INTRODUCTION

THE PROFILES OF SEVERAL OF THE LINES OF FIGURES 17.2 AND 19.1 OF REF. 1 WERE ANALYSED BY AN ETEC IN HOUSE COMPUTER PROGRAM IN AN ATTEMPT TO VERIFY THE MAXIMUM STRESSES FOR THESE LINES PER REF. 1. THE MAXIMUM STRESSES OBTAINED FROM THIS ANALYSIS WERE CONSIDERABLY HIGHER THAN THOSE OF REF 1. HAND CALCULATIONS WERE ALSO MADE AS AN ADDITIONAL CHECK WITH THE RESULTS BEING SIMILAR TO THOSE OF THE COMPUTER ANALYSIS

COMPUTER ANALYSIS

1) THE DEFLECTIONS OF THE PIPES AS OBTAINED FROM THE PROFILES OF FIGURES 17.2 AND 19.1 WERE INPUT INTO THE PROGRAM AT THE NODAL POINTS SHOWN ON THE NODAL MAPS ENCLOSED WITH THE COMPUTER PRINTOUT

2) TWO CASES WERE RUN FOR EACH LINE. CASE 1 ASSUMED THE ENDS OF THE LINES WERE COMPLETELY FIXED. CASE 2 ASSUMED THE ENDS OF THE LINES HAD NO MOMENT CARRYING CAPABILITY

3) WALL THICKNESSES OF STANDARD PIPE WERE USED IN THE ANALYSIS. AS THE ACTUAL WALL THICKNESSES WERE NOT KNOWN. THIS WOULD NOT AFFECT THE STRESSES AS THEY ARE

STRAIN CONTROLLED. IT WOULD HOWEVER, AFFECT THE LOADS REQUIRED TO CAUSE THESE DEFLECTIONS

4) THE CLOSER THE NODE SPACING THE MORE ACCURATE THE ANALYSIS AS TO ACTUAL SHAPE OF THE CURVE IS MORE NEARLY APPROXIMATED. HOWEVER, IT IS FELT THE SPACING USED WILL GIVE FAIRLY REALISTIC VALUES AND IS PROBABLY AS GOOD AS THE ORIGINAL MEASUREMENTS

5) THE RAPID CHANGE IN SLOPE IN SOME AREAS OF THE LINES WOULD INDICATE THERE ARE SOME HIGH LOCAL LOADS. THIS IS VERIFIED BY LOADS AT THESE NODAL POINTS IN THE COMPUTER OUTPUT.

6) THE NODAL LOADINGS SHOWN IN THE COMPUTER OUTPUT ARE THE RESULTANT EXTERNAL LOADS ON THE PIPE THAT WOULD BE REQUIRED TO DEFORM THE PIPE AS PROFILED. THEY ARE NOT THE ACTUAL PIPE LOADS.

7) SUMMARY OF THE MAXIMUM BENDING STRESSES DUE TO GROUND SETTLEMENT ONLY

LINE NO.	FIG	CASE	NODE	STRESS
26"-OHBC-54	19.1	1	6	218200 PSI
"	19.1	2	6	216200 PSI
26"-OHBC-55	17.2	1	25	179200 PSI
"	17.2	2	2	46000 PSI
8'-1HBC-81	19.1	1	20	84700 PSI
"	19.1	2	20	85200 PSI
20" 1HCO-169	17.2	1	54	191800 PSI
"	17.2	2	54	192300 PSI

7) CONT
THE STRESSES SHOWN WERE BASED ON AN ELASTIC ANALYSIS. OBVIOUSLY PLASTIC DEFORMATION WOULD OCCUR LONG BEFORE SOME OF THESE STRESSES WERE REACHED

HAND CALCULATIONS

SIMPLE HAND CALCULATIONS WERE MADE TO VERIFY THE COMPUTER ANALYSIS FOR THE SECTION OF LINE 26"ØH3C-ST IN THE AREA OF THE DIP BETWEEN NODES 5 AND 7

1) THE SECTION OF THE LINE BETWEEN NODES 5 & 7 WAS ASSUMED TO BE A SIMPLY SUPPORTED UNIFORMLY LOADED BEAM WITH THE MAXIMUM DEFLECTION AT NODE 6

$$MAX\ Y = \frac{5\,W\,l^3}{384\,E\,I}$$

$$W = \frac{(Y)(384)(E\,I)}{5\,l^3}$$

$$MAX\ M = \frac{WL}{8} = \frac{(Y)(48)(E)(I)}{(5)(l^2)}$$

$$\sigma = \frac{MC}{I} = \frac{(Y)(48)(E)(D/2)}{(5)(l^2)(I)}$$

$Y \cong 2.46$ in $l = 240$" $D/2 = 13$"

$$\sigma = \frac{(2.46)(48)(29)(10)^6(13)}{(5)(240)^2} = 15{,}570\ PSI$$

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SUBJECT STRESSES IN UNDERGROUND PIPING DUE TO DIFFERENTIAL SOIL SETTLEMENT - AT ULRAH PLANT

DATE

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2) AS THE SLOPE OF THE LINE CHANGES AT NODES 5 & 7 THE LINE IS NOT SIMPLY SUPPORTED AT THESE POINTS BUT IS CARRYING MOMENT.

ASSUME THE SECTION OF THE LINE BETWEEN NODES 5 & 7 IS UNIFORMLY LOADED WITH BOTH ENDS FIXED.

$$Y = \frac{W l^3}{384 E I}$$

$$W = \frac{384 E I}{l^3}$$

$$\text{MAX } M = \frac{WL}{12} = \frac{(Y)(384)(E)(I)(\Delta)}{(12)(l^3)^2}$$

$$\sigma = \frac{(Y)(32)(E)(\Delta)(D/2)}{(l^2)(I)}$$

$$\sigma = \frac{(2.4)(32)(29)(10)^6(13)}{(240)^2} = 51,533 \text{ PSI}$$

THE ACTUAL STRESS WOULD BE BETWEEN CASE 1 & 2. CLOSER TO 1

3) SINCE THE LINE TAKES A SUDDEN DIP BETWEEN NODES 5 & 7 ASSUME THAT THIS SECTION OF THE LINE IS A SIMPLY SUPPORTED BEAM LOADED AT NODE 6

$$Y = \frac{W l^3}{48 E I}$$

$$W = (Y)(48)(E)(I)/l^3$$

$$M = \frac{(Y)(48)(E)(I)(\Delta)}{(l^3)^2(I)(\Delta)}$$

$$\sigma = \frac{(12)(Y)(E)(I)(D/2)}{L^2 I}$$

$$\sigma = \frac{(12)(2.46)(29)(10)^6(13)}{(240)^2} = 193,200 \text{ PSI}$$

4) SAME AS 3 EXCEPT NODES 5 & 7 ASSUMED FIXED.

$$Y = \frac{W L^3}{192 EI} \qquad W = \frac{(Y)(192)(E)(I)}{L^3}$$

$$M = \frac{(Y)(\cancel{192}\ 24)(E)(I)(\cancel{A})}{(\cancel{8})(L^2)}$$

$$\sigma = \frac{(Y)(24)(E)(D/2)\cancel{(I)}}{(L^2)(\cancel{Z})}$$

$$\sigma = (Y)(24)(29)(10)^6(13)/240^2 = 386,400 \text{ PSI}$$

5) THE METHOD GIVEN IN RESPONSE TO QUESTION 12 OF REF 1 IS AT BEST A ROUGH APPROXIMATION, BUT EVEN THIS METHOD GIVES VERY HIGH BENDING STRESSES FOR THE AREA BETWEEN NODES 5 & 7

$$\sigma_B = \frac{(E)(D)(R)(\varepsilon)}{2L^2}$$

$$\sigma_B = \frac{(29)(10)^6(26)(4)(2.46)}{(2)(240)^2} = 168,600 \text{ PSI}$$

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SUBJECT BENDING STRESSES IN UNDERGROUND PIPING DUE TO DIFFERENTIAL SOIL SETTLEMENT-MIDLAND PLANT UNITS 1&2

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THE HAND CALCULATIONS OF THE BENDING STRESSES [CASES 1-4] CONFIRM THE COMPUTER OUTPUT STRESSES IN GENERAL. IF THE END FIXITY AT NODES 5 & 7 WERE FACTORED IN THERE WOULD BE BETTER AGREEMENT

IN ALL CASES THE STRESSES WERE WELL ABOVE THE YIELD STRENGTH OF THE MATERIAL AND ALSO THE CODE ALLOWABLES.

Ref:

(1) "RESPONSES TO THE NRC 10 CFR 50.54(F) REQUEST REGARDING PLANT FILL FOR MIDLAND PLANT UNITS 1 AND 2, CONSUMER POWER COMPANY, DOCKET NUMBERS 50-329 AND 50-330" Rev. 6, APRIL 1, 1980

FORM 735-A-54 REV 12-78

~NE 26" OHBC-54

NODE MAP & COMPUTER OUTPUT

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26" OHBC-54

FIG 19.1 Ref 1

PRODUCED & DIRECTED BY RVL INC 0
MIDLAND PLANT SURVEYED PIPELINE PROFILE 0

RUN OPTION CODE	1
PLOT OPTION CODE	1
MULTIPLE LOAD CASE CODE	2
RIGID BODY OPTION CODE	0
SKEW RESTRAINT OPTION CODE	0
NON-LINEAR OPTION	0
RENUMBERING OPTION CODE	0
COORDINATE UNITS CODE	1
DATA CHECK OPTION CODE	1
INPUT FORMAT OPTION CODE	1
NATURAL FREQ. OPTION CODE	0

BP	NODE	** GEOMETRY DATA ** X-COORD	Y-COORD	Z-COORD	BND RAD	MATL ID	PIPE ID	INSL ID
1	1	0.0	0.0	0.0		1	1	1
	2	10.000	0.0	0.0		1	1	1
	3	20.000	0.0	0.0		1	1	1
	4	30.000	0.0	0.0		1	1	1
	5	40.000	0.0	0.0		1	1	1
	6	50.000	0.0	0.0		1	1	1
	7	60.000	0.0	0.0		1	1	1
	8	70.000	0.0	0.0		1	1	1
	9	80.000	0.0	0.0		1	1	1
	10	90.000	0.0	0.0		1	1	1
	11	100.000	0.0	0.0		1	1	1
	12	110.000	0.0	0.0		1	1	1
	13	120.000	0.0	0.0		1	1	1
	14	130.000	0.0	0.0		1	1	1
	15	140.000	0.0	0.0		1	1	1
	16	150.000	0.0	0.0		1	1	1
	17	160.000	0.0	0.0		1	1	1
	18	170.000	0.0	0.0		1	1	1
	19	180.000	0.0	0.0		1	1	1
	20	190.000	0.0	0.0		1	1	1
	21	200.000	0.0	0.0		1	1	1
	22	210.000	0.0	0.0		1	1	1
	23	220.000	0.0	0.0		1	1	1
	24	230.000	0.0	0.0		1	1	1
	25	240.000	0.0	0.0		1	1	1
	26	245.000	0.0	0.0		1	1	1

MATERIAL PROPERTY DATA

MATERIAL ID	TEMP	E(T)	A(T)	DEN(T)	POIS(T)	SO(T)
1	70.0	2.790D+07	6.070D-06	0.2835	0.3000	0.0
	400.0	2.760D+07	6.820D-06	0.2835	0.3000	0.0

PIPE CROSS-SECTION DATA

ID NO.	OD(IN)	THK(IN)	AREA(IN2)	IX(IN4)	IY(IN4)	IZ(IN4)	BEND(IN)
1	26.000	0.3750	0.0	0.0	0.0	0.0	0.0

INSULATION WT. PROPERTIES

INSULATION ID	INSULATION WT.(LBS/IN)
1	0.0

FLUID WEIGHT PROPERTIES

FLUID ID	TEMP.	DENSITY	TEMP.	DENSITY	TEMP.	DENSITY
1	0.	0.0				

*** RESEQUENCING DATA ***

NODE	WAS	NOW	NODE	WAS	NOW	NODE	WAS	NOW
1	1	1	2	2	2	3	3	3
4	4	4	5	5	5	6	6	6
7	7	7	8	8	8	9	9	9
10	10	10	11	11	11	12	12	12
13	13	13	14	14	14	15	15	15
16	16	16	17	17	17	18	18	18
19	19	19	20	20	20	21	21	21
22	22	22	23	23	23	24	24	24
25	25	25	26	26	26			

ORIGINAL BANDWIDTH= 1 NEW BANDWIDTH= 1

RESULTS FROM DATA CHECK ROUTINE

**** NO ERRORS HAVE BEEN DETECTED IN THE GEOMETRY PORTION OF THE MODEL ****

ELEMENT DATA SUMMARY

ELEMENT	N1 - N2	TYPE	AREA	IX	IY	IZ	LENGTH	RAD	PHI	WEIGHT
1	1 - 2	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
2	2 - 3	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
3	3 - 4	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
4	4 - 5	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
5	5 - 6	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
6	6 - 7	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
7	7 - 8	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
8	8 - 9	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
9	9 - 10	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
10	10 - 11	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
11	11 - 12	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
12	12 - 13	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
13	13 - 14	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
14	14 - 15	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
15	15 - 16	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
16	16 - 17	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
17	17 - 18	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
18	18 - 19	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
19	19 - 20	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
20	20 - 21	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
21	21 - 22	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
22	22 - 23	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
23	23 - 24	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
24	24 - 25	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02
25	25 - 26	0	30.189	4956.85	2478.43	2478.43	60.00			513.51

TOTAL WEIGHT= 25162.02
RB WEIGHT= 0.0
FLUID VOLUME= 1472177.

PIPE AND INSULATION DATA SUMMARY

IDENTIFICATION NO.	TOTAL PIPE LENGTH	TOTAL INSULATION WT.
1	2940.000	-
	2940.000	0.0

PLOT CONTROL DATA (GEOMETRY PLOTS)

PLOT NO	NPLOT	OX	OY	OZ	XBIG	XSML	YBIG	YSML	ZBIG	ZSML	VA
1	-1	-1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
2	1	1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
3	1	1.000	-1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
4	1	-1.000	-1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0	2

LOAD CASE 1

PRESSURE= 0.0 FLUID ID= 0 GRAVITY DIRECTION COSINES(X= 0.0 ,Y= 0.0 ,Z= 0.0)

SUBSET LOAD FACTORS,

PRESSURE	= 0.0	FLUID WT.	= 0.0	GRAVITY	= 0.0
SEISMIC	= 0.0	TEMP. (CON)	= 0.0	TEMP. (VARY)	= 0.0
POINT LOADS	= 0.0	WIND LOADS	= 0.0	DISPLACEMENTS	= 1.00
COLD SPRINGING	= 0.0	LINEAR K	= 0.0	S-ALLOW FACTOR	= 0.0

NF VALUES 0 0 0 0 1 0 0 0 1 0 0 0

THE TEMPERATURE OF THE ENTIRE PIPING SYSTEM IS CONSTANT AND IS EQUAL TO 70.0 DEGS

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
1	70.0	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0
2	70.0	0.	0. -2.040000	0.	0.	0.	0.	0
3	70.0	0.	0. -2.160000	0.	0.	0.	0.	0
4	70.0	0.	0. -2.160000	0.	0.	0.	0.	0
5	70.0	0.	0. -2.280000	0.	0.	0.	0.	0
6	70.0	0.	0. -5.040000	0.	0.	0.	0.	0
7	70.0	0.	0. -2.880000	0.	0.	0.	0.	0
8	70.0	0.	0. -1.920000	0.	0.	0.	0.	0
9	70.0	0.	0. -1.200000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
10	70.0	0.	0. -0.720000	0.	0.	0.	0.	0
11	70.0	0.	0. 0.0	0.	0.	0.	0.	0
12	70.0	0.	0. 0.0	0.	0.	0.	0.	0
13	70.0	0.	0. 0.600000	0.	0.	0.	0.	0
14	70.0	0.	0. 1.320000	0.	0.	0.	0.	0
15	70.0	0.	0. 1.560000	0.	0.	0.	0.	0
16	70.0	0.	0. 1.920000	0.	0.	0.	0.	0
17	70.0	0.	0. 1.560000	0.	0.	0.	0.	0
18	70.0	0.	0. 0.840000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
19	70.0	0.	0. 0.240000	0.	0.	0.	0.	0
20	70.0	0.	0. 0.0	0.	0.	0.	0.	0
21	70.0	0.	0. -1.080000	0.	0.	0.	0.	0
22	70.0	0.	0. -1.680000	0.	0.	0.	0.	0
23	70.0	0.	0. -2.280000	0.	0.	0.	0.	0
24	70.0	0.	0. -3.240000	0.	0.	0.	0.	0
25	70.0	0.	0. -3.600000	0.	0.	0.	0.	0
26	70.0	0. 0.0	0. -3.360000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0

LOAD CASE 2

PRESSURE= 0.0 FLUID ID= 0 GRAVITY DIRECTION COSINES(X= 0.0 ,Y= 0.0 ,Z= 0.0)

SUBSET LOAD FACTORS,

PRESSURE	= 0.0	FLUID WT.	= 0.0	GRAVITY	= 0.0
SEISMIC	= 0.0	TEMP. (CON)	= 0.0	TEMP. (VARY)	= 0.0
POINT LOADS	= 0.0	WIND LOADS	= 0.0	DISPLACEMENTS	= 1.00
COLD SPRINGING	= 0.0	LINEAR K	= 0.0	S-ALLOW FACTOR	= 0.0

NF VALUES 0 0 0 0 0 0 0 0 1 0 0 0

THE TEMPERATURE OF THE ENTIRE PIPING SYSTEM IS CONSTANT AND IS EQUAL TO 70.0 DEGS

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
1	70.0	0. 0.0	0. 0.0	0. 0.0	0.	0.	0.	0
2	70.0	0.	0. -2.040000	0.	0.	0.	0.	0
3	70.0	0.	0. -2.160000	0.	0.	0.	0.	0
4	70.0	0.	0. -2.160000	0.	0.	0.	0.	0
5	70.0	0.	0. -2.280000	0.	0.	0.	0.	0
6	70.0	0.	0. -5.040000	0.	0.	0.	0.	0
7	70.0	0.	0. -2.880000	0.	0.	0.	0.	0
8	70.0	0.	0. -1.920000	0.	0.	0.	0.	0
9	70.0	0.	0. -1.200000	0.	0.	0.	0.	0

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
10	70.0	0.	0.	0.	0.	0.	0.	0
		....	-0.720000	....	....	....	....	
11	70.0	0.	0.	0.	0.	0.	0.	0
		....	0.0	....	....	....	....	
12	70.0	0.	0.	0.	0.	0.	0.	0
		....	0.0	....	....	....	....	
13	70.0	0.	0.	0.	0.	0.	0.	0
		....	0.600000	....	....	....	....	
14	70.0	0.	0.	0.	0.	0.	0.	0
		....	1.320000	....	....	....	....	
15	70.0	0.	0.	0.	0.	0.	0.	0
		....	1.560000	....	....	....	....	
16	70.0	0.	0.	0.	0.	0.	0.	0
		....	1.920000	....	....	....	....	
17	70.0	0.	0.	0.	0.	0.	0.	0
		....	1.560000	....	....	....	....	
18	70.0	0.	0.	0.	0.	0.	0.	0
		....	0.840000	....	....	....	....	

