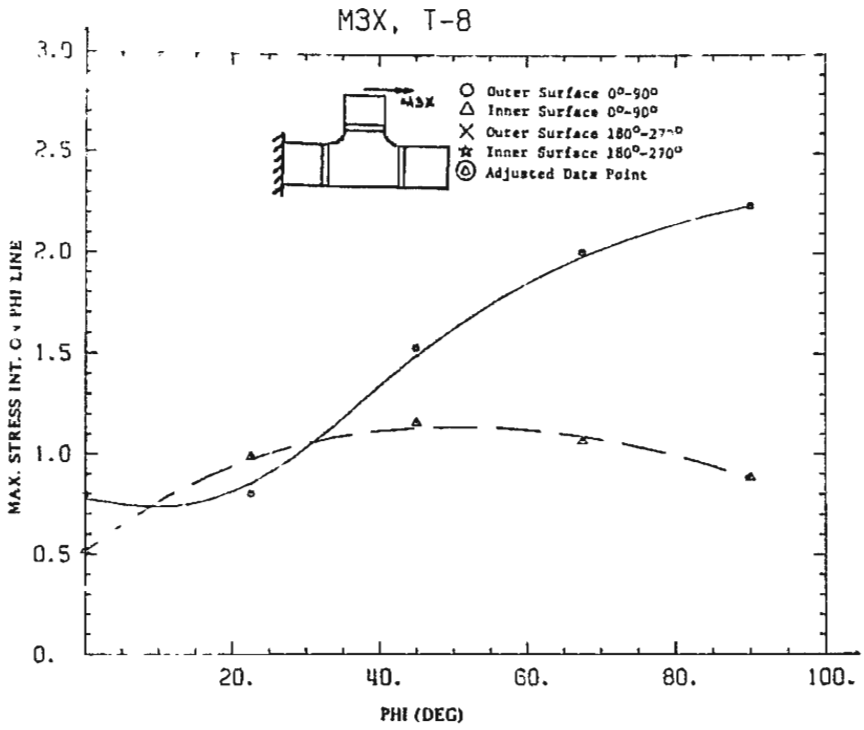

M3X, T-4
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

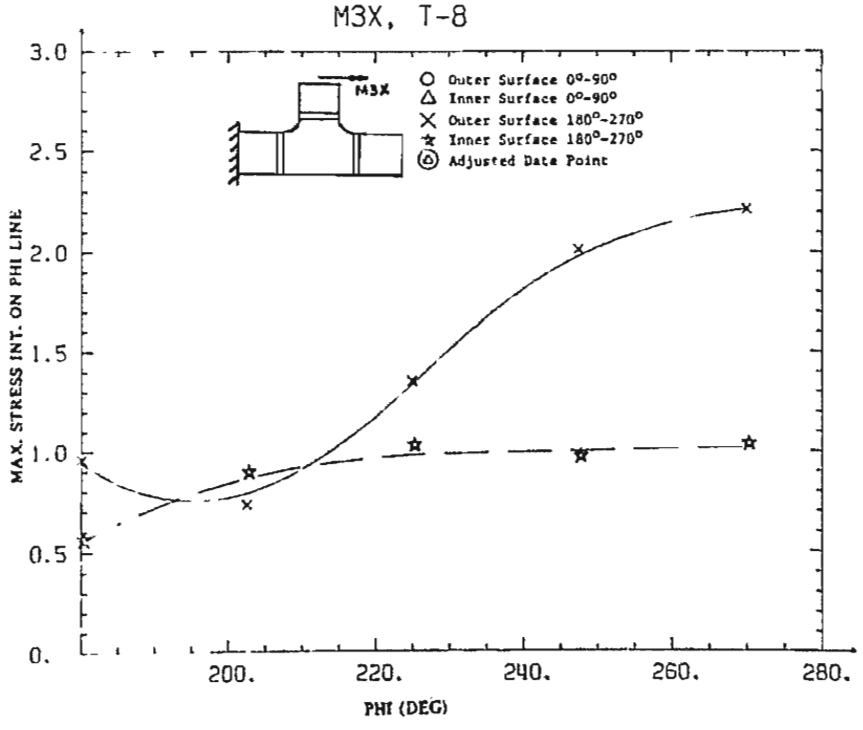

M3X, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

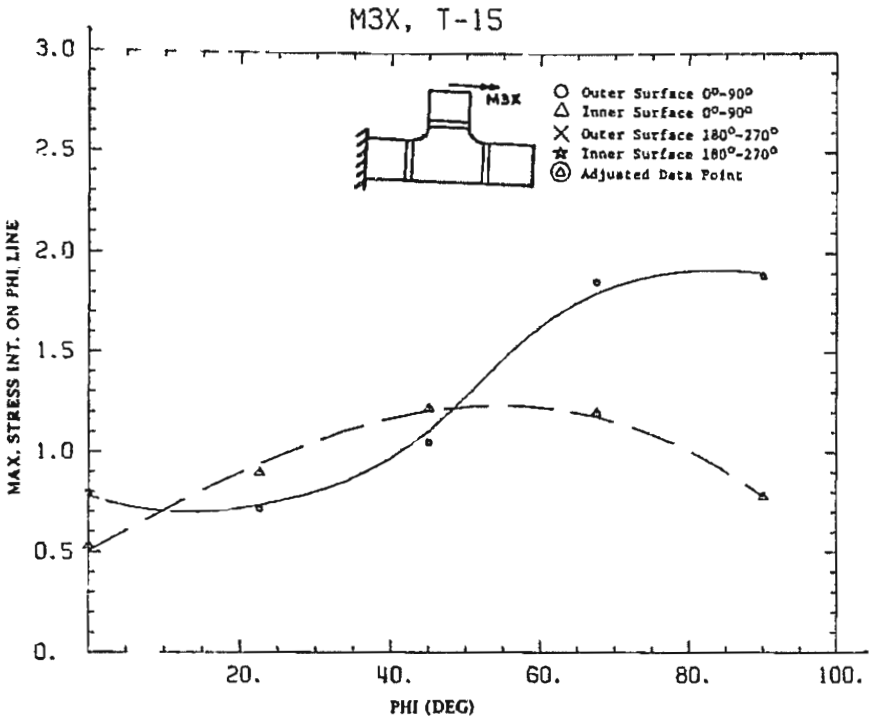

M3X, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

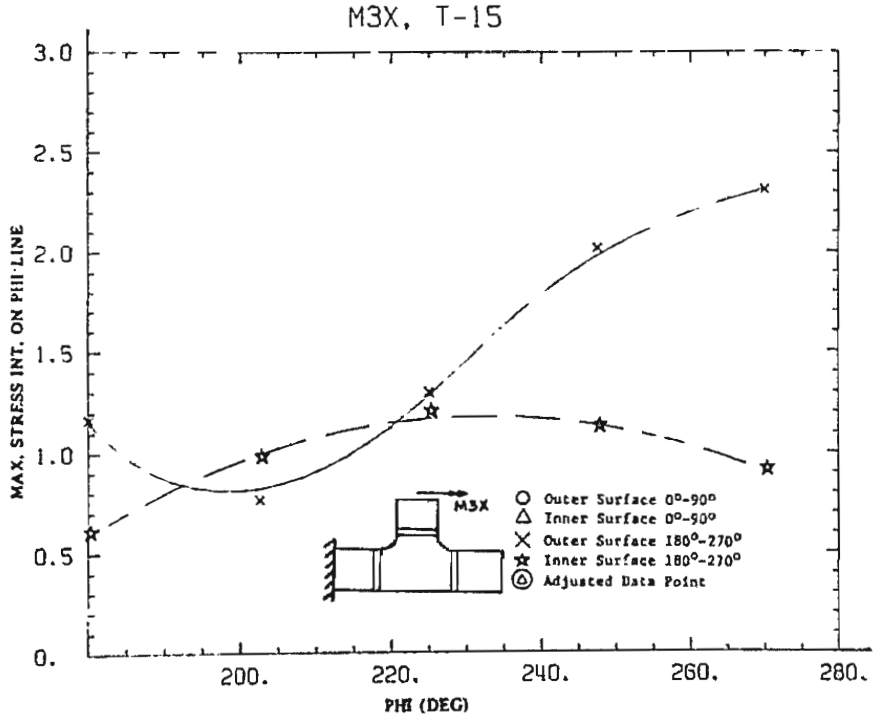

M3X, T-7
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
0.5
1.0
1.5
2.0
2.5
3.0
20.
40.
60.
80.
100.

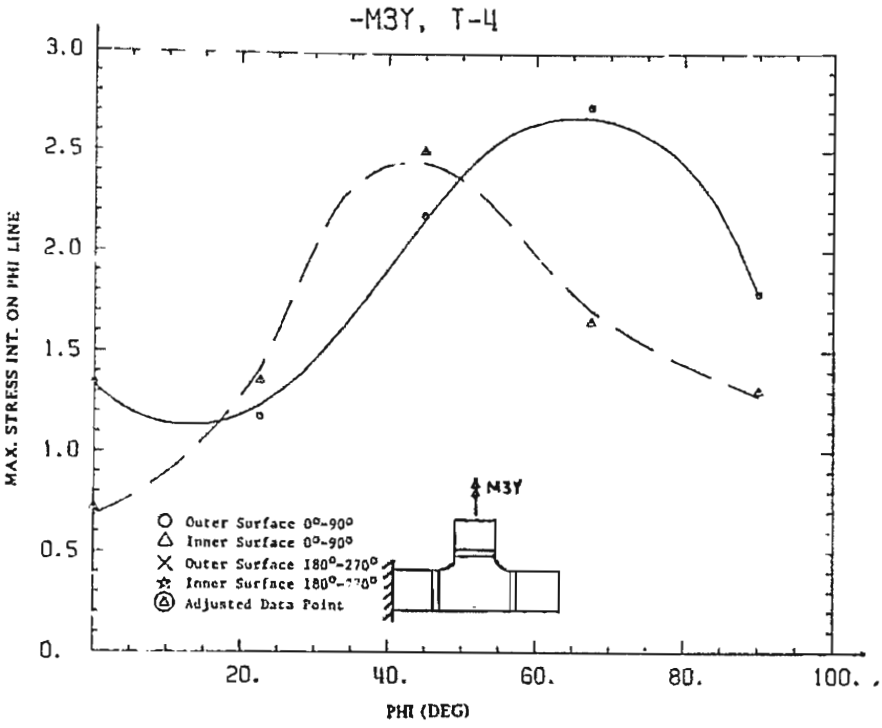

M3X, T-7
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
0.
0.5
1.0
1.5
2.0
2.5
3.0
200.
220.
240.
260.
280.

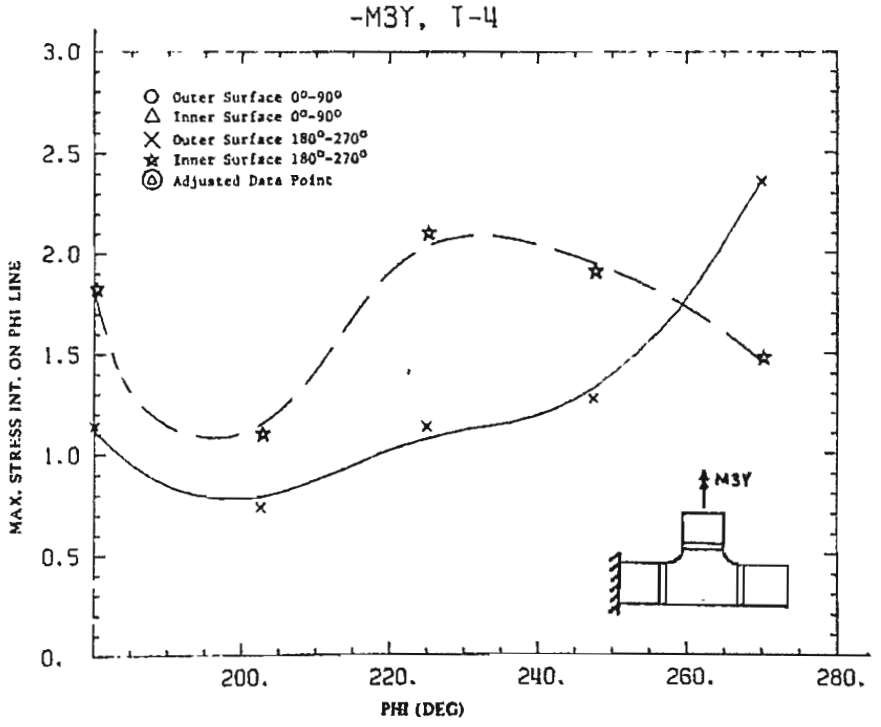

M3X, T-8
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

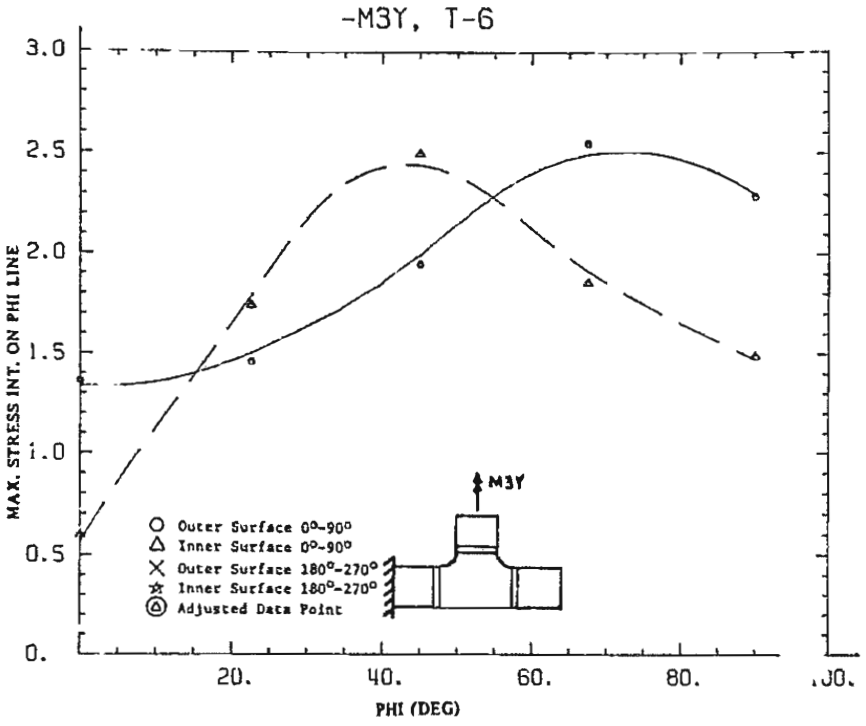

M3X, T-8
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

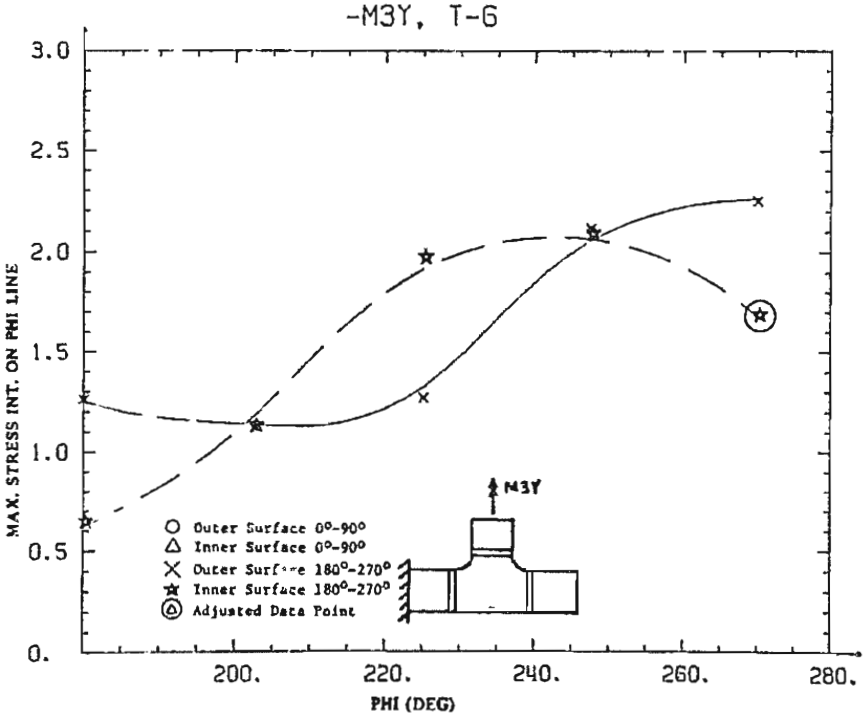

M3X, T-15
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

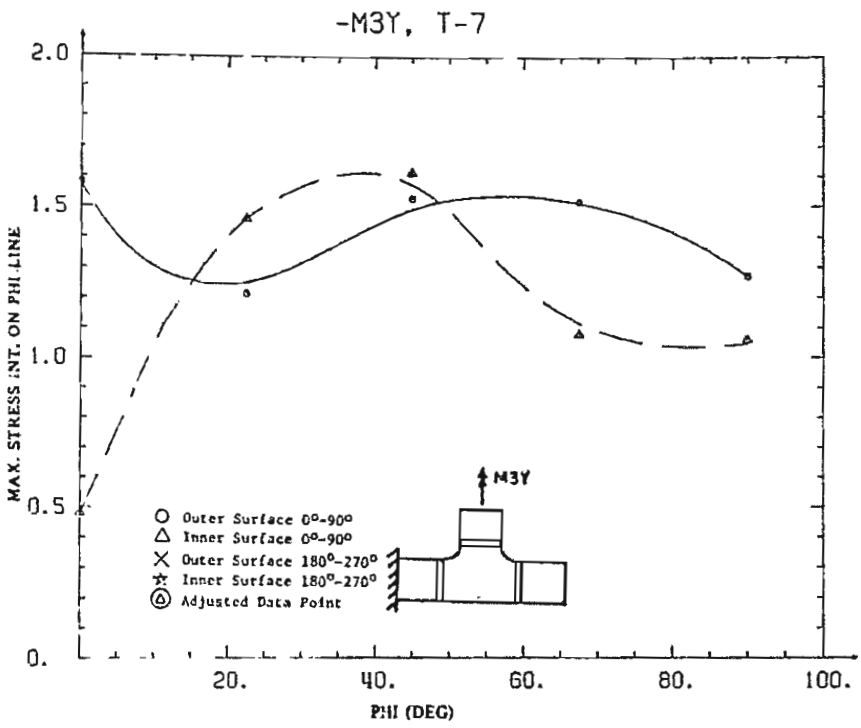

M3X, T-15
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
M3X
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

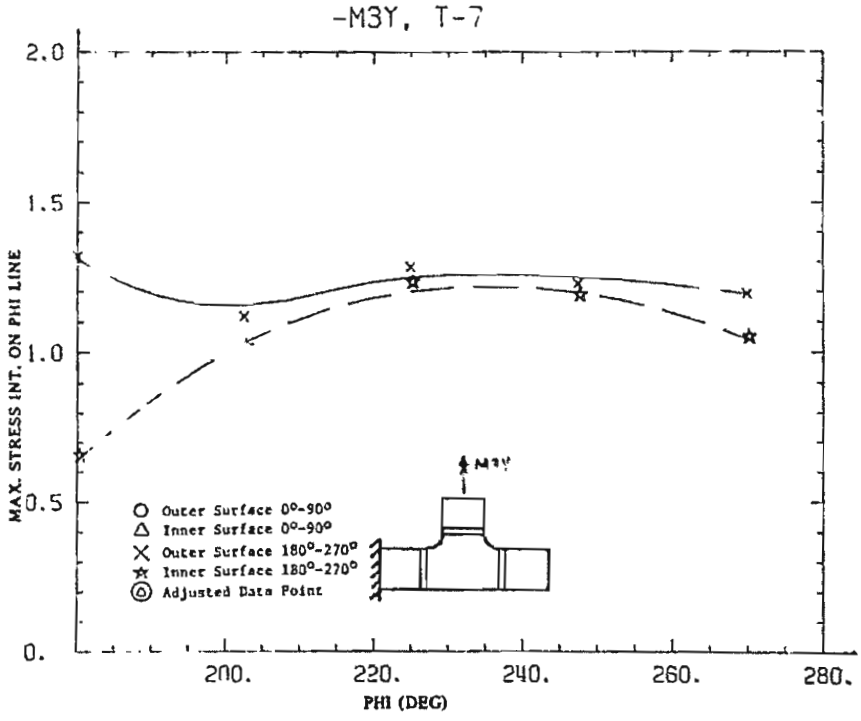

-M3Y, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y

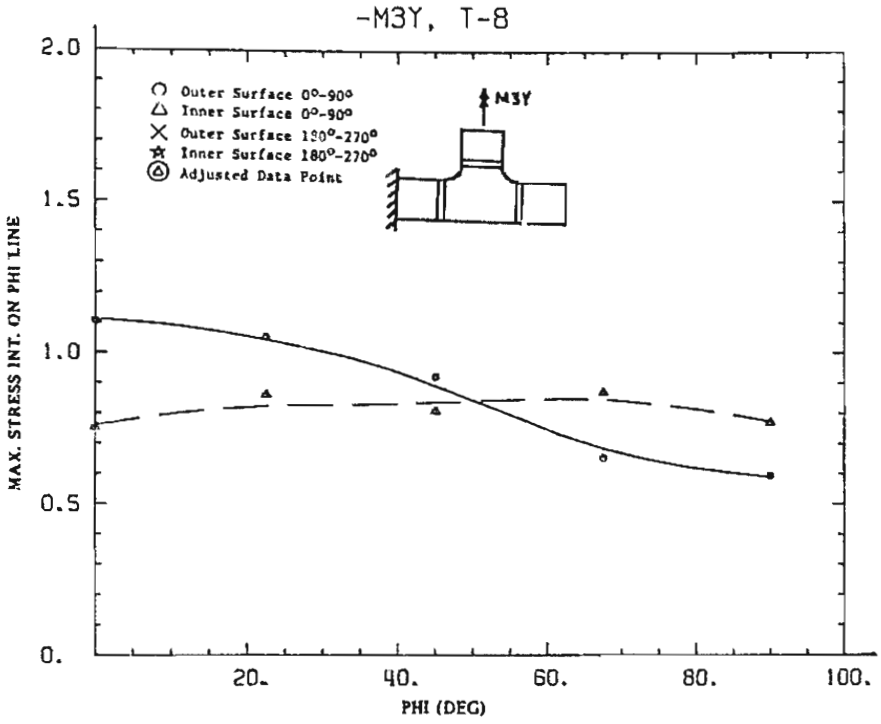

-M3Y, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y

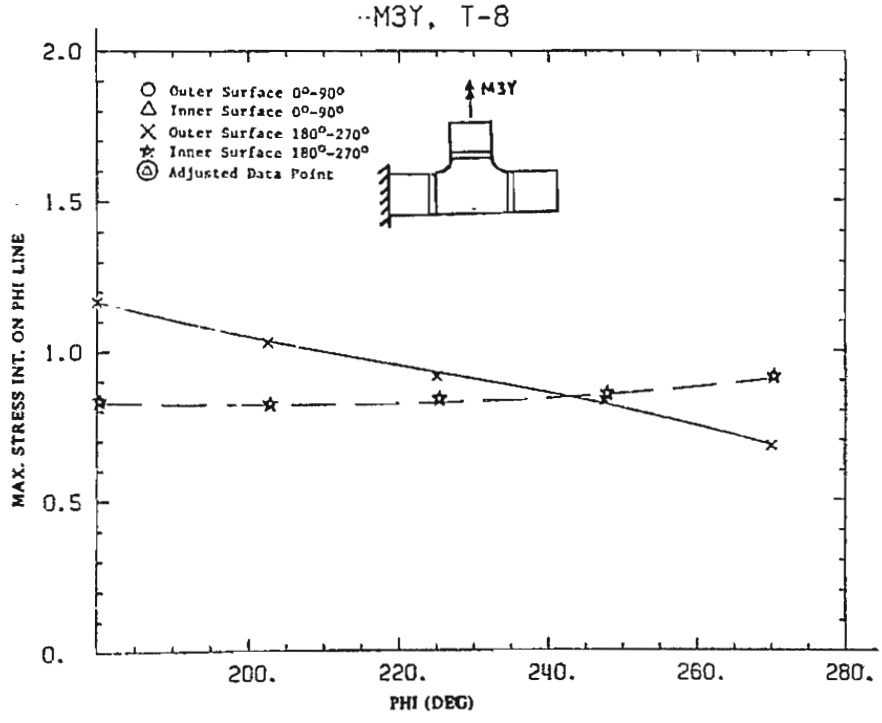

-M3Y, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
M3Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

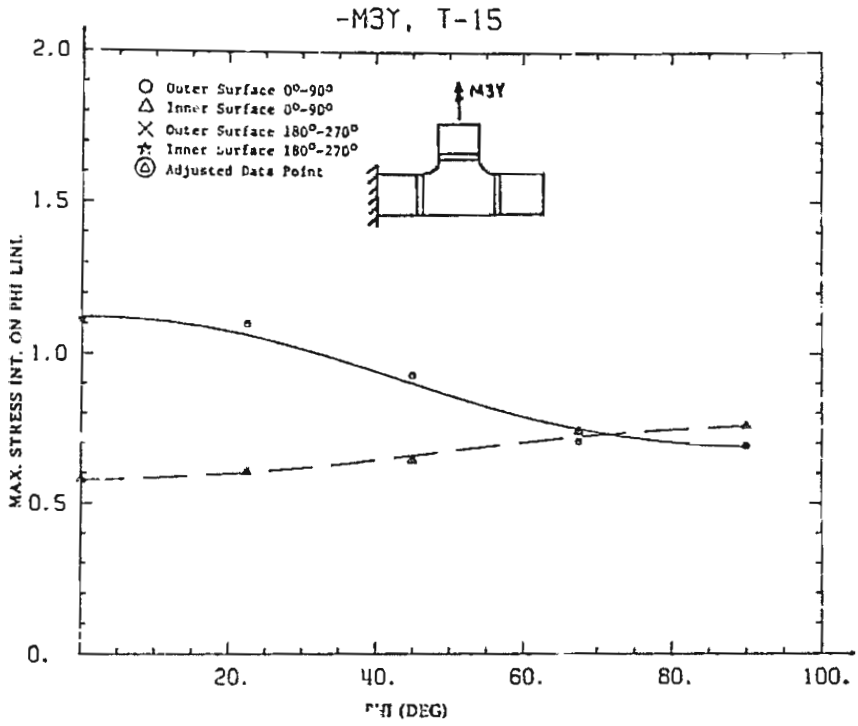

-M3Y, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
M3Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

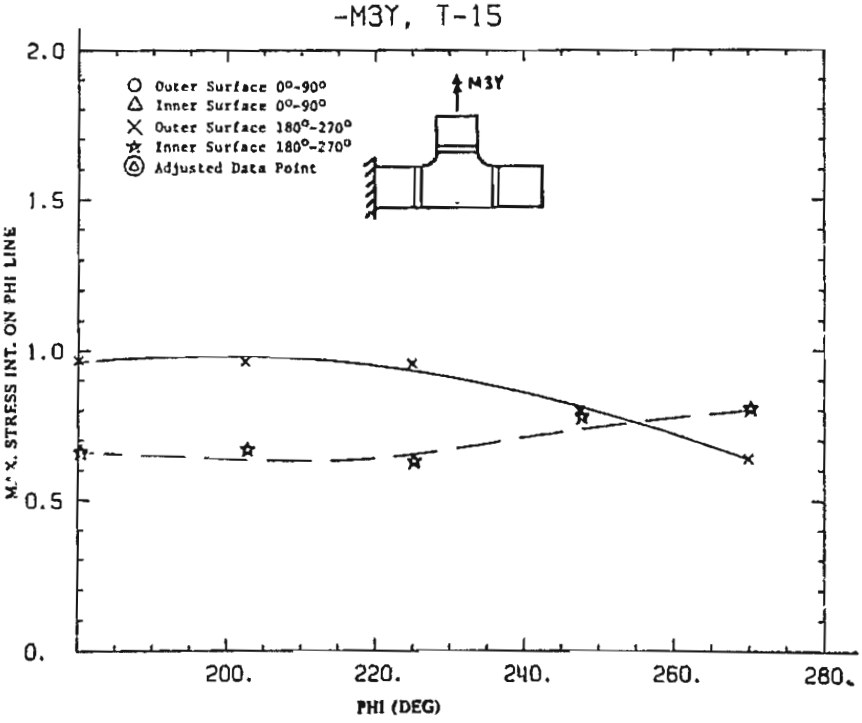

-M3Y, T-7
2.0
1.5
1.0
0.5
0.
MAX. STRESS INT. ON PHI LINE
20.
40.
60.
80.
100.
PHI (DEG)
M3Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

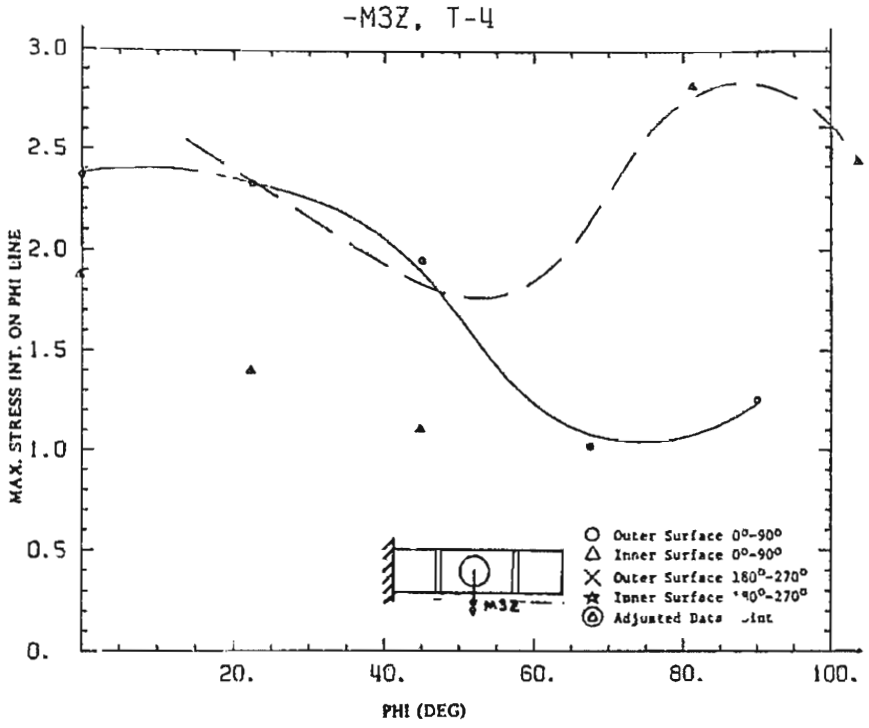

-M3Y, T-7
2.0
1.5
1.0
0.5
0.
MAX. STRESS INT. ON PHI LINE
200.
220.
240.
260.
280.
PHI (DEG)
M3Y
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point

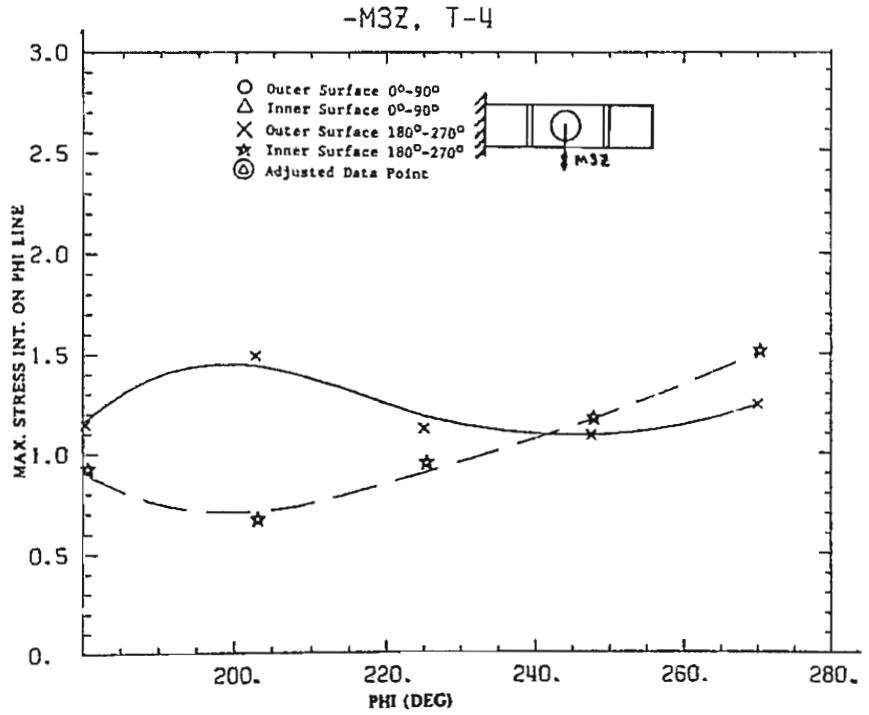

-M3Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.

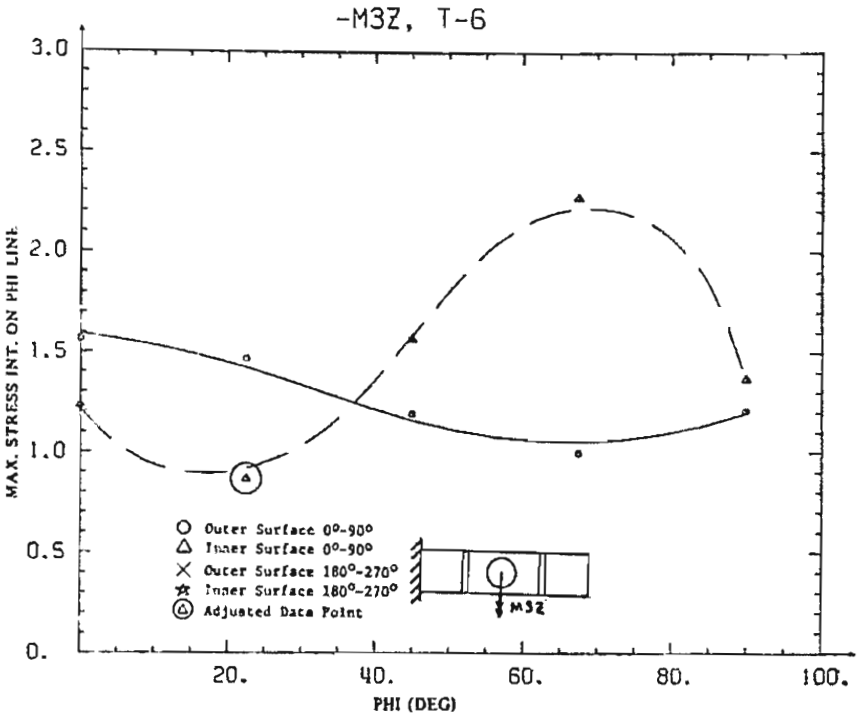

-M3Y, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

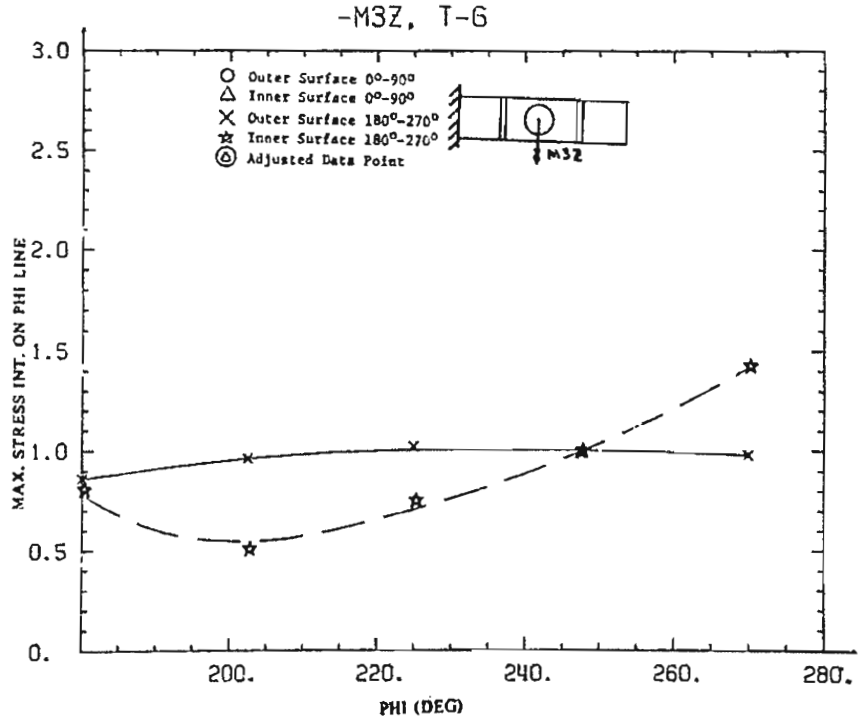

-M3Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
PHI (DEG)

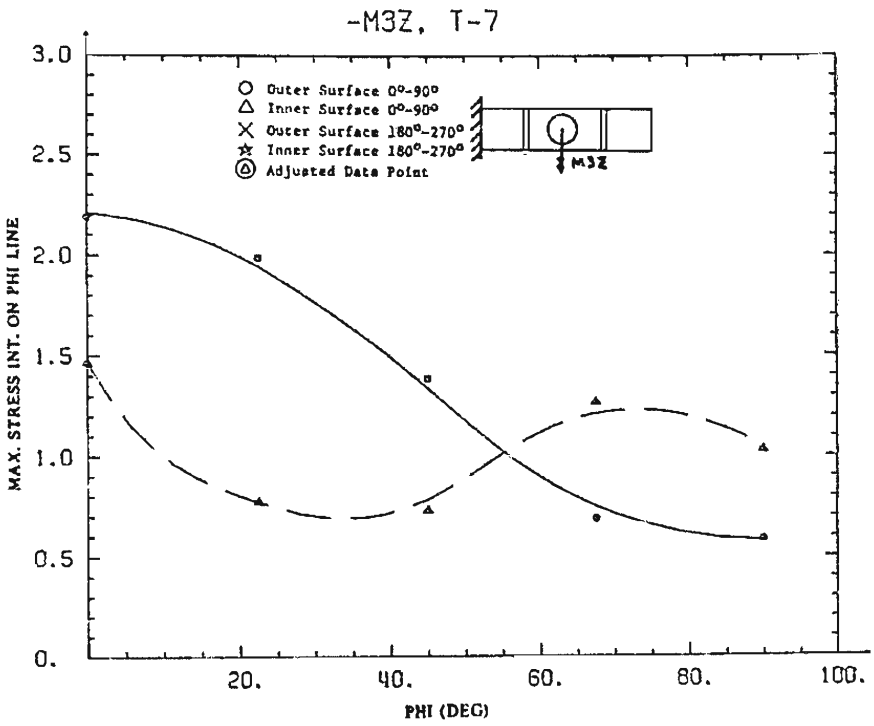

-M3Y, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Y
MAX. STRESS INT. ON PHI LINE
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
PHI (DEG)

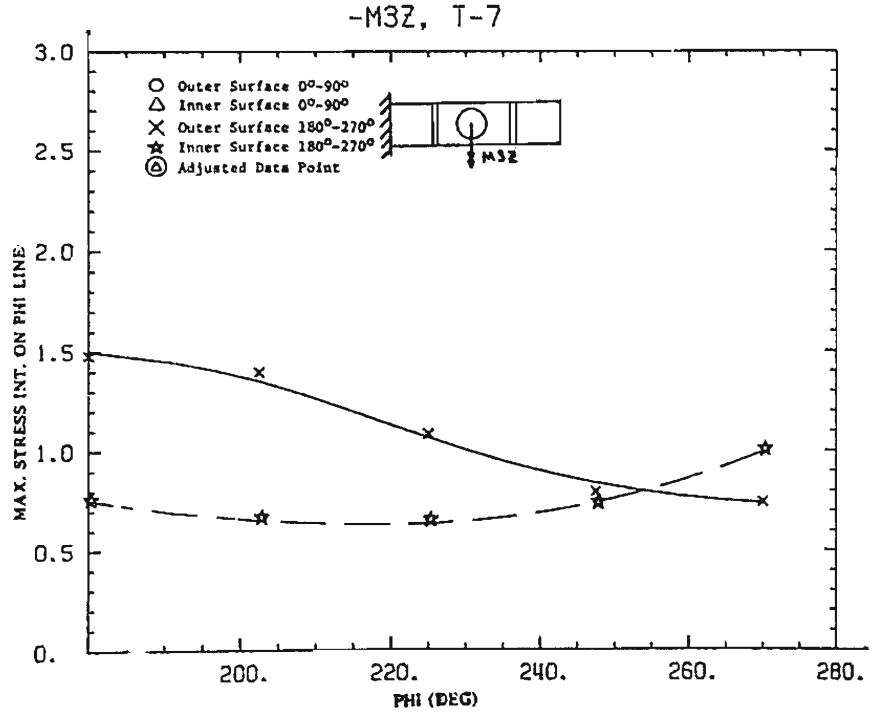

-M3Z, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z

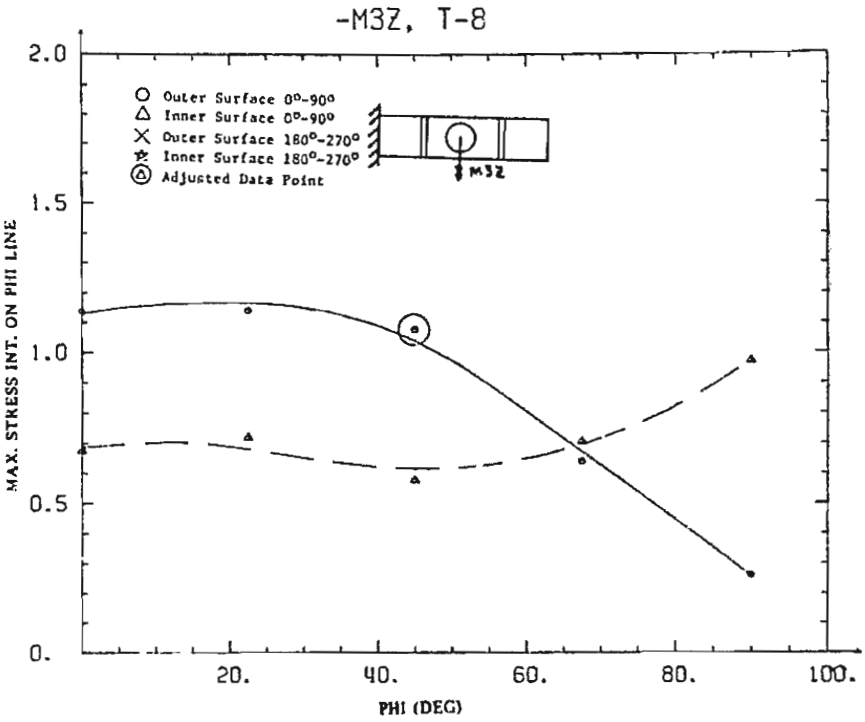

-M3Z, T-4
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z

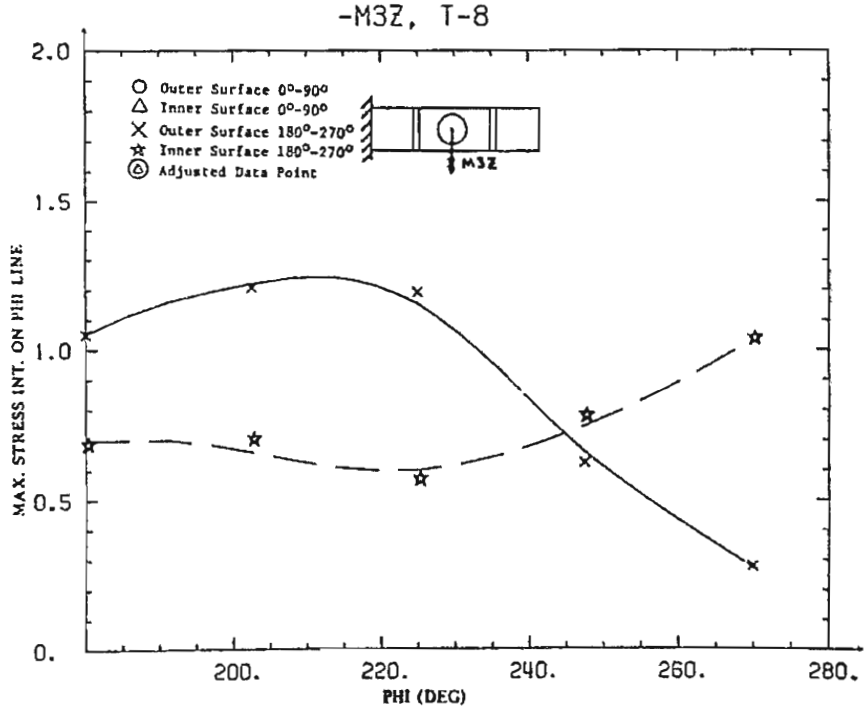

-M3Z, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z

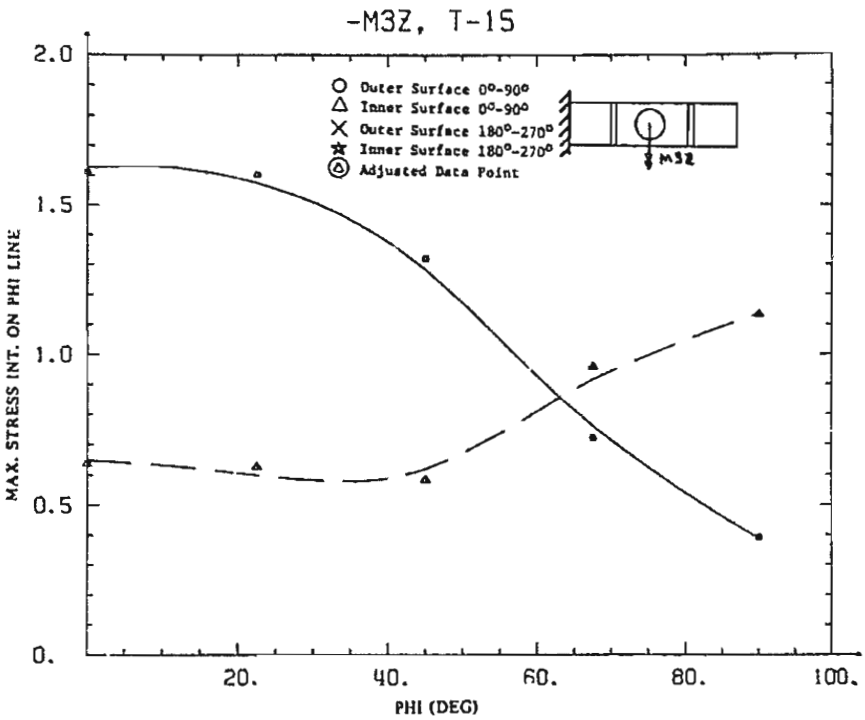

-M3Z, T-6
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z

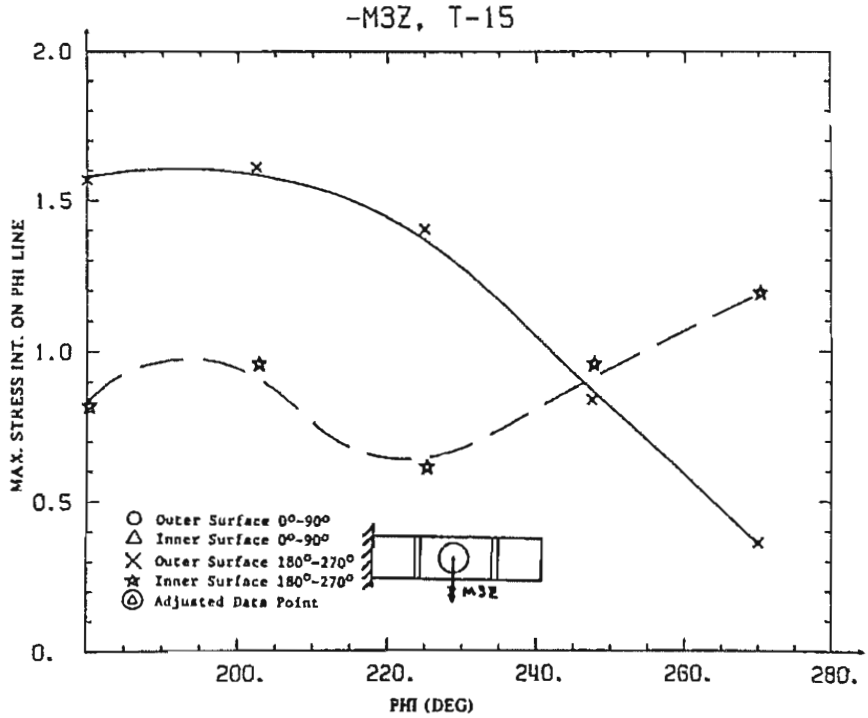

-M3Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.


-M3Z, T-7
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
3.0
2.5
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.


-M3Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.


-M3Z, T-8
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

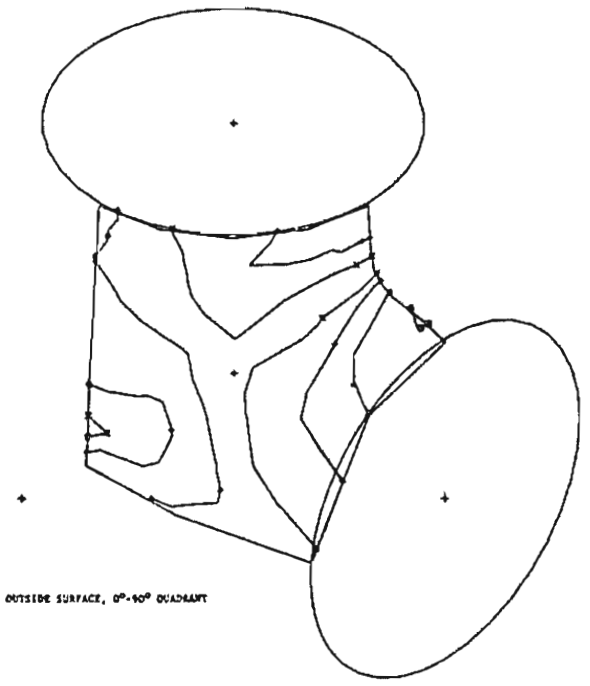

-M3Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
20.
40.
60.
80.
100.


-M3Z, T-15
Outer Surface 0°-90°
Inner Surface 0°-90°
Outer Surface 180°-270°
Inner Surface 180°-270°
Adjusted Data Point
M3Z
MAX. STRESS INT. ON PHI LINE
PHI (DEG)
2.0
1.5
1.0
0.5
0.
200.
220.
240.
260.
280.

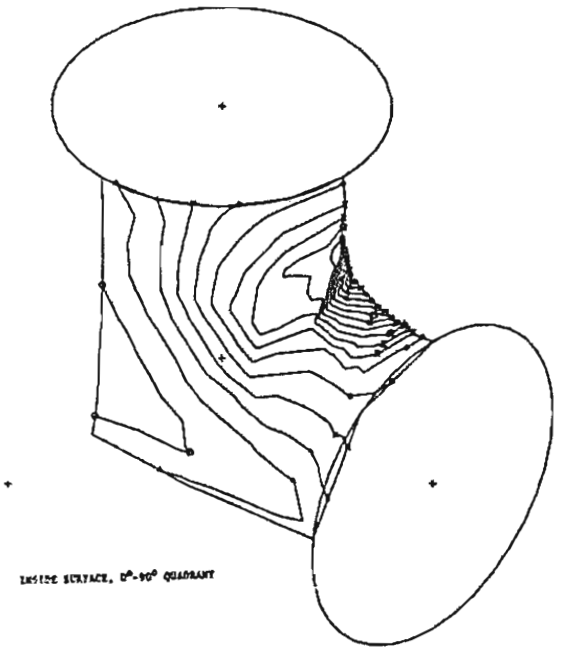
VIII.3

STRESS INTENSITY CONTOUR PLOTS

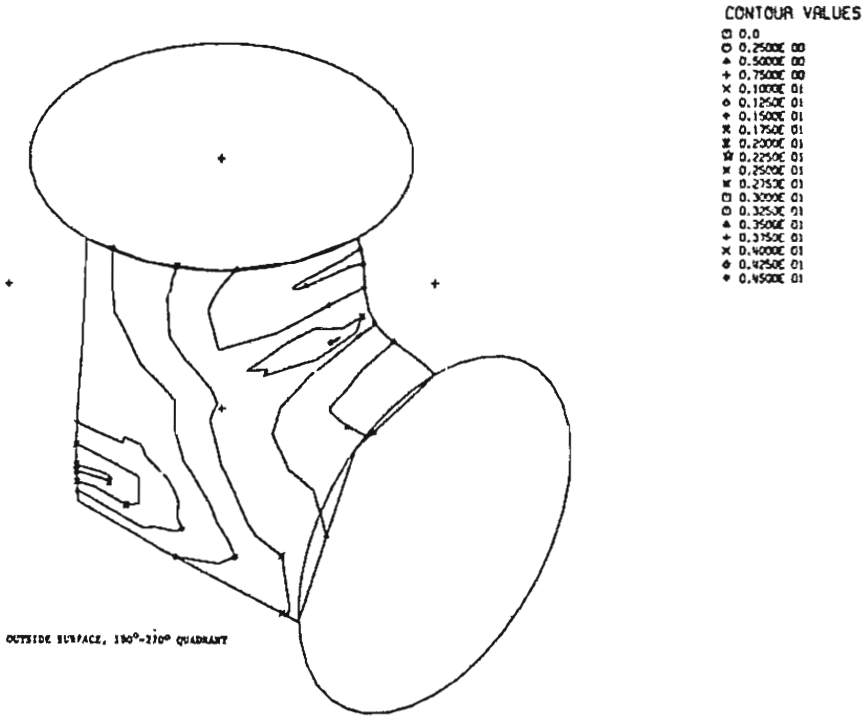
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, P



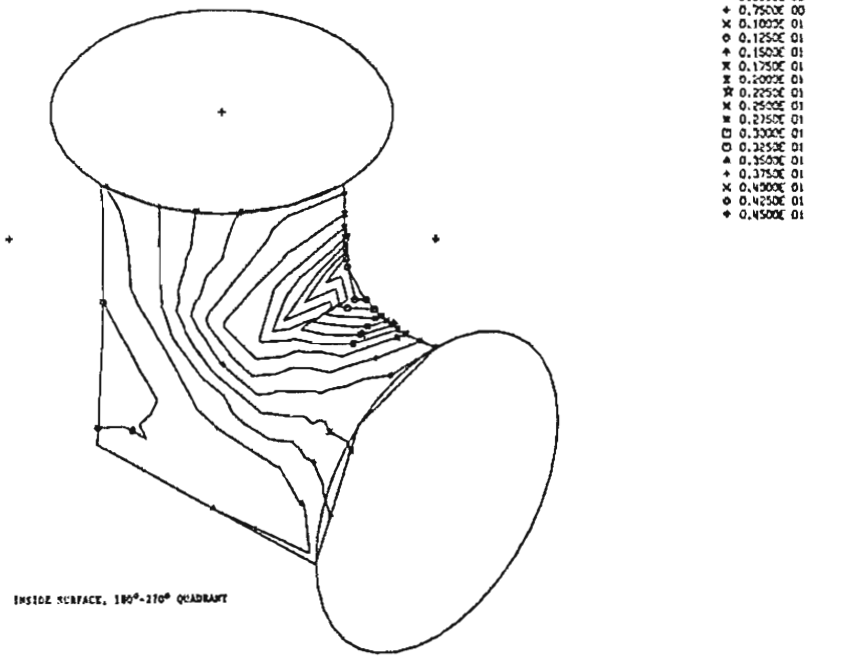
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, P



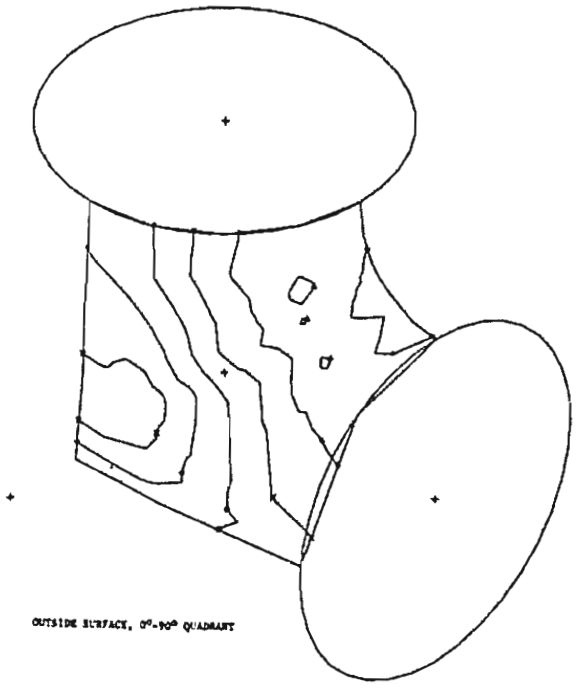
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4..P



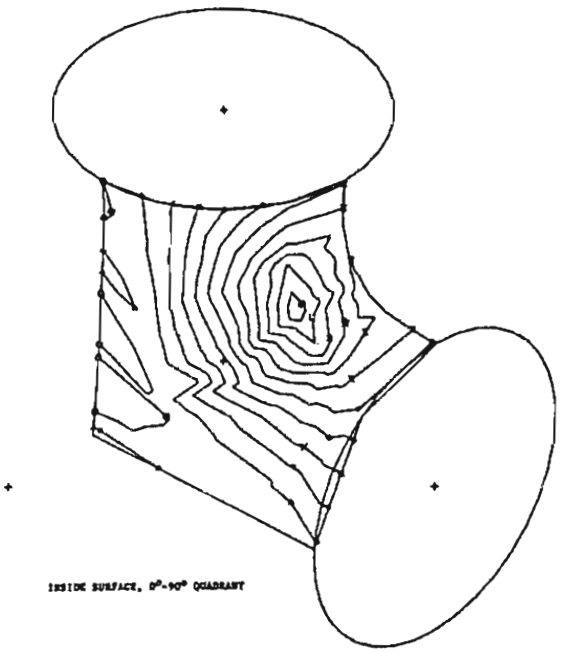
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, P



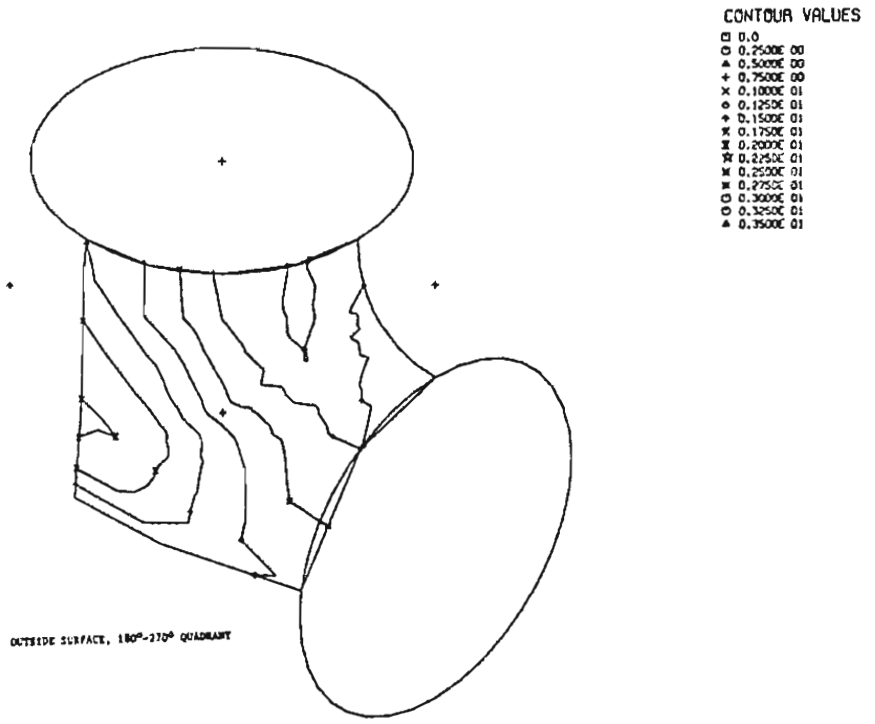
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, P



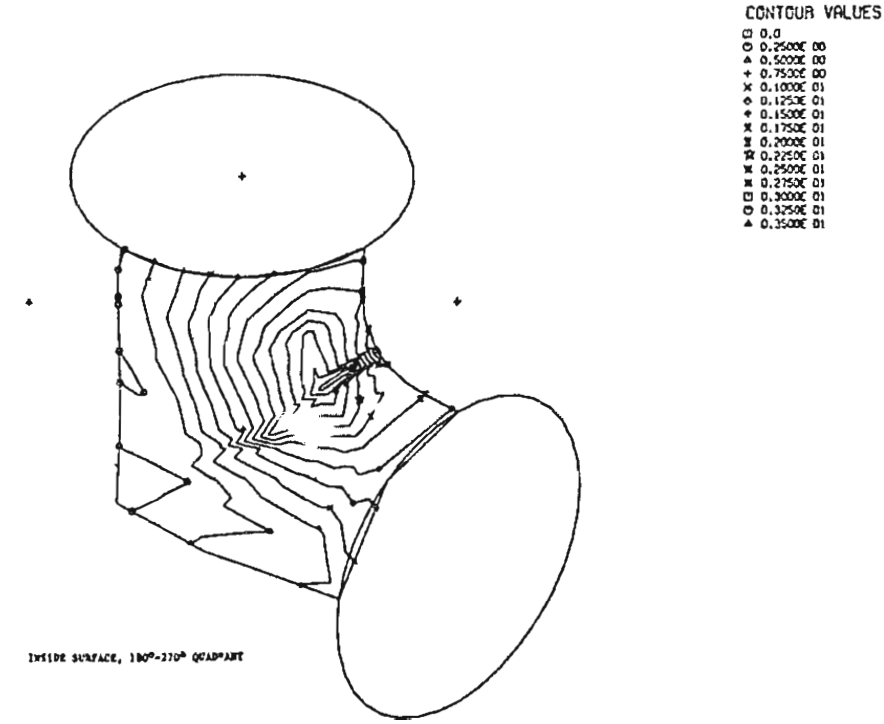
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, P



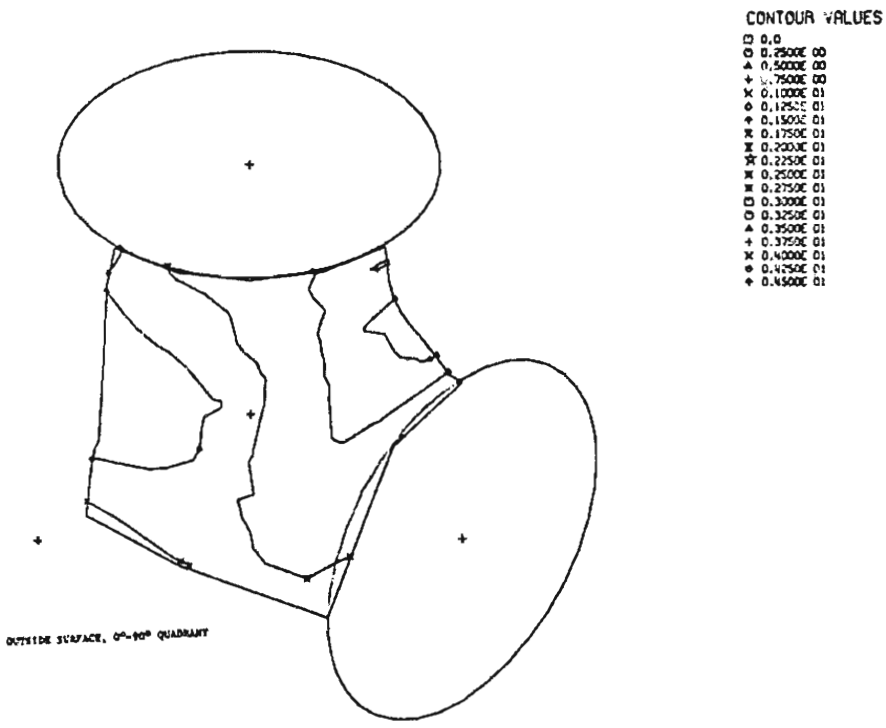
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, P



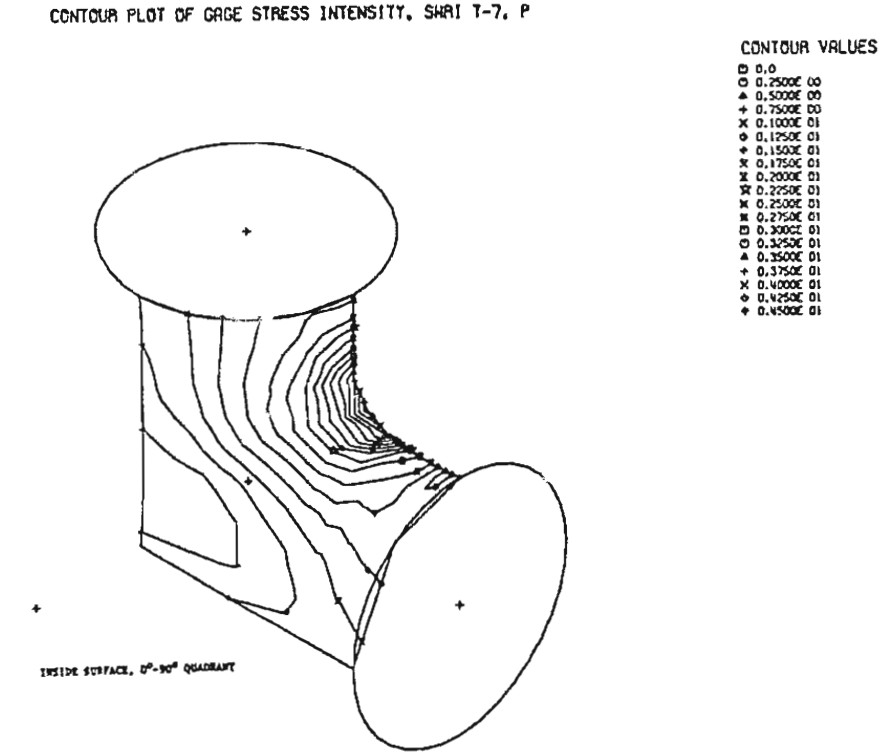
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, P



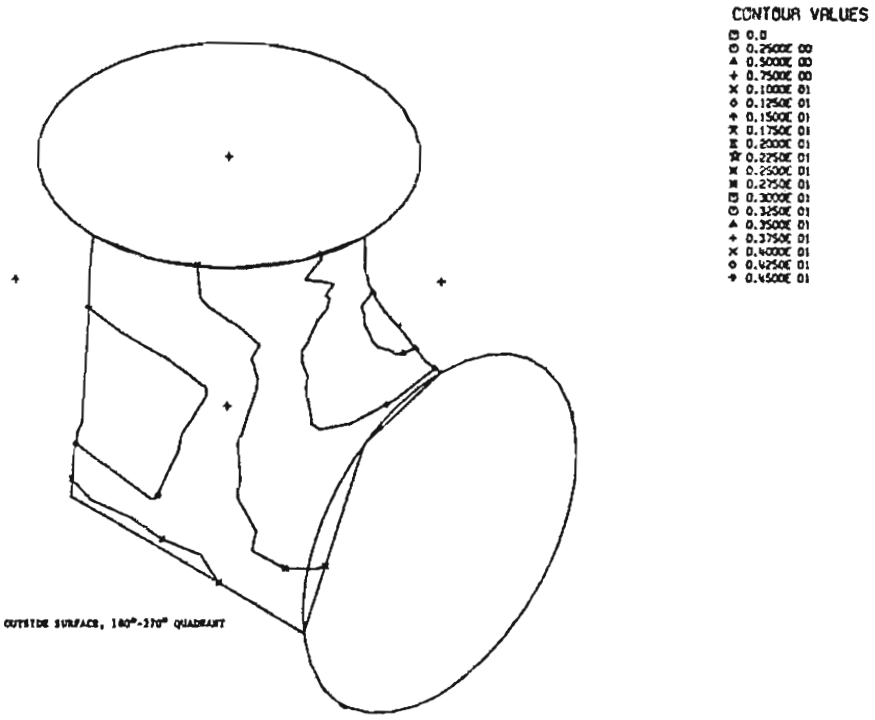
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, P



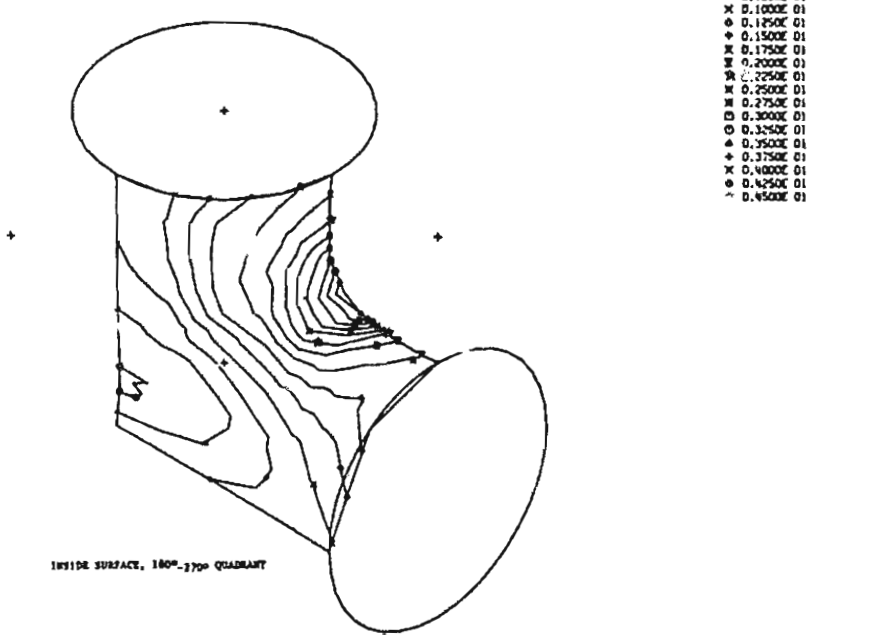
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, P



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, P

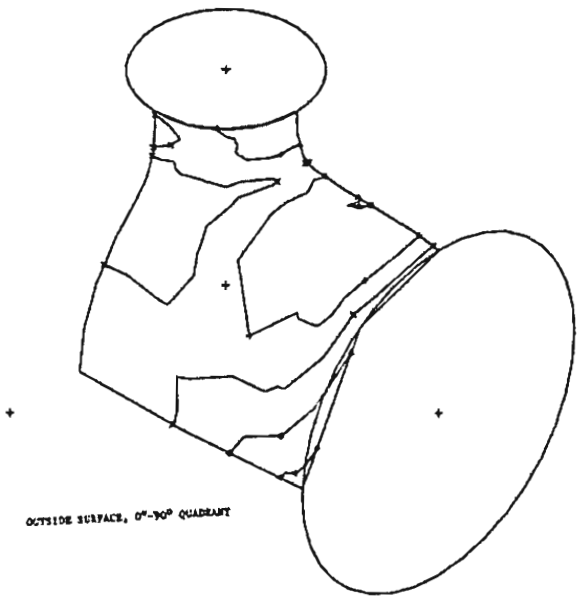


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, P



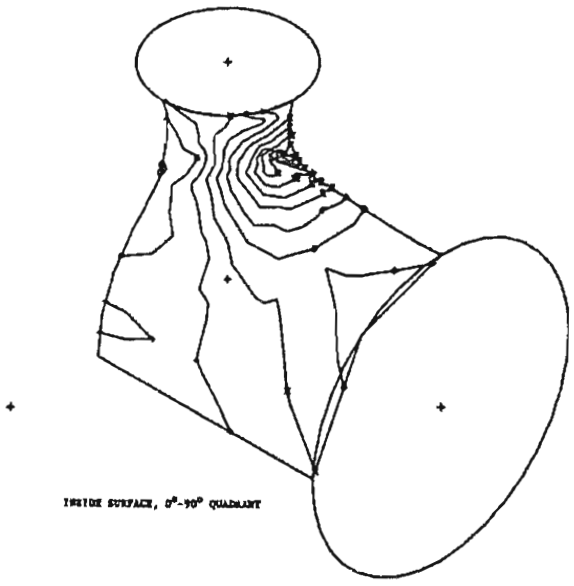
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, P

CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, P

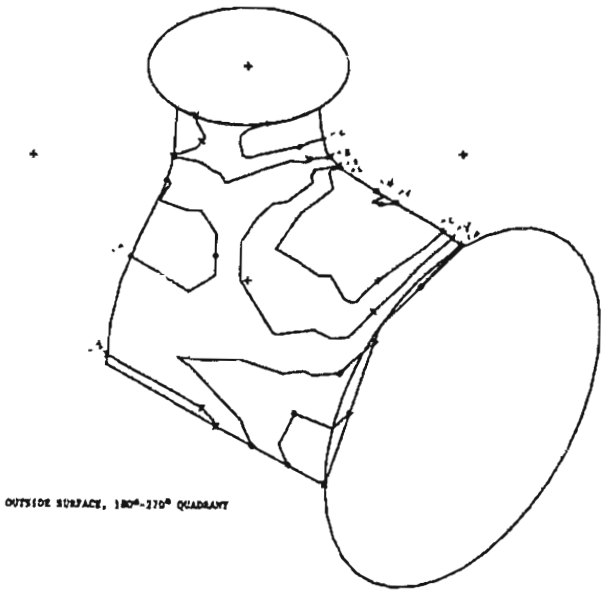
CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, P

CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01
0.2200E 01
0.2400E 01
0.2600E 01

