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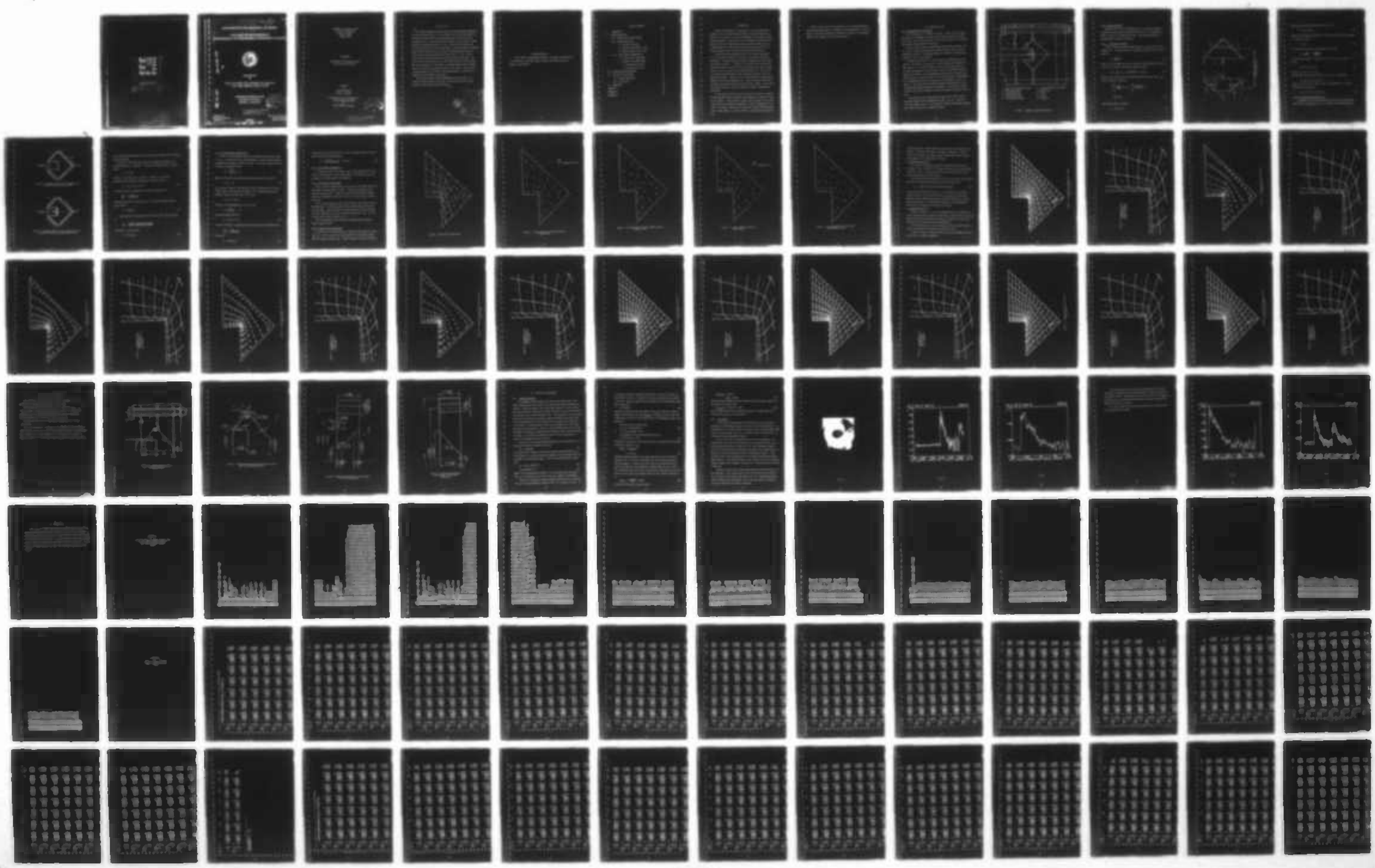

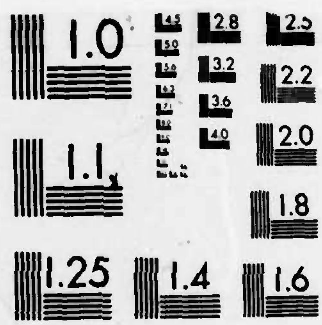

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UNIVERSITY OF CENTRAL FLORIDA

COLLEGE OF ENGINEERING
ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

FINAL REPORT
ON

DEVELOPMENT OF A DISTRIBUTED BREACH FOR THE CONICAL SHOCK TUBE

PRINCIPAL INVESTIGATORS
SAYED M. METWALLI
FAISSAL A. MOSLEHY

SPONSORED BY:
Naval Research Laboratory
Washington, D.C.

University of Central Florida
College of Engineering
Orlando, Florida 32816

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Submitted
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Sayed M. Metwalli
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A B S T R A C T

This report represents the final stage of distributed breach development for the conical shock tube. An initial design of the distributed breach has been used to find the effect of prestressing before firing on the stress state after firing. Finite element method has been used to evaluate in-plane and hoop stresses before and after firing. A coarse finite element model is used to find points of high stresses before a finer mesh thereat is adopted. Results confirm the existance of a prestress three dimensional continuum which creates a very high resistance to firing loads. In fact, stresses have literally been improved after firing due to prestressing effect. The results of the initial design led to modifications which can further improve the stress distribution in the breach. The improved design with its working drawing is included in the redesign section of this report. The next stage is the manufacturing and testing of the improved design. This will be included in this final report of the project.

Test results indicate a marked improvement over the old tube. No failure has occured and the efficiency of simulating real blasts is about 90% which is much higher than the old tube.

ACKNOWLEDGEMENTS

We would like to acknowledge the efforts, the support, and the help of Dr. Lee Van Buren, Lynn Poche, Robert Carnegie, William Barrow, David Mitchell, and Sam Petrie.

TABLE OF CONTENTS

I. INTRODUCTION

A program of development and redesign of the existing shock tube is presented. One of the main problems which has limited the continued successful use of the tube is the plastic deformation in the breach resulting from the detonation. The objectives of this proposed continuation of the current program is to develop a new design to the shock tube with a distributed breach which should enhance shock wave characteristics by minimizing the energy losses associated with the plastic deformation.

An explosive driven hydrodynamic conical shock tube was developed [1, 2, 3] to test the integrity of a device in an explosive underwater environment. The original design utilized an expendable mild steel breach to confine the explosive. The number of shots which could be made before replacing the breach plug varied from a large number when using a blasting cap only to one or two when using 10 grams equivalent TNT. Also the loss of energy through the resulting plastic deformation severely limits the amplification factor - reducing it from 7770 theoretically to approximately 1400 when using 10 grams equivalent TNT. The shock tube was fabricated in two pieces of approximately four feet and six feet in length. This was done to facilitate handling of the tube, whose total weight is approximately 1200 pounds.

In this interim report the four foot section of the tube is discarded and the equivalent amount of charge is distributed over a spherical surface at that station. Current results of dynamic history response of the shorter shock tube [3] has indicated no degradation in natural frequencies or mode shapes. The dynamic stress wave in the tube wall indicated tolerable magnitudes. Stress analysis is herein initiated to investigate the proposed design.

To get a closer insight into the stresses in the distributed breach, a simple and approximate model is selected for the expendable part. After the analysis is completed accordingly a redesign of the breach is consumated depending on the findings of the preliminary analysis.

II. DESIGN CALCULATION

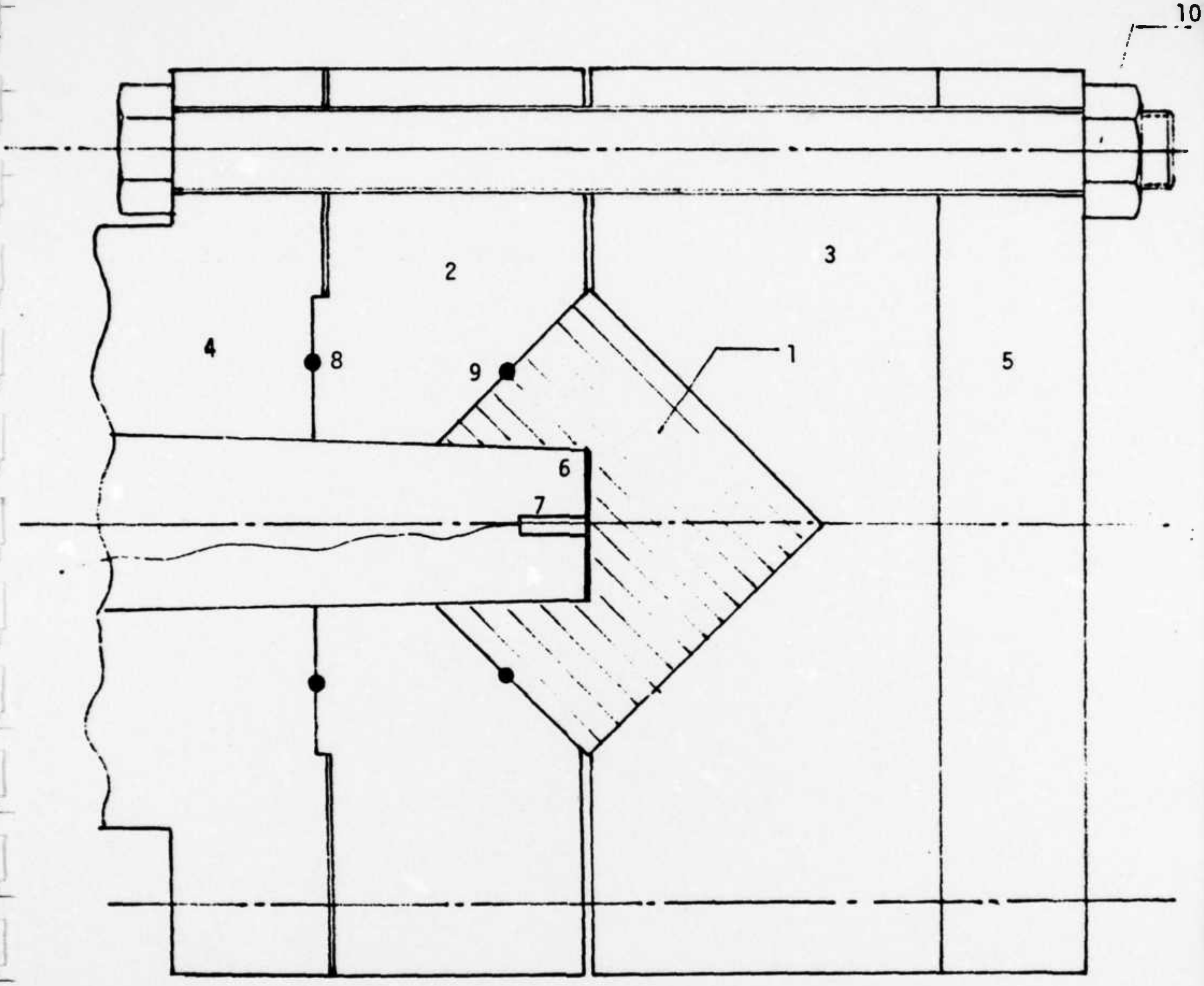
II-1. Description of Initial Design

The initial design is illustrated in Figure 1. Again, use of an expendable section is recommended to prevent the occurrence of damage to the body of the tube. Use of this piece will also permit the insertion of an isolation layer between the breach and the tube body.

This new design provides a prestressed three dimensional continuum, part (1), Figure 1, around the detonation area which creates a triaxial state of hydrostatic stress [4]. The proposed design has, therefore, considerable advantages over the existing design.

A spherical wave front of 4' radius should exist immediately after detonation. Initiation will be by use of a single blasting cap located at the tube centerline. The rate of detonation will be approximately 20,000 fps. The rate of propagation of the shock wave in water is approximately 5000 fps. Therefore the surface of the distributed charge should not be spherical, but should actually be concave by almost 1/4" at the tube centerline (5000/20000). It is recommended that the initial feasibility be determined, using a flat surface. This would allow use of DuPont Line Wave Generator which is a perforated flexible explosive prepared from Datasheet. Its thickness of 0.050" is almost exactly what is needed to provide the desired total amount of explosive.

The available finite element computer program (SAP IV) [5] is used in the stress analysis of the expendable part (part 1, fig. 1). To perform the finite element analysis it is necessary to identify the boundary conditions and to define type, form, and number of element.



1. Double cone expendable section
2. Steel backing jaws
3. Steel backing jaws
4. Existing Shock Tube
5. Existing Back Up Plate
6. Line Wave Generator (Detaprime)
7. Blasting Cap
8. O-ring
9. O-ring
10. Long Bolt

Figure 1. Schematic of Distributed Breach

II-2. Boundary Conditions

Stiffness calculation of the expendable part is required to properly evaluate the external pressure before and after firing. The prestressing before firing will be altered after firing. The following calculations are performed to define both conditions.

II-2. 1. Stiffness Calculation

Figure 2(a) and (b) show diagramatic sketches of the two ends of the expendable part. The contraction $d\delta$ of an element of length dx (Fig. 2(a)) is given by

$$d\delta = \frac{P(x)}{EA(x)}\,dx \tag{1}$$

where E is Young's modulus and A(x) is the area of the element dx at distance x and P(x) is the total force on the element such that

$$P(x) = \frac{P_2}{\sqrt{2}}\,\pi\,(r + a)\,\sqrt{(r+a)^2 + x^2} = p_2\pi(x^2-a^2) \tag{2}$$

where p is the normal press on the surface and the cone angle is 45°. The total contraction is given by

$$\delta = \int_{x=a}^{x=h} \frac{P(x)}{EA(x)}\,dx = \frac{1}{E}\int_{x=a}^{x=h} \frac{P_2\pi(x^2-a^2)}{\pi(x^2-a^2)}\,dx$$

$$= \frac{P_2}{E}\,(h-a) \tag{3}$$

The resultant force is given by

$$F = p_2(h^2 - a^2)\pi \tag{4}$$

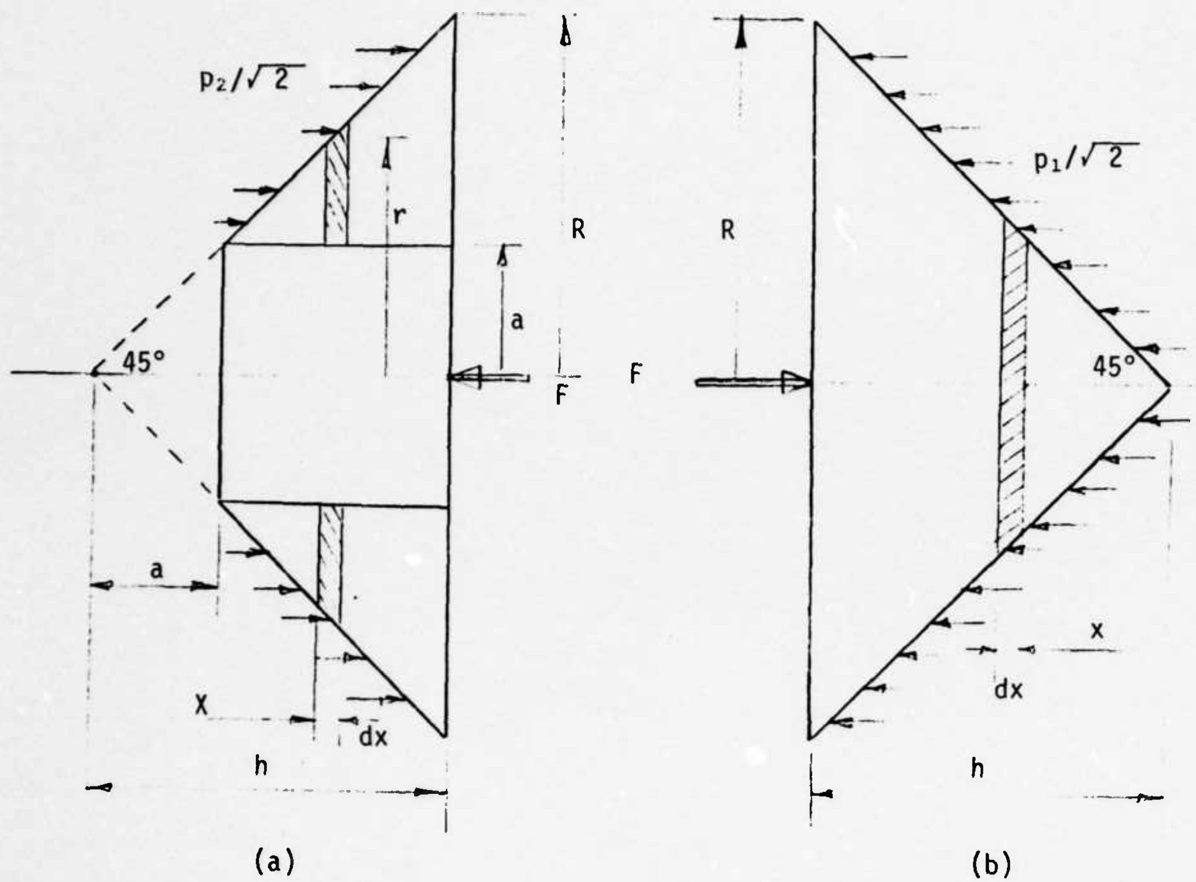


Figure 2. Diagramatic Sketch of the Two Ends of the Expendable Part

Hence the stiffness of the part shown in fig. 2(a) is

$$k_1 = \frac{F}{\delta} = \pi E(h+a) \tag{5}$$

Similarly the stiffness of the end Fig. 2(b) can be obtained by substituting a = 0 in eq. (5) to get

$$k_2 = \pi Eh \tag{6}$$

The equivalent stiffness of the expendable part is then

$$k_e = \frac{k_1 k_2}{k_1 + k_2} = \frac{\pi Eh(h+a)}{(2h+a)} \tag{7}$$

For the initial design h is selected as 3 in. and a as 1 in. Hence eq. (7) yields

$$k_e = 162 \times 10^6 \text{ lb/in} \tag{8}$$

where $E = 30 \times 10^6$ psi for steel.

The stiffness of a single bolt (part 10 in fig. 1) is expressed by

$$k = \frac{EA}{\ell} = 1.06 \times 10^6 \text{ lb/in}$$

where $\ell = 12.5$ in and $A = 0.44$ in^2 for 3/4 in diameter bolt. The total stiffness of the 12 bolts is

$$k_b = 12\,k = 12.7 \times 10^6 \text{ lb/in} \tag{9}$$

II. 2.2 Surface Pressure Before Firing

A diagramatic sketch of the expendable part with the surface pressure before firing is depicted in fig. 3. To evaluate the surface pressures p_1

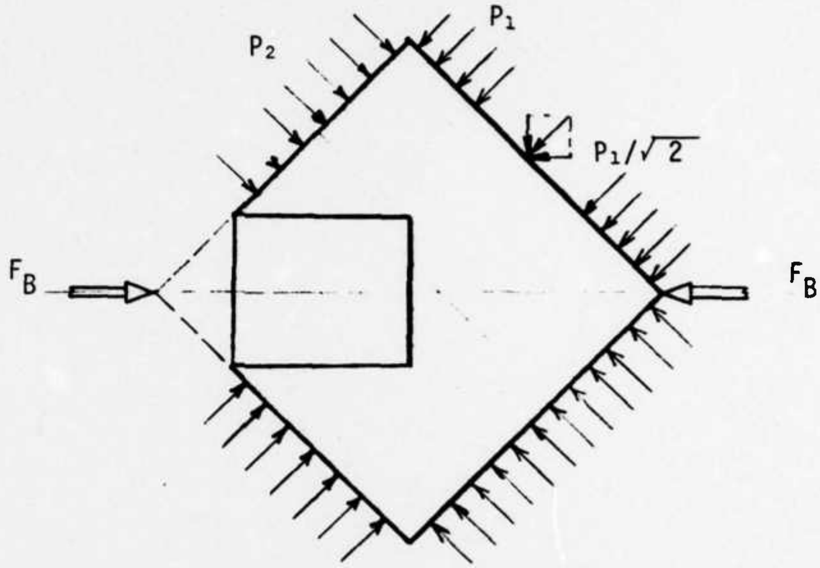


Figure 3. Diagramatic Sketch of the Expendable Part with Surface Pressure Before Fixing

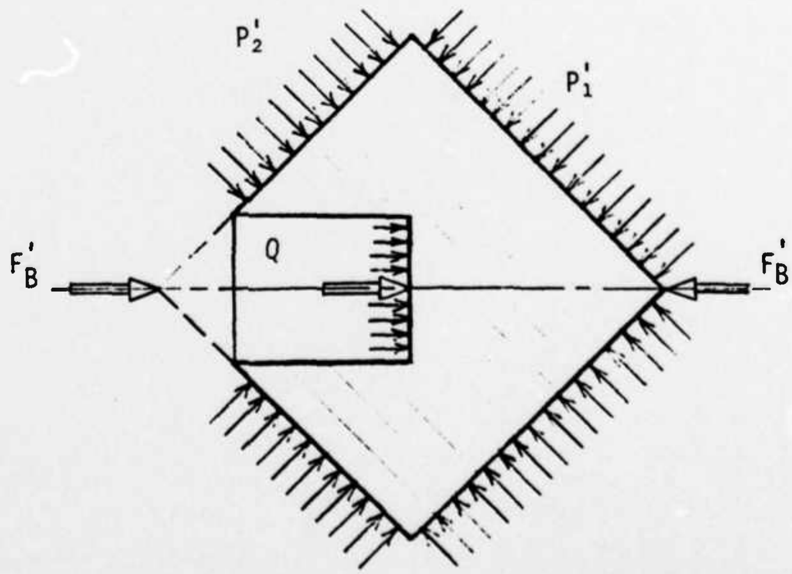


Figure 4. Diagramatic Sketch of the Expendable Part with Surface and Detonation Pressures after Firing

and p_2 the total force generated from the prestressing caused by bolt tightening should be obtained.

Using 3/4 in SAE Grade 5 bolts with proof strength Sp= 85,000 psi and ultimate strength σ_u = 120,000 psi. The initial tightening force F_i is given by [4]

$$F_i = 0.9\ SpA_t$$

where A_t is the tensile area = 0.334 in^2. Therefore F_i = 25,550 lb. The maximum force produced by tightening all 12 bolts is then

$$F_B = 12\ F_i = 0.307 \times 10^6 \text{ lb} \qquad (10)$$

The normal pressure p_1 generated by this force is obtained from

$$\frac{p_1}{\sqrt{2}} = \frac{F_B}{\text{surface area}}$$

where the right conical surface area is $\sqrt{2}\ \pi h^2$. Substituting the values of F_B and h gives

$$p_1 = 10{,}844 \text{ psi} \qquad (11)$$

From equilibrium of the whole part (Fig. (3)) the ratio $\frac{p_2}{p_1}$ is obtained by

$$\frac{p_2}{p_1} = \frac{\text{Area of right conical surface}}{\text{Area of left conical surface}}$$

from which p_2 is calculated as

$$p_2 = 12{,}184 \text{ psi} \qquad (12)$$

II. 2.3 Surface Pressure After Firing

After firing the expendable part will be subjected to the loads as shown in Fig. 4. To evaluate the new surface pressures p_1' and p_2' after firing the preloading effect should be taken into account. The forces in the bolts after firing F_B is obtained from [4].

$$F_B' = \frac{k_b Q}{k_b + k_e} + F_B \tag{13}$$

where Q is the total force induced by the pressure wave and is given by

$$Q = p_m \cdot \pi a^2 \tag{14}$$

p_m is the peak pressure at the location of the distributed breach (at 4 feet from the apex of tube) and equals 25,000 psi [1]. Substituting the values from eqs. (8,9,10) and (14) into eq. (13) given

$$F_B' = 312 \times 10^3 \text{ lb} \tag{15}$$

The force in the expendable part is given by [4]

$$F_e = \frac{k_e Q}{k_b + k_c} - F_B \tag{16}$$

which upon substitution gives

$$F_e = -234 \times 10^3 \text{ lb} \tag{17}$$

The normal pressure p_1' generated by this compressive force is obtained from

$$\frac{p_1'}{\sqrt{2}} = \frac{F_e}{\text{surface area}}$$

which gives

$$p_1' = 8{,}276 \text{ psi} \tag{18}$$

From equilibrium of the whole part (Fig. (4)), the normal pressure on the left conical surface may be calculated by

$$p_2' = \frac{F_e - Q}{\text{left surface area}} = 6{,}175 \text{ psi} \qquad (19)$$

II.3. Finite Element Implementation

A preliminary coarse finite element model of the expendable part is used first to find the points of high stresses where a finer mesh should be used. A refined finite element model is then adopted.

II.3.1 Coarse Finite Element Model

Figure 5 shows the selected mesh for the coarse finite element model with both element and node numbers indicated. The mesh was generated by using computer program GRID [6]. Twenty-five quadrilateral axisymmetric elements based on an isoparametric formulation are used. The total number of nodes is thirty-five.

SAP IV computer program [5] was used to evaluate the stresses inside the expendable part. The three principle stresses were obtained at the center of each element. Figure 6 shows the in-plane compressive principle stresses and their orientation for the case of prestressing before firing. The third principle stress (hoop) is shown in Fig. 7.

Stresses generated after firing were also computed and displayed as shown in figures 8 and 9.

II.3.2 Refined Finite Element Model

It can easily be seen that high stress gradients occur around the detonation area. For this reason a finer mesh generated by the computer program GRID was adopted around that area. A general computer program was developed

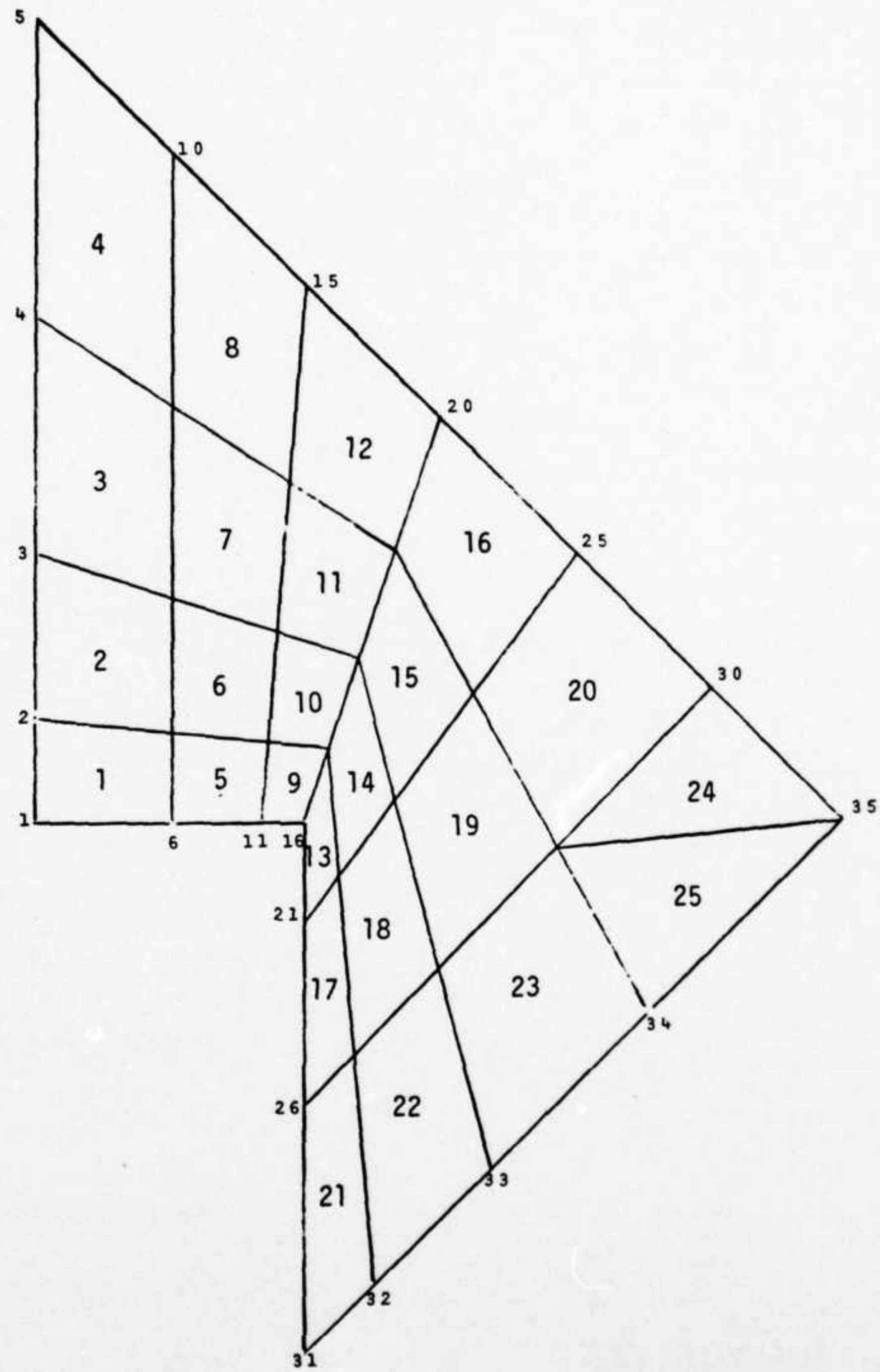


Figure 5. Coarse Finite Element Model

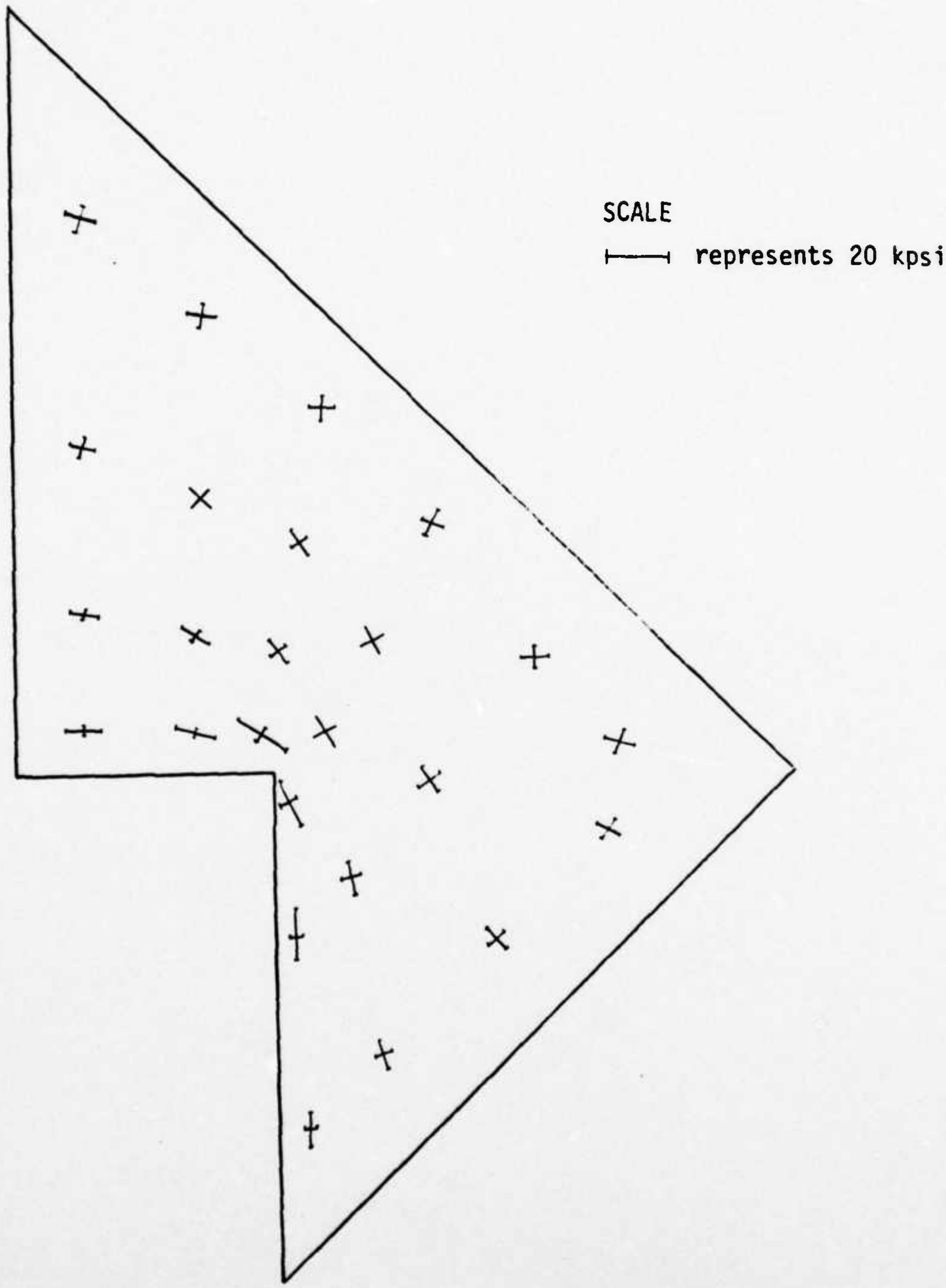


Figure 6. In-plane Compressive Principal Stresses Before Firing

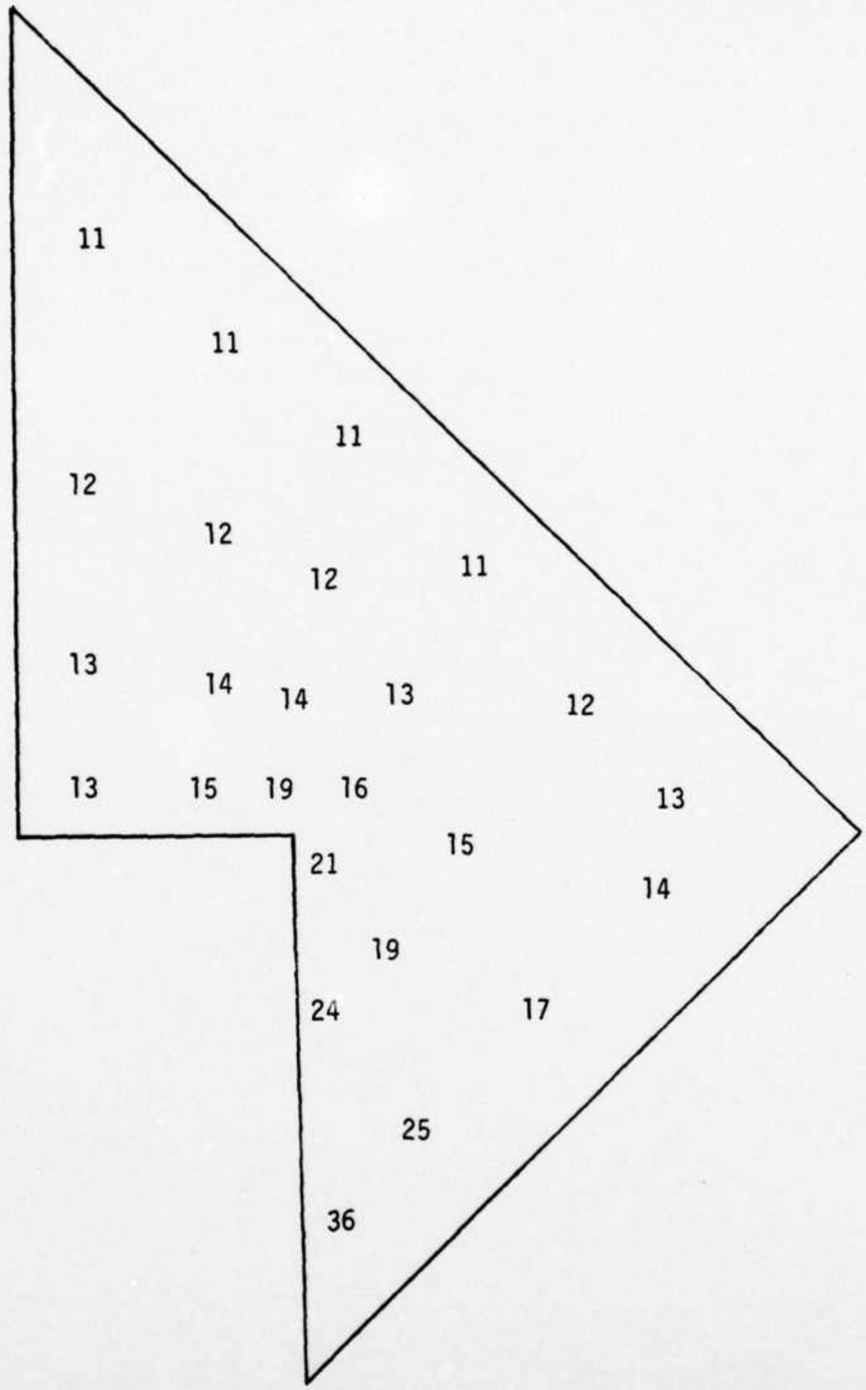


Figure 7. Third Compressive Principal (HOOP) Stresses Before Firing

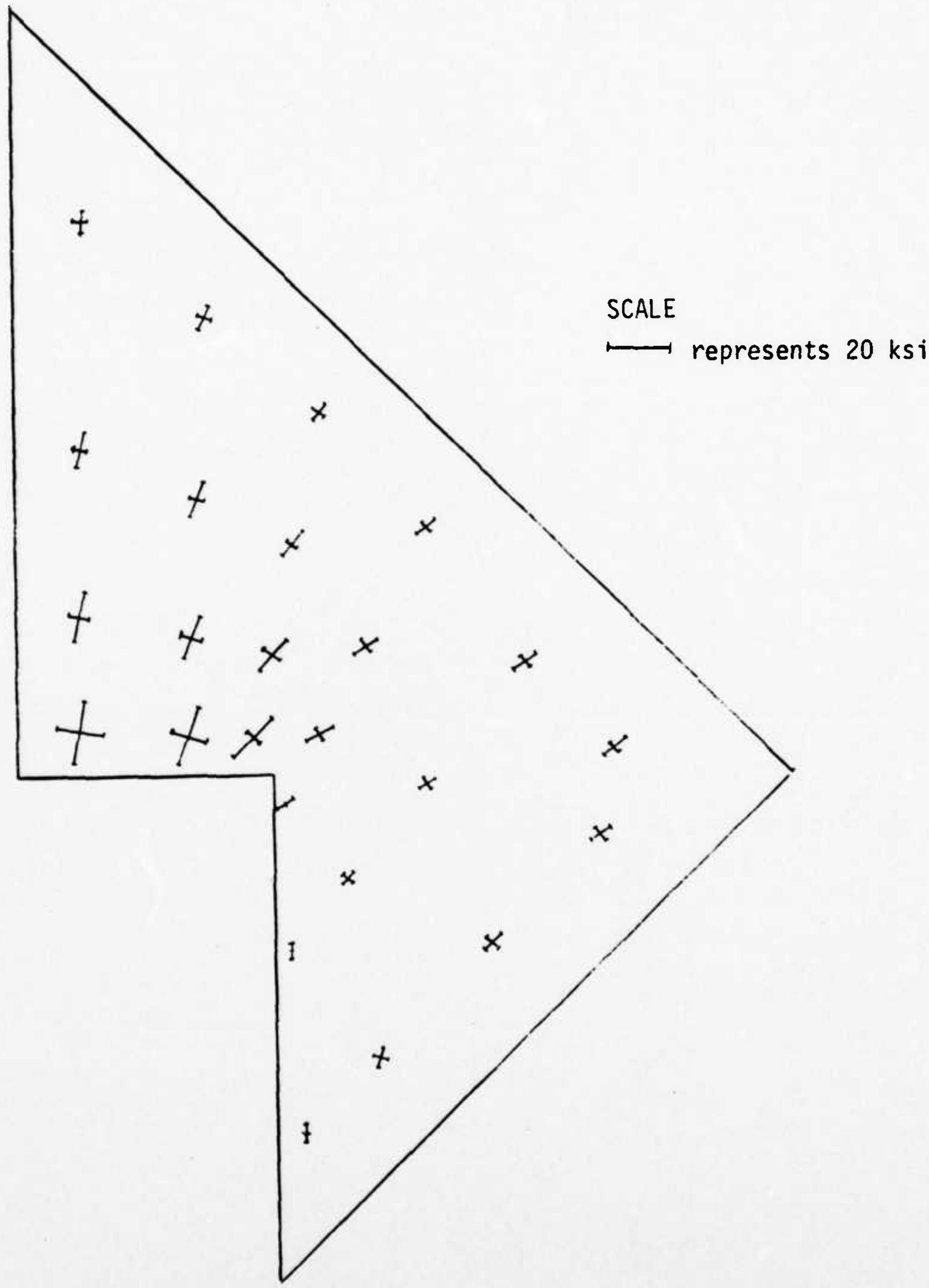


Figure 8. In-Plane Compressive Stresses After Firing

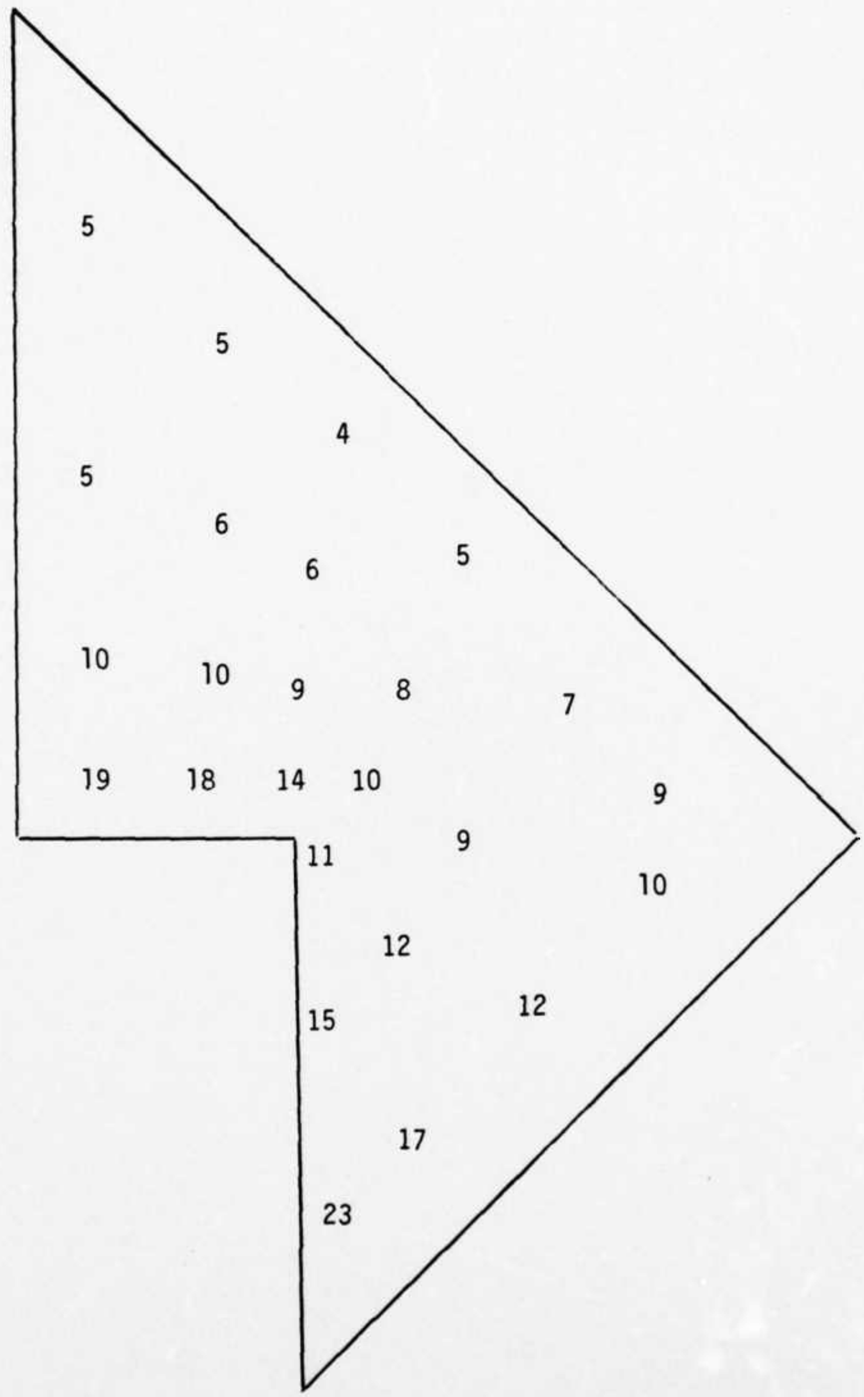


Figure 9. Third Compressive Principal (HOOP) Stresses After Firing

to display the mesh, element number, and stress values at the center of each element. A listing of the program is included in Appendix A. Figure 10 shows the refined mesh with element numbers indicated and figure 11 depicts an enlargement of the crowded part of the mesh.