LOAD CASE 2 NODE DATA

NODE -	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
19	70.0	0.	0. 0.240000	0.	0.	0.	0.	0
20	70.0	0.	0. 0.0	0.	0.	0.	0.	0
21	70.0	0.	0. -1.080000	0.	0.	0.	0.	0
22	70.0	0.	0. -1.680000	0.	0.	0.	0.	0
23	70.0	0.	0. -2.280000	0.	0.	0.	0.	0
24	70.0	0.	0. -3.240000	0.	0.	0.	0.	0
25	70.0	0.	0. -3.600000	0.	0.	0.	0.	0
26	70.0	0. 0.0	0. -3.360000	0. 0.0	0.	0.	0.	0

CALCULATED DISPLACEMENTS FOR LOAD CASE 1

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
1	0	0.0	0.0	0.0	0.0	0.0	0.0
2	0	0.0	-2.0400D+00	0.0	0.0	0.0	-1.2642D-02
3	0	0.0	-2.1600D+00	0.0	0.0	0.0	1.2952D-03
4	0	0.0	-2.1600D+00	0.0	0.0	0.0	2.1310D-03
5	0	0.0	-2.2800D+00	0.0	0.0	0.0	-1.6234D-02
6	0	0.0	-5.0400D+00	0.0	0.0	0.0	-3.6986D-03
7	0	0.0	-2.8800D+00	0.0	0.0	0.0	1.7584D-02
8	0	0.0	-1.9200D+00	0.0	0.0	0.0	5.4103D-03
9	0	0.0	-1.2000D+00	0.0	0.0	0.0	4.8379D-03
10	0	0.0	-7.2000D-01	0.0	0.0	0.0	5.4484D-03
11	0	0.0	0.0	0.0	0.0	0.0	2.7866D-03
12	0	0.0	0.0	0.0	0.0	0.0	1.6822D-03
13	0	0.0	6.0000D-01	0.0	0.0	0.0	6.5461D-03
14	0	0.0	1.3200D+00	0.0	0.0	0.0	3.7757D-03
15	0	0.0	1.5600D+00	0.0	0.0	0.0	2.6423D-03
16	0	0.0	1.9200D+00	0.0	0.0	0.0	4.7017D-04
17	0	0.0	1.5600D+00	0.0	0.0	0.0	-5.1333D-03
18	0	0.0	8.4000D-01	0.0	0.0	0.0	-6.1151D-03
19	0	0.0	2.4000D-01	0.0	0.0	0.0	-2.6081D-03
20	0	0.0	0.0	0.0	0.0	0.0	-5.6101D-03
21	0	0.0	-1.0800D+00	0.0	0.0	0.0	-7.8086D-03
22	0	0.0	-1.6800D+00	0.0	0.0	0.0	-4.1059D-03
23	0	0.0	-2.2800D+00	0.0	0.0	0.0	-6.9280D-03
24	0	0.0	-3.2400D+00	0.0	0.0	0.0	-6.6263D-03
25	0	0.0	-3.6000D+00	0.0	0.0	0.0	1.8950D-03
26	0	0.0	-3.3600D+00	0.0	0.0	0.0	0.0

CALCULATED DISPLACEMENTS FOR LOAD CASE 2

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
1	0	0.0	0.0	0.0	0.0	0.0	-2.0135D-02
2	0	0.0	-2.0400D+00	0.0	0.0	0.0	-8.6955D-03
3	0	0.0	-2.1600D+00	0.0	0.0	0.0	5.2169D-04
4	0	0.0	-2.1600D+00	0.0	0.0	0.0	2.2826D-03
5	0	0.0	-2.2800D+00	0.0	0.0	0.0	-1.6264D-02
6	0	0.0	-5.0400D+00	0.0	0.0	0.0	-3.6928D-03
7	0	0.0	-2.8800D+00	0.0	0.0	0.0	1.7583D-02
8	0	0.0	-1.9200D+00	0.0	0.0	0.0	5.4105D-03
9	0	0.0	-1.2000D+00	0.0	0.0	0.0	4.8379D-03
10	0	0.0	-7.2000D-01	0.0	0.0	0.0	5.4484D-03
11	0	0.0	0.0	0.0	0.0	0.0	2.7866D-03
12	0	0.0	0.0	0.0	0.0	0.0	1.6822D-03
13	0	0.0	6.0000D-01	0.0	0.0	0.0	6.5461D-03
14	0	0.0	1.3200D+00	0.0	0.0	0.0	3.7757D-03
15	0	0.0	1.5600D+00	0.0	0.0	0.0	2.6423D-03
16	0	0.0	1.9200D+00	0.0	0.0	0.0	4.7017D-04
17	0	0.0	1.5600D+00	0.0	0.0	0.0	-5.1333D-03
18	0	0.0	8.4000D-01	0.0	0.0	0.0	-6.1151D-03
19	0	0.0	2.4000D-01	0.0	0.0	0.0	-2.6081D-03
20	0	0.0	0.0	0.0	0.0	0.0	-5.6100D-03
21	0	0.0	-1.0800D+00	0.0	0.0	0.0	-7.8090D-03
22	0	0.0	-1.6800D+00	0.0	0.0	0.0	-4.1039D-03
23	0	0.0	-2.2800D+00	0.0	0.0	0.0	-6.9385D-03
24	0	0.0	-3.2400D+00	0.0	0.0	0.0	-6.5730D-03
25	0	0.0	-3.6000D+00	0.0	0.0	0.0	1.6231D-03
26	0	0.0	-3.3600D+00	0.0	0.0	0.0	4.2530D-03

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
1	1	(G)	0.0	453903.8	0.0	0.0	0.0	2876581.7
	2	(G)	0.0	-453903.8	0.0	0.0	0.0	1662456.3
2	2	(G)	0.0	-198639.6	0.0	0.0	0.0	-1662456.3
	3	(G)	0.0	198639.6	0.0	0.0	0.0	-323939.2
3	3	(G)	0.0	72814.6	0.0	0.0	0.0	323939.2
	4	(G)	0.0	-72814.6	0.0	0.0	0.0	404206.5
4	4	(G)	0.0	-257218.3	0.0	0.0	0.0	-404206.5
	5	(G)	0.0	257218.3	0.0	0.0	0.0	-2167976.3
5	5	(G)	0.0	553985.0	0.0	0.0	0.0	2167976.3
	6	(G)	0.0	-553985.0	0.0	0.0	0.0	3371874.1
6	6	(G)	0.0	-469974.0	0.0	0.0	0.0	-3371874.1
	7	(G)	0.0	469974.0	0.0	0	0.0	-1327865.9
7	7	(G)	0.0	148653.2	0.0	0.0	0.0	1327865.9
	8	(G)	0.0	-148653.2	0.0	0.0	0.0	158666.4
8	8	(G)	0.0	-37229.8	0.0	0.0	0.0	-158666.4
	9	(G)	0.0	37229.8	0.0	0.0	0.0	-213631.8
9	9	(G)	0.0	48589.0	0.0	0.0	0.0	213631.8
	10	(G)	0.0	-48589.0	0.0	0.0	0.0	272257.9
10	10	(G)	0.0	-80014.9	0.0	0.0	0.0	-272257.9
	11	(G)	0.0	80014.9	0.0	0.0	0.0	-527891.6

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
11	11	(G)	0.0	94971.7	0.0	0.0	0.0	527891.6
	12	(G)	0.0	-94971.7	0.0	0.0	0.0	421825.6
12	12	(G)	0.0	-37652.8	0.0	0.0	0.0	-421825.6
	13	(G)	0.0	37652.8	0.0	0.0	0.0	45297.2
13	13	(G)	0.0	-35666.1	0.0	0.0	0.0	-45297.2
	14	(G)	0.0	35666.1	0.0	0.0	0.0	-311363.9
14	14	(G)	0.0	51388.4	0.0	0.0	0.0	311363.9
	15	(G)	0.0	-51388.4	0.0	0.0	0.0	202519.7
15	15	(G)	0.0	-61365.3	0.0	0.0	0.0	-202519.7
	16	(G)	0.0	61365.3	0.0	0.0	0.0	-411133.6
16	16	(G)	0.0	28411.8	0.0	0.0	0.0	411133.6
	17	(G)	0.0	-28411.8	0.0	0.0	0.0	-127016.0
17	17	(G)	0.0	15974.2	0.0	0.0	0.0	127016.0
	18	(G)	0.0	-15974.2	0.0	0.0	0.0	32726.3
18	18	(G)	0.0	27135.1	0.0	0.0	0.0	-32726.3
	19	(G)	0.0	-27135.1	0.0	0.0	0.0	304077.5
19	19	(G)	0.0	-89646.2	0.0	0.0	0.0	-304077.5
	20	(G)	0.0	89646.2	0.0	0.0	0.0	-592384.3
20	20	(G)	0.0	97362.6	0.0	0.0	0.0	592384.3
	21	(G)	0.0	-97362.6	0.0	0.0	0.0	381241.7

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
21	21	(G)	0.0	-40688.4	0.0	0.0	0.0	-381241.7
	22	(G)	0.0	40688.4	0.0	0.0	0.0	-25642.4
22	22	(G)	0.0	-21974.7	0.0	0.0	0.0	25642.4
	23	(G)	0.0	21974.7	0.0	0.0	0.0	-245389.1
23	23	(G)	0.0	51976.0	0.0	0.0	0.0	245389.1
	24	(G)	0.0	-51976.0	0.0	0.0	0.0	274371.4
24	24	(G)	0.0	26963.0	0.0	0.0	0.0	-274371.4
	25	(G)	0.0	-26963.0	0.0	0.0	0.0	544001.9
25	25	(G)	0.0	-290397.9	0.0	0.0	0.0	-544001.9
	26	(G)	0.0	290397.9	0.0	0.0	0.0	-907987.8

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
1	1	(G)	0.0	109863.7	0.0	0.0	0.0	0.0
	2	(G)	0.0	-109863.7	0.0	0.0	0.0	1098637.4
2	2	(G)	0.0	-131206.6	0.0	0.0	0.0	-1098637.4
	3	(G)	0.0	131206.6	0.0	0.0	0.0	-213429.0
3	3	(G)	0.0	59597.5	0.0	0.0	0.0	213429.0
	4	(G)	0.0	-59597.5	0.0	0.0	0.0	382546.1
4	4	(G)	0.0	-254627.7	0.0	0.0	0.0	-382546.1
	5	(G)	0.0	254627.7	0.0	0.0	0.0	-2163730.8
5	5	(G)	0.0	553477.3	0.0	0.0	0.0	2163730.8
	6	(G)	0.0	-553477.3	0.0	0.0	0.0	3371042.0
6	6	(G)	0.0	-469874.5	0.0	0.0	0.0	-3371042.0
	7	(G)	0.0	469874.5	0.0	0.0	0.0	-1327702.8
7	7	(G)	0.0	148633.7	0.0	0.0	0.0	1327702.8
	8	(G)	0.0	-148633.7	0.0	0.0	0.0	158634.4
8	8	(G)	0.0	-37226.0	0.0	0.0	0.0	-158634.4
	9	(G)	0.0	37226.0	0.0	0.0	0.0	-213625.5
9	9	(G)	0.0	48588.2	0.0	0.0	0.0	213625.5
	10	(G)	0.0	-48588.2	0.0	0.0	0.0	272256.7
10	10	(G)	0.0	-80014.8	0.0	0.0	0.0	-272256.7
	11	(G)	0.0	80014.8	0.0	0.0	0.0	-527891.4

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
11	11	(G)	0.0	94971.7	0.0	0.0	0.0	527891.4
	12	(G)	0.0	-94971.7	0.0	0.0	0.0	421825.6
12	2	(G)	0.0	-37652.8	0.0	0.0	0.0	-421825.6
	13	(G)	0.0	37652.8	0.0	0.0	0.0	45297.2
13	13	(G)	0.0	-35666.1	0.0	0.0	0.0	-45297.2
	14	(G)	0.0	35666.1	0.0	0.0	0.0	-311363.9
14	14	(G)	0.0	51388.4	0.0	0.0	0.0	311363.9
	15	(G)	0.0	-51388.4	0.0	0.0	0.0	202519.7
15	15	(G)	0.0	-61365.3	0.0	0.0	0.0	-202519.7
	16	(G)	0.0	61365.3	0.0	0.0	0.0	-411133.5
16	16	(G)	0.0	28411.7	0.0	0.0	0.0	411133.5
	17	(G)	0.0	-28411.7	0.0	0.0	0.0	-127016.1
17	17	(G)	0.0	15974.3	0.0	0.0	0.0	127016.1
	18	(G)	0.0	-15974.3	0.0	0.0	0.0	32726.8
18	18	(G)	0.0	27134.9	0.0	0.0	0.0	-32726.8
	19	(G)	0.0	-27134.9	0.0	0.0	0.0	304075.3
19	19	(G)	0.0	-89644.8	0.0	0.0	0.0	-304075.3
	20	(G)	0.0	89644.8	0.0	0.0	0.0	-592373.1
20	20	(G)	0.0	97355.7	0.0	0.0	0.0	592373.1
	21	(G)	0.0	-97355.7	0.0	0.0	0.0	381184.4

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
21	21	(G)	0.0	-40653.4	0.0	0.0	0.0	-381184.4
	22	(G)	0.0	40653.4	0.0	0.0	0.0	-25349.9
22	22	(G)	0.0	-22153.2	0.0	0.0	0.0	25349.9
	23	(G)	0.0	22153.2	0.0	0.0	0.0	-246881.6
23	23	(G)	0.0	52886.8	0.0	0.0	0.0	246881.6
	24	(G)	0.0	-52886.8	0.0	0.0	0.0	281986.1
24	24	(G)	0.0	22316.6	0.0	0.0	0.0	-281986.1
	25	(G)	0.0	-22316.6	0.0	0.0	0.0	505152.1
25	25	(G)	0.0	-101030.4	0.0	0.0	0.0	-505152.1
	26	(G)	0.0	101030.4	0.0	0.0	0.0	-0.0

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SD**
1	1- 2	0.0	0.0	0.0	181061.2	1.000	0.0	181061.2	181061.2
		0.0	0.0	0.0	-104640.3	1.000	0.0	104640.3	104640.3
2	2- 3	0.0	0.0	0.0	-104640.3	1.000	0.0	104640.3	104640.3
		0.0	0.0	0.0	20389.8	1.000	0.0	20389.8	20389.8
3	3- 4	0.0	0.0	0.0	20389.8	1.000	0.0	20389.8	20389.8
		0.0	0.0	0.0	-25442.0	1.000	0.0	25442.0	25442.0
4	4- 5	0.0	0.0	0.0	-25442.0	1.000	0.0	25442.0	25442.0
		0.0	0.0	0.0	136459.4	1.000	0.0	136459.4	136459.4
5	5- 6	0.0	0.0	0.0	136459.4	1.000	0.0	136459.4	136459.4
		0.0	0.0	0.0	-212236.5	1.000	0.0	212236.5	212236.5
6	6- 7	0.0	0.0	0.0	-212236.5	1.000	0.0	212236.5	212236.5
		0.0	0.0	0.0	83580.1	1.000	0.0	83580.1	83580.1
7	7- 8	0.0	0.0	0.0	83580.1	1.000	0.0	83580.1	83580.1
		0.0	0.0	0.0	-9987.0	1.000	0.0	9987.0	9987.0
8	8- 9	0.0	0.0	0.0	-9987.0	1.000	0.0	9987.0	9987.0
		0.0	0.0	0.0	13446.7	1.000	0.0	13446.7	13446.7
9	9- 10	0.0	0.0	0.0	13446.7	1.000	0.0	13446.7	13446.7
		0.0	0.0	0.0	-17136.8	1.000	0.0	17136.8	17136.8
10	10- 11	0.0	0.0	0.0	-17136.8	1.000	0.0	17136.8	17136.8
		0.0	0.0	0.0	33227.2	1.000	0.0	33227.2	33227.2

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
11	11- 12	0.0	0.0	0.0	33227.2	1.000	0.0	33227.2	33227.2
		0.0	0.0	0.0	-26551.1	1.000	0.0	26551.1	26551.1
12	12- 13	0.0	0.0	0.0	-26551.1	1.000	0.0	26551.1	26551.1
		0.0	0.0	0.0	-2851.1	1.000	0.0	2851.1	2851.1
13	13- 14	0.0	0.0	0.0	-2851.1	1.000	0.0	2851.1	2851.1
		0.0	0.0	0.0	19598.2	1.000	0.0	19598.2	19598.2
14	14- 15	0.0	0.0	0.0	19598.2	1.000	0.0	19598.2	19598.2
		0.0	0.0	0.0	-12747.2	1.000	0.0	12747.2	12747.2
15	15- 16	0.0	0.0	0.0	-12747.2	1.000	0.0	12747.2	12747.2
		0.0	0.0	0.0	25878.1	1.000	0.0	25878.1	25878.1
16	16- 17	0.0	0.0	0.0	25878.1	1.000	0.0	25878.1	25878.1
		0.0	0.0	0.0	7994.8	1.000	0.0	7994.8	7994.8
17	17- 18	0.0	0.0	0.0	7994.8	1.000	0.0	7994.8	7994.8
		0.0	0.0	0.0	-2059.9	1.000	0.0	2059.9	2059.9
18	18- 19	0.0	0.0	0.0	-2059.9	1.000	0.0	2059.9	2059.9
		0.0	0.0	0.0	-19139.6	1.000	0.0	19139.6	19139.6
19	19- 20	0.0	0.0	0.0	-19139.6	1.000	0.0	19139.6	19139.6
		0.0	0.0	0.0	37286.6	1.000	0.0	37286.6	37286.6
20	20- 21	0.0	0.0	0.0	37286.6	1.000	0.0	37286.6	37286.6
		0.0	0.0	0.0	-23996.6	1.000	0.0	23996.6	23996.6

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I,Z	INDEX	PM	PB	SO**
21	21- 22	0.0	0.0	0.0	-23996.6	1.000	0.0	23996.6	23996.6
		0.0	0.0	0.0	1614.0	1.000	0.0	1614.0	1614.0
22	22- 23	0.0	0.0	0.0	1614.0	1.000	0.0	1614.0	1614.0
		0.0	0.0	0.0	15445.6	1.000	0.0	15445.6	15445.6
23	23- 24	0.0	0.0	0.0	15445.6	1.000	0.0	15445.6	15445.6
		0.0	0.0	0.0	-17269.8	1.000	0.0	17269.8	17269.8
24	24- 25	0.0	0.0	0.0	-17269.8	1.000	0.0	17269.8	17269.8
		0.0	0.0	0.0	-34241.2	1.000	0.0	34241.2	34241.2
25	25- 26	0.0	0.0	0.0	-34241.2	1.000	0.0	34241.2	34241.2
		0.0	0.0	0.0	57151.6	1.000	0.0	57151.6	57151.6

** STRESS INDICIES= PRESS=0. ; MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
1	1- 2	0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0
		0.0	0.0	0.0	-69151.7	1.000	0.0	69151.7	69151.7
2	2- 3	0.0	0.0	0.0	-69151.7	1.000	0.0	69151.7	69151.7
		0.0	0.0	0.0	13433.9	1.000	0.0	13433.9	13433.9
3	3- 4	0.0	0.0	0.0	13433.9	1.000	0.0	13433.9	13433.9
		0.0	0.0	0.0	-24078.7	1.000	0.0	24078.7	24078.7
4	4- 5	0.0	0.0	0.0	-24078.7	1.000	0.0	24078.7	24078.7
		0.0	0.0	0.0	136192.1	1.000	0.0	136192.1	136192.1
5	5- 6	0.0	0.0	0.0	136192.1	1.000	0.0	136192.1	136192.1
		0.0	0.0	0.0	-212184.1	1.000	0.0	212184.1	212184.1
6	6- 7	0.0	0.0	0.0	-212184.1	1.000	0.0	212184.1	212184.1
		0.0	0.0	0.0	83569.9	1.000	0.0	83569.9	83569.9
7	7- 8	0.0	0.0	0.0	83569.9	1.000	0.0	83569.9	83569.9
		0.0	0.0	0.0	-9985.0	1.000	0.0	9985.0	9985.0
8	8- 9	0.0	0.0	0.0	-9985.0	1.000	0.0	9985.0	9985.0
		0.0	0.0	0.0	13446.3	1.000	0.0	13446.3	13446.3
9	9- 10	0.0	0.0	0.0	13446.3	1.000	0.0	13446.3	13446.3
		0.0	0.0	0.0	-17136.7	1.000	0.0	17136.7	17136.7
10	10- 11	0.0	0.0	0.0	-17136.7	1.000	0.0	17136.7	17136.7
		0.0	0.0	0.0	33227.2	1.000	0.0	33227.2	33227.2

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
11	11- 12	0.0	0.0	0.0	33227.2	1.000	0.0	33227.2	33227.2
		0.0	0.0	0.0	-26551.0	1.000	0.0	26551.0	26551.0
12	12- 13	0.0	0.0	0.0	-26551.0	1.000	0.0	26551.0	26551.0
		0.0	0.0	0.0	-2851.1	1.000	0.0	2851.1	2851.1
13	13- 14	0.0	0.0	0.0	-2851.1	1.000	0.0	2851.1	2851.1
		0.0	0.0	0.0	19598.2	1.000	0.0	19598.2	19598.2
14	14- 15	0.0	0.0	0.0	19598.2	1.000	0.0	19598.2	19598.2
		0.0	0.0	0.0	-12747.2	1.000	0.0	12747.2	12747.2
15	15- 16	0.0	0.0	0.0	-12747.2	1.000	0.0	12747.2	12747.2
		0.0	0.0	0.0	25878.1	1.000	0.0	25878.1	25878.1
16	16- 17	0.0	0.0	0.0	25878.1	1.000	0.0	25878.1	25878.1
		0.0	0.0	0.0	7994.8	1.000	0.0	7994.8	7994.8
17	17- 18	0.0	0.0	0.0	7994.8	1.000	0.0	7994.8	7994.8
		0.0	0.0	0.0	-2059.9	1.000	0.0	2059.9	2059.9
18	18- 19	0.0	0.0	0.0	-2059.9	1.000	0.0	2059.9	2059.9
		0.0	0.0	0.0	-19139.5	1.000	0.0	19139.5	19139.5
19	19- 20	0.0	0.0	0.0	-19139.5	1.000	0.0	19139.5	19139.5
		0.0	0.0	0.0	37285.9	1.000	0.0	37285.9	37285.9
20	20- 21	0.0	0.0	0.0	37285.9	1.000	0.0	37285.9	37285.9
		0.0	0.0	0.0	-23993.0	1.000	0.0	23993.0	23993.0

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
21	21- 22	0.0	0.0	0.0	-23993.0	1.000	0.0	23993.0	23993.0
		0.0	0.0	0.0	1595.6	1.000	0.0	1595.6	1595.6
22	22- 23	0.0	0.0	0.0	1595.6	1.000	0.0	1595.6	1595.6
		0.0	0.0	0.0	15539.5	1.000	0.0	15539.5	15539.5
23	23- 24	0.0	0.0	0.0	15539.5	1.000	0.0	15539.5	15539.5
		0.0	0.0	0.0	-17749.1	1.000	0.0	17749.1	17749.1
24	24- 25	0.0	0.0	0.0	-17749.1	1.000	0.0	17749.1	17749.1
		0.0	0.0	0.0	-31795.9	1.000	0.0	31795.9	31795.9
25	25- 26	0.0	0.0	0.0	-31795.9	1.000	0.0	31795.9	31795.9
		0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0

** STRESS INDICIES= PRESS=0. , MOMENT=1

MAXIMUM STRESS SUMMARY TABLE

LOAD NO. 1 MAX. STRESS=212237. PSI, IT OCCURS IN ELEMENT 5 - 6 , 120.00 INS. FROM NODE 5

LOAD NO. 2 MAX. STRESS=212184. PSI, IT OCCURS IN ELEMENT 5 - 6 , 120.00 INS. FROM NODE 5

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
1	SPECIFIED DISP.	0.0	453903.8	0.0	0.0	0.0	34518980.3
2	SPECIFIED DISP.	0.0	-652543.3	0.0	0.0	0.0	0.0
3	SPECIFIED DISP.	0.0	271454.1	0.0	0.0	0.0	0.0
4	SPECIFIED DISP.	0.0	-330032.8	0.0	0.0	0.0	0.0
5	SPECIFIED DISP.	0.0	811203.3	0.0	0.0	0.0	0.0
6	SPECIFIED DISP.	0.0	-1023959.0	0.0	0.0	0.0	0.0
7	SPECIFIED DISP.	0.0	618627.2	0.0	0.0	0.0	0.0
8	SPECIFIED DISP.	0.0	-185883.0	0.0	0.0	0.0	0.0
9	SPECIFIED DISP.	0.0	85818.8	0.0	0.0	0.0	0.0
10	SPECIFIED DISP.	0.0	-128603.9	0.0	0.0	0.0	0.0
11	SPECIFIED DISP.	0.0	174986.7	0.0	0.0	0.0	0.0
12	SPECIFIED DISP.	0.0	-132624.6	0.0	0.0	0.0	0.0
13	SPECIFIED DISP.	0.0	1986.7	0.0	0.0	0.0	0.0
14	SPECIFIED DISP.	0.0	87054.5	0.0	0.0	0.0	0.0
15	SPECIFIED DISP.	0.0	-112753.7	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
16	SPECIFIED DISP.	0.0	89777.1	0.0	0.0	0.0	0.0
17	SPECIFIED DISP.	0.0	-12437.5	0.0	0.0	0.0	0.0
18	SPECIFIED DISP.	0.0	11160.9	0.0	0.0	0.0	0.0
19	SPECIFIED DISP.	0.0	-116781.3	0.0	0.0	0.0	0.0
20	SPECIFIED DISP.	0.0	187008.8	0.0	0.0	0.0	0.0
21	SPECIFIED DISP.	0.0	-138051.0	0.0	0.0	0.0	0.0
22	SPECIFIED DISP.	0.0	16713.7	0.0	0.0	0.0	0.0
23	SPECIFIED DISP.	0.0	73950.7	0.0	0.0	0.0	0.0
24	SPECIFIED DISP.	0.0	-25013.0	0.0	0.0	0.0	0.0
25	SPECIFIED DISP.	0.0	-317361.0	0.0	0.0	0.0	0.0
26	SPECIFIED DISP.	0.0	290397.9	0.0	0.0	0.0	-10895853.0
SUMMATION OF LOADS		0.0	0.0	0.0	0.0	0.0	23623127.3