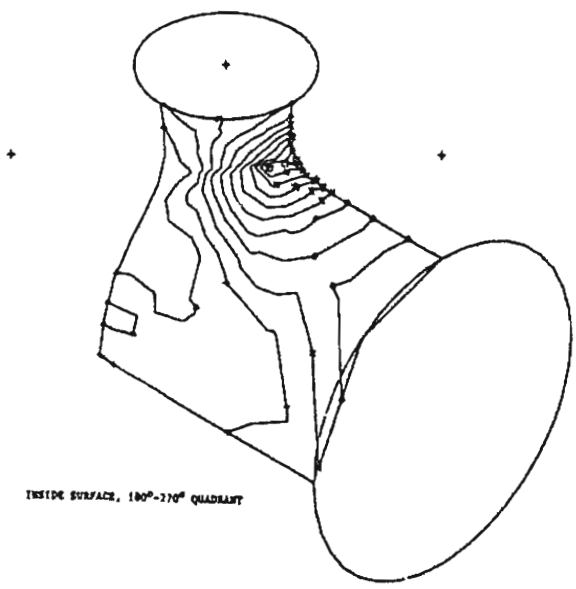


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, P

CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01
0.2200E 01
0.2400E 01
0.2600E 01

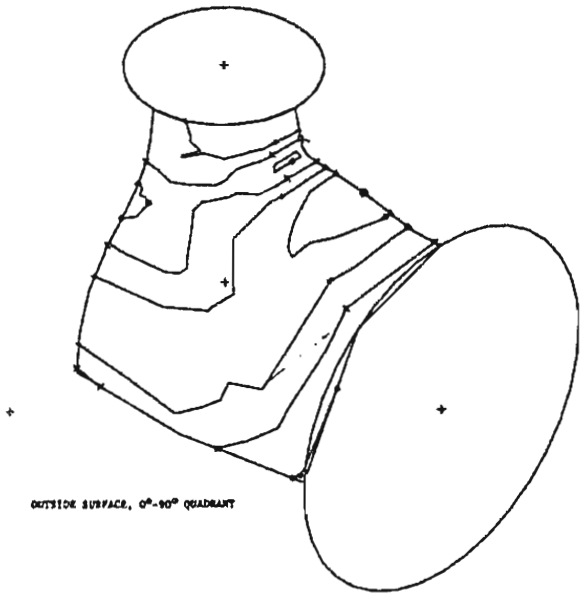


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE INTENSITY, SWRI T-15, P

CONTOUR VALUES

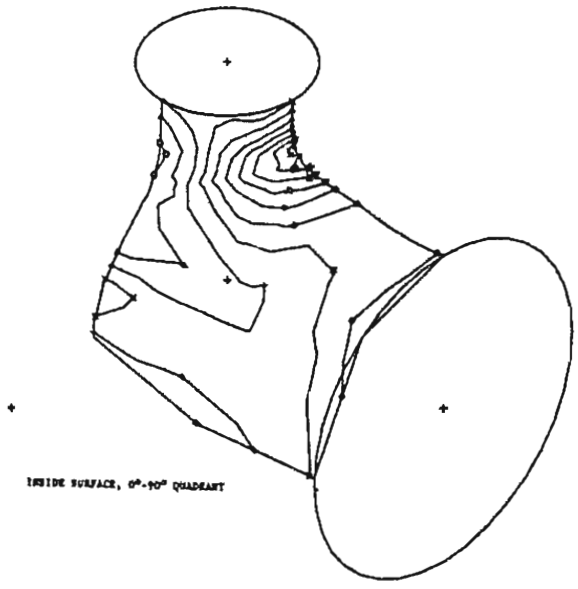
⊡	0.0
⊙	0.2500E 00
▲	0.5000E 00
+	0.7500E 00
×	0.1000E 01
⊙	0.1250E 01
+	0.1500E 01
✖	0.1750E 01
✖	0.2000E 01
☆	0.2250E 01
✖	0.2500E 01
✖	0.2750E 01
⊡	0.3000E 01
⊙	0.3250E 01
▲	0.3500E 01
+	0.3750E 01
×	0.4000E 01



CONTOUR PLOT OF GAGE INTENSITY, SWRI T-15, P

CONTOUR VALUES

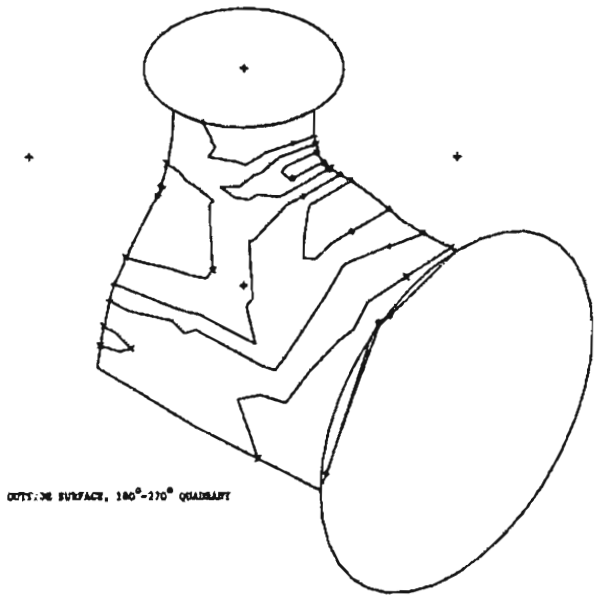
⊡	0.0
⊙	0.2500E 00
▲	0.5000E 00
+	0.7500E 00
×	0.1000E 01
⊙	0.1250E 01
+	0.1500E 01
✖	0.1750E 01
✖	0.2000E 01
☆	0.2250E 01
✖	0.2500E 01
✖	0.2750E 01
⊡	0.3000E 01
⊙	0.3250E 01
▲	0.3500E 01
+	0.3750E 01
×	0.4000E 01



CONTOUR PLOT OF GAGE INTENSITY, SWRI T-15, P

CONTOUR VALUES

□ 0.0
○ 0.2500E 00
△ 0.5000E 00
+ 0.7500E 00
× 0.1000E 01
◇ 0.1250E 01
+ 0.1500E 01
⋆ 0.1750E 01
⋈ 0.2000E 01
☆ 0.2250E 01
× 0.2500E 01
⋈ 0.2750E 01
□ 0.3000E 01
○ 0.3250E 01
△ 0.3500E 01
+ 0.3750E 01
× 0.4000E 01

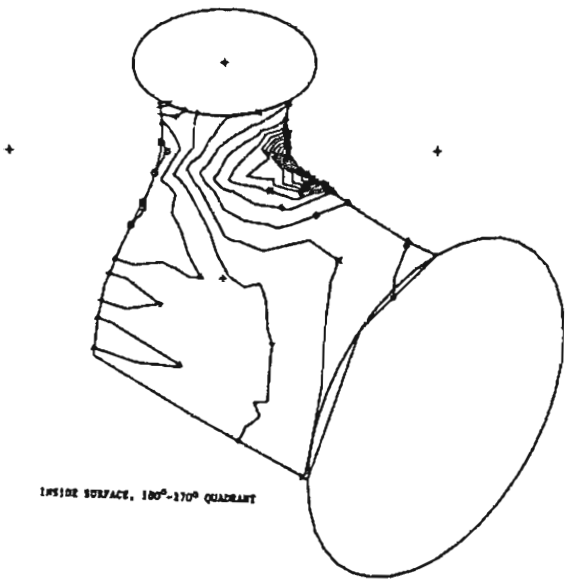


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE INTENSITY, SWRI T-15, P

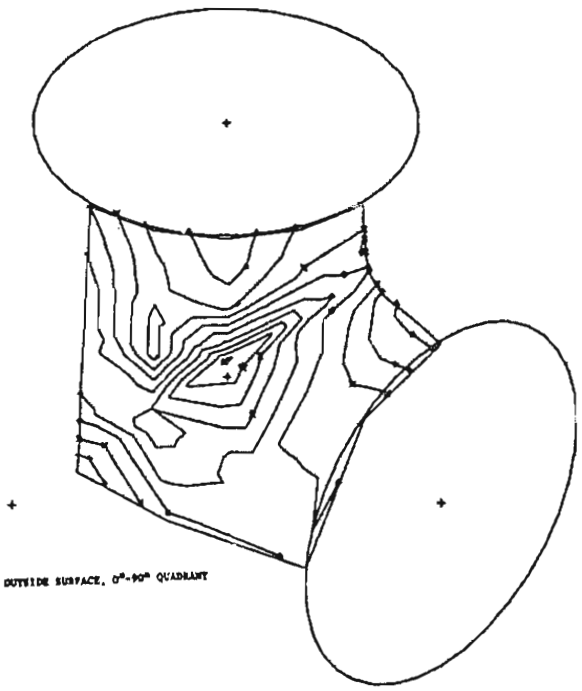
CONTOUR VALUES

□ 0.0
○ 0.2500E 00
△ 0.5000E 00
+ 0.7500E 00
× 0.1000E 01
◇ 0.1250E 01
+ 0.1500E 01
⋆ 0.1750E 01
⋈ 0.2000E 01
☆ 0.2250E 01
× 0.2500E 01
⋈ 0.2750E 01
□ 0.3000E 01
○ 0.3250E 01
△ 0.3500E 01
+ 0.3750E 01
× 0.4000E 01

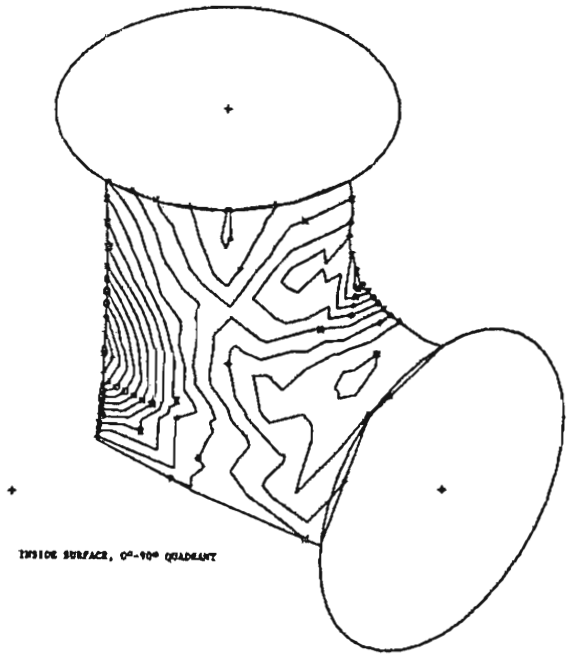


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2X



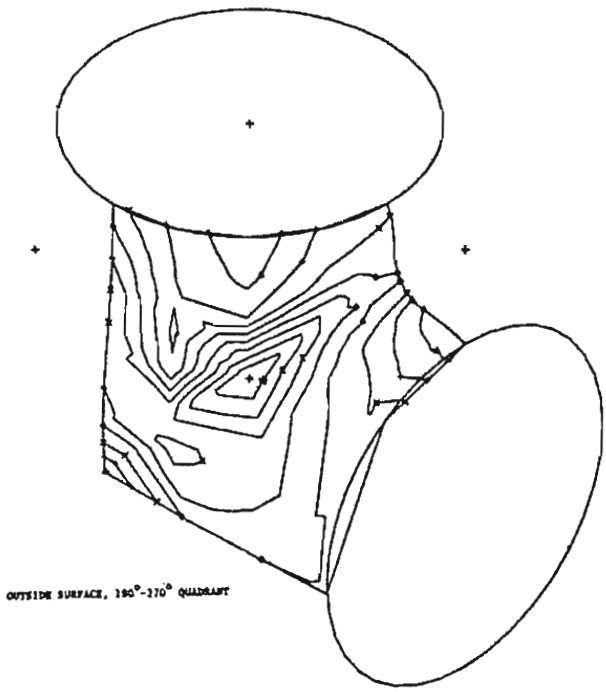
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2X

CONTOUR VALUES

□	0.0
○	0.2500E 00
△	0.5000E 00
+	0.7500E 00
×	0.1000E 01
◆	0.1250E 01
✦	0.1500E 01
✖	0.1750E 01
⧓	0.2000E 01
☆	0.2250E 01
✖	0.2500E 01
✖	0.2750E 01
□	0.3000E 01
○	0.3250E 01
△	0.3500E 01
+	0.3750E 01
×	0.4000E 01
◆	0.4250E 01

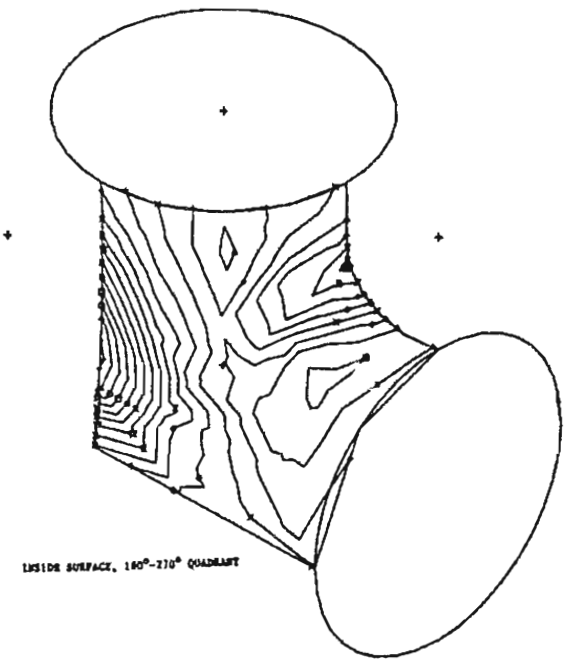


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2X

CONTOUR VALUES

□	0.0
○	0.2500E 00
△	0.5000E 00
+	0.7500E 00
×	0.1000E 01
◆	0.1250E 01
✦	0.1500E 01
✖	0.1750E 01
⧓	0.2000E 01
☆	0.2250E 01
✖	0.2500E 01
✖	0.2750E 01
□	0.3000E 01
○	0.3250E 01
△	0.3500E 01
+	0.3750E 01
×	0.4000E 01
◆	0.4250E 01

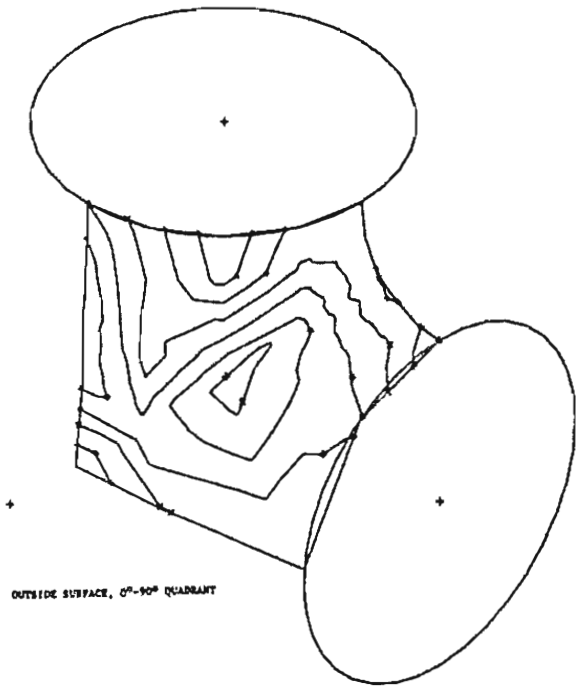


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2X

CONTOUR VALUES

□ 0.0
○ 0.2500E 00
△ 0.5000E 00
+ 0.7500E 00
× 0.1000E 01
◇ 0.1250E 01
+ 0.1500E 01
× 0.1750E 01
⧖ 0.2000E 01
☆ 0.2250E 01
× 0.2500E 01
⧖ 0.2750E 01
□ 0.3000E 01
○ 0.3250E 01
△ 0.3500E 01
+ 0.3750E 01
× 0.4000E 01

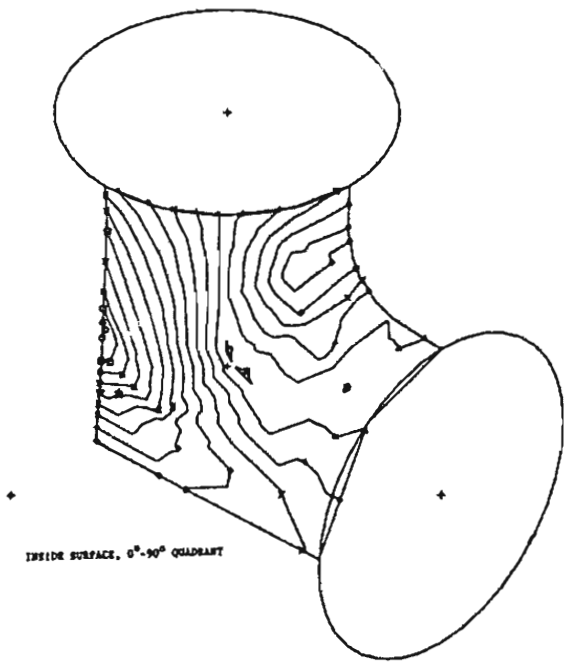


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2X

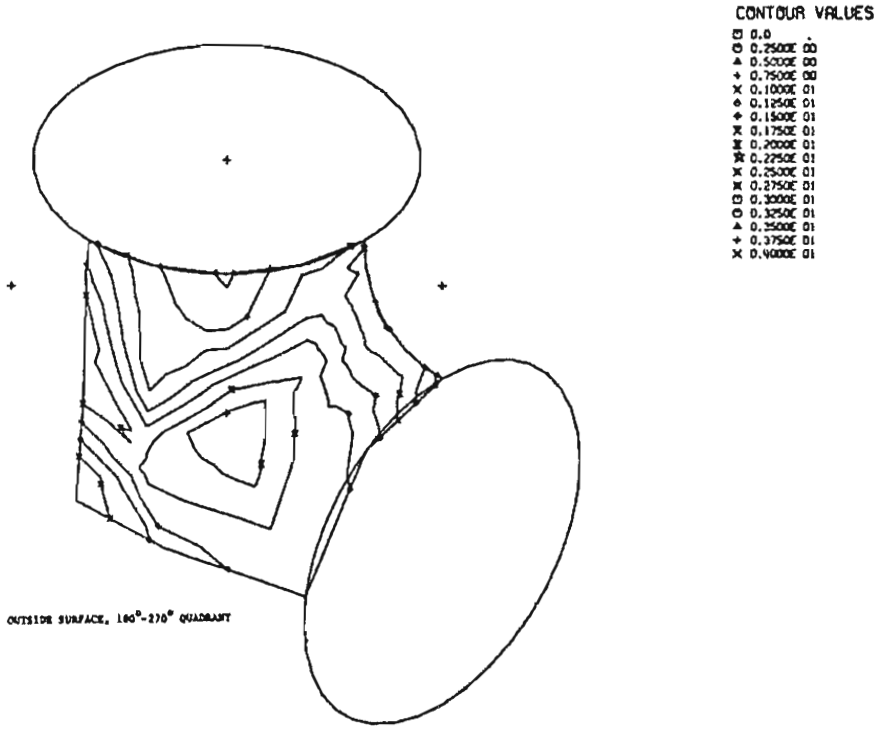
CONTOUR VALUES

□ 0.0
○ 0.2500E 00
△ 0.5000E 00
+ 0.7500E 00
× 0.1000E 01
◇ 0.1250E 01
+ 0.1500E 01
× 0.1750E 01
⧖ 0.2000E 01
☆ 0.2250E 01
× 0.2500E 01
⧖ 0.2750E 01
□ 0.3000E 01
○ 0.3250E 01
△ 0.3500E 01
+ 0.3750E 01
× 0.4000E 01

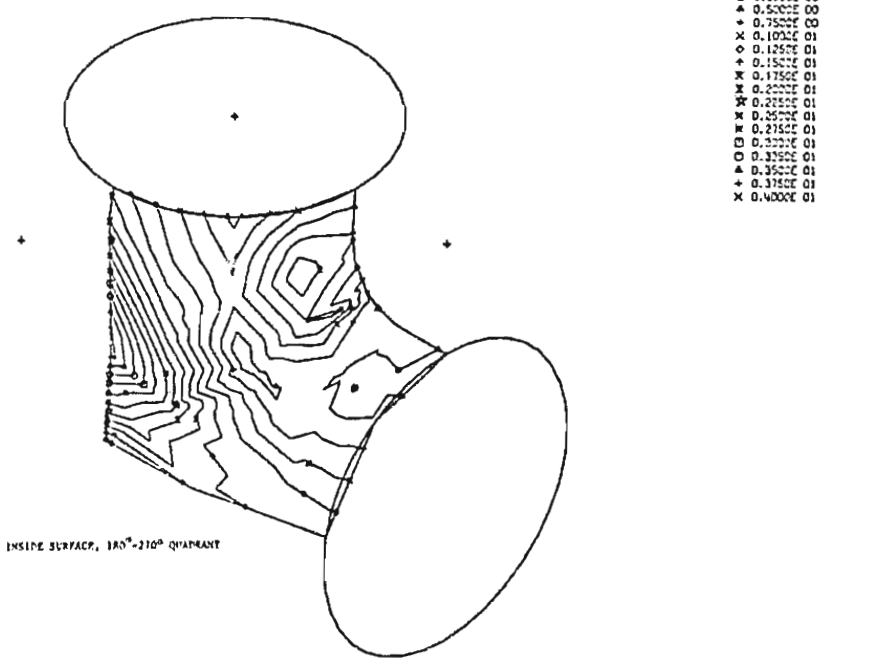


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2X



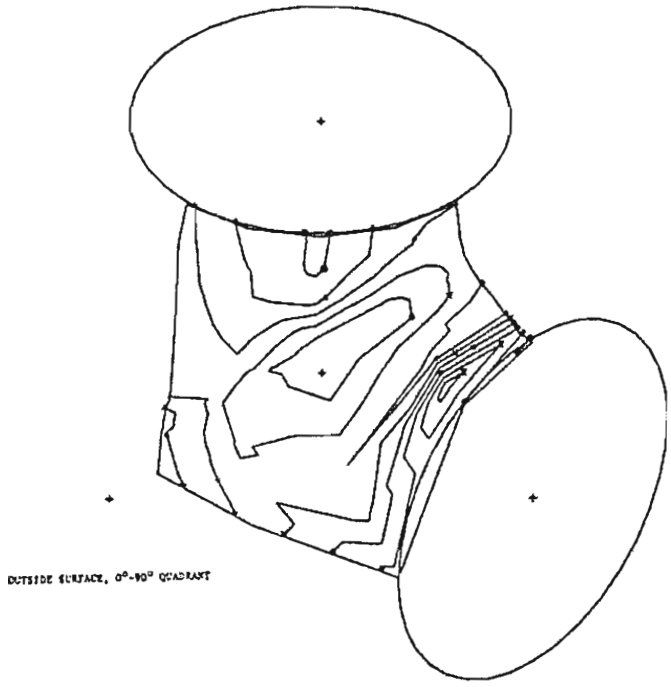
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F2X

CONTOUR VALUES

□ 0.0
○ 0.2500E 00
△ 0.5000E 00
+ 0.7500E 00
× 0.1000E 01
◇ 0.1250E 01
✦ 0.1500E 01
✕ 0.1750E 01
⧗ 0.2000E 01
☆ 0.2250E 01
✳ 0.2500E 01
▣ 0.2750E 01
⊙ 0.3000E 01

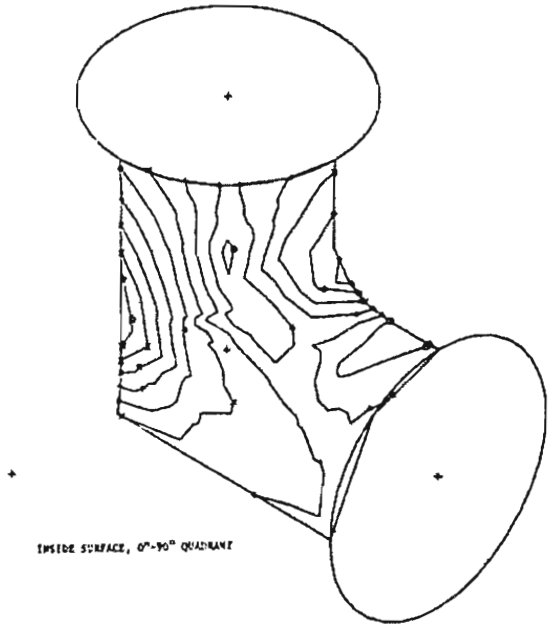


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F2X

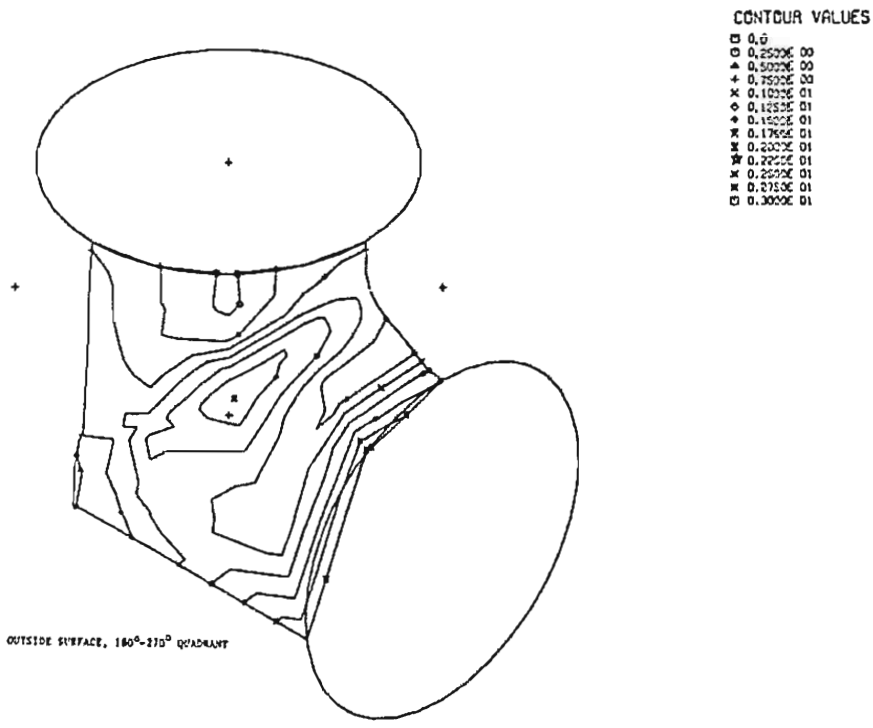
CONTOUR VALUES

□ 0.0
○ 0.2500E 00
△ 0.5000E 00
+ 0.7500E 00
× 0.1000E 01
◇ 0.1250E 01
✦ 0.1500E 01
✕ 0.1750E 01
⧗ 0.2000E 01
☆ 0.2250E 01
✳ 0.2500E 01
▣ 0.2750E 01
⊙ 0.3000E 01

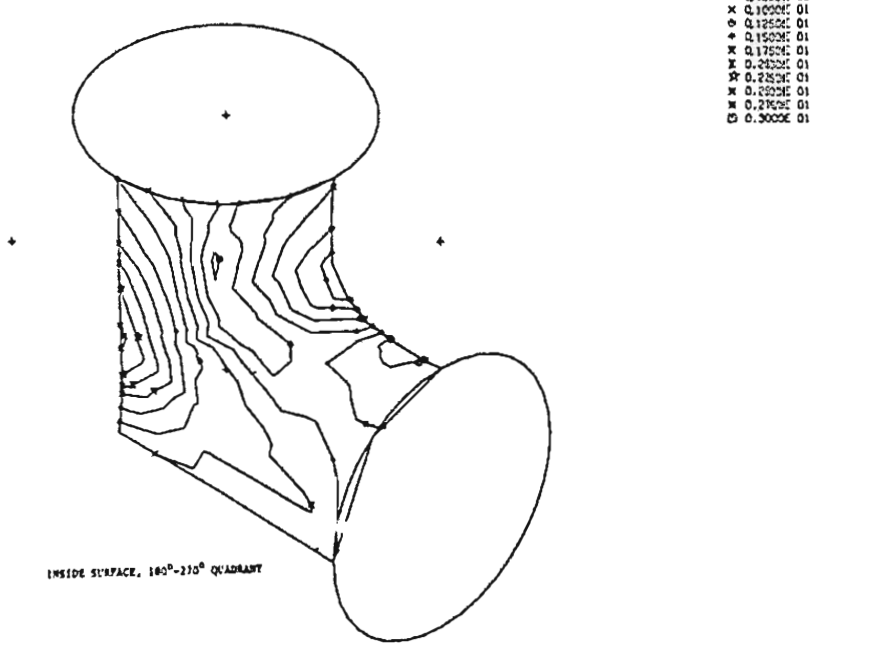


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F2X

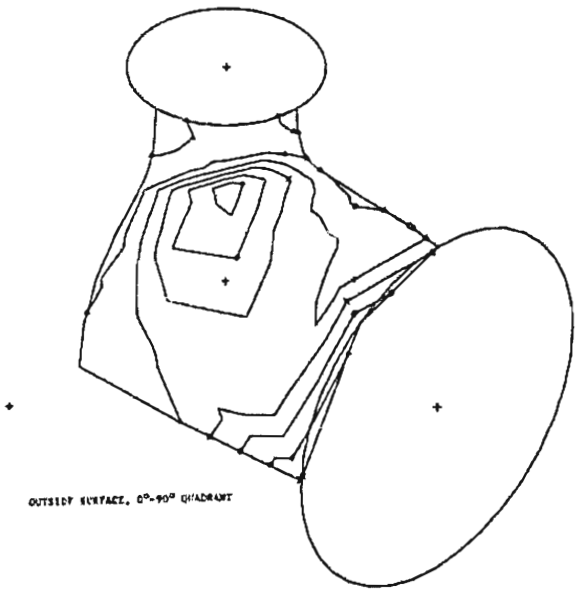


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F2X



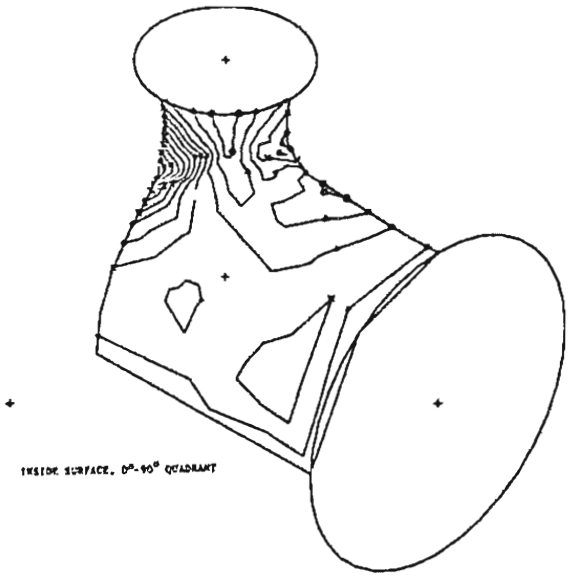
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2X

CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2X

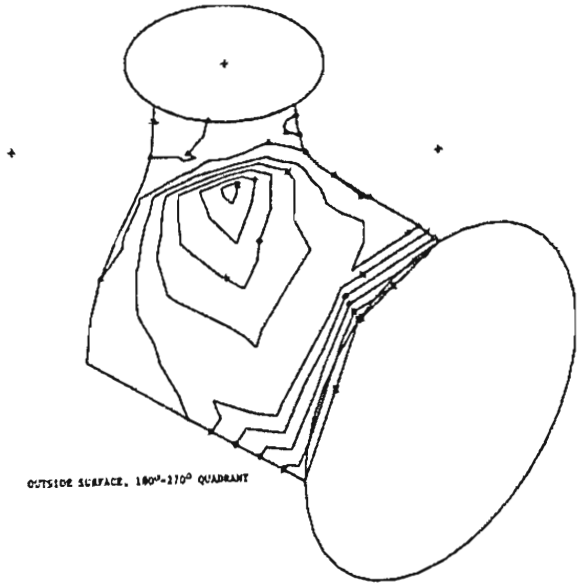
CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2X

CONTOUR VALUES

□ 0.0
□ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
✦ 0.1200E 01
✖ 0.1400E 01
⧓ 0.1600E 01
☆ 0.1800E 01
✖ 0.2000E 01
✖ 0.2200E 01
□ 0.2400E 01

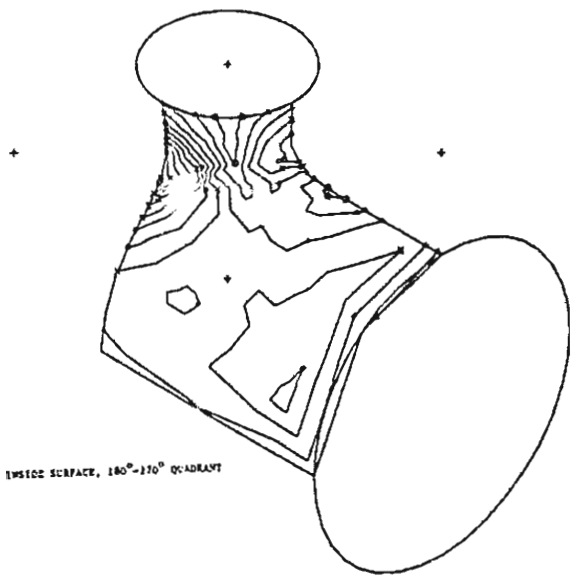


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2X

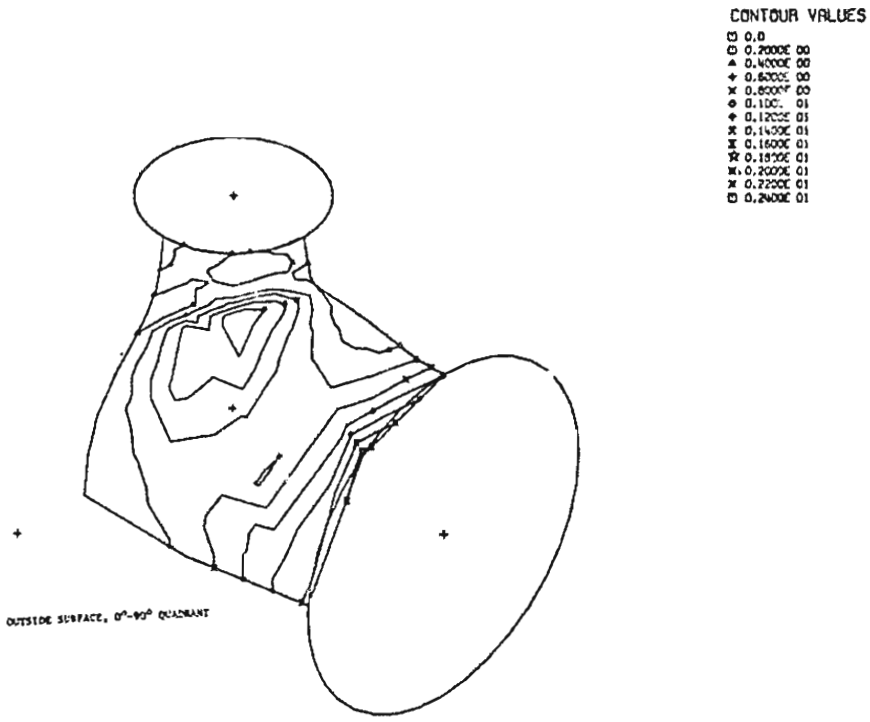
CONTOUR VALUES

□ 0.0
□ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
✦ 0.1200E 01
✖ 0.1400E 01
⧓ 0.1600E 01
☆ 0.1800E 01
✖ 0.2000E 01
✖ 0.2200E 01
□ 0.2400E 01

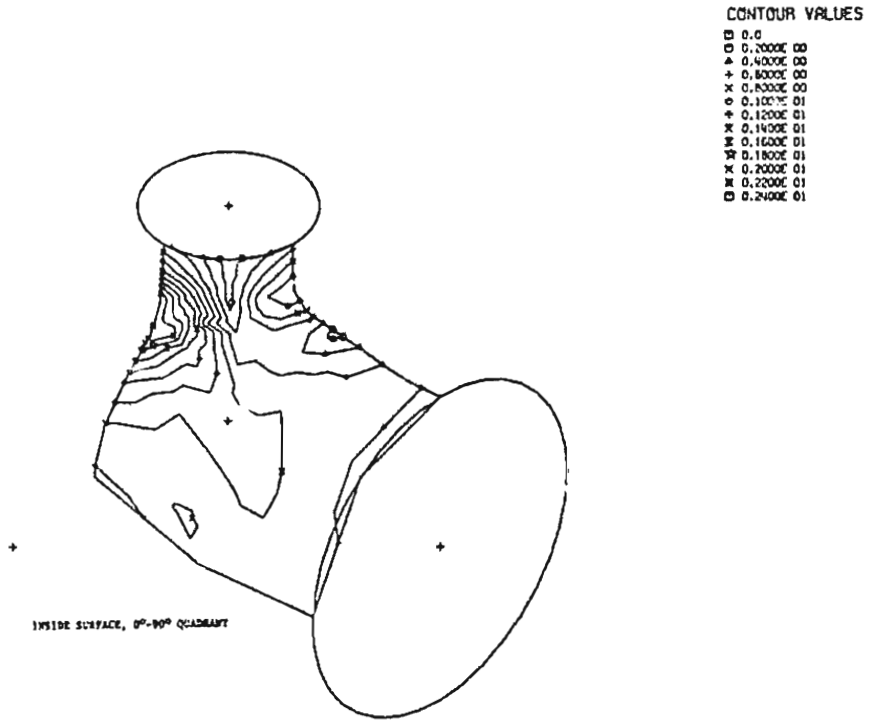


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F2X

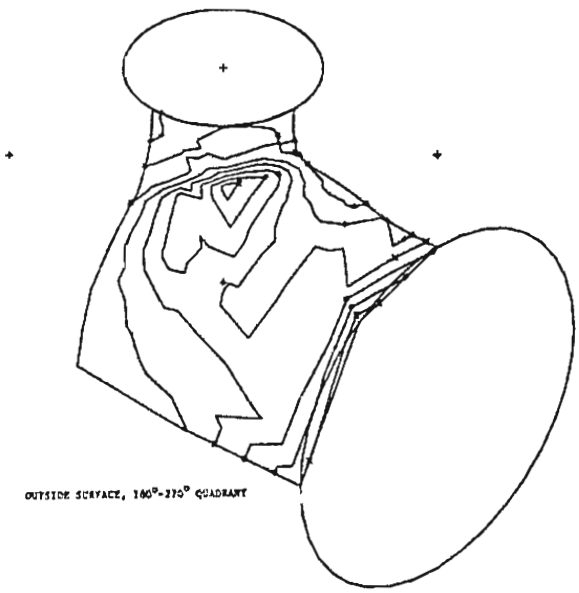


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F2X



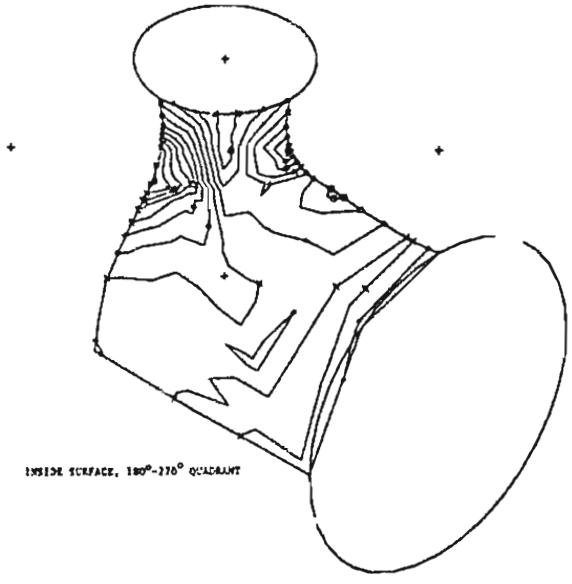
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-1S, F2X

CONTOUR VALUES

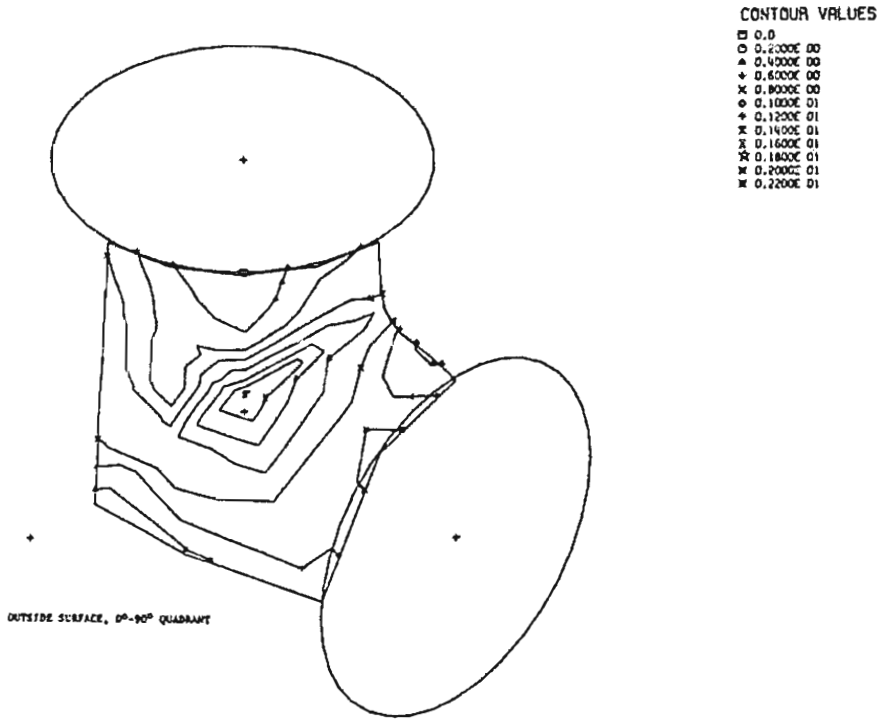


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-1S, F2X

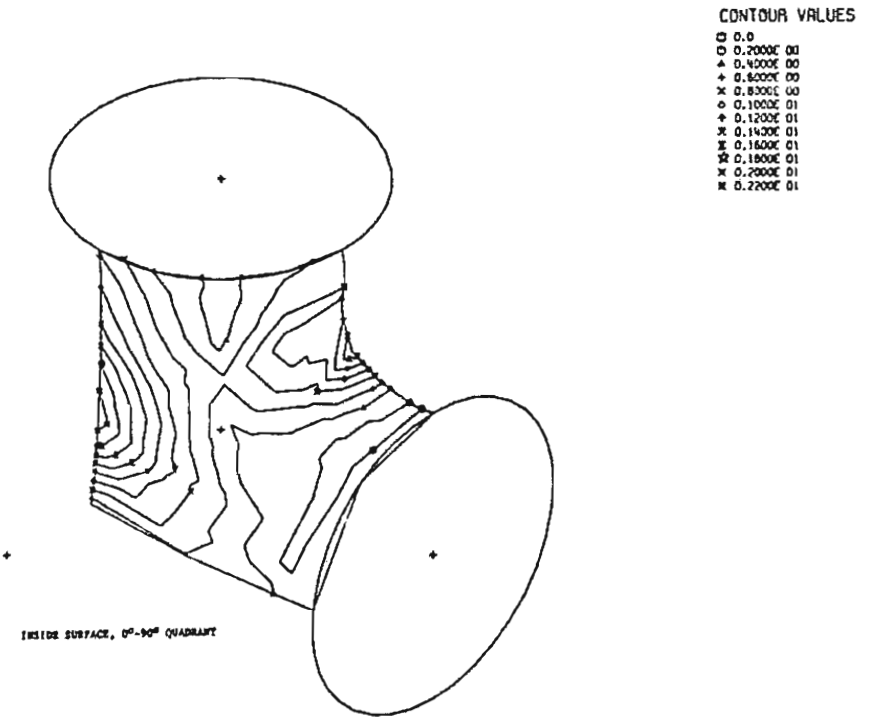
CONTOUR VALUES



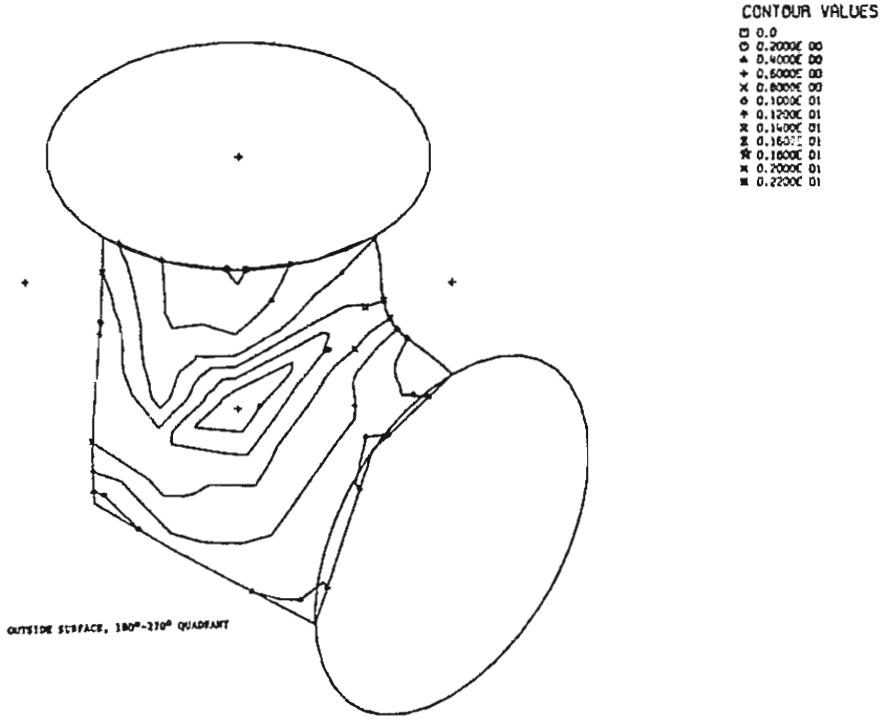
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -F2Y



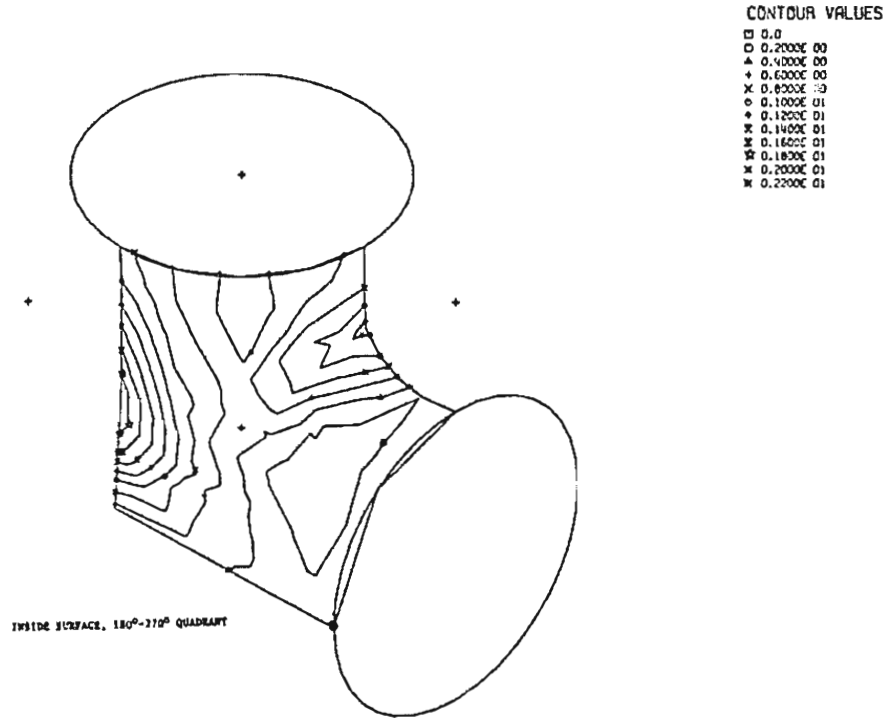
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -F2Y



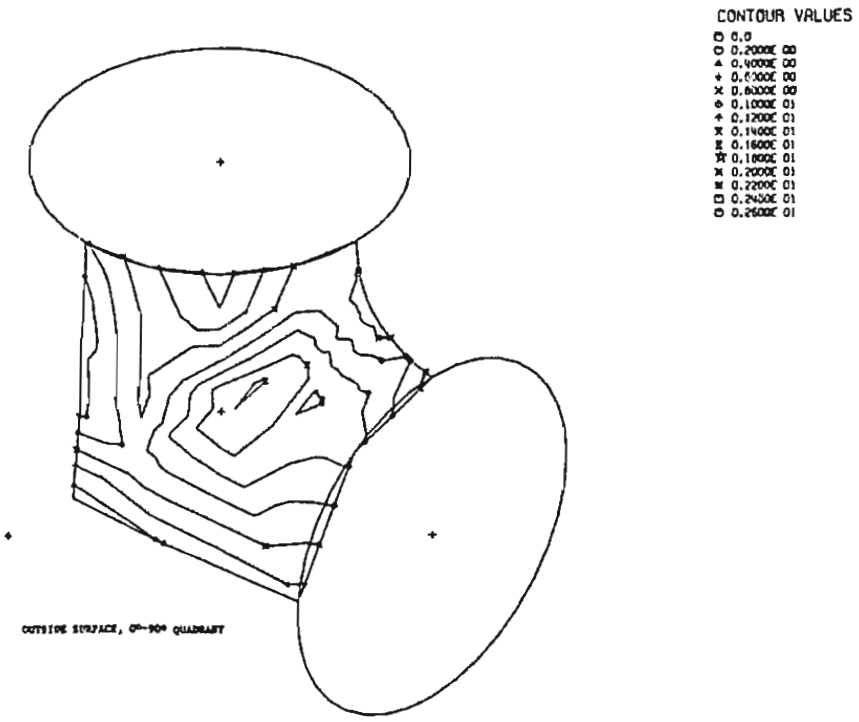
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -F2Y



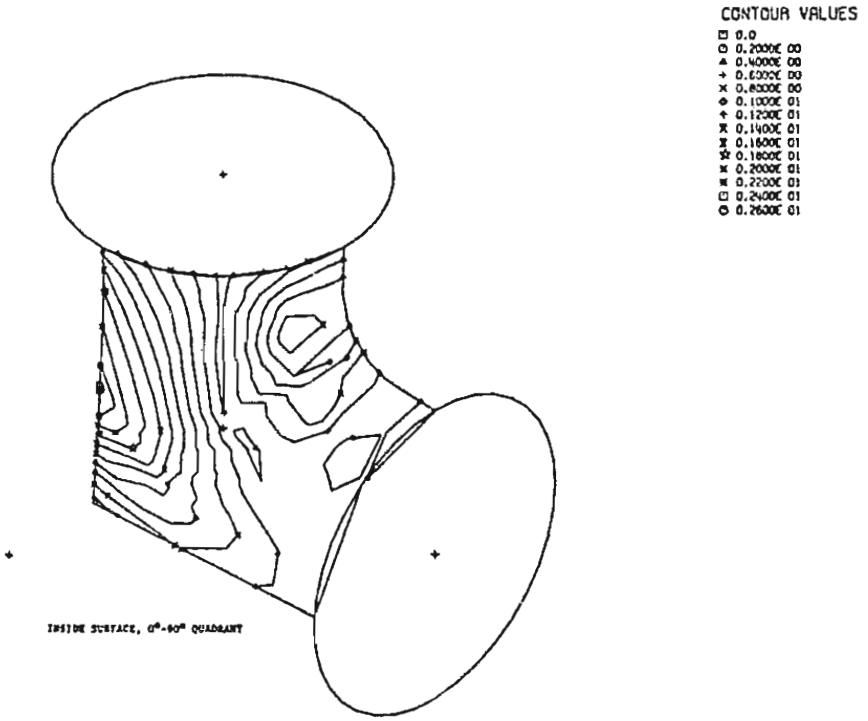
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -F2Y



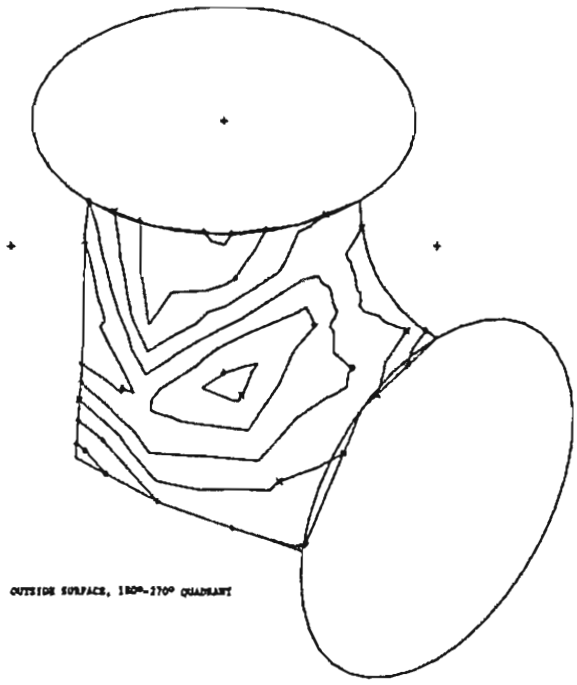
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -F2Y



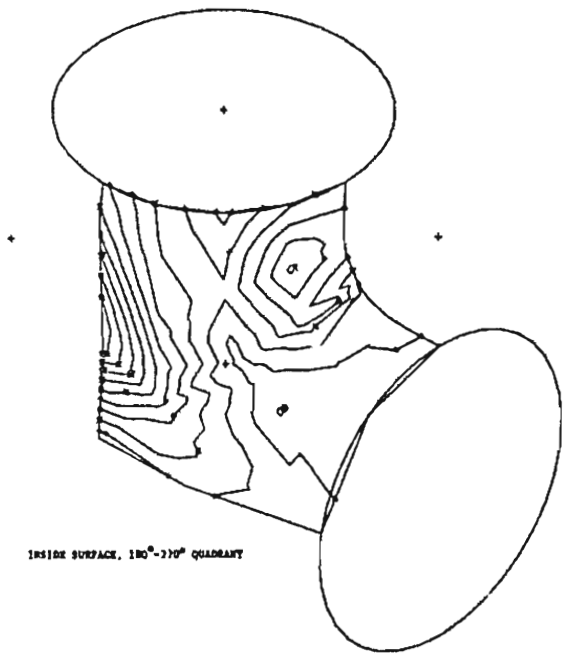
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -F2Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -F2Y

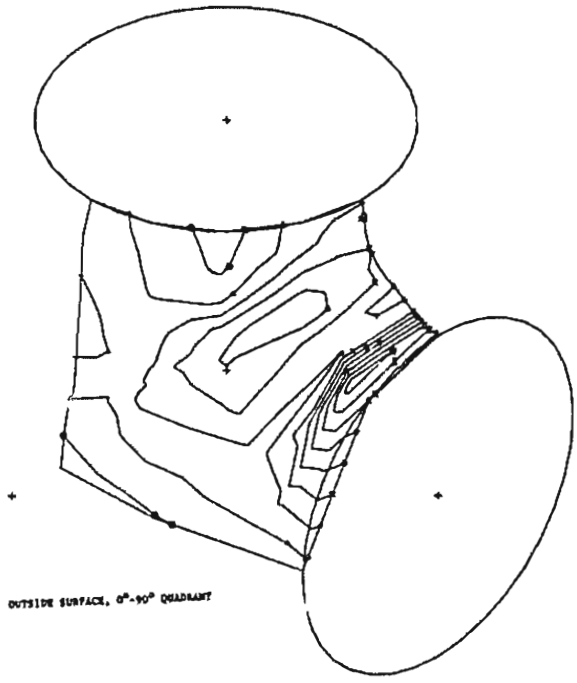


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -F2Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -F2Y

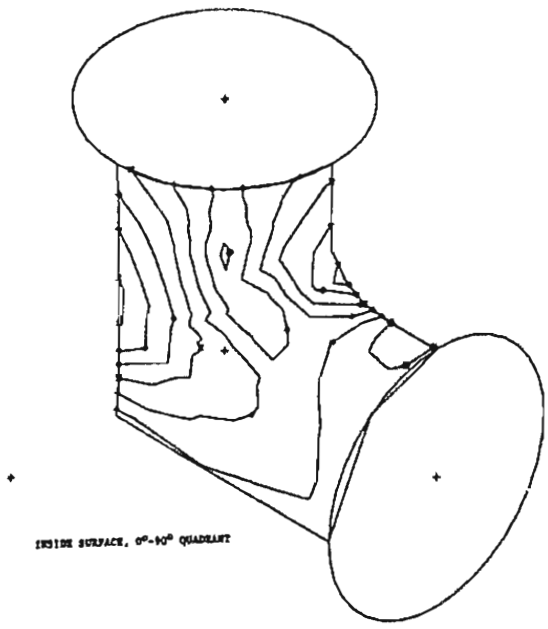
CONTOUR VALUES
⊙ 0.0
○ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
✱ 0.1400E 01
⧗ 0.1600E 01
☆ 0.1800E 01
✖ 0.2000E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

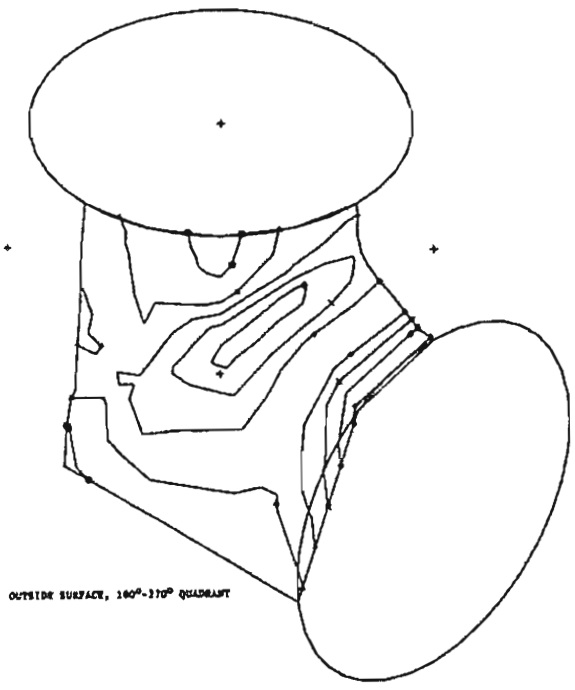
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -F2Y

CONTOUR VALUES
⊙ 0.0
○ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
✱ 0.1400E 01
⧗ 0.1600E 01
☆ 0.1800E 01
✖ 0.2000E 01

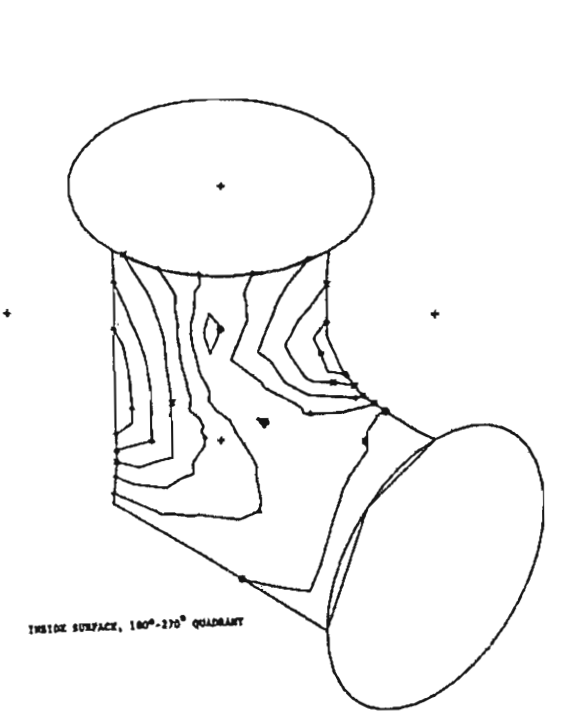


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -F2Y



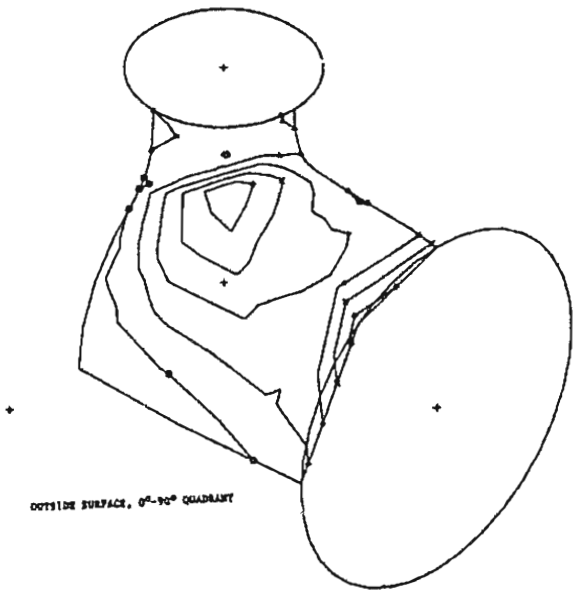
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -F2I



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -F2Y

CONTOUR VALUES

☐	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◇	0.1000E 01
✦	0.1200E 01
✖	0.1400E 01
⧗	0.1600E 01
☆	0.1800E 01
✖	0.2000E 01

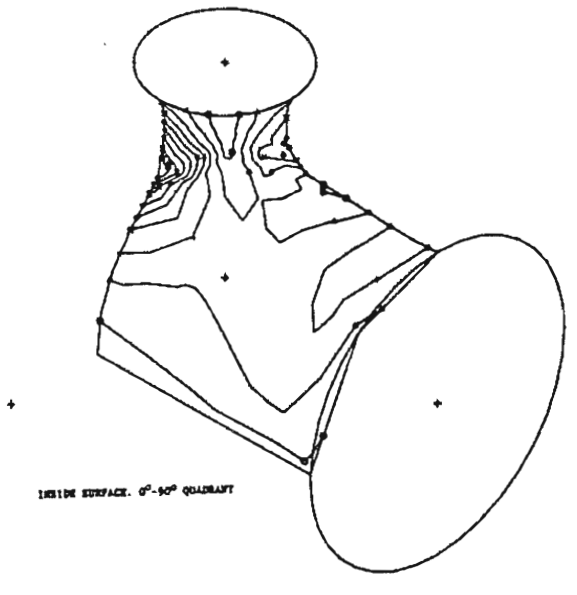


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -F2Y

CONTOUR VALUES

☐	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◇	0.1000E 01
✦	0.1200E 01
✖	0.1400E 01
⧗	0.1600E 01
☆	0.1800E 01
✖	0.2000E 01

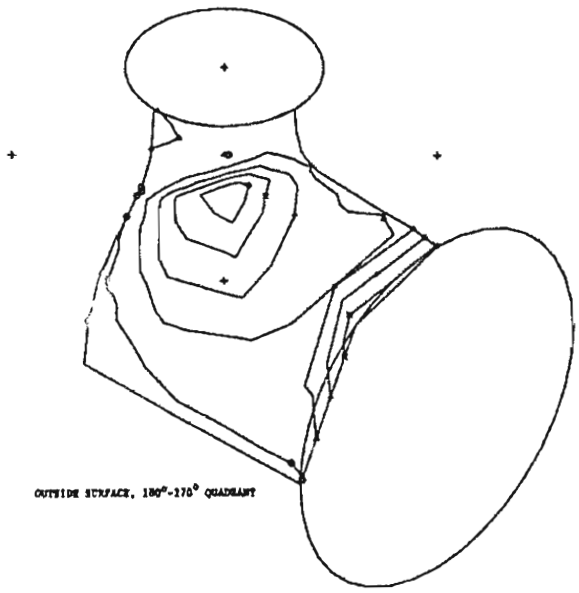


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -F2Y

CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01

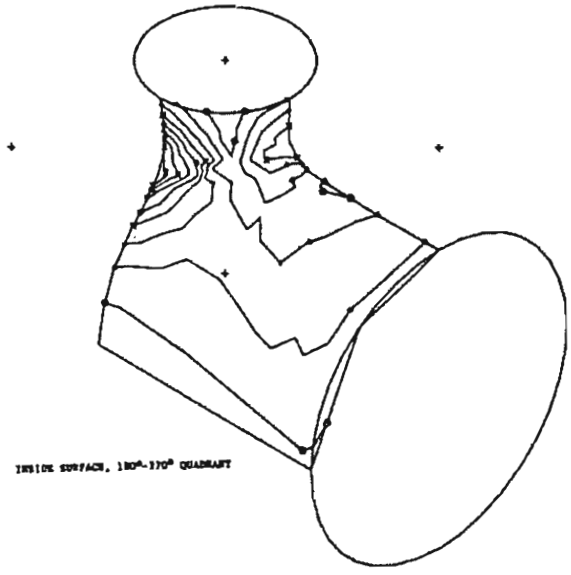


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -F2Y

CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01

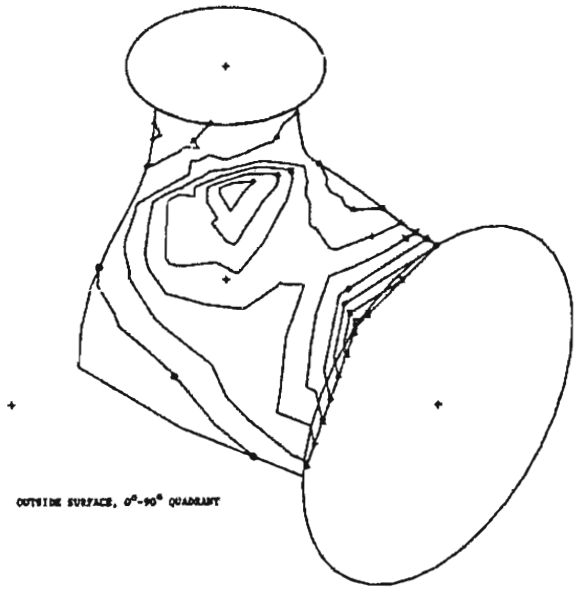


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -F2Y

CONTOUR VALUES

□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
+ 0.1200E 01
✱ 0.1400E 01
⧗ 0.1600E 01
☆ 0.1800E 01
✱ 0.2000E 01

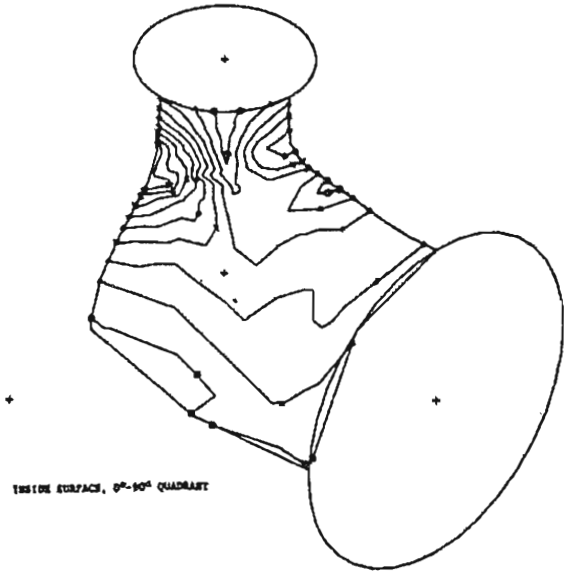


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -F2Y

CONTOUR VALUES

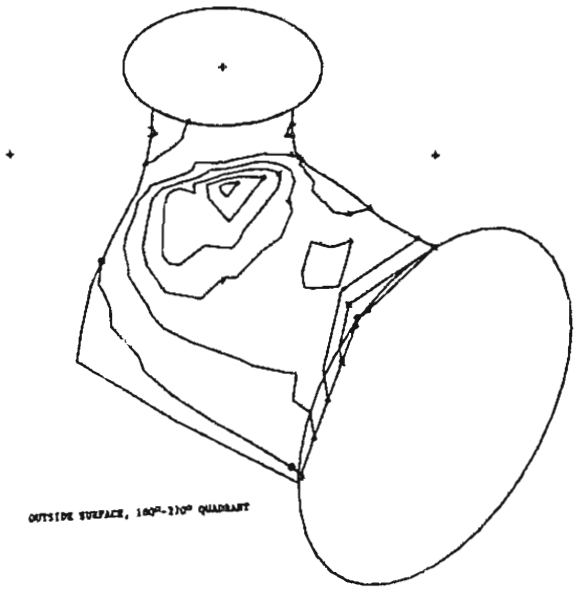
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
+ 0.1200E 01
✱ 0.1400E 01
⧗ 0.1600E 01
☆ 0.1800E 01
✱ 0.2000E 01



INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -F2Y

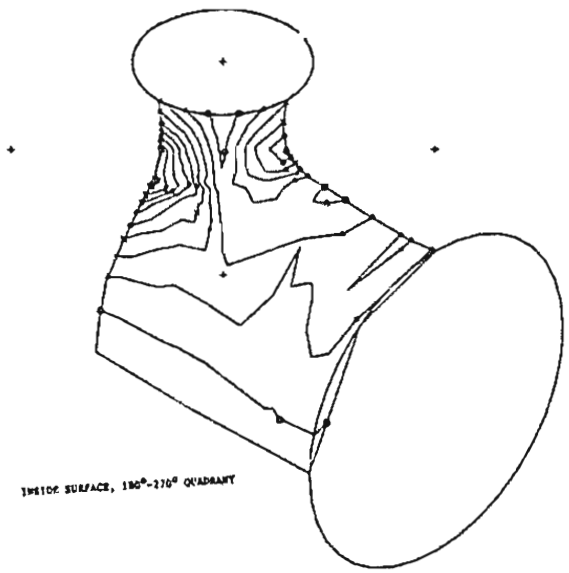
CONTOUR VALUES
□ 0.0
○ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
✦ 0.1200E 01
✖ 0.1400E 01
⧓ 0.1600E 01
✯ 0.1800E 01
✖ 0.2000E 01



OUTSIDE SURFACE, 180°-270° QUADRANT

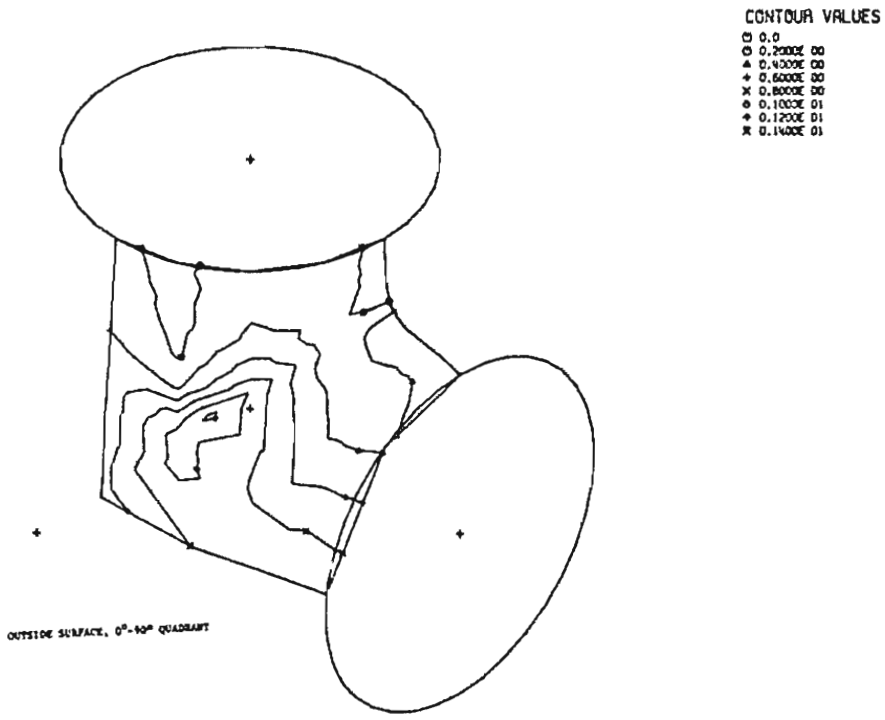
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -F2Y

CONTOUR VALUES
□ 0.0
○ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
✦ 0.1200E 01
✖ 0.1400E 01
⧓ 0.1600E 01
✯ 0.1800E 01
✖ 0.2000E 01

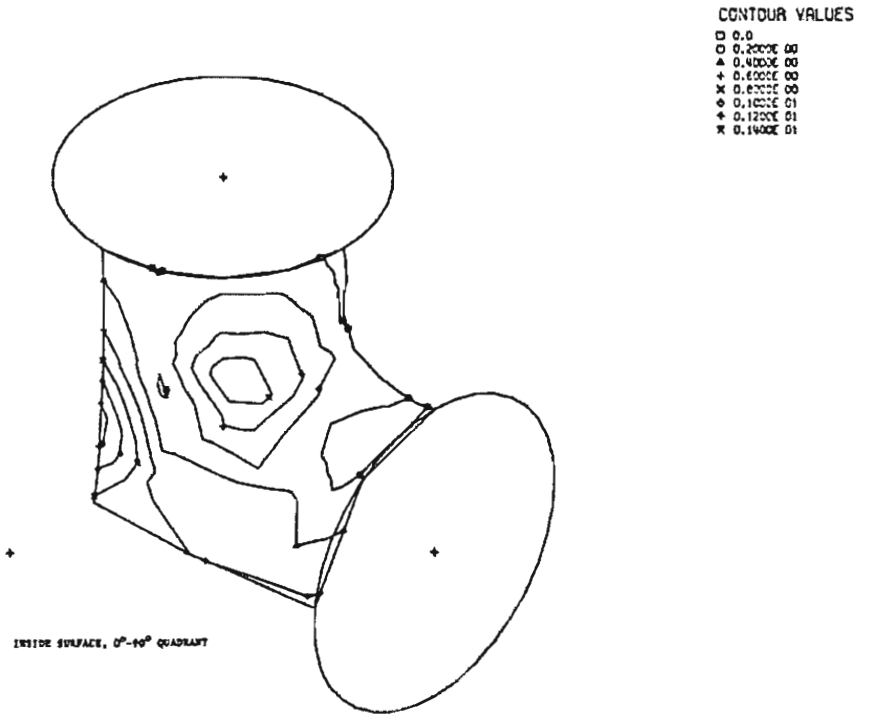


INSIDE SURFACE, 180°-270° QUADRANT

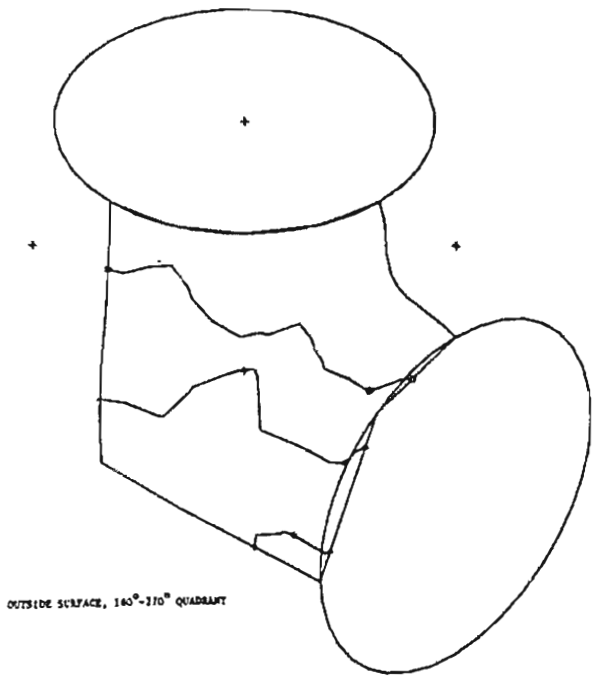
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2Z