A. Stresses before firing

The output of the computer program for the three principle stresses (in-plane σ_1 and σ_2 and hoop σ_3) is plotted in figures 12-17 for the prestressing before firing. It should be noted that the printed positive values of stresses are compressive and vise versa.

Since the distortion energy theory of failure [4] is used in this analysis the value of the equivalent von Mises stress is calculated from

$$\sigma_e = \sqrt{\tfrac{1}{2}[(\sigma_1 - \sigma_2)^2 + (\sigma_2 - \sigma_3)^2 + (\sigma_3 - \sigma_1)^2]} \quad (20)$$

Figures 18 and 19 display the values of σ_e at the center of each element. It is obvious from fig. 18 that the value of σ_e is nearly zero at the outer boundary of the expendable part except at the mouth where there is no continuity of the material. This demonstrates the state of almost hydrostatic stress and the suitability of the design of this part.

B. Stresses after firing

Principle stresses (σ_1, σ_2, and σ_3) computed after firing including the effect of prestressing are shown in figures 20-25. Comparing values of stresses before and after firing reveals that the state of stress has literally been improved after firing due to the prestressing effect.

The von Mises stress (σ_e) is also plotted in figures 26 and 27 which indicate the improvement in the state of stress after firing.

A complete listing of computer printout results for both before and after firing cases is included in Appendix B.