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
1	SPECIFIED DISP.	0.0	109863.7	0.0	0.0	0.0	0.0
2	SPECIFIED DISP.	0.0	-241070.4	0.0	0.0	0.0	0.0
3	SPECIFIED DISP.	0.0	190804.1	0.0	0.0	0.0	0.0
4	SPECIFIED DISP.	0.0	-314225.2	0.0	0.0	0.0	0.0
5	SPECIFIED DISP.	0.0	808105.0	0.0	0.0	0.0	0.0
6	SPECIFIED DISP.	0.0	-1023351.8	0.0	0.0	0.0	0.0
7	SPECIFIED DISP.	0.0	618508.2	0.0	0.0	0.0	0.0
8	SPECIFIED DISP.	0.0	-185859.7	0.0	0.0	0.0	0.0
9	SPECIFIED DISP.	0.0	85814.2	0.0	0.0	0.0	0.0
10	SPECIFIED DISP.	0.0	-128603.0	0.0	0.0	0.0	0.0
11	SPECIFIED DISP.	0.0	174986.5	0.0	0.0	0.0	0.0
12	SPECIFIED DISP.	0.0	-132624.5	0.0	0.0	0.0	0.0
13	SPEC[illegible] ISP.	0.0	1986.7	0.0	0.0	0.0	0.0
14	SPECIFI[illegible]	0.0	87054.5	0.0	0.0	0.0	0.0
15	SPECIF[illegible]	0.0	-112753.7	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
16	SPECIFIED DISP.	0.0	89777.1	0.0	0.0	0.0	0.0
17	SPECIFIED DISP.	0.0	-12437.5	0.0	0.0	0.0	0.0
18	SPECIFIED DISP.	0.0	11160.6	0.0	0.0	0.0	0.0
19	SPECIFIED DISP.	0.0	-116779.7	0.0	0.0	0.0	0.0
20	SPECIFIED DISP.	0.0	187000.6	0.0	0.0	0.0	0.0
21	SPECIFIED DISP.	0.0	-138009.2	0.0	0.0	0.0	0.0
22	SPECIFIED DISP.	0.0	18500.3	0.0	0.0	0.0	0.0
23	SPECIFIED DISP.	0.0	75039.9	0.0	0.0	0.0	0.0
24	SPECIFIED DISP.	0.0	-30570.2	0.0	0.0	0.0	0.0
25	SPECIFIED DISP.	0.0	-123347.0	0.0	0.0	0.0	0.0
26	SPECIFIED DISP.	0.0	101030.4	0.0	0.0	0.0	0.0
** SUMMATION OF LOADS***		0.0	0.0	0.0	0.0	0.0	0.0
		(0.0)	(2559631.8)	(0.0)			

LINE 26 - OHBC - 55

NODE MAP & COMPUTER OUTPUT

ETEC

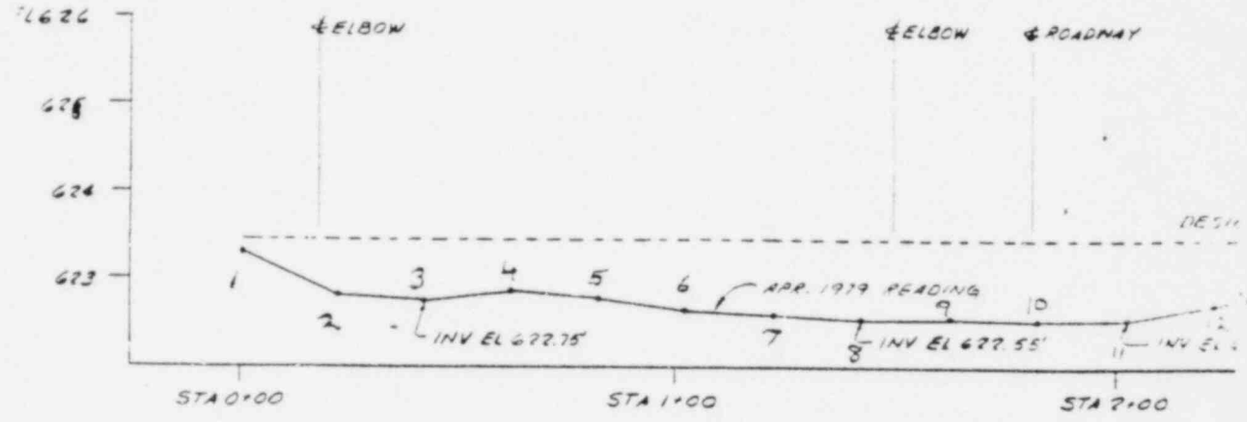
NO. _____

JG/9-19-80 PAGE _____ OF _____

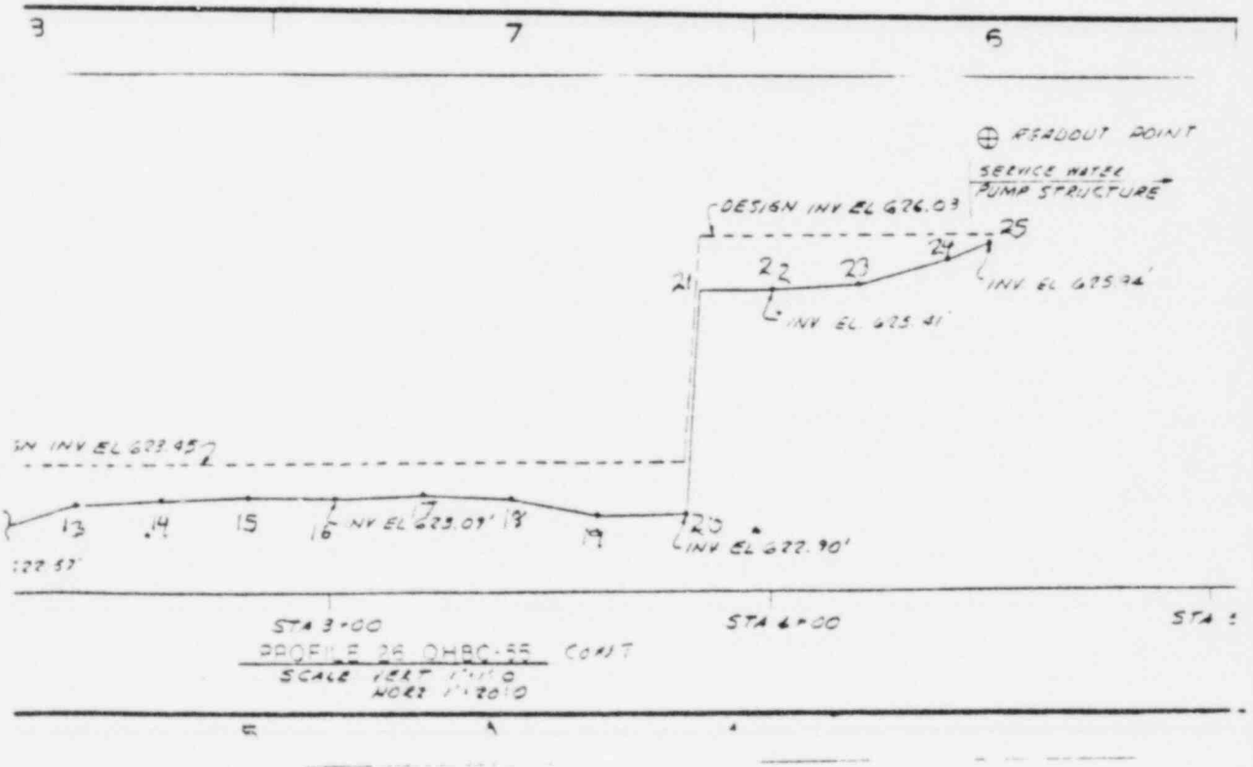
PREPARED BY / DATE CHECKED BY DATE

SUBJECT BENDING STRESSES IN UNDERGROUND PIPING DUE TO DIFFERENTIAL SOIL SETTLEMENT - MIDLAND PLANT UNITS 1 & 2 REV / DATE

26" OHBC-55 FIG 17.2 Ref 1



PROFILE 26 OHBC-55



PROFILE 26 OHBC-55 CONT

SCALE VERT 1"=10'
HORZ 1"=200'

PRODUCED & DIRECTED BY RVL INC 0
MIDLAND PLANT SURVEYED PIPELINE PROFILE 0

RUN OPTION CODE	1
PLOT OPTION CODE	1
MULTIPLE LOAD CASE CODE	2
RIGID BODY OPTION CODE	0
SKEW RESTRAINT OPTION CODE	0
NON-LINEAR OPTION	0
RENUMBERING OPTION CODE	0
COORDINATE UNITS CODE	1
DATA CHECK OPTION CODE	1
INPUT FORMAT OPTION CODE	1
NATURAL FREQ. OPTION CODE	0

BP	NODE	** GEOMETRY DATA ** X-CORRD	Y-COORD	Z-COORD	BND RAD	MATL ID	PIPE ID	INSL ID
1	1	0.0	623.450	0		1	1	1
	2	20.000	623.450	0.0		1	1	1
	3	40.000	623.450	0.0		1	1	1
	4	60.000	623.450	0.0		1	1	1
	5	80.000	623.450	0.0		1	1	1
	6	100.000	623.450	0.0		1	1	1
	7	120.000	623.450	0.0		1	1	1
	8	140.000	623.450	0.0		1	1	1
	9	160.000	623.450	0.0		1	1	1
	10	180.000	623.450	0.0		1	1	1
	11	200.000	623.450	0.0		1	1	1
	12	220.000	623.450	0.0		1	1	1
	13	240.000	623.450	0.0		1	1	1
	14	260.000	623.450	0.0		1	1	1
	15	280.000	623.450	0.0		1	1	1
	16	300.000	623.450	0.0		1	1	1
	17	320.000	623.450	0.0		1	1	1
	18	340.000	623.450	0.0		1	1	1
	19	360.000	623.450	0.0		1	1	1
	20	380.000	623.450	0.0	3.250	1	1	1
	21	380.000	626.030	0.0	3.250	1	1	1
	22	400.000	626.030	0.0		1	1	1
	23	420.000	626.030	0.0		1	1	1
	24	440.000	626.030	0.0		1	1	1
	25	450.000	626.030	0.0		1	1	1

MATERIAL PROPERTY DATA

MATERIAL ID	TEMP	E(T)	A(T)	DEN(T)	POIS(T)	SO(T)
1	70.0	2.790D+07	6.070D-06	0.2835	0.3000	0.0
	400.0	2.760D+07	6.820D-06	0.2835	0.3000	0.0

PIPE CROSS-SECTION DATA

ID NO.	OD(IN)	THK(IN)	AREA(IN2)	IX(IN4)	IY(IN4)	IZ(IN4)	B[illegible](IN)
1	26.000	0.3750	0.0	0.0	0.0	0.0	0.0

INSULATION WT. PROPERTIES

INSULATION ID	INSULATION WT.(LBS/IN)
1	0.0

FLUID WEIGHT PROPERTIES

FLUID ID	TEMP.	DENSITY	TEMP.	DENSITY	TEMP.	DENSITY
1	0.	0.0				

*** RESEQUENCING DATA ***

NODE	WAS	NOW	NODE	WAS	NOW	NODE	WAS	NOW
1	1	1	2	2	2	3	3	3
4	4	4	5	5	5	6	6	6
7	7	7	8	8	8	9	9	9
10	10	10	11	11	11	12	12	12
13	13	13	14	14	14	15	15	15
16	16	16	17	17	17	18	18	18
19	19	19	50059	20	20	20	21	21
50061	22	22	50062	23	23	21	24	24
50064	25	25	22	26	26	23	27	27
24	28	28	25	29	29			

ORIGINAL BANDWIDTH= 1 NEW BANDWIDTH= 1

RESULTS FROM DATA CHECK ROUTINE

**** NO ERRORS HAVE BEEN DETECTED IN THE GEOMETRY PORTION OF THE MODEL ****

ELEMENT DATA SUMMARY

ELEMENT	N1 - N2	TYPE	AREA	IX	IY	IZ	LENGTH	RAD	PHI	WEIGHT
1	1 - 2	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
2	2 - 3	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
3	3 - 4	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
4	4 - 5	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
5	5 - 6	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
6	6 - 7	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
7	7 - 8	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
8	8 - 9	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
9	9 - 10	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
10	10 - 11	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
11	11 - 12	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
12	12 - 13	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
13	13 - 14	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
14	14 - 15	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
15	15 - 16	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
16	16 - 17	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
17	17 - 18	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
18	18 - 19	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
19	19 - 20T	0	30.189	4956.85	2478.43	2478.43	201.00			1720.26
20	20T- 20	2	30.189	4956.85	2478.43	2478.43	30.63	39.000	45.00	262.15
21	20 - 20T	2	30.189	4956.85	2478.43	2478.43	30.63	39.000	45.00	262.15
22	20T- 21T	0	30.189	4956.85	2478.43	2478.43	30.96			264.97
23	21T- 21	2	30.189	4956.85	2478.43	2478.43	30.63	39.000	45.00	262.15
24	21 - 21T	2	30.189	4956.85	2478.43	2478.43	30.63	39.000	45.00	262.15
25	21T- 22	0	30.189	4956.85	2478.43	2478.43	201.00			1720.26
26	22 - 23	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
27	23 - 24	0	30.189	4956.85	2478.43	2478.43	240.00			2054.04
28	24 - 25	0	30.189	4956.85	2478.43	2478.43	120.00			1027.02

TOTAL WEIGHT= 46861.96
RB WEIGHT= 0.0
FLUID VOLUME= 274795.

PIPE AND INSULATION DATA SUMMARY

IDENTIFICATION NO.	TOTAL PIPE LENGTH	TOTAL INSULATION WT.
1	5475.482	-
	5475.482	0.0

PLOT CONTROL DATA (GEOMETRY PLOTS)

PLOT NO	NPLOT	OX	OY	OZ	XBIG	XSML	YBIG	YSML	ZBIG	ZSML	VA
1	-1	-1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
2	1	1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
3	1	1.000	-1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
4	1	-1.000	-1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0	2

LOAD CASE 1

PRESSURE= 0.0 FLUID ID= 0 GRAVITY DIRECTION COSINES(X= 0.0 ,Y= 0.0 ,Z= 0.0)

SUBSET LOAD FACTORS,

PRESSURE	= 0.0	FLUID WT.	= 0.0	GRAVITY	= 0.0
SEISMIC	= 0.0	TEMP. (CON)	= 0.0	TEMP. (VARY)	= 0.0
POINT LOADS	= 0.0	WIND LOADS	= 0.0	DISPLACEMENTS	= 1.00
COLD SPRINGING	= 0.0	LINEAR K	= 0.0	S-ALLOW FACTOR	= 0.0

NF VALUES 0 0 0 0 1 0 0 0 1 0 0 0

THE TEMPERATURE OF THE ENTIRE PIPING SYSTEM IS CONSTANT AND IS EQUAL TO 70.0 DEGS

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
1	70.0	0. / 0.0	0. / -1.920000	0. / 0.0	0. / 0.0	0. / 0.0	0. / 0.0	0
2	70.0	0. /	0. / -7.800000	0. /	0. /	0. /	0. /	0
3	70.0	0. /	0. / -8.400000	0. /	0. /	0. /	0. /	0
4	70.0	0. /	0. / -7.200000	0. /	0. /	0. /	0. /	0
5	70.0	0. /	0. / -8.400000	0. /	0. /	0. /	0. /	0
6	70.0	0. /	0. / -9.720000	0. /	0. /	0. /	0. /	0
7	70.0	0. /	0. / -10.560000	0. /	0. /	0. /	0. /	0
8	70.0	0. /	0. / -10.800000	0. /	0. /	0. /	0. /	0
9	70.0	0. /	0. / -10.800000	0. /	0. /	0. /	0. /	0

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
10	70.0	0.	0. -11.040000	0.	0.	0.	0.	0
11	70.0	0.	0. -10.560000	0.	0.	0.	0.	0
12	70.0	0.	0. -9.000000	0.	0.	0.	0.	0
13	70.0	0.	0. -5.640000	0.	0.	0.	0.	0
14	70.0	0.	0. -4.800000	0.	0.	0.	0.	0
15	70.0	0.	0. -3.600000	0.	0.	0.	0.	0
16	70.0	0.	0. -4.320000	0.	0.	0.	0.	0
17	70.0	0.	0. -4.200000	0.	0.	0.	0.	0
18	70.0	0.	0. -4.920000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE -	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
19	70.0	0.	0.	0.	0.	0.	0.	0
		....	-7.200000	....	....	....	....	
20	70.0	0.	0.	0.	0.	0.	0.	0
		....	-6.600000	....	....	....	....	
22	70.0	0.	0.	0.	0.	0.	0.	0
		....	-7.320000	....	....	....	....	
23	70.0	0.	0.	0.	0.	0.	0.	0
		....	-6.960000	....	....	....	....	
24	70.0	0.	0.	0.	0.	0.	0.	0
		....	-3.480000	....	....	....	....	
25	70.0	0.	0.	0.	0.	0.	0.	0
		0.0	-1.080000	0.0	0.0	0.0	0.0	

LOAD CASE 2

PRESSURE= 0.0 FLUID ID= 0 GRAVITY DIRECTION COSINES(X= 0.0 ,Y= 0.0 ,Z= 0.0)

SUBSET LOAD FACTORS,

PRESSURE	= 0.0	FLUID WT.	= 0.0	GRAVITY	= 0.0
SEISMIC	= 0.0	TEMP. (CON)	= 0.0	TEMP. (VARY)	= 0.0
POINT LOADS	= 0.0	WIND LOADS	= 0.0	DISPLACEMENTS	= 1.00
COLD SPRINGING	= 0.0	LINEAR K	= 0.0	S-ALLOW FACTOR	= 0.0

NF VALUES 0 0. 0 0 0 0 0 0 1 0 0 0

THE TEMPERATURE OF THE ENTIRE PIPING SYSTEM IS CONSTANT AND IS EQUAL TO 70.0 DEGS

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
1	70.0	0. / 0.0	0. / -1.920000	0. / 0.0	0. /	0. /	0. /	0
2	70.0	0. /	0. / -7.800000	0. /	0. /	0. /	0. /	0
3	70.0	0. /	0. / -8.400000	0. /	0. /	0. /	0. /	0
4	70.0	0. /	0. / -7.200000	0. /	0. /	0. /	0. /	0
5	70.0	0. /	0. / -8.400000	0. /	0. /	0. /	0. /	0
6	70.0	0. /	0. / -9.720000	0. /	0. /	0. /	0. /	0
7	70.0	0. /	0. / -10.560000	0. /	0. /	0. /	0. /	0
8	70.0	0. /	0. / -10.800000	0. /	0. /	0. /	0. /	0
9	70.0	0. /	0. / -10.800000	0. /	0. /	0. /	0. /	0

LOAD CASE 2 NODE DATA

NODE -	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
10	70.0	0.	0.	0.	0.	0.	0.	0
		....	-11.040000	....	....	....	....	
11	70.0	0.	0.	0.	0.	0.	0.	0
		....	-10.560000	....	....	....	....	
12	70.0	0.	0.	0.	0.	0.	0.	0
		....	-9.000000	....	....	....	....	
13	70.0	0.	0.	0.	0.	0.	0.	0
		....	-5.640000	....	....	....	....	
14	70.0	0.	0.	0.	0.	0.	0.	0
		....	-4.800000	....	....	....	....	
15	70.0	0.	0.	0.	0.	0.	0.	0
		....	-3.600000	....	....	....	....	
16	70.0	0.	0.	0.	0.	0.	0.	0
		....	-4.320000	....	....	....	....	
17	70.0	0.	0.	0.	0.	0.	0.	0
		....	-4.200000	....	....	....	....	
18	70.0	0.	0.	0.	0.	0.	0.	0
		....	-4.920000	....	....	....	....	