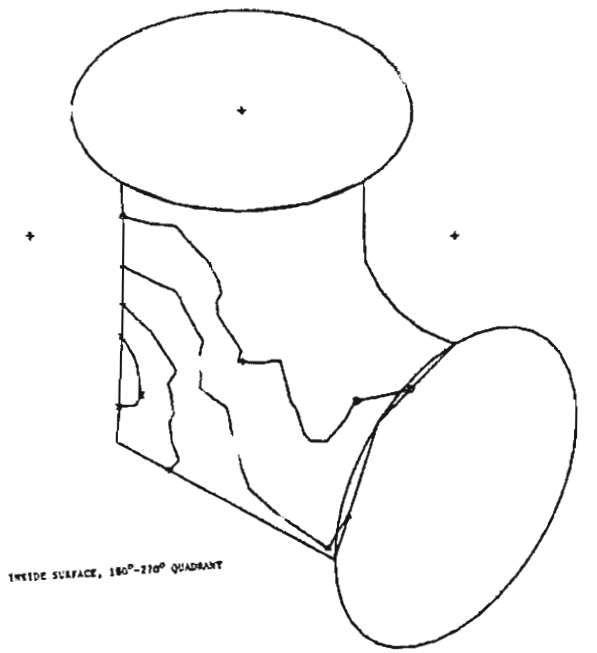
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2Z



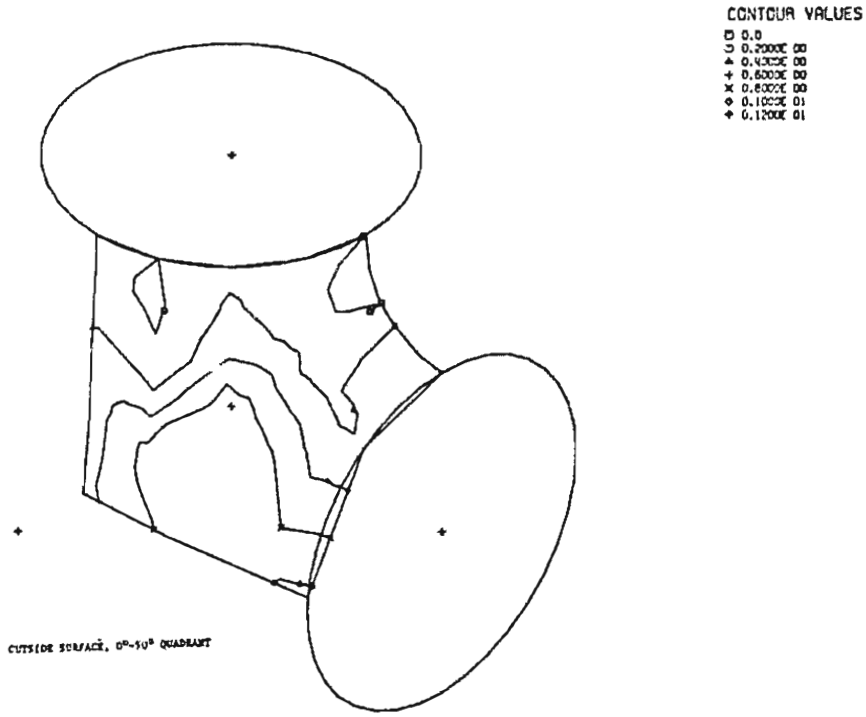
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2Z



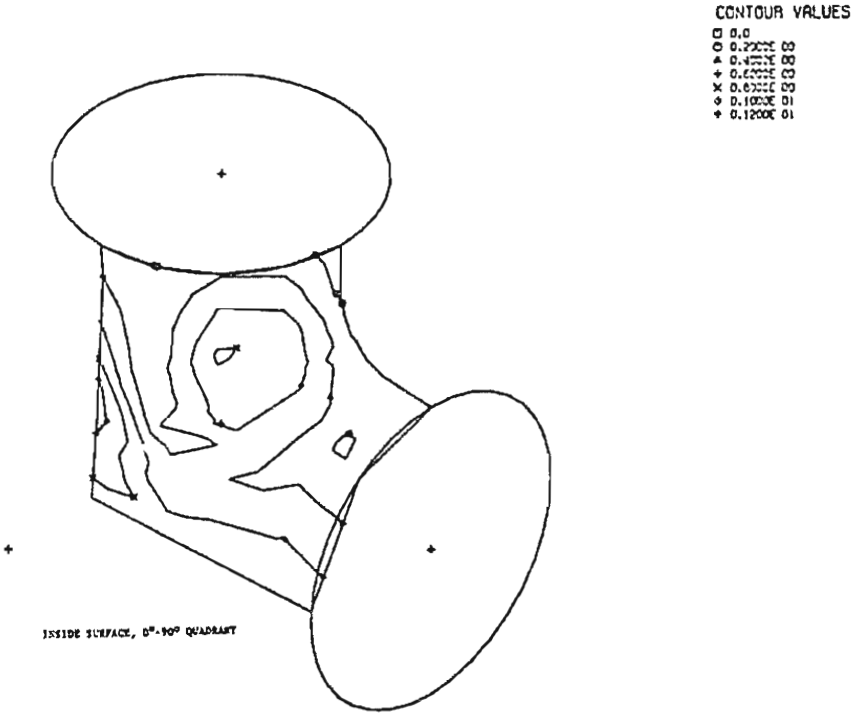
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F2Z



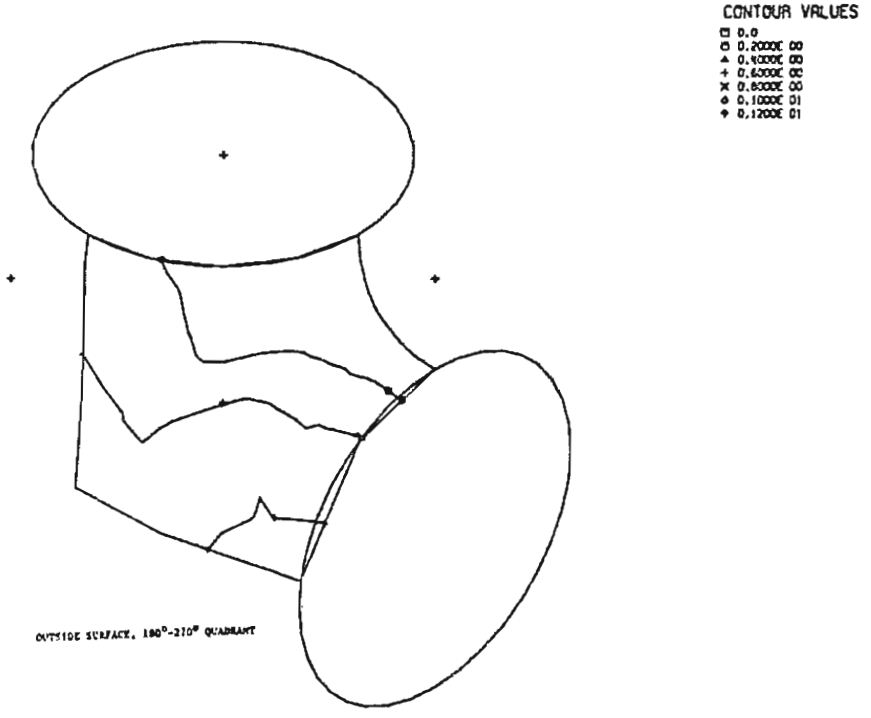
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2Z



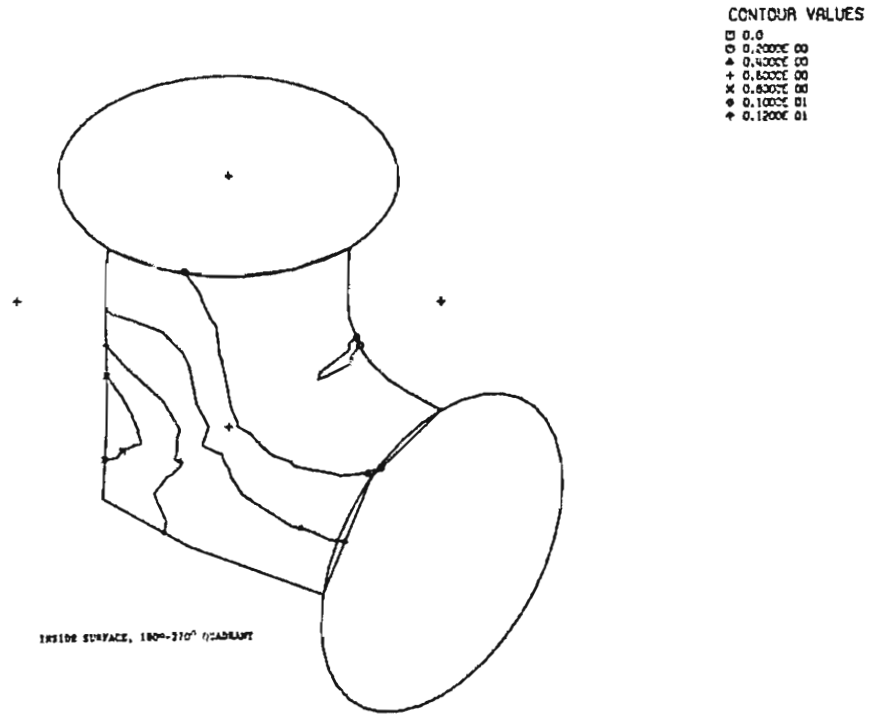
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2Z



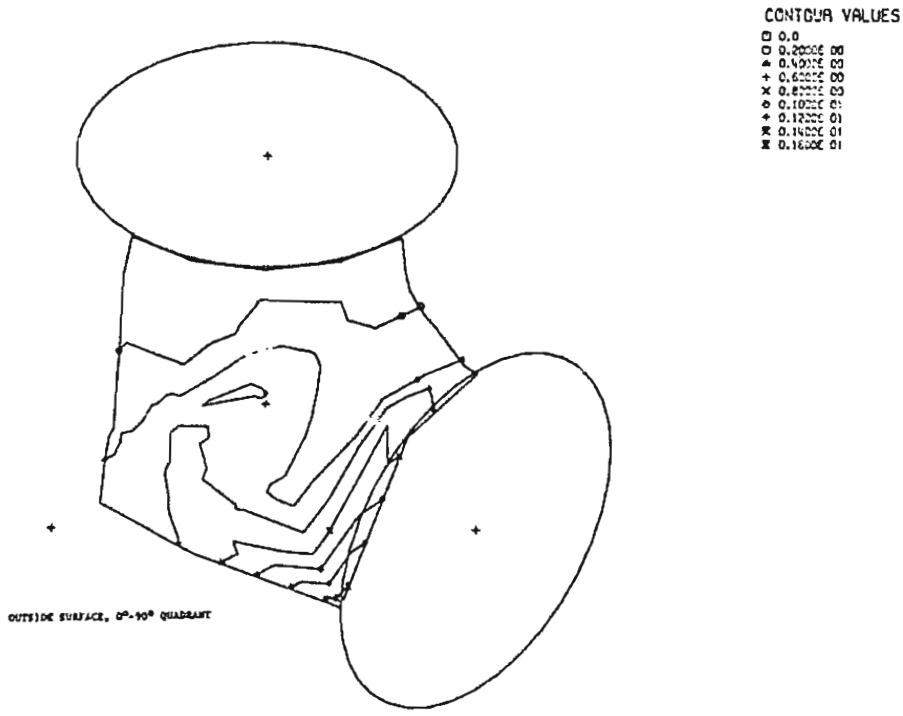
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F2Z



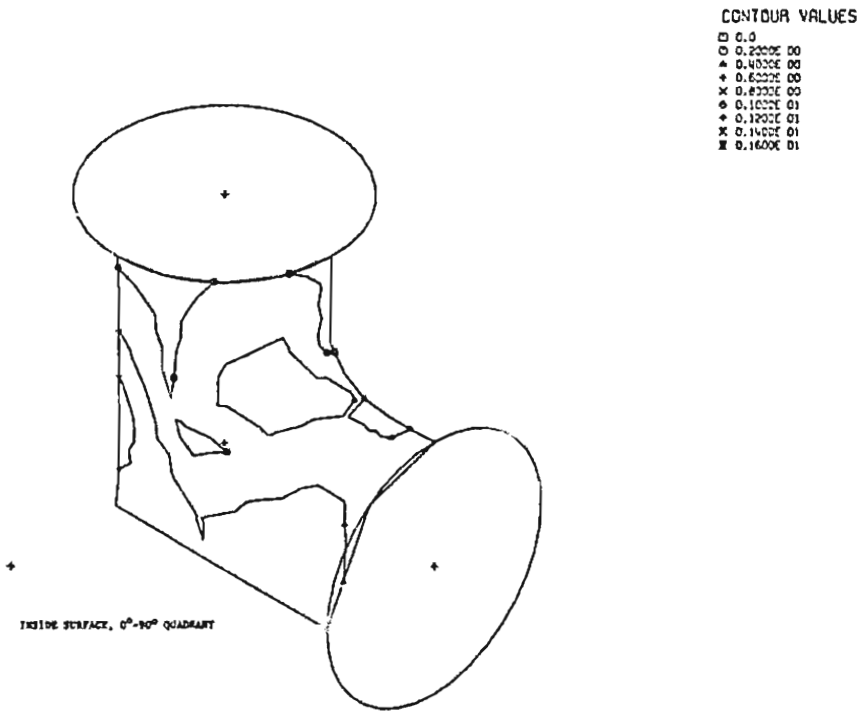
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6 [illegible]



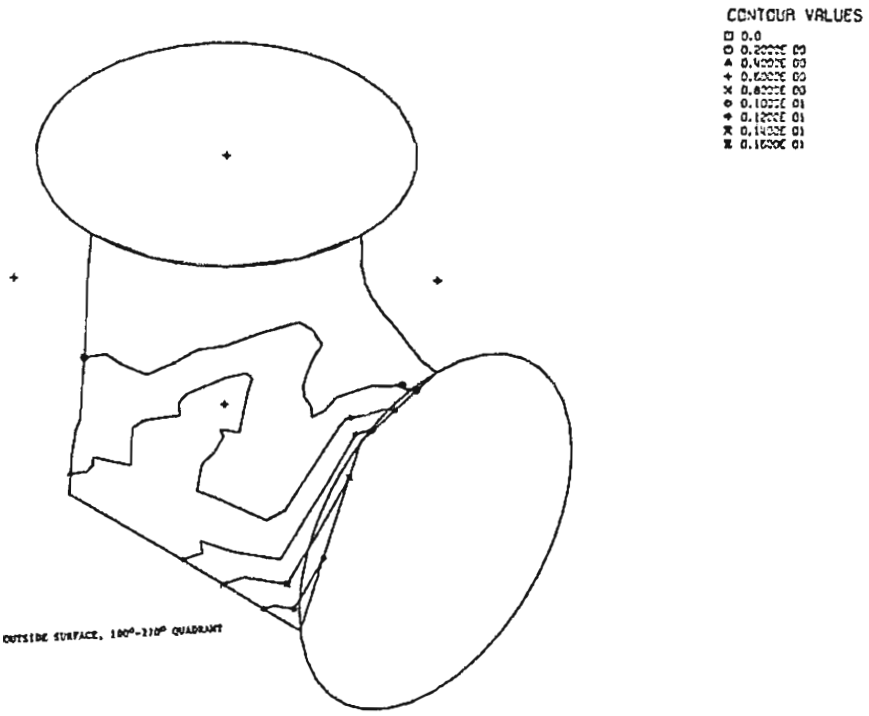
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F22



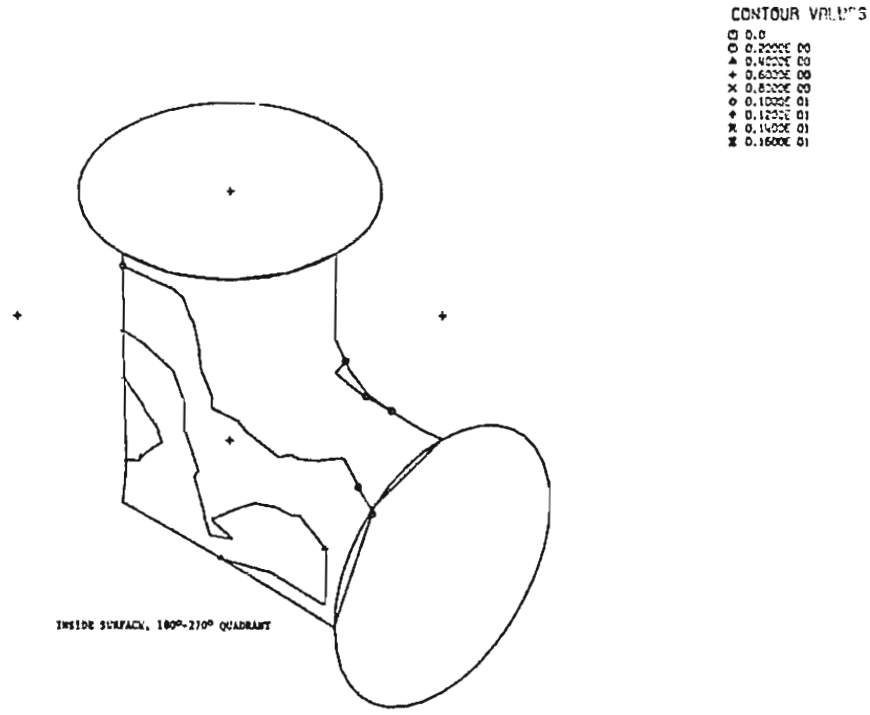
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F22



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F22

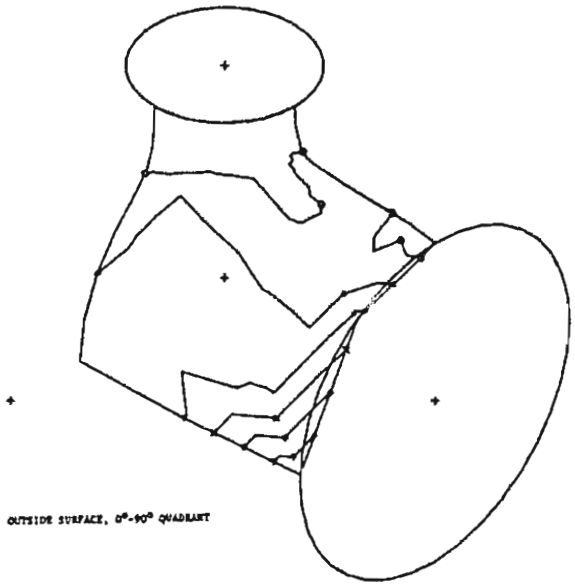


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F22



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2Z

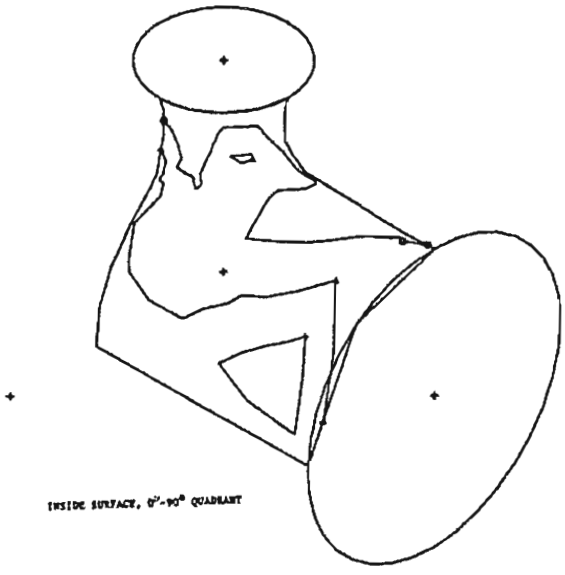
CONTOUR VALUES
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
✦ 0.1200E 01
⧓ 0.1400E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2Z

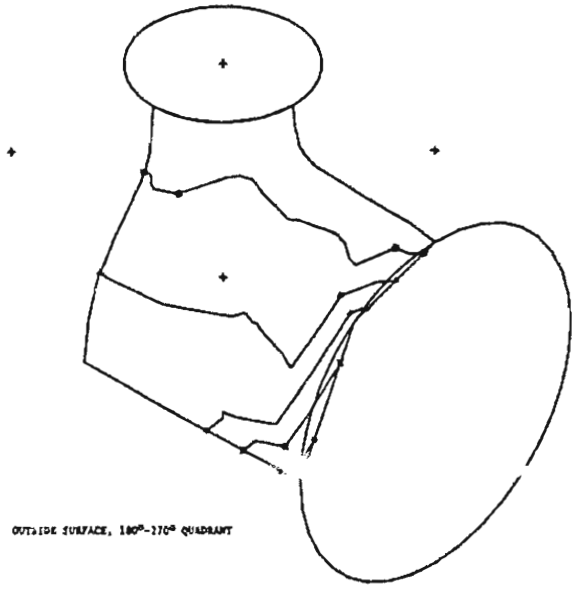
CONTOUR VALUES
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
✦ 0.1200E 01
⧓ 0.1400E 01



INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2Z

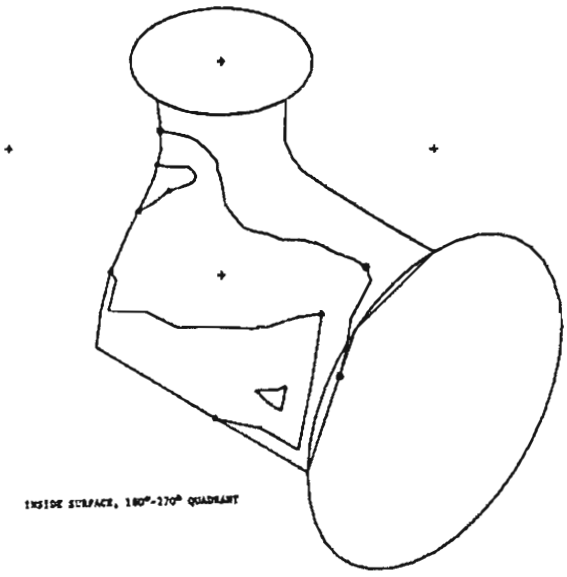
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01



OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F2Z

CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01

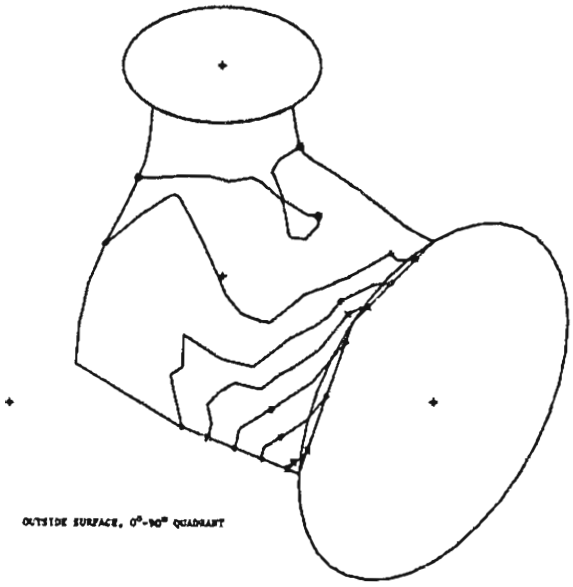


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F2Z

CONTOUR VALUES

□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
⧗ 0.1400E 01
⧗ 0.1600E 01

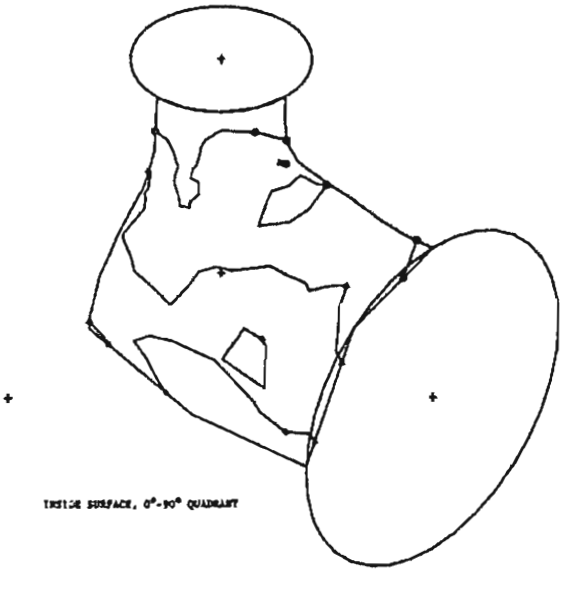


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F2Z

CONTOUR VALUES

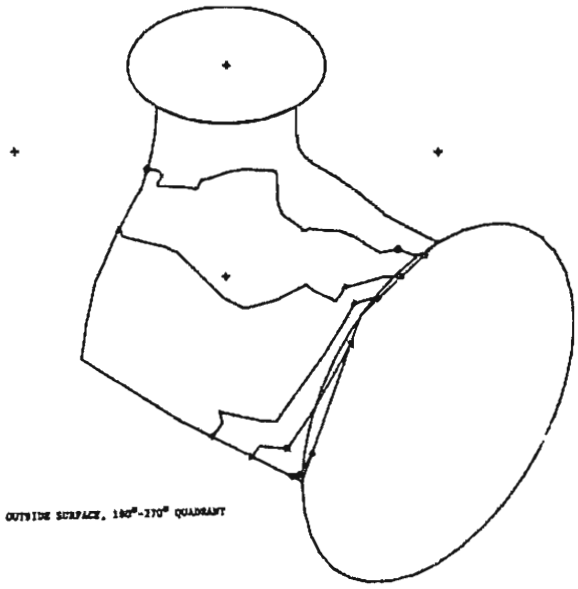
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
⧗ 0.1400E 01
⧗ 0.1600E 01



INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F2Z

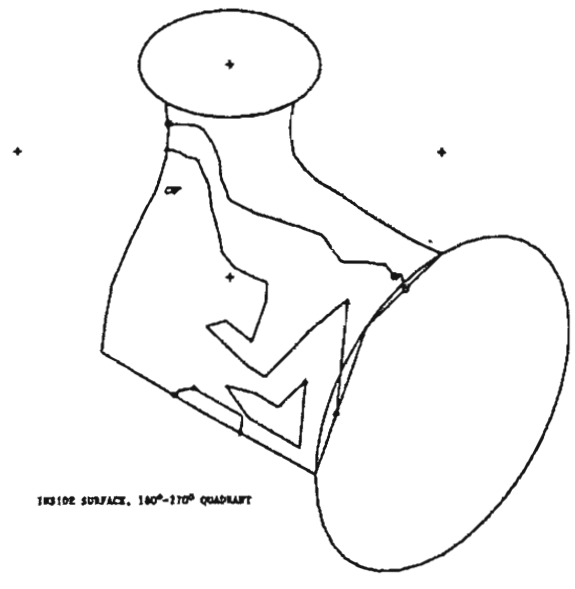
CONTOUR VALUES
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
+ 0.1200E 01
⧖ 0.1400E 01
⧗ 0.1600E 01



OUTSIDE SURFACE, 160°-170° QUADRANT

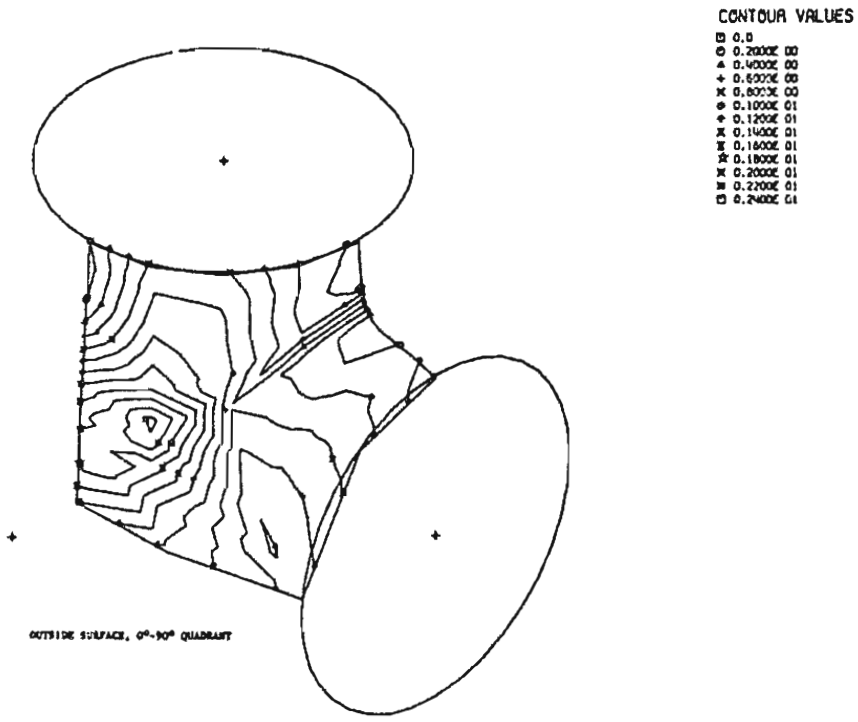
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F2Z

CONTOUR VALUES
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
+ 0.1200E 01
⧖ 0.1400E 01
⧗ 0.1600E 01

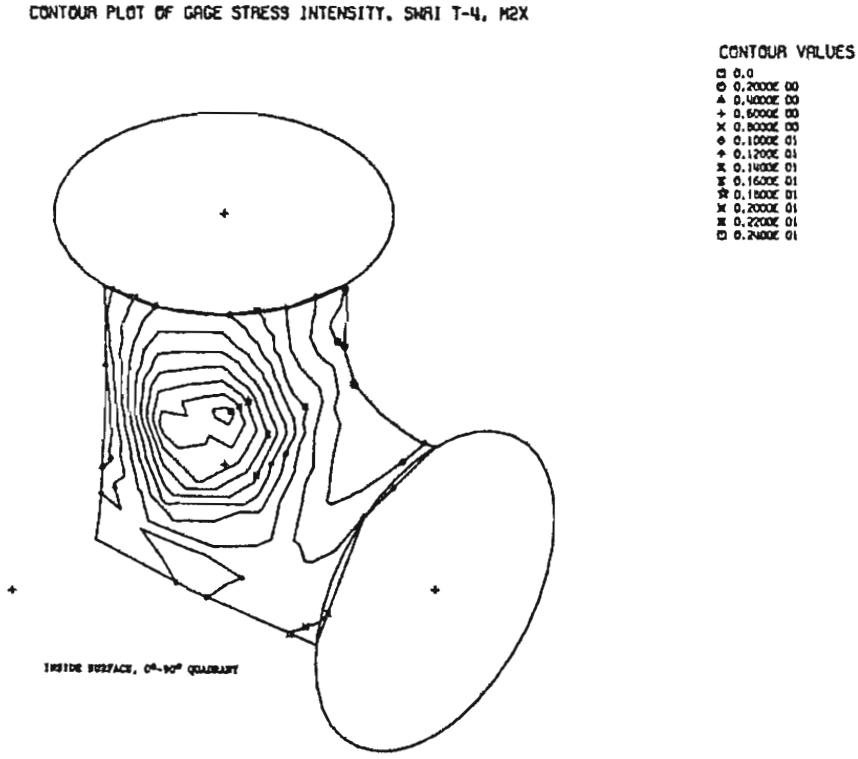


INSIDE SURFACE, 160°-170° QUADRANT

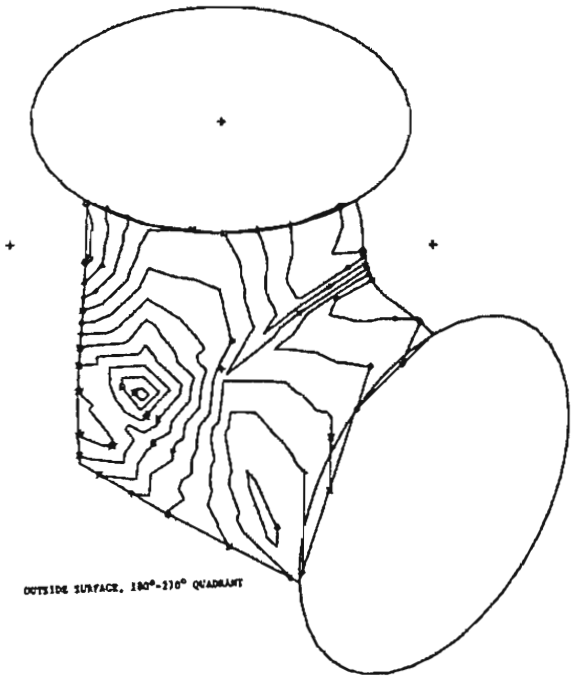
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M2X



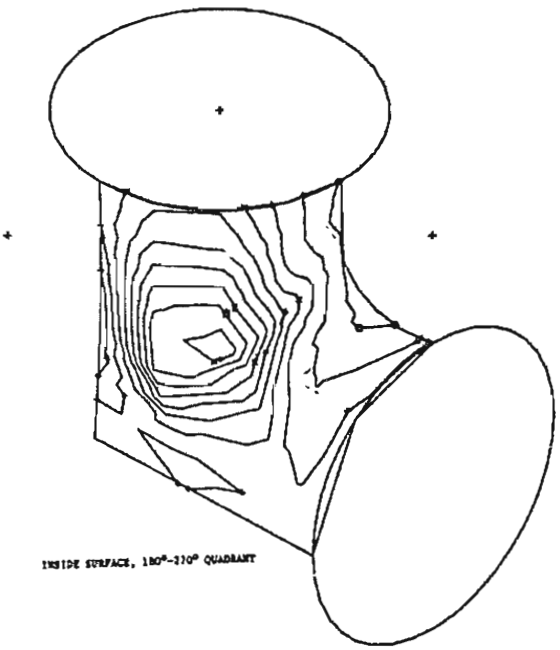
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M2X



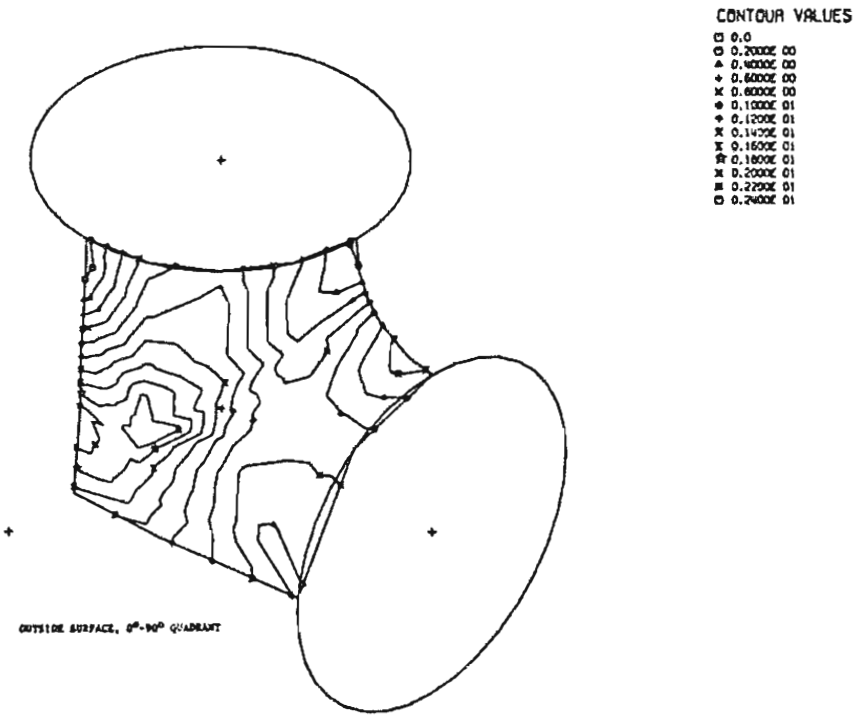
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M2X



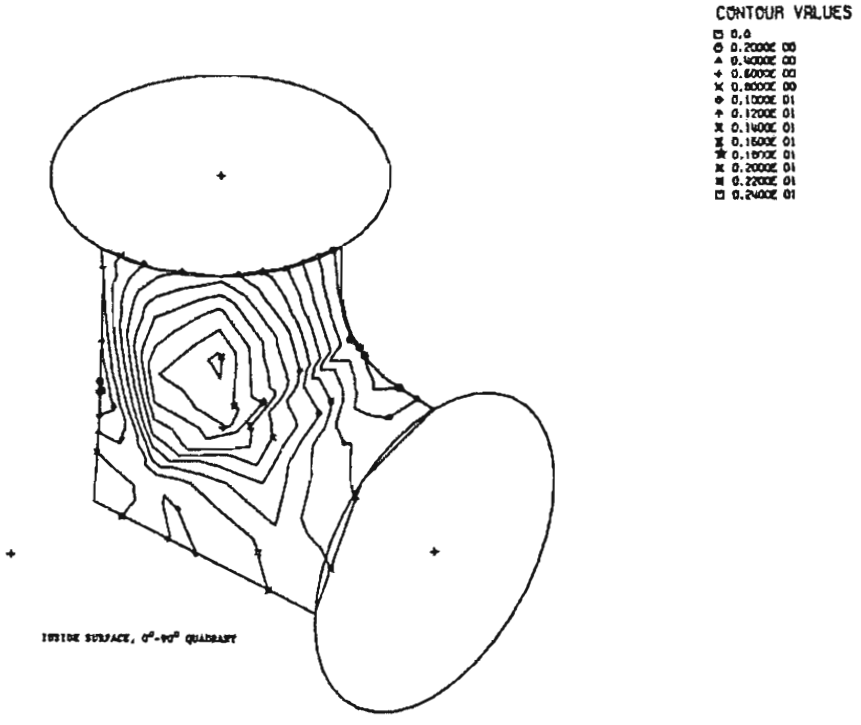
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M2X



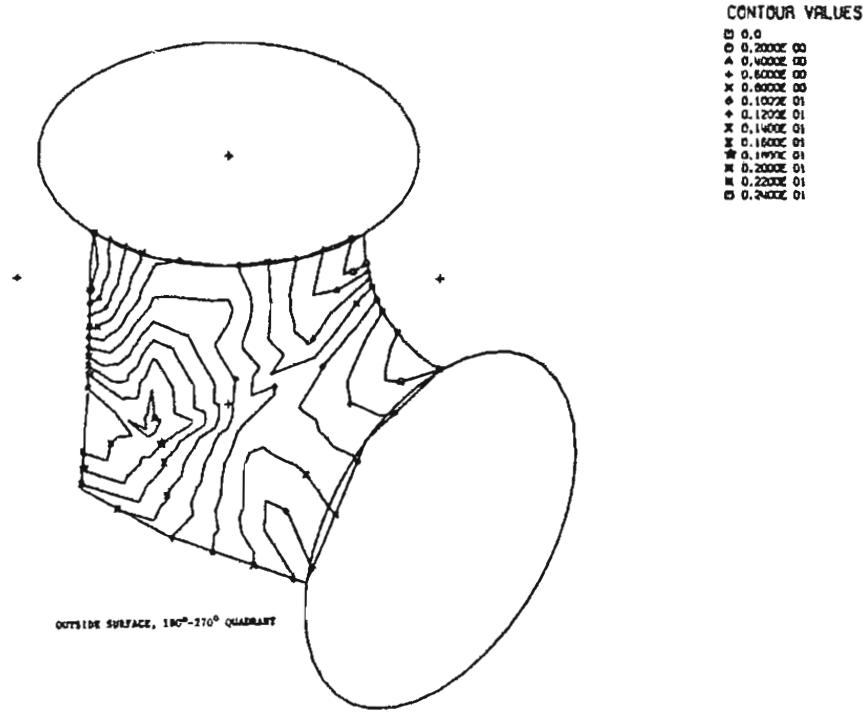
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M2X



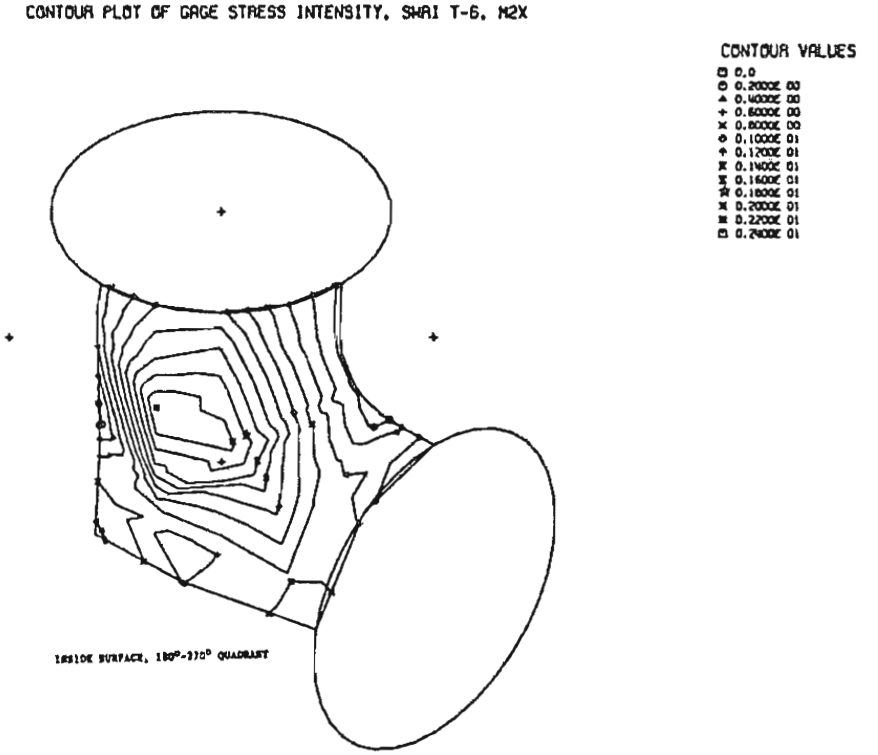
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M2X



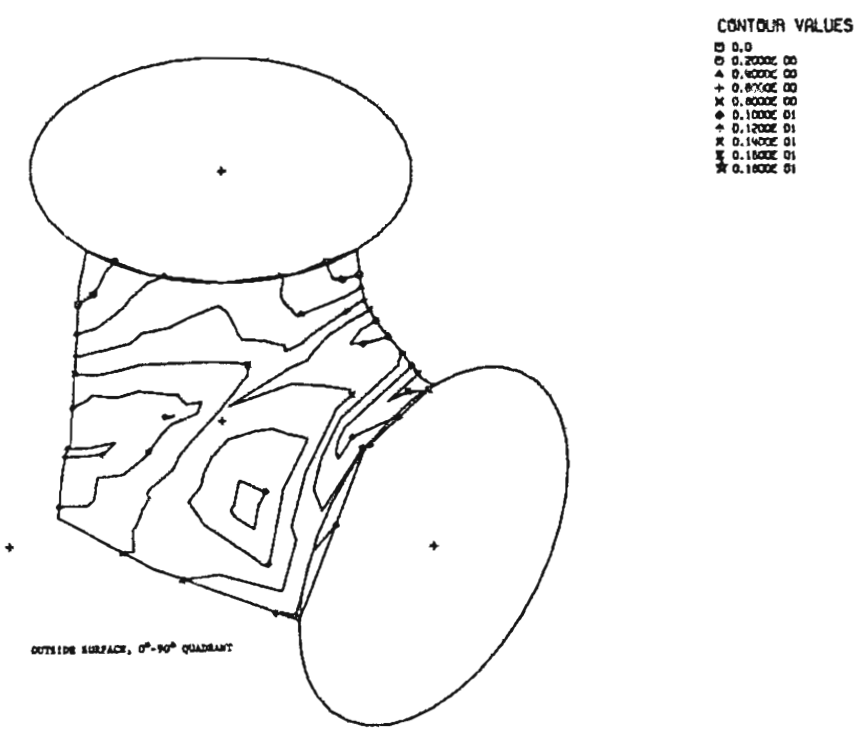
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M2X



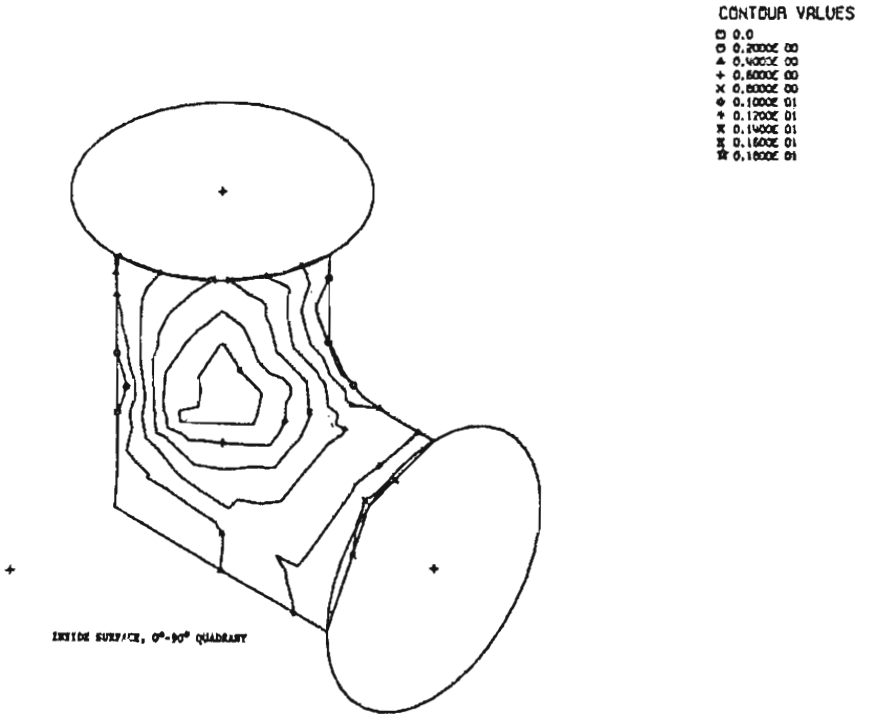
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M2X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, M2X



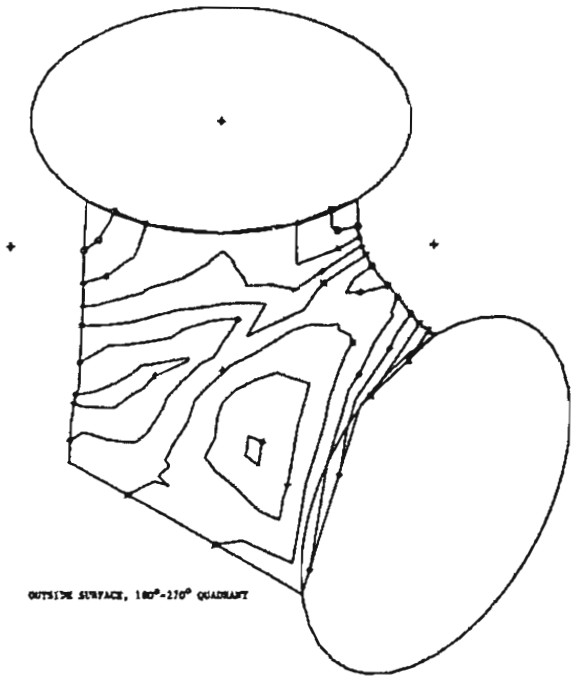
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, M2X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, M2X

CONTOUR VALUES

□	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◆	0.1000E 01
✦	0.1200E 01
⋈	0.1400E 01
⧗	0.1600E 01
★	0.1800E 01

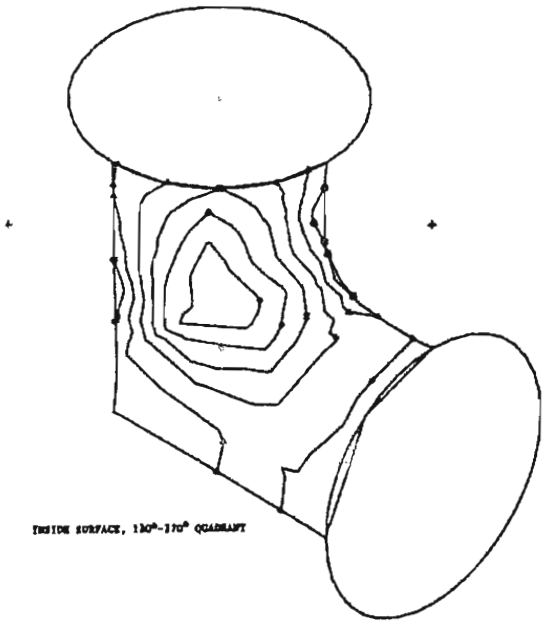


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, M2X

CONTOUR VALUES

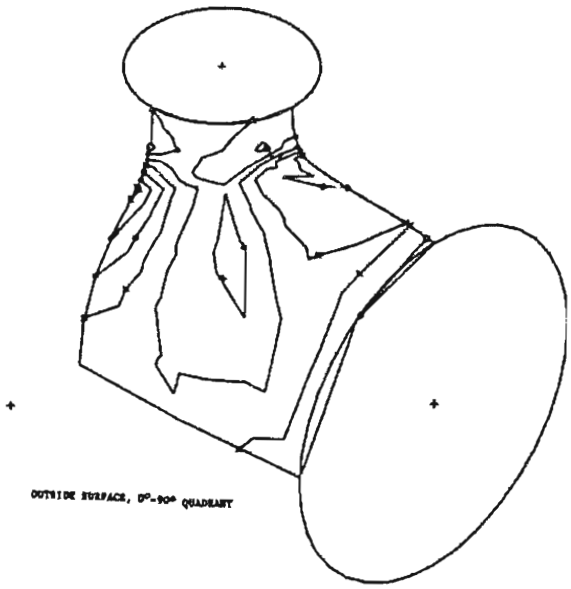
□	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◆	0.1000E 01
✦	0.1200E 01
⋈	0.1400E 01
⧗	0.1600E 01
★	0.1800E 01



INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M2X

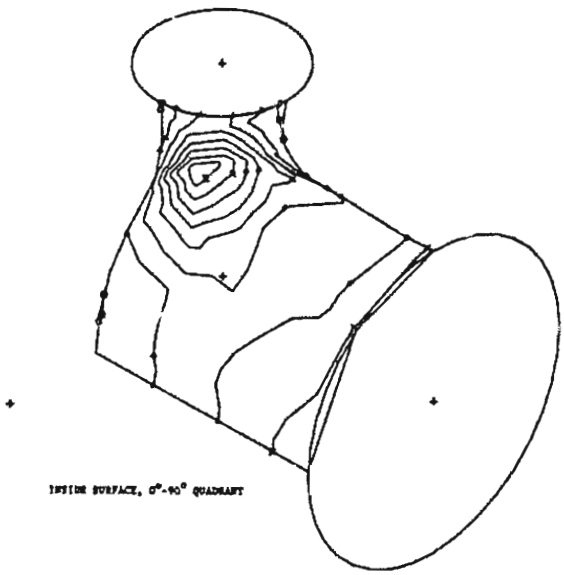
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M2X

CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01

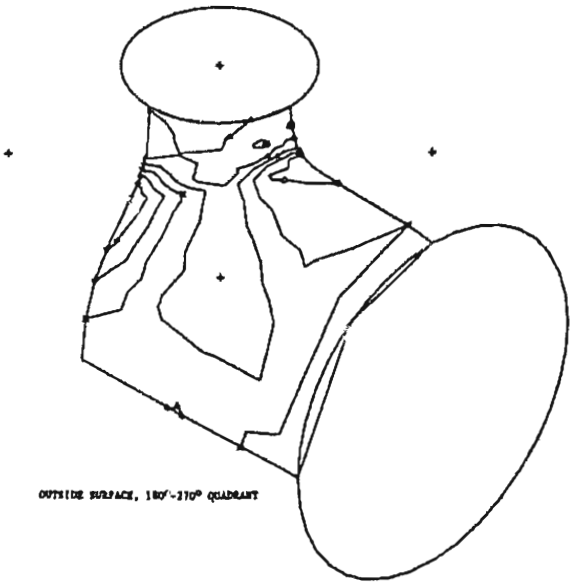


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M2X

CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01

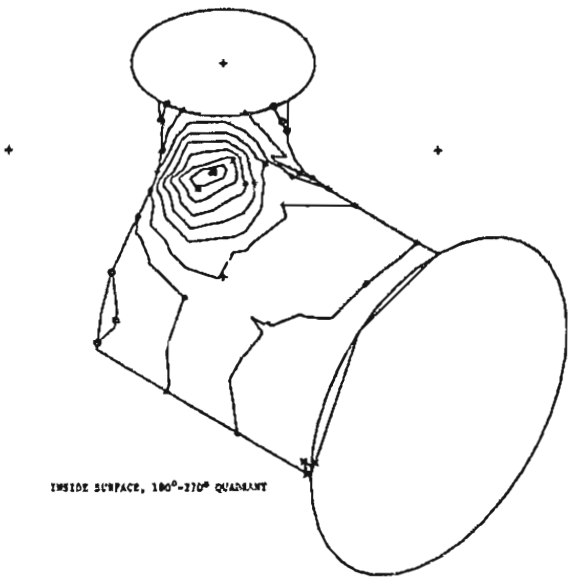


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M2X

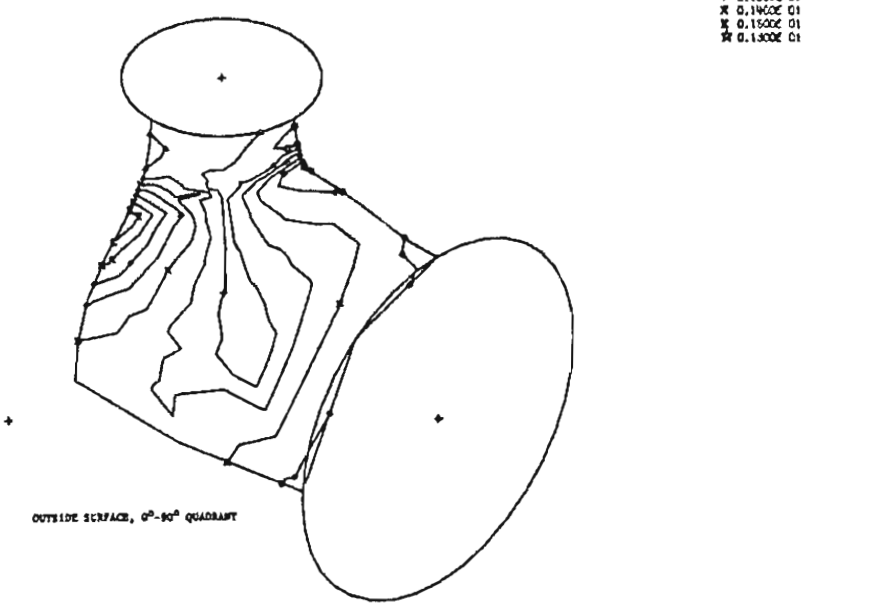
CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01

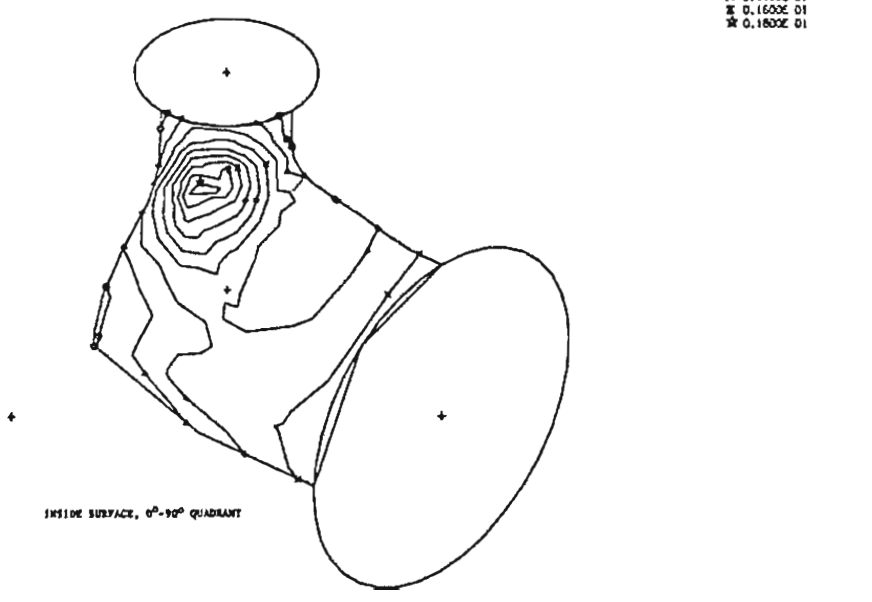


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, M2X

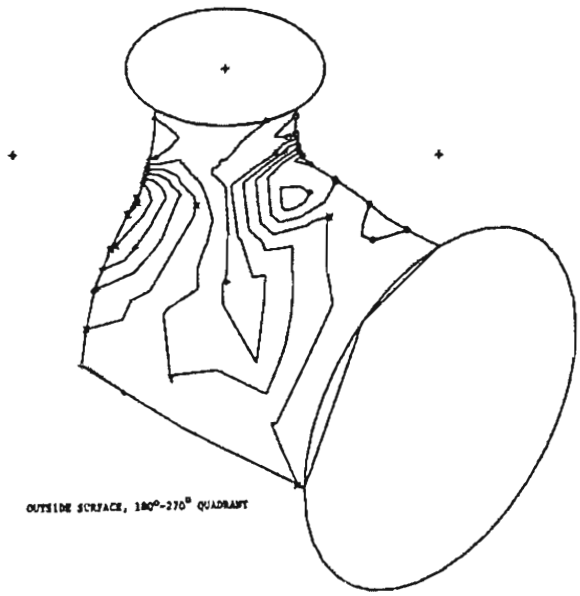


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, M2X



CONTOUR PLOT OF CAGE STRESS INTENSITY, SWRI T-15, M2X

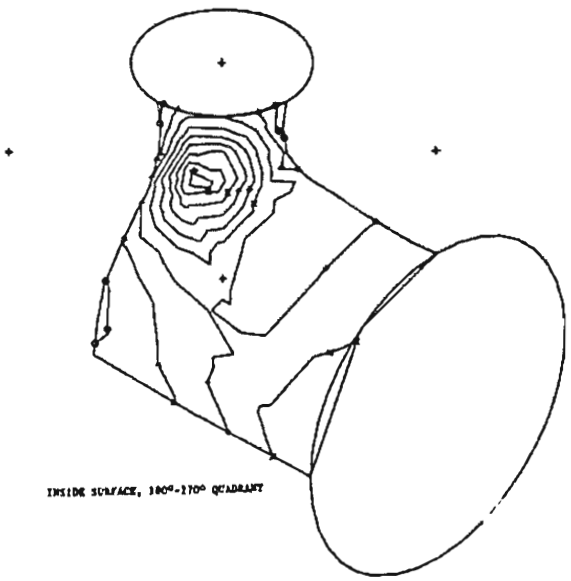
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1900E 01



OUTSIDE SURFACE, 180°-270° QUADRANT

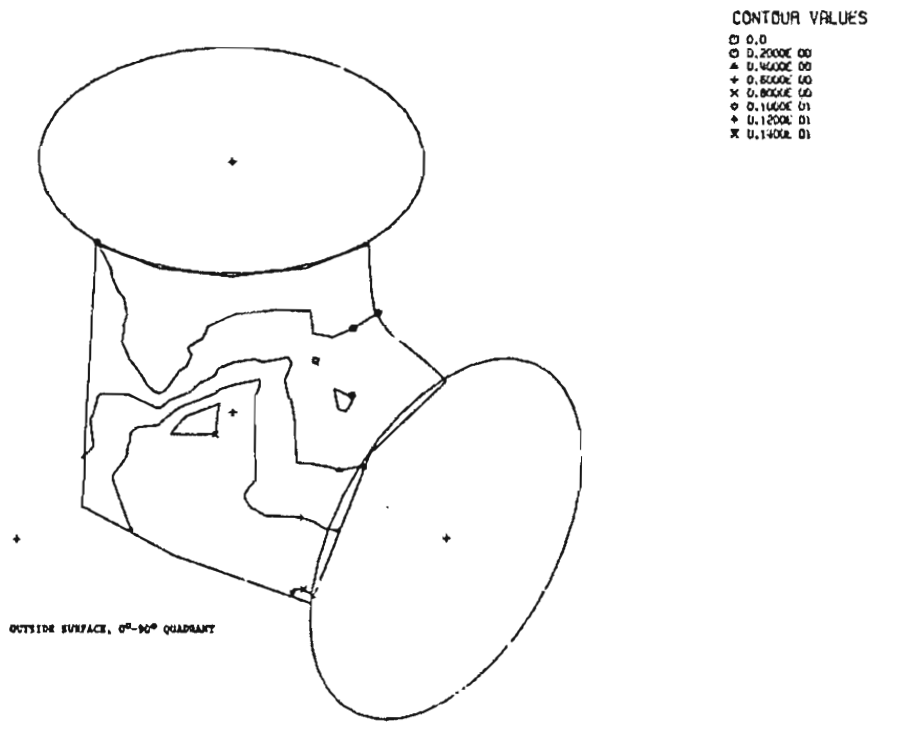
CONTOUR PLOT OF CAGE STRESS INTENSITY, SWRI T-15, M2X

CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01

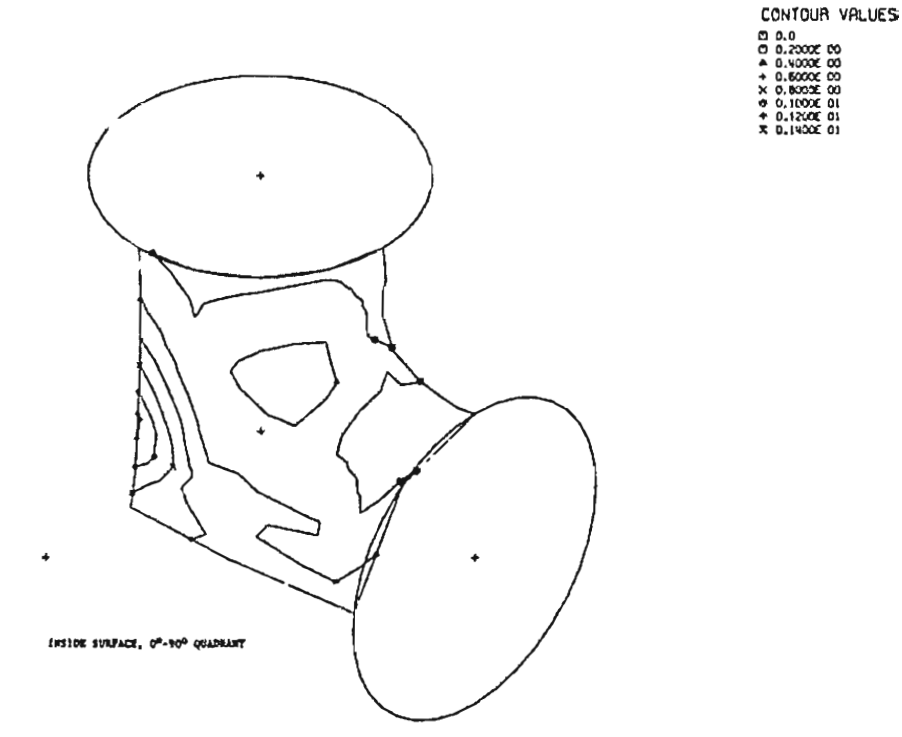


INSIDE SURFACE, 180°-270° QUADRANT

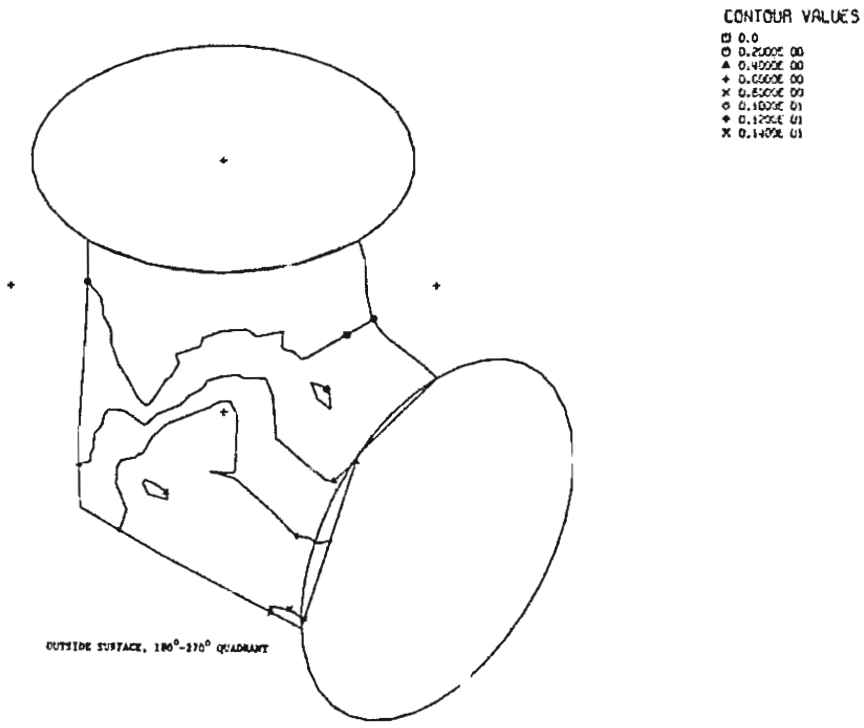
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M2Y



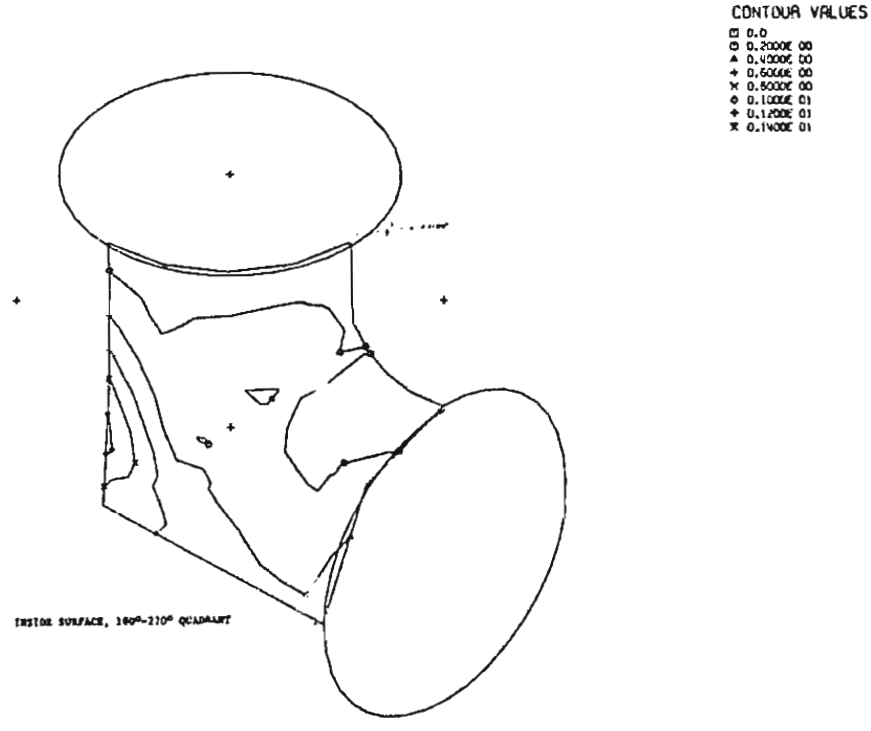
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M2Y



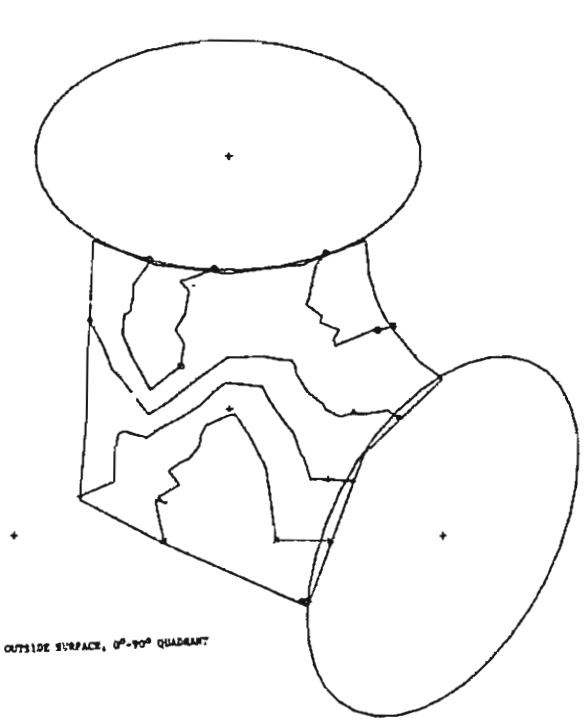
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M2Y



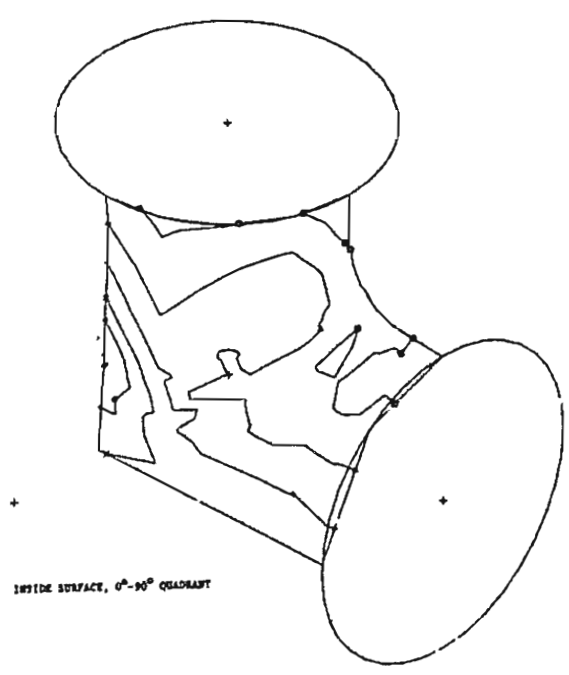
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M2Y



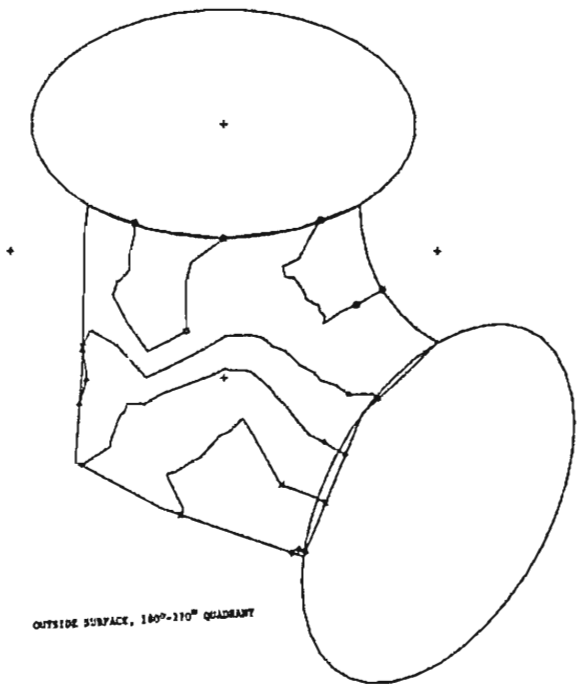
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M2Y



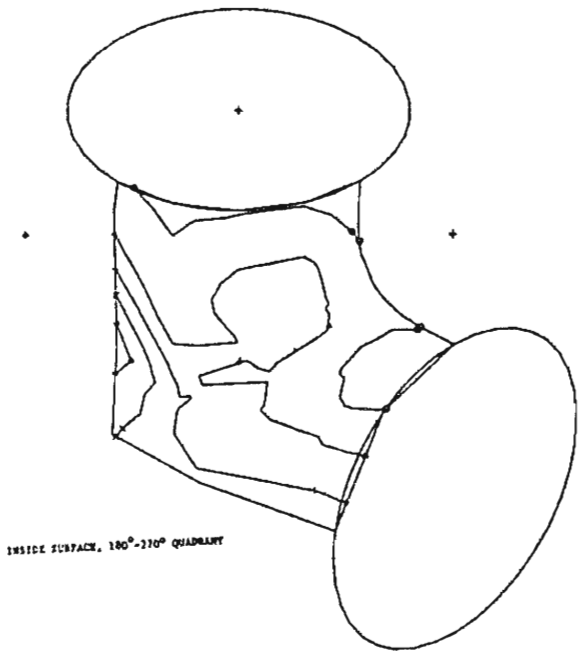
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M2Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M2Y

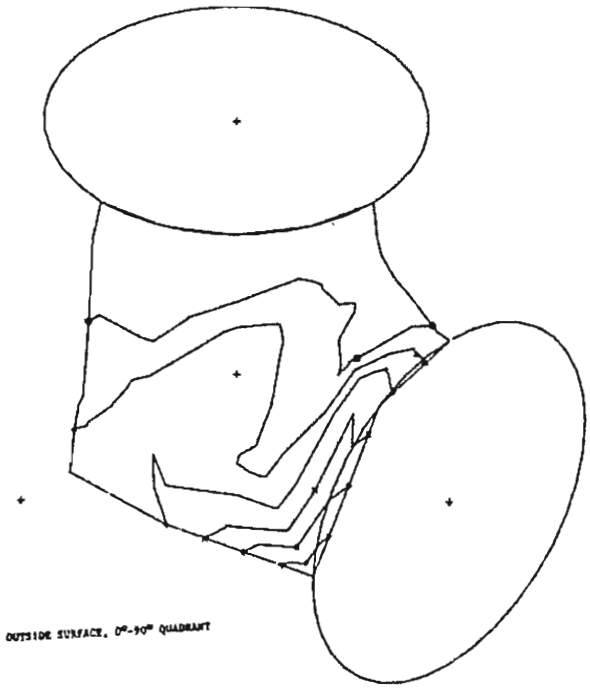


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M2Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M2Y