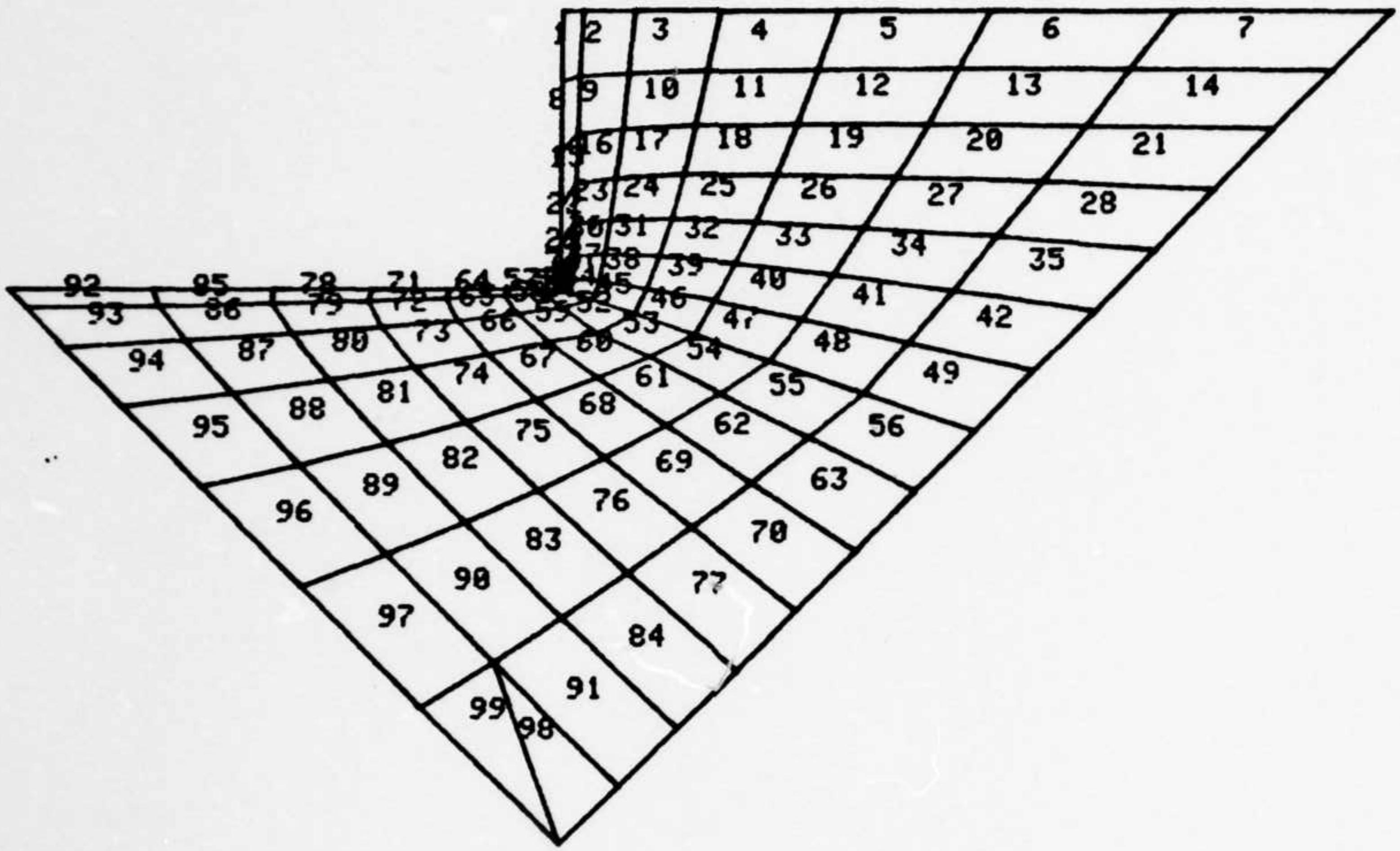


Figure 10. Refined Finite Element Mesh, Element Numbers Indicated

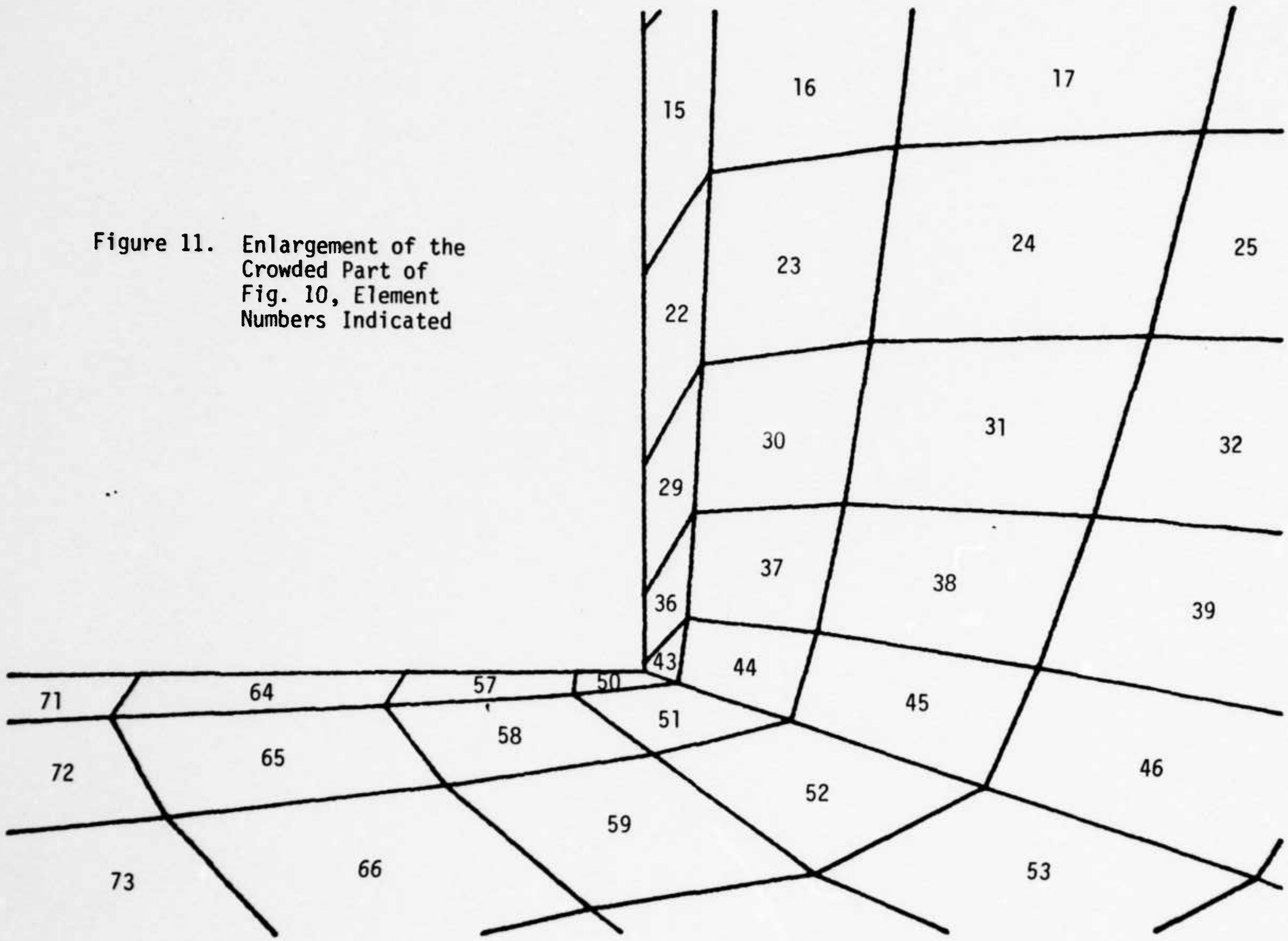


Figure 11. Enlargement of the Crowded Part of Fig. 10, Element Numbers Indicated

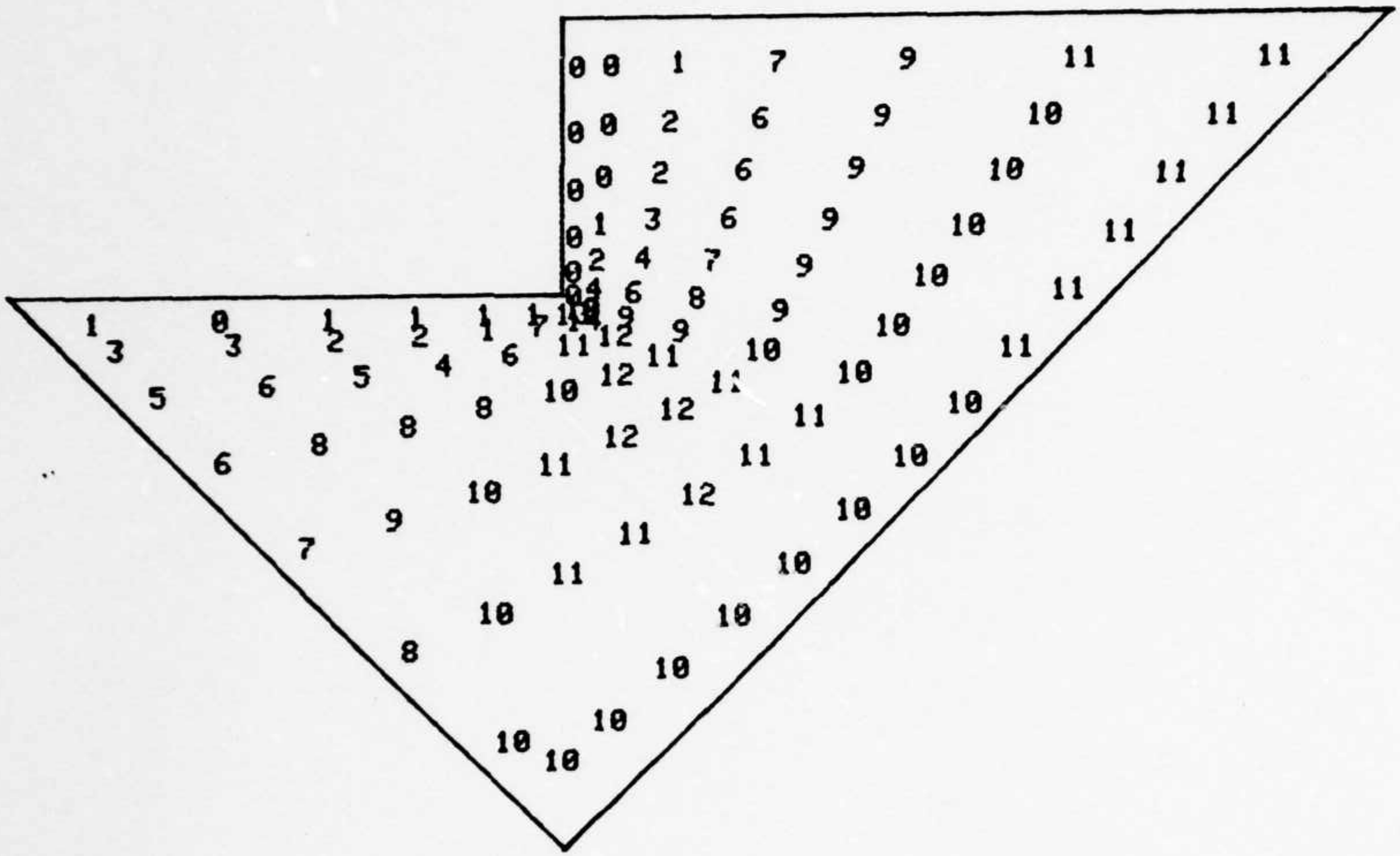


Figure 12. Compressive Principal Stress (σ_1) Before Firing

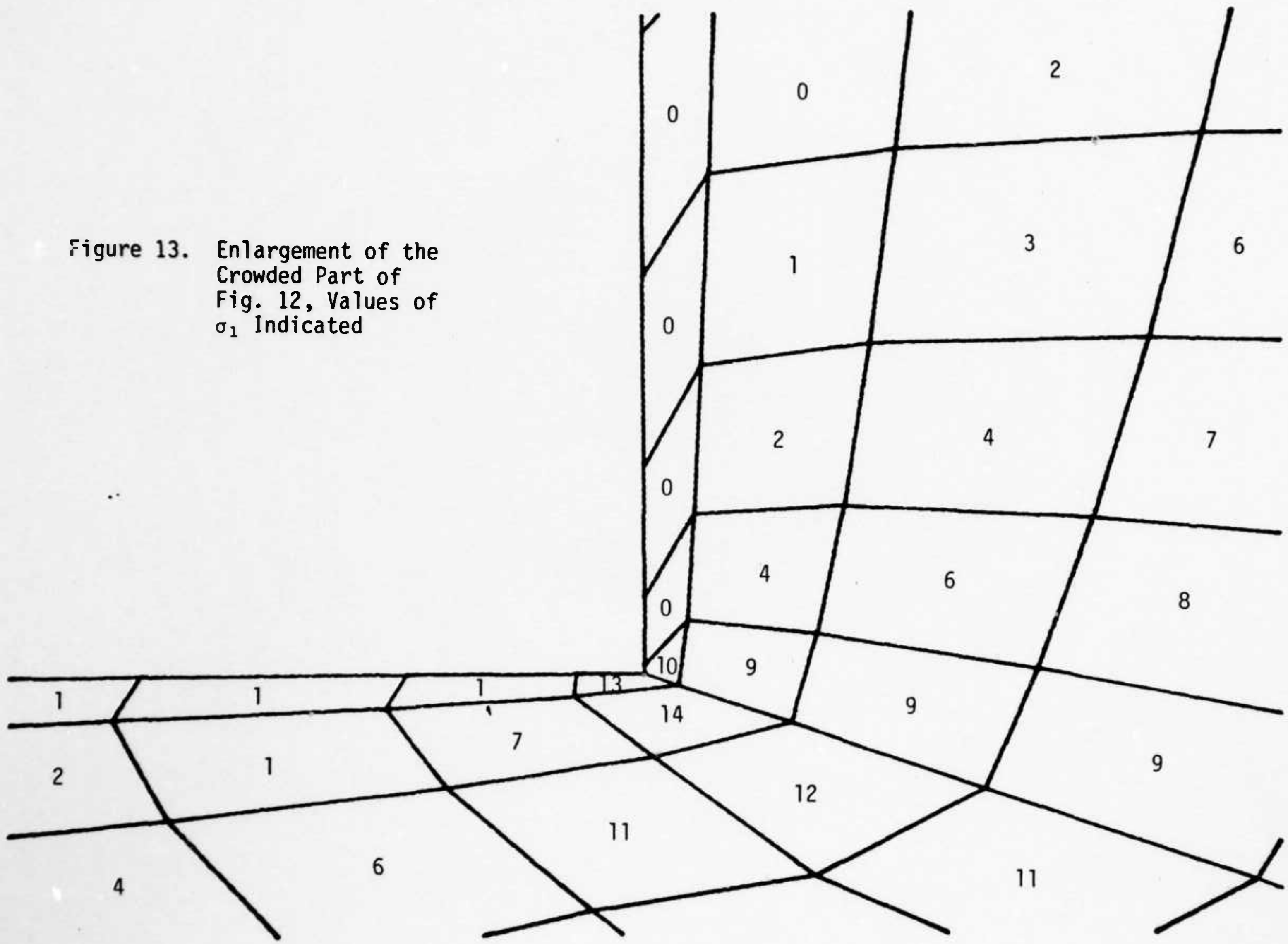


Figure 13. Enlargement of the Crowded Part of Fig. 12, Values of σ_1 Indicated

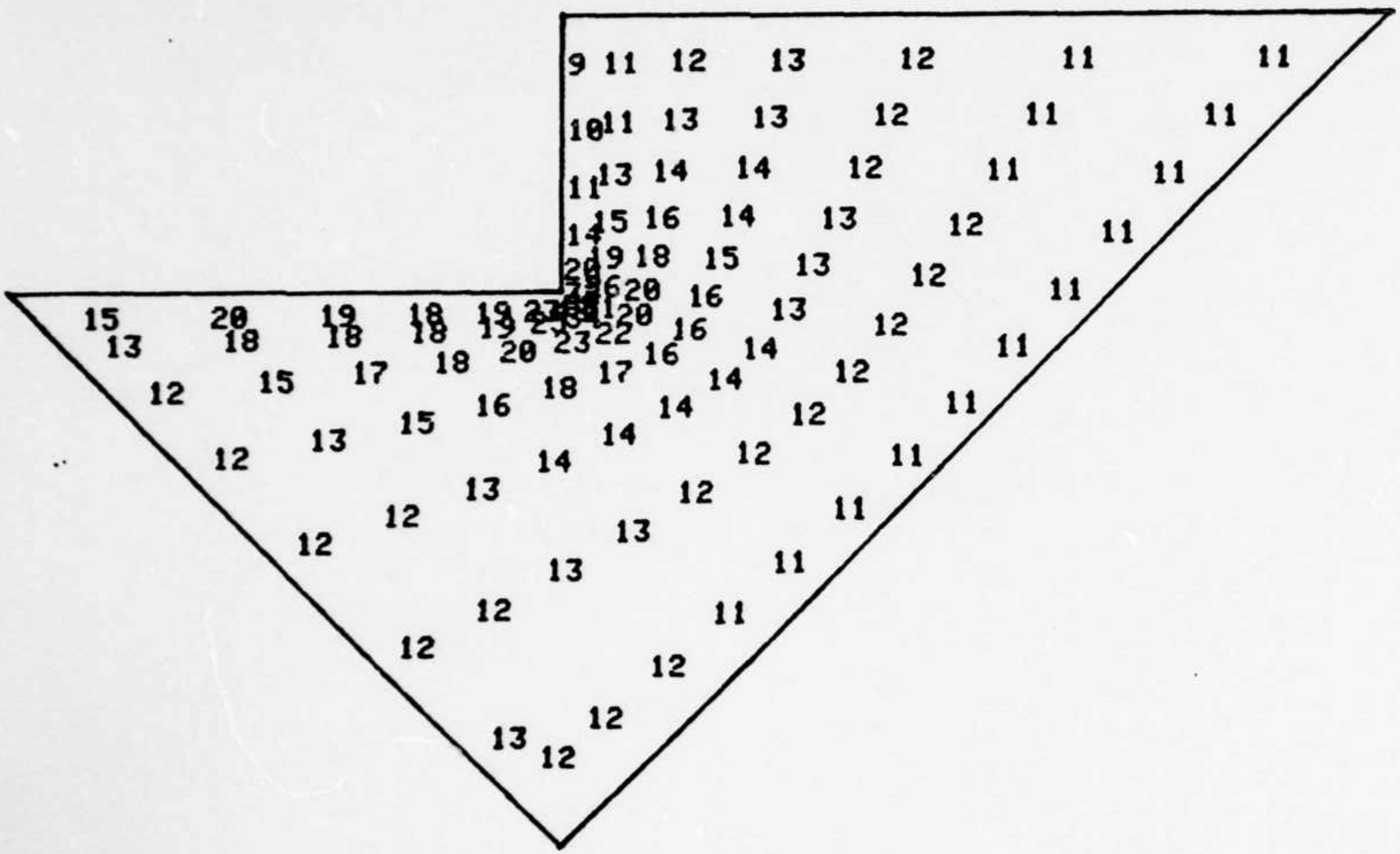


Figure 14. Compressive Principal Stress (σ_2) Before Firing

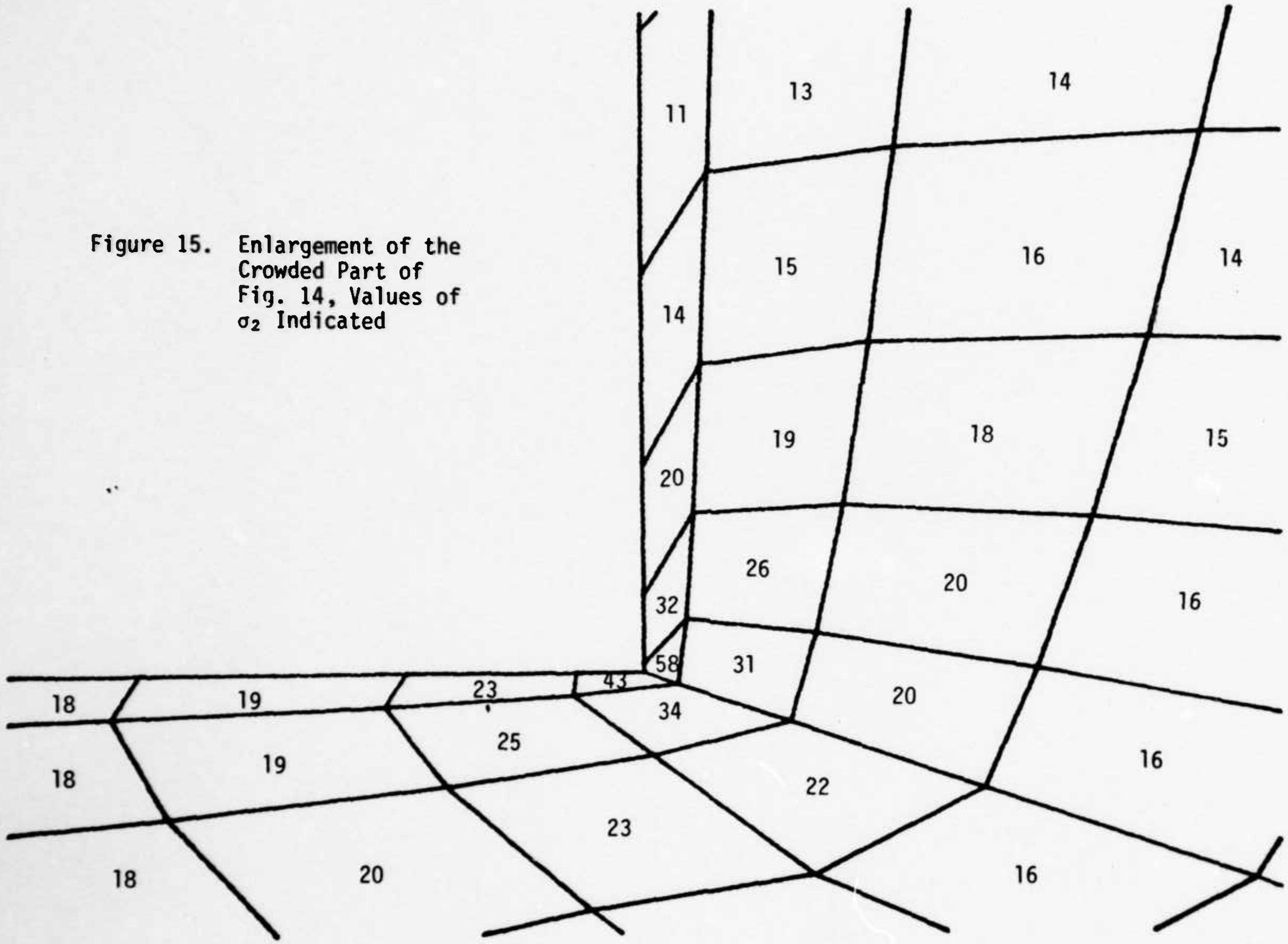


Figure 15. Enlargement of the Crowded Part of Fig. 14, Values of σ_2 Indicated

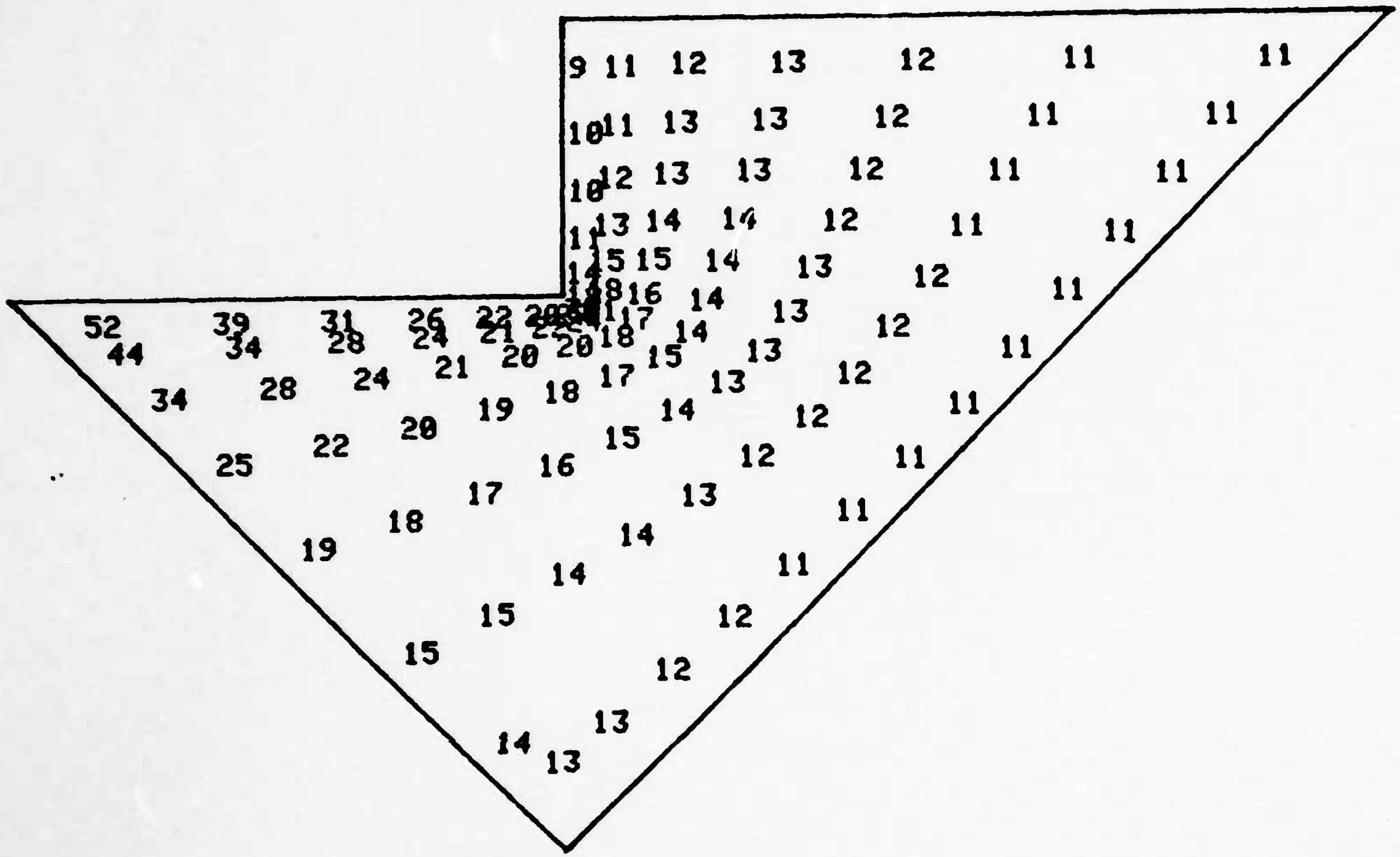


Figure 16. Compressive Principal (Hoop) Stress, σ_3 Before Firing

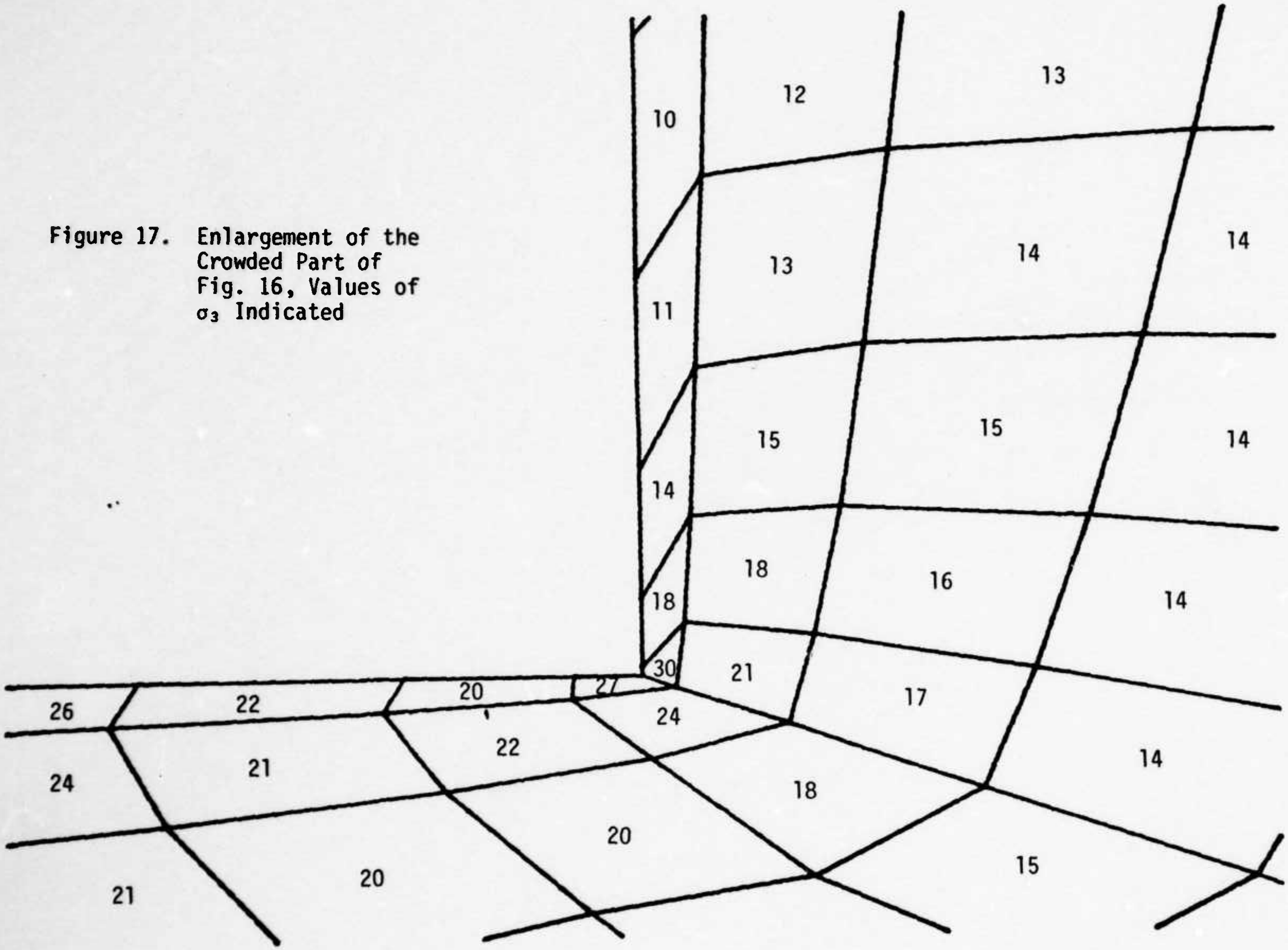


Figure 17. Enlargement of the Crowded Part of Fig. 16, Values of σ_3 Indicated

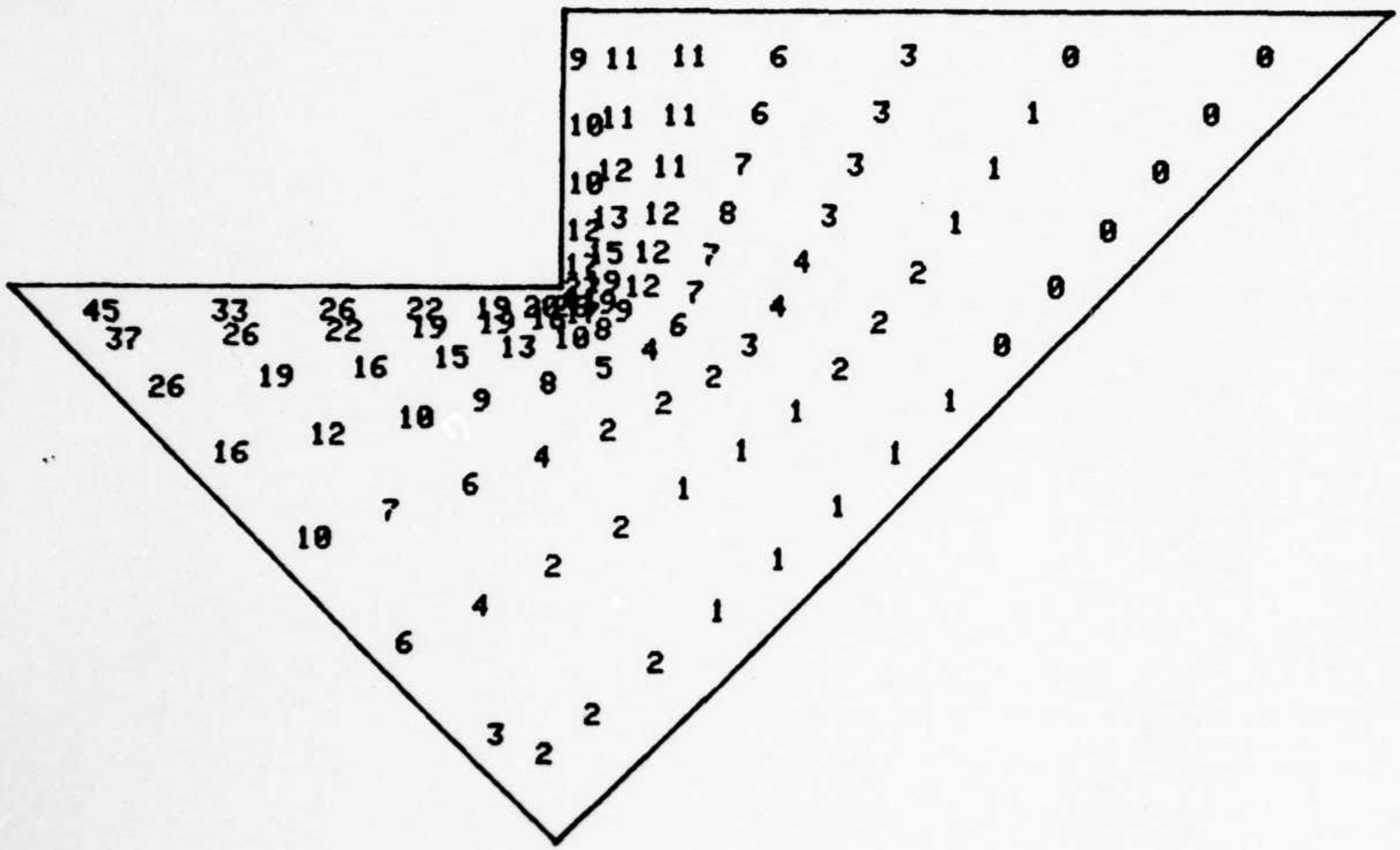


Figure 18. Compressive Equivalent von Mises Stress, σ_e Before Firing

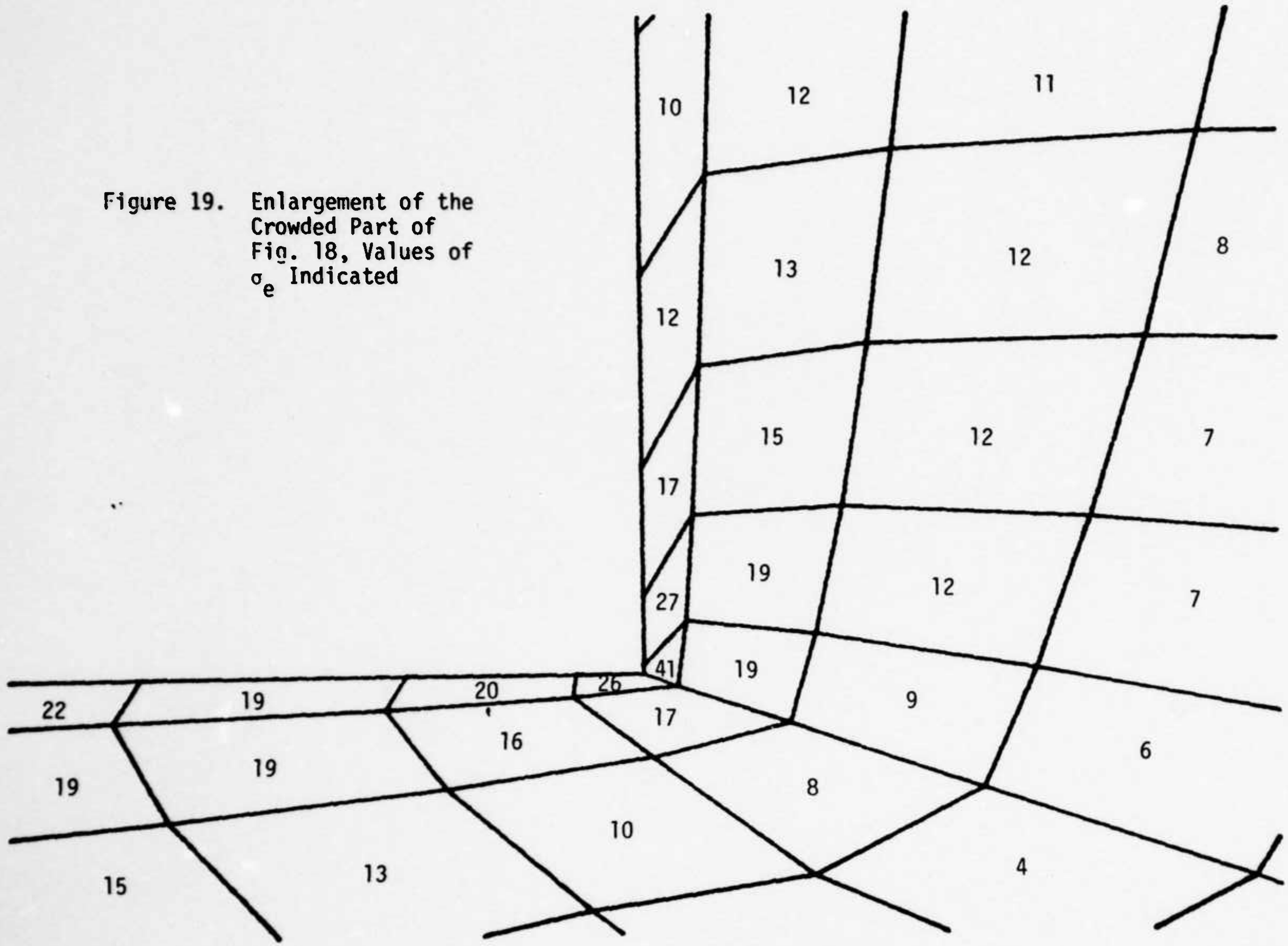


Figure 19. Enlargement of the Crowded Part of Fig. 18, Values of σ_e Indicated

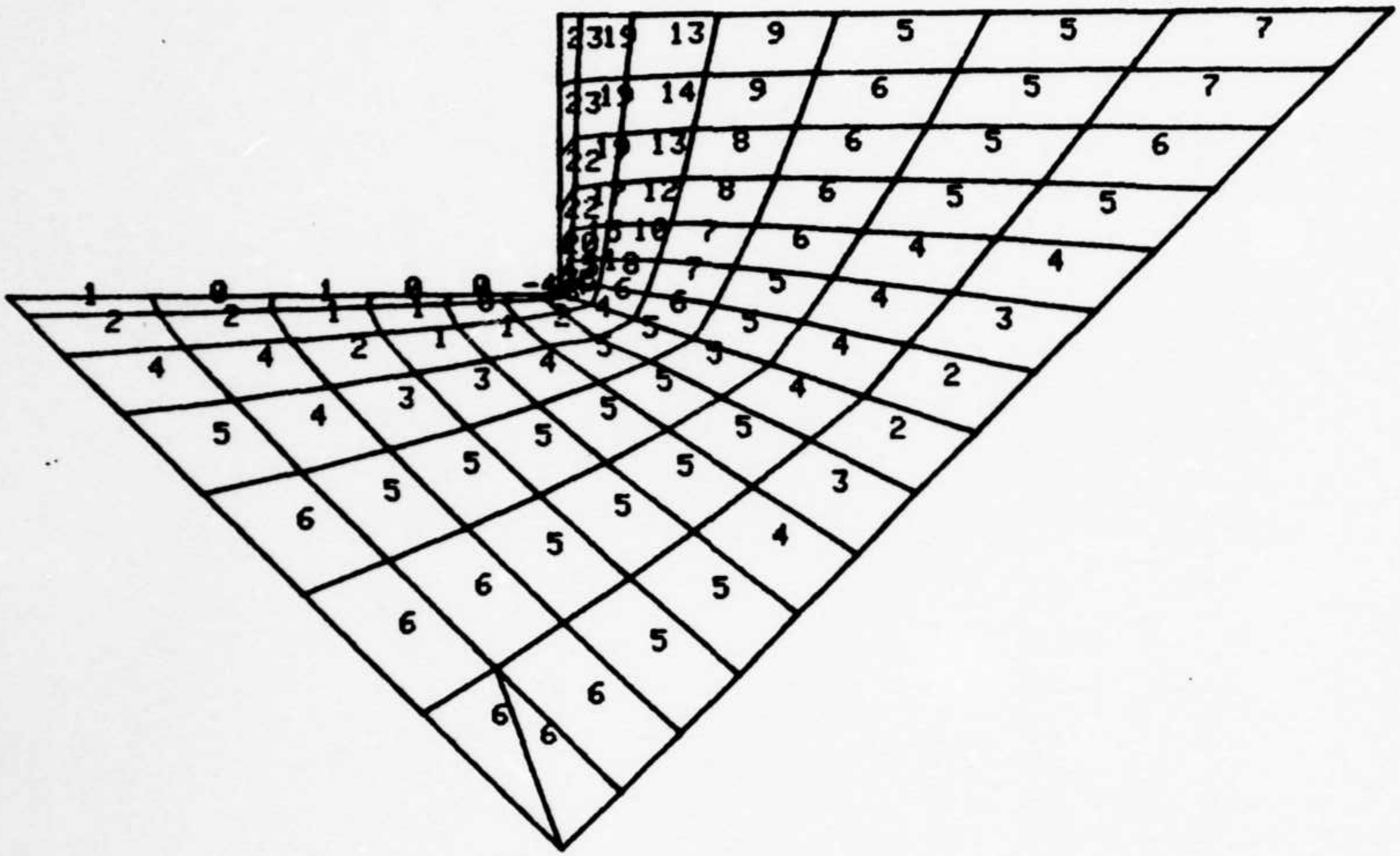


Figure 20. Compressive Principal Stress (σ_1) after Firing

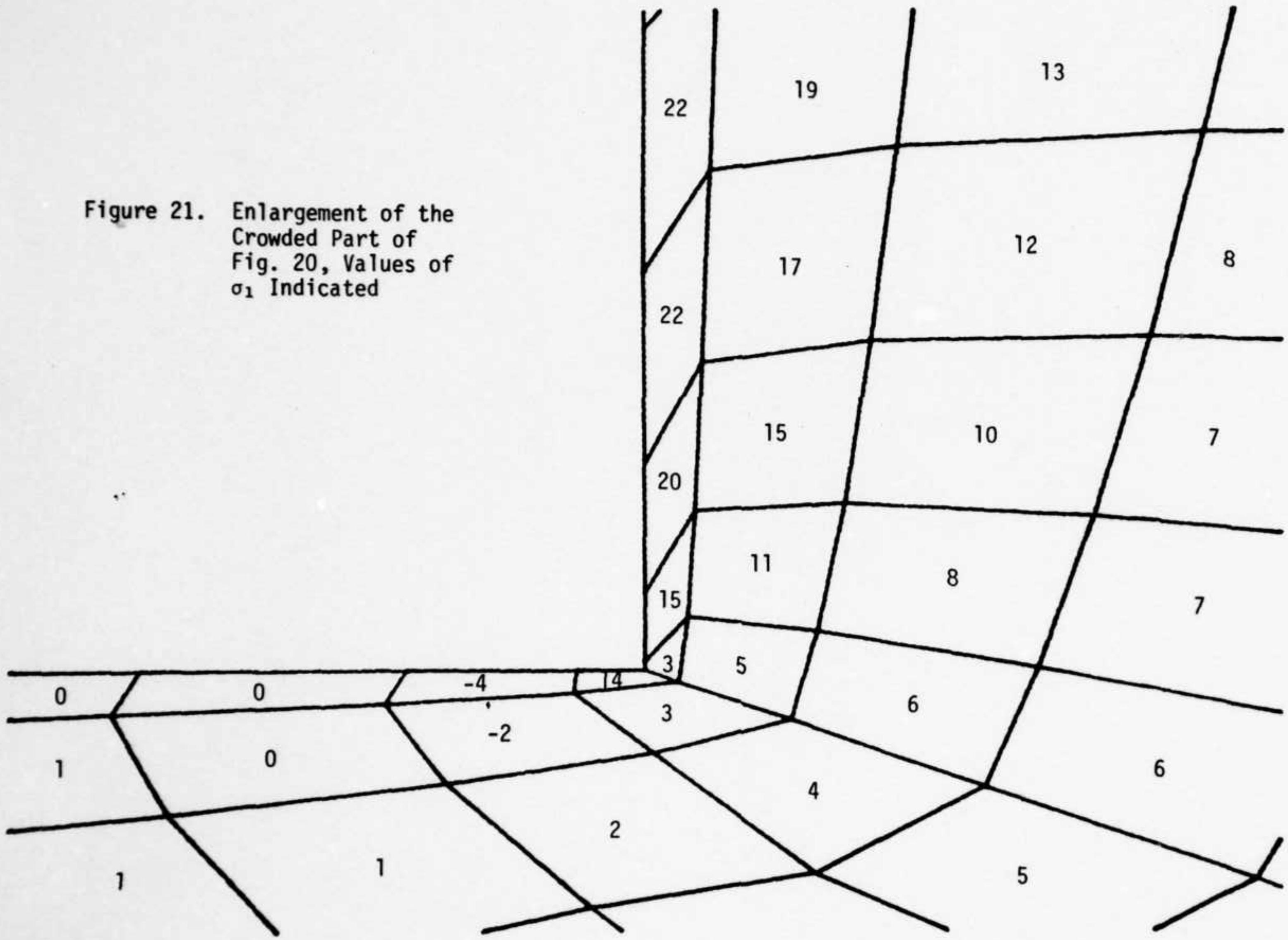


Figure 21. Enlargement of the Crowded Part of Fig. 20, Values of σ_1 Indicated

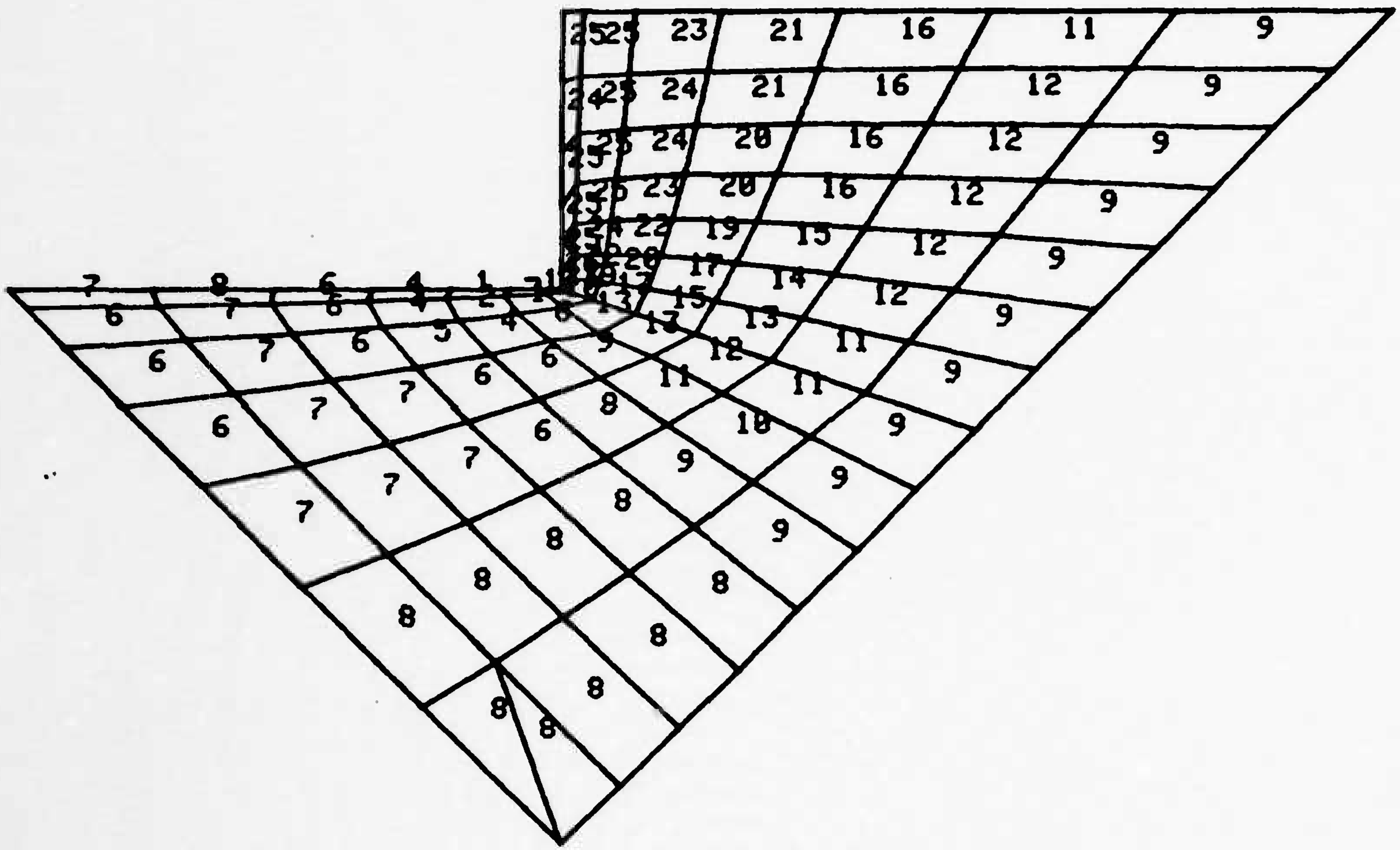
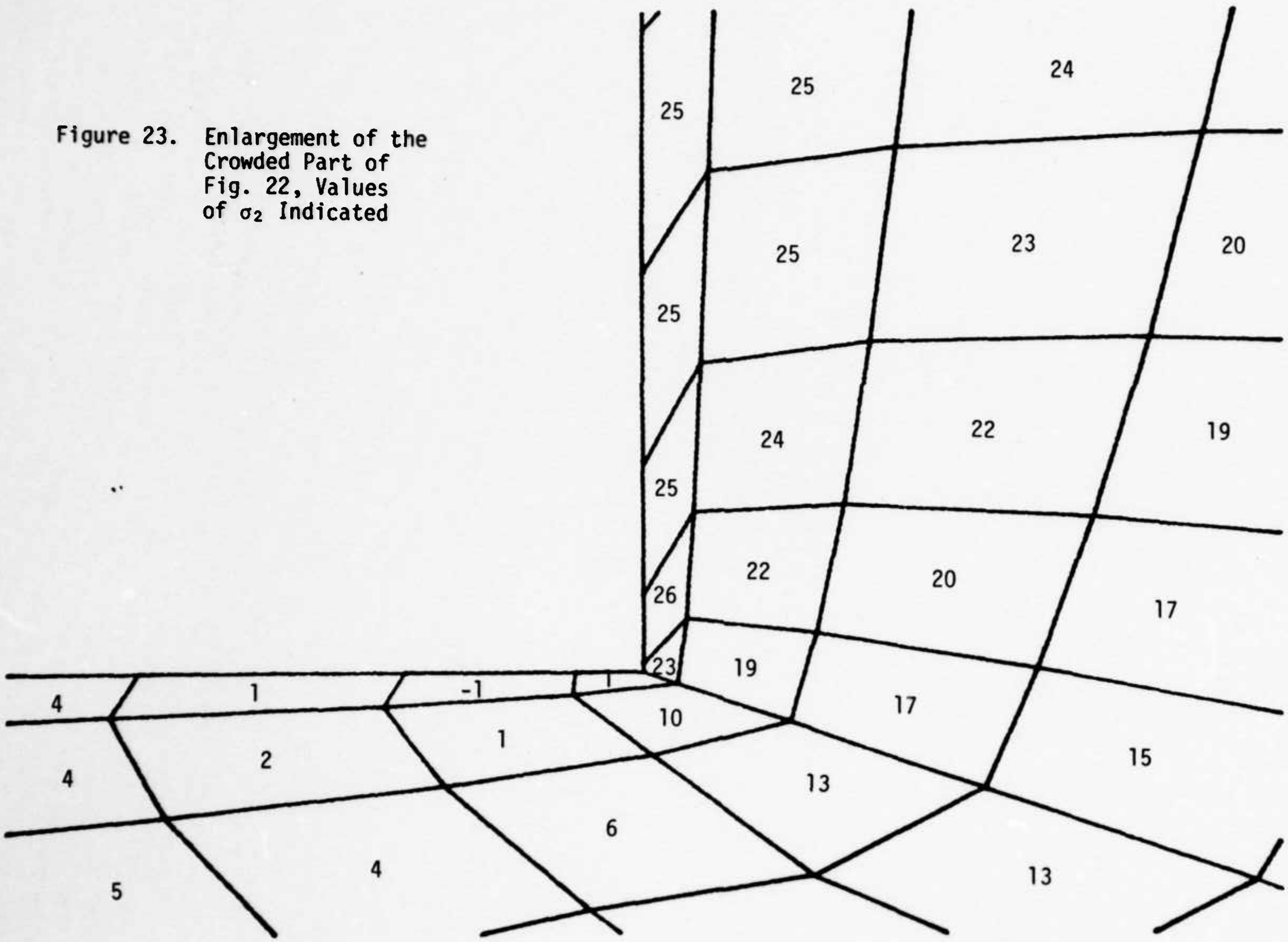


Figure 22. Compressive Principal Stress (σ_2) After Firing

Figure 23. Enlargement of the Crowded Part of Fig. 22, Values of σ_2 Indicated



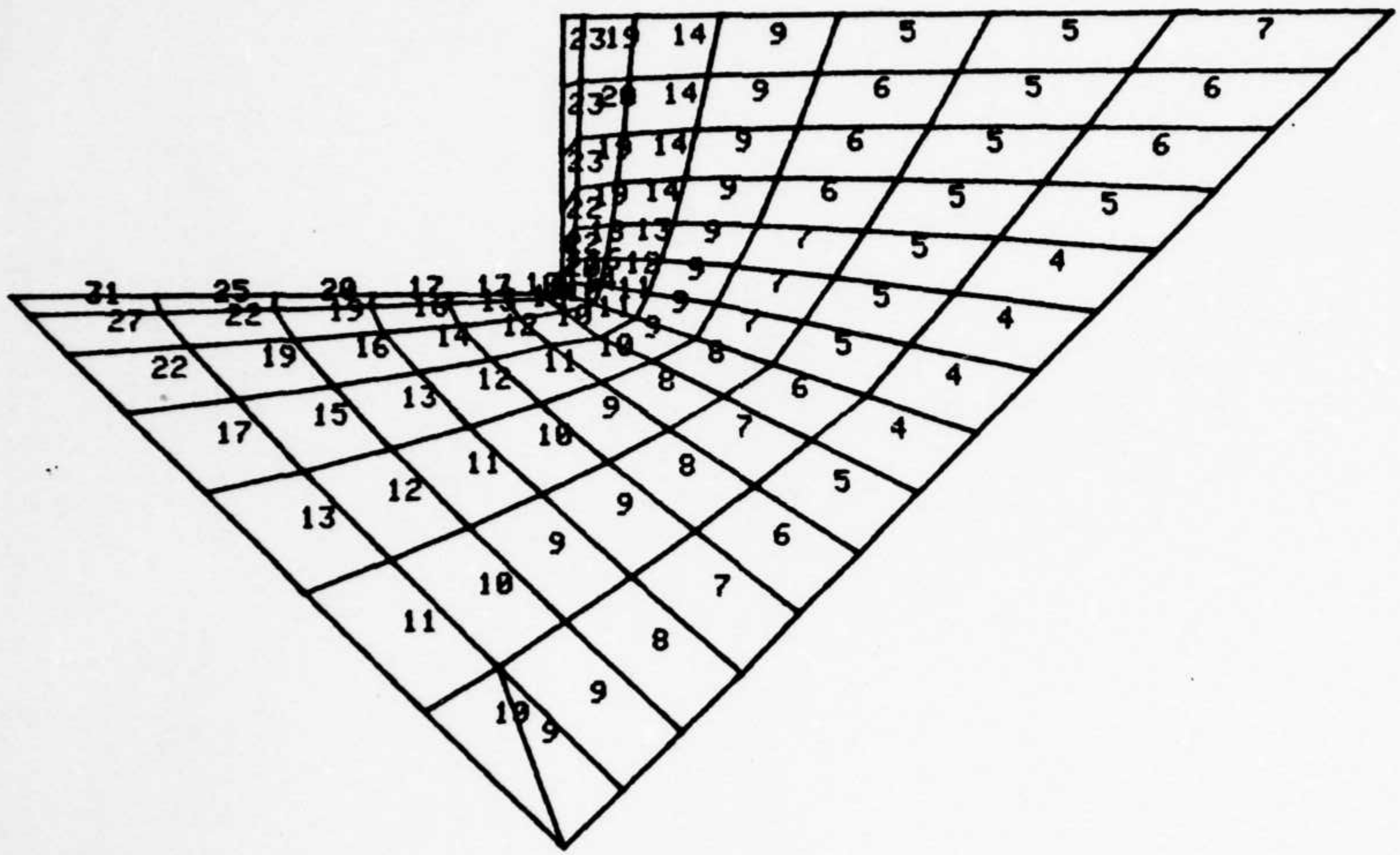


Figure 24. Compressive Principal Stress (σ_3)
After Firing

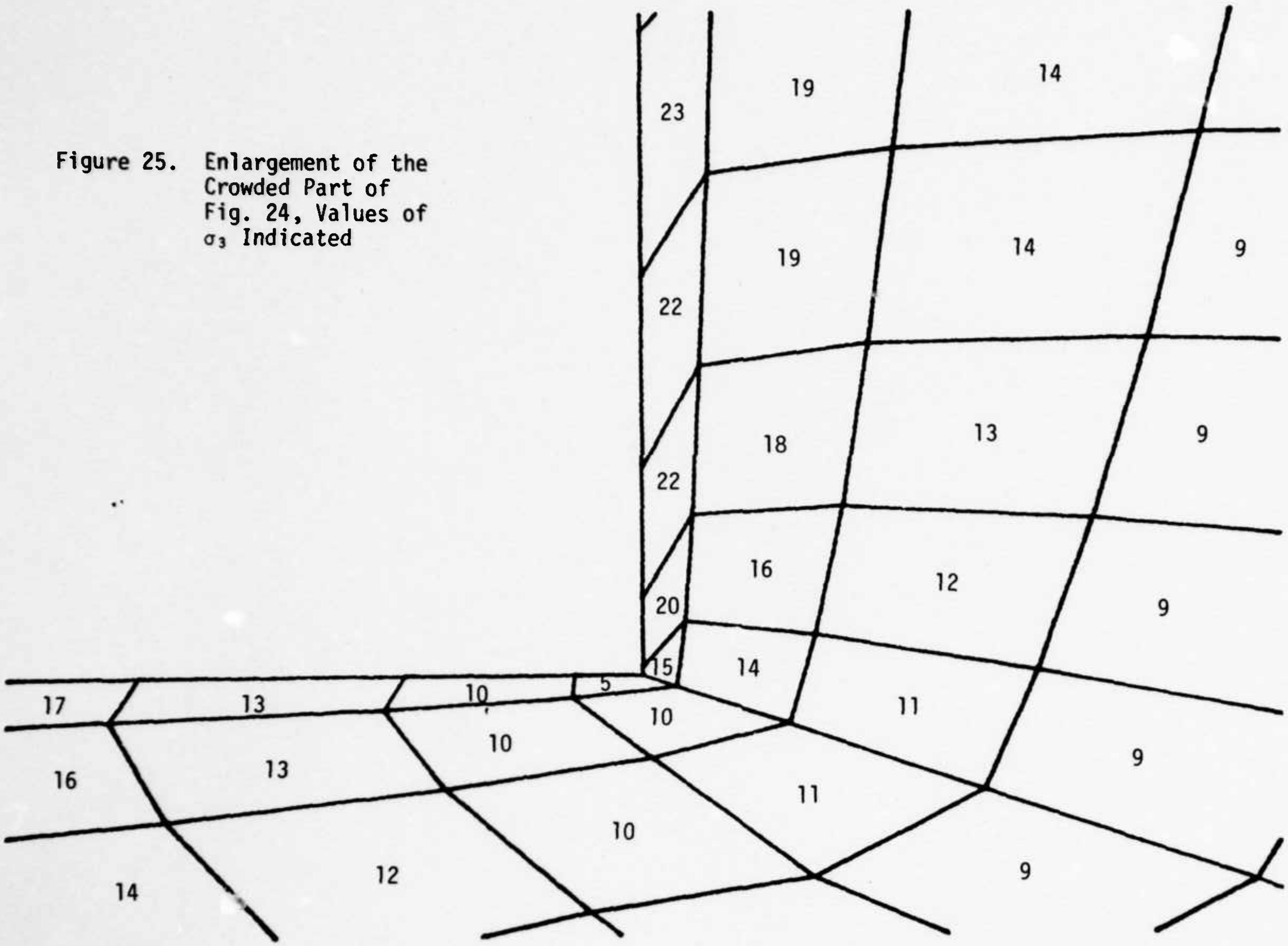


Figure 25. Enlargement of the Crowded Part of Fig. 24, Values of σ_3 Indicated

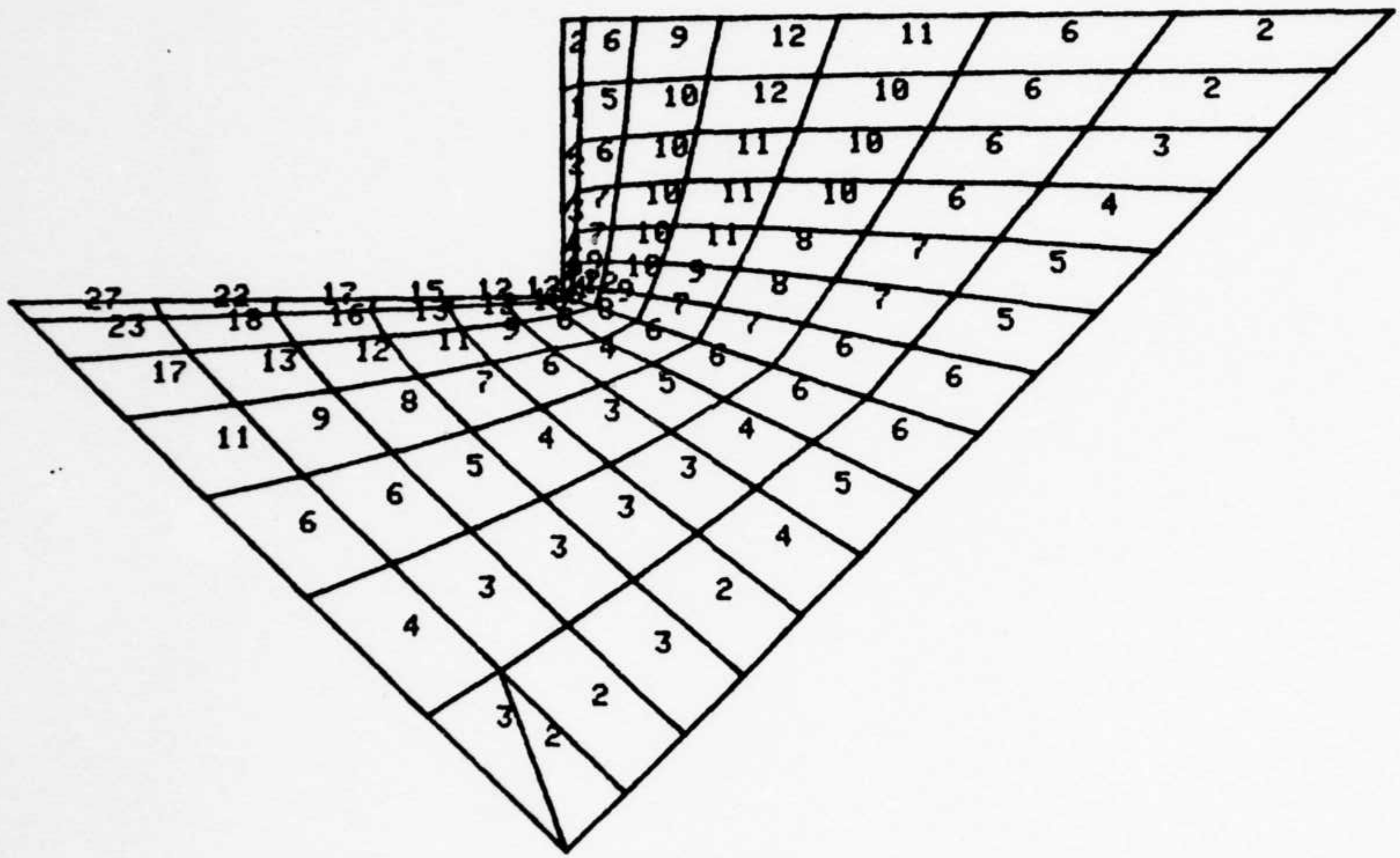


Figure 26. Compressive Equivalent von Mises Stress, σ_e after Firing

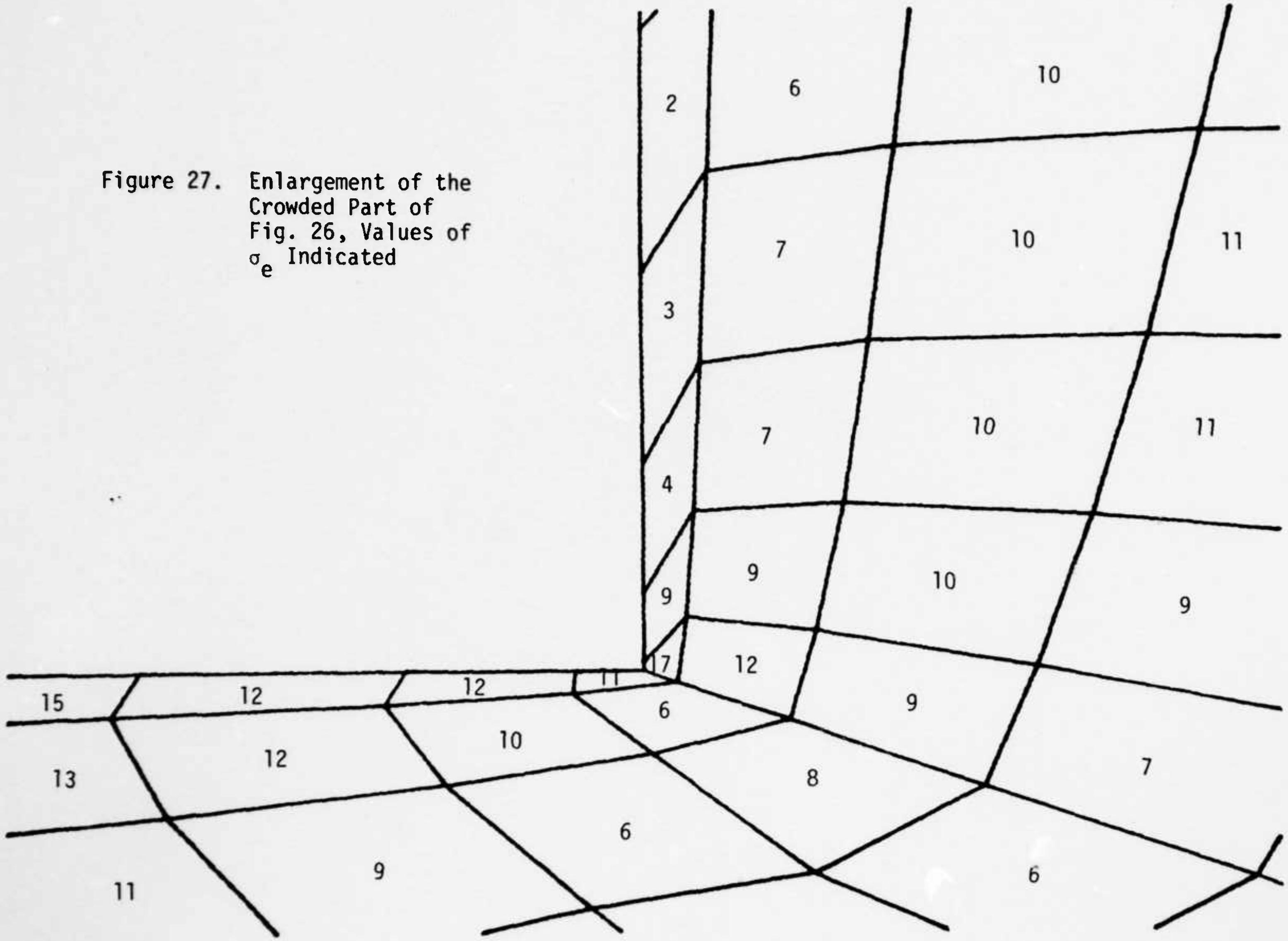


Figure 27. Enlargement of the Crowded Part of Fig. 26, Values of σ_e Indicated

III. DISTRIBUTED BREACH REDESIGN

The results of the previous analysis reveal that improvement could be attained through an appropriate redesign of the breach.

Maximum utilization of material could be achieved by eliminating areas of low stresses. Furthermore, the high stress generated at the mouth of the expendable part may be reduced by the reduction of the mouth extension. Such modifications are implimented as shown in figure 28.

Detailed working drawings of distributed breach parts are included in figures 29-31.

Hot rolled G4140 steel is selected for all the parts of the distributed breach so that it would have the sufficient strength and ductility requirements. Such a material has a yield strength of 63×10^3 psi which will provide a factor of safety of 1.4 for the worst loading condition of the initial design.