LOAD CASE 2 NODE DATA

NODE - TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
19 70.0	0.	0. -7.200000	0.	0.	0.	0.	0
20 70.0	0.	0. -6.600000	0.	0.	0.	0.	0
22 70.0	0.	0. -7.320000	0.	0.	0.	0.	0
23 70.0	0.	0. -6.960000	0.	0.	0.	0.	0
24 70.0	0.	0. -3.480000	0.	0.	0.	0.	0
25 70.0	0. 0.0	0. -1.080000	0. 0.0	0.	0.	0.	0

CALCULATED DISPLACEMENTS FOR LOAD CASE 1

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
1	0	0.0	-1.9200D+00	0.0	0.0	0.0	0.0
2	0	3.2954D-03	-7.8000D+00	0.0	0.0	0.0	-2.1410D-02
3	0	6.5907D-03	-8.4000D+00	0.0	0.0	0.0	6.8494D-03
4	0	9.8861D-03	-7.2000D+00	0.0	0.0	0.0	-5.0540D-05
5	0	1.3181D-02	-8.4000D+00	0.0	0.0	0.0	-6.6331D-03
6	0	1.6477D-02	-9.7200D+00	0.0	0.0	0.0	-4.5309D-03
7	0	1.9772D-02	-1.0560D+01	0.0	0.0	0.0	-2.2345D-03
8	0	2.3067D-02	-1.0800D+01	0.0	0.0	0.0	-3.5369D-05
9	0	2.6363D-02	-1.0800D+01	0.0	0.0	0.0	-7.5374D-04
10	0	2.9658D-02	-1.1040D+01	0.0	0.0	0.0	1.2118D-04
11	0	3.2954D-02	-1.0560D+01	0.0	0.0	0.0	3.3748D-03
12	0	3.6249D-02	-9.0000D+00	0.0	0.0	0.0	1.2124D-02
13	0	3.9544D-02	-5.6400D+00	0.0	0.0	0.0	9.1057D-03
14	0	4.2840D-02	-4.8000D+00	0.0	0.0	0.0	3.8537D-03
15	0	4.6135D-02	-3.6000D+00	0.0	0.0	0.0	1.0902D-03
16	0	4.9430D-02	-4.3200D+00	0.0	0.0	0.0	-2.2395D-03
17	0	5.2726D-02	-4.2000D+00	0.0	0.0	0.0	6.4396D-04
18	0	5.6021D-02	-4.9200D+00	0.0	0.0	0.0	-8.3651D-03
19	0	5.9316D-02	-7.2000D+00	0.0	0.0	0.0	-4.0928D-03
20T	0	6.2076D-02	-6.7272D+00	0.0	0.0	0.0	5.3192D-03
20	0	1.5931D-02	-6.6000D+00	0.0	0.0	0.0	2.4393D-03
20T	0	1.4472D-02	-6.5912D+00	0.0	0.0	0.0	-1.4316D-03
21T	0	6.2225D-02	-6.5914D+00	0.0	0.0	0.0	-1.4837D-03
21	0	1.9029D-02	-6.6108D+00	0.0	0.0	0.0	-2.1135D-03
21T	0	-1.0998D-02	-6.6912D+00	0.0	0.0	0.0	-3.5454D-03
22	0	-8.2384D-03	-7.3200D+00	0.0	0.0	0.0	-1.9828D-03
23	0	-4.9430D-03	-6.9600D+00	0.0	0.0	0.0	6.5696D-03
24	0	-1.6477D-03	-3.4800D+00	0.0	0.0	0.0	2.4104D-02
25	0	0.0	-1.0800D+00	0.0	0.0	0.0	0.0

CALCULATED DISPLACEMENTS FOR LOAD CASE 2

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
1	0	0.0	-1.9200D+00	0.0	0.0	0.0	-2.9347D-02
2	0	3.3622D-03	-7.8000D+00	0.0	0.0	0.0	-1.4130D-02
3	0	6.7244D-03	-8.4000D+00	0.0	0.0	0.0	5.0434D-03
4	0	1.0087D-02	-7.2000D+00	0.0	0.0	0.0	3.9746D-04
5	0	1.3449D-02	-8.4000D+00	0.0	0.0	0.0	-6.7442D-03
6	0	1.6811D-02	-9.7200D+00	0.0	0.0	0.0	-4.5034D-03
7	0	2.0173D-02	-1.0560D+01	0.0	0.0	0.0	-2.2413D-03
8	0	2.3535D-02	-1.0800D+01	0.0	0.0	0.0	-3.3672D-05
9	0	2.6898D-02	-1.0800D+01	0.0	0.0	0.0	-7.5416D-04
10	0	3.0260D-02	-1.1040D+01	0.0	0.0	0.0	1.2129D-04
11	0	3.3622D-02	-1.0560D+01	0.0	0.0	0.0	3.3748D-03
12	0	3.6984D-02	-9.0000D+00	0.0	0.0	0.0	1.2124D-02
13	0	4.0346D-02	-5.6400D+00	0.0	0.0	0.0	9.1057D-03
14	0	4.3709D-02	-4.8000D+00	0.0	0.0	0.0	3.8537D-03
15	0	4.7071D-02	-3.6000D+00	0.0	0.0	0.0	1.0901D-03
16	0	5.0433D-02	-4.3200D+00	0.0	0.0	0.0	-2.2394D-03
17	0	5.3795D-02	-4.2000D+00	0.0	0.0	0.0	6.4359D-04
18	0	5.7158D-02	-4.9200D+00	0.0	0.0	0.0	-8.3637D-03
19	0	6.0520D-02	-7.2000D+00	0.0	0.0	0.0	-4.0988D-03
20T	0	6.3336D-02	-6.7285D+00	0.0	0.0	0.0	5.3212D-03
20	0	1.6423D-02	-6.6000D+00	0.0	0.0	0.0	2.5470D-03
20T	0	1.0629D-02	-6.5895D+00	0.0	0.0	0.0	-1.2407D-03
21T	0	5.2435D-02	-6.5897D+00	0.0	0.0	0.0	-1.2869D-03
21	0	1.6037D-02	-6.6062D+00	0.0	0.0	0.0	-1.8475D-03
21T	0	-1.1221D-02	-6.6807D+00	0.0	0.0	0.0	-3.4371D-03
22	0	-8.4055D-03	-7.3200D+00	0.0	0.0	0.0	-2.3233D-03
23	0	-5.0433D-03	-6.9600D+00	0.0	0.0	0.0	7.8340D-03
24	0	-1.6811D-03	-3.4800D+00	0.0	0.0	0.0	1.9034D-02
26	0	0.0	-1.0800D+00	0.0	0.0	0.0	2.0365D-02

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
1	1	(G)	-11564.9	182498.2	0.0	0.0	0.0	2339035.5
	2	(G)	11564.9	-182498.2	0.0	0.0	0.0	1310927.6
2	2	(G)	-11564.9	-63242.2	0.0	0.0	0.0	-1310927.6
	3	(G)	11564.9	63242.2	0.0	0.0	0.0	46083.3
3	3	(G)	-11564.9	-21174.8	0.0	0.0	0.0	-46083.3
	4	(G)	11564.9	21174.8	0.0	0.0	0.0	-377413.2
4	4	(G)	-11564.9	21936.8	0.0	0.0	0.0	377413.2
	5	(G)	11564.9	-21936.8	0.0	0.0	0.0	61322.4
5	5	(G)	-11564.9	-1085.0	0.0	0.0	0.0	-61322.4
	6	(G)	11564.9	1085.0	0.0	0.0	0.0	39621.8
6	6	(G)	-11564.9	1551.5	0.0	0.0	0.0	-39621.8
	7	(G)	11564.9	-1551.5	0.0	0.0	0.0	70652.0
7	7	(G)	-11564.9	-1785.1	0.0	0.0	0.0	-70652.0
	8	(G)	11564.9	1785.1	0.0	0.0	0.0	34949.4
8	8	(G)	-11564.9	-5219.7	0.0	0.0	0.0	-34949.4
	9	(G)	11564.9	5219.7	0.0	0.0	0.0	-69445.3
9	9	(G)	-11564.9	9045.2	0.0	0.0	0.0	69445.3
	10	(G)	11564.9	-9045.2	0.0	0.0	0.0	111458.8
10	10	(G)	-11564.9	-3334.1	0.0	0.0	0.0	-111458.8
	11	(G)	11564.9	3334.1	0.0	0.0	0.0	44777.2

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
11	11	(G)	-11564.9	16529.1	0.0	0.0	0.0	-44777.2
	12	(G)	11564.9	-16529.1	0.0	0.0	0.0	375359.2
12	12	(G)	-11564.9	-44782.9	0.0	0.0	0.0	-375359.2
	13	(G)	11564.9	44782.9	0.0	0.0	0.0	-520298.1
13	13	(G)	-11564.9	39419.8	0.0	0.0	0.0	520298.1
	14	(G)	11564.9	-39419.8	0.0	0.0	0.0	268097.9
14	14	(G)	-11564.9	-33445.0	0.0	0.0	0.0	-268097.9
	15	(G)	11564.9	33445.0	0.0	0.0	0.0	-400801.7
15	15	(G)	-11564.9	32085.8	0.0	0.0	0.0	400801.7
	16	(G)	11564.9	-32085.8	0.0	0.0	0.0	240915.2
16	16	(G)	-11564.9	-17168.5	0.0	0.0	0.0	-240915.2
	17	(G)	11564.9	17168.5	0.0	0.0	0.0	-102454.8
17	17	(G)	-11564.9	-11385.2	0.0	0.0	0.0	102454.8
	18	(G)	11564.9	11385.2	0.0	0.0	0.0	-330157.8
18	18	(G)	-11564.9	43273.5	0.0	0.0	0.0	330157.8
	19	(G)	11564.9	-43273.5	0.0	0.0	0.0	535312.0
19	19	(G)	-11564.9	-31699.8	0.0	0.0	0.0	-535312.0
	20 TAN	(G)	11564.9	31699.8	0.0	0.0	0.0	4340.7
20	20 TAN	(G)	-11564.9	-31699.8	0.0	0.0	0.0	-4340.7
	20	(G)	11564.9	31699.8	0.0	0.0	0.0	-57499.9

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
21	20	(G)	-11564.9	6636.6	0.0	0.0	0.0	57499.9
	20 TAN	(G)	11564.9	-6636.6	0.0	0.0	0.0	-24605.3
22	20 TAN	(G)	-11564.9	6636.6	0.0	0.0	0.0	24605.3
	21 TAN	(G)	11564.9	-6636.6	0.0	0.0	0.0	5232.0
23	21 TAN	(G)	-11564.9	6636.6	0.0	0.0	0.0	-5232.0
	21	(G)	11564.9	-6636.6	0.0	0.0	0.0	-15027.7
24	21	(G)	-11564.9	6636.6	0.0	0.0	0.0	15027.7
	21 TAN	(G)	11564.9	-6636.6	0.0	0.0	0.0	-10784.6
25	21 TAN	(G)	-11564.9	6636.6	0.0	0.0	0.0	10784.6
	22	(G)	11564.9	-6636.6	0.0	0.0	0.0	100379.2
26	22	(G)	-11564.9	10496.1	0.0	0.0	0.0	-100379.2
	23	(G)	11564.9	-10496.1	0.0	0.0	0.0	310301.3
27	23	(G)	-11564.9	11069.2	0.0	0.0	0.0	-310301.3
	24	(G)	11564.9	-11069.2	0.0	0.0	0.0	531685.1
28	24	(G)	-11564.9	-337827.9	0.0	0.0	0.0	-531685.1
	25	(G)	11564.9	337827.9	0.0	0.0	0.0	-2846593.7

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
1	1	(G)	-11799.5	36534.2	0.0	0.0	0.0	0.0
	2	(G)	11799.5	-36534.2	0.0	0.0	0.0	730683.5
2	2	(G)	-11799.5	-27033.0	0.0	0.0	0.0	-730683.5
	3	(G)	11799.5	27033.0	0.0	0.0	0.0	190024.3
3	3	(G)	-11799.5	-30157.2	0.0	0.0	0.0	-190024.3
	4	(G)	11799.5	30157.2	0.0	0.0	0.0	-413120.6
4	4	(G)	-11799.5	24165.0	0.0	0.0	0.0	413120.6
	5	(G)	11799.5	-24165.0	0.0	0.0	0.0	70180.4
5	5	(G)	-11799.5	-1637.8	0.0	0.0	0.0	-70180.4
	6	(G)	11799.5	1637.8	0.0	0.0	0.0	37424.4
6	6	(G)	11799.5	1688.6	0.0	0.0	0.0	-37424.4
	7	(G)	11799.5	-1688.6	0.0	0.0	0.0	71197.1
7	7	(G)	-11799.5	-1819.1	.0	0.0	0.0	-71197.1
	8	(G)	11799.5	1819.1	0	0.0	0.0	34814.2
8	8	(G)	-11799.5	-5211.3	0.0	0.0	0.0	-34814.2
	9	(G)	11799.5	5211.3	0.0	0.0	0.0	-69411.8
9	9	(G)	-11799.5	9043.1	0.0	0.0	0.0	69411.8
	10	(G)	11799.5	-9043.1	0.0	0.0	0.0	111450.5
10	10	(G)	-11799.5	-3333.6	0.0	0.0	0.0	-111450.5
	11	(G)	11799.5	3333.6	0.0	0.0	0.0	44779.2

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
11	11	(G)	-11799.5	16529.0	0.0	0.0	0.0	-44779.2
	12	(G)	11799.5	-16529.0	0.0	0.0	0.0	375358.7
12	12	(G)	-11799.5	-44782.8	0.0	0.0	0.0	-375358.7
	13	(G)	11799.5	44782.8	0.0	0.0	0.0	-520298.1
13	13	(G)	-11799.5	39419.8	0.0	0.0	0.0	520298.1
	14	(G)	11799.5	-39419.8	0.0	0.0	0.0	268098.3
14	14	(G)	-11799.5	-33445.1	0.0	0.0	0.0	-268098.3
	15	(G)	11799.5	33445.1	0.0	0.0	0.0	-400803.4
15	15	(G)	-11799.5	32086.3	0.0	0.0	0.0	400803.4
	16	(G)	11799.5	-32086.3	0.0	0.0	0.0	240922.5
16	16	(G)	-11799.5	-17170.3	0.0	0.0	0.0	-240922.5
	17	(G)	11799.5	17170.3	0.0	0.0	0.0	-102483.9
17	17	(G)	-11799.5	-11377.8	0.0	0.0	0.0	102483.9
	18	(G)	11799.5	11377.8	0.0	0.0	0.0	-330040.3
18	18	(G)	-11799.5	43243.9	0.0	0.0	0.0	330040.3
	19	(G)	11799.5	-43243.9	0.0	0.0	0.0	534838.4
19	19	(G)	-11799.5	-31615.7	0.0	0.0	0.0	-534838.4
	20 TAN	(G)	11799.5	31615.7	0.0	0.0	0.0	5274.7
20	20 TAN	(G)	-11799.5	-31615.7	0.0	0.0	0.0	-5274.7
	20	(G)	11799.5	31615.7	0.0	0.0	0.0	-56149.4

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
21	20	(G)	-11799.5	5476.1	0.0	0.0	0.0	56149.4
	20 TAN	(G)	11799.5	-5476.1	0.0	0.0	0.0	-23820.4
22	20 TAN	(G)	-11799.5	5476.1	0.0	0.0	0.0	23820.4
	21 TAN	(G)	11799.5	-5476.1	0.0	0.0	0.0	6622.2
23	21 TAN	(G)	-11799.5	5476.1	0.0	0.0	0.0	-6622.2
	21	(G)	11799.5	-5476.1	0.0	0.0	0.0	-15281.4
24	21	(G)	-11799.5	5476.1	0.0	0.0	0.0	15281.4
	21 TAN	(G)	11799.5	-5476.1	0.0	0.0	0.0	-13928.8
25	21 TAN	(G)	-11799.5	5476.1	0.0	0.0	0.0	13928.8
	22	(G)	11799.5	-5476.1	0.0	0.0	0.0	77795.4
26	22	(G)	-11799.5	16607.8	0.0	0.0	0.0	-77795.4
	23	(G)	11799.5	-16607.8	0.0	0.0	0.0	409951.1
27	23	(G)	-11799.5	-14105.1	0.0	0.0	0.0	-409951.1
	24	(G)	11799.5	14105.1	0.0	0.0	0.0	127848.2
28	24	(G)	-11799.5	-12784.8	0.0	0.0	0.0	-127848.2
	25	(G)	11799.5	12784.8	0.0	0.0	0.0	0.0

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
1	1- 2	383.1	0.0	0.0	147226.4	1.000	383.1	147226.4	147226.4
		383.1	0.0	0.0	-82514.0	1.000	383.1	82514.0	82514.0
2	2- 3	383.1	0.0	0.0	-82514.0	1.000	383.1	82514.0	82514.0
		383.1	0.0	0.0	-2900.6	1.000	383.1	2900.6	2900.6
3	3- 4	383.1	0.0	0.0	-2900.6	1.000	383.1	2900.6	2900.6
		383.1	0.0	0.0	23755.6	1.000	383.1	23755.6	23755.6
4	4- 5	383.1	0.0	0.0	23755.6	1.000	383.1	23755.6	23755.6
		383.1	0.0	0.0	-3859.8	1.000	383.1	3859.8	3859.8
5	5- 6	383.1	0.0	0.0	-3859.8	1.000	383.1	3859.8	3859.8
		383.1	0.0	0.0	-2493.9	1.000	383.1	2493.9	2493.9
6	6- 7	383.1	0.0	0.0	-2493.9	1.000	383.1	2493.9	2493.9
		383.1	0.0	0.0	-4447.1	1.000	383.1	4447.1	4447.1
7	7- 8	383.1	0.0	0.0	-4447.1	1.000	383.1	4447.1	4447.1
		383.1	0.0	0.0	-2199.8	1.000	383.1	2199.8	2199.8
8	8- 9	383.1	0.0	0.0	-2199.8	1.000	383.1	2199.8	2199.8
		383.1	0.0	0.0	4371.1	1.000	383.1	4371.1	4371.1
9	9- 10	383.1	0.0	0.0	4371.1	1.000	383.1	4371.1	4371.1
		383.1	0.0	0.0	-7015.6	1.000	383.1	7015.6	7015.6
10	10- 11	383.1	0.0	0.0	-7015.6	1.000	383.1	7015.6	7015.6
		383.1	0.0	0.0	-2818.4	1.000	383.1	2818.4	2818.4

** STRESS INDICIES* PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
11	11- 12	383.1	0.0	0.0	-2818.4	1.000	383.1	2818.4	2818.4
		383.1	0.0	0.0	-23626.3	1.000	383.1	23626.3	23626.3
12	12- 13	383.1	0.0	0.0	-23626.3	1.000	383.1	23626.3	23626.3
		383.1	0.0	0.0	32749.2	1.000	383.1	32749.2	32749.2
13	13- 14	383.1	0.0	0.0	32749.2	1.000	383.1	32749.2	32749.2
		383.1	0.0	0.0	-16874.9	1.000	383.1	16874.9	16874.9
14	14- 15	383.1	0.0	0.0	-16874.9	1.000	383.1	16874.9	16874.9
		383.1	0.0	0.0	25227.7	1.000	383.1	25227.7	25227.7
15	15- 16	383.1	0.0	0.0	25227.7	1.000	383.1	25227.7	25227.7
		383.1	0.0	0.0	-15164.0	1.000	383.1	15164.0	15164.0
16	16- 17	383.1	0.0	0.0	-15164.0	1.000	383.1	15164.0	15164.0
		383.1	0.0	0.0	6448.8	1.000	383.1	6448.8	6448.8
17	17- 18	383.1	0.0	0.0	6448.8	1.000	383.1	6448.8	6448.8
		383.1	0.0	0.0	20781.2	1.000	383.1	20781.2	20781.2
18	18- 19	383.1	0.0	0.0	20781.2	1.000	383.1	20781.2	20781.2
		383.1	0.0	0.0	-33694.2	1.000	383.1	33694.2	33694.2
19	19- 20	383.1	0.0	0.0	-33694.2	1.000	383.1	33694.2	33694.2
	TAN	383.1	0.0	0.0	-273.2	1.000	383.1	273.2	273.2
20	20- 20	-47.9	0.0	0.0	273.2	4.512	-47.9	273.2	1232.7
	TAN	755.8	0.0	0.0	-3619.2	4.512	755.8	3619.2	16329.5

** STRESS INDICIES* PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
21	20- 20	269.8	0.0	0.0	-3619.2	4.512	269.8	3619.2	16329.5
	TAN	-56.5	0.0	0.0	-1548.7	4.512	-56.5	1548.7	6987.7
22	20- 21	-219.8	0.0	-1548.7	0.0	1.000	-219.8	1548.7	1548.7
	TAN TAN	-219.8	0.0	329.3	0.0	1.000	-219.8	329.3	329.3
23	21- 21	56.5	0.0	0.0	329.3	4.512	56.5	329.3	1485.9
	TAN	349.7	0.0	0.0	-945.9	4.512	349.7	945.9	4267.7
24	21- 21	349.7	0.0	0.0	-945.9	4.512	349.7	945.9	4267.7
	TAN	438.1	0.0	0.0	-678.8	4.512	438.1	678.8	3062.7
25	21- 22	383.1	0.0	0.0	678.8	1.000	383.1	678.8	678.8
	TAN	383.1	0.0	0.0	-6318.2	1.000	383.1	6318.2	6318.2
26	22- 23	383.1	0.0	0.0	-6318.2	1.000	383.1	6318.2	6318.2
		383.1	0.0	0.0	-19531.4	1.000	383.1	19531.4	19531.4
27	23- 24	383.1	0.0	0.0	-1953'.4	1.000	383.1	19531.4	19531.4
		383.1	0.0	0.0	-33466.0	1.000	383.1	33466.0	33466.0
28	24- 25	383.1	0.0	0.0	-33466.0	1.000	383.1	33466.0	33466.0
		383.1	0.0	0.0	179173.7	1.000	383.1	179173.7	179173.7

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
1	1- 2	390.9	0.0	0.0	0.0	1.000	390.9	0.0	0.0
		390.9	0.0	0.0	-45991.6	1.000	390.9	45991.6	45991.6
2	2- 3	390.9	0.0	0.0	-45991.6	1.000	390.9	45991.6	45991.6
		390.9	0.0	0.0	-11960.7	1.000	390.9	11960.7	11960.7
3	3- 4	390.9	0.0	0.0	-11960.7	1.000	390.9	11960.7	11960.7
		390.9	0.0	0.0	26003.1	1.000	390.9	26003.1	26003.1
4	4- 5	390.9	0.0	0.0	26003.1	1.000	390.9	26003.1	26003.1
		390.9	0.0	0.0	-4417.4	1.000	390.9	4417.4	4417.4
5	5- 6	390.9	0.0	0.0	-4417.4	1.000	390.9	4417.4	4417.4
		390.9	0.0	0.0	-2355.6	1.000	390.9	2355.6	2355.6
6	6- 7	390.9	0.0	0.0	-2355.6	1.000	390.9	2355.6	2355.6
		390.9	0.0	0.0	-4481.4	1.000	390.9	4481.4	4481.4
7	7- 8	390.9	0.0	0.0	-4481.4	1.000	390.9	4481.4	4481.4
		390.9	0.0	0.0	-2191.3	1.000	390.9	2191.3	2191.3
8	8- 9	390.9	0.0	0.0	-2191.3	1.000	390.9	2191.3	2191.3
		390.9	0.0	0.0	4369.0	1.000	390.9	4369.0	4369.0
9	9- 10	390.9	0.0	0.0	4369.0	1.000	390.9	4369.0	4369.0
		390.9	0.0	0.0	-7015.0	1.000	390.9	7015.0	7015.0
10	10- 11	390.9	0.0	0.0	-7015.0	1.000	390.9	7015.0	7015.0
		390.9	0.0	0.0	-2818.5	1.000	390.9	2818.5	2818.5