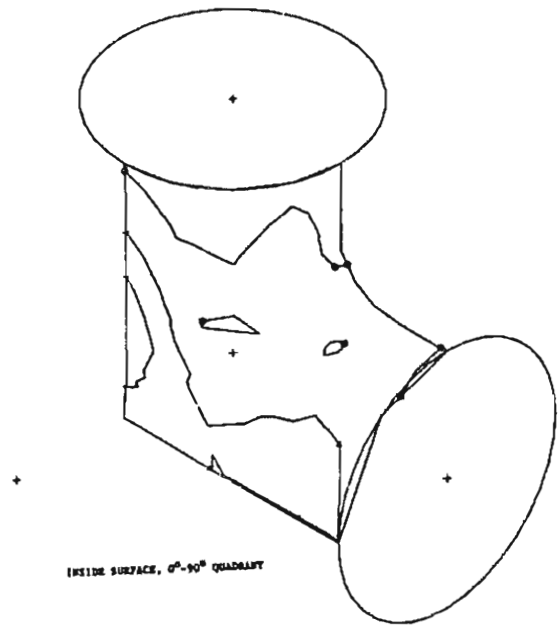
CONTOUR VALUES
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
+ 0.1200E 01
⋈ 0.1400E 01
⧖ 0.1600E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

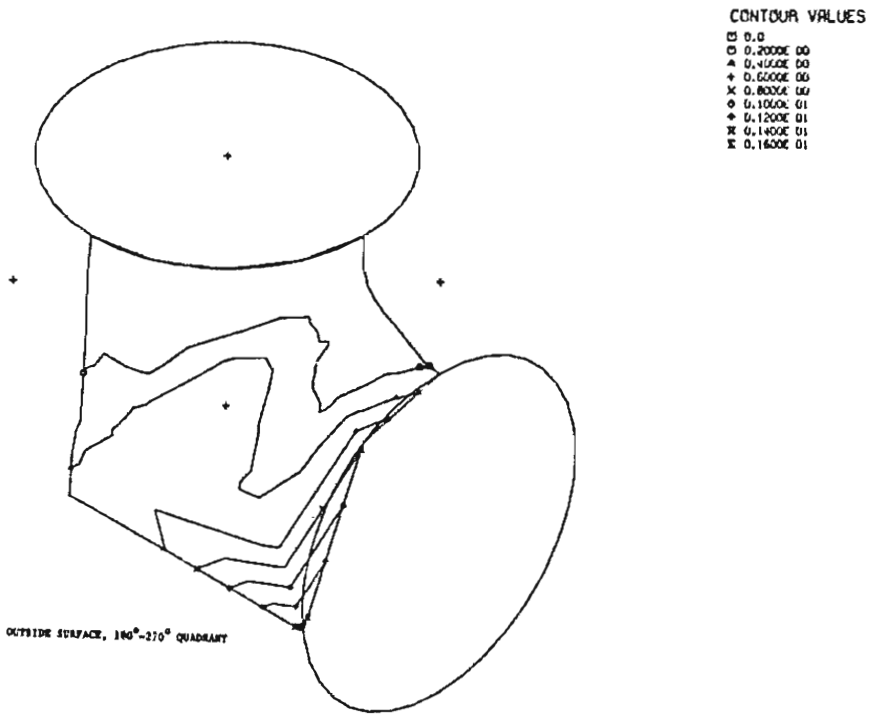
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M2Y

CONTOUR VALUES
□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◇ 0.1000E 01
+ 0.1200E 01
⋈ 0.1400E 01
⧖ 0.1600E 01

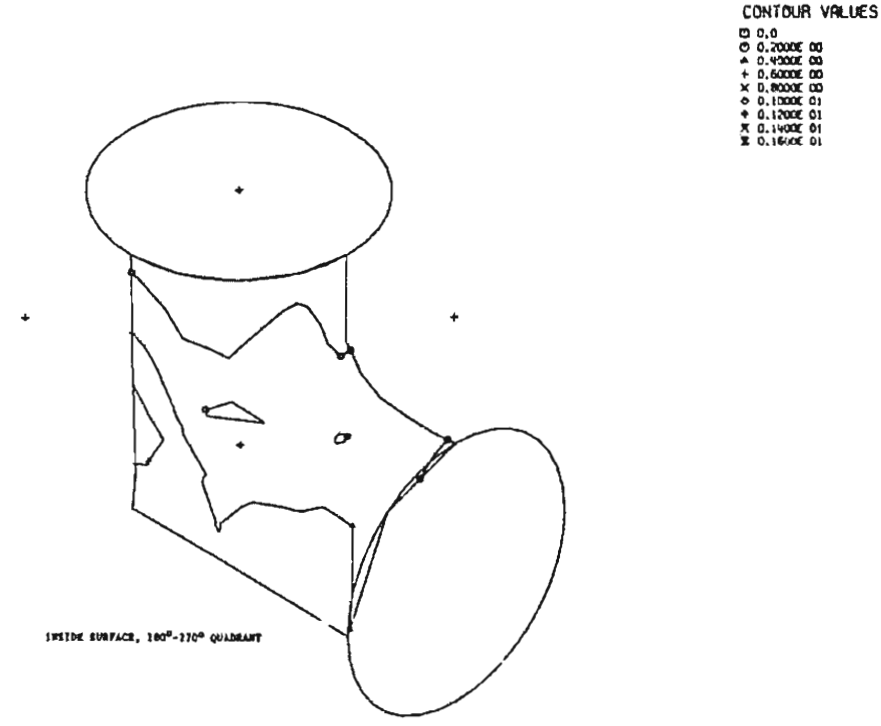


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -H2Y

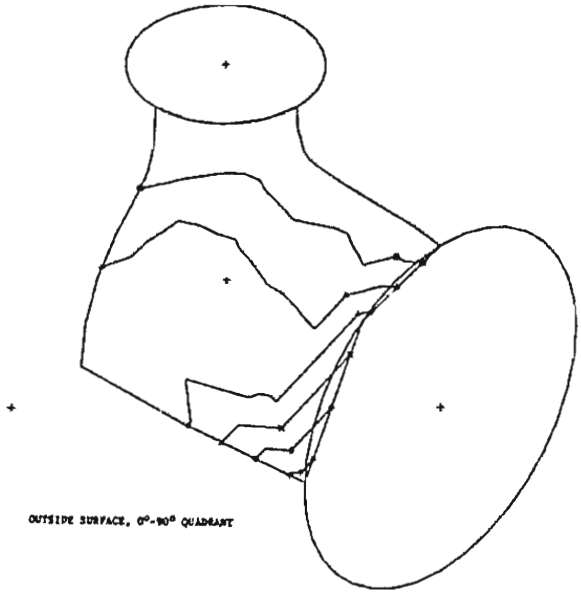


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -H2Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Y

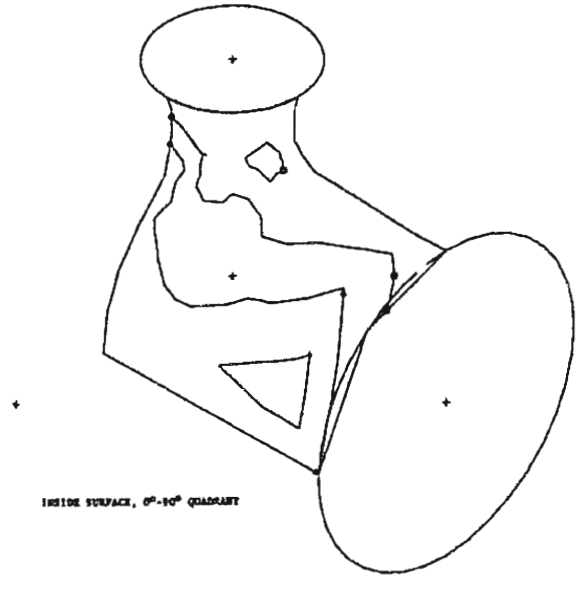
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Y

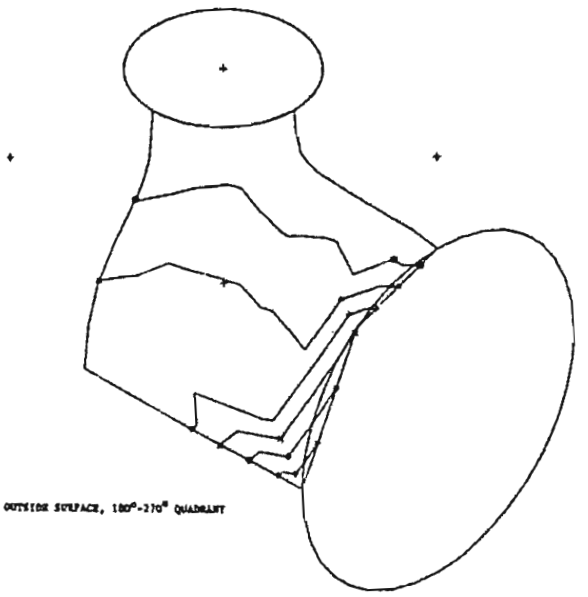
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01



INSIDE SURFACE, 0°-90° QUADRANT

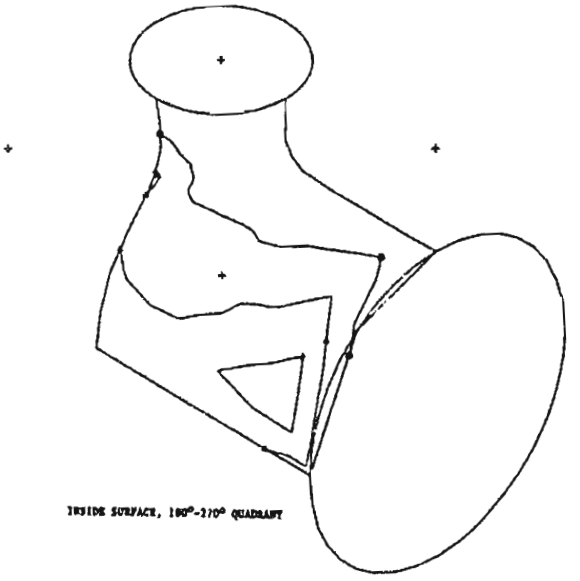
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Y

CONTOUR VALUES



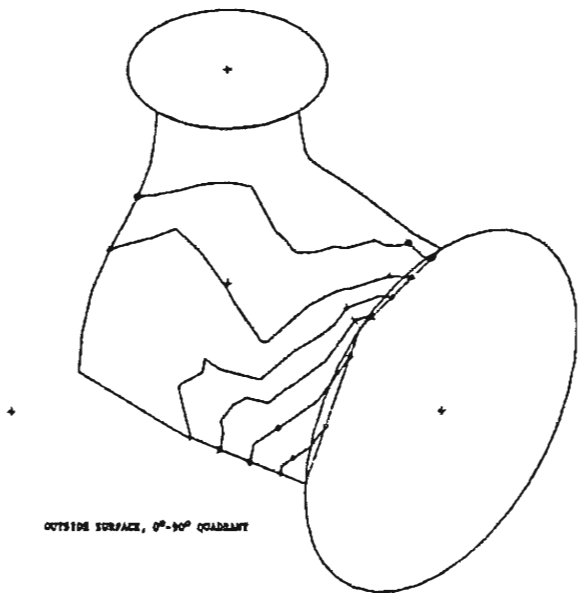
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Y

CONTOUR VALUES



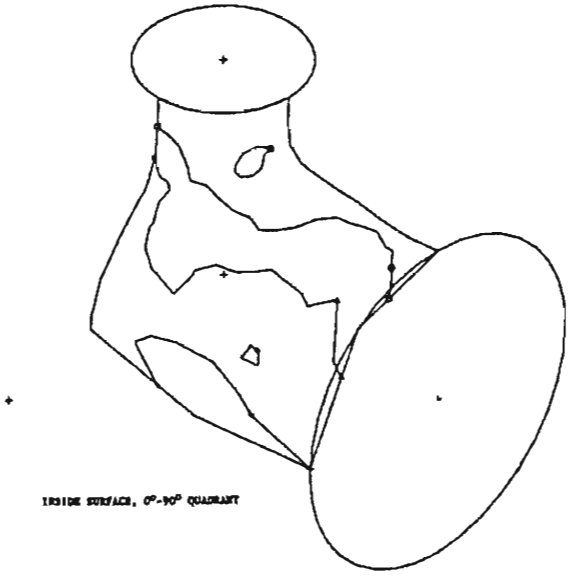
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Y

CONTOUR VALUES
⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
✱ 0.1400E 01



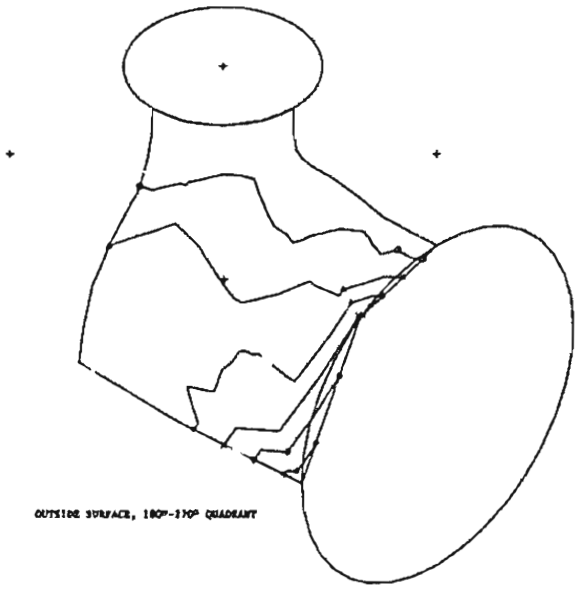
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Y

CONTOUR VALUES
⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
✱ 0.1400E 01



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Y

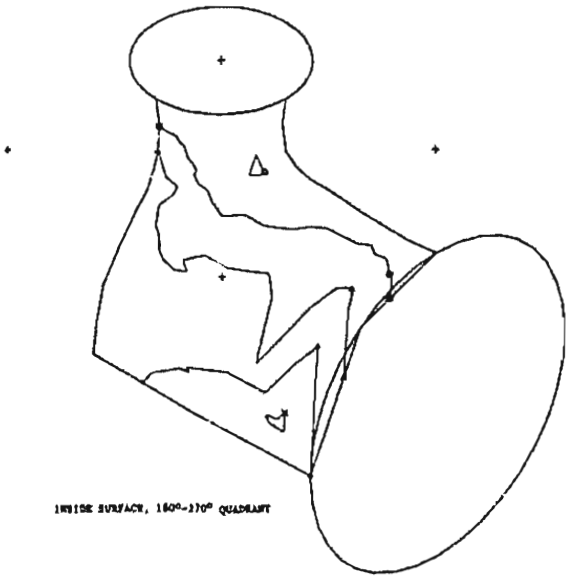
CONTOUR VALUES



OUTSIDE SURFACE, 180°-270° QUADRANT

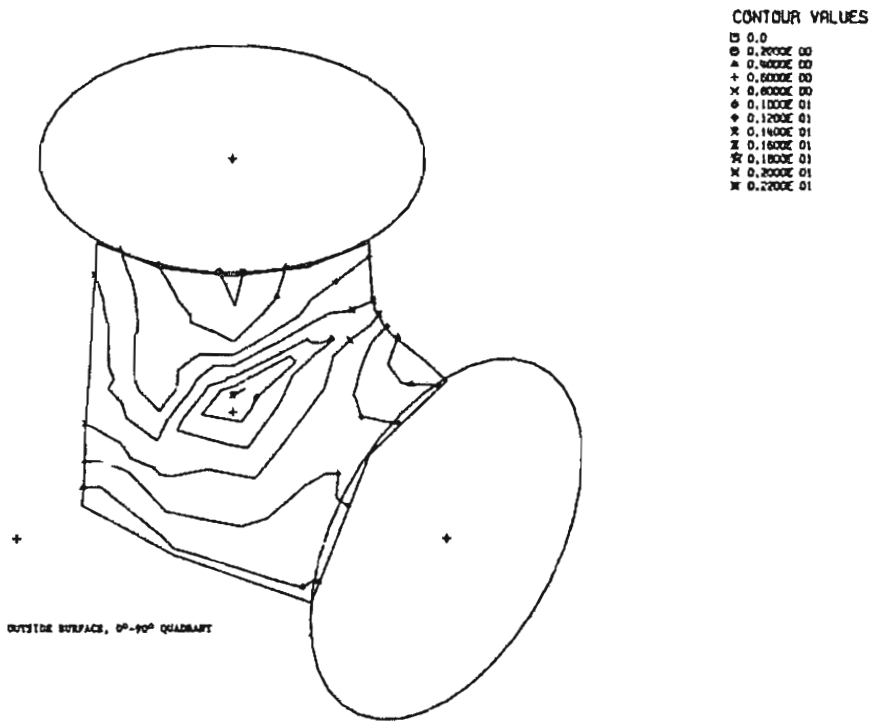
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Y

CONTOUR VALUES

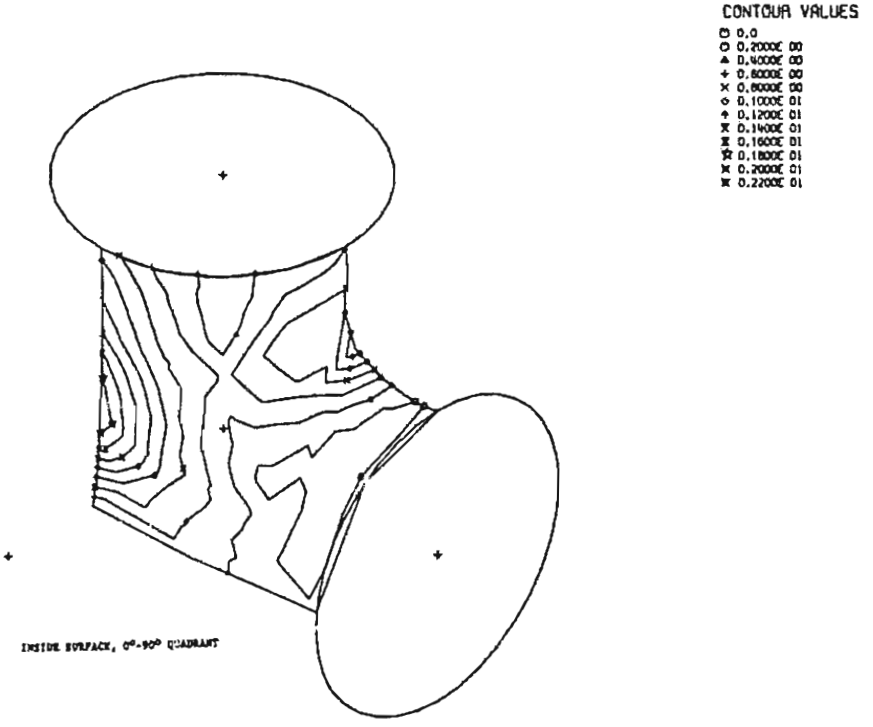


INSIDE SURFACE, 180°-270° QUADRANT

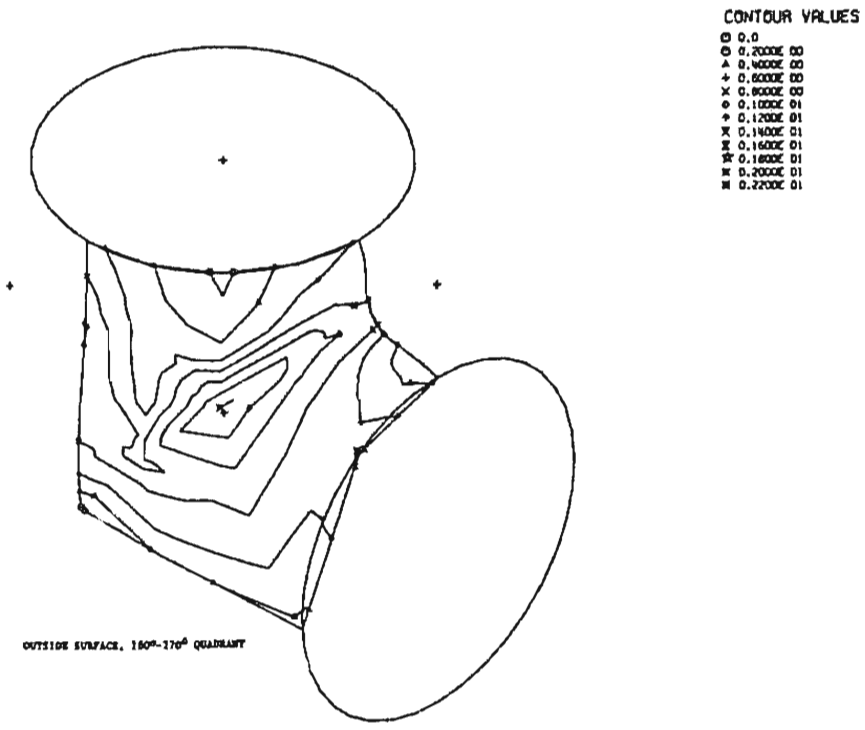
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -H2Z



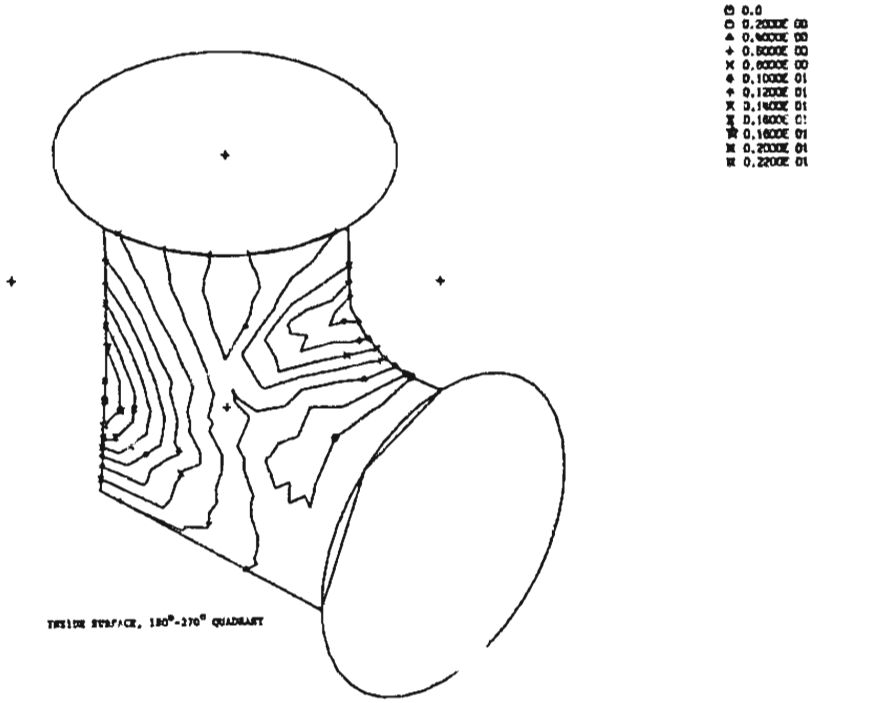
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -H2Z



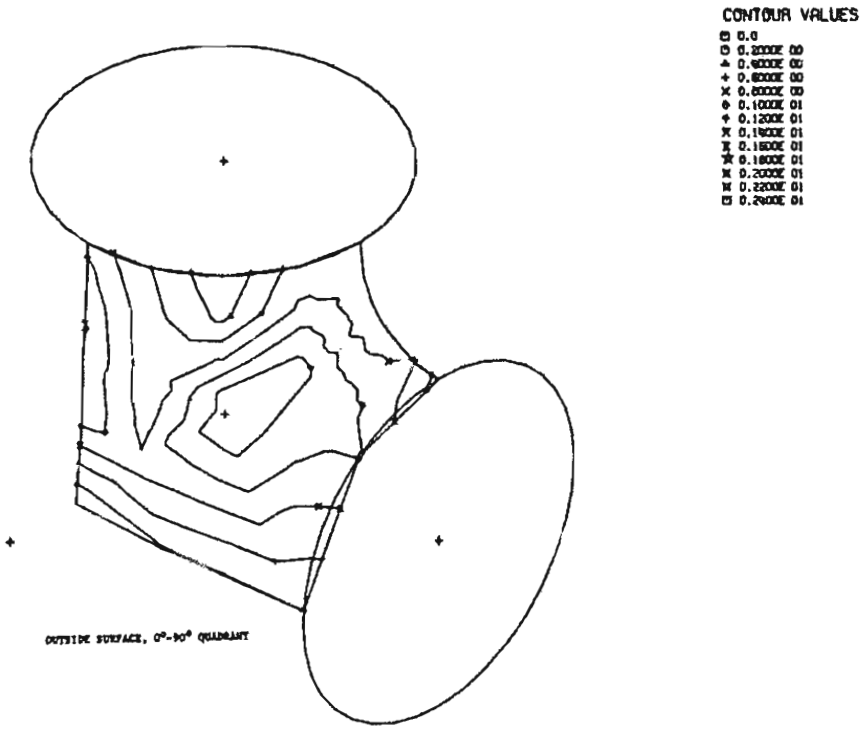
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M22



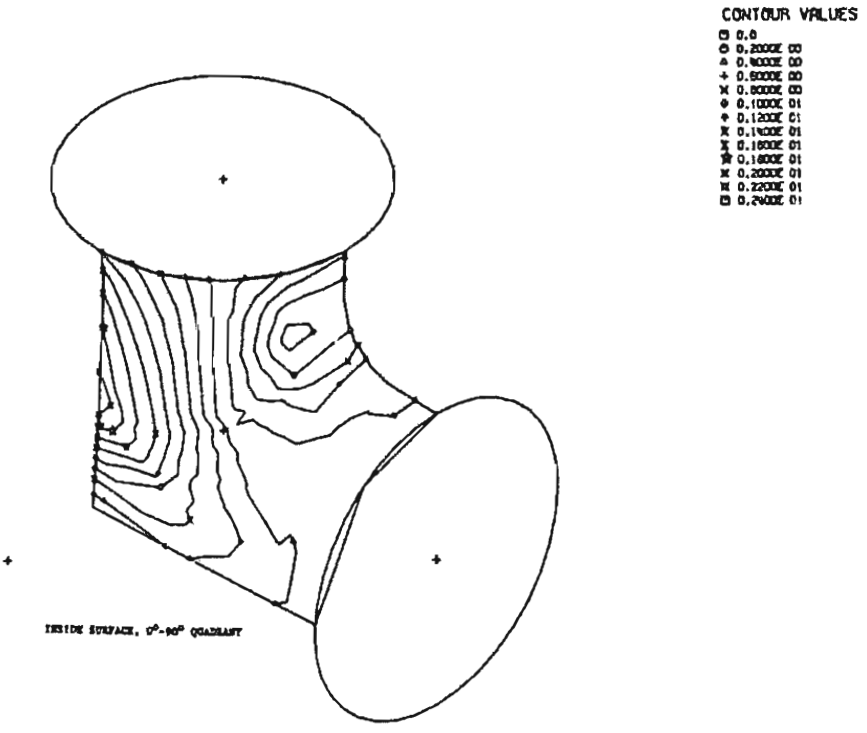
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M22



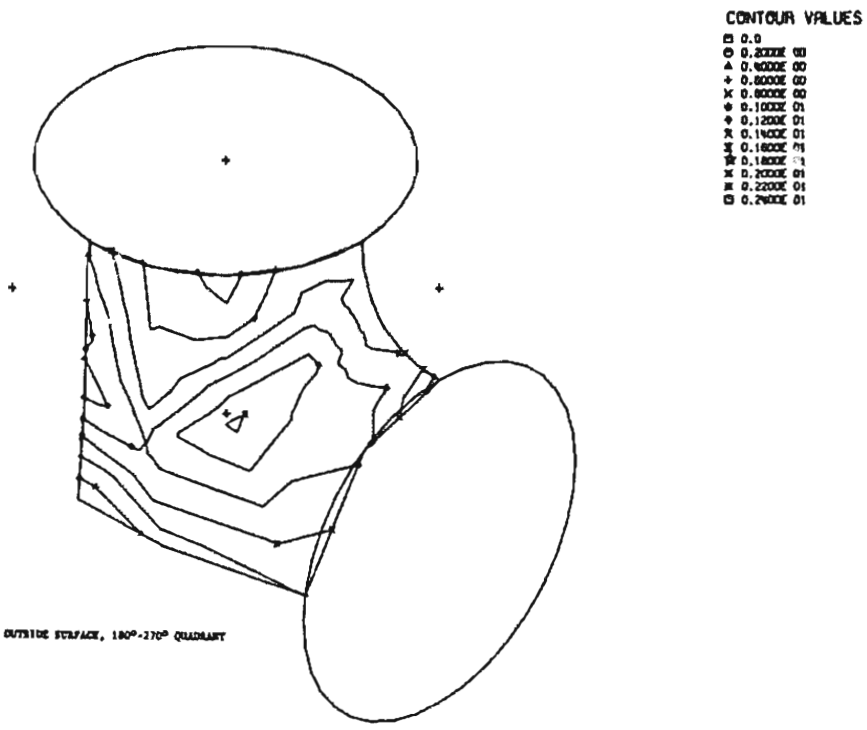
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M2Z



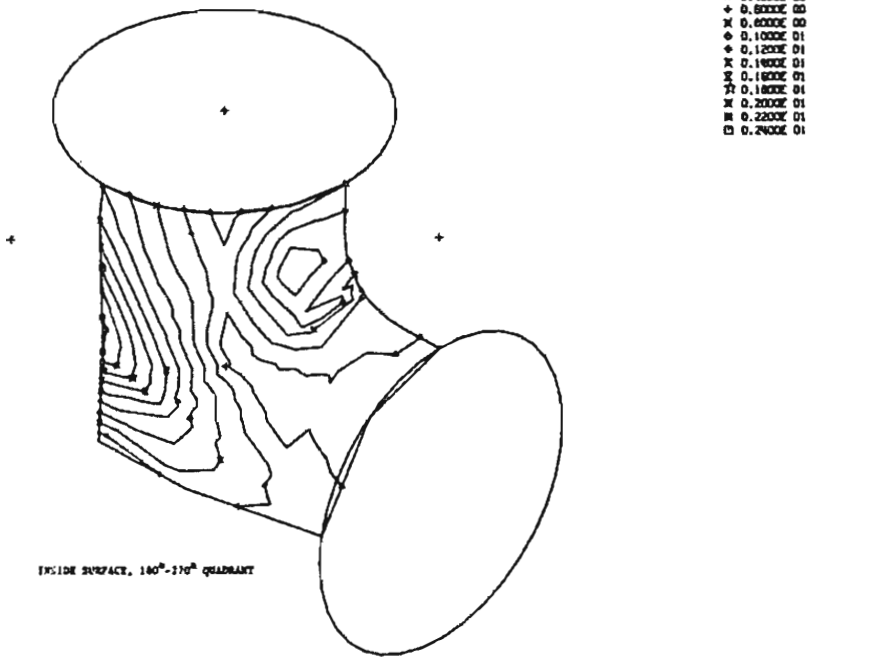
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M2Z



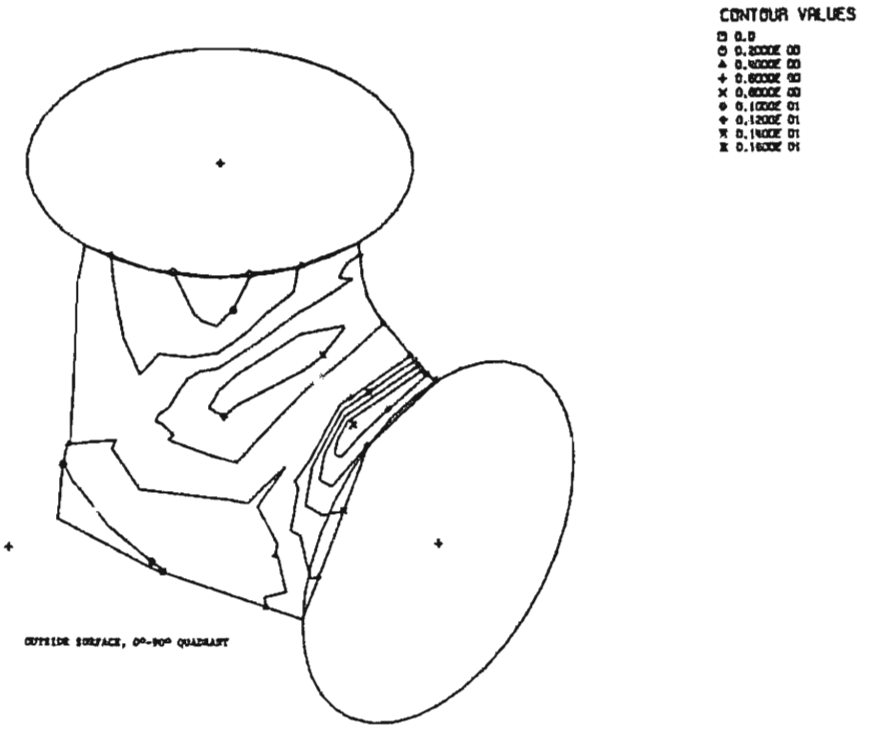
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -H2Z



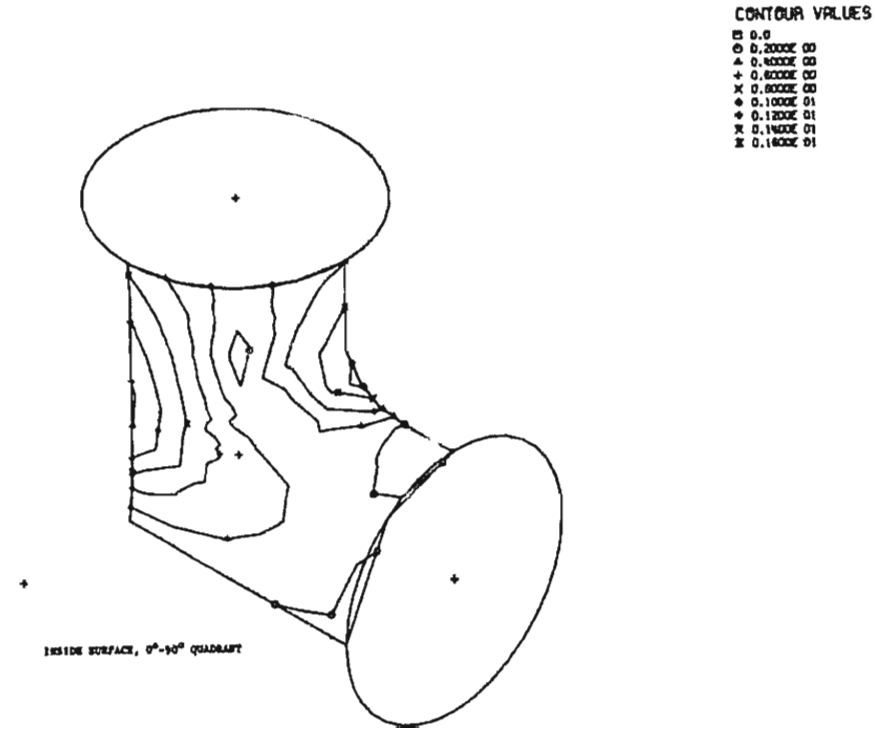
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -H2Z



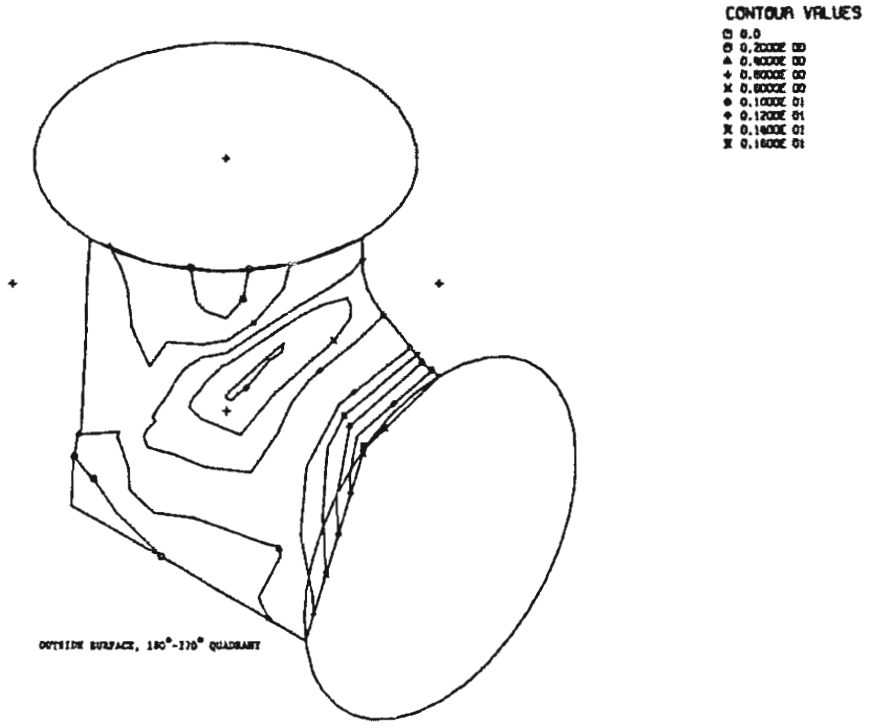
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M2Z



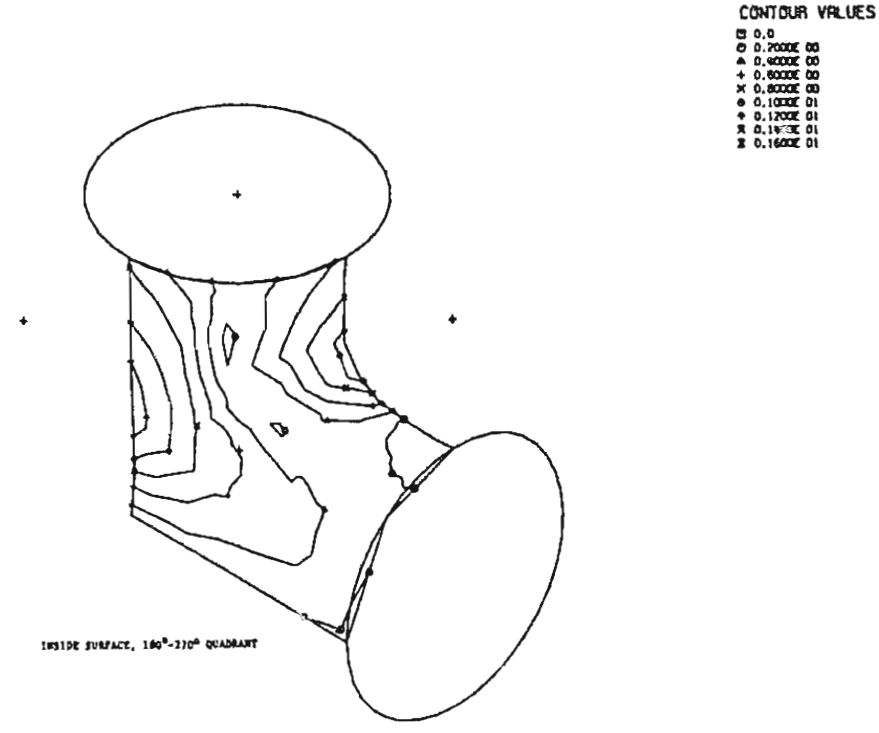
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M2Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M2Z



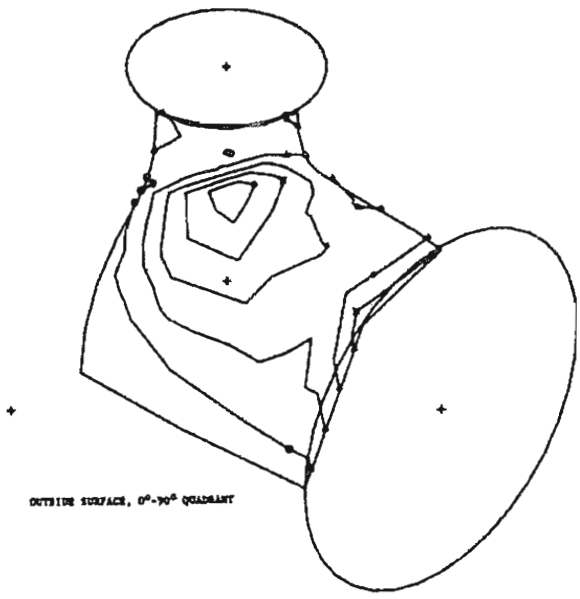
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M2Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Z

CONTOUR VALUES

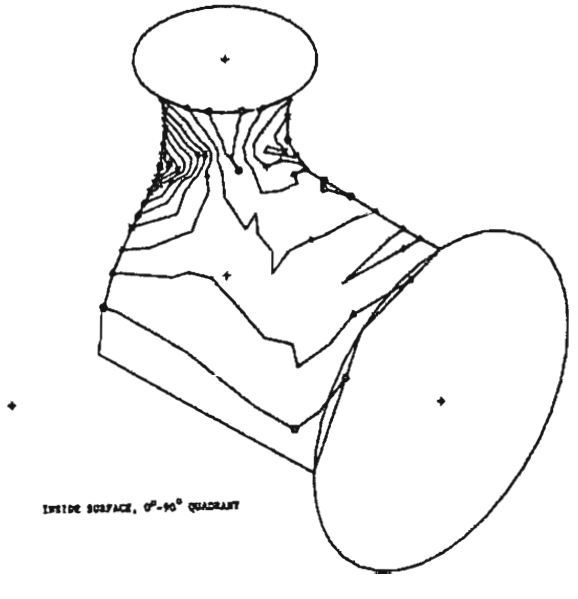
⊞	0.0
⊙	0.2000E 00
▲	0.4000E 00
+	0.6000E 00
✕	0.8000E 00
◆	0.1000E 01
✦	0.1200E 01
✱	0.1400E 01
⧗	0.1600E 01
★	0.1800E 01
✕	0.2000E 01
■	0.2200E 01



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Z

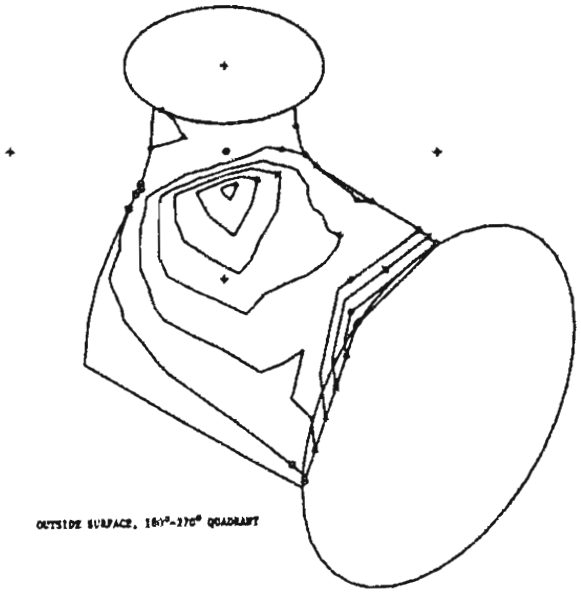
CONTOUR VALUES

⊞	0.0
⊙	0.2000E 00
▲	0.4000E 00
+	0.6000E 00
✕	0.8000E 00
◆	0.1000E 01
✦	0.1200E 01
✱	0.1400E 01
⧗	0.1600E 01
★	0.1800E 01
✕	0.2000E 01
■	0.2200E 01



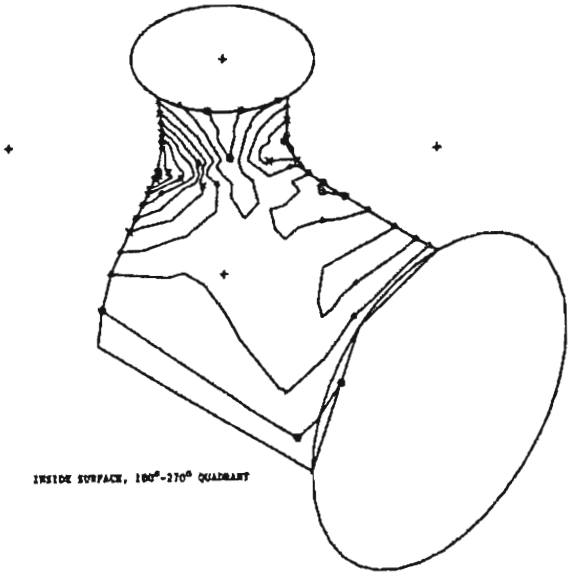
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Z

CONTOUR VALUES



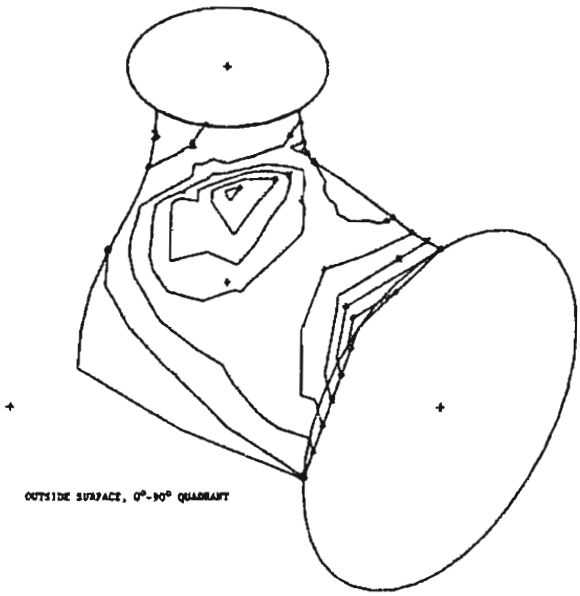
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M2Z

CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Z

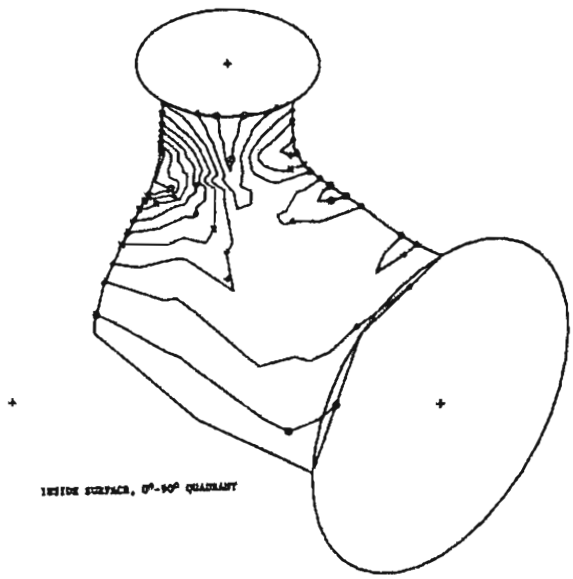
CONTOUR VALUES



OUTSIDE SURFACE, 0°-90° QUADRANT

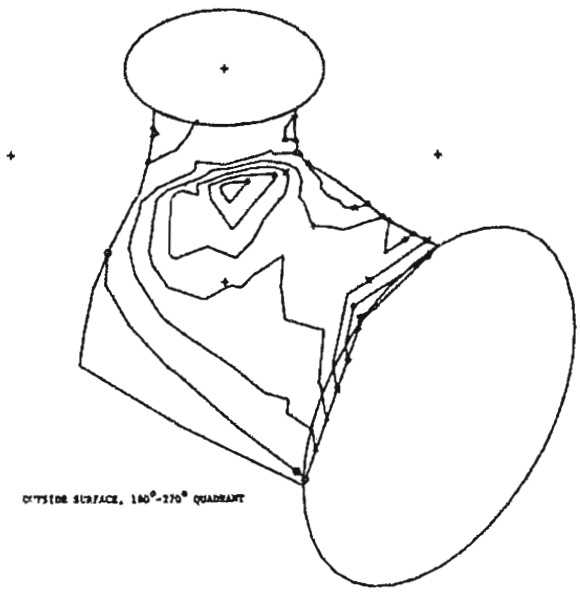
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Z

CONTOUR VALUES

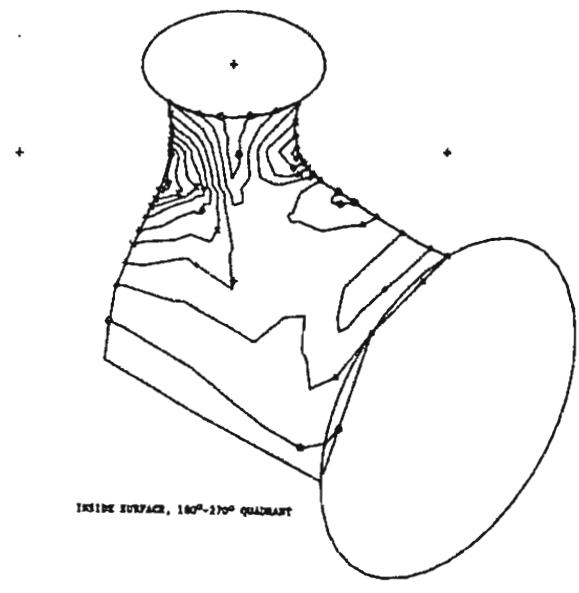


INSIDE SURFACE, 0°-90° QUADRANT

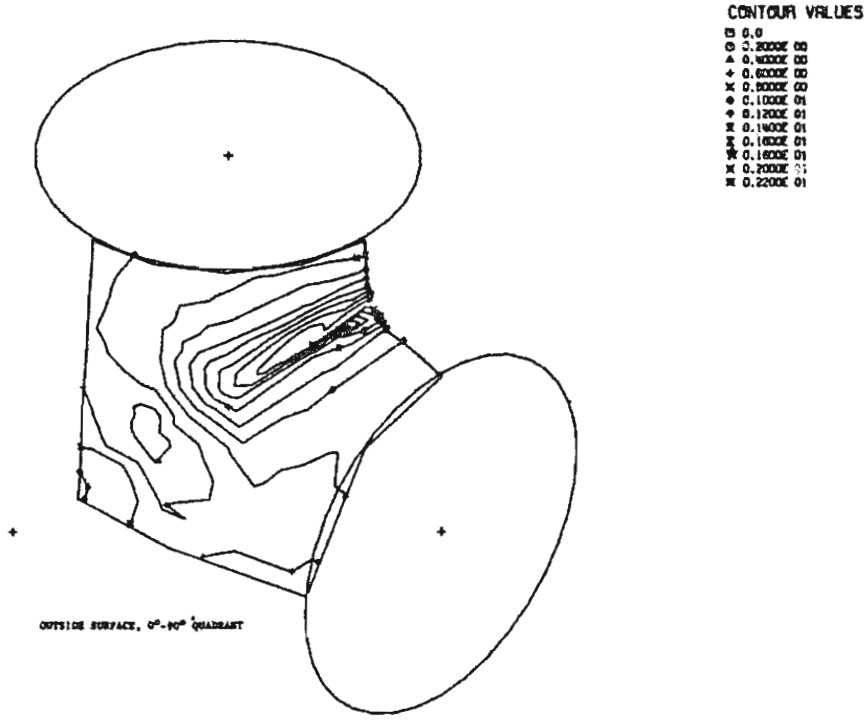
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Z



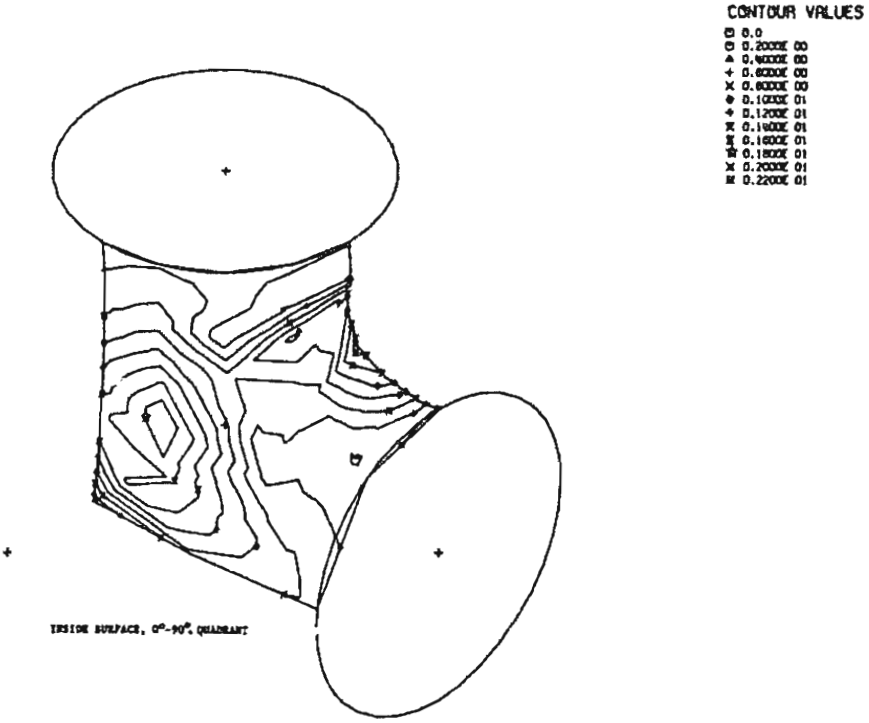
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M2Z



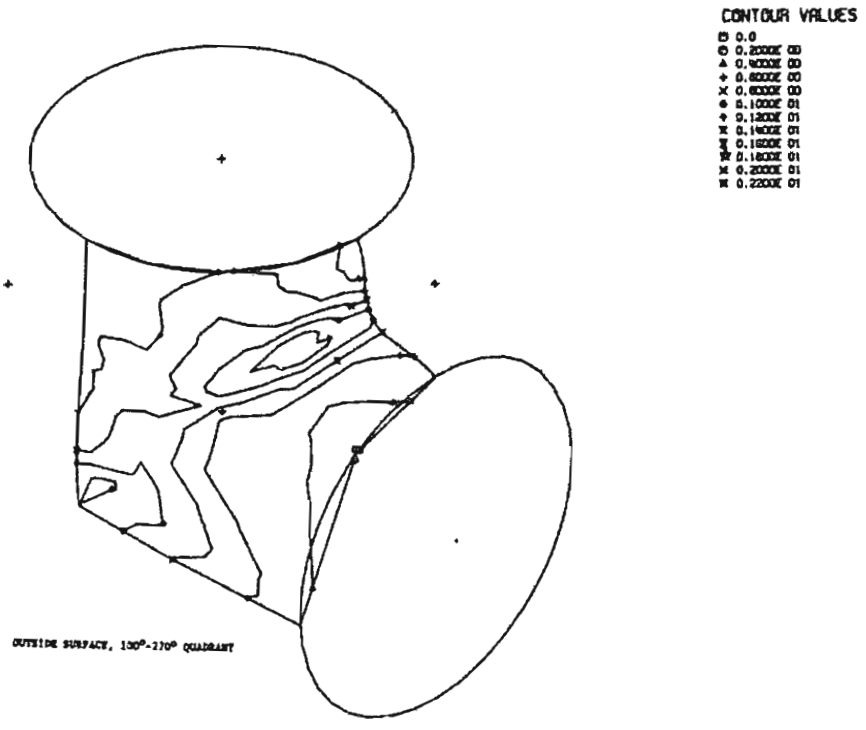
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3X



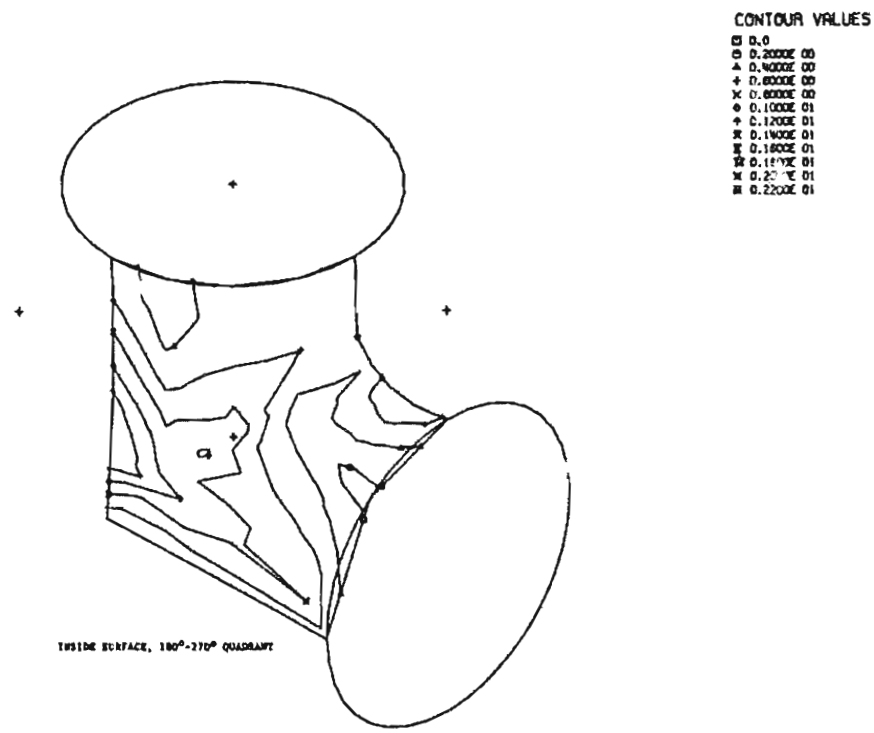
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3X



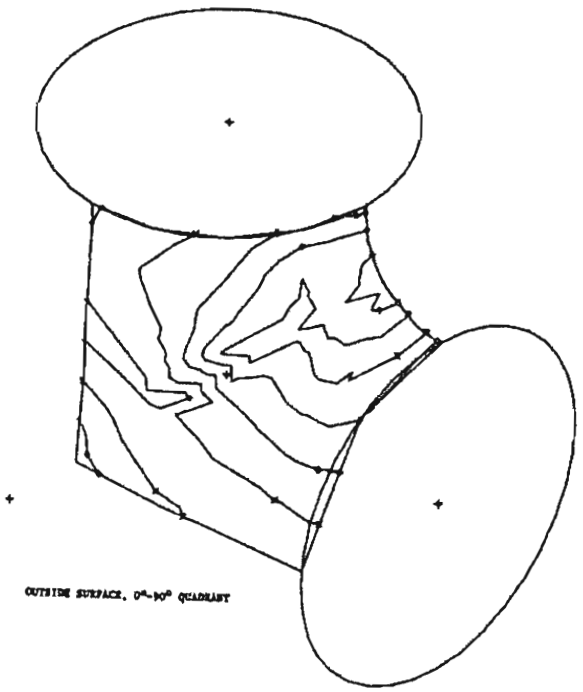
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3X



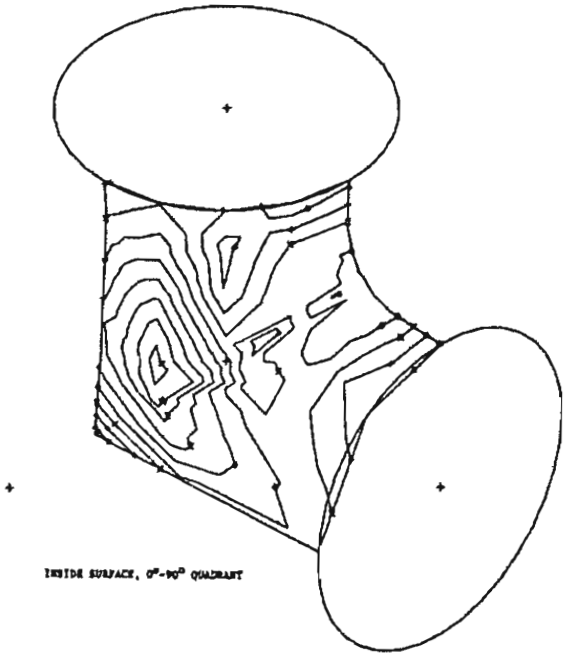
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3X



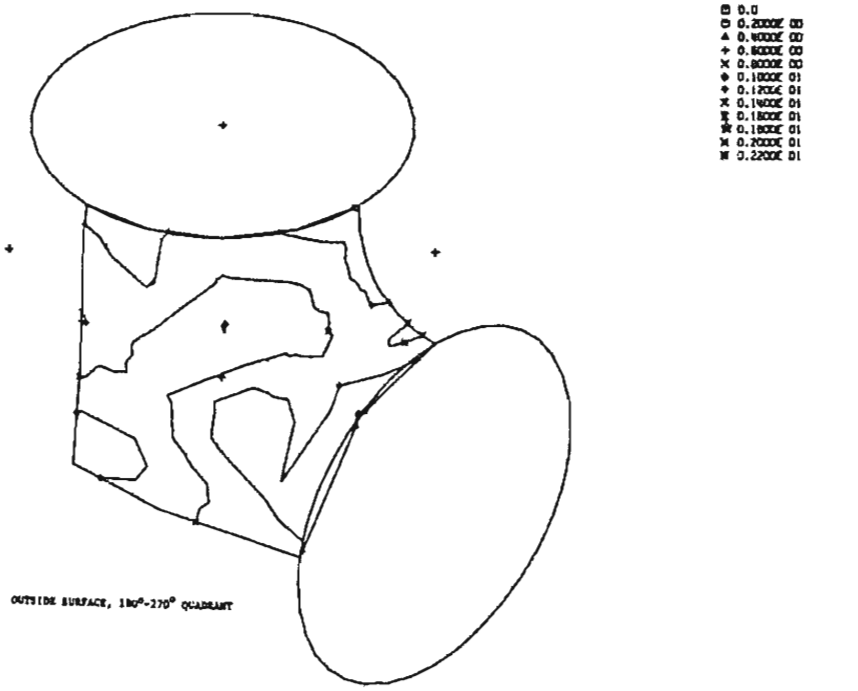
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3X



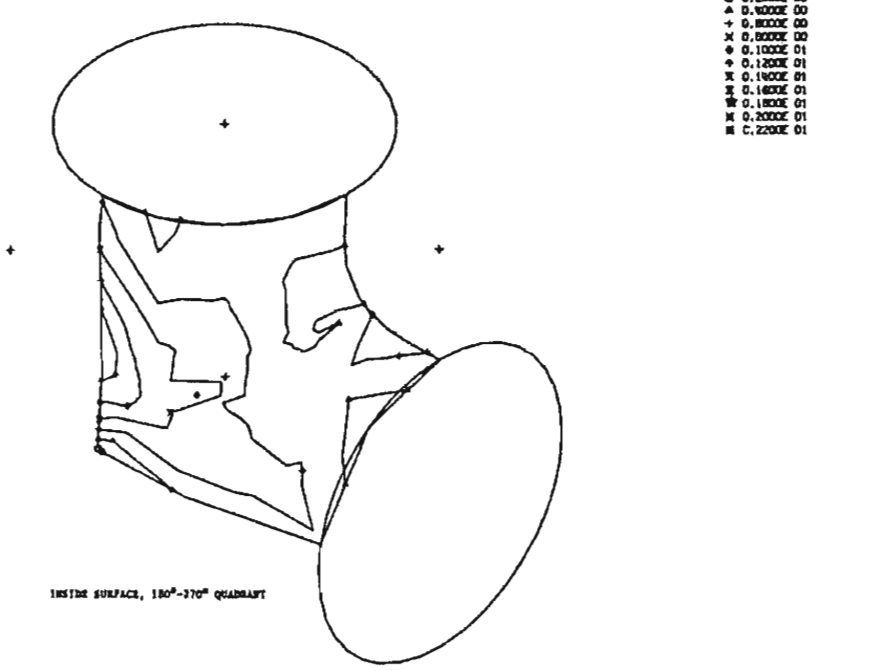
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3X



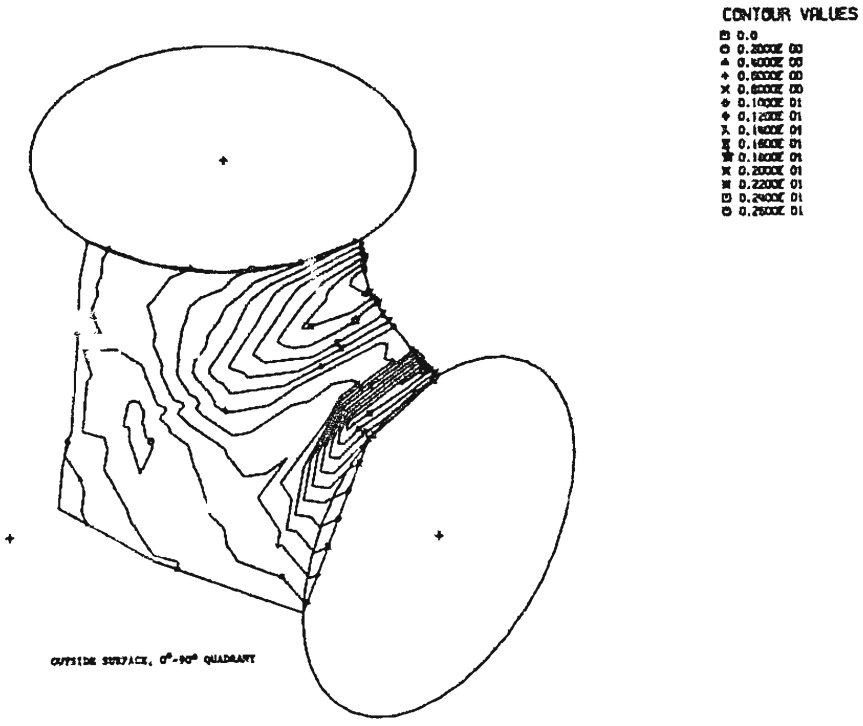
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3X



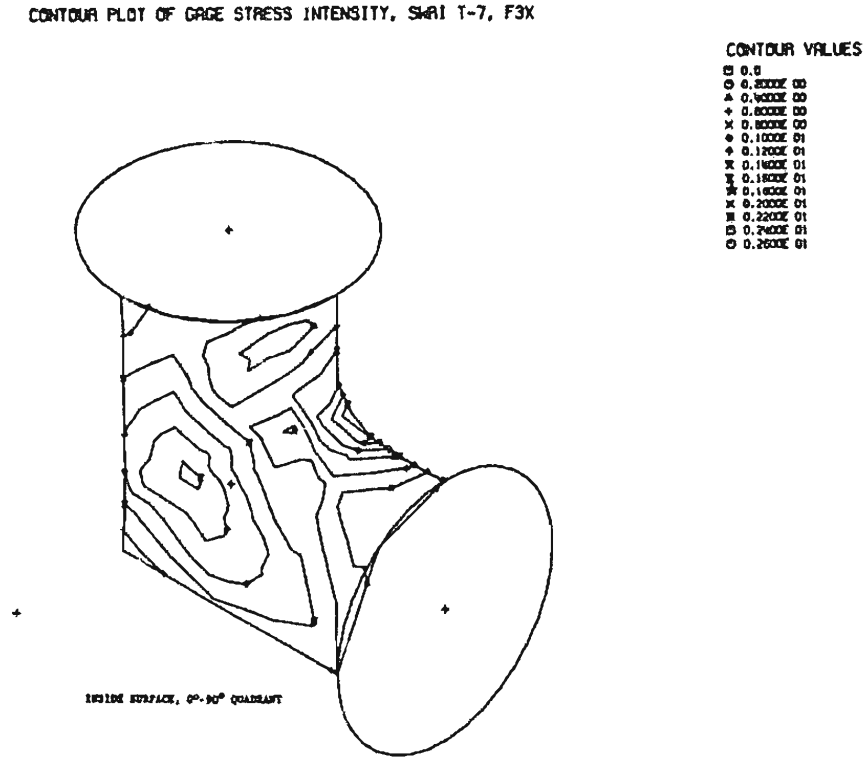
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3X



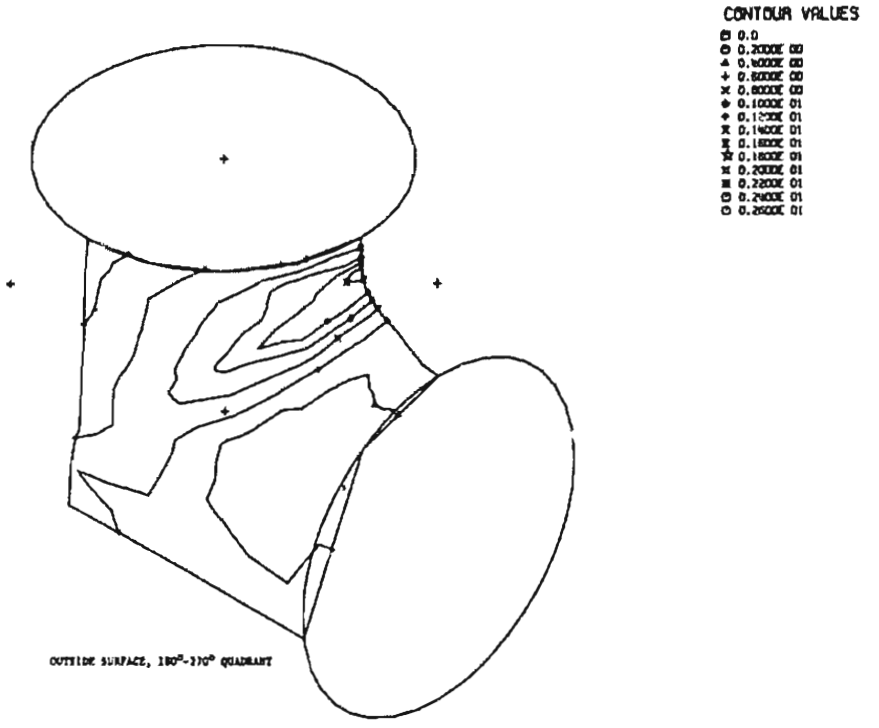
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3X



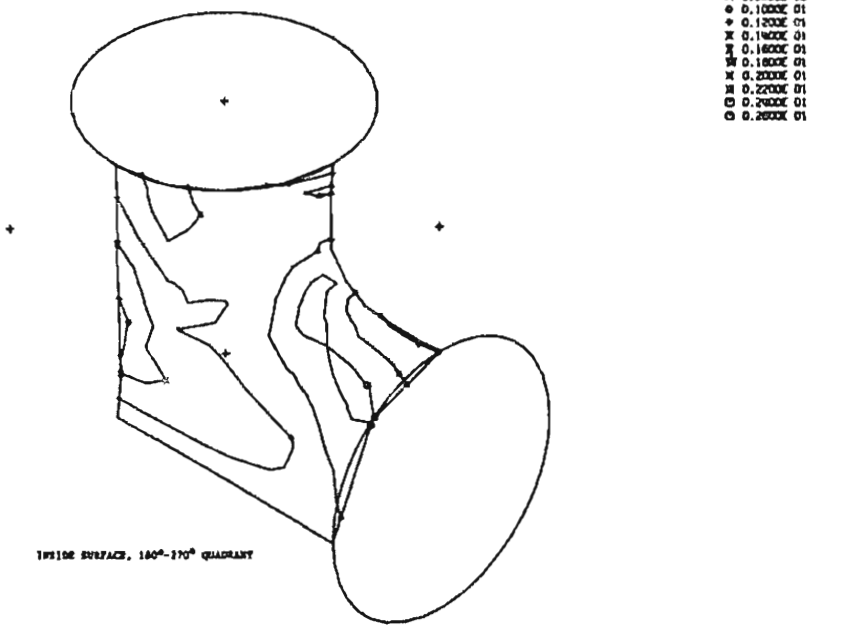
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3X

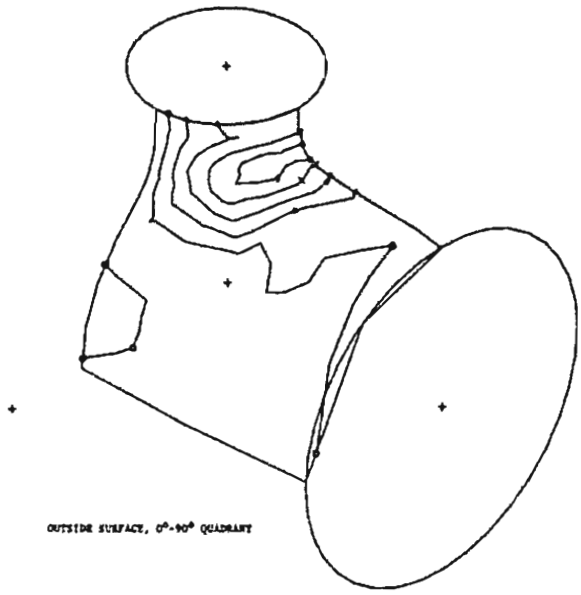


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3X

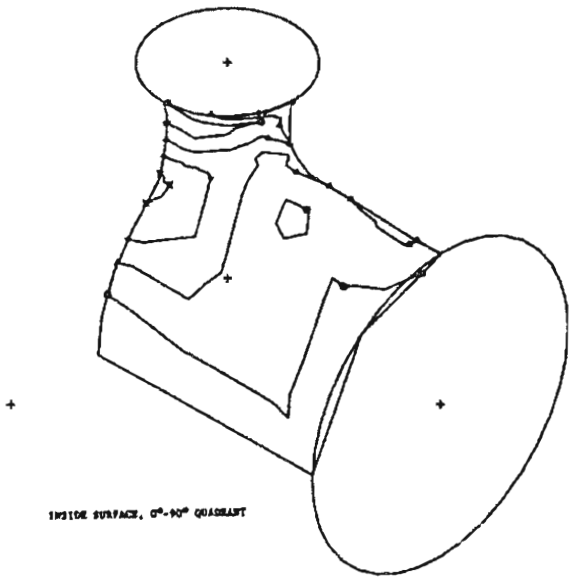
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3X