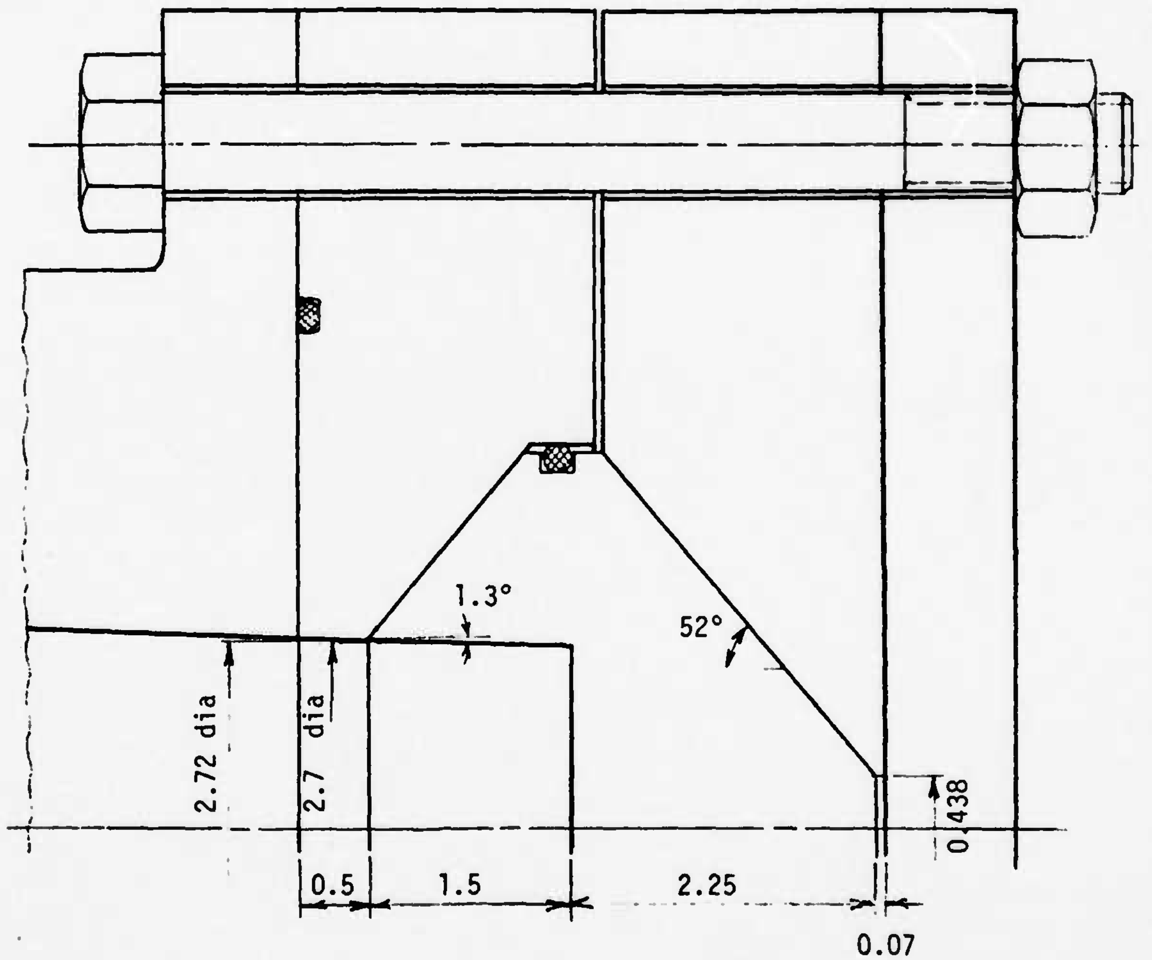


Figure 28. Redesign Modification of Distributed Breach

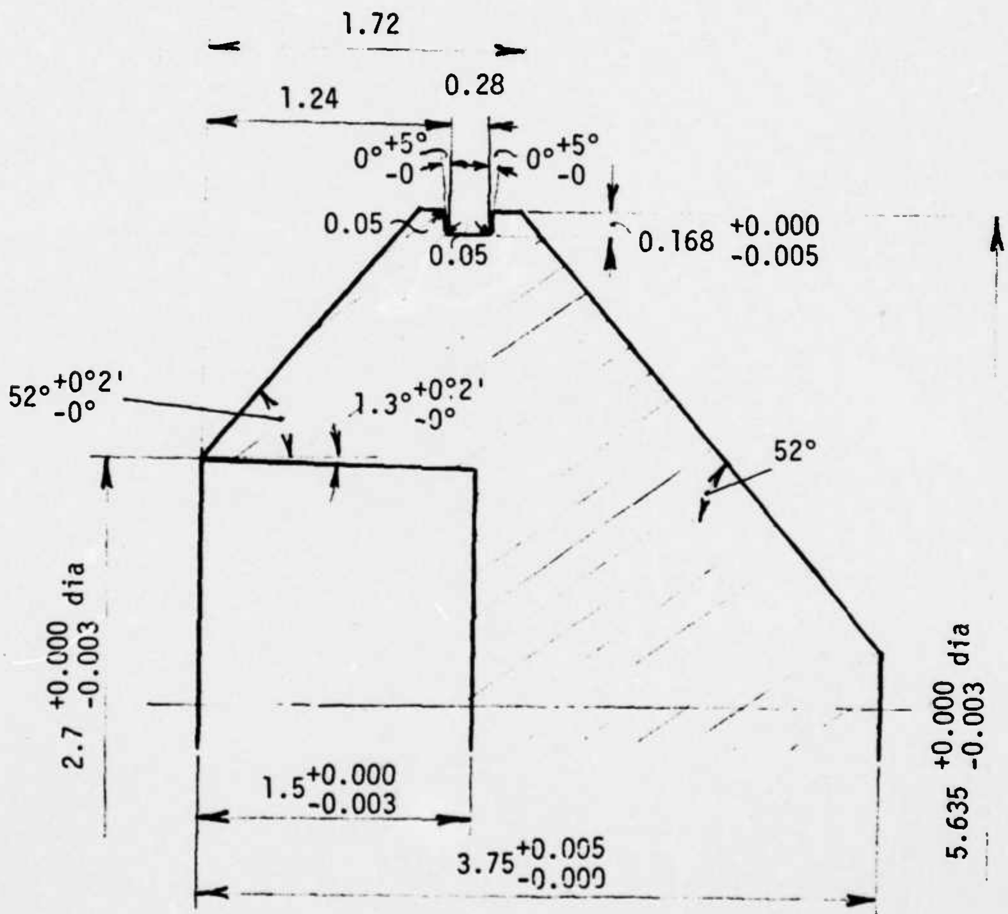


Figure 29. Detailed Working Drawing (Cross Section) of the Double Cone Expendable Section

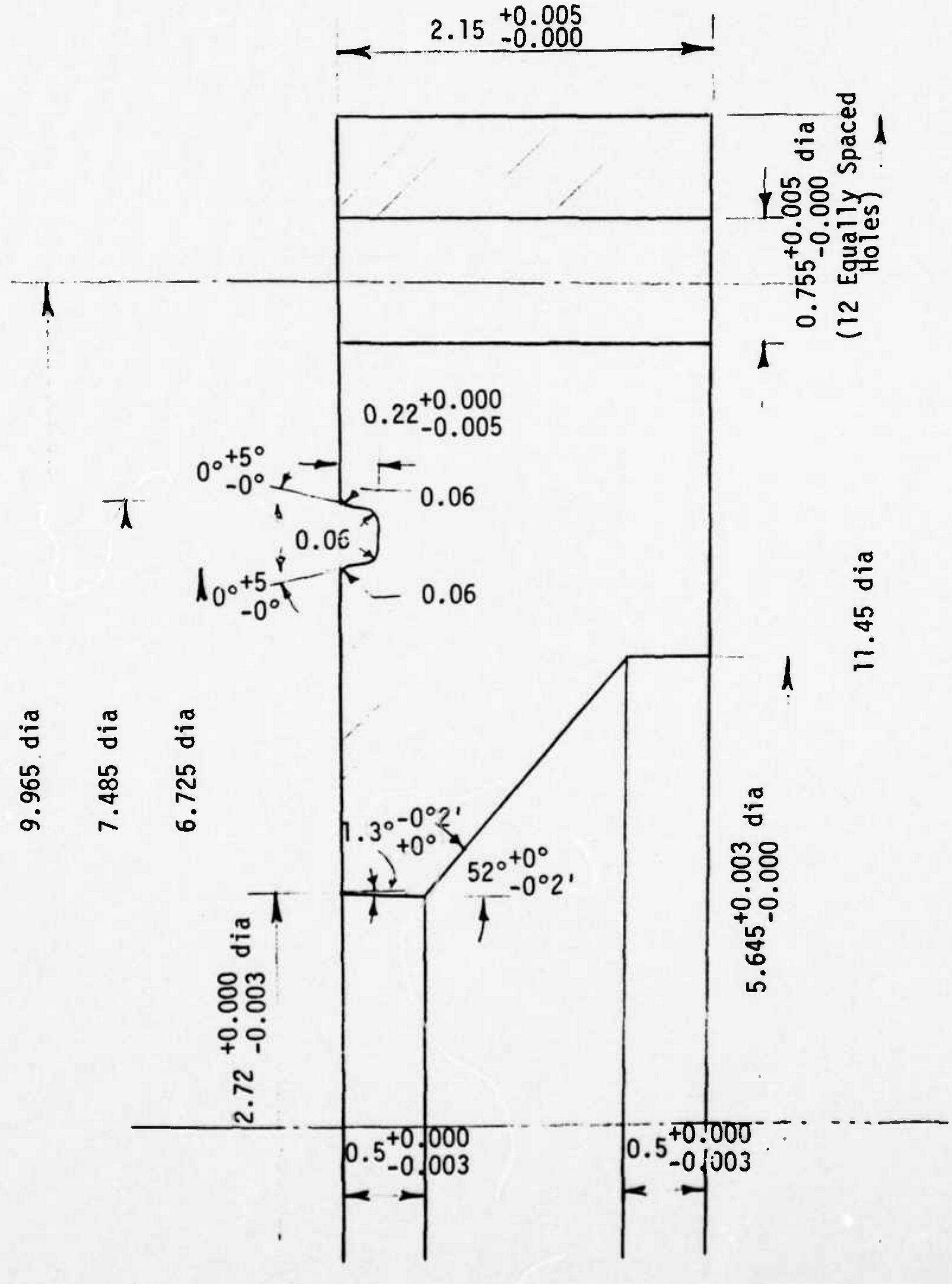


Figure 30. Detailed Working Drawing (Cross Section) of the Left Backing Jaw

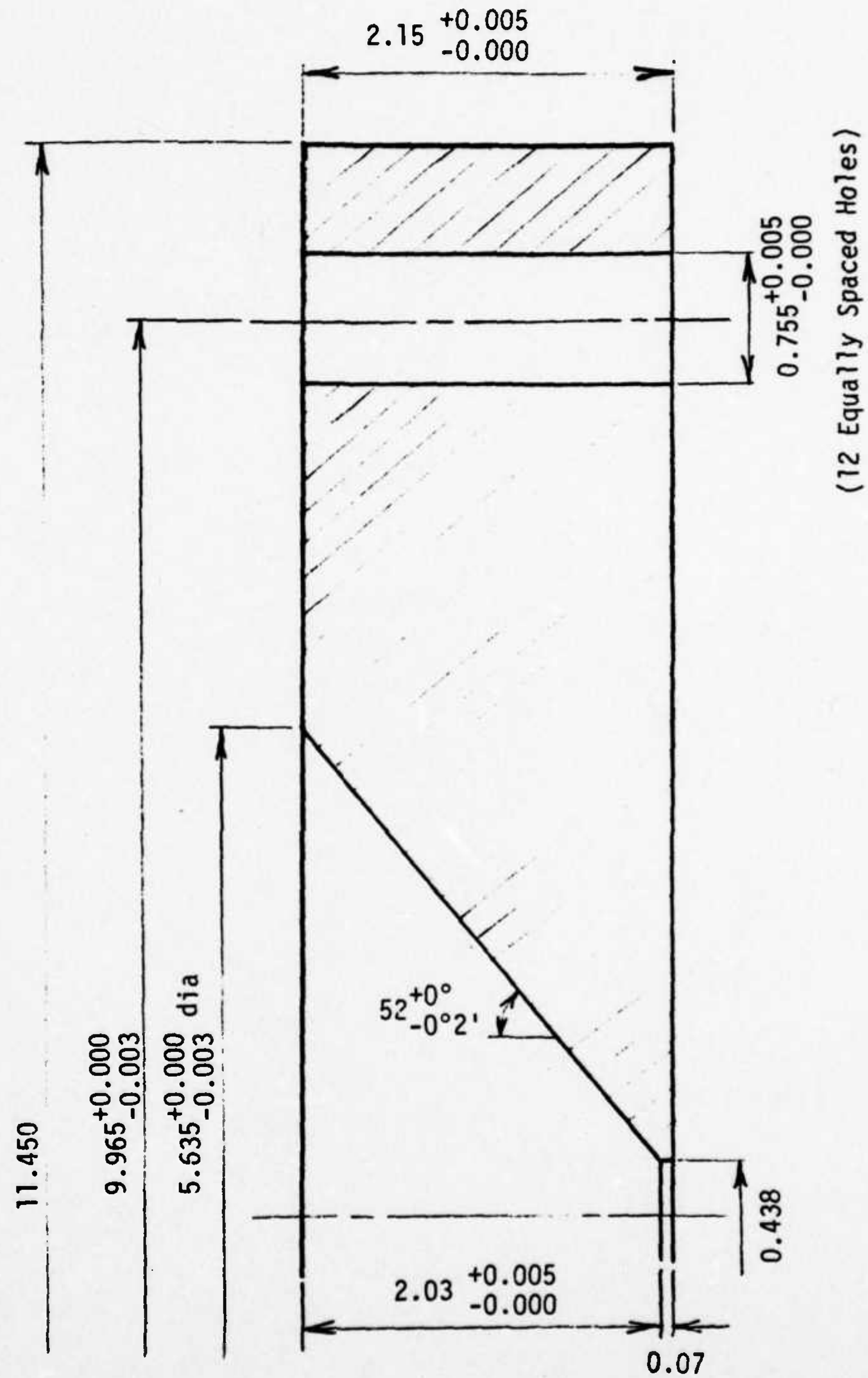


Figure 31: Detailed Working Drawing (Cross Section) of the Right Backing Jaw

IV. TESTING OF THE NEW BREACH

IV-1. Charge Calculations

The fundamental principle behind the conical shock tube is that a small conical charge placed at the vertex of the conical tube produces the same shock effect as a spherical charge of equal radius would produce in a free field [1]. The shock tube merely isolates this portion of the wave from the rest and ideally has no effect on the wave characteristics [1]. The shock waves in the tube should be sperical in nature and the explosive energy liberated by the conical charge will be concentrated into the solid angle of the cone rather than radiating in all directions. The small amount of explosive thus behaves like a much larger amount and an amplification is realized. The amplification factor (AF) can then be defined as the weight of apparent spherical charge to that of the actual conical charge. The AF then can be viewed as the ratio of the solid angle of a sphere (4π steradians) to that of the cone.

The form of the shock wave may be approximated by a discontinuous rise in pressure followed by an exponential decay [7]

$$P(t) = P_m \exp(t/\theta). \tag{21}$$

The scaling laws are empirical correlations relating the peak pressure (P_m), time constant (θ), and other shock wave parameters to the charge weight (W) and the range (R) from the charge center. For TNT the following relations apply [8]:

$$P_m = 2.16 \times 10^4 (W^{\frac{1}{3}}/R)^{1.13} \tag{22}$$

$$\theta = 58\ W^{\frac{1}{3}}(W^{\frac{1}{3}}/R)^{-0.22} \tag{23}$$

where W is the charge weight in pounds, R is the distance from the charge in feet, P_m is the pressure in psi, and θ is the time constant in microseconds.

The tube is to generate a shock wave whose characteristics are equivalent to that of a 125 pound spherical charge of TNT up to a range of 11.0 feet. The scaling laws show that to match peak pressure the same value of reduced distance ($W^{\frac{1}{3}}/R$) is required. Obviously, this places no constraint on the length of the tube. However, to match the time constant (θ), the same apparent weight must be used since

$$\theta = W^{\frac{1}{3}} f(W^{\frac{1}{3}}/r). \qquad (24)$$

Therefore, to match both the peak pressure and the time constant an apparent weight of 125 pounds must be used ($W_{APPARENT} = AF(W)_{TRUE}$) and the formal tube length must be at least 11.0 feet from the center of the apparent charge to the muzzle end.

From the old tube, the cone angle

$$\tan \alpha/2 = (3)\text{in}/(11)(12)\text{in}, \qquad (25)$$

or $\alpha = 2 \arctan (0.0227) = 2.6°$.

The theoretical AF can now be determined from [1]

$$AF = \sin^{-2}(2.6/4) = 7770. \qquad (26)$$

Assuming for now that this level of amplification is achievable the true weight of explosive required is [1]

$$W_{ACTUAL} = W_{APPARENT}/AF$$

$$= 7.3 \text{ gm TNT} \qquad (27)$$

The Dupont Company manufactures a flexible sheet explosive with trade name Detasheet which is available in perforated 0.05 inch of what they denote as line wave generator. Blasting caps with a two grain strength were used to initiate the Detasheet. Since Detasheet is made of PENT, and since 1 gram of TNT is equivalent to 9.45 grains and 1 gram of PENT is equivalent to 15.4 grain, then the actual weight of the Detasheet (used for the 7.3gm TNT) should then be

$$W_{ACTUAL} = 7.3\left(\frac{9.45}{15.4}\right) = 4.48 \text{ gm} \qquad (28)$$

The two grains blasting cap should replace

$$W_{DETASHEET} = 2 \text{ grains}$$

$$= \frac{2}{15.4} = 0.13\text{gm} \qquad (29)$$

The net required Detasheet that should generate the same energy as required at the vertex of the cone is then

$$W_{DETASHEET} = 4.48-0.13 = 4.35\text{gm} \qquad (30)$$

With the known density of the perforated Detasheet, this weight should come from more than one layer of the explosives.

IV-2 Test Results

Five tests have been conducted at NRL-Orlando with the new design withstanding all of them without any sign of failure to the distributed breach. The only observation is the minor imprint on the surface due to the perforated pattern of the line wave generator (Fig. 32). No change in shape or dimensions has resulted and no plastic deformation occured.

The first shot (#1) was conducted with only 2.6 gm of Detasheet. This represented only one layer of the explosives and was selected as primary test. The resulting pressure wave is shown in Fig. 33. With approximate extrapolation of the curve and using the approximate calibration of this gage (76B,-253.1 dB/1V/μPa), the peak pressure was found to be approximately 7500 psi. Using the scaling laws ratio, the pressure for a full charge should have been approximately 9000 psi. The expected pressure at this distance (10 ft) for a 125 pound spherical charge of TNT is 9869 psi (see Eqn. 22). This would give an efficiency of about 91%.

The next two shots (#2 & #3) were carried out with the full charge of 4.35 gm of Detasheet. Due to probe failure in shot #2, the results were discarded. Shot #3 resulted in the pressure wave shown in Fig. 34. Performing the approximate extrapolation and calculations, we can find the pressure to be 8800 psi. This would represent an efficiency of about 89%.

Fig. 32

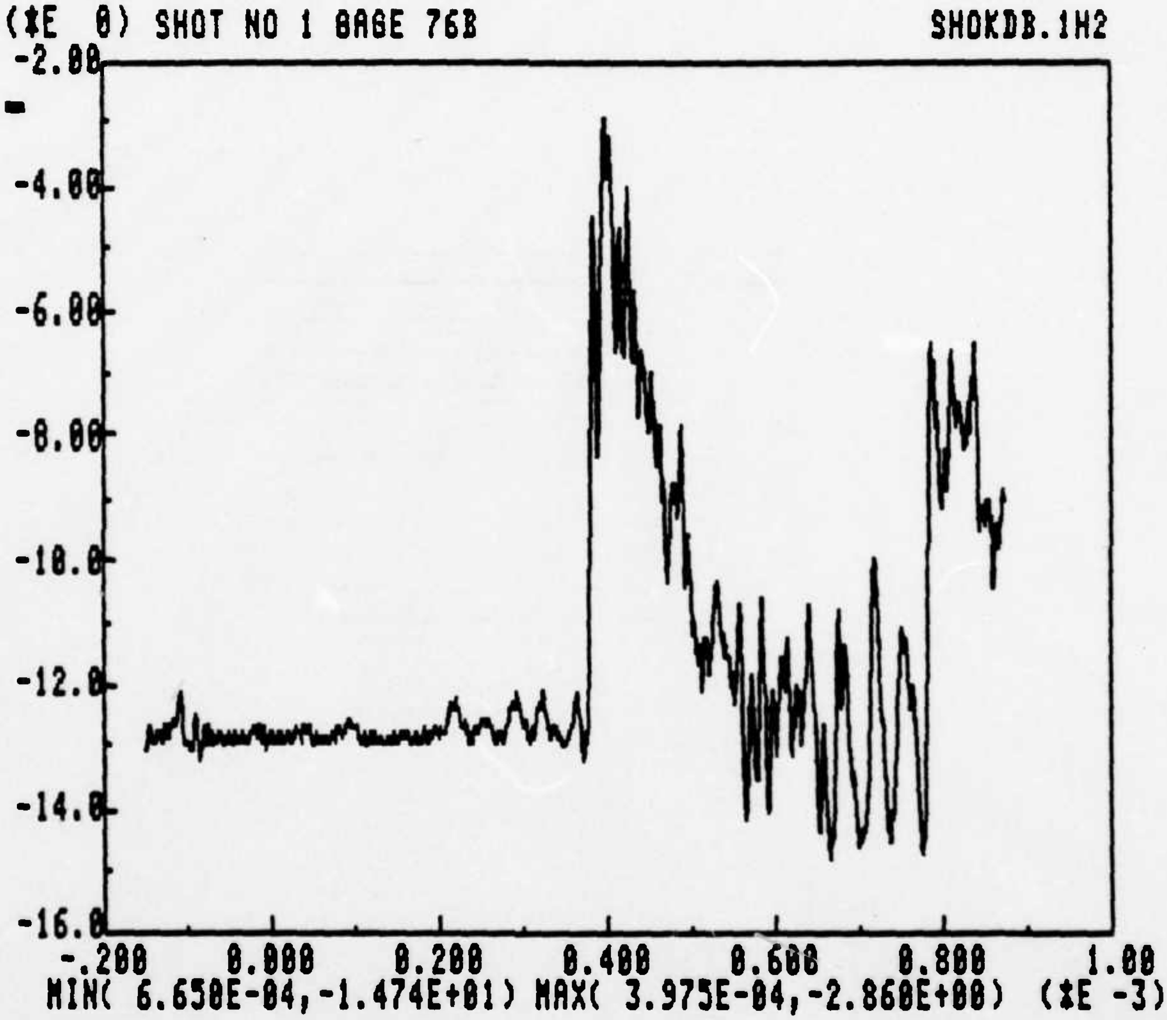

(*E 0) SHOT NO 1 BAGE 76B
SHOKDB.1H2
-2.00
-4.00
-6.00
-8.00
-10.0
-12.0
-14.0
-16.0
-.200
0.000
0.200
0.400
0.600
0.800
1.00
MIN(6.650E-04,-1.474E+01) MAX(3.975E-04,-2.860E+00) (*E -3)

Fig. 33

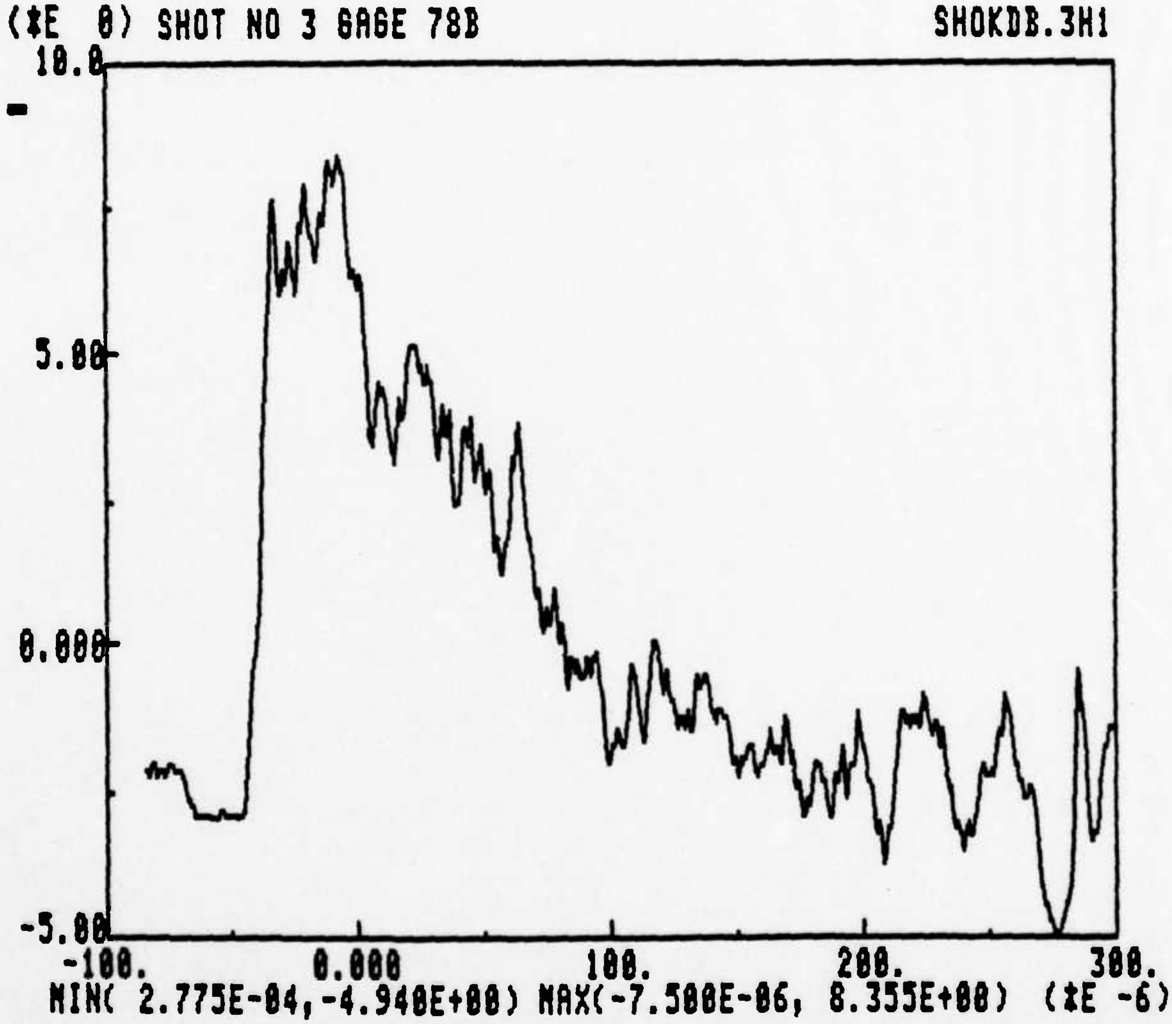

(*E 0) SHOT NO 3 GAGE 78B
SHOKDB.3H1
10.0
5.00
0.000
-5.00
-100.
0.000
100.
200.
300.
MIN(2.775E-04,-4.940E+00) MAX(-7.500E-06, 8.355E+00) (*E -6)

Fig. 34

The following two shots (#4 and #5) were performed with a fortified rubber gasket inserted between the breach assembly and the tube and with the full charge of 4.35gm. The results are shown in Figs. 35 and 36. Although no calibration value is available for the gage used, the pressure response has improved particularly at the peak.

In all tests, however, the pressure gage mounting has suffered from the blast and needed to be changed.

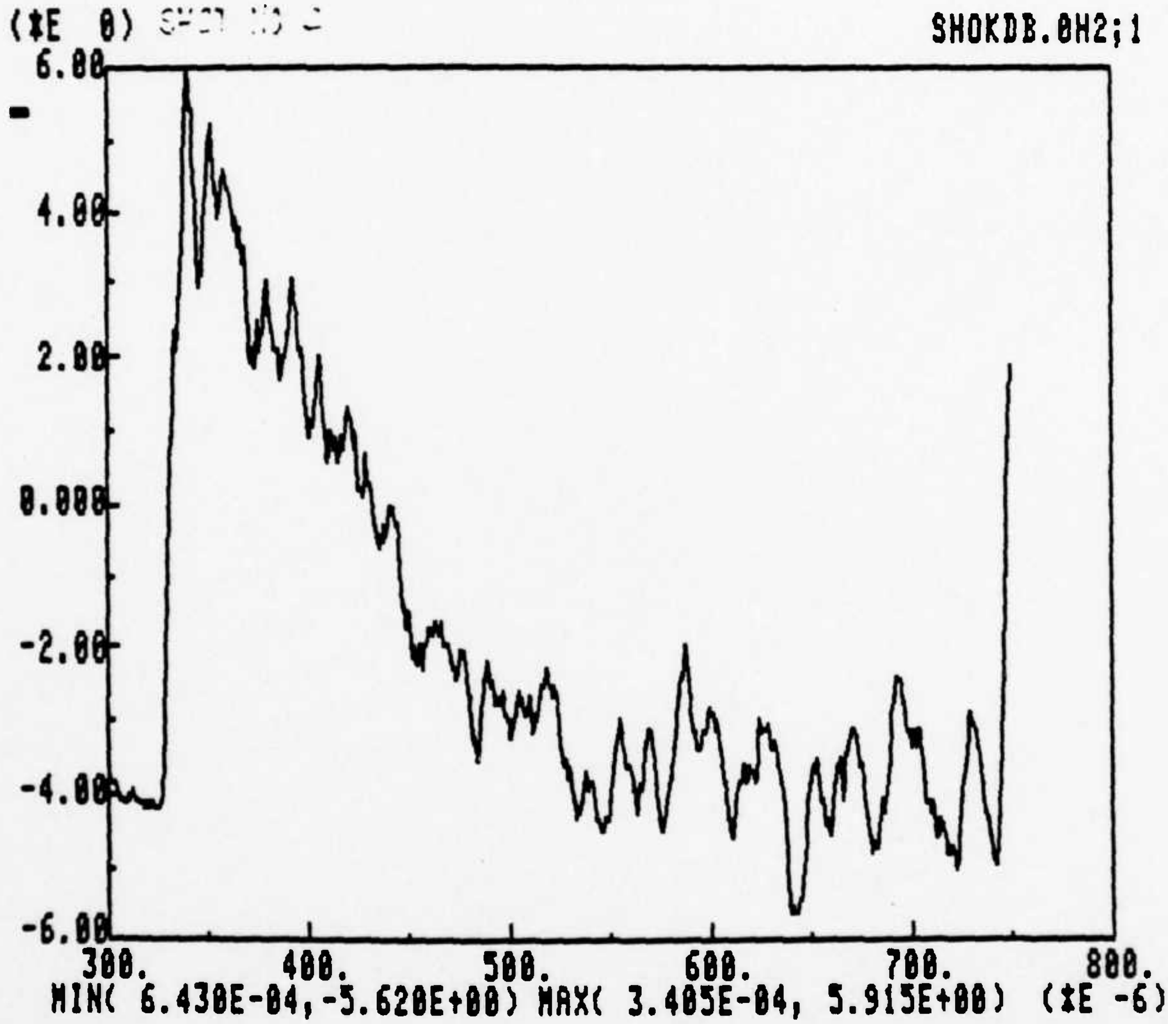

(*E 0)
SHOKDB.0H2;1
6.00
4.00
2.00
0.000
-2.00
-4.00
-6.00
300.
400.
500.
600.
700.
800.
MIN(6.430E-04,-5.620E+00) MAX(3.405E-04, 5.915E+00) (*E -6)

Fig. 35

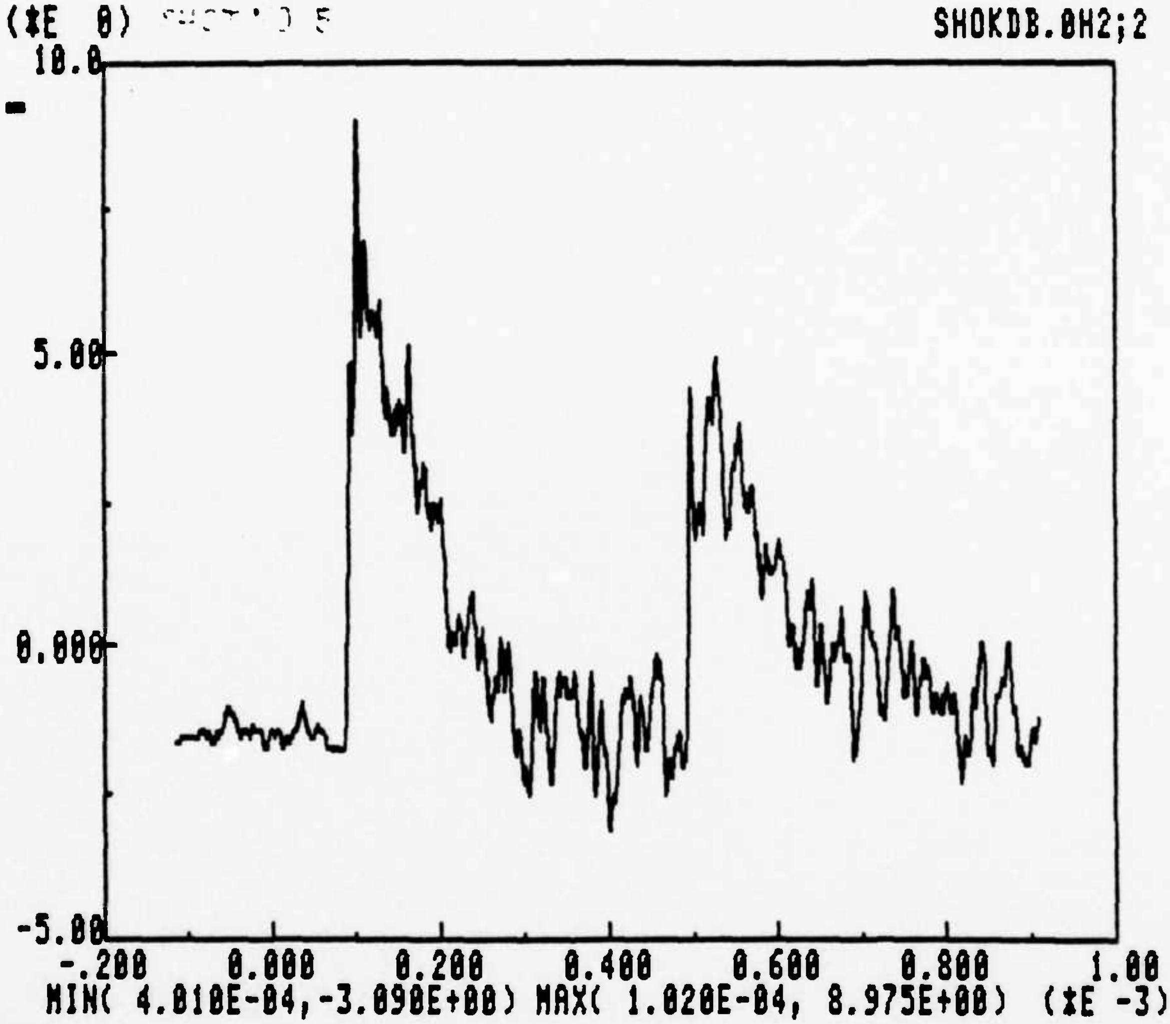

(*E 0)
SHOKDB.0H2;2
10.0
5.00
0.000
-5.00
-.200
0.000
0.200
0.400
0.600
0.800
1.00
MIN(4.010E-04,-3.090E+00) MAX(1.020E-04, 8.975E+00) (*E -3)

Fig. 36

V. CONCLUSION

Test results of the new distributed breach design indicate that the new design can withstand the full load without any sign of failure or damage. The efficiency of simulating real blasts is about 90% which is very high compared to the efficiency of the old tube. The pressure gages, however, have suffered from the shock wave and required replacement almost after every shot. A different type of gages might be used and a different gage mounting should be designed.

APPENDIX A

Program listing for element mesh drawing
and displaying element number
and stress values at element
center

```
LIS
99 REM ELEMENT GRAPHIC FOR SHOCK TUBE
100 INIT
110 PAGE
120 VIEWPORT 0,130,90,-10
130 WINDOW 0,5,0,3.6
140 READ M,N
150 DIM X(N),Y(N),J(N,4)
160 DIM X5(M),Y5(M)
170 FOR I=1 TO M
180 FOR K=1 TO 4
190 READ J(I,K)
200 NEXT K
210 NEXT I
220 FOR L=1 TO N
230 READ Y(L),X(L)
240 NEXT L
250 FOR I=1 TO M
260 N1=J(I,1)
270 MOVE X(N1),Y(N1)
280 FOR K=2 TO 4
290 N1=J(I,K)
300 DRAW X(N1),Y(N1)
310 NEXT K
320 N1=J(I,1)
330 DRAW X(N1),Y(N1)
340 NEXT I
350 FOR I=1 TO M
360 I1=J(I,1)
370 I2=J(I,2)
380 I3=J(I,3)
390 I4=J(I,4)
400 X1=(X(I1)+X(I4))/2
410 Y1=(Y(I1)+Y(I4))/2
420 X2=(X(I2)+X(I3))/2
```

```
430 Y2=(Y(I2)+Y(I3))/2
440 X3=(X(I1)+X(I2))/2
450 Y3=(Y(I1)+Y(I2))/2
460 X4=(X(I3)+X(I4))/2
470 Y4=(Y(I3)+Y(I4))/2
480 A1=Y1-Y2
490 B1=X2-X1
500 C1=X2*Y1-X1*Y2
510 A2=Y3-Y4
520 B2=X4-X3
530 C2=X4*Y3-X3*Y4
540 D=A1*B2-A2*B1
550 X5(I)=(C1*B2-C2*B1)/D
560 Y5(I)=(A1*C2-C1*A2)/D
570 MOVE X5(I),Y5(I)
580 DRAW X5(I),Y5(I)
590 NEXT I
600 DATA 99,120
610 DATA 1,9,10,2,2,10,11,3,3,11,12,4,4,12,13,5,5,13,14,6
620 DATA 6,14,15,7,16,8,7,15,9,17,18,10,10,18,19,11,11,19,20,12
630 DATA 12,20,21,13,13,21,22,14,14,22,23,15,24,16,15,23,17,25,26,18
640 DATA 18,26,27,19,19,27,28,20,20,28,29,21,21,29,30,22,22,30,31,23
650 DATA 32,24,23,31,25,33,34,26,26,34,35,27,27,35,36,28,28,36,37,29
660 DATA 29,37,38,30,30,38,39,31,40,32,31,39,33,41,42,34,34,42,43,35
670 DATA 35,43,44,36,36,44,45,37,37,45,46,38,38,46,47,39,48,40,39,47
680 DATA 41,49,50,42,42,50,51,43,43,51,52,44,44,52,53,45,45,53,54,46
690 DATA 46,54,55,47,56,48,47,55,49,57,58,50,50,58,59,51,51,59,60,52
700 DATA 52,60,61,53,53,61,62,54,54,62,63,55,64,56,55,63,57,65,66,58
710 DATA 58,66,67,59,59,67,68,60,60,68,69,61,61,69,70,62,62,70,71,63
720 DATA 72,64,63,71,65,73,74,66,66,74,75,67,67,75,76,68,68,76,77,69
730 DATA 69,77,78,70,70,78,79,71,80,72,71,79,73,81,82,74,74,82,83,75
740 DATA 75,83,84,76,76,84,85,77,77,85,86,78,78,86,87,79,88,80,79,87
750 DATA 81,89,90,82,82,90,91,83,83,91,92,84,84,92,93,85,85,93,94,86
760 DATA 86,94,95,87,96,88,87,95,89,97,98,90,90,98,99,91,91,99,100,92
770 DATA 92,100,101,93,93,101,102,94,94,102,103,95,104,96,95,103
```

```
LIS
90 REM ELEMENT GRAPHIC FOR SHOCK TUBE
100 INIT
200 PAGE
250 VIEWPORT 0,130,90,-10
300 WINDOW 0,5,0,3.6
400 READ M,N
420 DIM X(N),Y(N),J(N,4)
500 FOR I=1 TO M
600 FOR K=1 TO 4
700 READ J(I,K)
890 NEXT K
900 NEXT I
1000 FOR L=1 TO N
1100 READ Y(L),X(L)
1200 NEXT L
1300 FOR I=1 TO M
1400 N1=J(I,1)
1500 MOVE X(N1),Y(N1)
1600 FOR K=2 TO 4
1700 N1=J(I,K)
1800 DRAW X(N1),Y(N1)
1900 NEXT K
2000 N1=J(I,1)
2100 DRAW X(N1),Y(N1)
2200 NEXT I
2300 DATA 99,120
2301 DATA 1,9,10,2,2,10,11,3,3,11,12,4,4,12,13,5,5,13,14,6
2305 DATA 6,14,15,7,16,8,7,15,9,17,18,10,10,18,19,11,11,19,20,12
2307 DATA 12,20,21,13,13,21,22,14,14,22,23,15,24,16,15,23,17,25,26,18
2310 DATA 18,26,27,19,19,27,28,20,20,28,29,21,21,29,30,22,22,30,31,23
2312 DATA 32,24,23,31,25,33,34,26,26,34,35,27,27,35,36,28,28,36,37,29
2314 DATA 29,37,38,30,30,38,39,31,40,32,31,39,33,41,42,34,34,42,43,35
2316 DATA 35,43,44,36,36,44,45,37,37,45,46,38,38,46,47,39,48,40,39,47
2318 DATA 41,49,50,42,42,50,51,43,43,51,52,44,44,52,53,45,45,53,54,46
```

```
2320 DATA 46,54,55,47,56,48,47,55,49,57,58,50,50,58,59,51,51,59,60,52
2322 DATA 52,60,61,53,53,61,62,54,54,62,63,55,64,56,55,63,57,65,66,58
2330 DATA 58,66,67,59,59,67,68,60,60,68,69,61,61,69,70,62,62,70,71,63
2340 DATA 72,64,63,71,65,73,74,66,66,74,75,67,67,75,76,68,68,76,77,69
2350 DATA 69,77,78,70,70,78,79,71,80,72,71,79,73,81,82,74,74,82,83,75
2360 DATA 75,83,84,76,76,84,85,77,77,85,86,78,78,86,87,79,88,80,79,87
2370 DATA 81,89,90,82,82,90,91,83,83,91,92,84,84,92,93,85,85,93,94,86
2380 DATA 86,94,95,87,96,88,87,95,89,97,98,90,90,98,99,91,91,99,100,92
2390 DATA 92,100,101,93,93,101,102,94,94,102,103,95,104,96,95,103
2400 DATA 97,105,106,98,98,106,107,99,99,107,108,100,100,108,109,101
2410 DATA 101,109,110,102,102,110,111,103,112,104,103,111
2420 DATA 113,114,106,105,114,115,107,106,115,116,108,107
2430 DATA 116,117,109,108,117,118,110,109,118,119,111,110
2440 DATA 120,112,111,111,119,120,111,111
2450 DATA 0,2
2460 DATA 0,2.071
2470 DATA 0,2.261
2480 DATA 0,2.571
2490 DATA 0,2.999
2500 DATA 0,3.547
2510 DATA 0,4.214
2520 DATA 0,5
2530 DATA 0.256,2
2540 DATA 0.241,2.065
2550 DATA 0.229,2.24
2560 DATA 0.22,2.527
2570 DATA 0.214,2.925
2580 DATA 0.211,3.434
2590 DATA 0.211,4.054
2600 DATA 0.214,4.786
2610 DATA 0.514,2
2620 DATA 0.449,2.058
2630 DATA 0.431,2.219
2640 DATA 0.418,2.484
2650 DATA 0.412,2.851
```

```
2660 DATA 0.412,3.322
2670 DATA 0.417,3.895
2680 DATA 0.429,4.571
2690 DATA 0.703,2
2700 DATA 0.625,2.052
2710 DATA 0.606,2.199
2720 DATA 0.595,2.44
2730 DATA 0.594,2.777
2740 DATA 0.601,3.209
2750 DATA 0.618,3.736
2760 DATA 0.643,4.357
2770 DATA 0.846,2
2780 DATA 0.77,2.045
2790 DATA 0.754,2.178
2800 DATA 0.751,2.397
2810 DATA 0.76,2.703
2820 DATA 0.78,3.096
2830 DATA 0.813,3.576
2840 DATA 0.857,4.143
2850 DATA 0.943,2
2860 DATA 0.881,2.039
2870 DATA 0.876,2.157
2880 DATA 0.885,2.353
2890 DATA 0.909,2.629
2900 DATA 0.948,2.983
2910 DATA 1.002,3.417
2920 DATA 1.071,3.929
2930 DATA 0.994,2
2940 DATA 0.961,2.033
2950 DATA 0.971,2.136
2960 DATA 0.998,2.31
2970 DATA 1.043,2.555
2980 DATA 1.106,2.871
2990 DATA 1.187,3.257
3000 DATA 1.286,3.714
```

```
3010 DATA 1,2
3020 DATA 1.009,2.026
3030 DATA 1.038,2.115
3040 DATA 1.089,2.267
3050 DATA 1.16,2.481
3060 DATA 1.253,2.758
3070 DATA 1.366,3.098
3080 DATA 1.5,3.5
3090 DATA 1,1.945
3100 DATA 1.017,1.943
3110 DATA 1.063,2.006
3120 DATA 1.156,2.134
3130 DATA 1.238,2.325
3140 DATA 1.368,2.581
3150 DATA 1.527,2.901
3160 DATA 1.714,3.286
3170 DATA 1,1.812
3180 DATA 1.025,1.795
3190 DATA 1.086,1.843
3200 DATA 1.182,1.957
3210 DATA 1.315,2.137
3220 DATA 1.484,2.383
3230 DATA 1.688,2.694
3240 DATA 1.929,3.071
3250 DATA 1,1.603
3260 DATA 1.033,1.58
3270 DATA 1.109,1.625
3280 DATA 1.229,1.737
3290 DATA 1.393,1.916
3300 DATA 1.599,2.162
3310 DATA 1.849,2.476
3320 DATA 2.143,2.857
3330 DATA 1,1.318
3340 DATA 1.041,1.3
3350 DATA 1.134,1.352
```

```
3360 DATA 1.276,1.472
3370 DATA 1.47,1.662
3380 DATA 1.715,1.92
3390 DATA 2.01,2.247
3400 DATA 2.357,2.643
3410 DATA 1,0.955
3420 DATA 1.049,0.954
3430 DATA 1.157,1.024
3440 DATA 1.323,1.164
3450 DATA 1.547,1.375
3460 DATA 1.83,1.656
3470 DATA 2.172,2.007
3480 DATA 2.571,2.429
3490 DATA 1,0.516
3500 DATA 1.057,0.543
3510 DATA 1.18,0.642
3520 DATA 1.37,0.812
3530 DATA 1.625,1.055
3540 DATA 1.946,1.369
3550 DATA 2.333,1.756
3560 DATA 2.786,2.214
3570 DATA 1,0
3580 DATA 1.065,0.065
3590 DATA 1.204,0.204
3600 DATA 1.416,0.416
3610 DATA 1.702,0.702
3620 DATA 2.061,1.061
3630 DATA 2.494,1.494
3640 DATA 3,2
5000 HOME
5100 END
```

```
LIS 3022,5000
3022 REM --------------------------------
3025 REM DATA OF STRESSES BEFORE FIRING
3030 DATA 0,9,9
3040 DATA 0,11,11
3050 DATA 1,12,12
3060 DATA 7,13,13
3070 DATA 9,12,12
3080 DATA 11,11,11
3090 DATA 11,11,11
3100 DATA 0,10,10
3110 DATA 0,11,11
3120 DATA 2,13,13
3130 DATA 6,13,13
3140 DATA 9,12,12
3150 DATA 10,11,11
3160 DATA 11,11,11
3170 DATA 0,11,10
3180 DATA 0,13,12
3190 DATA 2,14,13
3200 DATA 6,14,13
3210 DATA 9,12,12
3220 DATA 10,11,11
3230 DATA 11,11,11
3240 DATA 0,14,11
3250 DATA 1,15,13
3260 DATA 3,16,14
3270 DATA 6,14,14
3280 DATA 9,13,12
3290 DATA 10,12,11
3300 DATA 11,11,11
3310 DATA 0,20,14
3320 DATA 2,19,15
3330 DATA 4,18,15
3340 DATA 7,15,14
```

```
3700 DATA 12,14,15
3710 DATA 12,12,13
3720 DATA 10,11,11
3730 DATA 1,18,26
3740 DATA 2,18,24
3750 DATA 4,18,21
3760 DATA 8,16,19
3770 DATA 11,14,16
3780 DATA 11,13,14
3790 DATA 10,11,12
3800 DATA 1,19,31
3810 DATA 2,18,28
3820 DATA 5,17,24
3830 DATA 8,15,20
3840 DATA 10,13,17
3850 DATA 11,13,14
3860 DATA 10,12,12
3870 DATA 0,20,39
3880 DATA 3,18,34
3900 DATA 6,15,28
3910 DATA 8,13,22
3920 DATA 9,12,18
3930 DATA 10,12,15
3940 DATA 10,12,13
3950 DATA 1,15,52
3960 DATA 3,13,44
3970 DATA 5,12,34
3980 DATA 6,12,25
3990 DATA 7,12,19
4000 DATA 8,12,15
4010 DATA 10,12,13
4020 DATA 10,13,14
5000 HOME
```

```
3350 DATA 9,13,13
3360 DATA 10,12,12
3370 DATA 11,11,11
3380 DATA 8,32,18
3390 DATA 4,26,18
3400 DATA 6,20,16
3410 DATA 8,16,14
3420 DATA 9,13,13
3430 DATA 10,12,12
3440 DATA 11,11,11
3450 DATA 10,58,30
3460 DATA 9,31,21
3470 DATA 9,20,17
3480 DATA 9,16,14
3490 DATA 10,14,13
3500 DATA 10,12,12
3510 DATA 10,11,11
3520 DATA 13,43,27
3530 DATA 14,34,24
3540 DATA 12,22,18
3550 DATA 11,16,15
3560 DATA 11,14,13
3570 DATA 11,12,12
3580 DATA 10,11,11
3590 DATA 1,23,20
3600 DATA 7,25,22
3610 DATA 11,23,20
3620 DATA 12,17,17
3630 DATA 12,14,14
3640 DATA 11,12,12
3650 DATA 10,11,11
3660 DATA 1,19,22
3670 DATA 1,19,21
3680 DATA 6,20,20
3690 DATA 10,18,18
```