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
11	11- 12	390.9	0.0	0.0	-2818.5	1.000	390.9	2818.5	2818.5
		390.9	0.0	0.0	-23626.3	1.000	390.9	23626.3	23626.3
12	12- 13	390.9	0.0	0.0	-23626.3	1.000	390.9	23626.3	23626.3
		390.9	0.0	0.0	32749.2	1.000	390.9	32749.2	32749.2
13	13- 14	390.9	0.0	0.0	32749.2	1.000	390.9	32749.2	32749.2
		390.9	0.0	0.0	-16875.0	1.000	390.9	16875.0	16875.0
14	14- 15	390.9	0.0	0.0	-16875.0	1.000	390.9	16875.0	16875.0
		390.9	0.0	0.0	25227.8	1.000	390.9	25227.8	25227.8
15	15- 16	390.9	0.0	0.0	25227.8	1.000	390.9	25227.8	25227.8
		390.9	0.0	0.0	-15164.4	1.000	390.9	15164.4	15164.4
16	16- 17	390.9	0.0	0.0	-15164.4	1.000	390.9	15164.4	15164.4
		390.9	0.0	0.0	6450.7	1.000	390.9	6450.7	6450.7
17	17- 18	390.9	0.0	0.0	6450.7	1.000	390.9	6450.7	6450.7
		390.9	0.0	0.0	20773.8	1.000	390.9	20773.8	20773.8
18	18- 19	390.9	0.0	0.0	20773.8	1.000	390.9	20773.8	20773.8
		390.9	0.0	0.0	-33664.4	1.000	390.9	33664.4	33664.4
19	19- 20	390.9	0.0	0.0	-33664.4	1.000	390.9	33664.4	33664.4
	TAN	390.9	0.0	0.0	-332.0	1.000	390.9	332.0	332.0
20	20- 20	-39.7	0.0	0.0	332.0	4.512	-39.7	332.0	1498.0
	TAN	761.9	0.0	0.0	-3534.2	4.512	761.9	3534.2	15946.0

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
21	20- 20	291.7	0.0	0.0	-3534.2	4.512	291.7	3534.2	15946.0
	TAN	-18.0	0.0	0.0	-1499.3	4.512	-18.0	1499.3	6764.8
22	20- 21	-181.4	0.0	-1499.3	0.0	1.000	-181.4	1499.3	1499.3
	TAN TAN	-181.4	0.0	416.8	0.0	1.000	-181.4	416.8	416.8
23	21- 21	18.0	0.0	0.0	416.8	4.512	18.0	416.8	1880.7
	TAN	317.2	0.0	0.0	-961.9	4.512	317.2	961.9	4339.8
24	21- 21	317.2	0.0	0.0	-961.9	4.512	317.2	961.9	4339.8
	TAN	430.5	0.0	0.0	-876.7	4.512	430.5	876.7	3955.7
25	21- 22	390.9	0.0	0.0	876.7	1.000	390.9	876.7	876.7
	TAN	390.9	0.0	0.0	-4896.7	1.000	390.9	4896.7	4896.7
26	22- 23	390.9	0.0	0.0	-4896.7	1.000	390.9	4896.7	4896.7
		390.9	0.0	0.0	-25803.6	1.000	390.9	25803.6	25803.6
27	23- 24	390.9	0.0	0.0	-25803.6	1.000	390.9	25803.6	25803.6
		390.9	0.0	0.0	-8047.2	1.000	390.9	8047.2	8047.2
28	24- 25	390.9	0.0	0.0	-8047.2	1.000	390.9	8047.2	8047.2
		390.9	0.0	0.0	-0.0	1.000	390.9	0.0	0.0

** STRESS INDICIES: PRESS=0. , MOMENT=1

MAXIMUM STRESS SUMMARY TABLE

LOAD NO. 1 MAX. STRESS=179174. PSI, IT OCCURS IN ELEMENT 24 - 25 , 120.00 INS. FROM NODE 24

LOAD NO. 2 MAX. STRESS= 45992. PSI, IT OCCURS IN ELEMENT 1 - 2 , 240.00 INS. FROM NODE 1

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
1	SPECIFIED DISP.	-11564.9	182498.2	0.0	0.0	0.0	28068425.6
2	SPECIFIED DISP.	0.0	-245740.4	0.0	0.0	0.0	0.0
3	SPECIFIED DISP.	0.0	42067.4	0.0	0.0	0.0	0.0
4	SPECIFIED DISP.	0.0	43111.6	0.0	0.0	0.0	0.0
5	SPECIFIED DISP.	0.0	-23021.8	0.0	0.0	0.0	0.0
6	SPECIFIED DISP.	0.0	2636.5	0.0	0.0	0.0	0.0
7	SPECIFIED DISP.	0.0	-3336.6	0.0	0.0	0.0	0.0
8	SPECIFIED DISP.	0.0	-3434.6	0.0	0.0	0.0	0.0
9	SPECIFIED DISP.	0.0	14264.9	0.0	0.0	0.0	0.0
10	SPECIFIED DISP.	0.0	-12379.3	0.0	0.0	0.0	0.0
11	SPECIFIED DISP.	0.0	19863.2	0.0	0.0	0.0	0.0
12	SPECIFIED DISP.	0.0	-61312.0	0.0	0.0	0.0	0.0
13	SPECIFIED DISP.	0.0	84202.7	0.0	0.0	0.0	0.0
14	SPECIFIED DISP.	0.0	-72864.8	0.0	0.0	0.0	0.0
15	SPECIFIED DISP.	0.0	65530.8	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
16	SPECIFIED DISP.	0.0	-49254.3	0.0	0.0	0.0	0.0
17	SPECIFIED DISP.	0.0	5783.3	0.0	0.0	0.0	0.0
18	SPECIFIED DISP.	0.0	54658.6	0.0	0.0	0.0	0.0
19	SPECIFIED DISP.	0.0	-74973.3	0.0	0.0	0.0	0.0
20	SPECIFIED DISP.	0.0	38336.4	0.0	0.0	0.0	0.0
22	SPECIFIED DISP.	0.0	3859.5	0.0	0.0	0.0	0.0
23	SPECIFIED DISP.	0.0	573.1	0.0	0.0	0.0	0.0
24	SPECIFIED DISP.	0.0	-348897.1	0.0	0.0	0.0	0.0
25	SPECIFIED DISP.	11564.9	337827.9	0.0	0.0	0.0	-34159124.0
SUMMATION OF LOADS		0.0	0.0	0.0	0.0	0.0	-6090698.4

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
1	SPECIFIED DISP.	-11799.5	36534.2	0.0	0.0	0.0	0.0
2	SPECIFIED DISP.	0.0	-63567.1	0.0	0.0	0.0	0.0
3	SPECIFIED DISP.	0.0	-3124.3	0.0	0.0	0.0	0.0
4	SPECIFIED DISP.	0.0	54322.3	0.0	0.0	0.0	0.0
5	SPECIFIED DISP.	0.0	-25802.8	0.0	0.0	0.0	0.0
6	SPECIFIED DISP.	0.0	3326.4	0.0	0.0	0.0	0.0
7	SPECIFIED DISP.	0.0	-3507.8	0.0	0.0	0.0	0.0
8	SPECIFIED DISP.	0.0	-3392.2	0.0	0.0	0.0	0.0
9	SPECIFIED DISP.	0.0	14254.4	0.0	0.0	0.0	0.0
10	SPECIFIED DISP.	0.0	-12376.7	0.0	0.0	0.0	0.0
11	SPECIFIED DISP.	0.0	19862.5	0.0	0.0	0.0	0.0
12	SPECIFIED DISP.	0.0	-61311.8	0.0	0.0	0.0	0.0
13	SPECIFIED DISP.	0.0	84202.7	0.0	0.0	0.0	0.0
14	SPECIFIED DISP.	0.0	-72864.9	0.0	0.0	0.0	0.0
15	SPECIFIED DISP.	0.0	65531.4	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
16	SPECIFIED DISP.	0.0	-49256.6	0.0	0.0	0.0	0.0
17	SPECIFIED DISP.	0.0	5792.5	0.0	0.0	0.0	0.0
18	SPECIFIED DISP.	0.0	54621.8	0.0	0.0	0.0	0.0
19	SPECIFIED DISP.	0.0	-74859.7	0.0	0.0	0.0	0.0
20	SPECIFIED DISP.	0.0	37091.8	0.0	0.0	0.0	0.0
22	SPECIFIED DISP.	0.0	11131.7	0.0	0.0	0.0	0.0
23	SPECIFIED DISP.	0.0	-30712.9	0.0	0.0	0.0	0.0
24	SPECIFIED DISP.	0.0	1320.3	0.0	0.0	0.0	0.0
25	SPECIFIED DISP.	11799.5	12784.8	0.0	0.0	0.0	0.0
SUMMATION OF LOADS		0.0	0.0	0.0	0.0	0.0	0.0
		(11799.5)	(400776.8)	(0.0)			

NODE MAPS & COMPUTER OUTPUT

LINE	26"-OH13C-55	NODES 1-7
LINE	8"-1HBC-81	NODES 10-23
LINE	20" 1HCD-169	NODES 30-57

ETEC

JB 9-19-80

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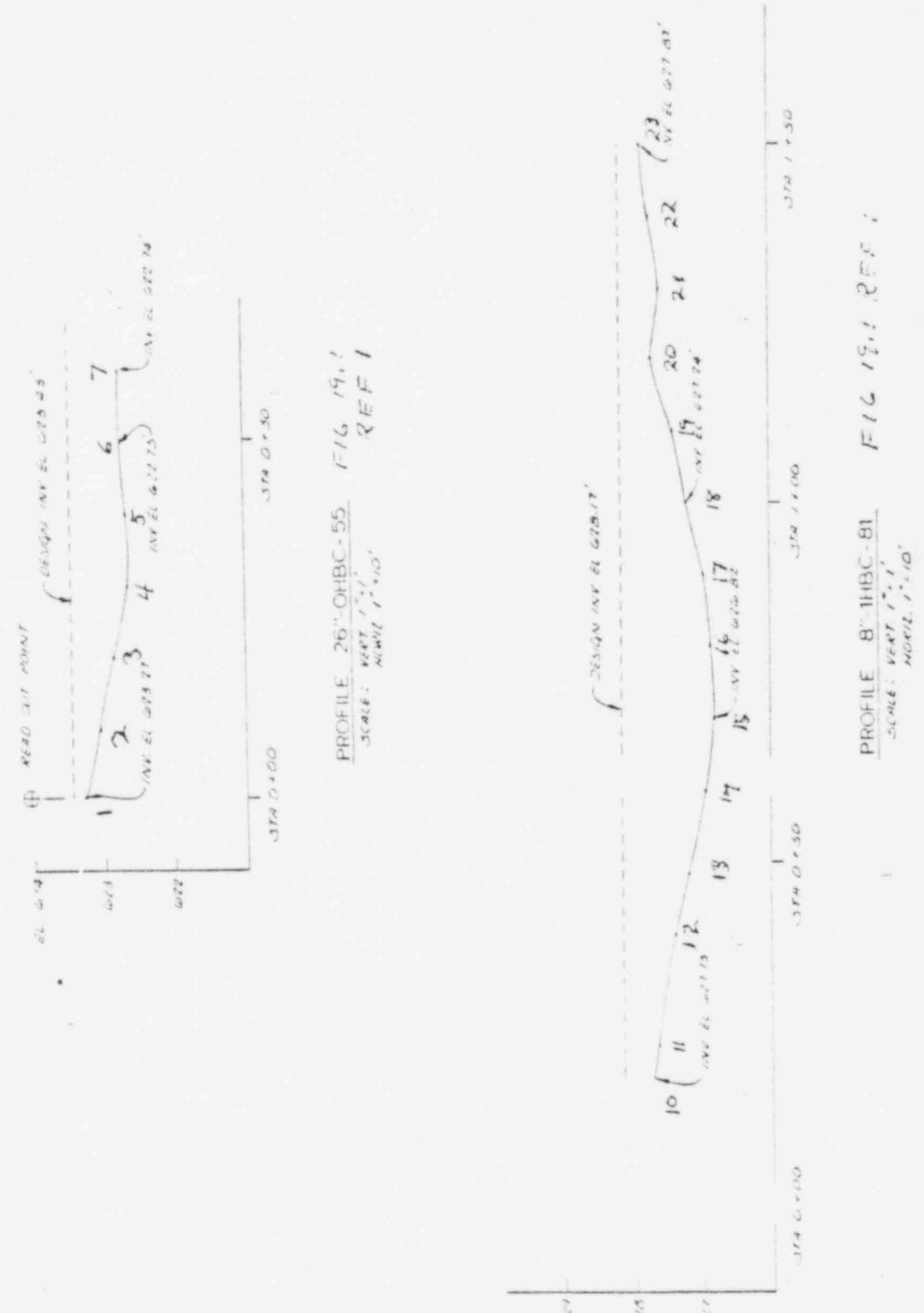
NO. ______ PAGE ______ OF ______

DATE ______

SUBJECT: BENDING STRESSES IN UNDERGROUND PIPING DUE TO DIFFERENTIAL SOIL SETTLEMENT MIDLAND PLANT UNITS 1&2

REV / DATE ______



ETEC

PREPARED BY / DATE

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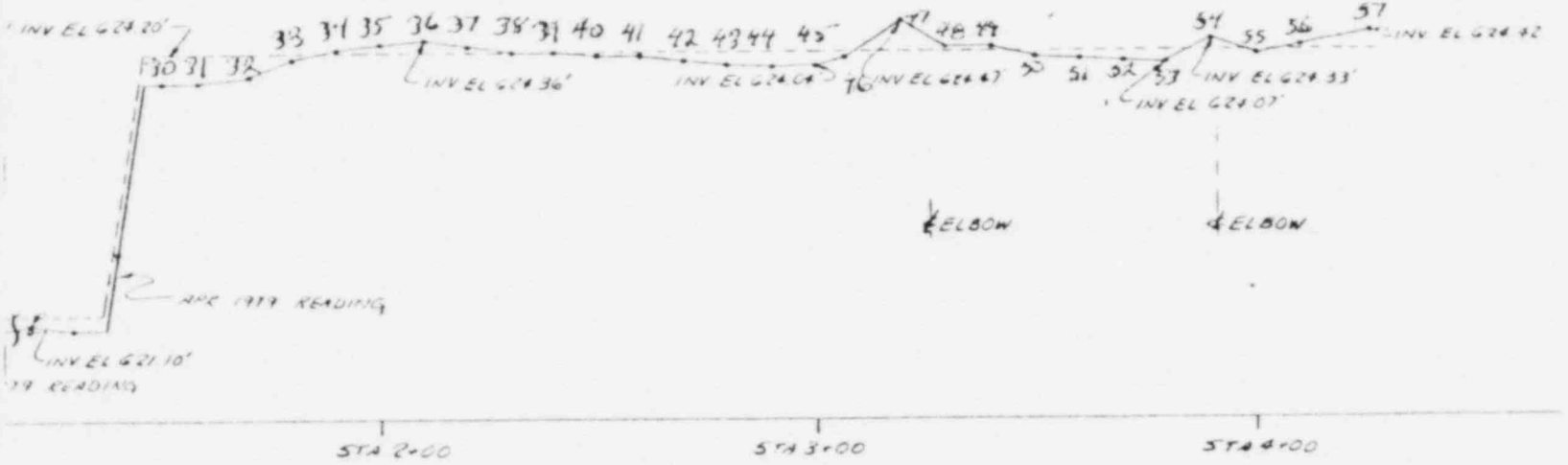
SUBJECT

NO.

PAGE OF

REV / DATE



PROFILE 20" IHCD-169

SCALE: VERT 1"=1'0
HORZ 1"=20'0

FIG 17.2 REF 1

LINE ASSUMED TO BE IN THE PLANE OF PAPER

NO INDICIES APPLIED @ ELBOWS & WELDS 47 & 54

FORM 775-1-54 REV 12-79

PRODUCED & DIRECTED BY RVL INC
MIDLAND PLANT 3 SURVEYED LINES PROFILE

0
0

RUN OPTION CODE	1
PLOT OPTION CODE	1
MULTIPLE LOAD CASE CODE	2
RIGID BODY OPTION CODE	0
SKEW RESTRAINT OPTION CODE	0
NON-LINEAR OPTION	0
RENUMBERING OPTION CODE	0
COORDINATE UNITS CODE	1
DATA CHECK OPTION CODE	1
INPUT FORMAT OPTION CODE	1
NATURAL FREQ. OPTION CODE	0

** GEOMETRY DATA **

BP	NODE	X-CORRD	Y-COORD	Z-COORD	BND RAD	MATL ID	PIPE ID	INSL ID
1	1	0.0	623.450	0.0		1	1	1
	2	100.000	623.450	0.0		1	1	1
	3	200.000	623.450	0.0		1	1	1
	4	300.000	623.450	0.0		1	1	1
	5	400.000	623.450	0.0		1	1	1
	6	500.000	623.450	0.0		1	1	1
	7	600.000	623.450	0.0		1	1	1
1	10	20.000	628.170	100.000		1	2	1
	11	25.000	628.170	100.000		1	2	1
	12	40.000	628.170	100.000		1	2	1
	13	48.000	628.170	100.000		1	2	1
	14	60.000	628.170	100.000		1	2	1
	15	70.000	628.170	100.000		1	2	1
	16	80.000	628.170	100.000		1	2	1
	17	90.000	628.170	100.000		1	2	1
	18	100.000	628.170	100.000		1	2	1
	19	110.000	628.170	100.000		1	2	1
	20	120.000	628.170	100.000		1	2	1
	21	130.000	628.170	100.000		1	2	1
	22	140.000	628.170	100.000		1	2	1
	23	150.000	628.170	100.000		1	2	1
1	30	0.0	624.200	200.000		1	3	1
	31	160.000	624.200	200.000		1	3	1
	32	170.000	624.200	200.000		1	3	1
	33	180.000	624.200	200.000		1	3	1
	34	190.000	624.200	200.000		1	3	1
	35	200.000	624.200	200.000		1	3	1
	36	210.000	624.200	200.000		1	3	1

BP	NODE	X-CORRD	Y-COORD	Z-COORD	BND RAD	MATL ID	PIPE ID	INSL ID
			** GEOMETRY DATA **					
	37	220.000	624.200	200.000		1	3	1
	38	230.000	624.200	200.000		1	3	1
	39	240.000	624.200	200.000		1	3	1
	40	250.000	624.200	200.000		1	3	1
	41	260.000	624.200	200.000		1	3	1
	42	270.000	624.200	200.000		1	3	1
	43	280.000	624.200	200.000		1	3	1
	44	290.000	624.200	200.000		1	3	1
	45	300.000	624.200	200.000		1	3	1
	46	307.000	624.200	200.000		1	3	1
	47	320.000	624.200	200.000		1	3	1
	48	330.000	624.200	200.000		1	3	1
	49	340.000	624.200	200.000		1	3	1
	50	350.000	624.200	200.000		1	3	1
	51	360.000	624.200	200.000		1	3	1
	52	370.000	624.200	200.000		1	2	1
	53	380.000	624.200	200.000		1	3	1
	54	390.000	624.200	200.000		1	3	1
	55	400.000	624.200	200.000		1	3	1
	56	410.000	624.200	200.000		1	3	1
	57	425.000	624.200	200.000		1	3	1

MATERIAL PROPERTY DATA

MATERIAL ID	TEMP	E(T)	A(T)	DEN(T)	POIS(T)	SO(T)
1	70.0	2.790D+07	6.070D-06	0.2835	0.3000	0.0
	400.0	2.760D+07	6.820D-06	0.2835	0.3000	0.0

PIPE CROSS-SECTION DATA

ID NO.	OD(IN)	THK(IN)	AREA(IN2)	IX(IN4)	IY(IN4)	IZ(IN4)	BEND(IN)
1	26.000	0.3750	0.0	0.0	0.0	0.0	0.0
2	8.625	0.3220	0.0	0.0	0.0	0.0	0.0
3	20.000	0.3750	0.0	0.0	0.0	0.0	0.0

INSULATION WT. PROPERTIES

INSULATION ID	INSULATION WT.(LBS/IN)
1	0.0

FLUID WEIGHT PROPERTIES

FLUID ID	TEMP.	DENSITY	TEMP.	DENSITY	TEMP.	DENSITY
1	0.	0.0				

*** RESEQUENCING DATA ***

NODE	WAS	NOW	NODE	WAS	NOW	NODE	WAS	NOW
1	1	1	2	2	2	3	3	3
4	4	4	5	5	5	6	6	6
7	7	7	10	8	8	11	9	9
12	10	10	13	11	11	14	12	12
15	13	13	16	14	14	17	15	15
18	16	16	19	17	17	20	18	18
21	19	19	22	20	20	23	21	21
30	22	22	31	23	23	32	24	24
33	25	25	34	26	26	35	27	27
36	28	28	37	29	29	38	30	30
39	31	31	40	32	32	41	33	33
42	34	34	43	35	35	44	36	36
45	37	37	46	38	38	47	39	39
48	40	40	49	41	41	50	42	42
51	43	43	52	44	44	53	45	45
54	46	46	55	47	47	56	48	48
57	49	49						

ORIGINAL BANDWIDTH= 1 NEW BANDWIDTH= 1

RESULTS FROM DATA CHECK ROUTINE

**** NO ERRORS HAVE BEEN DETECTED IN THE GEOMETRY PORTION OF THE MODEL ****

ELEMENT DATA SUMMARY

ELEMENT	N1 - N2	TYPE	AREA	IX	IY	IZ	LENGTH	RAD	PHI	WEIGHT
1	1 - 2	0	30.189	4956.85	2478.43	2478.43	1200.00			10270.21
2	2 - 3	0	30.189	4956.85	2478.43	2478.43	1200.00			10270.21
3	3 - 4	0	30.189	4956.85	2478.43	2478.43	1200.00			10270.21
4	4 - 5	0	30.189	4956.85	2478.43	2478.43	1200.00			10270.21
5	5 - 6	0	30.189	4956.85	2478.43	2478.43	1200.00			10270.21
6	6 - 7	0	30.189	4956.85	2478.43	2478.43	1200.00			10270.21
7	10 - 11	0	8.399	144.98	72.49	72.49	60.00			142.87
8	11 - 12	0	8.399	144.98	72.49	72.49	180.00			428.61
9	12 - 13	0	8.399	144.98	72.49	72.49	96.00			228.59
10	13 - 14	0	8.399	144.98	72.49	72.49	144.00			342.89
11	14 - 15	0	8.399	144.98	72.49	72.49	120.00			285.74
12	15 - 16	0	8.399	144.98	72.49	72.49	120.00			285.74
13	16 - 17	0	8.399	144.98	72.49	72.49	120.00			285.74
14	17 - 18	0	8.399	144.98	72.49	72.49	120.00			285.74
15	18 - 19	0	8.399	144.98	72.49	72.49	120.00			285.74
16	19 - 20	0	8.399	144.98	72.49	72.49	120.00			285.74
17	20 - 21	0	8.399	144.98	72.49	72.49	120.00			285.74
18	21 - 22	0	8.399	144.98	72.49	72.49	120.00			285.74
19	22 - 23	0	8.399	144.98	72.49	72.49	120.00			285.74
20	30 - 31	0	23.120	2226.94	1113.47	1113.47	1920.00			12584.77
21	31 - 32	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
22	32 - 33	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
23	33 - 34	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
24	34 - 35	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
25	35 - 36	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
26	36 - 37	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
27	37 - 38	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
28	38 - 39	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
29	39 - 40	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
30	40 - 41	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
31	41 - 42	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
32	42 - 43	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
33	43 - 44	0	23.120	2226.94	1113.47	1113.47	120.00			786.55

ELEMENT DATA SUMMARY

ELEMENT	N1 - N2	TYPE	AREA	IX	IY	IZ	LENGTH	RAD	PHI	WEIGHT
34	44 - 45	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
35	45 - 46	0	23.120	2226.94	1113.47	1113.47	84.00			550.58
36	46 - 47	0	23.120	2226.94	1113.47	1113.47	156.00			1022.51
37	47 - 48	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
38	48 - 49	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
39	49 - 50	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
40	50 - 51	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
41	51 - 52	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
42	52 - 53	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
43	53 - 54	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
44	54 - 55	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
45	55 - 56	0	23.120	2226.94	1113.47	1113.47	120.00			786.55
46	56 - 57	0	23.120	2226.94	1113.47	1113.47	180.00			1179.82

TOTAL WEIGHT= 98764.21
RB WEIGHT= 0.0
FLUID VOLUME= 5167673.