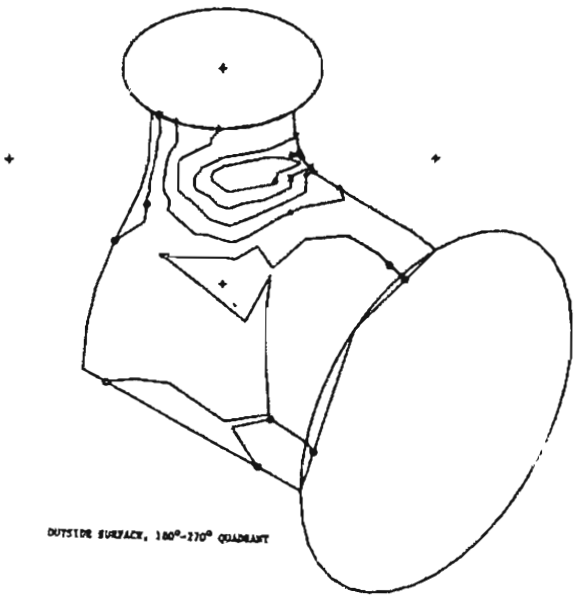
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01



INSIDE SURFACE, 0°-90° QUADRANT

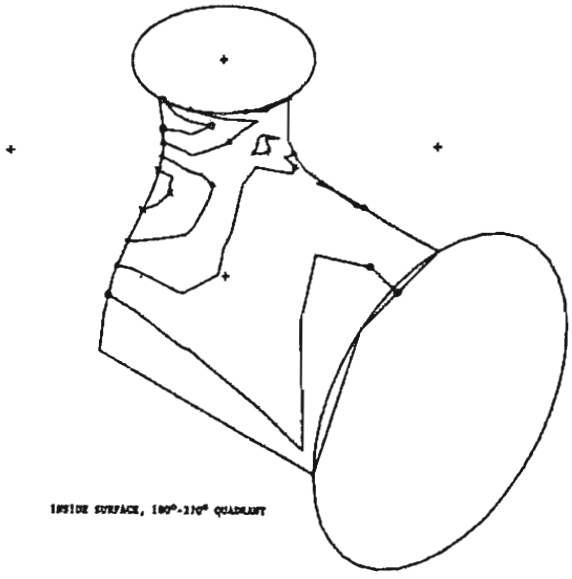
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3X

CONTOUR VALUES



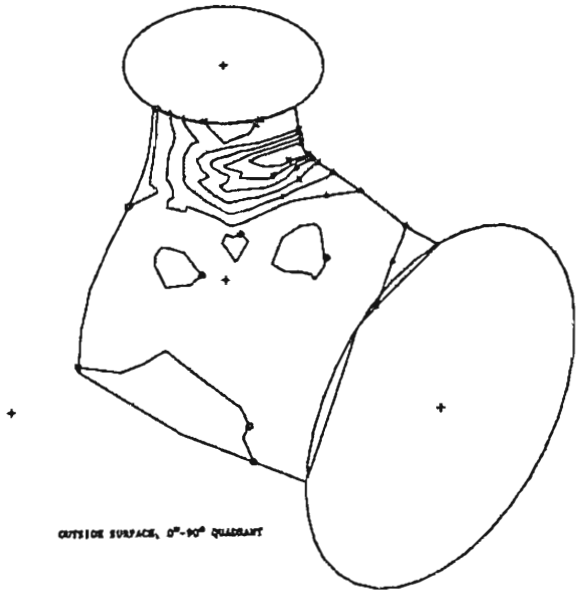
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3X

CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F3X

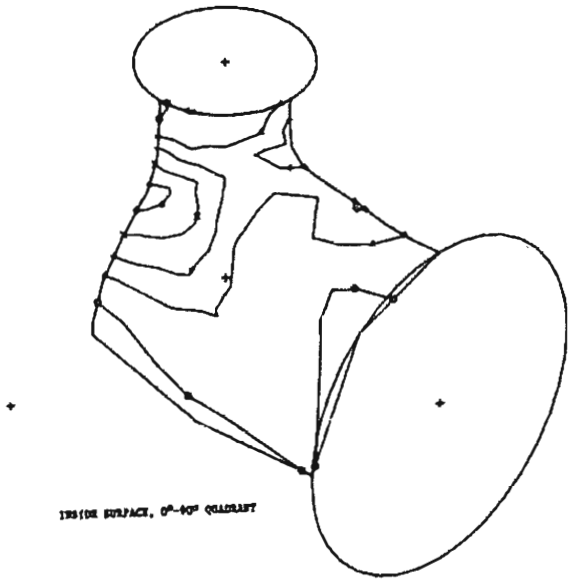
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F3X

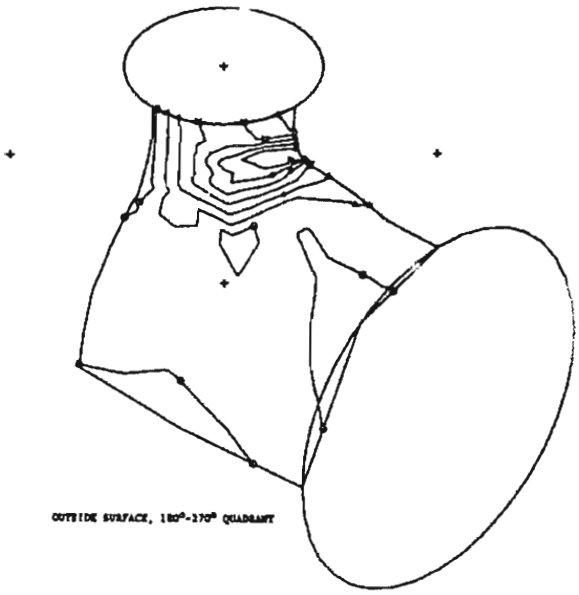
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01



INSIDE SURFACE, 0°-90° QUADRANT

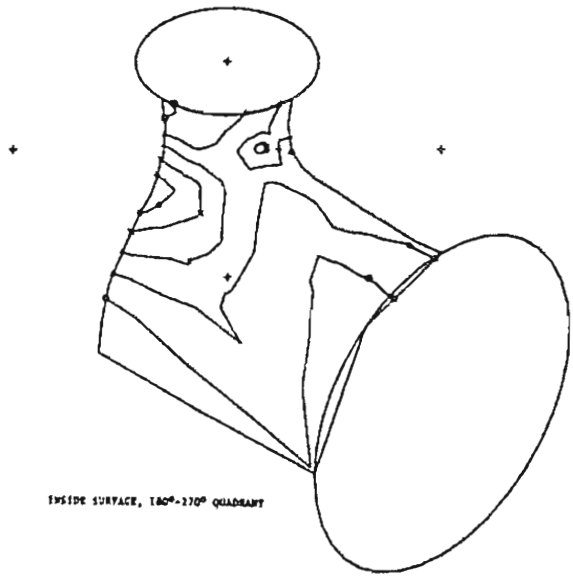
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-1S, F3X

CONTOUR VALUES

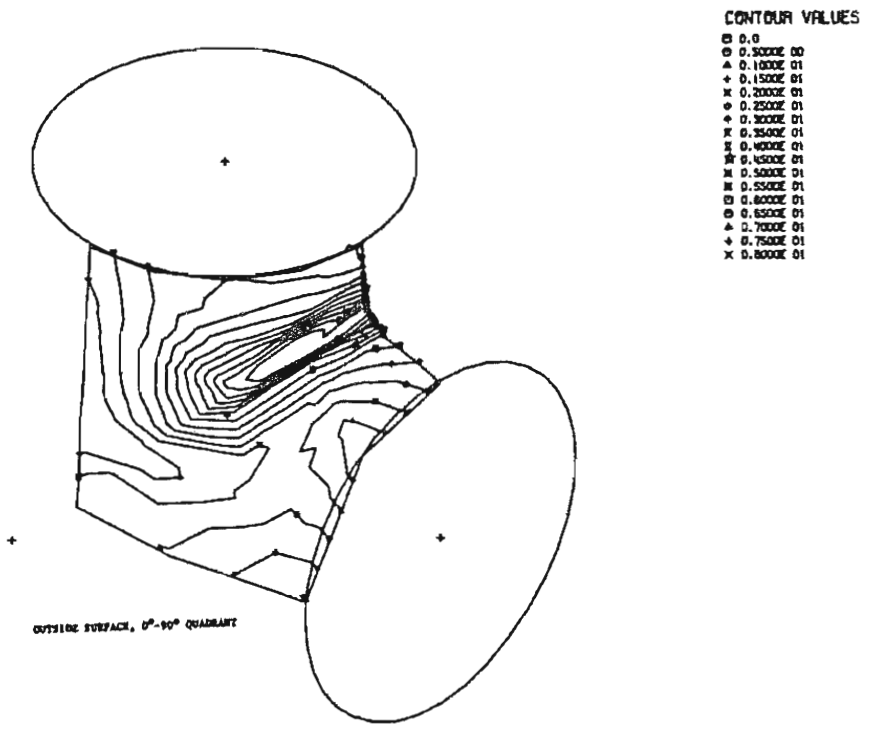


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-1S, F3X

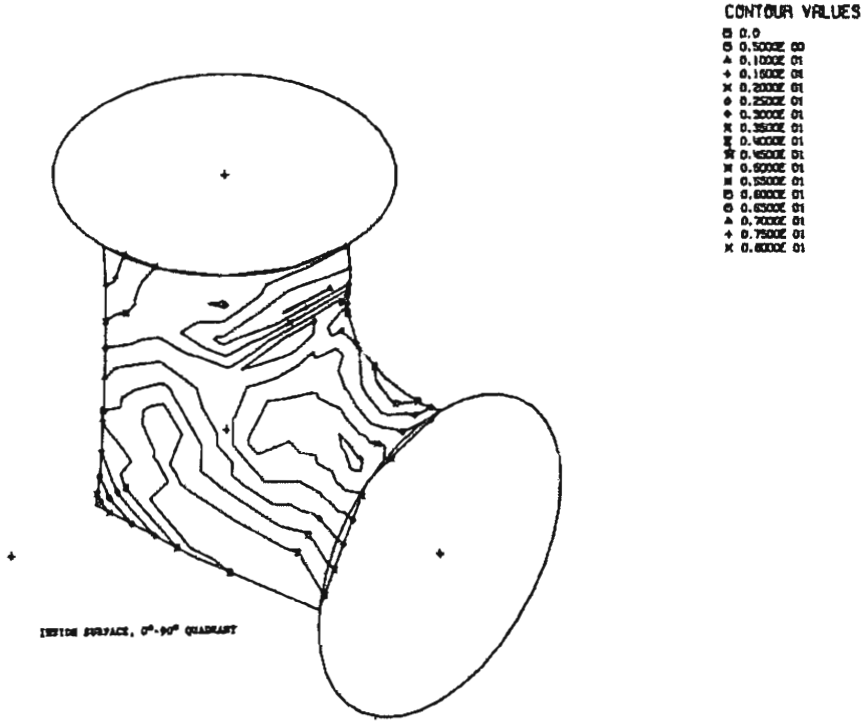
CONTOUR VALUES



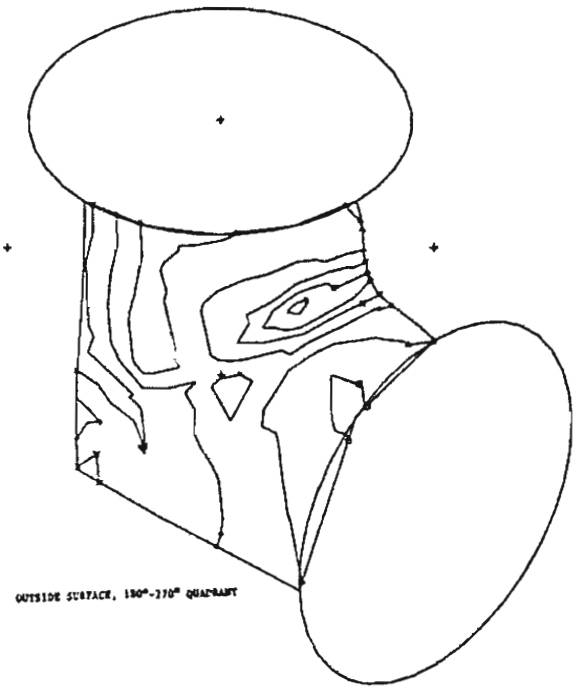
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Y



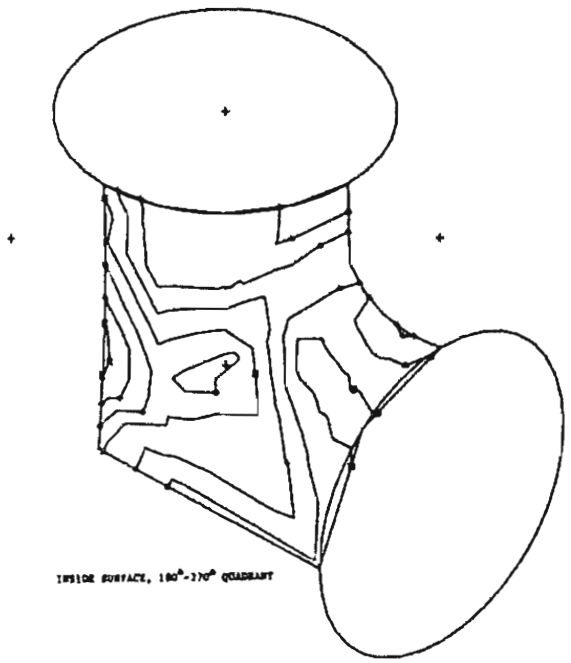
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Y



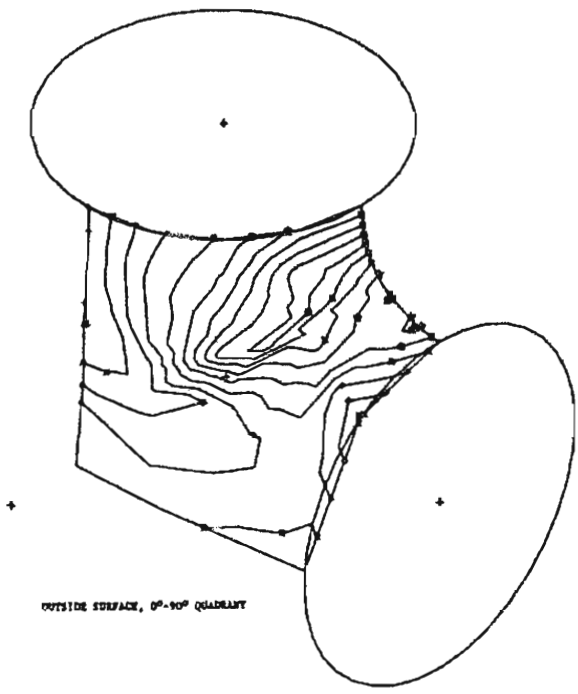
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Y



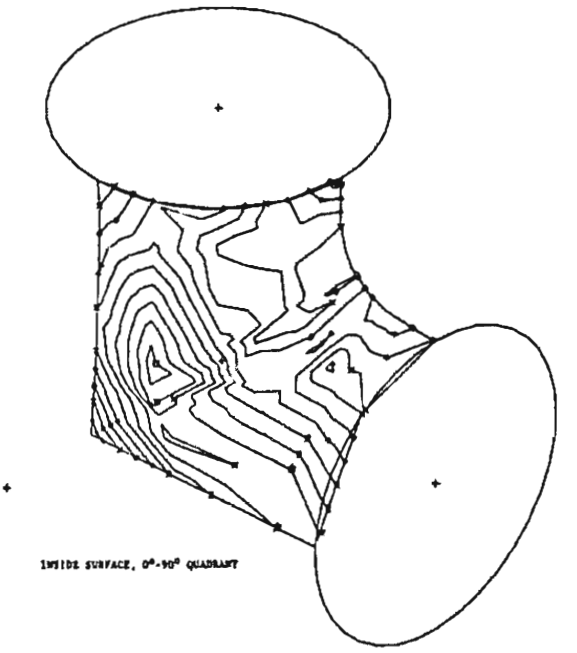
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Y



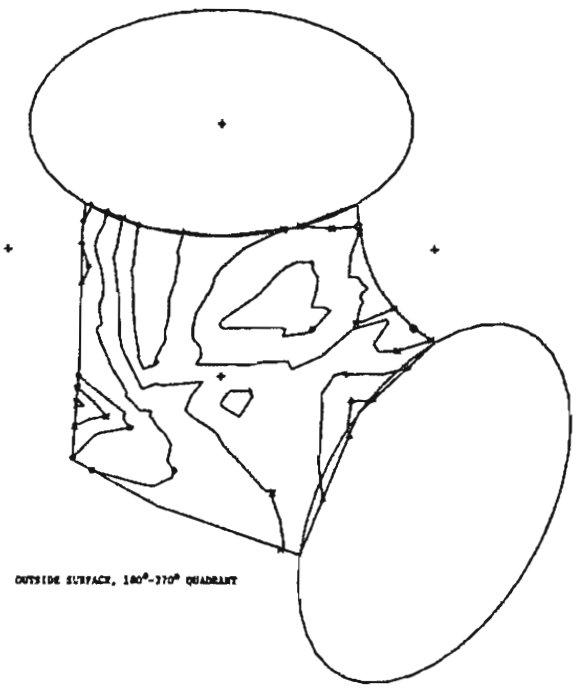
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3Y



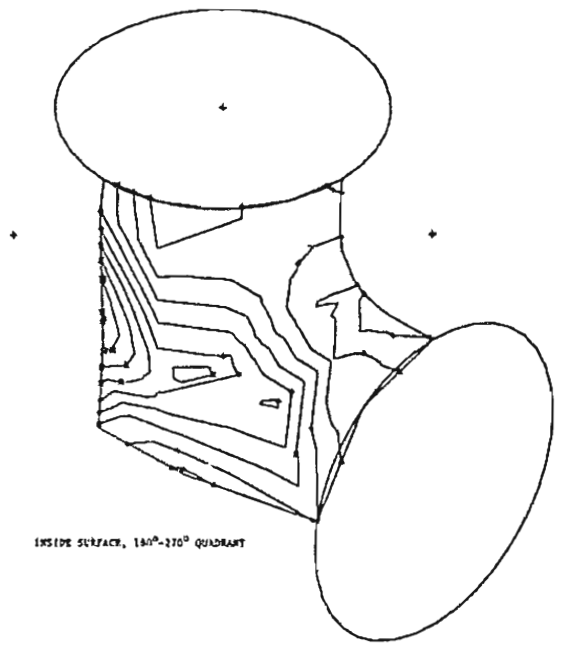
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3Y



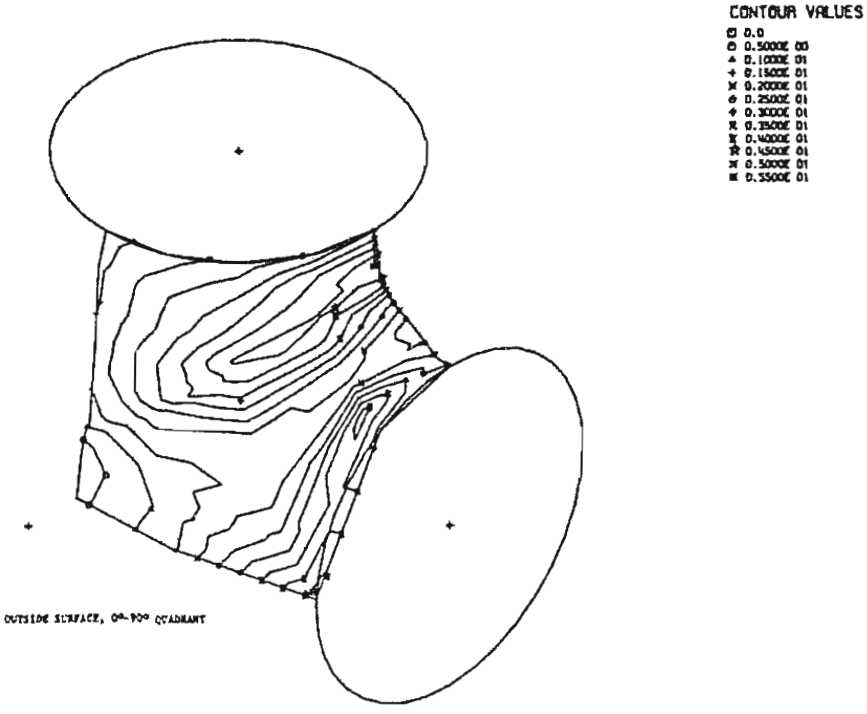
CONTOUR PLOT OF CRACK STRESS INTENSITY, SWRI T-6, F3Y



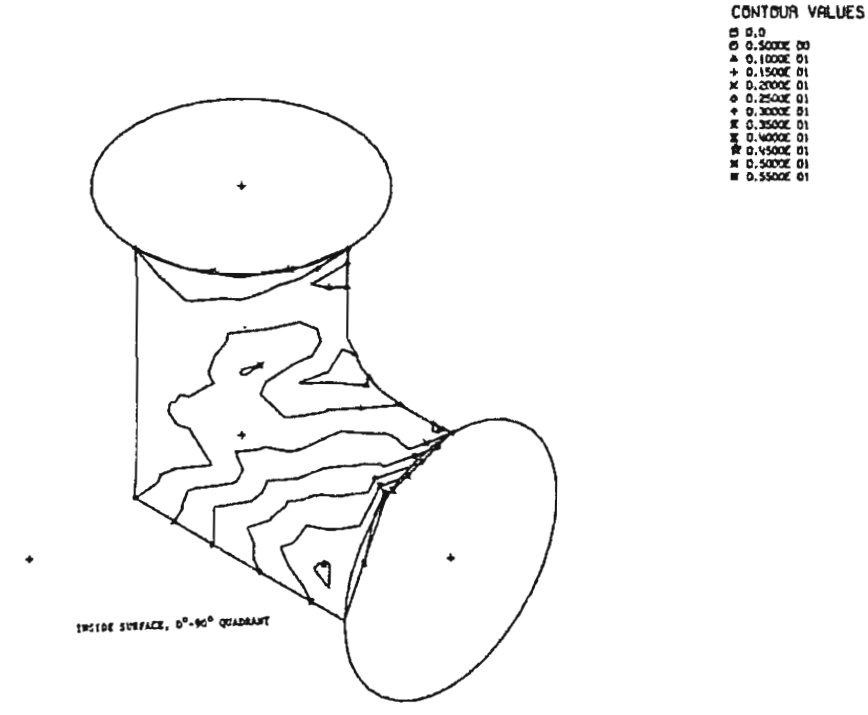
CONTOUR PLOT OF CRACK STRESS INTENSITY, SWRI T-6, F3Y



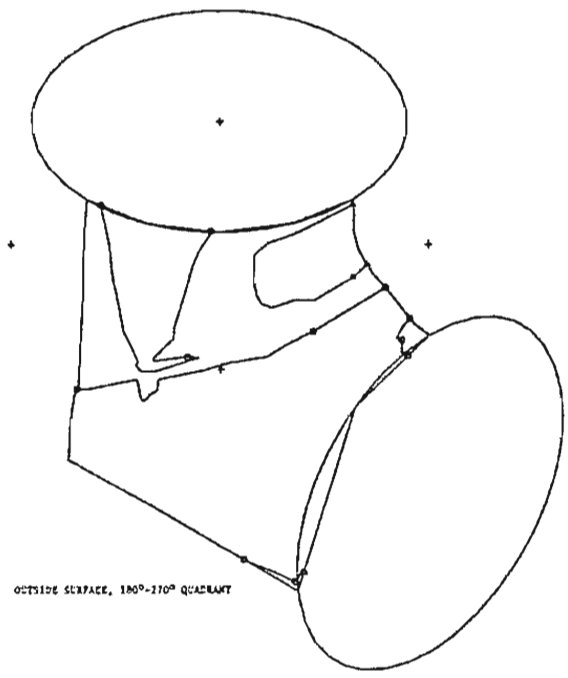
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Y



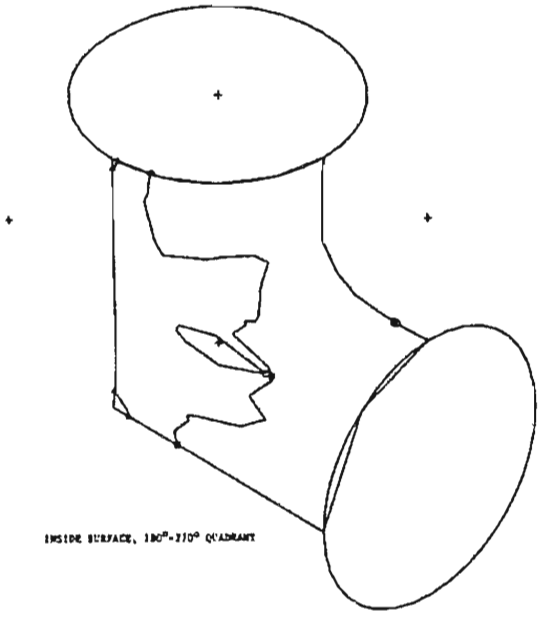
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Y



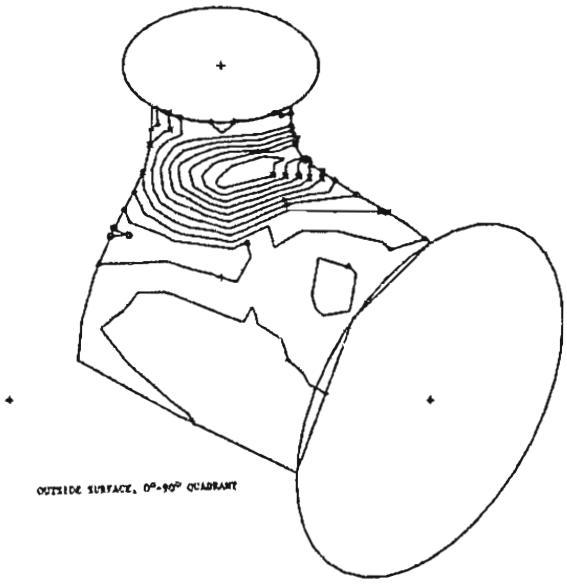
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Y

CONTOUR VALUES

0.0
0.5000E 00
0.1000E 01
0.1500E 01
0.2000E 01
0.2500E 01
0.3000E 01
0.3500E 01
0.4000E 01
0.4500E 01
0.5000E 01
0.5500E 01
0.6000E 01

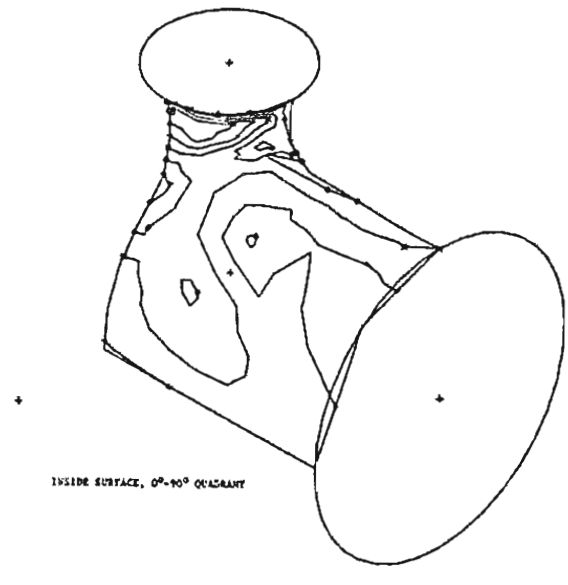


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Y

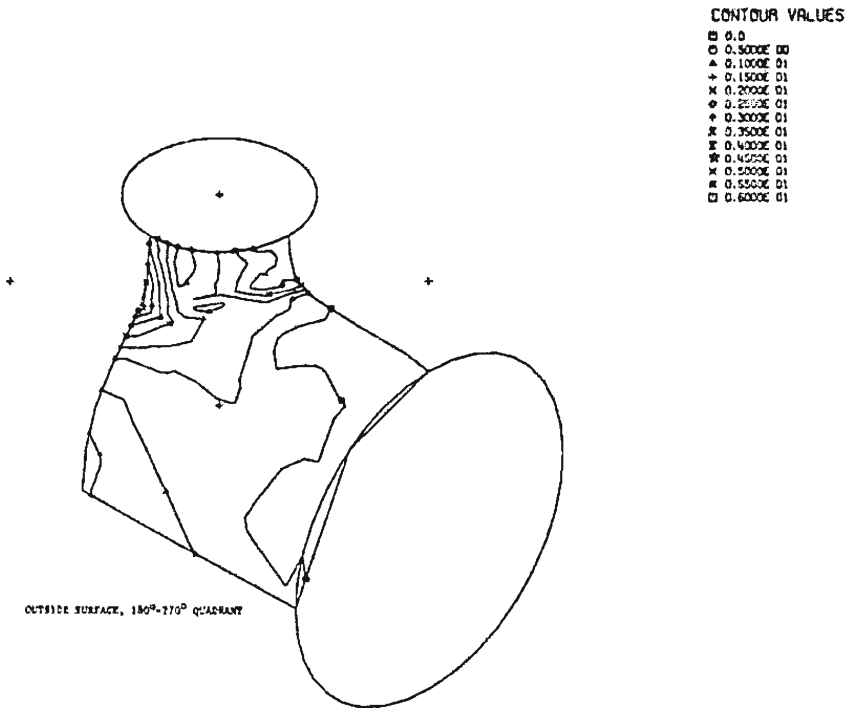
CONTOUR VALUES

0.0
0.5000E 00
0.1000E 01
0.1500E 01
0.2000E 01
0.2500E 01
0.3000E 01
0.3500E 01
0.4000E 01
0.4500E 01
0.5000E 01
0.5500E 01
0.6000E 01

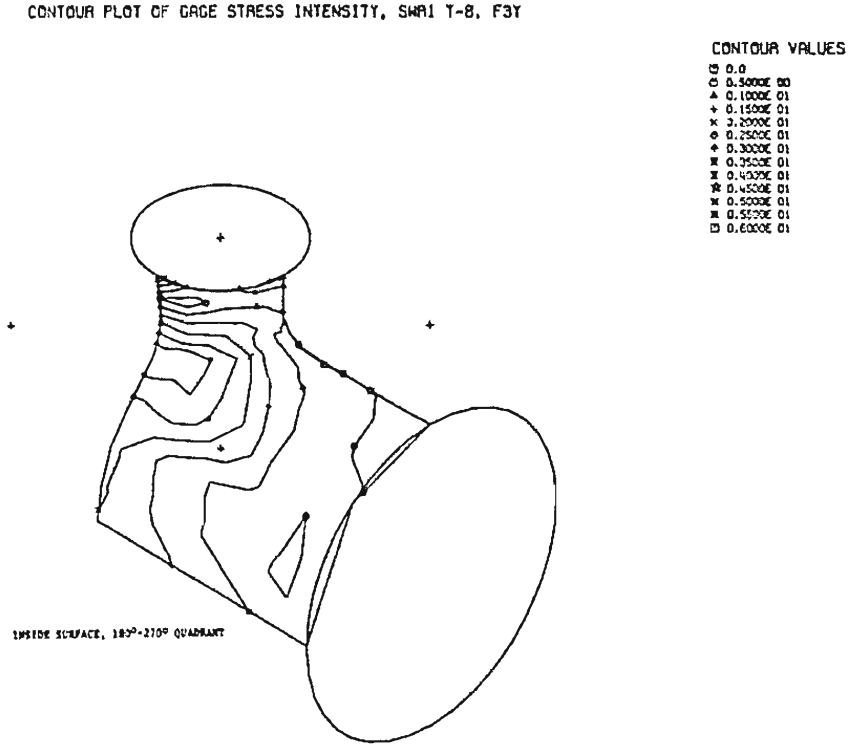


INSIDE SURFACE, 0°-90° QUADRANT

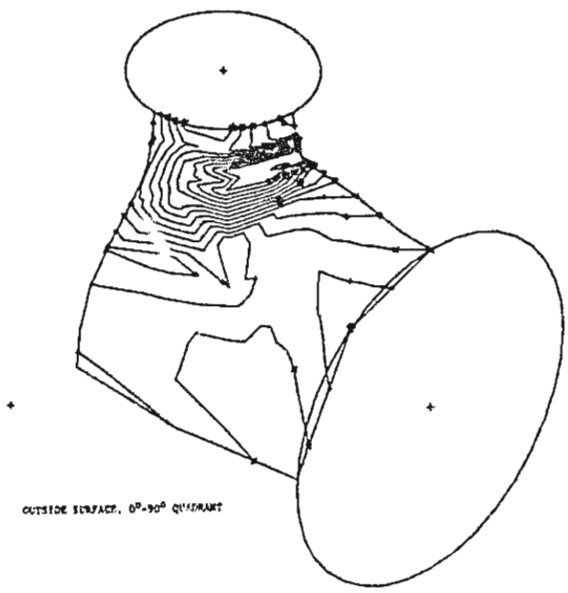
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Y



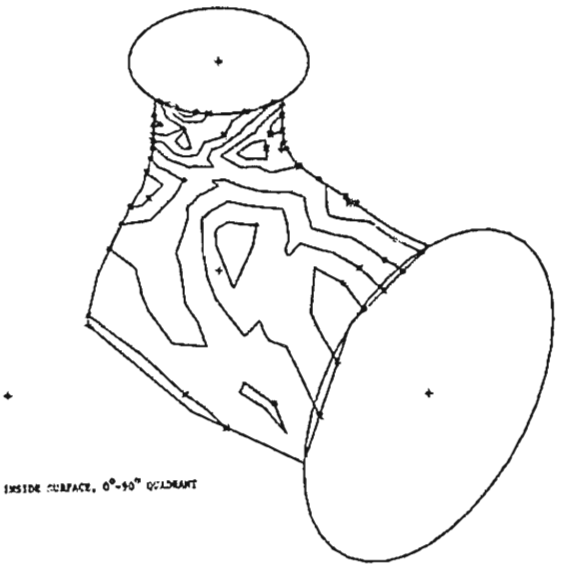
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F3Y

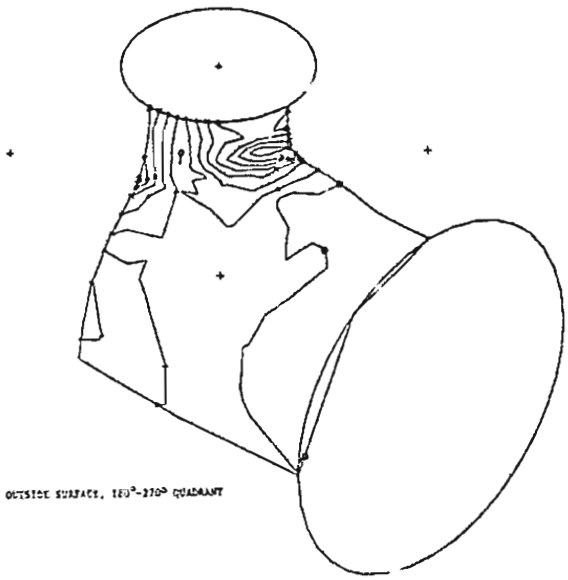


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F3Y



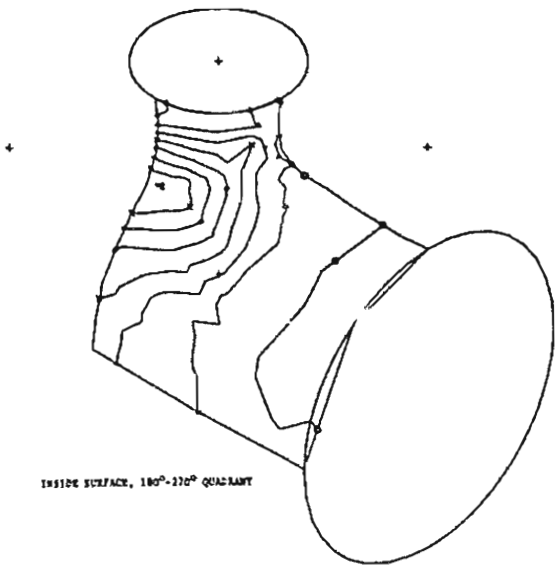
CONTOUR PLOT OF CAGE STRESS INTENSITY, SWRI T-15, F3Y

CONTOUR VALUES

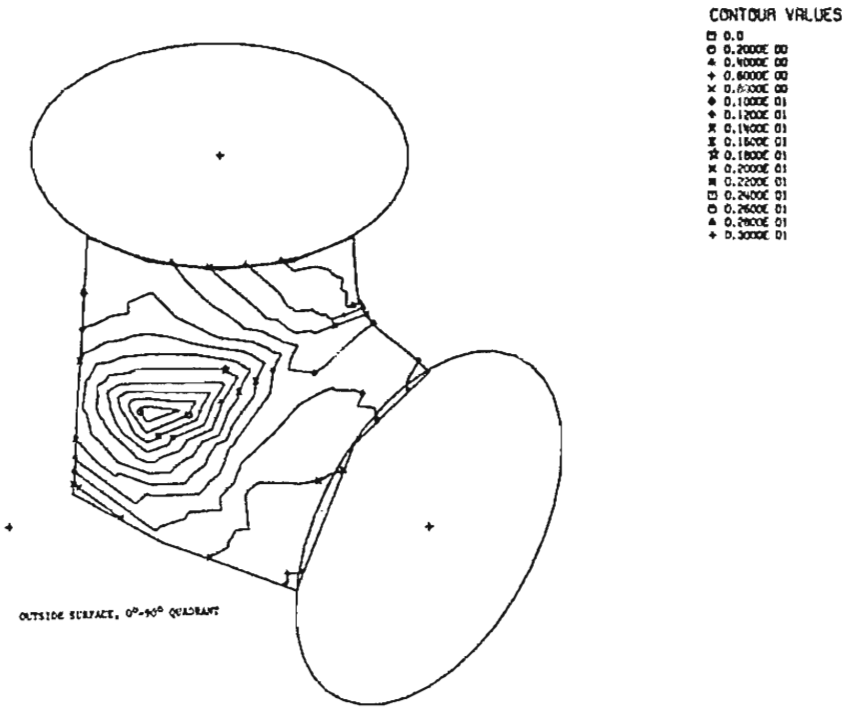


CONTOUR PLOT OF CAGE STRESS INTENSITY, SWRI T-15, F3Y

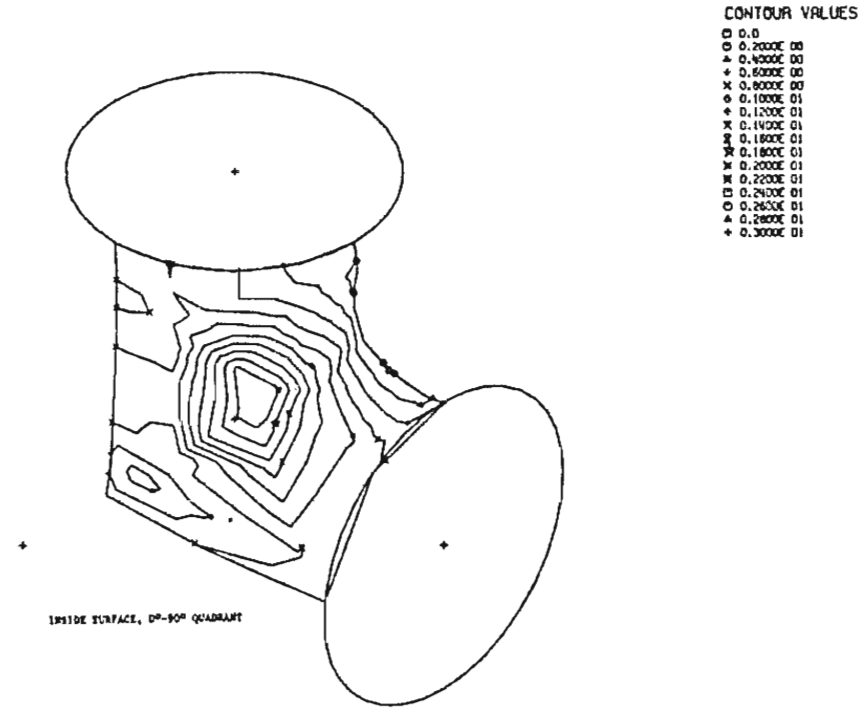
CONTOUR VALUES
□ 0.0
○ 0.5000E 00
△ 0.1000E 01
+ 0.1500E 01
× 0.2000E 01
◇ 0.2500E 01
+ 0.3000E 01
✱ 0.3500E 01
✱ 0.4000E 01
☆ 0.4500E 01
× 0.5000E 01
▣ 0.5500E 01
□ 0.6000E 01
○ 0.6500E 01
△ 0.7000E 01
+ 0.7500E 01



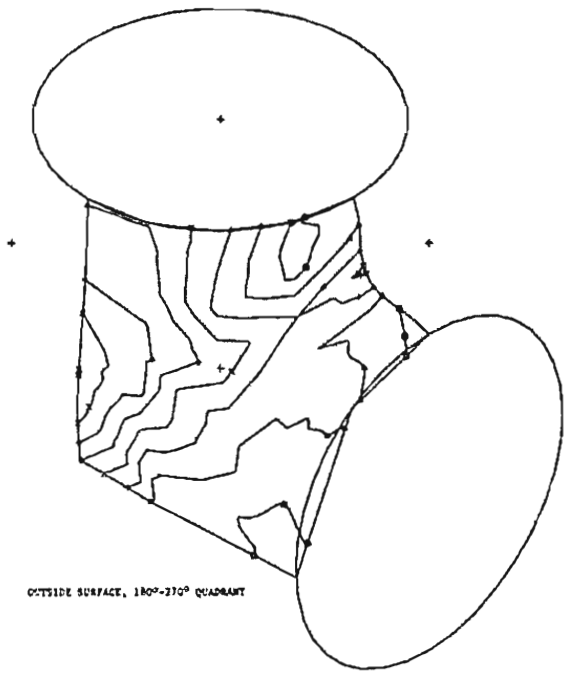
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Z



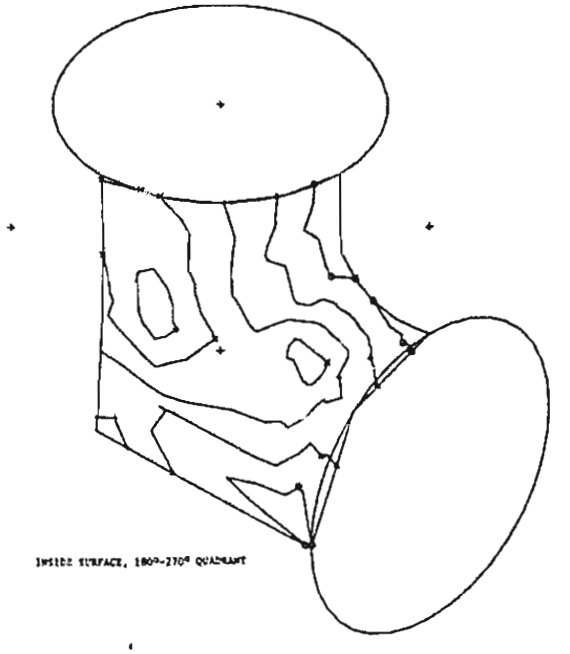
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Z



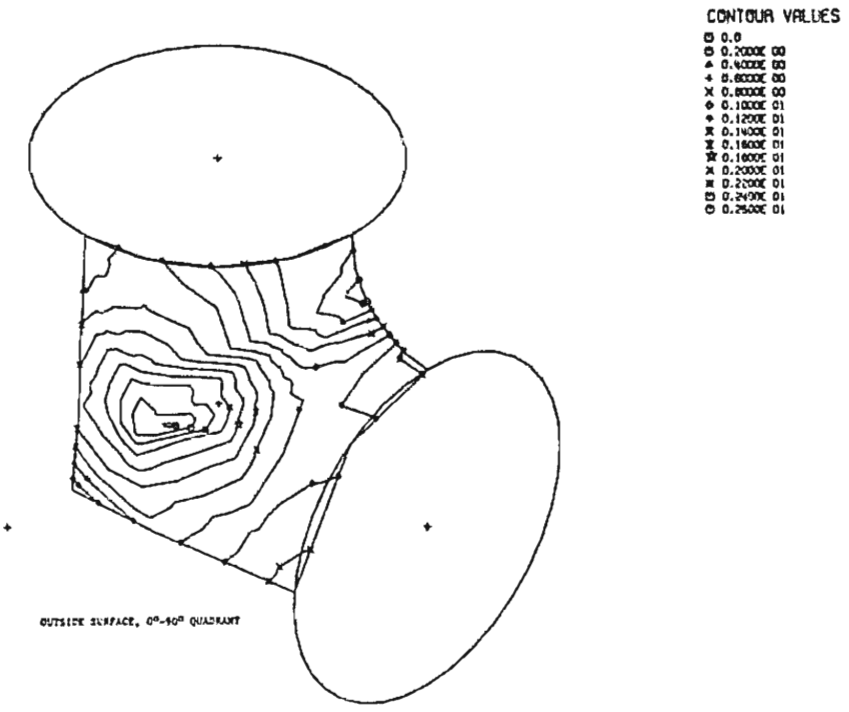
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Z



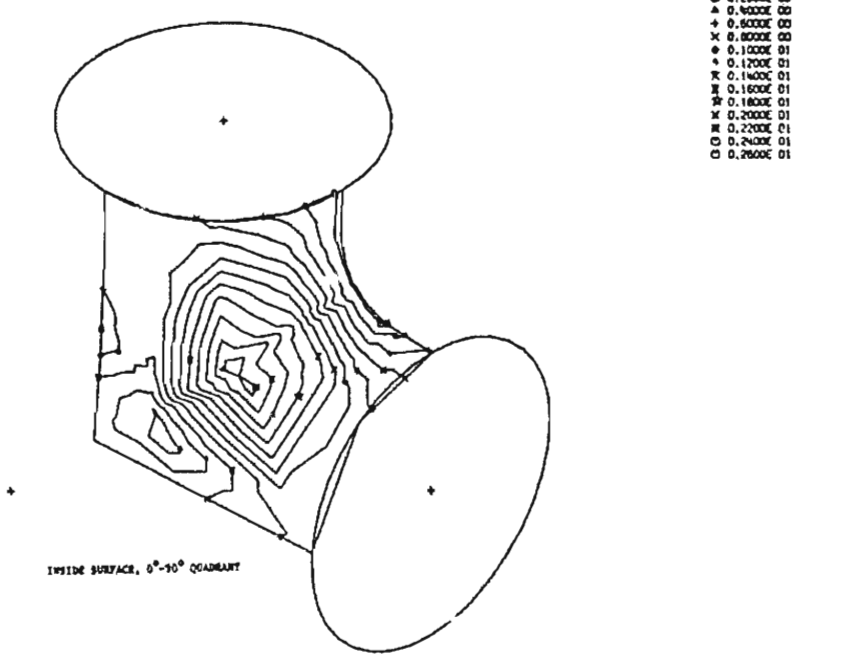
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, F3Z



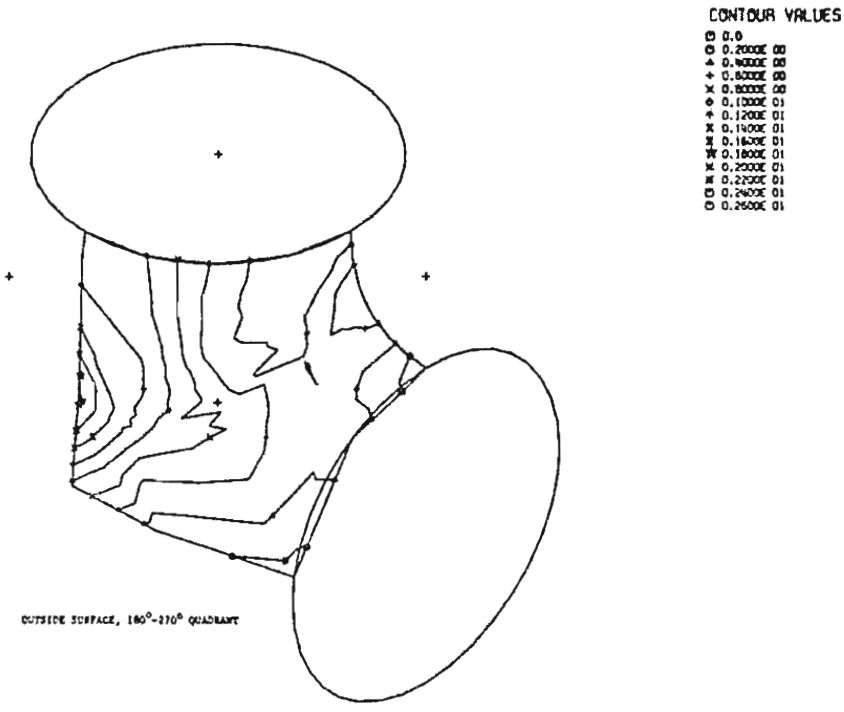
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3Z



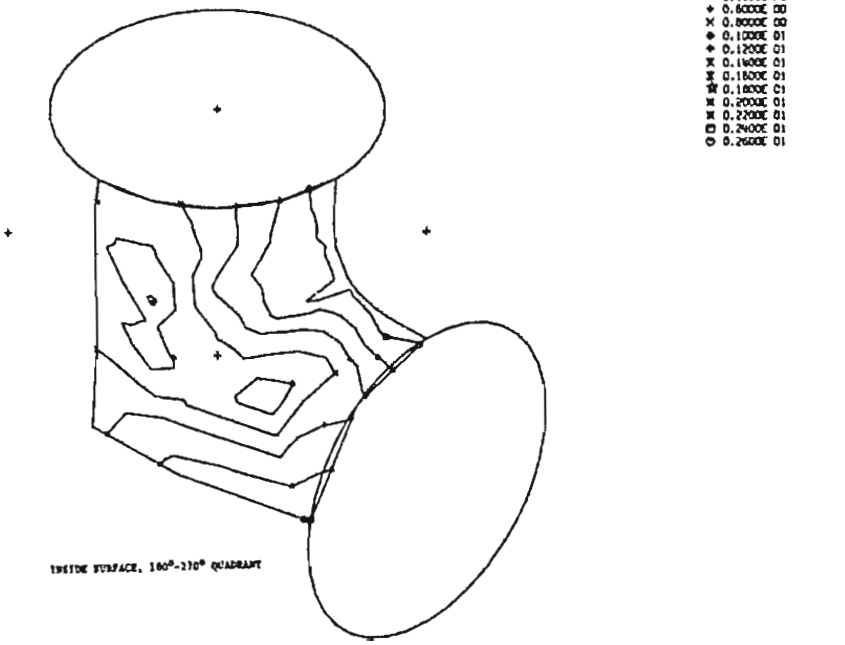
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3Z



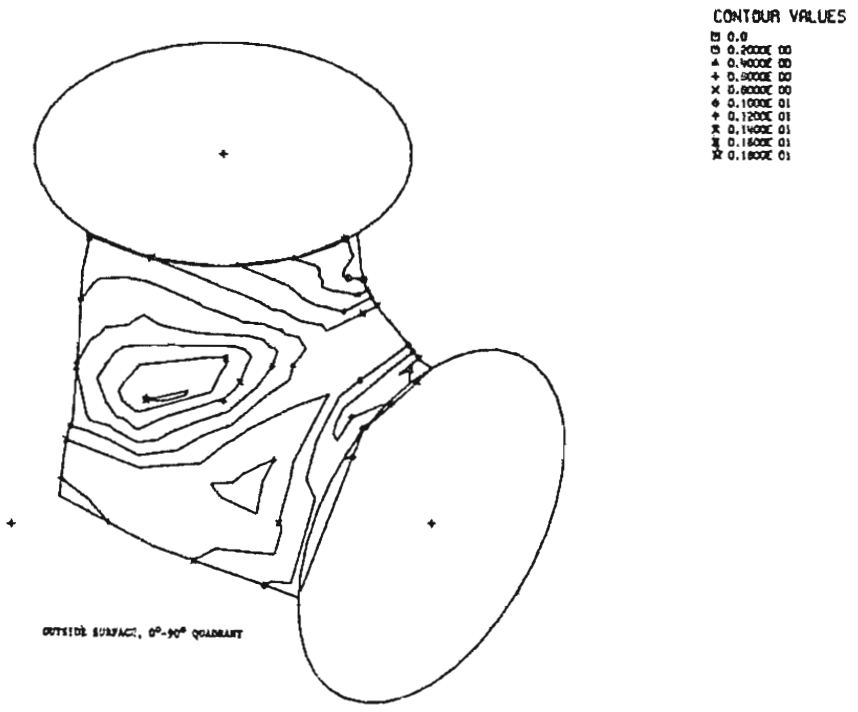
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3Z



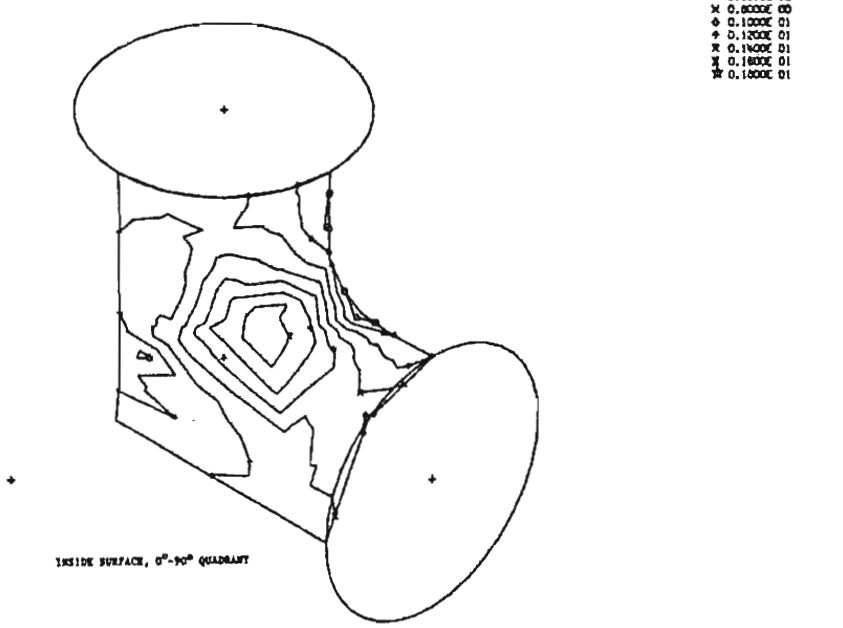
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, F3Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Z



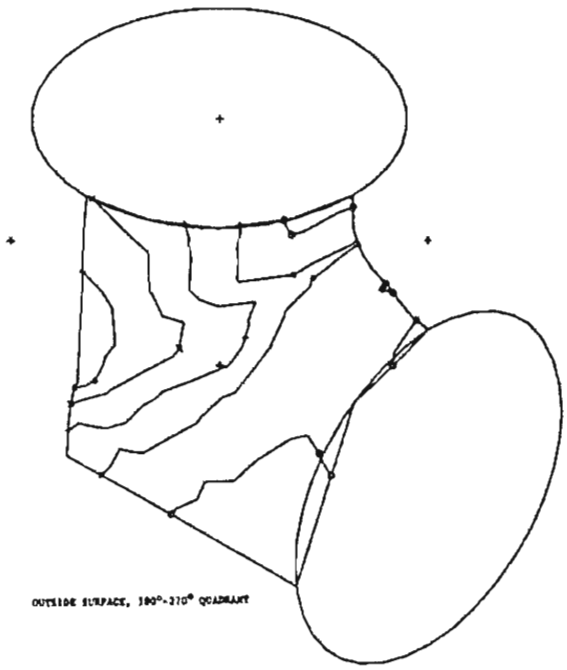
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Z

CONTOUR VALUES

⊡	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◆	0.1000E 01
✦	0.1200E 01
✱	0.1400E 01
✳	0.1600E 01
☆	0.1800E 01

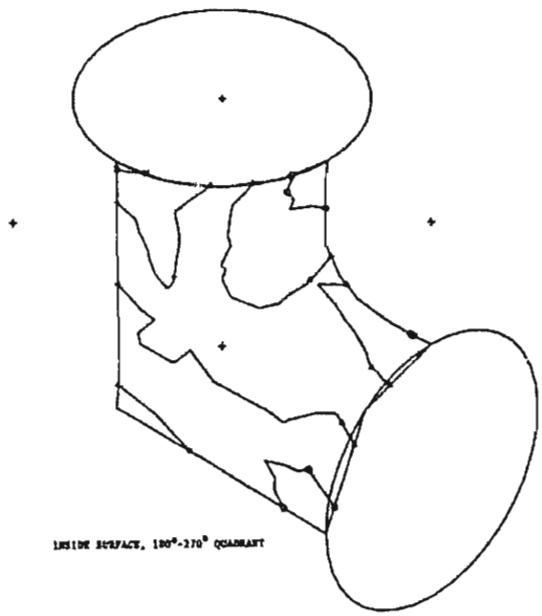


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, F3Z

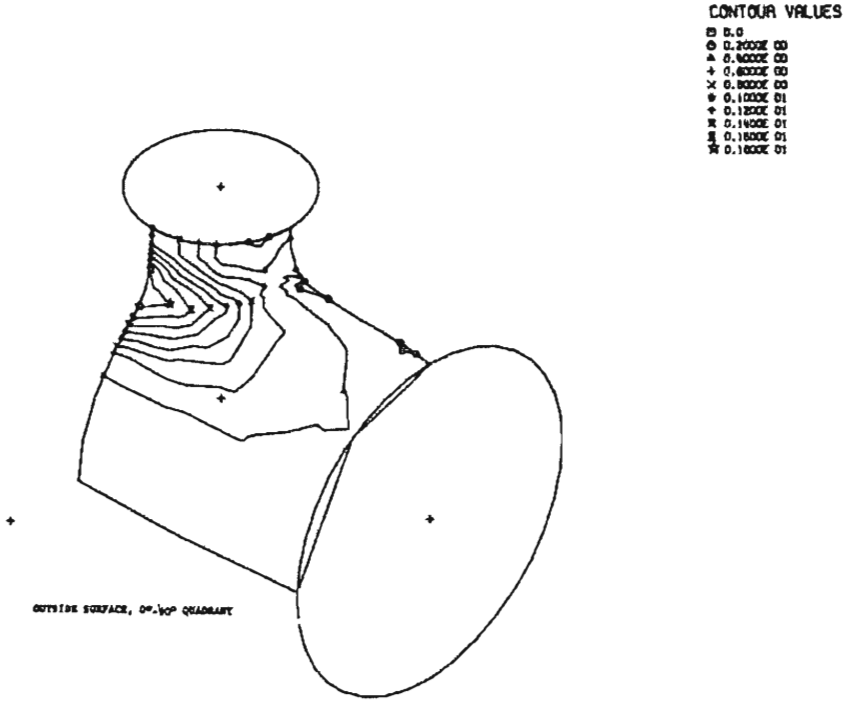
CONTOUR VALUES

⊡	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◆	0.1000E 01
✦	0.1200E 01
✱	0.1400E 01
✳	0.1600E 01
☆	0.1800E 01

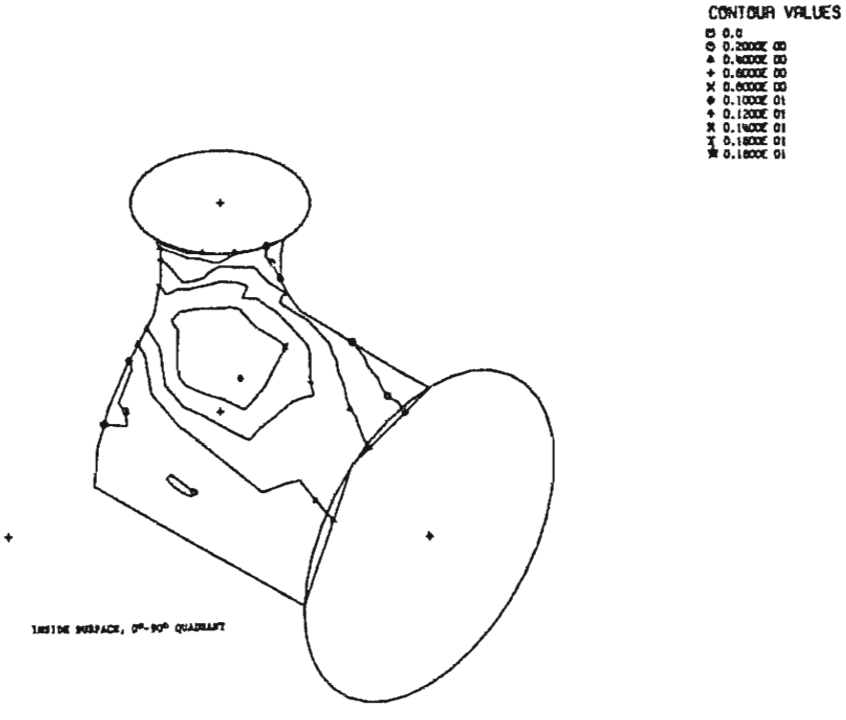


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Z



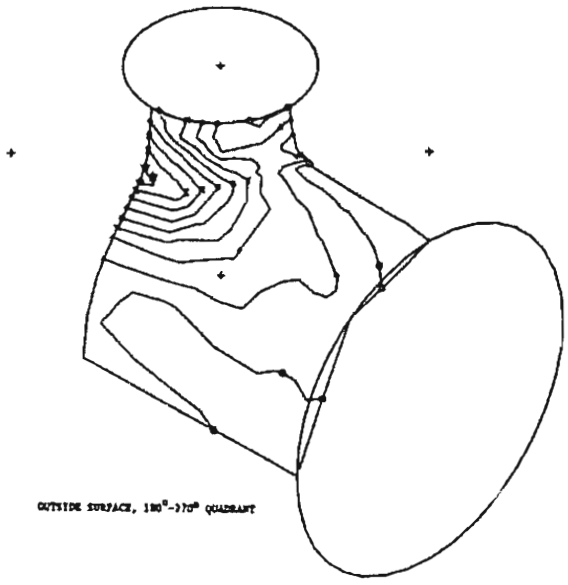
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Z

CONTOUR VALUES

⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
✕ 0.8000E 00
⊕ 0.1000E 01
✦ 0.1200E 01
✕ 0.1400E 01
⊠ 0.1600E 01
☆ 0.1800E 01

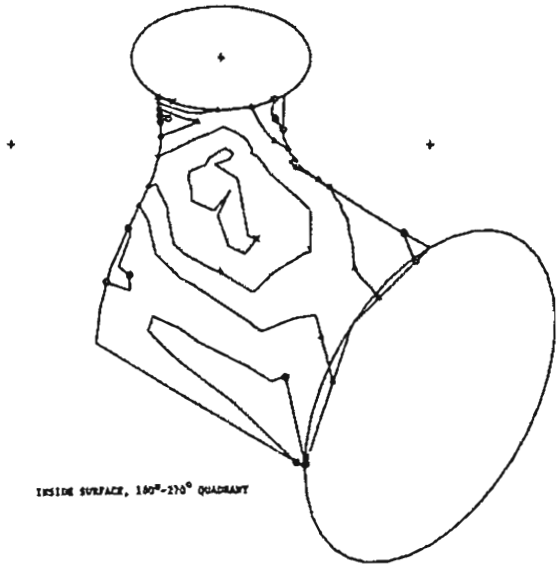


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, F3Z

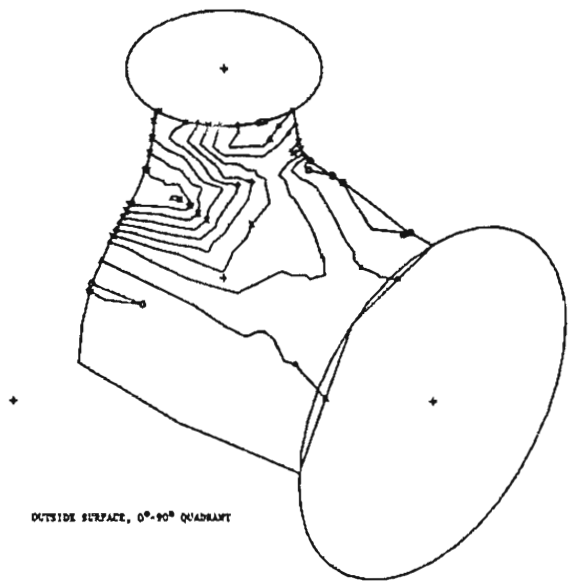
CONTOUR VALUES

⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
✕ 0.8000E 00
⊕ 0.1000E 01
✦ 0.1200E 01
✕ 0.1400E 01
⊠ 0.1600E 01
☆ 0.1800E 01

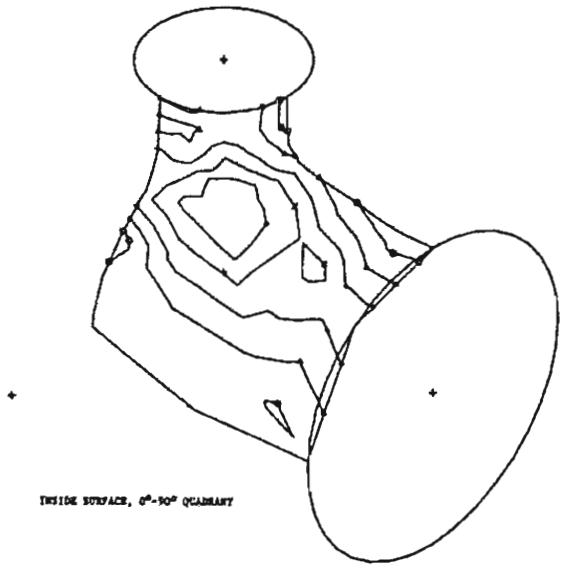


INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F3Z



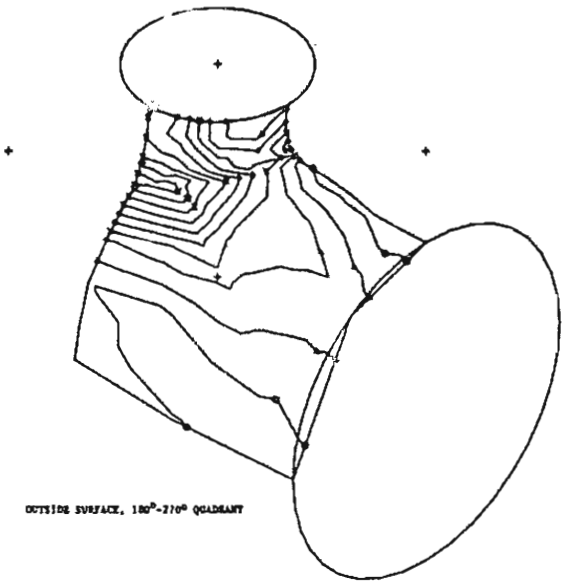
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, F3Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SNRI T-15, F3Z

CONTOUR VALUES

□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
✖ 0.1400E 01
✱ 0.1600E 01
★ 0.1800E 01
✕ 0.2000E 01
✖ 0.2200E 01

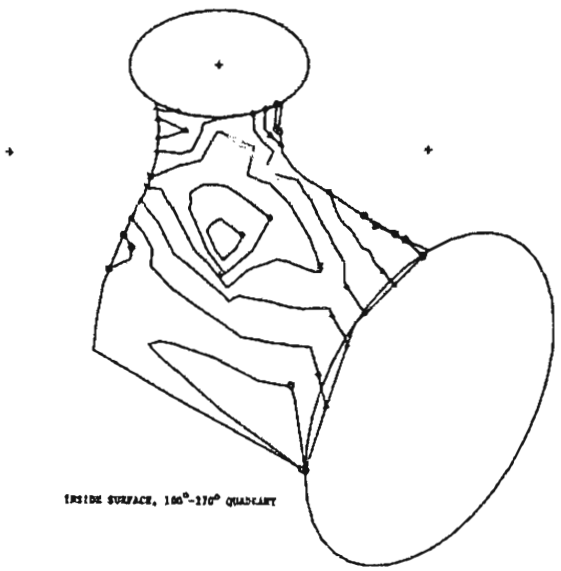


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SNRI T-15, F3Z

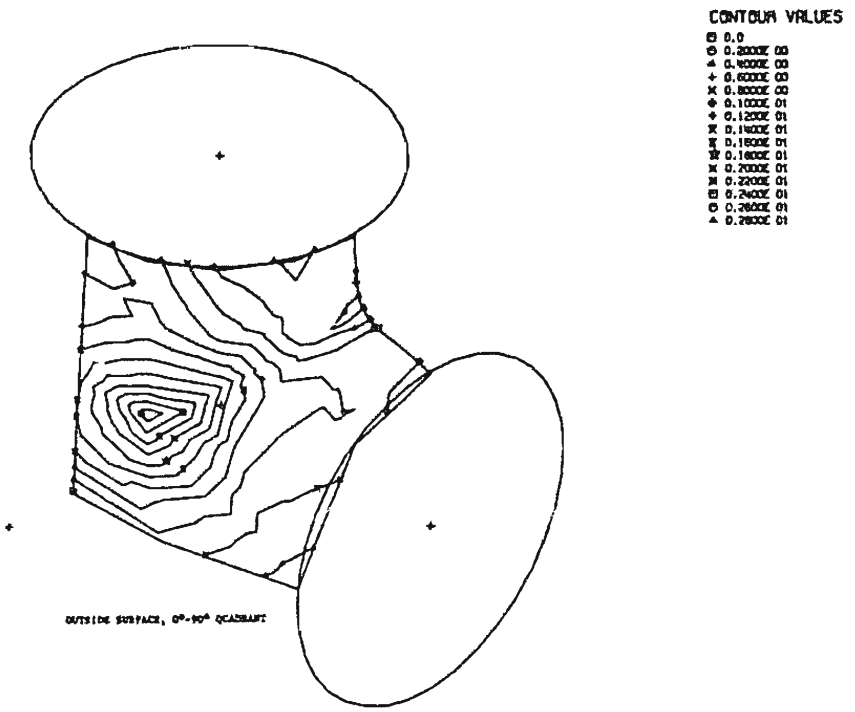
CONTOUR VALUES

□ 0.0
○ 0.2000E 00
△ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01
✖ 0.1400E 01
✱ 0.1600E 01
★ 0.1800E 01
✕ 0.2000E 01
✖ 0.2200E 01

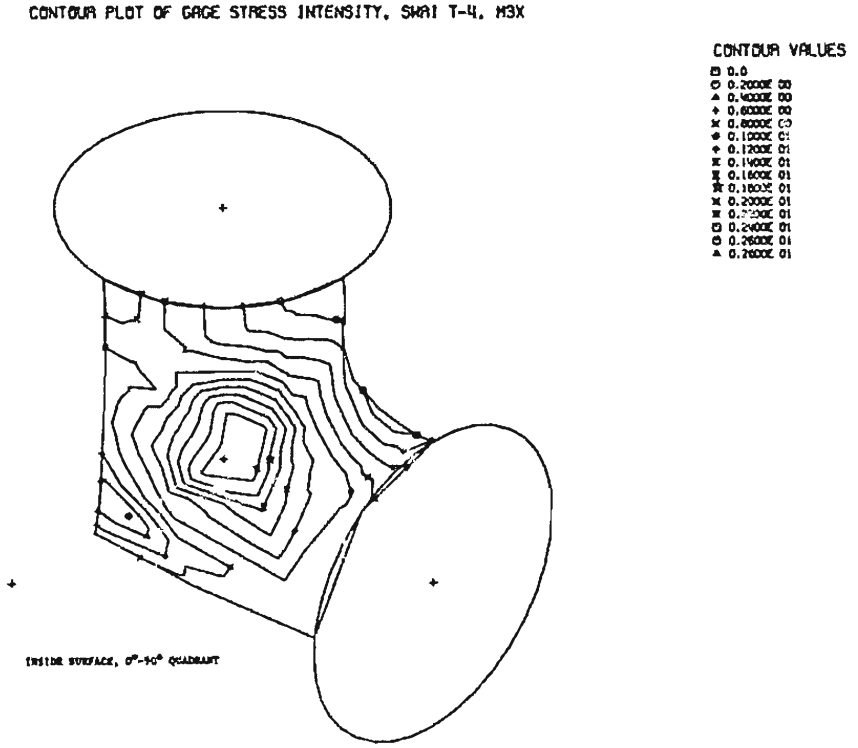


INSIDE SURFACE, 180°-270° QUADRANT

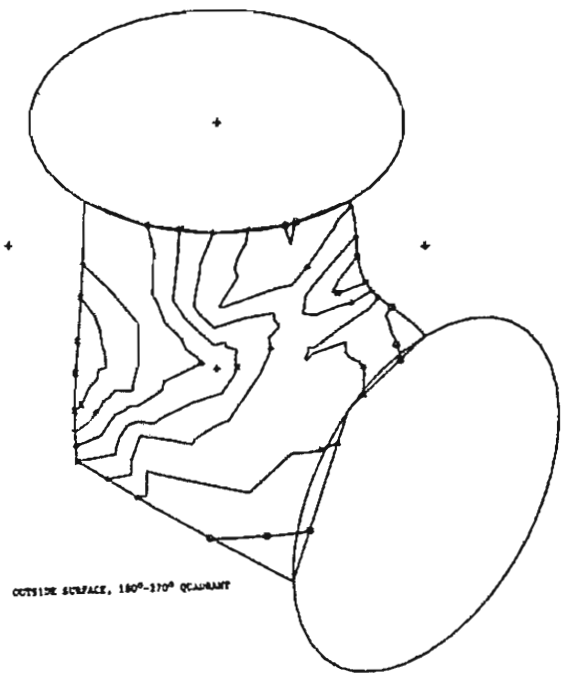
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M3X



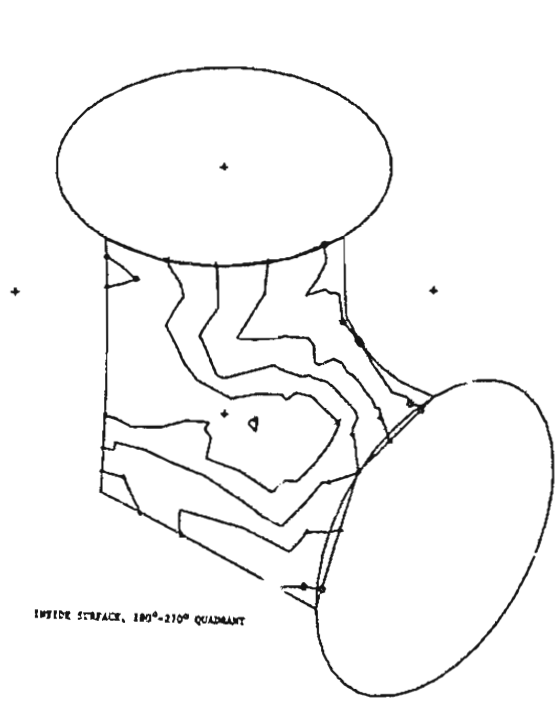
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M3X