DATA OF STRESSES BEFORE FIRING

```
2030 DATA 23,25,23
2040 DATA 19,25,19
2050 DATA 13,23,14
2060 DATA 9,21,9
2070 DATA 5,16,5
2080 DATA 5,11,5
2090 DATA 7,9,7
2100 DATA 23,24,23
2110 DATA 19,25,20
2120 DATA 14,24,14
2130 DATA 9,21,9
2140 DATA 6,16,6
2150 DATA 5,12,5
2160 DATA 7,9,6
2170 DATA 22,25,23
2180 DATA 19,25,19
2190 DATA 13,24,14
2200 DATA 8,20,9
2210 DATA 6,16,6
2220 DATA 5,12,5
2230 DATA 6,9,6
2240 DATA 22,25,22
2250 DATA 17,25,19
2260 DATA 12,23,14
2270 DATA 8,20,9
2280 DATA 6,16,6
2290 DATA 5,12,5
2300 DATA 5,9,5
2310 DATA 20,25,22
2320 DATA 15,24,18
2330 DATA 10,22,13
2340 DATA 7,19,9
2350 DATA 6,15,7
2360 DATA 4,12,5
2370 DATA 4,9,4
```

```
2380 DATA 15,26,20
2390 DATA 11,22,16
2400 DATA 8,20,12
2410 DATA 7,17,9
2420 DATA 5,14,7
2430 DATA 4,12,5
2440 DATA 3,9,4
2450 DATA 3,23,15
2460 DATA 5,19,14
2470 DATA 6,17,11
2480 DATA 6,15,9
2490 DATA 5,13,7
2500 DATA 4,11,5
2510 DATA 2,9,4
2520 DATA 14,1,5
2540 DATA 3,10,10
2550 DATA 4,13,11
2560 DATA 5,13,9
2570 DATA 5,12,8
2580 DATA 4,11,6
2590 DATA 2,9,4
2600 DATA -4,-1,10
2610 DATA -2,1,10
2620 DATA 2,6,10
2630 DATA 5,9,10
2640 DATA 5,11,8
2650 DATA 5,10,7
2660 DATA 3,9,5
2670 DATA 0,1,13
2680 DATA 0,2,13
2690 DATA 1,4,12
2700 DATA 4,6,11
2710 DATA 5,8,9
2720 DATA 5,9,8
2730 DATA 4,9,6
```

```
2740 DATA 0,4,17
2750 DATA 1,4,16
2760 DATA 1,5,14
2770 DATA 3,6,12
2780 DATA 5,6,10
2790 DATA 5,8,9
2800 DATA 5,8,7
2810 DATA 1,6,20
2820 DATA 1,6,19
2830 DATA 2,6,16
2840 DATA 3,7,13
2850 DATA 5,7,11
2860 DATA 5,8,9
2870 DATA 5,8,8
2880 DATA 0,8,25
2890 DATA 2,7,22
2900 DATA 4,7,19
2910 DATA 4,7,15
2920 DATA 5,7,12
2930 DATA 6,8,10
2940 DATA 6,8,9
2950 DATA 1,7,31
2960 DATA 2,6,27
2970 DATA 4,6,22
2980 DATA 5,6,17
2990 DATA 6,7,13
3000 DATA 6,8,11
3010 DATA 6,8,9
3020 DATA 6,8,10
5000 HOME
5100 END
```

APPENDIX B

Results of SAP IV Computer Program - Before and After Firing

T W O - D I M E N S I O N A L   F I N I T E   E L E M E N T S (BEFORE FIRING)

1. CENTROID STRESSES REFERENCED TO LOCAL Y-Z COORDINATES.
2. MID-SIDE STRESSES ARE NORMAL AND PARALLEL TO ELEMENT EDGES.

ELEMENT (1)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.91446D 04	0.27096D 02	-0.91297D 04	0.70078D 02	0.27631D 02	-0.91451D 04	89.56
1	L-I	-0.92112D 04	-0.18544D 03	-0.92112D 04	0.64017D 03	-0.14026D 03	-0.92564D 04	85.96
1	J-K	-0.88488D 04	0.39045D 02	-0.90399D 04	0.15288D 04	0.29467D 03	-0.91044D 04	80.51
1	I-J	0.45960D 03	-0.83878D 04	-0.83878D 04	-0.69363D 02	0.46015D 03	-0.83883D 04	-0.45
1	K-L	-0.43564D 03	-0.99467D 04	-0.99180D 04	0.18213D 03	-0.43215D 03	-0.99501D 04	1.10

ELEMENT (2)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10870D 05	-0.12304D 03	-0.10826D 05	0.29080D 03	-0.11518D 03	-0.10877D 05	88.45
1	L-I	-0.10779D 05	-0.53023D 02	-0.10779D 05	0.66036D 03	-0.12522D 02	-0.10820D 05	86.49
1	J-K	-0.10933D 05	-0.23337D 03	-0.10877D 05	0.61617D 03	-0.19800D 03	-0.10969D 05	86.72
1	I-J	0.69734D 03	-0.94792D 04	-0.94507D 04	-0.39066D 02	0.69749D 03	-0.94794D 04	-0.22
1	K-L	-0.10222D 04	-0.12299D 05	-0.12274D 05	0.76303D 03	-0.97081D 03	-0.12351D 05	3.85

ELEMENT (3)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12036D 05	-0.67070D 03	-0.12040D 05	0.45948D 02	-0.67051D 03	-0.12036D 05	89.77
1	L-I	-0.11388D 05	0.91515D 03	-0.11388D 05	0.96188D 02	0.91591D 03	-0.11389D 05	89.55
1	J-K	-0.12728D 05	-0.23980D 04	-0.12747D 05	0.31226D 03	-0.23885D 04	-0.12737D 05	88.27
1	I-J	-0.67173D 03	-0.12154D 05	-0.12129D 05	0.37453D 03	-0.65952D 03	-0.12166D 05	1.87
1	K-L	-0.12954D 04	-0.11287D 05	-0.11948D 05	0.27073D 04	-0.60894D 03	-0.11973D 05	14.23

ELEMENT (4)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13325D 05	-0.72183D 04	-0.13420D 05	-0.11320D 03	-0.72162D 04	-0.13327D 05	-88.94
1	L-I	-0.14047D 05	-0.86424D 04	-0.14047D 05	-0.39427D 03	-0.86138D 04	-0.14075D 05	-85.85
1	J-K	-0.12537D 05	-0.56853D 04	-0.12743D 05	0.29248D 03	-0.56729D 04	-0.12550D 05	87.56
1	I-J	-0.87727D 04	-0.14372D 05	-0.15032D 05	0.21083D 04	-0.80677D 04	-0.15077D 05	18.49
1	K-L	-0.63853D 04	-0.11483D 05	-0.11764D 05	0.11372D 04	-0.61431D 04	-0.11725D 05	12.02

ELEMENT (5)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11989D 05	-0.92732D 04	-0.12082D 05	0.30435D 03	-0.92395D 04	-0.12023D 05	83.68
1	L-1	-0.12187D 05	-0.94356D 04	-0.12187D 05	0.18732D 03	-0.94229D 04	-0.12200D 05	86.12
1	J-K	-0.11771D 05	-0.91031D 04	-0.11968D 05	0.44578D 03	-0.90305D 04	-0.11843D 05	80.76
1	I-J	-0.10225D 05	-0.13070D 05	-0.13348D 05	0.82525D 03	-0.10003D 05	-0.13292D 05	15.06
1	K-L	-0.86830D 04	-0.10518D 05	-0.10798D 05	0.68987D 03	-0.84526D 04	-0.10749D 05	18.47

ELEMENT (6)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11187D 05	-0.10627D 05	-0 11239D 05	0.28406D 02	-0.10626D 05	-0.11188D 05	87.10
1	L-1	-0.11317D 05	-0.10762D 05	-0 11317D 05	-0.30417D 02	-0.10760D 05	-0.11318D 05	-86.87
1	J-K	-0.11047D 05	-0.10482D 05	-0 11156D 05	0 91570D 02	-0.10467D 05	-0.11061D 05	81.02
1	I-J	-0.11215D 05	-0.11568D 05	-0 11844D 05	0.37378D 03	-0.10978D 05	-0.11805D 05	32.39
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10807D 05	-0.10838D 05	-0.10816D 05	-0.15278D 02	-0.10800D 05	-0.10844D 05	-22.11
1	L-I	-0.10776D 05	-0.10801D 05	-0.10797D 05	-0.16510D 01	-0.10776D 05	-0.10801D 05	-3.84
1	J-K	-0.10835D 05	-0.10873D 05	-0.10835D 05	-0.27906D 02	-0.10820D 05	-0.10887D 05	-27.92
1	I-J	-0.10731D 05	-0.10760D 05	-0.10720D 05	-0.36235D 02	-0.10706D 05	-0.10784D 05	-34.29
1	K-L	-0.10942D 05	-0.10858D 05	-0.10914D 05	0.17316D 02	-0.10855D 05	-0.10946D 05	78.82

ELEMENT (8)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.97042D 04	-0.39810D 03	-0.95072D 04	0.17076D 03	-0.39497D 03	-0.97073D 04	88.95
1	L-I	-0.81975D 04	0.31519D 03	-0.87691D 04	0.28654D 04	0.11898D 04	-0.90721D 04	73.03
1	J-K	-0.62476D 04	-0.62899D 04	-0.10265D 05	0.41986D 04	-0.20701D 04	-0.10467D 05	44.86
1	I-J	0.22868D 03	-0.89418D 04	-0.87455D 04	-0.36683D 03	0.24333D 03	-0.89565D 04	-2.29
1	K-L	-0.11768D 04	-0.10627D 05	-0.10402D 05	0.36834D 03	-0.11625D 04	-0.10642D 05	2.23

ELEMENT (9)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11129D 05	-0.24945D 03	-0.10956D 05	0.69543D 03	-0.20518D 03	-0.11174D 05	86.36
1	L-I	-0.10770D 05	-0.16418D 03	-0.10809D 05	0.17316D 04	0.11137D 03	-0.11046D 05	80.96
1	J-K	-0.11096D 05	-0.75808D 03	-0.11103D 05	0.15600D 04	-0.52780D 03	-0.11326D 05	81.60
1	I-J	0.53317D 03	-0.99214D 04	-0.96962D 04	-0.45526D 03	0.55295D 03	-0.99412D 04	-2.49
1	K-L	-0.10209D 04	-0.12430D 05	-0.12270D 05	0.56734D 03	-0.99280D 03	-0.12458D 05	2.84

ELEMENT (10)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12727D 05	-0.23976D 04	-0.12741D 05	0.16005D 04	-0.21553D 04	-0.12970D 05	81.39
1	L-I	-0.12531D 05	-0.23153D 04	-0.12665D 05	0.19471D 04	-0.19568D 04	-0.12889D 05	79.57
1	J-K	-0.12653D 05	-0.27791D 04	-0.12828D 05	0.20431D 04	-0.23730D 04	-0.13059D 05	78.76
1	I-J	-0.21266D 04	-0.12883D 05	-0.12725D 05	-0.59212D 03	-0.20941D 04	-0.12916D 05	-3.14
1	K-L	-0.22746D 04	-0.12968D 05	-0.12758D 05	0.78994D 03	-0.22165D 04	-0.13026D 05	4.20

ELEMENT (11)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12879D 05	-0.60152D 04	-0.13030D 05	0.15641D 04	-0.56756D 04	-0.13219D 05	77.75
1	L-I	-0.12826D 05	-0.58040D 04	-0.12862D 05	0.15438D 04	-0.54796D 04	-0.13150D 05	78.13
1	J-K	-0.12800D 05	-0.63255D 04	-0.13145D 05	0.18135D 04	-0.58521D 04	-0.13274D 05	75.37
1	I-J	-0.64836D 04	-0.14703D 05	-0.14493D 05	0.33055D 01	-0.64836D 04	-0.14703D 05	0.02
1	K-L	-0.50019D 04	-0.11577D 05	-0.11544D 05	0.98607D 03	-0.48572D 04	-0.11722D 05	8.35

ELEMENT (12)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12090D 05	-0.92391D 04	-0.12221D 05	0.73951D 03	-0.90587D 04	-0.12270D 05	76.29
1	L-I	-0.12241D 05	-0.92971D 04	-0.12162D 05	0.62107D 03	-0.91715D 04	-0.12367D 05	78.56
1	J-K	-0.11880D 05	-0.91493D 04	-0.12196D 05	0.88848D 03	-0.88857D 04	-0.12144D 05	73.47
1	I-J	-0.10065D 05	-0.13671D 05	-0.13634D 05	0.61694D 03	-0.99628D 04	-0.13774D 05	9.44
1	K-L	-0.82509D 04	-0.10684D 05	-0.10809D 05	0.53460D 03	-0.81387D 04	-0.10797D 05	11.86

ELEMENT (13)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11228D 05	-0.10546D 05	-0.11298D 05	0.19050D 03	-0.10496D 05	-0.11278D 05	75.41
1	L-I	-0.11326D 05	-0.10597D 05	-0.11271D 05	0.13091D 03	-0.10574D 05	-0.11348D 05	80.12
1	J-K	-0.11107D 05	-0.10465D 05	-0.11275D 05	0.24818D 03	-0.10380D 05	-0.11192D 05	71.15
1	I-J	-0.11065D 05	-0.11852D 05	-0.11971D 05	0.34859D 03	-0.10932D 05	-0.11984D 05	20.77
1	K-L	[illegible]	[illegible]	[illegible]	0.12248D 03	-0.10038D 05	-0.10619D 05	12.45

ELEMENT (14)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10855D 05	-0.10819D 05	-0.10855D 05	-0.64781D 01	-0.10818D 05	-0.10856D 05	-79.98
1	L-1	-0.10803D 05	-0.10777D 05	-0.10843D 05	0.16729D 02	-0.10769D 05	-0.10811D 05	63.71
1	J-K	-0.10895D 05	-0.10850D 05	-0.10846D 05	-0.28780D 02	-0.10836D 05	-0.10909D 05	-64.13
1	I-J	-0.10654D 05	-0.10695D 05	-0.10634D 05	-0.33493D 02	-0.10635D 05	-0.10713D 05	-29.26
1	K-L	-0.11022D 05	-0.10991D 05	-0.11031D 05	0.77612D 02	-0.10927D 05	-0.11085D 05	50.73

ELEMENT (15)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11076D 05	-0.23458D 03	-0.10114D 05	0.28783D 03	-0.22694D 03	-0.11084D 05	88.48
1	L-1	-0.18318D 04	-0.44547D 04	-0.84393D 04	0.63007D 04	0.32925D 04	-0.95790D 04	39.12
1	J-K	-0.68557D 04	-0.10046D 05	-0.11897D 05	0.39969D 04	-0.41475D 04	-0.12754D 05	34.12
1	I-J	0.13795D 04	-0.10067D 05	-0.90441D 04	-0.69742D 03	0.14218D 04	-0.10109D 05	-3.47
1	K-L	-0.20741D 04	-0.12184D 05	-0.11319D 05	0.53995D 03	-0.20454D 04	-0.12213D 05	3.05

ELEMENT (16)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12363D 05	-0.64608D 03	-0.11575D 05	0.14386D 04	-0.47204D 03	-0.12537D 05	83.10
1	L-1	-0.11645D 05	-0.98048D 03	-0.11329D 05	0.29828D 04	-0.20293D 03	-0.12423D 05	75.39
1	J-K	-0.12038D 05	-0.13369D 04	-0.11777D 05	0.26271D 04	-0.72675D 03	-0.12648D 05	76.92
1	I-J	0.14471D 03	-0.11268D 05	-0.10404D 05	-0.10833D 04	0.24663D 03	-0.11370D 05	-5.37
1	K-L	-0.12081D 04	-0.13732D 05	-0.12782D 05	0.94570D 02	-0.12074D 04	-0.13733D 05	0.43

ELEMENT (17)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13301D 05	-0.31071D 04	-0.13159D 05	0.28814D 04	-0.23491D 04	-0.14059D 05	75.26
1	L-1	-0.12817D 05	-0.28449D 04	-0.12895D 05	0.33069D 04	-0.18480D 04	-0.13813D 05	73.22
1	J-K	-0.13234D 05	-0.39718D 04	-0.13424D 05	0.33565D 04	-0.28833D 04	-0.14322D 05	72.03
1	I-J	-0.26928D 04	-0.14339D 05	-0.13393D 05	-0.17950D 04	-0.24224D 04	-0.14609D 05	-8.57
1	K-L	-0.22725D 04	-0.13514D 05	-0.12925D 05	-0.54944D 02	-0.22723D 04	-0.13514D 05	-0.28

ELEMENT (18)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12746D 05	-0.67213D 04	-0.13255D 05	0.26476D 04	-0.57231D 04	-0.13744D 05	69.34
1	L-1	-0.12553D 05	-0.62229D 04	-0.13043D 05	0.26673D 04	-0.52488D 04	-0.13527D 05	69.94
1	J-K	-0.12828D 05	-0.73859D 04	-0.13480D 05	0.27737D 04	-0.62213D 04	-0.13993D 05	67.23
1	I-J	-0.65374D 04	-0.15271D 05	-0.14683D 05	-0.11492D 04	-0.63887D 04	-0.15419D 05	-7.37
1	K-L	-0.50691D 04	-0.12088D 05	-0.11829D 05	0.26188D 03	-0.50593D 04	-0.12098D 05	2.13

ELEMENT (19)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11856D 05	-0.93802D 04	-0.12305D 05	0.13412D 04	-0.87929D 04	-0.12443D 05	66.35
1	L-1	-0.11919D 05	-0.91654D 04	-0.12212D 05	0.12648D 04	-0.86727D 04	-0.12412D 05	68.72
1	J-K	-0.11822D 05	-0.95564D 04	-0.12381D 05	0.13889D 04	-0.88969D 04	-0.12481D 05	64.60
1	I-J	-0.95688D 04	-0.13951D 05	-0.13687D 05	-0.26840D 02	-0.95687D 04	-0.13951D 05	-0.35
1	K-L	-0.80595D 04	-0.10963D 05	-0.10949D 05	0.28078D 03	-0.80326D 04	-0.10990D 05	5.47

ELEMENT (20)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11213D 05	-0.10564D 05	-0.11390D 05	0.38297D 03	-0.10386D 05	-0.11390D 05	65.14
1	L-1	-0.11325D 05	-0.10555D 05	-0.11365D 05	0.31992D 03	-0.10439D 05	-0.11440D 05	70.14
1	J-K	-0.11114D 05	-0.10528D 05	-0.11388D 05	0.42519D 03	-0.10305D 05	-0.11338D 05	62.30
1	[illegible]	[illegible]	-0.12156D 05	[illegible]	0.25194D 03	-0.10882D 05	-0.12206D 05	11.18

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10884D 05	-0.10812D 05	-0.10906D 05	0.24372D 02	-0.10805D 05	-0.10891D 05	72.83
1	L-I	-0.10826D 05	-0.10781D 05	-0.10900D 05	0.47349D 02	-0.10751D 05	-0.10856D 05	57.66
1	J-K	-0.10936D 05	-0.10832D 05	-0.10898D 05	-0.50527D 00	-0.10832D 05	-0.10936D 05	-89.72
1	I-J	-0.10606D 05	-0.10668D 05	-0.10682D 05	-0.29719D 02	-0.10594D 05	-0.10680D 05	-21.95
1	K-L	-0.11032D 05	-0.11114D 05	-0.11142D 05	0.99304D 02	-0.10965D 05	-0.11180D 05	33.83

ELEMENT (22)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.14005D 05	-0.33320D 03	-0.11472D 05	0.69737D 03	-0.29772D 03	-0.14040D 05	87.09
1	L-I	0.40457D 03	-0.70440D 04	-0.89007D 04	0.75189D 04	0.50710D 04	-0.11710D 05	31.82
1	J-K	-0.83605D 04	-0.14685D 05	-0.14281D 05	0.40605D 04	-0.63762D 04	-0.16670D 05	26.04
1	I-J	0.26006D 04	-0.12887D 05	-0.10059D 05	-0.11378D 04	0.26838D 04	-0.12970D 05	-4.18
1	K-L	-0.34686D 04	-0.15199D 05	-0.12991D 05	0.29315D 03	-0.34613D 04	-0.15206D 05	1.43

ELEMENT (23)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.14373D 05	-0.13236D 04	-0.12657D 05	0.26881D 04	-0.79156D 03	-0.14905D 05	78.80
1	L-I	-0.13132D 05	-0.17825D 04	-0.12227D 05	0.44056D 04	-0.27315D 03	-0.14641D 05	71.09
1	J-K	-0.13903D 05	-0.25947D 04	-0.13054D 05	0.39833D 04	-0.13325D 04	-0.15165D 05	72.42
1	I-J	-0.66007D 03	-0.14038D 05	-0.11832D 05	-0.22235D 04	-0.30017D 03	-0.14398D 05	-9.19
1	K-L	-0.13155D 04	-0.15388D 05	-0.13498D 05	-0.66155D 03	-0.12844D 04	-0.15419D 05	-2.69

ELEMENT (24)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13977D 05	-0.47203D 04	-0.13901D 05	0.44139D 04	-0.29531D 04	-0.15745D 05	68.18
1	L-I	-0.13255D 05	-0.39790D 04	-0.13433D 05	0.46685D 04	-0.20362D 04	-0.15198D 05	67.41
1	J-K	-0.14194D 05	-0.60958D 04	-0.14398D 05	0.47227D 04	-0.39241D 04	-0.16366D 05	65.30
1	I-J	-0.41367D 04	-0.16543D 05	-0.14659D 05	-0.33829D 04	-0.32742D 04	-0.17405D 05	-14.30
1	K-L	-0.27512D 04	-0.14037D 05	-0.13162D 05	-0.11343D 04	-0.26384D 04	-0.14150D 05	-5.68

ELEMENT (25)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12496D 05	-0.80807D 04	-0.13550D 05	0.35371D 04	-0.61189D 04	-0.14458D 05	60.99
1	L-I	-0.12233D 05	-0.71402D 04	-0.13234D 05	0.35221D 04	-0.53403D 04	-0.14032D 05	62.93
1	J-K	-0.12953D 05	-0.89445D 04	-0.13907D 05	0.34716D 04	-0.69400D 04	-0.14957D 05	60.00
1	I-J	-0.71492D 04	-0.15849D 05	-0.14975D 05	-0.22923D 04	-0.65822D 04	-0.16416D 05	-13.89
1	K-L	-0.57004D 04	-0.12564D 05	-0.12160D 05	-0.52313D 03	-0.56608D 04	-0.12604D 05	-4.33

ELEMENT (26)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11551D 05	-0.99334D 04	-0.12421D 05	0.18071D 04	-0.87625D 04	-0.12722D 05	57.06
1	L-I	-0.11599D 05	-0.94644D 04	-0.12289D 05	0.17451D 04	-0.84860D 04	-0.12577D 05	60.72
1	J-K	-0.11752D 05	-0.10184D 05	-0.12560D 05	0.17633D 04	-0.90383D 04	-0.12898D 05	56.99
1	I-J	-0.94524D 04	-0.14119D 05	-0.13710D 05	-0.66311D 03	-0.93600D 04	-0.14211D 05	-7.93
1	K-L	-0.81917D 04	-0.11329D 05	-0.11182D 05	-0.11436D 03	-0.81875D 04	-0.11333D 05	-2.09

ELEMENT (27)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11077D 05	-0.10696D 05	-0.11463D 05	0.59713D 03	-0.10260D 05	-0.11513D 05	53.84
1	L-I	-0.11193D 05	-0.10560D 05	-0.11421D 05	0.54490D 03	-0.10247D 05	-0.11507D 05	60.07
1	J-K	-0.11068D 05	-0.10714D 05	-0.11493D 05	0.61482D 03	-0.10251D 05	-0.11531D 05	53.03
1	[illegible]	-0.10744D 05	-0.12390D 05	-0.12[illegible]37D 05	0.22987D 02	-0.10744D 05	-0.12390D 05	0.80
[illegible]	[illegible]	[illegible]	[illegible]	-0.10730D 05	-0.73144D 02	-0.97814D 04	-0.10730D 05	-4.43

ELEMENT (28)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 10884D 05	-0. 10838D 05	-0. 10961D 05	0. 72824D 02	-0. 10784D 05	-0. 10937D 05	53. 75
1	L-1	-0. 10839D 05	-0. 10825D 05	-0. 10964D 05	0. 92247D 02	-0. 10739D 05	-0. 10924D 05	47. 18
1	J-K	-0. 10940D 05	-0. 10828D 05	-0. 10947D 05	0. 50179D 02	-0. 10809D 05	-0. 10959D 05	69. 03
1	I-J	-0. 10578D 05	-0. 10679D 05	-0. 10707D 05	-0. 45094D 02	-0. 10560D 05	-0. 10696D 05	-20. 82
1	K-L	-0. 11000D 05	-0. 11230D 05	-0. 11232D 05	0. 77131D 02	-0. 10976D 05	-0. 11253D 05	16. 93

ELEMENT (29)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 19571D 05	-0. 36887D 03	-0. 13820D 05	0. 15346D 04	-0. 24700D 03	-0. 19693D 05	85. 46
1	L-1	0. 16909D 04	-0. 10543D 05	-0. 10136D 05	0. 10189D 05	0. 74581D 04	-0. 16311D 05	29. 51
1	J-K	-0. 10922D 05	-0. 21749D 05	-0. 17932D 05	0. 51486D 04	-0. 88648D 04	-0. 23806D 05	21. 78
1	I-J	0. 45345D 04	-0. 18864D 05	-0. 12054D 05	-0. 17412D 04	0. 46633D 04	-0. 18993D 05	-4. 23
1	K-L	-0. 49722D 04	-0. 20360D 05	-0. 15533D 05	-0. 46248D 03	-0. 49583D 04	-0. 20373D 05	-1. 72

ELEMENT (30)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 17350D 05	-0. 32991D 04	-0. 14504D 05	0. 50939D 04	-0. 16467D 04	-0. 19002D 05	72. 03
1	L-1	-0. 15681D 05	-0. 33218D 04	-0. 13785D 05	0. 62141D 04	-0. 73767D 03	-0. 18265D 05	67. 42
1	J-K	-0. 17226D 05	-0. 51922D 04	-0. 15228D 05	0. 61863D 04	-0. 25794D 04	-0. 19839D 05	67. 10
1	I-J	-0. 32312D 04	-0. 19635D 05	-0. 14813D 05	-0. 45423D 04	-0. 20574D 04	-0. 20809D 05	-14. 49
1	K-L	-0. 16254D 04	-0. 16991D 05	-0. 14255D 05	-0. 23314D 04	-0. 12795D 04	-0. 17337D 05	-8. 44

ELEMENT (31)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 14358D 05	-0. 78171D 04	-0. 14943D 05	0. 60566D 04	-0. 42044D 04	-0. 17971D 05	59. 18
1	L-1	-0. 13557D 05	-0. 58327D 04	-0. 14135D 05	0. 59665D 04	-0. 25876D 04	-0. 16803D 05	61. 46
1	J-K	-0. 15614D 05	-0. 96202D 04	-0. 15832D 05	0. 60367D 04	-0. 58774D 04	-0. 19357D 05	58. 20
1	I-J	-0. 68333D 04	-0. 19128D 05	-0. 16399D 05	-0. 55337D 04	-0. 47095D 04	-0. 21252D 05	-21. 00
1	K-L	-0. 42929D 04	-0. 14424D 05	-0. 13584D 05	-0. 24534D 04	-0. 37301D 04	-0. 14987D 05	-12. 92

ELEMENT (32)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 12049D 05	-0. 10011D 05	-0. 13877D 05	0. 40164D 04	-0. 68865D 04	-0. 15174D 05	52. 12
1	L-1	-0. 11918D 05	-0. 85184D 04	-0. 13481D 05	0. 39757D 04	-0. 58945D 04	-0. 14542D 05	56. 58
1	J-K	-0. 13131D 05	-0. 10710D 05	-0. 14332D 05	0. 38101D 04	-0. 79229D 04	-0. 15919D 05	53. 81
1	I-J	-0. 82688D 04	-0. 16064D 05	-0. 15224D 05	-0. 32741D 04	-0. 70762D 04	-0. 17257D 05	-20. 02
1	K-L	-0. 69413D 04	-0. 13032D 05	-0. 12598D 05	-0. 12788D 04	-0. 66837D 04	-0. 13290D 05	-11. 39

ELEMENT (33)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 11214D 05	-0. 10761D 05	-0. 12555D 05	0. 20504D 04	-0. 89250D 04	-0. 13051D 05	48. 15
1	L-1	-0. 11347D 05	-0. 10017D 05	-0. 12393D 05	0. 20167D 04	-0. 85588D 04	-0. 12806D 05	54. 13
1	J-K	-0. 11747D 05	-0. 10890D 05	-0. 12733D 05	0. 19779D 04	-0. 92943D 04	-0. 13342D 05	51. 11
1	I-J	-0. 96663D 04	-0. 14163D 05	-0. 13724D 05	-0. 12150D 04	-0. 93570D 04	-0. 14471D 05	-14. 19
1	K-L	-0. 86038D 04	-0. 11685D 05	-0. 11456D 05	-0. 54960D 03	-0. 85087D 04	-0. 11780D 05	-9. 82

ELEMENT (34)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 10865D 05	-0. 10979D 05	-0. 11530D 05	0. 75203D 03	-0. 10168D 05	-0. 11676D 05	42. 83
1	L-1	-0. 11021D 05	-0. 10695D 05	-0. 11474D 05	0. 72677D 03	[illegible]	[illegible]	[illegible]

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10820D 05	-0.10900D 05	-0.11006D 05	0.11961D 03	-0.10734D 05	-0.10986D 05	35.80
1	L-1	-0.10810D 05	-0.10903D 05	-0.11013D 05	0.14543D 03	-0.10704D 05	-0.11009D 05	36.09
1	J-K	-0.10880D 05	-0.10842D 05	-0.10981D 05	0.11015D 03	-0.10749D 05	-0.10972D 05	49.92
1	1-J	-0.10560D 05	-0.10692D 05	-0.10738D 05	-0.98819D 02	-0.10507D 05	-0.10745D 05	-28.10
1	K-L	-0.10939D 05	-0.11306D 05	-0.11286D 05	-0.35182D 01	-0.10939D 05	-0.11306D 05	-0.55

ELEMENT (36)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.30831D 05	-0.58689D 03	-0.18121D 05	0.50251D 04	0.22618D 03	-0.31644D 05	80.81
1	L-1	0.80876D 03	-0.16931D 05	-0.13100D 05	0.16374D 05	0.10561D 05	-0.26683D 05	30.78
1	J-K	-0.14682D 05	-0.34416D 05	-0.23801D 05	0.10900D 05	-0.98464D 04	-0.39252D 05	23.92
1	1-J	0.55696D 04	-0.36567D 05	-0.18028D 05	-0.34512D 04	0.58504D 04	-0.36848D 05	-4.65
1	K-L	-0.41718D 04	-0.27539D 05	-0.18176D 05	-0.43276D 04	-0.33961D 04	-0.28314D 05	-10.16

ELEMENT (37)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.20871D 05	-0.93651D 04	-0.17717D 05	0.92224D 04	-0.42485D 04	-0.25988D 05	60.98
1	L-1	-0.18959D 05	-0.59037D 04	-0.15942D 05	0.85541D 04	-0.16710D 04	-0.23191D 05	63.67
1	J-K	-0.23954D 05	-0.12229D 05	-0.19642D 05	0.98124D 04	-0.66610D 04	-0.29522D 05	60.43
1	1-J	-0.10962D 05	-0.30328D 05	-0.20973D 05	-0.97251D 04	-0.69215D 04	-0.34369D 05	-22.56
1	K-L	-0.37555D 04	-0.17183D 05	-0.14975D 05	-0.52522D 04	-0.19452D 04	-0.18993D 05	-19.02

ELEMENT (38)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13732D 05	-0.12313D 05	-0.15980D 05	0.67511D 04	-0.62341D 04	-0.19811D 05	48.00
1	L-1	-0.13425D 05	-0.87178D 04	-0.14929D 05	0.65392D 04	-0.41215D 04	-0.18021D 05	54.90
1	J-K	-0.16842D 05	-0.13486D 05	-0.17152D 05	0.65752D 04	-0.83779D 04	-0.21950D 05	52.16
1	1-J	-0.10550D 05	-0.19979D 05	-0.17775D 05	-0.74101D 04	-0.64821D 04	-0.24047D 05	-28.77
1	K-L	-0.74319D 04	-0.14822D 05	-0.14398D 05	-0.35803D 04	-0.59819D 04	-0.16272D 05	-22.05

ELEMENT (39)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11552D 05	-0.12107D 05	-0.14180D 05	0.38187D 04	-0.80008D 04	-0.15658D 05	42.92
1	L-1	-0.11830D 05	-0.10173D 05	-0.13795D 05	0.38649D 04	-0.70487D 04	-0.14954D 05	51.05
1	J-K	-0.13362D 05	-0.12103D 05	-0.14620D 05	0.36954D 04	-0.89839D 04	-0.16481D 05	49.83
1	1-J	-0.97897D 04	-0.15798D 05	-0.15371D 05	-0.37269D 04	-0.80069D 04	-0.17581D 05	-25.56
1	K-L	-0.85706D 04	-0.13401D 05	-0.13081D 05	-0.18438D 04	-0.79473D 04	-0.14024D 05	-18.68

ELEMENT (40)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10942D 05	-0.11709D 05	-0.12708D 05	0.19943D 04	-0.92946D 04	-0.13356D 05	39.56
1	L-1	-0.11267D 05	-0.10692D 05	-0.12536D 05	0.20465D 04	-0.89129D 04	-0.13046D 05	49.00
1	J-K	-0.11870D 05	-0.11524D 05	-0.12900D 05	0.20126D 04	-0.96771D 04	-0.13717D 05	47.46
1	1-J	-0.10195D 05	-0.14077D 05	-0.13753D 05	-0.15940D 04	-0.96248D 04	-0.14648D 05	-19.70
1	K-L	-0.92576D 04	-0.11973D 05	-0.11751D 05	-0.92176D 03	-0.89742D 04	-0.12256D 05	-17.09