PIPE AND INSULATION DATA SUMMARY

IDENTIFICATION NO.	TOTAL PIPE LENGTH	TOTAL INSULATION WT.
1	7200.000	-
2	1560.000	-
3	5100.000	-
	13860.000	0.0

PLOT CONTROL DATA (GEOMETRY PLOTS)

PLOT NO	NPLOT	OX	OY	OZ	XBIG	XSML	YBIG	YSML	ZBIG	ZSML	VA
1	-1	-1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
2	1	1.000	-1.000	-1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
3	1	1.000	-1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0	2
4	1	-1.000	-1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0	2

LOAD CASE 1

PRESSURE= 0.0 FLUID ID= 0 GRAVITY DIRECTION COSINES(X= 0.0 ,Y= 0.0 ,Z= 0.0)

SUBSET LOAD FACTORS,

PRESSURE	= 0.0	FLUID WT.	= 0.0	GRAVITY	= 0.0
SEISMIC	= 0.0	TEMP. (CON)	= 0.0	TEMP. (VARY)	= 0.0
POINT LOADS	= 0.0	WIND LOADS	= 0.0	DISPLACEMENTS	= 1.00
COLD SPRINGING	= 0.0	LINEAR K	= 0.0	S-ALLOW FACTOR	= 0.0

NF VALUES 0 0 0 0 1 0 0 0 1 0 0 0

THE TEMPERATURE OF THE ENTIRE PIPING SYSTEM IS CONSTANT AND IS EQUAL TO 70.0 DEGS

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
1	70.0	0. 0.0	0. -2.160000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0
2	70.0	0.	0. -4.800000	0.	0.	0.	0.	0
3	70.0	0.	0. -7.200000	0.	0.	0.	0.	0
4	70.0	0.	0. -9.600000	0.	0.	0.	0.	0
5	70.0	0.	0. -9.480000	0.	0.	0.	0.	0
6	70.0	0.	0. -8.520000	0.	0.	0.	0.	0
7	70.0	0. 0.0	0. -8.520000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0
10	70.0	0. 0.0	0. -5.280000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0
11	70.0	0.	0. -5.880000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
12	70.0	0.	0.	0.	0.	0.	0.	0
		....	-9.000000	....	....	....	....	
13	70.0	0.	0.	0.	0.	0.	0.	0
		....	-11.400000	....	....	....	....	
14	70.0	0.	0.	0.	0.	0.	0.	0
		....	-14.160000	....	....	....	....	
15	70.0	0.	0.	0.	0.	0.	0.	0
		....	-16.200000	....	....	....	....	
16	70.0	0.	0.	0.	0.	0.	0.	0
		....	-15.600000	....	....	....	....	
17	70.0	0.	0.	0.	0.	0.	0.	0
		....	-14.640000	....	....	....	....	
18	70.0	0.	0.	0.	0.	0.	0.	0
		....	-11.160000	....	....	....	....	
19	70.0	0.	0.	0.	0.	0.	0.	0
		....	-8.760000	....	....	....	....	
20	70.0	0.	0.	0.	0.	0.	0.	0
		....	-5.280000	....	....	....	....	

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
21	70.0	0.	0. -6.600000	0.	0.	0.	0.	0
22	70.0	0.	0. -4.920000	0.	0.	0.	0.	0
23	70.0	0. 0.0	0. -3.600000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0
30	70.0	0. 0.0	0. -4.080000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0
31	70.0	0.	0. -3.960000	0.	0.	0.	0.	0
32	70.0	0.	0. -3.240000	0.	0.	0.	0.	0
33	70.0	0.	0. -0.840000	0.	0.	0.	0.	0
34	70.0	0.	0. 0.480000	0.	0.	0.	0.	0
35	70.0	0.	0. 1.200000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
36	70.0	0.	0. 1.920000	0.	0.	0.	0.	0
37	70.0	0.	0. 0.960000	0.	0.	0.	0.	0
38	70.0	0.	0. 0.120000	0.	0.	0.	0.	0
39	70.0	0.	0. 0.0	0.	0.	0.	0.	0
40	70.0	0.	0. -0.360000	0.	0.	0.	0.	0
41	70.0	0.	0. -0.600000	0.	0.	0.	0.	0
42	70.0	0.	0. -1.200000	0.	0.	0.	0.	0
43	70.0	0.	0. -1.920000	0.	0.	0.	0.	0
44	70.0	0.	0. -2.160000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE -	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
45	70.0	0.	0. -1.920000	0.	0.	0.	0.	0
46	70.0	0.	0. -0.840000	0.	0.	0.	0.	0
47	70.0	0.	0. 3.240000	0.	0.	0.	0.	0
48	70.0	0.	0. 0.720000	0.	0.	0.	0.	0
49	70.0	0.	0. 0.720000	0.	0.	0.	0.	0
50	70.0	0.	0. -0.720000	0.	0.	0.	0.	0
51	70.0	0.	0. -1.080000	0.	0.	0.	0.	0
52	70.0	0.	0. -1.200000	0.	0.	0.	0.	0
53	70.0	0.	0. -1.560000	0.	0.	0.	0.	0

LOAD CASE 1 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
54	70.0	0.	0. 1.560000	0.	0.	0.	0.	0
55	70.0	0.	0. -0.240000	0.	0.	0.	0.	0
56	70.0	0.	0. 0.720000	0.	0.	0.	0.	0
57	70.0	0. 0.0	0. 2.520000	0. 0.0	0. 0.0	0. 0.0	0. 0.0	0

LOAD CASE 2

PRESSURE= 0.0 FLUID ID= 0 GRAVITY DIRECTION COSINES(X= 0.0 ,Y= 0.0 ,Z= 0.0)

SUBSET LOAD FACTORS,

PRESSURE	= 0.0	FLUID WT.	= 0.0	GRAVITY	= 0.0
SEISMIC	= 0.0	TEMP. (CON)	= 0.0	TEMP. (VARY)	= 0.0
POINT LOADS	= 0.0	WIND LOADS	= 0.0	DISPLACEMENTS	= 1.00
COLD SPRINGING	= 0.0	LINEAR K	= 0.0	S-ALLOW FACTOR	= 0.0

NF VALUES 0 0 0 0 0 0 0 0 1 0 0 0

THE TEMPERATURE OF THE ENTIRE PIPING SYSTEM IS CONSTANT AND IS EQUAL TO 70.0 DEGS

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
1	70.0	0. / 0.0	0. / -2.160000	0. / 0.0	0. /	0. /	0. /	0
2	70.0	0. /	0. / -4.800000	0. /	0. /	0. /	0. /	0
3	70.0	0. /	0. / -7.200000	0. /	0. /	0. /	0. /	0
4	70.0	0. /	0. / -9.600000	0. /	0. /	0. /	0. /	0
5	70.0	0. /	0. / -9.480000	0. /	0. /	0. /	0. /	0
6	70.0	0. /	0. / -8.520000	0. /	0. /	0. /	0. /	0
7	70.0	0. / 0.0	0. / -8.520000	0. / 0.0	0. /	0. /	0. /	0
10	70.0	0. / 0.0	0. / -5.280000	0. / 0.0	0. /	0. /	0. /	0
11	70.0	0. /	0. / -5.880000	0. /	0. /	0. /	0. /	0

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
12	70.0	0.	0.	0.	0.	0.	0.	0
		....	-9.000000	....	....	....	....	
13	70.0	0.	0.	0.	0.	0.	0.	0
		....	-11.400000	....	....	....	....	
14	70.0	0.	0.	0.	0.	0.	0.	0
		....	-14.160000	....	....	....	....	
15	70.0	0.	0.	0.	0.	0.	0.	0
		....	-16.200000	....	....	....	....	
16	70.0	0.	0.	0.	0.	0.	0.	0
		....	-15.600000	....	....	....	....	
17	70.0	0.	0.	0.	0.	0.	0.	0
		....	-14.640000	....	....	....	....	
18	70.0	0.	0.	0.	0.	0.	0.	0
		....	-11.160000	....	....	....	....	
19	70.0	0.	0.	0.	0.	0.	0.	0
		....	-8.760000	....	....	....	....	
20	70.0	0.	0.	0.	0.	0.	0.	0
		....	-5.280000	....	....	....	....	

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX / DX	FY / DY	FZ / DZ	MX / TX	MY / TY	MZ / TZ	SYSTEM
21	70.0	0.	0.	0.	0.	0.	0.	0
		....	-6.600000	....	....	....	....	
22	70.0	0.	0.	0.	0.	0.	0.	0
		....	-4.920000	....	....	....	....	
23	70.0	0.	0.	0.	0.	0.	0.	0
		0.0	-3.600000	0.0	....	....	....	
30	70.0	0.	0.	0.	0.	0.	0.	0
		0.0	-4.080000	0.0	....	....	....	
31	70.0	0.	0.	0.	0.	0.	0.	0
		....	-3.960000	....	....	....	....	
32	70.0	0.	0.	0.	0.	0.	0.	0
		....	-3.240000	....	....	....	....	
33	70.0	0.	0.	0.	0.	0.	0.	0
		....	-0.840000	....	....	....	....	
34	70.0	0.	0.	0.	0.	0.	0.	0
		....	0.480000	....	....	....	....	
35	70.0	0.	0.	0.	0.	0.	0.	0
		....	1.200000	....	....	....	....	

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
36	70.0	0.	0. 1.920000	0.	0.	0.	0.	0
37	70.0	0.	0. 0.960000	0.	0.	0.	0.	0
38	70.0	0.	0. 0.120000	0.	0.	0.	0.	0
39	70.0	0.	0. 0.0	0.	0.	0.	0.	0
40	70.0	0.	0. -0.360000	0.	0.	0.	0.	0
41	70.0	0.	0. -0.600000	0.	0.	0.	0.	0
42	70.0	0.	0. -1.200000	0.	0.	0.	0.	0
43	70.0	0.	0. -1.920000	0.	0.	0.	0.	0
44	70.0	0.	0. -2.160000	0.	0.	0.	0.	0

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
45	70.0	0.	0. -1.920000	0.	0.	0.	0.	0
46	70.0	0.	0. -0.840000	0.	0. ..	0.	0.	0
47	70.0	0.	0. 3.240000	0.	0.	0.	0.	0
48	70.0	0.	0. 0.720000	0.	0.	0.	0.	0
49	70.0	0.	0. 0.720000	0.	0.	0.	0.	0
50	70.0	0.	0. -0.720000	0.	0.	0.	0.	0
51	70.0	0.	0. -1.080000	0.	0.	0.	0.	0
52	70.0	0.	0. -1.200000	0.	0.	0.	0.	0
53	70.0	0.	0. -1.560000	0.	0.	0.	0.	0

LOAD CASE 2 NODE DATA

NODE	TEMPERATURE	FX DX	FY DY	FZ DZ	MX TX	MY TY	MZ TZ	SYSTEM
54	70.0	0.	0.	0.	0.	0.	0.	0
		....	1.560000	....	....	....	....	
55	70.0	0.	0.	0.	0.	0.	0.	0
		....	-0.240000	....	....	....	....	
56	70.0	0.	0.	0.	0.	0.	0.	0
		....	0.720000	....	....	....	....	
57	70.0	0.	0.	0.	0.	0.	0.	0
		0.0	2.520000	0.0	....	....	....	

CALCULATED DISPLACEMENTS FOR LOAD CASE 1

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
1	0	0.0	-2.1600D+00	0.0	0.0	0.0	0.0
2	0	0.0	-4.8000D+00	0.0	0.0	0.0	-2.6335D-03
3	0	0.0	-7.2000D+00	0.0	0.0	0.0	-2.0605D-03
4	0	0.0	-9.6000D+00	0.0	0.0	0.0	-1.1241D-03
5	0	0.0	-9.4800D+00	0.0	0.0	0.0	8.5858D-04
6	0	0.0	-8.5200D+00	0.0	0.0	0.0	3.8540D-04
7	0	0.0	-8.5200D+00	0.0	0.0	0.0	0.0
10	0	0.0	-5.2800D+00	0.0	0.0	0.0	0.0
11	0	0.0	-5.8800D+00	0.0	0.0	0.0	-1.4421D-02
12	0	0.0	-9.0000D+00	0.0	0.0	0.0	-2.3449D-02
13	0	0.0	-1.1400D+01	0.0	0.0	0.0	-2.2870D-02
14	0	0.0	-1.4160D+01	0.0	0.0	0.0	-2.0199D-02
15	0	0.0	-1.6200D+01	0.0	0.0	0.0	-5.4966D-03
16	0	0.0	-1.5600D+01	0.0	0.0	0.0	6.1278D-03
17	0	0.0	-1.4640D+01	0.0	0.0	0.0	2.0028D-02
18	0	0.0	-1.1160D+01	0.0	0.0	0.0	2.4587D-02
19	0	0.0	-8.7600D+00	0.0	0.0	0.0	2.8616D-02
20	0	0.0	-5.2800D+00	0.0	0.0	0.0	7.4799D-03
21	0	0.0	-6.6000D+00	0.0	0.0	0.0	-4.3618D-03
22	0	0.0	-4.9200D+00	0.0	0.0	0.0	1.9637D-02
23	0	0.0	-3.6000D+00	0.0	0.0	0.0	0.0
30	0	0.0	-4.0800D+00	0.0	0.0	0.0	0.0
31	0	0.0	-3.9600D+00	0.0	0.0	0.0	2.3102D-03
32	0	0.0	-3.2400D+00	0.0	0.0	0.0	1.4295D-03
33	0	0.0	-8.4000D-01	0.0	0.0	0.0	1.7604D-02
34	0	0.0	4.8000D-01	0.0	0.0	0.0	6.8196D-03
35	0	0.0	1.2000D+00	0.0	0.0	0.0	7.2920D-03
36	0	0.0	1.9200D+00	0.0	0.0	0.0	-8.9057D-04
37	0	0.0	9.6000D-01	0.0	0.0	0.0	-9.8062D-03
38	0	0.0	1.2000D-01	0.0	0.0	0.0	-3.2730D-03
39	0	0.0	0.0	0.0	0.0	0.0	-1.6100D-03

CALCULATED DISPLACEMENTS FOR LOAD CASE 1

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
40	0	0.0	-3.6000D-01	0.0	0.0	0.0	-2.5594D-03
41	0	0.0	-6.0000D-01	0.0	0.0	0.0	-3.1111D-03
42	0	0.0	-1.2000D+00	0.0	0.0	0.0	-6.2683D-03
43	0	0.0	-1.9200D+00	0.0	0.0	0.0	-4.2790D-03
44	0	0.0	-2.1600D+00	0.0	0.0	0.0	-4.2054D-04
45	0	0.0	-1.9200D+00	0.0	0.0	0.0	6.2551D-03
46	0	0.0	-8.4000D-01	0.0	0.0	0.0	2.4299D-02
47	0	0.0	3.2400D+00	0.0	0.0	0.0	-1.1551D-03
48	0	0.0	7.2000D-01	0.0	0.0	0.0	-1.3995D-02
49	0	0.0	7.2000D-01	0.0	0.0	0.0	-3.4242D-03
50	0	0.0	-7.2000D-01	0.0	0.0	0.0	-1.0109D-02
51	0	0.0	-1.0800D+00	0.0	0.0	0.0	6.8125D-04
52	0	0.0	-1.2000D+00	0.0	0.0	0.0	-6.4902D-03
53	0	0.0	-1.5600D+00	0.0	0.0	0.0	1.6418D-02
54	0	0.0	1.5600D+00	0.0	0.0	0.0	6.3837D-03
55	0	0.0	-2.4000D-01	0.0	0.0	0.0	-9.5697D-03
56	0	0.0	7.2000D-01	0.0	0.0	0.0	1.5137D-02
57	0	0.0	2.5200D+00	0.0	0.0	0.0	0.0

CALCULATED DISPLACEMENTS FOR LOAD CASE 2

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
1	0	0.0	-2.1600D+00	0.0	0.0	0.0	-2.2889D-03
2	0	0.0	-4.8000D+00	0.0	0.0	0.0	-2.0218D-03
3	0	0.0	-7.2000D+00	0.0	0.0	0.0	-2.2249D-03
4	0	0.0	-9.6000D+00	0.0	0.0	0.0	-1.0762D-03
5	0	0.0	-9.4800D+00	0.0	0.0	0.0	8.3104D-04
6	0	0.0	-8.5200D+00	0.0	0.0	0.0	4.4796D-04
7	0	0.0	-8.5200D+00	0.0	0.0	0.0	-2.2338D-04
10	0	0.0	-5.2800D+00	0.0	0.0	0.0	-9.4401D-03
11	0	0.0	-5.8800D+00	0.0	0.0	0.0	-1.1255D-02
12	0	0.0	-9.0000D+00	0.0	0.0	0.0	-2.4059D-02
13	0	0.0	-1.1400D+01	0.0	0.0	0.0	-2.2688D-02
14	0	0.0	-1.4160D+01	0.0	0.0	0.0	-2.0243D-02
15	0	0.0	-1.6200D+01	0.0	0.0	0.0	-5.4851D-03
16	0	0.0	-1.5600D+01	0.0	0.0	0.0	6.1243D-03
17	0	0.0	-1.4640D+01	0.0	0.0	0.0	2.0031D-02
18	0	0.0	-1.1160D+01	0.0	0.0	0.0	2.4577D-02
19	0	0.0	-8.7600D+00	0.0	0.0	0.0	2.8651D-02
20	0	0.0	-5.2800D+00	0.0	0.0	0.0	7.3440D-03
21	0	0.0	-6.6000D+00	0.0	0.0	0.0	-3.8380D-03
22	0	0.0	-4.9200D+00	0.0	0.0	0.0	1.7618D-02
23	0	0.0	-3.6000D+00	0.0	0.0	0.0	7.7831D-03
30	0	0.0	-4.0800D+00	0.0	0.0	0.0	-1.0805D-03
31	0	0.0	-3.9600D+00	0.0	0.0	0.0	2.3499D-03
32	0	0.0	-3.2400D+00	0.0	0.0	0.0	1.4286D-02
33	0	0.0	-8.4000D-01	0.0	0.0	0.0	1.7606D-02
34	0	0.0	4.8000D-01	0.0	0.0	0.0	6.8192D-03
35	0	0.0	1.2000D+00	0.0	0.0	0.0	7.2921D-03
36	0	0.0	1.9200D+00	0.0	0.0	0.0	-8.9059D-04
37	0	0.0	9.6000D-01	0.0	0.0	0.0	-9.8062D-03
38	0	0.0	1.2000D-01	0.0	0.0	0.0	-3.2730D-03
39	0	0.0	0.0	0.0	0.0	0.0	-1.6100D-03