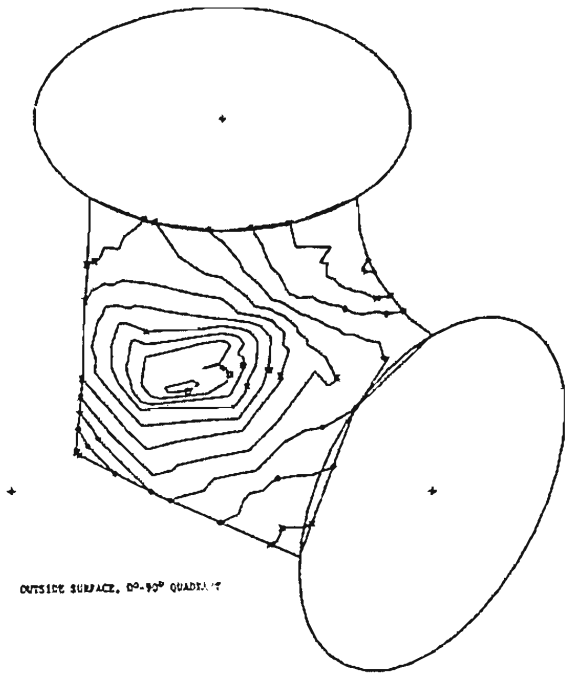
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M3X



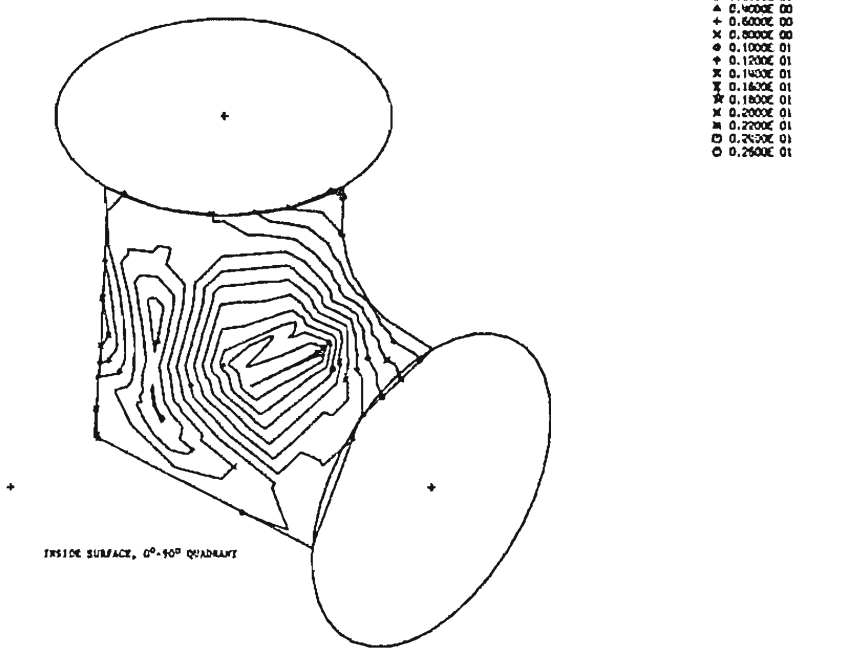
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, M3X



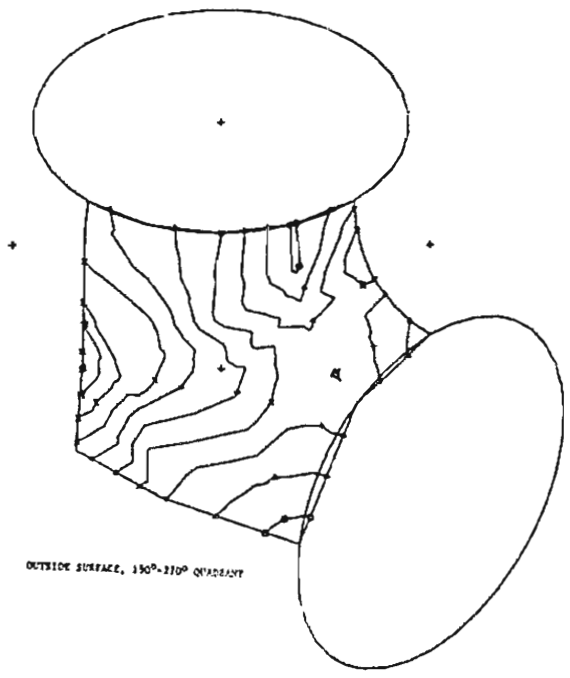
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M3X



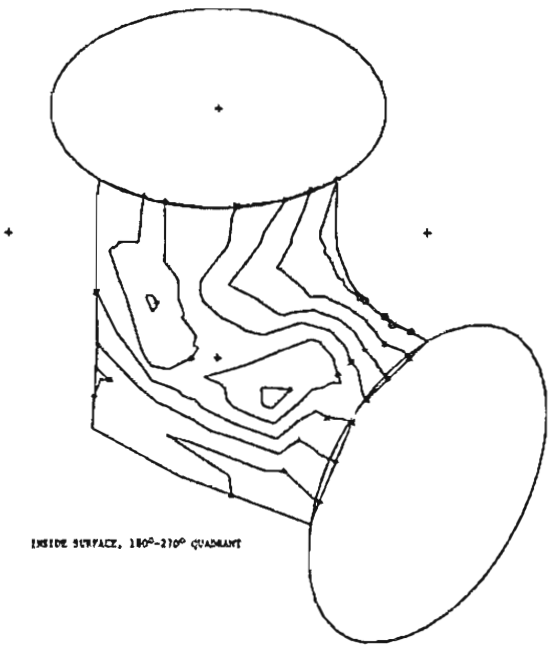
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M3X



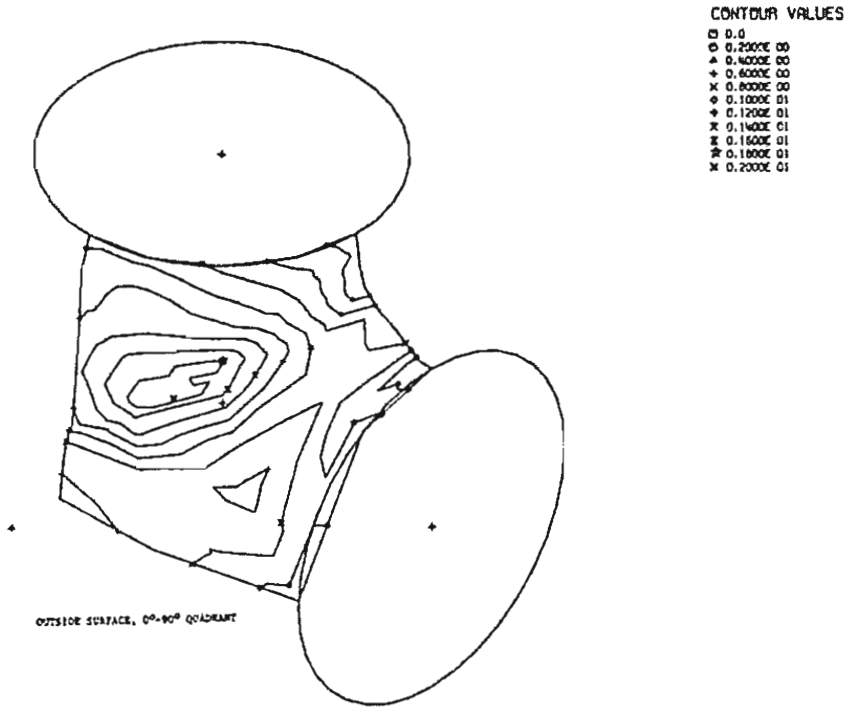
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M3X



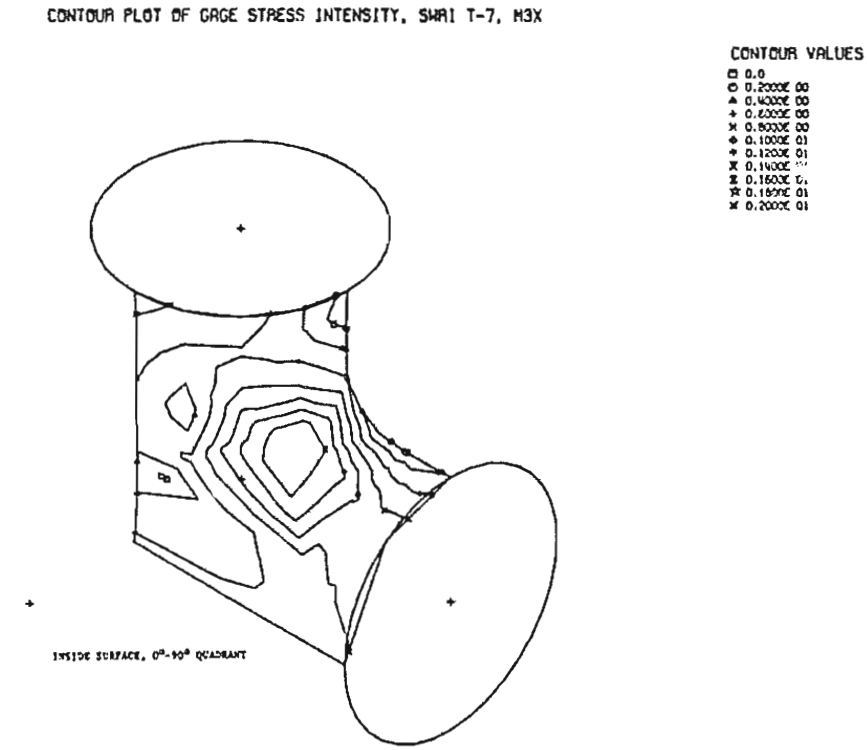
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, M3X



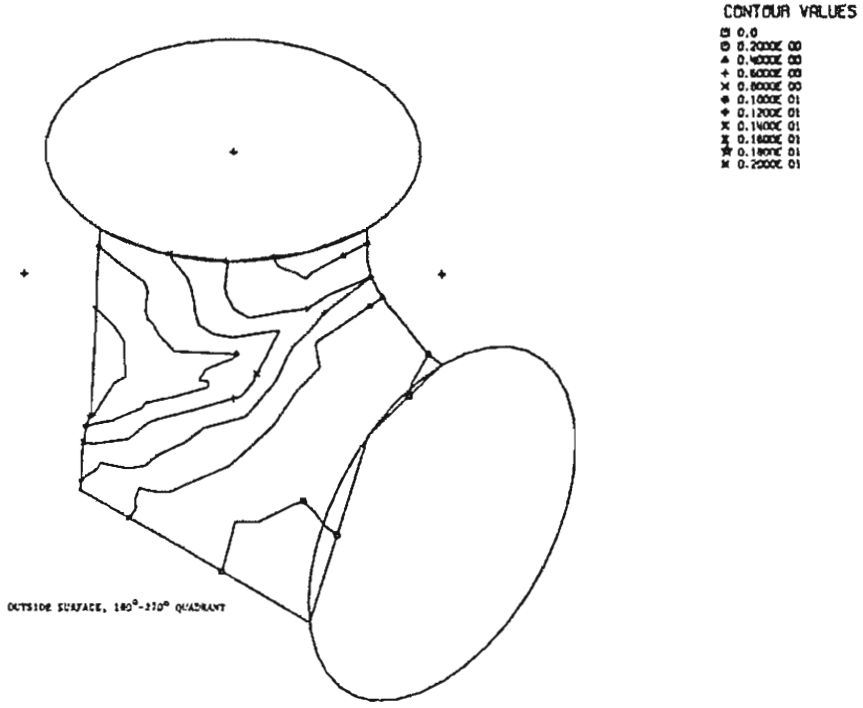
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, M3X



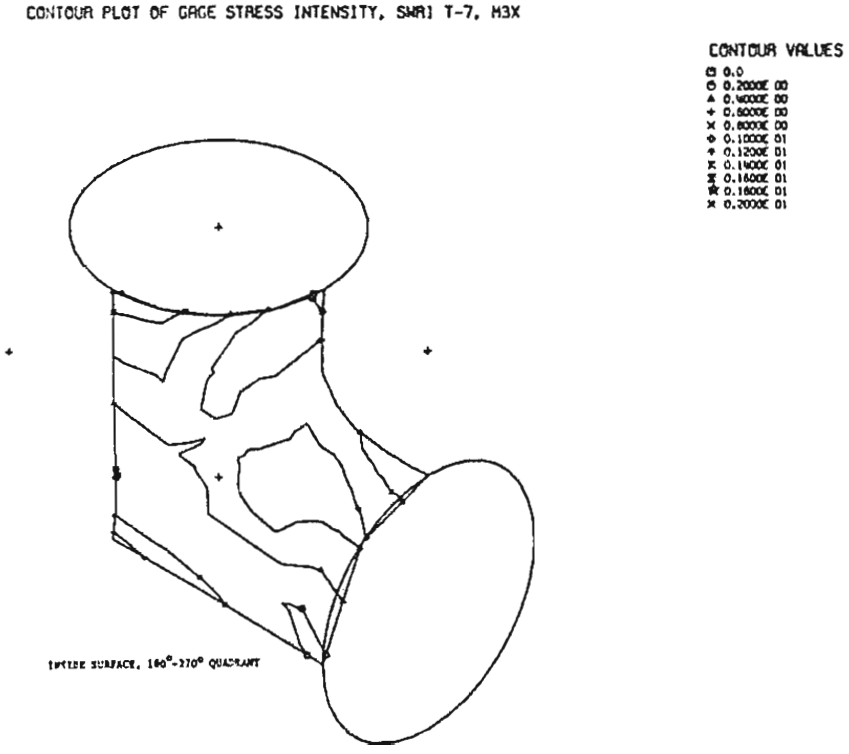
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, M3X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, H3X



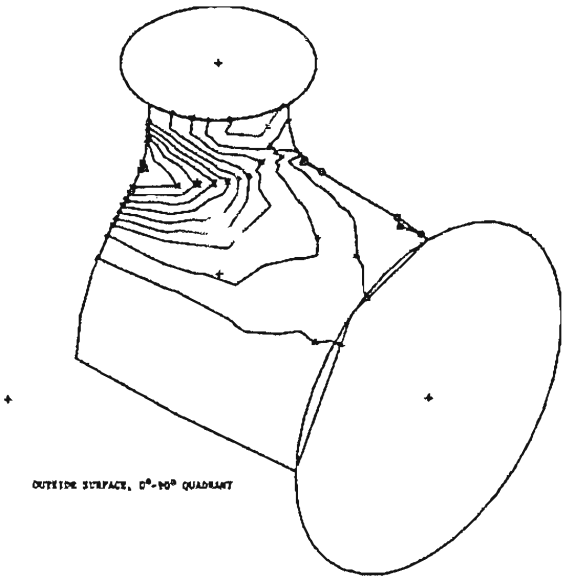
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, H3X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M3X

CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01
0.2200E 01
0.2400E 01

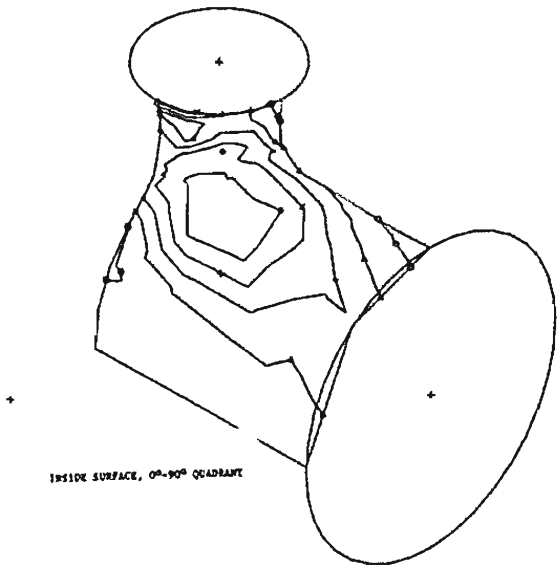


OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M3X

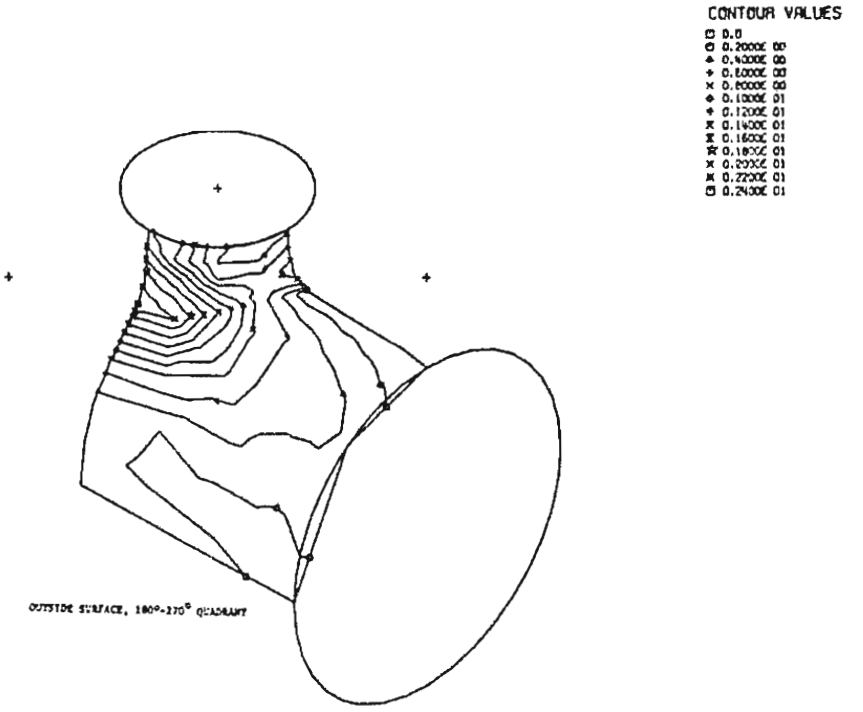
CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01
0.2200E 01
0.2400E 01

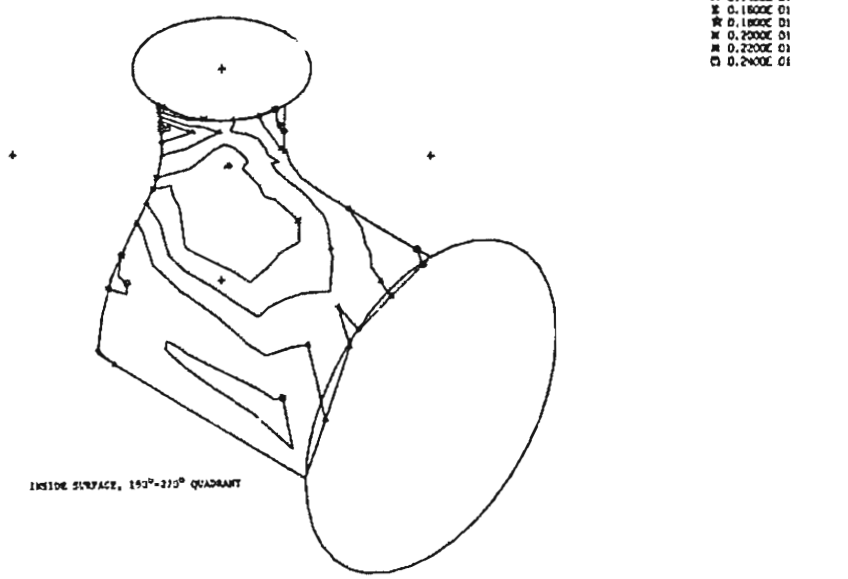


INSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M3X

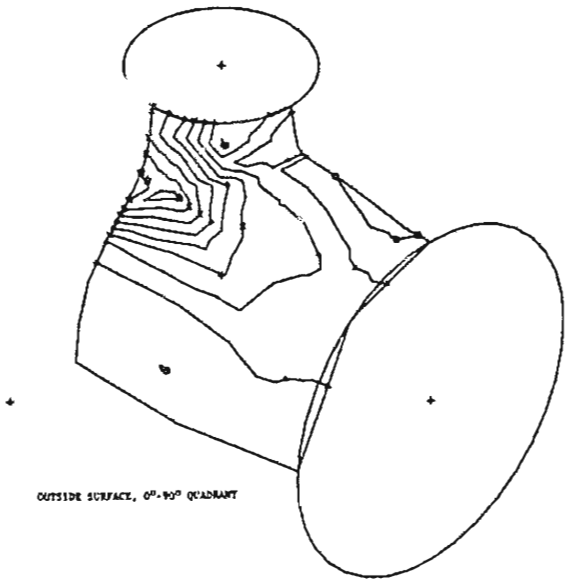


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, M3X



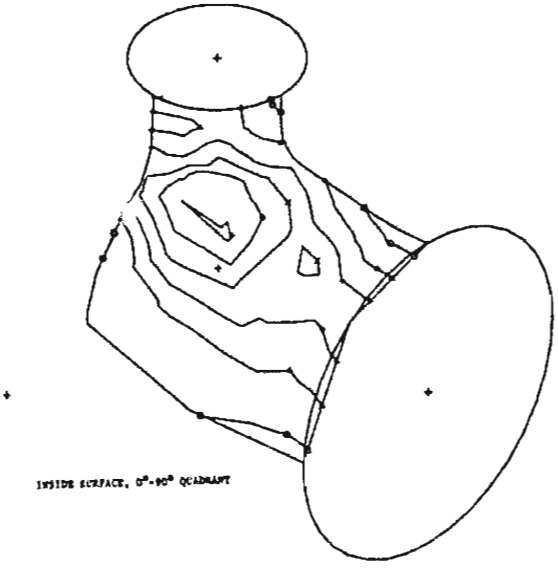
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, M3X

CONTOUR VALUES

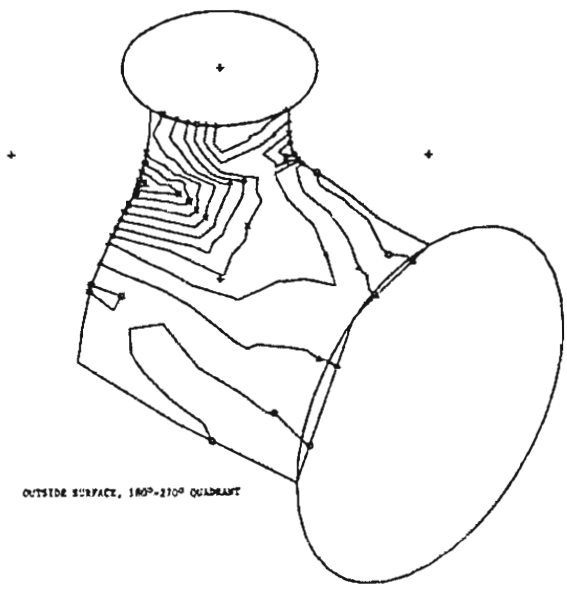


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, M3X

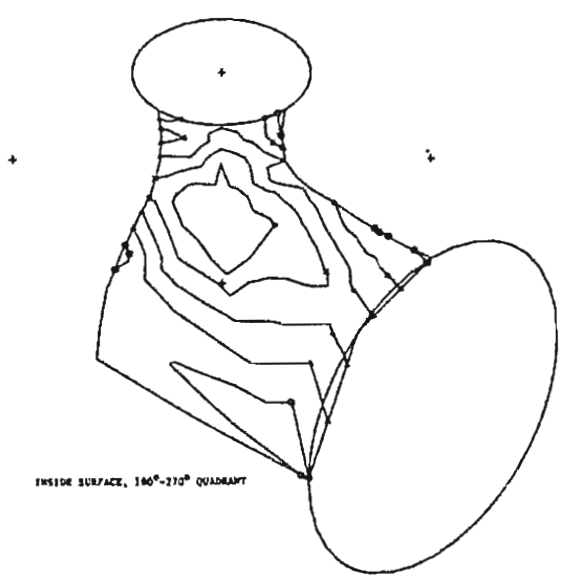
CONTOUR VALUES



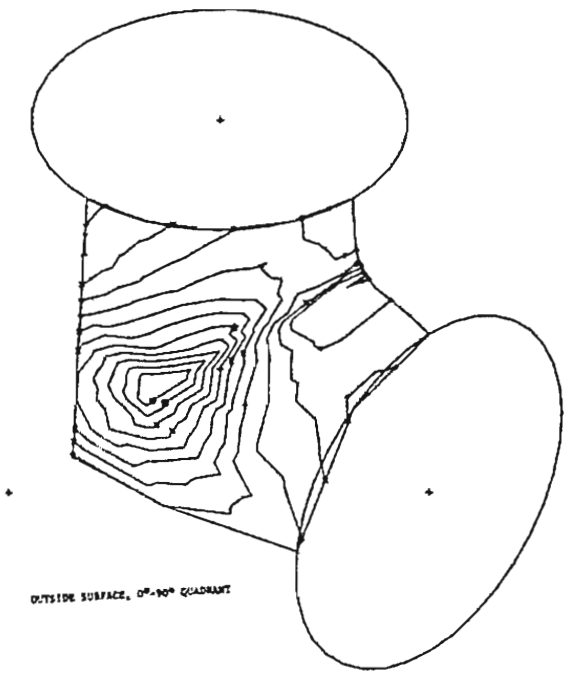
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, M3X



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, M3X



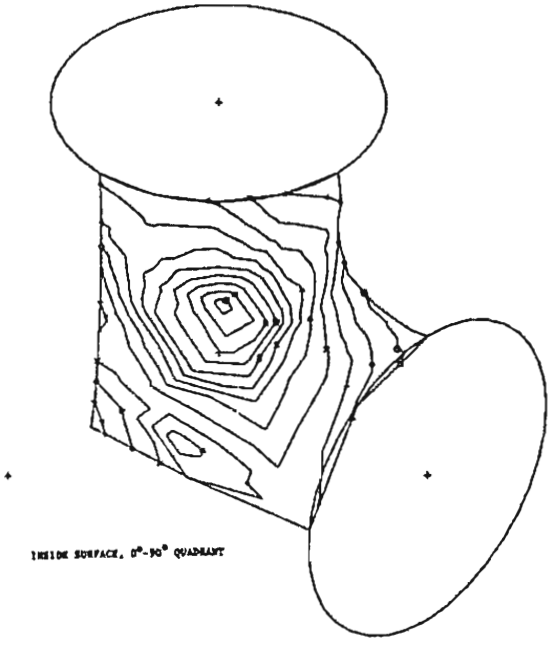
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M3Y



CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01
0.2200E 01
0.2400E 01
0.2600E 01
0.2800E 01

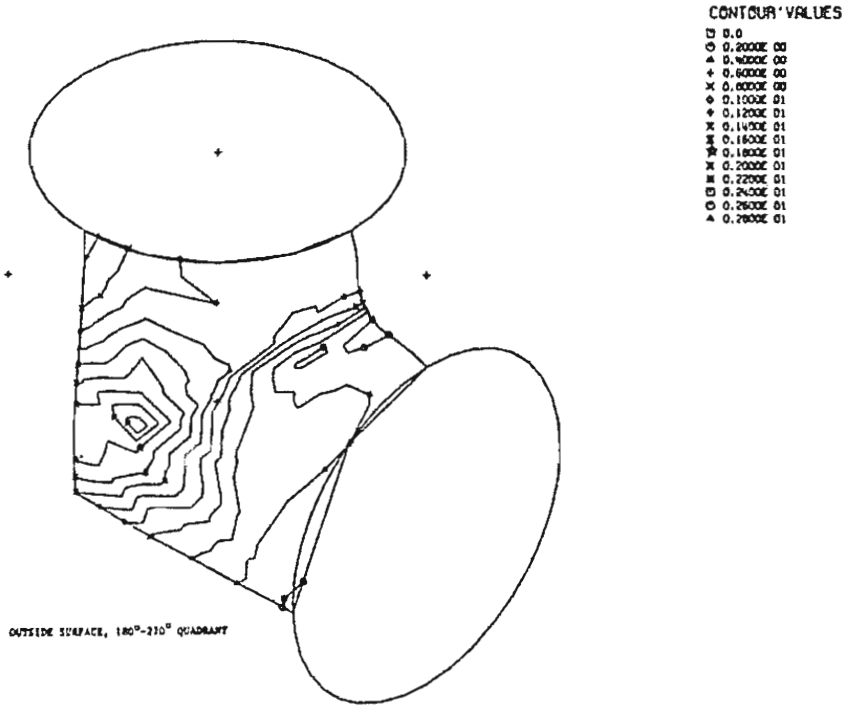
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M3Y



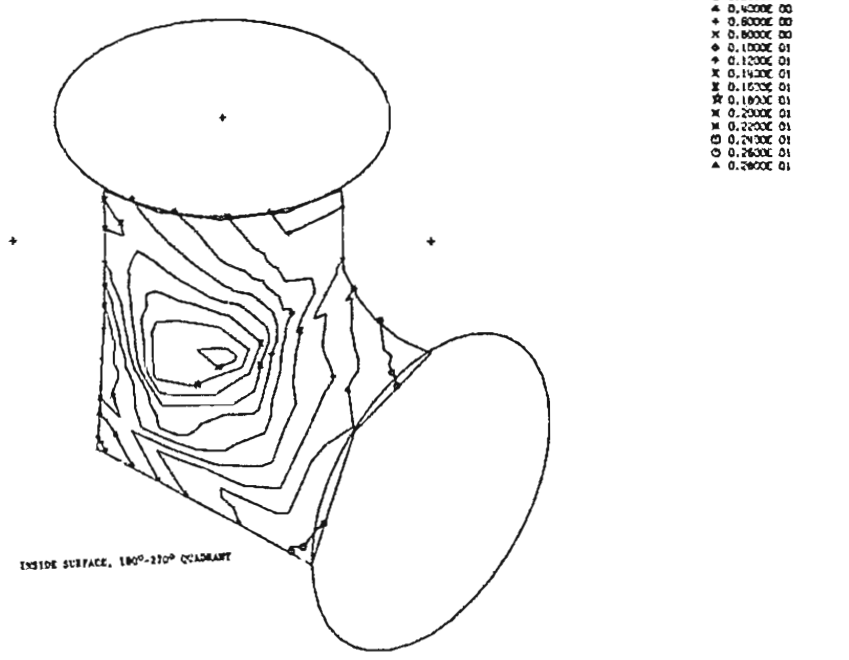
CONTOUR VALUES

0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01
0.1600E 01
0.1800E 01
0.2000E 01
0.2200E 01
0.2400E 01
0.2600E 01
0.2800E 01

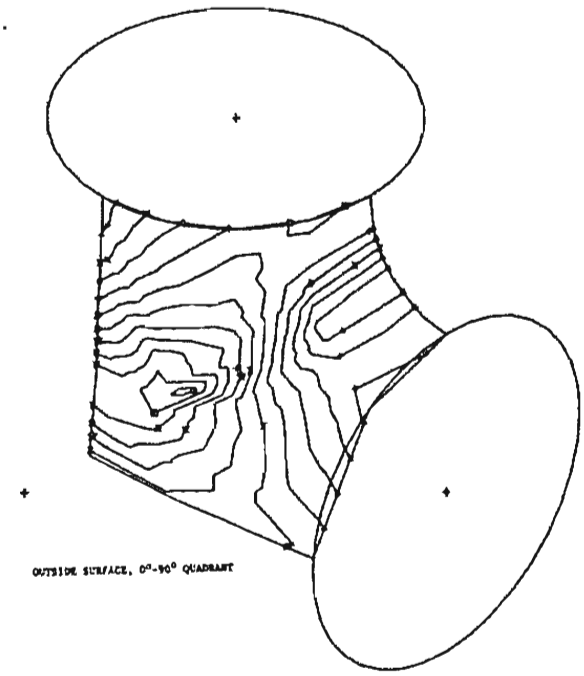
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -H3Y



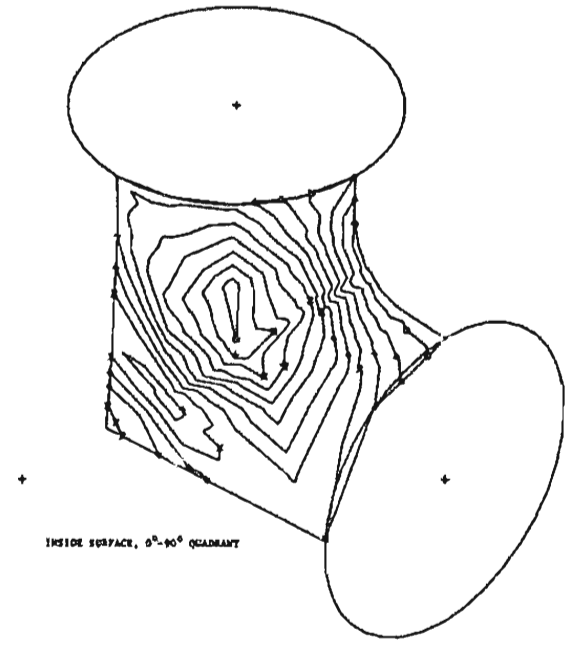
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -H3Y



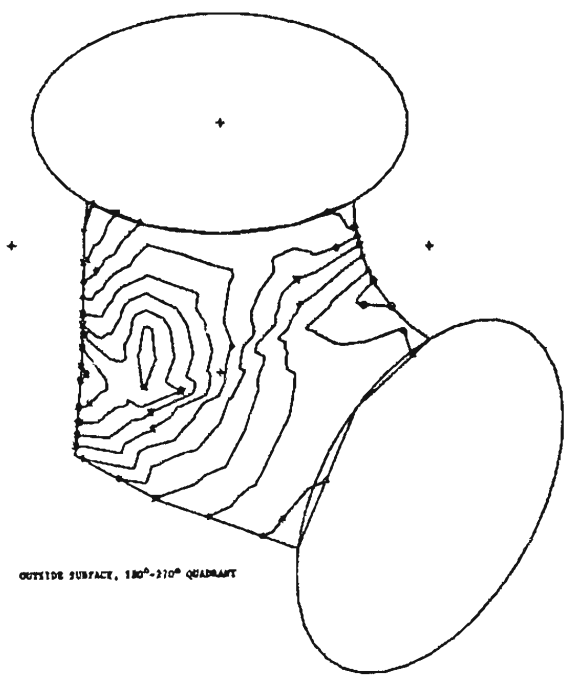
CONTOUR PLOT OF GAGE STRESS INTENSITY, SNRI T-6, -M3Y



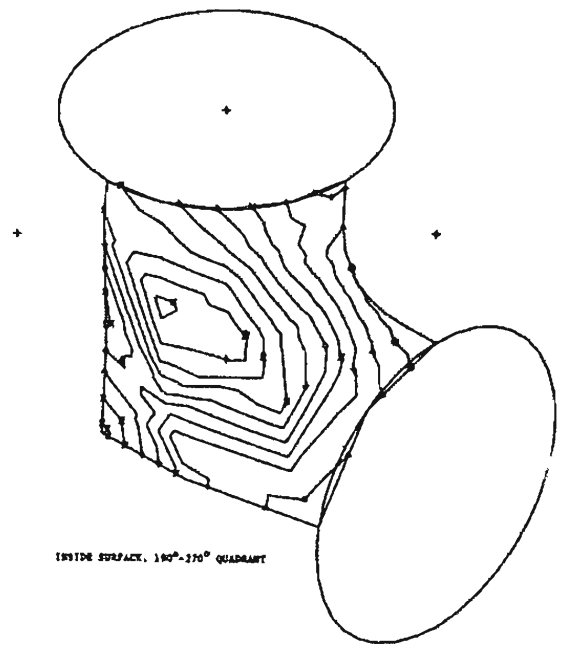
CONTOUR PLOT OF GAGE STRESS INTENSITY, SNRI T-6, -M3Y



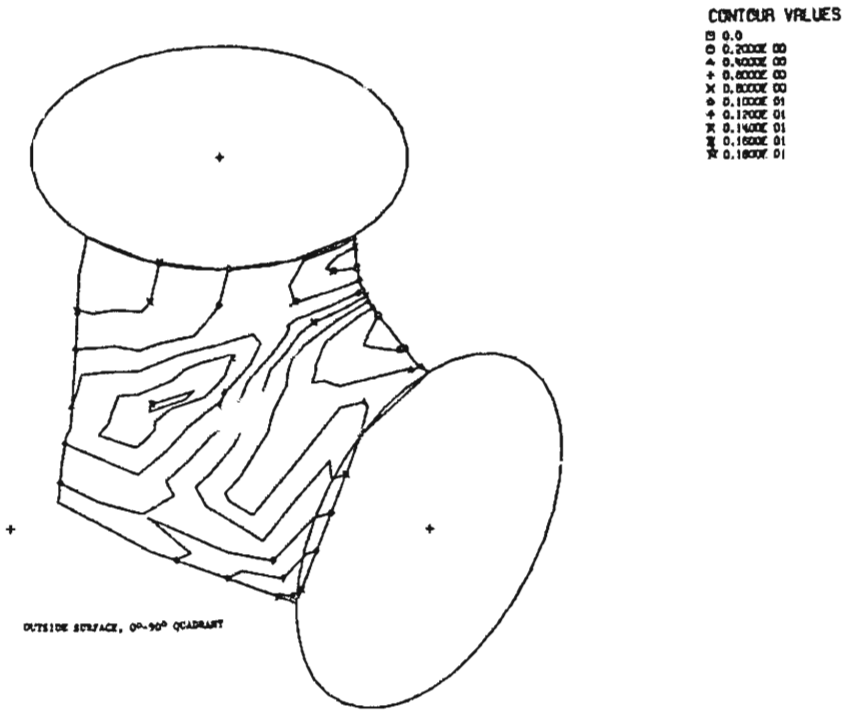
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -H3Y



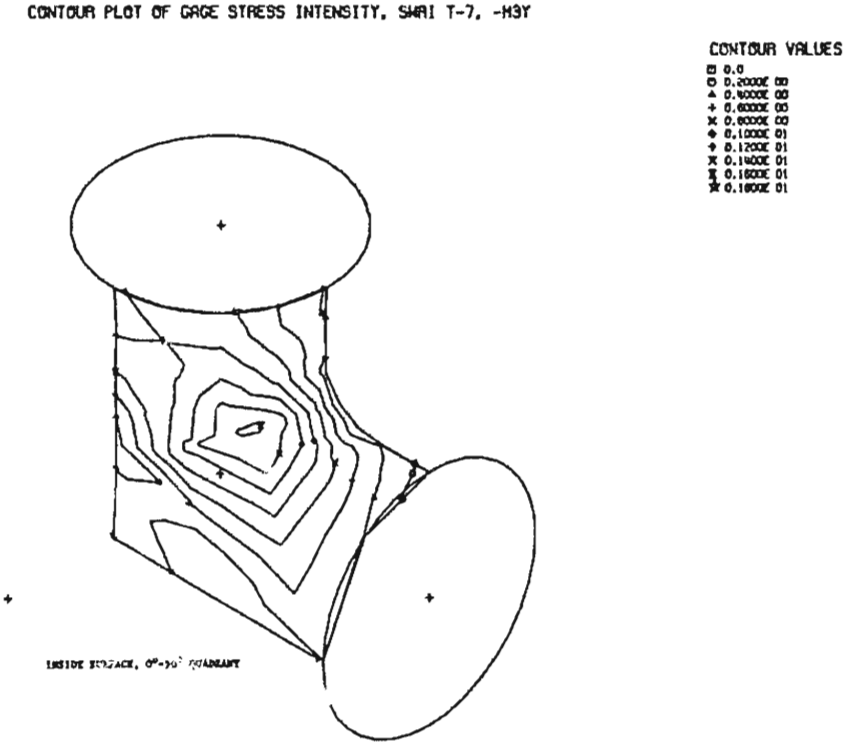
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -H3Y



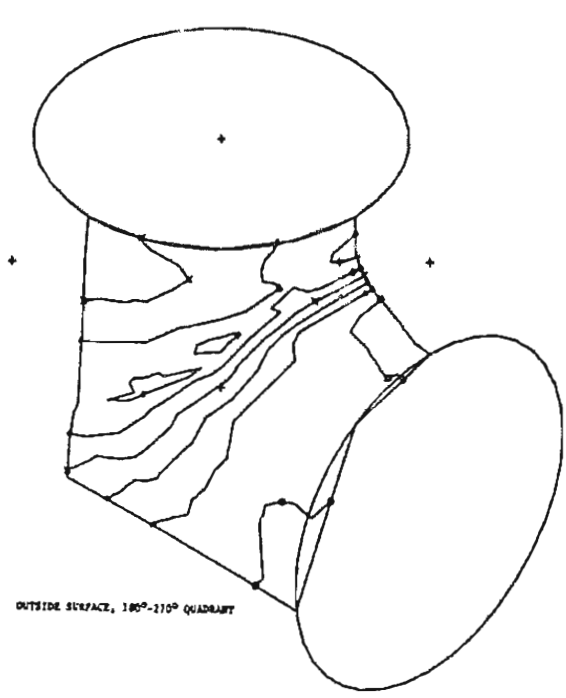
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -H3Y



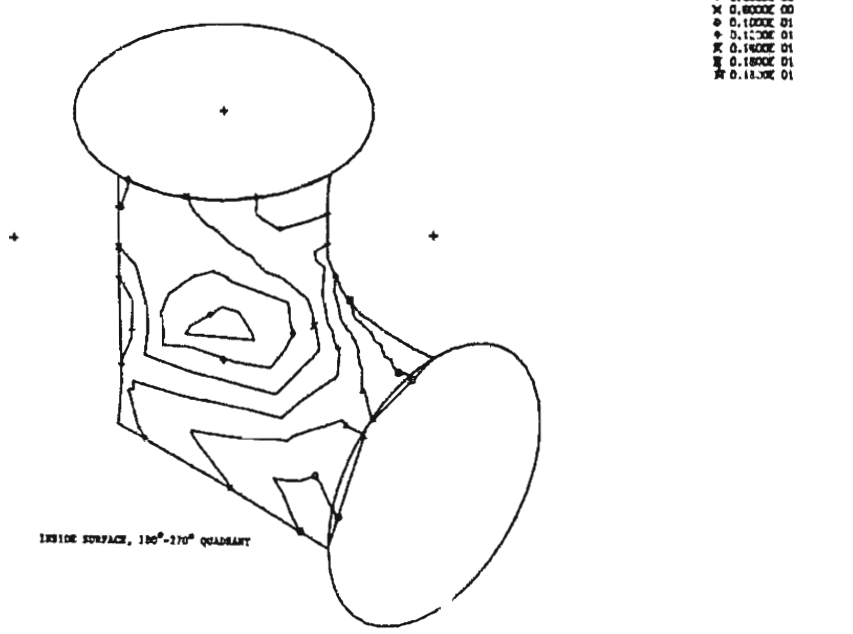
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -H3Y



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -H3Y

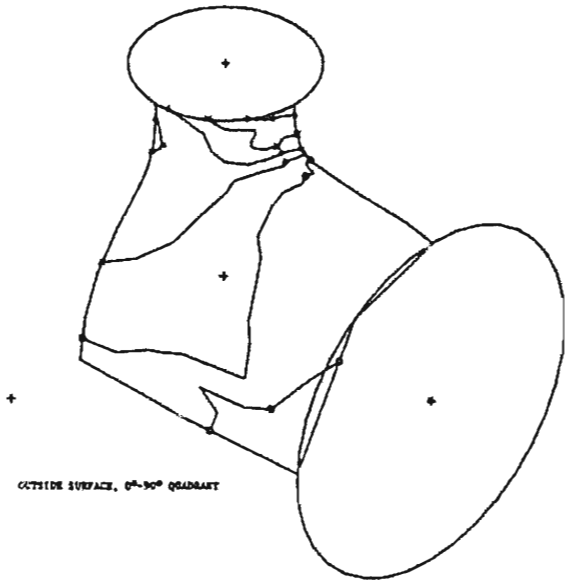


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -H3Y



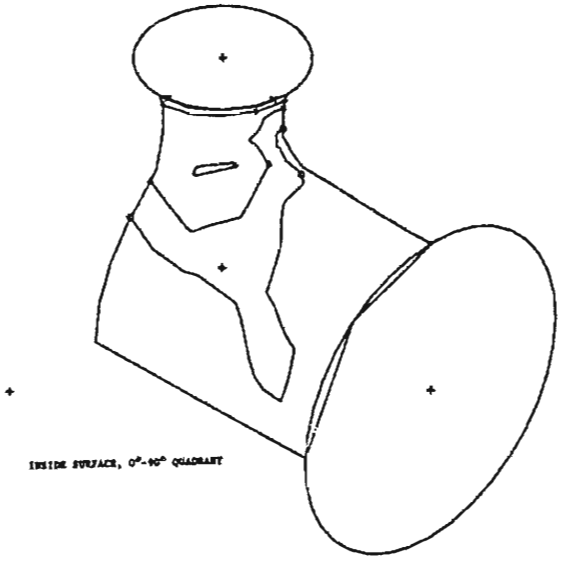
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M3Y

CONTOUR VALUES



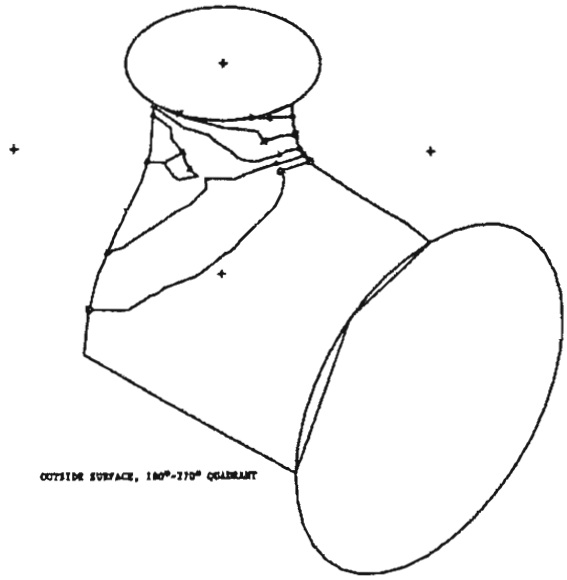
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M3Y

CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -H3Y

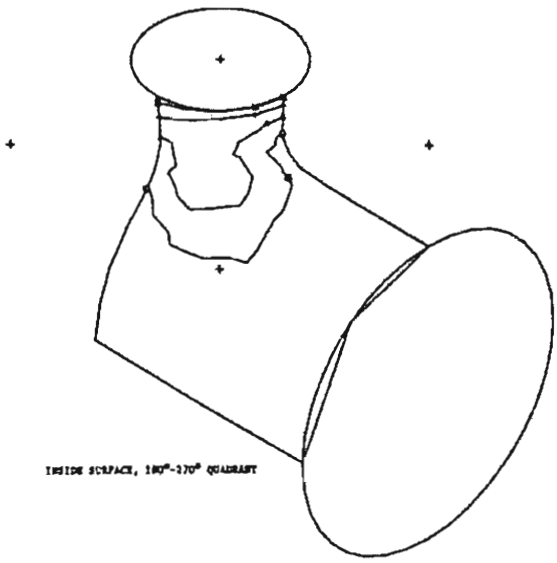
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01



OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -H3Y

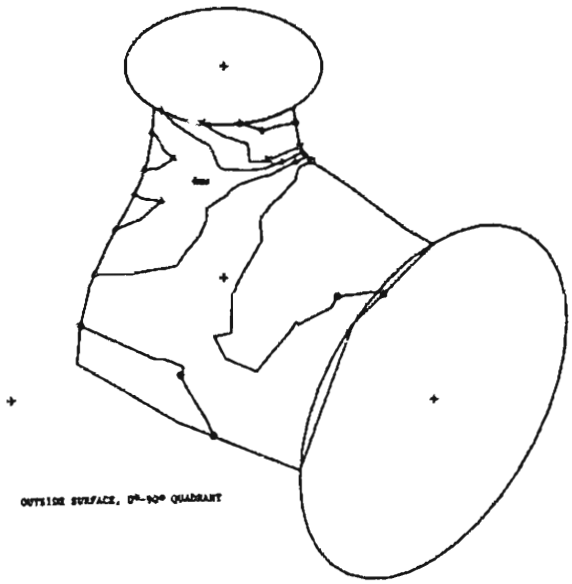
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01



INSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -K3Y

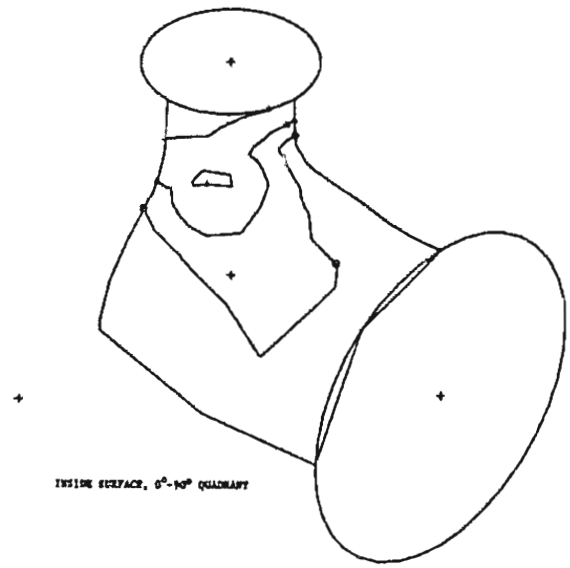
CONTOUR VALUES
⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -K3Y

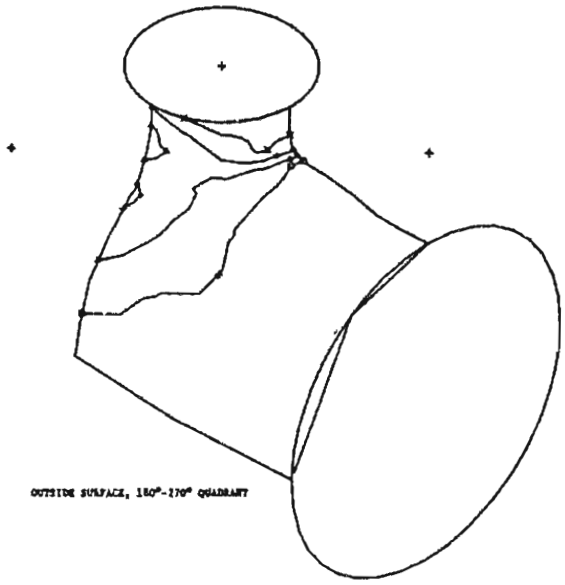
CONTOUR VALUES
⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01



INSIDE SURFACE, 0°-90° QUADRANT

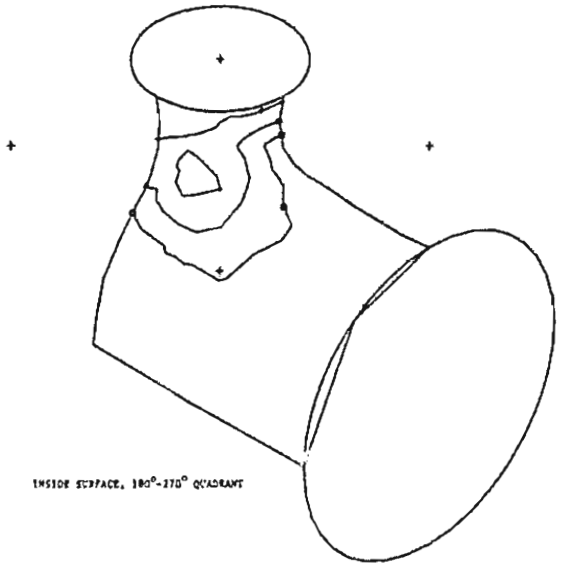
'CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -H3Y

CONTOUR VALUES
⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01

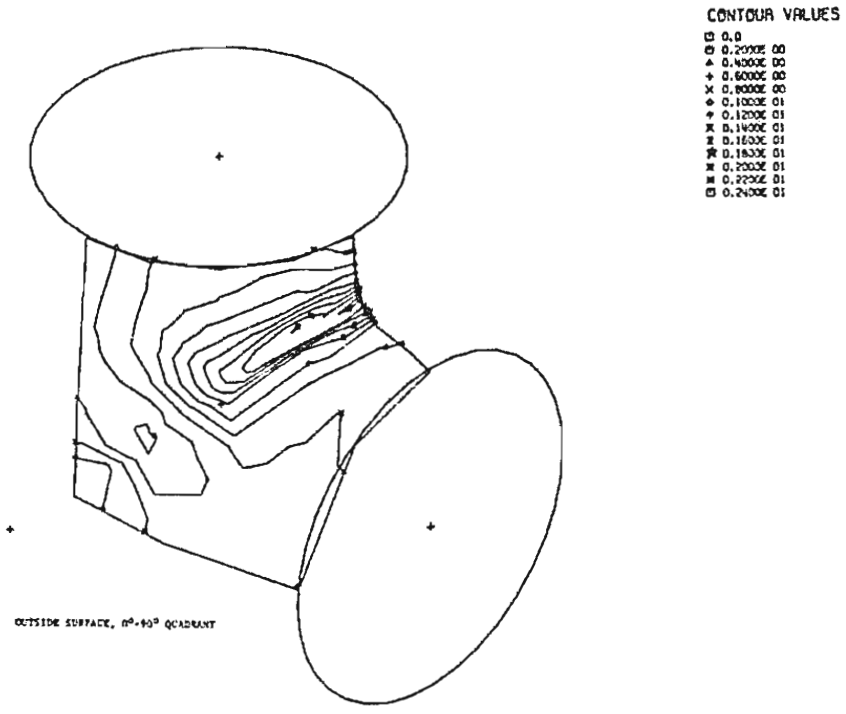


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -H3Y

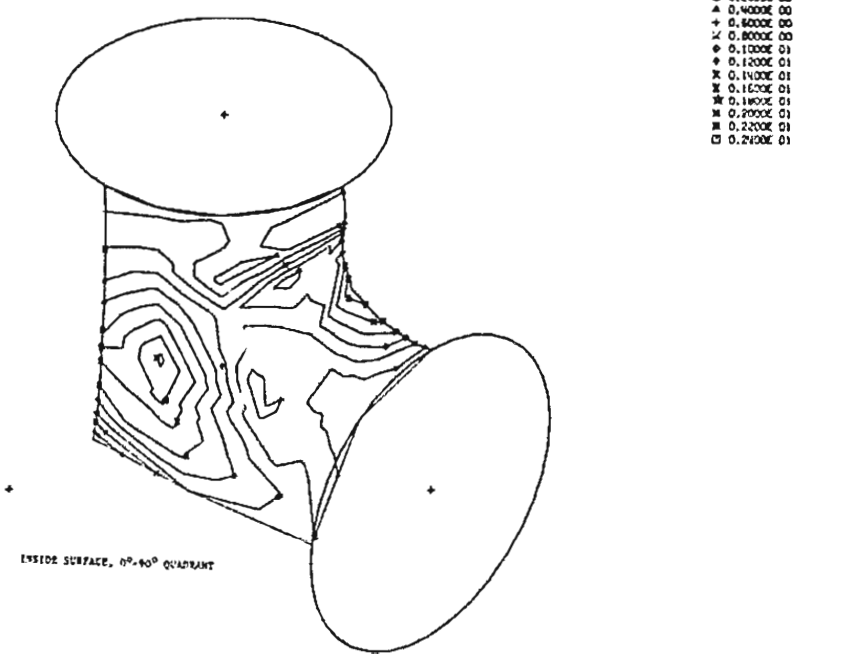
CONTOUR VALUES
⊡ 0.0
⊙ 0.2000E 00
▲ 0.4000E 00
+ 0.6000E 00
× 0.8000E 00
◆ 0.1000E 01
✦ 0.1200E 01



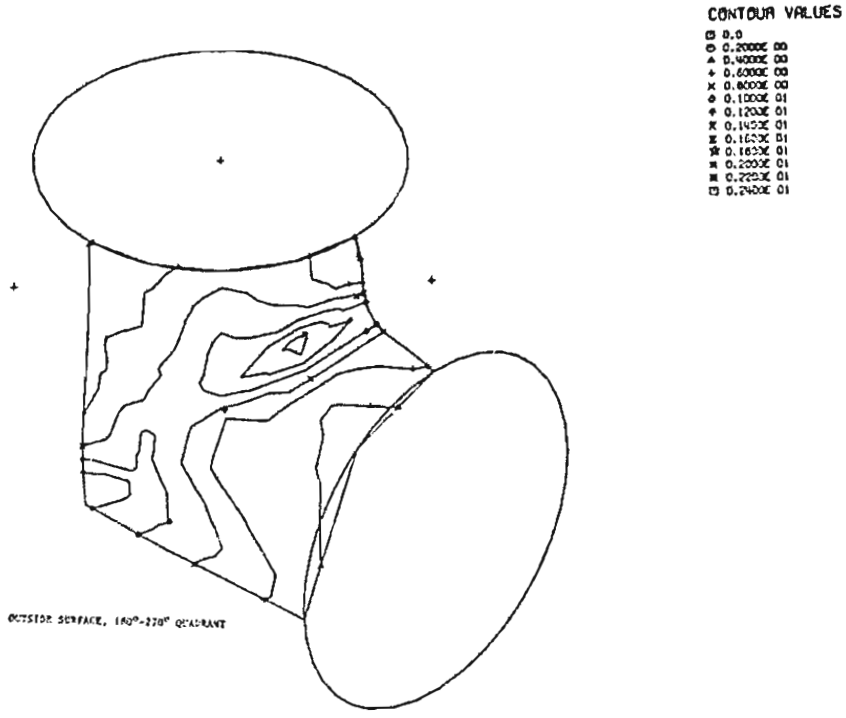
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M3Z



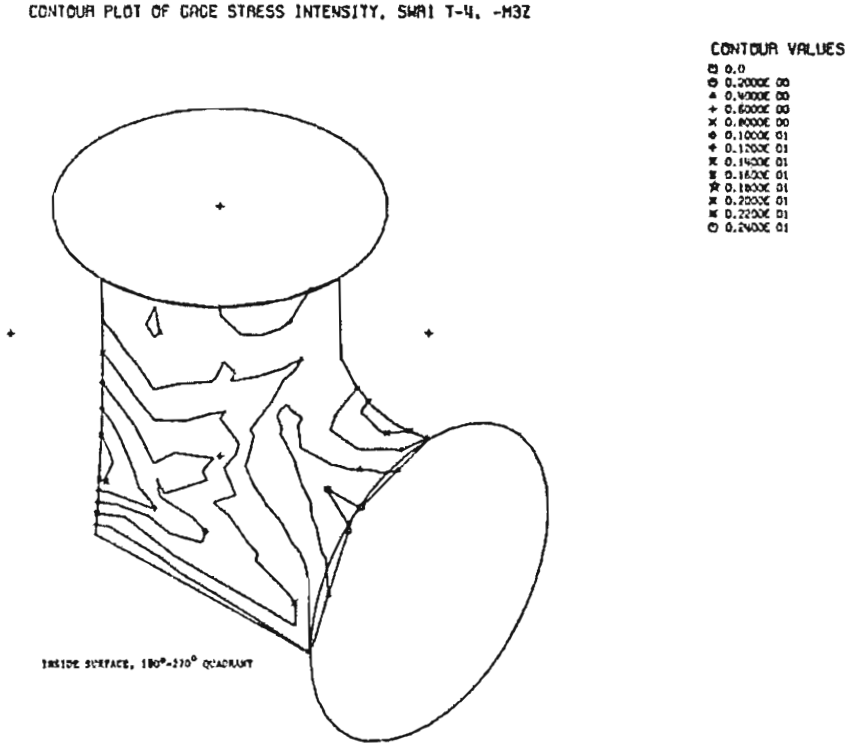
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M3Z



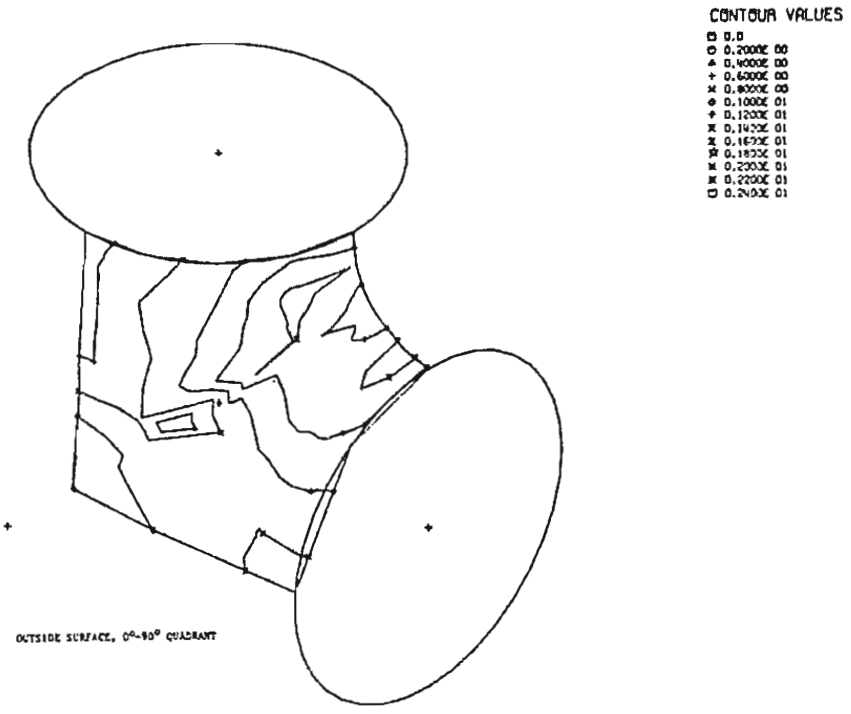
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M3Z



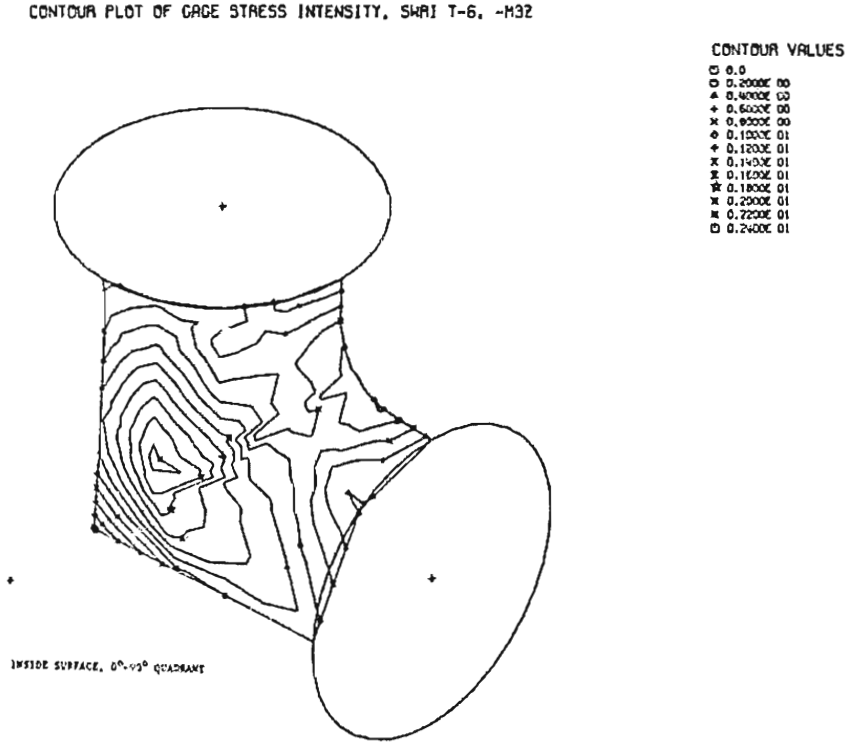
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-4, -M3Z



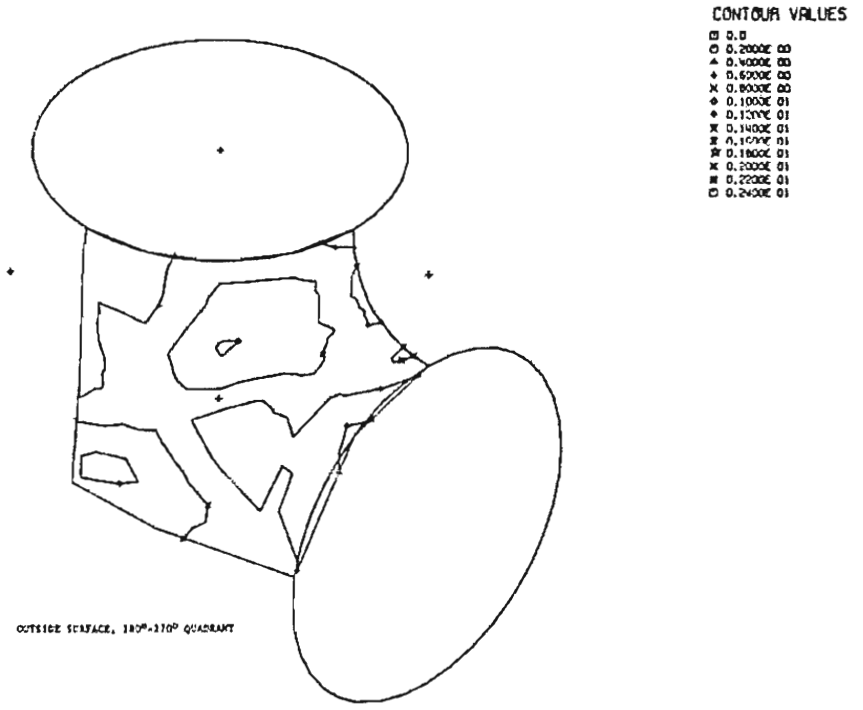
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M3Z



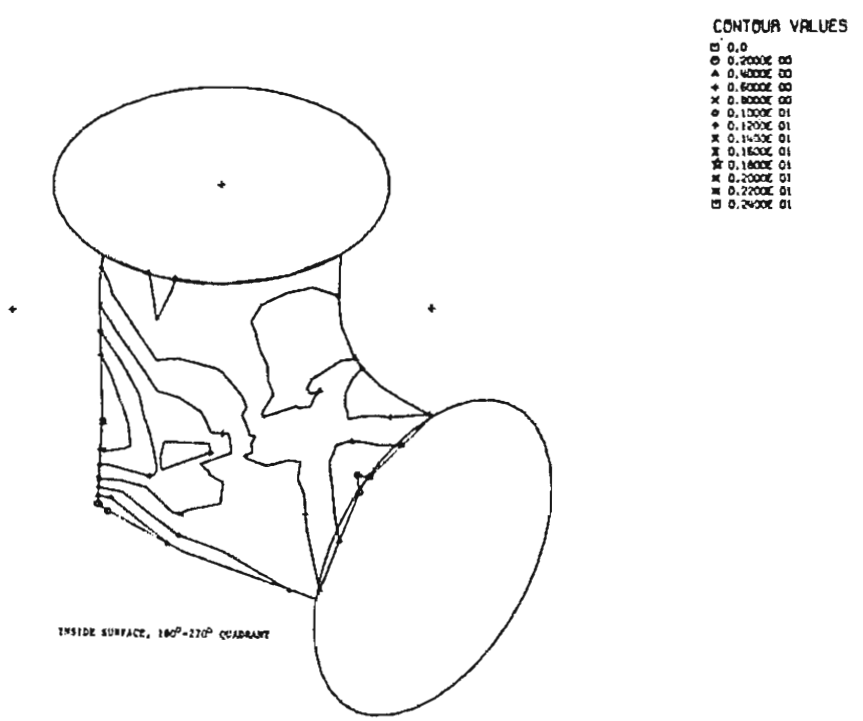
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M3Z



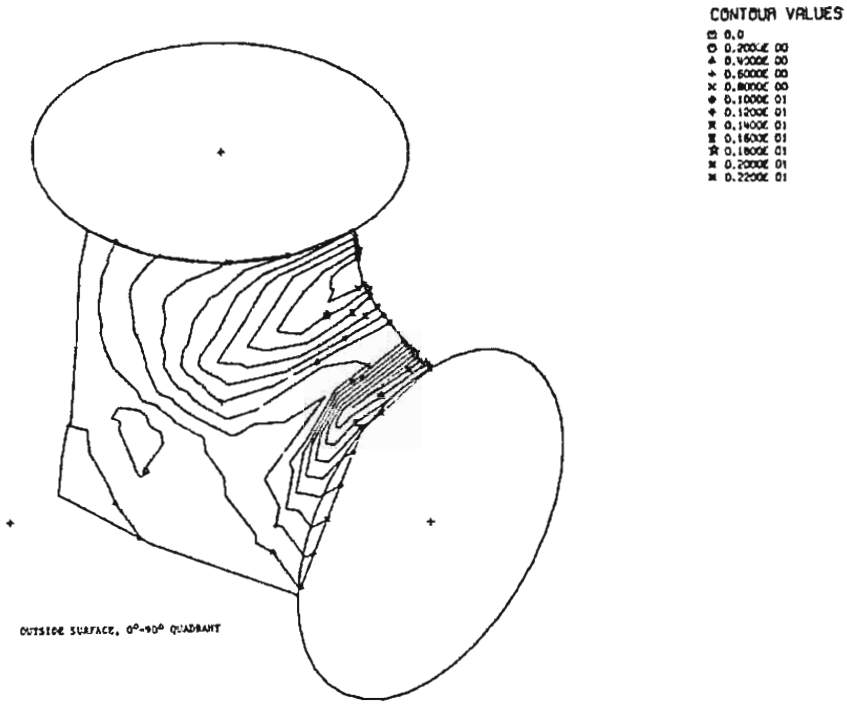
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M3Z



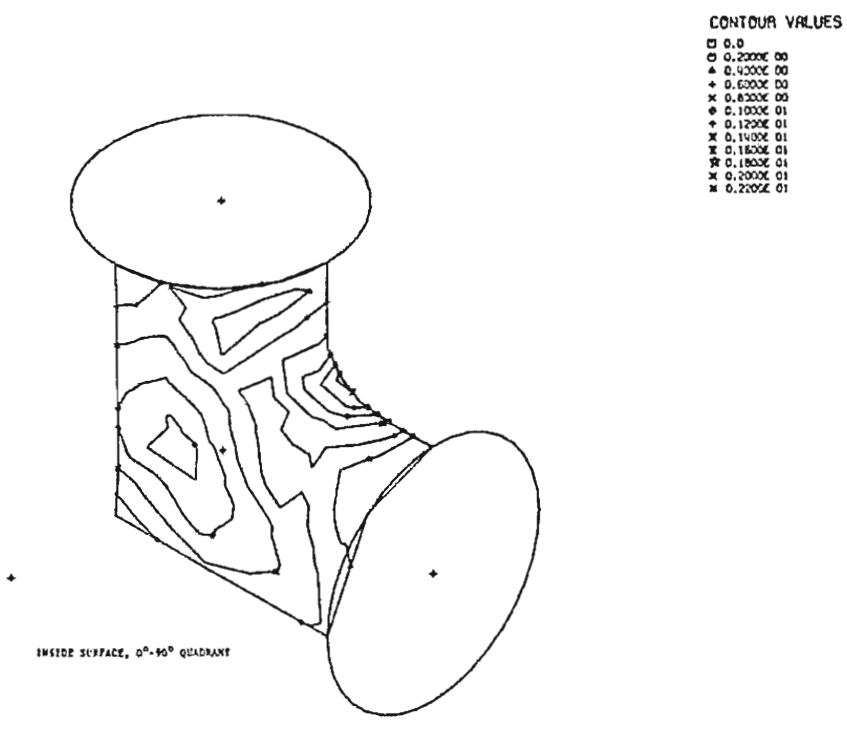
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-6, -M3Z



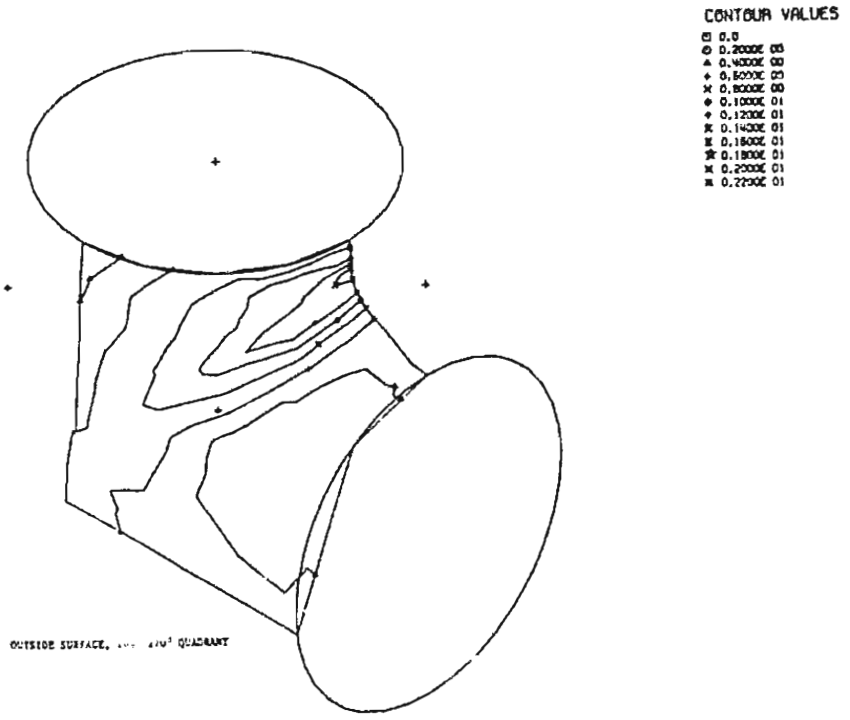
CONTOUR PLOT OF CAGE STRESS INTENSITY, SWRI T-7, -M3Z.