ELEMENT (41)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10640D 05	-0.11362D 05	-0.11601D 05	0.78548D 03	-0.10136D 05	-0.11865D 05	32.66
1	L-1	-0.10885D 05	-0.10935D 05	-0.11539D 05	0.82251D 03	-0.10087D 05	-0.11733D 05	44.13
1	J-K	-0.10948D 05	-0.11244D 05	-0.11663D 05	0.91580D 03	-0.10168D 05	-0.12024D 05	40.40
1	1-J	-0.10789D 05	-0.12611D 05	-0.12385D 05	-0.55457D 03	-0.10634D 05	-0.12767D 05	-15.66
1	K-L	[illegible]	-0.10894D 05	-0.10894D 05	-0.34497D 03	-0.96558D 04	-0.11135D 05	-23.84

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10677D 05	-0.10983D 05	-0.11007D 05	0.11930D 03	-0.10636D 05	-0.11024D 05	18.95
1	L-I	-0.10696D 05	-0.10983D 05	-0.11021D 05	0.19771D 03	-0.10595D 05	-0.11084D 05	27.02
1	J-K	-0.10757D 05	-0.10882D 05	-0.10992D 05	0.13935D 03	-0.10667D 05	-0.10972D 05	32.97
1	I-J	-0.10530D 05	-0.10613D 05	-0.10726D 05	-0.20782D 03	-0.10360D 05	-0.10784D 05	-39.37
1	K-L	-0.10931D 05	-0.11325D 05	-0.11322D 05	-0.11810D 03	-0.10899D 05	-0.11358D 05	-15.49

ELEMENT (43)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.45165D 05	-0.23003D 05	-0.29653D 05	0.21265D 05	-0.10105D 05	-0.58063D 05	58.76
1	L-I	0.71582D 03	-0.28008D 05	-0.17434D 05	0.21306D 05	0.12049D 05	-0.39341D 05	28.01
1	J-K	-0.72954D 05	-0.38131D 05	-0.42461D 05	0.23103D 05	-0.26614D 05	-0.84472D 05	63.50
1	I-J	-0.15757D 05	-0.16242D 06	-0.61996D 05	-0.50606D 05	0.93222D 01	-0.17819D 06	-17.30
1	K-L	-0.19291D 05	-0.34680D 05	-0.25285D 05	-0.16071D 05	-0.91669D 04	-0.44804D 05	-32.21

ELEMENT (44)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.20379D 05	-0.19321D 05	-0.20714D 05	0.11269D 05	-0.85687D 04	-0.31132D 05	46.34
1	L-I	-0.20273D 05	-0.10710D 05	-0.18123D 05	0.97432D 04	-0.46380D 04	-0.26345D 05	58.07
1	J-K	-0.30224D 05	-0.19068D 05	-0.23557D 05	0.11042D 05	-0.12275D 05	-0.37017D 05	58.40
1	I-J	-0.22518D 05	-0.36016D 05	-0.26618D 05	-0.15149D 05	-0.12683D 05	-0.45851D 05	-32.99
1	K-L	-0.96801D 04	-0.17129D 05	-0.16553D 05	-0.68969D 04	-0.55662D 04	-0.21243D 05	-30.82

ELEMENT (45)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12745D 05	-0.15816D 05	-0.16528D 05	0.53949D 04	-0.86712D 04	-0.19890D 05	37.06
1	L-I	-0.13885D 05	-0.12261D 05	-0.15931D 05	0.55226D 04	-0.74910D 04	-0.18655D 05	49.18
1	J-K	-0.16988D 05	-0.14190D 05	-0.17192D 05	0.55437D 04	-0.98717D 04	-0.21307D 05	52.08
1	I-J	-0.13556D 05	-0.18734D 05	-0.18153D 05	-0.66055D 04	-0.90503D 04	-0.23240D 05	-34.30
1	K-L	-0.10470D 05	-0.15273D 05	-0.15189D 05	-0.38750D 04	-0.83128D 04	-0.17430D 05	-29.11

ELEMENT (46)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11368D 05	-0.13803D 05	-0.14451D 05	0.30294D 04	-0.93207D 04	-0.15851D 05	34.05
1	L-I	-0.12214D 05	-0.11628D 05	-0.14146D 05	0.32917D 04	-0.86161D 04	-0.15226D 05	47.94
1	J-K	-0.13777D 05	-0.12820D 05	-0.14792D 05	0.32291D 04	-0.10034D 05	-0.16563D 05	49.21
1	I-J	-0.11393D 05	-0.15658D 05	-0.15571D 05	-0.34840D 04	-0.94407D 04	-0.17610D 05	[illegible]
1	K-L	-0.10116D 05	-0.13524D 05	-0.13463D 05	-0.20377D 04	-0.91640D 04	-0.14476D 05	[illegible]

ELEMENT (47)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10851D 05	-0.12529D 05	-0.12872D 05	0.16241D 04	-0.98621D 04	-0.13518D 05	[illegible]
1	L-I	-0.11419D 05	-0.11337D 05	-0.12714D 05	0.18304D 04	-0.95473D 04	-0.13209D 05	[illegible]
1	J-K	-0.12126D 05	-0.11915D 05	-0.13044D 05	0.18433D 04	-0.10174D 05	-0.13867D 05	46.[illegible]
1	I-J	-0.10927D 05	-0.13863D 05	-0.13799D 05	-0.16701D 04	-0.10172D 05	-0.14618D 05	-24.34
1	K-L	-0.10053D 05	-0.12144D 05	-0.12046D 05	-0.11172D 04	-0.95681D 04	-0.12629D 05	-23.45

ELEMENT (48)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10514D 05	-0.11738D 05	-0.11691D 05	0.66286D 03	-0.10224D 05	-0.12028D 05	23.64
1	L-I	-0.10870D 05	-0.11211D 05	-0.11631D 05	0.80915D 03	-0.10214D 05	-0.11868D 05	39.04
1	J-K	-0.11007D 05	-0.11421D 05	-0.11752D 05	0.97134D 03	-0.10221D 05	-0.12207D 05	38.98
[illegible]	[illegible]	[illegible]	[illegible]	-0.12470D 05	-0.73456D 03	-0.10776D 05	-0.12872D 05	-22.25

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10464D 05	-0.11031D 05	-0.10972D 05	0.27405D 02	-0.10463D 05	-0.11032D 05	2.76
1	L-I	-0.10464D 05	-0.11007D 05	-0.10968D 05	0.25048D 03	-0.10366D 05	-0.11105D 05	21.34
1	J-K	-0.10581D 05	-0.10935D 05	-0.10973D 05	0.99717D 02	-0.10555D 05	-0.10961D 05	14.70
1	I-J	-0.10471D 05	-0.10325D 05	-0.10624D 05	-0.35487D 03	-0.10036D 05	-0.10760D 05	-50.80
1	K-L	-0.11038D 05	-0.11291D 05	-0.11372D 05	-0.21168D 03	-0.10918D 05	-0.11411D 05	-29.56

ELEMENT (50)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.16488D 05	-0.39538D 05	-0.27296D 05	0.10122D 05	-0.12674D 05	-0.43352D 05	20.65
1	L-I	-0.56016D 05	-0.31113D 05	-0.35465D 05	0.21700D 05	-0.18546D 05	-0.68583D 05	59.92
1	J-K	-0.35067D 05	-0.23240D 04	-0.22763D 05	-0.34919D 04	-0.19557D 04	-0.35436D 05	-83.98
1	I-J	-0.25223D 05	-0.51185D 05	-0.33507D 05	0.14231D 05	-0.18943D 05	-0.57466D 05	23.81
1	K-L	-0.98176D 04	-0.33632D 05	-0.23368D 05	0.54036D 04	-0.86489D 04	-0.34801D 05	12.20

ELEMENT (51)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.19909D 05	-0.27630D 05	-0.23817D 05	0.92590D 04	-0.13738D 05	-0.33801D 05	33.68
1	L-I	-0.42489D 05	-0.24132D 05	-0.28617D 05	0.92782D 04	-0.20260D 05	-0.46361D 05	67.35
1	J-K	-0.19554D 05	-0.12937D 05	-0.20184D 05	0.99522D 04	-0.57577D 04	-0.26733D 05	54.20
1	I-J	-0.35306D 05	-0.44124D 05	-0.33874D 05	0.14919D 05	-0.24158D 05	-0.55272D 05	36.77
1	K-L	-0.64192D 04	-0.20658D 05	-0.17125D 05	0.25816D 04	-0.59656D 04	-0.21112D 05	9.97

ELEMENT (52)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.15002D 05	-0.18460D 05	-0.18264D 05	0.44465D 04	-0.11960D 05	-0.21502D 05	34.37
1	L-I	-0.21967D 05	-0.16240D 05	-0.19245D 05	0.38219D 04	-0.14328D 05	-0.23879D 05	63.42
1	J-K	-0.18092D 05	-0.11864D 05	-0.17629D 05	0.41407D 04	-0.97968D 04	-0.20159D 05	63.47
1	I-J	-0.19967D 05	-0.26239D 05	-0.22710D 05	0.57811D 04	-0.16526D 05	-0.29680D 05	30.76
1	K-L	-0.87935D 04	-0.16899D 05	-0.15318D 05	-0.10921D 03	-0.87920D 04	-0.16901D 05	-0.77

ELEMENT (53)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12098D 05	-0.14886D 05	-0.15104D 05	0.23053D 04	-0.10798D 05	-0.16186D 05	29.42
1	L-I	-0.14593D 05	-0.13154D 05	-0.15128D 05	0.24735D 04	-0.11299D 05	-0.16451D 05	53.12
1	J-K	-0.13384D 05	-0.12815D 05	-0.15063D 05	0.28804D 04	-0.10205D 05	-0.15994D 05	47.82
1	I-J	-0.12498D 05	-0.18430D 05	-0.16846D 05	0.90135D 03	-0.12364D 05	-0.18564D 05	8.45
1	K-L	-0.93250D 04	-0.14212D 05	-0.13545D 05	-0.29610D 03	-0.93071D 04	-0.14230D 05	-3.45

ELEMENT (54)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11206D 05	-0.13189D 05	-0 13281D 05	0.11861D 04	-0.10651D 05	-0.13743D 05	25.05
1	L-I	-0.12298D 05	-0.11984D 05	-0 13114D 05	0.15059D 04	-0.10627D 05	-0.13655D 05	47.98
1	J-K	-0.12430D 05	-0.12070D 05	-0 13436D 05	0.15960D 04	-0.10644D 05	-0.13856D 05	48.22
1	I-J	-0.11446D 05	-0.15089D 05	-0 14420D 05	0.21242D 03	-0.11434D 05	-0.15101D 05	3.33
1	K-L	-0.10116D 05	-0.12578D 05	-0 12315D 05	-0.59609D 03	-0.99797D 04	-0.12715D 05	-12.92

ELEMENT (55)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10636D 05	-0.12040D 05	-0 11913D 05	0 44273D 03	-0.10508D 05	-0.12168D 05	16.12
1	L-I	-0.11209D 05	-0.11503D 05	-0 11835D 05	0 69190D 03	-0.10648D 05	-0.12063D 05	38.99
1	J-K	-0.11139D 05	-0.11503D 05	-0 11933D 05	0 93812D 03	-0.10365D 05	-0.12277D 05	39.51
1	I-J	-0.11314D 05	-0.13074D 05	-0 12809D 05	-0.25651D 03	-0.11277D 05	-0.13111D 05	-8.12
1	K-L	-0.10255D 05	-0.11034D 05	-0 11149D 05	-0.72849D 03	-0.98188D 04	-0.11471D 05	-30.94

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10318D 05	-0.11018D 05	-0.10958D 05	-0.15680D 03	-0.10285D 05	-0.11052D 05	-12.06
1	L-I	-0.10192D 05	-0.11009D 05	-0.10943D 05	0.30213D 03	-0.10093D 05	-0.11108D 05	18.25
1	J-K	-0.10472D 05	-0.11009D 05	-0.10971D 05	-0.23702D 02	-0.10471D 05	-0.11010D 05	-2.52
1	I-J	-0.10416D 05	-0.97737D 04	-0.10440D 05	-0.46292D 03	-0.95315D 04	-0.10659D 05	-62.38
1	K-L	-0.11283D 05	-0.11460D 05	-0.11574D 05	-0.19529D 03	-0.11157D 05	-0.11586D 05	-32.77

ELEMENT (57)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	0.13991D 04	-0.23471D 05	-0.19863D 05	0.36625D 03	0.14044D 04	-0.23477D 05	0.84
1	L-I	-0.22284D 05	0.29453D 04	-0.17492D 05	-0.14395D 04	0.30272D 04	-0.22366D 05	-86.75
1	J-K	-0.15636D 05	-0.88421D 04	-0.22131D 05	-0.11811D 05	0.50977D 02	-0.24529D 05	-53.02
1	I-J	0.13905D 04	-0.23264D 05	-0.19982D 05	0.37869D 03	0.13963D 04	-0.23269D 05	0.88
1	K-L	0.13775D 04	-0.23619D 05	-0.19738D 05	-0.10105D 04	0.14183D 04	-0.23659D 05	-2.31

ELEMENT (58)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.77373D 04	-0.24260D 05	-0.21532D 05	0.46135D 04	-0.65364D 04	-0.25460D 05	14.59
1	L-I	-0.22159D 05	-0.14014D 05	-0.21259D 05	0.83824D 04	-0.87672D 04	-0.27406D 05	57.96
1	J-K	-0.19688D 05	-0.93510D 04	-0.22138D 05	0.85994D 04	-0.44864D 04	-0.24553D 05	60.50
1	I-J	-0.10372D 05	-0.28457D 05	-0.24582D 05	0.48415D 04	-0.91578D 04	-0.29671D 05	14.08
1	K-L	-0.42912D 04	-0.21873D 05	-0.18825D 05	0.11764D 04	-0.42128D 04	-0.21951D 05	3.81

ELEMENT (59)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.14036D 05	-0.20180D 05	-0.19969D 05	0.50432D 04	-0.11203D 05	-0.23013D 05	29.33
1	L-I	-0.27071D 05	-0.15593D 05	-0.21340D 05	0.24274D 04	-0.15100D 05	-0.27563D 05	78.54
1	J-K	-0.15842D 05	-0.99634D 04	-0.18584D 05	0.60657D 04	-0.61624D 04	-0.19643D 05	57.93
1	I-J	-0.19498D 05	-0.28130D 05	-0.25093D 05	0.64633D 04	-0.16042D 05	-0.31586D 05	28.13
1	K-L	-0.64868D 04	-0.15388D 05	-0.15256D 05	0.16215D 04	-0.62007D 04	-0.15674D 05	10.01

ELEMENT (60)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13578D 05	-0.15788D 05	-0.16571D 05	0.24914D 04	-0.11958D 05	-0.17408D 05	33.04
1	L-I	-0.19459D 05	-0.15324D 05	-0.17569D 05	0.14560D 04	-0.14862D 05	-0.19920D 05	72.43
1	J-K	-0.14470D 05	-0.11021D 05	-0.15999D 05	0.28396D 04	-0.94234D 04	-0.16068D 05	60.64
1	I-J	-0.18252D 05	-0.20237D 05	-0.20107D 05	0.36109D 04	-0.15499D 05	-0.22989D 05	37.31
1	K-L	-0.89068D 04	-0.13955D 05	-0.13873D 05	-0.20572D 03	-0.88984D 04	-0.13964D 05	-2.33

ELEMENT (61)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12226D 05	-0.13511D 05	-0.14080D 05	0.10019D 04	-0.11678D 05	-0.14059D 05	28.67
1	L-I	-0.13992D 05	-0.12713D 05	-0.14080D 05	0.76839D 03	-0.12352D 05	-0.14352D 05	64.89
1	J-K	-0.13051D 05	-0.11843D 05	-0.14097D 05	0.12983D 04	-0.11015D 05	-0.13879D 05	57.47
1	I-J	-0.13321D 05	-0.15777D 05	-0.15693D 05	0.81692D 03	-0.13074D 05	-0.16024D 05	16.81
1	K-L	-0.10463D 05	-0.12490D 05	-0.12702D 05	-0.48273D 03	-0.10354D 05	-0.12599D 05	-12.73

ELEMENT (62)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11171D 05	-0.12111D 05	-0.12332D 05	0.25501D 03	-0.11106D 05	-0.12176D 05	14.24
1	L-I	-0.11763D 05	-0.11758D 05	-0.12240D 05	0.37696D 03	-0.11384D 05	-0.12137D 05	45.17
1	J-K	-0.11541D 05	-0.11528D 05	-0.12418D 05	0.68389D 03	-0.10850D 05	-0.12218D 05	45.27
1	I-J	-0.11972D 05	-0.13115D 05	-0.1332[illegible]D 05	-0.40474D 02	-0.11971D 05	-0.13116D 05	-2.03
1	K-L	-0.10667D 05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 10366D 05	-0. 10886D 05	-0 [illegible] 05	-0 35180D 03	-0. 10189D 05	-0. 11063D 05	-26. 77
1	L-I	-0. 10058D 05	-0. 10997D 05	-0 [illegible] 05	0. 26055D 03	-0 99910D 04	-0. 11064D 05	14. 52
1	J-K	-0. 10381D 05	-0. 11084D 05	-0 [illegible] 05	-0. 18591D 03	-0. 10334D 05	-0. 11130D 05	-13. 94
1	I-J	-0. 10431D 05	-0. 92804D 04	-0 [illegible] 05	-0. 39479D 03	-0. 91579D 04	-0. 10553D 05	-72. 77
1	K-L	-0. 11601D 05	-0. 11489D 05	-0 11864D 05	-0 11444D 03	-0. 11418D 05	-0. 11673D 05	-58. 02

ELEMENT (64)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 53722D 03	-0. 19010D 05	-0. 22444D 05	0. 23422D 03	-0. 53425D 03	-0. 19013D 05	0. 73
1	L-I	-0. 13696D 05	-0. 80523D 04	-0. 21334D 05	-0. 78994D 04	-0. 24859D 04	-0. 19263D 05	-54. 83
1	J-K	-0. 12290D 05	-0. 60551D 04	-0. 23838D 05	-0. 93780D 04	0. 70987D 03	-0. 19055D 05	-54. 19
1	I-J	-0. 40261D 03	-0. 18978D 05	-0. 22631D 05	0 34581D 03	-0. 39617D 03	-0. 18985D 05	1. 07
1	K-L	-0. 69254D 03	-0. 19028D 05	-0. 22266D 05	-0. 57079D 03	-0. 67479D 03	-0. 19046D 05	-1. 78

ELEMENT (65)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 15324D 04	-0. 19428D 05	-0. 21379D 05	0. 93682D 03	-0. 14835D 04	-0. 19477D 05	2. 99
1	L-I	-0. 10770D 05	-0. 56374D 04	-0. 18449D 05	0. 92799D 04	0. 14246D 04	-0. 17832D 05	52. 73
1	J-K	-0. 17812D 05	-0. 71351D 04	-0. 24119D 05	0. 66352D 04	-0. 39573D 04	-0. 20990D 05	64. 41
1	I-J	-0. 15232D 04	-0. 19370D 05	-0. 22608D 05	-0. 34009D 02	-0. 15231D 04	-0. 19370D 05	-0. 11
1	K-L	-0. 14690D 04	-0. 19557D 05	-0. 20226D 05	-0. 74299D 03	-0. 14385D 04	-0. 19587D 05	-2. 35

ELEMENT (66)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 70862D 04	-0. 19097D 05	-0. 20048D 05	0. 30726D 04	-0. 63458D 04	-0. 19837D 05	13. 55
1	L-I	-0. 16123D 05	-0. 10080D 05	-0. 18700D 05	0. 59601D 04	-0. 64191D 04	-0. 19783D 05	58. 44
1	J-K	-0. 15961D 05	-0. 10404D 05	-0. 21414D 05	0. 63473D 04	-0. 62537D 04	-0. 20111D 05	56. 82
1	I-J	-0. 87650D 04	-0. 22558D 05	-0 23233D 05	0. 23387D 04	-0. 83793D 04	-0. 22944D 05	9. 37
1	K-L	-0. 44720D 04	-0. 17059D 05	-0. 17157D 05	-0. 11841D 03	-0. 44709D 04	-0. 17060D 05	-0. 54

ELEMENT (67)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	AN[illegible]
1	CEN	-0. 11862D 05	-0. 16215D 05	-0. 17675D 05	0. 28974D 04	-0. 10414D 05	-0. 17663D 05	[illegible]
1	L-I	-0. 18392D 05	-0. 12649D 05	-0. 17619D 05	0. 18919D 04	-0. 12082D 05	-0. 18959D [illegible]	[illegible]
1	J-K	-0. 15058D 05	-0. 10571D 05	-0. 17838D 05	0. 34406D 04	-0. 87073D 04	-0. 1692[illegible]	[illegible]
1	I-J	-0. 14530D 05	-0. 21198D 05	-0. 21302D 05	0. 30232D 04	-0. 13364D 05	-0. 22365D 0[illegible]	[illegible]
1	K-L	-0. 75775D 04	-0. 13749D 05	-0. 14463D 05	-0. 12751D 03	-0. 75749D 04	-0. 13752D 0[illegible]	[illegible]

ELEMENT (68)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGL[illegible]
1	CEN	-0. 12730D 05	-0. 13441D 05	-0. 14977D 05	0. 13072D 04	-0. 11731D 05	-0. 14440D 05	[illegible]
1	L-I	-0. 15217D 05	-0. 12739D 05	-0. 14991D 05	0. 18999D 03	-0. 12724D 05	-0. 15231D 05	[illegible]
1	J-K	-0. 13520D 05	-0. 11117D 05	-0 15003D 05	0. 11304D 04	-0. 10669D 05	-0. 13968D 05	[illegible]
1	I-J	-0. 14282D 05	-0. 16514D 05	-0 17228D 05	0. 16094D 04	-0. 13440D 05	-0. 17356D 05	27. [illegible]
1	K-L	-0. 10018D 05	-0. 12130D 05	-0 13012D 05	-0. 21566D 03	-0. 99963D 04	-0. 12152D 05	-5. 77

ELEMENT (69)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S[illegible]	[illegible]
1	CEN	-0. 11897D 05	-0. 11851D 05	-0 12894D 05	0 29680D 03	-0. 11576D 05	-0. 1217[illegible]	[illegible]
1	L-I	-0. 12443D 05	-0. 11899D 05	-0. 12790D 05	-0. 14071D 03	-0. 11864D 05	-0. 12477D [illegible]	[illegible]
1	J-K	-0. 11954D 05	-0. 11271D 05	-0. 12997D 05	0. 25126D 03	-0. 11188D 05	-0. 12036D [illegible]	[illegible]
1	I-J	-0. 12670D 05	-0. 13226D 05	-0 14106D 05	0. 54522D 03	-0. 12336D 05	-0. 13560D 05	[illegible]
1	K-L	-0 10799D 05	-0 11090D 05	-0 11842D 05	-0 17262D 03	-0 10719D 05	-0. 111[illegible]	[illegible]

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10692D 05	-0.10672D 05	-0.11289D 05	-0.40485D 03	-0.10277D 05	-0.11087D 05	[illegible]
1	L-I	-0.10172D 05	-0.10921D 05	-0.11346D 05	0.75572D 02	-0.10164D 05	-0.10928D 05	[illegible]
1	J-K	-0.10489D 05	-0.11172D 05	-0.11226D 05	-0.38704D 03	-0.10314D 05	-0.11347D 05	[illegible]
1	I-J	-0.10447D 05	-0.91413D 04	-0.10424D 05	-0.15367D 03	-0.91235D 04	-0.10465D 05	-83.[illegible]
1	K-L	-0.11881D 05	-0.11539D 05	-0.12289D 05	0.15691D 03	-0.11478D 05	-0.11942D 05	68.[illegible]

ELEMENT (71)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.64851D 03	-0.18036D 05	-0.25910D 05	-0.13142D 03	-0.64752D 03	-0.18037D 05	-0.43
1	L-I	-0.12108D 05	-0.59861D 04	-0.23765D 05	-0.77925D 04	-0.67475D 03	-0.17419D 05	-55.72
1	J-K	-0.16135D 05	-0.34428D 04	-0.28136D 05	-0.63150D 04	-0.83608D 03	-0.18742D 05	-67.57
1	I-J	-0.82814D 03	-0.18255D 05	-0.26484D 05	-0.94573D 02	-0.82763D 03	-0.18255D 05	-0.31
1	K-L	-0.50455D 03	-0.17803D 05	-0.25359D 05	-0.67054D 03	-0.47860D 03	-0.17829D 05	-2.22

ELEMENT (72)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.16923D 04	-0.17920D 05	-0.24217D 05	-0.13487D 03	-0.16912D 04	-0.17921D 05	-0.[illegible]
1	L-I	-0.12632D 05	-0.49802D 04	-0.21977D 05	0.72195D 04	-0.63556D 03	-0.16977D 05	[illegible]
1	J-K	-0.14981D 05	-0.65682D 04	-0.26413D 05	0.68863D 04	-0.27052D 04	-0.18844D 05	60.[illegible]
1	I-J	-0.24771D 04	-0.18616D 05	-0.26172D 05	-0.63141D 03	-0.24525D 04	-0.18641D 05	-2.24
1	K-L	-0.11401D 04	-0.17113D 05	-0.22412D 05	-0.15468D 04	-0.99165D 03	-0.17262D 05	-5.48

ELEMENT (73)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.43428D 04	-0.17529D 05	-0.21429D 05	0.68717D 03	-0.43070D 04	-0.17565D 05	2.98
1	L-I	-0.11078D 05	-0.83711D 04	-0.19394D 05	0.66718D 04	-0.29168D 04	-0.16532D 05	50.[illegible]
1	J-K	-0.13621D 05	-0.10486D 05	-0.23370D 05	0.62885D 04	-0.55723D 04	-0.18534D 05	[illegible]
1	I-J	-0.53050D 04	-0.18829D 05	-0.24129D 05	-0.52930D 03	-0.52843D 04	-0.18850D 05	-2.24
1	K-L	-0.36311D 04	-0.16212D 05	-0.19011D 05	-0.15591D 04	-0.34408D 04	-0.16403D 05	-6.96

ELEMENT (74)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.87732D 04	-0.15890D 05	-0.18553D 05	0.18050D 04	-0.83416D 04	-0.16321D 05	13.45
1	L-I	-0.14146D 05	-0.10191D 05	-0.17460D 05	0.33358D 04	-0.82907D 04	-0.16046D 05	60.33
1	J-K	-0.14015D 05	-0.11030D 05	-0.19617D 05	0.38843D 04	-0.83609D 04	-0.16683D 05	55.51
1	I-J	-0.10374D 05	-0.18986D 05	-0.21790D 05	0.93904D 03	-0.10273D 05	-0.19087D 05	6.15
1	K-L	-0.66512D 04	-0.13738D 05	-0.15673D 05	-0.83157D 03	-0.65549D 04	-0.13835D 05	-6.60

ELEMENT (75)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11838D 05	-0.13308D 05	-0.15797D 05	0.14788D 04	-0.10921D 05	-0.14224D 05	31.79
1	L-I	-0.14537D 05	-0.11539D 05	-0.15423D 05	0.47030D 03	-0.11467D 05	-0.14609D 05	81.29
1	J-K	-0.13531D 05	-0.10844D 05	-0.16178D 05	0.12757D 04	-0.10335D 05	-0.14040D 05	68.24
1	I-J	-0.13224D 05	-0.16443D 05	-0.18381D 05	0.14580D 04	-0.12661D 05	-0.17005D 05	21.09
1	K-L	-0.92512D 04	-0.11823D 05	-0.13516D 05	-0.15325D 03	-0.92421D 04	-0.11832D 05	-3.40

ELEMENT (76)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12246D 05	-0.11475D 05	-0.13[illegible]D 05	0.56745D 03	-0.11174D 05	-0.12546D 05	62.10
1	L-I	-0.12760D 05	-0.11[illegible]04D 05	-0.13[illegible]D 05	-0.50861D 03	-0.11412D 05	-0.12952D 05	-69.33
1	J-K	-0.12267D 05	-0.10895D 05	-0.13711D 05	-0.10464D 03	-0.10887D 05	-0.12275D 05	-85.66
1	I-J	-0.12831D 05	-0.13300D 05	-0.14[illegible]D 05	0.10607D 04	-0.11979D 05	-0.14152D 05	38.77
1	K-L	-0.10538D 05	-0.11042D 05	-0.12238D 05	0.22131D 03	-0.10455D 05	-0.11125D 05	20.65

ELEMENT (77)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11153D 05	-0.10505D 05	-0 11723D 05	-0.22624D 03	-0.10434D 05	-0.11224D 05	-72.53
1	L-I	-0.10561D 05	-0.10793D 05	-0 11847D 05	-0 19519D 03	-0.10450D 05	-0.10904D 05	-29.63
1	J-K	-0.10813D 05	-0.11185D 05	-0 11610D 05	-0.55104D 03	-0.10417D 05	-0.11581D 05	-35.66
1	I-J	-0.10419D 05	-0.95282D 04	-0 10780D 05	0 13276D 03	-0.95088D 04	-0.10438D 05	81.70
1	K-L	-0.11962D 05	-0.11633D 05	-0 12826D 05	0.51196D 03	-0.11259D 05	-0.12335D 05	53.91

ELEMENT (78)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.90462D 03	-0.19195D 05	-0.31043D 05	-0.37871D 03	-0.89678D 03	-0.19203D 05	-1.19
1	L-I	-0.14637D 05	-0.28180D 04	-0.27516D 05	-0.68799D 04	0.34211D 03	-0.17797D 05	-65.33
1	J-K	-0.20649D 05	-0.21417D 04	-0 34573D 05	0.91656D 03	-0.20964D 04	-0.20694D 05	87.17
1	I-J	-0.14893D 04	-0.20002D 05	-0 32254D 05	-0.39106D 03	-0.14811D 04	-0.20011D 05	-1.21
1	K-L	-0.35755D 03	-0.18360D 05	-0.29869D 05	-0.78268D 03	-0.32358D 03	-0.18394D 05	-2.48

ELEMENT (79)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.22108D 04	-0.17980D 05	-0.28229D 05	-0.49929D 03	-0.21950D 04	-0.17996D 05	-1.81
1	L-I	-0.14133D 05	-0.62207D 04	-0.26064D 05	0.61236D 04	-0.28865D 04	-0.17467D 05	61.43
1	J-K	-0.12658D 05	-0.76999D 04	-0.30460D 05	0.80886D 04	-0.17190D 04	-0.18639D 05	53.52
1	I-J	-0.39244D 04	-0.19831D 05	-0 31340D 05	-0.60751D 03	-0.39012D 04	-0.19854D 05	-2.18
1	K-L	-0.78220D 03	-0.16006D 05	-0.25347D 05	-0.18426D 04	-0.56237D 03	-0.16226D 05	-6.80

ELEMENT (80)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.46809D 04	-0.16544D 05	-0.24113D 05	-0.28373D 03	-0.46741D 04	-0.16551D 05	-1.37
1	L-I	-0.11268D 05	-0.95079D 04	-0 22398D 05	0.55363D 04	-0.47824D 04	-0.15994D 05	49.52
1	J-K	-0.11466D 05	-0.10342D 05	-0 25823D 05	0.62047D 04	-0.46738D 04	-0.17134D 05	47.59
1	I-J	-0.66748D 04	-0.18435D 05	-0 27777D 05	-0.87447D 03	-0.66102D 04	-0.18499D 05	-4.23
1	K-L	-0.33362D 04	-0.14332D 05	-0.20845D 05	-0.22522D 04	-0.28927D 04	-0.14776D 05	-11.14

ELEMENT (81)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.77211D 04	-0.14855D 05	-0.19980D 05	0.61132D 03	-0.76691D 04	-0.14907D 05	4.86
1	L-I	-0.11891D 05	-0.10146D 05	-0.18739D 05	0.33220D 04	-0.75837D 04	-0.14453D 05	52.36
1	J-K	-0.12268D 05	-0.10879D 05	-0 21184D 05	0.37255D 04	-0.77841D 04	-0.15364D 05	50.28
1	I-J	-0.94644D 04	-0.16854D 05	-0 23371D 05	-0.24110D 03	-0.94565D 04	-0.16862D 05	-1.87
1	K-L	-0.63666D 04	-0.12841D 05	-0 17017D 05	-0.14646D 04	-0.60507D 04	-0.13157D 05	-12.17

ELEMENT (82)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10730D 05	-0.12763D 05	-0.16630D 05	0 12040D 04	-0.10171D 05	-0.13322D 05	24.92
1	L-I	-0.13109D 05	-0.10668D 05	-0 16003D 05	0 75743D 03	-0.10452D 05	-0.13324D 05	74.09
1	J-K	-0.12811D 05	-0.10481D 05	-0 17241D 05	0 12938D 04	-0.99054D 04	-0.13387D 05	66.00
1	I-J	-0 12002D 05	-0 15157D 05	-0 19339D 05	0 92240D 03	-0 11752D 05	-0 15407D 05	15.16
1	K-L	-0.87073D 04	-0.11463D 05	-0 14267D 05	-0 26126D 03	-0.86827D 04	-0.11488D 05	-5.37

ELEMENT (83)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12080D 05	-0.11069D 05	-0 14142D 05	0.84514D 03	-0 10590D 05	-0.12559D 05	60.44
1	L-I	-0.12638D 05	-0.11049D 05	-0 13864D 05	-0.63348D 03	-0 10828D 05	-0.12860D 05	-70.72
1	J-K	-0.12304D 05	-0.10385D 05	-0 14413D 05	-0 29643D 03	-0.10341D 05	-0.12348D 05	-81.41
1	I-J	-0.12482D 05	-0.13018D 05	-0.15823D 05	0 13153D 04	-0.11407D 05	-0 14092D 05	39.24
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

EL[illegible] ([illegible]4)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11537D 05	-0.10480D 05	-0.12304D 05	0.12322D 03	-0.10466D 05	-0.11552D 05	83.44
1	L-I	-0.11106D 05	-0.10608D 05	-0.12459D 05	-0.42971D 03	-0.10360D 05	-0.11353D 05	-60.05
1	J-K	-0.11272D 05	-0.11089D 05	-0.12141D 05	-0.61819D 03	-0.10555D 05	-0.11805D 05	-49.22
1	I-J	-0.10341D 05	-0.10319D 05	-0.11344D 05	0.31027D 03	-0.10019D 05	-0.10640D 05	46.02
1	K-L	-0.11812D 05	-0.11730D 05	-0.13414D 05	0.80905D 03	-0.10961D 05	-0.12581D 05	46.45

ELEMENT (85)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.71345D 02	-0.19838D 05	-0.38767D 05	-0.35526D 03	-0.64962D 02	-0.19844D 05	-1.03
1	L-I	-0.18579D 05	-0.12868D 04	-0.33719D 05	-0.22895D 04	-0.98876D 03	-0.18877D 05	-82.58
1	J-K	-0.15481D 05	-0.52396D 04	-0.44020D 05	0.99042D 04	0.78921D 03	-0.21510D 05	58.67
1	I-J	-0.13700D 04	-0.21617D 05	-0.41156D 05	-0.16159D 03	-0.13687D 04	-0.21618D 05	-0.46
1	K-L	0.11871D 04	-0.18010D 05	-0.36451D 05	-0.93916D 03	0.12329D 04	-0.18056D 05	-2.79

ELEMENT (86)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.26447D 04	-0.17635D 05	-0.34297D 05	-0.11847D 03	-0.26438D 04	-0.17636D 05	-0.45
1	L-I	-0.15404D 05	-0.88579D 04	-0.31600D 05	0.47748D 04	-0.63420D 04	-0.17920D 05	62.22
1	J-K	-0.95320D 04	-0.77836D 04	-0.37236D 05	0.90842D 04	0.46837D 03	-0.17784D 05	47.75
1	I-J	-0.59542D 04	-0.20955D 05	-0.39396D 05	0.28091D 03	-0.59489D 04	-0.20960D 05	1.07
1	K-L	0.42157D 03	-0.14269D 05	-0.29568D 05	-0.17634D 04	0.63027D 03	-0.14478D 05	-6.75

ELEMENT (87)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.55787D 04	-0.15080D 05	-0.28028D 05	0.13511D 03	-0.55768D 04	-0.15081D 05	0.81
1	L-I	-0.12793D 05	-0.10901D 05	-0.26374D 05	0.33666D 04	-0.83498D 04	-0.15344D 05	52.85
1	J-K	-0.96719D 04	-0.86063D 04	-0.29802D 05	0.58384D 04	-0.32765D 04	-0.15002D 05	47.61
1	I-J	-0.92905D 04	-0.18272D 05	-0.33573D 05	0.26437D 03	-0.92827D 04	-0.18280D 05	1.68
1	K-L	-0.23265D 04	-0.11851D 05	-0.23072D 05	-0.18711D 04	-0.19721D 04	-0.12206D 05	-10.72

ELEMENT (88)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.79676D 04	-0.13028D 05	-0.22069D 05	0.70805D 03	-0.78704D 04	-0.13126D 05	7.82
1	L-I	-0.12039D 05	-0.10786D 05	-0.21090D 05	0.17969D 04	-0.95094D 04	-0.13315D 05	54.61
1	J-K	-0.10800D 05	-0.87224D 04	-0.23090D 05	0.30943D 04	-0.64971D 04	-0.13025D 05	54.28
1	I-J	-0.10822D 05	-0.15349D 05	-0.26574D 05	0.56166D 03	-0.10753D 05	-0.15418D 05	6.97
1	K-L	-0.53283D 04	-0.109[illegible]9D 05	-0.18156D 05	-0.11325D 04	-0.51094D 04	-0.11188D 05	-10.94

ELEMENT (89)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10121D 05	-0.11532D 05	-0.17616D 05	0.13080D 04	-0.93403D 04	-0.12313D 05	30.83
1	L-I	-0.12520D 05	-0.10360D 05	-0.17121D 05	0.31357D 03	-0.10316D 05	-0.12565D 05	81.90
1	J-K	-0.11845D 05	-0.87802D 04	-0.18123D 05	0.10144D 04	-0.84749D 04	-0.12151D 05	73.25
1	I-J	-0.11737D 05	-0.13604D 05	-0.20797D 05	0.13236D 04	-0.11051D 05	-0.14290D 05	27.41
1	K-L	-0.76174D 04	-0.10727D 05	-0.14882D 05	-0.88734D 02	-0.76149D 04	-0.10729D 05	-1.63

ELEMENT (90)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11671D 05	-0.10586D 05	-0.12[illegible]D 05	0.56240D 03	-0.10347D 05	-0.11910D 05	66.98
1	L-I	-0.11638D 05	-0.10243D 05	-0.130[illegible]3D 05	-0.50125D 03	-0.10082D 05	-0.11892D 05	-72.15
1	J-K	-0.11791D 05	-0.10893D 05	-0.12742D 05	-0.55552D 03	-0.10628D 05	-0.12037D 05	-64.48
1	I-J	-0.10128D 05	-0.11183D 05	-0.11932D 05	0.26067D 03	-0.10067D 05	-0.11244D 05	13.15
1	K-L	-0.11480D 05	-0.11873D 05	-0.14010D 05	0.10095D 04	-0.10648D 05	-0.12705D 05	39.50

ELEMENT (92)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11732D 04	-0.14819D 05	-0.52412D 05	0.89338D 03	-0.11149D 04	-0.14878D 05	3.73
1	L-I	-0.36980D 04	-0.17206D 05	-0.56818D 05	0.12740D 04	-0.35789D 04	-0.17325D 05	5.34
1	J-K	0.13320D 04	-0.12487D 05	-0.48199D 05	0.25306D 03	0.13366D 04	-0.12491D 05	1.05
1	I-J	-0.78784D 04	-0.82359D 04	-0.62182D 05	0.90157D 04	0.96034D 03	-0.17075D 05	44.43
1	K-L	-0.13069D 05	-0.42918D 04	-0.43039D 05	0.19526D 04	-0.38770D 04	-0.13484D 05	78.01

ELEMENT (93)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.38374D 04	-0.12709D 05	-0.44410D 05	0.18896D 04	-0.34517D 04	-0.13095D 05	11.54
1	L-I	-0.92016D 04	-0.16830D 05	-0.52543D 05	0.25878D 04	-0.84066D 04	-0.17625D 05	17.08
1	J-K	0.15193D 04	-0.90153D 04	-0.36994D 05	0.45034D 03	0.15385D 04	-0.90345D 04	2.44
1	I-J	-0.75589D 04	-0.37550D 04	-0.50177D 05	0.71789D 04	0.17696D 04	-0.13083D 05	52.42
1	K-L	-0.13835D 05	-0.95977D 04	-0.39022D 05	0.88608D 03	-0.94199D 04	-0.14013D 05	78.65