CALCULATED DISPLACEMENTS FOR LOAD CASE 2

NODE	NSYS	X-DISP	Y-DISP	Z-DISP	X-ROT	Y-ROT	Z-ROT
40	0	0.0	-3.6000D-01	0.0	0.0	0.0	-2.5594D-03
41	0	0.0	-6.0000D-01	0.0	0.0	0.0	-3.1111D-03
42	0	0.0	-1.2000D+00	0.0	0.0	0.0	-6.2683D-03
43	0	0.0	-1.9200D+00	0.0	0.0	0.0	-4.2790D-03
44	0	0.0	-2.1600D+00	0.0	0.0	0.0	-4.2054D-04
45	0	0.0	-1.9200D+00	0.0	0.0	0.0	6.2551D-03
46	0	0.0	-8.4000D-01	0.0	0.0	0.0	2.4299D-02
47	0	0.0	3.2400D+00	0.0	0.0	0.0	-1.1551D-03
48	0	0.0	7.2000D-01	0.0	0.0	0.0	-1.3995D-02
49	0	0.0	7.2000D-01	0.0	0.0	0.0	-3.4242D-03
50	0	0.0	-7.2000D-01	0.0	0.0	0.0	-1.0109D-02
51	0	0.0	-1.0800D+00	0.0	0.0	0.0	6.8221D-04
52	0	0.0	-1.2000D+00	0.0	0.0	0.0	-6.4945D-03
53	0	0.0	-1.5600D+00	0.0	0.0	0.0	1.6437D-02
54	0	0.0	1.5600D+00	0.0	0.0	0.0	6.2971D-03
55	0	0.0	-2.4000D-01	0.0	0.0	0.0	-9.1823D-03
56	0	0.0	7.2000D-01	0.0	0.0	0.0	1.3403D-02
57	0	0.0	2.5200D+00	0.0	0.0	0.0	8.4141D-03

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
1	1	(G)	0.0	507.2	0.0	0.0	0.0	38004.0
	2	(G)	0.0	-507.2	0.0	0.0	0.0	12712.6
2	2	(G)	0.0	-199.2	0.0	0.0	0.0	-12712.6
	3	(G)	0.0	199.2	0.0	0.0	0.0	-7209.5
3	3	(G)	0.0	234.1	0.0	0.0	0.0	7209.5
	4	(G)	0.0	-234.1	0.0	0.0	0.0	16202.5
4	4	(G)	0.0	-133.6	0.0	0.0	0.0	-16202.5
	5	(G)	0.0	133.6	0.0	0.0	0.0	2838.5
5	5	(G)	0.0	-102.2	0.0	0.0	0.0	-2838.5
	6	(G)	0.0	102.2	0.0	0.0	0.0	-7382.9
6	6	(G)	0.0	110.6	0.0	0.0	0.0	7382.9
	7	(G)	0.0	-110.6	0.0	0.0	0.0	3611.6
7	10	(G)	0.0	16361.4	0.0	0.0	0.0	81410.5
	11	(G)	0.0	-16361.4	0.0	0.0	0.0	396.3
8	11	(G)	0.0	-1179.9	0.0	0.0	0.0	-396.3
	12	(G)	0.0	1179.9	0.0	0.0	0.0	-17302.6
9	12	(G)	0.0	4579.6	0.0	0.0	0.0	17302.6
	13	(G)	0.0	-4579.6	0.0	0.0	0.0	19334.0
10	13	(G)	0.0	-2701.3	0.0	0.0	0.0	-19334.0
	14	(G)	0.0	2701.3	0.0	0.0	0.0	-13081.2

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
11	14	(G)	0.0	6746.0	0.0	0.0	0.0	13081.2
	15	(G)	0.0	-6746.0	0.0	0.0	0.0	54379.3
12	15	(G)	0.0	-7610.6	0.0	0.0	0.0	-54379.3
	16	(G)	0.0	7610.6	0.0	0.0	0.0	-21726.7
13	16	(G)	0.0	8249.8	0.0	0.0	0.0	21726.7
	17	(G)	0.0	-8249.8	0.0	0.0	0.0	60771.0
14	17	(G)	0.0	-10873.6	0.0	0.0	0.0	-60771.0
	18	(G)	0.0	10873.6	0.0	0.0	0.0	-47965.4
15	18	(G)	0.0	10724.9	0.0	0.0	0.0	47965.4
	19	(G)	0.0	-10724.9	0.0	0.0	0.0	59283.3
16	19	(G)	0.0	-17793.7	0.0	0.0	0.0	-59283.3
	20	(G)	0.0	17793.7	0.0	0.0	0.0	-118653.3
17	20	(G)	0.0	20404.4	0.0	0.0	0.0	118653.3
	21	(G)	0.0	-20404.4	0.0	0.0	0.0	85390.7
18	21	(G)	0.0	-10337.1	0.0	0.0	0.0	-85390.7
	22	(G)	0.0	10337.1	0.0	0.0	0.0	-17980.1
19	22	(G)	0.0	-1919.8	0.0	0.0	0.0	17980.1
	23	(G)	0.0	1919.8	0.0	0.0	0.0	-37178.4
20	30	(G)	0.0	110.4	0.0	0.0	0.0	5717.1
	31	(G)	0.0	-110.4	0.0	0.0	0.0	11947.0

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
21	31	(G)	0.0	49322.4	0.0	0.0	0.0	-11947.0
	32	(G)	0.0	-49322.4	0.0	0.0	0.0	505170.6
22	32	(G)	0.0	-86758.9	0.0	0.0	0.0	-505170.6
	33	(G)	0.0	86758.9	0.0	0.0	0.0	-362418.1
23	33	(G)	0.0	25953.4	0.0	0.0	0.0	362418.1
	34	(G)	0.0	-25953.4	0.0	0.0	0.0	-102883.7
24	34	(G)	0.0	22614.9	0.0	0.0	0.0	102883.7
	35	(G)	0.0	-22614.9	0.0	0.0	0.0	123265.2
25	35	(G)	0.0	-59958.4	0.0	0.0	0.0	-123265.2
	36	(G)	0.0	59958.4	0.0	0.0	0.0	-476318.7
26	36	(G)	0.0	56795.5	0.0	0.0	0.0	476318.7
	37	(G)	0.0	-56795.5	0.0	0.0	0.0	91635.9
27	37	(G)	0.0	9861.8	0.0	0.0	0.0	-91635.9
	38	(G)	0.0	-9861.8	0.0	0.0	0.0	190254.1
28	38	(G)	0.0	-30875.9	0.0	0.0	0.0	-190254.1
	39	(G)	0.0	30875.9	0.0	0.0	0.0	-118504.6
29	39	(G)	0.0	19605.0	0.0	0.0	0.0	118504.6
	40	(G)	0.0	-19605.0	0.0	0.0	0.0	77545.0
30	40	(G)	0.0	-17889.4	0.0	0.0	0.0	-77545.0
	41	(G)	0.0	17889.4	0.0	0.0	0.0	-101348.9

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
31	41	(G)	0.0	6647.4	0.0	0.0	0.0	101348.9
	42	(G)	0.0	-6647.4	0.0	0.0	0.0	-34874.9
32	42	(G)	0.0	15557.8	0.0	0.0	0.0	34874.9
	43	(G)	0.0	-15557.8	0.0	0.0	0.0	120703.2
33	43	(G)	0.0	-7492.3	0.0	0.0	0.0	-120703.2
	44	(G)	0.0	7492.3	0.0	0.0	0.0	45779.8
34	44	(G)	0.0	19647.4	0.0	0.0	0.0	-45779.8
	45	(G)	0.0	-19647.4	0.0	0.0	0.0	242253.9
35	45	(G)	0.0	89671.0	0.0	0.0	0.0	-242253.9
	46	(G)	0.0	-89671.0	0.0	0.0	0.0	869950.7
36	46	(G)	0.0	-198825.0	0.0	0.0	0.0	-869950.7
	47	(G)	0.0	198825.0	0.0	0.0	0.0	-1714774.0
37	47	(G)	0.0	287556.0	0.0	0.0	0.0	1714774.0
	48	(G)	0.0	-287556.0	0.0	0.0	0.0	1160786.2
38	48	(G)	0.0	-186549.1	0.0	0.0	0.0	-1160786.2
	49	(G)	0.0	186549.1	0.0	0.0	0.0	-704704.8
39	49	(G)	0.0	112100.2	0.0	0.0	0.0	704704.8
	50	(G)	0.0	-112100.2	0.0	0.0	0.0	416297.1
40	50	(G)	0.0	-36704.8	0.0	0.0	0.0	-416297.1
	51	(G)	0.0	36704.8	0.0	0.0	0.0	49249.1

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 1

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
41	51	(G)	0.0	-40792.5	0.0	0.0	0.0	-49249.1
	52	(G)	0.0	40792.5	0.0	0.0	0.0	-358676.0
42	52	(G)	0.0	170575.1	0.0	0.0	0.0	358676.0
	53	(G)	0.0	-170575.1	0.0	0.0	0.0	1347075.2
43	53	(G)	0.0	-312708.1	0.0	0.0	0.0	-1347075.2
	54	(G)	0.0	312708.1	0.0	0.0	0.0	-1780005.8
44	54	(G)	0.0	287167.5	0.0	0.0	0.0	1780005.8
	55	(G)	0.0	-287167.5	0.0	0.0	0.0	1091668.8
45	55	(G)	0.0	-111733.6	0.0	0.0	0.0	-1091668.8
	56	(G)	0.0	111733.6	0.0	0.0	0.0	-25667.3
46	56	(G)	0.0	-25604.3	0.0	0.0	0.0	25667.3
	57	(G)	0.0	25604.3	0.0	0.0	0.0	-409732.6

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
1	1	(G)	0.0	25.7	0.0	0.0	0.0	0.0
	2	(G)	0.0	-25.7	0.0	0.0	0.0	2565.4
2	2	(G)	0.0	-70.8	0.0	0.0	0.0	-2565.4
	3	(G)	0.0	70.8	0.0	0.0	0.0	-4516.4
3	3	(G)	0.0	200.6	0.0	0.0	0.0	4516.4
	4	(G)	0.0	-200.6	0.0	0.0	0.0	15548.5
4	4	(G)	0.0	-127.8	0.0	0.0	0.0	-15548.5
	5	(G)	0.0	127.8	0.0	0.0	0.0	2768.4
5	5	(G)	0.0	-92.2	0.0	0.0	0.0	-2768.4
	6	(G)	0.0	92.2	0.0	0.0	0.0	-6447.5
6	6	(G)	0.0	64.5	0.0	0.0	0.0	6447.5
	7	(G)	0.0	-64.5	0.0	0.0	0.0	-0.0
7	10	(G)	0.0	-2039.6	0.0	0.0	0.0	0.0
	11	(G)	0.0	2039.6	0.0	0.0	0.0	-10197.9
8	11	(G)	0.0	-238.8	0.0	0.0	0.0	10197.9
	12	(G)	0.0	238.8	0.0	0.0	0.0	-13779.3
9	12	(G)	0.0	4046.8	0.0	0.0	0.0	13779.3
	13	(G)	0.0	-4046.8	0.0	0.0	0.0	18595.2
10	13	(G)	0.0	-2622.3	0.0	0.0	0.0	-18595.2
	14	(G)	0.0	2622.3	0.0	0.0	0.0	-12872.0

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
11	14	(G)	0.0	6719.8	0.0	0.0	0.0	12872.0
	15	(G)	0.0	-6719.8	0.0	0.0	0.0	54325.7
12	15	(G)	0.0	-7604.1	0.0	0.0	0.0	-54325.7
	16	(G)	0.0	7604.1	0.0	0.0	0.0	-21715.6
13	16	(G)	0.0	8249.4	0.0	0.0	0.0	21715.6
	17	(G)	0.0	-8249.4	0.0	0.0	0.0	60778.7
14	17	(G)	0.0	-10878.7	0.0	0.0	0.0	-60778.7
	18	(G)	0.0	10878.7	0.0	0.0	0.0	-48008.1
15	18	(G)	0.0	10746.0	0.0	0.0	0.0	48008.1
	19	(G)	0.0	-10746.0	0.0	0.0	0.0	59451.4
16	19	(G)	0.0	-17875.4	0.0	0.0	0.0	-59451.4
	20	(G)	0.0	17875.4	0.0	0.0	0.0	-119302.3
17	20	(G)	0.0	20719.5	0.0	0.0	0.0	119302.3
	21	(G)	0.0	-20719.5	0.0	0.0	0.0	87892.6
18	21	(G)	0.0	-11551.7	0.0	0.0	0.0	-87892.6
	22	(G)	0.0	11551.7	0.0	0.0	0.0	-27624.8
19	22	(G)	0.0	2762.5	0.0	0.0	0.0	27624.8
	23	(G)	0.0	-2762.5	0.0	0.0	0.0	0.0
20	30	(G)	0.0	57.8	0.0	0.0	0.0	0.0
	31	(G)	0.0	-57.8	0.0	0.0	0.0	9250.6

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
21	31	(G)	0.0	49652.2	0.0	0.0	0.0	-9250.6
	32	(G)	0.0	-49652.2	0.0	0.0	0.0	505773.1
22	32	(G)	0.0	-86832.6	0.0	0.0	0.0	-505773.1
	33	(G)	0.0	86832.6	0.0	0.0	0.0	-362552.7
23	33	(G)	0.0	25969.9	0.0	0.0	0.0	362552.7
	34	(G)	0.0	-25969.9	0.0	0.0	0.0	-102853.6
24	34	(G)	0.0	22611.2	0.0	0.0	0.0	102853.6
	35	(G)	0.0	-22611.2	0.0	0.0	0.0	123258.4
25	35	(G)	0.0	-59957.6	0.0	0.0	0.0	-123258.4
	36	(G)	0.0	59957.6	0.0	0.0	0.0	-476317.2
26	16	(G)	0.0	56795.3	0.0	0.0	0.0	476317.2
	37	(G)	0.0	-56795.3	0.0	0.0	0.0	91635.6
27	37	(G)	0.0	9861.9	0.0	0.0	0.0	-91635.6
	38	(G)	0.0	-9861.9	0.0	0.0	0.0	190254.1
28	38	(G)	0.0	-30875.9	0.0	0.0	0.0	-190254.1
	39	(G)	0.0	30875.9	0.0	0.0	0.0	-118504.6
29	39	(G)	0.0	19605.0	0.0	0.0	0.0	118504.6
	40	(G)	0.0	-19605.0	0.0	0.0	0.0	77545.0
30	40	(G)	0.0	-17889.4	0.0	0.0	0.0	-77545.0
	41	(G)	0.0	17889.4	0.0	0.0	0.0	-101348.9

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
31	41	(G)	0.0	6647.4	0.0	0.0	0.0	101348.9
	42	(G)	0.0	-6647.4	0.0	0.0	0.0	-34874.9
32	42	(G)	0.0	15557.8	0.0	0.0	0.0	34874.9
	43	(G)	0.0	-15557.8	0.0	0.0	0.0	120703.2
33	43	(G)	0.0	-7492.3	0.0	0.0	0.0	-120703.2
	44	(G)	0.0	7492.3	0.0	0.0	0.0	45779.8
34	44	(G)	0.0	19647.4	0.0	0.0	0.0	-45779.8
	45	(G)	0.0	-19647.4	0.0	0.0	0.0	242253.9
35	45	(G)	0.0	89671.0	0.0	0.0	0.0	-242253.9
	46	(G)	0.0	-89671.0	0.0	0.0	0.0	869950.7
36	46	(G)	0.0	-198825.0	0.0	0.0	0.0	-869950.7
	47	(G)	0.0	198825.0	0.0	0.0	0.0	-1714773.9
37	47	(G)	0.0	287555.9	0.0	0.0	0.0	1714773.9
	48	(G)	0.0	-287555.9	0.0	0.0	0.0	1160785.5
38	48	(G)	0.0	-186548.7	0.0	0.0	0.0	-1160785.5
	49	(G)	0.0	186548.7	0.0	0.0	0.0	-704701.5
39	49	(G)	0.0	112098.4	0.0	0.0	0.0	704701.5
	50	(G)	0.0	-112098.4	0.0	0.0	0.0	416282.5
40	50	(G)	0.0	-36696.8	0.0	0.0	0.0	-416282.5
	51	(G)	0.0	36696.8	0.0	0.0	0.0	49314.7

ELEMENT INTERNAL FORCES AND MOMENTS
LOAD CASE 2

ELEMENT	NODES	SYSTEM	FX(LBS)	FY(LBS)	FZ(LBS)	MX(FT-LBS)	MY(FT-LBS)	MZ(FT-LBS)
41	51	(G)	0.0	-40828.5	0.0	0.0	0.0	-49314.7
	52	(G)	0.0	40828.5	0.0	0.0	0.0	-358969.8
42	52	(G)	0.0	170736.0	0.0	0.0	0.0	358969.8
	53	(G)	0.0	-170736.0	0.0	0.0	0.0	1348389.8
43	53	(G)	0.0	-313427.9	0.0	0.0	0.0	-1348389.8
	54	(G)	0.0	313427.9	0.0	0.0	0.0	-1785889.2
44	54	(G)	0.0	290388.9	0.0	0.0	0.0	1785889.2
	55	(G)	0.0	-290388.9	0.0	0.0	0.0	1117999.4
45	55	(G)	0.0	-126150.6	0.0	0.0	0.0	-1117999.4
	56	(G)	0.0	126150.6	0.0	0.0	0.0	-143506.9
46	56	(G)	0.0	9567.1	0.0	0.0	0.0	143506.9
	57	(G)	0.0	-9567.1	0.0	0.0	0.0	-0.0

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SD**
1	1- 2	0.0	0.0	0.0	2392.1	1.000	0.0	2392.1	2392.1
		0.0	0.0	0.0	-800.2	1.000	0.0	800.2	800.2
2	2- 3	0.0	0.0	0.0	-800.2	1.000	0.0	800.2	800.2
		0.0	0.0	0.0	453.8	1.000	0.0	453.8	453.8
3	3- 4	0.0	0.0	0.0	453.8	1.000	0.0	453.8	453.8
		0.0	0.0	0.0	-1019.8	1.000	0.0	1019.8	1019.8
4	4- 5	0.0	0.0	0.0	-1019.8	1.000	0.0	1019.8	1019.8
		0.0	0.0	0.0	-178.7	1.000	0.0	178.7	178.7
5	5- 6	0.0	0.0	0.0	-178.7	1.000	0.0	178.7	178.7
		0.0	0.0	0.0	464.7	1.000	0.0	464.7	464.7
6	6- 7	0.0	0.0	0.0	464.7	1.000	0.0	464.7	464.7
		0.0	0.0	0.0	-231.7	1.000	0.0	231.7	231.7
7	10- 11	0.0	0.0	0.0	58118.9	1.000	0.0	58118.9	58118.9
		0.0	0.0	0.0	-282.9	1.000	0.0	282.9	282.9
8	11- 12	0.0	0.0	0.0	-282.9	1.000	0.0	282.9	282.9
		0.0	0.0	0.0	12352.3	1.000	0.0	12352.3	12352.3
9	12- 13	0.0	0.0	0.0	12352.3	1.000	0.0	12352.3	12352.3
		0.0	0.0	0.0	-13802.5	1.000	0.0	13802.5	13802.5
10	13- 14	0.0	0.0	0.0	-13802.5	1.000	0.0	13802.5	13802.5
		0.0	0.0	0.0	9338.6	1.000	0.0	9338.6	9338.6

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SD**
11	14- 15	0.0	0.0	0.0	9338.6	1.000	0.0	9338.6	9338.6
		0.0	0.0	0.0	-38821.3	1.000	0.0	38821.3	38821.3
12	15- 16	0.0	0.0	0.0	-38821.3	1.000	0.0	38821.3	38821.3
		0.0	0.0	0.0	15510.7	1.000	0.0	15510.7	15510.7
13	16- 17	0.0	0.0	0.0	15510.7	1.000	0.0	15510.7	15510.7
		0.0	0.0	0.0	-43384.4	1.000	0.0	43384.4	43384.4
14	17- 18	0.0	0.0	0.0	-43384.4	1.000	0.0	43384.4	43384.4
		0.0	0.0	0.0	34242.4	1.000	0.0	34242.4	34242.4
15	18- 19	0.0	0.0	0.0	34242.4	1.000	0.0	34242.4	34242.4
		0.0	0.0	0.0	-42322.3	1.000	0.0	42322.3	42322.3
16	19- 20	0.0	0.0	0.0	-42322.3	1.000	0.0	42322.3	42322.3
		0.0	0.0	0.0	84706.5	1.000	0.0	84706.5	84706.5
17	20- 21	0.0	0.0	0.0	84706.5	1.000	0.0	84706.5	84706.5
		0.0	0.0	0.0	-60960.3	1.000	0.0	60960.3	60960.3
18	21- 22	0.0	0.0	0.0	-60960.3	1.000	0.0	60960.3	60960.3
		0.0	0.0	0.0	12836.0	1.000	0.0	12836.0	12836.0
19	22- 23	0.0	0.0	0.0	12836.0	1.000	0.0	12836.0	12836.0
		0.0	0.0	0.0	26541.6	1.000	0.0	26541.6	26541.6
20	30- 31	0.0	0.0	0.0	616.1	1.000	0.0	616.1	616.1
		0.0	0.0	0.0	-1287.5	1.000	0.0	1287.5	1287.5

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
21	31- 32	0.0	0.0	0.0	-1287.5	1.000	0.0	1287.5	1287.5
		0.0	0.0	0.0	-54442.8	1.000	0.0	54442.8	54442.8
22	32- 33	0.0	0.0	0.0	-54442.8	1.000	0.0	54442.8	54442.8
		0.0	0.0	0.0	39058.2	1.000	0.0	39058.2	39058.2
23	33- 34	0.0	0.0	0.0	39058.2	1.000	0.0	39058.2	39058.2
		0.0	0.0	0.0	11087.9	1.000	0.0	11087.9	11087.9
24	34- 35	0.0	0.0	0.0	11087.9	1.000	0.0	11087.9	11087.9
		0.0	0.0	0.0	-13284.4	1.000	0.0	13284.4	13284.4
25	35- 36	0.0	0.0	0.0	-13284.4	1.000	0.0	13284.4	13284.4
		0.0	0.0	0.0	51333.4	1.000	0.0	51333.4	51333.4
26	36- 37	0.0	0.0	0.0	51333.4	1.000	0.0	51333.4	51333.4
		0.0	0.0	0.0	-9875.7	1.000	0.0	9875.7	9875.7
27	37- 38	0.0	0.0	0.0	-9875.7	1.000	0.0	9875.7	9875.7
		0.0	0.0	0.0	-20503.9	1.000	0.0	20503.9	20503.9
28	38- 39	0.0	0.0	0.0	-20503.9	1.000	0.0	20503.9	20503.9
		0.0	0.0	0.0	12771.4	1.000	0.0	12771.4	12771.4
29	39- 40	0.0	0.0	0.0	12771.4	1.000	0.0	12771.4	12771.4
		0.0	0.0	0.0	-8357.1	1.000	0.0	8357.1	8357.1
30	40- 41	0.0	0.0	0.0	-8357.1	1.000	0.0	8357.1	8357.1
		0.0	0.0	0.0	10922.5	1.000	0.0	10922.5	10922.5