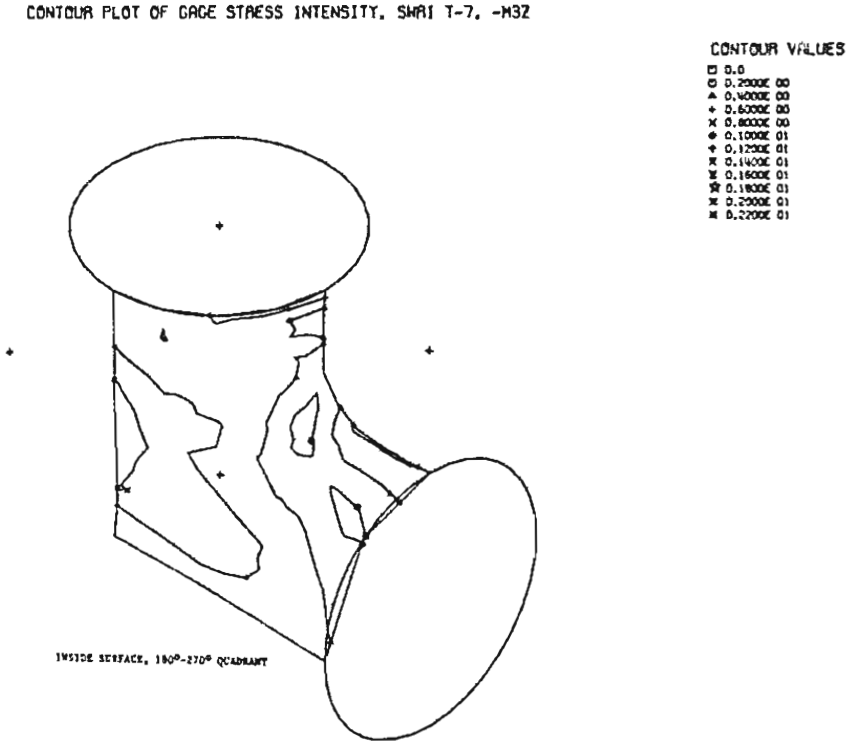
CONTOUR PLOT OF CAGE STRESS INTENSITY, SWRI T-7, -M3Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M3Z

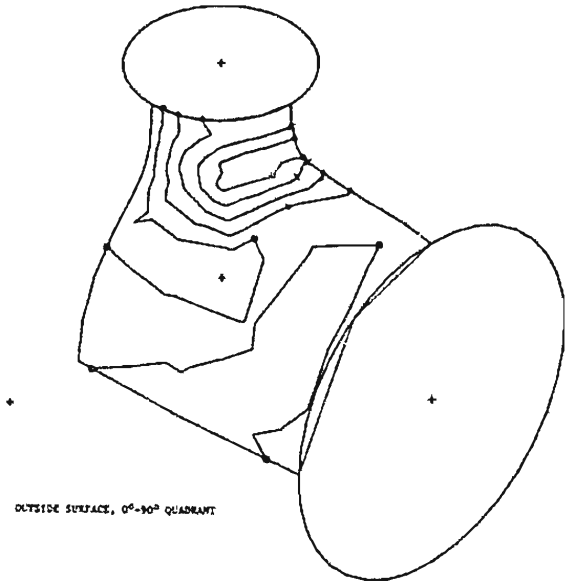


CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-7, -M3Z



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M3Z

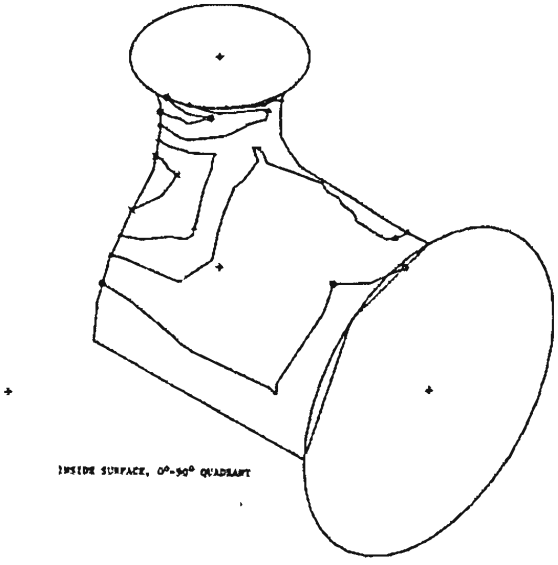
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01



OUTSIDE SURFACE, 0°-90° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M3Z

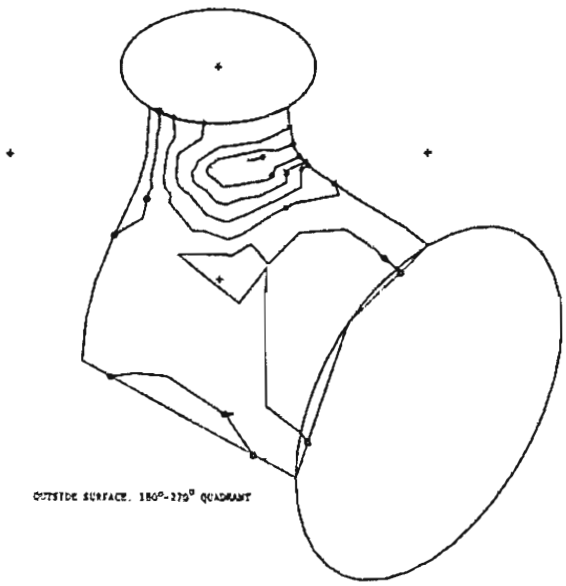
CONTOUR VALUES
0.0
0.2000E 00
0.4000E 00
0.6000E 00
0.8000E 00
0.1000E 01
0.1200E 01
0.1400E 01



INSIDE SURFACE, 0°-90° QUADRANT

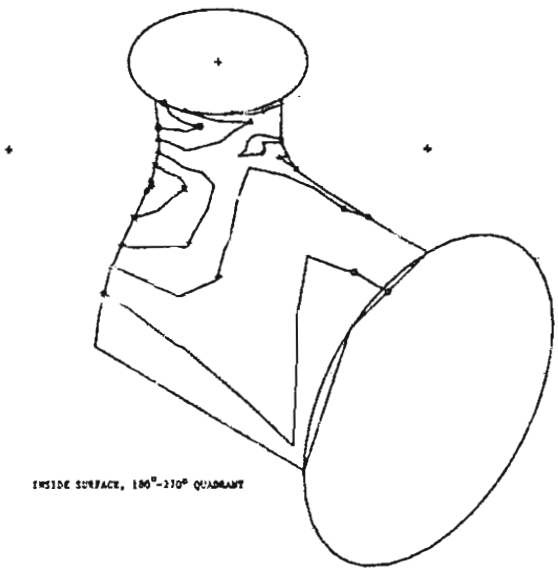
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M3Z

CONTOUR VALUES



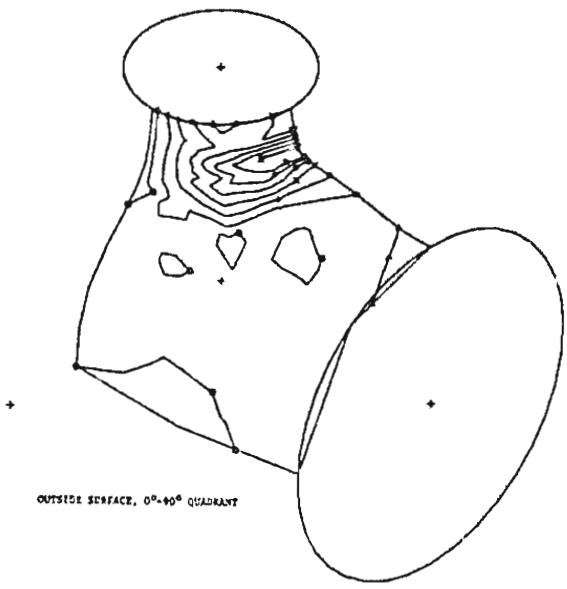
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-8, -M3Z

CONTOUR VALUES



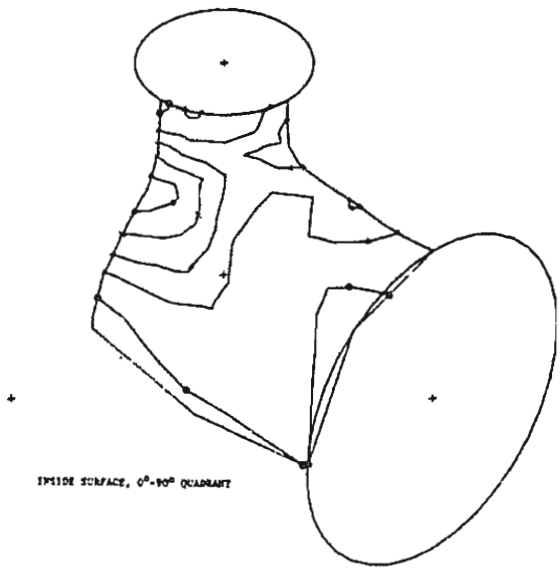
CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M3Z

CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M3Z

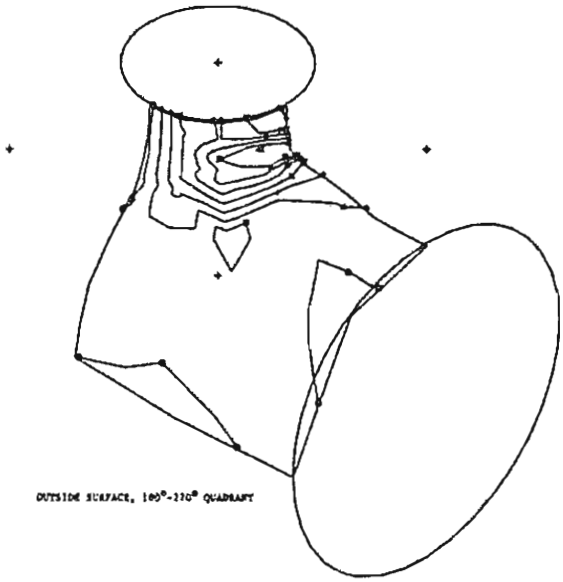
CONTOUR VALUES



CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M3Z

CONTOUR VALUES

□	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◇	0.1000E 01
✚	0.1200E 01
⧖	0.1400E 01
⧗	0.1600E 01
★	0.1800E 01

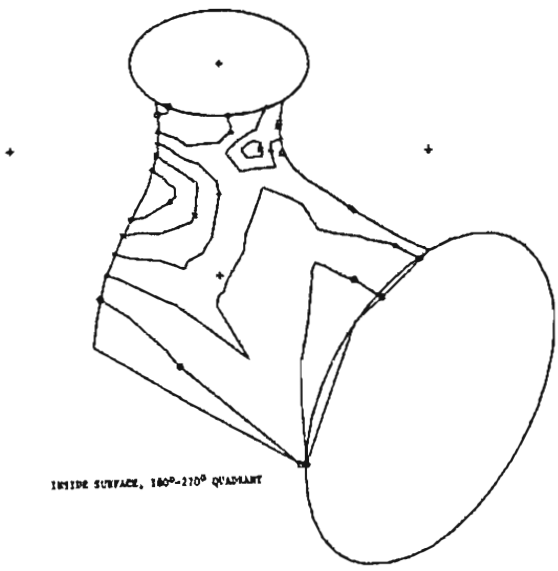


OUTSIDE SURFACE, 180°-270° QUADRANT

CONTOUR PLOT OF GAGE STRESS INTENSITY, SWRI T-15, -M3Z

CONTOUR VALUES

□	0.0
○	0.2000E 00
△	0.4000E 00
+	0.6000E 00
×	0.8000E 00
◇	0.1000E 01
✚	0.1200E 01
⧖	0.1400E 01
⧗	0.1600E 01
★	0.1800E 01



INSIDE SURFACE, 180°-270° QUADRANT

APPENDIX IX

DEFLECTION DATA FROM DIAL INDICATORS

This appendix presents tabulations of deflection data obtained from the sixteen dial indicators located on each model. Dial locations are shown in Figure IX.1. The data is arranged in the following sequence under each tee: Pressure, M2X, -M2Y, -M2Z, F2X, -F2Y, F2Z, M3X, -M3Y, -M3Z, F3X, F3Y, F3Z.

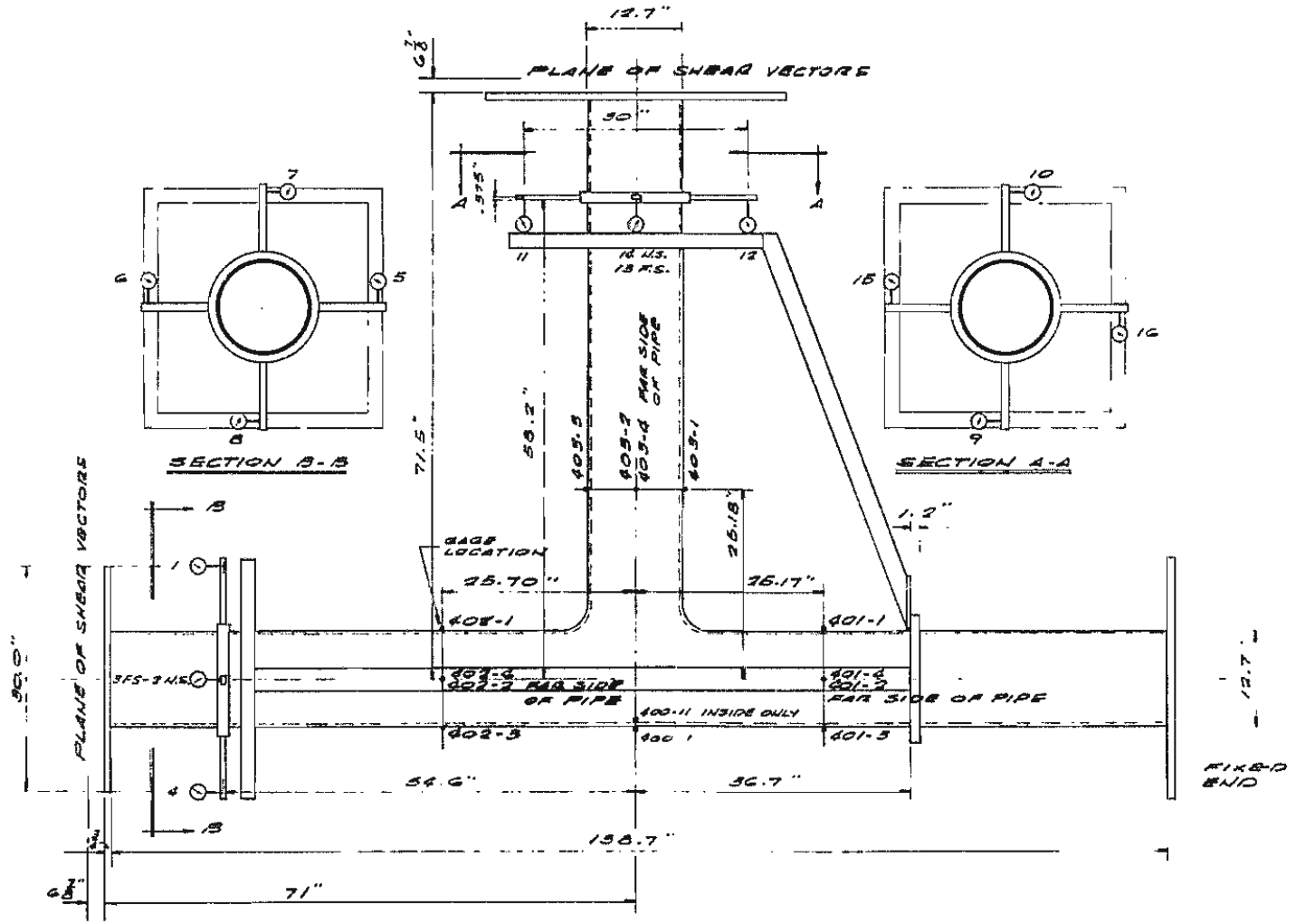


FIGURE IX.1. LOCATION OF DIAL INDICATORS AND PIPE LEG ROSETTES FOR T-4.

Table IX.1.1. Deflection Data for Internal Pressure, T-4

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
250	0.0015	0	0.0005	0	0.0045	0.0015	0.0010	0.0015
500	0.0005	0.0005	0.0025	0.0020	0.0065	0.0020	0.0040	0.0015
750	0	0.0005	0.0030	0.0030	0.0080	0.0040	0.0055	0.0015
1000	0.0040	0.0050	0.0030	0.0030	0.0120	0.0055	0.0040	0.0015
750	0.0035	0.0045	0.0030	0.0025	0.0110	0.0045	0.0030	0.0015
500	0.0040	0.0025	0.0025	0.0010	0.0075	0.0010	0.0020	0.0015
250	0.0030	0.0005	0.0010	0	0.0045	0.0005	0.0010	-0.0005
0	-0.0005	-0.0005	-0.0005	-0.0005	0.0015	-0.0010	-0.0005	-0.0005

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
250	0	0	0.0025	0.0010	0.0005	0.0010	0	0.0035
500	-0.0005	0	0.0060	0.0005	0.0005	0.0030	0.0025	0.0050
750	-0.0015	0	0.0100	0	0.0005	0.0055	0.0035	0.0045
1000	-0.0015	0	0.0105	-0.0010	0	0.0060	0.0040	0.0050
750	-0.0005	0	0.0090	0.0005	0.0010	0.0050	0.0025	0.0065
500	0	0	0.0055	0.0010	0.0010	0.0030	0.0020	0.0055
250	-0.0005	0	0.0045	0.0015	0.0005	0.0020	0.0010	0.0050
0	-0.0005	0	0.0005	0.0015	0	0.0005	0	0.0050

Table IX.1.2. Deflection Data for Torsion Applied to the Run, M2X on T-4

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
30750	-0.0085	0.0025	-0.0005	0.0055	0.0715	-0.0185	0.0470	-0.0390
61500	-0.0110	0.0055	-0.0010	0.0055	0.1180	-0.0545	0.0960	-0.0735
92250	-0.0150	0.0090	-0.0025	0.0060	0.1710	-0.0915	0.1505	-0.1065
123000	-0.0170	0.0115	-0.0030	0.0060	0.2180	-0.1340	0.2050	-0.1420
92250	-0.0140	0.0075	-0.0015	0.0050	0.1675	-0.1005	0.1625	-0.1140
61500	-0.0120	0.0035	0.0010	0.0035	0.1130	-0.0630	0.1000	-0.0815
30750	-0.0090	0.0015	0.0005	0.0035	0.0625	-0.0235	0.0470	-0.0420
0	0	0	0	0	-0.0015	0.0005	0	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
30750	-0.0135	-0.0270	0.0130	0.0020	-0.0105	0.0250	0.0790	0.0625
61500	-0.0075	-0.0385	0.0145	0.0040	-0.0255	0.0445	0.1575	0.1250
92250	0	-0.0490	0.0150	0.0060	-0.0415	0.0635	0.2350	0.1865
123000	0.0085	-0.0600	0.0155	0.0080	-0.0565	0.0840	0.3170	0.2530
92250	0.0045	-0.0490	0.0135	0.0065	-0.0470	0.0675	0.2575	0.2020
61500	-0.0035	-0.0340	0.0110	0.0040	-0.310	0.0480	0.1730	0.1375
30750	-0.0105	-0.0245	0.0105	0.0020	-0.0135	0.0265	0.0860	0.0695
0	-0.0010	-0.0005	0.0010	0	0	0	0.0005	0

Table IX.1.3. Deflecti n Data for Out-of-Plane Bending Moment Applied to the Run, -M2Y on T-4

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	0	0.0230	-0.0270	0.0005	-0.0020	-0.0005	0.0770	0.0780
75000	0.0005	0.0535	-0.0560	0.0005	-0.0045	-0.0025	0.1730	0.1765
112500	0.0010	0.0855	-0.0880	0.0005	-0.0080	-0.0015	0.2760	0.2795
150000	0	0.1160	-0.1195	0.0010	-0.0090	0.0015	0.3790	0.3820
112500	0	0.1035	-0.1035	0.0010	-0.0095	0.0010	0.2990	0.3070
75000	0.0010	0.0780	-0.0780	0	-0.0085	-0.0010	0.1975	0.1950
37500	0.0015	0.0390	-0.0415	-0.0010	-0.0065	-0.0030	0.1025	0.1000
0	0.0010	0.0020	-0.0015	-0.0010	-0.0005	-0.0005	0.0020	0.0025

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
37500	0.0085	-0.0075	0	0	0	0	0.0170	0.0025
75000	0.0245	-0.0135	0	0.0005	0	0.0015	0.0485	0.0060
112500	0.0375	-0.0265	-0.0010	0.0005	0	0.0005	0.0795	0.0135
150000	0.0500	-0.0440	-0.0005	0.0005	0	0.0010	0.1095	0.0185
112500	0.0465	-0.0405	0	-0.0010	0	0.0010	0.0960	0.0205
75000	0.0405	-0.0295	-0.0005	0.0005	-0.0005	0.0010	0.0655	0.0185
37500	0.0225	-0.0130	0	0	-0.0005	0.0005	0.0325	0.0095
0	0	-0.0005	0	0	0	0.0005	0.0010	0

Table IX.1.4. Deflection Data for In-Plane Bending Moment Applied to the Run, -M2Z on T-4

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
15375	0.0145	-0.0030	0.0020	-0.0150	-0.0400	-0.0420	-0.0050	-0.0070
30750	0.0290	-0.0045	0.0035	-0.0320	-0.0875	-0.0885	-0.0050	-0.0090
46125	0.0455	-0.0060	0.0050	-0.0480	-0.0935	-0.1355	-0.0050	-0.0115
61500	0.0610	-0.0080	0.0060	-0.0645	-0.1795	-0.1830	-0.0035	-0.0135
46125	0.0480	-0.0060	0.0050	-0.0495	-0.1415	-0.1435	-0.0035	-0.0115
30750	0.0305	-0.0040	0.0035	-0.0319	-0.0890	-0.0900	-0.0050	-0.0085
15375	0.0145	-0.0020	0.0025	-0.0140	-0.0380	-0.0420	-0.0050	-0.0065
0	0	0.0005	0.0010	0.0005	0.0010	0	-0.0005	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
		10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
15375	0.0180	0.0215	-0.0110	-0.0015	-0.0060	-0.0050	-0.0030	-0.0010
30750	0.0400	0.0445	-0.0230	-0.0015	-0.0125	-0.0115	-0.0045	-0.0005
46125	0.0615	0.0655	-0.0350	-0.0015	-0.0190	-0.0170	-0.0050	0
61500	0.0825	0.0870	-0.0475	-0.0020	-0.0255	-0.0230	-0.0050	0.0005
46125	0.0725	0.0765	-0.0415	-0.0020	-0.0225	-0.0200	-0.0045	0.0005
30750	0.0485	0.0540	-0.0280	-0.0020	-0.0155	-0.0135	-0.0040	-0.0005
15375	0.0185	0.0255	-0.0110	-0.0020	-0.0075	-0.0055	-0.0020	-0.0005
0	0	0	0.0005	-0.0005	-0.0005	0.0010	0	0

Table IX.1.5. Deflection Data for Tension Applied to the Run, F2X on T-4

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
65000	0.0155	0.0055	0.0055	-0.0015	-0.0265	-0.0230	0.0015	0.0010
130000	0.0295	0.0105	0.0125	-0.0030	-0.0495	-0.0450	0.0020	-0.0005
195000	0.0435	0.0170	0.0200	-0.0045	-0.0725	-0.0710	0.0020	-0.0025
260000	0.0585	0.0220	0.0280	-0.0060	-0.0995	-0.0985	0.0025	-0.0035
195000	0.0455	0.0180	0.0195	-0.0045	-0.0765	-0.0745	0.0025	-0.0010
130000	0.0305	0.0115	0.0115	-0.0030	-0.0530	-0.0485	0.0025	-0.0005
65000	0.0155	0.0075	0.0050	-0.0020	-0.0270	-0.0260	0.0020	-0.0025
0	0.0005	0.0005	-0.0005	-0.0005	0.0025	-0.0080	0	0.0005

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
65000	0.0175	0.0190	-0.0080	0.0010	-0.0025	-0.0030	-0.0015	-0.0005
130000	0.0330	0.0355	-0.0125	0.0025	-0.0045	-0.0045	-0.0015	-0.0010
195000	0.0485	0.0515	-0.0195	0.0045	-0.0065	-0.0060	-0.0025	-0.0010
260000	0.0650	0.0690	-0.0255	0.0065	-0.0090	-0.0080	-0.0030	-0.0010
195000	0.0500	0.0525	-0.0200	0.0045	-0.0065	-0.0065	-0.0025	-0.0010
130000	0.0340	0.0365	-0.0135	0.0025	-0.0050	-0.0045	-0.0015	-0.0010
65000	0.0180	0.0200	-0.0080	0.0010	-0.0025	-0.0030	-0.0015	-0.0005
0	0	0	0	0	0.0005	0	0	0

Table IX.1.6. Deflection Data for In-Plane Shear Applied to the Run, -F2Y on T-4

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0155	0	0.0015	-0.0175	-0.0585	-0.0595	0.0080	0.0045
6000	0.0330	-0.0005	0.0015	-0.0365	-0.1190	-0.1190	0.0150	0.0075
9000	0.0500	-0.0025	0.0020	-0.0545	-0.1865	-0.1870	0.0210	0.0105
12000	0.0690	-0.0050	0.0035	-0.0745	-0.2575	-0.2575	0.0275	0.0125
9000	0.0630	-0.0050	0.0030	-0.0690	-0.2370	-0.2365	0.0255	0.0115
6000	0.0435	-0.0025	0.0015	-0.0475	-0.1635	-0.1640	0.0195	0.0095
3000	0.0210	-0.0010	0.0015	-0.0240	-0.0845	-0.0845	0.0110	0.0060
0	0.0005	0	0.0010	0	-0.0010	-0.0010	0.0005	0.0005

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0320	0.0290	-0.0185	-0.0015	-0.0100	-0.0095	0.0040	0.0025
6000	0.0685	0.0635	-0.0405	-0.0030	-0.0120	-0.0210	0.0065	0.0045
9000	0.1045	0.0990	-0.0610	-0.0045	-0.0335	-0.0310	0.0090	0.0060
12000	0.1430	0.1335	-0.0845	-0.0075	-0.0460	-0.0420	0.0115	0.0070
9000	0.1330	0.1260	-0.0780	-0.0065	-0.0420	-0.0395	0.0110	0.0070
6000	0.0910	0.0845	-0.0535	-0.0040	-0.0285	-0.0270	0.0080	0.0060
3000	0.0465	0.0515	-0.0270	-0.0020	-0.0175	-0.0145	0.0060	0.0040
0	0.0005	0.0025	0	0	0.0015	-0.0005	0	0.0005

Table IX.1.7. Deflection Data for Out-of-Plane Shear Applied to the Run, F2Z on T-4

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0	0.0100	-0.130	-0.0020	-0.0100	-0.0115	0.0620	0.0590
6000	0	0.0245	-0.0265	-0.0020	-0.0150	-0.0150	0.1235	0.1160
9000	0	0.0385	-0.0395	-0.0010	-0.0225	-0.0175	0.1840	0.1805
12000	0	0.0525	-0.0530	-0.0005	-0.0260	-0.0195	0.2460	0.2365
9000	0	0.0435	-0.0420	-0.0010	-0.0235	-0.0175	0.2035	0.1965
6000	0	0.0285	-0.0300	-0.0010	-0.0185	-0.0145	0.1370	0.1335
3000	0	0.0160	-0.0145	-0.0020	-0.0125	-0.0125	0.0735	0.0635
0	0	-0.0010	-0.0005	0	0	0	-0.0015	0.0015

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0170	-0.0020	-0.0030	-0.0005	-0.0035	-0.0005	0.0290	0.0075
6000	0.0295	-0.0085	-0.0045	-0.0010	-0.0040	-0.0005	0.0540	0.0135
9000	0.0410	-0.0155	-0.0060	-0.0005	-0.0040	-0.0005	0.0770	0.0190
12000	0.0535	-0.0220	-0.0075	0	0.0050	0	0.1030	0.0245
9000	0.0455	-0.0180	-0.0065	-0.0010	0.0050	0	0.0870	0.0190
6000	0.0325	-0.0100	-0.0050	-0.0015	0.0040	0	0.0600	0.0115
3000	0.0185	-0.0020	-0.0035	-0.0015	0.0025	-0.0005	0.0305	0.0015
0	0.0005	0.0030	0	-0.0025	-0.0005	0	0	0.0010

Table IX.1.8. Deflection Data for Out-of-Plane Bending Moment Applied to the Branch, M3X on T-4

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
15375	-0.0010	0.0010	0	0.0010	0.0140	-0.0040	0.0090	-0.0070
30750	-0.0025	0.0010	0.0005	0.0010	0.0230	-0.0095	0.0175	-0.0150
46125	-0.0035	0.0010	0.0005	0.0010	0.0305	-0.0155	0.0250	-0.0230
61500	-0.0035	0.0015	0	0.0010	0.0430	-0.0220	0.0340	-0.0295
46125	-0.0035	0.0020	0	0.0010	0.0345	-0.0160	0.0280	-0.0220
30750	-0.0030	0.0010	-0.0005	0.0010	0.0235	-0.0080	0.0185	-0.0150
15375	-0.0010	0.0010	-0.0005	0.0010	0.0135	-0.0035	0.0090	-0.0080
0	0.0005	0	-0.0010	0	0	0.0005	0	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
15375	-0.0030	-0.0095	0.0025	-0.0005	-0.0175	0.0205	0.0545	0.0505
30750	-0.0025	-0.0115	0.0035	0.0010	-0.0340	0.0400	0.1065	0.0990
46125	-0.0005	-0.0140	0.0035	0.0030	-0.0510	0.0585	0.1575	0.1480
61500	0.0020	-0.0185	0.0045	0.0050	-0.0680	0.0790	0.2115	0.1970
46125	0	-0.0180	0.0035	0.0035	-0.0540	0.0630	0.1685	0.1555
30750	-0.0030	-0.0120	0.0025	0.0010	-0.0345	0.0405	0.1080	0.0995
15375	-0.0015	-0.0090	0.0020	0.0005	-0.0180	0.0220	0.0570	0.0505
0	0.0010	0.0005	0	0	0.0005	0.0005	0.0005	0

Table IX.1.9. Deflection Data for Torsion Applied to the Branch, -M3Y on T-4

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
30750	-0.0070	0.0085	-0.0105	0.0060	0.0680	0.0375	0.0705	0.0555
61500	-0.0125	0.0215	-0.0215	0.0115	0.0900	0.0490	0.1435	0.1135
92250	-0.0175	0.0305	-0.0310	0.0165	0.1095	0.0585	0.1685	0.1725
123000	-0.0240	0.0410	-0.0410	0.0230	0.1260	0.0600	0.2435	0.1855
92250	-0.0190	0.0340	-0.0335	0.0185	0.1020	0.0445	0.1885	0.1865
61500	-0.0130	0.0220	-0.0235	0.0120	0.0745	0.0315	0.1115	0.0750
30750	-0.0075	0.0110	-0.0125	0.0060	0.0495	0.0185	0.0295	0.0315
0	-0.0005	-0.0005	-0.0005	0	-0.0010	-0.0015	0.0005	0.0005

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
30750	-0.0110	-0.0820	0.0180	-0.0085	0.0005	0.0115	0.0705	-0.0015
61500	0.0055	-0.1470	0.0250	-0.0135	0.0005	0.0205	0.0417	-0.0045
92250	0.315	-0.2010	0.0250	-0.0195	-0.0020	0.0290	0.2210	-0.0095
123000	0.0565	-0.2605	0.0245	-0.0220	-0.0060	0.0400	0.2990	-0.0115
92250	0.0425	-0.2145	0.0245	-0.0180	-0.0060	0.0335	0.2520	-0.0025
61500	0.0230	-0.2145	0.0245	-0.0130	-0.0010	0.0220	0.1630	-0.0070
30750	0.0105	-0.0770	0.0170	-0.0075	-0.0005	0.0120	0.0815	-0.0030
0	-0.0080	-0.0080	0.0005	-0.0010	0	0.0005	-0.0040	0.0010

Table IX.1.10. Deflection Data for In-Plane Bending Applied to the Branch, -M3Z on T-4

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
16000	0.0030	-0.0005	0.0005	-0.0055	-0.0450	-0.0220	0.0005	-0.0005
32000	0.0080	-0.0005	0.0005	-0.0105	-0.0730	-0.0495	0.0010	-0.0010
48000	0.0140	-0.0035	0.0010	-0.0185	-0.0985	-0.0760	0.0020	-0.0020
64000	0.0225	-0.0030	0.0020	-0.0290	-0.1410	-0.1180	0.0035	-0.0020
48000	0.0195	0.0220	0.0020	-0.0245	-0.1210	-0.1005	0.0030	-0.0010
32000	0.0165	0.0215	0.0015	-0.0210	-0.1085	-0.0855	0.0030	-0.0010
16000	0.0090	0.0200	0.0010	-0.0125	-0.0735	-0.0505	0.0015	-0.0010
0	0.0005	0.0255	0.0005	-0.0020	-0.0295	-0.0050	0.0005	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
16000	0.0275	0.0370	-0.0200	0.0105	-0.0080	-0.0025	0.0040	0.0045
32000	0.0775	0.0815	-0.0415	0.0200	-0.0145	-0.0085	0.0035	0.0040
48000	0.1190	0.1215	-0.0635	0.0315	-0.0200	-0.0130	0.0035	0.0040
64000	0.1645	0.1630	-0.0950	0.0405	-0.0250	-0.0235	0.0025	0.0170
48000	0.1490	0.1470	-0.0790	0.0335	-0.0250	-0.0195	0.0030	0.0185
32000	0.1090	0.1180	-0.0645	0.0225	-0.0240	-0.0180	0.0030	0.0085
16000	0.0580	0.0645	-0.0365	0.0095	-0.0160	-0.0110	0.0035	0.0040
0	0	0.0030	-0.0040	0	-0.0035	-0.0015	0	0.0010

Table IX.1.11. Deflection Data for In-Plane Shear Applied to the Branch, F3X on T-4

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0070	-0.0010	0.0005	-0.0095	-0.0350	-0.0360	0.0020	0
6000	0.0160	-0.0025	0.0010	-0.0185	-0.0755	-0.0765	0.0030	0
9000	0.0250	-0.0045	0.0025	-0.0290	-0.1155	-0.1130	0.0045	0
12000	0.0335	-0.0050	0.0035	-0.0380	-0.1540	-0.1525	0.0060	0
9000	0.0250	-0.0045	0.0025	-0.0290	-0.1135	-0.1110	0.0045	0.0005
6000	0.0160	-0.0030	0.0015	-0.0185	-0.0730	-0.0730	0.0030	0
3000	0.0070	-0.0010	0.0005	-0.0090	-0.0350	-0.0350	0.0015	0
0	0	0	0	0	0	0	0	0

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0455	0.0425	-0.0190	0.0060	-0.0080	-0.0105	0	-0.0005
6000	0.0960	0.0940	-0.0440	0.0135	-0.0170	-0.0200	-0.0005	-0.0010
9000	0.1470	0.1425	-0.0700	0.0190	-0.0260	-0.0295	-0.0010	-0.0025
12000	0.1955	0.1925	-0.0955	0.0245	-0.0350	-0.0370	-0.0025	-0.0030
9000	0.1440	0.1395	-0.0685	0.0190	-0.0260	-0.0285	-0.0015	-0.0020
6000	0.0945	0.0925	-0.0445	0.0140	-0.0175	-0.0190	-0.0005	-0.0010
3000	0.0435	0.0420	-0.0185	0.0065	-0.0065	-0.0095	0	-0.0005
0	0.0080	0.0020	0.0045	0.0015	0	-0.0030	0	0

Table IX.1.12. Deflection Data for Tension Applied to the Branch, F3Y on T-4

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
13250	0.0020	-0.0015	0.0005	-0.0005	0.0120	0.0135	0.0005	0.0005
26500	-0.0025	0	0.0005	0.0060	0.0405	0.0435	0.0005	0
39750	-0.0035	0	0.0005	0.0060	0.0525	0.0585	0.0005	-0.0010
53000	-0.0065	-0.0045	0.0005	0.0120	0.0945	0.0975	-0.0010	0
39750	-0.0055	-0.0045	0.0005	0.0125	0.0915	0.0945	-0.0015	0
26500	-0.0040	-0.0055	0.0005	0.0150	0.0810	0.0780	-0.0015	0.0010
13250	0.0010	-0.0010	0.0010	0.0060	0.0245	0.0510	0.0010	0
0	0.0020	-0.0035	0.0005	-0.0010	-0.0070	-0.0040	0.0010	0

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
13250	-0.0070	-0.0050	0.0045	0.0045	0.0060	0.0060	0.0040	0.0045
29500	-0.0125	-0.0100	0.0235	0.0135	0.0195	0.0180	0.0030	0.0040
39750	-0.0130	-0.0145	0.0345	0.0180	0.0315	0.0225	0.0030	0.0040
53000	-0.0190	-0.0175	0.0480	0.0270	0.0390	0.0360	0.0020	0.0025
39750	-0.0210	-0.0215	0.0470	0.0210	0.0360	0.0330	0.0025	0.0025
26500	-0.0210	-0.0190	0.0435	0.0250	0.0285	0.0195	0.0030	0.0030
13250	-0.0115	-0.0100	0.0165	0.0060	0.0120	0.0135	0.0040	0.0040
0	-0.0020	0	-0.0025	-0.0005	0	0	0.0010	0.0020

Table IX.1.13. Deflection Data for Out-of-Plane Shear Applied to the Branch, F3Z on T-4

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
4250	0.0005	0.0015	0	-0.0010	0.0085	-0.0140	0.0265	0.0010
8500	0.0015	0.0040	-0.0030	-0.0030	0.0140	-0.0385	0.0585	0.0020
12750	0.0020	0.0070	-0.0050	-0.0045	0.0220	-0.0590	0.0900	0.0025
17000	0.0025	0.0090	-0.0065	-0.0065	0.0295	-0.0800	0.1220	0.0030
12750	0.0020	0.0070	-0.0065	-0.0055	0.0210	-0.0605	0.0895	0.0025
8500	0.0020	0.0050	-0.0035	-0.0040	0.0120	-0.0395	0.0575	0.0020
4250	0.0010	0.0030	-0.0005	-0.0015	0.0065	-0.0165	0.0265	0.0010
0	0.0005	0.0005	0.0005	0	0	0.0015	0.0005	0.0005

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
4250	0.0120	-0.0005	-0.0020	0.0040	-0.0230	0.0220	0.0815	0.0770
8500	0.0290	0.0045	-0.0065	0.0085	-0.0510	0.0495	0.1835	0.1690
12750	0.0440	0.0070	-0.0120	0.0120	-0.0775	0.0770	0.2815	0.2055
17000	0.0575	0.0065	-0.0160	0.0165	-0.1015	0.0440	0.3785	0.3425
12750	0.0445	0.0095	-0.0135	0.0135	-0.0775	-0.0755	0.2835	0.2535
8500	0.0300	0.0070	-0.0100	0.0100	-0.0520	0.0475	0.1810	0.1660
4250	0.0120	0.0015	-0.0055	0.0060	-0.0240	0.0200	0.0810	0.0760
0	-0.0005	0.0010	0	0.0030	-0.0025	-0.0010	-0.0010	0

Table IX.2.1. Deflection Data for Internal Pressure, T-6

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
250	-0.0010	0	0	0.0025	0.0090	0.0090	0	-0.0005
500	-0.0020	0	0.0005	0.0055	0.0195	0.0195	-0.0015	-0.0025
750	-0.0030	0	0.0010	0.0080	0.0285	0.0290	-0.0040	-0.0045
1000	-0.0040	0	0.0020	0.0110	0.0410	0.0415	-0.0060	-0.0065
750	-0.0035	0	0.0010	0.0085	0.0300	0.0315	-0.0040	-0.0045
500	-0.0025	0	0.0005	0.0055	0.0195	0.0195	-0.0020	-0.0020
250	-0.0010	0	0	0.0025	0.0080	0.0090	-0.0005	-0.0010
0	0	0	0	0	0	-0.0005	0	0

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
250	-0.0065	-0.0050	0.0035	0.0005	0.0030	0.0015	-0.0035	-0.0005
500	-0.0120	-0.0065	0.0065	0	0.0035	0.0030	-0.0045	-0.0010
750	-0.0185	-0.0160	0.0105	0	0.0075	0.0040	-0.0085	-0.0035
1000	-0.0240	-0.0210	0.0140	-0.0005	0.0095	0.0055	-0.0115	-0.0050
750	-0.0185	-0.0150	0.0105	0	0.0070	0.0040	-0.0095	-0.0040
500	-0.0125	-0.0100	0.0065	0	0.0050	0.0025	-0.0060	-0.0025
250	-0.0060	-0.0050	0.0030	-0.0005	0.0030	0.0010	-0.0045	-0.0015
0	-0.0005	0	0.0005	0	0	0.0005	-0.0005	0

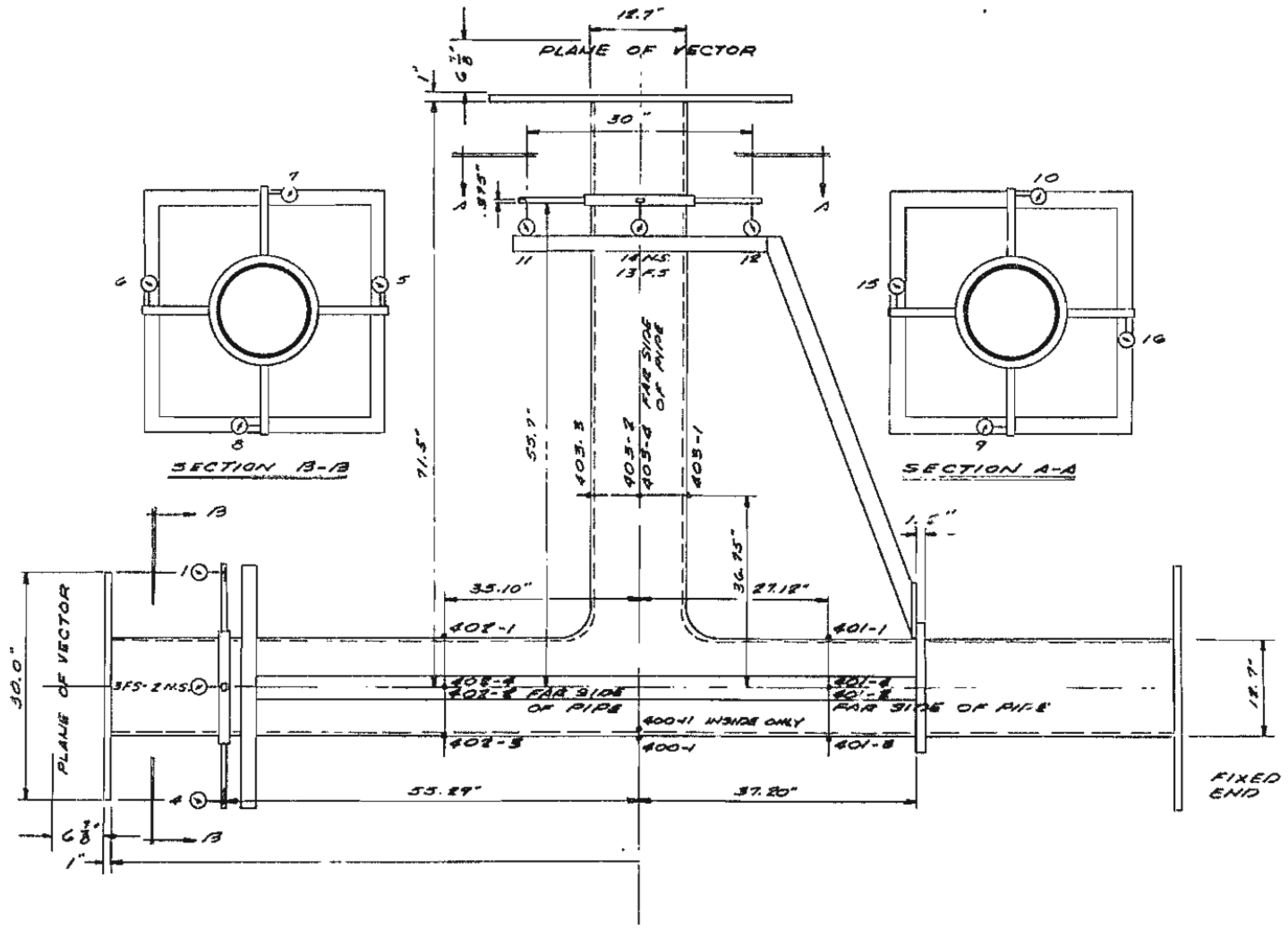


FIGURE IX.2. LOCATION OF DIAL INDICATORS AND PIPE LEG ROSETTES FOR T-6.

Table IX.2.2. Deflection Data for Torsion Applied to the Run, M2X on T-6

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
30750	0.0020	0	0.0005	-0.0070	0.0440	-0.0815	0.0485	-0.0445
61500	0.0020	-0.0005	0.0005	-0.0070	0.0920	-0.1315	0.0965	-0.0835
92250	0.0045	0	0.0005	-0.0070	0.1330	-0.1825	0.1480	-0.1235
123000	0.0090	0	0.0010	-0.0050	0.1685	-0.2265	0.1995	-0.1645
92250	0.0105	0	0.0005	-0.0030	0.1115	-0.1640	0.1450	-0.1245
61500	0.0065	0	0.0005	-0.0050	0.0725	-0.1240	0.0960	-0.0835
30750	0.0040	0	0.0005	-0.0060	0.0340	-0.0805	0.0505	-0.0445
0	-0.0005	0.0005	0	-0.0005	-0.0005	-0.0020	0	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
30750	-0.0030	-0.0215	0.0070	-0.0010	-0.0155	0.0225	0.0830	0.0635
61500	0.0035	-0.0360	0.0090	-0.0030	-0.0360	0.0415	0.1665	0.1280
92250	0.0080	-0.0510	0.0125	-0.0045	-0.0540	0.0625	0.2520	0.1935
123000	0.0145	-0.0675	0.0155	-0.0060	-0.0740	0.0835	0.3420	0.2620
92250	0.0195	-0.0400	0.0055	-0.0055	-0.0570	0.0590	0.2515	0.1930
61500	0.0200	-0.0180	-0.0015	-0.0035	-0.0395	0.0355	0.1630	0.1250
30750	0.0110	-0.0095	-0.0015	-0.0025	-0.0210	0.0185	0.0865	0.0655
0	0	-0.0010	-0.0005	-0.0005	0.0005	0	0.0010	0.0010

Table IX.2.3. Deflection Data for Out-of-Plane Bending Moment Applied to the Run, -M2Y on T-6

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	0.0065	0.0370	-0.0390	-0.0055	0.0010	0.0015	0.1185	0.1185
75000	0.0120	0.0765	-0.0755	-0.0095	0.0015	0.0070	0.2380	0.2310
112500	0.0175	0.1170	-0.1130	-0.0135	0.0035	0.0135	0.3505	0.3465
150000	0.0220	0.1565	-0.1490	-0.0165	0.0075	0.0215	0.4635	0.4610
112500	0.0185	0.1170	-0.1135	-0.0130	0.0035	0.0135	0.3535	0.3500
75000	0.0120	0.0765	-0.0750	-0.0085	0.0030	0.0075	0.2320	0.2280
37500	0.0065	0.0380	-0.0385	-0.0050	0.0025	0.0025	0.1170	0.1170
0	0	0	0	0	0.0020	0.0005	-0.0010	-0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
37500	0.0180	-0.0125	-0.0010	-0.0005	-0.0015	-0.0005	0.0370	0.0070
75000	0.0330	-0.0260	-0.0025	-0.0010	-0.0030	-0.0005	0.0720	0.0135
112500	0.0485	-0.0405	-0.0030	-0.0020	-0.0055	0	0.1085	0.0215
150000	0.0620	-0.0480	-0.0075	-0.0040	-0.0150	0.0040	0.1450	0.0330
112500	0.0490	-0.0425	-0.0025	-0.0020	-0.0060	0.0010	0.1140	0.0235
75000	0.0325	-0.0270	-0.0020	-0.0010	-0.0030	0	0.0730	0.0145
37500	0.0170	-0.0135	0	-0.0005	-0.0015	0	0.0355	0.0070
0	-0.0005	-0.0005	0.0010	0	0	0.0005	0.0005	0

Table IX.2.4. Deflection Data for In-Plane Bending Moment Applied to the Run, -M22 on T-6

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
15375	0.0165	0	0.0025	-0.0140	-0.0515	-0.0485	-0.0110	-0.0065
30750	0.0345	0.0025	0.0020	-0.0315	-0.1040	-0.1025	-0.0115	-0.0040
46125	0.0520	0.0050	0.0025	-0.0470	-0.1580	-0.1530	-0.0150	-0.0045
61500	0.0700	0.0055	0.0030	-0.0625	-0.1655	-0.2035	-0.0190	-0.0055
46125	0.0575	0.0050	0.0025	-0.0510	-0.1660	-0.1675	-0.0150	-0.0040
30750	0.0355	0.0035	0.0020	-0.0330	-0.1095	-0.1080	-0.0110	-0.0025
15375	0.0175	0	0.0025	-0.0150	-0.0540	-0.0485	-0.0100	-0.0060
0	0	0	0	0	0.0010	0.0005	0	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
15375	0.0225	0.0255	-0.0130	0.0005	-0.0065	-0.0060	-0.0020	0
30750	0.0485	0.0500	-0.0285	0.0010	-0.0135	-0.0125	0	0.0020
46125	0.0735	0.0765	-0.0420	0.0015	-0.0200	-0.0185	0.0040	0.0030
61500	0.0990	0.1015	-0.0595	0.0020	-0.0265	-0.0245	0.0070	0.0045
46125	0.0850	0.0835	-0.0470	0.0015	-0.0215	-0.0205	0.0065	0.0035
30750	0.0510	0.0540	-0.0285	0.0010	-0.0145	-0.0130	0.0020	0.0015
15375	0.0220	0.0245	-0.0130	0.0005	-0.0060	-0.0055	-0.0020	0
0	-0.0020	0.0005	0.0020	0	-0.0005	0.0010	-0.0005	0

Table IX.2.5. Deflection Data for Tension Applied to the Run, F2X on T-6

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
65000	0.0145	0.0010	0.0120	0.0025	-0.0255	-0.0240	-0.0205	-0.0170
130000	0.0280	0.0050	0.0210	0.0055	-0.0475	-0.0445	-0.0315	-0.0260
195000	0.0405	0.0100	0.0295	0.0095	-0.0640	-0.0630	-0.0385	-0.0325
260000	0.0525	0.0150	0.0385	0.0140	-0.0795	-0.0795	-0.0420	-0.0335
195000	0.0400	0.0075	0.0320	0.0100	-0.0630	-0.0635	-0.0450	-0.0330
130000	0.0280	0.0020	0.0235	0.0060	-0.0485	-0.0440	-0.0400	-0.0330
65000	0.0145	0	0.0140	0.0030	-0.0250	-0.0220	-0.0290	-0.0255
0	0.0005	-0.0005	0.0005	0	0.0005	0.0010	-0.0015	-0.0005

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
65000	0.0120	0.0185	-0.0050	0.0020	-0.0015	-0.0020	-0.0090	-0.0020
130000	0.0235	0.0325	-0.0095	0.0030	-0.0020	-0.0035	-0.0135	-0.0030
195000	0.0335	0.0455	-0.0130	0.0050	-0.0025	-0.0045	-0.0165	-0.0045
260000	0.0430	0.0575	-0.0165	0.0065	-0.0030	-0.0050	-0.0175	-0.0040
195000	0.0320	0.0485	-0.0125	0.0050	-0.0025	-0.0040	-0.0190	-0.0050
130000	0.0210	0.0350	-0.0090	0.0030	-0.0020	-0.0040	-0.0185	-0.0045
65000	0.0100	0.0185	-0.0045	0.0020	-0.0005	-0.0015	-0.0115	-0.0025
0	0.0005	0.0050	0	0	-0.0015	0	0	0

Table IX.2.6. Deflection Data for In-Plane Shear Applied to the Run, -F2Y on T-6

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0235	0.0035	-0.0010	-0.0215	-0.0875	-0.0895	0.0010	0.0045
6000	0.0460	0.0055	-0.0010	-0.0415	-0.1680	-0.1695	0.0020	0.0085
9000	0.0675	0.0100	-0.0015	-0.0615	-0.2495	-0.2510	0.0015	0.0115
12000	0.0895	0.0135	-0.0015	-0.0790	-0.3205	-0.3260	0.0015	0.0140
9000	0.0680	0.0105	-0.0020	-0.0600	-0.2515	-0.2505	0.0015	0.0115
6000	0.0465	0.0070	-0.0020	-0.0420	-0.1695	-0.1715	0.0025	0.0090
3000	0.0240	0.0045	-0.0015	-0.0215	-0.0885	-0.0895	0.0015	0.0055
0	0.0005	0.0005	-0.0010	0	0.0005	0	0.0010	0.001[illegible]

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0495	0.0495	-0.0295	-0.0010	-0.0155	-0.0135	0.0090	0.0045
6000	0.0955	0.0925	-0.0570	-0.0020	-0.0295	-0.0260	0.0170	0.0090
9000	0.1425	0.1385	-0.0845	-0.0030	-0.0440	-0.0395	0.0220	0.0125
12000	0.1850	0.1805	-0.1095	-0.0035	-0.0565	-0.0515	0.0270	0.0150
9000	0.1435	0.1385	-0.0850	-0.0025	-0.0435	-0.0400	0.0220	0.0[illegible]5
6000	0.0975	0.0935	-0.0575	-0.0020	-0.0295	-0.0265	0.0175	0.0090
3000	0.0495	0.0480	-0.0295	-0.0005	-0.0150	-0.0140	0.0085	0.0040
0	0	0.0005	0	0	0.0005	0	-0.0005	-0.0010

Table IX.2.7. Deflection Data for Out-of-Plane Shear Applied to the Run, F2Z on T-6

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	-0.0005	0.0090	-0.0125	0	0.0020	0	0.0490	0.0470
6000	0.0015	0.0235	-0.0280	-0.0015	0.0020	0.0005	0.1080	0.1050
9000	0.0065	0.0435	-0.0435	-0.0040	0.0030	0.0005	0.1740	0.1660
12000	0.0090	0.0585	-0.0590	-0.0050	0.0050	0.0005	0.2340	0.2260
9000	0.0060	0.0435	-0.0450	-0.0040	0.0040	-0.0005	0.1760	0.1705
6000	0.0040	0.0270	-0.0290	-0.0025	0.0010	-0.0005	0.1120	0.1085
3000	0.0010	0.0120	-0.0135	-0.0010	0.0010	0	0.0525	0.0510
0	-0.0010	-0.0010	0	0.0005	0	0	-0.0005	0.0010

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0070	-0.0090	0	-0.0005	-0.0015	-0.0005	0.0205	0.0065
6000	0.0205	-0.0170	-0.0015	-0.0010	-0.0040	0.0015	0.0515	0.0145
9000	0.0295	-0.0250	-0.0015	-0.0015	-0.0050	0.0020	0.0735	0.0205
12000	0.0425	-0.0365	-0.0020	-0.0015	-0.0075	0.0030	0.1095	0.0315
9000	0.0320	-0.0275	-0.0010	-0.0010	-0.0055	0.0030	0.0835	0.0240
6000	0.0200	-0.0180	-0.0005	0	-0.0035	0.0020	0.0535	0.0155
3000	0.0080	-0.0100	0	0	-0.0010	0.0015	0.0255	0.0085
0	-0.0010	-0.0010	0.0005	0	0.0005	0.0010	0.0015	0.0010

Table IX.2.8. Deflection Data for Out-of-Plane Bending Moment Applied to the Branch, M3X on T-6

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
15375	0.0045	0	0	-0.0055	-0.0085	-0.0375	0.0110	-0.0095
30750	0.0075	-0.0015	0.0005	-0.0065	-0.0155	-0.0540	0.0195	-0.0160
46125	0.0100	0.0005	0.0005	-0.0080	-0.0150	-0.0705	0.0295	-0.0225
61500	0.0115	0.0015	0.0005	-0.0095	-0.0120	-0.0860	0.0395	-0.0300
46125	0.0110	0.0010	0	-0.0085	-0.0145	-0.0755	0.0335	-0.0230
30750	0.0095	-0.0015	0.0020	-0.0070	-0.0175	-0.0560	0.0210	-0.0155
15375	0.0075	0.0005	0.0005	-0.0050	-0.0145	-0.0380	0.0115	-0.0085
0	-0.0010	0.0015	0	0	0	0.0020	0.0005	0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
15375	0.0355	0.0295	-0.0220	0.0035	-0.0330	0.0190	0.0760	0.0705
30750	0.0495	0.0395	-0.0270	0.0025	-0.0530	0.0375	0.1350	0.1225
46125	0.0620	0.0490	-0.0275	0.0080	-0.0740	0.0540	0.1905	0.1845
61500	0.0725	0.0495	-0.0300	0.0085	-0.0990	0.0765	0.2535	0.2325
46125	0.0630	0.0475	-0.0260	0.0080	-0.0785	0.0605	0.2055	0.1880
30750	0.0505	0.0410	-0.0240	0.0065	-0.0540	0.0375	0.1370	0.1245
15375	0.0375	0.0320	-0.0205	0.0045	-0.0330	0.0195	0.0770	0.0715
0	-0.0005	0	-0.0015	0.0005	-0.0010	0.0005	0.0015	0.0020

Table IX.2.9. Deflection Data for Torsion Applied to the Branch, -M3Y on T-6

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
23063	-0.0075	0.0095	-0.0090	0.0070	0.0470	0.0315	0.0500	0.0460
46125	-0.0055	0.0190	-0.0170	0.0060	0.0560	0.0270	0.1060	0.0835
69188	-0.0020	0.0260	-0.0255	0.0040	0.0555	0.0120	0.1710	0.1250
92250	0.0060	0.0375	-0.0340	-0.0020	0.0395	-0.0180	0.2270	0.2685
69188	0.0045	0.0300	-0.0260	-0.0020	0.0270	-0.0150	0.1740	0.1305
46125	0.0020	0.0200	-0.0170	-0.0005	0.0250	0.0055	0.1160	0.0860
23063	0.0030	0.0100	-0.0085	-0.0025	-0.0010	0.0165	0.0560	0.0420
0	0.0025	0.0040	-0.0005	-0.0020	-0.0025	-0.0010	0.0020	0.0020

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
23063	-0.0310	-0.0985	0.0335	-0.0115	0.0065	0.0140	0.0570	-0.0075
46125	-0.0030	-0.1365	0.0365	-0.0130	0.0030	0.0180	0.1170	-0.0110
69188	0.0475	-0.1535	0.0275	-0.0115	-0.0075	0.0195	0.1850	-0.0090
92250	0.0730	-0.2420	0.0300	-0.0140	-0.0110	0.0245	0.2480	-0.0100
69188	0.0710	-0.1275	0.0130	-0.0075	-0.0095	0.0145	0.1830	-0.0105
46125	0.0420	-0.0910	0.0125	-0.0060	-0.0065	0.0115	0.1255	-0.0050
23063	0.0435	-0.0270	-0.0040	0.0015	-0.0065	0.0035	0.0690	0
0	0.0025	0.0020	-0.0015	-0.0010	-0.0010	0.0005	0.0020	0

Table IX.2.10. Deflection Data for In-Plane Bending Applied to the Branch, -M3Z on T-6

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
16000	-0.0920	0	0.0005	-0.0080	-0.0485	-0.0455	-0.0085	-0.0035
32000	0.0880	0	0.0010	-0.0120	-0.0695	-0.0620	-0.0125	-0.0025
48000	0.0170	0	0.0010	-0.0165	-0.0900	-0.0835	-0.0135	-0.0015
64000	0.0215	0.0005	0.0010	-0.0260	-0.1115	-0.1035	-0.0150	-0.0015
48000	0.0185	0	0.0010	-0.0180	-0.1025	-0.0880	-0.0135	-0.0015
32000	-0.0860	0	0.0010	-0.0085	-0.0765	-0.0700	-0.0130	-0.0030
16000	-0.0910	0	0.0010	-0.0090	-0.0505	-0.0485	-0.0085	-0.0040
0	-0.0010	0	0.0005	0.0005	-0.0035	0.0095	-0.0005	-0.0005

Moment Foot-Pounds	Dial Indicator Loactions - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
16000	0.0585	0.0640	-0.0360	0.0115	0.0090	-0.0140	-0.0115	-0.0085
32000	0.0935	0.0995	-0.0545	0.0225	0.0085	-0.0190	-0.0185	-0.0155
48000	0.1295	0.1345	-0.0720	0.0345	0.0110	-0.0220	-0.0160	-0.0150
64000	0.1655	0.1680	-0.0905	0.0465	0.0135	-0.0250	-0.0165	-0.0155
48000	0.1405	0.1455	-0.0775	0.0370	0.0125	-0.0230	-0.0170	-0.0150
32000	0.1025	0.1095	-0.0585	0.0255	0.0095	-0.0200	-0.0185	-0.0150
16000	0.0630	0.0690	-0.0395	0.0125	0.0085	-0.0140	-0.0115	-0.0080
0	0.0020	0.0020	-0.0015	-0.0010	0.0005	-0.0015	-0.0030	-0.0010

Table IX.2.11. Deflection Data for In-Plane Shear Applied to the Branch, F3X on T-6

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0075	0.0035	0	-0.0070	-0.0370	-0.0380	-0.0005	0.0015
6000	0.0170	0.0030	0	-0.0155	-0.0785	-0.0815	-0.0020	0.0010
9000	0.0260	0.0045	0	-0.0240	-0.1240	-0.1230	-0.0025	0.0035
12000	0.0370	0.0080	0.0005	-0.0320	-0.1695	-0.1695	-0.0035	0.0035
9000	0.0265	0.0045	0.0010	-0.0235	-0.1245	-0.1250	-0.0030	0.0030
6000	0.0170	0.0035	0	-0.0150	-0.0800	-0.0800	-0.0020	0.0015
3000	0.0080	0.0020	0	-0.0080	-0.0410	-0.0395	-0.0010	0.0015
0	-0.0010	-0.0005	0.0005	0.0005	0.0025	0.0020	0	-0.0005

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0030	0.0470	-0.0305	0.0090	-0.0070	-0.0075	0.0060	0.0040
6000	0.0585	0.1035	-0.0550	0.0190	-0.0185	-0.0190	0.0120	0.0070
9000	0.0120	0.1575	-0.0835	0.0270	-0.0285	-0.0240	0.0150	0.0130
12000	0.0715	0.2160	-0.1135	0.0350	-0.0385	-0.0325	0.0255	0.0200
9000	0.0135	0.1595	-0.0835	0.0275	-0.0280	-0.0240	0.0150	0.0110
6000	0.0575	0.1010	-0.0545	0.0180	-0.0190	-0.0160	0.0110	0.0070
3000	0.0050	0.0495	-0.0280	0.0090	-0.0090	-0.0080	0.0060	0.0045
0	0	-0.0020	0.0005	0	0.0005	0.0005	0	0

Table IX.2.12. Deflection Data for Tension Applied to the Branch, F3Y on T-6

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
13250	-0.0040	0.0045	0	0.0050	0.0245	0.0310	-0.0030	0
26500	-0.0070	0.0050	0.0010	0.0085	0.0425	0.0535	-0.0045	0.0005
39750	-0.0085	0.0045	0.0015	0.0105	0.0585	0.0680	-0.0080	-0.0010
53000	-0.0090	0	0.0020	0.0115	0.0675	0.0800	-0.0100	-0.0020
39750	-0.0085	0.0005	0.0015	0.0110	0.0580	0.0680	-0.0060	-0.0005
26500	-0.0070	0.0005	0.0010	0.0085	0.0440	0.0505	-0.0030	0
13250	-0.0035	0.0005	-0.0005	0.0050	0.0230	0.0275	-0.0005	0.0015
0	0	0.0005	-0.0010	0.0010	0.0005	0.0005	0.0025	0.0005

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
13250	-0.0065	-0.0045	0.0115	0.0125	0.0160	0.0085	-0.0150	-0.0125
26500	-0.0040	-0.0010	0.0200	0.0250	0.0280	0.0155	-0.0245	-0.0210
39750	0.0020	0.0060	0.0235	0.0395	0.0400	0.0235	-0.0315	-0.0275
53000	0.0175	0.0240	0.0250	0.0545	0.0490	0.0300	-0.0380	-0.0330
39750	0.0040	0.0065	0.0225	0.0405	0.0400	0.0235	-0.0310	-0.0270
26500	-0.0035	-0.0005	0.0180	0.0255	0.0265	0.0165	-0.0230	-0.0190
13250	-0.0045	-0.0035	0.0100	0.0120	0.0140	0.0080	-0.0145	-0.0120
0	-0.0005	0.0005	-0.0005	0	-0.0005	0.0005	0	0

Table IX.2.13. Deflection Data for Out-of-Plane Shear Applied to the Branch, F3X on T-6

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
4250	0.0020	0.0025	-0.0040	-0.0005	0.0140	-0.0205	0.0335	0
8500	0.0050	0.0055	-0.0060	-0.0025	0.0195	-0.0440	0.0635	-0.0005
12750	0.0085	0.0075	-0.0085	-0.0040	0.0270	-0.0680	0.0930	-0.0005
17000	0.0100	0.0115	-0.0105	-0.0055	0.0370	-0.0895	0.1245	-0.0015
12750	0.0085	0.0080	-0.0085	-0.0045	0.0265	-0.0690	0.0935	-0.0005
8500	0.0040	0.0060	-0.0060	-0.0025	0.0190	-0.0440	0.0625	0
4250	0.0020	0.0025	-0.0040	-0.0010	0.0110	-0.0210	0.0315	0
0	-0.0005	0	0	-0.0005	-0.0010	0	0.0005	0

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
4250	0.0045	-0.0130	0.0035	-0.0020	-0.0330	0.0325	0.1165	0.0935
8500	0.0135	-0.0200	0.0030	-0.0045	-0.0670	0.0645	0.2345	0.1950
12750	0.0215	-0.0255	0.0050	-0.0050	-0.0975	0.0940	0.3465	0.2870
17000	0.0305	-0.0315	0.0060	-0.0060	-0.1300	0.1255	0.4560	0.3625
12750	0.0210	-0.0260	0.0045	-0.0050	-0.0965	0.0935	0.3390	0.2170
8500	0.0125	-0.0305	0.0060	-0.0035	-0.0680	0.0660	0.2270	0.1880
4250	0.0050	-0.0130	0.0025	-0.0020	-0.0335	0.0330	0.1160	0.0945
0	0	0	0	0	-0.0015	0.0015	0.0030	0.0005

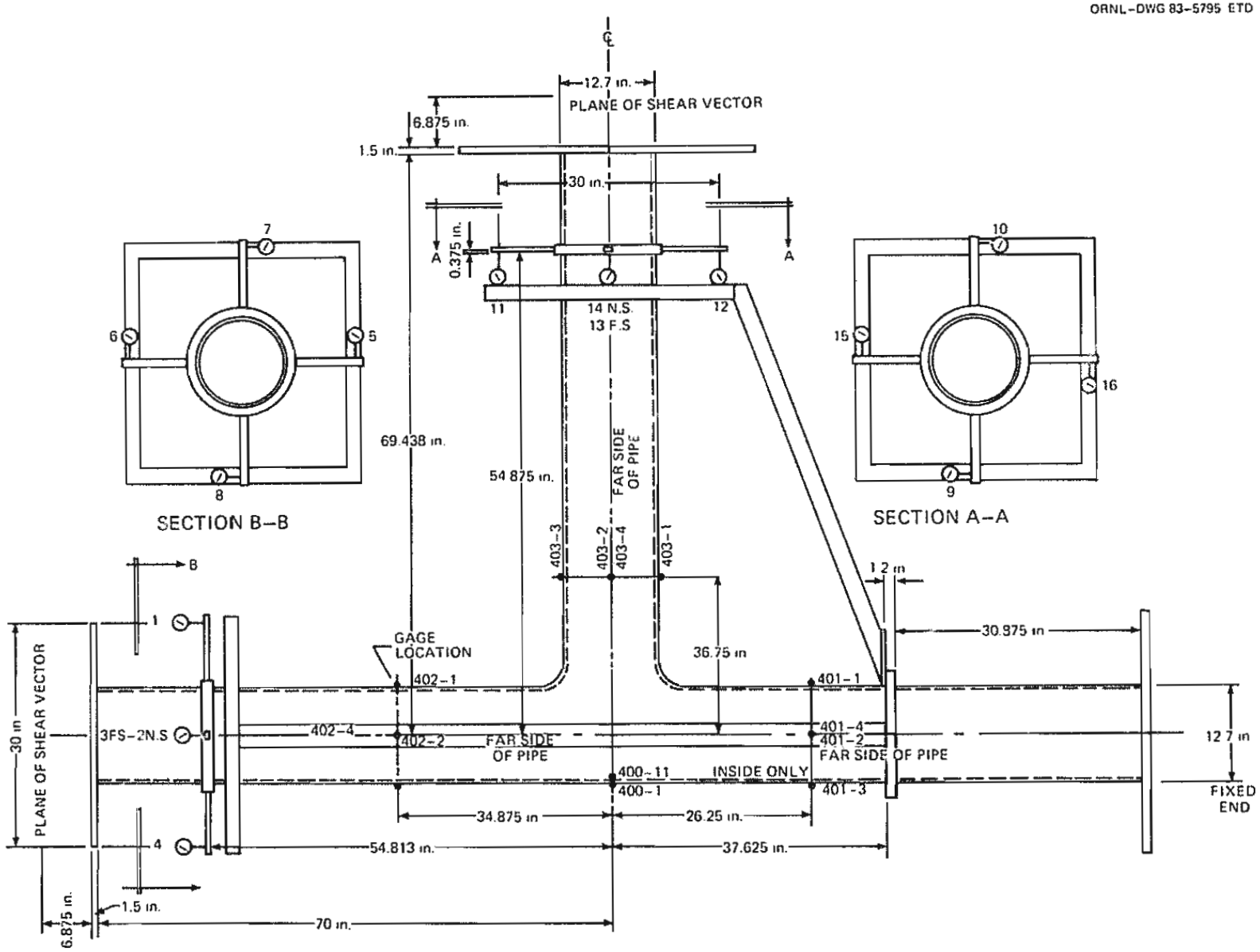


FIGURE VIII.1. SCHEMATIC ILLUSTRATION OF TECHNIQUE USED TO DEVELOP GAGE-LINE PROJECTION PLOTS.