ELEMENT (94)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.63023D 04	-0.10593D 05	-0.34138D 05	0.28210D 04	-0.49035D 04	-0.11992D 05	26.37
1	L-I	-0.12541D 05	-0.14810D 05	-0.42791D 05	0.36874D 04	-0.98172D 04	-0.17533D 05	36.45
1	J-K	0.38416D 03	-0.75075D 04	-0.26492D 05	0.91615D 03	0.48912D 03	-0.76124D 04	6.54
1	I-J	-0.85237D 04	-0.14708D 04	-0.36736D 05	0.45374D 04	0.74935D 03	-0.10744D 05	63.93
1	K-L	-0.14563D 05	-0.10652D 05	-0.31828D 05	-0.76307D 03	-0.10508D 05	-0.14707D 05	-79.34

ELEMENT (95)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.80793D 04	-0.95909D 04	-0.25130D 05	0.30512D 04	-0.56916D 04	-0.11979D 05	38.04
1	L-I	-0.13011D 05	-0.13026D 05	-0.32015D 05	0.39260D 04	-0.90926D 04	-0.16945D 05	44.95
1	J-K	-0.17992D 04	-0.81794D 04	-0.19164D 05	0.10173D 04	-0.16409D 04	-0.83377D 04	8.84
1	I-J	-0.99483D 04	-0.20921D 04	-0.25964D 05	0.22828D 04	-0.14770D 04	-0.10563D 05	74.92
1	K-L	-0.14137D 05	-0.10115D 05	-0.24471D 05	-0.10687D 04	-0.98484D 04	-0.14403D 05	-76.01

ELEMENT (96)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.93899D 04	-0.95189D 04	-0.18835D 05	0.27626D 04	-0.66910D 04	-0.12218D 05	44.33
1	L-I	-0.12048D 05	-0.12401D 05	-0.23369D 05	0.35083D 04	-0.87118D 04	-0.15737D 05	43.56
1	J-K	-0.43522D 04	-0.95198D 04	-0.14927D 05	0.74185D 03	-0.42478D 04	-0.96242D 04	8.01
1	I-J	-0.11121D 05	-0.42823D 04	-0.18963D 05	0.81500D 03	-0.41865D 04	-0.11217D 05	83.30
1	K-L	-0.13476D 05	-0.94596D 04	-0.18798D 05	-0.82011D 03	-0.92985D 04	-0.13637D 05	-78.89

ELEMENT (97)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10765D 05	-0.99716D 04	-0.15262D 05	0.20327D 04	-0.82973D 04	-0.12440D 05	50.52
1	L-I	-0.11276D 05	-0.12375D 05	-0.17783D 05	0.25190D 04	-0.92473D 04	-0.14404D 05	38.84
[illegible]	[illegible]	[illegible]	[illegible]	-0.13114D 05	0.41344D 03	-0.72044D 04	-0.10925D 05	6.42

ELEMENT (98)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 11334D 05	-0. 11100D 05	-0. 13269D 05	0. 79112D 03	-0. 10418D 05	-0. 12017D 05	49. 21
1	L-I	-0. 11682D 05	-0. 10840D 05	-0. 13375D 05	-0. 67996D 03	-0. 10461D 05	-0. 12061D 05	-60. 88
1	J-K	-0. 11964D 05	-0. 10379D 05	-0 13158D 05	-0 10774D 03	-0. 10372D 05	-0. 11971D 05	-86. 13
1	I-J	-0. 10080D 05	-0. 11662D 05	-0 12429D 05	0. 11712D 03	-0. 10071D 05	-0. 11671D 05	4. 21

ELEMENT (99)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	
1	CEN	-0. 11813D 05	-0. 10825D 05	-0. 13894D 05	0. 11014D 04	-0. 10112D 05	-0. 12526D 05	57.
1	L-I	-0. 10850D 05	-0. 12371D 05	-0. 14601D 05	0. 93722D 03	-0. 10404D 05	-0. 12818D 05	25.
1	J-K	-0. 11389D 05	-0. 10722D 05	-0. 13255D 05	-0. 11600D 04	-0 98484D 04	-0. 12262D 05	-53. 02
1	I-J	-0. 12317D 05	-0. 10114D 05	-0 13643D 05	-0. 49374D 03	-0. 10009D 05	-0. 12423D 05	-77. 93

S T A T I C   S O L U T I O N   T I M E   L O G

EQUATION SOLUTION = 0. 0
DISPLACEMENT OUTPUT = 0. 0
STRESS RECOVERY = 0. 0

T W O - D I M E N S I O N A L   F I N I T E   E L E M E N T S (AFTER FIRING)

1. CENTROID STRESSES REFERENCED TO LOCAL Y-Z COORDINATES.
2. MID-SIDE STRESSES ARE NORMAL AND PARALLEL TO ELEMENT EDGES.

ELEMENT (1)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.23043D 05	-0.25060D 05	-0.23072D 05	-0.14497D 03	-0.23032D 05	-0.25070D 05	-4.09
1	L-I	-0.23039D 05	-0.24952D 05	-0.23039D 05	-0.12489D 04	-0.22423D 05	-0.25569D 05	-26.27
1	J-K	-0.22686D 05	-0.25538D 05	-0.23107D 05	0.50116D 03	-0.22601D 05	-0.25624D 05	9.68
1	I-J	-0.25905D 05	-0.24511D 05	-0.24511D 05	0.16817D 03	-0.24491D 05	-0.25925D 05	83.22
1	K-L	-0.24165D 05	-0.21477D 05	-0.21543D 05	0.48918D 02	-0.21476D 05	-0.24166D 05	88.96

ELEMENT (2)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.19388D 05	-0.24955D 05	-0.19487D 05	-0.44935D 03	-0.19352D 05	-0.24991D 05	-4.58
1	L-I	-0.19529D 05	-0.24957D 05	-0.19529D 05	-0.12952D 04	-0.19236D 05	-0.25250D 05	-12.76
1	J-K	-0.19197D 05	-0.24990D 05	-0.19442D 05	0.80097D 02	-0.19196D 05	-0.24991D 05	0.79
1	I-J	-0.26835D 05	-0.22578D 05	-0.22644D 05	0.34292D 03	-0.22551D 05	-0.26862D 05	85.42
1	K-L	-0.23020D 05	-0.15981D 05	-0.16164D 05	-0.19812D 03	-0.15976D 05	-0.23026D 05	-88.39

ELEMENT (3)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13347D 05	-0.23009D 05	-0.13507D 05	-0.11422D 04	-0.13213D 05	-0.23142D 05	-6.65
1	L-I	-0.13274D 05	-0.22283D 05	-0.13274D 05	-0.16627D 04	-0.12977D 05	-0.22580D 05	-10.13
1	J-K	-0.13471D 05	-0.23750D 05	-0.13760D 05	-0.89876D 03	-0.13393D 05	-0.23828D 05	-4.96
1	I-J	-0.25163D 05	-0.16866D 05	-0.17048D 05	0.72428D 02	-0.16865D 05	-0.25164D 05	89.50
1	K-L	-0.20989D 05	-0.94570D 04	-0.98215D 04	-0.77368D 03	-0.94054D 04	-0.21041D 05	-86.18

ELEMENT (4)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.86730D 04	-0.21268D 05	-0.87736D 04	-0.14149D 04	-0.85160D 04	-0.21425D 05	-6.33
1	L-I	-0.92211D 04	-0.22253D 05	-0.92211D 04	-0.16709D 04	-0.90103D 04	-0.22464D 05	-7.19
1	J-K	-0.81166D 04	-0.20167D 05	-0.82896D 04	-0.13173D 04	-0.79743D 04	-0.20309D 05	-6.17
1	I-J	-0.22570D 05	-0.10111D 05	-0.10474D 05	-0.46497D 03	-0.10094D 05	-0.22587D 05	-87.87
1	K-L	-0.19345D 05	-0.77797D 04	-0.70259D 04	-0.34323D 04	-0.68378D 04	-0.20287D 05	-74.65

ELEMENT (5)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.53363D 04	-0.15577D 05	-0.53213D 04	-0.70385D 03	-0.52882D 04	-0.15625D 05	-3.91
1	L-I	-0.52482D 04	-0.15414D 05	-0.52482D 04	-0.66751D 03	-0.52046D 04	-0.15458D 05	-3.74
1	J-K	-0.54402D 04	-0.15743D 05	-0.54001D 04	-0.80179D 03	-0.53782D 04	-0.15805D 05	-4.42
1	I-J	-0.14714D 05	-0.58677D 04	-0.51155D 04	-0.27289D 04	-0.50936D 04	-0.15488D 05	-74.16
1	K-L	-0.14129D 05	-0.71198D 04	-0.55299D 04	-0.37622D 04	-0.54827D 04	-0.15766D 05	-66.48

ELEMENT (6)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.49373D 04	-0.11249D 05	-0.48128D 04	-0.39912D 03	-0.49122D 04	-0.11275D 05	-3.60
1	L-I	-0.45759D 04	-0.10799D 05	-0.45759D 04	-0.23543D 03	-0.45670D 04	-0.10808D 05	-2.16
1	J-K	-0.53258D 04	-0.11734D 05	-0.50676D 04	-0.57411D 03	-0.52748D 04	-0.11785D 05	-5.08
1	I-J	-0.89269D 04	-0.49660D 04	-0.33821D 04	-0.28394D 04	-0.34846D 04	-0.10408D 05	-62.45
1	K-L	-0.10724D 05	-0.77553D 04	-0.62429D 04	-0.25418D 04	-0.62962D 04	-0.12183D 05	-60.14

ELEMENT (7)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.71826D 04	-0.90007D 04	-0.69267D 04	0.33821D 01	-0.71826D 04	-0.90007D 04	0.11
1	L-I	-0.77432D 04	-0.94273D 04	-0.72150D 04	-0.20342D 03	-0.77189D 04	-0.94515D 04	-6.79
1	J-K	-0.66576D 04	-0.86040D 04	-0.66576D 04	0.20314D 03	-0.66366D 04	-0.86249D 04	5.90
1	I-J	-0.10324D 05	-0.98705D 04	-0.94328D 04	-0.37539D 03	-0.96587D 04	-0.10536D 05	-60.57
1	K-L	-0.62249D 04	-0.58870D 04	-0.43835D 04	-0.14603D 04	-0.45860D 04	-0.75259D 04	-48.30

ELEMENT (8)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.22830D 05	-0.24411D 05	-0.22860D 05	-0.12202D 03	-0.22821D 05	-0.24421D 05	-4.39
1	L-I	-0.24632D 05	-0.26354D 05	-0.23914D 05	-0.17752D 04	-0.23520D 05	-0.27466D 05	-32.06
1	J-K	-0.20389D 05	-0.22619D 05	-0.21644D 05	-0.65731D 02	-0.20387D 05	-0.22621D 05	-1.69
1	I-J	-0.25606D 05	-0.24323D 05	-0.24350D 05	0.48928D 03	-0.24157D 05	-0.25771D 05	71.34
1	K-L	-0.22933D 05	-0.21021D 05	-0.21112D 05	-0.40279D 03	-0.20939D 05	-0.23014D 05	-78.58

ELEMENT (9)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.19296D 05	-0.25058D 05	-0.19548D 05	-0.57820D 03	-0.19238D 05	-0.25116D 05	-5.67
1	L-I	-0.19847D 05	-0.25262D 05	-0.19711D 05	-0.18526D 04	-0.19274D 05	-0.25835D 05	-17.19
1	J-K	-0.18904D 05	-0.24589D 05	-0.19328D 05	-0.24598D 03	-0.18894D 05	-0.24600D 05	-2.47
1	I-J	-0.27096D 05	-0.22739D 05	-0.22829D 05	0.60469D 03	-0.22656D 05	-0.27179D 05	82.24
1	K-L	-0.22985D 05	-0.15663D 05	-0.16125D 05	-0.34375D 03	-0.15647D 05	-0.23001D 05	-87.32

ELEMENT (10)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13723D 05	-0.23760D 05	-0.13991D 05	-0.13971D 04	-0.13533D 05	-0.23951D 05	-7.78
1	L-I	-0.14205D 05	-0.24054D 05	-0.14063D 05	-0.22242D 04	-0.13726D 05	-0.24533D 05	-12.15
1	J-K	-0.13392D 05	-0.23154D 05	-0.13799D 05	-0.12965D 04	-0.13222D 05	-0.23323D 05	-7.44
1	I-J	-0.25994D 05	-0.16908D 05	-0.17367D 05	0.67047D 03	-0.16858D 05	-0.26043D 05	85.80
1	K-L	-0.21682D 05	-0.10242D 05	-0.10514D 05	-0.13084D 04	-0.10094D 05	-0.21830D 05	-83.56

ELEMENT (11)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.89239D 04	-0.20289D 05	-0.88232D 04	-0.19882D 04	-0.85861D 04	-0.20627D 05	-9.64
1	L-I	-0.92442D 04	-0.20633D 05	-0.87548D 04	-0.23947D 04	-0.87611D 04	-0.21116D 05	-11.40
1	J-K	-0.86347D 04	-0.19698D 05	-0.87033D 04	-0.19257D 04	-0.83091D 04	-0.20024D 05	-9.60
1	I-J	-0.21813D 05	-0.10302D 05	-0.10570D 05	-0.15082D 03	-0.10300D 05	-0.21815D 05	-89.25
1	K-L	-0.18846D 05	-0.74361D 04	-0.70505D 04	-0.26978D 04	-0.68304D 04	-0.19452D 05	-77.35

ELEMENT (12)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.59167D 04	-0.15770D 05	-0.56897D 04	-0.16689D 04	-0.56417D 04	-0.16045D 05	-9.36
1	L-I	-0.60533D 04	-0.15996D 05	-0.56530D 04	-0.18108D 04	-0.57337D 04	-0.16315D 05	-10.01
1	J-K	-0.57509D 04	-0.15457D 05	-0.56236D 04	-0.15873D 04	-0.54979D 04	-0.15710D 05	-9.06
1	I-J	-0.16007D 05	-0.62667D 04	-0.58800D 04	-0.17293D 04	-0.59688D 04	-0.16305D 05	-80.23
1	K-L	-0.14413D 05	-0.66938D 04	-0.55012D 04	-0.35539D 04	-0.53067D 04	-0.15800D 05	-68.68

ELEMENT (13)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.49032D 04	-0.11615D 05	-0.47793D 04	-0.10401D 04	-0.47457D 04	-0.11773D 05	-8.61
1	L-I	-0.48141D 04	-0.11522D 05	-0.48566D 04	-0.96786D 03	-0.46773D 04	-0.11659D 05	-8.05
[illegible]	[illegible]	[illegible]	-0.11777D 05	-0.47933D 04	-0.10509D 04	-0.48578D 04	-0.11936D 05	-8.64
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-0.11193D 05	-68.11

ELEMENT ([illegible])

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 65924D 04	-0. 89503D 04	-0. 63706D 04	-0. 39929D 03	-0. 65266D 04	-0. 90161D 04	-9. 36
1	L-1	-0. 69728D 04	-0. 91998D 04	-0. 63806D 04	-0. 54318D 03	-0. 68474D 04	-0. 93252D 04	-13. 00
1	J-K	-0. 63206D 04	-0. 88406D 04	-0. 66285D 04	-0. 21888D 03	-0. 63017D 04	-0. 88594D 04	-4. 93
1	I-J	-0. 10075D 05	-0. 90110D 04	-0. 86565D 04	-0. 72004D 03	-0. 86478D 04	-0. 10438D 05	-63. 23
1	K-L	-0. 66034D 04	-0. 52698D 04	-0. 40350D 04	-0. 15399D 04	-0. 42585D 04	-0. 76147D 04	-56. 71

ELEMENT (15)

LOAD	LOC	S11	S22	S33	S12	B-MAX	S-MIN	ANGLE
1	CEN	-0. 22498D 05	-0. 24724D 05	-0. 22840D 05	-0. 11700D 02	-0. 22497D 05	-0. 24724D 05	-0. 30
1	L-1	-0. 28855D 05	-0. 26140D 05	-0. 25144D 05	-0. 25492D 04	-0. 24610D 05	-0. 30386D 05	-59. 02
1	J-K	-0. 17881D 05	-0. 20561D 05	-0. 20252D 05	0. 16665D 03	-0. 17871D 05	-0. 20572D 05	3. 54
1	I-J	-0. 27644D 05	-0. 24792D 05	-0. 25020D 05	0. 88927D 03	-0. 24538D 05	-0. 27899D 05	74. 02
1	K-L	-0. 21369D 05	-0. 19990D 05	-0. 20385D 05	-0. 10262D 04	-0. 19443D 05	-0. 21916D 05	-61. 95

ELEMENT (16)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 18785D 05	-0. 24790D 05	-0. 19379D 05	-0. 74298D 03	-0. 18695D 05	-0. 24880D 05	-6. 95
1	L-1	-0. 19619D 05	-0. 24890D 05	-0. 19625D 05	-0. 22408D 04	-0. 18795D 05	-0. 25714D 05	-20. 19
1	J-K	-0. 18393D 05	-0. 24144D 05	-0. 19095D 05	-0. 57885D 03	-0. 18335D 05	-0. 24201D 05	-5. 69
1	I-J	-0. 26886D 05	-0. 22267D 05	-0. 22661D 05	0. 79266D 03	-0. 22135D 05	-0. 27018D 05	80. 53
1	K-L	-0. 22723D 05	-0. 15144D 05	-0. 15999D 05	-0. 37829D 03	-0. 15125D 05	-0. 22741D 05	-87. 15

ELEMENT (17)

LOAD	LOC	S11	S22	S33	S12	S-MAX	B-MIN	ANGLE
1	CEN	-0. 13514D 05	-0. 23133D 05	-0. 13968D 05	-0. 22378D 04	-0. 13019D 05	-0. 23628D 05	-12. 48
1	L-1	-0. 14254D 05	-0. 23512D 05	-0. 14155D 05	-0. 31723D 04	-0. 13271D 05	-0. 24495D 05	-17. 21
1	J-K	-0. 13145D 05	-0. 22221D 05	-0. 13693D 05	-0. 21071D 04	-0. 12680D 05	-0. 22687D 05	-12. 45
1	I-J	-0. 25535D 05	-0. 16310D 05	-0. 17161D 05	0. 14939D 04	-0. 16074D 05	-0. 25771D 05	81. 03
1	K-L	-0. 21471D 05	-0. 99532D 04	-0. 10730D 05	-0. 81723D 03	-0. 98955D 04	-0. 21529D 05	-85. 96

ELEMENT (18)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 92778D 04	-0. 19511D 05	-0. 90737D 04	-0. 30426D 04	-0. 84415D 04	-0. 20347D 05	-15. 37
1	L-1	-0. 98354D 04	-0. 20194D 05	-0. 91988D 04	-0. 35018D 04	-0. 87627D 04	-0. 21267D 05	-17. 03
1	J-K	-0. 87772D 04	-0. 18563D 05	-0. 88164D 04	-0. 27886D 04	-0. 80383D 04	-0. 19301D 05	-14. 84
1	I-J	-0. 21698D 05	-0. 10057D 05	-0. 10826D 05	0. 97069D 03	-0. 99764D 04	-0. 21778D 05	85. 27
1	K-L	-0. 18652D 05	-0. 72120D 04	-0. 73262D 04	-0. 20333D 04	-0. 68613D 04	-0. 19002D 05	-80. 22

ELEMENT (19)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 64393D 04	-0. 15316D 05	-0. 59637D 04	-0. 25587D 04	-0. 57546D 04	-0. 16001D 05	-14. 98
1	L-1	-0. 67356D 04	-0. 15864D 05	-0. 60297D 04	-0. 27386D 04	-0. 59770D 04	-0. 16622D 05	-15. 48
1	J-K	-0. 60086D 04	-0. 14760D 05	-0. 57997D 04	-0. 22263D 04	-0. 54747D 04	-0. 15293D 05	-13. 48
1	I-J	-0. 16595D 05	-0. 63678D 04	-0. 64790D 04	-0. 80228D 03	-0. 63053D 04	-0. 16657D 05	-85. 54
1	K-L	-0. 14396D 05	-0. 61976D 04	-0. 54628D 04	-0. 30624D 04	-0. 51800D 04	-0. 15414D 05	-71. 62

ELEMENT (20)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
		[illegible]	[illegible]	-0. 47???D 04	-0. 17459D 04	-0. 46094D 04	-0. 12032D 05	-14. 03

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.60598D 04	-0.87037D 04	-0.56951D 04	-0.94736D 03	-0.57554D 04	-0.90081D 04	-17.81
1	L-I	-0.61926D 04	-0.88228D 04	-0.55847D 04	-0.94634D 03	-0.58875D 04	-0.91279D 04	-17.87
1	J-K	-0.58861D 04	-0.87515D 04	-0.59326D 04	-0.80274D 03	-0.56765D 04	-0.89610D 04	-14.63
1	I-J	-0.96241D 04	-0.77289D 04	-0.75280D 04	-0.10262D 04	-0.72797D 04	-0.10073D 05	-66.36
1	K-L	-0.73055D 04	-0.47206D 04	-0.37808D 04	-0.13841D 04	-0.41193D 04	-0.79067D 04	-66.52

ELEMENT (22)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.21630D 05	-0.24681D 05	-0.22483D 05	-0.17674D 03	-0.21620D 05	-0.24691D 05	-3.30
1	L-I	-0.31130D 05	-0.26055D 05	-0.25725D 05	-0.29845D 04	-0.24675D 05	-0.32510D 05	-65.19
1	J-K	-0.15584D 05	-0.18292D 05	-0.18797D 05	0.40224D 03	-0.15525D 05	-0.18350D 05	8.27
1	I-J	-0.29704D 05	-0.24878D 05	-0.25522D 05	0.14912D 04	-0.24455D 05	-0.30128D 05	74.14
1	K-L	-0.19201D 05	-0.18264D 05	-0.19208D 05	-0.12708D 04	-0.17378D 05	-0.20087D 05	-55.12

ELEMENT (23)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.17761D 05	-0.24264D 05	-0.18943D 05	-0.13347D 04	-0.17498D 05	-0.24527D 05	-11.16
1	L-I	-0.18982D 05	-0.24395D 05	-0.19341D 05	-0.29529D 04	-0.17683D 05	-0.25694D 05	-23.75
1	J-K	-0.17340D 05	-0.23189D 05	-0.18504D 05	-0.11323D 04	-0.17129D 05	-0.23401D 05	-10.58
1	I-J	-0.26487D 05	-0.21272D 05	-0.22213D 05	0.14152D 04	-0.20913D 05	-0.26846D 05	75.75
1	K-L	-0.22305D 05	-0.14010D 05	-0.15639D 05	-0.11060D 03	-0.14009D 05	-0.22307D 05	-89.24

ELEMENT (24)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.13023D 05	-0.21845D 05	-0.13682D 05	-0.33835D 04	-0.11875D 05	-0.22993D 05	-18.74
1	L-I	-0.13978D 05	-0.22568D 05	-0.14037D 05	-0.41855D 04	-0.12276D 05	-0.24270D 05	-22.13
1	J-K	-0.12426D 05	-0.20558D 05	-0.13239D 05	-0.30570D 04	-0.11405D 05	-0.21579D 05	-18.47
1	I-J	-0.24455D 05	-0.14908D 05	-0.16529D 05	0.26810D 04	-0.14206D 05	-0.25157D 05	75.34
1	K-L	-0.20969D 05	-0.95046D 04	-0.10848D 05	-0.82425D 02	-0.95040D 04	-0.20969D 05	-89.59

ELEMENT (25)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.96549D 04	-0.18043D 05	-0.91811D 04	-0.40837D 04	-0.79951D 04	-0.19702D 05	-22.12
1	L-I	-0.10302D 05	-0.19192D 05	-0.94454D 04	-0.44466D 04	-0.84598D 04	-0.21034D 05	-22.51
1	J-K	-0.87488D 04	-0.16912D 05	-0.87911D 04	-0.35093D 04	-0.74476D 04	-0.18213D 05	-20.34
1	I-J	-0.21024D 05	-0.95413D 04	-0.10875D 05	0.21976D 04	-0.91351D 04	-0.21431D 05	79.53
1	K-L	-0.18046D 05	-0.69122D 04	-0.75289D 04	-0.11687D 04	-0.67908D 04	-0.18167D 05	-84.07

ELEMENT (26)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.70814D 04	-0.14381D 05	-0.62336D 04	-0.33573D 04	-0.57721D 04	-0.15690D 05	-21.31
1	L-I	-0.74184D 04	-0.15340D 05	-0.63809D 04	-0.34818D 04	-0.61056D 04	-0.16653D 05	-20.66
1	J-K	-0.62459D 04	-0.13742D 05	-0.59827D 04	-0.27018D 04	-0.53736D 04	-0.14614D 05	-17.89
1	I-J	-0.16777D 05	-0.63951D 04	-0.70073D 04	0.20834D 03	-0.63910D 04	-0.16781D 05	88.85
1	K-L	-0.14137D 05	-0.57334D 04	-0.55000D 04	-0.23812D 04	-0.51056D 04	-0.14765D 05	-75.23

ELEMENT (27)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.53361D 04	-0.11177D 05	-0.47286D 04	-0.24121D 04	-0.44688D 04	-0.12044D 05	-19.78
1	L-I	-0.54827D 04	-0.11765D 05	-0.48826D 04	-0.23732D 04	-0.46870D 04	-0.12561D 05	-18.54
1	J-K	-0.47277D 04	-0.10979D 05	-0.45396D 04	-0.18452D 04	-0.42237D 04	-0.11483D 05	-15.28

ELEMENT (28)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.55928D 04	-0.82400D 04	-0.50420D 04	-0.16167D 04	-0.48270D 04	-0.90058D 04	-25.35
1	L-I	-0.53134D 04	-0.83121D 04	-0.48326D 04	-0.13964D 04	-0.47639D 04	-0.88616D 04	-21.48
1	J-K	-0.55378D 04	-0.85521D 04	-0.53144D 04	-0.15030D 04	-0.49165D 04	-0.91734D 04	-22.46
1	I-J	-0.90912D 04	-0.60503D 04	-0.62768D 04	-0.12550D 04	-0.55993D 04	-0.95422D 04	-70.23
1	K-L	-0.81860D 04	-0.42512D 04	-0.37404D 04	-0.10291D 04	-0.39983D 04	-0.84389D 04	-76.19

ELEMENT (29)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.19681D 05	-0.24862D 05	-0.21793D 05	-0.51805D 03	-0.19629D 05	-0.24913D 05	-5.65
1	L-I	-0.33042D 05	-0.25520D 05	-0.26005D 05	-0.41439D 04	-0.23685D 05	-0.34877D 05	-66.11
1	J-K	-0.13464D 05	-0.14847D 05	-0.16948D 05	0.45860D 03	-0.13326D 05	-0.14985D 05	16.78
1	I-J	-0.32692D 05	-0.24019D 05	-0.25932D 05	0.23039D 04	-0.23445D 05	-0.33266D 05	76.01
1	K-L	-0.17178D 05	-0.15626D 05	-0.17731D 05	-0.12897D 04	-0.14897D 05	-0.17907D 05	-60.52

ELEMENT (30)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.16047D 05	-0.22893D 05	-0.18023D 05	-0.25975D 04	-0.15173D 05	-0.23767D 05	-18.60
1	L-I	-0.17574D 05	-0.23294D 05	-0.18603D 05	-0.39642D 04	-0.15546D 05	-0.25322D 05	-27.10
1	J-K	-0.15461D 05	-0.21334D 05	-0.17383D 05	-0.22008D 04	-0.14728D 05	-0.22068D 05	-18.42
1	I-J	-0.25103D 05	-0.18901D 05	-0.21002D 05	0.27000D 04	-0.17890D 05	-0.26114D 05	69.48
1	K-L	-0.21576D 05	-0.12520D 05	-0.15090D 05	0.71787D 03	-0.12463D 05	-0.21632D 05	85.50

ELEMENT (31)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12513D 05	-0.19347D 05	-0.13077D 05	-0.47988D 04	-0.10039D 05	-0.21821D 05	-27.27
1	L-I	-0.13538D 05	-0.21018D 05	-0.13698D 05	-0.52756D 04	-0.10811D 05	-0.23745D 05	-27.33
1	J-K	-0.11145D 05	-0.17713D 05	-0.12343D 05	-0.41168D 04	-0.91631D 04	-0.19695D 05	-25.71
1	I-J	-0.22358D 05	-0.12858D 05	-0.15417D 05	0.44216D 04	-0.11119D 05	-0.24097D 05	68.52
1	K-L	-0.19727D 05	-0.89638D 04	-0.10797D 05	0.95812D 03	-0.88791D 04	-0.19811D 05	84.95

ELEMENT (32)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.10152D 05	-0.15828D 05	-0.91843D 04	-0.49172D 04	-0.73128D 04	-0.18667D 05	-30.01
1	L-I	-0.10639D 05	-0.17690D 05	-0.95702D 04	-0.51163D 04	-0.79508D 04	-0.20378D 05	-27.71
1	J-K	-0.85179D 04	-0.14835D 05	-0.86699D 04	-0.40036D 04	-0.65769D 04	-0.16776D 05	-25.86
1	I-J	-0.19752D 05	-0.89900D 04	-0.10812D 05	0.34568D 04	-0.79753D 04	-0.20766D 05	73.64
1	K-L	-0.16894D 05	-0.65516D 04	-0.76397D 04	-0.19762D 03	-0.65478D 04	-0.16898D 05	-88.91

ELEMENT (33)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.78243D 04	-0.12977D 05	-0.65033D 04	-0.39556D 04	-0.56800D 04	-0.15121D 05	-28.46
1	L-I	-0.79950D 04	-0.14462D 05	-0.67036D 04	-0.39791D 04	-0.61012D 04	-0.16356D 05	-25.45
1	J-K	-0.64097D 04	-0.12540D 05	-0.61971D 04	-0.29935D 04	-0.51904D 04	-0.13759D 05	-22.16
1	I-J	-0.16467D 05	-0.63836D 04	-0.74660D 04	0.12001D 04	-0.62427D 04	-0.16608D 05	83.[illegible]
1	K-L	-0.13646D 05	-0.53219D 04	-0.56162D 04	-0.15256D 04	-0.50511D 04	-0.13917D 05	-79.[illegible]

ELEMENT (34)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE

ELEMENT (35)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 52515D 04	-0. 75886D 04	-0. 44959D 04	-0. 23243D 04	-0. 38185D 04	-0. 90216D 04	-31. [illegible]
1	L-I	-0. 43779D 04	-0. 78124D 04	-0. 42197D 04	-0. 18194D 04	-0. 35933D 04	-0. 85970D 04	-23. 33
1	J-K	-0. 32140D 04	-0. 82694D 04	-0. 47911D 04	-0. 22229D 04	-0. 40445D 04	-0. 94389D 04	-27. 75
1	I-J	-0. 86003D 04	-0. 41827D 04	-0. 50714D 04	-0. 13423D 04	-0. 38068D 04	-0. 89762D 04	-74. 36
1	K-L	-0. 90668D 04	-0. 38932D 04	-0. 39018D 04	-0. 53311D 03	-0. 38388D 04	-0. 91212D 04	-84. 18

ELEMENT (36)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 15193D 05	-0. 25401D 05	-0. 20361D 05	-0. 20154D 04	-0. 14810D 05	-0. 25785D 05	-10. 77
1	L-I	-0. 33965D 05	-0. 23329D 05	-0. 25411D 05	-0. 69710D 04	-0. 19879D 05	-0. 37415D 05	-63. 67
1	J-K	-0. 12833D 05	-0. 83499D 04	-0. 14531D 05	-0. 10217D 04	-0. 81280D 04	-0. 13055D 05	-77. 75
1	I-J	-0. 36215D 05	-0. 19128D 05	-0. 25191D 05	0. 40857D 04	-0. 18201D 05	-0. 37141D 05	77. 22
1	K-L	-0. 17551D 05	-0. 12209D 05	-0. 16647D 05	0. 89752D 02	-0. 12208D 05	-0. 17553D 05	89. 04

ELEMENT (37)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 13692D 05	-0. 18957D 05	-0. 16182D 05	-0. 50294D 04	-0. 10648D 05	-0. 22001D 05	-31. 18
1	L-I	-0. 15381D 05	-0. 21305D 05	-0. 17351D 05	-0. 54828D 04	-0. 12111D 05	-0. 24575D 05	-30. 81
1	J-K	-0. 11532D 05	-0. 16614D 05	-0. 14876D 05	-0. 44833D 04	-0. 89198D 04	-0. 19226D 05	-30. 23
1	I-J	-0. 20611D 05	-0. 13484D 05	-0. 17913D 05	0. 57441D 04	-0. 10288D 05	-0. 23807D 05	60. 91
1	K-L	-0. 19715D 05	-0. 11496D 05	-0. 14456D 05	0. 25107D 04	-0. 10789D 05	-0. 20421D 05	74. 29

ELEMENT (38)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 12485D 05	-0. 15182D 05	-0. 12231D 05	-0. 58679D 04	-0. 78128D 04	-0. 19854D 05	-38. 53
1	L-I	-0. 13146D 05	-0. 18535D 05	-0. 13167D 05	-0. 60921D 04	-0. 91790D 04	-0. 22502D 05	-33. 07
1	J-K	-0. 94884D 04	-0. 13742D 05	-0. 11147D 05	-0. 49648D 04	-0. 62139D 04	-0. 17016D 05	-33. 41
1	I-J	-0. 18921D 05	-0. 11188D 05	-0. 14134D 05	0. 64933D 04	-0. 74970D 04	-0. 22611D 05	60. 39
1	K-L	-0. 17097D 05	-0. 83522D 04	-0. 10417D 05	0. 21176D 04	-0. 78664D 04	-0. 17583D 05	77. 08

ELEMENT (39)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 10755D 05	-0. 12999D 05	-0. 91282D 04	-0. 52149D 04	-0. 65429D 04	-0. 17211D 05	-38. 93
1	L-I	-0. 10724D 05	-0. 15743D 05	-0. 95790D 04	-0. 53415D 04	-0. 73318D 04	-0. 19135D 05	-32. 42
1	J-K	-0. 80790D 04	-0. 12679D 05	-0. 85535D 04	-0. 41481D 04	-0. 56359D 04	-0. 15122D 05	-30. 50
1	I-J	-0. 17847D 05	-0. 86786D 04	-0. 10731D 05	0. 44982D 04	-0. 68402D 04	-0. 19685D 05	67. 77
1	K-L	-0. 15175D 05	-0. 61710D 04	-0. 76596D 04	0. 77422D 03	-0. 61049D 04	-0. 15241D 05	85. 12

ELEMENT (40)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 85971D 04	-0. 11201D 05	-0. 67743D 04	-0. 42268D 04	-0. 54761D 04	-0. 14322D 05	-36. 44
1	L-I	-0. 83343D 04	-0. 13330D 05	-0. 69900D 04	-0. 41859D 04	-0. 59577D 04	-0. 15707D 05	-29. 59
1	J-K	-0. 64246D 04	-0. 11312D 05	-0. 64572D 04	-0. 30950D 04	-0. 49248D 04	-0. 12811D 05	-25. 85
1	I-J	-0. 15620D 05	-0. 63637D 04	-0. 78458D 04	0. 21040D 04	-0. 59079D 04	-0. 16076D 05	77. 78
1	K-L	-0. 12915D 05	-0. 50123D 04	-0. 58166D 04	-0. 58015D 03	-0. 49700D 04	-0. 12958D 05	-85. 82

ELEMENT (41)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 64371D 04	-0. 93375D 04	-0. 50489D 04	-0. 33378D 04	-0. 42481D 04	-0. 11527D 05	-33. 26
[illegible]	[illegible]	[illegible]	-0. 10931D 05	-0. 52159D 04	-0. 31744D 04	-0. 45993D 04	-0. 12522D 05	-26. 63

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.51095D 04	-0.68297D 04	-0.41448D 04	-0.29554D 04	-0.28916D 04	-0.90476D 04	-36.89
1	L-I	-0.34687D 04	-0.74878D 04	-0.38564D 04	-0.21041D 04	-0.25687D 04	-0.83878D 04	-23.16
1	J-K	-0.48662D 04	-0.80104D 04	-0.44202D 04	-0.28399D 04	-0.31923D 04	-0.96843D 04	-30.52
1	I-J	-0.82416D 04	-0.24336D 04	-0.40972D 04	-0.12350D 04	-0.21819D 04	-0.84933D 04	-78.48
1	K-L	-0.97828D 04	-0.36933D 04	-0.42473D 04	0.23234D 02	-0.36932D 04	-0.97829D 04	89.78

ELEMENT (43)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.79943D 04	-0.15177D 05	-0.15040D 05	-0.10981D 05	-0.32203D 02	-0.23139D 05	-35.94
1	L-I	-0.35525D 05	-0.17796D 05	-0.23915D 05	-0.10439D 05	-0.12966D 05	-0.40356D 05	-65.17
1	J-K	0.92756D 04	-0.77936D 03	-0.57230D 04	-0.12987D 05	0.18175D 05	-0.96785D 04	-34.42
1	I-J	-0.40450D 05	0.25669D 05	-0.13001D 05	0.37389D 05	0.42518D 05	-0.57299D 05	65.74
1	K-L	-0.13789D 05	-0.10053D 05	-0.14819D 05	0.73929D 04	-0.42957D 04	-0.19546D 05	52.09

ELEMENT (44)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12916D 05	-0.10674D 05	-0.13671D 05	-0.68869D 04	-0.48174D 04	-0.18772D 05	-49.62
1	L-I	-0.13866D 05	-0.17571D 05	-0.15837D 05	-0.69872D 04	-0.84903D 04	-0.22947D 05	-37.58
1	J-K	-0.59377D 04	-0.89898D 04	-0.11259D 05	-0.70230D 04	-0.27685D 03	-0.14651D 05	-38.87
1	I-J	-0.11371D 05	-0.90655D 04	-0.13824D 05	0.10591D 05	0.43514D 03	-0.20871D 05	48.11
1	K-L	-0.14572D 05	-0.10800D 05	-0.13138D 05	0.40719D 04	-0.81987D 04	-0.17174D 05	57.43

ELEMENT (45)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.12908D 05	-0.10427D 05	-0.11475D 05	-0.53877D 04	-0.61389D 04	-0.17196D 05	-51.48
1	L-I	-0.12395D 05	-0.14938D 05	-0.12345D 05	-0.58911D 04	-0.76399D 04	-0.19693D 05	-38.91
1	J-K	-0.82087D 04	-0.10773D 05	-0.10479D 05	-0.49514D 04	-0.43763D 04	-0.14606D 05	-37.74
1	I-J	-0.14942D 05	-0.10974D 05	-0.13296D 05	0.73154D 04	-0.53782D 04	-0.20538D 05	52.59
1	K-L	-0.13578D 05	-0.76214D 04	-0.98238D 04	0.28605D 04	-0.64702D 04	-0.14729D 05	68.08

ELEMENT (46)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11178D 05	-0.99691D 04	-0.90323D 04	-0.47309D 04	-0.58041D 04	-0.15343D 05	-48.64
1	L-I	-0.10311D 05	-0.13597D 05	-0.94732D 04	-0.50269D 04	-0.66654D 04	-0.17242D 05	-35.95
1	J-K	-0.73672D 04	-0.10787D 05	-0.84898D 04	-0.38999D 04	-0.48188D 04	-0.13335D 05	-33.16
1	I-J	-0.15438D 05	-0.84069D 04	-0.10596D 05	0.49835D 04	-0.58236D 04	-0.18021D 05	62.60
1	K-L	-0.13063D 05	-0.58961D 04	-0.76582D 04	0.14995D 04	-0.55950D 04	-0.13364D 05	78.65

ELEMENT (47)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.92453D 04	-0.92756D 04	-0.70488D 04	-0.40411D 04	-0.52193D 04	-0.13302D 05	-44.89
1	L-I	-0.83036D 04	-0.12083D 05	-0.72311D 04	-0.40618D 04	-0.57135D 04	-0.14673D 05	-32.53
1	J-K	-0.62265D 04	-0.10266D 05	-0.67794D 04	-0.29641D 04	-0.46595D 04	-0.11833D 05	-27.86
1	I-J	-0.14278D 05	-0.64077D 04	-0.81625D 04	0.27287D 04	-0.55542D 04	-0.15132D 05	72.63
1	K-L	-0.11929D 05	-0.48279D 04	-0.60839D 04	0.29977D 03	-0.48152D 04	-0.11942D 05	87.59