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SQ**
31	41- 42	0.0	0.0	0.0	10922.5	1.000	0.0	10922.5	10922.5
		0.0	0.0	0.0	3758.5	1.000	0.0	3758.5	3758.5
32	42- 43	0.0	0.0	0.0	3758.5	1.000	0.0	3758.5	3758.5
		0.0	0.0	0.0	-13008.3	1.000	0.0	13008.3	13008.3
33	43- 44	0.0	0.0	0.0	-13008.3	1.000	0.0	13008.3	13008.3
		0.0	0.0	0.0	-4933.7	1.000	0.0	4933.7	4933.7
34	44- 45	0.0	0.0	0.0	-4933.7	1.000	0.0	4933.7	4933.7
		0.0	0.0	0.0	-26108.0	1.000	0.0	26108.0	26108.0
35	45- 46	0.0	0.0	0.0	-26108.0	1.000	0.0	26108.3	26108.0
		0.0	0.0	0.0	-93755.6	1.000	0.0	93755.6	93755.6
36	46- 47	0.0	0.0	0.0	-93755.6	1.000	0.0	93755.6	93755.6
		0.0	0.0	0.0	184803.2	1.000	0.0	184803.2	184803.2
37	47- 48	0.0	0.0	0.0	184803.2	1.000	0.0	184803.2	184803.2
		0.0	0.0	0.0	-125099.3	1.000	0.0	125099.3	125099.3
38	48- 49	0.0	0.0	0.0	-125099.3	1.000	0.0	125099.3	125099.3
		0.0	0.0	0.0	75946.8	1.000	0.0	75946.8	75946.8
39	49- 50	0.0	0.0	0.0	75946.8	1.000	0.0	75946.8	75946.8
		0.0	0.0	0.0	-44864.8	1.000	0.0	44864.8	44864.8
40	50- 51	0.0	0.0	0.0	-44864.8	1.000	0.0	44864.8	44864.8
		0.0	0.0	0.0	-5307.6	1.000	0.0	5307.6	5307.6

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 1

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
41	51- 52	0.0	0.0	0.0	-5307.6	1.000	0.0	5307.6	5307.6
		0.0	0.0	0.0	38654.9	1.000	0.0	38654.9	38654.9
42	52- 53	0.0	0.0	0.0	38654.9	1.000	0.0	38654.9	38654.9
		0.0	0.0	0.0	-145175.8	1.000	0.0	145175.8	145175.8
43	53- 54	0.0	0.0	0.0	-145175.8	1.000	0.0	145175.8	145175.8
		0.0	0.0	0.0	191833.3	1.000	0.0	191833.3	191833.3
44	54- 55	0.0	0.0	0.0	191833.3	1.000	0.0	191833.3	191833.3
		0.0	0.0	0.0	-117650.4	1.000	0.0	117650.4	117650.4
45	55- 56	0.0	0.0	0.0	-117650.4	1.000	0.0	117650.4	117650.4
		0.0	0.0	0.0	2766.2	1.000	0.0	2766.2	2766.2
46	56- 57	0.0	0.0	0.0	2766.2	1.000	0.0	2766.2	2766.2
		0.0	0.0	0.0	44157.3	1.000	0.0	44157.3	44157.3

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SD**
1	1- 2	0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0
		0.0	0.0	0.0	-161.5	1.000	0.0	161.5	161.5
2	2- 3	0.0	0.0	0.0	-161.5	1.000	0.0	161.5	161.5
		0.0	0.0	0.0	284.3	1.000	0.0	284.3	284.3
3	3- 4	0.0	0.0	0.0	284.3	1.000	0.0	284.3	284.3
		0.0	0.0	0.0	-978.7	1.000	0.0	978.7	978.7
4	4- 5	0.0	0.0	0.0	-978.7	1.000	0.0	978.7	978.7
		0.0	0.0	0.0	-174.2	1.000	0.0	174.2	174.2
5	5- 6	0.0	0.0	0.0	-174.2	1.000	0.0	174.2	174.2
		0.0	0.0	0.0	405.8	1.000	0.0	405.8	405.8
6	6- 7	0.0	0.0	0.0	405.8	1.000	0.0	405.8	405.8
		0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0
7	10- 11	0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0
		0.0	0.0	0.0	7280.3	1.000	0.0	7280.3	7280.3
8	11- 12	0.0	0.0	0.0	7280.3	1.000	0.0	7280.3	7280.3
		0.0	0.0	0.0	9837.0	1.000	0.0	9837.0	9837.0
9	12- 13	0.0	0.0	0.0	9837.0	1.000	0.0	9837.0	9837.0
		0.0	0.0	0.0	-13275.1	1.000	0.0	13275.1	13275.1
10	13- 14	0.0	0.0	0.0	-13275.1	1.000	0.0	13275.1	13275.1
		0.0	0.0	0.0	9189.3	1.000	0.0	9189.3	9189.3

** STRESS INDICIES= PRESS=0. , MOMENT=I

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
11	14- 15	0.0	0.0	0.0	9189.3	1.000	0.0	9189.3	9189.3
		0.0	0.0	0.0	-38783.1	1.000	0.0	38783.1	38783.1
12	15- 16	0.0	0.0	0.0	-38783.1	1.000	0.0	38783.1	38783.1
		0.0	0.0	0.0	15502.7	1.000	0.0	15502.7	15502.7
13	16- 17	0.0	0.0	0.0	15502.7	1.000	0.0	15502.7	15502.7
		0.0	0.0	0.0	-43389.9	1.000	0.0	43389.9	43389.9
14	17- 18	0.0	0.0	0.0	-43389.9	1.000	0.0	43389.9	43389.9
		0.0	0.0	0.0	34272.9	1.000	0.0	34272.9	34272.9
15	18- 19	0.0	0.0	0.0	34272.9	1.000	0.0	34272.9	34272.9
		0.0	0.0	0.0	-42442.3	1.000	0.0	42442.3	42442.3
16	19- 20	0.0	0.0	0.0	-42442.3	1.000	0.0	42442.3	42442.3
		0.0	0.0	0.0	85169.8	1.000	0.0	85169.8	85169.8
17	20- 21	0.0	0.0	0.0	85169.8	1.000	0.0	85169.8	85169.8
		0.0	0.0	0.0	-62746.5	1.000	0.0	62746.5	62746.5
18	21- 22	0.0	0.0	0.0	-62746.5	1.000	0.0	62746.5	62746.5
		0.0	0.0	0.0	19721.3	1.000	0.0	19721.3	19721.3
19	22- 23	0.0	0.0	0.0	19721.3	1.000	0.0	19721.3	19721.3
		0.0	0.0	0.0	-0.0	1.000	0.0	0.0	0.0
20	30- 31	0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0
		0.0	0.0	0.0	-996.9	1.000	0.0	996.9	996.9

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
21	31- 32	0.0	0.0	0.0	-996.9	1.000	0.0	996.9	996.9
		0.0	0.0	0.0	-54507.7	1.000	0.0	54507.7	54507.7
22	32- 33	0.0	0.0	0.0	-54507.7	1.000	0.0	54507.7	54507.7
		0.0	0.0	0.0	39072.7	1.000	0.0	39072.7	39072.7
23	33- 34	0.0	0.0	0.0	39072.7	1.000	0.0	39072.7	39072.7
		0.0	0.0	0.0	11084.7	1.000	0.0	11084.7	11084.7
24	34- 35	0.0	0.0	0.0	11084.7	1.000	0.0	11084.7	11084.7
		0.0	0.0	0.0	-13283.7	1.000	0.0	13283.7	13283.7
25	35- 36	0.0	0.0	0.0	-13283.7	1.000	0.0	13283.7	13283.7
		0.0	0.0	0.0	51333.3	1.000	0.0	51333.3	51333.3
26	36- 37	0.0	0.0	0.0	51333.3	1.000	0.0	51333.3	51333.3
		0.0	0.0	0.0	-9875.7	1.000	0.0	9875.7	9875.7
27	37- 38	0.0	0.0	0.0	-9875.7	1.000	0.0	9875.7	9875.7
		0.0	0.0	0.0	-20503.9	1.000	0.0	20503.9	20503.9
28	38- 39	0.0	0.0	0.0	-20503.9	1.000	0.0	20503.9	20503.9
		0.0	0.0	0.0	12771.4	1.000	0.0	12771.4	12771.4
29	39- 40	0.0	0.0	0.0	12771.4	1.000	0.0	12771.4	12771.4
		0.0	0.0	0.0	-8357.1	1.000	0.0	8357.1	8357.1
30	40- 41	0.0	0.0	0.0	-8357.1	1.000	0.0	8357.1	8357.1
		0.0	0.0	0.0	10922.5	1.000	0.0	10922.5	10922.5

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
31	41- 42	0.0	0.0	0.0	10922.5	1.000	0.0	10922.5	10922.5
		0.0	0.0	0.0	3758.5	1.000	0.0	3758.5	3758.5
32	42- 43	0.0	0.0	0.0	3758.5	1.000	0.0	3758.5	3758.5
		0.0	0.0	0.0	-13008.3	1.000	0.0	13008.3	13008.3
33	43- 44	0.0	0.0	0.0	-13008.3	1.000	0.0	13008.3	13008.3
		0.0	0.0	0.0	-4933.7	1.000	0.0	4933.7	4933.7
34	44- 45	0.0	0.0	0.0	-4933.7	1.000	0.0	4933.7	4933.7
		0.0	0.0	0.0	-26108.0	1.000	0.0	26108.0	26108.0
35	45- 46	0.0	0.0	0.0	-26108.0	1.000	0.0	26108.0	26108.0
		0.0	0.0	0.0	-93755.6	1.000	0.0	93755.6	93755.6
36	46- 47	0.0	0.0	0.0	-93755.6	1.000	0.0	93755.6	93755.6
		0.0	0.0	0.0	184803.1	1.000	0.0	184803.1	184803.1
37	47- 48	0.0	0.0	0.0	184803.1	1.000	0.0	184803.1	184803.1
		0.0	0.0	0.0	-125099.2	1.000	0.0	125099.2	125099.2
38	48- 49	0.0	0.0	0.0	-125099.2	1.000	0.0	125099.2	125099.2
		0.0	0.0	0.0	75946.5	1.000	0.0	75946.5	75946.5
39	49- 50	0.0	0.0	0.0	75946.5	1.000	0.0	75946.5	75946.5
		0.0	0.0	0.0	-44863.2	1.000	0.0	44863.2	44863.2
40	50- 51	0.0	0.0	0.0	-44863.2	1.000	0.0	44863.2	44863.2
		0.0	0.0	0.0	-5314.7	1.000	0.0	5314.7	5314.7

** STRESS INDICIES= PRESS=0. , MOMENT=1

ELEMENT STRESS DATA
LOAD CASE 2

ELEMENT	N1 - N2	F/A	TC/J	(MC/I)Y	(MC/I)Z	INDEX	PM	PB	SO**
41	51- 52	0.0	0.0	0.0	-5314.7	1.000	0.0	5314.7	5314.7
		0.0	0.0	0.0	38686.6	1.000	0.0	38686.6	38686.6
42	52- 53	0.0	0.0	0.0	38686.6	1.000	0.0	38686.6	38686.6
		0.0	0.0	0.0	-145317.5	1.000	0.0	145317.5	145317.5
43	53- 54	0.0	0.0	0.0	-145317.5	1.000	0.0	145317.5	145317.5
		0.0	0.0	0.0	192467.3	1.000	0.0	192467.3	192467.3
44	54- 55	0.0	0.0	0.0	192467.3	1.000	0.0	192467.3	192467.3
		0.0	0.0	0.0	-120488.1	1.000	0.0	120488.1	120488.1
45	55- 56	0.0	0.0	0.0	-120488.1	1.000	0.0	120488.1	120488.1
		0.0	0.0	0.0	15465.9	1.000	0.0	15465.9	15465.9
46	56- 57	0.0	0.0	0.0	15465.9	1.000	0.0	15465.9	15465.9
		0.0	0.0	0.0	0.0	1.000	0.0	0.0	0.0

** STRESS INDICIES= PRESS=0. , MOMENT=I

MAXIMUM STRESS SUMMARY TABLE

LOAD NO. 1 MAX. STRESS=191833. PSI, IT OCCURS IN ELEMENT 53 - 54 , 120.00 INS. FROM NODE 53

LOAD NO. 2 MAX. STRESS=192467. PSI, IT OCCURS IN ELEMENT 53 - 54 , 120.00 INS. FROM NODE 53

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
1	SPECIFIED DISP.	0.0	507.2	0.0	0.0	0.0	456048.5
2	SPECIFIED DISP.	0.0	-706.4	0.0	0.0	0.0	0.0
3	SPECIFIED DISP.	0.0	433.3	0.0	0.0	0.0	0.0
4	SPECIFIED DISP.	0.0	-367.8	0.0	0.0	0.0	0.0
5	SPECIFIED DISP.	0.0	31.4	0.0	0.0	0.0	0.0
6	SPECIFIED DISP.	0.0	212.9	0.0	0.0	0.0	0.0
7	SPECIFIED DISP.	0.0	-110.6	0.0	0.0	0.0	44179.4
10	SPECIFIED DISP.	0.0	16361.4	0.0	0.0	0.0	976926.1
11	SPECIFIED DISP.	0.0	-17541.3	0.0	0.0	0.0	0.0
12	SPECIFIED DISP.	0.0	5759.5	0.0	0.0	0.0	0.0
13	SPECIFIED DISP.	0.0	-7280.8	0.0	0.0	0.0	0.0
14	SPECIFIED DISP.	0.0	9447.3	0.0	0.0	0.0	0.0
15	SPECIFIED DISP.	0.0	-14356.7	0.0	0.0	0.0	0.0
16	SPECIFIED DISP.	0.0	15860.4	0.0	0.0	0.0	0.0
17	SPECIFIED DISP.	0.0	-19123.4	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
18	SPECIFIED DISP.	0.0	21598.5	0.0	0.0	0.0	0.0
19	SPECIFIED DISP.	0.0	-28518.5	0.0	0.0	0.0	0.0
20	SPECIFIED DISP.	0.0	38198.1	0.0	0.0	0.0	0.0
21	SPECIFIED DISP.	0.0	-30741.5	0.0	0.0	0.0	0.0
22	SPECIFIED DISP.	0.0	8417.2	0.0	0.0	0.0	0.0
23	SPECIFIED DISP.	0.0	1919.8	0.0	0.0	0.0	-446141.3
30	SPECIFIED DISP.	0.0	110.4	0.0	0.0	0.0	68604.8
31	SPECIFIED DISP.	0.0	49212.0	0.0	0.0	0.0	0.0
32	SPECIFIED DISP.	0.0	-136081.2	0.0	0.0	0.0	0.0
33	SPECIFIED DISP.	0.0	112712.3	0.0	0.0	0.0	0.0
34	SPECIFIED DISP.	0.0	-3338.6	0.0	0.0	0.0	0.0
35	SPECIFIED DISP.	0.0	-82573.3	0.0	0.0	0.0	0.0
36	SPECIFIED DISP.	0.0	116753.9	0.0	0.0	0.0	0.0
37	SPECIFIED DISP.	0.0	-46933.7	0.0	0.0	0.0	0.0
38	SPECIFIED DISP.	0.0	-40737.7	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
39	SPECIFIED DISP.	0.0	50480.8	0.0	0.0	0.0	0.0
40	SPECIFIED DISP.	0.0	-37494.3	0.0	0.0	0.0	0.0
41	SPECIFIED DISP.	0.0	24536.8	0.0	0.0	0.0	0.0
42	SPECIFIED DISP.	0.0	8910.4	0.0	0.0	0.0	0.0
43	SPECIFIED DISP.	0.0	-23050.1	0.0	0.0	0.0	0.0
44	SPECIFIED DISP.	0.0	27139.7	0.0	0.0	0.0	0.0
45	SPECIFIED DISP.	0.0	70023.6	0.0	0.0	0.0	0.0
46	SPECIFIED DISP.	0.0	-288496.0	0.0	0.0	0.0	0.0
47	SPECIFIED DISP.	0.0	486381.0	0.0	0.0	0.0	0.0
48	SPECIFIED DISP.	0.0	-474105.1	0.0	0.0	0.0	0.0
49	SPECIFIED DISP.	0.0	298649.3	0.0	0.0	0.0	0.0
50	SPECIFIED DISP.	0.0	-148805.0	0.0	0.0	0.0	0.0
51	SPECIFIED DISP.	0.0	-4087.7	0.0	0.0	0.0	0.0
52	SPECIFIED DISP.	0.0	211367.6	0.0	0.0	0.0	0.0
53	SPECIFIED DISP.	0.0	-483283.2	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 1

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
54	SPECIFIED DISP.	0.0	599875.6	0.0	0.0	0.0	0.0
55	SPECIFIED DISP.	0.0	-398901.1	0.0	0.0	0.0	0.0
56	SPECIFIED DISP.	0.0	86129.3	0.0	0.0	0.0	0.0
57	SPECIFIED DISP.	0.0	25604.3	0.0	0.0	0.0	-4916790.7
SUMMATION OF LOADS		0.0	0.0	0.0	0.0	0.0	-3817173.1

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
1	SPECIFIED DISP.	0.0	25.7	0.0	0.0	0.0	0.0
2	SPECIFIED DISP.	0.0	-96.5	0.0	0.0	0.0	0.0
3	SPECIFIED DISP.	0.0	271.5	0.0	0.0	0.0	0.0
4	SPECIFIED DISP.	0.0	-328.5	0.0	0.0	0.0	0.0
5	SPECIFIED DISP.	0.0	35.6	0.0	0.0	0.0	0.0
6	SPECIFIED DISP.	0.0	156.6	0.0	0.0	0.0	0.0
7	SPECIFIED DISP.	0.0	-64.5	0.0	0.0	0.0	0.0
10	SPECIFIED DISP.	0.0	-2039.6	0.0	0.0	0.0	0.0
11	SPECIFIED DISP.	0.0	1800.8	0.0	0.0	0.0	0.0
12	SPECIFIED DISP.	0.0	4285.6	0.0	0.0	0.0	0.0
13	SPECIFIED DISP.	0.0	-6669.1	0.0	0.0	0.0	0.0
14	SPECIFIED DISP.	0.0	9342.0	0.0	0.0	0.0	0.0
15	SPECIFIED DISP.	0.0	-14323.9	0.0	0.0	0.0	0.0
16	SPECIFIED DISP.	0.0	15853.6	0.0	0.0	0.0	0.0
17	SPECIFIED DISP.	0.0	-19128.1	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
18	SPECIFIED DISP.	0.0	21624.6	0.0	0.0	0.0	0.0
19	SPECIFIED DISP.	0.0	-28621.3	0.0	0.0	0.0	0.0
20	SPECIFIED DISP.	0.0	38594.9	0.0	0.0	0.0	0.0
21	SPECIFIED DISP.	0.0	-32271.2	0.0	0.0	0.0	0.0
22	SPECIFIED DISP.	0.0	14314.2	0.0	0.0	0.0	0.0
23	SPECIFIED DISP.	0.0	-2762.5	0.0	0.0	0.0	0.0
30	SPECIFIED DISP.	0.0	57.8	0.0	0.0	0.0	0.0
31	SPECIFIED DISP.	0.0	49594.4	0.0	0.0	0.0	0.0
32	SPECIFIED DISP.	0.0	-136484.8	0.0	0.0	0.0	0.0
33	SPECIFIED DISP.	0.0	112802.5	0.0	0.0	0.0	0.0
34	SPECIFIED DISP.	0.0	-3358.7	0.0	0.0	0.0	0.0
35	SPECIFIED DISP.	0.0	-82568.8	0.0	0.0	0.0	0.0
36	SPECIFIED DISP.	0.0	116752.9	0.0	0.0	0.0	0.0
37	SPECIFIED DISP.	0.0	-46933.4	0.0	0.0	0.0	0.0
38	SPECIFIED DISP.	0.0	-40737.7	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
39	SPECIFIED DISP.	0.0	50480.8	0.0	0.0	0.0	0.0
40	SPECIFIED DISP.	0.0	-37494.3	0.0	0.0	0.0	0.0
41	SPECIFIED DISP.	0.0	24536.8	0.0	0.0	0.0	0.0
42	SPECIFIED DISP.	0.0	8910.4	0.0	0.0	0.0	0.0
43	SPECIFIED DISP.	0.0	-23050.1	0.0	0.0	0.0	0.0
44	SPECIFIED DISP.	0.0	27139.7	0.0	0.0	0.0	0.0
45	SPECIFIED DISP.	0.0	70023.6	0.0	0.0	0.0	0.0
46	SPECIFIED DISP.	0.0	-288495.9	0.0	0.0	0.0	0.0
47	SPECIFIED DISP.	0.0	486380.9	0.0	0.0	0.0	0.0
48	SPECIFIED DISP.	0.0	-474104.6	0.0	0.0	0.0	0.0
49	SPECIFIED DISP.	0.0	298647.1	0.0	0.0	0.0	0.0
50	SPECIFIED DISP.	0.0	-148795.2	0.0	0.0	0.0	0.0
51	SPECIFIED DISP.	0.0	-4131.7	0.0	0.0	0.0	0.0
52	SPECIFIED DISP.	0.0	211564.4	0.0	0.0	0.0	0.0
53	SPECIFIED DISP.	0.0	-484163.9	0.0	0.0	0.0	0.0

HANGER/SUPPORT REACTIONS
LOAD CASE 2

NODE	RESTRAINT TYPE	FX(LBS)	FY(LBS)	FZ(LBS)	MX(IN-LB)	MY(IN-LB)	MZ(IN-LB)
54	SPECIFIED DISP.	0.0	603816.8	0.0	0.0	0.0	0.0
55	SPECIFIED DISP.	0.0	-416539.5	0.0	0.0	0.0	0.0
56	SPECIFIED DISP.	0.0	135717.8	0.0	0.0	0.0	0.0
57	SPECIFIED DISP.	0.0	-9567.1	0.0	0.0	0.0	0.0
SUMMATION OF LOADS		0.0	0.0	0.0	0.0	0.0	0.0
		(0.0)	(2302731.0)	(0.0)			