Table IX.3.1. Deflection Data for Internal Pressure, T-7

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
250	0	0.0005	0.0005	0.0005	0	-0.0005	0.0015	0.0015
500	0	0.0015	0.0015	0.0010	0	-0.0025	0.0055	0.0085
750	0.0015	0.0025	0.0020	0.0020	0.0005	-0.0030	0.0090	0.0130
1000	0.0020	0.0035	0.0030	0.0025	0.0005	-0.0030	0.0130	0.0160
750	0.0015	0.0025	0.0020	0.0020	0.0005	-0.0030	0.0120	0.0145
500	0.0005	0.0020	0.0015	0.0010	0	-0.0030	0.0095	0.0115
250	0	0.0010	0.0005	0.0005	0	-0.0030	0.0055	0.0065
0	-0.0005	0	0	0	0	-0.0025	0.0010	0.0005

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
250	0.0015	0	-0.0005	-0.0005	0	-0.0005	0	-0.0005
500	0.0020	0.0010	-0.0005	-0.0010	-0.0010	-0.0005	0	-0.0005
750	0.0035	0.0015	-0.0005	-0.0015	-0.0010	-0.0010	0.0005	-0.0010
1000	0.0040	0.0025	-0.0005	-0.0020	-0.0015	-0.0010	0.0005	-0.0010
750	0.0040	0.0025	-0.0015	-0.0020	-0.0015	-0.0015	0.0010	-0.0005
500	0.0035	0.0020	-0.0015	-0.0015	-0.0015	-0.0015	0.0005	-0.0005
250	0.0030	0.0020	-0.0025	-0.0010	-0.0015	-0.0015	0.0005	0
0	0.0025	0.0015	-0.0025	-0.0005	-0.0015	-0.0020	0.0005	0

Table IX.3.2. Deflection Data for Torsion Applied to the Run, M2X on T-7

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	-0.0010	-0.0005	0.0010	0.0005	0.0370	-0.0310	0.0300	-0.0355
75000	0	-0.0005	0.0010	0.0025	0.0695	-0.0575	0.0590	-0.0670
112500	-0.0005	-0.0005	0.0005	0.0030	0.1015	-0.0935	0.0910	-0.0975
150000	0	0	0	0.0030	0.1325	-0.1260	0.1245	-0.1275
112500	-0.0010	0	0.0025	0.0030	0.1020	-0.0965	0.0930	-0.1075
75000	-0.0015	-0.0005	0.0020	0.0035	0.0715	-0.0670	0.0595	-0.0730
37500	-0.0010	-0.0005	0.0015	0.0030	0.0380	-0.0370	0.0305	-0.0380
0	0	0	0.0010	0.0030	-0.0005	-0.0020	0.0005	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
37500	0	-0.0025	0.0010	-0.0005	-0.0130	0.0140	0.0475	0.0445
75000	0	-0.0065	0.0025	-0.0015	-0.0255	0.0275	0.0955	0.0895
112500	0.0015	-0.0090	0.0030	-0.0025	-0.0385	0.0400	0.1445	0.1340
150000	0.0050	-0.0095	0.0020	-0.0030	-0.0525	0.0525	0.1930	0.1780
112500	0.0025	-0.0085	0.0020	-0.0025	-0.0390	0.0400	0.1445	0.1340
75000	0	-0.0065	0.0025	-0.0015	-0.0260	0.0275	0.0945	0.0895
37500	0.0005	-0.0025	0.0015	-0.0005	-0.0130	0.0145	0.0480	0.0445
0	0	0	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Table IX.3.3. Deflection Data for Out-of-Plane Bending Moment Applied to the Run, -M2Y on T-7

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
50000	0.0035	0.0285	-0.0300	0	0.0005	-0.0030	0.0865	0.0830
100000	0.0055	0.0585	-0.0595	0	0.0020	-0.0060	0.1745	0.1690
150000	0.0090	0.0885	-0.0895	0	0.0045	-0.0080	0.2665	0.2630
200000	0.0120	0.1185	-0.1210	0.0010	0.0075	-0.0100	0.3620	0.3530
150000	0.0100	0.0910	-0.0910	0	0.0050	-0.0070	0.2820	0.2665
100000	0.0055	0.0585	-0.0595	0	0.0020	-0.0055	0.1800	0.1680
50000	0.0035	0.0285	-0.0295	0	0.0005	-0.0025	0.0880	0.0815
0	0.0005	0.0005	0.0005	0.0005	0	0	0.0075	-0.0020

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
50000	0.0110	-0.0095	-0.0005	0.0005	0.0005	0	0.0240	0.0030
100000	0.0225	-0.0200	-0.0010	0.0005	0	0.0005	0.0530	0.0085
150000	0.0340	-0.0315	-0.0005	0.0010	-0.0005	0.0010	0.0865	0.0135
200000	0.0440	-0.0435	0	0.0010	-0.0010	0.0015	0.1070	0.0185
150000	0.0350	-0.0345	0	0.0010	-0.0010	0.0015	0.0865	0.0155
100000	0.0225	-0.0215	-0.0005	0.0005	-0.0005	0.0005	0.0525	0.0090
50000	0.0110	-0.0110	-0.0005	0.0005	0.0005	0.0005	0.0255	0.0035
0	-0.0005	0.0005	0	0	0.0005	0.0005	0.0010	0

Table IX.3.4. Deflection Data for In-Plane Bending Moment Applied to the Run, -M2Z on T-7

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	0.0165	0.0025	0.0025	0.0170	0.0485	0.0495	0.0075	0.0050
75000	0.0355	0.0045	0.0035	0.0375	0.1070	0.1105	0.0130	0.0085
112500	0.0560	0.0055	0.0050	0.0505	0.1700	0.1530	0.0165	0.0080
150000	0.0765	0.0060	0.0045	0.0800	0.2330	0.2430	0.0190	0.0055
112500	0.0630	0.0060	0.0040	0.0655	0.1965	0.2070	0.0180	0.0065
75000	0.0370	0.0045	0.0035	0.0385	0.1110	0.1140	0.0145	0.0085
37500	0.0175	0.0025	0.0020	0.0170	0.0490	0.0500	0.0085	0.0050
0	0.0005	0	0.0005	0	0.0025	0	0	0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0		0	0	0	0	0	0
37500	0.0215	0.0190	-0.0125	0	-0.0045	-0.0050	-0.0030	0
75000	0.0460	0.0515	-0.0290	-0.0015	-0.0155	-0.0130	-0.0035	0
112500	0.0780	0.0825	-0.0500	-0.0050	-0.0250	-0.0240	-0.0040	0.0005
150000	0.1055	0.1100	-0.0665	-0.0065	-0.0335	-0.0330	-0.0040	0.0005
112500	0.0910	0.0980	-0.0600	-0.0065	-0.0295	-0.0300	-0.0040	0
75000	0.0485	0.0555	-0.0315	-0.0025	-0.0165	-0.0145	-0.0040	0
37500	0.0205	0.0250	-0.0130	0	-0.0060	-0.0050	-0.0030	0
0	0	0.0020	-0.0010	-0.0005	-0.0015	-0.0005	0	0.0005

Table IX.3.5. Deflection Data for Tension Applied to e Run, F2X on T-7

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
100000	0.0050	0.0035	0.0075	0.0065	0.0015	0.0005	-0.0100	-0.0115
200000	0.0125	0.0085	0.0160	0.0105	-0.0060	-0.0055	-0.0175	-0.0205
300000	0.0200	0.0140	0.0225	0.0145	-0.0095	-0.0115	-0.0210	-0.0290
400000	0.0270	0.0190	0.0295	0.0190	-0.0175	-0.0165	-0.0300	-0.0355
300000	0.0200	0.0150	0.0225	0.0145	-0.0095	-0.0105	-0.0225	-0.0280
200000	0.0125	0.0085	0.0165	0.0105	-0.0040	-0.0045	-0.0155	-0.0205
100000	0.0050	0.0035	0.0080	0.0065	0.0005	0.0005	-0.0100	-0.0130
0	-0.0005	-0.0010	-0.0005	-0.0005	0.0005	0.0005	0.0010	0.0005

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
100000	0.0015	0.0035	0.0010	0.0015	0.0010	0.0010	-0.0030	-0.0005
200000	0.0060	0.0095	0	0.0020	0.0005	0.0005	-0.0050	-0.0005
300000	0.0105	0.0150	-0.0025	0.0030	0.0010	0.0005	-0.0065	-0.0005
400000	0.0155	0.0225	-0.0040	0.0035	0	0.0005	-0.0075	-0.0010
300000	0.0110	0.0160	-0.0025	0.0030	0.0005	0.0010	-0.0055	0
200000	0.0055	0.0090	0	0.0020	0.0005	0.0015	-0.0030	0.0005
100000	0.0010	0.0025	0.0010	0.0010	0.0010	0.0015	-0.0015	0.0005
0	0	-0.0005	0	0	0	0	0	0

Table IX.3.6. Deflection Data for In-Plane Shear Applied to the Run, -F2Y on T-7

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
8300	0.0240	0	-0.0020	-0.0265	-0.1025	-0.1040	0.0045	0.0075
16600	0.0610	0.0005	-0.0035	-0.0565	-0.2125	-0.2220	0.0075	0.0160
24900	0.0815	0.0005	-0.0045	-0.0875	-0.3310	-0.3445	0.0105	0.0300
33200	0.1100	0.0020	-0.0050	-0.1155	-0.4445	-0.4295	0.0140	0.0400
24900	0.0820	0.0010	-0.0040	-0.0885	-0.3345	-0.3225	0.0115	0.0295
16600	0.0530	0.0005	-0.0040	-0.0570	-0.2190	-0.2460	0.0090	0.0200
8300	0.0245	0.0005	-0.0025	-0.0270	-0.1040	-0.1265	0.0055	0.0100
0	0	0	-0.0005	-0.0015	-0.0055	-0.0260	0.0025	0.0025

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
8300	0.0525	0.0500	-0.0340	-0.0045	-0.0165	-0.0170	0.0025	0.0010
16600	0.1170	0.1115	-0.0780	-0.0115	-0.0390	-0.0410	0.0065	0.0030
24900	0.1790	0.1765	-0.1210	-0.0185	-0.0635	-0.0630	0.0100	0.0040
33200	0.2410	0.2420	-0.1665	-0.0250	-0.0865	-0.0870	0.0115	0.0050
24900	0.1825	0.1745	-0.1240	-0.0190	-0.0645	-0.0645	0.0115	0.0040
16600	0.1205	0.1140	-0.0805	-0.0125	-0.0400	-0.0425	0.0075	0.0030
8300	0.0575	0.0505	-0.0365	-0.0045	-0.0170	-0.0180	0.0045	0.0020
0	0.0010	-0.0020	-0.0010	0	0.0010	-0.0010	0.0010	0.0005

Table IX.3.7. Deflection Data for Out-of-Plane Shear Applied to the Run, F2Z on T-7

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
8300	0.0015	0.0260	-0.0255	-0.0005	0.0035	0.0020	0.0955	0.0940
16600	0.0030	0.0500	-0.0535	0	0.0105	0.0025	0.1985	0.1955
24900	0.0060	0.0775	-0.0830	0.0005	0.0130	0.0030	0.3035	0.3020
33200	0.0085	0.1040	-0.1090	-0.0030	0.0175	0.0025	0.4015	0.3915
24900	0.0060	0.0775	-0.0830	0.0005	0.0130	0.0030	0.3125	0.3030
16600	0.0030	0.0500	-0.0535	0.0005	0.0085	0.0030	0.2030	0.1970
8300	0.0015	0.0250	-0.0235	0.0005	0.0040	0.0035	0.1000	0.0940
0	0	0	0	0	-0.0005	0.0020	0.0060	0.0050

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
8300	0.0100	-0.0175	0.0040	0.0015	0.0015	0.0025	0.0335	0.0065
16600	0.0255	-0.0330	0.0035	0.0015	0.0005	0.0030	0.0755	0.0150
24900	0.0430	-0.0460	-0.0005	0	-0.0040	0.0020	0.1155	0.0250
33200	0.0645	-0.0560	-0.0085	-0.0020	-0.0105	-0.0015	0.1575	0.0350
24900	0.0430	-0.0470	-0.0005	0	-0.0030	0.0020	0.1175	0.0250
16600	0.0260	-0.0315	0.0015	0.0005	-0.0010	0.0020	0.0740	0.0150
8300	0.0125	-0.0160	0.0005	0.0005	-0.0005	0.0010	0.0345	0.0070
0	0	0	0	0	-0.0005	0.0005	0.0020	0.0005

Table IX.3.8. Deflection Data for Out-of-Plane Bending Moment Appli to the Branch, M3X on T-7

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	0.0010	-0.0005	0.0005	-0.0015	0.0045	-0.0190	0.0105	-0.0135
75000	0.0015	-0.0005	0.0005	-0.0015	0.0140	-0.0340	0.0200	-0.0280
112500	0.0015	-0.0005	0.0010	-0.0025	0.0235	-0.0500	0.0305	-0.0420
150000	0.0025	-0.0010	0.0015	-0.0030	0.0330	-0.0650	0.0410	-0.0565
112500	0.0020	-0.0005	0.0010	-0.0025	0.0245	-0.0505	0.0280	-0.0400
75000	0.0015	-0.0005	0.0010	-0.0020	0.0170	-0.0325	0.0210	-0.0260
37500	0.0010	-0.0005	0.0005	-0.0015	0.0065	-0.0165	0.0105	-0.0120
0	0.0005	0	0	0	-0.0005	-0.0005	0	0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
37500	0.0105	0.0105	-0.0070	-0.0010	-0.0310	0.0260	0.0705	0.0720
75000	0.0150	0.0165	-0.0095	-0.0005	-0.0590	0.0525	0.1415	0.1395
112500	0.0175	0.0185	-0.0100	-0.0010	-0.0870	0.0795	0.2125	0.2090
150000	0.0200	0.0210	-0.0110	-0.0020	-0.1170	0.1080	0.2875	0.2840
112500	0.0185	0.0190	-0.0105	-0.0010	-0.0915	0.0835	0.2235	0.2220
75000	0.0155	0.0175	-0.0095	-0.0005	-0.0600	0.0520	0.1415	0.1365
37500	0.0100	0.0105	-0.0055	0	-0.0290	0.0270	0.0715	0.0660
0	0.0010	0	-0.0010	0	0.0005	-0.0005	0.0005	-0.0005

Table IX.3.9. Deflection Data or Torsion Applied to the Branch, -M3Y on T-7

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	0.0005	0.0085	-0.0085	0.0005	0.0070	0	0.0410	0.0450
75000	0.0005	0.0170	-0.0185	0.0005	0.0150	-0.0010	0.0915	0.0785
112500	0.0005	0.0250	-0.0280	0.0010	0.0230	-0.0005	0.1405	0.1210
150000	0.0010	0.0335	-0.0370	0.0015	0.0310	-0.0005	0.1885	0.1625
112500	0.0005	0.0265	-0.0285	0.0015	0.0260	0.0025	0.1515	0.1285
75000	0	0.0185	-0.0200	0.0015	0.0205	0.0030	0.1035	0.0890
37500	0	0.0095	-0.0100	0.0010	0.0125	0.0030	0.0530	0.0460
0	0	0	0	0.0005	0.0015	0	0.0020	0.0020

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
37500	0.0210	-0.0295	0.0025	-0.0010	-0.0015	0.0020	0.0370	-0.0100
75000	0.0470	-0.0590	0.0035	-0.0005	-0.0030	0.0040	0.0825	-0.0180
112500	0.0695	-0.0910	0.0060	-0.0005	-0.0050	0.0065	0.1310	-0.0260
150000	0.0920	-0.1235	0.0100	-0.0005	-0.0060	0.0105	0.1795	-0.0350
112500	0.0690	-0.1000	0.0105	0	-0.0035	0.0100	0.1395	-0.0250
75000	0.0465	-0.0705	0.0090	0	-0.0020	0.0075	0.0930	-0.0165
37500	0.0220	-0.0360	0.0070	0.0005	-0.0005	0.0045	0.0455	-0.0075
0	-0.0005	-0.0020	0.0030	0.0005	0.0010	0.0005	-0.0050	0

Table IX.3.10. Deflection Data for In-Plane Bending Applied to the Branch, -M3Z on T-7

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
37500	0.0070	0.0005	-0.0005	-0.0055	-0.0385	-0.0350	0.0070	0
75000	0.0130	0.0005	-0.0010	-0.0145	-0.0735	-0.0800	0.0090	0.0030
112500	0.0210	0	-0.0010	-0.0235	-0.1115	-0.1270	0.0100	0.0055
150000	0.0295	0	-0.0010	-0.0315	-0.1555	-0.1730	0.0100	0.0070
112500	0.0245	0	-0.0010	-0.0255	-0.1310	-0.1360	0.0090	0.0050
75000	0.0165	0	-0.0010	-0.0185	-0.0885	-0.1035	0.0085	0.0035
37500	0.0070	0	-0.0010	-0.0080	-0.0390	-0.0465	0.0065	0.0005
0	0.0005	0	-0.0005	0	-0.0040	-0.0005	0.0005	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
37500	0.0615	0.0630	-0.0375	0.0120	-0.0190	-0.0040	0.0205	0.0180
75000	0.1110	0.1130	-0.0665	0.0245	-0.0280	-0.0070	0.0295	0.0250
112500	0.1690	0.1685	-0.1020	0.0380	-0.0370	-0.0385	0.0360	0.0290
150000	0.2275	0.2290	-0.1320	0.0500	-0.0495	-0.0475	0.0415	0.0325
112500	0.1815	0.1820	-0.1095	0.0365	-0.0420	-0.0430	0.0370	0.0300
75000	0.1185	0.1190	-0.0710	0.0240	-0.0295	-0.0100	0.0300	0.0255
37500	0.0570	0.0575	-0.0320	0.0125	-0.0165	-0.0025	0.0205	0.0180
0	0.0005	0.0010	0.0010	-0.0005	-0.0010	-0.0005	0	0

Table IX.3.11. Deflection Data for In-Plane Shear Applied to the Branch, F3X on T-7

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
5000	0.0055	0	0	-0.0070	-0.0270	-0.0370	-0.0010	0.0020
10000	0.0145	0	0	-0.0160	-0.0785	-0.0900	-0.0020	0.0035
15000	0.0225	0	0	-0.0240	-0.1235	-0.1285	-0.0030	0.0050
20000	0.0305	0	0	-0.0330	-0.1680	-0.1735	-0.0035	0.0070
15000	0.0235	0	0	-0.0250	-0.1265	-0.1320	-0.0030	0.0050
10000	0.0150	0	0	-0.0165	-0.0820	-0.0875	-0.0020	0.0040
5000	0.0055	0	0	-0.0075	-0.0375	-0.0415	-0.0010	0.0015
0	0	0	0	-0.0005	-0.0005	-0.0055	0	0.0005

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
5000	0.0505	0.0550	-0.0280	0.0080	-0.0100	-0.0080	0.0010	0.0010
10000	0.1020	0.1070	-0.0610	0.0135	-0.0210	-0.0185	0.0030	0.0025
15000	0.1530	0.1580	-0.0910	0.0195	-0.0325	-0.0290	0.0060	0.0045
20000	0.2085	0.2150	-0.1250	0.0260	-0.0425	-0.0410	0.0085	0.0060
15000	0.1555	0.1635	-0.0930	0.0200	-0.0330	-0.0300	0.0055	0.0045
10000	0.1060	0.1105	-0.0635	0.0140	-0.0215	-0.0195	0.0035	0.0025
5000	0.0530	0.0595	-0.0310	0.0080	-0.0110	-0.0090	0.0010	0.0015
0	0.0010	0.0025	-0.0025	-0.0010	-0.0010	-0.0015	0.0005	0

Table IX.3.12. Deflection Data for Tension Applied to the Branch, F3Y on T-7

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
25000	-0.0050	0.0005	0.0005	0.0070	0.0375	0.0420	0.0005	-0.0020
50000	-0.0120	0.0020	0.0005	0.0160	0.0875	0.0900	0.0025	-0.0030
75000	-0.0190	0.0030	0.0010	0.0240	0.1270	0.1325	0.0040	-0.0035
100000	-0.0245	0.0035	0.0015	0.0315	0.1655	0.1740	0.0060	-0.0035
75000	-0.0195	0.0030	0.0010	0.0245	0.1300	0.1350	0.0060	-0.0030
50000	-0.0125	0.0020	0.0005	0.0160	0.0830	0.0885	0.0035	-0.0020
25000	-0.0055	0.0010	0.0005	0.0070	0.0375	0.0420	0.0010	-0.0010
0	0	0	0	0.0015	-0.0005	0.0065	-0.0005	0.0005

Tensi Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
25000	-0.0255	-0.0255	0.0240	0.0095	0.0150	0.0175	0.0035	0.0045
50000	-0.0510	-0.0500	0.0500	0.0205	0.0305	0.0360	0.0090	0.0105
75000	-0.0685	-0.0730	0.0710	0.0330	0.0465	0.0525	0.0110	0.0130
100000	-0.0820	-0.0880	0.0900	0.0465	0.0670	0.0675	0.0125	0.0140
75000	-0.0690	-0.0745	0.0760	0.0340	0.047	0.0540	0.0120	0.0145
50000	-0.0495	-0.0510	0.0510	0.0210	0.0305	0.0355	0.0090	0.0115
25000	-0.0260	-0.0245	0.0280	0.0095	0.0140	0.0180	0.0040	0.0055
0	-0.0020	-0.0015	0.0010	0.0005	0.0005	0.0015	-0.0010	0.0005

Table IX.3.13. Deflection Data for Out-of-Plane Shear Applied to the Branch, F3Z on T-7

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
8300	0.0005	0.0035	-0.0030	0	0.0155	-0.0150	0.0315	-0.0050
16600	0.0010	0.0060	-0.0065	0	0.0345	-0.0335	0.0670	-0.0060
24900	0.0015	0.0090	-0.0095	-0.0005	0.0525	-0.0520	0.1010	-0.0070
33200	0.0020	0.0120	-0.0130	-0.0005	0.0700	-0.0680	0.1355	-0.0075
24900	0.0015	0.0095	-0.0095	-0.0005	0.0530	-0.0515	0.1005	-0.0060
16600	0.0010	0.0065	-0.0070	-0.0005	0.0350	-0.0330	0.0660	-0.0050
8300	0.0005	0.0035	-0.0030	-0.0005	0.0160	-0.0150	0.0315	-0.0035
0	0.0005	0	-0.0005	-0.0005	-0.0010	0	0.0020	0.0020

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
8300	0.0020	-0.0015	-0.0015	-0.0020	-0.0315	0.0280	0.0925	0.0885
16600	0.0075	-0.0045	-0.0020	-0.0040	-0.0650	0.0605	0.2035	0.1875
24900	0.0120	-0.0070	-0.0015	-0.0050	-0.0975	0.0925	0.3065	0.2845
33200	0.0160	-0.0090	-0.0010	-0.0055	-0.1275	0.1235	0.3920	0.3765
24900	0.0120	-0.0075	-0.0015	-0.0050	-0.1015	0.0915	0.3025	0.2830
16600	0.0075	-0.0045	-0.0020	-0.0040	-0.0650	0.0605	0.2025	0.1885
8300	0.0025	-0.0015	-0.0020	-0.0020	-0.0320	0.0280	0.0935	0.0900
0	0	0.0005	0	0	0	0.0005	-0.0005	0.0015

Table IX.4.1. Deflection Data for Internal Pressure, T-8

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
150	0.0010	0.0015	0.0010	0.0020	0.0020	0.0015	0	0.0005
300	0.0020	0.0035	0.0040	0.0055	0.0050	0.0040	0	0.0005
450	0.0020	0.0050	0.0060	0.0080	0.0075	0.0070	0	0.0015
600	0.0035	0.0060	0.0080	0.0105	0.0105	0.0100	-0.0010	0.0015
450	0.0020	0.0050	0.0060	0.0025	0.0100	0.0095	-0.0005	0.0010
300	0.0015	0.0040	0.0040	0.0060	0.0080	0.0080	0	0.0010
150	0.0005	0.0020	0.0025	0.0030	0.0055	0.0050	0	0.0005
0	0	0	0	0	0.0010	0.0010	0	0

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
150	0	0	0	0.0005	0.0010	-0.0005	0	0.0005
300	-0.0010	-0.0020	0	0.0015	0.0020	0.0005	0	0.0010
450	-0.0015	-0.0045	0.0005	0.0025	0.0040	0.0010	0	0.0015
600	-0.0030	-0.0050	0.0030	0.0035	0.0050	0.0020	0	0.0020
450	-0.0030	-0.0050	0.0030	0.0030	0.0050	0.0020	0	0.0015
300	-0.0025	-0.0045	0.0025	0.0025	0.0040	0.0020	0	0.0015
150	-0.0020	-0.0025	0.0020	0.0015	0.0025	0.0015	0	0.0005
0	-0.0005	0	0.0005	0	0.0005	0	0	0

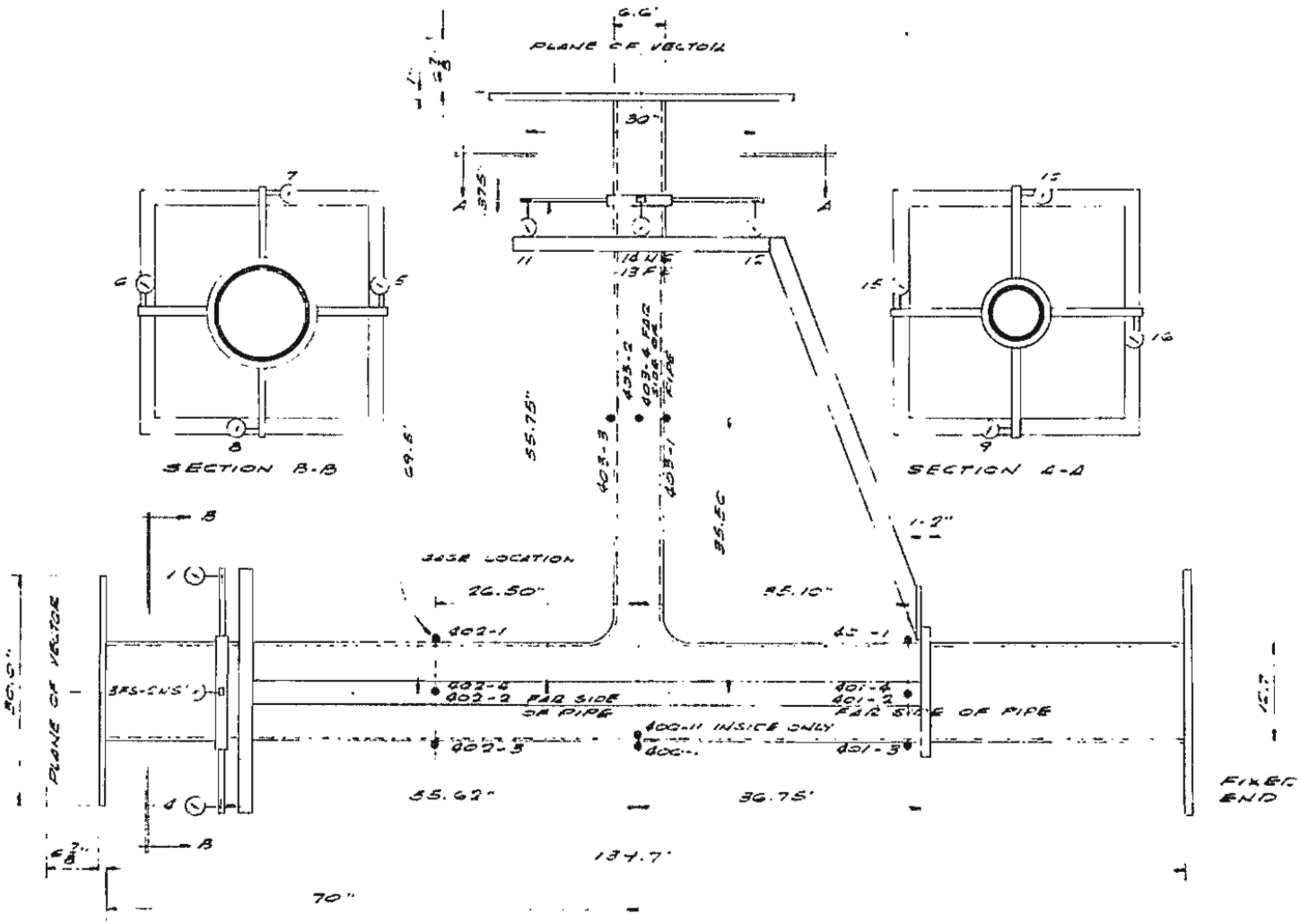


FIGURE IX.4. LOCATION OF DIAL INDICATORS AND PIPE LEG ROSETTES FOR T-8.

Table IX.4.2. Deflection Data for Torsion Applied to the Run, M2X on T-8

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
20000	0.0045	-0.0015	0.0005	0.0055	0.0605	-0.0265	0.0385	-0.0390
40000	0.0045	-0.0025	0.0010	0.0105	0.1045	-0.0575	0.0795	-0.0815
60000	0.0070	-0.0040	0.0010	0.0175	0.1560	-0.0795	0.1195	-0.1230
80000	0.0120	-0.0045	0.0010	0.0255	0.2215	-0.0960	0.1590	-0.1640
60000	0.0060	-0.0040	0.0010	0.0200	0.1520	-0.0670	0.1215	-0.1215
40000	-0.0005	-0.0015	0.0005	0.0115	0.0855	-0.0530	0.0835	-0.0805
20000	-0.0010	-0.0010	0.0005	0.0105	0.0360	-0.0065	0.0405	-0.0390
0	-0.0030	0.0005	0	0.0045	-0.0135	0.0175	0.0025	-0.0050

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
20000	-0.0125	-0.0190	0.0085	0.0015	-0.0120	0.0215	0.0605	0.0570
40000	-0.0205	-0.0340	0.0135	0.0030	-0.0245	0.0410	0.1260	0.1155
60000	-0.0210	-0.0390	0.0145	0.0040	-0.0415	0.0595	0.1885	0.1760
80000	-0.0350	-0.0570	0.0230	0.0060	-0.0520	0.0810	0.2565	0.2320
60000	-0.0205	-0.0390	0.0150	0.0015	-0.0410	0.0570	0.1895	0.1695
40000	-0.0175	-0.0295	0.0125	0.0005	-0.0255	0.0385	0.1255	0.1105
20000	-0.0090	-0.0140	0.0070	-0.0005	-0.0130	0.0185	0.0600	0.0515
0	0.0005	0.0010	0.0025	-0.0015	-0.0005	-0.0005	-0.0005	-0.0055

Table IX.4.3. Deflection Data for Out-of-Plane Bending Moment Applied to the Run, -M2Y on T-8

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
22812	0.0025	0.0310	-0.0325	-0.0025	0.0115	0.0030	0.0965	0.0950
45625	0.0060	0.0680	-0.0665	-0.0055	0.0175	0.0050	0.2050	0.2030
68437	0.0105	0.1055	-0.1015	-0.0080	0.0210	0.0080	0.3095	0.3090
91250	0.0155	0.1395	-0.1355	-0.0095	0.0260	0.0115	0.4180	0.4180
68437	0.0110	0.1045	-0.1010	-0.0080	0.0200	0.0050	0.3085	0.3080
45625	0.0060	0.0690	-0.0675	-0.0055	0.0170	0.0050	0.2035	0.2010
22812	0.0035	0.0330	-0.0320	-0.0020	0.0115	0.0030	0.0990	0.0965
0	-0.0005	0.0005	-0.0005	0	0.0010	0.0005	0.0010	0.0010

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
22812	0.0130	-0.0110	-0.0015	0	-0.0005	-0.0005	0.0285	0.0055
45625	0.0290	-0.0210	-0.0035	-0.0005	-0.0015	-0.0020	0.0630	0.0120
68437	0.0465	-0.0295	-0.0070	-0.0010	-0.0050	-0.0025	0.0940	0.0185
91250	0.0630	-0.0340	-0.0140	-0.0015	-0.0115	-0.0030	0.1190	0.0250
68437	0.0510	-0.0295	-0.0095	-0.0010	-0.0055	-0.0045	0.0955	0.0195
45625	0.0320	-0.0210	-0.0060	-0.0005	-0.0015	-0.0040	0.0615	0.0120
22812	0.0150	-0.0110	-0.0030	0	-0.0005	-0.0025	0.0270	0.0050
0	0.0030	-0.0005	-0.0020	0.0005	0.0005	-0.0020	-0.0020	0

Table IX.4.4. Deflection Data for In-Plane Bending Moment Applied to the Run, -M2Z on T-8

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
18250	0.0275	0.0030	0.0025	-0.0270	-0.0855	-0.0875	-0.0025	-0.0060
36500	0.0575	0.0045	0.0045	-0.0570	-0.1790	-0.1865	-0.0045	-0.0120
54750	0.0875	0.0075	0.0070	-0.0845	-0.2735	-0.2810	-0.0060	-0.0190
73000	0.1175	0.0095	0.0095	-0.1110	-0.3635	-0.3735	-0.0065	-0.0225
54750	0.0875	0.0090	0.0070	-0.0835	-0.2720	-0.2780	-0.0065	-0.0185
36500	0.0575	0.0050	0.0045	-0.0550	-0.1765	-0.1830	-0.0050	-0.0120
18250	0.0280	0.0035	0.0025	-0.0270	-0.0865	-0.0885	-0.0035	-0.0060
0	0.0005	0.0010	0.0005	-0.0005	-0.0025	-0.0015	0	-0.0015

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
18250	0.0395	0.0400	-0.0230	-0.0015	-0.0125	-0.0140	-0.0045	-0.0025
36500	0.0840	0.0870	-0.0505	-0.0045	-0.0285	-0.0300	-0.0060	-0.0035
54750	0.1295	0.1335	-0.0800	-0.0075	-0.0450	-0.0470	-0.0085	-0.0040
73000	0.1695	0.1760	-0.1035	-0.0095	-0.0580	-0.0610	-0.0100	-0.0045
54750	0.1280	0.1335	-0.0780	-0.0070	-0.0445	-0.0460	-0.0085	-0.0040
36500	0.0835	0.0860	-0.0510	-0.0040	-0.0270	-0.0295	-0.0060	-0.0035
18250	0.0395	0.0420	-0.0225	-0.0010	-0.0130	-0.0135	-0.0045	-0.0025
0	0	0.0020	0	0	-0.0010	-0.0005	-0.0005	0

Table IX.4.5. Deflection Data for Tension Applied to the Run, F2X on T-8

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
50000	0.0095	0.0085	0.0100	0.0060	0.0055	0.0035	-0.0025	0
100000	0.0215	0.0170	0.0190	0.0100	0	-0.0025	0	0
150000	0.0325	0.0235	0.0290	0.0150	-0.0075	-0.0070	0.0025	0.0010
200000	0.0420	0.0290	0.0385	0.0200	-0.0140	-0.0215	0.0040	0.0015
150000	0.0325	0.0235	0.0295	0.0150	-0.0080	-0.0070	-0.0010	-0.0040
100000	0.0210	0.0140	0.0200	0.0105	-0.0005	-0.0035	-0.0030	-0.0035
50000	0.0100	0.0075	0.0100	0.0060	0.0045	0.0035	-0.0025	-0.0020
0	0.0010	-0.0005	0	0	-0.0005	0	0.0005	-0.0010

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
50000	-0.0005	0.0010	0.0030	0.0005	0.0020	0.0015	-0.0005	-0.0005
100000	0.0055	0.0055	0.0015	0.0005	0.0025	0.0010	-0.0025	-0.0020
150000	0.0125	0.0130	-0.0005	0	0.0005	-0.0015	-0.0050	-0.0040
200000	0.0205	0.0220	-0.0035	-0.0005	-0.0005	-0.0025	-0.0065	-0.0060
150000	0.0120	0.0130	-0.0005	0	0.0010	-0.0010	-0.0050	-0.0040
100000	0.0045	0.0055	0.0015	0	0.0020	0.0005	-0.0040	-0.0015
50000	-0.0005	0.0010	0.0015	0.0005	0.0030	0.0015	-0.0005	-0.0005
0	0	0	0.0005	0	0.0005	0.0005	0	0

Table IX.4.6. Deflection Data for In-plane Shear Applied to the Run, -F2Y on T-8

Shear	Dial Indicator Locations - Deflection in Inches							
Pounds	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0170	0.0005	-0.0010	-0.0165	-0.0690	-0.0705	0.0060	0.0025
6000	0.0380	0.0040	-0.0025	-0.0340	-0.1405	-0.1415	0.0120	0.0050
9000	0.0555	0.0065	-0.0035	-0.0505	-0.2130	-0.2135	0.0190	0.0070
12000	0.0735	0.0085	-0.0045	-0.0670	-0.2780	-0.2860	0.0240	0.0090
9000	0.0555	0.0065	-0.0035	-0.0500	-0.2125	-0.2125	0.0190	0.0085
6000	0.0355	0.0050	-0.0030	-0.0345	-0.1385	-0.1425	0.0135	0.0070
3000	0.0190	0.0015	-0.0010	-0.0165	-0.0705	-0.0685	0.0070	0.0035
0	0	-0.0010	0	0	-0.0015	0.0010	0.0005	0

Shear	Dial Indicator Locations - Deflection in Inches							
Pounds	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0385	0.0365	-0.0220	-0.0030	-0.0140	-0.0130	0.0005	0
6000	0.0765	0.0725	-0.0475	-0.0060	-0.0270	-0.0270	0.0030	0
9000	0.1150	0.1105	-0.0720	-0.0085	-0.0415	-0.0410	0.0055	0.0005
12000	0.1505	0.1465	-0.0945	-0.0115	-0.0555	-0.0540	0.0065	-0.0005
9000	0.1140	0.1110	-0.0715	-0.0085	-0.0415	-0.0405	0.0065	0.0005
6000	0.0760	0.0725	-0.0460	-0.0060	-0.0275	-0.0265	0.0040	0.0005
3000	0.0380	0.0370	-0.0215	-0.0025	-0.0135	-0.0125	0.0025	0.0005
0	0	-0.0005	0.0015	-0.0005	-0.0005	0.0005	-0.0005	0.0005

Table IX.4.7. Deflection Data for Out-of-Plane Shear Applied to the Run, F2Z on T-8

Shear	Dial Indicator Locations - Deflection in Inches							
Pounds	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0035	0.0205	-0.0235	-0.0025	0.0045	-0.0035	0.1430	0.0865
6000	0.0065	0.0455	-0.0490	-0.0030	0.0150	0.0005	0.2445	0.1835
9000	0.0085	0.0700	-0.0730	-0.0030	0.0255	0.0050	0.3415	0.2790
12000	0.0115	0.0945	-0.0955	-0.0030	0.0355	0.0060	0.4280	0.3720
9000	0.0085	0.0700	-0.0740	-0.0030	0.0270	0.0065	0.3430	0.2780
6000	0.0055	0.0450	-0.0485	-0.0025	0.0170	0.0025	0.2375	0.1835
3000	0.0030	0.0220	-0.0240	-0.0020	0.0075	-0.0010	0.1405	0.0840
0	-0.0010	-0.0005	0	0	0.0040	0.0005	0.0550	-0.0025

Shear	Dial Indicator Locations - Deflection in Inches							
Pounds	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0160	-0.0130	-0.0015	-0.0015	0.0010	-0.0005	0.0265	0.0015
6000	0.0305	-0.0250	-0.0035	-0.0015	0.0010	-0.0005	0.0555	0.0030
9000	0.0445	-0.0390	-0.0040	-0.0015	0.0010	-0.0005	0.0855	0.0030
12000	0.0570	-0.0500	-0.0040	-0.0010	0.0010	-0.0005	0.1105	0.0040
9000	0.0430	-0.0400	-0.0030	-0.0010	0.0015	0	0.0830	0.0030
6000	0.0290	-0.0275	-0.0020	-0.0010	0.0015	0	0.0550	0.0025
3000	0.0140	-0.0150	-0.0005	-0.0015	0.0020	0.0005	0.0250	0.0010
0	-0.0015	-0.0065	0.0020	-0.0015	0.0030	0.0020	0	0.0005

Table IX.4.8. Deflection Data for Out-of-Plane Bending Moment Applied to the Branch, M3X on T-8

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
1750	0	0	0	0	0.0025	-0.0005	0.0005	-0.0015
3500	0.0005	0	0	0	0.0040	-0.0025	0.0020	-0.0030
5250	0.0005	0	0	0	0.0060	-0.0035	0.0030	-0.0045
7000	0.0005	0	0	0	0.0065	-0.0050	0.0040	-0.0065
5250	0.0010	0	0	0	0.0045	-0.0045	0.0025	-0.0055
3500	0.0010	0	0	0	0.0030	-0.0030	0.0010	-0.0035
1750	0.0010	0	0	0	0.0010	-0.0020	0	-0.0020
0	0.0010	0	0.0005	0	0.0010	-0.0015	0	0

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
1750	0.0045	0.0045	-0.0040	0.0035	-0.0270	0.0270	0.0565	0.0580
3500	0.0085	0.0080	-0.0065	0.0065	-0.0565	0.0565	0.1205	0.1200
5250	0.0090	0.0100	-0.0075	0.0085	-0.0845	0.0855	0.1790	0.1810
7000	0.0095	0.0105	-0.0085	0.0100	-0.1125	0.1145	0.2405	0.2415
5250	0.0095	0.0105	-0.0080	0.0085	-0.0840	0.0850	0.1785	0.1795
3500	0.0085	0.0085	-0.0070	0.0065	-0.0565	0.0565	0.1195	0.1195
1750	0.0055	0.0055	-0.0045	0.0040	-0.0280	0.0280	0.0590	0.0595
0	0	0.0005	-0.0010	0	-0.0015	0.0010	0.0015	0.0020

Table IX.4.9. Deflection Data for Torsion Applied to the Branch, -M3Y on T-8

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
5250	0.0030	0.0030	-0.0030	-0.0015	-0.0080	-0.0110	0.0170	0.0130
10500	0.0040	0.0055	-0.0060	-0.0025	-0.0085	-0.0145	0.0340	0.0285
15750	0.0045	0.0090	-0.0095	-0.0030	-0.0065	-0.0145	0.0520	0.0455
21000	0.0050	0.0120	-0.0130	-0.0030	-0.0040	-0.0145	0.0695	0.0605
15750	0.0045	0.0095	-0.0095	-0.0025	-0.0045	-0.0120	0.0520	0.0470
10500	0.0020	0.0050	-0.0070	-0.0005	0.0025	-0.0035	0.0350	0.0325
5250	0	0.0030	-0.0035	0.0005	0.0050	0.0020	0.0185	0.0165
0	0	0	0	0	-0.0010	-0.0010	-0.0005	-0.0005

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
5250	0.1250	-0.0330	-0.0215	0.0190	-0.0050	0	0.0890	-0.0705
10500	0.2090	-0.1000	-0.0280	0.0215	-0.0085	0.0010	0.1750	-0.1385
15750	0.2705	-0.1940	-0.0225	0.0130	-0.0115	0.0020	0.2595	-0.2085
21000	0.3460	-0.2755	-0.0225	0.0110	-0.0135	0.0030	0.3520	-0.2815
15750	0.2580	-0.2390	-0.0095	0.0015	-0.0100	0.0025	0.2755	-0.2265
10500	0.1755	-0.1700	-0.0045	0	-0.0065	0.0015	0.1905	-0.1595
5250	0.0780	-0.1140	0.0075	-0.0075	-0.0035	0.0025	0.1045	-0.0875
0	0.0065	-0.0250	0.0035	-0.0045	-0.0010	0	0.0155	-0.0155

Table IX.4.10. Deflection Data for In-Plane Bending Applied to the Branch, -M3Z on T-8

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
4500	0.0020	0	0	-0.0015	-0.0075	-0.0065	0	-0.0015
9000	0.0040	0.0005	0	-0.0040	-0.0195	-0.0195	0	-0.0025
13500	0.0065	0.0005	0	-0.0065	-0.0325	-0.0330	0	-0.0040
18000	0.0090	0.0005	0	-0.0090	-0.0440	-0.0450	0	-0.0045
13500	0.0075	0.0005	0	-0.0085	-0.0400	-0.0400	0	-0.0040
9000	0.0040	0	0	-0.0050	-0.0220	-0.0220	0.0005	-0.0030
4500	0.0020	0	0	-0.0020	-0.0095	-0.0090	0.0005	-0.0020
0	0	0	0	-0.0005	0	0.0005	0.0005	-0.0010

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
4500	0.0795	0.0945	-0.0450	0.0525	-0.0055	0.0050	0.0080	0.0120
9000	0.1885	0.2000	-0.1015	0.1080	-0.0080	0.0060	0.0130	0.0170
13500	0.2920	0.3045	-0.1580	0.1630	-0.0115	0.0075	0.0150	0.0330
18000	0.3865	0.4095	-0.2145	0.2205	-0.0145	0.0050	0.0180	0.0275
13500	0.2930	0.3165	-0.1655	0.1690	-0.0135	0.0035	0.0160	0.0230
9000	0.1800	0.2000	-0.1030	0.1075	-0.0090	0.0035	0.0120	0.0165
4500	0.0805	0.0945	-0.0460	0.0465	-0.0050	0.0035	0.0075	0.0115
0	-0.0030	0.0025	-0.0005	0.0010	0	0	0	-0.0005

Table IX.4.11. Deflection Data for In-Plane Shear Applied to the Branch, F3X on T-8

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
875	0.0015	0	0	-0.0015	-0.0120	-0.0115	0	0
1750	0.0050	0.0005	0	-0.0045	-0.0285	-0.0270	0	-0.0005
2625	0.0080	0.0010	0	-0.0075	-0.0460	-0.0430	0	-0.0010
3500	0.0105	0.0015	0	-0.0115	-0.0620	-0.0615	-0.0005	-0.0015
2625	0.0080	0.0015	0	-0.0080	-0.0455	-0.0430	0	-0.0010
1750	0.0050	0.0010	0	-0.0050	-0.0275	-0.0265	0	-0.0005
875	0.0015	0	0	-0.0015	-0.0110	-0.0100	0	0
0	0	0	0	0.0010	-0.0010	0.0050	0	0

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
875	0.1015	0.0960	-0.0460	0.0415	0	-0.0050	-0.0025	-0.0050
1750	0.2000	0.1920	-0.0905	0.0820	0.0010	-0.0120	-0.0095	-0.0160
2625	0.3005	0.2890	-0.1360	0.1240	0.0020	-0.0190	-0.0170	-0.0260
3500	0.3995	0.3850	-0.1805	0.1650	0.0015	-0.0250	-0.0215	-0.0330
2625	0.3030	0.2930	-0.1370	0.1250	0.0015	-0.0190	-0.0175	-0.0270
1750	0.2020	0.1950	-0.0915	0.0835	0.0010	-0.0125	-0.0095	-0.0160
875	0.1020	0.0980	-0.0465	0.0420	0.0010	-0.0050	-0.0025	-0.0080
0	0	-0.0035	0	-0.0010	0.0005	0	0	-0.0005

Table IX.4.12. Deflection Data for Tension Applied to the Branch, F3Y on T-8

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
6000	-0.0045	-0.0005	0	0.0040	0.0235	0.0250	-0.0035	-0.0010
12000	-0.0100	-0.0010	0	0.0080	0.0505	0.0530	-0.0055	-0.0010
18000	-0.0145	-0.0015	0.0005	0.0120	0.0765	0.0800	-0.0075	-0.0010
24000	-0.0185	-0.0025	0.0005	0.0160	0.1010	0.1060	-0.0095	-0.0015
18000	-0.0145	-0.0025	0.0005	0.0120	0.0765	0.0795	-0.0085	-0.0015
12000	-0.0095	-0.0015	0.0005	0.0080	0.0505	0.0515	-0.0065	-0.0015
6000	-0.0050	-0.0005	0	0.0040	0.0240	0.0250	-0.0045	-0.0015
0	-0.0005	0	0	0	0.0005	-0.0005	0	0

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
6000	0.0150	0.0130	0.0040	0.0220	0.0195	0.0065	-0.0155	-0.0170
12000	0.0395	0.0370	0.0020	0.0510	0.0350	0.0170	-0.0210	-0.0235
18000	0.0750	0.0720	-0.0040	0.0840	0.0505	0.0285	-0.0255	-0.0275
24000	0.1195	0.1160	-0.0140	0.1205	0.0645	0.0400	-0.0280	-0.0325
18000	0.0770	0.0750	-0.0050	0.0850	0.0505	0.0280	-0.0255	-0.0285
12000	0.0415	0.0400	0.0005	0.0515	0.0350	0.0165	-0.0215	-0.0240
6000	0.0160	0.0150	0.0030	0.0225	0.0195	0.0070	-0.0165	-0.0185
0	0	-0.0005	0	0.0005	0.0005	0.0015	0.0005	0.0010

Table IX.4.13. Deflection Data for Out-of-Plane Shear Applied to the Branch, F3Z on T-8

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
500	0.0005	0	-0.0005	0	0.0010	-0.0030	0.0025	0
1000	0.0010	0.0005	-0.0005	0	0.0035	-0.0055	0.0080	-0.0005
1500	0.0010	0.0005	-0.0015	0	0.0060	-0.0100	0.0135	-0.0010
2000	0.0010	0.0010	-0.0015	0	0.0075	-0.0130	0.0170	-0.0015
1500	0.0010	0.0005	-0.0010	0	0.0035	-0.0120	0.0125	-0.0015
1000	0.0010	0.0005	-0.0005	-0.0005	0	-0.0095	0.0075	-0.0015
500	0.0010	0	-0.0005	-0.0010	-0.0035	-0.0090	0.0025	-0.0010
0	0.0010	-0.0005	0	-0.0010	-0.0055	-0.0065	0	-0.0005

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
500	0	-0.0005	-0.0010	0.0010	-0.0210	0.0210	0.0535	0.0545
1000	0.0005	-0.0015	-0.0025	0.0025	-0.0565	0.0570	0.1435	0.1425
1500	0.0005	-0.0020	-0.0030	0.0045	-0.0915	0.0935	0.2355	0.2325
2000	0.0005	-0.0025	-0.0035	0.0065	-0.1255	0.1285	0.3220	0.3180
1500	0.0005	-0.0020	-0.0030	0.0045	-0.0935	0.0945	0.2380	0.2355
1000	0	-0.0015	-0.0020	0.0025	-0.0585	0.0585	0.1485	0.1470
500	-0.0005	-0.0010	-0.0005	0.0010	-0.0220	0.0120	0.0565	0.0560
0	-0.0005	-0.0005	0	0	0.0005	-0.0010	-0.0020	-0.0010

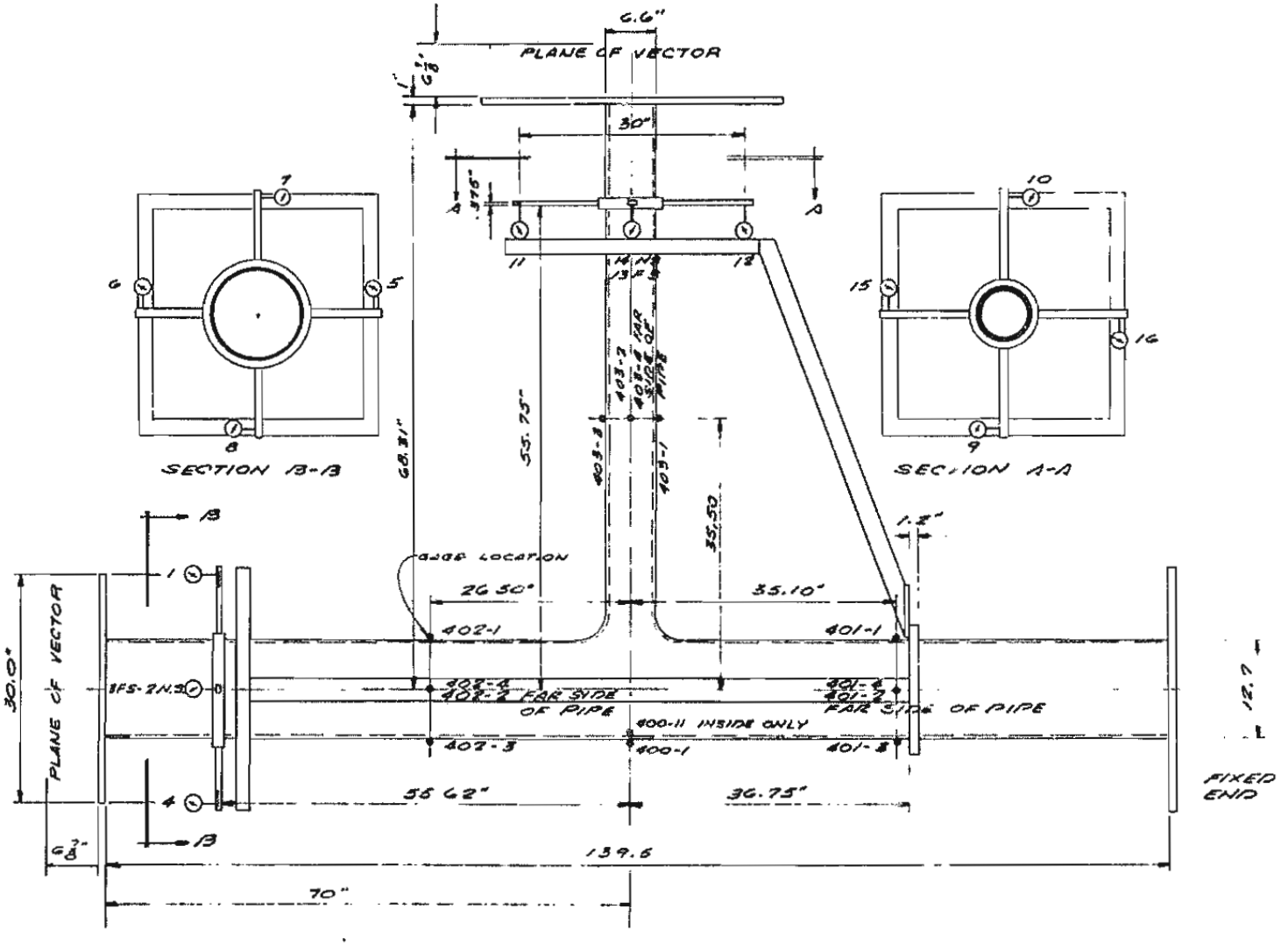


FIGURE IX.5. LOCATION OF DIAL INDICATORS AND PIPE LEG ROSETTES FOR T-15.

Table IX.5.1. Deflection Data for Internal Pressure, T-15

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
150	0.0020	0.0020	0.0015	0.0005	-0.0010	0.0010	0.0060	0.0065
300	0.0040	0.0045	0.0035	0.0015	-0.0025	0.0030	0.0120	0.0125
450	0.0060	0.0065	0.0045	0.0040	-0.0035	0.0035	0.0185	0.0215
600	0.0080	0.0080	0.0050	0.0045	-0.0065	0.0070	0.0245	0.0270
450	0.0060	0.0065	0.0040	0.0035	-0.0040	0.0040	0.0190	0.0205
300	0.0035	0.0045	0.0025	0.0025	-0.0020	0.0010	0.0130	0.0145
150	0.0020	0.0025	0.0010	0.0010	-0.0015	0	0.0050	0.0075
0	0	0.0005	0	-0.0005	0	-0.0010	0	0.0005

Internal Pressure psig	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
150	0.0025	0.0020	-0.0010	-0.0010	0	-0.0010	0	-0.0015
300	0.0045	0.0020	-0.0005	-0.0015	0.0005	-0.0010	0.0005	-0.0010
450	0.0070	0.0030	-0.0015	-0.0025	0	-0.0020	0.0015	-0.0010
600	0.0080	0.0045	-0.0015	-0.0030	-0.0005	-0.0020	0.0015	-0.0005
450	0.0055	0.0030	-0.0005	-0.0020	0	-0.0010	0.0015	-0.0005
300	0.0035	0.0020	-0.0005	-0.0015	0	-0.0010	0.0010	-0.0010
150	0.0020	0.0015	-0.0005	-0.0010	0	-0.0005	0.0005	-0.0005
0	0	0	0	0	0	-0.0005	0	-0.0005

Table IX.5.2. Deflection Data for Torsion Applied to the Run, M2X on T-15

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
20000	0.0140	-0.0035	0.0030	-0.0145	-0.0030	-0.1095	0.0535	-0.0555
40000	0.0130	-0.0040	0.0050	-0.0140	0.0415	-0.0520	0.0985	-0.1065
60000	0.0065	-0.0035	0.0060	-0.0060	0.1150	-0.1685	0.1405	-0.1535
80000	0.0040	-0.0030	0.0070	-0.0040	0.1745	-0.2055	0.1865	-0.2025
60000	0.0125	-0.0040	0.0070	-0.0130	0.1415	-0.1960	0.1440	-0.1575
40000	0.0085	-0.0030	0.0050	-0.0090	0.0560	-0.1345	0.0965	-0.1080
20000	0.0100	-0.0030	0.0025	-0.0100	0.0100	-0.0925	0.0520	-0.0570
0	0.0010	-0.0005	0	0.0005	-0.0090	-0.0070	0.0015	-0.0020

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
20000	0.0310	0.0225	-0.0215	-0.0020	-0.0350	0.0100	0.0825	0.0775
40000	0.0280	0.0125	-0.0190	-0.0010	-0.0545	0.0305	0.1570	0.1460
60000	0.0140	-0.0075	-0.0100	0.0005	-0.0665	0.0540	0.2240	0.2090
80000	0.0080	-0.0200	-0.0045	0.0020	-0.0835	0.0765	0.2985	0.2595
60000	0.0275	0.0060	-0.0190	0	-0.0725	0.0505	0.2290	0.2140
40000	0.0190	-0.0040	-0.0120	-0.0005	-0.0495	0.0345	0.1560	0.1450
20000	0.0225	-0.0135	-0.0150	-0.0015	-0.0310	0.0135	0.0815	0.0770
0	0.0025	-0.0020	-0.0020	-0.0005	-0.0025	-0.0005	0.0025	0.0020

Table IX.5.3. Deflection Data for Out-of-Plane Bending Moment Applied to the Run, -M2Y on T-15

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
22812	-0.0020	0.0430	-0.0390	0.0045	-0.0005	-0.0025	0.1215	0.1155
45625	-0.0005	0.0835	-0.0750	0.0080	-0.0050	-0.0065	0.2415	0.2310
68437	0.0010	0.1280	-0.1115	0.0125	-0.0130	-0.0135	0.3695	0.3500
91250	0.0025	0.1715	-0.1450	0.0170	-0.0205	-0.0220	0.4920	0.4680
68437	0	0.1290	-0.1115	0.0120	-0.0110	-0.0140	0.3740	0.3530
45625	-0.0020	0.0825	-0.0755	0.0085	-0.0010	-0.0055	0.2410	0.2270
22812	-0.0030	0.0425	-0.0410	0.0060	0.0035	-0.0015	0.1265	0.1180
0	-0.0005	-0.0005	-0.0025	0.0010	0.0030	-0.0045	0.0055	0.0030

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
22812	0.0095	-0.0205	0.0015	-0.0005	0.0015	-0.0005	0.0365	0.0065
45625	0.0225	-0.0380	0.0025	0	0.0030	0	0.0745	0.0120
68437	0.0365	-0.0530	0.0025	0.0005	0.0020	0	0.1070	0.0170
91250	0.0525	-0.0705	0.0020	0.0005	0.0020	-0.0005	0.1480	0.0240
68437	0.0370	-0.0555	0.0035	0.0005	0.0020	0.0005	0.1115	0.0190
45625	0.0225	-0.0395	0.0040	0.0010	0.0030	0.0015	0.0770	0.0140
22812	0.0080	-0.0225	0.0040	0.0010	0.0025	0.0010	0.0385	0.0075
0	-0.0010	-0.0025	0.0015	0.0005	0.0005	0.0010	0.0020	0.0010

Table IX.5.4. Deflection Data for In-Plane Bending Moment Applied to the Run, -M2Z on T-15

Mome. Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
18250	0.0315	-0.0035	0.0040	-0.0310	-0.0935	-0.0905	0.0050	0.0005
36500	0.0620	-0.0060	0.0090	-0.0620	-0.1895	-0.1850	0.0095	0.0005
54750	0.0925	-0.0085	0.0155	-0.0945	-0.2865	-0.2820	0.0140	0
73000	0.1220	-0.0110	0.0215	-0.1235	-0.3835	-0.3735	0.0165	-0.0020
54750	0.1000	-0.0090	0.0165	-0.1025	-0.3180	-0.3115	0.0135	-0.0015
36500	0.0680	-0.0070	0.0115	-0.0685	-0.2145	-0.2100	0.0085	-0.0015
18250	0.0325	-0.0035	0.0050	-0.0320	-0.1000	-0.0960	0.0040	-0.0005
0	0.0005	-0.0010	0.0005	-0.0015	-0.0050	-0.0050	-0.0010	-0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
18250	0.0410	0.0400	-0.0240	-0.0005	-0.0135	-0.0115	0.0025	0.0015
36500	0.0870	0.0845	-0.0530	-0.0025	-0.0280	-0.0265	0.0040	0.0025
54750	0.1310	0.1295	-0.0810	-0.0050	-0.0440	-0.0420	0.0040	0.0025
73000	0.1745	0.1715	-0.1090	-0.0065	-0.0575	-0.0555	0.0040	0.0030
54750	0.1315	0.1300	-0.0815	-0.0050	-0.0440	-0.0420	0.0035	0.0025
36500	0.0965	0.0950	-0.0605	-0.0040	-0.0330	-0.0315	0.0025	0.0025
18250	0.0440	0.0435	-0.0265	-0.0010	-0.0140	-0.0130	0.0020	0.0015
0	0	0.0005	0	0	-0.0010	0	0	0

Table IX.5.5. Deflection Data for Tension Applied to the Run, F2X on T-15

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
50000	0.0085	0.0115	0.0160	0.0110	0.0050	0.0055	-0.0095	-0.0045
100000	0.0175	0.0225	0.0295	0.0215	0.0085	0.0085	-0.0130	-0.0090
150000	0.0270	0.0325	0.0405	0.0320	0.0120	0.0100	-0.0185	-0.0120
200000	0.0380	0.0430	0.0500	0.0435	0.0145	0.0100	-0.0210	-0.0165
150000	0.0265	0.0325	0.0405	0.0325	0.0120	0.0105	-0.0205	-0.0155
100000	0.0165	0.0215	0.0305	0.0220	0.0105	0.0105	-0.0170	-0.0135
50000	0.0075	0.0105	0.0160	0.0120	0.0080	0.0090	-0.0105	-0.0085
0	-0.0005	0.0005	0	0.0005	-0.0005	0.0005	0.0005	0.0005

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
50000	0	0.0015	0.0010	0.0010	0.0005	0.0010	-0.0030	-0.0010
100000	0.0015	0.0055	0.0025	0.0025	0.0020	0.0030	-0.0060	-0.0015
150000	0.0040	-0.0010	0.0035	0.0040	0.0040	0.0040	-0.0080	-0.0030
200000	0.0075	0.0030	0.0050	0.0055	0.0050	0.0050	-0.0110	-0.0050
150000	0.0045	-0.0005	0.0045	0.0040	0.0045	0.0045	-0.0095	-0.0040
100000	0.0010	0.0050	0.0040	0.0025	0.0035	0.0035	-0.0065	-0.0025
50000	-0.0015	0.0010	0.0030	0.0010	0.0025	0.0020	-0.0045	-0.0015
0	-0.0010	-0.0015	0.0010	0	0.0005	0.0005	0	-0.0005

Table IX.5.6. Deflection Data for In-Plane Shear Applied to the Run, -F2Y on T-15

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
2000	0.0190	-0.0020	0.0015	-0.0185	-0.0750	-0.0720	0.0055	0.0040
4000	0.0385	-0.0020	0.0025	-0.0375	-0.1545	-0.1495	0.0170	0.0140
6000	0.0585	-0.0025	0.0035	-0.0585	-0.2340	-0.2270	0.0290	0.0230
8000	0.0795	-0.0025	0.0055	-0.0785	-0.3155	-0.3095	0.0395	0.0310
6000	0.0595	-0.0025	0.0040	-0.0595	-0.2390	-0.2335	0.0290	0.0230
4000	0.0405	-0.0020	0.0025	-0.0390	-0.1615	-0.1560	0.0175	0.0145
2000	0.0200	-0.0020	0.0020	-0.0195	-0.0815	-0.0780	0.0060	0.0040
0	0.0010	-0.0005	0.0010	-0.0030	-0.0075	-0.0080	-0.0010	-0.0020

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
2000	0.0425	0.0405	-0.0235	-0.0025	-0.0150	-0.0140	0.0040	0.0030
4000	0.0860	0.0790	-0.0540	-0.0060	-0.0305	-0.0300	0.0125	0.0090
6000	0.1275	0.1195	-0.0810	-0.0100	-0.0485	-0.0455	0.0205	0.0140
8000	0.1725	0.1585	-0.1110	-0.0140	-0.0660	-0.0615	0.0265	0.0180
6000	0.1315	0.1235	-0.0835	-0.0105	-0.0495	-0.0470	0.0210	0.0140
4000	0.0885	0.0835	-0.0555	-0.0070	-0.0335	-0.0310	0.0130	0.0090
2000	0.0455	0.0440	-0.0260	-0.0030	-0.0165	-0.0150	0.0050	0.0035
0	0.0040	0.0035	-0.0025	0	-0.0010	-0.0010	0.0015	0

Table IX.5.7. Deflection Data for Out-of-Plane Shear Applied to the Run, F2Z on T-15

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
3000	0.0005	0.0305	-0.0270	0.0005	-0.0010	0.0065	0.0375	0.1055
6000	0	0.0635	-0.0535	0.0105	-0.0020	0.0125	0.2190	0.2245
9000	0.0025	0.0955	-0.0775	0.0110	-0.0080	0.0115	0.3310	0.3370
12000	0.0045	0.1265	-0.1255	0.0040	-0.0125	0.0110	0.4380	0.4470
9000	0.0025	0.0980	-0.0800	0.0105	-0.0065	0.0135	0.3105	0.3435
6000	-0.0005	0.0655	-0.0550	0.0080	0	0.0140	0.2265	0.2320
3000	-0.0005	0.0330	-0.0290	0.0030	0.0020	0.0085	0.1140	0.1170
0	0	0.0020	-0.0060	0.0055	0.0020	0.0025	0.0060	0.0055

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
3000	0.0105	-0.0250	0.0045	0.0005	0.0025	0.0005	0.0400	0.0050
6000	0.0225	-0.0495	0.0070	0.0005	0.0050	0.0015	0.0845	0.0140
9000	0.0365	-0.0700	0.0085	0.0010	0.0055	0.0020	0.1270	0.0215
12000	0.0520	-0.0885	0.0085	0.0015	0.0070	0.0005	0.1690	0.0300
9000	0.0375	-0.0720	0.0090	0.0015	0.0065	0.0025	0.1310	0.0235
6000	0.0225	-0.0500	0.0080	0.0015	0.0055	0.0025	0.0880	0.0155
3000	0.0100	-0.0270	0.0055	0.0005	0.0035	0.0015	0.0425	0.0060
0	-0.0010	-0.0035	0.0035	0.0005	0.0010	0.0015	0.0025	-0.0015

Table IX.5.8. Deflection Data for Out-of-Plane Bending Moment Applied to the Branch, M3X on T-15

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
1750	0.0005	0	0	0	-0.0010	-0.0030	0.0010	-0.0010
3500	0.0005	0	0	0	-0.0010	-0.0065	0.0030	-0.0020
5250	0.0005	0	0	0	-0.0010	-0.0090	0.0045	-0.0035
7000	0.0010	0	0.0005	0	-0.0010	-0.0125	0.0065	-0.0055
5250	0.0010	0	0.0005	0	-0.0005	-0.0095	0.0040	-0.0050
3500	0.0005	0	0.0005	0	-0.0015	-0.0070	0.0020	-0.0030
1750	0.0005	0	0.0005	0	-0.0015	-0.0050	0.0015	-0.0020
0	0.0005	0	0.0005	0	-0.0010	-0.0010	0	-0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
1750	-0.0095	-0.0105	0.0035	-0.0045	-0.0240	0.0240	0.0500	0.0515
3500	-0.0135	-0.0150	0.0055	-0.0060	-0.0535	0.0510	0.1125	0.1130
5250	-0.0190	-0.0225	0.0075	-0.0080	-0.0820	0.0790	0.1735	0.1750
7000	-0.0255	-0.0305	0.0100	-0.0100	-0.1135	0.1095	0.2390	0.2430
5250	-0.0170	-0.0200	0.0065	-0.0070	-0.0815	0.0785	0.1735	0.1740
3500	-0.0120	-0.0135	0.0040	-0.0055	-0.0535	0.0505	0.1125	0.1125
1750	-0.0070	-0.0085	0.0025	-0.0035	-0.0305	0.0295	0.0655	0.0855
0	0.0005	0	-0.0010	0	-0.0005	0.0025	0.0055	0.0030

Table IX.5.9. Deflection Data for Torsion Applied to the Branch, -M3Y on T-15

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
5250	0.0010	0.0035	-0.0025	-0.0020	-0.0090	-0.0110	0.0170	0.0145
10500	0	0.0080	-0.0060	-0.0005	-0.0015	-0.0050	0.0400	0.0340
15750	0	0.0110	-0.0095	0	-0.0050	-0.0080	0.0575	0.0515
21000	0	0.0150	-0.0125	0	-0.0060	-0.0105	0.0775	0.0685
15750	0.0005	0.0110	-0.0095	-0.0010	-0.0080	-0.0110	0.0580	0.0515
10500	0.0005	0.0075	-0.0060	-0.0010	-0.0080	-0.0115	0.0390	0.0335
5250	0	0.0050	-0.0035	-0.0010	-0.0060	-0.0080	0.0185	0.0155
0	0	0	-0.0010	-0.0005	-0.0020	-0.0020	0.0005	0.0020

Torsion Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
5250	0.1290	-0.0400	-0.0235	0.0150	-0.0030	-0.0025	0.0945	-0.0780
10500	0.1720	-0.1495	-0.0085	0.0015	-0.0035	0.0005	0.1825	-0.1475
15750	0.2650	-0.2150	-0.0150	0.0055	-0.0040	0	0.2695	-0.2210
21000	0.3485	-0.2860	-0.0190	0.0065	-0.0055	0	0.3590	-0.2900
15750	0.2880	-0.1950	-0.0255	0.0135	-0.0055	-0.0010	0.2725	-0.2225
10500	0.1840	-0.1495	-0.0120	0.0030	-0.0045	0	0.1885	-0.1530
5250	0.0810	-0.0950	0.0010	-0.0045	-0.0020	0.0005	0.0995	-0.0805
0	0.0020	-0.0095	0.0010	-0.0005	-0.0005	0.0005	0.0050	-0.0040

Table IX.5.10. Deflection Data for In-Plane Bending Applied to the Branch, -M3Z on T-15

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
4500	0.0025	-0.0005	0	-0.0030	-0.0155	-0.0155	-0.0005	-0.0010
9000	0.0060	-0.0015	0.0015	-0.0060	-0.0310	-0.0315	-0.0035	-0.0040
13500	0.0085	-0.0020	0.0025	-0.0100	-0.0475	-0.0480	-0.0060	-0.0070
18000	0.0120	-0.0030	0.0040	-0.0150	-0.0680	-0.0690	-0.0085	-0.0070
13500	0.0090	-0.0025	0.0030	-0.0105	-0.0495	-0.0500	-0.0065	-0.0070
9000	0.0065	-0.0015	0.0020	-0.0070	-0.0335	-0.0350	-0.0055	-0.0060
4500	0.0025	-0.0010	0.0010	-0.0035	-0.0150	-0.0155	-0.0030	-0.0040
0	0.0010	0	0	-0.0010	-0.0035	-0.0045	-0.0005	-0.0005

Moment Foot-Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
4500	0.0905	0.0905	-0.0505	0.0460	-0.0045	-0.0015	0.0020	0.0010
9000	0.2180	0.2105	-0.1225	0.1075	-0.0105	-0.0035	0.0085	0.0095
13500	0.3335	0.3355	-0.1860	0.1665	-0.0180	-0.0020	0.0155	0.0190
18000	0.4565	0.4560	-0.2550	0.2265	-0.0260	-0.0020	0.0235	0.0305
13500	0.3285	0.3305	-0.1860	0.1625	-0.0205	-0.0035	0.0170	0.0220
9000	0.2520	0.2515	-0.1540	0.1235	-0.0165	-0.0050	0.0110	0.0145
4500	0.1005	0.1015	-0.0590	0.0510	-0.0065	-0.0015	0.0040	0.0060
0	0.0070	0.0050	-0.0060	0.0015	-0.0025	-0.0010	0.0010	0.0020

Table IX.5.11. Deflection Data for In-Plane Shear Applied to the Branch, F3X on T-15

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
875	0.0030	-0.0005	0.0005	-0.0030	-0.0180	-0.0160	-0.0030	-0.0025
1750	0.0075	-0.0015	0.0010	-0.0070	-0.0375	-0.0360	-0.0055	-0.0055
2625	0.0100	-0.0020	0.0025	-0.0110	-0.0570	-0.0550	-0.0085	-0.0085
3500	0.0150	-0.0030	0.0045	-0.0150	-0.0775	-0.0760	-0.0115	-0.0115
2625	0.0115	-0.0020	0.0030	-0.0110	-0.0600	-0.0580	-0.0090	-0.0095
1750	0.0075	-0.0015	0.0020	-0.0070	-0.0400	-0.0375	-0.0065	-0.0065
875	0.0030	-0.0010	0.0005	-0.0035	-0.0195	-0.0170	-0.0040	-0.0040
0	0.0015	0	0.0005	-0.0010	-0.0040	-0.0055	-0.0020	-0.0020

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
875	0.1140	0.1150	-0.0530	0.0465	-0.0040	-0.0015	0.0020	0.0010
1750	0.2285	0.2260	-0.1065	0.0895	-0.0100	-0.0070	0.0040	0.0025
2625	0.3355	0.3330	-0.1595	0.1310	-0.0160	-0.0110	0.0070	0.0055
3500	0.4550	0.4510	-0.2155	0.1770	-0.0215	-0.0145	0.0100	0.0090
2625	0.3445	0.3815	-0.1625	0.1340	-0.0165	-0.0115	0.0080	0.0055
1750	0.2320	0.2325	-0.1095	0.0910	-0.0100	-0.0070	0.0060	0.0030
875	0.1155	0.1205	-0.0540	0.0470	-0.0045	-0.0020	0.0035	0.0015
0	0.0030	0.0025	-0.0020	0.0005	-0.0005	-0.0005	0.0010	0

Table IX.5.12. Deflection Data for Tension Applied to the Branch, F3Y on T-15

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
6000	-0.0050	0.0005	0	0.0045	0.0275	0.0275	-0.0030	-0.0015
12000	-0.0095	0.0010	-0.0005	0.0100	0.0565	0.0575	-0.0060	-0.0030
18000	-0.0140	0.0015	-0.0010	0.0145	0.0845	0.0845	-0.0095	-0.0050
24000	-0.0185	0.0020	-0.0010	0.0190	0.1125	0.1130	-0.0140	-0.0085
18000	-0.0140	0.0015	-0.0010	0.0145	0.0850	0.0860	-0.0095	-0.0055
12000	-0.0095	0.0010	-0.0005	0.0095	0.0555	0.0560	-0.0060	-0.0030
6000	-0.0045	0.0005	-0.0005	0.0045	0.0275	0.0275	-0.0030	-0.0015
0	0	0	0	0.0005	0	0.0005	0	-0.0005

Tension Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
6000	0.0170	0.0185	0.0010	0.0260	0.0105	0.0150	0.0050	0.0080
12000	0.0470	0.0490	-0.0015	0.0570	0.0245	0.0290	0.0045	0.0085
18000	0.0890	0.0900	-0.0100	0.0930	0.0385	0.0425	0.0055	0.0095
24000	0.1395	0.1425	-0.0215	0.1330	0.0515	0.0555	0.0035	0.0090
18000	0.0895	0.0915	-0.0100	0.0940	0.0395	0.0425	0.0045	0.0085
12000	0.0495	0.0525	-0.0025	0.0585	0.0255	0.0285	0.0020	0.0060
6000	0.0175	0.0200	0.0005	0.0265	0.0110	0.0150	0.0035	0.0070
0	-0.0005	-0.0020	0.0010	0.0015	0.0015	0.0005	-0.0010	0

Table IX.5.13. Deflection Data for Out-of-Plane Shear Applied to the Branch, F3Z on T-15

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	1	2	3	4	5	6	7	8
0	0	0	0	0	0	0	0	0
500	0	0	0	0	0.0025	-0.0045	0.0035	-0.0030
1000	0	0	0	0	0.0045	-0.0080	0.0075	-0.0055
1500	0.0005	0.0005	-0.0005	0	0.0065	-0.0120	0.0125	-0.0065
2000	0.0005	0.0010	-0.0005	0	0.0080	-0.0165	0.0170	-0.0080
1500	0.0005	0.0005	-0.0005	-0.0005	0.0055	-0.0130	0.0135	-0.0055
1000	0	0	-0.0005	-0.0005	0.0040	-0.0090	0.0085	-0.0045
500	0	0	0	-0.0005	0.0025	-0.0050	0.0045	-0.0030
0	-0.0005	-0.0005	0	0	0.0005	-0.0005	0	-0.0010

Shear Pounds	Dial Indicator Locations - Deflection in Inches							
	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	0
500	0	0	-0.0015	0.0025	-0.0390	0.0395	0.0960	0.1010
1000	0.0015	0.0010	-0.0030	0.0055	-0.0755	0.0745	0.1905	0.1925
1500	0.0035	0.0010	-0.0040	0.0085	-0.1115	0.1110	0.2905	0.2865
2000	0.0050	0.0020	-0.0055	0.0120	-0.1480	0.1460	0.3755	0.3805
1500	0.0045	0.0020	-0.0050	0.0085	-0.1125	0.1110	0.2845	0.2870
1000	0.0030	0.0010	-0.0040	0.0055	-0.0785	0.0775	0.1985	0.2000
500	0.0010	0.0010	-0.0025	0.0025	-0.0405	0.0400	0.1020	0.1025
0	0.0005	0.0005	-0.0005	0	0	0.0010	0.0025	0