ELEMENT (48)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.71562D 04	-0.80979D 04	-0.53875D 04	-0.34191D 04	-0.41757D 04	-0.11078D 05	-41.08
1	L-I	-0.63279D 04	-0.10289D 05	-0.54376D 04	-0.32423D 04	-0.45091D 04	-0.12108D 05	-29.29
1	J-K	-0.47114D 04	-0.90636D 04	-0.52165D 04	-0.21904D 04	-0.37799D 04	-0.99751D 04	-22.59
1	I-J	-0.12211D 05	-0.49480D 04	-0.62014D 04	0.11075D 04	-0.47828D 04	-0.12376D 05	81.52
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-0.35866D 04	-0.10113D 05	-84.81

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.52182D 04	-0.60749D 04	-0.40691D 04	-0.33632D 04	-0.22562D 04	-0.90369D 04	-41.37
1	L-I	-0.27207D 04	-0.74364D 04	-0.38360D 04	-0.21026D 04	-0.19194D 04	-0.82377D 04	-20.86
1	J-K	-0.44684D 04	-0.78953D 04	-0.42673D 04	-0.31970D 04	-0.25547D 04	-0.98090D 04	-30.91
1	I-J	-0.80317D 04	-0.11742D 04	-0.35294D 04	-0.91087D 03	-0.10552D 04	-0.81507D 04	-82.56
1	K-L	-0.10172D 05	-0.36886D 04	-0.47427D 04	0.54252D 03	-0.36436D 04	-0.10217D 05	85.25

ELEMENT (50)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	0.13297D 04	0.11963D 05	-0.51354D 04	-0.48008D 04	0.13810D 05	-0.51705D 03	-68.96
1	L-I	0.90566D 04	-0.85400D 03	-0.58088D 04	-0.15468D 05	0.20343D 05	-0.12141D 05	-36.12
1	J-K	0.13530D 05	0.25355D 04	-0.51356D 04	-0.87495D 03	0.13599D 05	0.24663D 04	-4.52
1	I-J	0.35841D 04	0.18352D 05	-0.28148D 04	-0.65789D 04	0.20858D 05	0.10785D 04	-69.15
1	K-L	-0.65094D 03	0.87383D 04	-0.64547D 04	-0.28572D 04	0.95394D 04	-0.14521D 04	-74.34

ELEMENT (51)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.70470D 04	0.16229D 03	-0.99227D 04	-0.49845D 04	0.27090D 04	-0.95937D 04	-62.94
1	L-I	-0.45978D 04	-0.84213D 04	-0.10702D 05	-0.91928D 04	0.28799D 04	-0.15899D 05	-39.13
1	J-K	-0.10095D 03	-0.21023D 04	-0.95521D 04	-0.38309D 04	0.28578D 04	-0.50610D 04	-37.68
1	I-J	-0.96779D 04	0.50051D 04	-0.10181D 05	-0.63217D 04	0.73518D 04	-0.12025D 05	-69.63
1	K-L	-0.72715D 04	-0.68857D 03	-0.93650D 04	-0.21358D 04	-0.56362D 02	-0.79037D 04	-73.51

ELEMENT (52)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11169D 05	-0.58435D 04	-0.10884D 05	-0.31569D 04	-0.43763D 04	-0.12636D 05	-65.07
1	L-I	-0.12509D 05	-0.12546D 05	-0.12253D 05	-0.61008D 04	-0.64267D 04	-0.18628D 05	-44.91
1	J-K	-0.43723D 04	-0.67620D 04	-0.10107D 05	-0.23764D 04	-0.29073D 04	-0.82270D 04	-31.65
1	I-J	-0.18262D 05	-0.52241D 04	-0.13899D 05	-0.11651D 04	-0.51208D 04	-0.18366D 05	-84.93
1	K-L	-0.92506D 04	-0.35297D 04	-0.85957D 04	-0.82368D 03	-0.34134D 04	-0.93669D 04	-81.97

ELEMENT (53)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.11377D 05	-0.72971D 04	-0.94195D 04	-0.34297D 04	-0.53465D 04	-0.13327D 05	-60.37
1	L-I	-0.11222D 05	-0.12374D 05	-0.10079D 05	-0.51585D 04	-0.66075D 04	-0.16989D 05	-41.81
1	J-K	-0.61086D 04	-0.75533D 04	-0.86870D 04	-0.26869D 04	-0.40487D 04	-0.96133D 04	-37.48
1	I-J	-0.17596D 05	-0.69828D 04	-0.12041D 05	0.76513D 03	-0.69279D 04	-0.17651D 05	85.90
1	K-L	-0.95580D 04	-0.39532D 04	-0.70722D 04	-0.14146D 04	-0.36164D 04	-0.98948D 04	-76.61

ELEMENT (54)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.99372D 04	-0.75150D 04	-0.76309D 04	-0.33682D 04	-0.51468D 04	-0.12305D 05	-54.89
1	L-I	-0.89296D 04	-0.11378D 05	-0.78932D 04	-0.41228D 04	-0.58529D 04	-0.14454D 05	-36.73
1	J-K	-0.57596D 04	-0.91128D 04	-0.74067D 04	-0.23968D 04	-0.45112D 04	-0.10361D 05	-27.51
1	I-J	-0.14884D 05	-0.61561D 04	-0.92707D 04	-0.30310D 03	-0.61456D 04	-0.14895D 05	-88.01
1	K-L	-0.10336D 05	-0.43128D 04	-0.62708D 04	-0.96104D 03	-0.41632D 04	-0.10486D 05	-81.15

ELEMENT (55)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.79897D 04	-0.69190D 04	-0.59730D 04	-0.31581D 04	-0.42511D 04	-0.10658D 05	-49.81
1	L-I	-0.66565D 04	-0.98617D 04	-0.60175D 04	-0.32528D 04	-0.46329D 04	-0.11885D 05	-31.89
1	J-K	-0.47392D 04	-0.86778D 04	-0.59222D 04	-0.20108D 04	-0.38940D 04	-0.95230D 04	-22.80
1	I-J	-0.12130D 05	-0.50549D 04	-0.70114D 04	-0.19012D 03	-0.50498D [illegible]	-0.12136D 05	-88.46

ELEMENT (56)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	
1	CEN	-0.57268D 04	-0.55295D 04	-0.44048D 04	-0.33985D 04	-0.22282D 04	-0.90281D 04	[illegible]
1	L-I	-0.25014D 04	-0.76743D 04	-0.43084D 04	-0.18058D 04	-0.19334D 04	-0.82423D 04	-17.
1	J-K	-0.43135D 04	-0.80887D 04	-0.44916D 04	-0.31661D 04	-0.25151D 04	-0.98871D 04	-29. [illegible]
1	I-J	-0.79747D 04	-0.79149D 03	-0.35308D 04	-0.38904D 03	-0.77048D 03	-0.79957D 04	-86.91
1	K-L	-0.10409D 05	-0.39399D 04	-0.54711D 04	0.79312D 02	-0.39390D 04	-0.10410D 05	89.30

ELEMENT (57)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	0.79602D 03	0.36951D 04	-0.96180D 04	-0.49391D 02	0.36959D 04	0.79518D 03	-89.02
1	L-I	0.23700D 04	-0.20734D 04	-0.97401D 04	0.19774D 04	0.31226D 04	-0.28260D 04	20.84
1	J-K	0.47375D 04	0.22658D 04	-0.99827D 04	0.33689D 03	0.47826D 04	0.22207D 04	7.62
1	I-J	0.12483D 04	0.44252D 04	-0.93375D 04	0.17395D 03	0.44347D 04	0.12388D 04	86.88
1	K-L	0.36566D 03	0.30504D 04	-0.98684D 04	-0.10797D 03	0.30547D 04	0.36132D 03	-87.70

ELEMENT (58)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	0.75105D 02	0.13915D 04	-0.96508D 04	-0.15050D 04	0.23759D 04	-0.90934D 03	-56.81
1	L-I	0.65502D 04	0.65023D 03	-0.68062D 04	-0.38638D 03	0.65754D 04	0.62504D 03	-3.73
1	J-K	-0.89116D 03	-0.24004D 04	-0.12193D 05	-0.15018D 04	0.34976D 02	-0.33265D 04	-31.66
1	I-J	0.13786D 04	0.34650D 04	-0.94516D 04	-0.22845D 04	0.49332D 04	-0.89636D 02	-57.27
1	K-L	-0.13716D 04	0.12040D 03	-0.96963D 04	-0.58333D 03	0.32139D 03	-0.15726D 04	-70.99

ELEMENT (59)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.47626D 04	-0.27840D 04	-0.10271D 05	-0.15353D 04	-0.19469D 04	-0.55997D 04	-61.40
1	L-I	-0.20622D 04	-0.58033D 04	-0.91521D 04	-0.17410D 04	-0.13774D 04	-0.64881D 04	-21.47
1	J-K	-0.29828D 04	-0.42265D 04	-0.11357D 05	-0.98304D 03	-0.24415D 04	-0.47679D 04	-28.6
1	I-J	-0.59122D 04	-0.17568D 04	-0.11570D 05	-0.14099D 04	-0.13236D 04	-0.63454D 04	-7.
1	K-L	-0.44741D 04	-0.29626D 04	-0.90777D 04	-0.98255D 03	-0.24788D 04	-0.49579D 04	-63.

ELEMENT (60)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.88308D 04	-0.54238D 04	-0.98957D 04	-0.13926D 04	-0.49270D 04	-0.93276D 04	-70.37
1	L-I	-0.95418D 04	-0.89722D 04	-0.10104D 05	-0.33115D 04	-0.59333D 04	-0.12581D 05	-47.46
1	J-K	-0.51421D 04	-0.62020D 04	-0.10038D 05	-0.12614D 04	-0.43039D 04	-0.70402D 04	-33.61
1	I-J	-0.12953D 05	-0.64600D 04	-0.12575D 05	-0.28529D 03	-0.64475D 04	-0.12966D 05	-87.49
1	K-L	-0.68316D 04	-0.35777D 04	-0.76985D 04	-0.51504D 03	-0.34981D 04	-0.69112D 04	-81.22

ELEMENT (61)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.97094D 04	-0.60945D 04	-0.84411D 04	-0.20721D 04	-0.51523D 04	-0.10652D 05	-65.55
1	L-I	-0.85166D 04	-0.10250D 05	-0.85440D 04	-0.34225D 04	-0.58529D 04	-0.12914D 05	-37.89
1	J-K	-0.57100D 04	-0.75044D 04	-0.83948D 04	-0.18537D 04	-0.45478D 04	-0.86666D 04	-32.09
1	I-J	-0.13232D 05	-0.62225D 04	-0.10340D 05	0.61417D 03	-0.61691D 04	-0.13286D 05	85.03
1	K-L	-0.86613D 04	-0.41044D 04	-0.68087D 04	-0.25838D 03	-0.40898D 04	-0.86759D 04	-86.77

ELEMENT (62)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE

ELEMENT (63)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.64044D 04	-0.53158D 04	-0.51199D 04	-0.30142D 04	-0.27972D 04	-0.89231D 04	-50.12
1	L-I	-0.30398D 04	-0.78364D 04	-0.51965D 04	-0.14649D 04	-0.26278D 04	-0.82484D 04	-15.71
1	J-K	-0.42393D 04	-0.83900D 04	-0.50248D 04	-0.26304D 04	-0.29641D 04	-0.96652D 04	-25.86
1	I-J	-0.79448D 04	-0.14988D 04	-0.41274D 04	0.12258D 03	-0.14964D 04	-0.79471D 04	88.91
1	K-L	-0.10157D 05	-0.42840D 04	-0.62856D 04	0.34109D 03	-0.42642D 04	-0.10176D 05	86.69

ELEMENT (64)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.27714D 03	-0.58017D 03	-0.13441D 05	-0.27538D 03	-0.11434D 03	-0.74297D 03	-30.59
1	L-I	-0.36734D 04	-0.12370D 04	-0.13461D 05	0.14076D 04	-0.59363D 03	-0.43167D 04	65.44
1	J-K	0.13141D 04	0.58114D 03	-0.13796D 05	-0.11479D 04	0.21527D 04	-0.25739D 03	-36.15
1	I-J	0.17480D 03	0.11210D 02	-0.13268D 05	-0.40517D 02	0.18428D 03	0.17250D 01	-13.18
1	K-L	-0.77056D 03	-0.11348D 04	-0.13620D 05	-0.52565D 03	-0.39639D 03	-0.15090D 04	-35.44

ELEMENT (65)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.48896D 03	-0.15410D 04	-0.12868D 05	-0.95875D 03	0.78592D 02	-0.21085D 04	-30.62
1	L-I	0.15713D 04	-0.13675D 04	-0.11172D 05	0.12339D 04	0.20207D 04	-0.18168D 04	20.01
1	J-K	-0.18344D 04	-0.22009D 04	-0.14481D 05	0.38967D 03	-0.15871D 04	-0.24483D 04	32.41
1	I-J	-0.49557D 03	-0.10221D 04	-0.13507D 05	-0.12180D 04	0.48725D 03	-0.20049D 04	-38.90
1	K-L	-0.74316D 03	-0.17687D 04	-0.12268D 05	-0.86763D 03	-0.24810D 03	-0.22638D 04	-29.71

ELEMENT (66)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.14185D 04	-0.30677D 04	-0.11560D 05	-0.12542D 04	-0.74209D 03	-0.37441D 04	-28.34
1	L-I	0.17246D 04	-0.22720D 04	-0.94117D 04	0.13073D 04	0.21143D 04	-0.26616D 04	16.60
1	J-K	-0.31394D 04	-0.47819D 04	-0.13530D 05	0.21990D 03	-0.31105D 04	-0.48108D 04	7.50
1	I-J	-0.96396D 03	-0.18631D 04	-0.12361D 05	-0.20260D 04	0.66180D 03	-0.34888D 04	-38.74
1	K-L	-0.25521D 04	-0.34190D 04	-0.10823D 05	-0.94524D 03	-0.19457D 04	-0.40254D 04	-32.68

ELEMENT (67)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.48535D 04	-0.49580D 04	-0.10541D 05	-0.83412D 03	-0.40700D 04	-0.57415D 04	-43.21
1	L-I	-0.33529D 04	-0.54619D 04	-0.92998D 04	-0.14084D 03	-0.33435D 04	-0.54712D 04	-3.80
1	J-K	-0.47403D 04	-0.60242D 04	-0.11724D 05	-0.11367D 03	-0.47303D 04	-0.60341D 04	-5.02
1	I-J	-0.56654D 04	-0.47050D 04	-0.12108D 05	-0.94399D 03	-0.41261D 04	-0.62443D 04	-58.48
1	K-L	-0.49342D 04	-0.43692D 04	-0.91419D 04	-0.58997D 03	-0.39976D 04	-0.53059D 04	-57.79

ELEMENT (68)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.77848D 04	-0.56747D 04	-0.92484D 04	-0.93453D 03	-0.53203D 04	-0.81392D 04	-69.23
1	L-I	-0.66224D 04	-0.78846D 04	-0.87723D 04	-0.16899D 04	-0.54495D 04	-0.90574D 04	-34.76
1	J-K	-0.57409D 04	-0.68490D 04	-0.97260D 04	-0.90753D 03	-0.52317D 04	-0.73583D 04	-29.30
1	I-J	-0.97072D 04	-0.63388D 04	-0.11111D 05	0.35725D 03	-0.63013D 04	-0.97447D 04	84.01
1	K-L	-0.68480D 04	-0.43548D 04	-0.76172D 04	-0.89787D 02	-0.43516D 04	-0.68513D 04	-87.94

ELEMENT (69)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE

...T ([illegible])

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 69213D 04	-0. 54847D 04	-0. 60523D 04	-0. 23741D 04	-0. 37226D 04	-0. 86833D 04	-53. 42
1	L-I	-0. 39518D 04	-0. 79090D 04	-0. 62637D 04	-0. 11139D 04	-0. 36597D 04	-0. 82011D 04	-14. 69
1	J-K	-0. 45440D 04	-0. 84595D 04	-0. 58177D 04	-0. 18804D 04	-0. 37872D 04	-0. 92163D 04	-21. 92
1	I-J	-0. 78553D 04	-0. 27978D 04	-0. 50677D 04	0. 38950D 03	-0. 27680D 04	-0. 78851D 04	85. 62
1	K-L	-0. 96381D 04	-0. 47963D 04	-0. 71886D 04	0. 40624D 03	-0. 47624D 04	-0. 96720D 04	85. 24

ELEMENT (71)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 40582D 03	-0. 37064D 04	-0. 16767D 05	-0. 24633D 03	-0. 38753D 03	-0. 37247D 04	-4. 24
1	L-I	-0. 38144D 04	-0. 15534D 04	-0. 15917D 05	-0. 78352D 03	-0. 13084D 04	-0. 40594D 04	-72. 64
1	J-K	-0. 29964D 04	-0. 37095D 03	-0. 17761D 05	-0. 16069D 04	0. 39123D 03	-0. 37586D 04	-64. 62
1	I-J	-0. 37154D 03	-0. 36151D 04	-0 17031D 05	-0. 15353D 03	-0. 36429D 03	-0. 36223D 04	-2. 70
1	K-L	-0. 47570D 03	-0 37902D 04	-0. 16522D 05	-0. 43900D 03	-0. 41854D 03	-0. 38474D 04	-7. 42

ELEMENT (72)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 10216D 04	-0. 39203D 04	-0. 15740D 05	-0. 77540D 03	-0. 82721D 03	-0. 41147D 04	-14. 07
1	L-I	-0. 19418D 04	-0. 22380D 04	-0. 14523D 05	0. 17000D 04	-0. 38350D 03	-0. 37963D 04	42. 51
1	J-K	-0. 31301D 04	-0. 26133D 04	-0. 16953D 05	0. 15876D 04	-0. 12633D 04	-0. 44802D 04	49. 62
1	I-J	-0. 15569D 04	-0. 42365D 04	-0. 16968D 05	-0. 86896D 03	-0. 12998D 04	-0. 44936D 04	-16. 48
1	K-L	-0. 73290D 03	-0. 34361D 04	-0. 14608D 05	-0. 10166D 04	-0. 39324D 03	-0. 37758D 04	-18. 47

ELEMENT (73)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 19221D 04	-0. 44039D 04	-0. 13869D 05	-0. 13698D 04	-0. 13147D 04	-0. 50113D 04	-23. 91
1	L-I	-0. 54172D 03	-0. 36990D 04	-0. 12456D 05	0. 17028D 04	0. 20163D 03	-0. 44423D 04	23. 58
1	J-K	-0. 31770D 04	-0. 50280D 04	-0. 15197D 05	0. 11109D 04	-0. 26567D 04	-0. 55484D 04	25. 10
1	I-J	-0. 23294D 04	-0. 40967D 04	-0. 15267D 05	-0. 18382D 04	-0. 11735D 04	-0. 52527D 04	-32. 16
1	K-L	-0. 23358D 04	-0. 39950D 04	-0. 12644D 05	-0. 14718D 04	-0. 14759D 04	-0. 48549D 04	-30. 30

ELEMENT (74)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 34389D 04	-0. 53198D 04	-0. 11854D 05	-0. 12360D 04	-0. 28262D 04	-0. 59324D 04	-26. 37
1	L-I	-0. 17493D 04	-0. 47805D 04	-0. 10487D 05	0. 12270D 04	-0. 13149D 04	-0. 52149D 04	19. 50
1	J-K	-0. 42922D 04	-0. 64596D 04	-0. 13119D 05	0. 60389D 03	-0. 41353D 04	-0. 66165D 04	14. 56
1	I-J	-0. 38113D 04	-0. 46060D 04	-0. 13253D 05	-0. 18909D 04	-0. 22765D 04	-0. 61409D 04	-39. 07
1	K-L	-0. 43501D 04	-0. 48271D 04	-0. 10664D 05	-0. 11940D 04	-0. 33710D 04	-0. 58062D 04	-39. 35

ELEMENT (75)

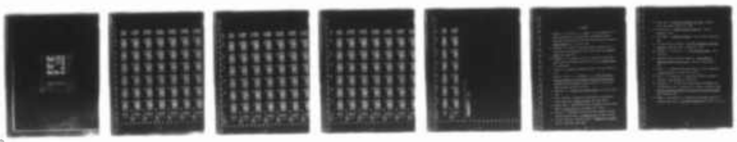
LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0. 59335D 04	-0. 58997D 04	-0. 10145D 05	-0. 82769D 03	-0. 50887D 04	-0. 67445D 04	-45. 59
1	L-I	-0. 46925D 04	-0. 64145D 04	-0. 92930D 04	-0. 12187D 03	-0. 46839D 04	-0. 64230D 04	-4. 03
1	J-K	-0. 54695D 04	-0. 70440D 04	-0 10944D 05	-0. 10017D 03	-0. 54631D 04	-0. 70503D 04	-3. 63
1	I-J	-0 69787D 04	-0. 59115D 04	-0 11748D 05	-0. 72877D 03	-0. 55419D 04	-0. 73483D 04	-63. 10
1	K-L	-0 60582D 04	-0 48806D 04	-0. 87649D 04	-0. 47912D 03	-0. 47103D 04	-0. 62285D 04	-70. 43

ELEMENT (76)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0 74830D 04	-0. 58389D 04	-0 85446D 04	-0. 11241D 04	-0. 52683D 04	-0. 80535D 04	-63. 09
1	L-I	-0 57591D 04	-0 77436D 04	-0 80843D 04	-0. 11916D 04	-0. 52007D 04	-0. 83020D 04	-25. 11
1	J-K	-0 56399D 04	-0. 75406D 04	-0 89782D 04	-0. 81591D 03	-0. 53377D 04	-0. 78428D 04	-20. 32
1	I-J	-0 89560D 04	-0. 60783D 04	-0 99608D 04	0 17177D 03	-0 60681D 04	-0 89662D 04	[illegible]

AD-A142 210 DEVELOPMENT OF A DISTRIBUTED BREACH FOR THE CONICAL SHOCK TUBE(U) UNIVERSITY OF CENTRAL FLORIDA ORLANDO ENGINEERING AND INDUSTR.. S M METWALLI ET AL. JAN 83 2/2

UNCLASSIFIED TR-106-14 N00014-82-K-2049 F/G 20/11 NL



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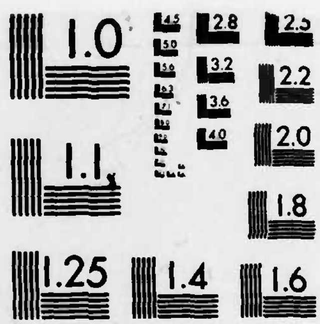

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

1	CEN	-0.71217D 04	-0.59313D 04	-0.70007D 04	-0.17769D 04	-0.46525D 04	-0.84005D 04	-54.26
1	L-I	-0.48369D 04	-0.79800D 04	-0.72871D 04	-0.74966D 03	-0.46672D 04	-0.81496D 04	-12.75
1	J-K	-0.49817D 04	-0.83376D 04	-0.66895D 04	-0.11267D 04	-0.46385D 04	-0.86807D 04	-16.94
1	I-J	-0.77959D 04	-0.41145D 04	-0.60849D 04	0.37087D 03	-0.40776D 04	-0.78329D 04	84.30
1	K-L	-0.90713D 04	-0.52887D 04	-0.80611D 04	0.21884D 03	-0.52761D 04	-0.90839D 04	86.70

ELEMENT (78)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.55207D 03	-0.63536D 04	-0.20282D 05	-0.27364D 03	-0.53919D 03	-0.63665D 04	-2.69
1	L-I	-0.52007D 04	-0.12833D 04	-0.18671D 05	-0.17901D 04	-0.58852D 03	-0.58955D 04	-68.79
1	J-K	-0.68801D 04	-0.64039D 03	-0.21944D 05	0.28823D 03	-0.62710D 03	-0.68934D 04	87.36
1	I-J	-0.84382D 03	-0.66856D 04	-0.20999D 05	-0.24855D 03	-0.83326D 03	-0.66961D 04	-2.43
1	K-L	-0.28975D 03	-0.60151D 04	-0.19595D 05	-0.43287D 03	-0.25720D 03	-0.60476D 04	-4.30

ELEMENT (79)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.15141D 04	-0.59930D 04	-0.18637D 05	-0.68050D 03	-0.14130D 04	-0.60941D 04	-8.45
1	L-I	-0.43423D 04	-0.31146D 04	-0.17453D 05	0.19344D 04	-0.16990D 04	-0.57579D 04	53.80
1	J-K	-0.41031D 04	-0.36098D 04	-0.19851D 05	0.25990D 04	-0.12457D 04	-0.64671D 04	47.71
1	I-J	-0.24759D 04	-0.69169D 04	-0.20497D 05	-0.68132D 03	-0.23737D 04	-0.70191D 04	-8.53
1	K-L	-0.76864D 03	-0.49648D 04	-0.16925D 05	-0.10881D 04	-0.50328D 03	-0.52302D 04	-13.71

ELEMENT (80)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.28587D 04	-0.56325D 04	-0.16113D 05	-0.12052D 04	-0.24082D 04	-0.60830D 04	-20.50
1	L-I	-0.28576D 04	-0.48941D 04	-0.15065D 05	0.15520D 04	-0.20196D 04	-0.57321D 04	28.37
1	J-K	-0.37091D 04	-0.55198D 04	-0.17137D 05	0.15818D 04	-0.27918D 04	-0.64371D 04	30.11
1	I-J	-0.39239D 04	-0.62669D 04	-0.18227D 05	-0.13881D 04	-0.32790D 04	-0.69118D 04	-24.92
1	K-L	-0.24993D 04	-0.45007D 04	-0.14252D 05	-0.15664D 04	-0.16413D 04	-0.53588D 04	-28.71

ELEMENT (81)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.40129D 04	-0.57637D 04	-0.13449D 05	-0.14147D 04	-0.32247D 04	-0.65519D 04	-29.13
1	L-I	-0.26575D 04	-0.57788D 04	-0.12443D 05	0.11420D 04	-0.22843D 04	-0.61520D 04	18.10
1	J-K	-0.42820D 04	-0.67183D 04	-0.14394D 05	0.75640D 03	-0.40662D 04	-0.69340D 04	15.92
1	I-J	-0.48289D 04	-0.54634D 04	-0.15213D 05	-0.18461D 04	-0.32729D 04	-0.70193D 04	-40.13
1	K-L	-0.45472D 04	-0.49292D 04	-0.11972D 05	-0.14603D 04	-0.32655D 04	-0.62109D 04	-41.27

ELEMENT (82)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.54417D 04	-0.61460D 04	-0.11183D 05	-0.10961D 04	-0.46425D 04	-0.69451D 04	-36.09
1	L-I	-0.41042D 04	-0.64759D 04	-0.10380D 05	0.46177D 03	-0.40175D 04	-0.65627D 04	10.64
1	J-K	-0.52155D 04	-0.72932D 04	-0.11931D 05	0.20821D 03	-0.51949D 04	-0.73139D 04	5.67
1	I-J	-0.63528D 04	-0.56749D 04	-0.12717D 05	-0.13295D 04	-0.46419D 04	-0.73859D 04	-52.15
1	K-L	-0.60877D 04	-0.52411D 04	-0.99107D 04	-0.84122D 03	-0.47227D 04	-0.66061D 04	-58.36

ELEMENT (83)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.68526D 04	-0.62185D 04	-0.93652D 04	-0.10320D 04	-0.54560D 04	-0.76152D 04	-53.54
1	L-I	-0.53625D 04	-0.74256D 04	-0.88636D 04	-0.42988D 03	-0.52765D 04	-0.75116D 04	-11.31
1	J-K	-0.56815D 04	-0.76603D 04	-0.98342D 04	-0.33903D 03	-0.56251D 04	-0.77168D 04	-9.46
1	I-J	-0.81181D 04	-0.60801D 04	-0.10749D 05	-0.42945D 03	-0.59933D 04	-0.82049D 04	-78.57
1	K-L	-0.71061D 04	-0.50114D 04	-0.81932D 04	-0.14644D 03	-0.50012D 04	-0.71163D 04	-86.02

ELEMENT (84)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.71275D 04	-0.64240D 04	-0.78333D 04	-0.13884D 04	-0.53435D 04	-0.82080D 04	-52.11
1	L-I	-0.54714D 04	-0.80557D 04	-0.81316D 04	-0.42477D 03	-0.54034D 04	-0.81237D 04	-9.10
1	J-K	-0.53801D 04	-0.82065D 04	-0.75119D 04	-0.53934D 03	-0.52807D 04	-0.83060D 04	-10.44
1	I-J	-0.78119D 04	-0.50886D 04	-0.69826D 04	0.20908D 03	-0.50727D 04	-0.78279D 04	85.64
1	K-L	-0.86658D 04	-0.56596D 04	-0.88378D 04	-0.68001D 02	-0.56581D 04	-0.86673D 04	-88.71

ELEMENT (85)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.27285D 03	-0.82598D 04	-0.24588D 05	-0.28468D 03	-0.26272D 03	-0.82700D 04	-2.04
1	L-I	-0.77559D 04	-0.10012D 04	-0.22305D 05	-0.76086D 03	-0.91654D 03	-0.78405D 04	-83.65
1	J-K	-0.63910D 04	-0.23113D 04	-0.26977D 05	0.41609D 04	0.28281D 03	-0.89851D 04	58.06
1	I-J	-0.97360D 03	-0.91438D 04	-0.25962D 05	-0.19353D 03	-0.96901D 03	-0.91484D 04	-1.36
1	K-L	0.39762D 03	-0.73588D 04	-0.23265D 05	-0.53441D 03	0.43426D 03	-0.73955D 04	-3.92

ELEMENT (86)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.18866D 04	-0.73350D 04	-0.22062D 05	-0.42786D 03	-0.18532D 04	-0.73684D 04	-4.46
1	L-I	-0.61933D 04	-0.44828D 04	-0.20716D 05	0.17871D 04	-0.33568D 04	-0.73192D 04	57.79
1	J-K	-0.40020D 04	-0.41832D 04	-0.23505D 05	0.34724D 04	-0.61907D 03	-0.75662D 04	44.25
1	I-J	-0.35713D 04	-0.89956D 04	-0.24902D 05	-0.24765D 03	-0.35600D 04	-0.90068D 04	-2.61
1	K-L	-0.39077D 03	-0.56271D 04	-0.19447D 05	-0.10589D 04	-0.18476D 03	-0.58331D 04	-11.01

ELEMENT (87)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.37480D 04	-0.63628D 04	-0.18549D 05	-0.75552D 03	-0.35454D 04	-0.65654D 04	-15.01
1	L-I	-0.48644D 04	-0.60021D 04	-0.17615D 05	0.98594D 03	-0.42949D 04	-0.65715D 04	30.01
1	J-K	-0.41825D 04	-0.55917D 04	-0.19515D 05	0.17552D 04	-0.29306D 04	-0.66435D 04	35.50
1	I-J	-0.55676D 04	-0.77619D 04	-0.21582D 05	-0.68201D 03	-0.53729D 04	-0.79566D 04	-15.93
1	K-L	-0.24423D 04	-0.47246D 04	-0.15872D 05	-0.13185D 04	-0.18397D 04	-0.53272D 04	-24.56

ELEMENT (88)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.49891D 04	-0.59652D 04	-0.15097D 05	-0.10475D 04	-0.43216D 04	-0.66328D 04	-32.51
1	L-I	-0.42188D 04	-0.66922D 04	-0.14368D 05	0.48909D 03	-0.41256D 04	-0.67854D 04	10.79
1	J-K	-0.47007D 04	-0.63543D 04	-0.15813D 05	0.60010D 03	-0.45059D 04	-0.65491D 04	17.99
1	I-J	-0.63690D 04	-0.63445D 04	-0.17492D 05	-0.11305D 04	-0.52262D 04	-0.74874D 04	-45.31
1	K-L	-0.45917D 04	-0.49148D 04	-0.13078D 05	-0.12068D 04	-0.35357D 04	-0.59709D 04	-41.19

ELEMENT (89)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.58472D 04	-0.62281D 04	-0.12285D 05	-0.10509D 04	-0.49696D 04	-0.71057D 04	-39.86
1	L-I	-0.46139D 04	-0.70427D 04	-0.11682D 05	0.29103D 03	-0.45795D 04	-0.70771D 04	6.74
1	J-K	-0.53367D 04	-0.71411D 04	-0.12857D 05	0.12766D 03	-0.53277D 04	-0.71501D 04	4.03
1	I-J	-0.69148D 04	-0.58745D 04	-0.14036D 05	-0.11351D 04	-0.51461D 04	-0.76432D 04	-57.31
1	K-L	-0.61712D 04	-0.54488D 04	-0.10856D 05	-0.84145D 03	-0.48943D 04	-0.67257D 04	-56.62

ELEMENT (90)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.66906D 04	-0.65177D 04	-0.10149D 05	-0.10119D 04	-0.55886D 04	-0.76197D 04	-47.44
1	L-I	-0.54125D 04	-0.75484D 04	-0.97230D 04	-0.83965D 02	-0.54092D 04	-0.75517D 04	-2.25
1	J-K	-0.57625D 04	-0.76831D 04	-0.10549D 05	-0.11468D 03	-0.57557D 04	-0.76900D 04	-3.41
[illegible]	[illegible]	-0.79210D 04	-0.61727D 04	-0.11578D 05	-0.67479D 03	-0.59426D [illegible]	-0.81511D 04	-71.17

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.71122D 04	-0.68080D 04	-0.85184D 04	-0.11708D 04	-0.57794D 04	-0.81407D 04	-48.70
1	L-I	-0.58725D 04	-0.81030D 04	-0.87867D 04	-0.19895D 03	-0.58549D 04	-0.81206D 04	-5.06
1	J-K	-0.57116D 04	-0.81559D 04	-0.82310D 04	-0.18009D 03	-0.56984D 04	-0.81691D 04	-4.19
1	I-J	-0.78506D 04	-0.56762D 04	-0.76830D 04	0.47992D 02	-0.56751D 04	-0.78517D 04	88.74
1	K-L	-0.84747D 04	-0.59700D 04	-0.95286D 04	-0.28688D 03	-0.59376D 04	-0.85071D 04	-83.55

ELEMENT (92)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.70713D 03	-0.70927D 04	-0.31060D 05	0.36031D 03	-0.68686D 03	-0.71129D 04	3.22
1	L-I	-0.19977D 04	-0.83124D 04	-0.33415D 05	0.53065D 03	-0.19534D 04	-0.83567D 04	4.77
1	J-K	0.56413D 03	-0.59054D 04	-0.28812D 05	0.68850D 02	0.56486D 03	-0.59061D 04	0.61
1	I-J	-0.37735D 04	-0.39681D 04	-0.35371D 05	0.41909D 04	0.32121D 03	-0.80628D 04	44.34
1	K-L	-0.62596D 04	-0.22777D 04	-0.26929D 05	0.10076D 04	-0.20372D 04	-0.65001D 04	76.58

ELEMENT (93)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.23940D 04	-0.61759D 04	-0.26856D 05	0.64389D 03	-0.22874D 04	-0.62825D 04	9.40
1	L-I	-0.50617D 04	-0.82253D 04	-0.31133D 05	0.94837D 03	-0.47992D 04	-0.84878D 04	15.47
1	J-K	0.21278D 03	-0.43234D 04	-0.22973D 05	0.21203D 02	0.21288D 03	-0.43235D 04	0.27
1	I-J	-0.37428D 04	-0.23148D 04	-0.2931[illegible]D 05	0.31334D 04	0.18494D 03	-0.62425D 04	51.42
1	K-L	-0.65733D 04	-0.52622D 04	-0.24570D 05	0.34768D 03	-0.51757D 04	-0.66598D 04	76.03

ELEMENT (94)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.41911D 04	-0.54624D 04	-0.21559D 05	0.68280D 03	-0.38939D 04	-0.57596D 04	23.52
1	L-I	-0.72134D 04	-0.73850D 04	-0.26036D 05	0.10506D 04	-0.62450D 04	-0.83533D 04	42.67
1	J-K	-0.11942D 04	-0.39164D 04	-0.17636D 05	-0.22530D 02	-0.11940D 04	-0.39166D 04	-0.47
1	I-J	-0.43836D 04	-0.22059D 04	-0.22630D 05	0.16631D 04	-0.13069D 04	-0.52826D 04	61.61
1	K-L	-0.68380D 04	-0.65004D 04	-0.20614D 05	-0.54616D 03	-0.60975D 04	-0.72408D 04	-53.59

ELEMENT (95)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.55950D 04	-0.55551D 04	-0.16925D 05	0.19648D 03	-0.53775D 04	-0.57725D 04	47.90
1	L-I	-0.79019D 04	-0.66827D 04	-0.20402D 05	0.52302D 03	-0.64891D 04	-0.80956D 04	69.69
1	J-K	-0.34235D 04	-0.47059D 04	-0.13972D 05	-0.27217D 03	-0.33682D 04	-0.47613D 04	-11.90
1	I-J	-0.52570D 04	-0.39660D 04	-0.17404D 05	0.49758D 03	-0.37964D 04	-0.54265D 04	71.19
1	K-L	-0.63707D 04	-0.70505D 04	-0.16504D 05	-0.58736D 03	-0.60320D 04	-0.73892D 04	-29.97

ELEMENT (96)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.63544D 04	-0.61920D 04	-0.13440D 05	-0.45985D 03	-0.58062D 04	-0.67402D 04	-50.01
1	L-I	-0.78325D 04	-0.65272D 04	-0.15791D 05	-0.23897D 03	-0.64848D 04	-0.78748D 04	-79.94
1	J-K	-0.55639D 04	-0.55081D 04	-0.11496D 05	-0.54479D 03	-0.49905D 04	-0.60815D 04	-46.47
1	I-J	-0.57906D 04	-0.61995D 04	-0.13811D 05	0.34654D 02	-0.57877D 04	-0.62024D 04	4.81
1	K-L	-0.58550D 04	-0.73570D 04	-0.13071D 05	-0.19603D 03	-0.58298D 04	-0.73822D 04	-7.31

ELEMENT (97)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.68865D 04	-0.67866D 04	-0.10948D 05	-0.80677D 03	-0.60282D 04	-0.76448D 04	-46.77
1	L-I	-0.80624D 04	-0.65428D 04	-0.12528D 05	-0.54131D 03	-0.63697D 04	-0.82355D 04	-72.27
1	J-K	[illegible]	-0.59140D 04	-0.96613D 04	-0.42292D 03	-0.57757D 04	-0.72072D 04	-71.89

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.71401D 04	-0.71972D 04	-0.89852D 04	-0.10613D 04	-0.61070D 04	-0.82303D 04	-44.23
1	L-1	-0.65541D 04	-0.78800D 04	-0.91026D 04	0.82921D 03	-0.61554D 04	-0.82787D 04	25.68
1	J-K	-0.60567D 04	-0.81797D 04	-0.88629D 04	0.16004D 02	-0.60565D 04	-0.81799D 04	0.43
1	I-J	-0.78796D 04	-0.57570D 04	-0.81358D 04	-0.28582D 02	-0.57567D 04	-0.78800D 04	-89.23

ELEMENT (99)

LOAD	LOC	S11	S22	S33	S12	S-MAX	S-MIN	ANGLE
1	CEN	-0.73306D 04	-0.71112D 04	-0.95716D 04	-0.10587D 04	-0.61566D 04	-0.82852D 04	-47.96
1	L-1	-0.84955D 04	-0.65067D 04	-0.10251D 05	-0.37935D 03	-0.64368D 04	-0.85654D 04	-79.36
1	J-K	-0.62004D 04	-0.77342D 04	-0.89567D 04	0.73801D 03	-0.59030D 04	-0.80316D 04	21.95
1	I-J	-0.60498D 04	-0.81671D 04	-0.92989D 04	-0.10966D 03	-0.60441D 04	-0.81727D 04	-2.96

S T A T I C   S O L U T I O N   T I M E   L O G

EQUATION SOLUTION = 0.0
DISPLACEMENT OUTPUT = 0.0
STRESS RECOVERY = 0.0

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